1.0 ADHESIVES/SEALANTS FOR GLASS

Sikaflex 255 Adhesive is a single component polyurethane with a minimum curing time of 4 hours at 72Â °F/22Â°C and 38% relative humidity.

The windshield or rear window must be installed within 10 minutes of applying the adhesive or a skin will form on the adhesive's surface and reduce the adhesive effectiveness.

Sikaflex 255, BMW Part No. 81 22 9 407 497 Cold Kit, or

Sika Ultrafast, BMW Part No. 83 19 9 407 714 in conjunction with Heater, BMW Part No. 83 19 9 407 820.

2.0 OTHER FLUIDS

Cleaning E53 black glossy exterior ornamental trim please use Meguiar's Mirror Glaze Number 9 Professional Swirl Remover 2.0

Glass treatment, all models: AquapelÂ® Glass Treatment, BMW Part No. 83 19 9 408 523.

3.0 CONTACT CEMENT

A powerful adhesive for leather and leatherette, rubber moldings, felt linings, insulating materials, convertible top adhesive, etc.

(former BMW Part No. 81 22 9 407 524)

3M 1357 High Performance Contact Adhesive

4.0 INSTANT ADHESIVE FOR RUBBER, METAL AND PLASTIC SURFACES

Applications: Rubber profiles on windows, doors, bumpers (soft and hard rubber), seals, inner covers, buttons and controls (plastic/plastic, plastic/steel), circuit elements (electronics), rear lights, turn indicators, ornamental strips and moldings.

(former BMW Part No. 81 22 9 407 143)

3M Part No. 8155

Loctite Part No. 49450

5.0 LOCTITE 380

Black cyanacrylate adhesive for joining metals, but also rubber, PVC etc.

Particularly recommended for attaching rubber door seals on the BMW 5 Series (E34).

(former BMW Part No. 81 22 9 407 394)

3M Part No. 8155

Wurth Part No. 893 4103

Loctite Part No. 38050

cardiagn.com

6.0 GLASS ADHESIVE

BMW Part No. 81 22 9 407 497.

7.0 PREMIUM LEATHER CARE KIT

BMW Part No. 81 11 024 455.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00396008

cardiagn.com

RADIO, CD/DVD CHANGER

65 12 210 REMOVING AND INSTALLING (REPLACING) THE RADIO RECEIVER CHAMP

IMPORTANT: Read and comply with notes on PROTECTION AGAINST ELECTROSTATIC DISCHARGE (ESD PROTECTION) .

Necessary preliminary tasks:

- Disconnect BATTERY NEGATIVE CABLE
- Remove RADIO AND IHKA CONTROLS

NOTE: Picture for example purposes only!

Release screws (1).

Pull out the CHAMP (2) to the front.

Installation note:

Make sure CHAMP (2) is correctly seated on retaining lugs at the marked points.

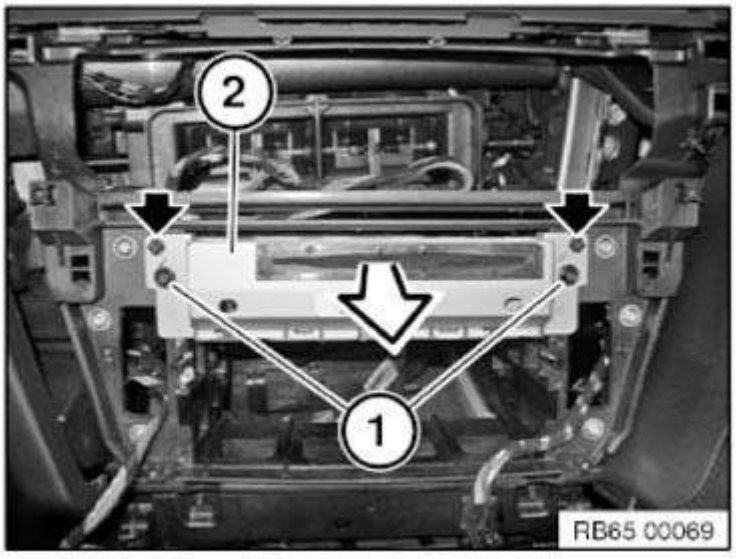


Fig. 1: Pulling Head Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect all plug connections (2) in the marked area.

Remove CHAMP (1).

cardiagn.com

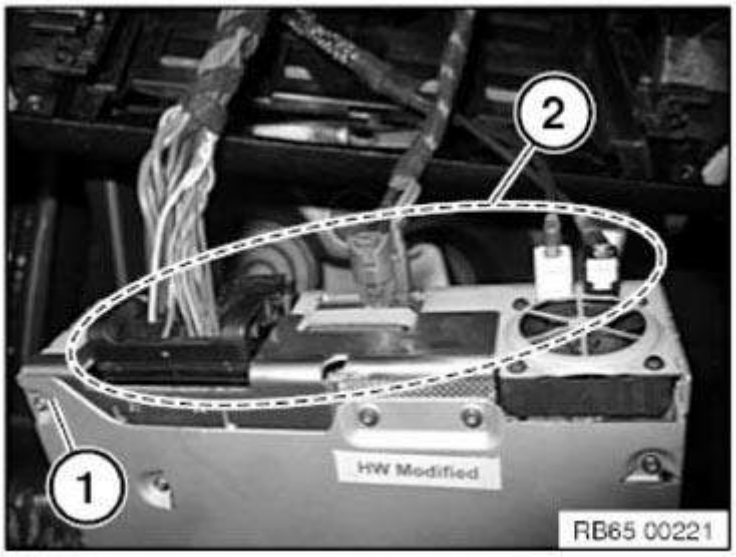


Fig. 2: Identifying Headunit And Plug Connections Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING** .

For vehicles with Teleservices optional equipment:

- Update services via menu in the central information display.

65 11 080 REMOVING AND INSTALLING/REPLACING RADIO RECEIVER

Special tools required:

- **00 9 341**

IMPORTANT: Read and comply with notes on **PROTECTION AGAINST ELECTROSTATIC DAMAGE (ESD PROTECTION)** .

IMPORTANT: Carry out installation in a dust-free workshop area only.
To avoid damage, do not touch or dirty the display field.

Necessary preliminary work:

- Remove **DECORATIVE STRIP ON DASHBOARD, CENTER**

Insert special tool **00 9 341** as illustrated.

Lever trim cover (1) slightly forward and unclip.

cardiagn.com

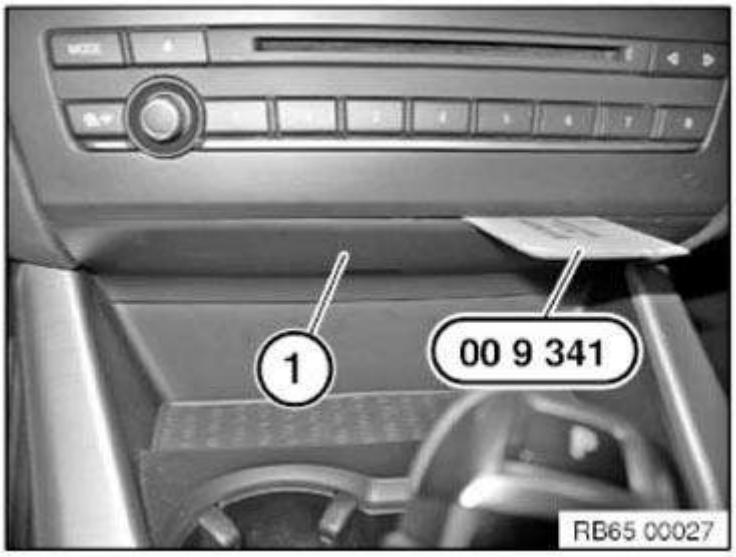


Fig. 3: Removing Trim Cover Using Special Tool 00 9 340
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip LED (1).

Remove cover (2).

Installation note:

Retaining lugs and clips must not be damaged.

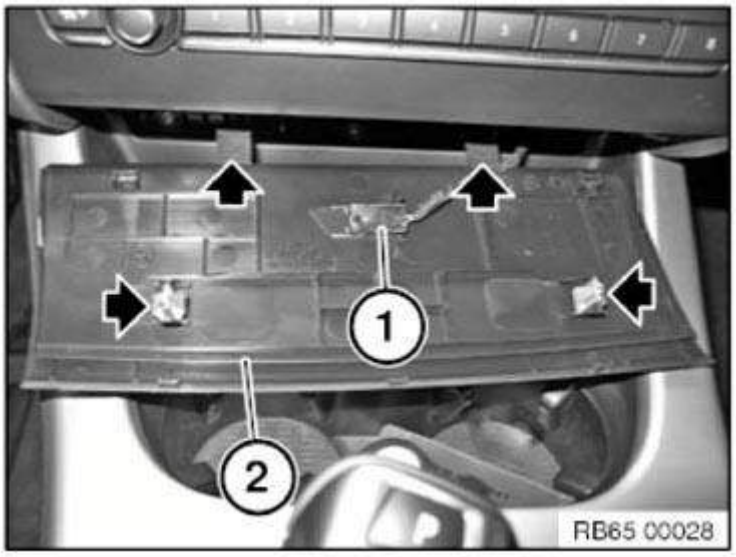


Fig. 4: Locating Cover Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws.

Pull radio receiver with operating unit cover (1) out toward the front.

Unlock associated plug connections and disconnect.

cardiagn.com

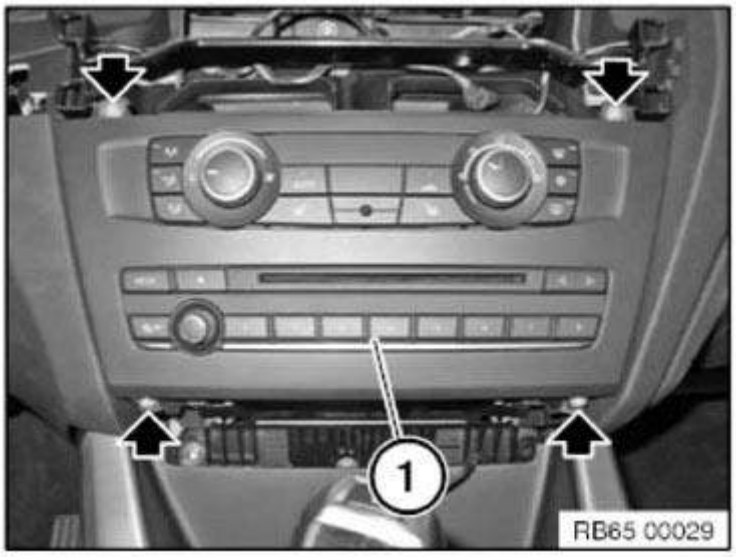


Fig. 5: Locating Radio Receiver With Operating Unit Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 823 REPLACING AUDIO UNIT

IMPORTANT: Read and comply with notes on **PROTECTION AGAINST ELECTROSTATIC DISCHARGE (ESD PROTECTION)** .

Necessary preliminary work:

- Remove **RADIO AND IHKA CONTROLS**

Disconnect plug connection (2).

Release the retaining lugs (3) in the lower area and on the side of the radio control unit (1).

Remove the radio control panel (1) from the cover (4).

Installation note:

Radio control unit (1) must noticeably and audibly snap into trim (4).

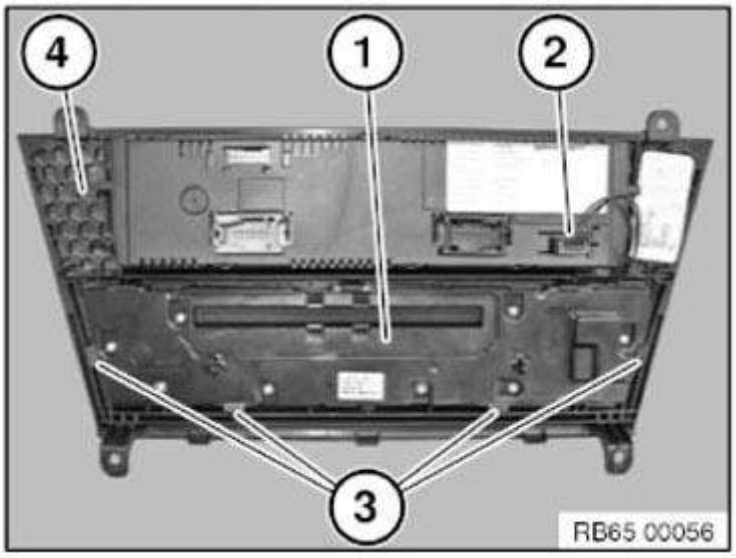


Fig. 6: Identifying Radio Control Panel Trim And Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING** .

RADIO, AUDIO AMPLIFIER, HEADUNIT

65 12 315 REMOVING AND INSTALLING (REPLACING) HU-H)

IMPORTANT: Risk of damage!

There is a hard disk installed in the headunit.

Carry out mechanical work on the headunit and adjacent components with care.

Avoid subjecting the headunit to vibration/shocks.

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

NOTE: Comply with notes and notes on HANDLING OPTICAL FIBRES .

Necessary preliminary tasks:

- Remove **RADIO AND IHKA CONTROLS**
- Disconnect **BATTERY EARTH LEAD** (F03: Disconnect both battery earth leads).

NOTE: Picture for example purposes only!

Unfasten screws (2).

Pull headunit (3) out of guide.

Installation note:

Make sure headunit (3) is correctly seated in guide lugs (1).

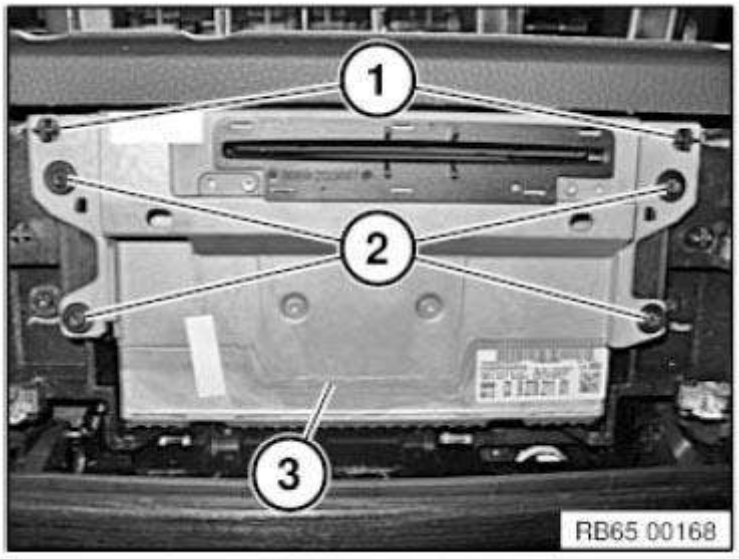


Fig. 7: Identifying Headunit Guide And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Set the protective nonwoven material (1) aside as shown.

Unlock plug connections (2) and disconnect.

cardiagn.com

Remove headunit (3).

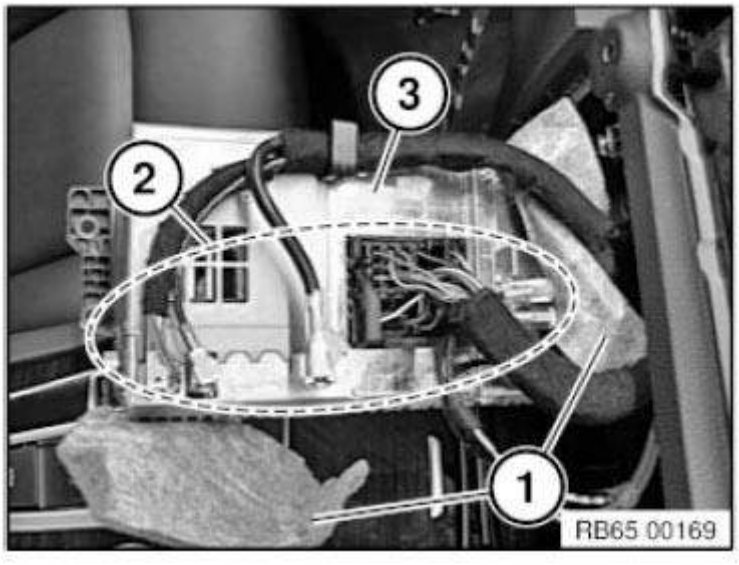


Fig. 8: Identifying Headunit, Plug Connections And Protective Nonwoven Material
Courtesy of BMW OF NORTH AMERICA, INC.

Only for US models with satellite radio:

When replacing the headunit, additional work is required!

- Refer to information **REPLACING SATELLITE TUNER, AS OF 09/2009**.

Replacement:

Carry out **VEHICLE PROGRAMMING AND ENCODING** .

Load additionally for following vehicles' service history:

- 1 series and 2 series F2x, 3 series and 4 series F3x from series introduction
- F01, F02, F03, F07, F10, F11 with production date from 07/2013
- F06, F12, F13 with production date from 03/2014
- F15, F16 from volume production launch
- F18 with production date from 09/2013
- F25 with production date from 04/2014
- F26 as of series introduction

Load service history:

- 05 Maintenance and Pre-Delivery Check
- Service history

65 12 320 REMOVING AND INSTALLING (REPLACING) HEADUNIT BASIS

IMPORTANT: Risk of damage!

There is a hard disk installed in the headunit.

Carry out mechanical work on the headunit and adjacent components with care.

Avoid subjecting the headunit to vibration/shocks.

cardiagn.com

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

NOTE: Comply with notes and notes on HANDLING OPTICAL FIBRES .

Necessary preliminary tasks:

- Remove **RADIO AND IHKA CONTROLS**
- Disconnect **BATTERY EARTH LEAD** (F03: Disconnect both battery earth leads).

NOTE: Picture for example purposes only!

Release screws (1).

Pull head unit (2) forward.

Installation note:

Check head unit (2) is correctly seated on retaining lug at marked points.

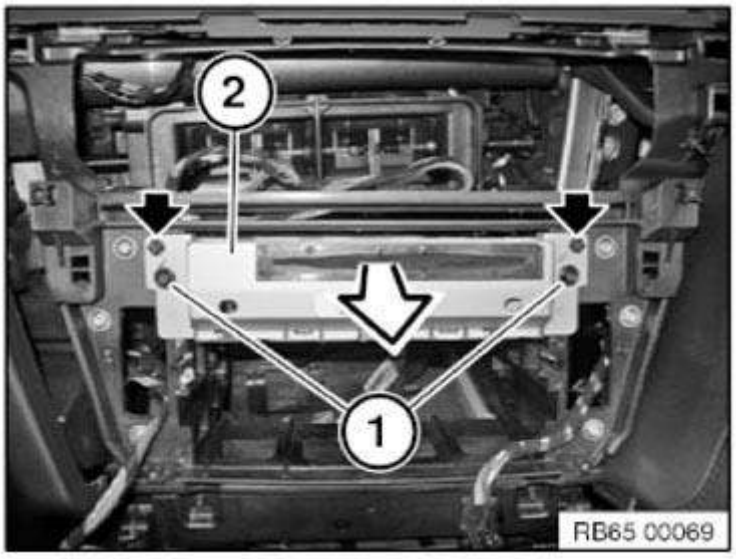


Fig. 9: Pulling Head Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect all plug connections (2) in the marked area.

Remove headunit (1).

cardiagn.com

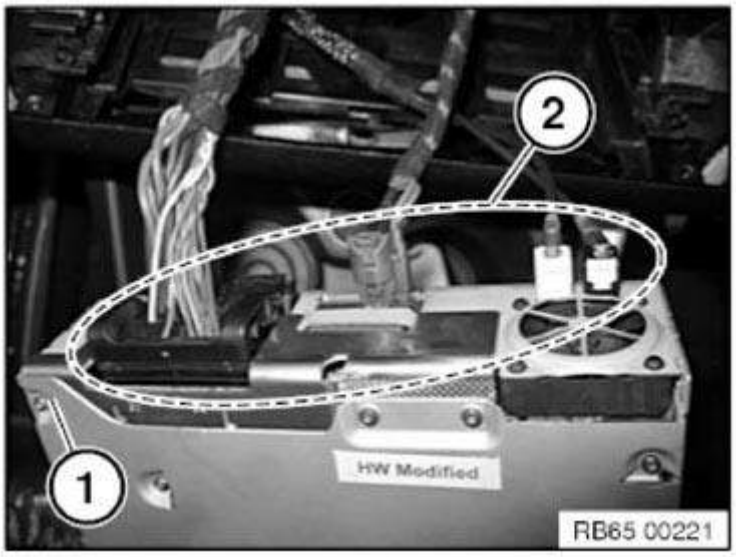


Fig. 10: Identifying Headunit And Plug Connections Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Only for US models with satellite radio:

When replacing the headunit, additional work is required!

- Refer to information **REPLACING SATELLITE TUNER, AS OF 09/2009**.

Replacement:

Carry out **VEHICLE PROGRAMMING AND ENCODING** .

Load additionally for following vehicles' service history:

- 1 series and 2 series F2x, 3 series and 4 series F3x from series introduction
- F01, F02, F03, F07, F10, F11 with production date from 07/2013
- F06, F12, F13 with production date from 03/2014
- F15, F16 from volume production launch
- F18 with production date from 09/2013
- F25 with production date from 04/2014
- F26 as of series introduction

Load service history:

- 05 Maintenance and Pre-Delivery Check
- Service history

65 12 072 REMOVING AND INSTALLING (REPLACING) AMPLIFIER (TOP HIFI SYSTEM)

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

NOTE: **Comply with notes and instructions on HANDLING OPTICAL FIBRES .**

Necessary preliminary work:

- Disconnect **NEGATIVE BATTERY CABLE**
- Remove **FLAP IN LUGGAGE COMPARTMENT PANEL** on left

cardiagn.com

Release screw (1).

Release amplifier (2) out of mounting bracket by pulling upward.

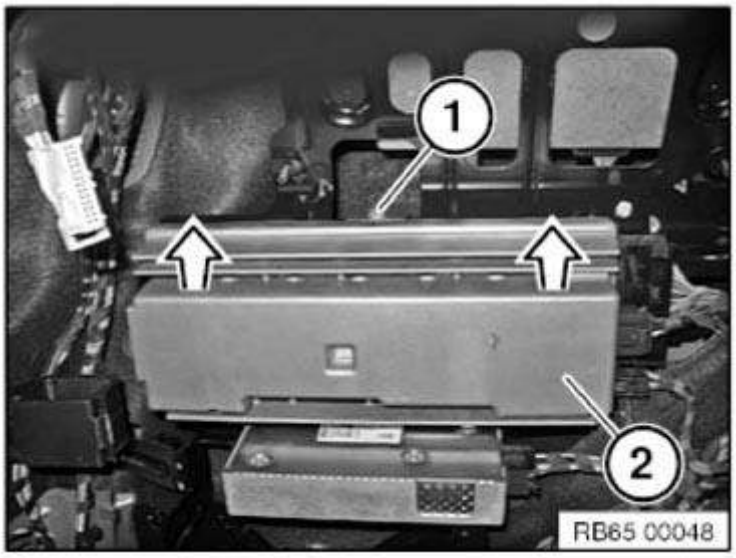


Fig. 11: Releasing Amplifier Out Of Mounting Bracket
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock plug connections and disconnect.

Remove amplifier (1).

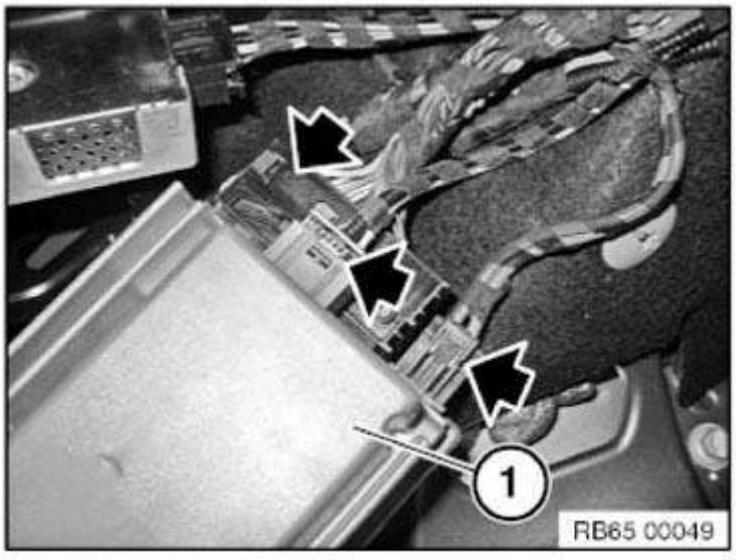


Fig. 12: Locating Amplifier Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Picture for example purposes.

Installation note:

Tabs (1) must be correctly slid into guide (2).

Check that amplifier (3) is securely seated.

cardiagn.com

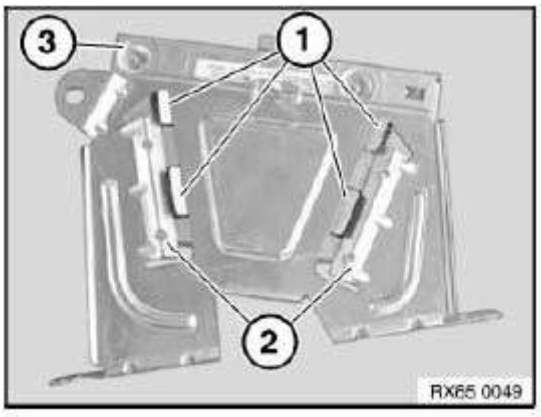


Fig. 13: Identifying Amplifier Tabs And Guide
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING AND ENCODING** .

65 12 210 REMOVING AND INSTALLING (REPLACING) THE RADIO RECEIVER CHAMP

IMPORTANT: Read and comply with notes on **PROTECTION AGAINST ELECTROSTATIC DISCHARGE (ESD PROTECTION)** .

Necessary preliminary tasks:

- Disconnect **BATTERY NEGATIVE CABLE**
- Remove **RADIO AND IHKA CONTROLS**

NOTE: Picture for example purposes only!

Release screws (1).

Pull out the CHAMP (2) to the front.

Installation note:

Make sure CHAMP (2) is correctly seated on retaining lugs at the marked points.

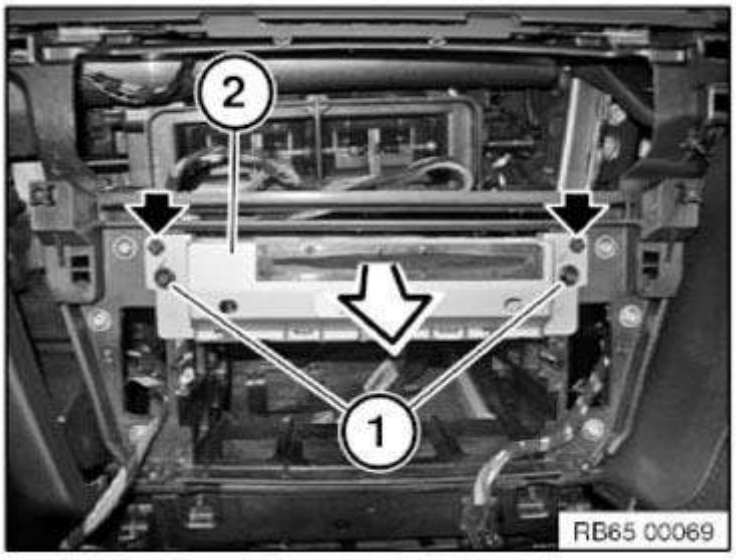


Fig. 14: Pulling Head Unit

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect all plug connections (2) in the marked area.

Remove CHAMP (1).

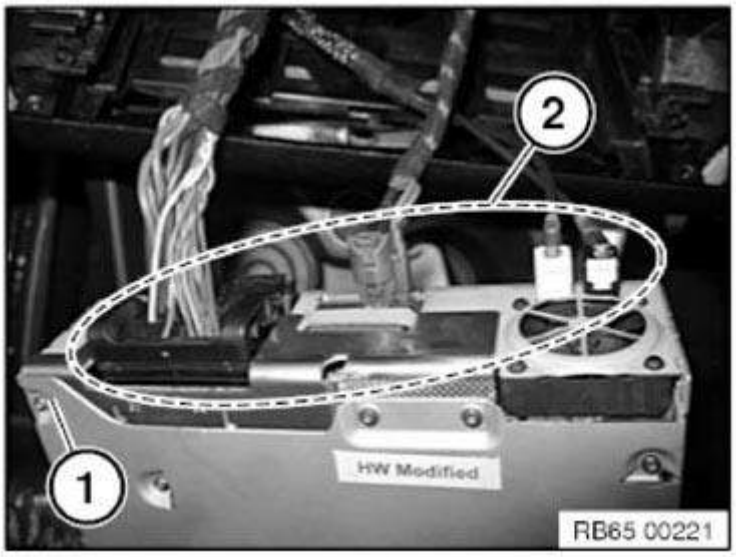


Fig. 15: Identifying Headunit And Plug Connections Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING** .

For vehicles with Teleservices optional equipment:

- Update services via menu in the central information display.

61 31 321 REMOVING AND INSTALLING RADIO AND A/C CONTROL PANEL

Special tools required:

- **00 9 340**

IMPORTANT: Risk of damage!

A hard disk is installed in the Car Information Computer (CIC).

Carry out mechanical work on the CIC and adjacent components with care.

Avoid subjecting the CIC to vibration/shocks.

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)** .

IMPORTANT: Carry out installation in a dust-free workshop area only.
To avoid damage, do not touch or dirty the display field.

Necessary preliminary work:

- Remove **DECORATIVE STRIP ON DASHBOARD IN MIDDLE**

Insert special tool **00 9 340** (00 9 341) as illustrated.

cardiagn.com

Lever trim cover (1) slightly forward and unclip.

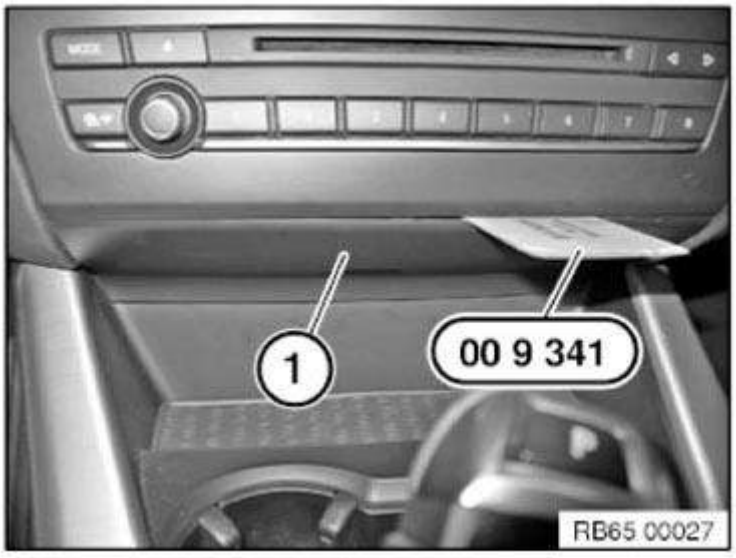


Fig. 16: Removing Trim Cover Using Special Tool 00 9 340
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip LED (1).

Remove cover (2).

Installation note:

Retaining lugs and clips must not be damaged.

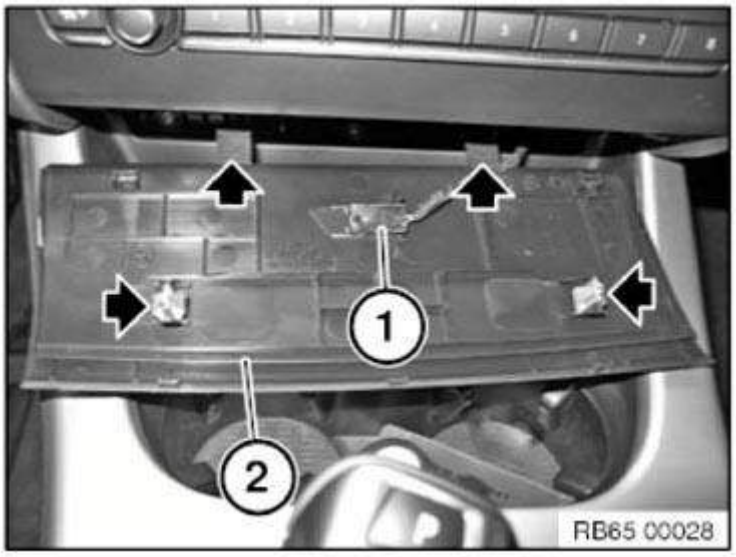


Fig. 17: Locating Cover Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws.

Remove control panel (1) towards front.

Unlock associated plug connections and disconnect.

cardiagn.com

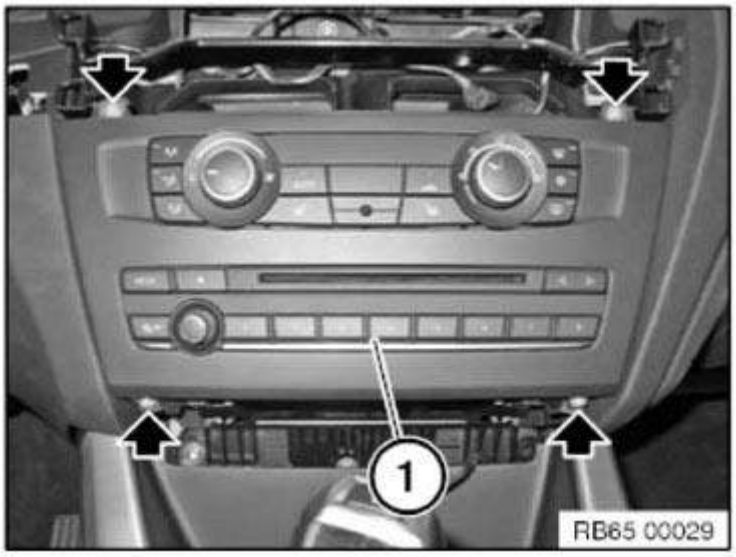


Fig. 18: Locating Radio Receiver With Operating Unit Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING** .

65 12 053 REMOVING AND INSTALLING/RENEWING CENTRAL BASS SPEAKER - PASSENGER'S SIDE - (UNDER FRONT SEAT)

Operation is identical to:

REMOVING AND INSTALLING CENTRAL BASS SPEAKER -DRIVER'S SIDE-

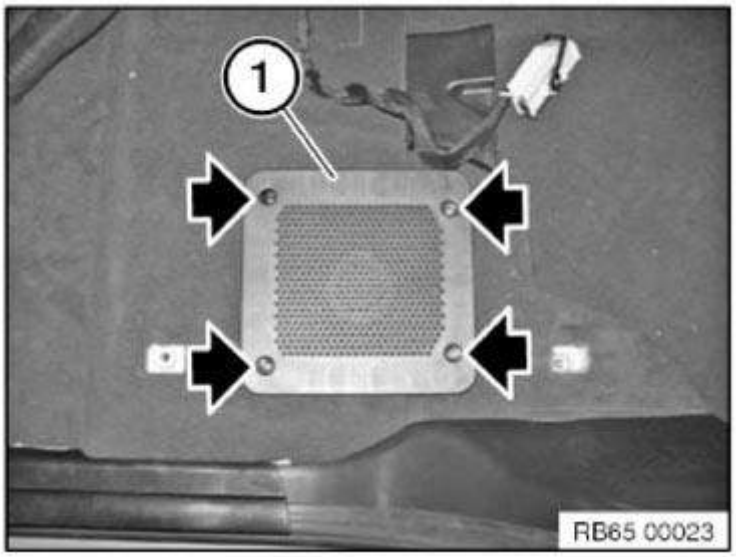
65 12 051 REMOVING AND INSTALLING/RENEWING CENTRAL BASS SPEAKER -DRIVER'S SIDE- (UNDER FRONT SEAT)

Necessary preliminary work:

- Remove **FRONT SEAT** .

Release screws.

Remove cover (1).



cardiagn.com

Fig. 19: Locating Front Seat Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Fold up the carpet (1) as shown.

Release screws.

Tightening torque **65 13 2AZ** .

Unscrew nuts (2).

Remove central base support (3).

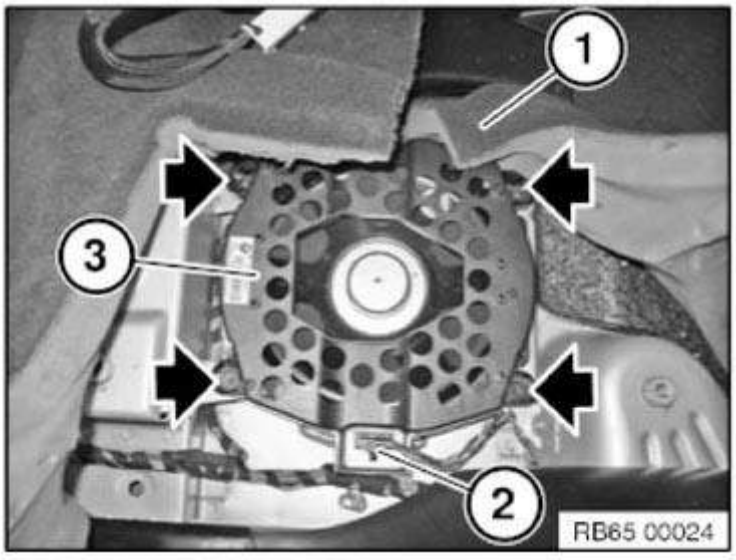


Fig. 20: Locating Central Base Support Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

65 12 071 REMOVING AND INSTALLING/REPLACING AMPLIFIER (HIFI)

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

NOTE: **Comply with notes and notes on HANDLING OPTICAL FIBRES .**

Necessary preliminary work:

- Disconnect **BATTERY EARTH LEAD**
- Remove **FLAP IN LUGGAGE COMPARTMENT TRIM PANEL** on left

Removal:

Release screw (1).

Unlock and disconnect connector (2).

Disengage amplifier (3) upwards out of holder.

cardiagn.com

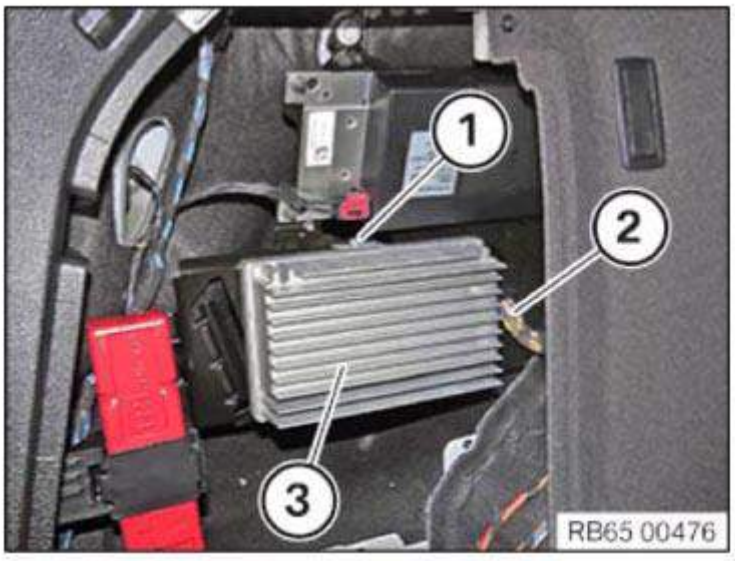


Fig. 21: Identifying Amplifier, Connector And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

NOTE: Picture for example purposes.

NOTE: Tabs (1) must be correctly inserted into guide (2).

Check amplifier (3) for secure fit.

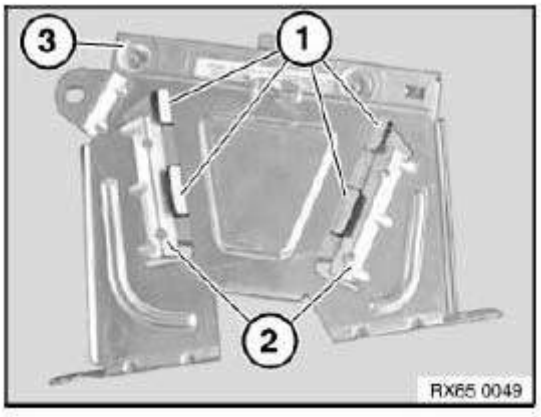


Fig. 22: Identifying Amplifier Tabs And Guide
Courtesy of BMW OF NORTH AMERICA, INC.

Engage amplifier (3) downwards into holder.

Tighten down screw (1).

Connect connector (2) and lock.

cardiagn.com

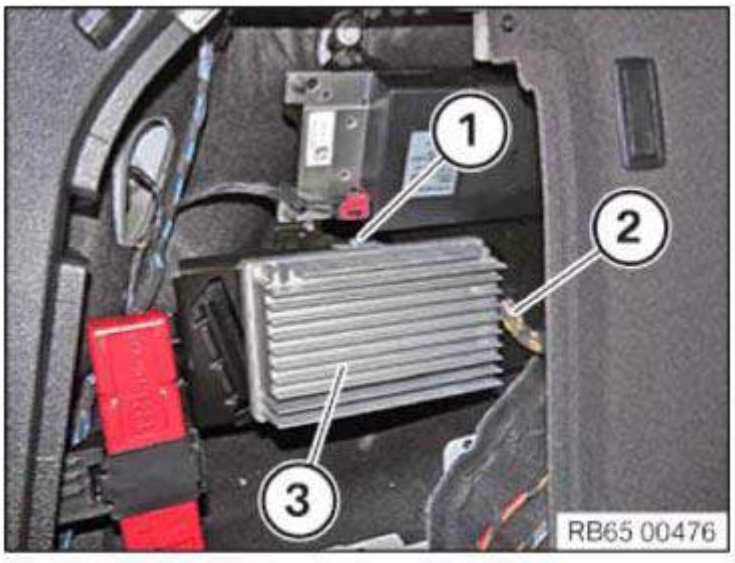


Fig. 23: Identifying Amplifier, Connector And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Required reworking:

- Connect **BATTERY EARTH LEAD**
- Install **FLAP IN LEFT LUGGAGE COMPARTMENT TRIM PANEL**

Replacement:

Carry out **VEHICLE PROGRAMMING AND ENCODING** .

65 12 071 REMOVING AND INSTALLING/REPLACING AMPLIFIER (HIFI)

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

NOTE: Comply with notes and instructions on HANDLING OPTICAL FIBRES .

Necessary preliminary work:

- Disconnect **NEGATIVE BATTERY CABLE**
- Remove **FLAP IN LUGGAGE COMPARTMENT PANEL ON LEFT**

Release screw (1).

Detach amplifier (2) in direction of arrow from holder (3).

cardiagn.com

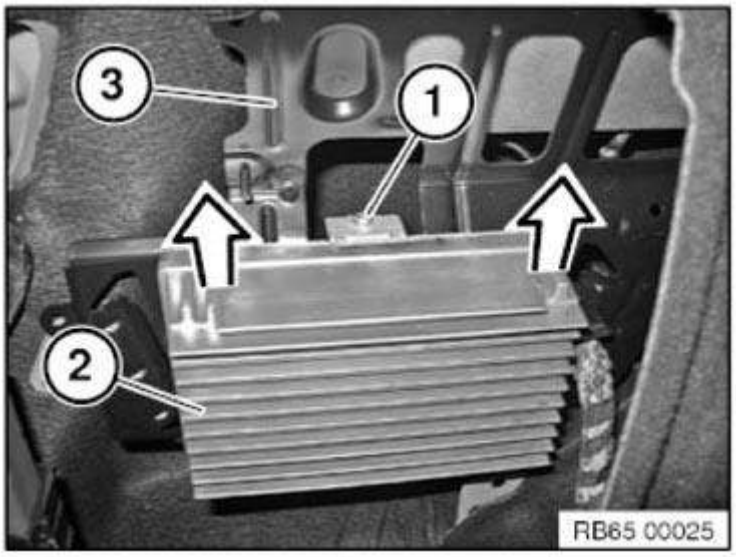


Fig. 24: Detaching Amplifier From Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Tabs at marked points must engage correctly in bracket.

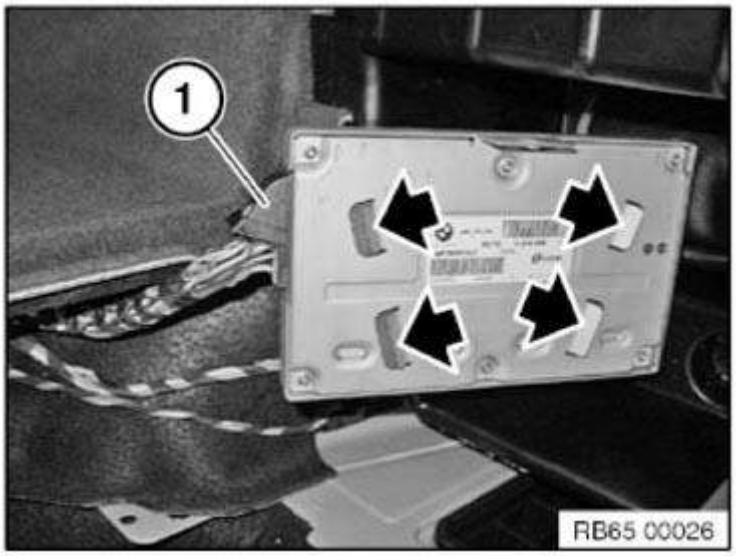


Fig. 25: Locating Bracket Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING AND ENCODING** .

65 12 220 REMOVING AND INSTALLING/REPLACING SATELLITE TUNER (ONLY FOR US MODELS STARTING AT 09/2009)

Necessary preliminary tasks:

- Remove **CAR INFOTAINMENT COMPUTER**

For equipment specification with head unit:

- Remove **headunit** . See **65 12 315 REMOVING AND INSTALLING (REPLACING) HU-H)** or **65 12**

cardiagn.com

320 REMOVING AND INSTALLING (REPLACING) HEADUNIT BASIS

When replacing, please observe:

Note SID number (1) of the removed device.

NOTE: **The SID number (1) can be found on the label of the housing. Location may be different, depending on the equipment manufacturer.**

Note SID number (1) of the new device in the same way.

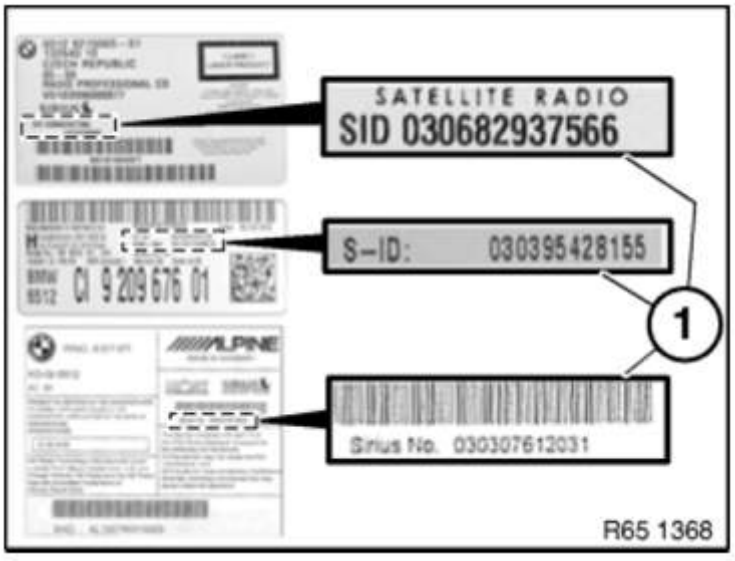


Fig. 26: Identifying SID Number Codes
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out VEHICLE PROGRAMMING/ENCODING .

NOTE: **Please contact Sirius. Use the SID number to cancel current device and register new one.**

SPEAKER AND COVER

51 41... REMOVING AND INSTALLING/REPLACING DUMMY COVER OR TWEETER COVER ON LEFT OR RIGHT DOOR TRIM PANEL

Special tools required:

- 64 1 020

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Removal:

Version up to 04/2014:

Lever out dummy cover (1) or tweeter speaker cover at front using special tool 64 1 020 and remove.

cardiagn.com

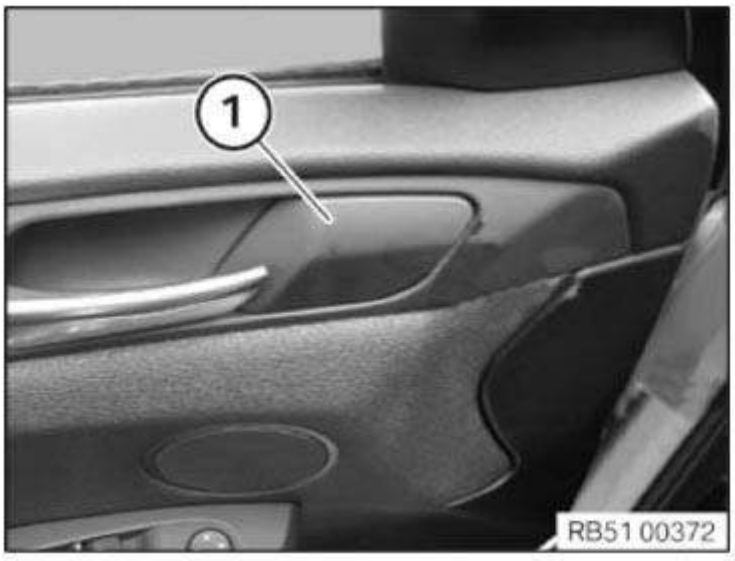


Fig. 27: Identifying Dummy Cover/Tweeter Speaker Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Lever out dummy cover (1) or tweeter speaker cover at front using special tool **64 1 020** .

If necessary, disconnect plug connection and remove cover.

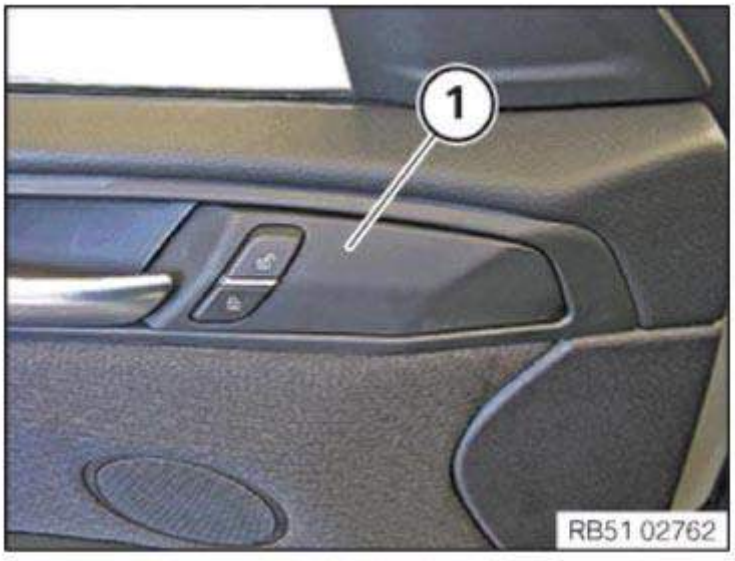


Fig. 28: Identifying Dummy Cover/Tweeter Speaker Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Version up to 04/2014:

Mount dummy cover (1) or tweeter speaker cover.

cardiagn.com

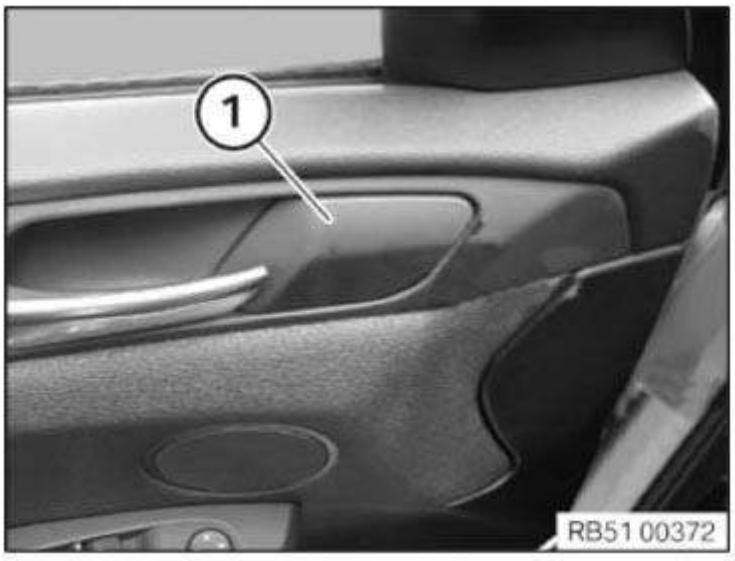


Fig. 29: Identifying Dummy Cover/Tweeter Speaker Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Connect plug connection.

Mount dummy cover (1) or tweeter speaker cover.

- **Replacement:** Remount **SWITCH FOR CENTRAL LOCKING SYSTEM** .

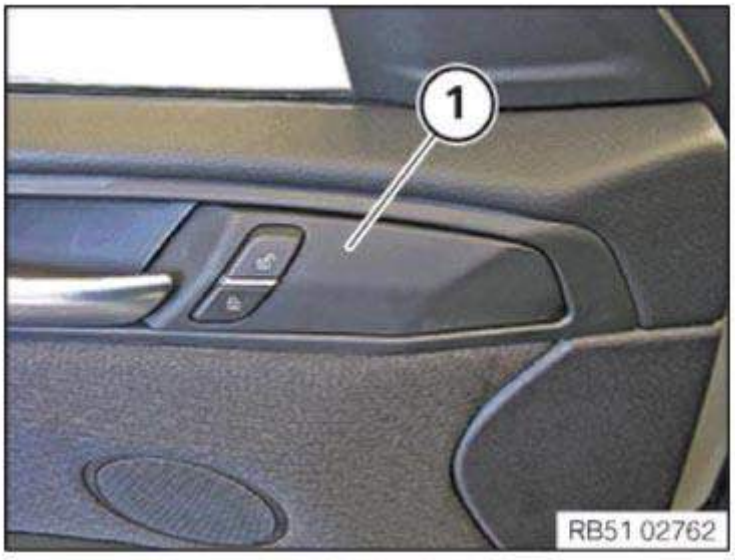


Fig. 30: Identifying Dummy Cover/Tweeter Speaker Cover
Courtesy of BMW OF NORTH AMERICA, INC.

65 13 065 REMOVING AND INSTALLING/REPLACING FRONT SPEAKER CARRIER (INSTRUMENT PANEL)

Unclip trim cover (1) upwards.

Installation note:

Retaining lugs on trim cover (1) must not be damaged.

cardiagn.com

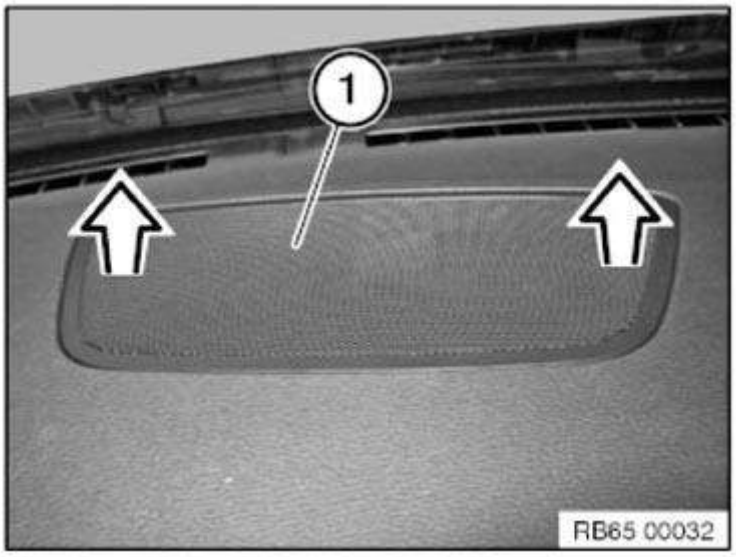


Fig. 31: Removing Trim Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws.

Remove speaker carrier (1).

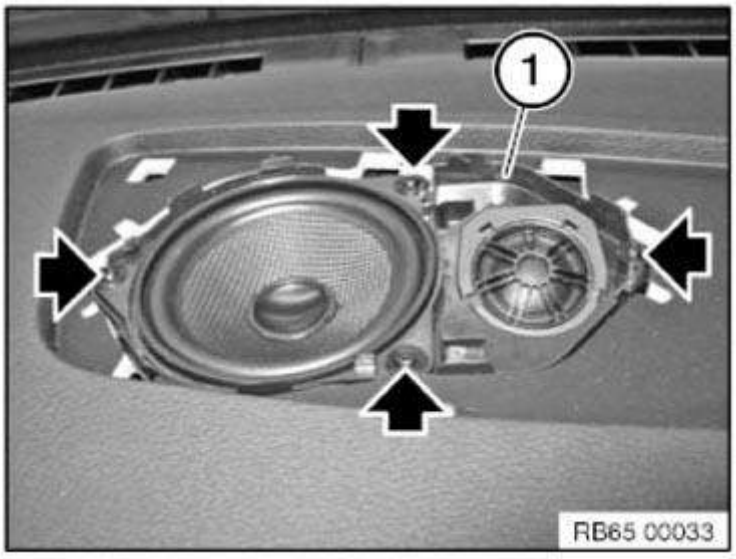


Fig. 32: Locating Speaker Carrier Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connections (2) at mid-range speaker (1).

cardiagn.com

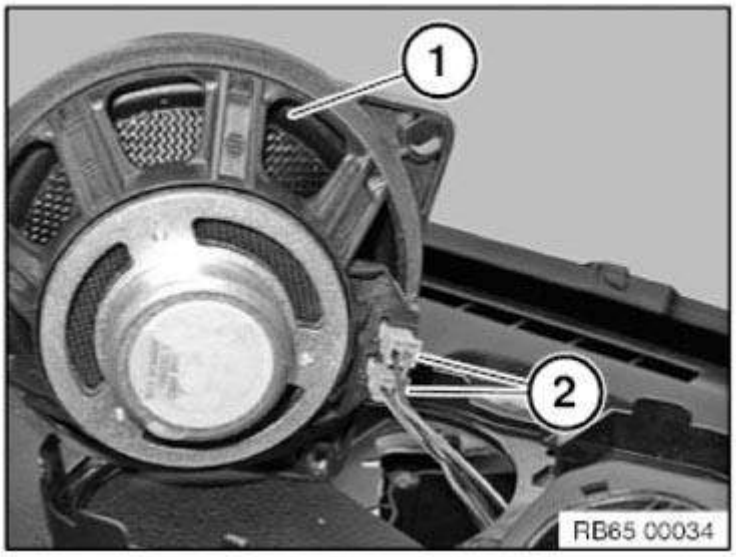


Fig. 33: Identifying Mid-Range Speaker Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

65 13 160 REMOVING AND INSTALLING/REPLACING REAR LEFT OR RIGHT SPEAKER CARRIER (D-PILLAR)

Necessary preliminary work:

- Remove **TRIM PANEL FOR ROOF PILLAR AT REAR** .

Release screws.

Remove speaker carrier (1) and disconnect associated plug connection.

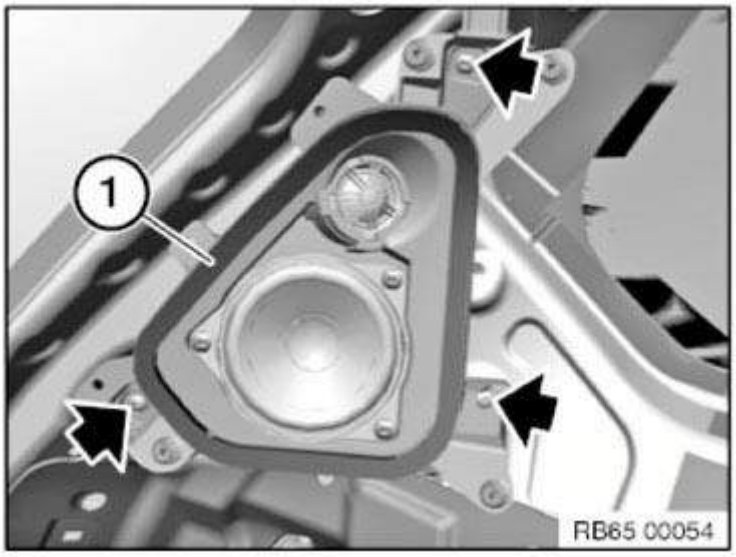


Fig. 34: Locating Speaker Carrier Screws
Courtesy of BMW OF NORTH AMERICA, INC.

65 13 090 REMOVING AND INSTALLING/REPLACING SPEAKER (MID-RANGE SPEAKER IN REAR DOOR)

Necessary preliminary work:

- Remove **REAR DOOR TRIM PANEL**

cardiagn.com

Disconnect plug connection (1).

Release screws.

Tightening torque **65 13 01AZ** .

Remove mid-range speaker (2) from inner door panel.

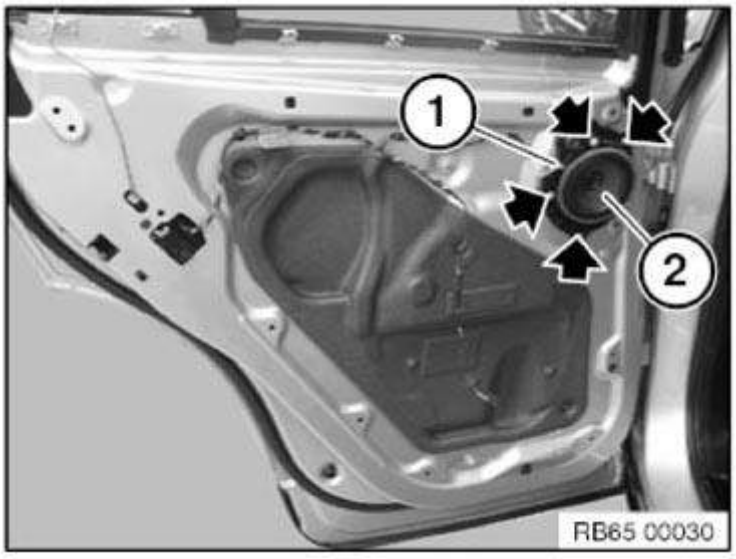


Fig. 35: Locating Mid-Range Speaker Screws
Courtesy of BMW OF NORTH AMERICA, INC.

65 13 080 REMOVING AND INSTALLING/REPLACING SPEAKER (TWEETER IN REAR DOOR)

Necessary preliminary work:

- Remove **REAR DOOR TRIM PANEL**

Unlock retaining lugs.

Remove tweeter (1).

Unclip resistor (2).

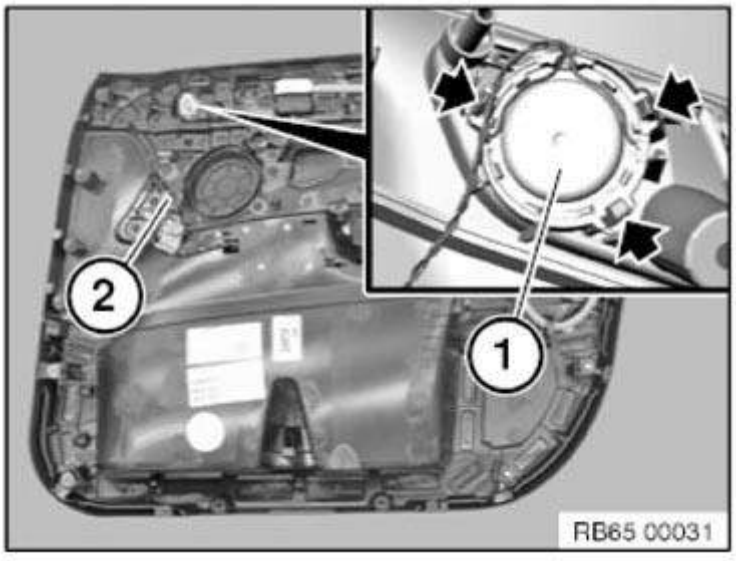


Fig. 36: Locating Tweeter Retaining Lugs And Resistor
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

65 13 050 REMOVING AND INSTALLING/REPLACING SPEAKER (TWEETER, FRONT DOOR)

Necessary preliminary work:

- Remove **FRONT DOOR TRIM PANEL** .

Unlock retaining lugs.

Remove tweeter (1).

Unclip resistor (2).

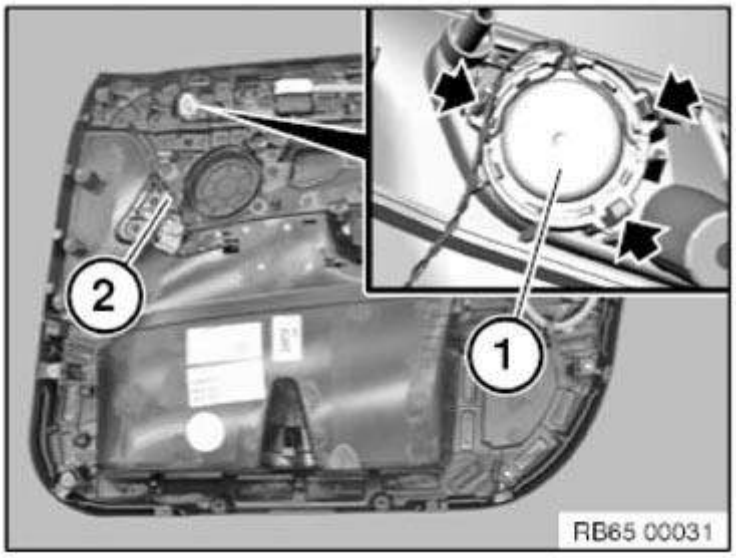


Fig. 37: Locating Tweeter Retaining Lugs And Resistor
Courtesy of BMW OF NORTH AMERICA, INC.

65 13 070 REMOVING AND INSTALLING/REPLACING SPEAKERS (MID-RANGE SPEAKER, FRONT DOOR LEFT AND RIGHT)

Necessary preliminary work:

- Remove front **DOOR TRIM PANEL**

Unfasten plug connection (1) and disconnect.

Release screws at marked points.

Tightening torque **65 12 1AZ** .

Remove speaker (2) from inner door panel (3).

cardiagn.com

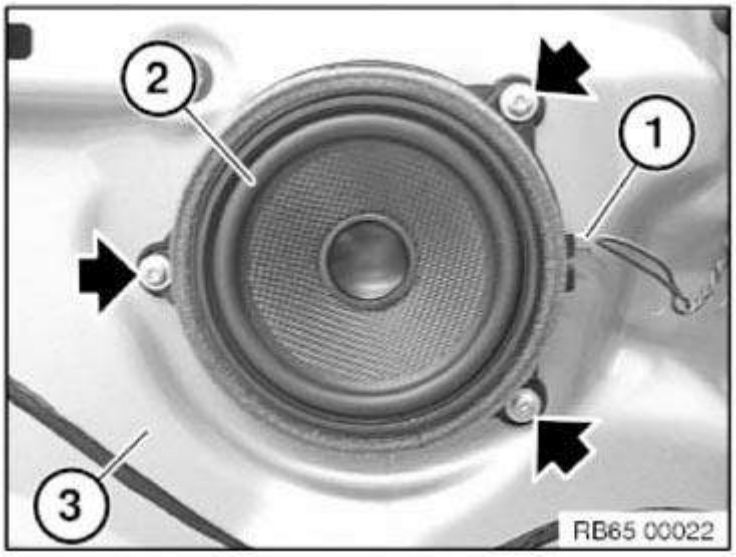


Fig. 38: Locating Speaker Screws From Inner Door Panel
Courtesy of BMW OF NORTH AMERICA, INC.

51 41... REPLACING MID-RANGE SPEAKER COVER ON LEFT OR RIGHT DOOR TRIM PANEL

Special tools required:

- 00 9 317

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary work:

- Remove **door trim panel** . See 51 41 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT DOOR TRIM PANEL or 51 42 000 REMOVE AND INSTALL LEFT OR RIGHT REAR DOOR TRIM PANEL

Use suitable tool to release plastic joints (2) on mid-range speaker cover (1).

Remove mid-range speaker cover (1).

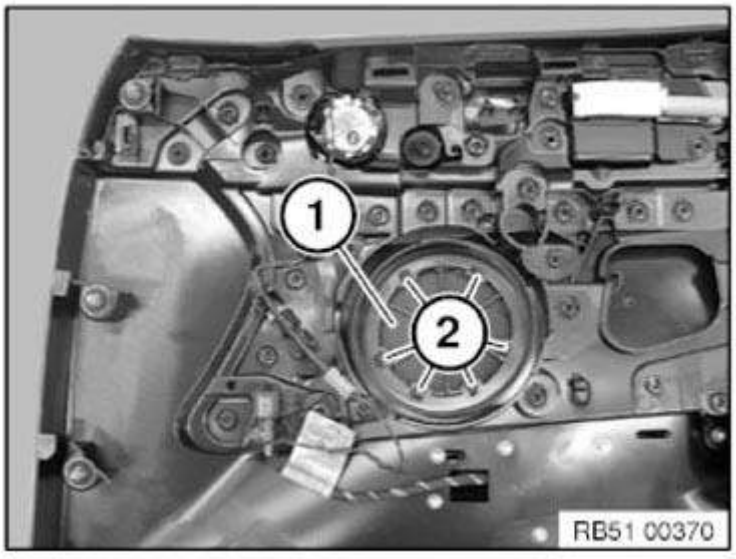


Fig. 39: Identifying Mid-Range Speaker Cover And Plastic Joints
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

Secure replacement mid-range speaker cover (1) by means of retaining clips (3) over retaining tabs (2).

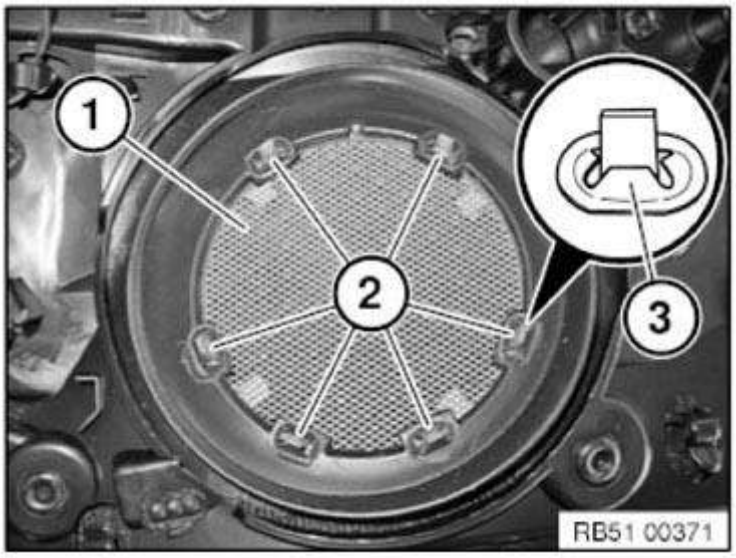


Fig. 40: Identifying Mid-Range Speaker Cover With Retaining Clips
Courtesy of BMW OF NORTH AMERICA, INC.

AERIAL, INTERFERENCE SUPPRESSION FILTER

65 20 090 REMOVING AND INSTALLING/RENEWING AERIAL AMPLIFIER (AERIAL DIVERSITY)

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

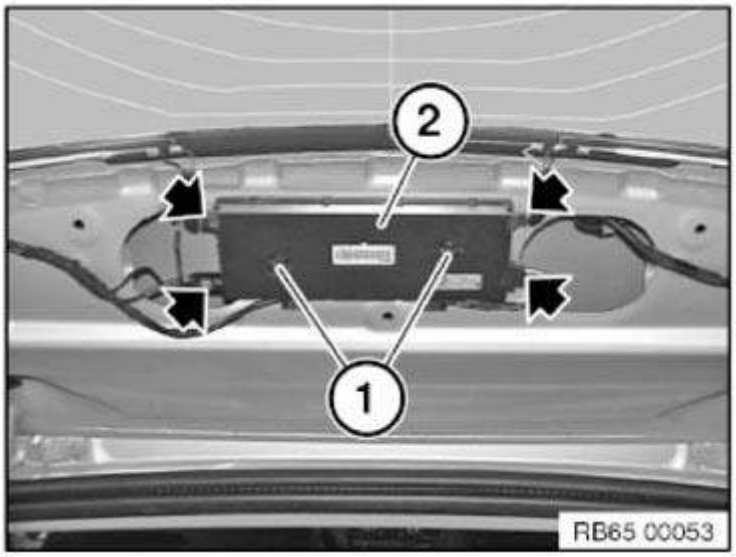
Necessary preliminary work:

- Remove **TRIM FOR REAR WINDOW FRAME AT TOP**

Release screws (1).

Release plug connections at the marked points and disconnect.

Remove aerial amplifier (2).



cardiagn.com

Fig. 41: Locating Aerial Amplifier Screws
Courtesy of BMW OF NORTH AMERICA, INC.

65 20 035 REMOVING AND INSTALLING/RENEWING ROOF AERIAL

Necessary preliminary tasks:

- Detach **EMPTY HOUSING** for roof-mounted aerial

NOTE: **Diagram similar.**

Release screw (1).

Remove roof-mounted aerial (2) by maneuvering upwards.

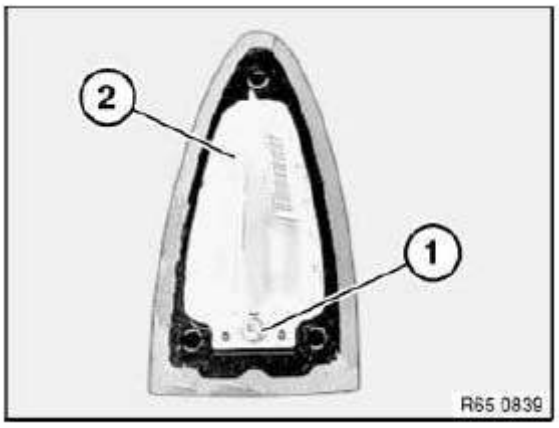


Fig. 42: Identifying Roof-Mounted Aerial Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1).

Remove aerial (2).

Installation note:

Do not mix up aerial/antenna connections (1).

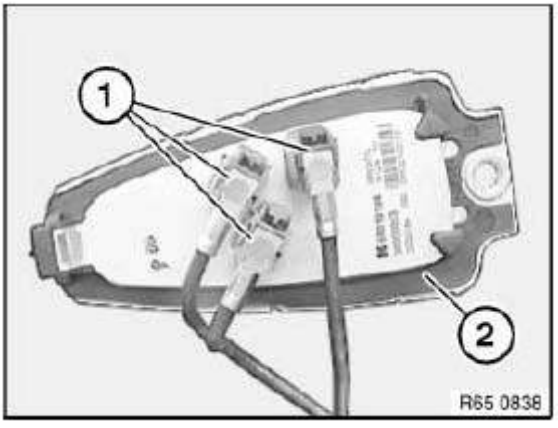


Fig. 43: Identifying Aerial/Antenna Connections, Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

65 20 192 REMOVING AND INSTALLING/REPLACING TV AMPLIFIER ON RIGHT

Necessary preliminary work:

cardiagn.com

- **REMOVE** trim panel for roof pillar at rear(C-pillar)

NOTE: **Illustrations show removal of the TV amplifier on the left side. The TV amplifier on the right side is removed in the same way.**

Disconnect plug connections (1) and (2).

Release screw (3).

Remove TV amplifier (4).

Installation note:

TV amplifier is coded against incorrect assembly.

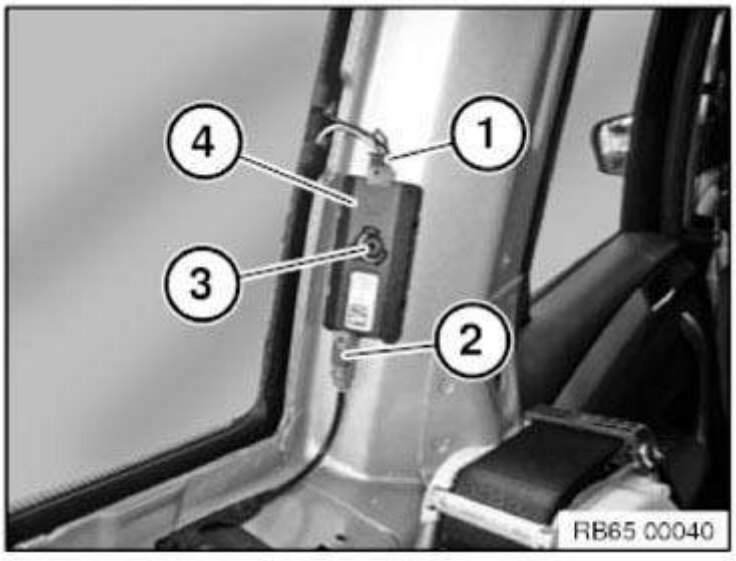


Fig. 44: Identifying TV Amplifier, Plug Connections And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

65 20 150 REMOVING AND INSTALLING/REPLACING BACK-UP AERIAL

Necessary preliminary work:

- Remove **RIGHT LUGGAGE COMPARTMENT WHEEL ARCH PANEL**

Fold sound insulating (1) to one side.

cardiagn.com

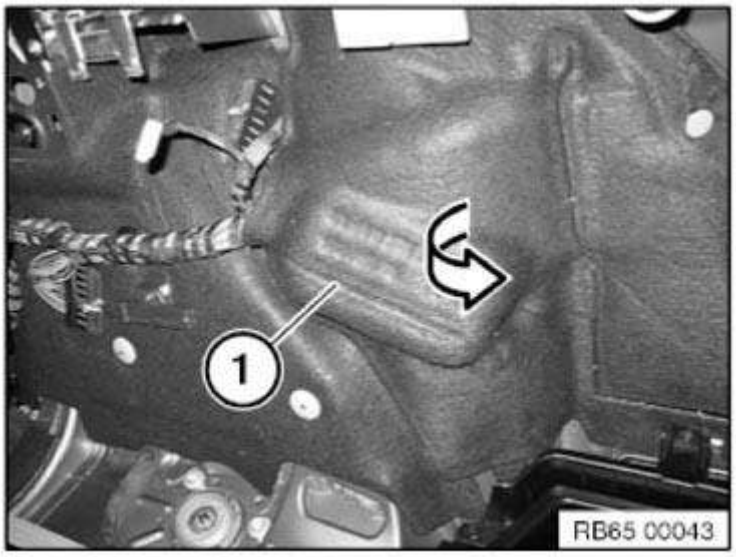


Fig. 45: Folding Sound Insulating
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Unscrew nuts (2).

Remove backup aerial (3).

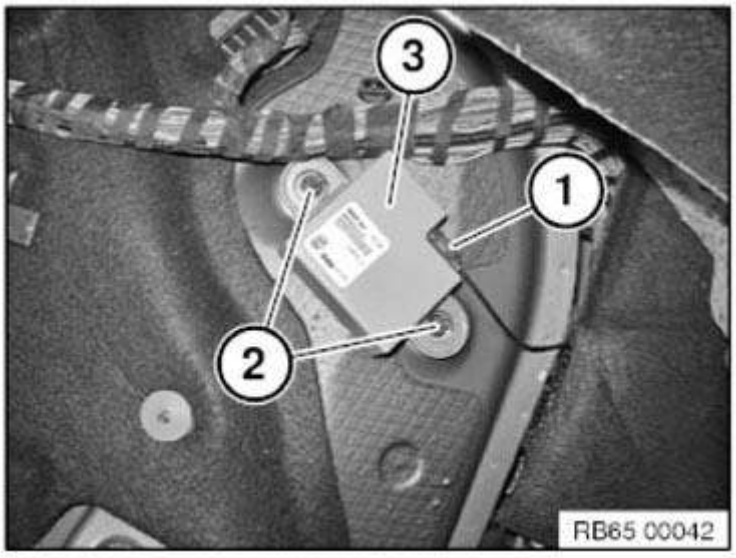


Fig. 46: Identifying Backup Aerial, Plug Connection And Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

65 20 030 REMOVING AND INSTALLING/REPLACING EMPTY HOUSING FOR ROOF-MOUNTED AERIAL

IMPORTANT: Note to customer:

In order to guarantee a permanent connection and adhesive hardening:

After bonding the empty housing for the roof-mounted aerial, wait 24 hours before driving the vehicle through a car wash.

NOTE: **Clean roof.**

cardiagn.com

Mask roof (2) around empty housing for roof-mounted aerial (3) with yellow plastic adhesive tape (1). To do so, slide plastic adhesive tape under empty housing (3) slightly.

Cut through the adhesive bead and remove the empty housing for the roof-mounted aerial (3).

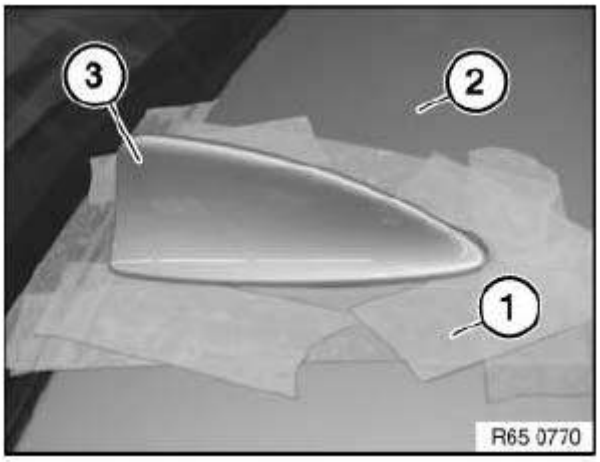


Fig. 47: Identifying Empty Housing For Roof-Mounted Aerial With Yellow Plastic Adhesive Tape
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Empty housing for roof-mounted aerial is secured with window glass adhesive. All preparatory operations correspond to the **WINDOW BONDING NOTES** .

NOTE: **Replace empty housing for roof-mounted aerial if centering pins (1) on empty housing are damaged.**

Bonding surface (2) must be clean and free from grease.

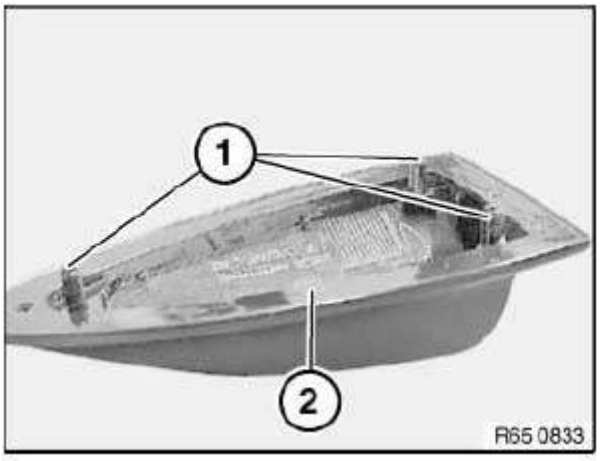


Fig. 48: Identifying Aerial Cover Centering Pins And Bonding Surface
Courtesy of BMW OF NORTH AMERICA, INC.

Apply trace of adhesive bead all round outer contour as follows.

Distance between adhesive bead and edge of aerial cover:

A. 6.5 mm Â±1 mm

Start and end of bead trace must have an overlap length of max. 10 mm.

cardiagn.com



Fig. 49: Applying Adhesive Bead Trace Round Outer Contour
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: To prevent the adhesive from escaping, the adhesive bead diameter must not exceed max. 2.5 mm to 3.5 mm.

NOTE: Attach the empty housing coated with adhesive by hand. To spread the adhesive better, move the housing back and forth horizontally slightly when pressing down.

Secure empty housing if necessary with adhesive tape and press down uniformly.

After bonding, leave vehicle to stand for at least 3 hours at room temperature.

65 20 190 REMOVING AND INSTALLING/REPLACING LEFT TV AMPLIFIER

Necessary preliminary work:

- REMOVE trim panel for roof pillar at rear(C-pillar)

NOTE: Illustrations show removal of the TV amplifier on the left side. The TV amplifier on the right side is removed in the same way.

Disconnect plug connections (1) and (2).

Release screw (3).

Remove TV amplifier (4).

Installation note:

TV amplifier is coded against incorrect assembly.

cardiagn.com

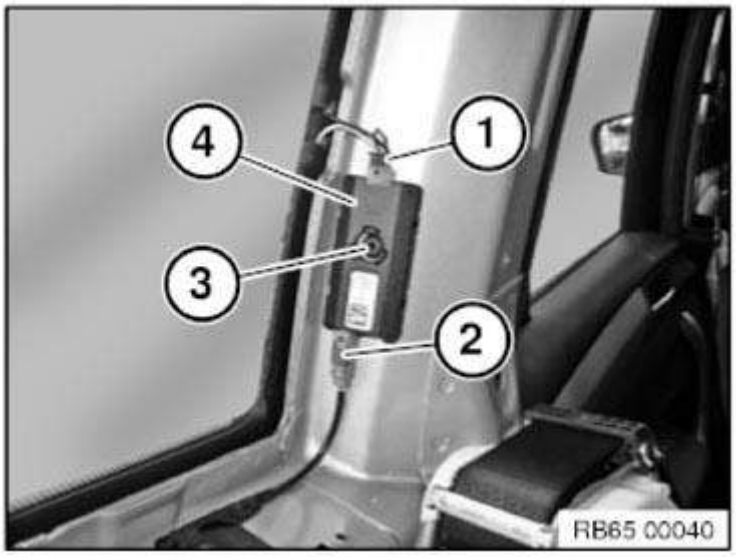


Fig. 50: Identifying TV Amplifier, Plug Connections And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

65 20 350 REMOVING AND INSTALLING/REPLACING SUPPRESSION FILTER

Necessary preliminary work:

- Lower **HEADLINER**

Unlock plug connections (1) and disconnect.

Release screw (2).

Remove interference suppression filter (3).

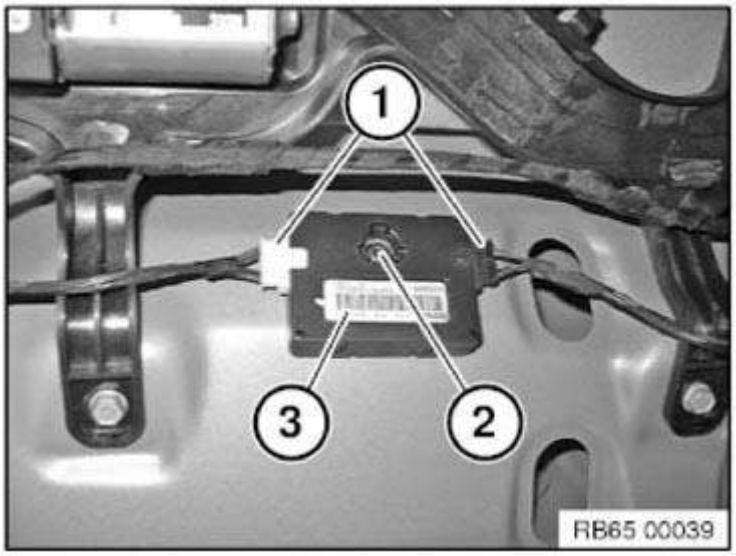


Fig. 51: Identifying Interference Suppression Filter, Plug Connections And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Fit interference suppression filter (1) so that screw (2) engages thread (3) and locating pin (4) engages in bore hole (5).

cardiagn.com

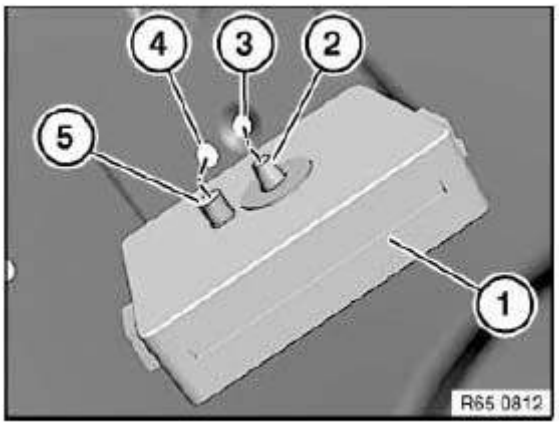


Fig. 52: Identifying Suppression Filter, Screws, Locating Pin And Bore
Courtesy of BMW OF NORTH AMERICA, INC.

REAR WINDOW AERIAL, TV AMPLIFIER, WAVE TRAP

65 20 192 REMOVING AND INSTALLING/REPLACING TV AMPLIFIER ON RIGHT

Refer to **65 20 192 REMOVING AND INSTALLING/REPLACING TV AMPLIFIER ON RIGHT**.

65 24 020 REMOVING AND INSTALLING/REPLACING BLOCKING CIRCUIT

Necessary preliminary work:

- Lower **HEADLINER** .

Unlock plug connections (1) and disconnect.

Release screw (2).

Remove blocking circuit (3).

Installation note:

Ensure rejector circuit (3) is fitted correctly.

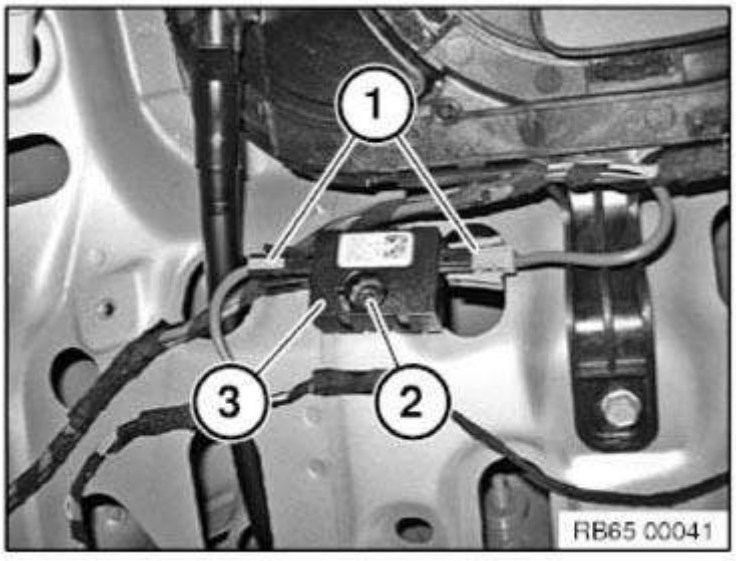


Fig. 53: Identifying Rejector And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

65 20 190 REMOVING AND INSTALLING/REPLACING LEFT TV AMPLIFIER

Refer to **65 20 190 REMOVING AND INSTALLING/REPLACING LEFT TV AMPLIFIER**.

VIDEO AND TV SETS, CENTRAL INFORMATION DISPLAY (CID)

65 50 057 REMOVING AND INSTALLING/REPLACING CENTRAL INFORMATION DISPLAY (CID)

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

Necessary preliminary work:

- Remove **DECORATIVE STRIP ON DASHBOARD IN MIDDLE**

Release screws (1).

Tightening torque **65 50 1AZ** .

Remove CID (2).

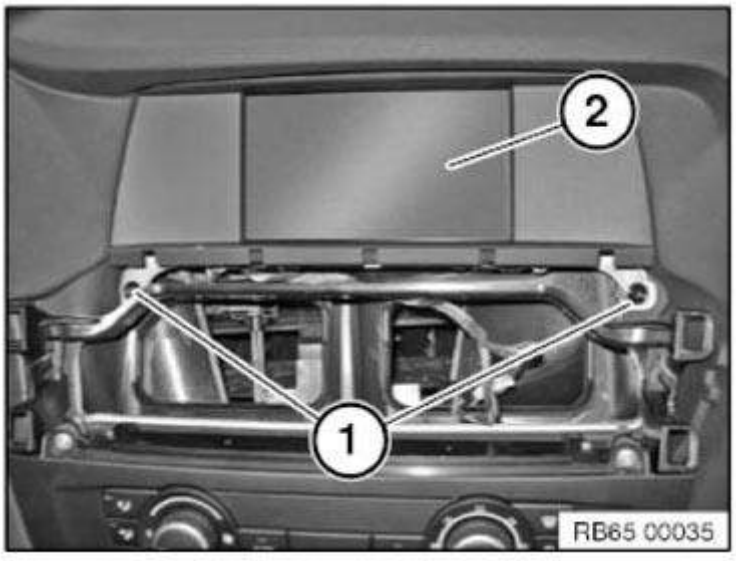


Fig. 54: Identifying CID Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock plug connections and disconnect.

Remove CID (1).

cardiagn.com

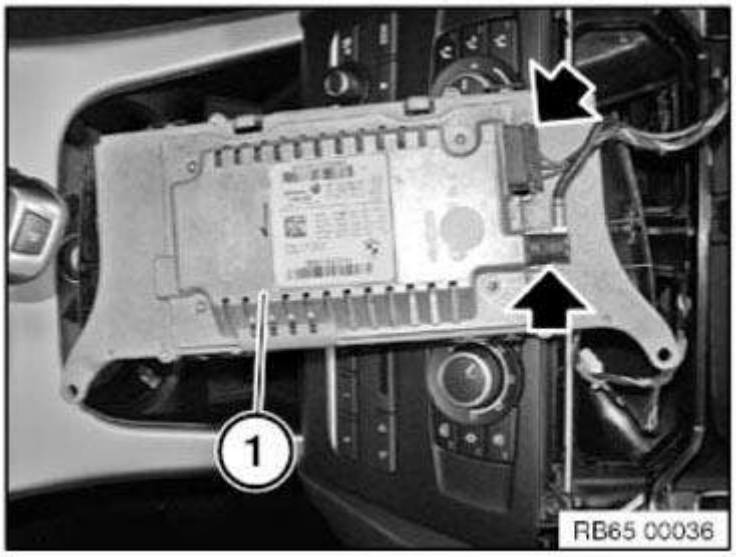


Fig. 55: Locating CID Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING** .

65 50 030 REMOVING AND INSTALLING/REPLACING TV MODULE

IMPORTANT: Read and comply with notes on **PROTECTION AGAINST ELECTROSTATIC DAMAGE (ESD PROTECTION)** .

NOTE: **Follow notes for HANDLING OPTICAL FIBRES .**

Necessary preliminary work:

- Disconnect **NEGATIVE BATTERY CABLE**
- Remove **FLAP IN LUGGAGE COMPARTMENT PANEL** on left

Release screws at marked points.

Remove TV module (1) from the bracket.

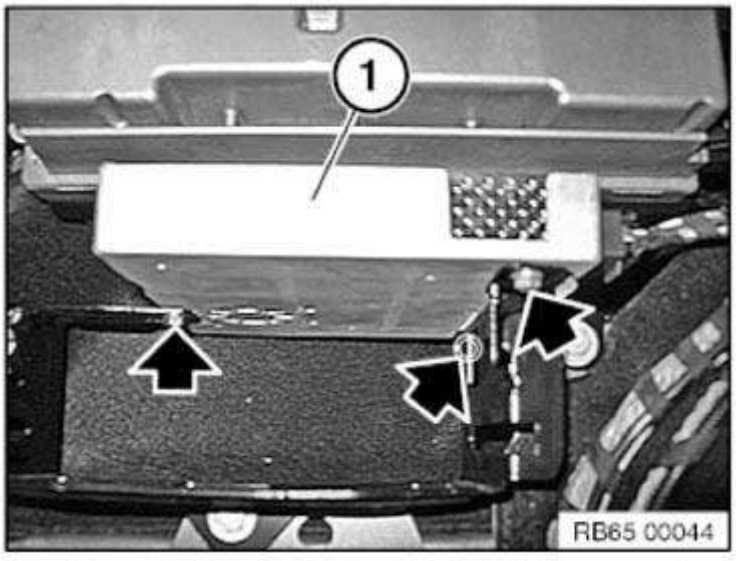


Fig. 56: Identifying TV Module From Bracket

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Unlock plug connections (1) and (2) and disconnect.

Remove TV module (3).

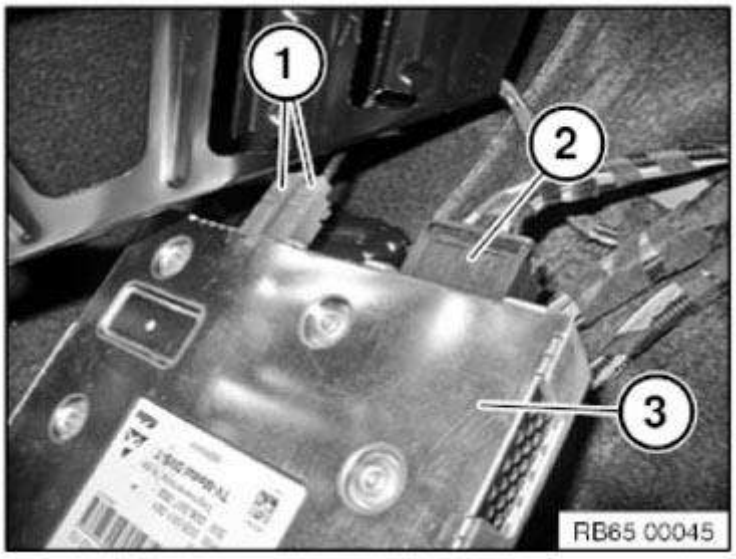


Fig. 57: Identifying TV Module Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

65 50 170 REMOVING AND INSTALLING/REPLACING COVER FOR CENTRAL INFORMATION DISPLAY (CID)

Special tools required:

- 00 9 460

IMPORTANT: Read and comply with notes on protection against electrostatic damage (ESD protection).

Necessary preliminary work:

- Remove CENTRAL INFORMATION DISPLAY (CID)

Release screws (1).

Tightening torque: 65 50 1AZ

NOTE: To tighten screws, use special tool 00 9 460 .

cardiagn.com

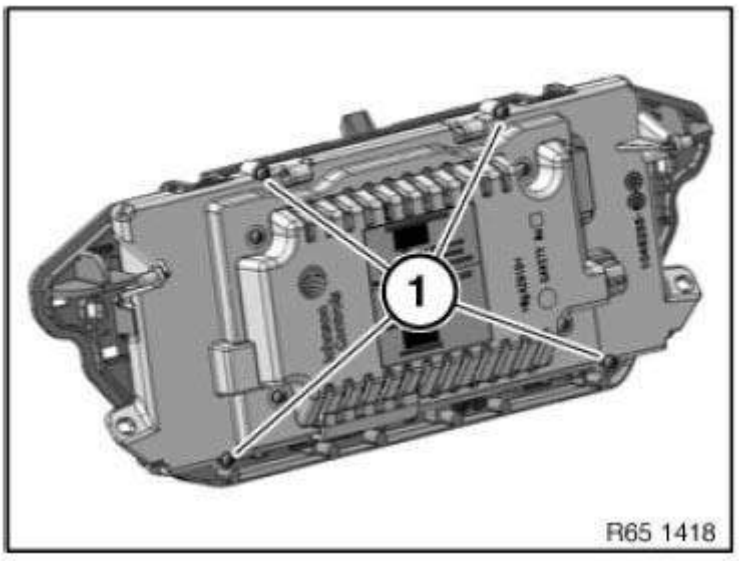


Fig. 58: Identifying Central Information Display Screws
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Risk of damage!

Carefully unlock latch mechanisms (1) with a suitable tool. Remove cover (2) from Central Information Display (3).

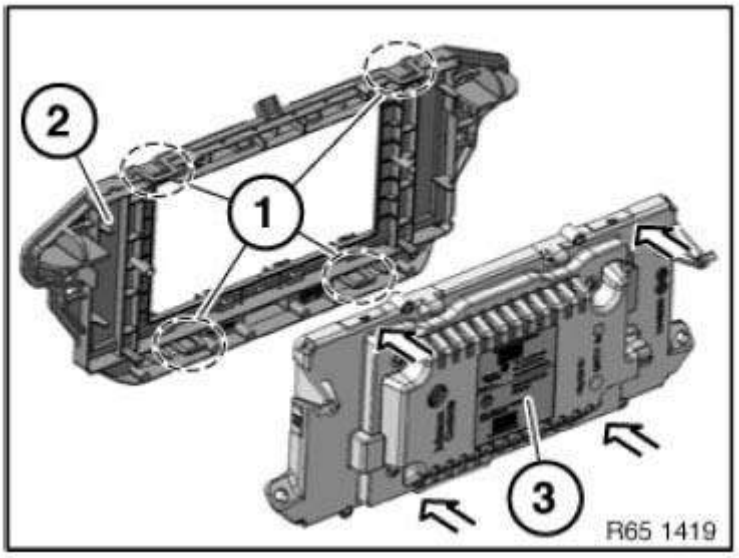


Fig. 59: Removing Cover From Central Information Display
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Before/after assembly, cover is bolted to the Central Information Display, correct installation position must first be checked!

Installation note:

Before connecting the screw connection, check whether latch mechanisms marked with an arrow are correctly seated.

cardiagn.com

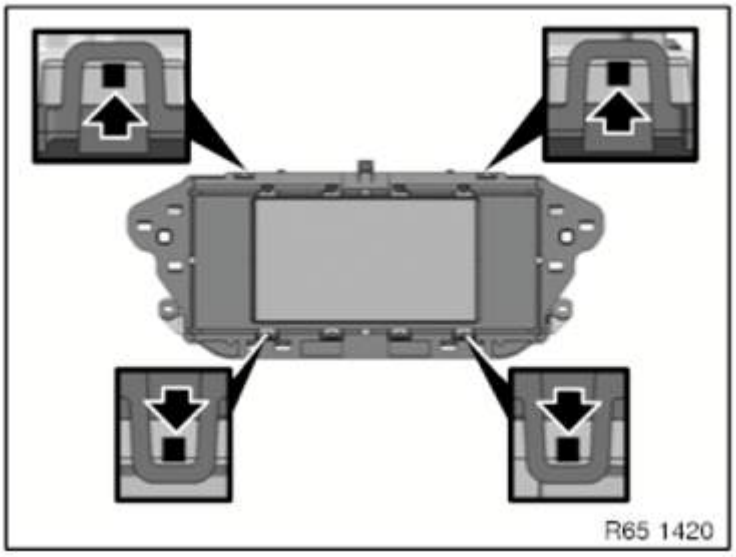


Fig. 60: Locating Central Information Display Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Before connecting the screw connection, check all-round rim at the places marked with an arrow.

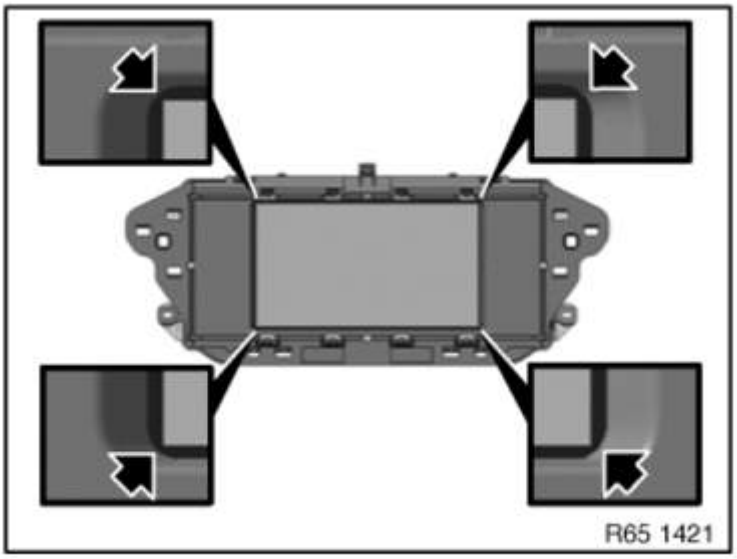


Fig. 61: Locating Central Information Display Screw Connection
Courtesy of BMW OF NORTH AMERICA, INC.

ANTI-THEFT ALARM SYSTEM

65 75 055 REMOVING AND INSTALLING/REPLACING EMERGENCY POWER SIREN WITH TILT SENSOR

Necessary preliminary tasks:

NOTE: **The following operations occur with mounted front wheel.**

- **Partially remove FRONT LEFT WHEEL ARCH COVER in work area**

Unscrew nuts (2).

cardiagn.com

Remove emergency power siren (4) with bracket (3).

Unlock associated plug connection (1) and disconnect.

Remove emergency power siren (4) with bracket (3).

Replacement:

Slacken nut (5).

Remove emergency power siren (4) from holder (3).

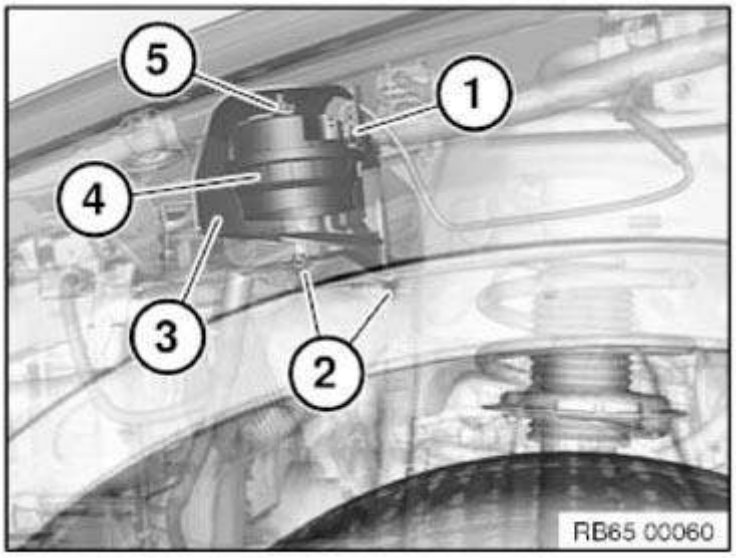
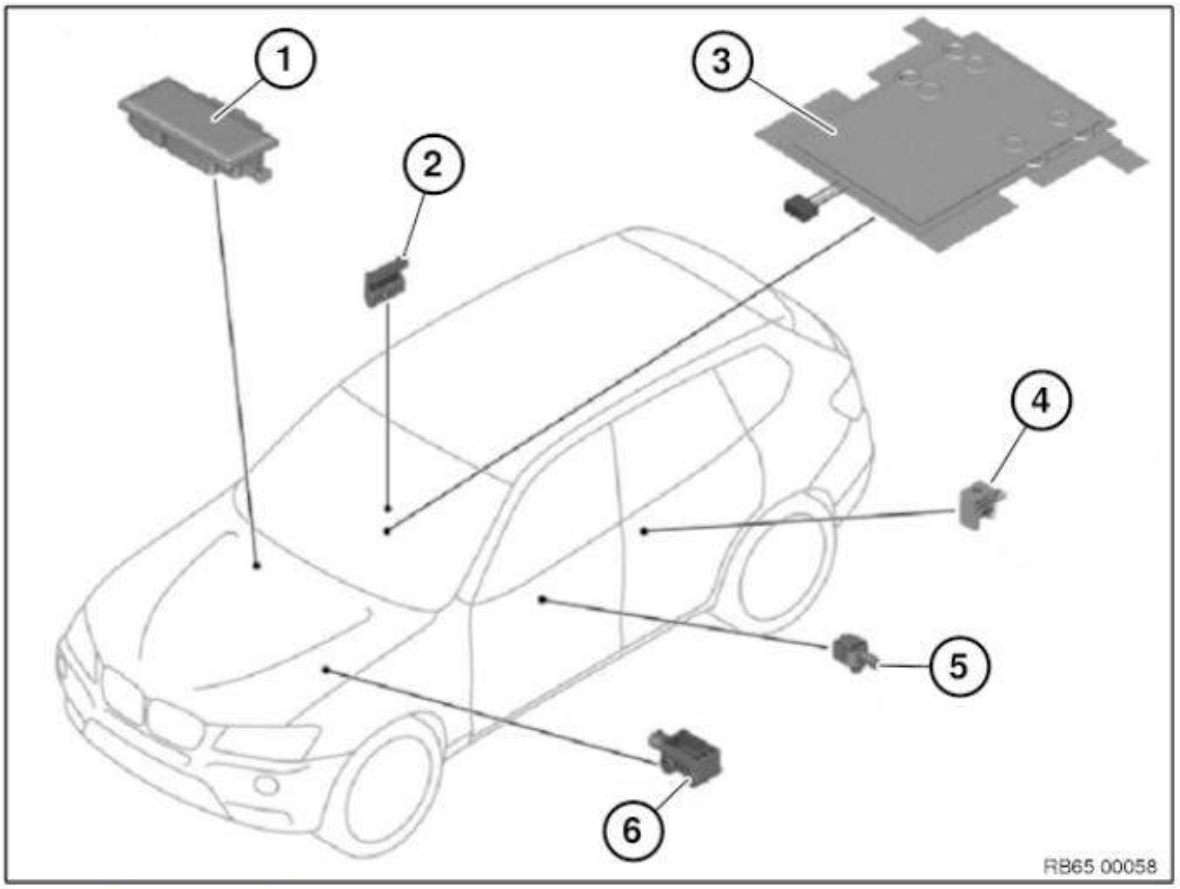


Fig. 62: Identifying Emergency Power Siren With Bracket
Courtesy of BMW OF NORTH AMERICA, INC.

AIRBAG CONTROL UNITS, AIRBAG SENSORS

65 77... OVERVIEW OF SENSORS FOR AIRBAG SYSTEM

cardiagn.com



1. Airbag control unit (storage tray, passenger's side)
2. Position sensor for front seat
3. Sensor mat for front passenger seat occupancy detector
4. Sensor, B-pillar (left/right)
5. Sensor, front door (left/right)
6. Acceleration sensors, front (left/right)

Fig. 63: Overview Of Sensors For Airbag System
Courtesy of BMW OF NORTH AMERICA, INC.

65 77 585 REMOVE AND INSTALL (REPLACE) THE FRONT SEAT POSITION SENSOR (US VERSION)

WARNING: **Note AIRBAG SAFETY REGULATIONS !**
Incorrect handling can lead to airbag deployment and cause injury.

Necessary preliminary work:

- Remove **LEFT FRONT SEAT**

Release screw (5).

Remove the position sensor (3) and disconnect the applicable plug connection (4).

Replacement:

Release screw (2).

Remove magnet (1).

cardiagn.com

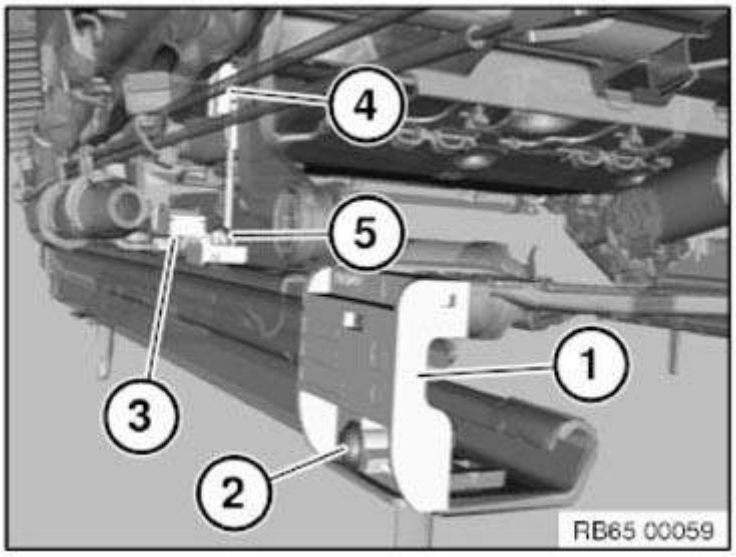


Fig. 64: Identifying Position Sensor, Magnet And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

65 77 720 REMOVING AND INSTALLING (REPLACING) LEFT B-PILLAR SENSOR

WARNING: **NOTE AIRBAG SAFETY INSTRUCTIONS !**
Incorrect handling can lead to airbag deployment and cause injury.

Necessary preliminary work:

- Disconnect **BATTERY CABLE**
- Remove **TRIM PANEL FOR DOOR POST** .

Release screw (3).

Tightening torque **65 77 3AZ** .

Feed out the B-pillar sensor (1) downwards.

Unlock plug connection (4) and disconnect.

Installation note:

Make sure sensor (1) is mounted without play.

Replace sheet metal nut (2), if applicable.

cardiagn.com

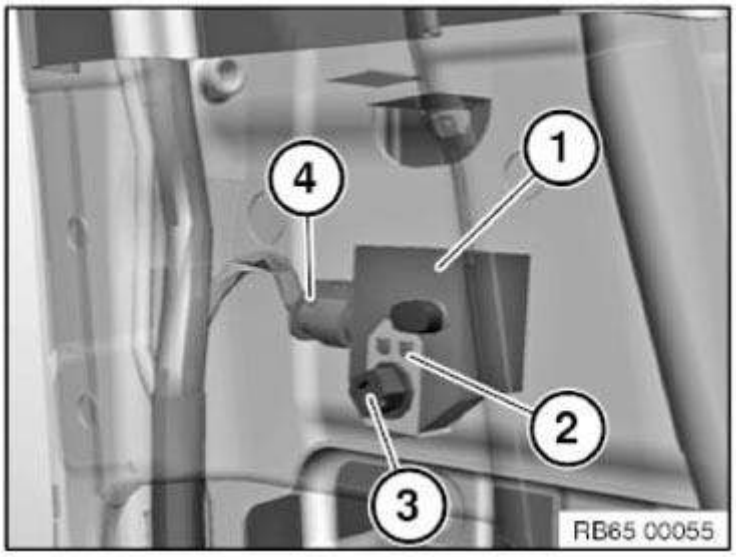


Fig. 65: Identifying Sheet Metal Nut, B-Pillar Sensor And, Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

65 77 740 REMOVING AND INSTALLING (REPLACING) LEFT FRONT DOOR SENSOR (US VERSION)

WARNING: **Note AIRBAG SAFETY REGULATIONS ! Incorrect handling can activate airbag and cause injury.**

Necessary preliminary tasks:

- Remove **SOUND INSULATION IN FRONT DOOR**

Loosen nut (1).

Tightening torque **65 77 4AZ** .

Feed out sensor (2) towards bottom.

Unfasten plug connection (3) and disconnect.

Remove sensor (2).

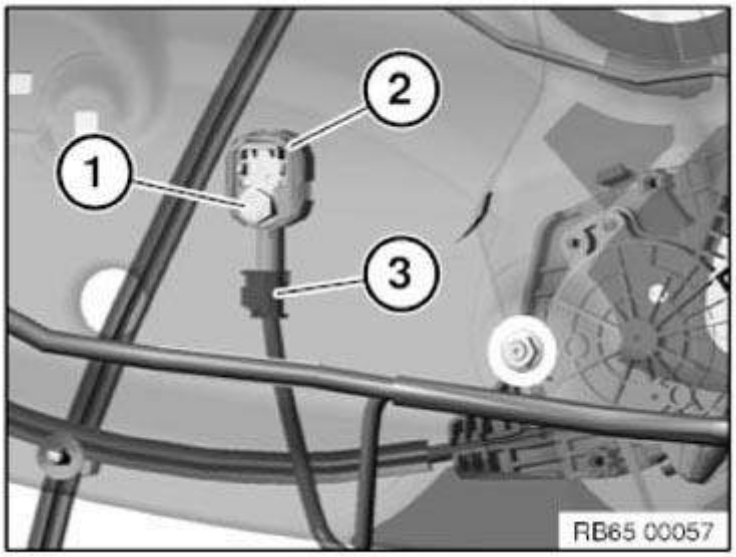


Fig. 66: Identifying Sensor, Plug Connection And Nut

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

65 77 016 REMOVING AND INSTALLING/REPLACING AIRBAG CONTROL UNIT

WARNING: **NOTE AIRBAG SAFETY REGULATIONS !**
Incorrect handling can activate airbag and cause injury.

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

Necessary preliminary work:

- Disconnect **BATTERY EARTH LEAD**
- Remove **INSTRUMENT PANEL TRIM, BOTTOM RIGHT**

Remove airbag control unit (1) from mounting bracket (2) in direction of arrow.

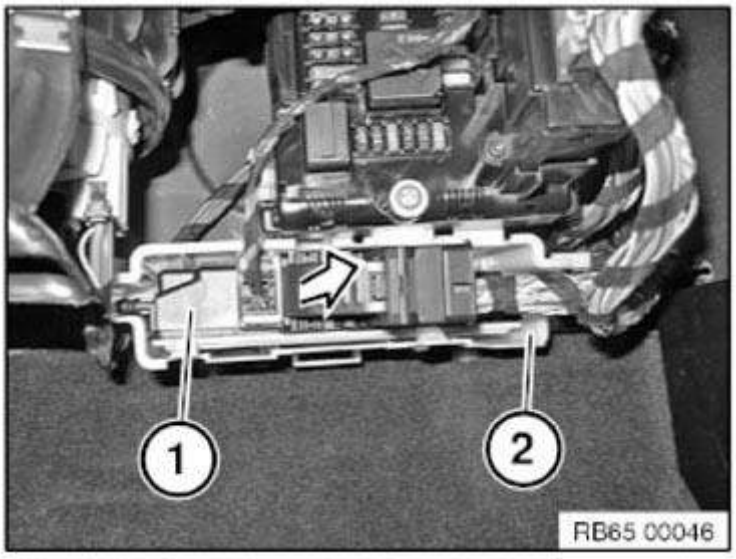


Fig. 67: Removing Airbag Control Unit From Mounting Bracket
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock plug connections (1) and (2) and disconnect.

Remove airbag control unit (3).

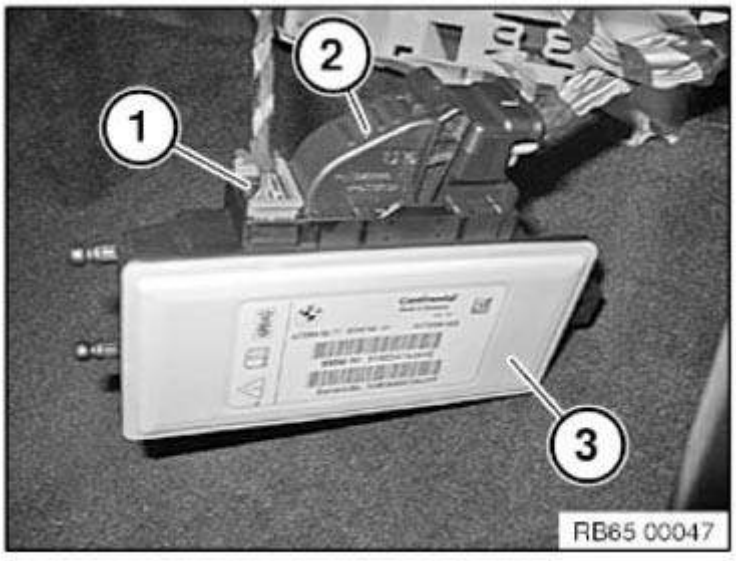


Fig. 68: Identifying Airbag Control Unit And Plug Connections

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING** .

65 77 532 REMOVING AND INSTALLING/REPLACING FRONT LEFT SENSOR (US VERSION ONLY)

Necessary preliminary work:

- Remove **FRONT LEFT WHEEL ARCH COVER**

Release screws (1).

Tightening torque **65 77 2AZ** .

Unfasten plug connection (2) and disconnect.

Remove sensor (3).

Installation note:

Make sure sensor (3) is in correct installation position.

Sensor surface must point inwards.

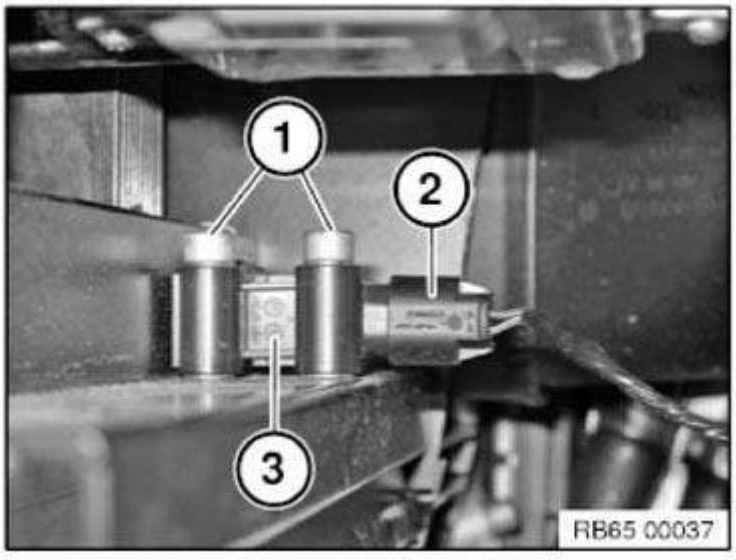


Fig. 69: Identifying Sensor, Plug Connection And Nut
Courtesy of BMW OF NORTH AMERICA, INC.

65 77 534 REMOVING AND INSTALLING/REPLACING FRONT RIGHT SENSOR (US VERSION ONLY)

The following operation is identical to:

REMOVING AND INSTALLING/REPLACING FRONT LEFT SENSOR

65 77 725 REMOVING AND INSTALLING/REPLACING RIGHT B-PILLAR SENSOR

Operation is identical to:

REMOVING AND INSTALLING LEFT B-PILLAR SENSOR

cardiagn.com

65 77 745 REMOVING AND INSTALLING/REPLACING RIGHT FRONT DOOR SENSOR

This operation is described in:

REMOVING AND INSTALLING (REPLACING) LEFT FRONT DOOR SENSOR

65 77 604 REPLACING SENSOR MAT (CIS MAT) FOR FRONT PASSENGER SEAT OCCUPANCY DETECTOR

WARNING: **Note AIRBAG SAFETY REGULATIONS !**
Incorrect handling can activate airbag and cause injury.

WARNING: **Only US and Canadian version of front passenger seat (with CIS mat):**
The CIS mat is bonded to the entire surface of the facing and can only be removed in conjunction with the padding from the seat cover.
If CIS mat or padding is defective, both parts may only be replaced together.
Full functional capability can only be guaranteed with original BMW spare parts.
After installation, the CIS mat must be enabled with the BMW PROGRAMMING SYSTEM .

Procedure for replacing the CIS mat together with the upholstery is described in:

- Replacing **upholstery for front seat** . See 52 13 400 REPLACING SEAT COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL) or 52 15 400 REPLACING SEAT COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)

The work scope with CIS mat is different for the following work steps:

Cut open cable strap (1).

Lift locking tab and pull the connector out of the side of the connector housing.

Installation note:

Replace cable tie (1).

Connector is encoded against incorrect assembly.

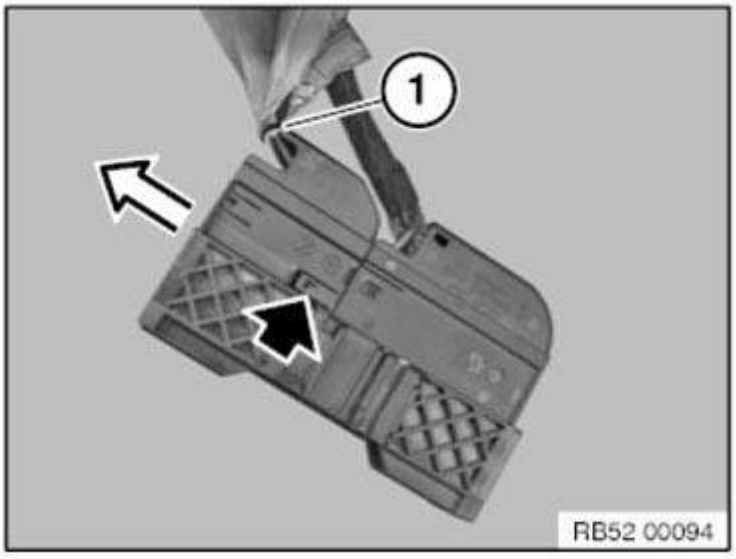


Fig. 70: Pulling Connector Out Of Connector Housing
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

Enabling seat occupancy detector (CIS mat):

- Connect **BMW PROGRAMMING SYSTEM**
- Encode airbag control unit
- Delete fault memory if necessary

65 77 602 REPLACING SENSOR MAT FOR FRONT PASSENGER SEAT OCCUPANCY DETECTOR

Necessary preliminary tasks:

- Remove **FRONT PASSENGER SEAT**

IMPORTANT: Risk of damage on sharp-edged seat mechanism.
Guide all cables carefully through seat and backrest mechanism.
Make sure cable is routed without kinks and tension.
Make sure plug connections are correctly locked.
Make sure connectors are correctly seated in latch mechanisms.

Remove the central plug from the mounting.

Cut open cable strap (1).

Installation note:

Replace cable tie (1) at central plug.

Raise the tab and pull connector (2) out through the side of the connector housing (3).

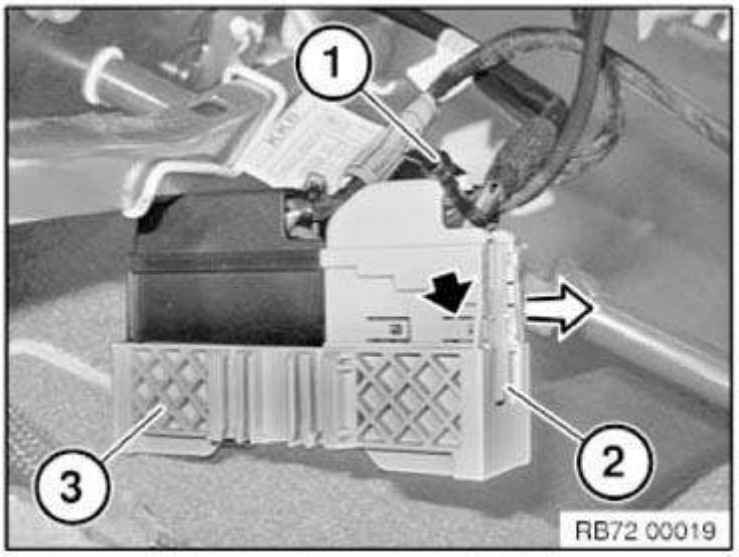


Fig. 71: Pulling Connector Out Of Connector Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Detach cable for seat occupancy detection (1) from cable clip.

cardiagn.com

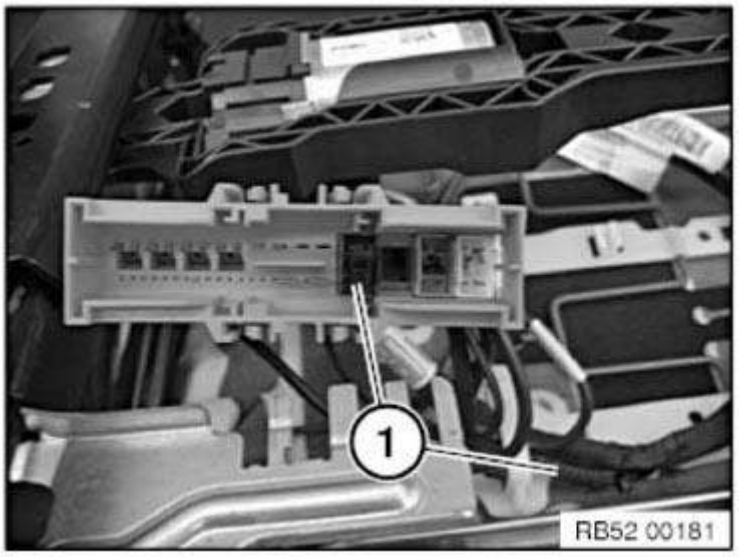


Fig. 72: Identifying Seat Occupancy Detection From Cable Clip
Courtesy of BMW OF NORTH AMERICA, INC.

Lift the front seat cover with upholstery (1) and unclip the mounting (2) for the seat occupancy detection (3).

Remove the seat occupancy detection (3) from upholstery front passenger seat (1) and feed out connector with cable.

Installation note:

Plug connections are coded against incorrect assembly.

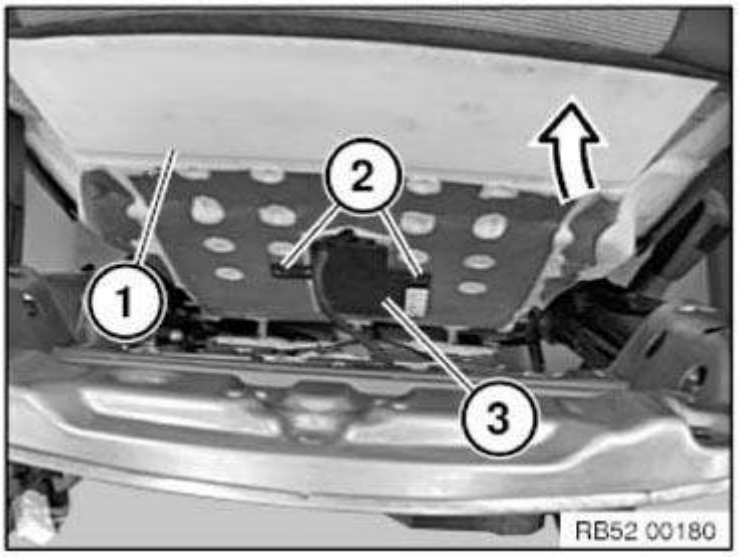


Fig. 73: Lifting Front Seat Cover With Upholstery
Courtesy of BMW OF NORTH AMERICA, INC.

- To avoid malfunctions, make sure seat occupancy mat (3) is cleanly laid:
  - Insert the seat occupancy detection (3) in the provided recess and clip in mounting.
  - Install the cables and connectors for the seat occupancy detection clean and without kinks.
  - Slide and lock connector in central connector housing.

ON-BOARD COMPUTER, OUTSIDE TEMPERATURE SENSOR

65 81 060 REMOVING AND INSTALLING/REPLACING OUTSIDE TEMPERATURE SENSOR

cardiagn.com

- Remove **FRONT ASSEMBLY UNDERBODY PROTECTION**

Unclip outside temperature sensor (1) from support.

Unfasten plug connection (2) and disconnect.

Remove the outside temperature sensor (1).

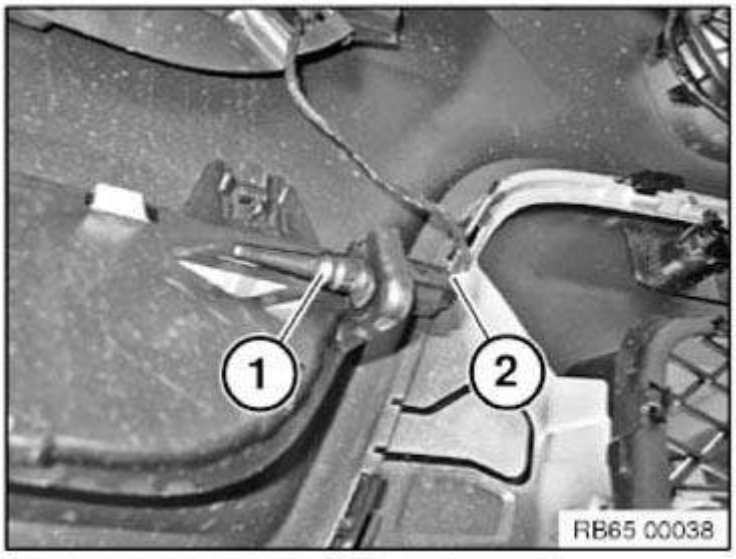


Fig. 74: Identifying Outside Temperature Sensor And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

CENTRAL DISPLAY AND OPERATING UNIT

65 82 300 REMOVING AND INSTALLING (REPLACING) TOUCHBOX CONTROLLER CONTROL UNIT

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

Necessary preliminary work:

- Remove **LUGGAGE COMPARTMENT FLOOR TRIM PANEL**

Removal:

Release clips (1).

Fold up storage shelf (2).

cardiagn.com

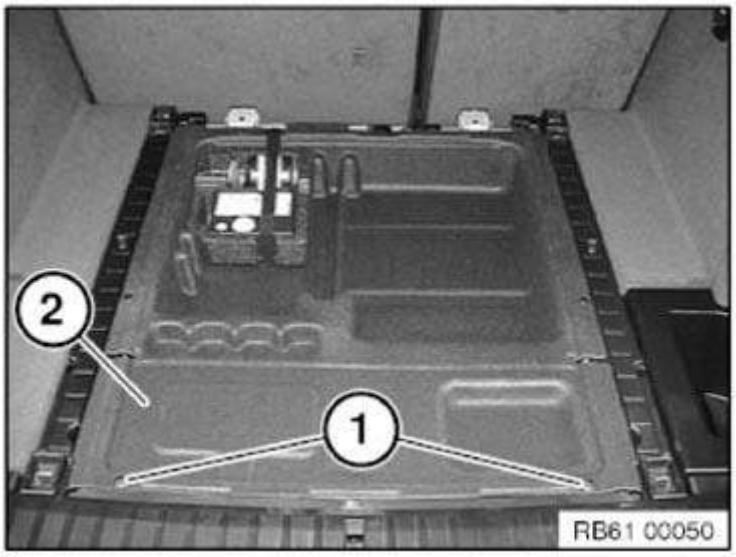


Fig. 75: Identifying Storage Shelf And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect the connector (1).

Pull out TBX (2) upwards.

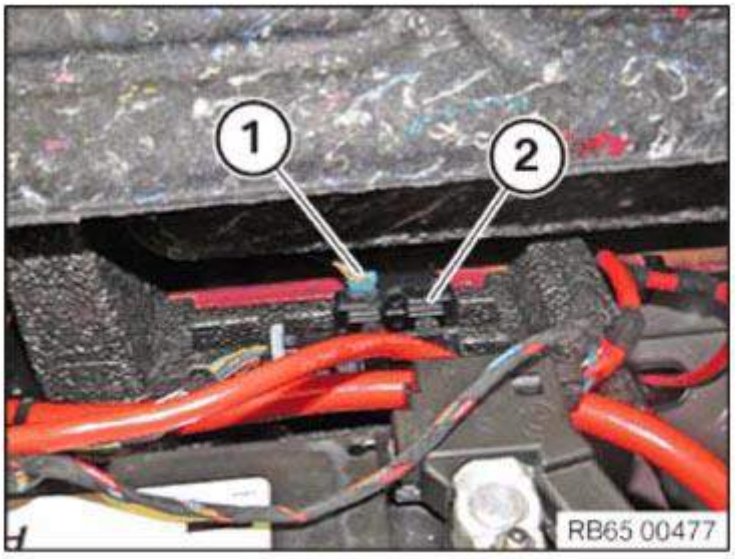


Fig. 76: Identifying TBX With Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Insert TBX (2) downwards.

Connect the connector (1).

cardiagn.com

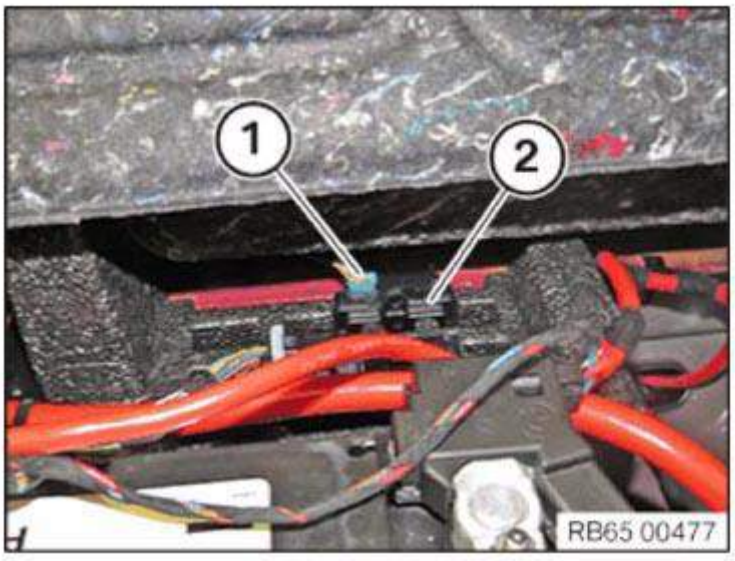


Fig. 77: Identifying TBX With Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Correctly position storage shelf (2).

Lock clips (1).

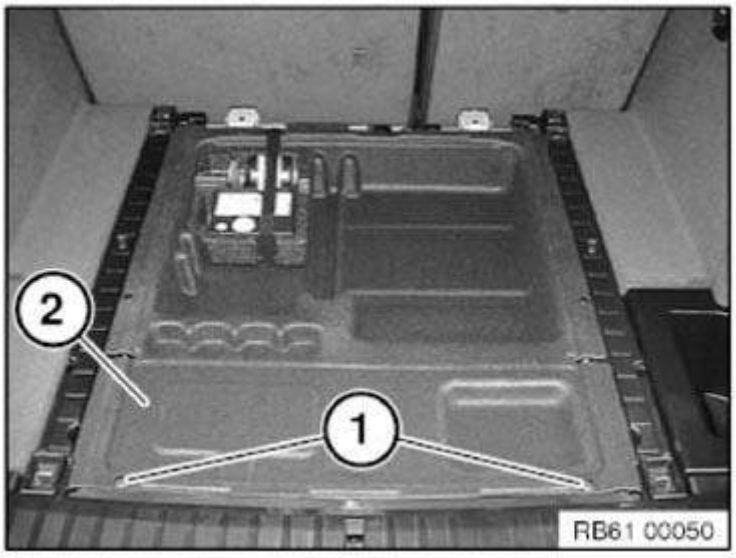


Fig. 78: Identifying Storage Shelf And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Required reworking:

- Install **LUGGAGE COMPARTMENT FLOOR TRIM PANEL**

Replacement:

Carry out **VEHICLE PROGRAMMING AND ENCODING** .

65 50 170 REMOVING AND INSTALLING/REPLACING COVER FOR CENTRAL INFORMATION DISPLAY (CID)

Refer to **65 50 170 REMOVING AND INSTALLING/REPLACING COVER FOR CENTRAL INFORMATION DISPLAY (CID)**.

cardiagn.com

CAR COMMUNICATION COMPUTER (CCC), CAR INFORMATION COMPUTER (CIC)

65 83 020 REMOVING AND INSTALLING (REPLACING) CAR INFORMATION COMPUTER (CIC)

IMPORTANT: Risk of damage!

A hard disk is installed in the Car Information Computer (CIC).

Carry out mechanical work on the CIC and adjacent components with care.

Avoid subjecting the CIC to vibration/shocks.

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

NOTE: Comply with notes and notes on HANDLING OPTICAL FIBRES .

Necessary preliminary tasks:

- Disconnect **BATTERY EARTH LEAD** (F03: Disconnect both battery earth leads).
- Remove **RADIO AND IHKA CONTROLS**

NOTE: Picture for example purposes only!

Unfasten screws (2).

Pull CIC (3) out of guide.

Installation note:

Make sure CIC (3) is correctly seated in guide lugs (1).

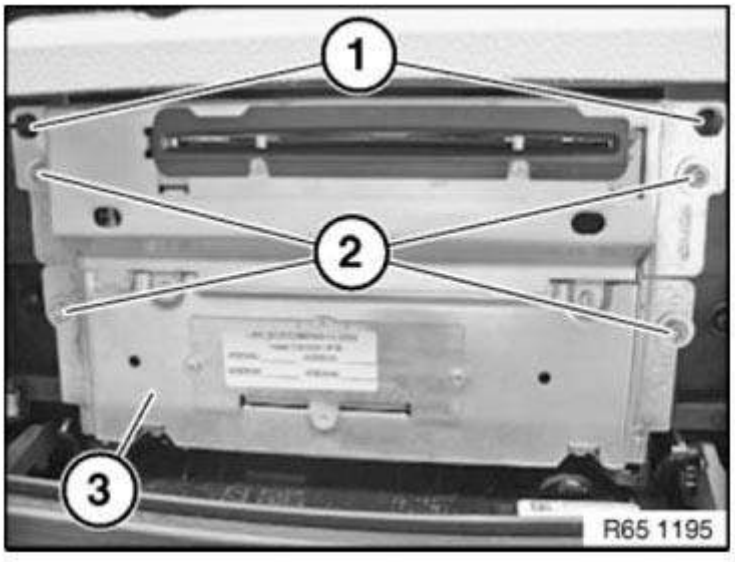


Fig. 79: Identifying Screws, CIC And Guide Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock plug connections (2) and (3) and disconnect.

Remove CIC (1).

cardiagn.com

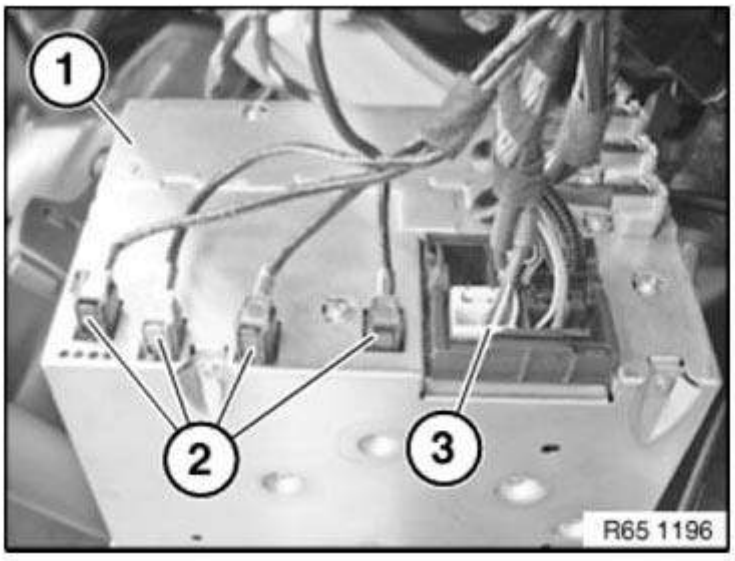


Fig. 80: Identifying CIC Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

Only for US models with satellite radio:

When replacing the CIC unit, additional work is required!

- Refer to information **REPLACING SATELLITE TUNER, AS OF 09/2009**.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING** .

For vehicles with Teleservices optional equipment:

- Update services via menu in the central information display.

Load additionally for following vehicles' service history:

- 1-Series F2x, 3-Series F3x from series introduction
- F01, F02, F03, F07, F10, F11 with production date from 07/2013
- F06, F12, F13 with production date from 03/2014
- F15, F16 from volume production launch
- F18 with production date from 09/2013
- F25 with production date from 04/2014
- F26 as of series introduction

Load service history:

- 05 Maintenance and Pre-Delivery Check
- Service history

65 12 315 REMOVING AND INSTALLING (REPLACING) HU-H)

Refer to **65 12 315 REMOVING AND INSTALLING (REPLACING) HU-H)**.

65 12 320 REMOVING AND INSTALLING (REPLACING) HEADUNIT BASIS

Refer to **65 12 320 REMOVING AND INSTALLING (REPLACING) HEADUNIT BASIS**.

cardiagn.com

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

cardiagn.com

AUDIO, NAVIGATION AND INFORMATION SYSTEMS

0493098 ADAPTER CABLE

0493098 655013 Adapter cable AM

NOTE: (Adapter cable for GPS) For check of and troubleshooting on navigation system - magnetic field probe. Available only as complete tool set 65 5 010.

0493183 ADAPTER CABLE

0493183 651150 Adapter cable Mechanical tool

NOTE: (V adapter cable, 42-pin) For measuring electrical variables on 42-pin plug connection on high fidelity and Top HiFi amplifier

Storage Location

M 212

SI number

02 02 98 (308)

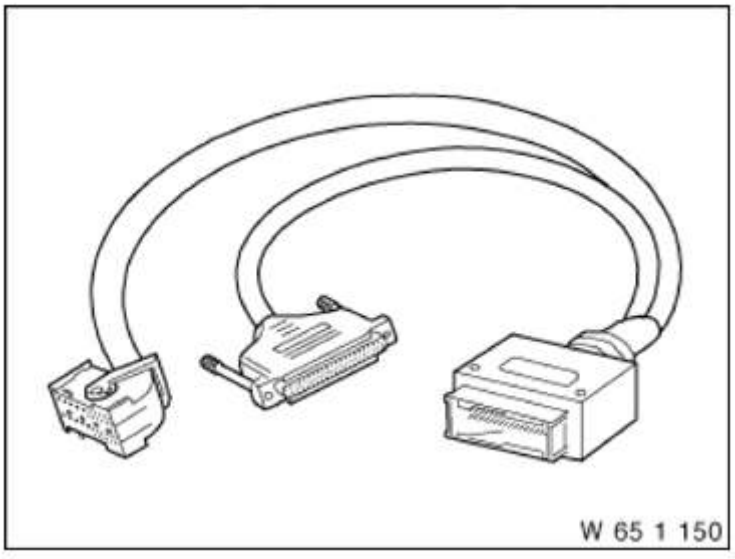


Fig. 1: Identifying Adapter Cable (0493183)
Courtesy of BMW OF NORTH AMERICA, INC.

0493100 ADAPTER CABLE

0493100 657100 Adapter cable Mechanical tool

NOTE: (Adapter cable airbag control unit/multiple restraint system) For airbag control unit/multiple restraint system for fault finding in airbag control unit 2 periphery

Storage Location

Y1

cardiagn.com

SI number

02 03 96 (048)

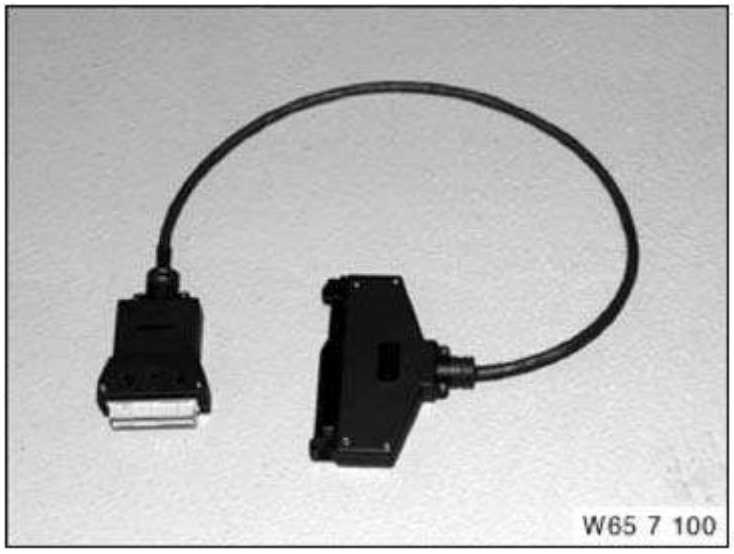


Fig. 2: Identifying Adapter Cable (0493100)
Courtesy of BMW OF NORTH AMERICA, INC.

0493415 ADAPTER CABLE

0493415 657110 Adapter cable Mechanical tool

NOTE: **For multiple restraint system 3 airbag for fault finding in airbag control unit periphery - from 03/99 (also E36/7)**

Storage Location

O 210

SI number

02 03 99 (405)

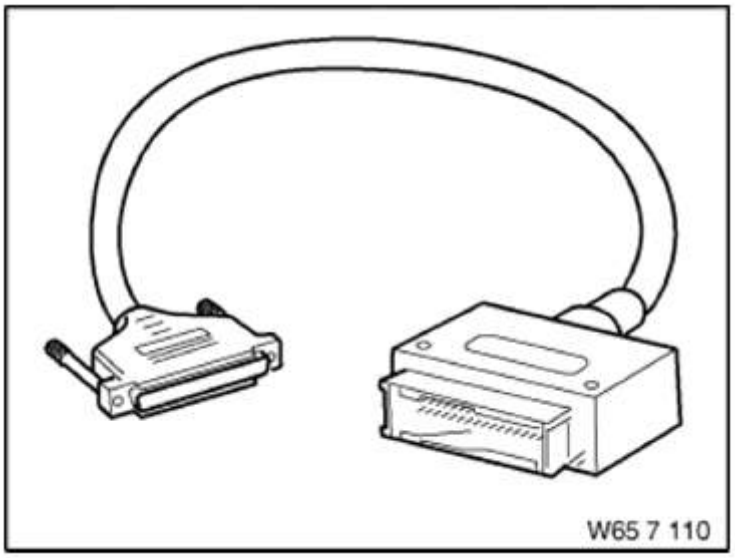


Fig. 3: Identifying Adapter Cable (0493415)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

2239369 ADAPTER CABLE

2239369 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **I-cable 104-pin For electrical testing of the airbag control unit ("ACSM4").**

Storage Location

R201

SI number

02 08 11 (722)

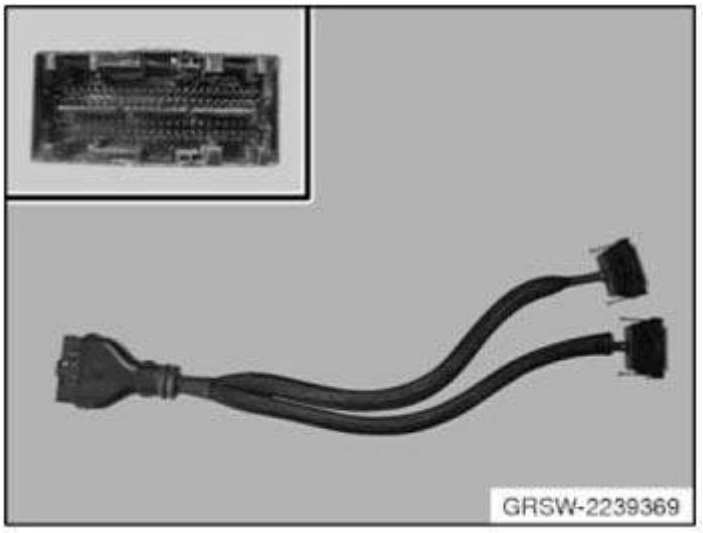


Fig. 4: Identifying Adapter Cable (2239369)
Courtesy of BMW OF NORTH AMERICA, INC.

2232315 ADAPTER CABLE

2232315 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **I-adapter cable 20-pin For electrical testing of the airbag control unit ("ACSM4").**

Storage Location

L205

SI number

02 08 11 (722)

cardiagn.com

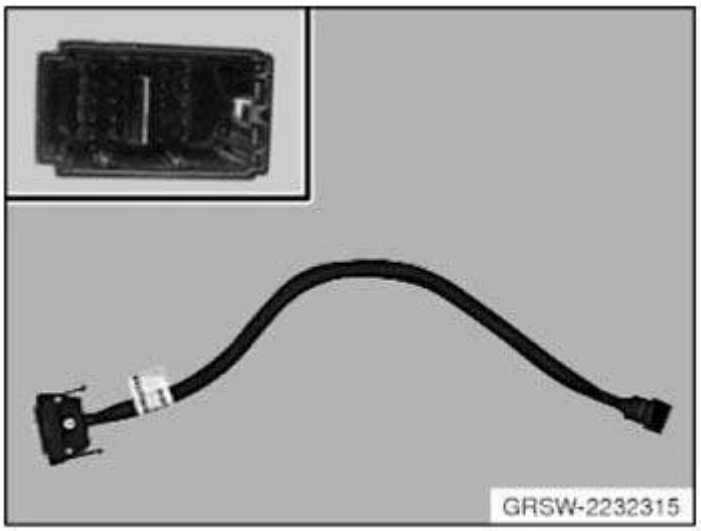


Fig. 5: Identifying Adapter Cable (2232315)
Courtesy of BMW OF NORTH AMERICA, INC.

0493091 BRIDGE

0493091 651030 Bridge Mechanical tool

NOTE: **(Bridge V1/V2) For continuity test of connection lines V 1 and V 2 For Radio Bavaria C Professional - 10-pin electronic connector**

SI number

02 12 91 (450)

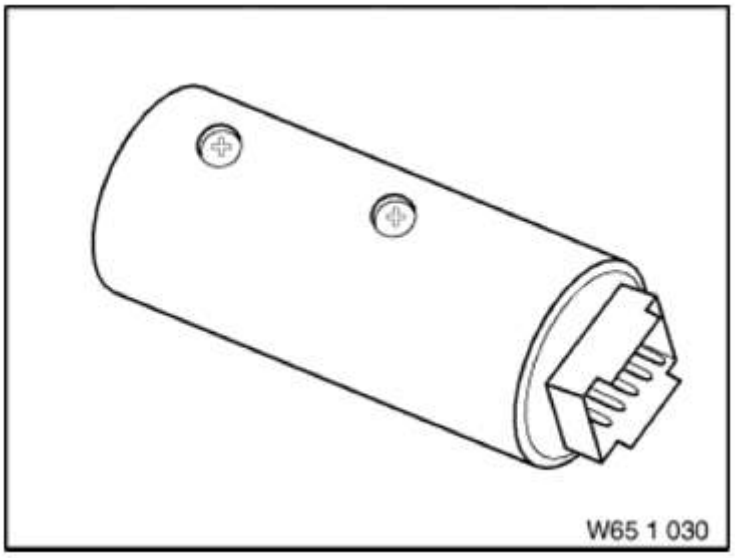


Fig. 6: Identifying Bridge (0493091)
Courtesy of BMW OF NORTH AMERICA, INC.

0493092 BRIDGE

0493092 651040 Bridge Mechanical tool

NOTE: **(Bridge) For continuity test of connection line V 3 For Radio Bavaria, Bavaria C Professional**

SI number

cardiagn.com

02 12 91 (450)

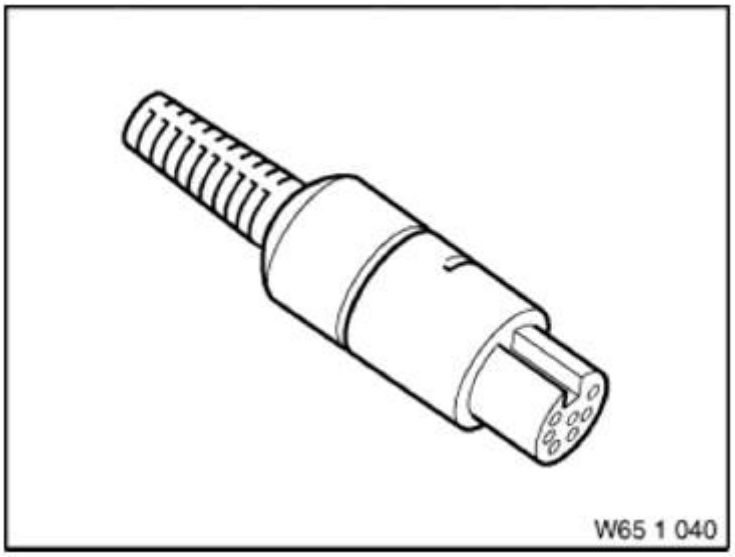


Fig. 7: Identifying Bridge (0493092)
Courtesy of BMW OF NORTH AMERICA, INC.

0493161 CONTACT

0493161 652400 Contact Mechanical tool

NOTE: **(Angle plug (5 x.)) For aerial line connection to radio**

Storage Location

K 108

SI number

01 20 97 (237)

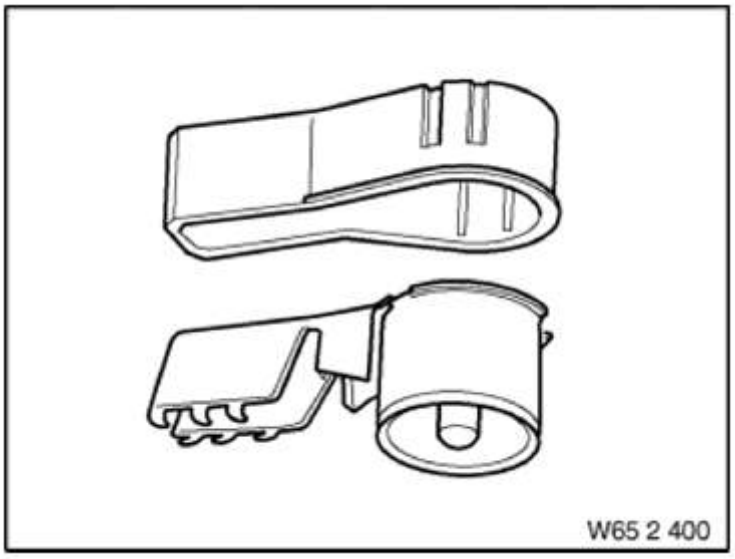


Fig. 8: Identifying Contact (0493161)
Courtesy of BMW OF NORTH AMERICA, INC.

0493096 LINE

0493096 655011 Line AM

cardiagn.com

NOTE: **(Measuring cable) For check of wiring harness to navigation computer. Available only as complete tool set 65 5 010.**

0493097 MEASURING CABLE

0493097 655012 Measuring cable AM

NOTE: **(Measuring cable for GPS) For check of aerial input on GPS receiver module. Available only as complete tool set 65 5 010.**

0493151 PULLER

0493151 651100 Puller Mechanical tool

NOTE: **For radio C32 and C32B and C33B from 3/98**

Storage Location

B4

SI number

01 18 97 (233)

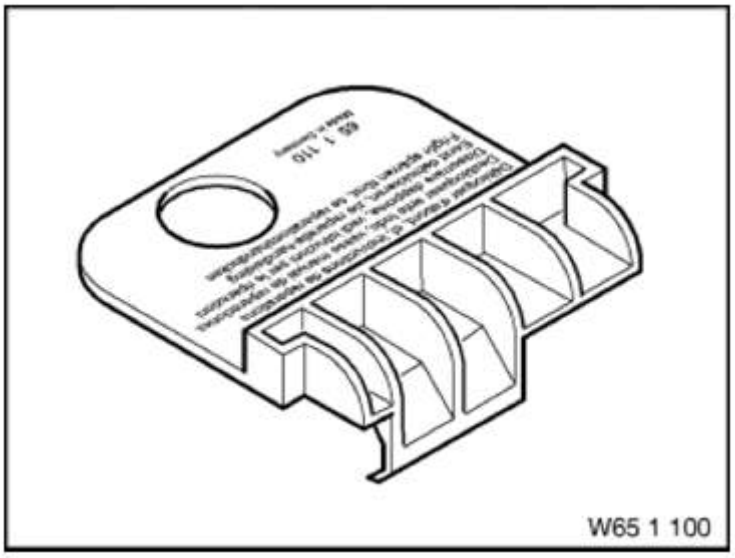


Fig. 9: Identifying Puller (0493151)
Courtesy of BMW OF NORTH AMERICA, INC.

0493961 RELEASE TOOL

0493961 651110 Release tool Mechanical tool

NOTE: **For wide screen on-board computer**

Storage Location

A44

SI number

01 04 01 (715)

cardiagn.com

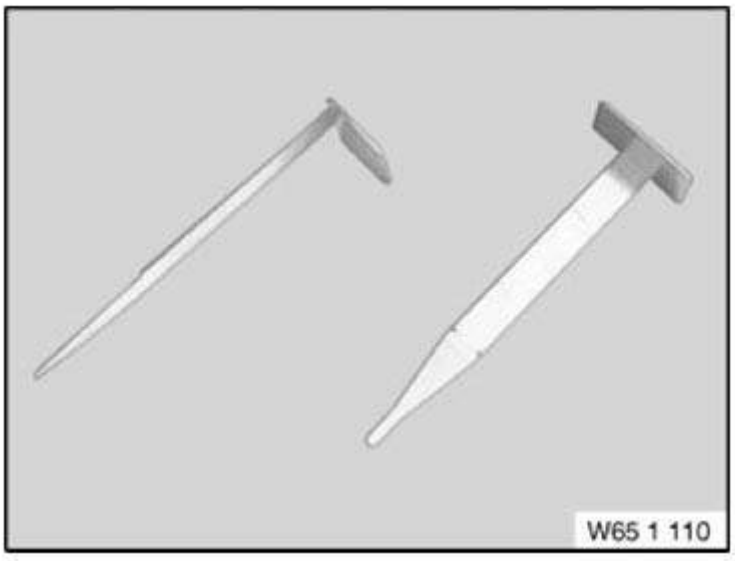


Fig. 10: Identifying Release Tool (0493961)
Courtesy of BMW OF NORTH AMERICA, INC.

0493324 REPAIR KIT

0493324 655020 Repair kit Mechanical tool

NOTE: **For the "navigation" connection line for troubleshooting on the 6-pin connectors with bushing contacts D2.5 in the connection line to the navigation computer - one-off campaign**

0493089 TEST CABLE

0493089 651010 Test cable Mechanical tool

NOTE: **For telephone - C-Network**

Storage Location

W 2..

SI number

02 08 89 (122)

cardiagn.com

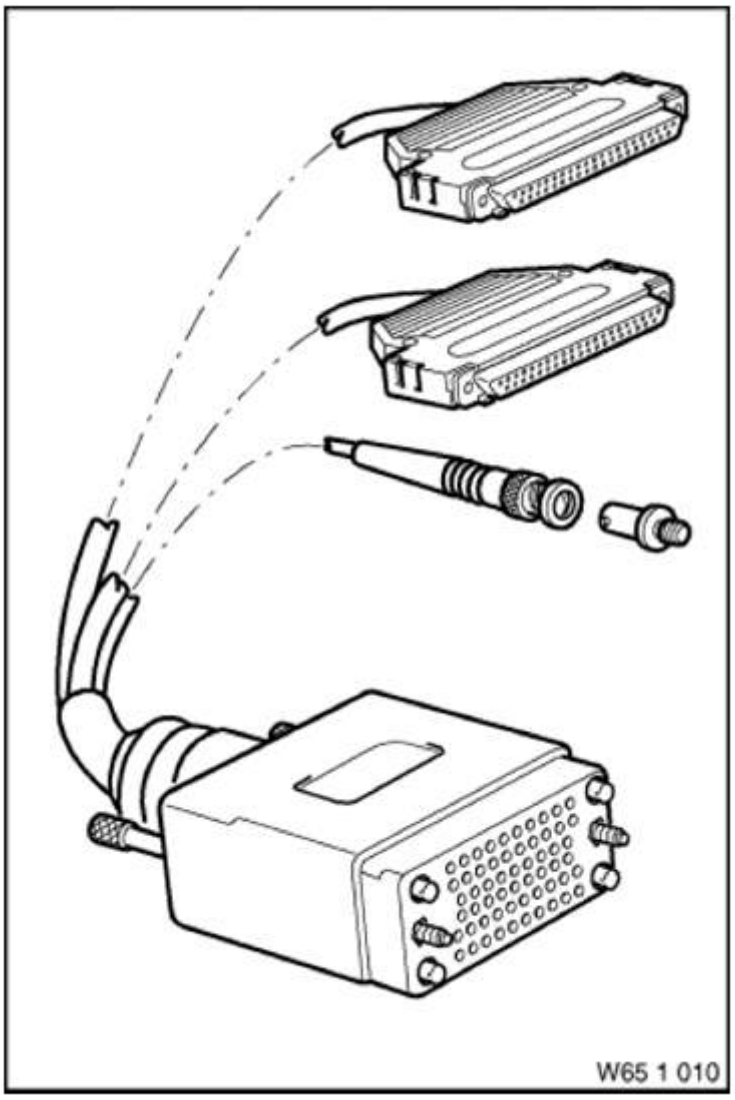


Fig. 11: Identifying Test Cable (0493089)
Courtesy of BMW OF NORTH AMERICA, INC.

0493095 TESTER

0493095 655010 Tester AM

NOTE: **(Test set) For on-board computer and navigation system Global Position System - GPS**

SI number

02 06 94 (862)

Consisting of:

1. 0493096 Line

   NOTE: **(Measuring cable) For check of wiring harness to navigation computer. Available only as complete tool set 65 5 010.**

2. 0493097 Measuring cable

   NOTE: **(Measuring cable for GPS) For check of aerial input on GPS receiver module. Available only as complete tool set 65 5 010.**

cardiagn.com

3. 0493098 Adapter cable

NOTE: **(Adapter cable for GPS) For check of and troubleshooting on navigation system - magnetic field probe. Available only as complete tool set 65 5 010.**

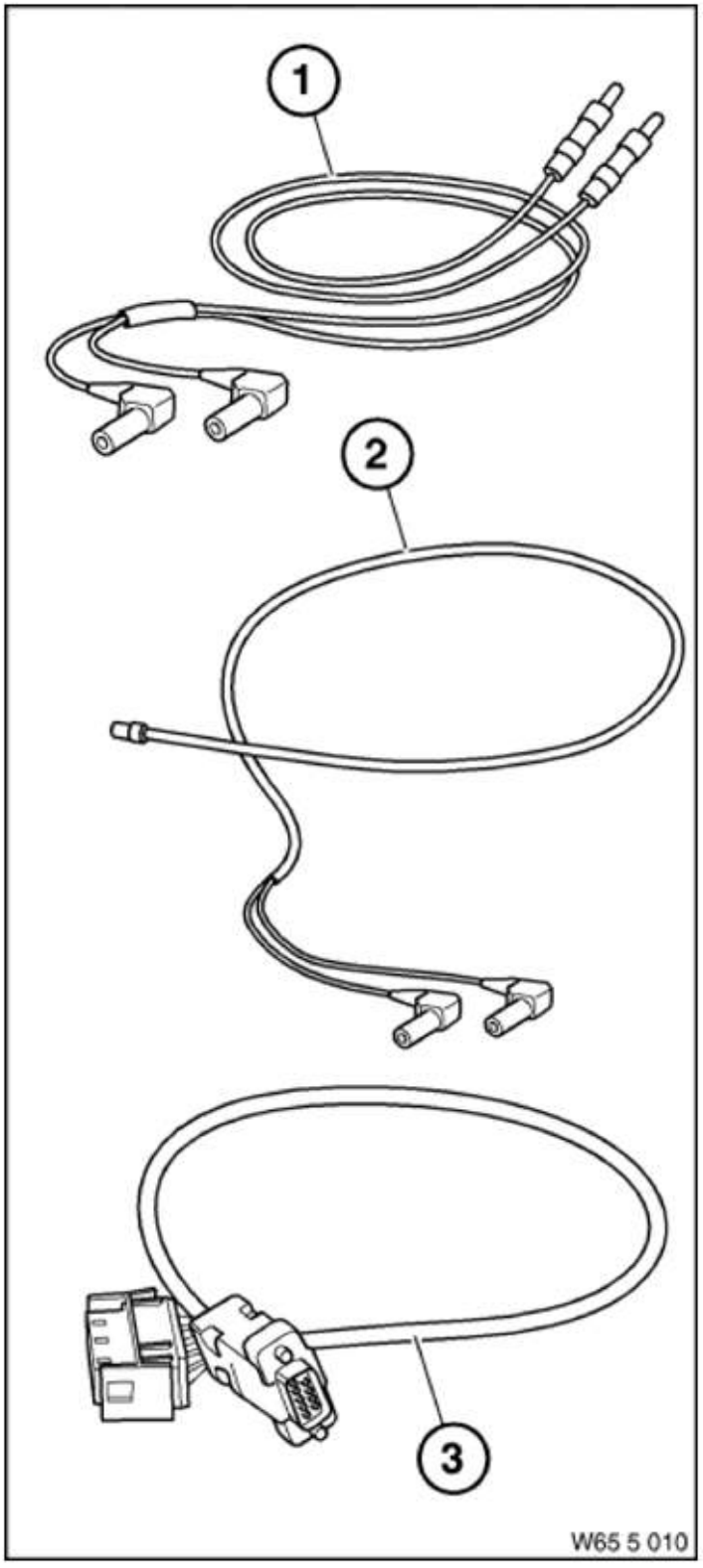


Fig. 12: Identifying Tester (0493095)
Courtesy of BMW OF NORTH AMERICA, INC.

0493094 TOOL

0493094 652100 Tool Mechanical tool

cardiagn.com

NOTE: **For opening the automatic aerial**

Storage Location

A13

A14

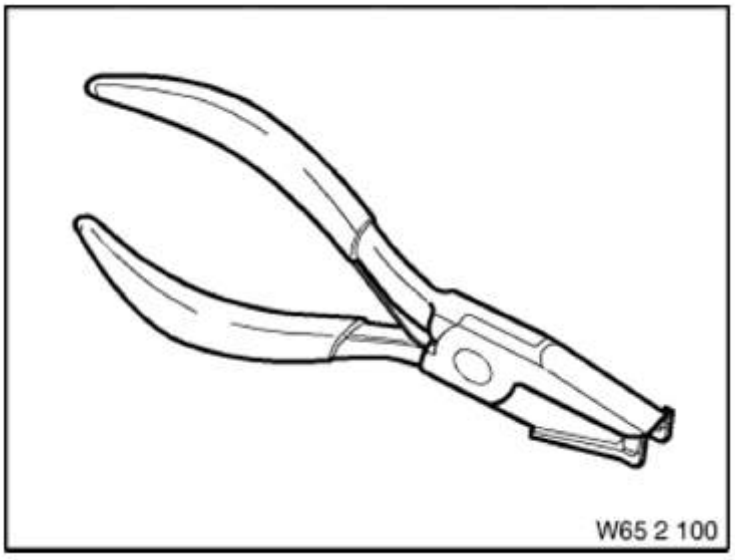


Fig. 13: Identifying Tool (0493094)
Courtesy of BMW OF NORTH AMERICA, INC.

0493093 WRENCH

0493093 652000 Wrench Mechanical tool

NOTE: **For releasing and tightening down the union nut for securing the aerial**

Storage Location

A10

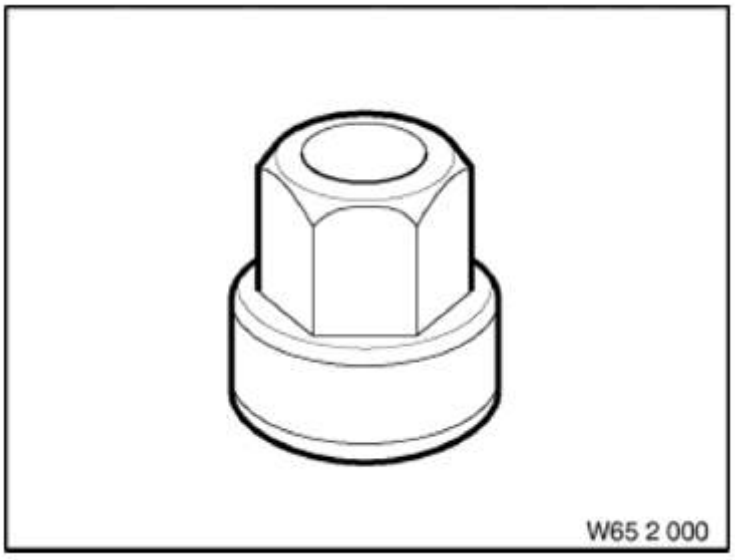


Fig. 14: Identifying Wrench (0493093)
Courtesy of BMW OF NORTH AMERICA, INC.

0493090 CONNECTOR

cardiagn.com

0493090 651020 connector Mechanical tool

NOTE: **(Short circuit connector) For telephone - C network**

Storage Location

W 2..

SI number

02 08 89 (122)

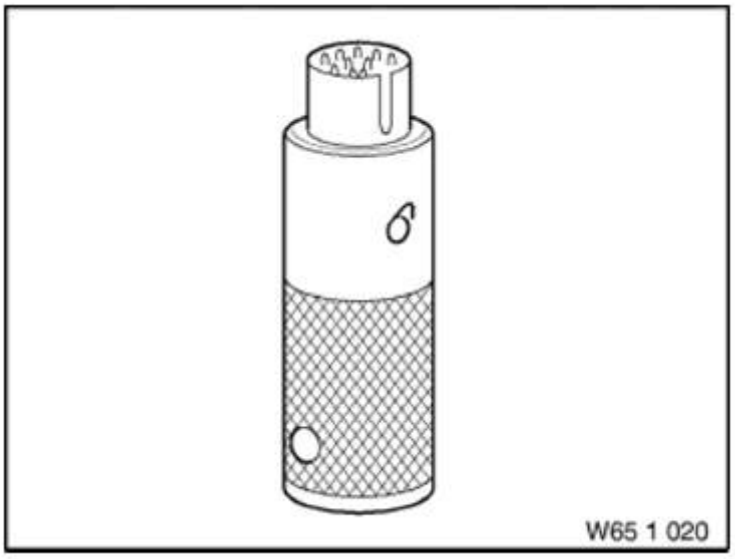


Fig. 15: Identifying Connector (0493090)
Courtesy of BMW OF NORTH AMERICA, INC.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702138

cardiagn.com

AIRBAG TRIGGERING CONTROL

65 77 AIRBAG TRIGGERING CONTROL

TIGHTENING TORQUE SPECIFICATION - AIRBAG TRIGGERING CONTROL

Â	Type	Thread	Tightening specifications	Di
1AZ Airbag control unit	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F20/F21/F22/F23/F30/F31/F32/F33/F34/F35/F36/F45/F46/F80/F82/F83	Â	Â	2.5
	I01/I12	Â	Â	8 N
2AZ Acceleration sensor, front (Up Front sensor)	F01/F02/F04/F07	M6x35	Renew screws	8 N
	F06/F10/F11/F12/F13/F25/F26	M6x35	Renew screws	9 N
	F22/F23/F30/F31/F32/F33/F34/F36/F45/F46/F55/F56/F80/F82/F83	M6x20	Renew screws	9 N
	I01/I12	M6x30	Renew screws	8,
3AZ Sensor, B-pillar	F01/F02/F03/F04/F07	Â	Renew screws	8 N
	F06/F10/F11/F18/F12/F13/F20/F21/F22/F23/F25/F26/F30/F31/F32/F33/F34/F35/F36/F45/F46/F55/F56/F80/F82/F83	Â	Renew screws	9 N
	I01/I12	Â	Renew screws	8,
4AZ Sensor, front door	F01/F02/F04/F07	Â	Renew screws	8 N
	F10/F11/F18	Â	Renew screws	9 N
	F06/F12/F13/F25/F26/F22/F23/F30/F31/F32/F33/F34/F36/F45/F46/F55/F56/F80/F82/F83/I01/I12	Â	Replace nut	9 N
5AZ Central sensor	F01/F02/F03/F04/F07/F10/F11/F18	Â	Replace hexagon nuts	8 N

CENTRAL INFORMATION DISPLAY (CID) COVER

65 50 CENTRAL INFORMATION DISPLAY (CID) COVER

TIGHTENING TORQUE SPECIFICATION - CENTRAL INFORMATION DISPLAY (CID)

Â	Type	Thread	Tightening specifications	Dimension
1AZ Cover to central information display (CID)	E84	Â	Â	0.4 Nm
	F25	Â	Â	0.6 Nm

CENTRAL INFORMATION DISPLAY (CID)

65 50 CENTRAL INFORMATION DISPLAY (CID)

TIGHTENING TORQUE SPECIFICATION - CENTRAL INFORMATION DISPLAY (CID)

Â	Type	Thread	Tightening specifications	Dimension
1AZ Central Information Display (CID) to dashboard	F01/F02/F03/F04/F07/F10/F11/F18	Â	Â	2, 5 Nm
	F25/F26	Â	Â	2, 4 Nm
2AZ Rear cover to Central Information Display (CID, JC)	F01/F02/F03/F04/F10/F11/F18	Â	Â	0, 6 Nm
3AZ Rear cover to Central Information Display (CID, TPO)	F07/F10/F11/F18	Â	Â	0, 35 Nm

SPEAKERS

65 13 SPEAKERS

TIGHTENING TORQUE SPECIFICATION - SPEAKERS

Â	Type	Thread	Tightening specifications	Dimension
1AZ Mid-range speaker to inner door panel (front and rear	F25/F26	Â	Â	2.5 Nm
	F20/F21/F22/F23/F30/F31/F32/F33/F34/F35/F36/F45/F46/F55/F56/F80/F82/F83	Â	Â	2, 0 Nm
	F06/F12/F13	Â	Â	1.8 Nm
2AZ Central bass to seat cross-member	F25/F26	Â	Â	4 Nm
	F06/F12/F13	Â	Â	8 Nm
3AZ Mid-range speaker to side trim panel, rear	F12/F13/F32	Â	Â	2 Nm
4AZ Tweeter to side trim panel, rear	F12/F13	Â	Â	2 Nm
5AZ Mid-range speaker in trim panel dashboard	F06/F12/F13	Â	Â	2 Nm
	F20/F21/F22/F23/F30/F31/F32/F33/F34/F35/F36/F80/F82/F83	Â	Â	1.8 Nm
6AZ Tweeter in trim panel dashboard	F06/F12/F13	Â	Â	2 Nm
	F20/F21/F22/F23/F30/F31/F32/F33/F34/F35/F36/F80/F82/F83	Â	Â	1.8 Nm
7AZ Mid-range speaker to rear side panel	F56	Â	Â	2 Nm

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702189

cardiagn.com

GENERAL

51 00... NOTES ON COMPONENT BONDING ADHESIVE TAPE

Unless specified otherwise in vehicle-specific or component-specific instructions, the following notes apply.

Follow **REPAIR INSTRUCTIONS FOR BONDED GASKETS** for rubber seals.

1. **General notes**
   - Bonding at room and object temperature of >+18 Â°C.
   - Newly painted parts may only be bonded after a drying time of at least 24 hours.
   - Optimal bonding/attachment to the background surface is achieved after approx. 48 hours. Components must not be exposed to mechanical strain beforehand (car wash, strength test, etc.).
   - Do not touch bonding area.
   - It is not the length of time that pressure is applied but rather the force of pressure applied that is crucial.
   - Detaching the adhesive tape after pressing destroys the adhesive layer.
   - After being pressed on gently, adhesive tape can be pulled off again up to 3 times.
2. **Auxiliary materials and tools**
   - **CLEANING AGENT R1 OR CLEANING AGENT R2**
   - **SIKA ACTIVATOR 205**
   - Fluff-free cleaning cloths
   - Pressure roller
3. **Preparations**
   - Remove all adhesive residue or clean new part thoroughly
   - Clean the areas to be bonded immediately before bonding to remove silicone and grease residues.
   - Treat bonding on glass or painted surfaces with Sika Aktivator 205.

   NOTE: Observe ventilation time ≥1 minute.

4. **Bonding**

   4.1 Components without preassembled adhesive tape
   - Pull off liner* from adhesive tape
   - Position adhesive tape on component and stick on
   - Press down adhesive tape over entire adhesive area
   - Continue with Point 4.2

   * Liner is the protective film on the adhesive tape.

   4.2 Components with pre-fitted adhesive tape
   - Pull off liner* from adhesive side (if adhesive area is large, do not pull off liner completely)
   - Align component in correct position on vehicle
   - Press down component over entire adhesive area

   Minimum contact pressure ≥ 15 N/cm^2 (firm thumb pressure reaches approx. 35 N/cm^2 .)

   * Liner is the protective film on the adhesive tape.

51 00... NOTES ON FITTING WINDOW GUIDE SEALS

1. **Work safety when handling lubricant G13***
   - Wear safety goggles, protective gloves and if necessary an apron.

cardiagn.com

- Do not eat, drink or smoke in the area of processing/application
- Ensure rooms are well ventilated.
- Keep heat and ignition sources well away
- In event of skin contact: Wash areas of skin affected with soap and water immediately, change work clothing which has been fouled with lubricant immediately (keep spare work clothing in reserve)
- In event of eye contact: Rinse eyes immediately with plenty of water and seek medical advice
- Observe safety data sheet

2. **General notes**
   - Use only the BMW-approved lubricant for fitting
   - Application only at room and object temperatures between 18 and 25 Â°C
   - Lubricant dries at different rates depending on the quantity, temperature and ventilation and becomes sticky
   - Lubricant can only be used for fitting and not for fault elimination (e.g. grating)
   - Newly painted parts may only be brought into contact with the lubricant after cooling
   - Optimal bonding/attachment to the background surface is achieved after approx. 48 hours. The window guide seal must not be exposed to mechanical strain beforehand (car wash, strength test, etc.).

   IMPORTANT: To avoid grating noises, do not use soapy water (low-surface-tension water with washing-up liquid) or lubricant containing silicone

3. **Auxiliary materials and tools**
   - **CLEANING AGENT R1 OR CLEANING AGENT R2** , cleaning cloth, plastic scraper, needle
   - Lubricant G13* (manufactured by Zestron) part no. 83 23 0441 032

     (*sourcing reference: BMW Parts Service)

4. **Preparations**
   - Heat and remove anti-friction agent residues with a hot air blower or clean new part thoroughly
   - Immediately prior to fitting, clean the work area in order to remove silicone and grease residues

   NOTE: **Air drying time approx. 1 minute**

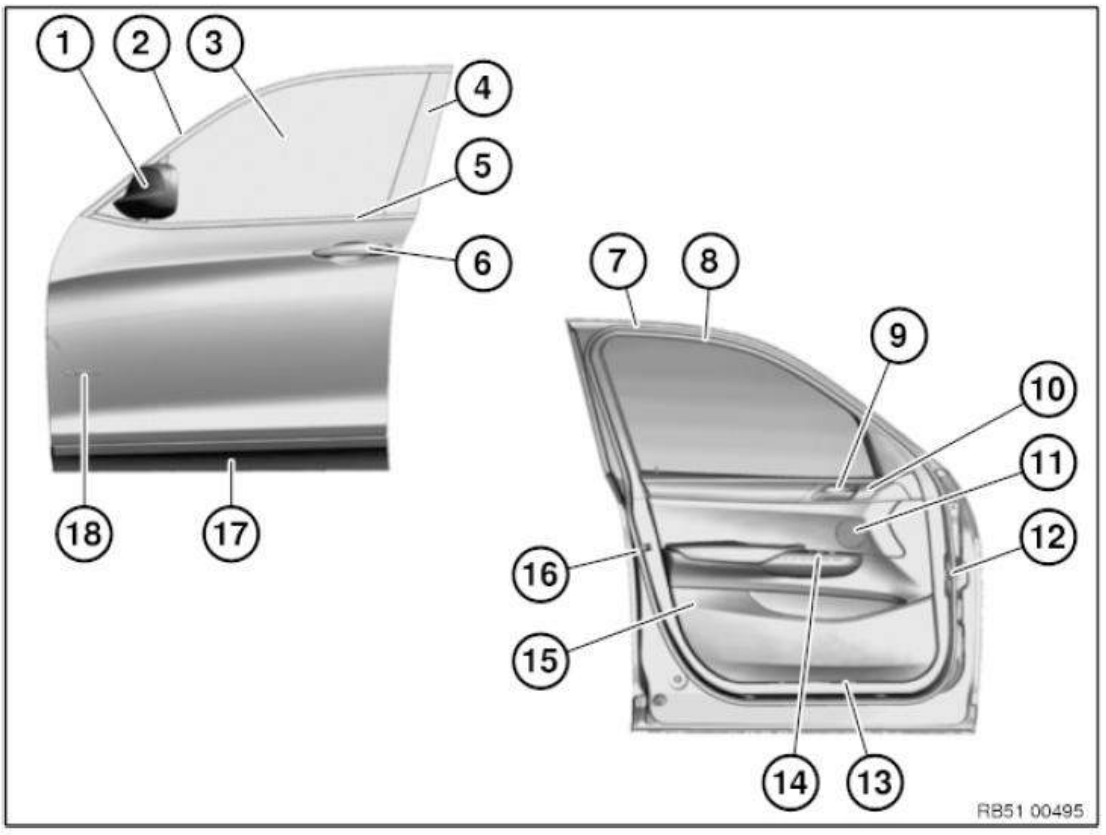
5. **Installation**
   - Apply a thin coating of lubricant to the reverse side of the window guide seal only
   - Perform fitting within 30 minutes of applying lubricant
   - Lubricant dries after fitting and becomes sticky

51 00... OVERVIEW OF CONSUMABLES

Designation, repair instructions	Designation	Part number	Remarks
Cleaning agent R2	Cleaning agent R2	83 19 0 417 324	500 ml
Lubricants G13	Lubricants G13	83 23 0 441 032	900 ml/NOTES
Sika Activator 205	Aktivator 205	83 19 0 030 155	250 ml
Yellow plastic adhesive tape	Adhesive tape	83 19 9 410 979	A = 66 mm; B = 50 mm
Double-sided adhesive tape	Adhesive tape	54 11 2 290 978	L = 50 mm/W = 12 mm
Masking tape	Masking tape	81 22 9 400 181	L = 50 mm/W = 19 mm
Masking tape	Masking tape	81 22 9 400 388	L = 50 mm/W = 30 mm
Eraser disk	Scotch Brite eraser disk	51 91 0 402 946	with shaft
Cutting cord	Cutting cord	81 43 2 344 272	Notes
Adhesive set K6	Adhesive set K6	83 19 2 317 925	Â
Profile rubber adhesive	Â	83 19 2 232 322	Â
Set of felt pads	Set of felt pads	51 45 2 353 024	Â

cardiagn.com

51 00.. OVERVIEW OF FRONT DOOR



1	Exterior mirror	10	Blind cover or tweeter cover
2	Rubber window seal for door window frame	11	Mid-range speaker cover
3	Door window glass	12	Door brake
4	Trim on window frame	13	Footwell light
5	Window cavity cover trim	14	Power window switch
6	Outside handle	15	Door trim panel
7	Seal	16	Door lock
8	Cover on door window frame	17	Body moulding
9	Door opener, inside	18	Lettering

Fig. 1: Overview Of Front Door
Courtesy of BMW OF NORTH AMERICA, INC.

41 00... REPLACING BLIND RIVETS

Special tools required:

- 2 348 128
- 72 1 210

IMPORTANT:

Lay out protective mats to protect the interior against swarf from the drilled-out rivets and damage.
Lay out protective mats in the relevant working area:

- Dashboard
- Entrance area
- Passenger compartment

cardiagn.com



Fig. 2: Identifying Dashboard Protective Mats
Courtesy of BMW OF NORTH AMERICA, INC.

Schematic diagram of folding pack holder for head airbag:

Drill off rivet plate down to rivet shank with a 10 mm twist drill bit.



Fig. 3: Drilling Rivet Plate Using Drill Bit
Courtesy of BMW OF NORTH AMERICA, INC.

Described for grab handle holder:

Drill off rivet plate down to rivet shank with a 10 mm twist drill bit.

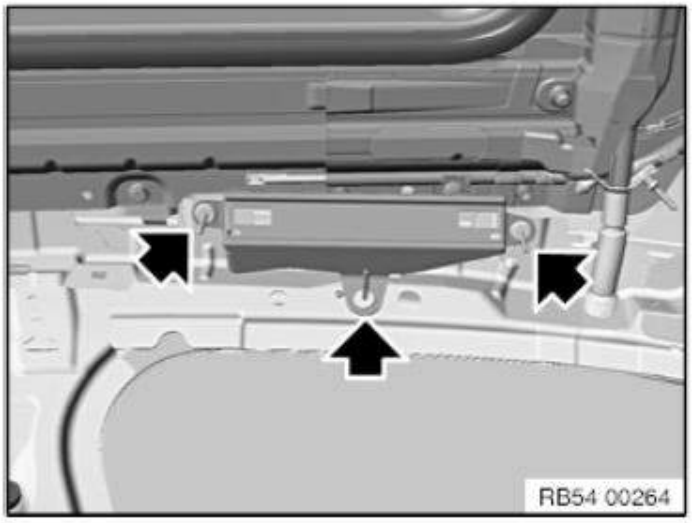


Fig. 4: Locating Rivet Plate Hole
Courtesy of BMW OF NORTH AMERICA, INC.

Cut off blind rivet shanks down to sheet metal as level as possible.

cardiagn.com

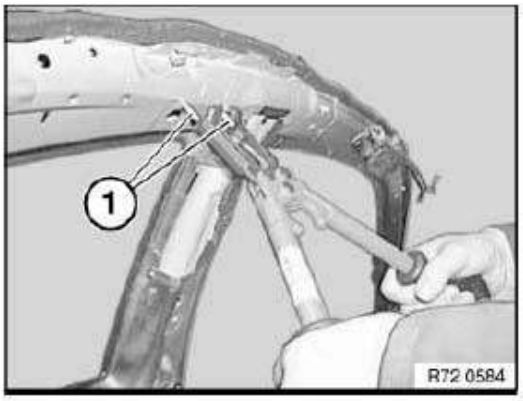


Fig. 5: Cutting Blind Rivet Shanks
Courtesy of BMW OF NORTH AMERICA, INC.

Deburr remaining rivets with nipper pliers.

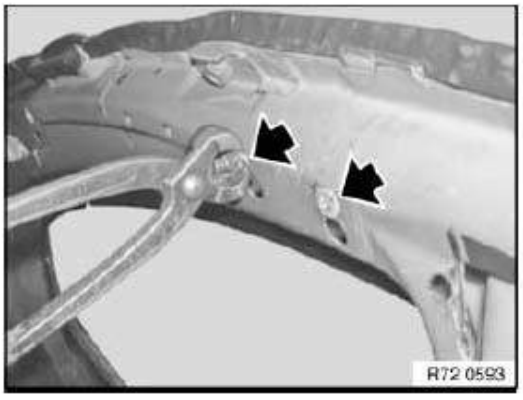


Fig. 6: Removing Rivets Using Nipper Pliers
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Apply primer to paintwork damages on side frame.

NOTE: Depending on accessibility, the rivet heads will have to be removed using special tool 2 348 128 or 72 1 210 .

Press off rivet heads (1) using special tool 2 348 128 and remove.

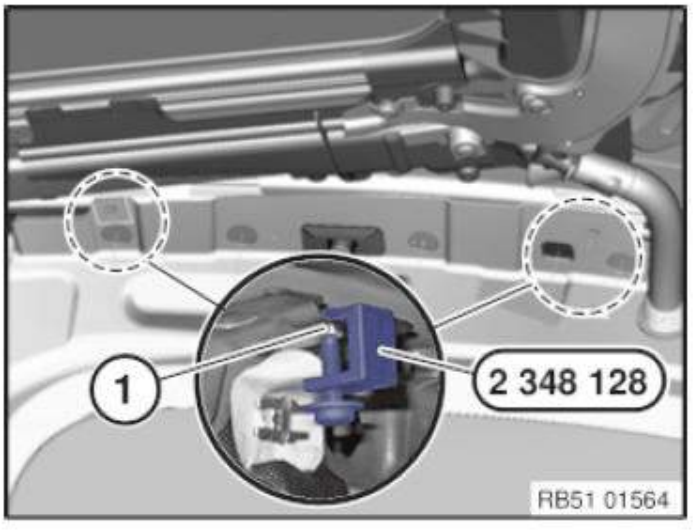


Fig. 7: Pressing Rivet Heads Using Special Tool (2 348 128)

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Special tool 72 1 210 for collecting rivet heads.

Shank (1) of special tool is flexible and can be adapted to the relevant body contours.

NOTE: Insert butyl in the collecting tray (2) to secure rivet heads and prevent them from falling out.

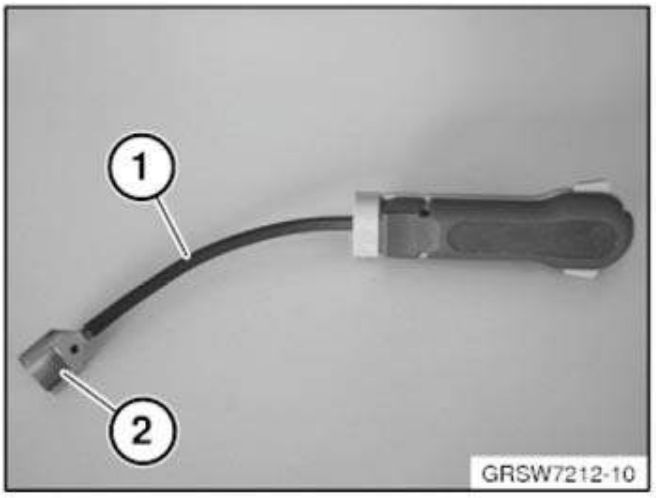


Fig. 8: Identifying Special Tool (72 1 210)
Courtesy of BMW OF NORTH AMERICA, INC.

Insert special tool 72 1 210 through bore hole in body next to attachment points.

Position special tool from rear on rivet head in cavity.

NOTE: A second person will be needed to help hold the special tool on the rivet head during the driving-out operation.

Make sure collecting tray is correctly fitted on rivet head.

Drive out stem with hammer and 6 mm punch.

Carefully feed special tool out of body so that rivet head does not fall out of collecting tray.



Fig. 9: Inserting Special Tool (72 1 210) In Body
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: If the rivet falls out of the collecting tray into the side frame when the special tool is fed out, this area must be generously filled with foam.
For details of procedure for filling cavities with foam, see further operations.
Use cavity preservation for foam filling.

cardiagn.com

Cavity foam can also be used if necessary.

Fit tube to foam can.

Push the hose in through the pillar holes.

Fill cavity with a filling material.

WARNING: **Empty foam can completely onto cardboard and after hardening dispose of foam and can in residual waste.**
Can may burst if not completely emptied.

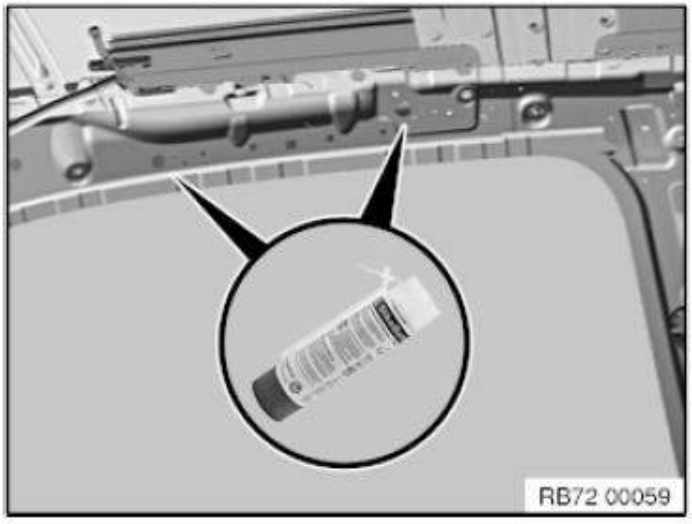


Fig. 10: Identifying BMW Foam Can
Courtesy of BMW OF NORTH AMERICA, INC.

Overview of rivet gun:

Riveting of gas generator housing and holders for folding pack with rivet gun.

The interchangeable head is changed for the different work operations.

Riveting of gas generator housing with:

1. 17/36 nosepiece and short shank

   Riveting of holders for folding pack:

2. 17/40 nosepiece and long shank

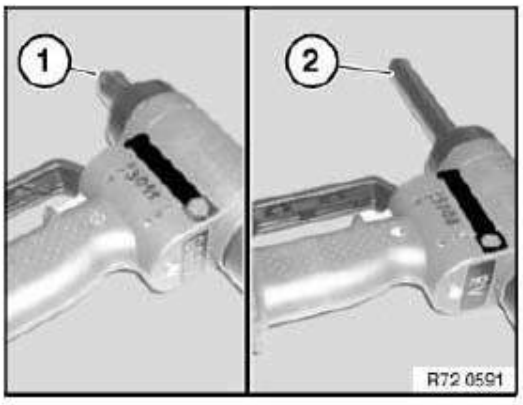


Fig. 11: Identifying Rivet Gun
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

00 SAFETY INFORMATION FOR WORKING ON VEHICLES WITH AUTOMATIC ENGINE START-STOP FUNCTION (MSA)

WARNING: **If the engine hood/bonnet contact is pulled upwards (workshop mode), the information "switch closed" is output. The automatic engine start-stop function is active.**
An automatic engine start is possible.

Observe safety precautions when working on MSA vehicles.

Before carrying out practical work on the engine, always ensure that the MSA functionality is deactivated so as to prevent automatic engine starting while work is being carried out in the engine compartment.

MSA function is deactivated by:

- Deactivate MSA by means of button (1) in passenger compartment
- Open seat belt buckle and driver's door

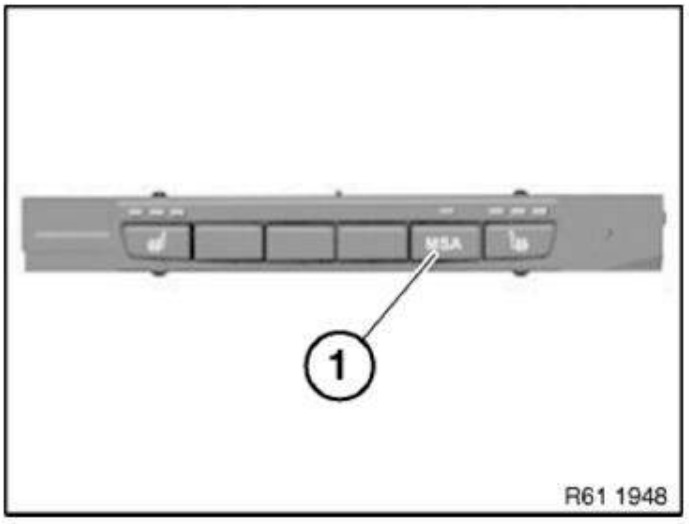


Fig. 12: Identifying MSA Button
Courtesy of BMW OF NORTH AMERICA, INC.

- Open engine bonnet/hood and ensure that engine hood/bonnet contact is not in workshop mode
  - Workshop mode

    A = 10 mm

  - Basic setting (engine hood/bonnet open)

    B = 7 mm

  To make sure that the engine hood/bonnet contact is at the basic setting, if necessary press the hood/bonnet contact up to the limit position before starting work and slowly release.

cardiagn.com

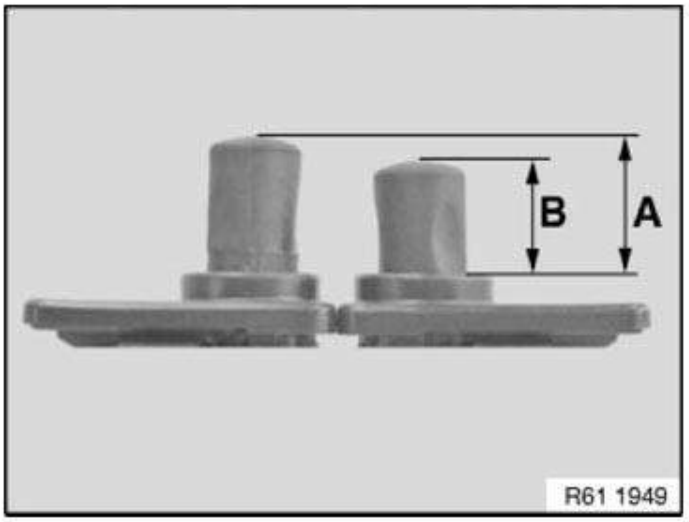


Fig. 13: Identifying Engine Hood/Bonnet Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

When working with diagnosis tools:

- Observe instructions in diagnosis tool

51 00... SAFETY INSTRUCTIONS FOR WORKING ON CARS WITH AIRBAG SYSTEMS

WARNING: **If work is carried out in area of airbag systems, e.g. on:**

- **Door trim panels**
- **Interior trims**
- **Instrument panel etc.**

the ignition must be turned off in each case.

- **The ignition must always be off.**
- **The ignition key must be removed from the ignition lock.**

This eliminates the risk of injury.

51 00... SERVICE POSITION OF ENGINE COMPARTMENT LID

Special tools required:

- 51 2 160
- 51 2 240

WARNING: **Danger of injury and damage!**
Engine compartment lid must be held by a second person helping.

If necessary, open engine compartment lid.

NOTE: **Graphic shows F01.**

REMOVE BALL SOCKET (1).

Unclip gas pressure spring (2) in direction of arrow from ball stud (3).

cardiagn.com

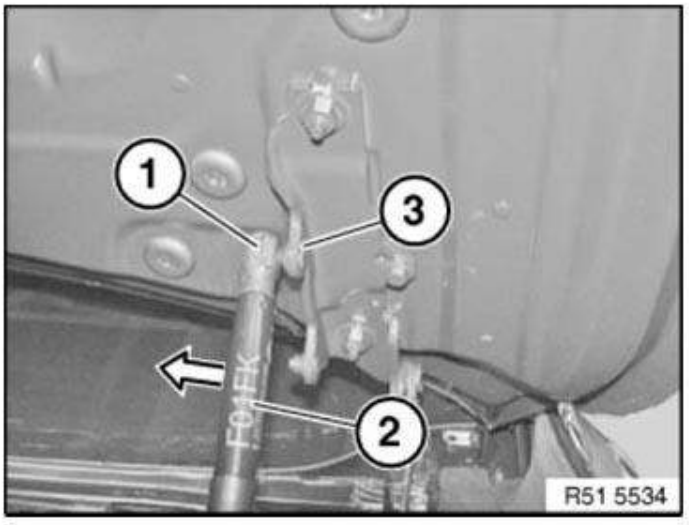


Fig. 14: Removing Gas Pressure Spring
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: On the F25, use special tool 51 2 160 instead of 51 2 240.

Push special tool 51 2 240 over gas pressure spring (1).

Clip ball socket of special tool 51 2 240 onto ball stud (2).

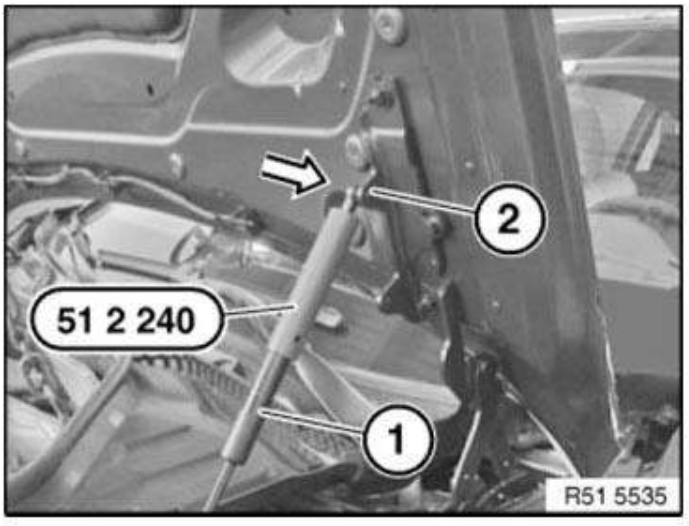
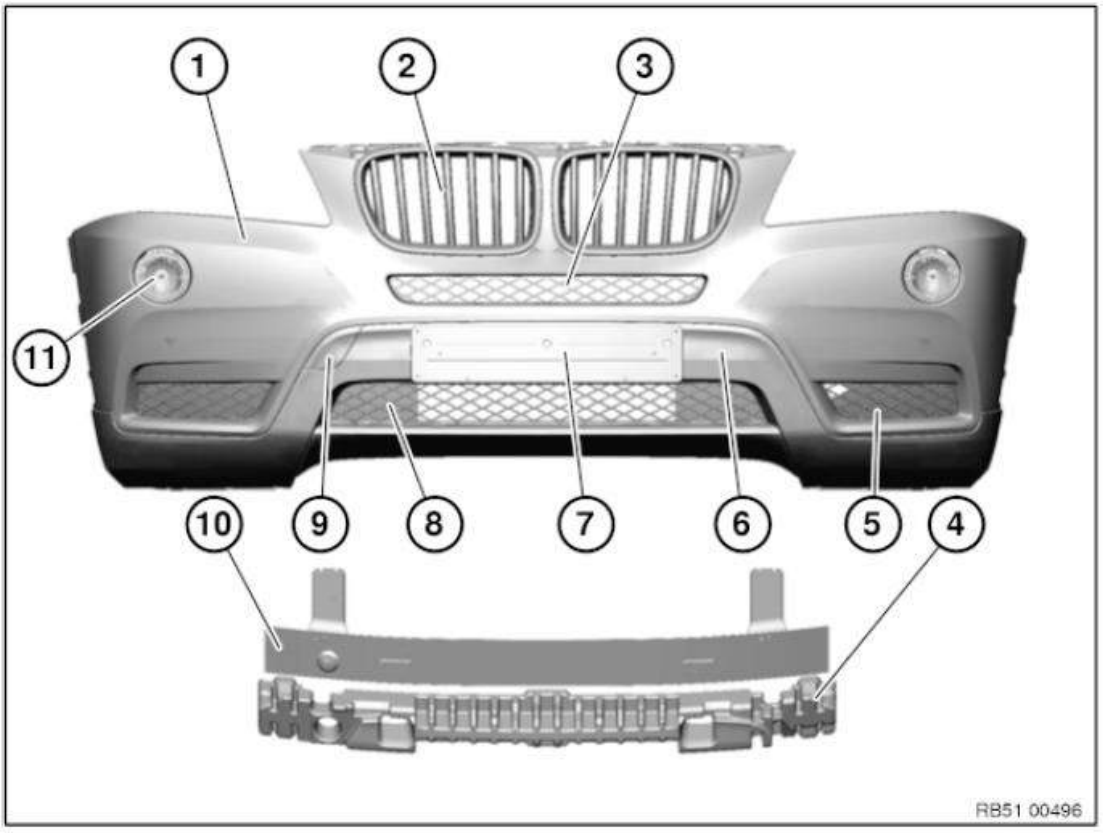


Fig. 15: Pushing Special Tool (51 2 240) Into Gas Pressure Spring
Courtesy of BMW OF NORTH AMERICA, INC.

FRONT BUMPER

51 11... OVERVIEW OF FRONT BUMPER

cardiagn.com



1	Bumper trim (upper section)	7	Holder for license plate
2	Front ornamental grille (centre)	8	Grille, bottom
3	Top (upper) grille	9	Cover on towing eye
4	Impact absorber	10	Support for bumper trim
5	Side grille	11	Front fog light
6	Bumper trim (lower section)		

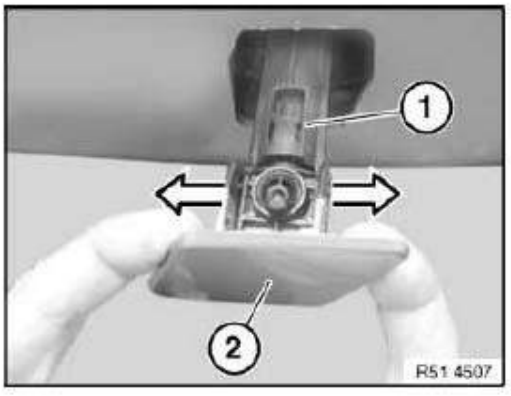
Fig. 16: Overview Of Front Bumper
Courtesy of BMW OF NORTH AMERICA, INC.

51 11... REMOVE AND INSTALL/REPLACE COVER FOR HEADLIGHT CLEANING SYSTEM ON LEFT OR RIGHT

Pull out washer jet (1) by cover (2).

IMPORTANT: When releasing cover (2), grip washer jet (1) firmly and then allow to slide back slowly (Risk of damage).

Release cover (2) sideways from washer jet (1).



cardiagn.com

Fig. 17: Pulling Washer Jet Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Guides (1) on cover (2) must not be damaged.

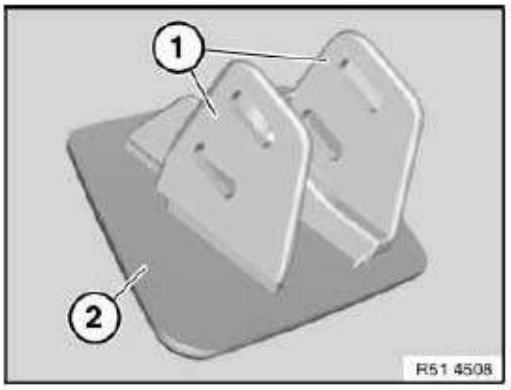


Fig. 18: Identifying Washer Jet Cover And Guide
Courtesy of BMW OF NORTH AMERICA, INC.

51 11 156 REMOVING AND INSTALLING FRONT BUMPER PANEL

Remove gasket (1) and release screws (2) beneath it.

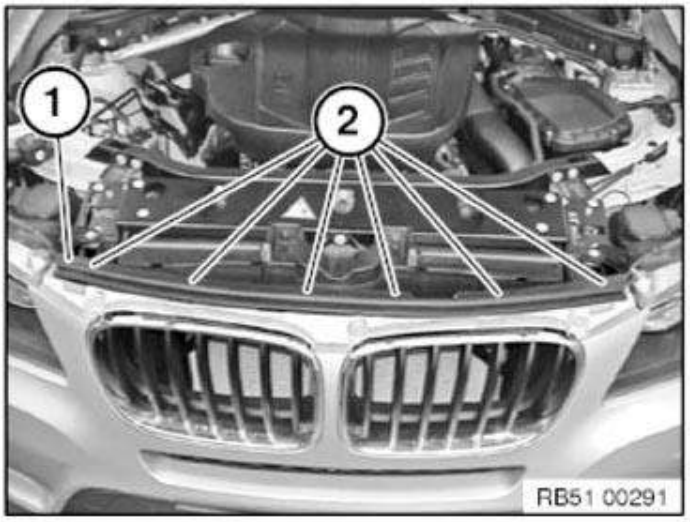


Fig. 19: Identifying Bumper Panel Gasket And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version with holder:

Release screw (1) on left/right.

Tightening torque **51 11 12AZ** .

cardiagn.com

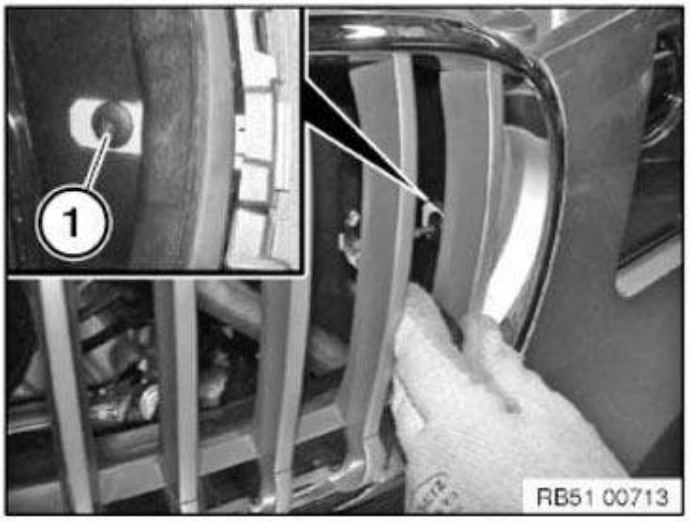


Fig. 20: Removing Bumper Panel Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version with cable strap:

Release left/right cable straps (1).

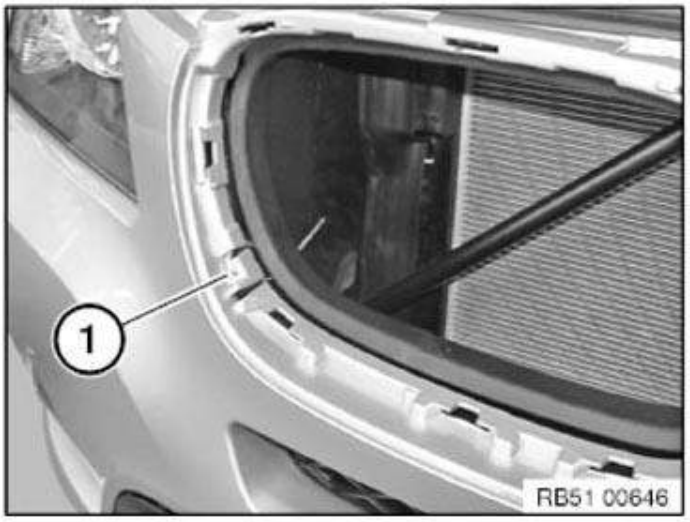
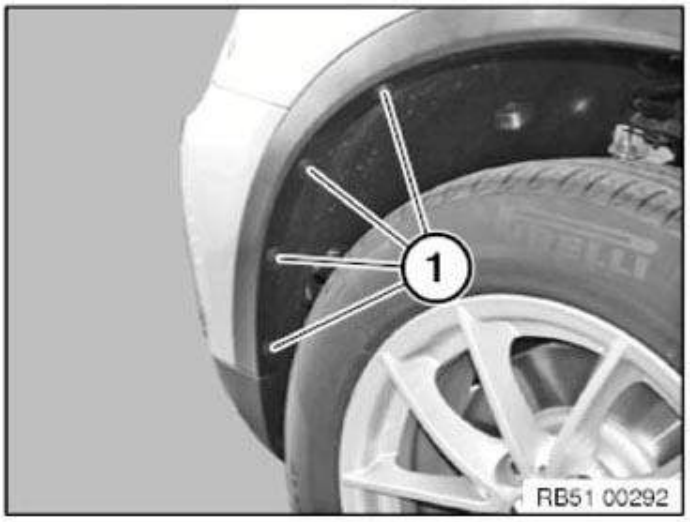


Fig. 21: Identifying Bumper Panel Cable Straps
Courtesy of BMW OF NORTH AMERICA, INC.

Release rivets (1) on wheel arch cover.



cardiagn.com

Fig. 22: Identifying Wheel Arch Cover Rivets
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Renew rivet (1).

Release wheel arch cover (3) in area of bumper panel out of latch mechanisms on right/left.

Partially release wheel arch cover and fold it aside.

Unlock connector of left and right headlights and disconnect.

Release screws (1) on bumper panel (2) on the left/right.

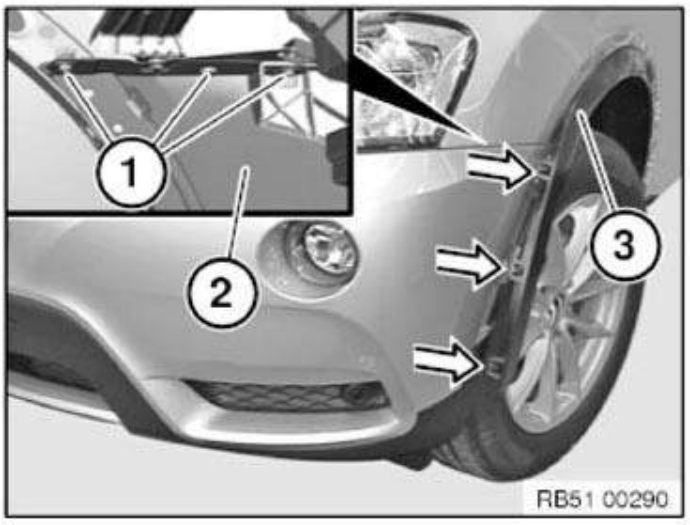


Fig. 23: Removing Wheel Arch Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

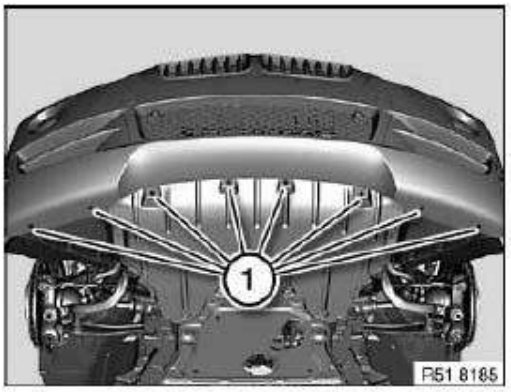


Fig. 24: Identifying Bumper Panel Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Pull bumper panel slightly towards the front with aid of a 2nd person.

Unlock plug-in contacts (1) on left/right and disconnect.

Remove bumper panel.

cardiagn.com

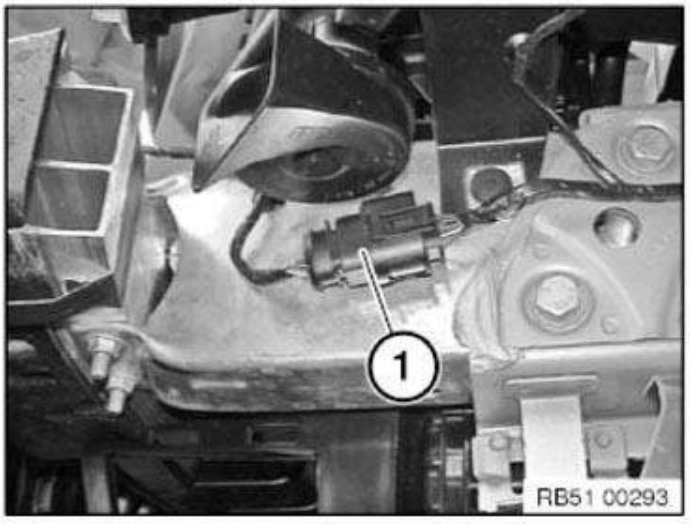


Fig. 25: Identifying Bumper Panel Plug-In Contacts
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Version with holder:

Attach bumper panel with holder (4) and screw (3) on the left/right.

Tightening torque **51 11 12AZ** .

Ensure a parallel gap dimension (2) to the front headlight (1).

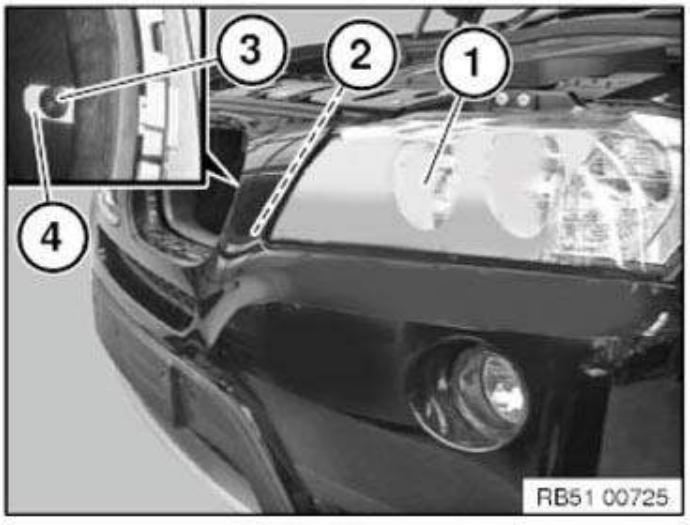


Fig. 26: Identifying Bumper Panel Holder And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Version with cable strap:

Attach bumper panel with cable strap (3) on left/right.

Ensure a parallel gap dimension (2) to the front headlight (1).

cardiagn.com

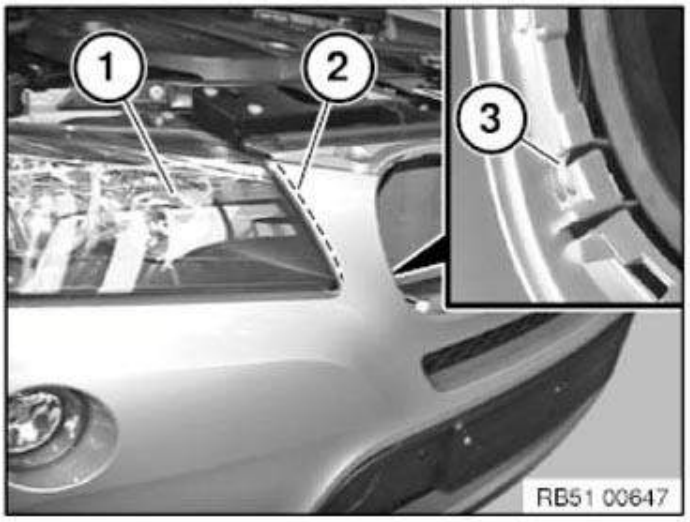


Fig. 27: Identifying Headlight Gap Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

51 11... REMOVING AND INSTALLING/REPLACING BRACKET FOR FOG LIGHT ON LEFT OR RIGHT

Necessary preliminary tasks:

- **REMOVE FRONT BUMPER TRIM**

Release retaining clips (1).

Disconnect plug connection (3) at fog light.

Release retaining fixture (2) and remove bracket (4).

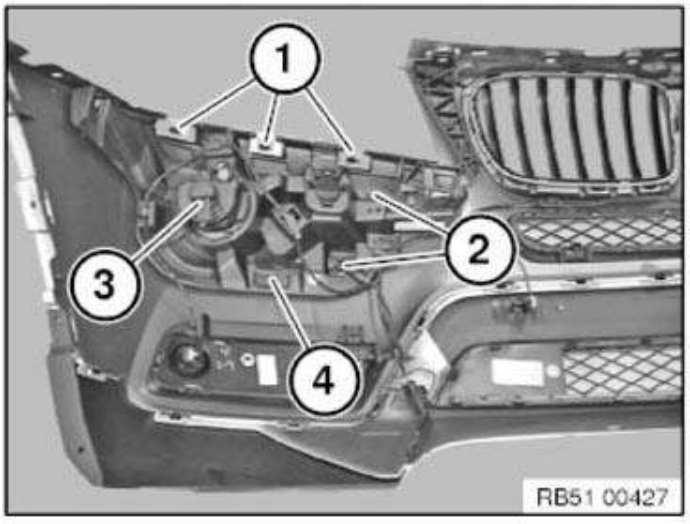


Fig. 28: Identifying Fog Light Plug Connection And Retaining Fixture
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining clips (1) and guides (2) must not be damaged.

Replacement:

Reinstall **fog lights** . See **63 17 070 REMOVING AND INSTALLING/REPLACING LEFT FOG LIGHT** or **63 17 075 REMOVING AND INSTALLING/REPLACING RIGHT FRONT FOG LIGHT** .

cardiagn.com

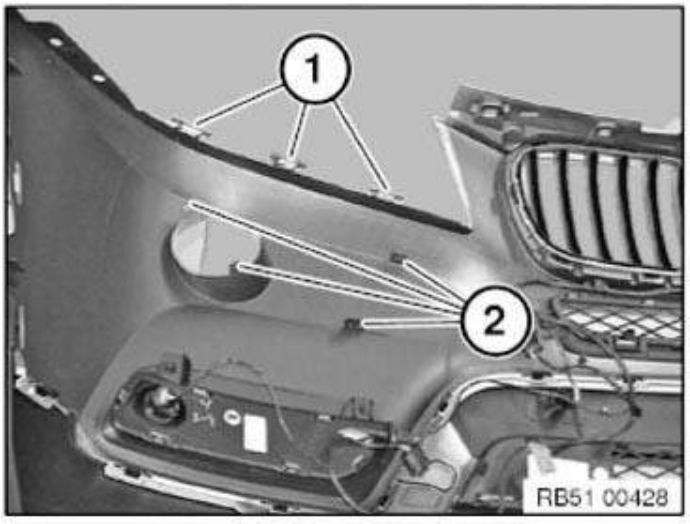


Fig. 29: Identifying Bumper Retaining Clips And Guides
Courtesy of BMW OF NORTH AMERICA, INC.

51 11 180 REMOVING AND INSTALLING/REPLACING CENTER BOTTOM ORNAMENTAL GRILLE IN BUMPER PANEL (M AERODYNAMIC PACKAGE)

Necessary preliminary tasks:

- Remove **FRONT BUMPER PANEL**

Version up to 04/2012:

Release latch mechanisms along line (1) and remove grille (2).

Installation note:

Latch mechanisms must not be damaged or missing.

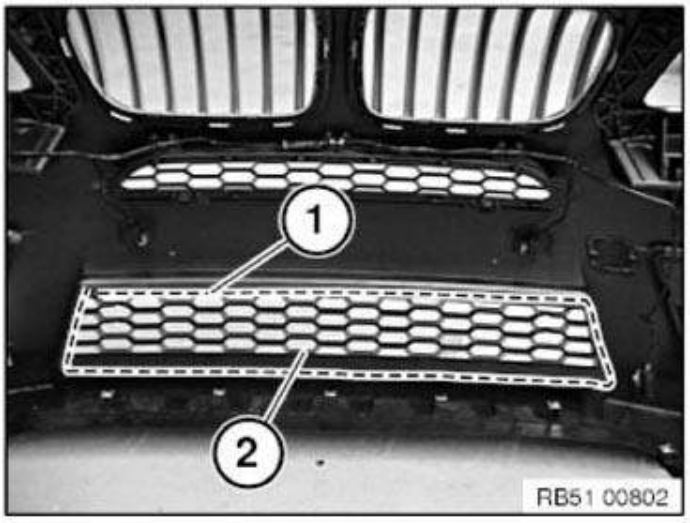


Fig. 30: Identifying Bumper Panel Grille And Latch Mechanisms Line
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2012:

Release latch mechanisms along line (1) and remove grille (2).

Installation note:

Latch mechanisms must not be damaged or missing.

cardiagn.com

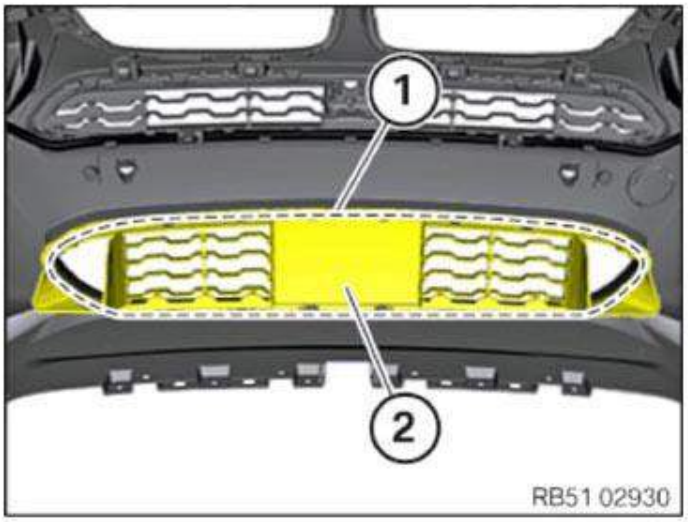


Fig. 31: Identifying Bumper Panel Grille And Latch Mechanisms Line
Courtesy of BMW OF NORTH AMERICA, INC.

51 11... REMOVING AND INSTALLING/REPLACING COVER FOR HEADLIGHT WASHER UNIT ON LEFT

Pull out spray nozzle (1) by cover (2) slightly.

IMPORTANT: When releasing cover (2), grip spray nozzle (1) firmly and then allow to slide back slowly (risk of damage).

Release cover (2) from spray nozzle (1).

Installation:

Retaining lugs (3) must not be damaged.

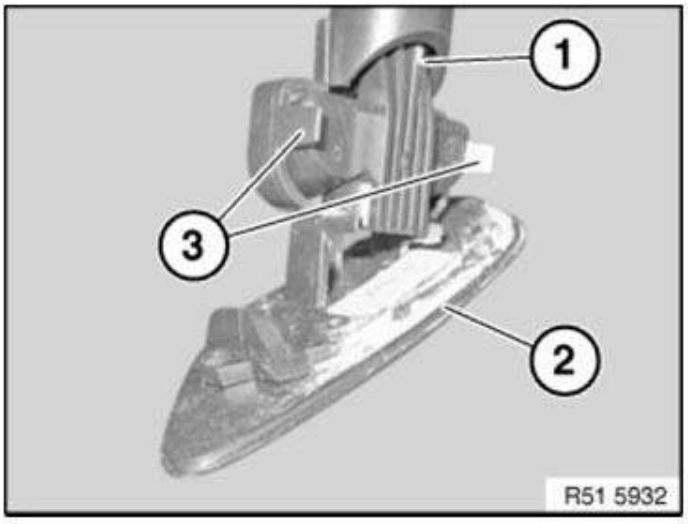


Fig. 32: Identifying Headlight Washer Unit Spray Nozzle
Courtesy of BMW OF NORTH AMERICA, INC.

51 11... REMOVING AND INSTALLING/REPLACING FRONT BUMPER TRIM COVER (X LINE)

Release screws (1).

Tightening torque **51 75 1AZ** .

cardiagn.com

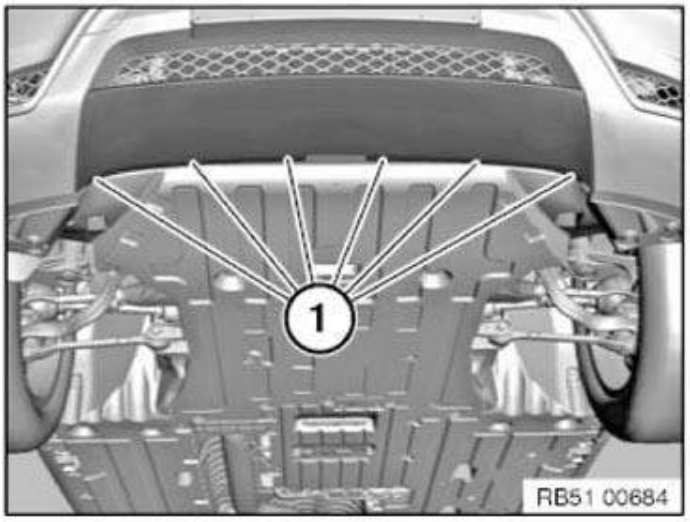


Fig. 33: Identifying Bumper Trim Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release latch mechanisms (1) and remove cover (2) towards front.

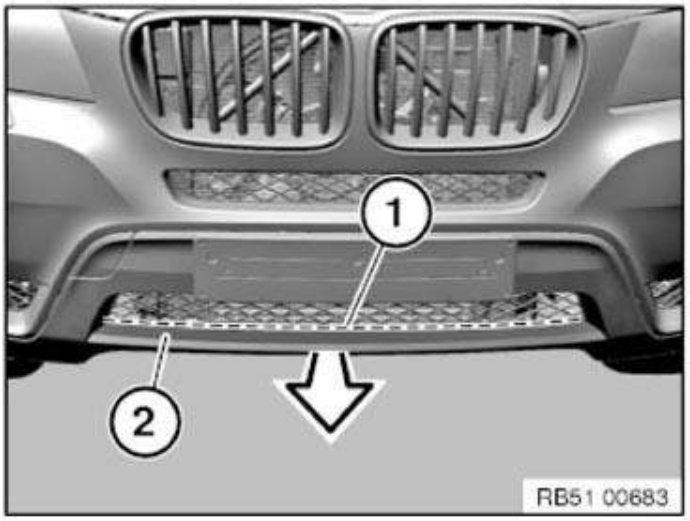
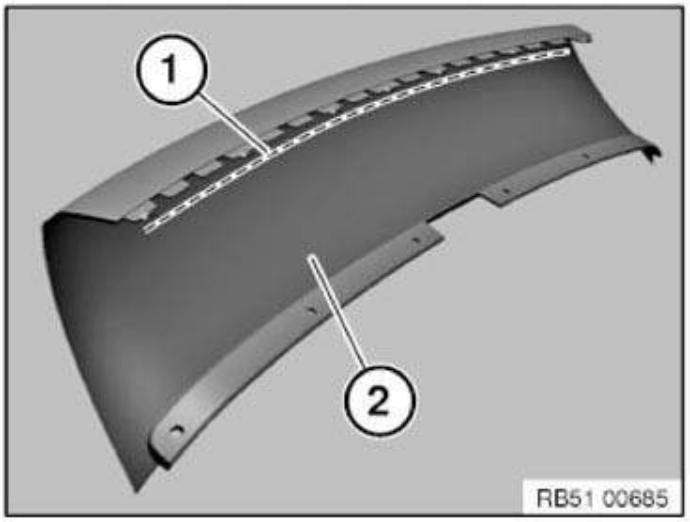


Fig. 34: Releasing Bumper Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms (1) on cover (2) must not be damaged or missing.



cardiagn.com

Fig. 35: Identifying Bumper Trim Cover Latch Mechanisms And Cover
Courtesy of BMW OF NORTH AMERICA, INC.

51 11 180 REMOVING AND INSTALLING/REPLACING GRILLE IN BUMPER TRIM (BOTTOM MIDDLE)

Necessary preliminary tasks:

- Remove **FRONT BUMPER TRIM**

Release latch mechanisms along line (1) and remove grille (2).

Installation note:

Latch mechanisms must not be damaged

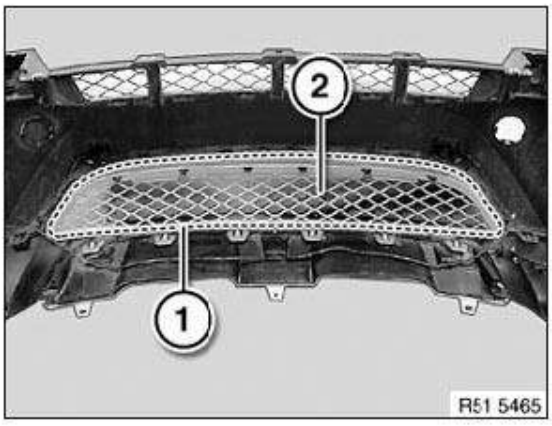


Fig. 36: Identifying Bumper Trim Latch Mechanisms Line And Grille
Courtesy of BMW OF NORTH AMERICA, INC.

51 11 182 REMOVING AND INSTALLING/REPLACING GRILLE IN BUMPER TRIM AT TOP

Necessary preliminary work:

- Remove **BUMPER TRIM**

Release catches (1) and remove grille (2).

Installation note:

Latch mechanisms (1) must not be damaged.

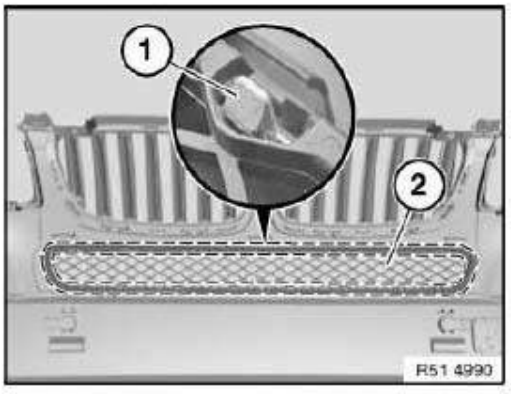


Fig. 37: Identifying Bumper Trim Catches And Grille
Courtesy of BMW OF NORTH AMERICA, INC.

51 11 770 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT DEFORMATION ELEMENT FOR FRONT BUMPER

cardiagn.com

Necessary preliminary work:

- Remove **CARRIER** for bumper trim at front

Release screw (1).

Tightening torque **51 64 1AZ**

Unfasten screws (2).

Tightening torque **51 64 2AZ**

Release screws (3).

Tightening torque **51 11 3AZ**

Remove deformation element (4).

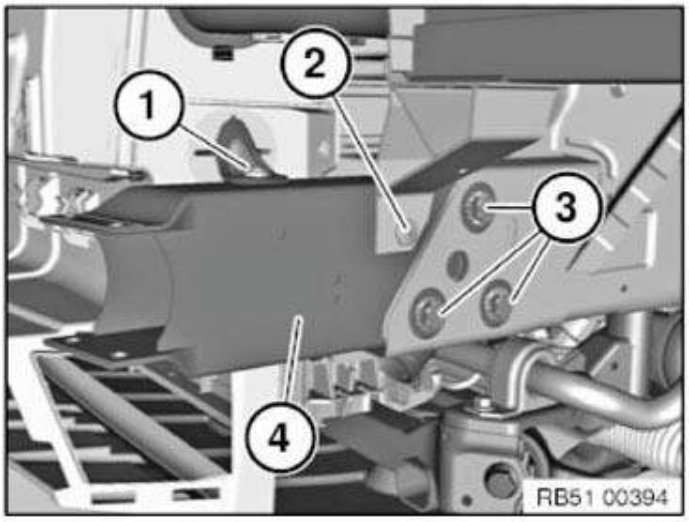


Fig. 38: Identifying Bumper Deformation Element Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Replace screws (3).

Height adjustment, refer to **GAP DIMENSIONS, BODY** .

51 11 185 REMOVING AND INSTALLING/REPLACING SIDE ORNAMENTAL GRILLE IN BUMPER PANEL (M AERODYNAMIC PACKAGE)

Necessary preliminary tasks:

- Remove **BUMPER PANEL**

Version up to 04/2014:

Unfasten plug connection (1) and disconnect.

Release latch mechanism (2) along line.

Remove ornamental grille (3).

Installation note:

Latch mechanisms (2) must not be damaged or missing.

Replacement:

cardiagn.com

Remount **TEMPERATURE SENSOR** .

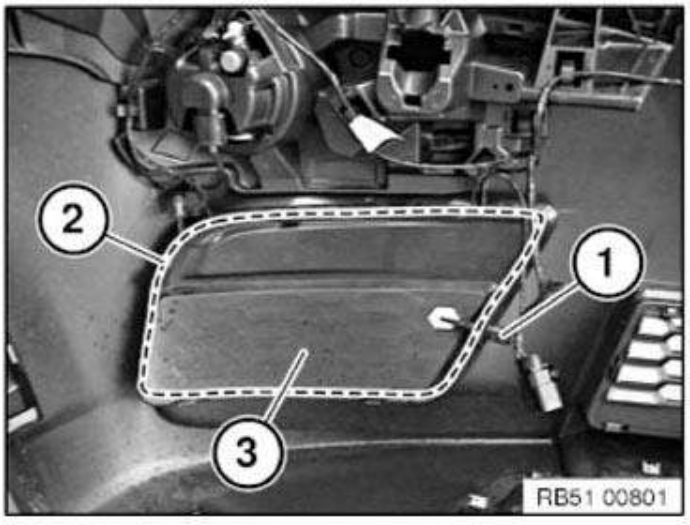


Fig. 39: Identifying Ornamental Grille And Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Unlock plug connections (1) and disconnect.

Release latch mechanism (2) along line.

Remove ornamental grille (3).

Installation note:

Latch mechanisms (2) must not be damaged or missing.

Replacement:

Remount **TEMPERATURE SENSOR** .

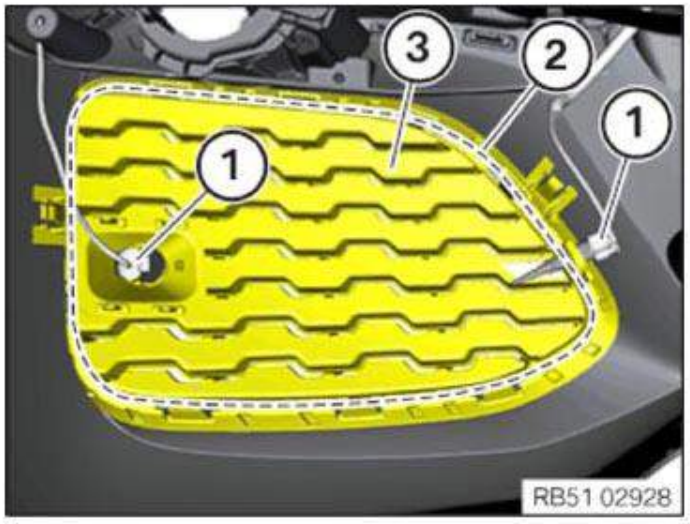


Fig. 40: Identifying Ornamental Grille, Latch Mechanism And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

NOTE: **New PDC holder (1) must be bonded into new ornamental grille (2). Use ADHESIVE SET K6.**

cardiagn.com

Clean retaining tabs of PDC holder (1) and ornamental grille (2).

Apply adhesive to adhesive area of retaining tabs on PDC holder (1).

Mount PDC holder (1) on ornamental grille (2).



Fig. 41: Locating PDC Holder Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

Secure retaining tabs by clamps (3).

Swap over ultrasound sensor.

51 11 185 REMOVING AND INSTALLING/REPLACING SIDE ORNAMENTAL GRILLE IN BUMPER TRIM

Necessary preliminary work:

- Remove **BUMPER TRIM**

Release catches (3).

Disconnect plug connections (1) and (2).

Remove trim grille (4).

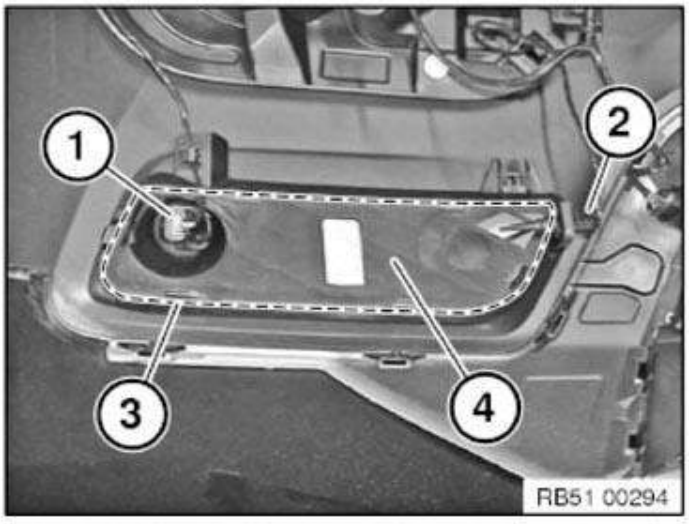


Fig. 42: Identifying Bumper Trim Grille, Catches And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

Catches (1) and guides (2) must not be damaged.

Replacement:

Reinstall temperature sensor (2) and ultrasonic sensor (3).

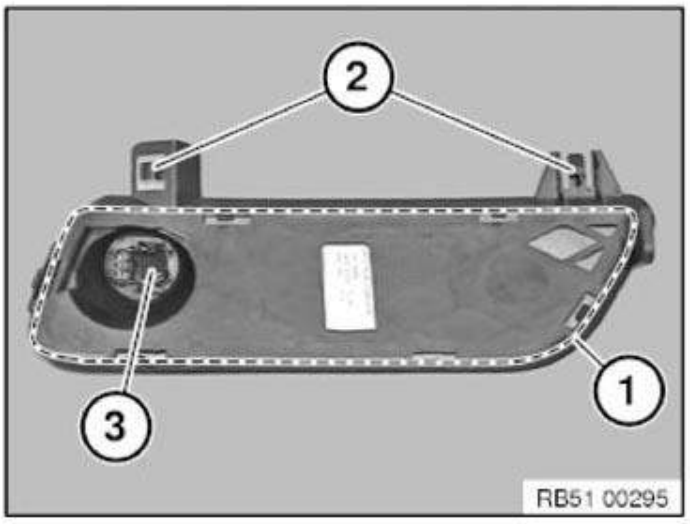


Fig. 43: Identifying Temperature Sensor And Ultrasonic Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

51 11 050 REMOVING AND INSTALLING/REPLACING SUPPORT FOR FRONT BUMPER TRIM

Necessary preliminary work:

- Remove front **BUMPER TRIM**

Release screws (1) on left/right.

Tightening torque **51 11 4AZ**

Remove support with shock absorber (2) by pulling forward.

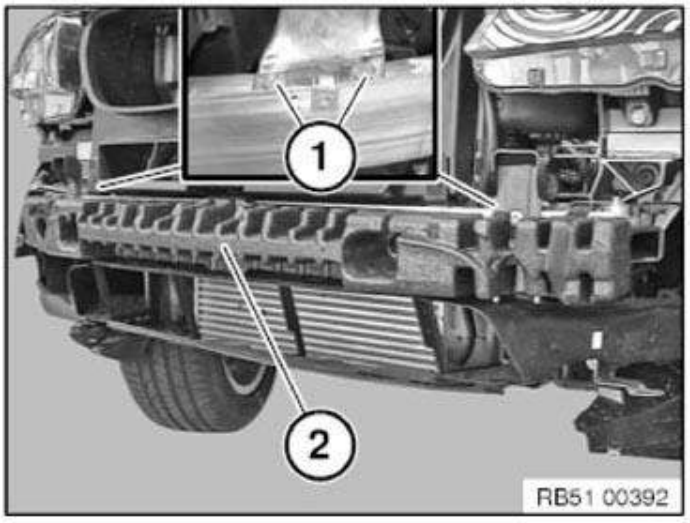


Fig. 44: Identifying Shock Absorber Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Adjust bracket (1) flush with support (2).

cardiagn.com

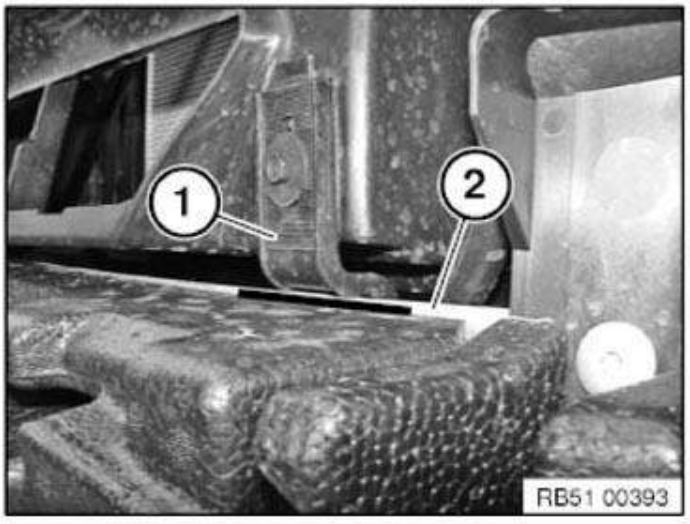


Fig. 45: Identifying Bumper Trim Bracket And Support
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Reposition impact absorber.

51 11 141 REMOVING AND REFITTING/REPLACING BUMPER TRIM LOWER SECTION

Necessary preliminary tasks:

- Remove front **BUMPER PANEL**

Release expanding rivets on left/right side of bumper panel lower section (2).

Release latch mechanisms (1) on rear of bumper panel.

Remove bumper panel lower section (2).

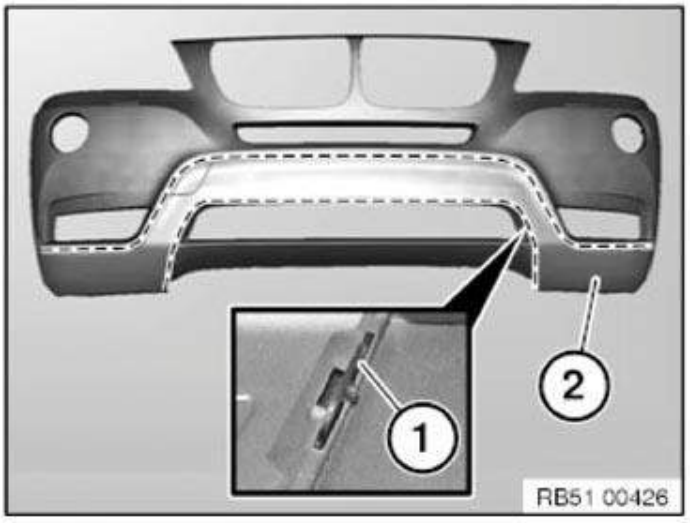
Installation note:

Replace expanding rivets.

Catches (1) must not be damaged or missing.

Replacement:

Remount **SUPPORT FOR NUMBER PLATE**.



cardiagn.com

Fig. 46: Identifying Bumper Panel Lower Section And Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

51 11 140 REMOVING AND REFITTING/REPLACING BUMPER TRIM UPPER SECTION

Necessary preliminary tasks:

- Remove front **BUMPER PANEL**
- Remove **BUMPER TRIM LOWER SECTION**

When replacing, remount the following parts depending on the version:

- **ADJUST FOG LIGHTS** after fitting
- **BRACKETS FOR FOG LIGHTS**
- **BUMPER TRIM WIRING LOOM**
- **TOP (UPPER) ORNAMENTAL GRILLE**
- **ORNAMENTAL GRILLE, BOTTOM**
- **MIDDLE FRONT RADIATOR GRILLE**
- **SIDE GRILLE**
- **HOLDER FOR NUMBER PLATE**
- **FRONT CAMERA** .
- **ULTRASONIC SENSOR FOR PMA**
- Ultrasonic sensor for PDC

51 11 157 REPLACE BUMPER PANEL, FRONT

Necessary preliminary tasks:

- Remove **FRONT BUMPER PANEL**

Remount the following parts:

- **BUMPER TRIM PANEL UPPER SECTION**
- **LICENSE PLATE BASEPLATE**
- **SIDE GRILLE**
- **TOP (UPPER) GRILLE**
- **Fog lights** . See **63 17 070 REMOVING AND INSTALLING/REPLACING LEFT FOG LIGHT** or **63 17 075 REMOVING AND INSTALLING/REPLACING RIGHT FRONT FOG LIGHT** , and **ADJUST** after fitting
- **WIRING HARNESS**
- **Ultrasonic sensor** . See **66 20 518 REMOVING AND INSTALLING/REPLACING A FRONT (SIDE) ULTRASONIC SENSOR** or **66 20 520 REMOVING AND INSTALLING/REPLACING A FRONT ULTRASONIC SENSOR (CENTER)**
- Protective cap for towing eye
- **BRACKETS FOR FOG LIGHTS**

Only for X-Line version:

- **X-LINE TRIM**

51 11 158 REPLACING BASE PLATE FOR NUMBER/LICENSE PLATE

Only use the vehicle-specific license plate baseplate.

The installation of other license plate baseplates is not permissible.

Refer to Service Information License plate attachment at front.

cardiagn.com

If a number plate baseplate is not offered for the corresponding national-market version, the number plate must be mounted directly on the bumper using a drilling template

Release screws (1).

Remove holder (2) towards front.

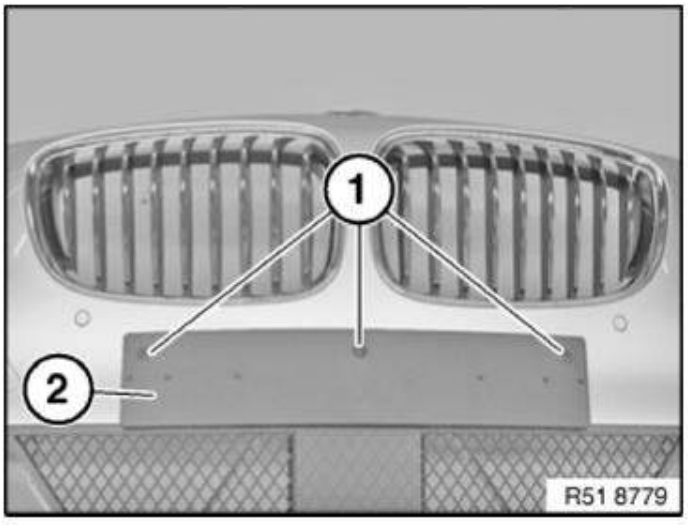


Fig. 47: Identifying Bumper Screws And Holder
Courtesy of BMW OF NORTH AMERICA, INC.

51 11 157 REPLACING FRONT BUMPER TRIM (M AERODYNAMICS PACKAGE)

Necessary preliminary tasks:

- Remove **FRONT BUMPER PANEL**

Swap over the following parts according to version:

- **LICENSE PLATE BASEPLATE**
- **COVER FOR HEADLIGHT CLEANING SYSTEM**
- **SIDE GRILLE**
- **TOP (UPPER) GRILLE**
- **TRIM GRILLE, MIDDLE BOTTOM**
- **Adjust fog lights** . See **63 17 070 REMOVING AND INSTALLING/REPLACING LEFT FOG LIGHT** or **63 17 075 REMOVING AND INSTALLING/REPLACING RIGHT FRONT FOG LIGHT** after fitting
- **WIRING HARNESS**
- **Ultrasonic sensor** . See **66 20 518 REMOVING AND INSTALLING/REPLACING A FRONT (SIDE) ULTRASONIC SENSOR** or **66 20 520 REMOVING AND INSTALLING/REPLACING A FRONT ULTRASONIC SENSOR (CENTER)**
- Protective cap for towing eye
- **BRACKETS FOR FOG LIGHTS**

51 64 043 REPLACING LEFT OR RIGHT HEADLIGHT MOUNTING

Refer to **51 64 043 REPLACING LEFT OR RIGHT HEADLIGHT MOUNTING**.

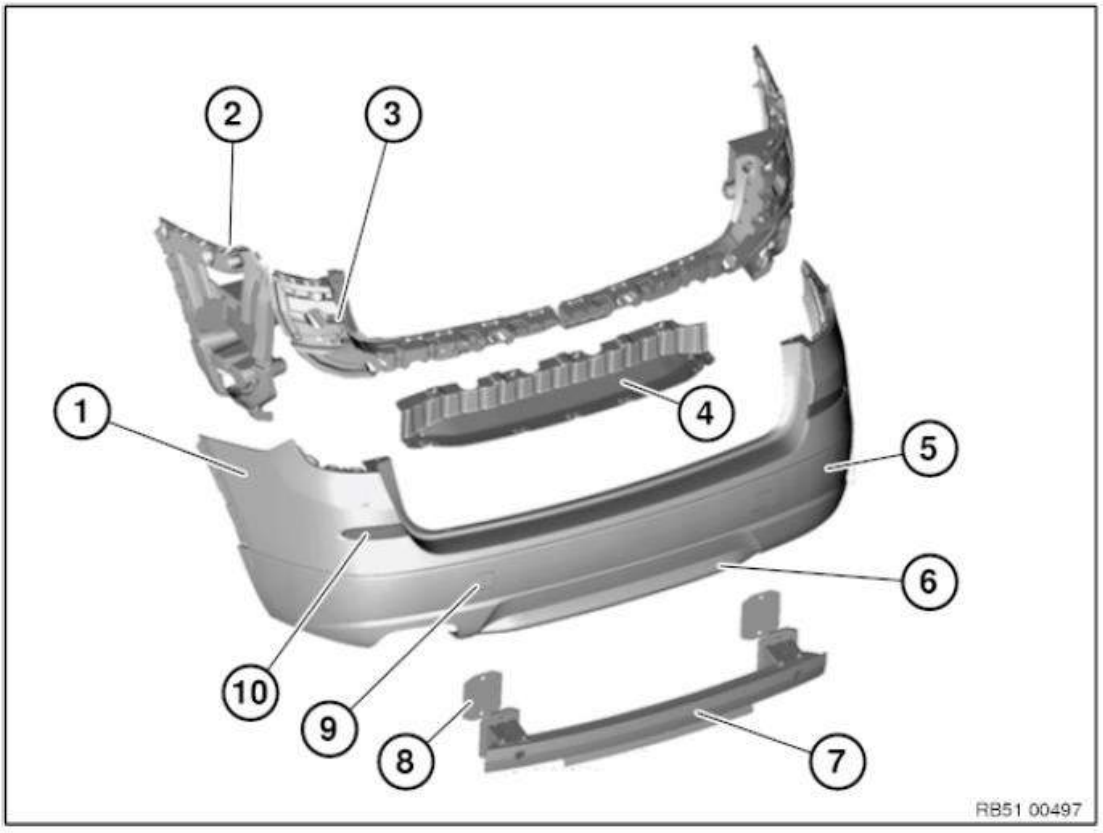
REAR BUMPER

51 00... OVERVIEW OF CONSUMABLES

Refer to **51 00... OVERVIEW OF CONSUMABLES**.

51 12... OVERVIEW OF REAR BUMPER

cardiagn.com



1	Bumper trim	6	Only for X-Line version: Lower bumper trim cover
2	Rear left or right guide	7	Bumper trim support
3	Rear centre guide	8	Support seal
4	Rear lower cover	9	Towing eye fold
5	Bumper panel cover trim	10	Reflector

Fig. 48: Overview Of Rear Bumper
Courtesy of BMW OF NORTH AMERICA, INC.

51 12... REMOVE AND INSTALL/REPLACE REAR BOTTOM COVER BUMPER TRIM (M AERODYNAMICS PACKAGE)

Necessary preliminary tasks:

- Remove **REAR BUMPER TRIM**

Release expanding rivets (1).

Release latch mechanisms along line (2) and remove cover (3).

Installation note:

Latch mechanisms must not be damaged or missing.

cardiagn.com

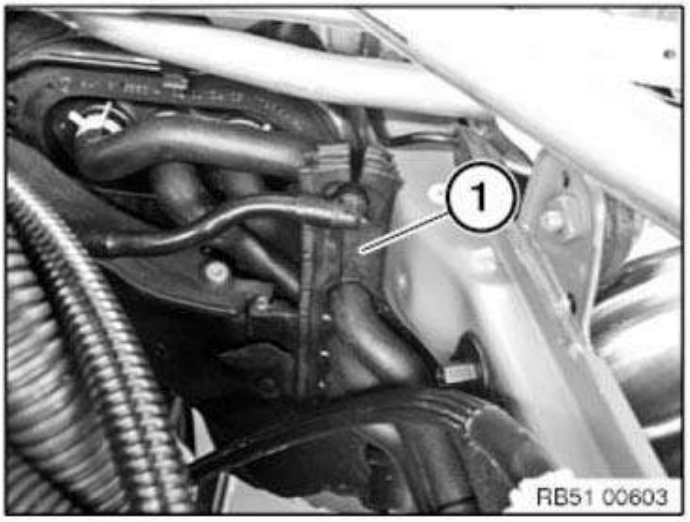


Fig. 49: Identifying Sound Insulation Line
Courtesy of BMW OF NORTH AMERICA, INC.

51 12 156 REMOVING AND INSTALLING REAR BUMPER PANEL

Necessary preliminary work:

- Remove **BOTH REAR LIGHTS**
- Remove **BOTH REAR REFLECTORS**

Partially release **WHEEL ARCH COVER** on left and right in area of bumper panel.

Release left and right screws (1).

Tightening torque **51 12 5AZ** .

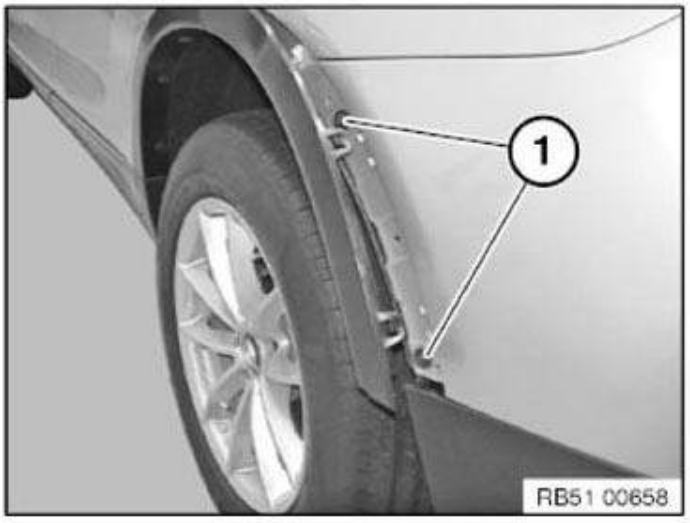


Fig. 50: Identifying Bumper Panel Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Catches (1) must not be damaged or missing.

Replace faulty clips (2).

Water ingress!

Always install clips (2) with sealing ring.

cardiagn.com

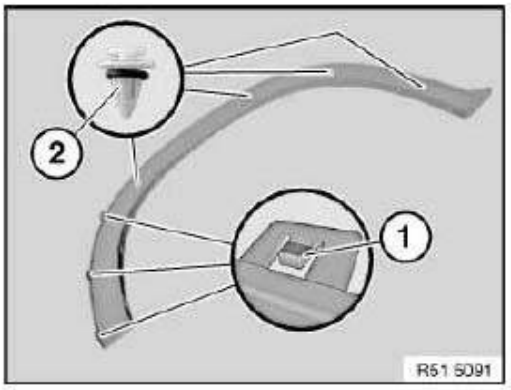


Fig. 51: Identifying Bumper Panel Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Release left and right screws (1).

Tightening torque **51 12 6AZ** .

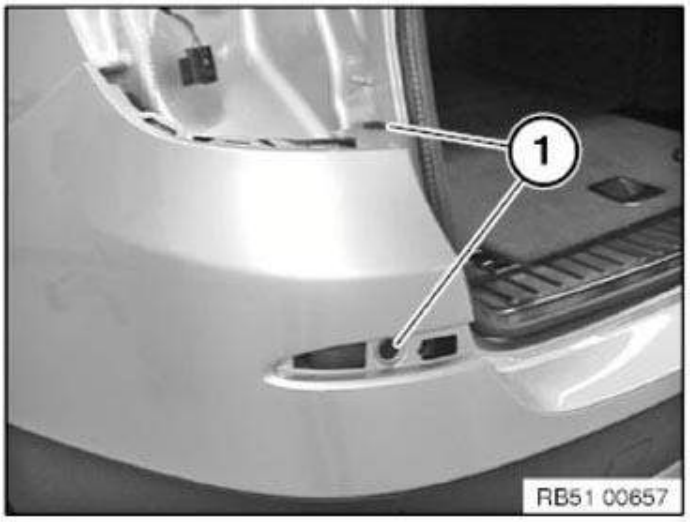


Fig. 52: Identifying Bumper Panel Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release expanding rivets (1) from bumper panel (2).

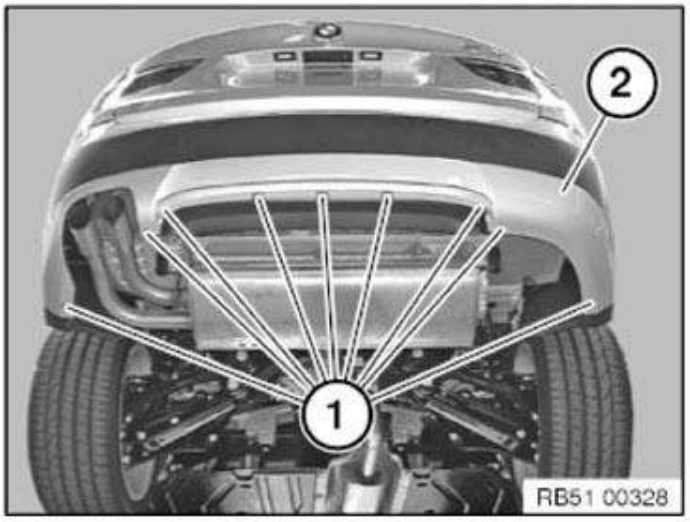


Fig. 53: Identifying Bumper Panel Rivets
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

Replace expanding rivets.

IMPORTANT: Bumper panel (1) is locked and must be unlocked for dismantling (risk of damage).

Removing:

- Starting from side area (2), carefully disengage individual guide tabs on left and right
- Pull bumper panel (1) straight towards rear with aid of a 2nd person
- If necessary, disconnect plug connections
- Set bumper panel (1) aside.

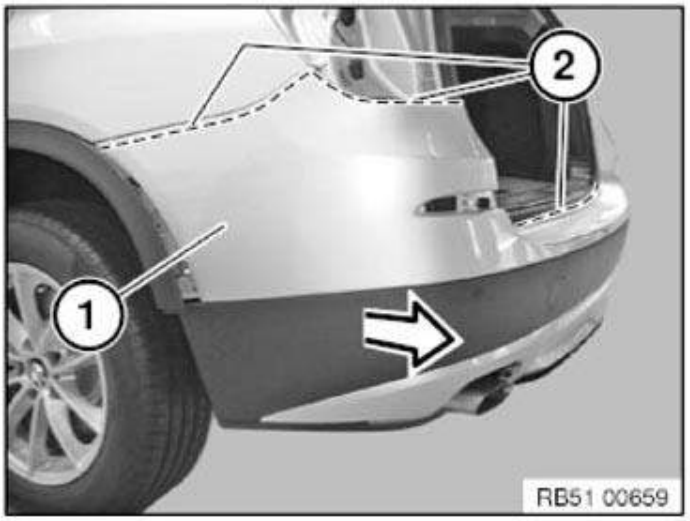


Fig. 54: Removing Bumper Panel
Courtesy of BMW OF NORTH AMERICA, INC.

51 12 828 REMOVING AND INSTALLING/REPLACING GUIDE FOR BUMPER, REAR LEFT OR RIGHT

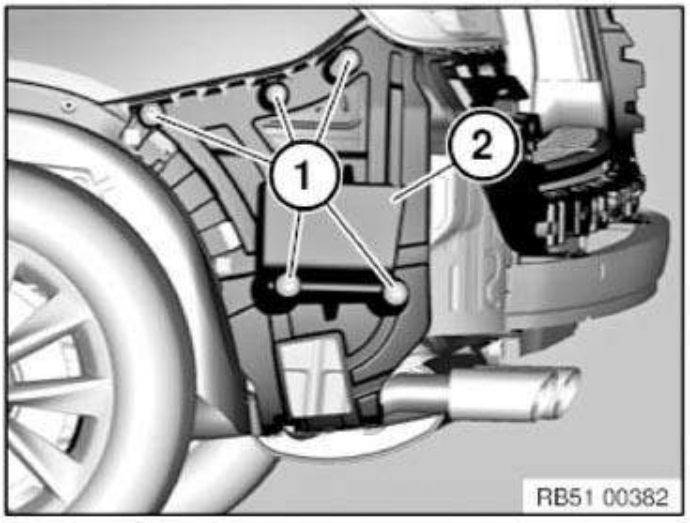
Necessary preliminary tasks:

- Remove **REAR BUMPER**

Unscrew nuts (1).

Tightening torque **51 12 3AZ** .

Remove guide (2).



cardiagn.com

Fig. 55: Identifying Bumper Guide
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms of guide (1) must not be damaged or missing.

Replace faulty sheet metal nuts (2).

Water ingress!

Replace sealing ring (3).

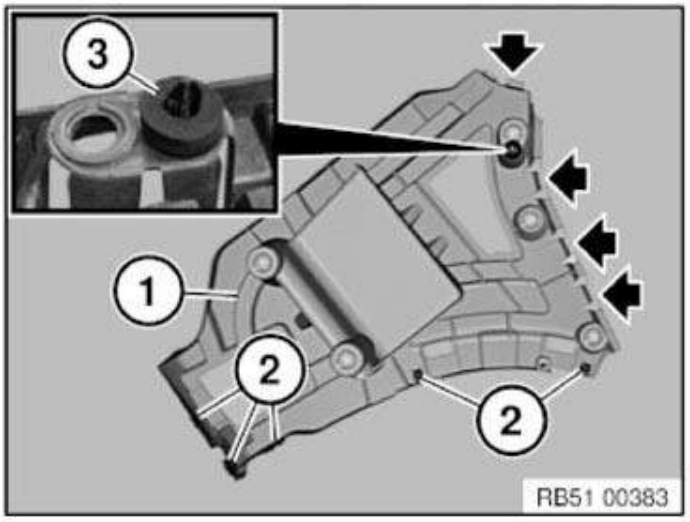


Fig. 56: Locating Sheet Metal Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

51 12 825 REMOVING AND INSTALLING/REPLACING GUIDE FOR REAR CENTER BUMPER

Necessary preliminary tasks:

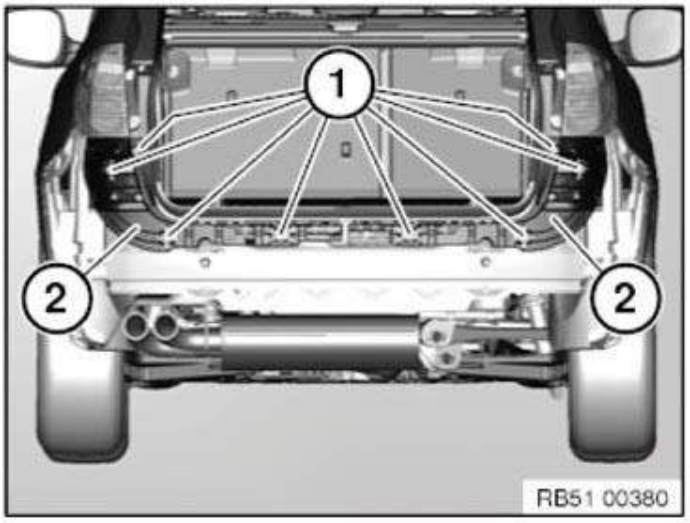
- **REMOVE** rear bumper trim

Unscrew nuts (1).

Tightening torque **51 12 2AZ** .

If necessary, feed out cable for Park Distance Control.

Remove guides (2).



cardiagn.com

Fig. 57: Identifying Center Bumper Guides
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms of guide (1) must not be missing or damaged.

Replace faulty sheet metal nuts (2).

Water ingress!

Replace sealing ring (3).

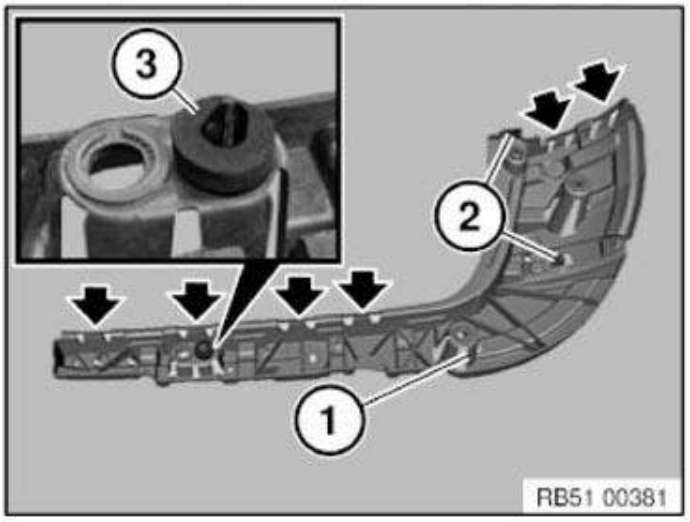


Fig. 58: Locating Sheet Metal Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

51 12... REMOVING AND INSTALLING/REPLACING LOWER COVER (MIDDLE)

Release expanding rivets (1).

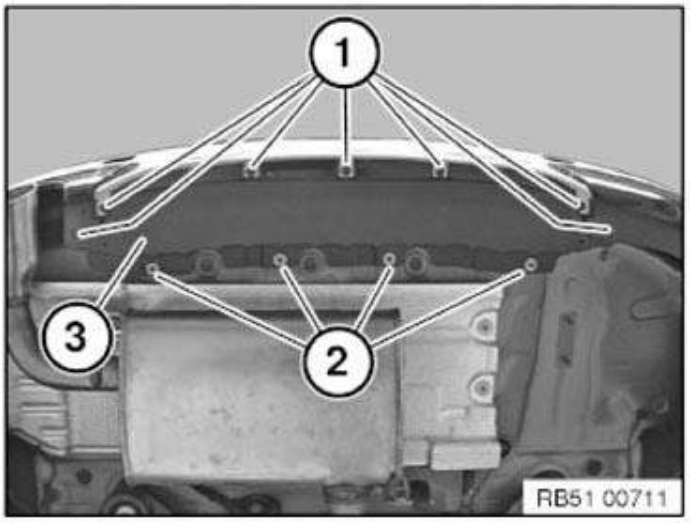
Unscrew nuts (2).

Tightening torque **51 12 9AZ** .

Remove cover (3).

Installation note:

Replace expanding rivets (1).



cardiagn.com

Fig. 59: Identifying Lower Cover Rivets
Courtesy of BMW OF NORTH AMERICA, INC.

51 12... REMOVING AND INSTALLING/REPLACING REAR BUMPER PANEL COVER (X-LINE)

Necessary preliminary tasks:

- Remove **BOTTOM COVER**

Release clamps (1) on inside of bumper panel and remove cover (2).

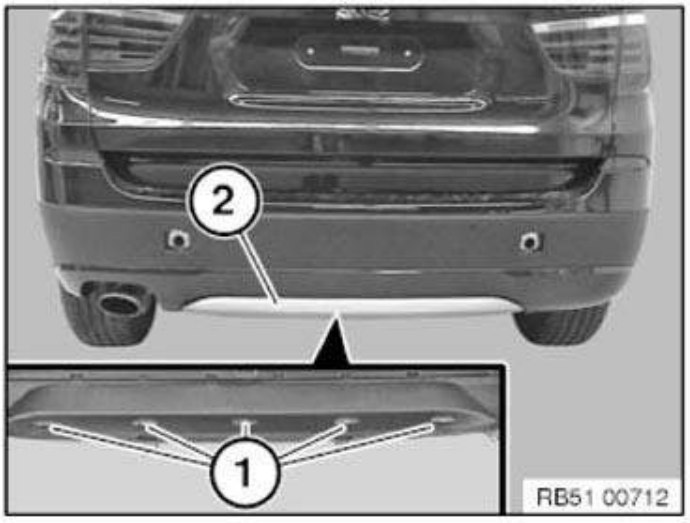


Fig. 60: Identifying Bumper Panel Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining tabs (2) and retaining lugs (1) may not be damaged or missing.

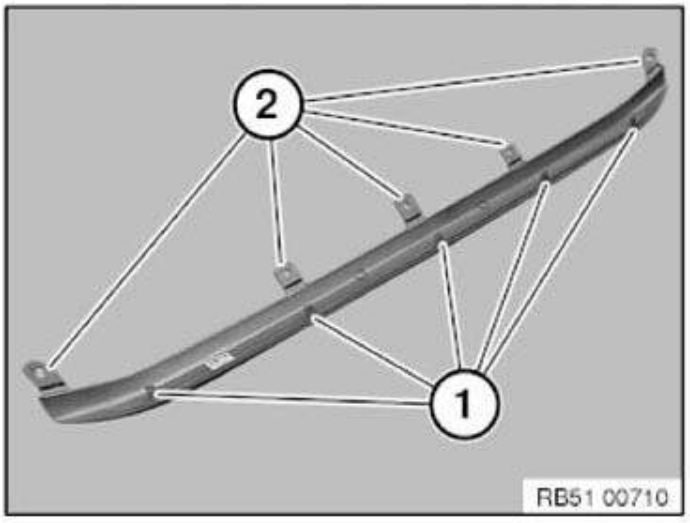


Fig. 61: Identifying Bumper Panel Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Secure retaining lugs (1) on inside of bumper panel (3) with clamps (2) and secure.

If necessary, replace retainers (2).

cardiagn.com

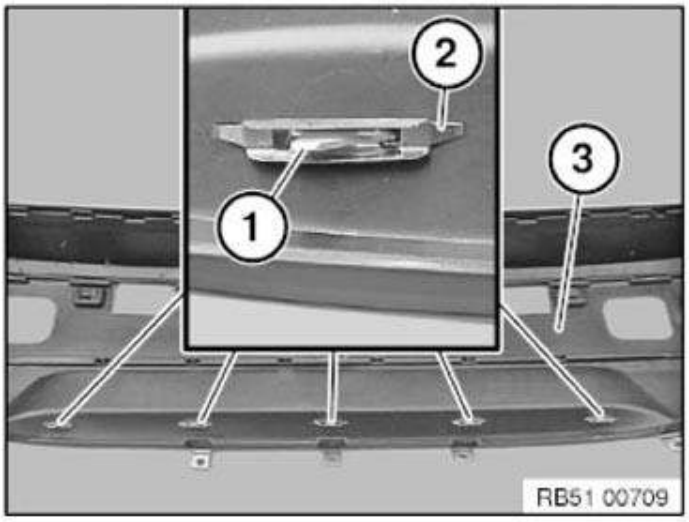


Fig. 62: Identifying Bumper Panel Clamps And Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

51 12 222 REMOVING AND INSTALLING/REPLACING REAR CENTER COVER FOR BUMPER PANEL

Necessary preliminary work:

- Remove rear **BUMPER TRIM**

Release all retainers (2).

Detach cover (1) from bumper panel (3).

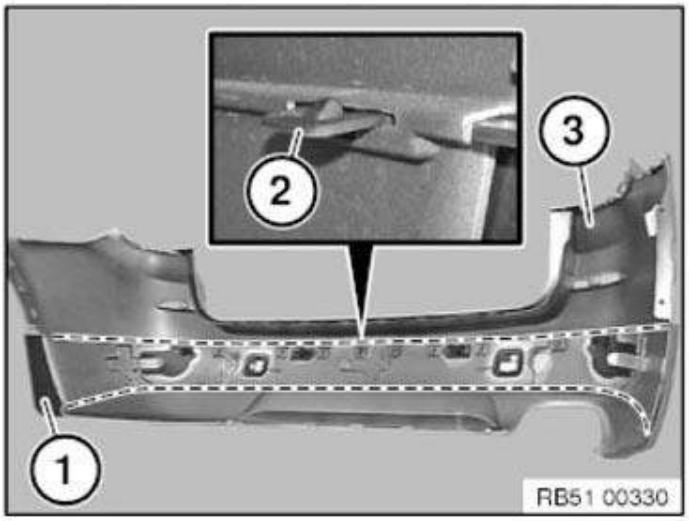


Fig. 63: Identifying Bumper Panel Retainers
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Catches (1) on trim (2) must not be damaged.

cardiagn.com

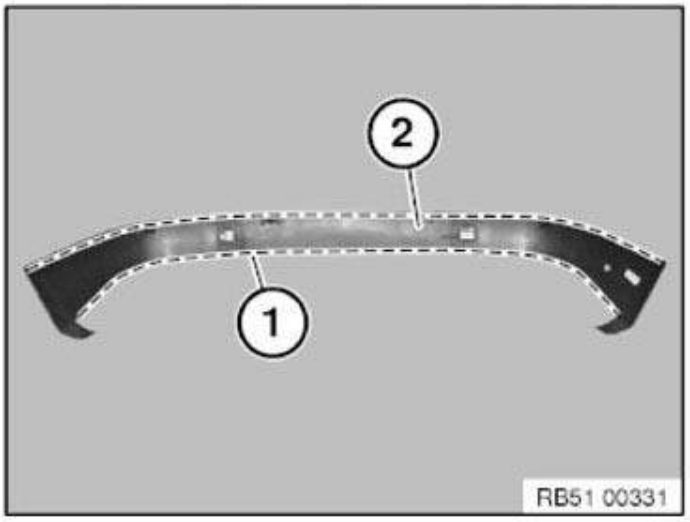


Fig. 64: Identifying Bumper Trim And Catches
Courtesy of BMW OF NORTH AMERICA, INC.

51 12 050 REMOVING AND INSTALLING/REPLACING SUPPORT FOR REAR BUMPER PANEL

Necessary preliminary tasks:

- Remove **BUMPER PANEL**

Release all nuts (1).

Tightening torque **51 12 1AZ** .

Remove support (2).

Installation note:

Water ingress!

Bolts for nuts (1) must be sealed with **SEALANT 1** towards tail panel.

Replace gasket between support (2) and body every time after dismantling.

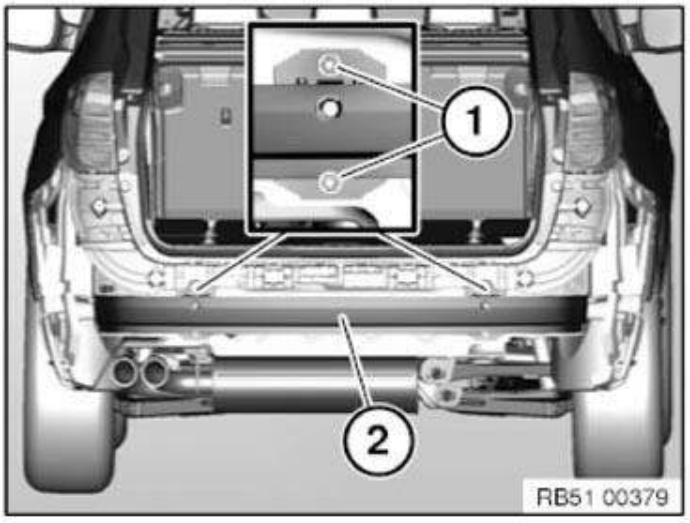


Fig. 65: Identifying Bumper Support Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

51 12 157 REPLACING REAR BUMPER PANEL

Necessary preliminary tasks:

cardiagn.com

- Remove **REAR BUMPER PANEL**
- **REMOVE** and install rear bumper trim cover
- Remove and install left and right rear reflector
- Remove and install rear ultrasonic sensor.. See **66 20 534 REMOVING AND INSTALLING/REPLACING A REAR LEFT ULTRASONIC TRANSDUCER (PARK DISTANCE CONTROL)** , **66 20 536 REMOVING AND INSTALLING/REPLACING A REAR MIDDLE LEFT ULTRASONIC TRANSDUCER (PARK DISTANCE CONTROL)** , **66 20 537 REMOVING AND INSTALLING/REPLACING A REAR MIDDLE RIGHT ULTRASONIC TRANSDUCER (PARK DISTANCE CONTROL)** or **66 20 535 REMOVING AND INSTALLING/REPLACING A REAR RIGHT ULTRASONIC SENSOR (PARK DISTANCE CONTROL)** .

Installation note:

For X-Line equipment specification only:

Convert X-Line cover . See **51 12... REMOVING AND INSTALLING/REPLACING REAR BUMPER PANEL COVER (X-LINE)** or **51 12... RETROFITTING COVER OF REAR BUMPER TRIM (X-LINE)**

51 12 157 REPLACING REAR BUMPER TRIM (M AERODYNAMICS PACKAGE)

Necessary preliminary tasks:

- Remove **REAR BUMPER PANEL**
- **REMOVE AND INSTALL REAR BOTTOM BUMPER TRIM COVER**
- Remove and install left and right rear reflector
- Remove and install rear ultrasonic sensor. See **66 20 534 REMOVING AND INSTALLING/REPLACING A REAR LEFT ULTRASONIC TRANSDUCER (PARK DISTANCE CONTROL)** , **66 20 536 REMOVING AND INSTALLING/REPLACING A REAR MIDDLE LEFT ULTRASONIC TRANSDUCER (PARK DISTANCE CONTROL)** , **66 20 537 REMOVING AND INSTALLING/REPLACING A REAR MIDDLE RIGHT ULTRASONIC TRANSDUCER (PARK DISTANCE CONTROL)** or **66 20 535 REMOVING AND INSTALLING/REPLACING A REAR RIGHT ULTRASONIC SENSOR (PARK DISTANCE CONTROL)** .

51 12... RETROFITTING COVER OF REAR BUMPER TRIM (X-LINE)

Necessary preliminary tasks:

- Remove **REAR BUMPER TRIM**

Drill out marks (1) on inside of bumper trim (3) with drill and hole cutter (2).

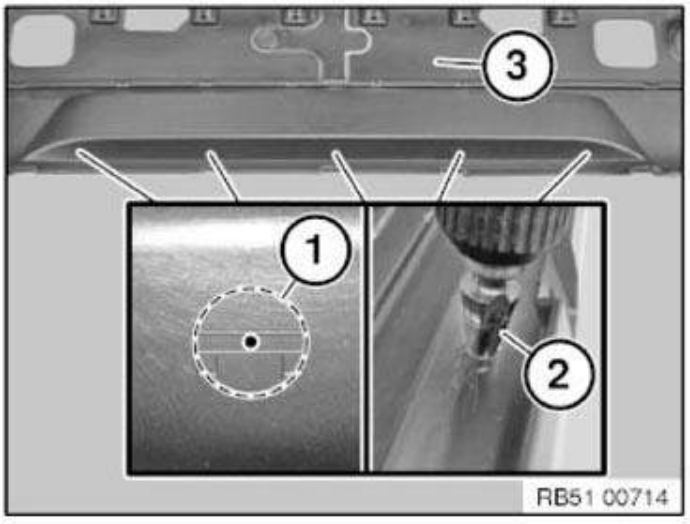


Fig. 66: Drilling Bumper Trim Hole
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Insert cover (1) into bumper trim (2).

Secure retaining lugs (3) on inside of bumper trim with clamps (4).

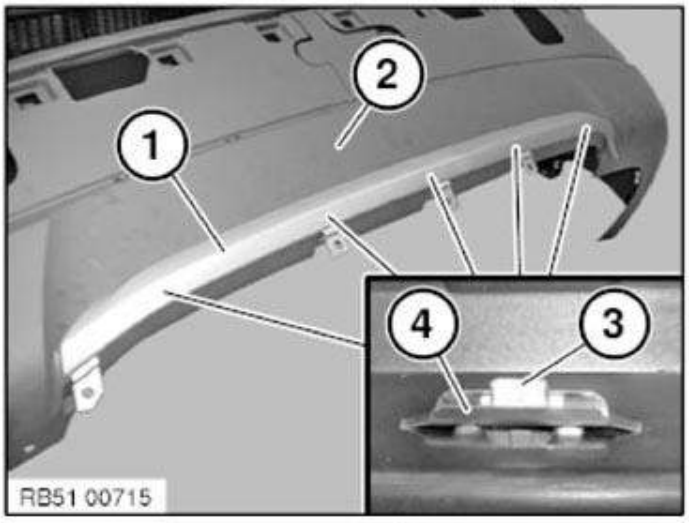


Fig. 67: Identifying Bumper Trim And Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

TRIM, COVERS, HANDLE TRIM

51 13 305 REMOVE AND INSTALL/REPLACE LEFT OR RIGHT ROOF RAILS (VERSION WITHOUT PANORAMA GLASS ROOF)

Operations are described in:

- **REMOVE AND INSTALL/REPLACE LEFT OR RIGHT ROOF RAILS (FOR VERSION WITH PANORAMA GLASS ROOF)**

51 13 116 REMOVING AND INSTALLING/REPLACING COWL PANEL COVER

Necessary preliminary work:

- Remove **BOTH WINDSCREEN WIPER ARMS** .

Remove seal (1) and cover (2).

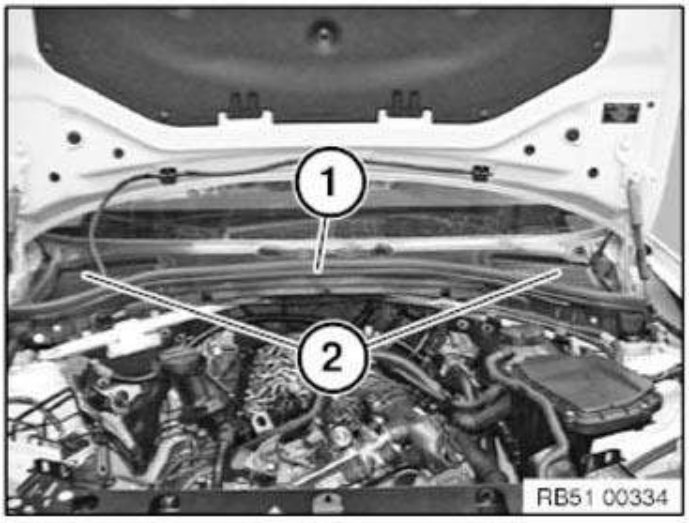


Fig. 68: Identifying Cowl Panel Cover And Seal
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Detach cowl panel cover (2) from clips (1) and remove by pulling forward.

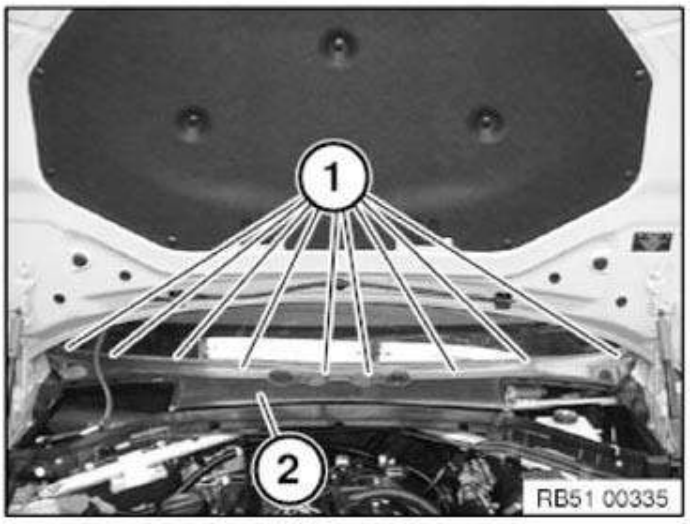


Fig. 69: Identifying Cowl Panel Cover And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Clips (1) on cover (2) must not be damaged or missing.

Check cover (2) for correct seating.

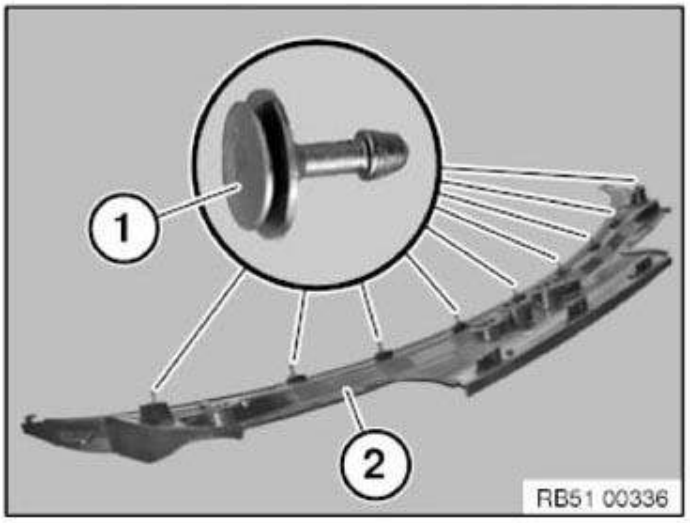


Fig. 70: Identifying Cowl Panel Cover And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 13 001 REMOVING AND INSTALLING/REPLACING FRONT RADIATOR GRILLE, MIDDLE LEFT OR RIGHT

Necessary preliminary work:

- Remove front **BUMPER PANEL**

Removal:

Release all latch mechanisms (1) from ornamental grille (2).

Remove ornamental grille (2) forwards.

cardiagn.com

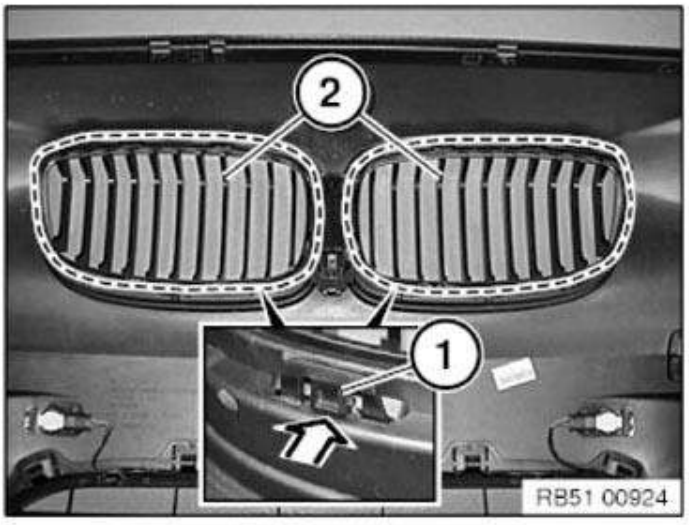


Fig. 71: Removing Ornamental Grille
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

NOTE: **All catches and guides on middle front radiator grille must not be damaged. Insert ornamental grille (2) into bumper panel by pressing on chrome ring. Fixture (1) must lock correctly.**

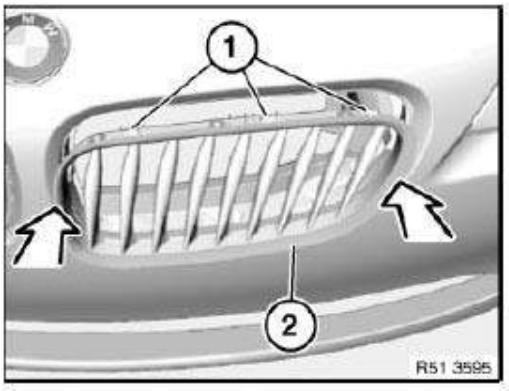


Fig. 72: Inserting Ornamental Grille
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install front **BUMPER PANEL**

51 13 307 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT ROOF RAILS (VERSION WITH PANORAMA GLASS ROOF)

Special tools required:

- 0 496 932

WARNING: **Observe safety regulations . See 72 SAFETY PRECAUTIONS AND GENERAL INFORMATION or 72 00... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS when handling airbag modules. Incorrect handling can activate airbag and cause injury.**

Switch off the ignition!

Necessary preliminary work:

cardiagn.com

- **LOWER ROOFLINER**

To detach the clamps, use special tool 0 496 932.

Push the left and right tabs together and pull clamp out.

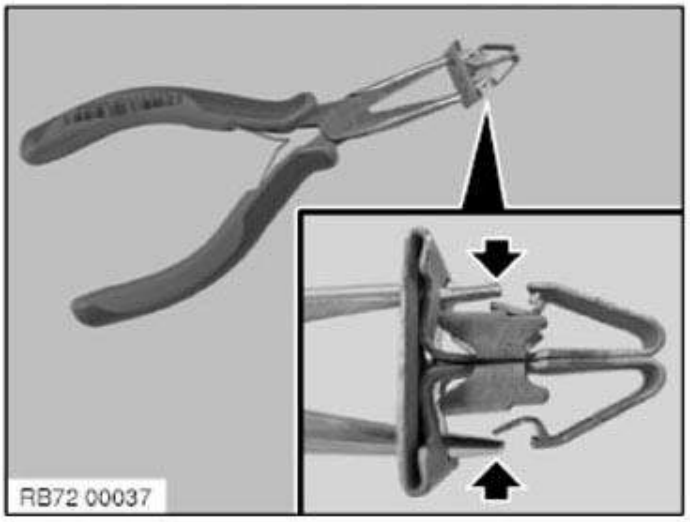


Fig. 73: Pushing Roof Rails Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and remove clamp (1) with flat-nose pliers.

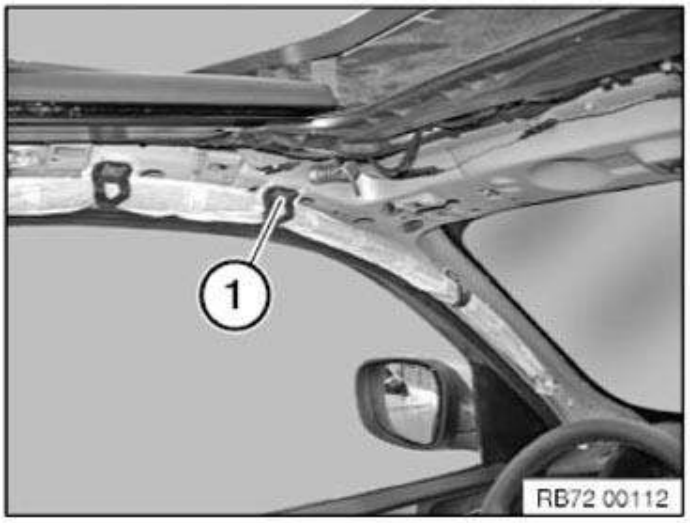


Fig. 74: Removing Roof Rails Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Slightly press airbag (1) to the side and release nuts (2).

Tightening torque **51 13 4AZ** .

cardiagn.com

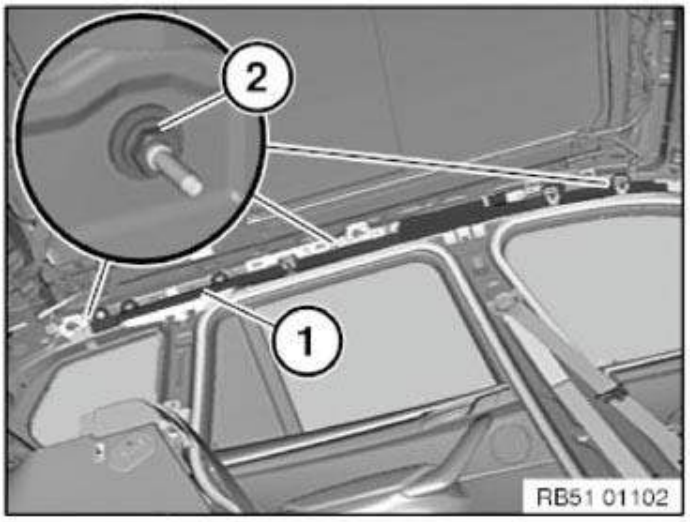


Fig. 75: Identifying Airbag Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

Remove roof railing (1) in direction of arrow.

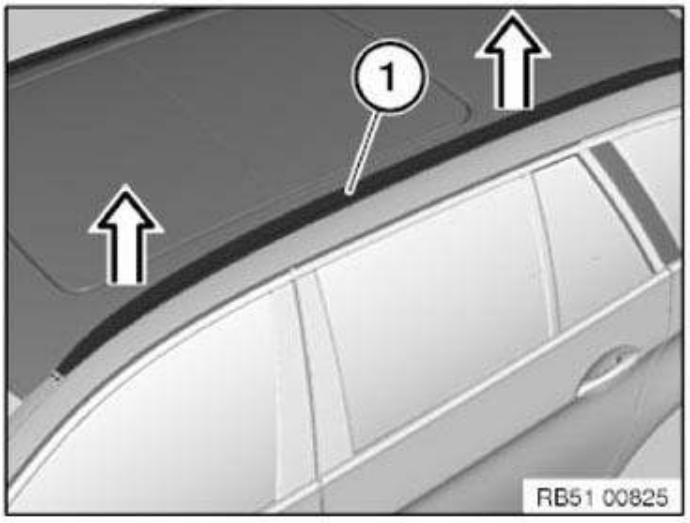


Fig. 76: Removing Roof Railing
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Following parts must not be damaged or missing:

1. Stud
2. Gasket

cardiagn.com

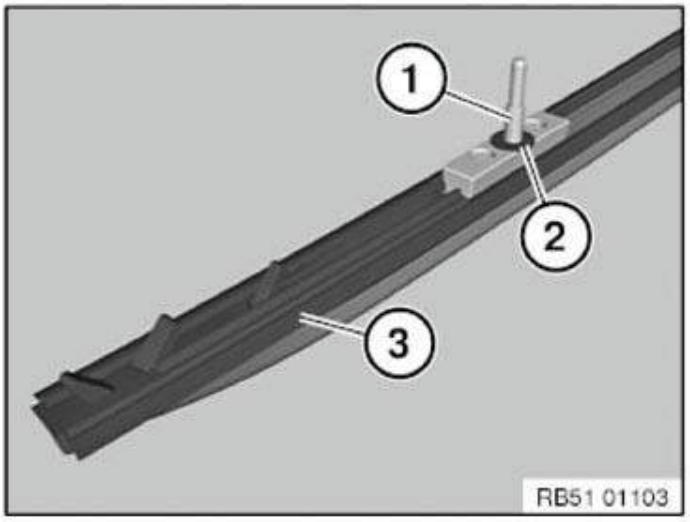


Fig. 77: Identifying Stud, Gasket And Welt Strip
Courtesy of BMW OF NORTH AMERICA, INC.

3. Welt strip

51 13 280 REMOVING AND INSTALLING/REPLACING TRIM STRIP ON ROOF FRAME AT LEFT OR RIGHT

Special tools required:

- 00 9 321

Graphics are similar.

Lever out trim strip (1) with special tool 00 9 321 starting at the front.

Unclip trim strip (1) in direction of arrow.

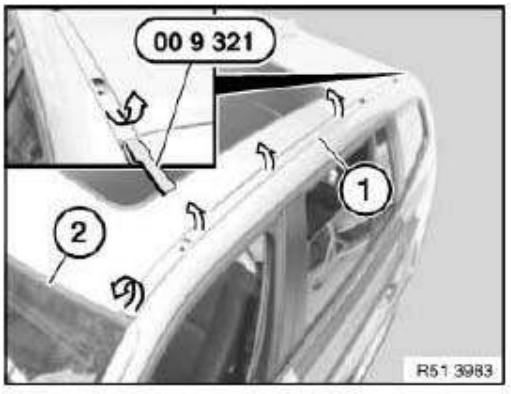


Fig. 78: Removing Trim Strip Using Special Tool (00 9 321)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms (1) of clips (2) must not be damaged.

If necessary, replace the clips (2).

Emergency strategy if T-bolt is broken:

CLIP REPAIR FOR ROOF STRIP .

cardiagn.com

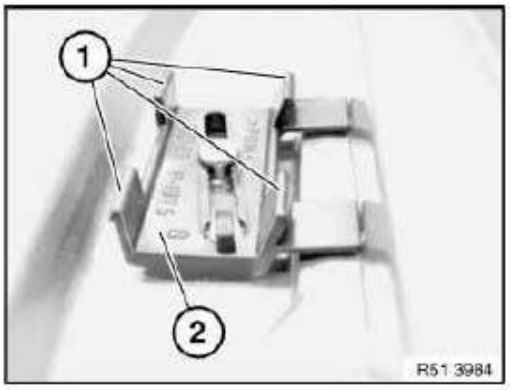


Fig. 79: Identifying Roof Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Place front trim strip (2) against seal (1).

Trim strip (2) must be flush with edge (3) at rear.

Clip trim strip (2) into place completely.

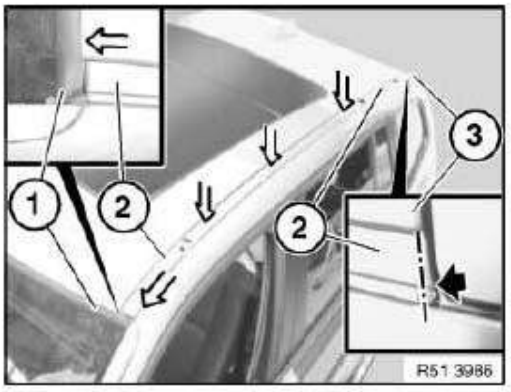


Fig. 80: Placing Front Trim Strip
Courtesy of BMW OF NORTH AMERICA, INC.

41 00... REPAIRING CLIPS FOR ROOF STRIP

The following instructions describe the permanent repair gluing of clips which were originally secured with T-pins.

The repair gluing at the same time protects the area of the torn-off T-pin permanently against corrosion.

1.0 Information on dangers/hazards:

- Read and comply with the manufacturer's information on dangers/hazards prior to application.
- Avoid eye and skin contact. Wear solvent-resistant protective gloves.
- Do not inhale adhesive fumes. Apply in well ventilated rooms only.

1.0 Equipment

- **ADHESIVE K4**
- Static mixing tube
- **ADHESIVE GUN**
- Cleaning agent R1
- Adhesive tape for fixing

2.0 Preparing the surface:

cardiagn.com

- Surface temperature of bonding surface and room temperature at least 18Â°C.
- Cover area around bonding surface.
- Remove swarf, flaked paint etc. from bonding surface with a brush. Use of compressed air prohibited!
- Clean bonding surface with cleaning agent R1.
- Let cleaned surface air dry for at least 2 minutes. Bonding surface must be completely dry.
- Do not contaminate bonding surfaces once they have been cleaned (sweat from hands, fingerprints, etc.).

3.0 Applying the adhesive:

- Fill the hole (1) created by the torn-off T-pin with adhesive and spread over a length of approx. 4 cm (2) in the roof channel.

  IMPORTANT: The hole must be completely filled or sealed with adhesive!

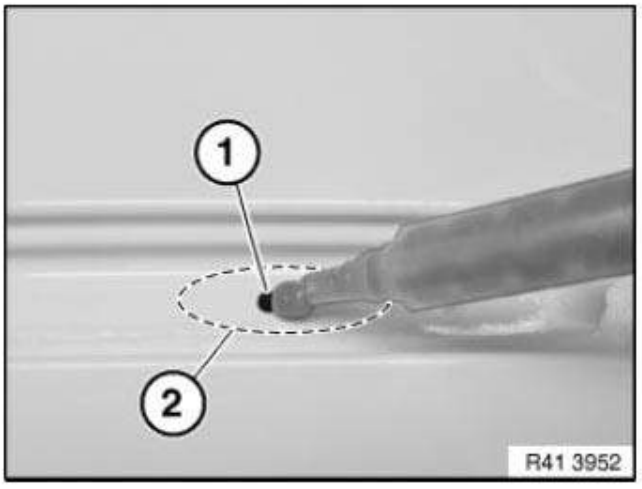


Fig. 81: Applying Adhesive In Roof Channel
Courtesy of BMW OF NORTH AMERICA, INC.

Apply adhesive bead (1) to the underside of the clip.

In so doing, fill channel of clip with adhesive.

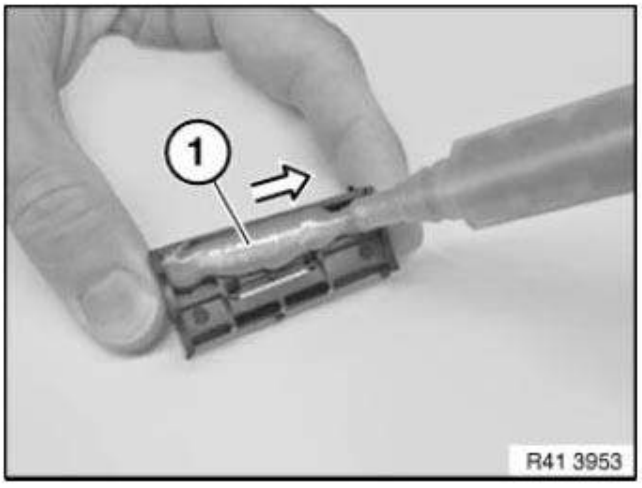


Fig. 82: Applying Adhesive Bead To Clip Underside
Courtesy of BMW OF NORTH AMERICA, INC.

Move clip (1) into position and secure by hand.

If the adhesive is not already emerging evenly through the channel, apply additional adhesive from above.

Adhesive bead (2) must be below the clip height.

cardiagn.com

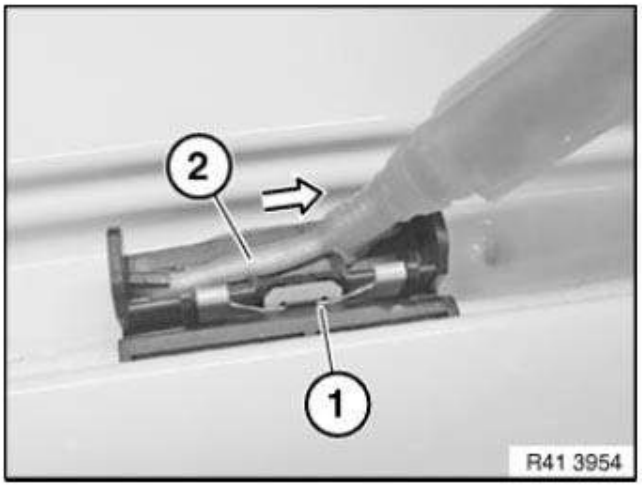


Fig. 83: Moving Roof Strip Clip
Courtesy of BMW OF NORTH AMERICA, INC.

Secure clip with adhesive tape (1), approx. 150 mm long.

Apply adhesive tape in direction of travel.

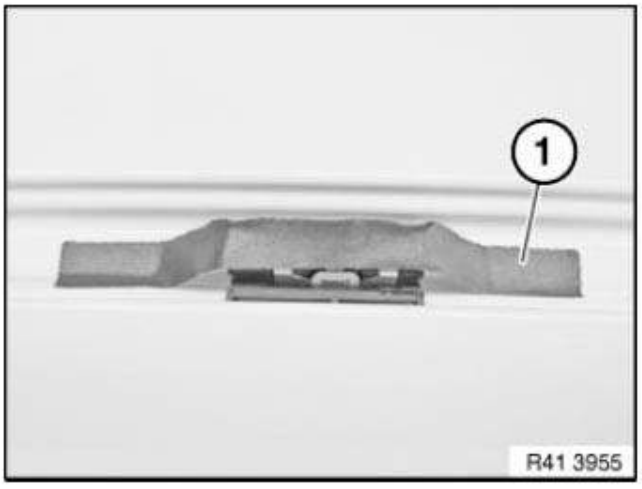


Fig. 84: Identifying Roof Strip Clip Adhesive Tape
Courtesy of BMW OF NORTH AMERICA, INC.

4.0 Hardening period:

- Adhesive tape can be removed after approx. 10 mins.
- Earliest possible load capability, e.g. fitting of roof strip, after 30 minutes.

BMW EMBLEMS, MODEL EMBLEMS

51 14... GENERAL NOTES FOR LABELLING WITH ADHESIVE FILMS

In the event of a repair the adhesive films must be partially or completely replaced. The basic procedure for all areas of the vehicle is described below.

In addition, vehicle-specific repair instructions are available.

1. **Preparation:**

   Wash and dry vehicle. Rework with compressed air as required in area of joints.

   Clean complete component surface with glass cleaner (BMW part number 83 12 0 396 775). Also clean the inside of the component in areas, in which adhesive films are applied.

cardiagn.com

Only carry out repair work with clean hands!

IMPORTANT: Labels can only be applied to recently painted components after a waiting period of **2 weeks** . The paint hardening is only fully completed after this time.

2. **Procedure for applying labels:**

All adhesive films in the repair kit are marked with numbers. Prepare the required plastic films prior to start of repairs.

The templates included in the repair kit assist orientation. A straight line running over the different components is the top priority.

Pull off the templates positioning of the adhesive films.

Only throw away templates after completion of all repair work, as some templates are used several times.

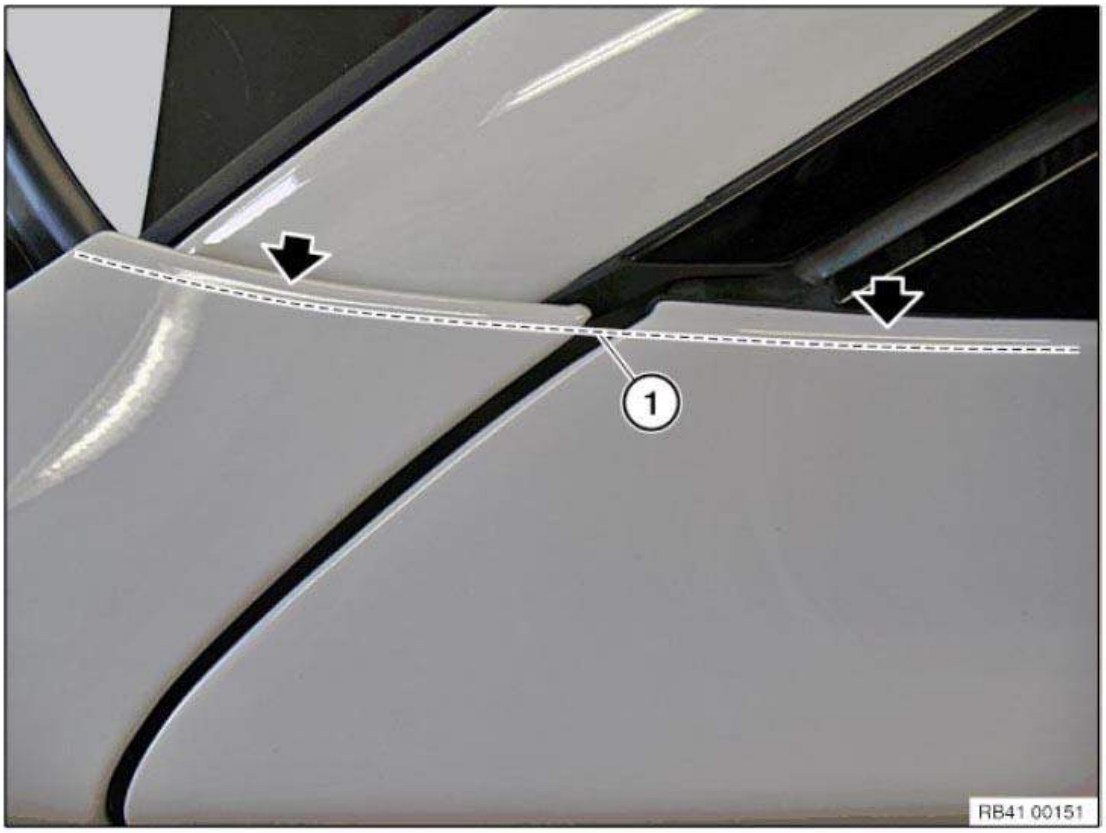


Fig. 85: Locating Vehicle Templates
Courtesy of BMW OF NORTH AMERICA, INC.

Templates are always applied along the light edge (1). The light edge is the reflection of the light source in radius (see arrow).

Roughly align the adhesive film using a template.

For large adhesive films, pull off the first 20 cm of protective film and fold back the edge.

Align and lightly press down the adhesive film. Use only one finger for this and not the entire hand so that air pockets are unable to form under the adhesive film.

Pull off the remaining protective film and press down the adhesive film from front to rear and from inside to outside.

If faults are made in applying the adhesive film, it can be pulled off and repositioned several times. When no further corrections have to be made, use a squeegee to press down the adhesive film firmly from inside to outside.

cardiagn.com

Lay protruding ends of the adhesive film around the component edge and press down firmly.



Fig. 86: Identifying Vehicle Backing Film
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully pull off backing film (1) at an acute angle.

51 14 000 REMOVING AND INSTALLING/REPLACING FRONT BMW BADGE

Special tools required:

- 00 9 326

IMPORTANT: Risk of damage!

To avoid damaging the paintwork on the engine compartment lid, tape off edge areas (1) to sides of guide pins.

So as not to subject the BMW badge to excessive deformation, lever out the badge with special tool 00 9 326 at guide pins (2).

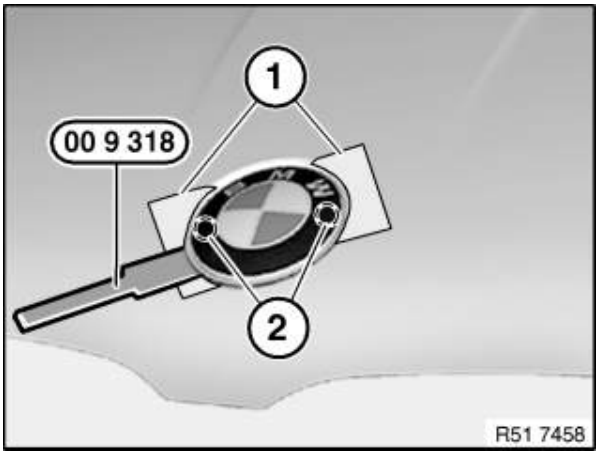


Fig. 87: Removing BMW Badge
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

The following components must not be damaged or missing, replace if necessary:

1. Badge
2. Guide pins
3. Grommets
4. Adhesive tape as paint protection

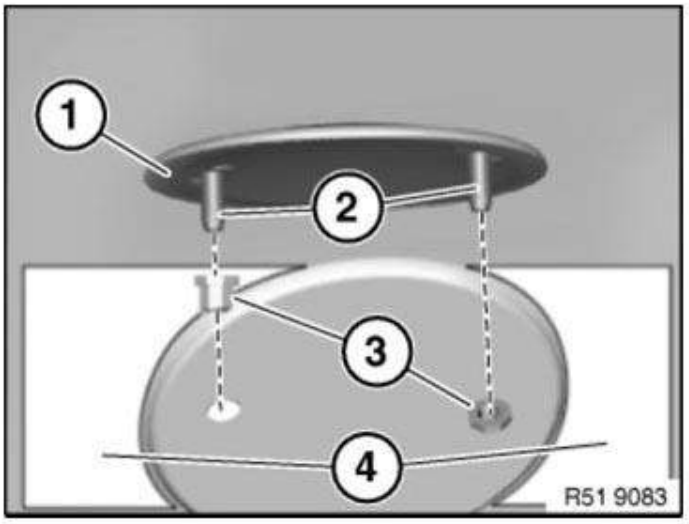


Fig. 88: Identifying BMW Badge, Guide Pins And Grommets
Courtesy of BMW OF NORTH AMERICA, INC.

51 14 010 REMOVING AND INSTALLING/REPLACING REAR BMW BADGE

Special tools required:

- 00 9 322

IMPORTANT: The **NOTES** on component bonding with double-sided adhesive tape serve as the basis for this repair instruction and must be observed without fail.

Carefully heat BMW badge (1) with hot air blower and lever out with special tool **00 9 322** .



Fig. 89: Removing BMW Badge
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Pull liner* off adhesive tape (1).

Position plate over guides (2 and 3) and press down firmly.

cardiagn.com

* Liner is the protective film on a new badge.

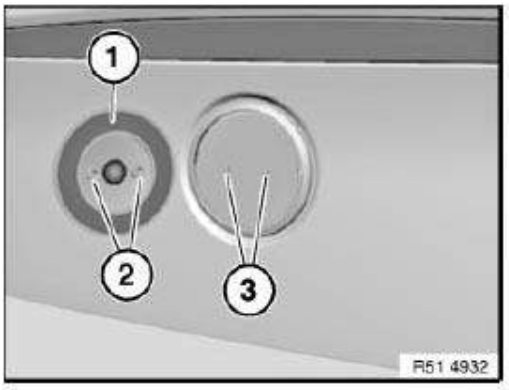


Fig. 90: Identifying BMW Badge Guides
Courtesy of BMW OF NORTH AMERICA, INC.

51 14 006 REPLACING BADGE EMBLEM ON LEFT OR RIGHT FRONT DOOR

General procedure is described in:

"**REPLACING REAR MODEL DESIGNATION**"

Use the same procedure as for front door.

51 14 111 REPLACING MODEL NAME PLATE, REAR

NOTE: **This information describes a general procedure for replacement and new bonding of model designations/lettering using the 335i (F30) as an example.**
The procedure can be used for all models, positions and installation locations.
The model designation is attached with adhesive and can not be reused.

Refer to **INSTRUCTIONS** for securing components with adhesive tape!

CONSUMABLES:

Cutting cord
Masking tape 19 mm or 30 mm
Yellow plastic adhesive tape
Eraser disk
Cleaning agent R2

Replacing model designation:

Mark position of model designation (1) with yellow plastic adhesive tape (2).

Coat separating string or strong yarn with tensides (e.g. washing-up liquid).

Cut through adhesive layer and remove model designation (1).

Refer to **"Installation"** operation for further procedure.

cardiagn.com

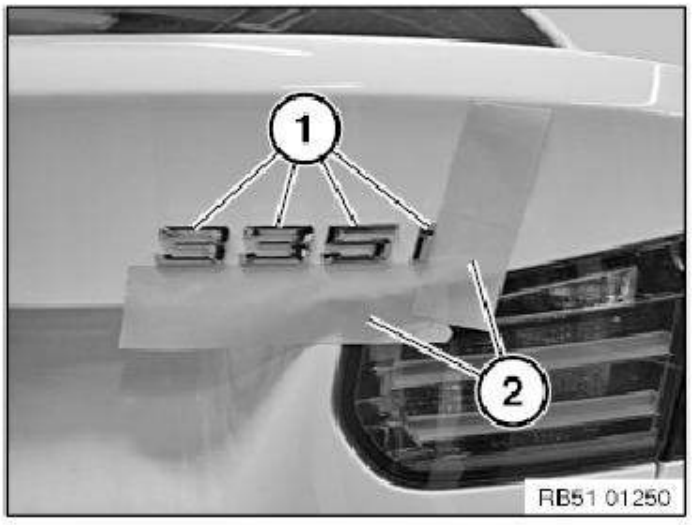


Fig. 91: Identifying Vehicle Model Designation
Courtesy of BMW OF NORTH AMERICA, INC.

Replacing model designation (new or newly painted tailgate):

NOTE: **Transfer position of model designation (1) from old tailgate by making an adhesive tape template.**
For paintwork, keep adhesive tape template up to installation.

Stick masking tape (2) to nearby reference edges of tailgate and therefore determine position of model designation (1).

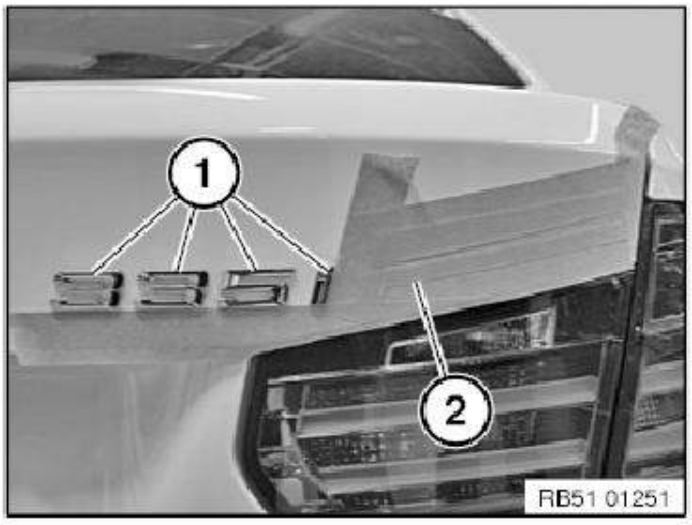


Fig. 92: Identifying Vehicle Model Designation And Masking Tape
Courtesy of BMW OF NORTH AMERICA, INC.

Pull off masking tape (2) completely and stick to same reference edges of new/painted tailgate.

Check position, realign if required.

Refer to **"Installation"** operation for further procedure.

Assembly:

If required, remove adhesive layer residues with grinding wheel and/or cleaning agent R2.

Clean the adhesive area.

Number and letter combinations (1) of the model designation are not connected to each other and are supplied on a backing film (2).

cardiagn.com

Remove liner (3) (protective film for bonding surface).

Place model designation at marked position and press down firmly.

Remove backing film (2) and template.

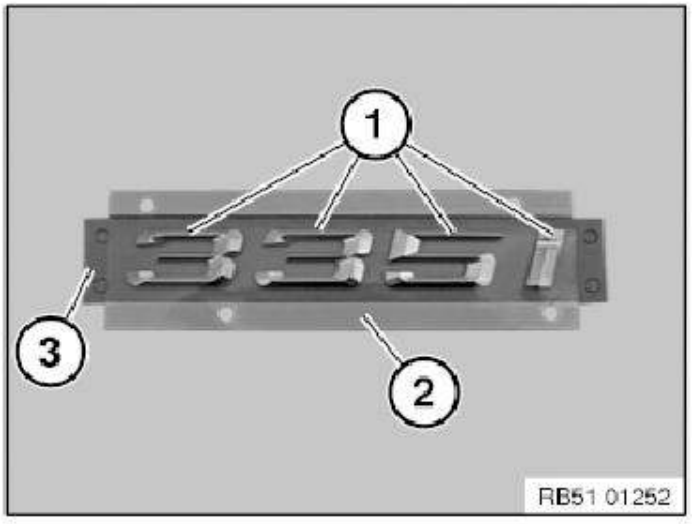


Fig. 93: Identifying Vehicle Model Designation Letter Combinations And Backing Film
Courtesy of BMW OF NORTH AMERICA, INC.

BUMPER STRIP

51 15 330 REMOVING AND INSTALLING/REPLACING PROTECTIVE STRIP IN LEFT OR RIGHT FRONT DOOR

Special tools required:

- 00 9 325

Lever out damper (2) from inner door panel (1).

Installation note:

Damper (2) must not be damaged or missing.

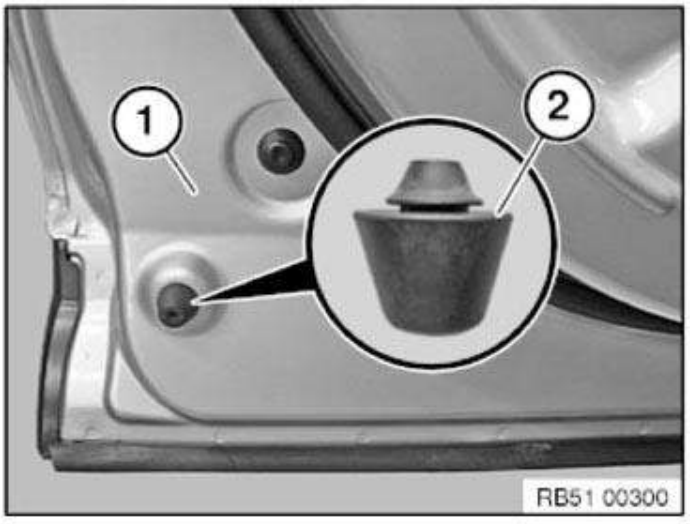


Fig. 94: Identifying Inner Door Panel And Damper
Courtesy of BMW OF NORTH AMERICA, INC.

Pass a suitable screwdriver (2) through the bore hole and press on clip (1) at the rear clip lug until you feel it detach and

cardiagn.com

lever it out toward the rear.

Pull protective strip (3) toward the hear to assist in this operation.

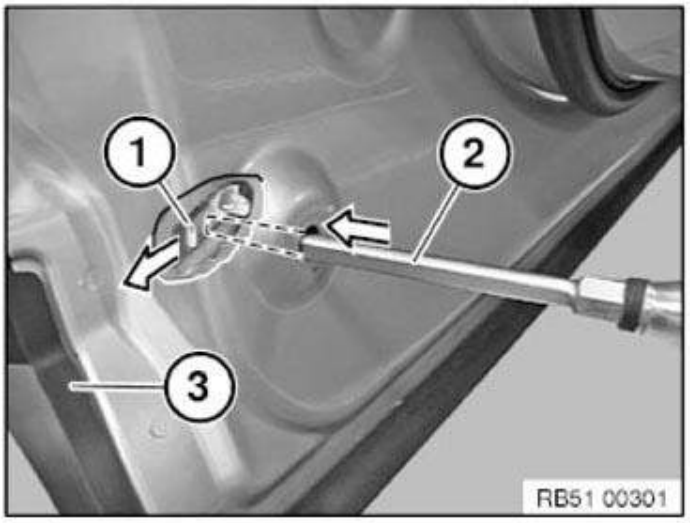


Fig. 95: Pulling Protective Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Place tab of protective strip (1) correctly over door edge (2).

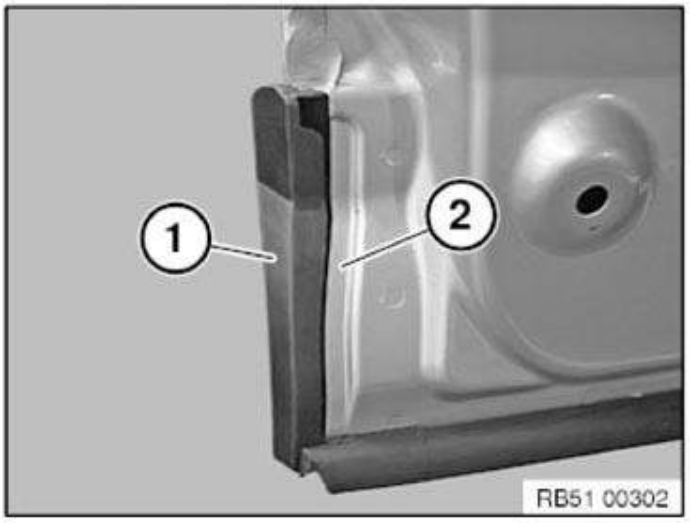


Fig. 96: Identifying Protective Strip And Door Edge
Courtesy of BMW OF NORTH AMERICA, INC.

Clip out protective strip (3) from rear to front.

Use special tool **00 9 325** to help clip out the component, but always position it below the crimped edge (2) of the outer door panel (1).

cardiagn.com

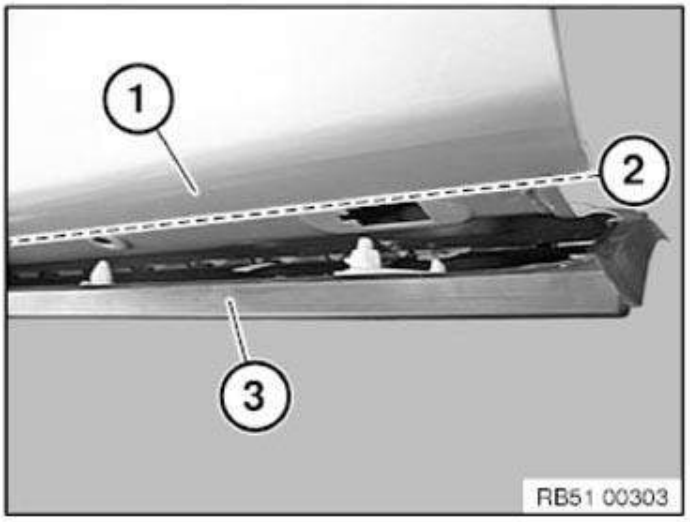


Fig. 97: Identifying Protective Strip And Door Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Lever stuck clips (1) out of the outer door panel using a suitable tool.

Attention!

Avoid damaging the paintwork.

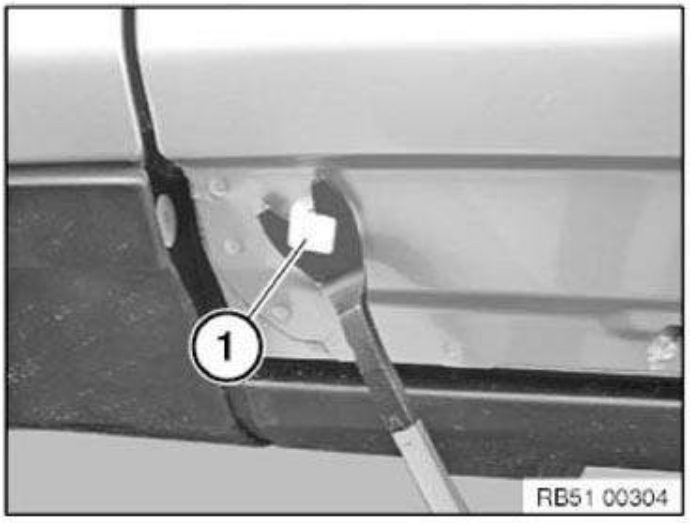


Fig. 98: Removing Outer Door Panel Clip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Install retaining clip (2) correctly.

Insert retaining clip(2) correctly into latch mechanisms (1) of protective strip (3).

Graphic A = correctly installed

Graphic B = incorrectly installed

cardiagn.com

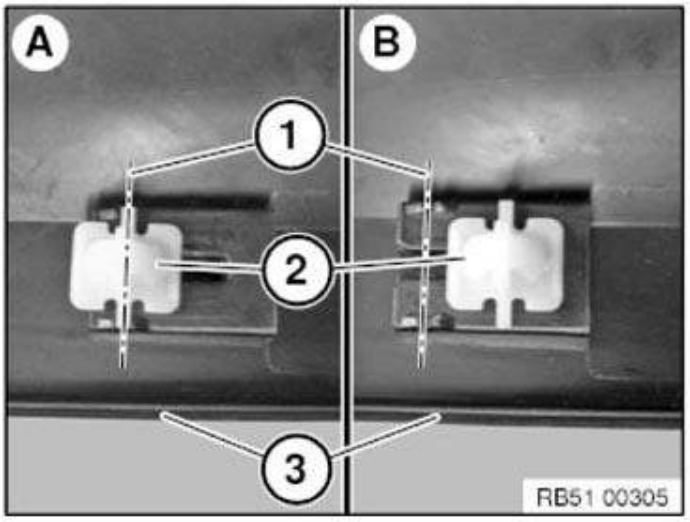


Fig. 99: Identifying Door Retaining Clip Installation Position
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Clips (2) and (3) must not be damaged or missing.

Replacement

Modify clips (2) and (3).

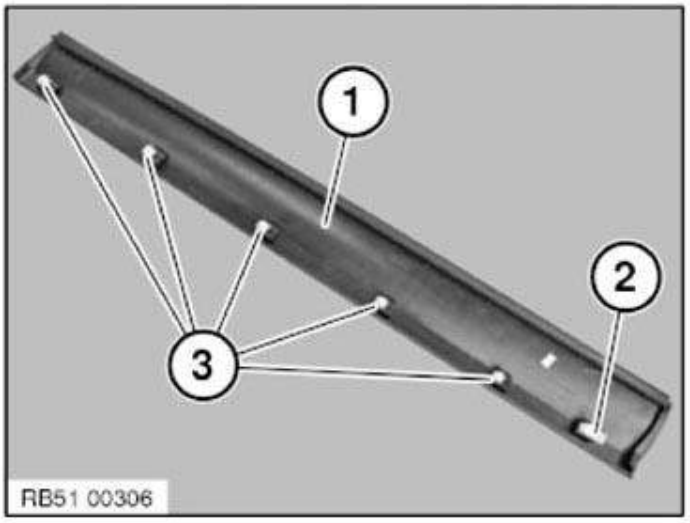


Fig. 100: Identifying Door Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 15 360 REMOVING AND INSTALLING/REPLACING PROTECTIVE STRIP ON LEFT OR RIGHT REAR DOOR

Special tools required:

- 00 9 325

Lever out rubber grommet (2) from inner door panel (1).

Installation note:

Rubber grommet (2) must not be damaged or missing.

cardiagn.com

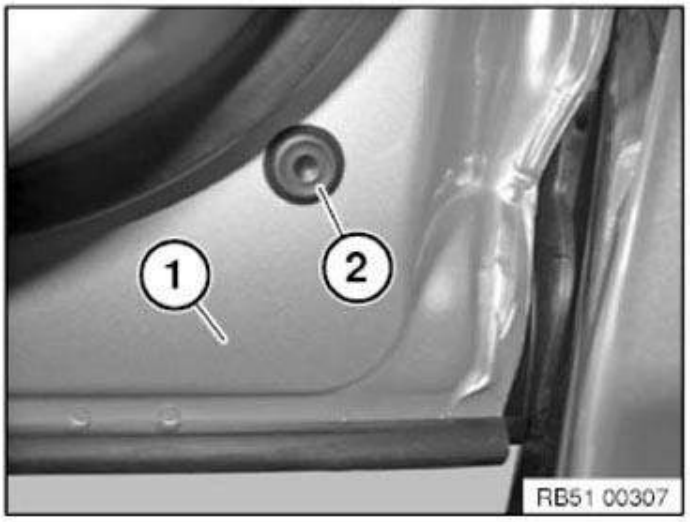


Fig. 101: Identifying Inner Door Panel And Rubber Grommet
Courtesy of BMW OF NORTH AMERICA, INC.

Pass a suitable screwdriver (2) through the bore hole and press on clip (1) at the rear clip lug until you feel it detach and lever it out toward the rear.

Pull protective strip (3) toward the hear to assist in this operation.

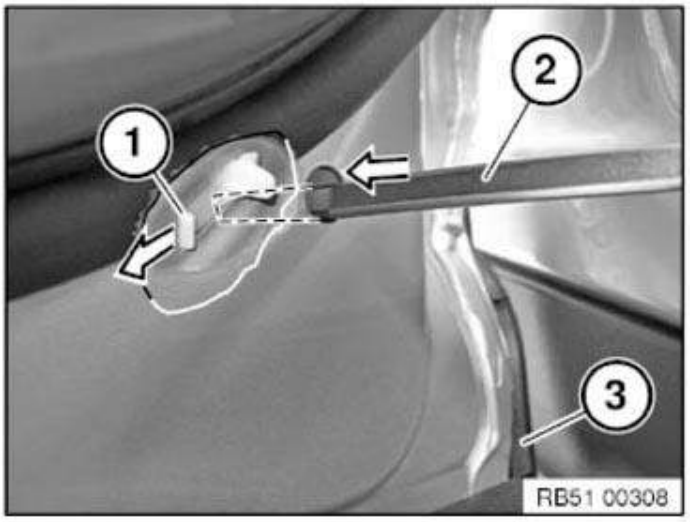


Fig. 102: Pulling Protective Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Place tab of protective strip (1) correctly over door edge (2).

cardiagn.com

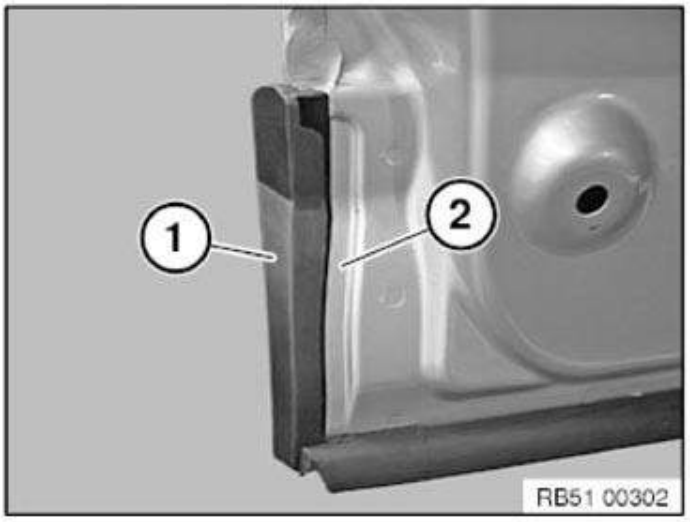


Fig. 103: Identifying Protective Strip And Door Edge
Courtesy of BMW OF NORTH AMERICA, INC.

Clip out protective strip (3) from front to rear.

Use special tool **00 9 325** to help clip out the component, but always position it below the crimped edge (2) of the outer door panel (1).

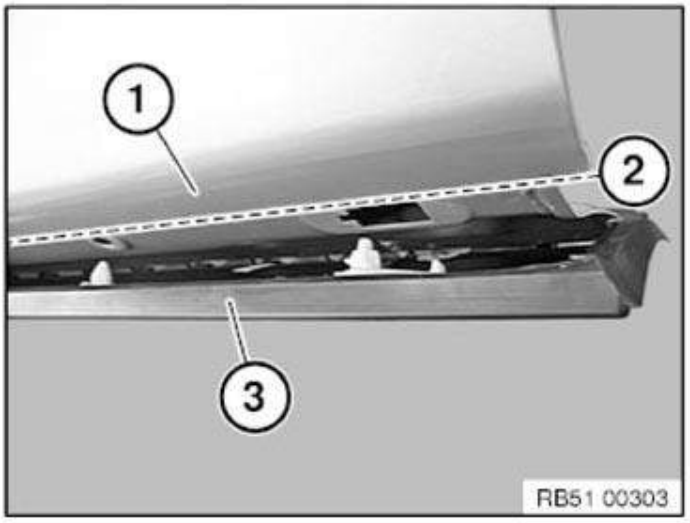


Fig. 104: Identifying Protective Strip And Door Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Lever stuck clips (1) out of the outer door panel using a suitable tool.

IMPORTANT: Avoid damaging the paintwork.

cardiagn.com

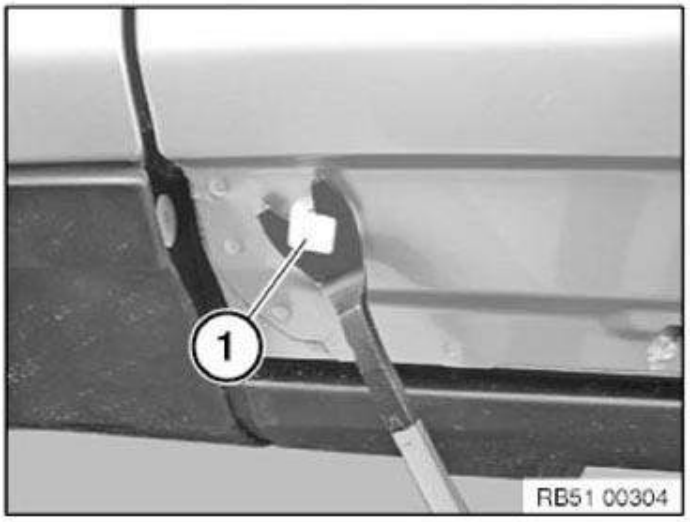


Fig. 105: Removing Outer Door Panel Clip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Install retaining clip (2) correctly.

Insert retaining clip(2) correctly into latch mechanisms (1) of protective strip (3).

Graphic A = correctly installed

Graphic B = incorrectly installed

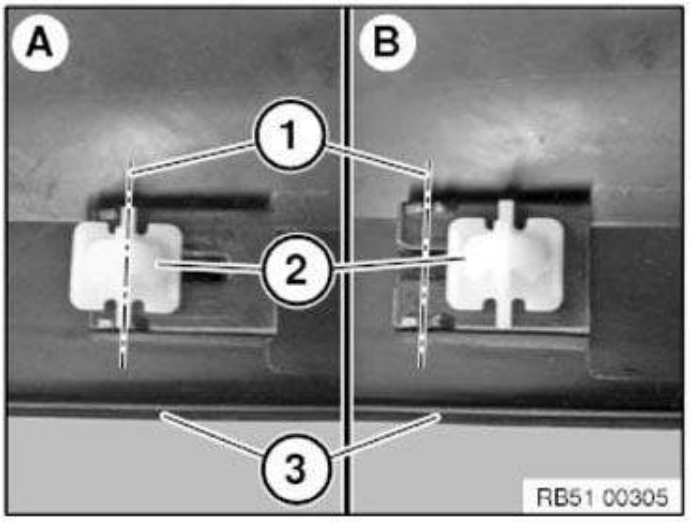


Fig. 106: Identifying Door Retaining Clip Installation Position
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Clips (2) and (3) must not be damaged or missing.

Replacement

Modify clips (2) and (3).

cardiagn.com

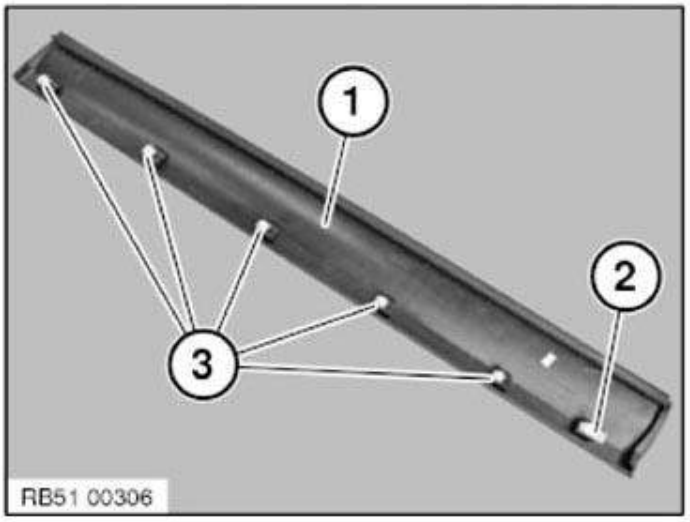


Fig. 107: Identifying Door Clips
Courtesy of BMW OF NORTH AMERICA, INC.

MIRRORS/COVERS/ASHTRAYS/SHELVES/TRAYS

51 16 992 DISASSEMBLING AND ASSEMBLING LOCK BARREL (LOCK BARREL REMOVED)

Necessary preliminary work:

- If necessary, remove **LOCK BARREL**

Sort supplied retainers (1) according to graphic.

(X) Embossed number on retainer (1)

(Y) Installation position in lock barrel

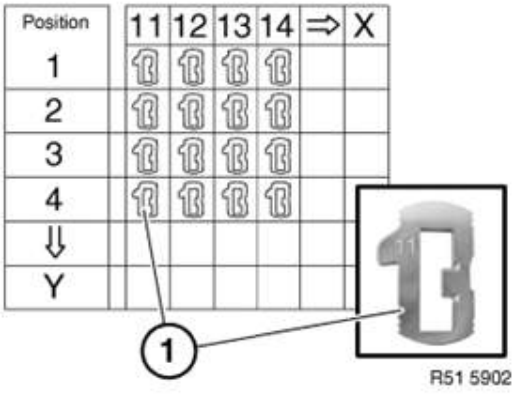


Fig. 108: Retainers Stamped Numerical Sequence Chart
Courtesy of BMW OF NORTH AMERICA, INC.

Insert spring (1) into first position of lock barrel (2).

NOTE: Lock barrel version (2) differs according to vehicle.

cardiagn.com

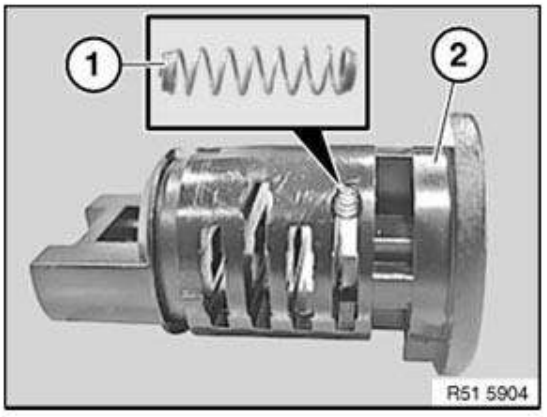


Fig. 109: Identifying Cylinder Position And Spring
Courtesy of BMW OF NORTH AMERICA, INC.

Insert retainer (1) with lowest stamped number (X) in first position (Y) in lock barrel (2) so that it snaps into place audibly.

NOTE: Number of retainers (1) differs according to vehicle.

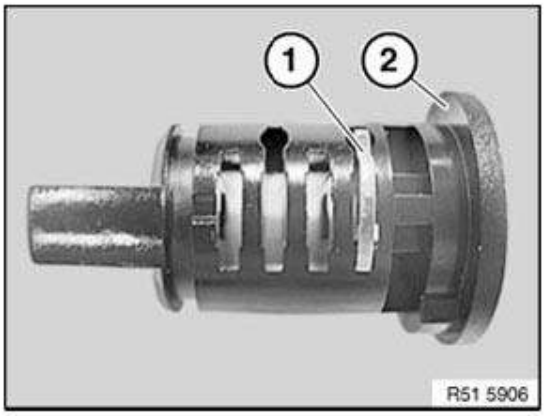


Fig. 110: Identifying Lock Barrel Retainer
Courtesy of BMW OF NORTH AMERICA, INC.

Insert ignition key (1) in lock barrel (3) and check whether retainer (2) is flush with housing.

(A) OK

(B) not OK

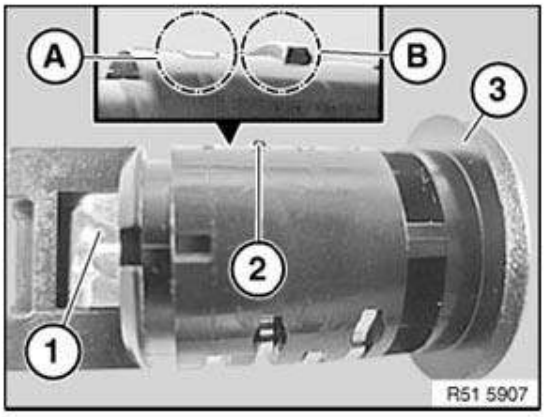


Fig. 111: Identifying Ignition Key, Lock Barrel And Retainer
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

If retainer (2) is not OK, press retainer (2) out of lock barrel (3) with a suitable tool (1).

Repeat work operations with retainer (2) with next higher number (X) until correct retainer (2) has been found.

Carry out all further positions in lock barrel as described in the process above.

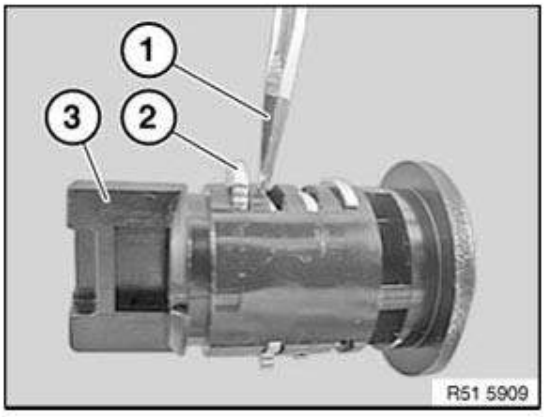
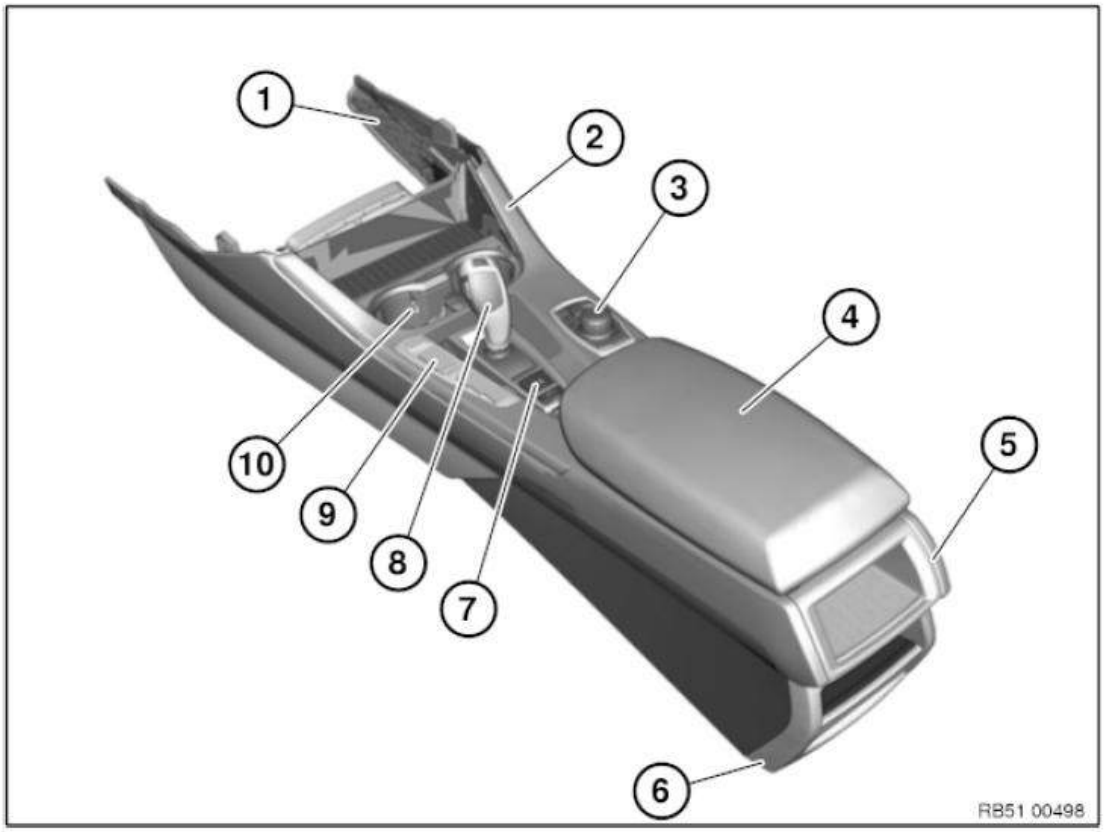


Fig. 112: Pressing Lock Retainer Using Tool
Courtesy of BMW OF NORTH AMERICA, INC.

51 16... OVERVIEW OF CENTER CONSOLE

cardiagn.com



1	Centre console, complete	6	Rear bottom storage compartment
2	Trim, centre console	7	Switch for electromechanical parking brake
3	Storage compartment or controller	8	Version with automatic transmissions only: Selector lever
4	Centre armrest	9	Centre console operating unit
5	Rear storage compartment (top), see centre armrest	10	Drinks holder, front

Fig. 113: Overview Of Center Console
Courtesy of BMW OF NORTH AMERICA, INC.

51 45.. OVERVIEW OF DASHBOARD

Refer to **51 45.. OVERVIEW OF DASHBOARD**.

51 16 376 REMOVING AND INSTALLING (REPLACING) GLOVE BOX COVER

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Necessary preliminary tasks:

- Remove **RIGHT GLOVE BOX**

Release bolt (1) on left and right.

cardiagn.com

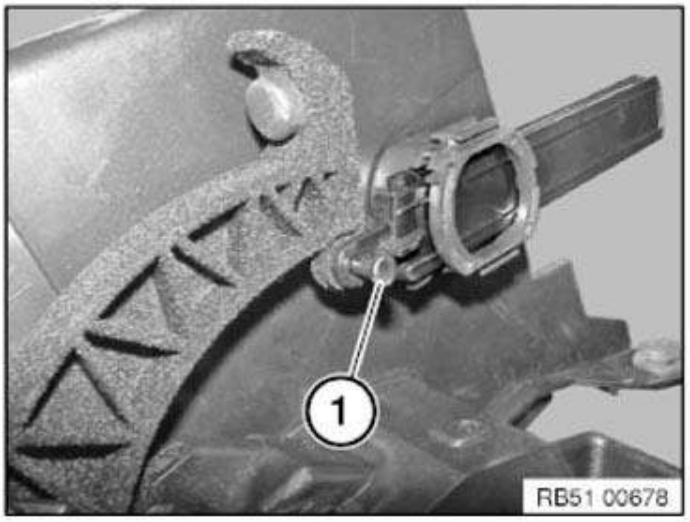


Fig. 114: Identifying Glove Box Bolt
Courtesy of BMW OF NORTH AMERICA, INC.

Remove hinge bolts (1) on left and right from glove box cover (2) in direction of arrow.

Remove glove box cover (2).

Replacement:

Modify **CATCH**.

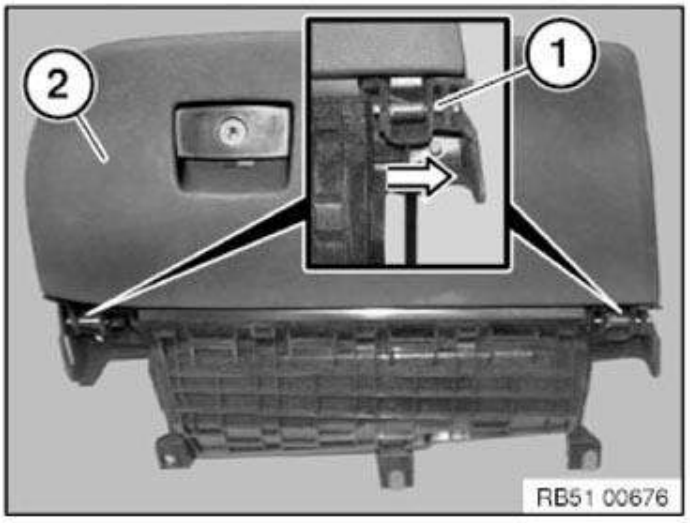


Fig. 115: Removing Glove Box Cover
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 216 REMOVING AND INSTALLING (REPLACING) REAR (LOWER) STORAGE COMPARTMENT

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

NOTE: Retaining tabs (1) will be loosened during the next work step.

Unclip the rear lower storage compartment (3) at top (2).

cardiagn.com

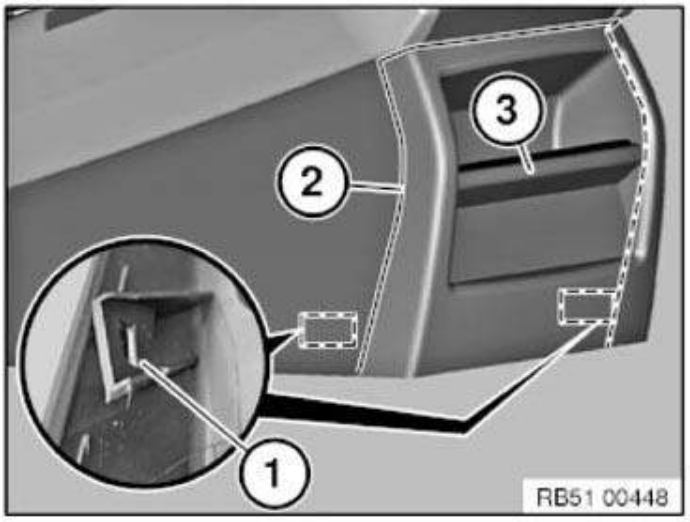


Fig. 116: Identifying Rear Lower Storage Compartment Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully fold the rear lower storage compartment (2) back until a screwdriver can be inserted between the retaining tab (1) and housing wall (3).

Carefully lever to unlatch the retaining tabs (1) toward the inside.

If necessary, unlock existing plug connections and disconnect.

Detach bottom rear of storage compartment (3).

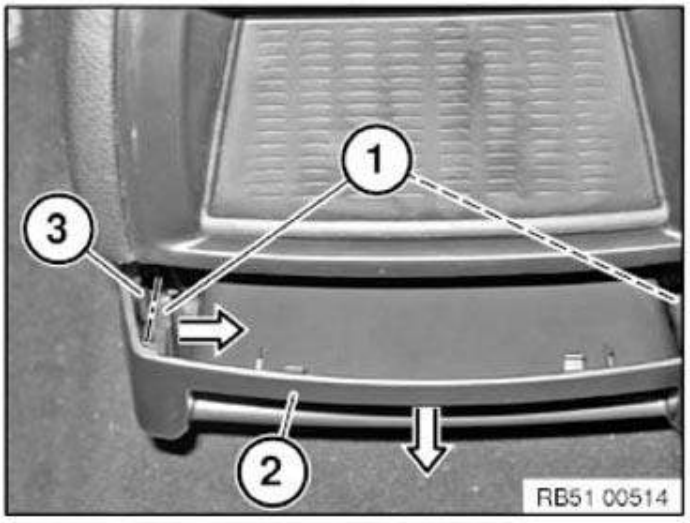


Fig. 117: Detaching Storage Compartment
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining tabs (1) and lugs on the entire periphery (3) at the bottom rear of storage compartment (2) must neither be missing nor damaged.

Replacement

- Modify insert mat
- Modify rear cover

cardiagn.com

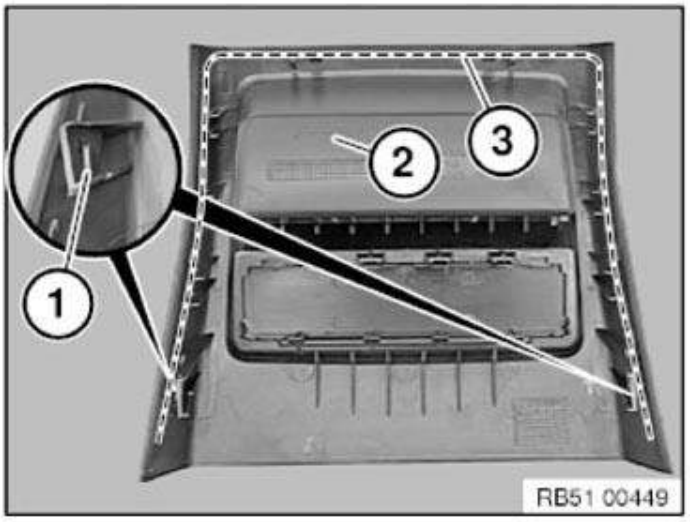


Fig. 118: Identifying Storage Compartment Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 165 REMOVING AND INSTALLING COMPLETE CENTER CONSOLE

Necessary preliminary tasks:

- Remove **CENTER ARMREST STORAGE COMPARTMENT**
- Remove **CENTER CONSOLE COVER**
- Remove **GEAR SELECTOR SWITCH**

IMPORTANT: Read and comply with notes on **HANDLING WIRING HARNESSES** and cables.

Remove inlay mat (1) of cupholder.

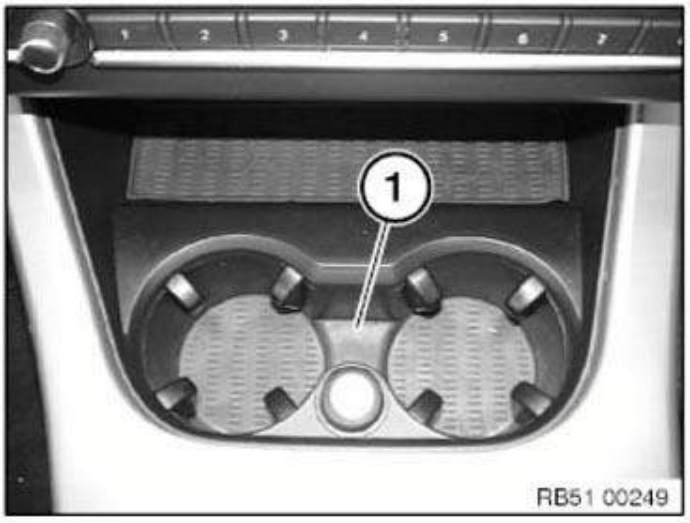


Fig. 119: Identifying Cupholder Inlay Mat
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) on center console mount.

Tightening torque **51 16 4AZ** .

Unfasten plug connection (2) and disconnect.

Detach wiring harness from central console mount.

cardiagn.com

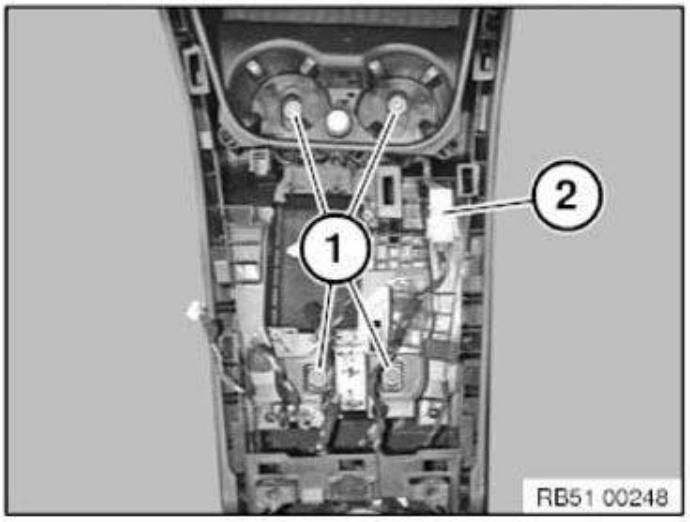


Fig. 120: Identifying Center Console Mount Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

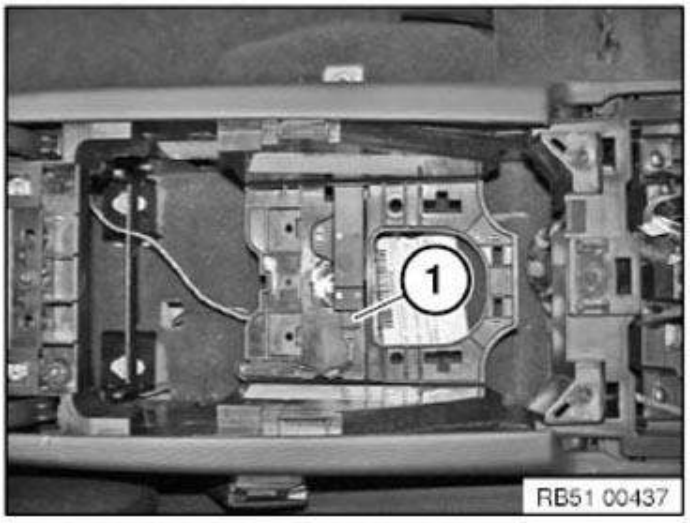


Fig. 121: Identifying Center Console Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Retaining tabs (1) will be loosened during the next work step.

Unclip the rear lower storage compartment (3) at top (2).

cardiagn.com

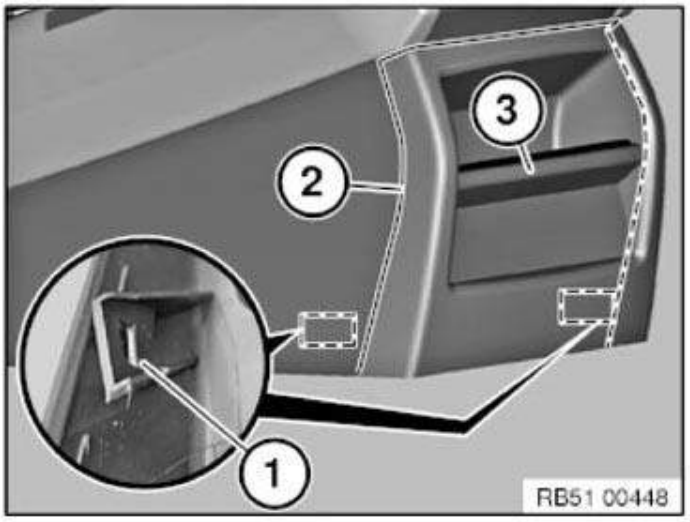


Fig. 122: Identifying Rear Lower Storage Compartment Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully fold the rear lower storage compartment (2) back until a screwdriver can be inserted between the retaining tab (1) and housing wall (3).

Carefully lever to unlatch the retaining tabs (1) toward the inside.

If necessary, unlock existing plug connections and disconnect.

Detach bottom rear of storage compartment (3).

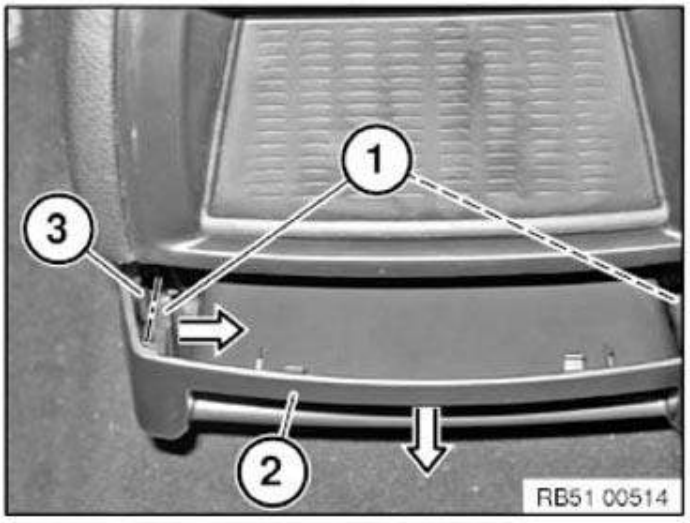


Fig. 123: Detaching Storage Compartment
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining tabs (1) and lugs on the entire periphery (3) at the bottom rear of storage compartment (2) must neither be missing nor damaged.

Replacement

- Modify insert mat
- Modify rear cover

cardiagn.com

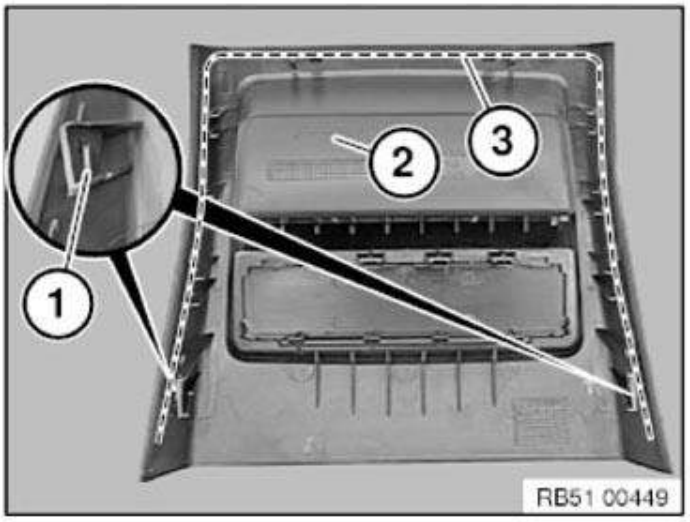


Fig. 124: Identifying Storage Compartment Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Undo screws (2) on lower support frame of center armrest (1).

Tightening torque **51 16 4AZ** .

Feed out center console towards rear.

Unlock and disconnect plug connections and plug holders underneath.

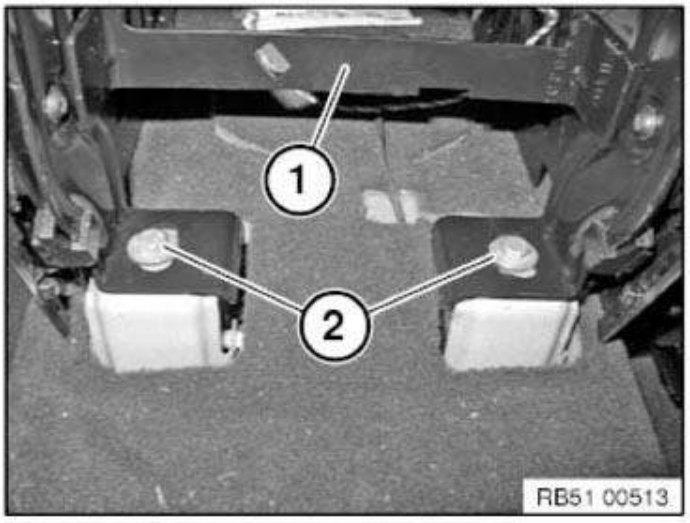


Fig. 125: Identifying Center Armrest Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 480 REMOVING AND INSTALLING OR REPLACING FRONT GRAB HANDLE

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Fold grab handle (1) downwards.

Disengage and remove locking wedge (2) with offset screwdriver (3), as illustrated.

cardiagn.com

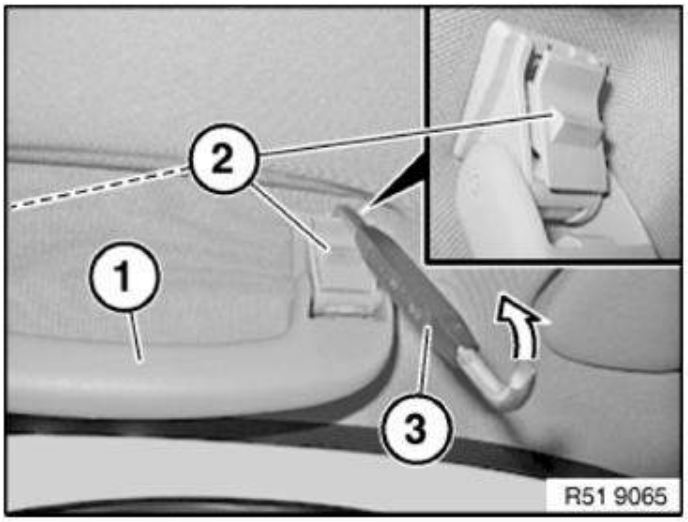


Fig. 126: Removing Locking Wedge
Courtesy of BMW OF NORTH AMERICA, INC.

Repeat procedure on rear locking wedge (1).

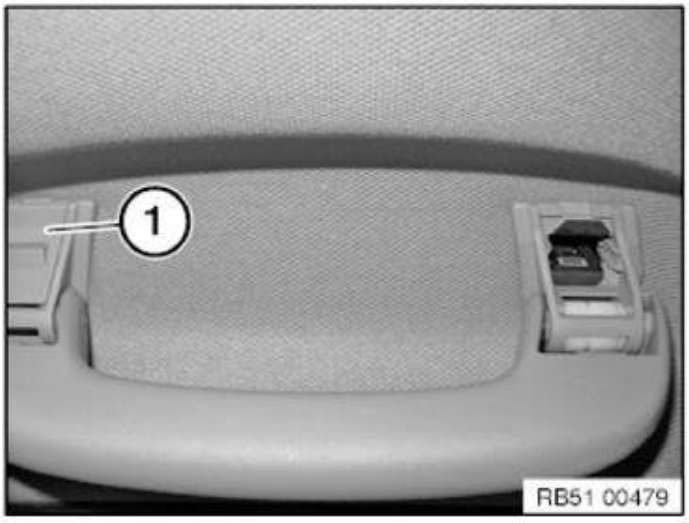


Fig. 127: Identifying Rear Locking Wedge
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: The version of the grab handle must be determined for the following procedure.

Version	A	B
Stem length of locking wedge (1)	22 mm	15 mm
Retaining chamber (3)	No release tabs, fitted loose	Welded on grab handle, with release tabs (2)

cardiagn.com

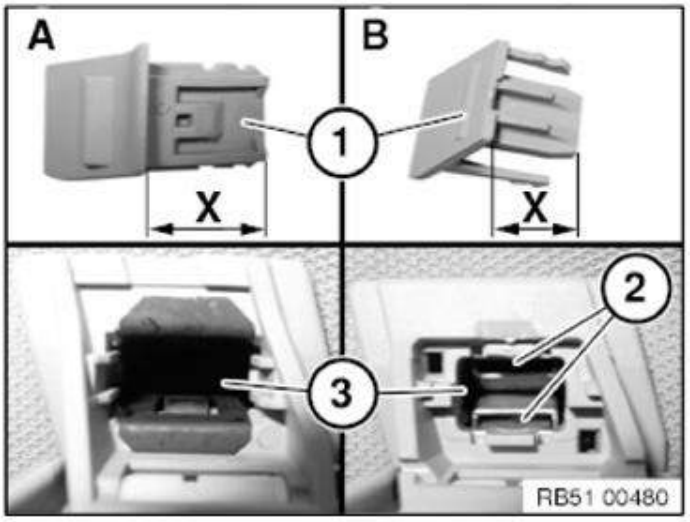


Fig. 128: Identifying Locking Wedge Stem Length
Courtesy of BMW OF NORTH AMERICA, INC.

Only version A

Jerk back grab handle (1) until grab handle (1) detaches.

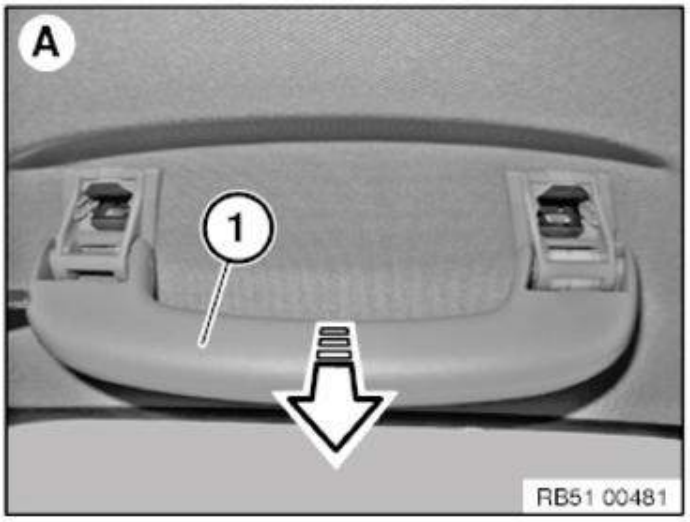


Fig. 129: Removing Grab Handle
Courtesy of BMW OF NORTH AMERICA, INC.

Only version B

Lightly pull grab handle (2) towards the inside by hand and hold under tension while releasing lower and upper tab (1) with screwdriver (3).

Remove grab handle (2) and place to side.

cardiagn.com

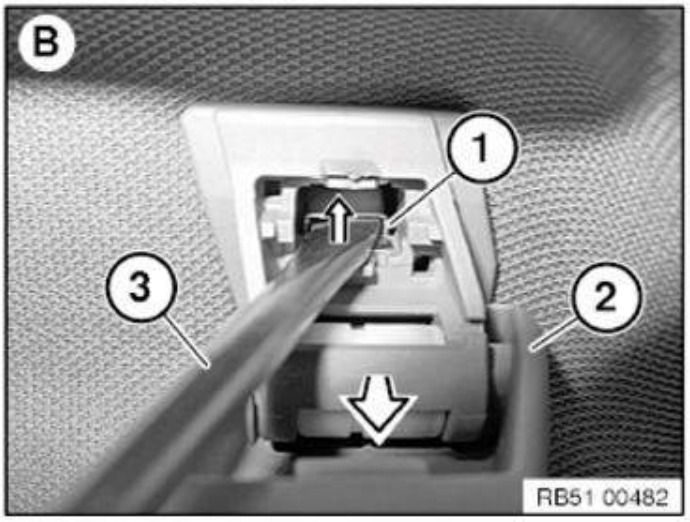


Fig. 130: Removing Grab Handle
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Only after grab handle (1) is snapped in correctly can locking wedges (2) we fully locked in position in grab handle (1).

Replacement

NOTE: Only version B available as from September 2010.

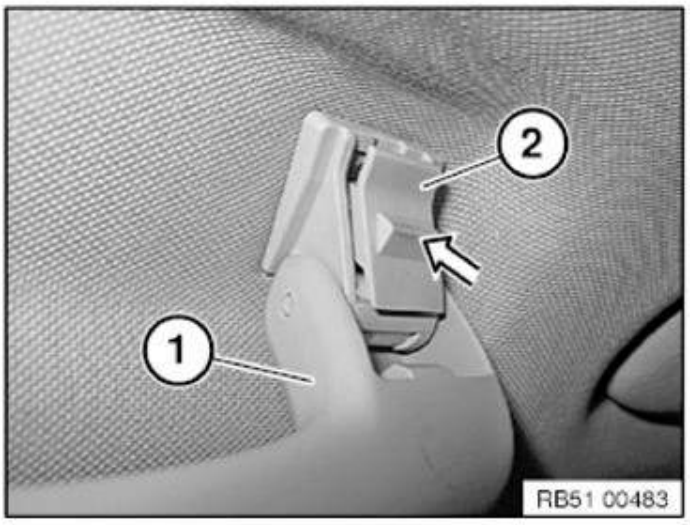


Fig. 131: Locating Locking Wedges
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 000 REMOVING AND INSTALLING OR REPLACING MIRROR ON LEFT OR RIGHT FRONT DOOR

Special tools required:

- 00 9 325

Necessary preliminary tasks:

- Remove BLIND COVER OR TWEETER COVER

Release screw (1).

Tightening torque 51 41 1AZ .

cardiagn.com

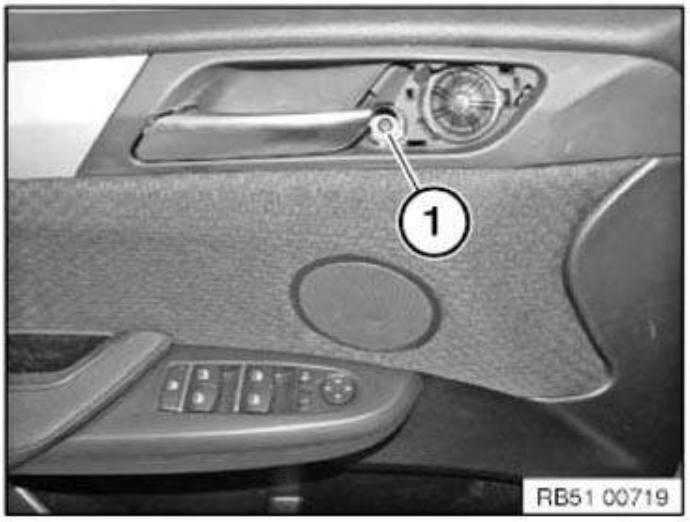


Fig. 132: Identifying Tweeter Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Partially unclip door trim panel (1) in the area of the rearview mirror with special tool **00 9 325** .

Secure door trim panel (1) with suitable tool (2).

Partially loosen door window frame cover (3).

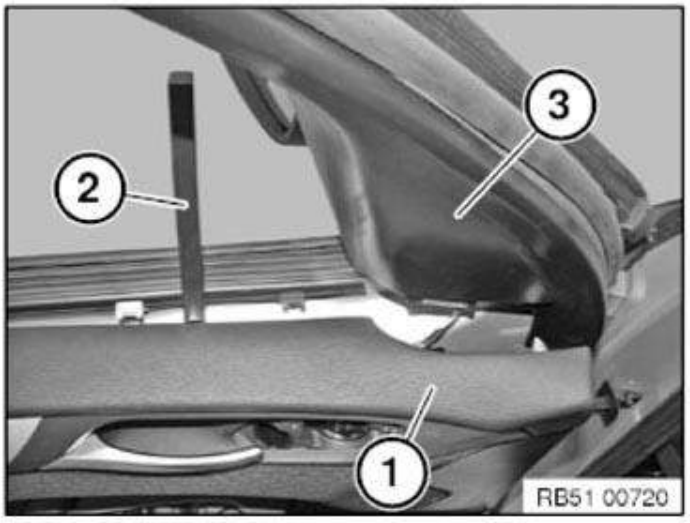


Fig. 133: Securing Door Trim Panel Using Tool
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Secure mirror against falling off.

Unfasten plug connection (1) and disconnect.

Release screws (2) and remove rearview mirror from outside.

Tightening torque **51 16 1AZ** .

Installation note:

Due to self-tapping screws, the tightening torque **of the new rearview mirror** increases by 2 Nm.

cardiagn.com

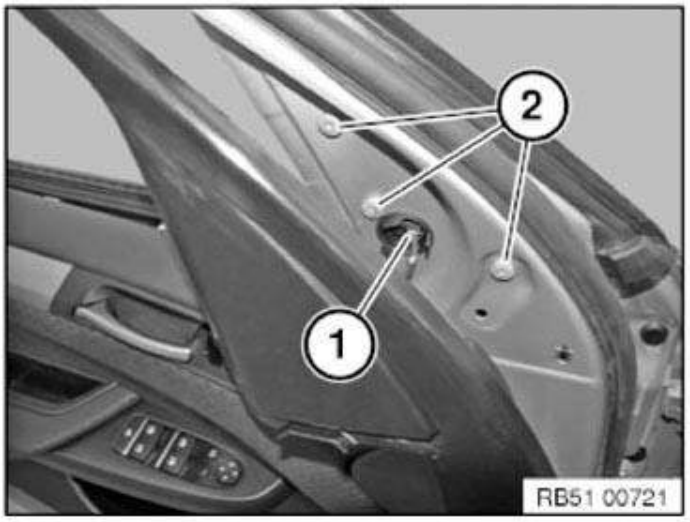


Fig. 134: Identifying Rear View Mirror Plug Connection And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

The sound insulation (1) must not be damaged or missing.

Carry out function check

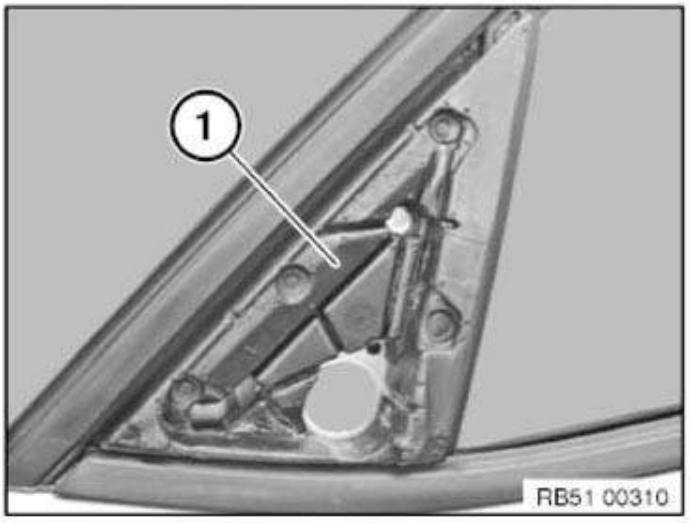


Fig. 135: Identifying Sound Insulation
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement

- **MODIFY** mirror glass
- Modify **PROTECTIVE CAP ON EXTERIOR MIRROR**
- If necessary, convert **RETAINING RING ON EXTERIOR MIRROR**

51 16 045 REMOVING AND INSTALLING OR REPLACING RETAINING RING ON LEFT OR RIGHT EXTERIOR MIRROR

Necessary preliminary work:

- Remove **PROTECTIVE CAP FROM EXTERIOR MIRROR**
- Remove **MIRROR DRIVE** (version from 04/2014 only)

Removal:

cardiagn.com

Version up to 04/2014:

NOTE: To facilitate disassembly of retaining ring (2), fold exterior mirror forwards.

Release screws (1) from retaining ring (2).

Carefully pull off retaining ring (2).

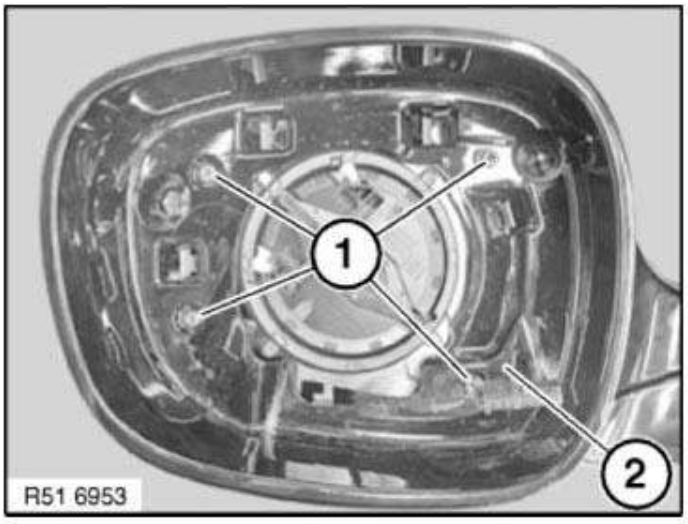


Fig. 136: Identifying Exterior Mirror Retaining Ring And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

NOTE: To facilitate disassembly of retaining ring (2), fold exterior mirror forwards.

Release screws (1).

Carefully disassemble retaining ring (2).



Fig. 137: Identifying Exterior Mirror Retaining Ring And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Version up to 04/2014:

NOTE: Plastic tab of cover ring must engage in aluminum housing of mirror base. The housing shells of the exterior mirror must snap together.

cardiagn.com

Carefully install retaining ring (2).

Tighten screws (1) of retaining ring (2).

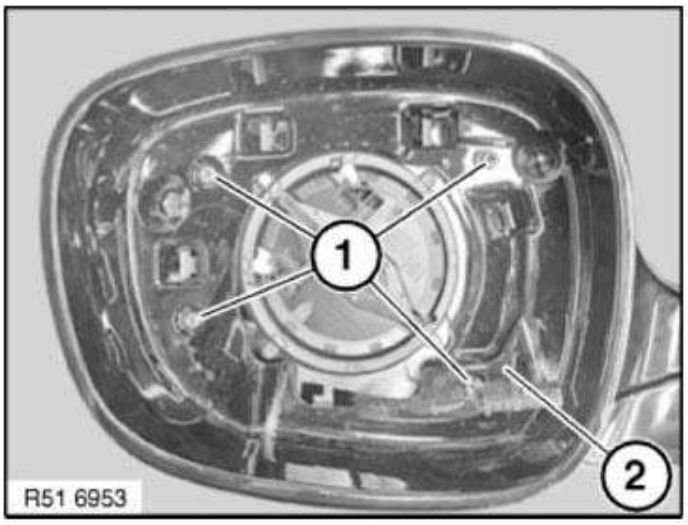


Fig. 138: Identifying Exterior Mirror Retaining Ring And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Carefully mount retaining ring (2).

Tighten down the screws (1).



Fig. 139: Identifying Exterior Mirror Retaining Ring And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **MIRROR DRIVE** (version from 04/2014 only)
- Install **PROTECTIVE CAP ON EXTERIOR MIRROR**

51 16 080 REMOVING AND INSTALLING OR REPLACING SUN VISOR AND LEFT OR RIGHT COUNTER SUPPORT

Special tools required:

- **64 1 020**

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

cardiagn.com

Detach sun visor (1) from counter support (2).

Lever out cover on counter support (2) and release screw underneath.

Tightening torque **51 16 2AZ** .

Remove counter supports (2).

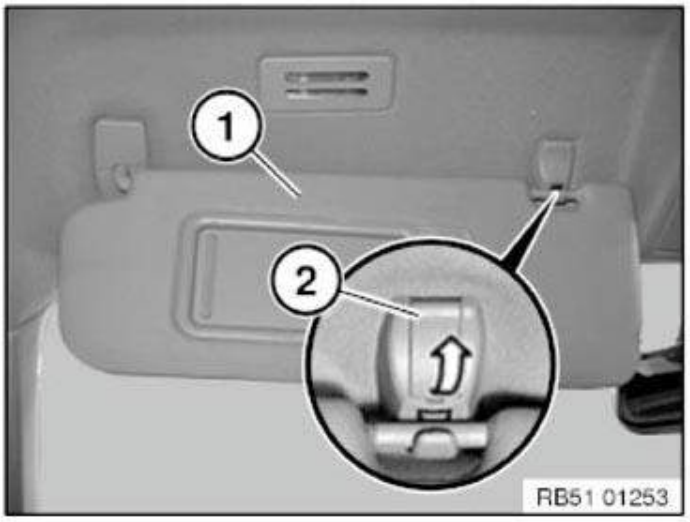


Fig. 140: Removing Counter Supports
Courtesy of BMW OF NORTH AMERICA, INC.

Twist sun visor (1) accordingly and lever out covers (2) with special tool **64 1 020** in direction of arrow.

Feed out sun visor (1).

Unlock associated plug connection and disconnect.

Installation note:

Perform function check on lighting.

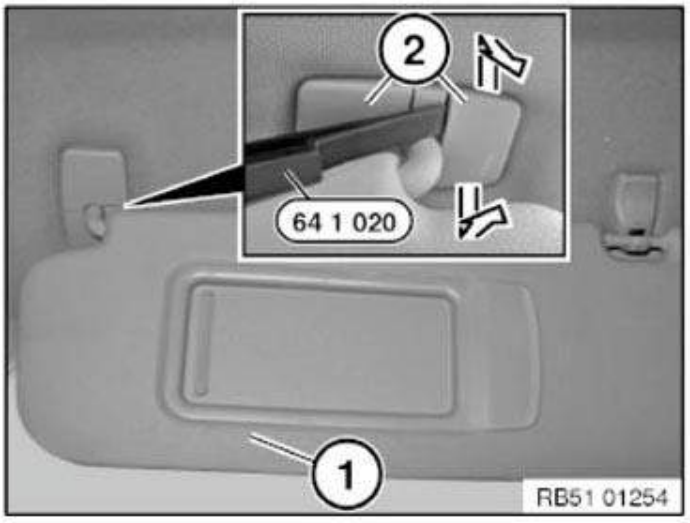


Fig. 141: Removing Sun Visor
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 206 REMOVING AND INSTALLING/REPLACING CENTER ARMREST

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

cardiagn.com

Necessary preliminary work:

- Remove **REAR (TOP) STORAGE COMPARTMENT** and **REAR PASSENGER COMPARTMENT FRESH AIR GRILLE**

Open center armrest.

Slightly lift latch mechanism (1) and feed out latch element (2) in direction of arrow.

Installation note:

Make sure latch element (2) is correctly seated.

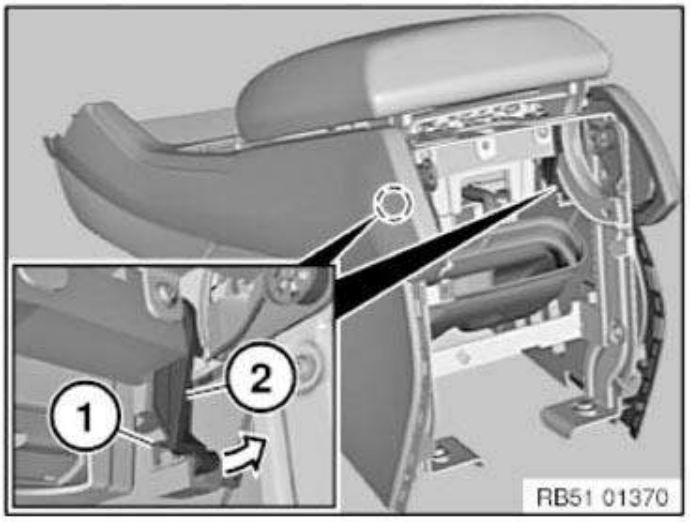


Fig. 142: Lifting Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (2) at bottom of carrier housing of center armrest (1).

Tightening torque **51 16 4AZ** .

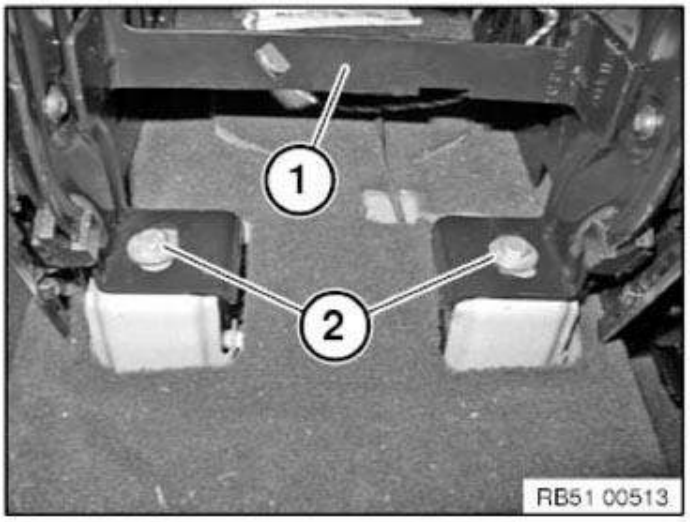


Fig. 143: Identifying Center Armrest Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) on carrier housing (2).

Installation note:

Check folding function of center armrest (3) after bolting down the carrier housing (2).

cardiagn.com

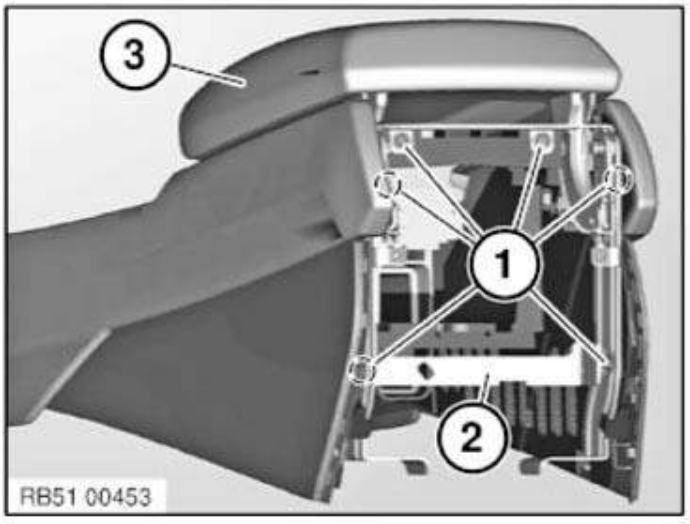


Fig. 144: Identifying Carrier Housing, Center Armrest And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Swivel carrier housing (1) forward in the lower area (in the direction of travel), feeding it out of the stops (2).

Feed out carrier housing (1) with center armrest to rear out of the center console whilst lightly pushing the upper part of the center console (3) towards outside.

Risk of damage!

Center console (3) of carrier housing (1) may be damaged during installation.

Push the center console (3) slightly towards outside when feeding out the center armrest.

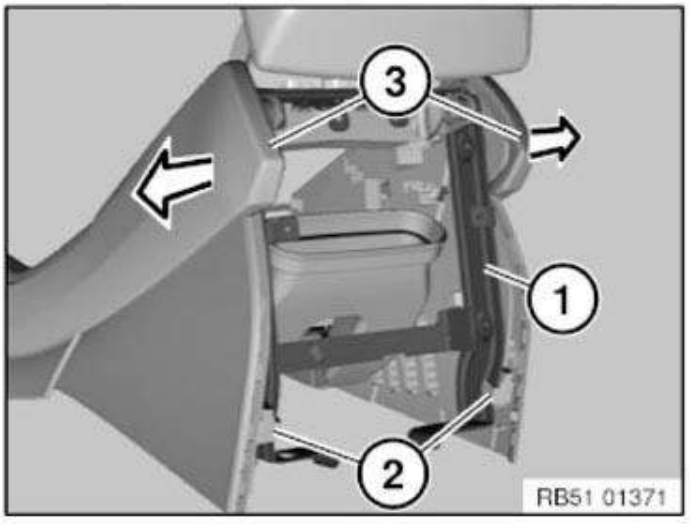


Fig. 145: Removing Swivel Carrier Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Make sure carrier housing (1) is correctly seated on stops (2).

51 16 172 REMOVING AND INSTALLING/REPLACING CENTER ARMREST STORAGE COMPARTMENT

Release screw (1).

Unlock center armrest storage compartment (3) at points (2) and raise slightly.

Unlock and disconnect plug connections behind.

Remove center armrest storage compartment (3).

cardiagn.com

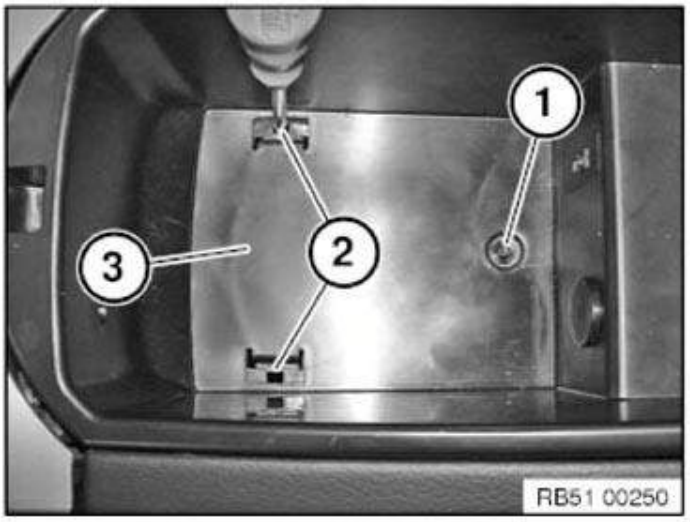


Fig. 146: Identifying Armrest Storage Compartment Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

- Remove USB/AUDIO INTERFACE CONNECTING SOCKET

51 16 160 REMOVING AND INSTALLING/REPLACING CENTER CONSOLE COVER

Special tools required:

- 00 9 325

Necessary preliminary work:

Manual gearbox versions only:

- Disconnect NEGATIVE TERMINAL

NOTE: Front of center console cover (1) is equipped with hook (2).

Unclip the center console cover (1) from the rear to the front using special tools 00 9 325 .

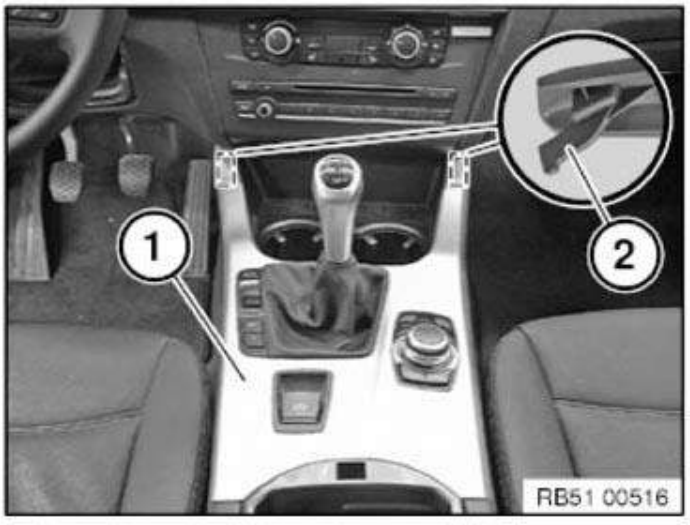


Fig. 147: Identifying Center Console Cover And Hook
Courtesy of BMW OF NORTH AMERICA, INC.

Manual gearbox versions only:

cardiagn.com

Unthread gaiter (1) from center console cover (2).



Fig. 148: Identifying Gaiter And Center Console Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Version with automatic transmissions only:

Risk of damage!
IMPORTANT: To avoid scratching the center console cover (1) when removing the gear selector switch (2), mask gear selector switch (2) with yellow plastic adhesive tape.

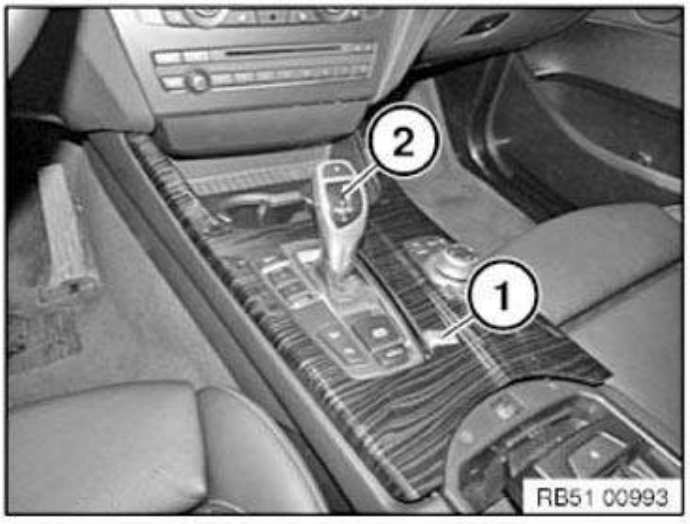


Fig. 149: Identifying Center Console Cover And Gear Selector Switch
Courtesy of BMW OF NORTH AMERICA, INC.

Remove center console cover (1) at a slant toward the rear. In the process, unlock and disconnect all plug connections (2).

cardiagn.com

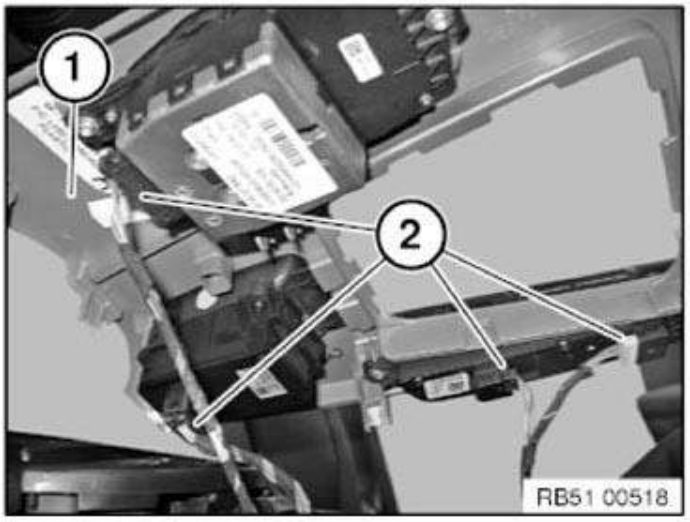


Fig. 150: Identifying Center Console Cover And Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining clips (1) and hook tabs (2) of center console cover (3) must not be damaged or missing.

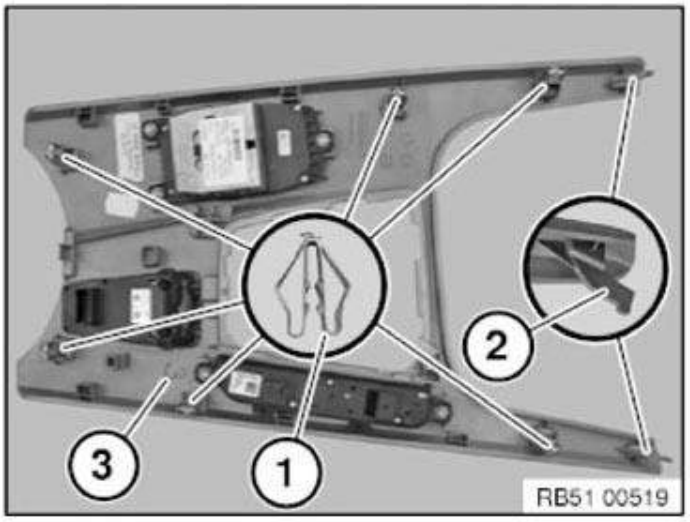


Fig. 151: Identifying Center Console Cover Clips And Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Graphic A = version for manual gearbox**
Graphic B = version for automatic transmission

Replacement

- Remount front storage compartment or **FRONT CONTROLLER** (2)
- Remount **CENTER CONSOLE OPERATING FACILITY** (1)

cardiagn.com

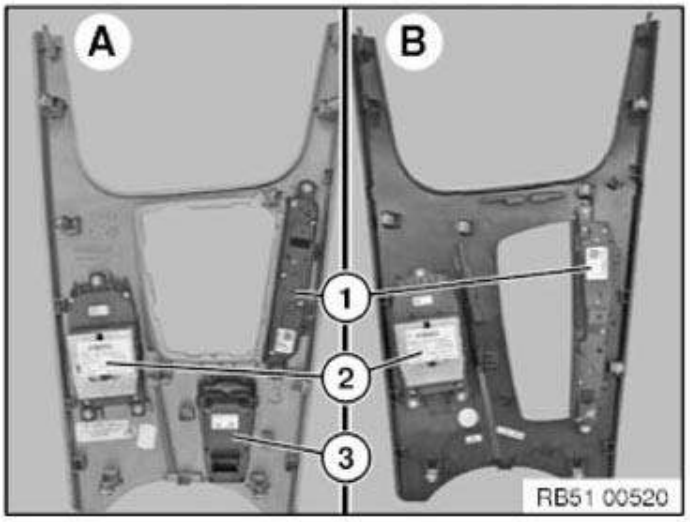


Fig. 152: Identifying Front Storage Compartment And EMF Switch
Courtesy of BMW OF NORTH AMERICA, INC.

Manual gearbox versions only:

- Remount **EMF SWITCH** (3)

51 16 041 REMOVING AND INSTALLING/REPLACING COVER CAP ON LEFT OR RIGHT EXTERIOR MIRROR

Necessary preliminary work:

- Remove **MIRROR GLASS FOR EXTERIOR MIRROR**

Removal:

Version up to 04/2014:

NOTE: To facilitate disassembly of protective cap, fold exterior mirror inwards.

Unlock retaining tabs (1) from protective cap.

Pull protective cap off backwards.

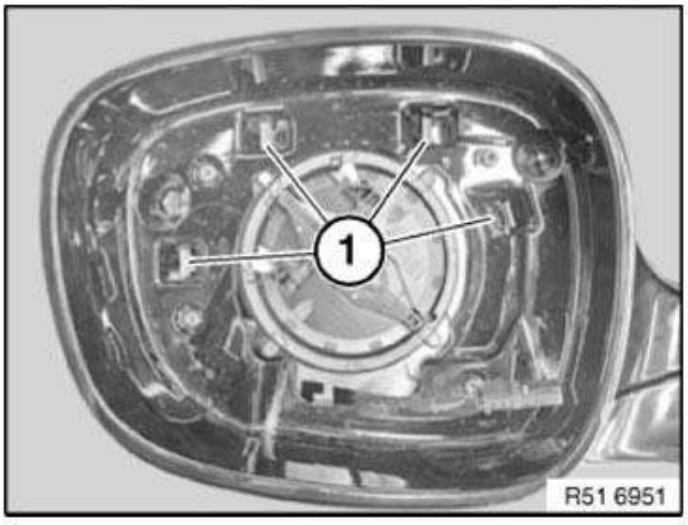


Fig. 153: Identifying Mirror Retaining Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

cardiagn.com

NOTE: **To facilitate disassembly of protective cap, fold exterior mirror inwards.**

Unlock retaining tabs (1) from protective cap.

Pull protective cap off backwards.



Fig. 154: Identifying Mirror Retaining Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Version up to 04/2014:

Mount protective cap and engage into retaining tab (1).

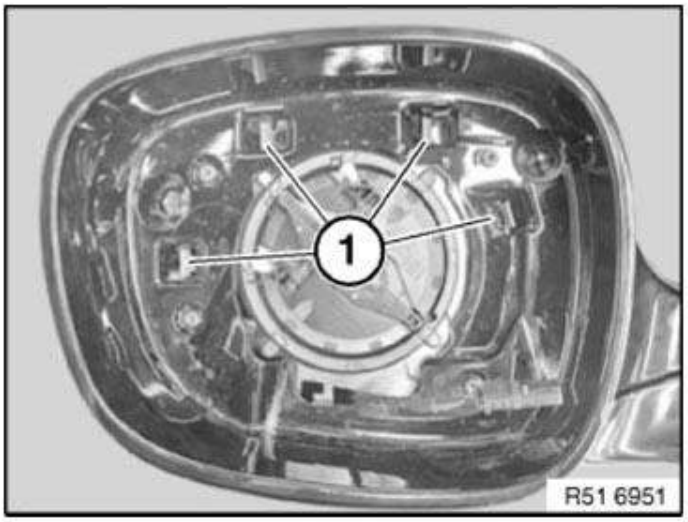


Fig. 155: Identifying Mirror Retaining Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Mount protective cap and engage into retaining tab (1).

cardiagn.com



Fig. 156: Identifying Mirror Retaining Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **MIRROR GLASS FOR EXTERIOR MIRROR**

51 16 383 REMOVING AND INSTALLING/REPLACING DAMPER FOR GLOVE BOX

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Necessary preliminary work:

- Remove **RIGHT GLOVE BOX**

Release pin (1).

Turn damper by 90Â° in the direction of the arrow and disconnect.

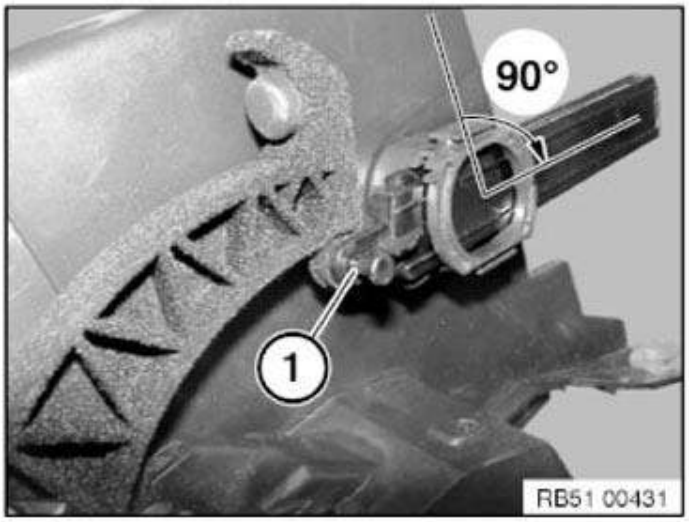


Fig. 157: Identifying Damper Turn Angle
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 355 REMOVING AND INSTALLING/REPLACING DRIVER'S SIDE FOLD-DOWN COMPARTMENT

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Removal:

Version up to 04/2014:

cardiagn.com

Release screws (1).

Pull driver's side fold-down compartment (2) from top to bottom, detaching it at bottom.

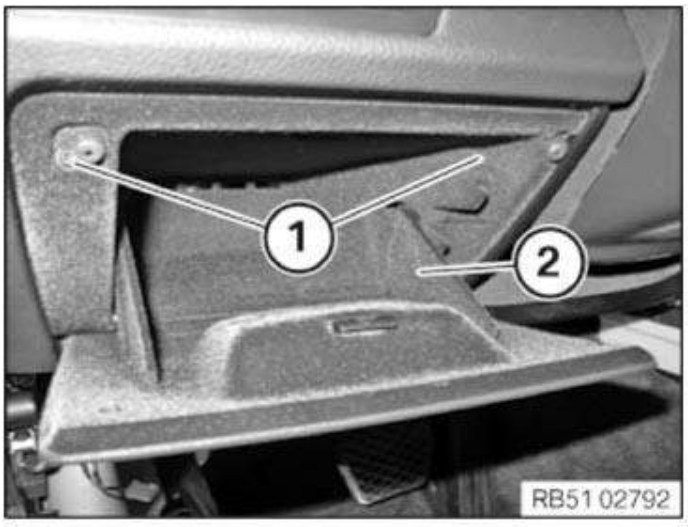


Fig. 158: Identifying Driver Side Compartment Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Release screws (1).

Detach storage compartment (2) downwards out of instrument panel.



Fig. 159: Identifying Storage Compartment Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Version up to 04/2014:

Position driver's side fold-down compartment (2) at bottom and install upwards into instrument panel.

Tighten down screws (1).

cardiagn.com

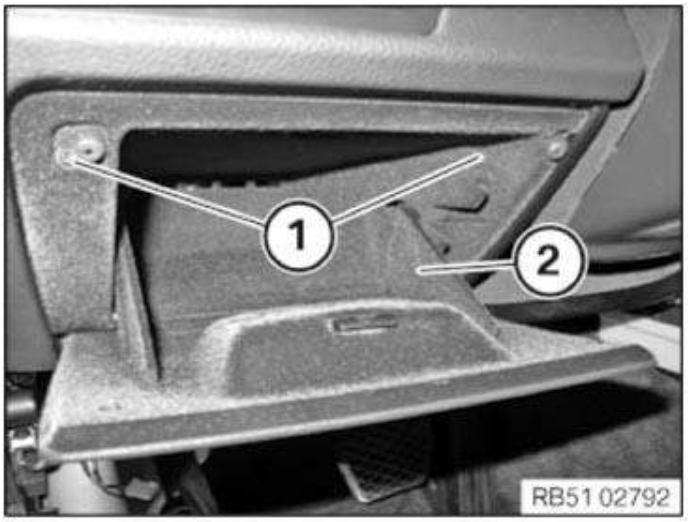


Fig. 160: Identifying Driver Side Compartment Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

NOTE: **Retaining lugs on left and right on fold-down compartment must not be damaged or missing.**

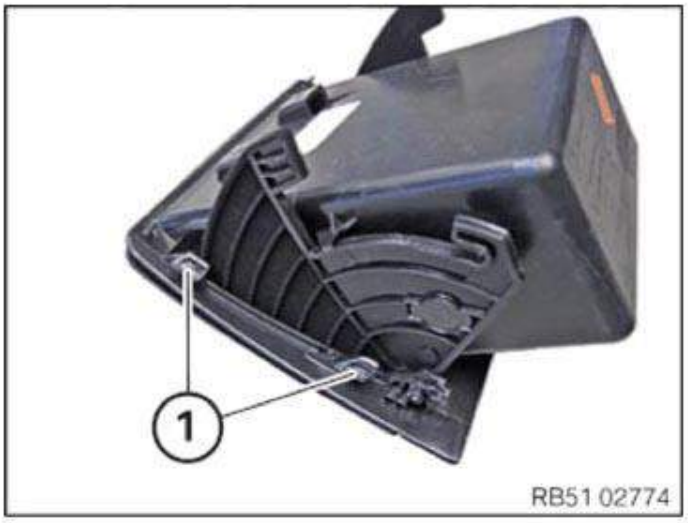


Fig. 161: Identifying Driver's Side Fold-Down Compartment Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Press storage compartment (2) into instrument panel.

Tighten down screws (1).

cardiagn.com



Fig. 162: Identifying Storage Compartment Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 202 REMOVING AND INSTALLING/REPLACING FRONT CUPHOLDER

Special tools required:

- 00 9 341

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary tasks:

- Remove CENTER CONSOLE COVER
- Remove REAR BOTTOM STORAGE COMPARTMENT

Version with automatic transmission:

- Remove GEAR SELECTOR SWITCH COVER

Release screws (2) at rear on carrier housing for center armrest (1).

Tightening torque 51 16 4AZ .

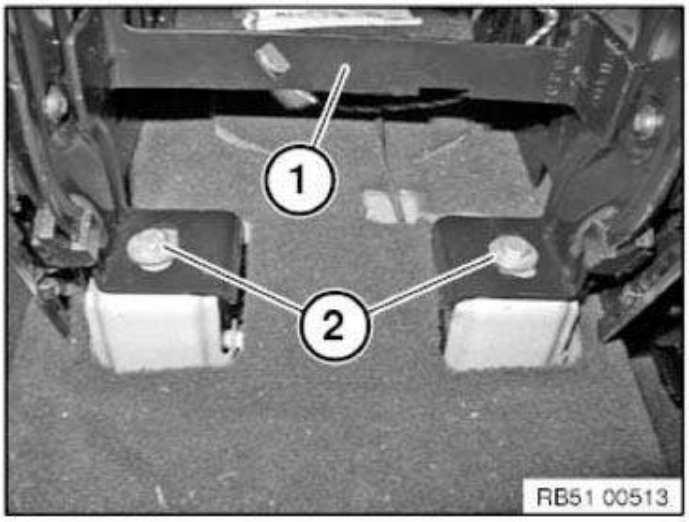


Fig. 163: Identifying Center Armrest Screws
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Insert special tool **00 9 341** as illustrated.

Lever trim (1) slightly downwards and unclip.

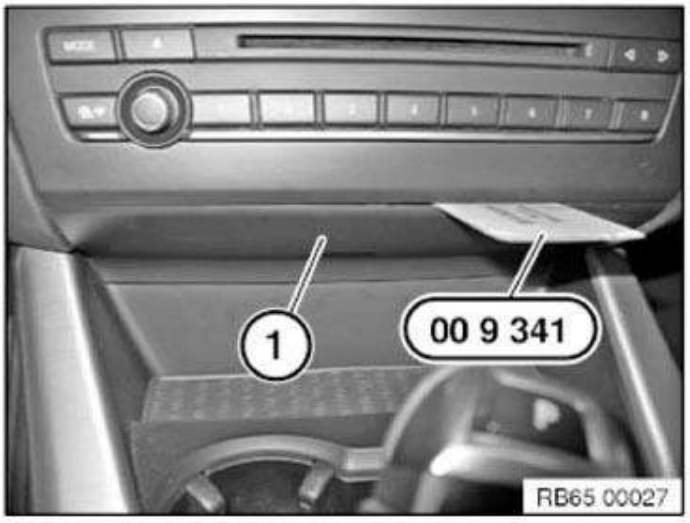


Fig. 164: Inserting Special Tool (00 9 341)
Courtesy of BMW OF NORTH AMERICA, INC.

If necessary, unclip LED (1) and remove trim (2).

Installation note:

Catches and clamps must not be damaged or missing.

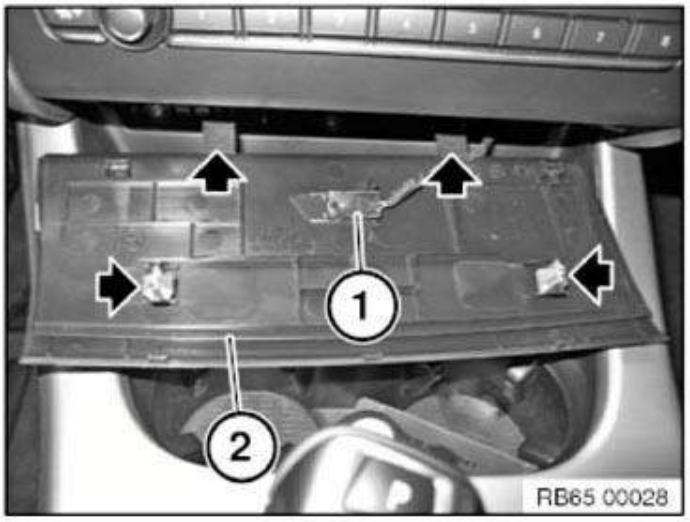


Fig. 165: Identifying LED Catches
Courtesy of BMW OF NORTH AMERICA, INC.

Remove inlay mat (1) of cupholder.

cardiagn.com

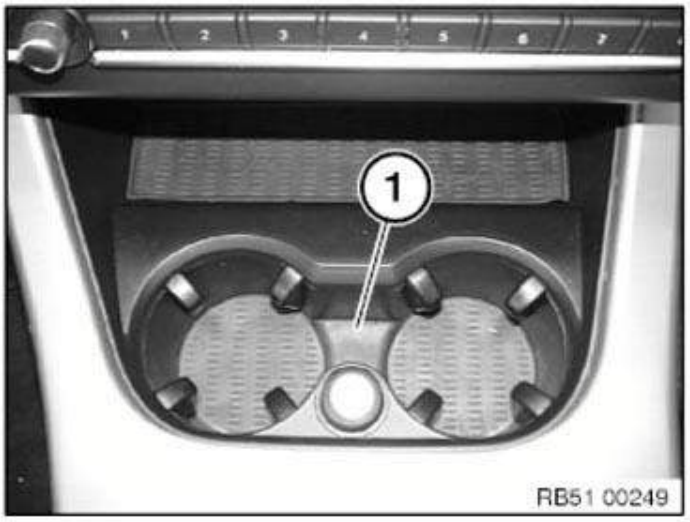


Fig. 166: Identifying Cupholder Inlay Mat
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) on support for center console.

Tightening torque **51 16 4AZ** .

Unfasten plug connection (2) and disconnect.

Pull complete center console slightly towards rear.

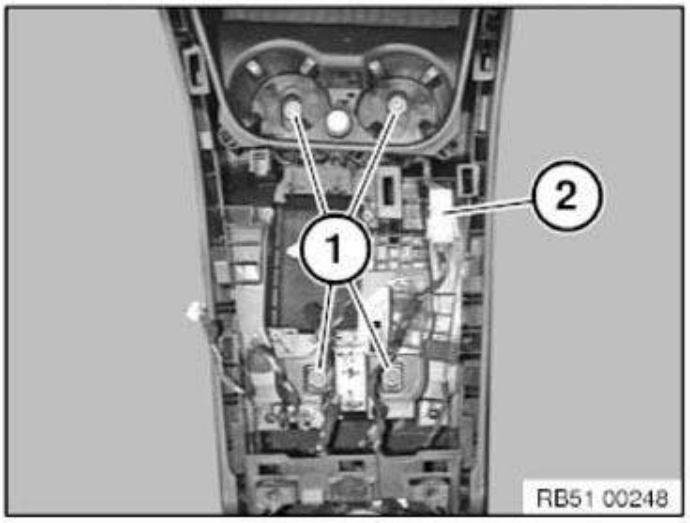


Fig. 167: Identifying Center Console Mount Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Remove front insert mat from cupholder (1).

Release screw (3).

Release cupholder (1) at retaining clips (2) and remove.

Replacement

Convert **12V POWER SOCKET** .

cardiagn.com

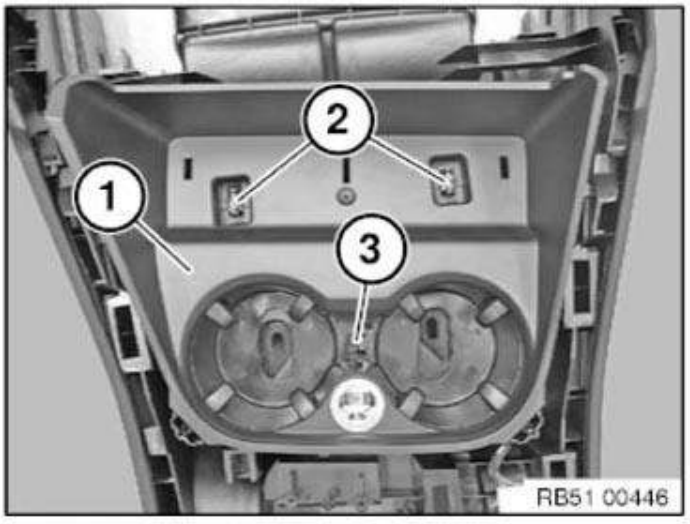


Fig. 168: Identifying Cupholder, Retaining Clips And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 334 REMOVING AND INSTALLING/REPLACING GRIP TRIM FOR GEAR SELECTOR SWITCH

Special tools required:

- 00 9 327

NOTE: **Symbol plate (1) is glued on.**

Mount special tool 00 9 327 as illustrated.

Detach symbol plate (1) from upper shell (2) in direction of arrow.

IMPORTANT: Risk of damage!
Do not leverage side panel (3) out of upper shell (2).

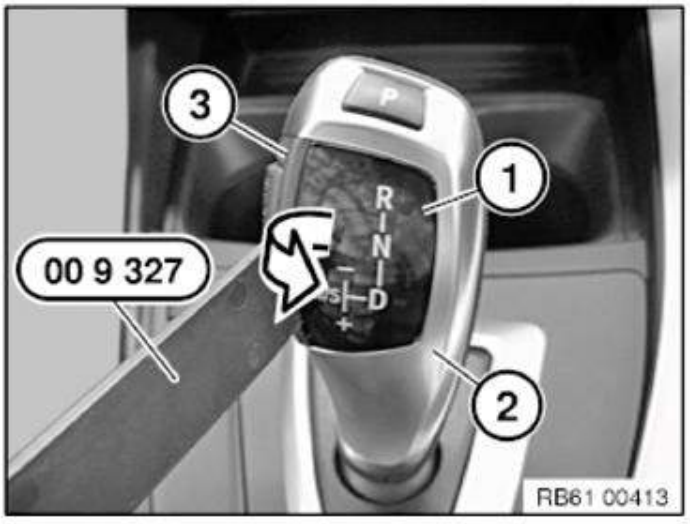


Fig. 169: Detaching Symbol Plate From Upper Shell
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Remove any adhesive residue.

Remove the protective film from the back of the symbol plate before installing.

Make sure symbol plate (1) is correctly seated on upper shell (2).

cardiagn.com

Release screw (1) and remove upper shell (2) with side panel (3) in direction of arrow.

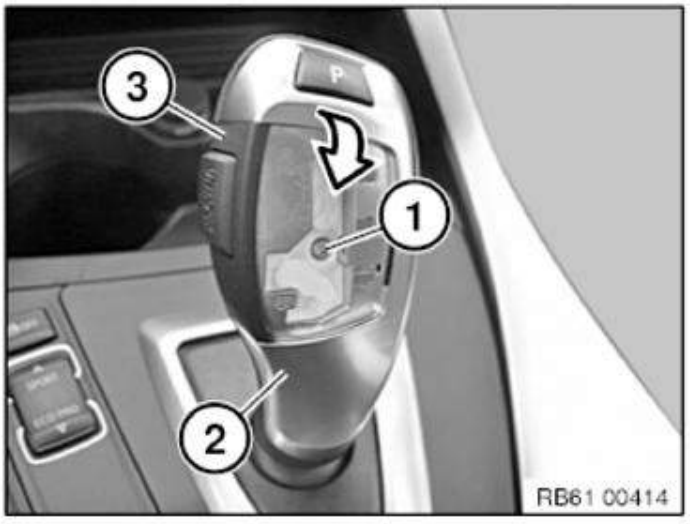


Fig. 170: Removing Gear Selector Switch Upper Shell With Side Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Fixtures (1) and guide pins (2) on gear selector switch (3) must not be damaged or missing.

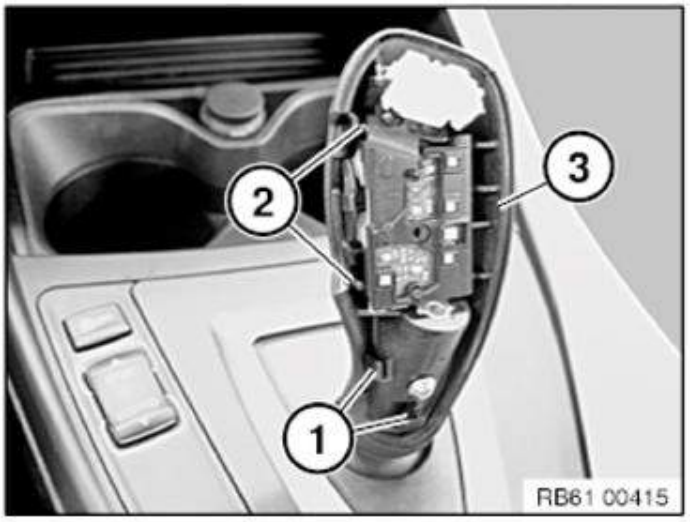


Fig. 171: Identifying Gear Selector Switch, Fixtures And Guide Pins
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Guides (1) and P-button (2) must not be damaged or missing.

Make sure P-button (2) is correctly seated in upper shell (3).

Make sure side panel (4) is correctly seated in upper shell (3)!

For better installation, secure UNLOCK button outside on the side panel (4) using adhesive tape.

Feed in upper shell with side panel into fixtures and guide pins on gear selector switch.

cardiagn.com

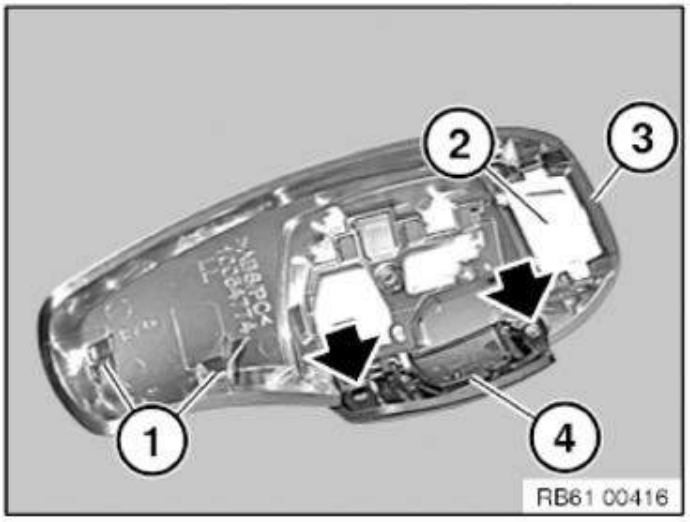


Fig. 172: Locating P-Button Guides
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 040 REMOVING AND INSTALLING/REPLACING HOUSING ON LEFT OR RIGHT EXTERIOR MIRROR (FROM 04.2014)

Necessary preliminary work:

- Remove **RETAINING RING ON EXTERIOR MIRROR**

Unlock and disconnect plug connection on side repeater (1) and camera (2).

Release screws (3).

Fold in exterior mirror and maneuver out housing (4).

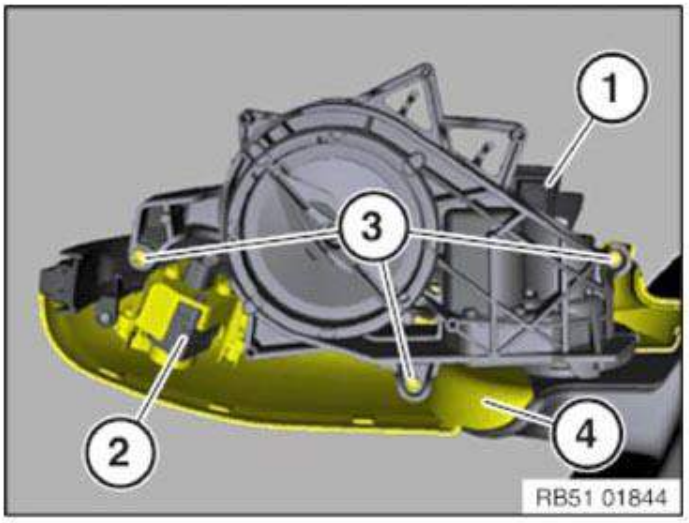


Fig. 173: Identifying Exterior Mirror, Camera And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement (depending on version):

Swap over **SIDE REPEATER** .

Swap over **CAMERA** .

51 16 063 REMOVING AND INSTALLING/REPLACING INSIDE MIRROR (WITH MIRROR ARM END CAPS)

IMPORTANT: Work may only be carried out at a room/object temperature of 18... 28 Â°C.

cardiagn.com

IMPORTANT: If this can not be guaranteed (cold/hot countries), it is necessary to equalize the temperature of the windscreen, mirror base and inside mirror (e.g. vehicle left to stand indoors or in the shade for at least 30 minutes).

IMPORTANT: To avoid windscreen breakage:
Screw inside mirror off mirror mount.
Inside mirror must not be pulled or pressed off towards front or rear.

NOTE: Do not exert any pressure on mirror base when removing end caps (1).

Press end caps (1) towards mirror housing (2); this releases clip connection of both end caps (1).

In order not to create any tension at the mirror base, simultaneously apply counterpressure to the mirror housing when removing the end caps.

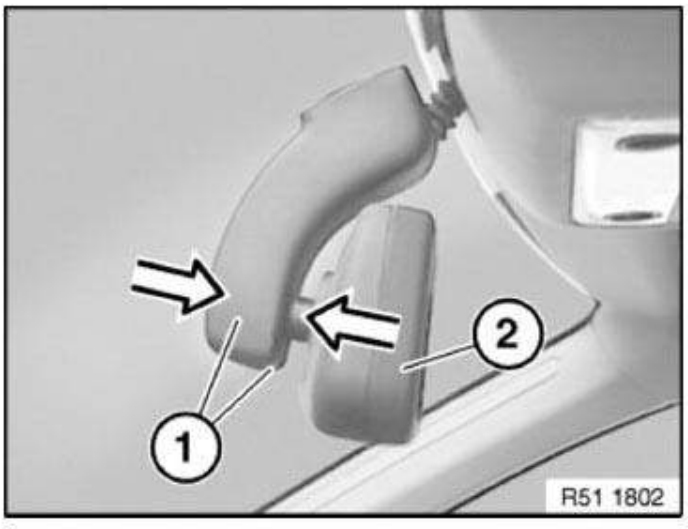


Fig. 174: Removing Inside Mirror End Caps
Courtesy of BMW OF NORTH AMERICA, INC.

Twist inside mirror (1) at an angle towards front and right/top.

Swivel left end cap (2) off ball neck in direction of arrow; this detaches the engagement clip (3) from the metal foot.

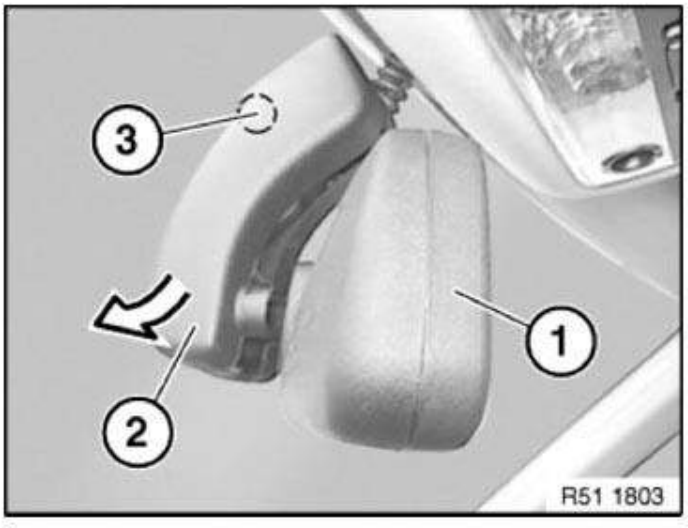


Fig. 175: Twisting Inside Mirror
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

cardiagn.com

Clips (1) and retaining hooks (2) of end caps (3) must not be damaged, replace if necessary.

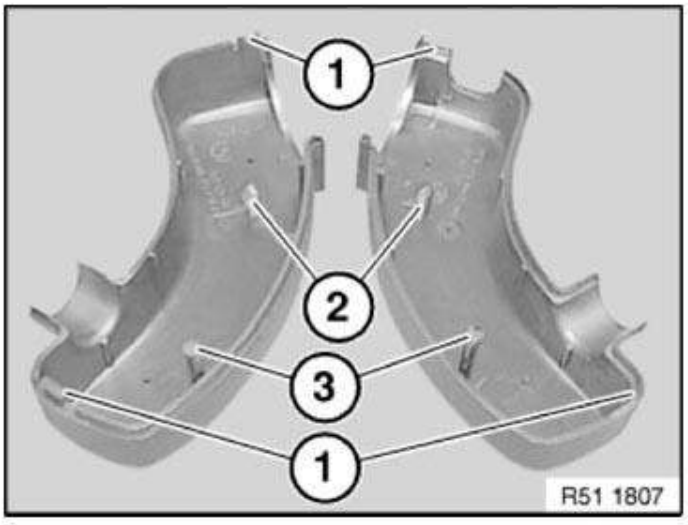


Fig. 176: Identifying Inside Mirror Clips And Retaining Hooks
Courtesy of BMW OF NORTH AMERICA, INC.

Twist inside mirror (1) at an angle towards front and left/top.

Swivel right end cap (2) off ball neck in direction of arrow; this detaches the engagement clip from the metal foot.

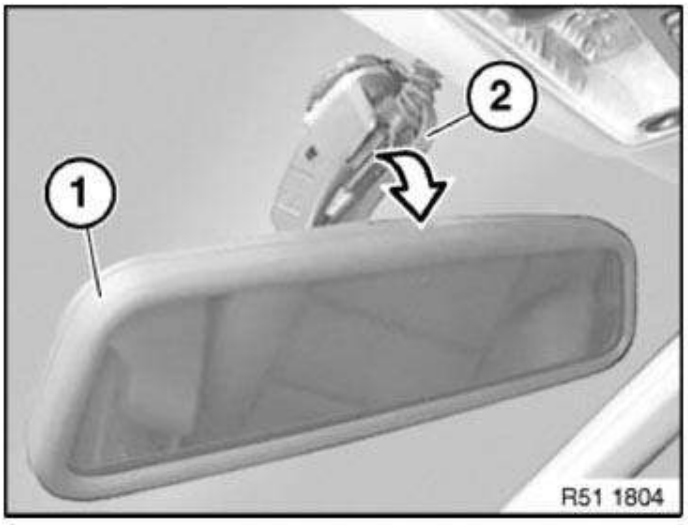


Fig. 177: Twisting Inside Mirror
Courtesy of BMW OF NORTH AMERICA, INC.

Version with cable:

Disconnect plug connection (1).

cardiagn.com

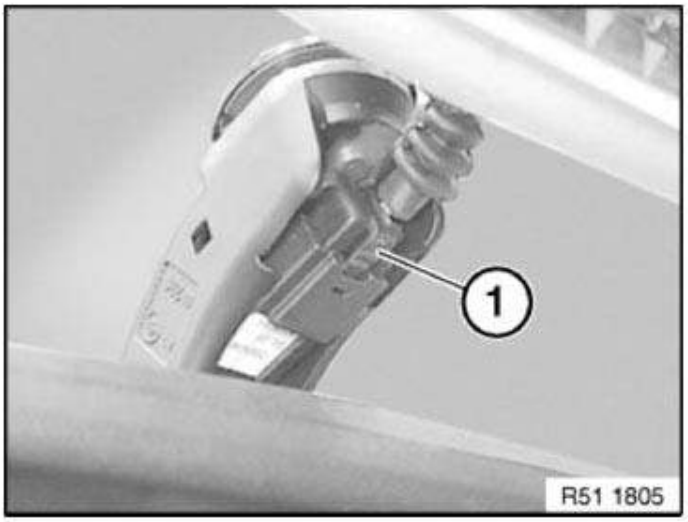


Fig. 178: Identifying Inside Mirror Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not pull or press inside mirror off towards front or rear.

Twist mirror base approx. 45Â° to right until mirror base is released from mirror mount.

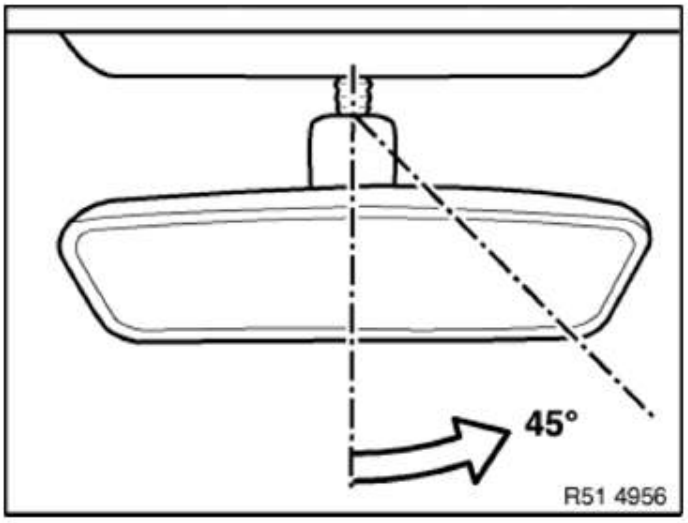


Fig. 179: Twisting Mirror Base
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

1. Twist mirror foot by approx. 45Â° and fit to mirror base.
2. Turn mirror base until it engages on mirror mount.

cardiagn.com

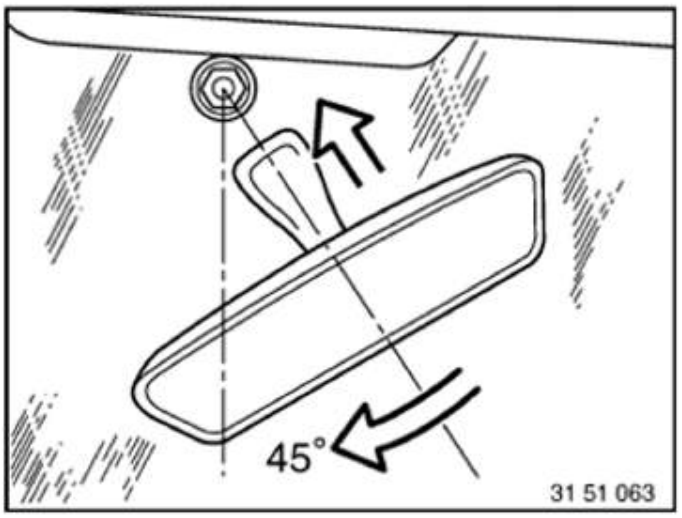


Fig. 180: Turning Mirror Base
Courtesy of BMW OF NORTH AMERICA, INC.

Only replace with version with remote key for central locking system:

Initialize all transmitters (ignition keys), refer to Owner's Handbook.

51 16 063 REMOVING AND INSTALLING/REPLACING INSIDE MIRROR (WITH RAIN SENSOR)

IMPORTANT: Work may only be carried out at a room/object temperature of 18... 28 Â°C.
If this can not be guaranteed (cold/hot countries), it is necessary to equalize the temperature of the windscreen, mirror base and inside mirror (e.g. vehicle left to stand indoors or in the shade for at least 30 minutes).

IMPORTANT: To avoid windscreen breakage:
Screw inside mirror off mirror mount.
Inside mirror must not be pulled or pressed off towards front or rear.

Use suitable tool to unclip end cap (1) in direction of arrow and remove.

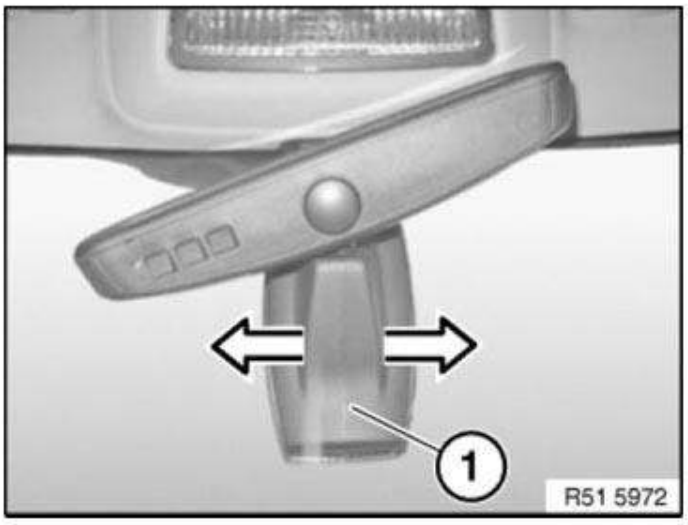


Fig. 181: Removing End Cap
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining hooks (1) and guides (2) of end caps (3) must not be damaged.

Replace end caps (3) if necessary.

cardiagn.com

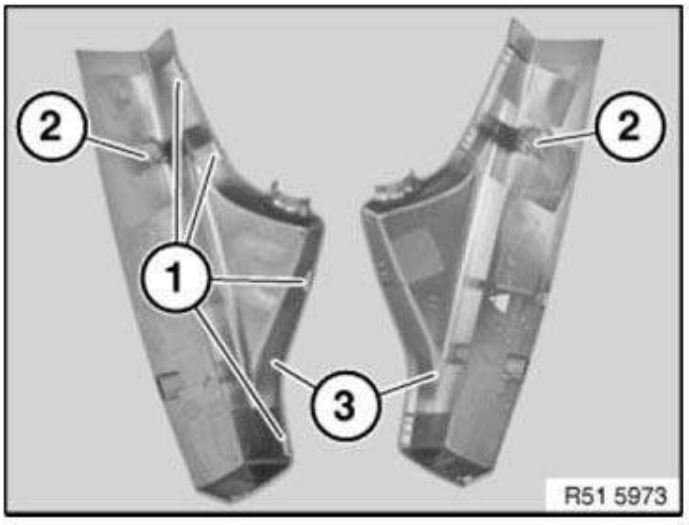


Fig. 182: Identifying Hooks, Guide And End Caps
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

NOTE: Pay attention to cable routing (2) for rain sensor.

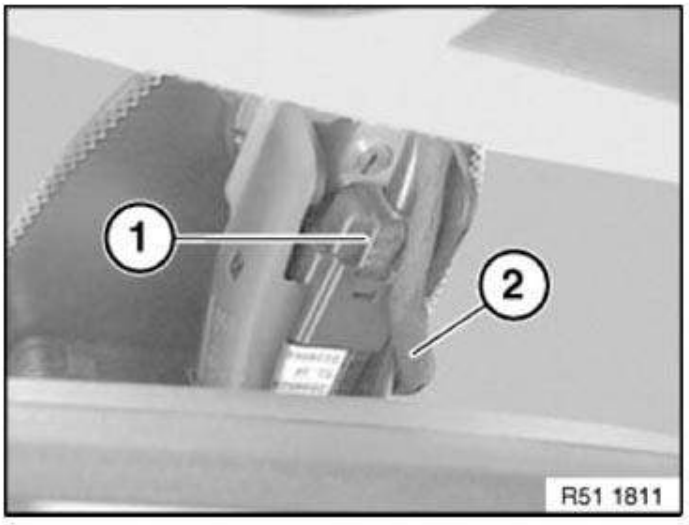


Fig. 183: Identifying Inside Mirror Cable Routing And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not pull or press inside mirror off towards front or rear.

Twist mirror base approx. 45Â° to right until mirror base is released from mirror mount.

cardiagn.com

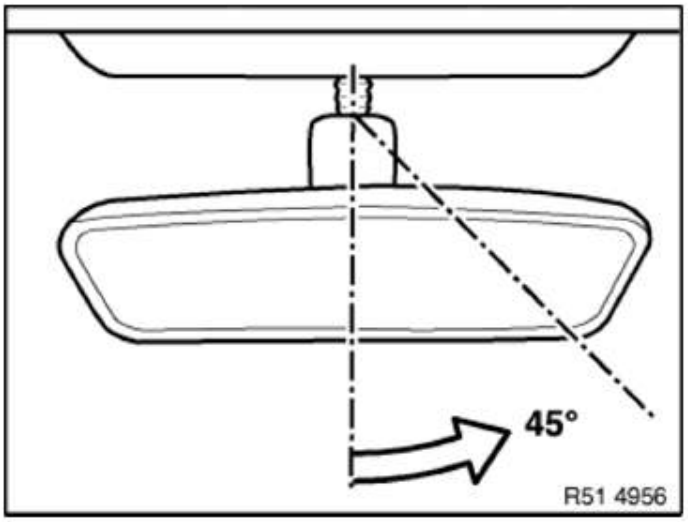


Fig. 184: Twisting Mirror Base
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

1. Twist mirror foot by approx. 45Â° and fit to mirror base.
2. Turn mirror base until it engages on mirror mount.

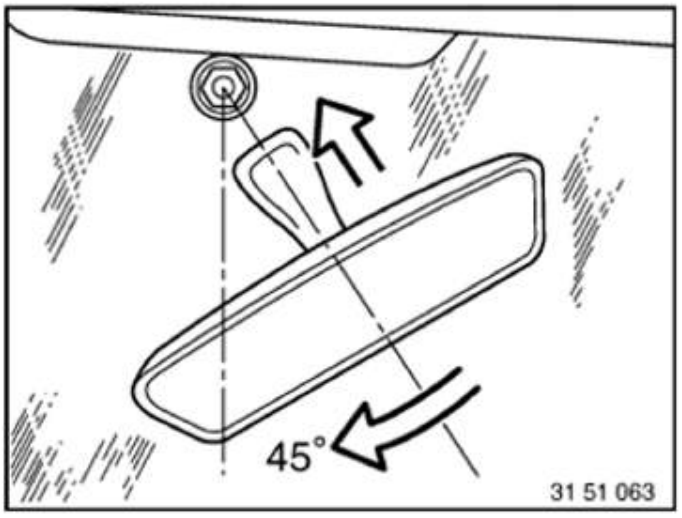


Fig. 185: Turning Mirror Base
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING** .

51 16 063 REMOVING AND INSTALLING/REPLACING INSIDE MIRROR (WITH HIGH-BEAM ASSISTANT)

IMPORTANT: Work may only be carried out at a room/object temperature of 18... 28 Â°C.
If this can not be guaranteed (cold/hot countries), it is necessary to equalize the temperature of the windscreen, mirror base and inside mirror (e.g. vehicle left to stand indoors or in the shade for at least 30 minutes).

IMPORTANT: To avoid windscreen breakage:
Screw inside mirror off mirror mount.
Inside mirror must not be pulled or pressed off towards front or rear.

Carefully press end caps (1) from below and at same time pull them apart in direction indicated by arrow; this releases

cardiagn.com

clip connection of both caps (1).

Twist inside mirror (2) and remove end caps (1) from inside mirror.

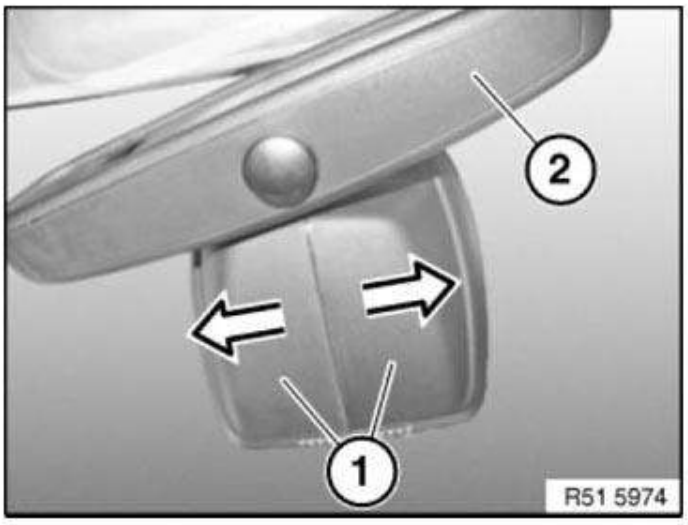


Fig. 186: Removing End Caps
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining hooks (1) and guides (2) of end caps (3) must not be damaged.

Replace end caps (3) if necessary.

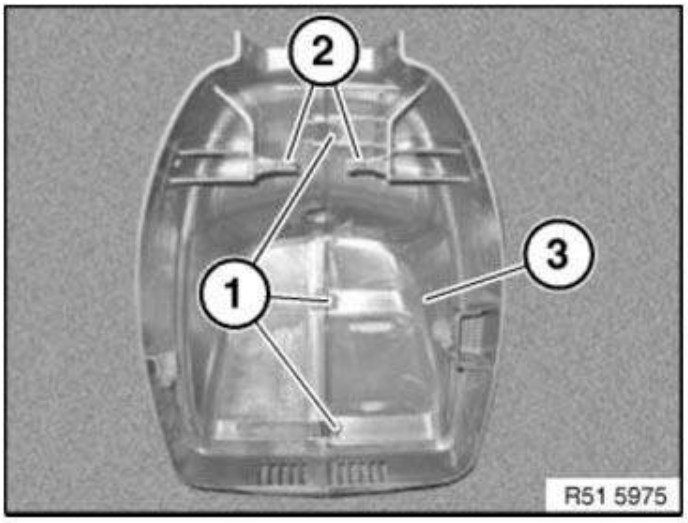


Fig. 187: Identifying Hooks, Guides And End Caps
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect plug connections (1 and 2).

Installation note:

Pay attention to cable routing for rain sensor.

cardiagn.com

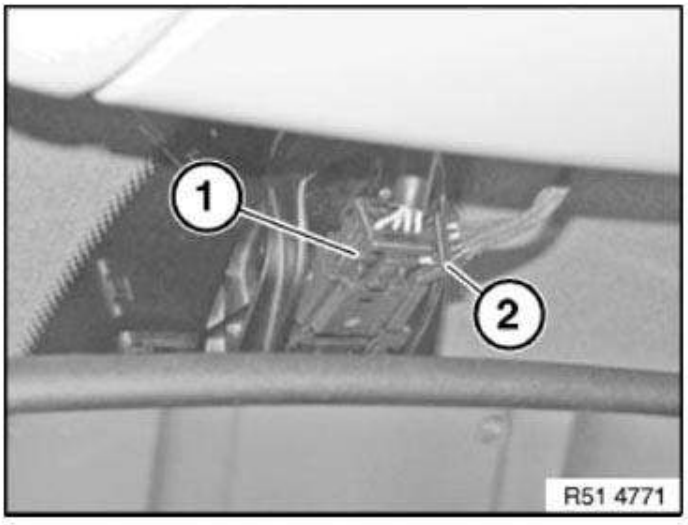


Fig. 188: Identifying Plugs
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not pull or press inside mirror off towards front or rear.

Twist mirror base approx. 45Â° to right until mirror base is released from mirror mount.

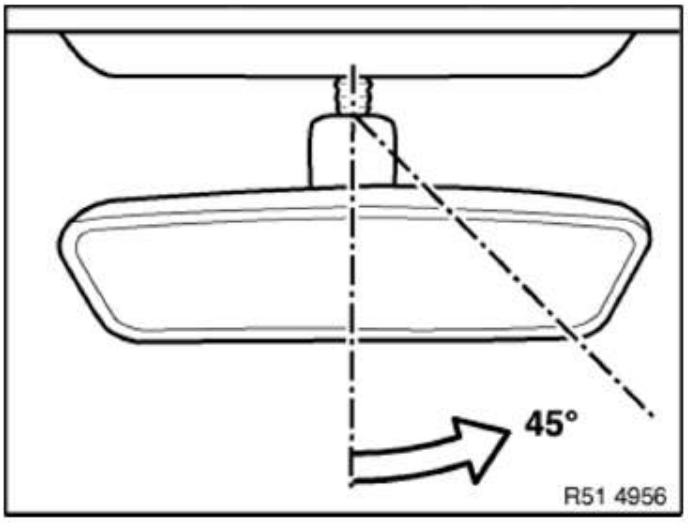


Fig. 189: Twisting Mirror Base
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

1. Twist mirror foot by approx. 45Â° and fit to mirror base.
2. Turn mirror base until it engages on mirror mount.

cardiagn.com

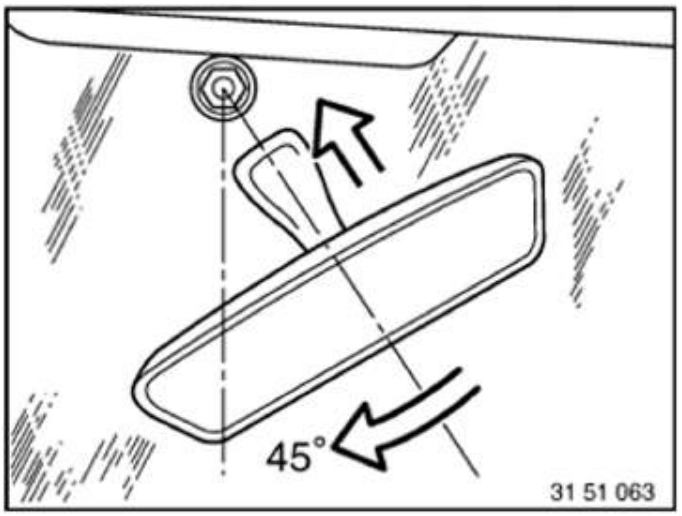


Fig. 190: Turning Mirror Base
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Normalization or initialization is not necessary.

High-Beam Assistant is automatically aligned under the following conditions:

- Driving on a motorway/ordinary road at night for approx. 50 km and
- Clearly visible road markings

For further information on the high-beam assistant please see **FTD/FUB HIGH-BEAM ASSISTANT** .

Replacement:

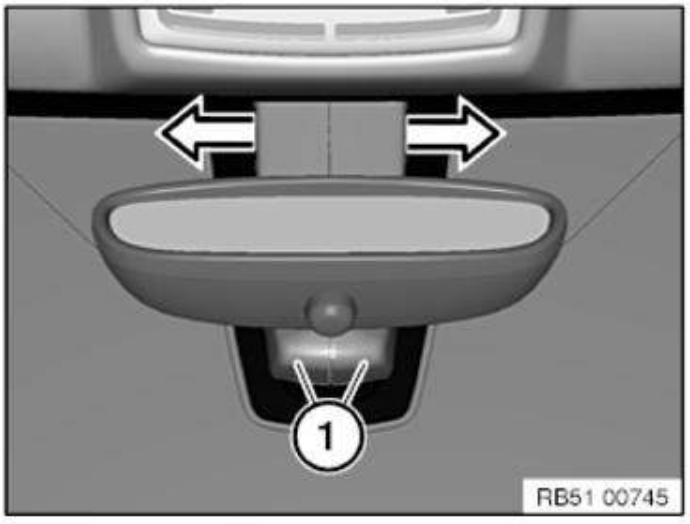
Carry out **VEHICLE PROGRAMMING/ENCODING** .

51 16 063 REMOVING AND INSTALLING/REPLACING INTERIOR MIRROR (AS OF 07/2011)

IMPORTANT: Work may only be carried out at a room/object temperature of 18... 28 Â° C.
If this can not be guaranteed (cold/hot countries), it is necessary to equalize the temperature of the windscreen, mirror base and inside mirror (e.g. vehicle left to stand indoors or in the shade for at least 30 minutes).

IMPORTANT: To avoid windscreen breakage:
When removing mirror base, never turn or disengage towards front or rear.

Unclip end caps (1) in direction of arrow using a suitable tool and remove.



cardiagn.com

Fig. 191: Removing Interior Mirror End Caps
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms (1) and guides (2) on both end caps (3) must not be damaged.

For end caps (3) with tabs (4), the spacers must be bonded onto the tabs (4).

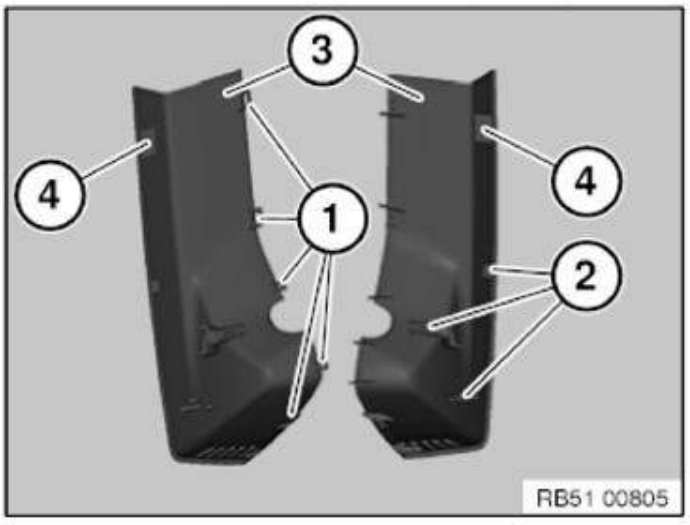


Fig. 192: Identifying Interior Mirror Latch Mechanisms And Guides
Courtesy of BMW OF NORTH AMERICA, INC.

Risk of damage!
IMPORTANT: When removing mirror base, never turn or disengage towards front or rear.
Interior mirror is held by clamp (3) and latch mechanism in area (A) on mirror base (2).

If necessary, disconnect plug connection on inside mirror (1).

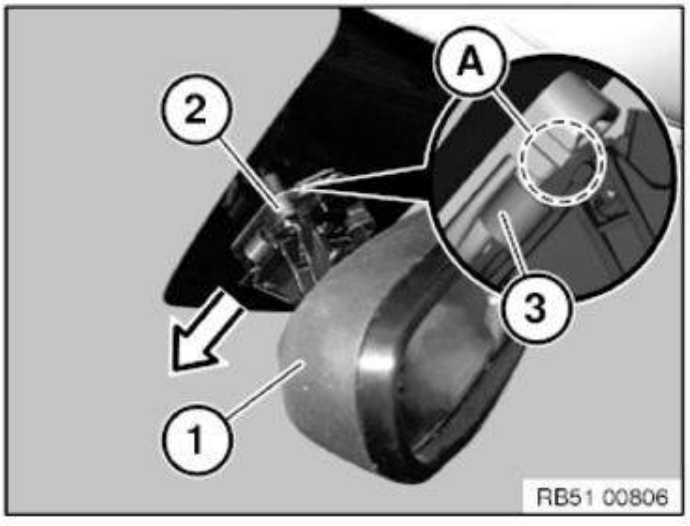


Fig. 193: Removing Mirror Base
Courtesy of BMW OF NORTH AMERICA, INC.

Jerkily pull off inside mirror (1) parallel to windscreen from mirror socket (2).

Installation note:

Retaining clips (3) must not be bent or damaged.

Interior mirror (1) must engage correctly in mirror base (2) in area (A).

cardiagn.com

Version with compass:

Check compass function if replacing or after disconnecting inside mirror plug connection or battery.

If necessary, calibrate compass in interior rearview mirror.

Version with high-beam assistant without KAFAS (camera-based driver support systems):

Normalization or initialization is not necessary.

High-Beam Assistant is automatically aligned under the following conditions:

- Driving on a motorway/ordinary road at night for approx. 50 km and
- Clearly visible road markings

Replacement:

Carry out **VEHICLE PROGRAMMING/CODING** .

51 16 063 REMOVING AND INSTALLING/REPLACING INTERIOR MIRROR (OVERVIEW)

IMPORTANT: Interior mirrors with modified mirror base will be installed as of series launch F20 and for all subsequent series launches.
Observe new **REPAIR INSTRUCTIONS**!

Further introduction date:

F01, F02, F03, F06, F07, F10, F11, F12, F13, F18	07/2012
F25	03/2012

NOTE: **If the information for the selected model is not required or not approved, the following message will be displayed when clicking on the "cross-reference": "No documents with further information available for the currently selected vehicle context".**

Distinguishing feature:

A. previous version, small mirror base (1) with round base plate on windscreen.
B. new version, large mirror base (2) with square base plate on windscreen.

NOTE: **Dismantling of mirror cap is identical on both versions.**

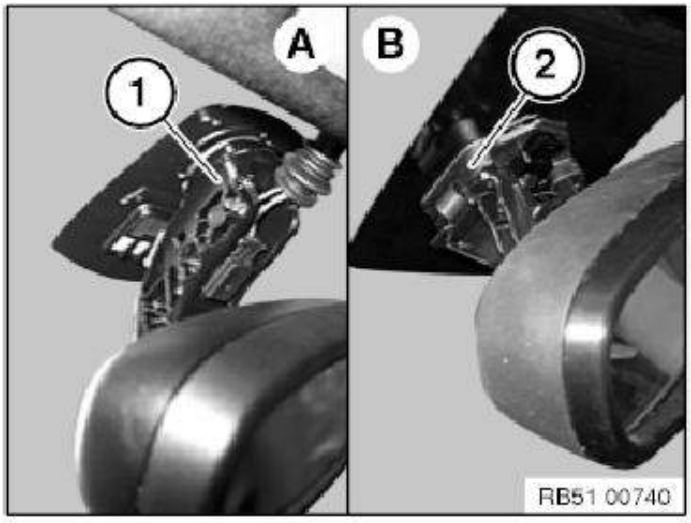


Fig. 194: Identifying Mirror Cap
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Version with mirror arm end cap:

- **PREVIOUS VERSION**.

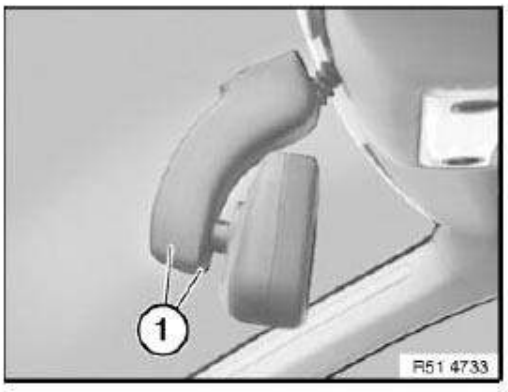


Fig. 195: Identifying Interior Mirror (Version With Mirror Arm End Cap)
Courtesy of BMW OF NORTH AMERICA, INC.

Version with mirror arm end cap:

- **NEW VERSION**.

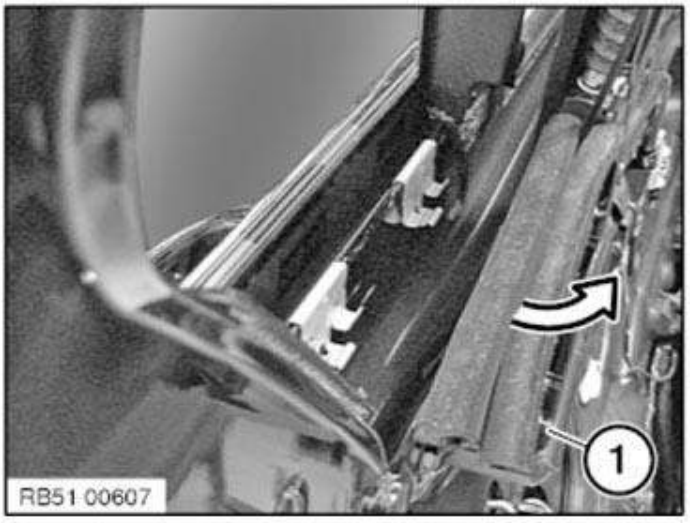
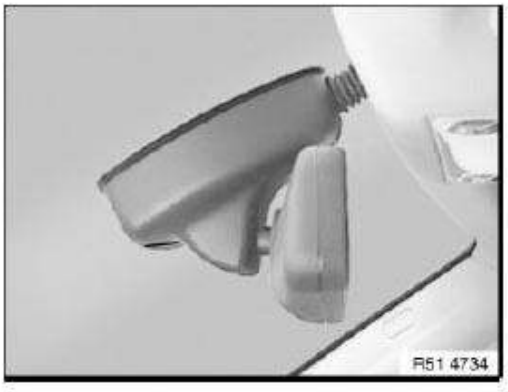


Fig. 196: Identifying Mirror Arm End Cap
Courtesy of BMW OF NORTH AMERICA, INC.

Version with rain sensor:

- **PREVIOUS VERSION**.
- **NEW VERSION**.



cardiagn.com

Fig. 197: Identifying Interior Mirror (Version With Rain Sensor)
Courtesy of BMW OF NORTH AMERICA, INC.

Version with Autobeam:

- PREVIOUS VERSION.
- NEW VERSION.

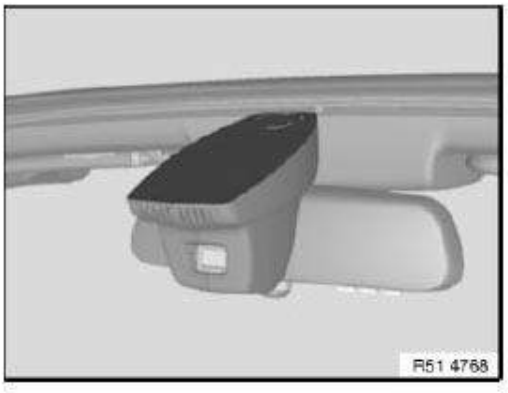


Fig. 198: Identifying Interior Mirror (Version With Autobeam)
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 340 REMOVING AND INSTALLING/REPLACING LOCK FOR RIGHT GLOVEBOX

NOTE: **Glove box cover removed for purposes of clarity.**

Release screws (1).

Tightening torque 51 16 14AZ .

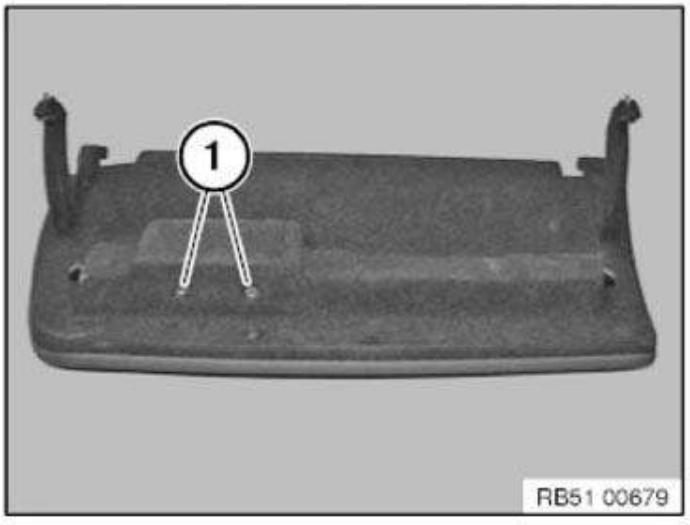


Fig. 199: Identifying Glove Box Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Remove fastener (1) in direction of arrow.

cardiagn.com

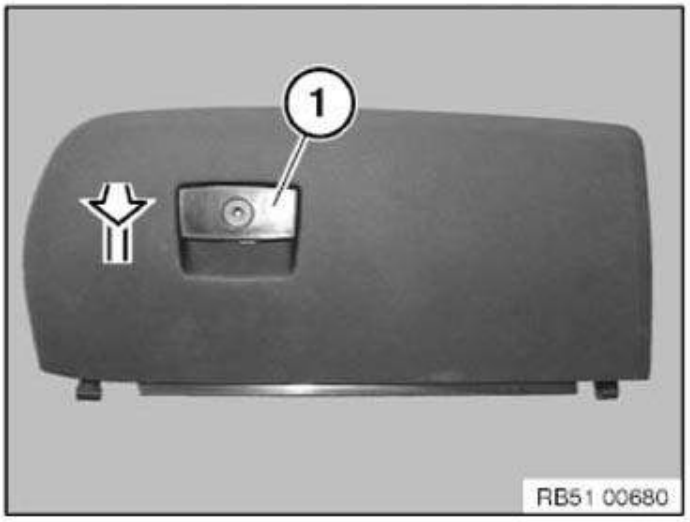


Fig. 200: Removing Fastener
Courtesy of BMW OF NORTH AMERICA, INC.

Lock barrel dismantling:

Carefully lever out latch mechanisms (1 to 3) after one another and remove eccentric cap (4).

Installation note:

Latch mechanisms (1 to 3) must not be damaged.

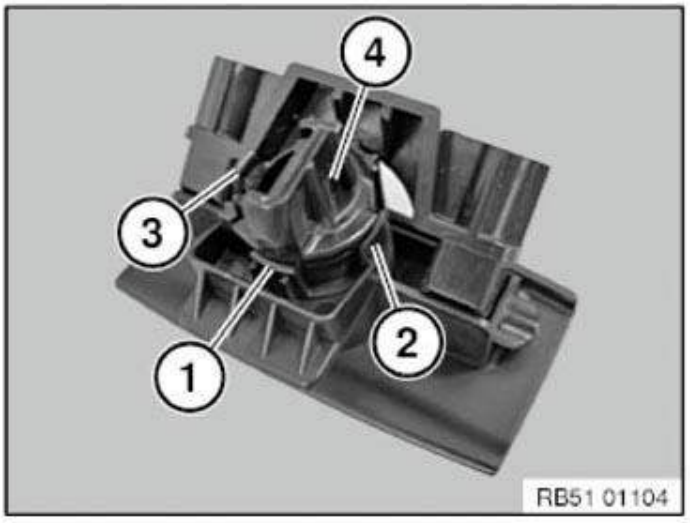


Fig. 201: Identifying Eccentric Cap And Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Integrated key from remote key must be inserted in lock barrel (2), otherwise the lock barrel will be destroyed during dismantling.

Carefully release latch mechanisms (1) and push out lock barrel (2) from lock (3) with ignition key.

Installation note:

Latch mechanisms (1) must not be damaged.

Make sure installation position of lock barrel (2) in lock (3) is correct.

cardiagn.com

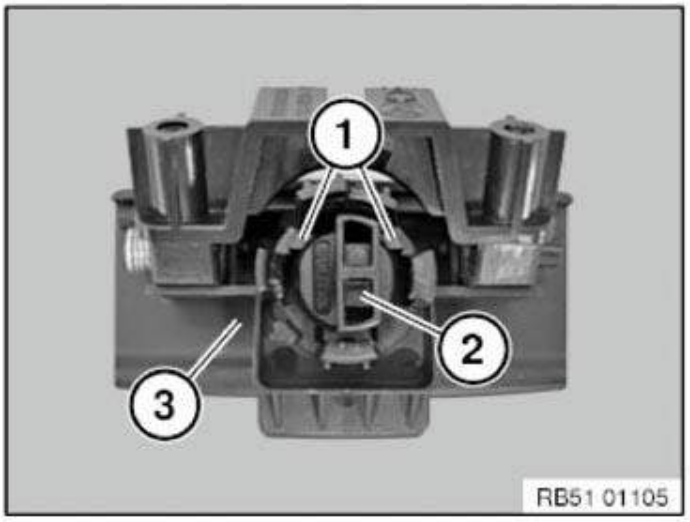


Fig. 202: Identifying Lock Barrel And Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

For lock barrel replacement see:

DISASSEMBLING AND ASSEMBLING LOCK BARREL.

51 16 450 REMOVING AND INSTALLING/REPLACING REAR LEFT/RIGHT GRAB HANDLE

Operation is identical to:

Removing and installing/replacing **FRONT GRAB HANDLE**.

51 16... REMOVING AND INSTALLING/REPLACING REAR STORAGE COMPARTMENT (TOP)

Special tools required:

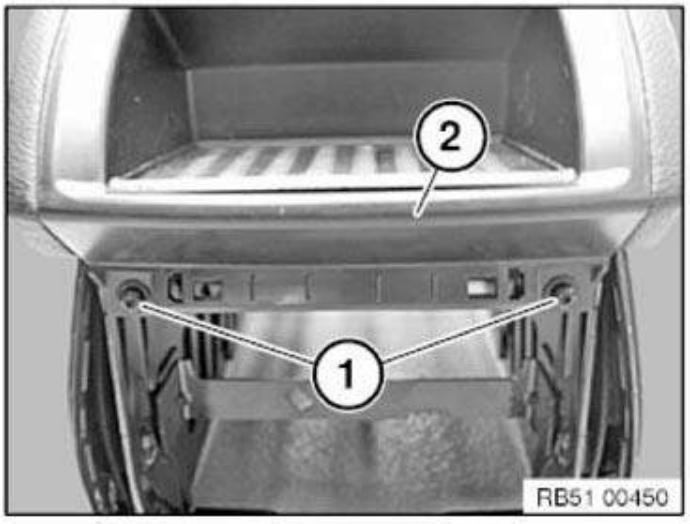
- **00 9 325**

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary work:

- Remove **CENTER ARMREST STORAGE COMPARTMENT**
- Remove **REAR (LOWER) STORAGE COMPARTMENT**

Release lower screws (1) from top rear of storage compartment (2).



cardiagn.com

Fig. 203: Identifying Storage Compartment Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Fold up center armrest if necessary (1).

Release upper screw (2) from upper rear shelf.

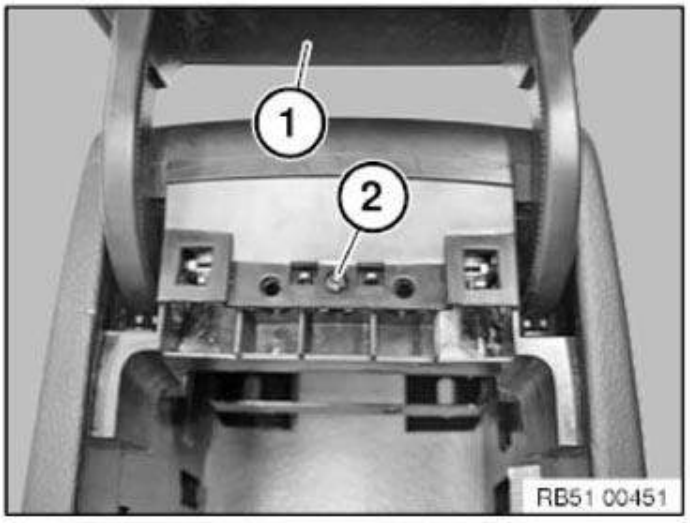


Fig. 204: Identifying Center Armrest Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Using special tool **00 9 325** lever out storage compartment at top rear (1) and pull back to detach.

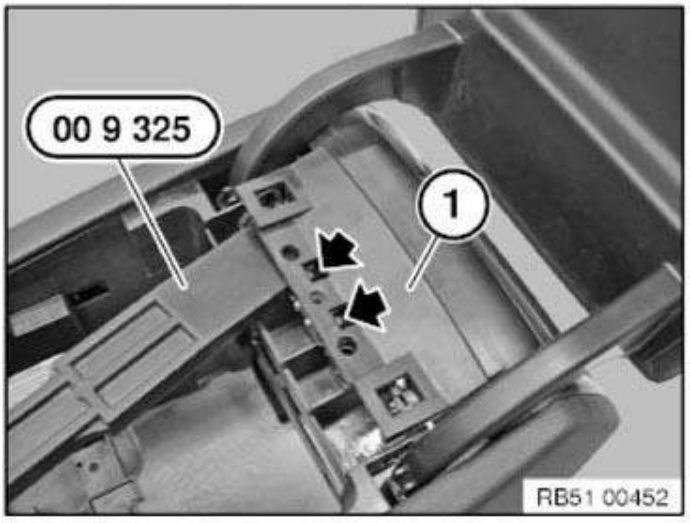


Fig. 205: Removing Storage Compartment
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 366 REMOVING AND INSTALLING/REPLACING RIGHT GLOVE BOX WITH HOUSING

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Necessary preliminary tasks:

- Remove **DASHBOARD TRIM, BOTTOM LEFT**

Release screws (1) from below.

Tightening torque **51 16 16AZ**

cardiagn.com

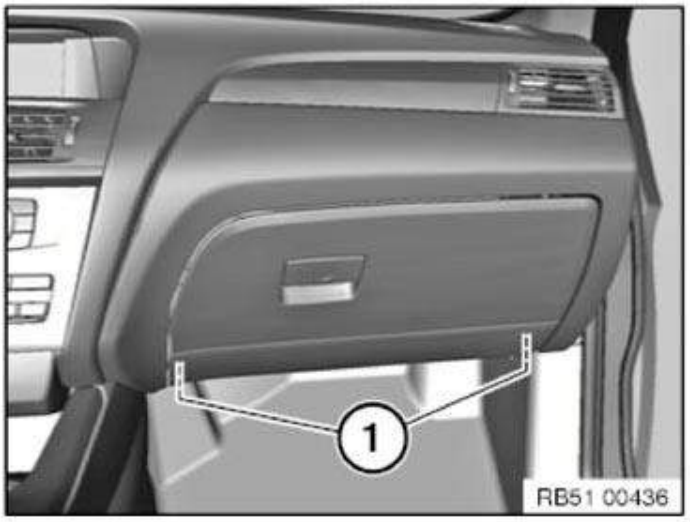


Fig. 206: Identifying Glove Box Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) on glove box (2).

Tightening torque **51 16 16AZ** .

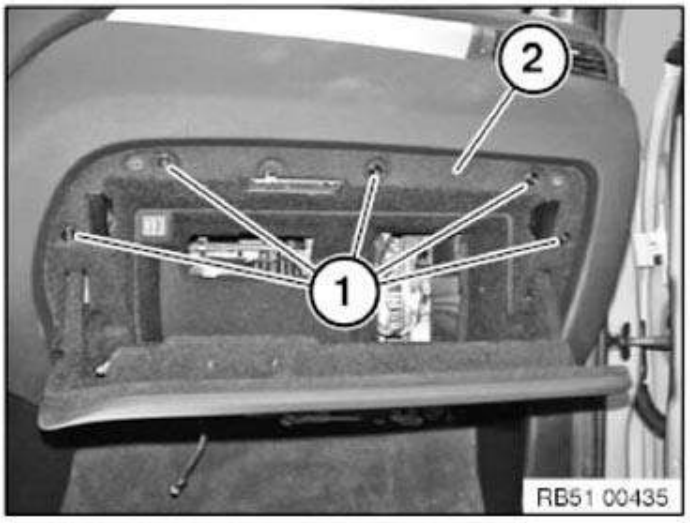
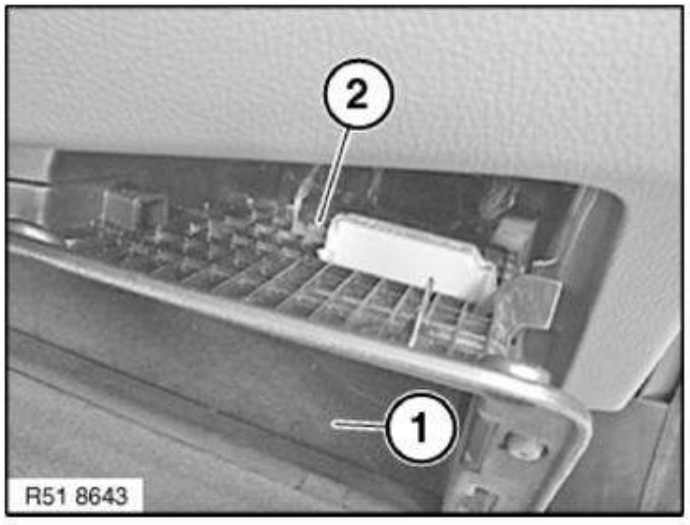


Fig. 207: Identifying Glove Box Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Pull glove box (1) somewhat forward and disconnect plug connection (2) from glove box light.



cardiagn.com

Fig. 208: Identifying Glove Box Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1) from USB interface (3).

Remove glove box.

Replacement:

- Modify **DAMPER FOR GLOVE BOX**
- Modify **GLOVE BOX COVER**
- Modify **GLOVE BOX LIGHT**
- Modify **USB INTERFACE CONNECTING SOCKET**

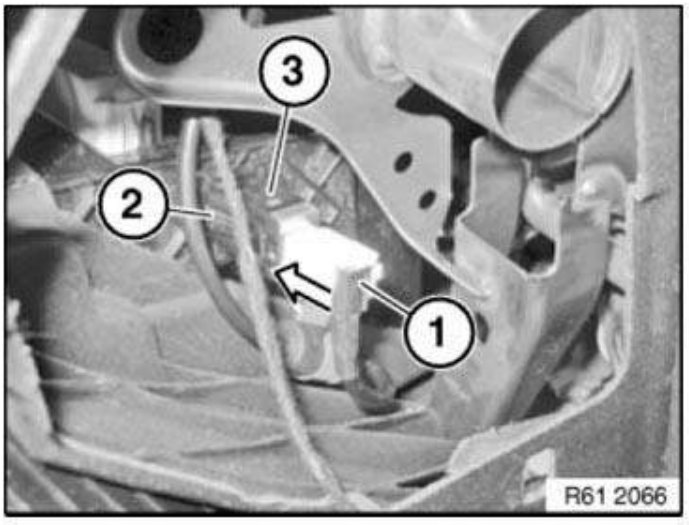


Fig. 209: Removing Glove Box
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 405 REMOVING AND INSTALLING/REPLACING ROLLER SUN BLIND ON SIDE WINDOW OF LEFT OR RIGHT REAR DOOR

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary work:

- Remove **REAR DOOR TRIM PANEL**

Release screws (4).

Tightening torque **51 16 18AZ** .

Starting at the hole for locking rod (2), detach roller sun blind module (1) from door trim panel (3).

cardiagn.com

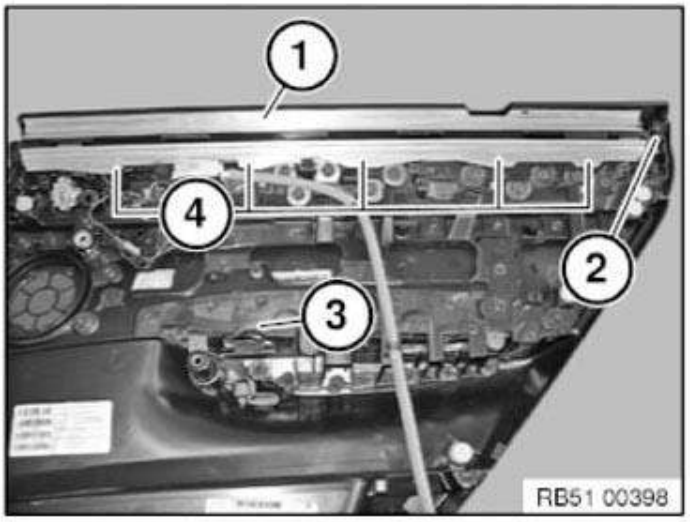


Fig. 210: Identifying Sun Blind Module And Door Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

The front and rear felt strips (2) on the roller sun blind module (1) must not be damaged or missing.

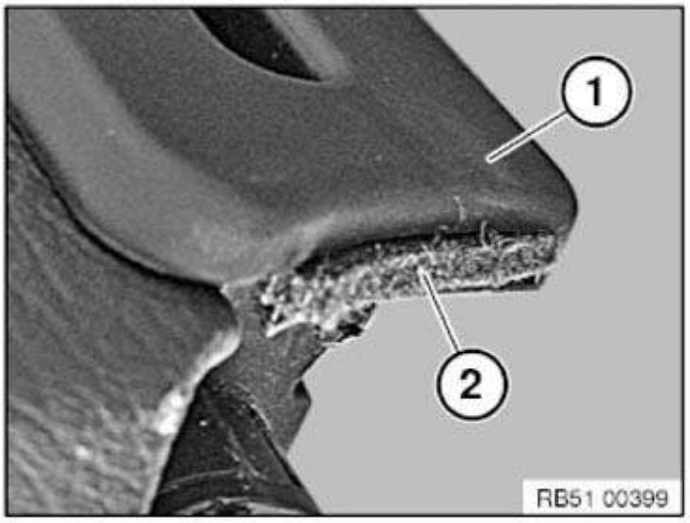


Fig. 211: Identifying Rear Felt Strips And Sun Blind Module
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 172 REMOVING AND INSTALLING/REPLACING SWITCH FOR ELECTROMECHANICAL PARKING BRAKE

Necessary preliminary work:

- DISCONNECT NEGATIVE BATTERY CABLE (to avoid fault memory entries)
- **F03** only: Disconnect both battery negative cables
- Remove GEAR SELECTOR SWITCH COVER

Release screws (1).

Remove switch for electromechanical parking brake (2) from cover for gear selector switch (3).

cardiagn.com

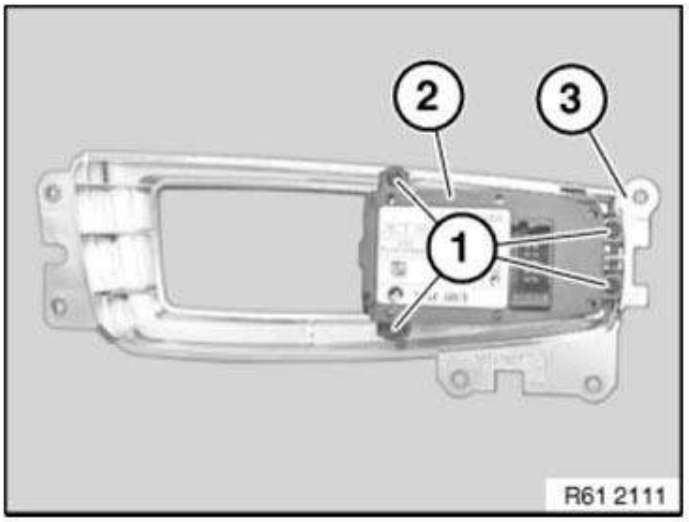


Fig. 212: Identifying Electromechanical Parking Brake Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 166 REPLACING CENTER CONSOLE

Special tools required:

- 00 9 325

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary tasks:

- Remove CENTER CONSOLE.

Unclip drinks holder (1) at retaining clips (2) and retaining hooks (3).

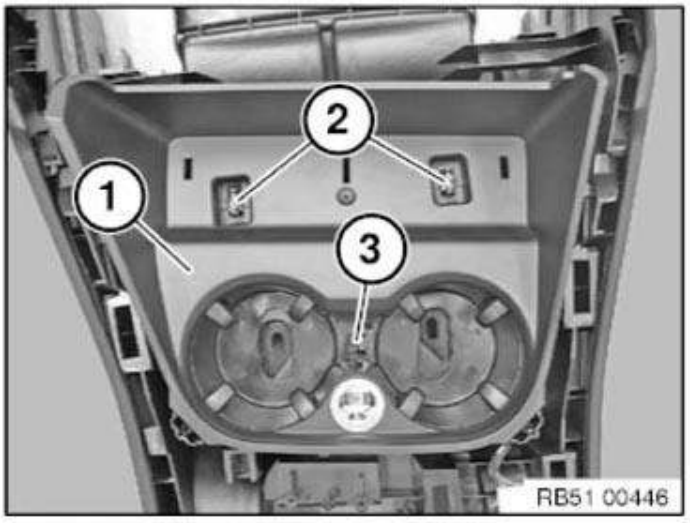


Fig. 213: Identifying Cupholder, Retaining Clips And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock plug connection (1) and remove drinks holder.

cardiagn.com

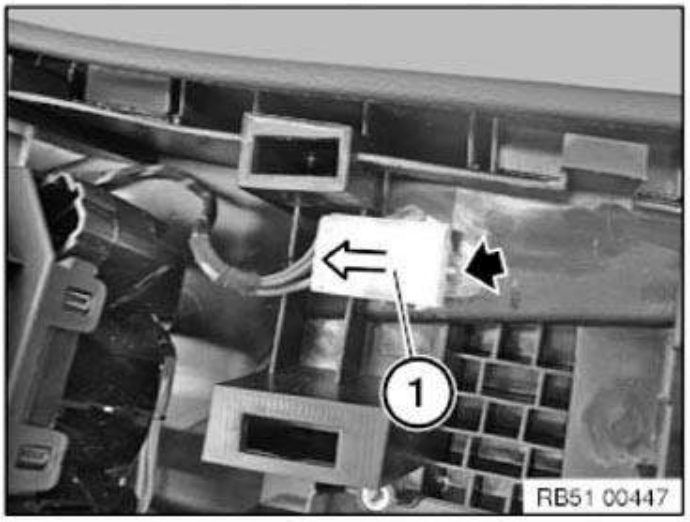


Fig. 214: Identifying Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Release lower screws (1) from top rear of storage compartment (2).

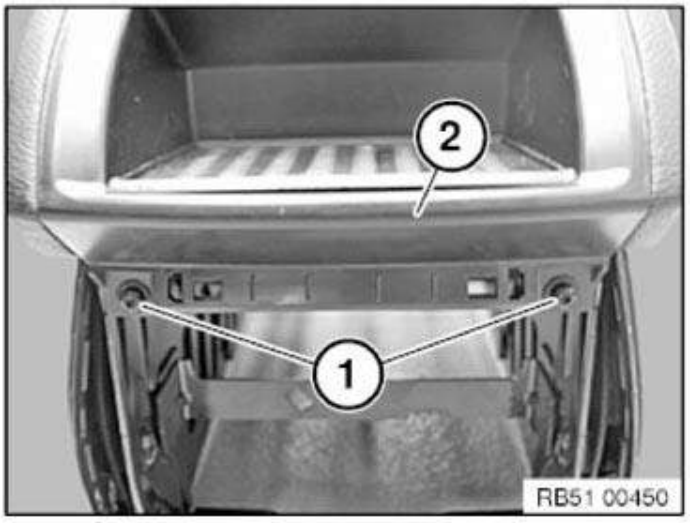
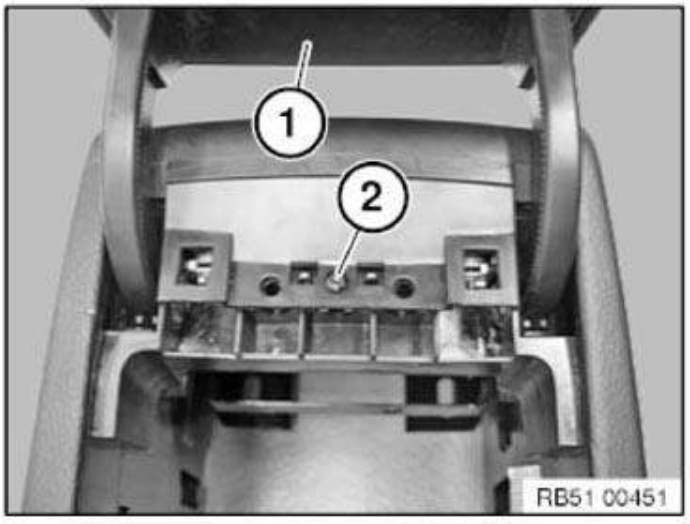


Fig. 215: Identifying Storage Compartment Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Fold up center armrest if necessary (1).

Release upper screw (2) from upper rear shelf.



cardiagn.com

Fig. 216: Identifying Center Armrest Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Using special tool **00 9 325** lever out storage compartment at top rear (1) and pull back to detach.

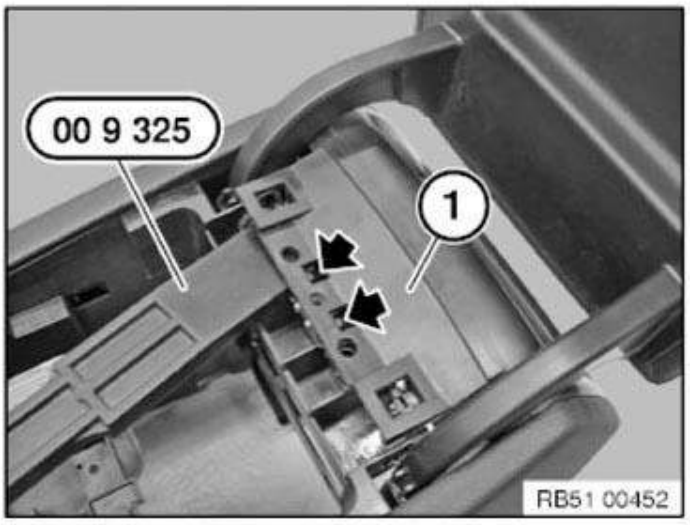


Fig. 217: Removing Storage Compartment
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) on support (2).

Swivel the support (2) to the lower inside until the support (2) and center armrest (3) can be fed out toward the back from the center console.

Installation note:

Feed support (4) correctly into center console.

Check folding function of center armrest (3) after bolting down the support (4).

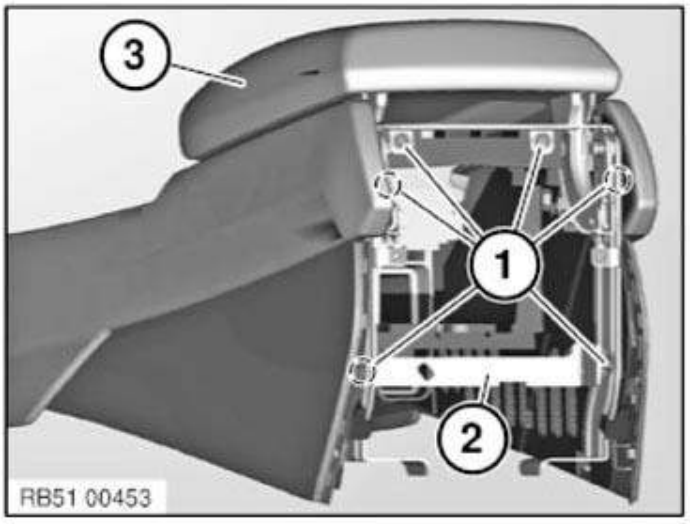


Fig. 218: Identifying Carrier Housing, Center Armrest And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

For version with comfort access only:

Undo screw (2) of interior aerial (1).

Remove interior aerial (1).

cardiagn.com

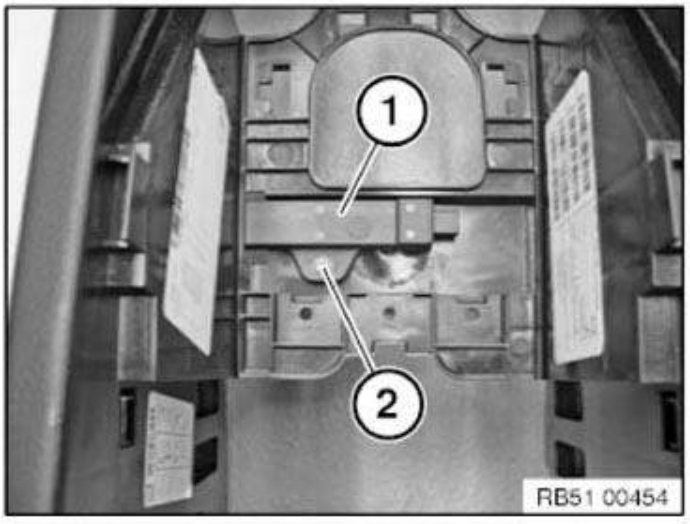


Fig. 219: Identifying Interior Aerial Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 16 026 REPLACING MIRROR GLASS FOR REAR-VIEW MIRROR (ON FRONT DOOR)

Special tools required:

- 00 9 317

WARNING: **Move mirror glass with hand carefully and slowly.**
If mirror glass is damaged:
Wear safety goggles and cut-proof gloves.
Risk of injury by flaking-off glass splinters.

IMPORTANT: Bring exterior mirror to room temperature to prevent latch mechanisms from breaking off.
Remove glue between mirror glass and edge of housing (risk of damage).
Secure mirror glass against falling out.

Press mirror glass (1) at top by hand to full extent.

NOTE: **Secure mirror glass (1) against falling out.**

Unclip mirror glass (1) at bottom with special tool 00 9 317 .

Disconnect associated plug connections and remove mirror glass (1).

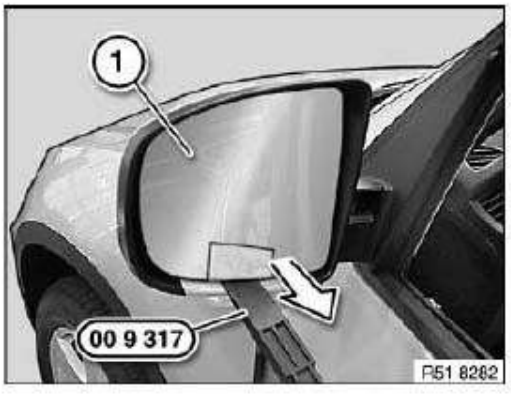


Fig. 220: Removing Mirror Glass Using Special Tool (00 9 317)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs (1) must not be damaged.

cardiagn.com

Fit mirror glass (2) with retaining lugs (1) flush on mirror adjusting drive and clip into place.

Ensure correct locking.

Make sure mirror adjusting drive functions correctly.

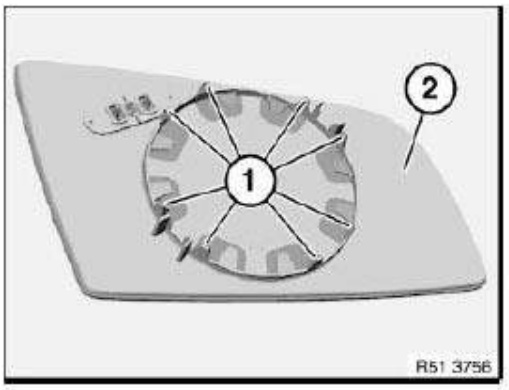


Fig. 221: Identifying Mirror Glass Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

LIDS

41 63 000 REMOVING AND INSTALLING FLAP FOR FUEL FILLER NECK

Open fuel filler flap.

Use a suitable tool to lift the latch mechanism out toward the front in direction of arrow.

Detach fuel filler flap (1) in direction of arrow.

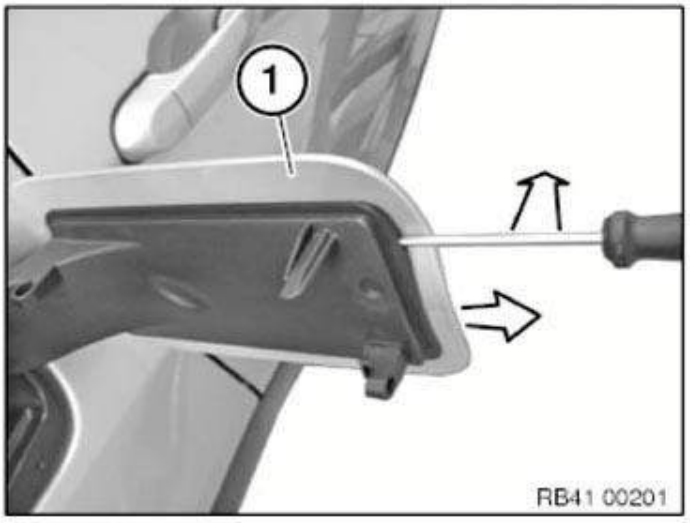


Fig. 222: Detaching Fuel Filler Flap
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

The latch mechanism (1) must not be damaged.

If the latch mechanism is damaged, replace the **COVER POT** .

cardiagn.com

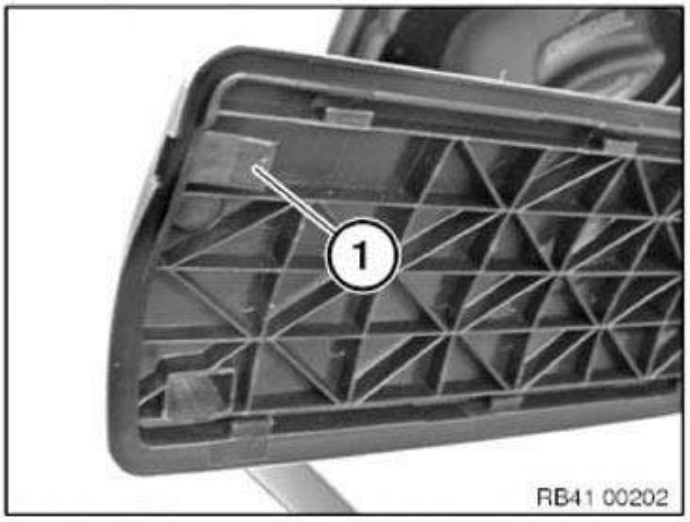


Fig. 223: Identifying Fuel Filler Flap Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

FRONT DOOR LOCKS, HANDLES, FITTINGS

51 21 004 ADJUSTING FRONT LEFT OR RIGHT LOCK STRIKER

Operation is described in:

ADJUSTING LEFT OR RIGHT FRONT DOOR .

51 00.. OVERVIEW OF FRONT DOOR

Refer to **51 00.. OVERVIEW OF FRONT DOOR**.

51 21 090 REMOVE AND INSTALL/REPLACE THE DOOR LOCK OF FRONT DOOR ON THE LEFT OR RIGHT

Special tools required:

- 51 2 190

Necessary preliminary tasks:

- Remove **SOUND INSULATION ON FRONT DOOR**

Disengage Bowden cable (2) from outer door handle at marked position.

Installation note:

Driver's side only:

Make sure locking pin (1) is correctly seated in mounting of door lock (3).

cardiagn.com

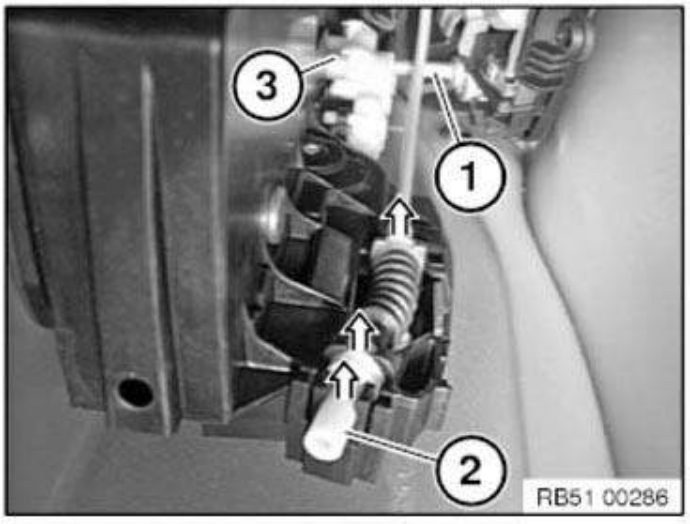


Fig. 224: Disengaging Bowden Cable From Outer Door Handle
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out locking rod (1) and set aside.

Unfasten plug connection (2) and disconnect.

Release screws (3).

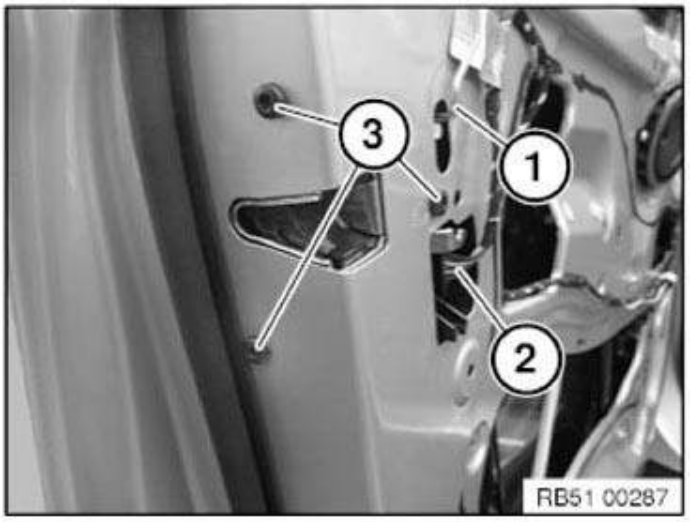


Fig. 225: Identifying Door Locking Rod And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

- Insert door lock (1) and turn in screws (2) but do not tighten
- Slide special tool **51 2 190** into opened rotary striker until striker engages in first stage

cardiagn.com

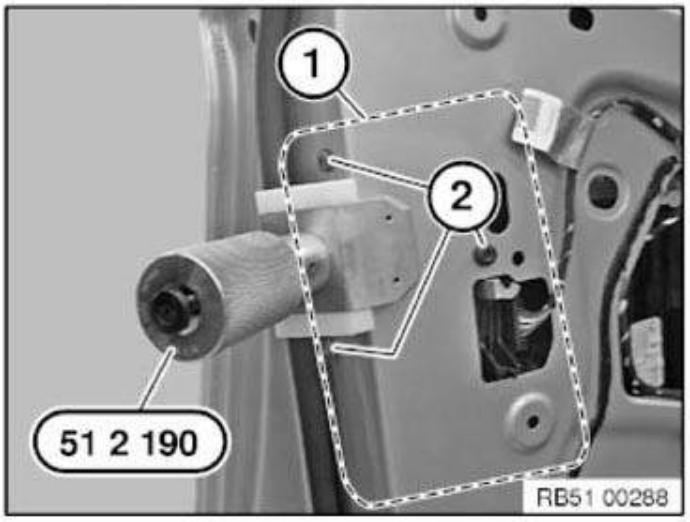


Fig. 226: Installing Special Tool (51 2 190) Into Rotary Striker
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

- Pre-tension door lock (1) with knurled screw (2) until special tool **51 2 190** just contacts corner points (3)

IMPORTANT: To tension door lock (1), it is only permitted to tighten knurled screw (2) by a further 1 to 1.5 turns (max.) (risk of damage).
Door lock seal must rest uniformly on inner door panel (water ingress).

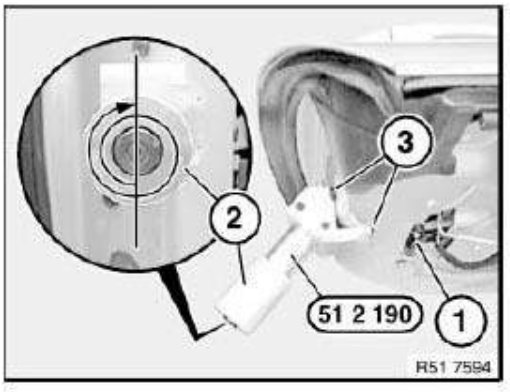


Fig. 227: Identifying Door Lock, Knurled Screw And Special Tool (51 2 190)
Courtesy of BMW OF NORTH AMERICA, INC.

- Tighten down door lock screws, tightening torque **51 21 1AZ** .

Feed out door lock (2) out past guide rail of power window regulator (1) via door aperture.

cardiagn.com

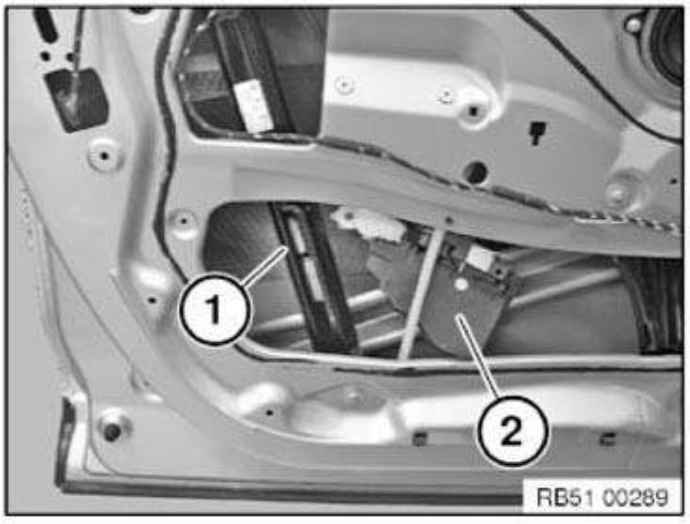


Fig. 228: Identifying Door Lock And Power Window Regulator
Courtesy of BMW OF NORTH AMERICA, INC.

51 21 170 REMOVING AND INSTALLING OR REPLACING OUTER DOOR HANDLE FROM LEFT OR RIGHT FRONT DOOR

Necessary preliminary tasks:

- Remove **cover on outer door handle** . See **51 21 181 REMOVING AND INSTALLING/RENEWING COVER ON OUTER DOOR HANDLE WITH LOCK BARREL** or **51 21 180 REMOVING AND INSTALLING/REPLACING COVER ON OUTSIDE DOOR HANDLE**

If necessary, lay outer door handle light (1) slightly to one side.

Pull out outer door handle (2) somewhat and feed out in direction of arrow.

Version with Comfort Access/CA:

Carefully feed out outer door handle (2) and disconnect associated plug connection.

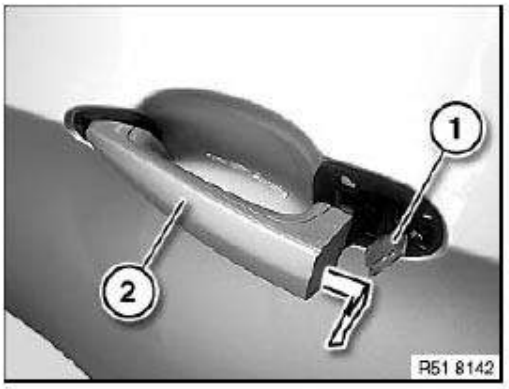


Fig. 229: Pulling Outer Door Handle
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Locator (1) must not be damaged.

Version with Comfort Access/CA:

Seal (2) must not be damaged.

cardiagn.com

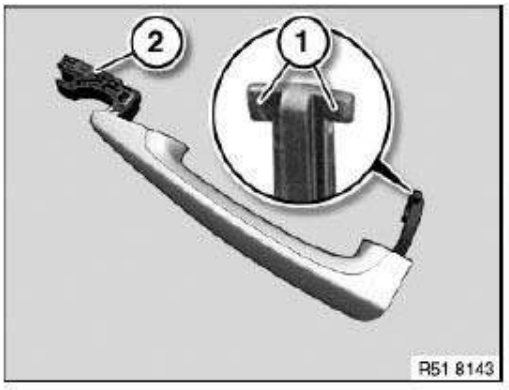


Fig. 230: Identifying Outer Door Handle Seal
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Sealing (1 and 2) must not be damaged or missing.

In necessary, use string to pull lock actuation (3) outwards and hold in position.

Install outer door handle and insert correctly into lock actuator (3).

Remove string.

Mount **cover on outer door handle** . See **51 21 181 REMOVING AND INSTALLING/RENEWING COVER ON OUTER DOOR HANDLE WITH LOCK BARREL** or **51 21 180 REMOVING AND INSTALLING/REPLACING COVER ON OUTSIDE DOOR HANDLE** and carry out function check with open door.

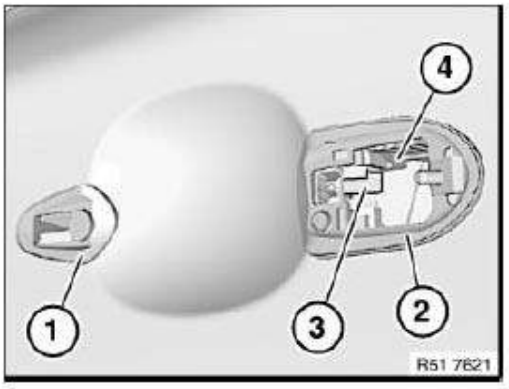


Fig. 231: Identifying Door Lock Actuation And Actuator
Courtesy of BMW OF NORTH AMERICA, INC.

After replacing version with Comfort Access/CA:

Clear fault memory and perform functional check.

51 21 300 REMOVING AND INSTALLING OR REPLACING WINDOW CAVITY COVER STRIP ON OUTSIDE OF LEFT OR RIGHT FRONT DOOR

Special tools required:

- **00 9 324**

IMPORTANT: Observe **PROCEDURE** for using special tool **00 9 324** .

Necessary preliminary work:

- Remove **EXTERIOR MIRROR ON FRONT DOOR**

cardiagn.com

IMPORTANT: If reusing the existing window cavity cover strip (1), make sure it is not bent.

Lever out weather strip (1) using special tool **00 9 324** (starting at B-pillar).



Fig. 232: Removing Weather Strip Using Special Tool (00 9 324)
Courtesy of BMW OF NORTH AMERICA, INC.

51 21 181 REMOVING AND INSTALLING/RENEWING COVER ON OUTER DOOR HANDLE WITH LOCK BARREL

Operation is identical to:

REMOVING and installing/renewing complete lock barrel in left or right front door.

51 21 330 REMOVING AND INSTALLING/RENEWING WEATHER STRIP ON INNER FRONT DOOR

Necessary preliminary tasks:

- Remove **FRONT DOOR TRIM PANEL**

Lever out cover (1) at rear slightly.

Start at rear with removal of weather strip (2).

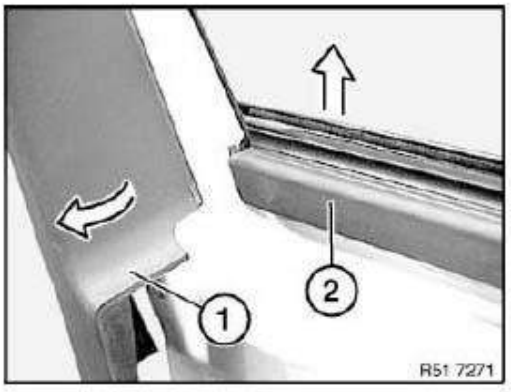


Fig. 233: Removing Weather Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Pull off weather strip (1) towards top.

Installation note:

Replace faulty clamps (3).

Note that the first clamp differs from the others (3).

Insert weather strip (1) below cover (2) at front.

cardiagn.com

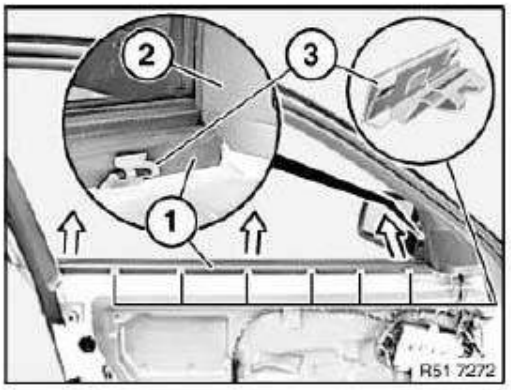


Fig. 234: Pulling Off Window Cavity Cover Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

If necessary, moisten weather strip (1) prior to installation with **APPROVED LUBRICANT**.

Start with installation at front.

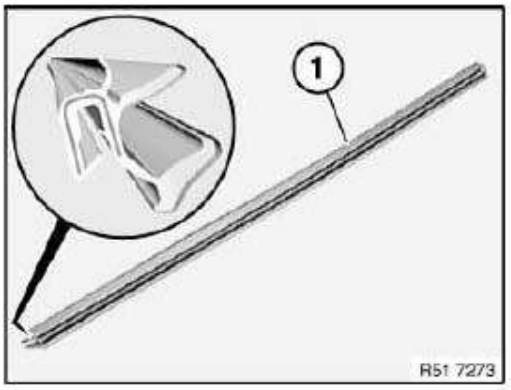


Fig. 235: Identifying Weather Strip
Courtesy of BMW OF NORTH AMERICA, INC.

51 21 235 REMOVING AND INSTALLING/REPLACING BOWDEN CABLE FOR INSIDE DOOR OPENER ON LEFT OR RIGHT FRONT DOOR

Necessary preliminary tasks:

- Remove **FRONT DOOR TRIM PANEL**

NOTE: **Graphic is similar.**

Lever out lock (1)

Pull off Bowden cable housing (2) towards rear/top - the Bowden cable feeds out of its own accord in the process.

cardiagn.com

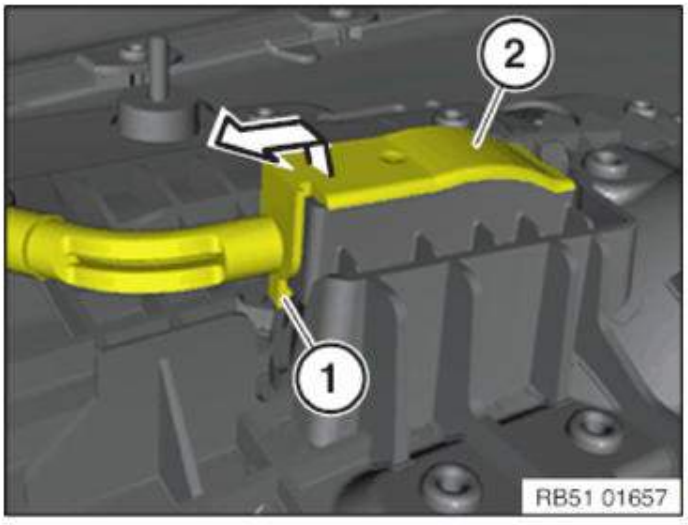


Fig. 236: Pulling Bowden Cable Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

To install the Bowden cable, press inner door handle (1) in direction of arrow.

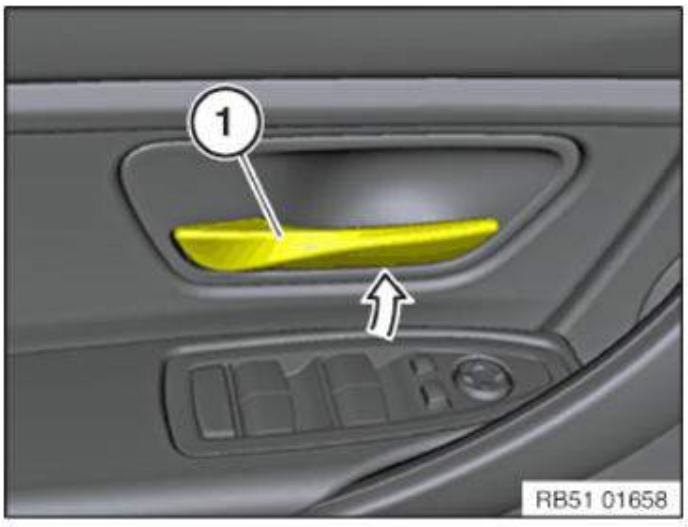


Fig. 237: Pressing Inner Door Handle
Courtesy of BMW OF NORTH AMERICA, INC.

51 21 140 REMOVING AND INSTALLING/REPLACING COMPLETE LOCK BARREL IN LEFT OR RIGHT FRONT DOOR

Lever out cap (1) and release screw underneath.

Installation note:

If necessary, replace faulty trim (1).

cardiagn.com

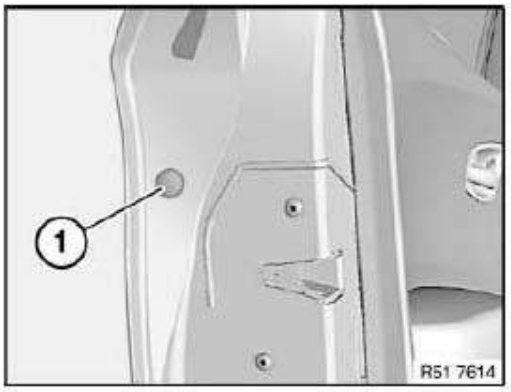


Fig. 238: Identifying Cap
Courtesy of BMW OF NORTH AMERICA, INC.

Insert ignition key into lock barrel.

Turn ignition key slightly and pull off cover (1) in direction of arrow with outer door handle (2) opened slightly.

Installation note:

Lock barrel must be correctly seated in door lock.

Check function of lock barrel.

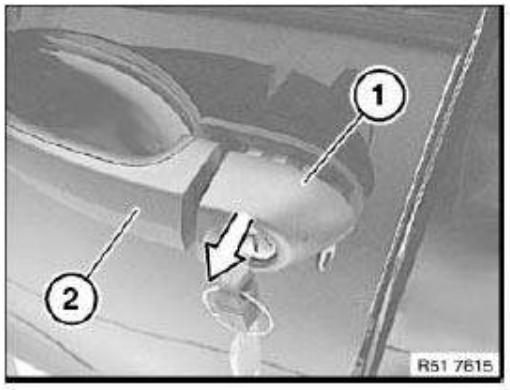


Fig. 239: Pulling Door Handle Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Version with light package:

Installation note:

Make sure outside door handle light (1) is correctly positioned in area (2).

Guides (3) of outside door handle light (1) must be correctly seated in support for outer door handle (4).

cardiagn.com

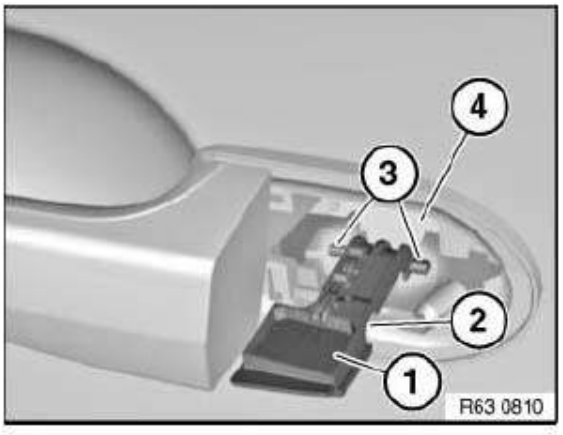


Fig. 240: Identifying Outer Door Handle And Guides
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement

Remove latch mechanisms (1) and detach cover (2) from lock barrel (3).

Installation note:

Latch mechanisms (1) of cover (2) must not be damaged.

Paddle (4) of lock barrel (3) must not be damaged.

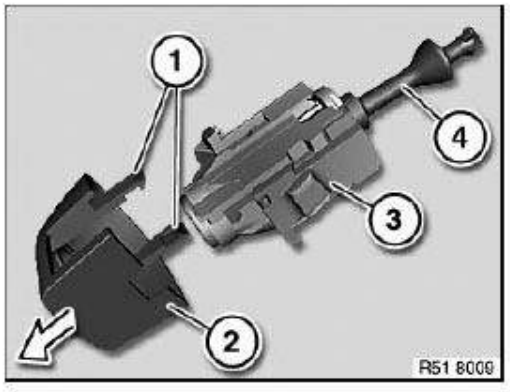


Fig. 241: Removing Door Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

51 21 180 REMOVING AND INSTALLING/REPLACING COVER ON OUTSIDE DOOR HANDLE

Lever out cap (1) and release screw underneath.

Installation note:

If necessary, replace faulty trim (1).

cardiagn.com

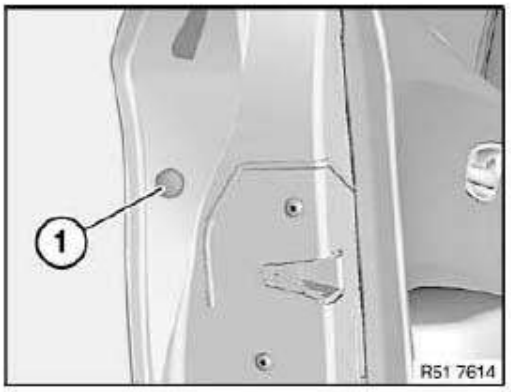


Fig. 242: Identifying Cap
Courtesy of BMW OF NORTH AMERICA, INC.

Pull off cover (1) in direction of arrow with outer door handle (2) opened slightly.

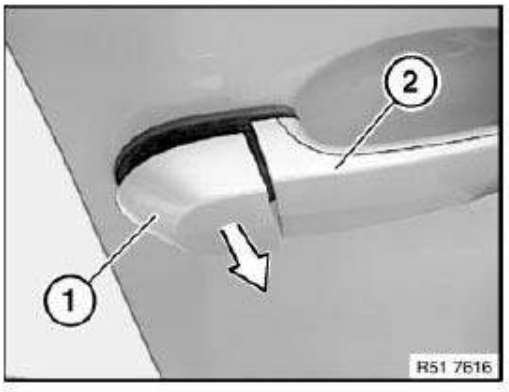


Fig. 243: Pulling Door Handle Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Version with light package:

Installation note:

Make sure outer door handle light (1) is correctly positioned in area (2).

Guides (3) of outer door handle light (1) must be correctly seated in support for outer door handle (4).

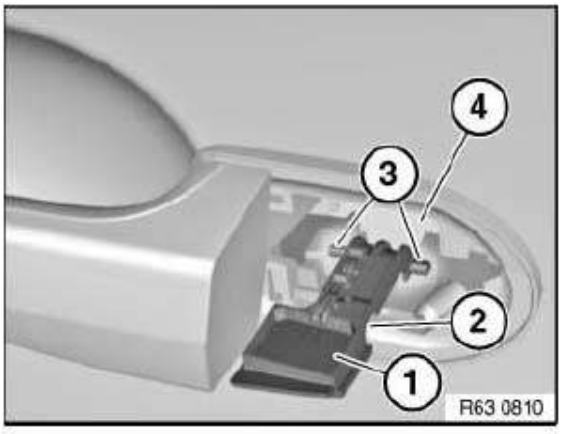


Fig. 244: Identifying Outer Door Handle And Guides
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Guides (1) must not be damaged.

cardiagn.com

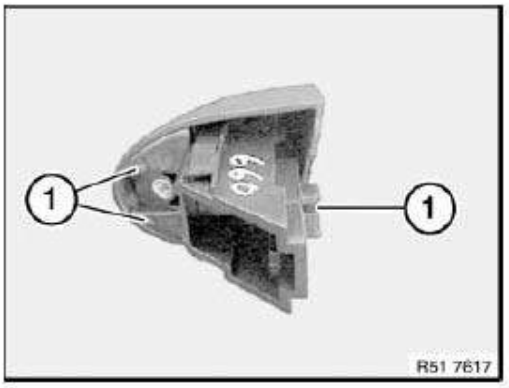


Fig. 245: Identifying Outer Door Handle Guides
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement

NOTE: **Similar to graphic.**

Detach cover (2) from filler piece (3).

Installation note:

Latch mechanisms (1) of cover (2) must not be damaged.

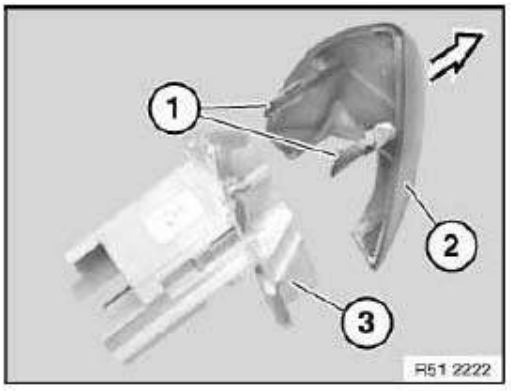


Fig. 246: Detaching Door Handle Cover From Filler Piece
Courtesy of BMW OF NORTH AMERICA, INC.

51 21 280 REMOVING AND INSTALLING/REPLACING DOOR STOP ON LEFT OR RIGHT FRONT DOOR

After disengaging door stop, use suitable means of preventing door from opening past its maximum permissible opening angle (risk of damaging paintwork or bodywork).

Necessary preliminary work:

- Close side window if necessary
- Remove **SOUND INSULATION ON FRONT DOOR** (only in door stop area)

Release screw (1).

Tightening torque **51 21 3AZ** .

Unscrew nuts (2).

Tightening torque **51 21 5AZ**

cardiagn.com

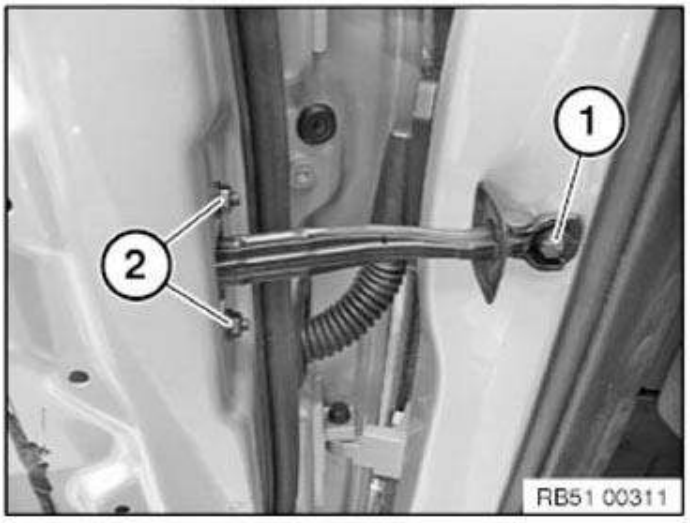


Fig. 247: Identifying Right Front Door Screw And Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Remove door stop (1) via aperture (2).

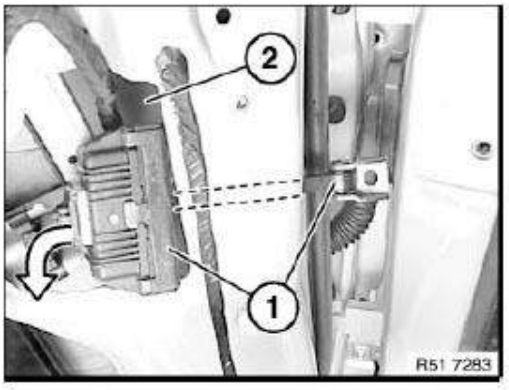


Fig. 248: Identifying Door Stop
Courtesy of BMW OF NORTH AMERICA, INC.

51 21 125 REMOVING AND INSTALLING/REPLACING SUPPORT FOR LEFT OR RIGHT OUTER DOOR HANDLE WITH LOCK BARREL

Necessary preliminary work:

- Close side window if necessary
- Remove **OUTER DOOR HANDLE ON FRONT DOOR**
- Remove **SOUND INSULATION IN FRONT DOOR**

Disconnect Bowden cable at bottom (1) and top (3) from door lock (2).

Installation note:

Bowden cable must be correctly engaged in locators in door lock (2).

Bowden cable must be laid without kinks in bend to door lock (2).

Seal (4) must be correctly fitted on Bowden cable.

IMPORTANT: Door cannot be opened if Bowden cable (1) is incorrectly laid.

cardiagn.com

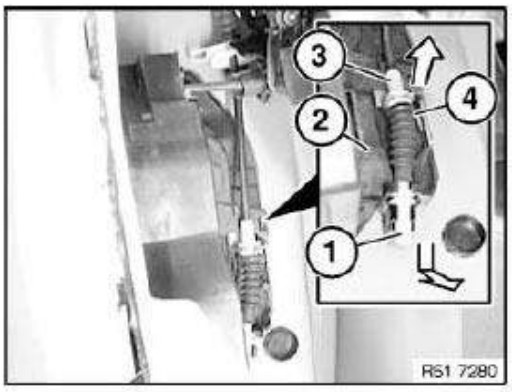


Fig. 249: Disconnecting Bowden Cable From Door Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Remove seals (1) in direction of arrow.

Release screw (2).

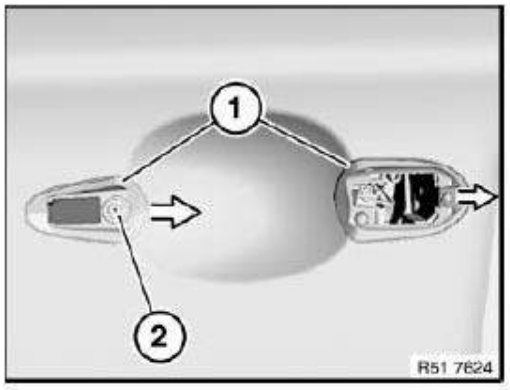


Fig. 250: Removing Door Handle Seal
Courtesy of BMW OF NORTH AMERICA, INC.

If necessary, release cable clip on support (1).

Remove inner support (1) in direction of arrow and feed out of door.

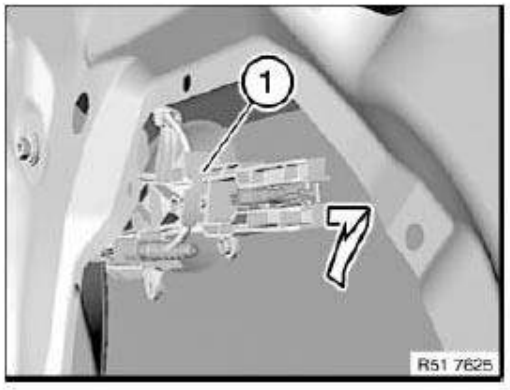


Fig. 251: Removing Door Inner Support
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement

If necessary, release cable strap (1).

Feed Bowden cable (2) out of support (3).

cardiagn.com

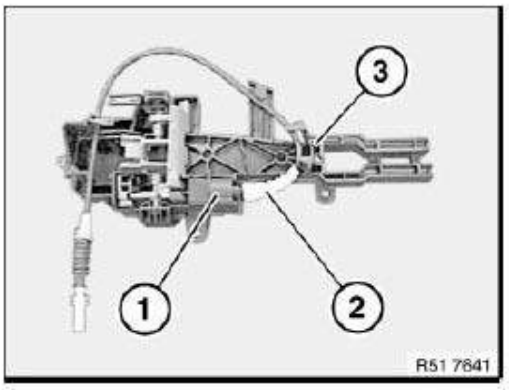


Fig. 252: Identifying Door Bowden Cable, Support And Cable Strap
Courtesy of BMW OF NORTH AMERICA, INC.

51 21 126 REMOVING AND INSTALLING/REPLACING SUPPORT FOR LEFT OR RIGHT OUTER DOOR HANDLE WITHOUT LOCK BARREL

Operation is identical to:

Removing and installing/replacing SUPPORT FOR OUTER DOOR HANDLE WITH LOCK BARREL.

51 21... REMOVING WEATHER STRIP WITH SPECIAL TOOL 00 9 324 AT FRONT OR REAR

Special tools required:

- 00 9 318
- 00 9 324

Open side window completely.

Front door:

Insert special tool 00 9 324 at front (at A-pillar) in window cavity (1) (TOP label pointing upwards).

Rear door:

Insert special tool 00 9 324 at rear (at C-pillar) in window cavity (2) (TOP label pointing upwards).

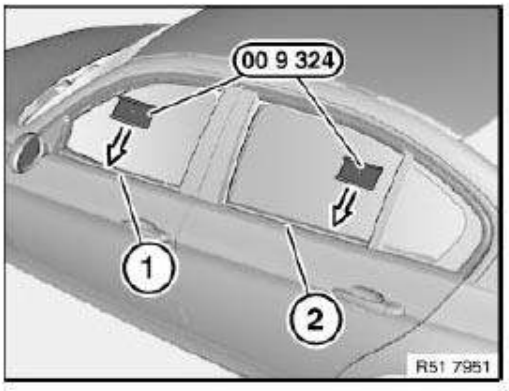


Fig. 253: Inserting Special Tool (00 9 324)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: For purposes of clarity, graphic shows inner door panel and side window removed.

Special tool 00 9 324 must be correctly guided under weather strip (1).

2 Short leg, bottom
3 Long leg, top (TOP)

cardiagn.com

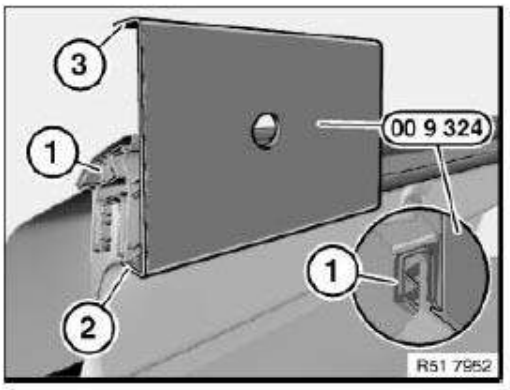


Fig. 254: Identifying Special Tool (00 9 324) And Weather Strip
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Start at the front or rear, depending on the model.

IMPORTANT: Risk of damage!
Raise weather strip (3) no more than 5 mm in each levering operation, otherwise the strip will be bent.

Position special tool **00 9 318** on door trim panel (1).

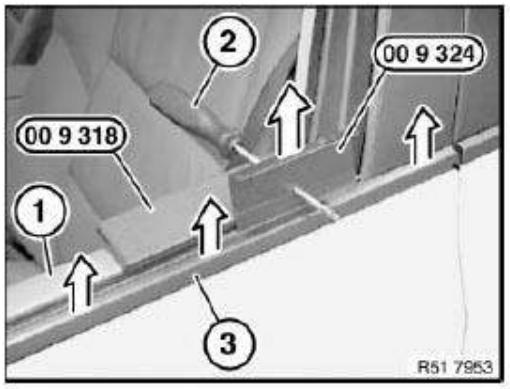


Fig. 255: Positioning Special Tool (00 9 318) On Door Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Slide suitable tool (2) through hole of special tool **00 9 324** and in this way lever weather strip (3) in an upward direction by max. 5 mm.

Guide special tools **00 9 324** and **00 9 318** forward and backward step by step until weather strip (3) is fully removed.

51 21 003 REPLACING DOOR DETENT (LOCK STRIKER), FRONT LEFT OR RIGHT

Release screws (1) and remove door detent (2).

Installation note:

If necessary, carry out basic adjustment by way of notches (3) on door detent (2) and B-pillar.

Tightening torque **51 21 2AZ** .

After installation:

Adjust door detent . See **41 51... ADJUST DOOR** or **51 21 004 ADJUSTING FRONT LEFT OR RIGHT LOCK STRIKER**.

cardiagn.com

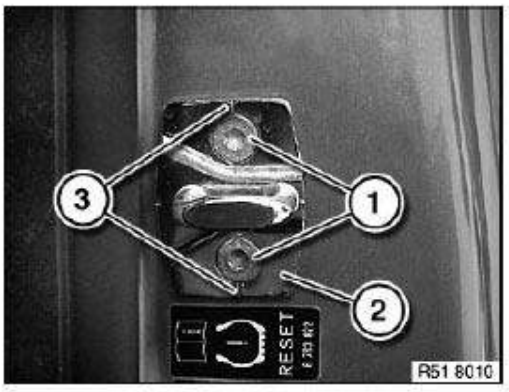


Fig. 256: Identifying Door Detent, Notches And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 21... REPLACING INSIDE DOOR OPENER ON LEFT OR RIGHT FRONT DOOR

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary tasks:

- Detach **BOWDEN CABLE FOR INNER DOOR OPENER**

NOTE: The graphic shows the left door trim panel.

If necessary, unclip and remove tweeter (4).

Release round weldings (1) with a Ã˜ 12 mm drill.

Release long welding (2) with a box cutter.

Lever out inside door opener housing on door trim panel (3) and set down.

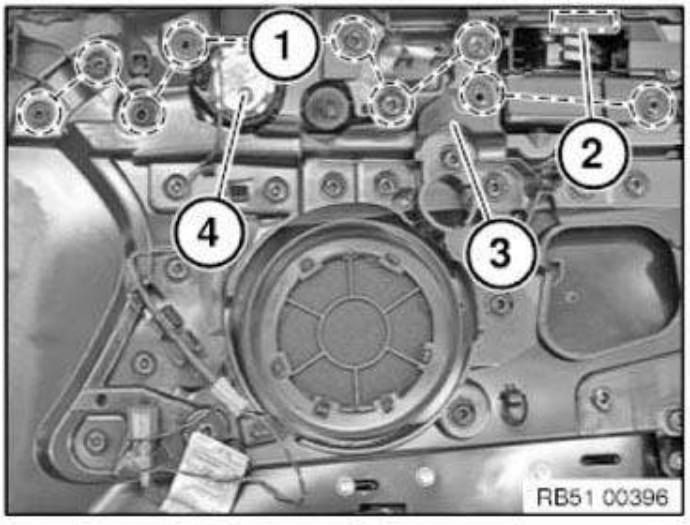


Fig. 257: Identifying Door Trim Panel, Welding And Tweeter
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Fold long retaining clip (2) over inside housing tab of the door opener and press tight.

Secure door handle to door trim panel (3) by pressing down round retaining clips (1).

Reinstall tweeter (4).

cardiagn.com

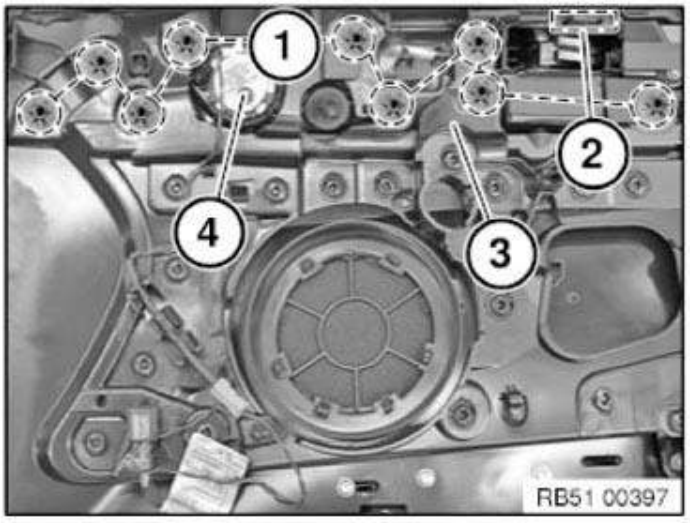


Fig. 258: Identifying Door Trim Panel, Retaining Clips And Tweeter
Courtesy of BMW OF NORTH AMERICA, INC.

REAR DOOR LOCKS, HANDLES, FITTINGS

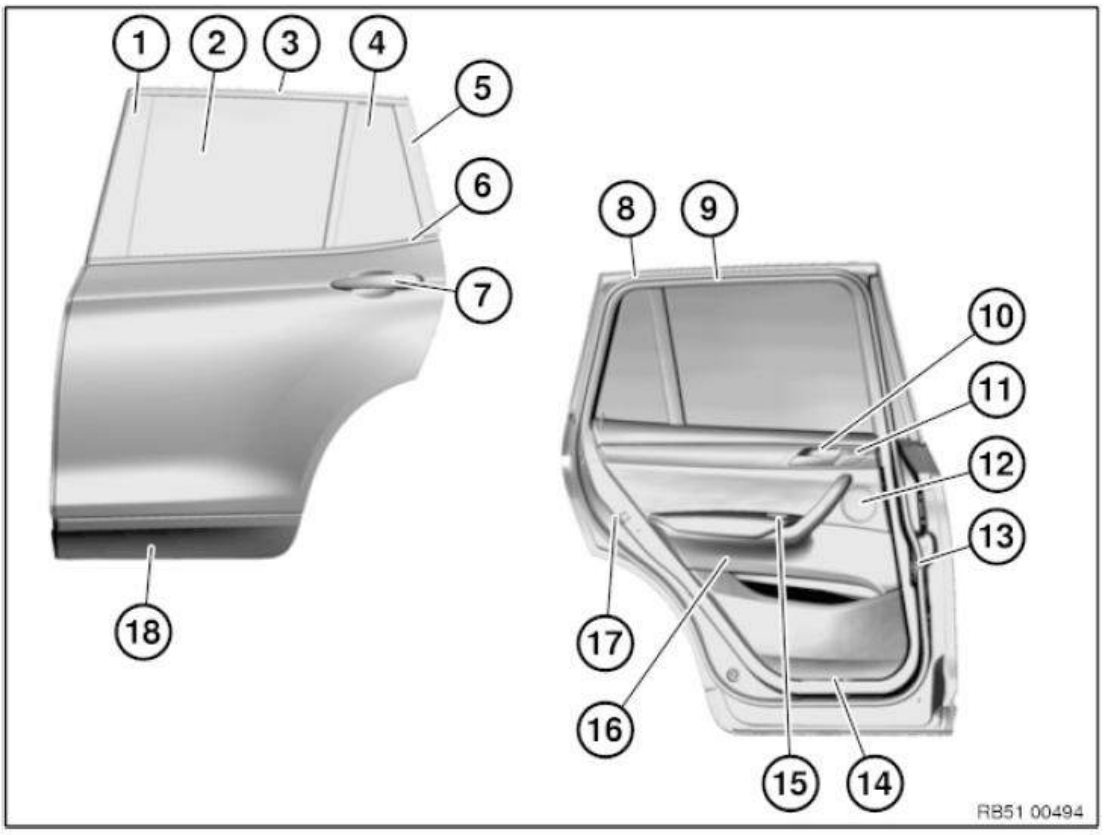
51 22 004 ADJUSTING REAR LEFT OR RIGHT DOOR LOCK STRIKER

Operation is described in:

ADJUSTING LEFT OR RIGHT REAR DOOR .

51 00.. OVERVIEW OF REAR DOOR

cardiagn.com



1	Cover (front) on window frame	10	Door opener, inside
2	Door window glass	11	Blind cover or tweeter cover
3	Rubber guide for door window glass	12	Mid-range speaker cover
4	Door window (stationary)	13	Door brake
5	Cover (rear) on window frame	14	Footwell light
6	Window cavity cover strip	15	Rocker switch
7	Outside handle	16	Door trim panel
8	Seal	17	Door lock
9	Cover on door window frame	18	Body moulding

Fig. 259: Overview Of Rear Door
Courtesy of BMW OF NORTH AMERICA, INC.

51 22 235 REMOVING AND INSTALLING/REPLACING BOWDEN CABLE FOR INSIDE DOOR OPENER ON LEFT OR RIGHT REAR DOOR

Necessary preliminary tasks:

- Remove **REAR DOOR TRIM PANEL**

NOTE: **Graphic is similar.**

Lever out lock (1)

Pull off Bowden cable housing (2) towards rear/top - the Bowden cable feeds out of its own accord in the process.

cardiagn.com

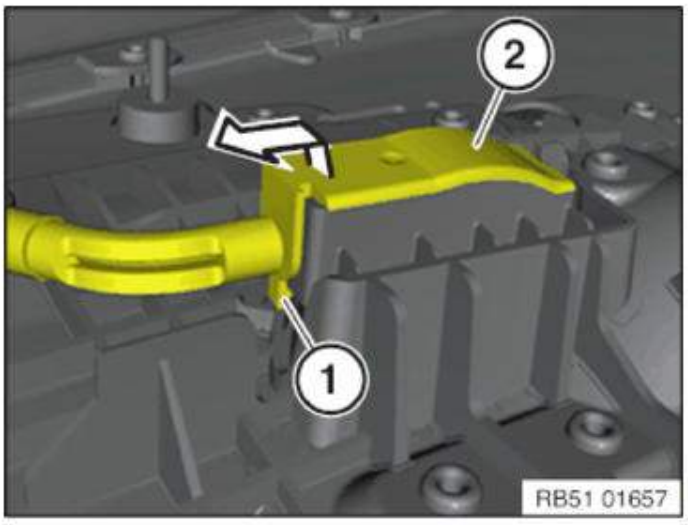


Fig. 260: Pulling Bowden Cable Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

To install the Bowden cable, press inner door handle (1) in direction of arrow.

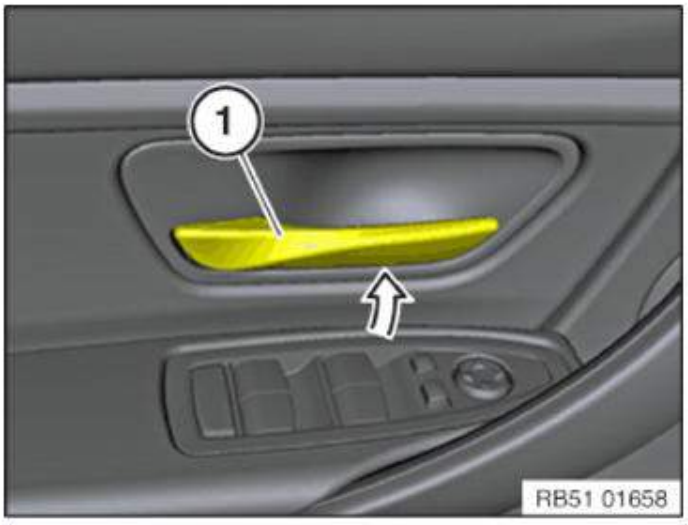
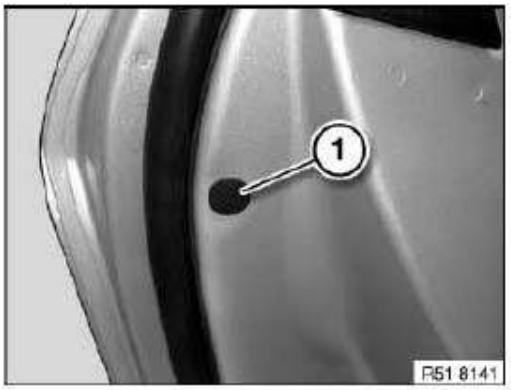


Fig. 261: Pressing Inner Door Handle
Courtesy of BMW OF NORTH AMERICA, INC.

51 22 180 REMOVING AND INSTALLING/REPLACING COVER ON OUTER DOOR HANDLE, LEFT OR RIGHT

Lever out cap (1) and release screw underneath.



cardiagn.com

Fig. 262: Identifying Door Handle Cap
Courtesy of BMW OF NORTH AMERICA, INC.

Pull out cover (1) in direction of arrow with outer door handle (2) opened slightly.

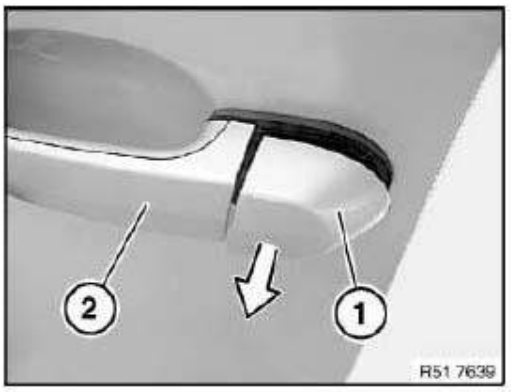


Fig. 263: Pulling Outer Door Handle Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Version with light package:

Installation note:

Make sure outer door handle light (1) is exactly positioned in area (2).

Guides (3) of outer door handle light (1) must be correctly seated in support for outer door handle (4).

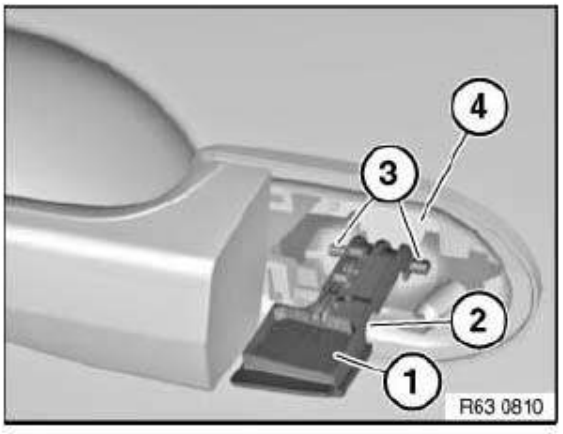
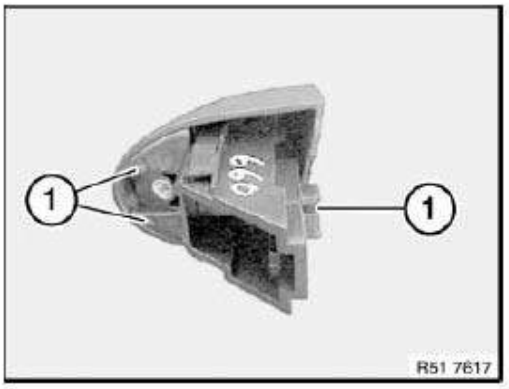


Fig. 264: Identifying Outer Door Handle And Guides
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Guides (1) must not be damaged.



cardiagn.com

Fig. 265: Identifying Outer Door Handle Guides
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement

NOTE: **Similar to graphic.**

Detach cover (2) from filler piece (3).

Installation note:

Latch mechanisms (1) of cover (2) must not be damaged.

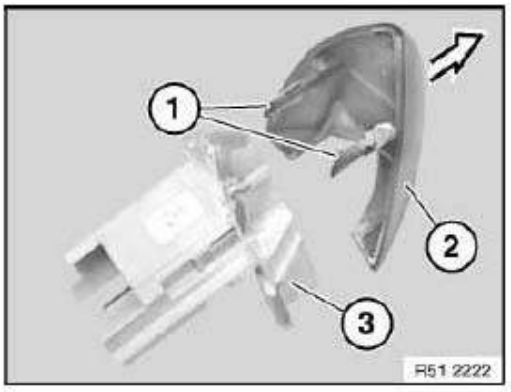


Fig. 266: Detaching Door Handle Cover From Filler Piece
Courtesy of BMW OF NORTH AMERICA, INC.

51 22 090 REMOVING AND INSTALLING/REPLACING DOOR LOCK IN LEFT OR RIGHT REAR DOOR

Special tools required:

- 51 2 190

Necessary preliminary tasks:

- If necessary, close side window
- Remove SOUND INSULATION IN REAR DOOR

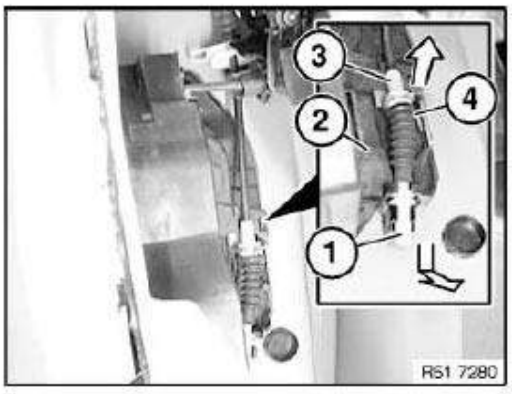
Disconnect Bowden cable at bottom (1) and top (3) from door lock (2).

Installation note:

Bowden cable must be correctly engaged in locators in door lock (2).

Bowden cable must be laid without kinks in bend to door lock (2).

Seal (4) must be correctly fitted on Bowden cable.



cardiagn.com

Fig. 267: Disconnecting Bowden Cable From Door Lock
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Door cannot be opened if Bowden cable (1) is incorrectly laid.

Lever out locking rod (1).

Unfasten plug connection (2) and disconnect.

Release screws (3) and maneuver out door lock above door aperture.

IMPORTANT: Do not damage gasket at door lock during removal (water ingress).

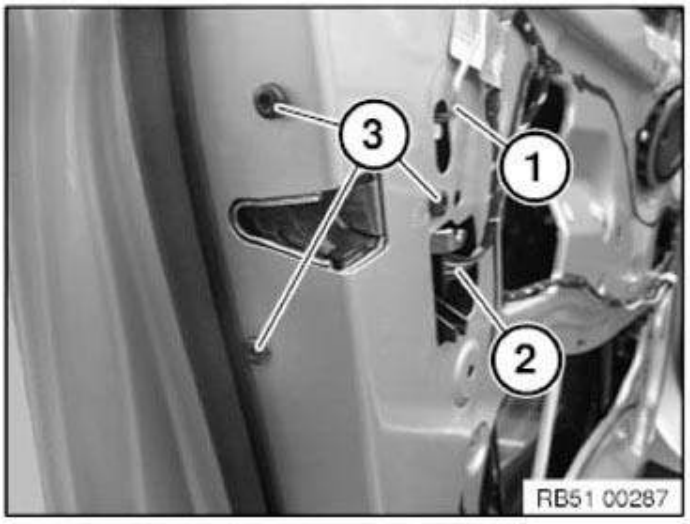


Fig. 268: Identifying Door Locking Rod And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Install door lock (1) and screw in screws (2) but to not tighten.

Slide special tool **51 2 190** into opened rotary striker until striker engages in first stage

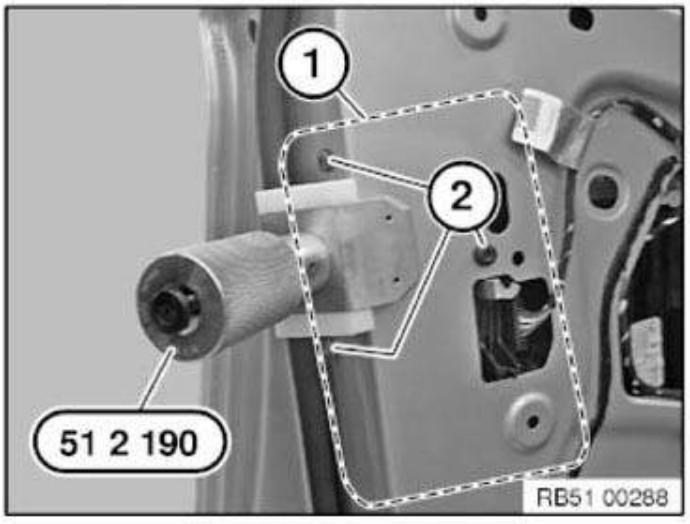


Fig. 269: Installing Special Tool (51 2 190) Into Rotary Striker
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Pre-tension door lock (1) with knurled screw (2) until special tool **51 2 190** just contacts corner points (3)

cardiagn.com

IMPORTANT: To tension door lock (1), it is only permitted to tighten knurled screw (2) by a further 1 to 1.5 turns (max.) (risk of damage).
Door lock seal must rest uniformly on inner door panel (water ingress).

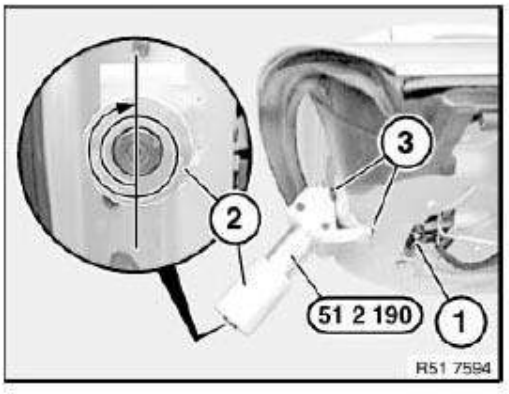


Fig. 270: Identifying Door Lock, Knurled Screw And Special Tool (51 2 190)
Courtesy of BMW OF NORTH AMERICA, INC.

Tighten screws of door lock

Observe tightening sequence: bottom - top - inner.

Tightening torque **51 22 1AZ** .

Installation note:

Check function of child safety catch, as problems may arise:

- Lock does not center in body aperture
- Lock scrapes on inner door panel
- Lock snags on inner door panel

51 22 280 REMOVING AND INSTALLING/REPLACING DOOR STOP ON LEFT OR RIGHT REAR DOOR

After disengaging door stop, use suitable means of preventing door from opening past its maximum permissible opening angle (risk of damaging paintwork or bodywork).

Necessary preliminary work:

- Close side window if necessary
- Remove **SOUND INSULATION ON REAR DOOR** (only in door stop area)

Release screw (1).

Tightening torque **51 22 3AZ** .

Unscrew nuts (2).

Tightening torque **51 22 5AZ**

cardiagn.com

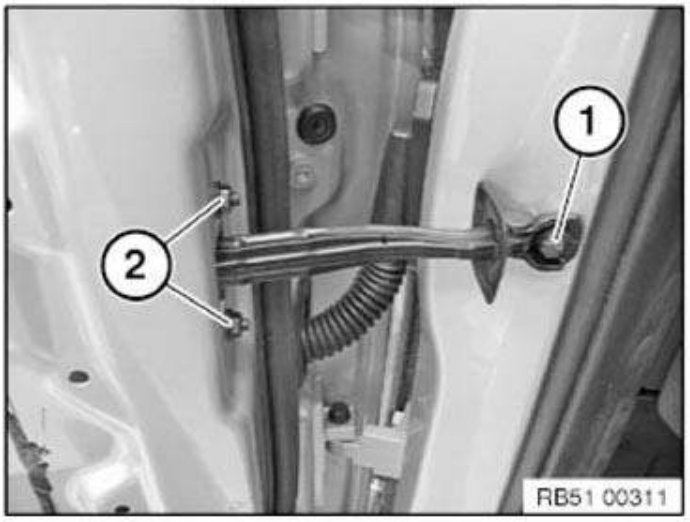


Fig. 271: Identifying Right Front Door Screw And Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Remove door stop (1) via aperture (2).

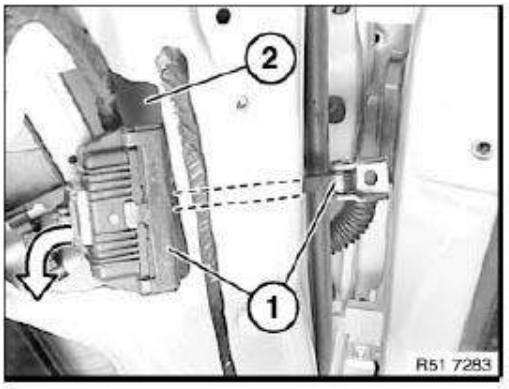


Fig. 272: Identifying Door Stop
Courtesy of BMW OF NORTH AMERICA, INC.

51 22 170 REMOVING AND INSTALLING/REPLACING OUTER DOOR HANDLE ON LEFT OR RIGHT REAR DOOR

Necessary preliminary tasks:

- Remove **COVER ON OUTER DOOR HANDLE**

If necessary, lay outer door handle light (1) slightly to one side.

Pull out outer door handle (2) and feed out in direction of arrow.

Version with Comfort Access/CA:

Carefully feed out outer door handle (2) and disconnect associated plug connection.

cardiagn.com

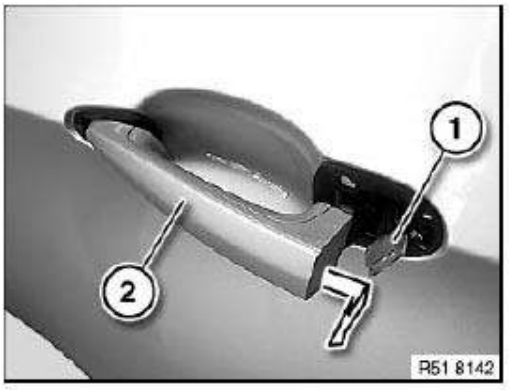


Fig. 273: Pulling Outer Door Handle
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Locator (1) must not be damaged.

Version with Comfort Access/CA:

Seal (2) must not be damaged.

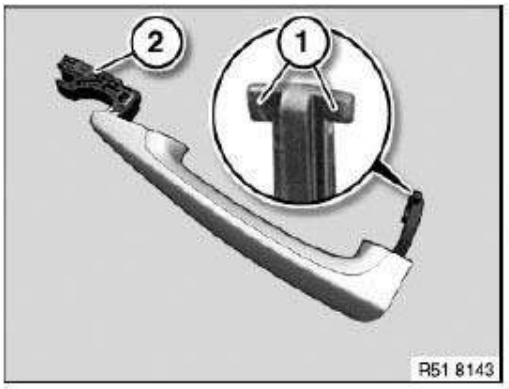


Fig. 274: Identifying Outer Door Handle Seal
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Seals (1 and 2) must not be damaged.

In necessary, use string to pull lock actuation (3) outwards and hold in position.

Install outer door handle and insert correctly into lock actuator (3).

Remove string.

Mount **COVER ON OUTER DOOR HANDLE** and carry out function check with open door.

cardiagn.com

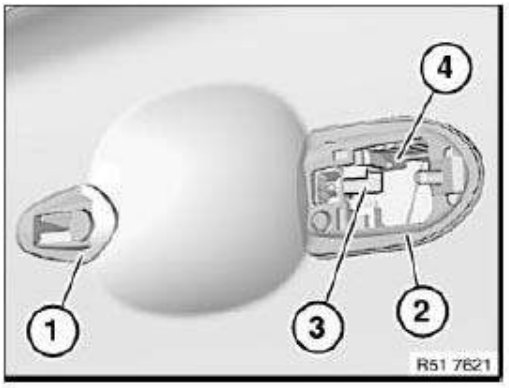


Fig. 275: Identifying Door Lock Actuation And Actuator
Courtesy of BMW OF NORTH AMERICA, INC.

After replacing version with Comfort Access/CA:

Clear fault memory and perform functional check.

51 22 126 REMOVING AND INSTALLING/REPLACING SUPPORT FOR OUTER DOOR HANDLE ON LEFT OR RIGHT REAR DOOR

Necessary preliminary work:

- Remove **OUTER DOOR HANDLE ON REAR DOOR**
- Remove **SOUND INSULATION IN REAR DOOR**

Disconnect Bowden cable at bottom (1) and top (2) from door lock (2).

Installation note:

Bowden cable must be correctly engaged in locators in door lock (2).

Bowden cable must be laid without kinks in bend to door lock (2).

Seal (4) must be correctly fitted on Bowden cable.

IMPORTANT: Door cannot be opened if Bowden cable (1) is incorrectly laid.

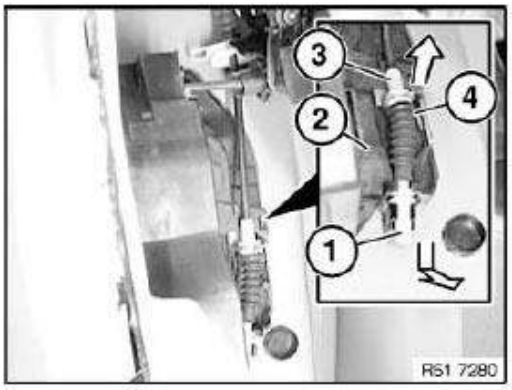


Fig. 276: Disconnecting Bowden Cable From Door Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Remove seals (1) in direction of arrow.

Release screw (2).

cardiagn.com

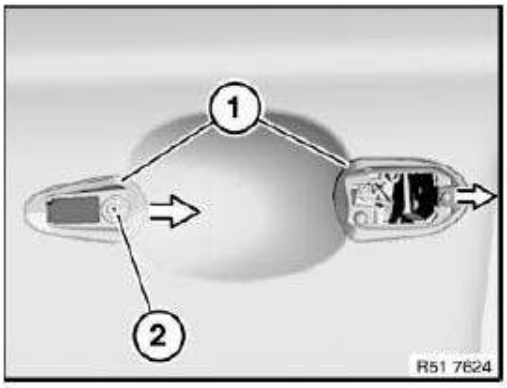


Fig. 277: Removing Door Handle Seal
Courtesy of BMW OF NORTH AMERICA, INC.

If necessary, release cable clip for outer door handle light from support (1).

Remove support (1) in direction of arrow and feed out.

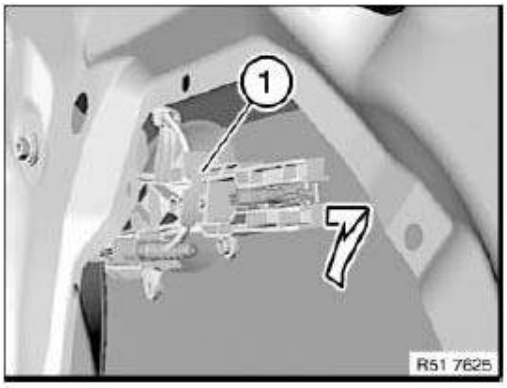


Fig. 278: Removing Door Inner Support
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement

If necessary, release cable strap (1).

Feed Bowden cable (2) out of support (3).

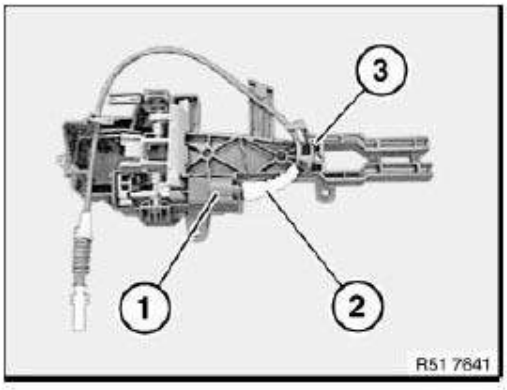


Fig. 279: Identifying Door Bowden Cable, Support And Cable Strap
Courtesy of BMW OF NORTH AMERICA, INC.

51 22 330 REMOVING AND INSTALLING/REPLACING WEATHER STRIP ON INSIDE REAR DOOR

Necessary preliminary tasks:

- Remove **REAR DOOR TRIM PANEL**

cardiagn.com

Pull the weather strip (1) off rear door.

Installation note:

Replace faulty clamps (2).

Pay attention to fitting position of different clips (2).

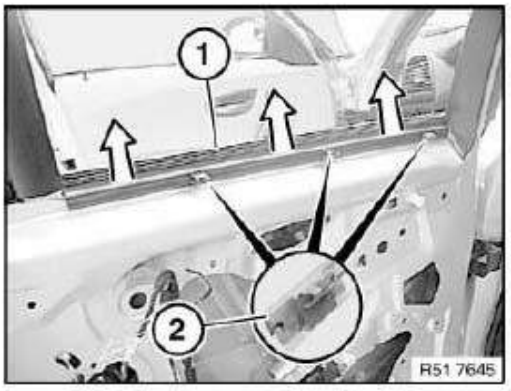


Fig. 280: Pulling Rear Door Weather Strip
Courtesy of BMW OF NORTH AMERICA, INC.

51 22 300 REMOVING AND INSTALLING/REPLACING WEATHER STRIP ON REAR DOOR ON LEFT OR RIGHT

Special tools required:

- 00 9 317
- 00 9 324

IMPORTANT: Observe **PROCEDURE** for using special tool 00 9 324 .

IMPORTANT: If reusing the existing weather strip (1), make sure it is not bent.

Lever out weather strip (1) with special tool 00 9 324 (starting at B-pillar).

Simultaneously lift out weather strip (1) with special tool 00 9 317 in the vicinity of the B-pillar.

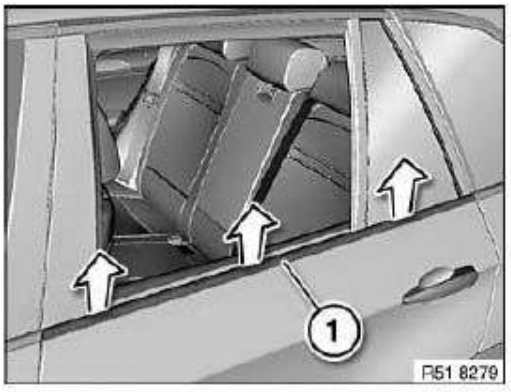


Fig. 281: Lifting Weather Strip
Courtesy of BMW OF NORTH AMERICA, INC.

51 21... REMOVING WEATHER STRIP WITH SPECIAL TOOL 00 9 324 AT FRONT OR REAR

Refer to 51 21... REMOVING WEATHER STRIP WITH SPECIAL TOOL 00 9 324 AT FRONT OR REAR.

51 22 001 REPLACING DOOR DETENT (LOCK STRIKER), REAR LEFT OR RIGHT

cardiagn.com

Release screws (1).

Remove lock striker.

Tightening torque **51 22 2AZ** .

After installation:

Adjust door detent . See **41 51... ADJUST DOOR** or **41 51... ADJUST DOOR** .

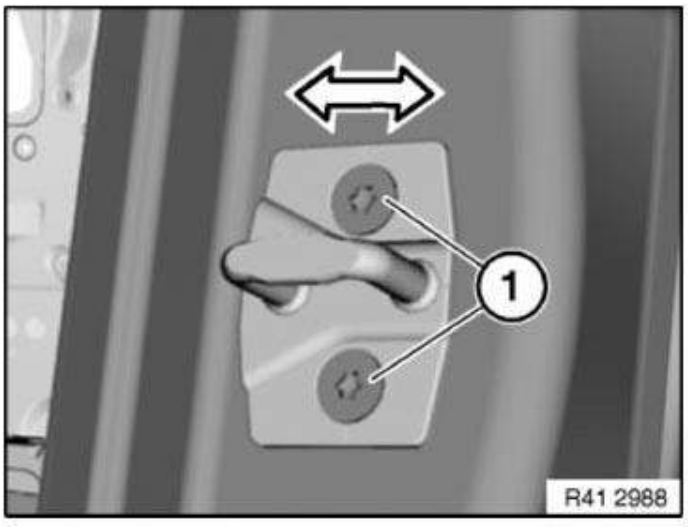


Fig. 282: Removing Lock Striker
Courtesy of BMW OF NORTH AMERICA, INC.

51 22... REPLACING INSIDE DOOR OPENER ON LEFT OR RIGHT REAR DOOR

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary work:

- Detach **Bowden cable for inner door opener** . See **51 21 235 REMOVING AND INSTALLING/REPLACING BOWDEN CABLE FOR INSIDE DOOR OPENER ON LEFT OR RIGHT FRONT DOOR** or **51 22 235 REMOVING AND INSTALLING/REPLACING BOWDEN CABLE FOR INSIDE DOOR OPENER ON LEFT OR RIGHT REAR DOOR**

Version with roller sunblind only

- Remove **ROLLER SUN BLIND**

NOTE: **The graphic shows the left door trim panel.**

If necessary, unclip and remove tweeter (4).

Release round weldings (1) with a Ã˜ 12 mm drill.

Release long welding (2) with a box cutter.

Lever out inside door opener housing on door trim panel (3) and set down.

cardiagn.com

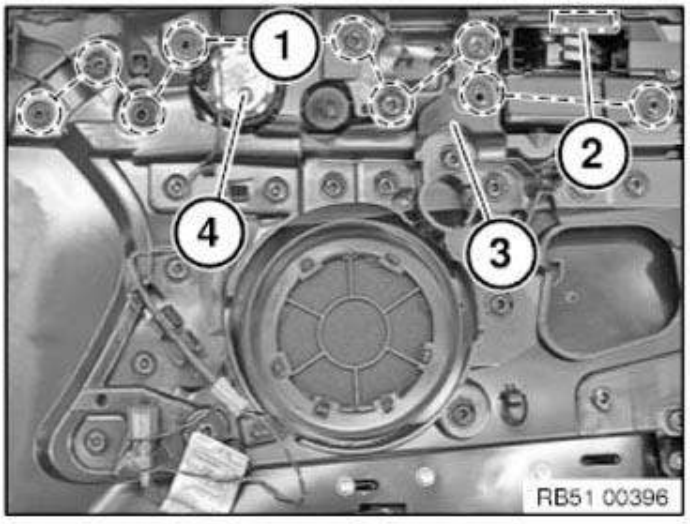


Fig. 283: Identifying Door Trim Panel, Welding And Tweeter
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Fold long retaining clip (2) over inside housing tab of the door opener and press tight.

Only with roller sunblind:

- Bend housing tab of door opener with retaining clip (2) upward at a slant until roller sunblind can be mounted.

Secure door handle to door trim panel (3) by pressing down round retaining clips (1).

Reinstall tweeter (4).

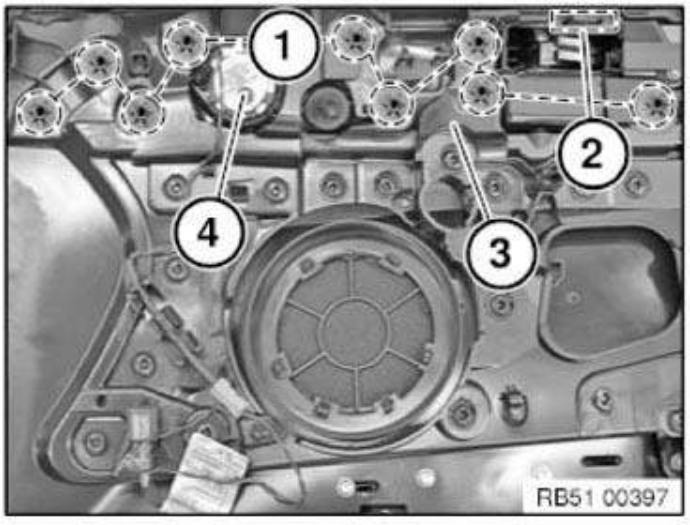


Fig. 284: Identifying Door Trim Panel, Retaining Clips And Tweeter
Courtesy of BMW OF NORTH AMERICA, INC.

HOOD LATCH, LOCKS

51 23 004 ADJUSTING ENGINE COMPARTMENT LID CATCH

Operation is described in:

ADJUSTING ENGINE COMPARTMENT LID .

51 23 131 ADJUSTING LEFT OR RIGHT STRIKER ON ENGINE COMPARTMENT LID

cardiagn.com

Adjusting striker is described in:

ADJUSTING ENGINE COMPARTMENT LID

Undo screws (3) and remove striker (2).

Tightening torque **51 23 1AZ** .

Disconnect Bowden cable (1).

Installation note:

ADJUST ENGINE COMPARTMENT LID

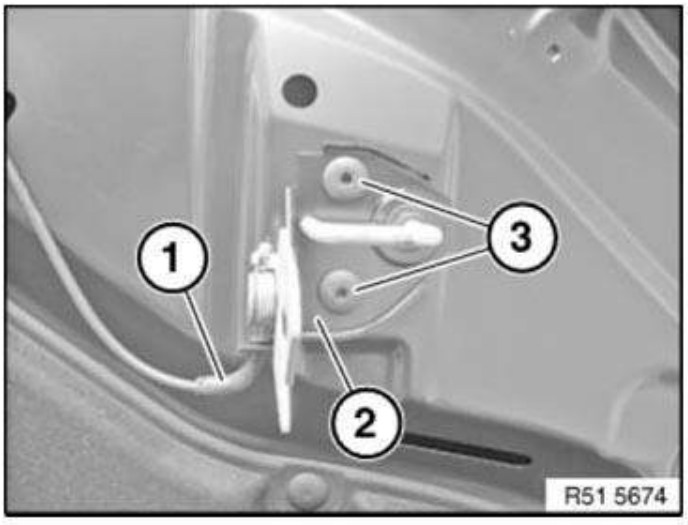


Fig. 285: Identifying Door Lock Striker Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 23... ADJUSTING/REPLACING BUMP STOPS (VERSION 1)

The illustrations are schematic representations and are to be applied to the relevant vehicle type.

Version 1:

Following parts must not be damaged:

- (1) Bump stop

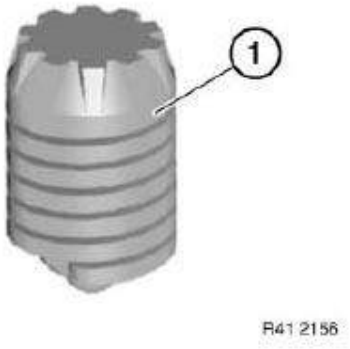


Fig. 286: Identifying Bump Stop
Courtesy of BMW OF NORTH AMERICA, INC.

Adjust bump stop (1) to correct height by turning left or right.

cardiagn.com

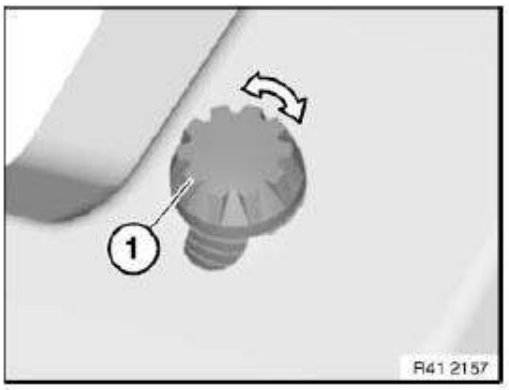


Fig. 287: Adjusting Bump Stop
Courtesy of BMW OF NORTH AMERICA, INC.

Version 2:

Replace damaged bump stops:

- (1) Bump stop with ejector

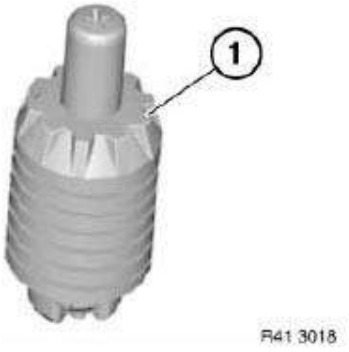


Fig. 288: Identifying Bump Stop With Ejector
Courtesy of BMW OF NORTH AMERICA, INC.

Press ejector (1) into bump stop and, in this position, twist approx. 90Â° counterclockwise with a Phillips screwdriver.

This locks the ejectors (1) in the bump stops.

Adjust bump stop (2) to correct height by turning left or right.

Unlock the ejector (1) again after completing adjustment.

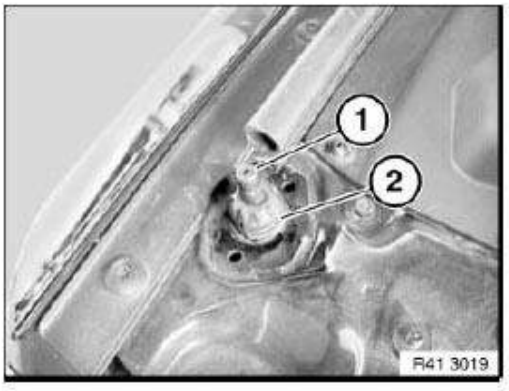


Fig. 289: Identifying Bump Stop And Ejector
Courtesy of BMW OF NORTH AMERICA, INC.

Version 3:

cardiagn.com

Replace damaged bump stops:

- (1) Bump stop

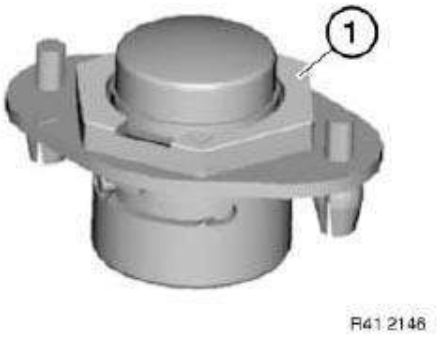


Fig. 290: Identifying Bump Stop
Courtesy of BMW OF NORTH AMERICA, INC.

Turn lock (1) 45Â° counterclockwise.

Pull bump stop (2) upwards.

Close lid slowly until it is at the same height as the side panel.

Open lid and turn lock (1) clockwise.

Installation:

Press bump stop into panel and drive in expanding pins (3).

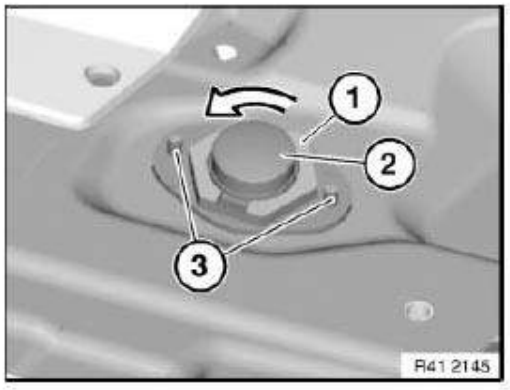


Fig. 291: Turning Bump Stop Lock
Courtesy of BMW OF NORTH AMERICA, INC.

51 23... ADJUSTING/REPLACING BUMP STOPS (VERSION 2)

The graphics are schematic representations and are to be applied to the relevant vehicle type.

Prerequisite: Lid must be correctly adjusted.

Following parts must not be damaged:

- (1) Bump stop
- (2) Catches

Remove adjusting buffer by pressing latch mechanisms back.

cardiagn.com

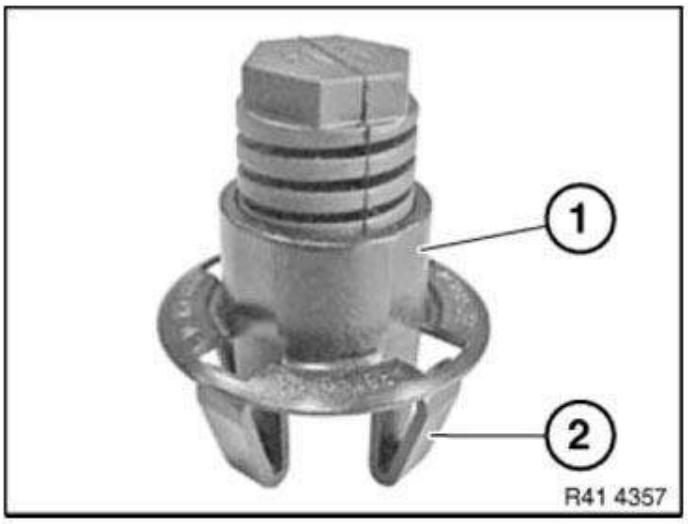


Fig. 292: Identifying Bump Stop And Catches
Courtesy of BMW OF NORTH AMERICA, INC.

Screw in adjusting buffer (1) to create distance to engine compartment lid.

Place a cone (2) of modeling or sealing compound on adjusting buffer.

Slowly close engine compartment lid.

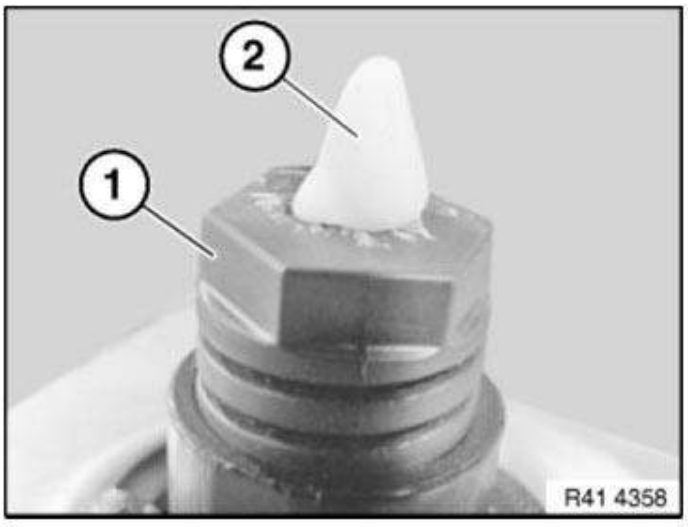


Fig. 293: Identifying Engine Compartment Lid Buffer And Cone
Courtesy of BMW OF NORTH AMERICA, INC.

Raise engine compartment lid.

Compressed cone (1) determines distance between adjusting buffer and engine compartment lid.

cardiagn.com

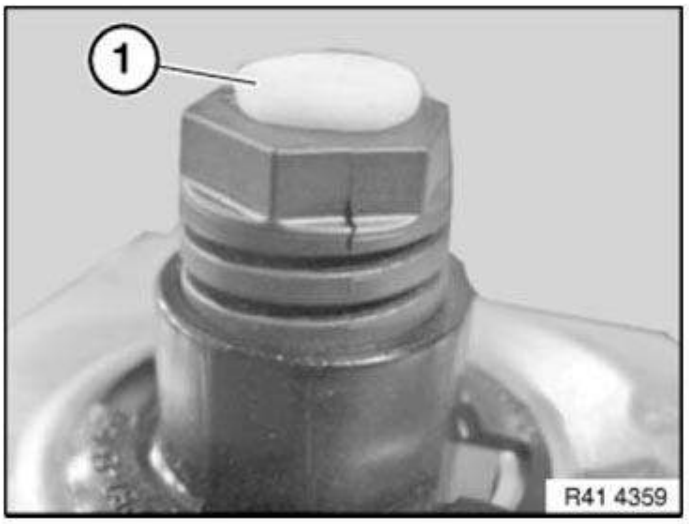


Fig. 294: Identifying Engine Compartment Lid Cone
Courtesy of BMW OF NORTH AMERICA, INC.

Measure dimension a between compressed cone and edge (1) of adjusting buffer.

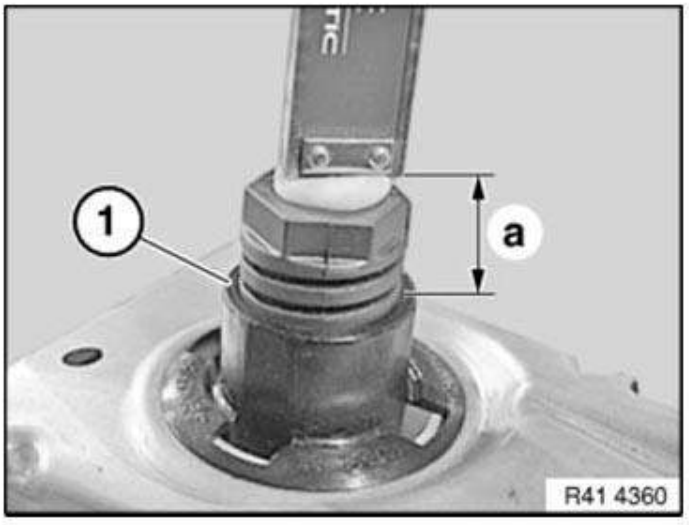


Fig. 295: Identifying Compressed Cone And Adjusting Buffer Edge Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

Adjust measured dimension a + 0.5 mm by unscrewing adjusting buffer (1).

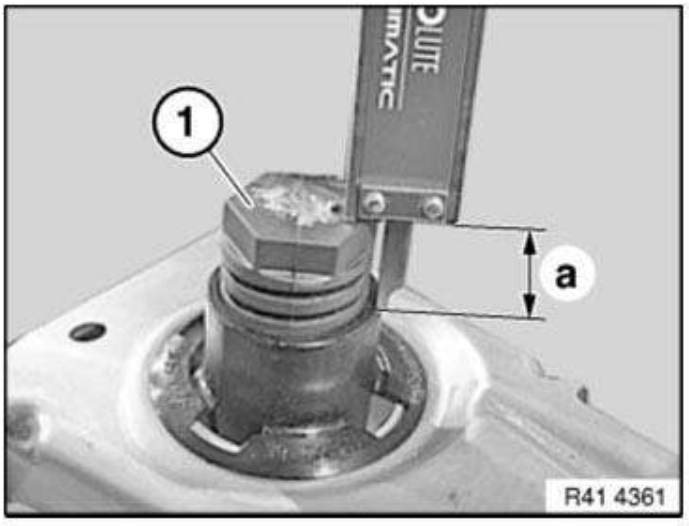


Fig. 296: Identifying Compressed Cone And Adjusting Buffer Edge Dimension

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

51 23... ADJUSTING/REPLACING BUMP STOPS (VERSION 3)

Necessary preliminary tasks:

Remove **luggage compartment wheel arch panel** . See 51 47 151 REMOVING AND INSTALLING/REPLACING LEFT LUGGAGE COMPARTMENT WHEEL ARCH PANEL or 51 47 161 REMOVING AND INSTALLING/REPLACING RIGHT LUGGAGE COMPARTMENT WHEEL ARCH PANEL.

Following parts must not be damaged:

- (1) Bump stop
- (2) Lock nut (following illustration)

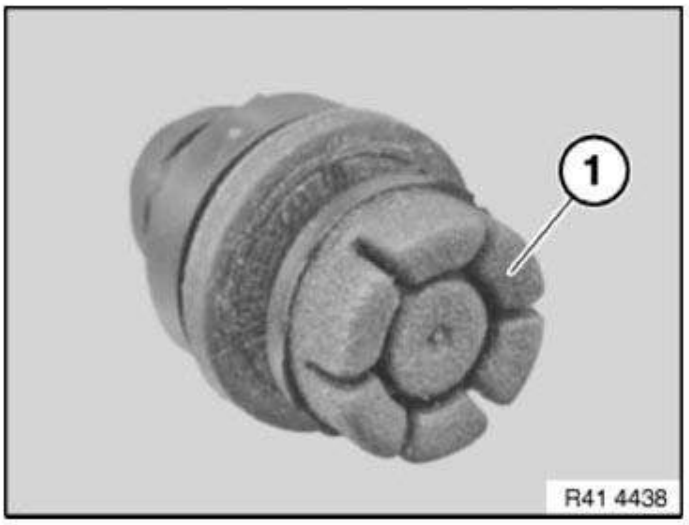


Fig. 297: Identifying Bump Stop
Courtesy of BMW OF NORTH AMERICA, INC.

General view of rear side:

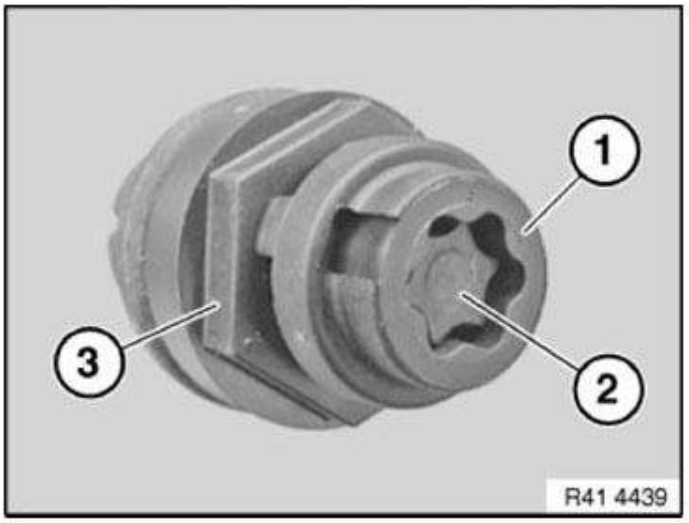
- **Adjust stop pads**

  Remove cap (1).

  Adjust stop pad to correct height by turning screw (2) to left or right.

- **Remove stop pads**

  Release nut (3) and remove stop pads.



cardiagn.com

Fig. 298: Identifying Bump Stop, Cap, Screw And Nut
Courtesy of BMW OF NORTH AMERICA, INC.

51 23 110 REMOVING AND INSTALLING/REPLACING LEFT ENGINE COMPARTMENT LID LOCK

Necessary preliminary tasks:

- Remove **TOP REAR CONNECTION**

Engine compartment lid catch with microswitch:

Detach plug connection (1) by twisting from catch carrier.

Unfasten plug connection (1) and disconnect.

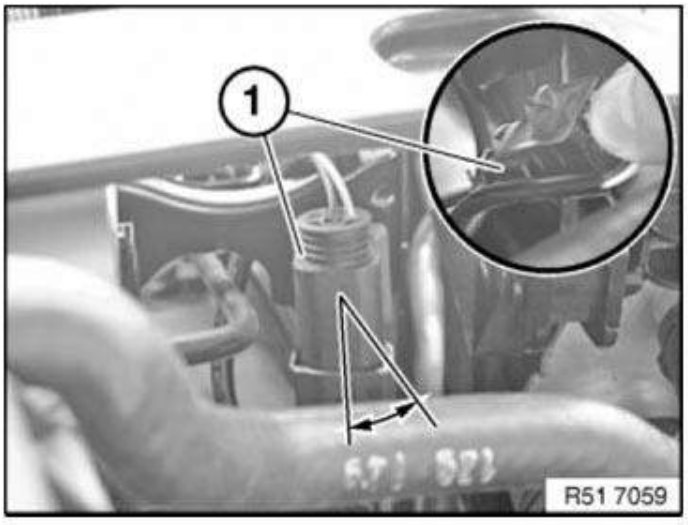


Fig. 299: Identifying Engine Compartment Lid Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

Tightening torque **51 23 2AZ** .

Remove engine compartment lid lock (2) downwards.

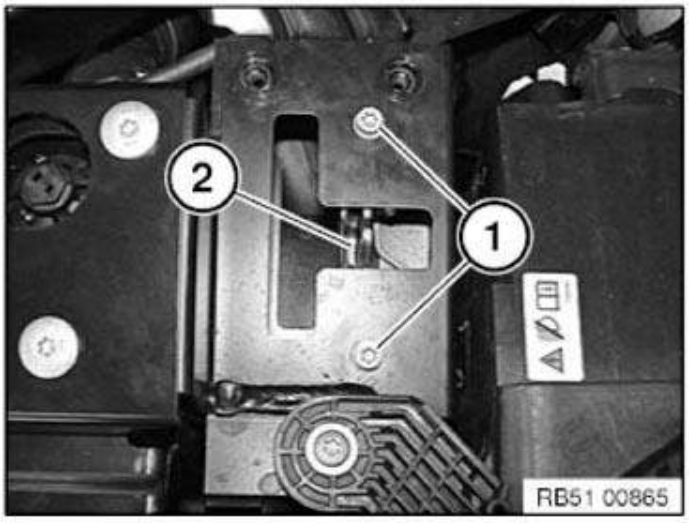


Fig. 300: Identifying Engine Compartment Lid Lock And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Disengage Bowden cable (1) in direction of arrow from engine compartment lid lock (2).

cardiagn.com

Remove engine compartment lid catch.

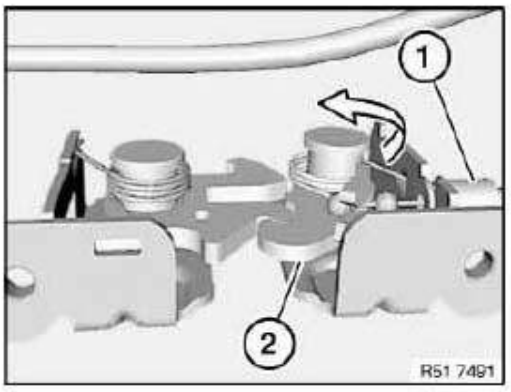


Fig. 301: Disengaging Bowden Cable From Engine Compartment Lid Lock
Courtesy of BMW OF NORTH AMERICA, INC.

51 23 265 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT GAS PRESSURE SPRING FOR ENGINE COMPARTMENT LID

WARNING: **Danger of injury and damage!**
For the following tasks, you must take the appropriate measures to support the engine compartment lid.
As an alternative, you can enlist the help of a second person to hold the engine compartment lid.

Raise engine compartment lid.

Carry out **BALL SOCKET REMOVAL** at both ends (1) of gas pressure spring (2).

Set down gas pressure spring (2).

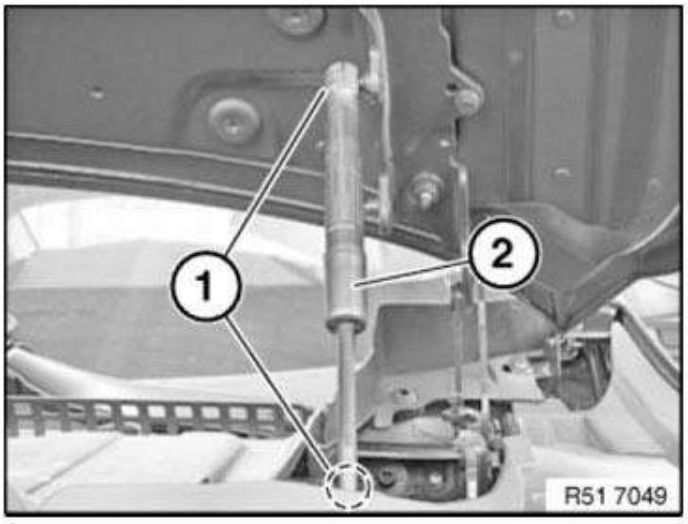


Fig. 302: Identifying Gas Pressure Spring
Courtesy of BMW OF NORTH AMERICA, INC.

51 23 211 REMOVING AND INSTALLING/REPLACING PULL CABLE FOR HOOD/BONNET LOCKS AT FRONT

Necessary preliminary tasks:

- Remove the **engine compartment lid catch on the left and right** . See **51 23 110 REMOVING AND INSTALLING/REPLACING LEFT ENGINE COMPARTMENT LID LOCK** or **51 23 100 REMOVING AND INSTALLING/REPLACING RIGHT ENGINE COMPARTMENT LID LOCK**

cardiagn.com

Unclip clutch housing Bowden cable (1) at marked points.

Installation note:

Clips must not be damaged.

To open up clutch housing cover, lever up cover (2) in direction of arrow.

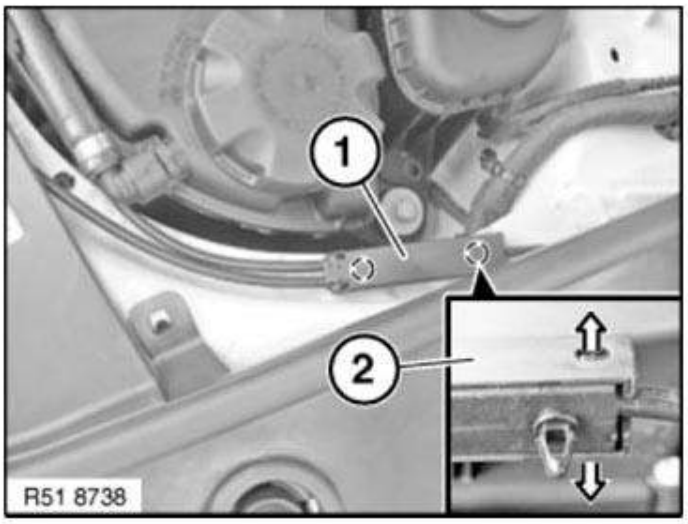


Fig. 303: Removing Clutch Housing Bowden Cable
Courtesy of BMW OF NORTH AMERICA, INC.

Feed rear Bowden cable (2) out of holder (1) and clutch housing (3).

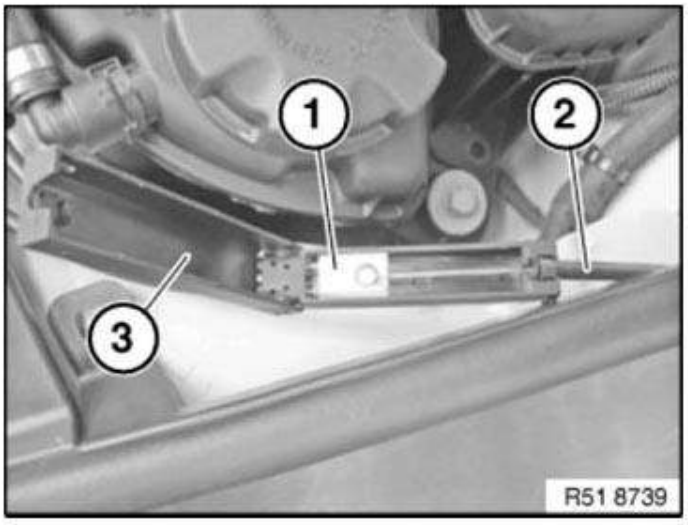


Fig. 304: Identifying Bowden Cable, Holder And Clutch Housing
Courtesy of BMW OF NORTH AMERICA, INC.

51 23 201 REMOVING AND INSTALLING/REPLACING RELEASE MECHANISM FOR RETAINING HOOK ON ENGINE COMPARTMENT LID

Screw connection only:

Release screws (1) on engine compartment lid (2).

Unhook Bowden cables (4) from release element (3).

Remove release element (3).

cardiagn.com

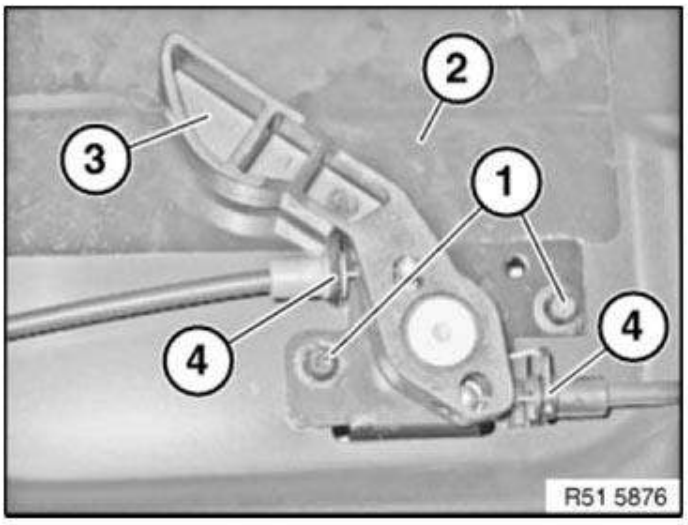


Fig. 305: Identifying Engine Compartment Lid And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Riveting:

Drill off blind rivets (1).

Unhook Bowden cables (2) from release element (3).

Remove release element (3).

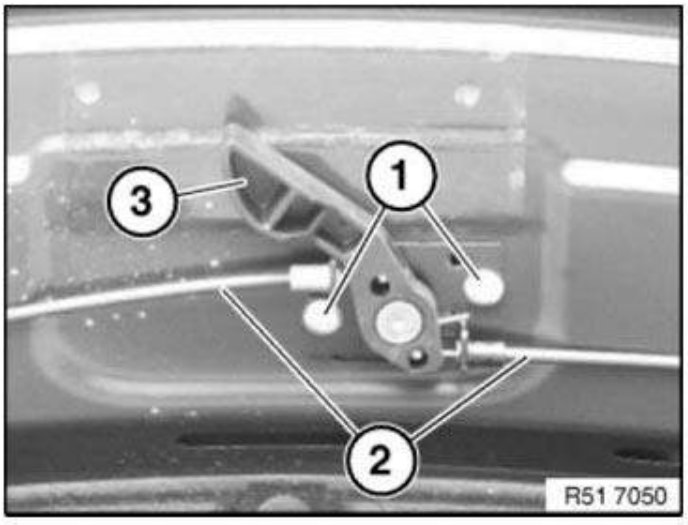


Fig. 306: Identifying Bowden Cables, Release Element And Rivets
Courtesy of BMW OF NORTH AMERICA, INC.

51 23 100 REMOVING AND INSTALLING/REPLACING RIGHT ENGINE COMPARTMENT LID LOCK

Release screws (1) and remove holder (2).

Tightening torque **51 64 3AZ** .

Release screws (3).

Tightening torque **51 23 2AZ** .

cardiagn.com

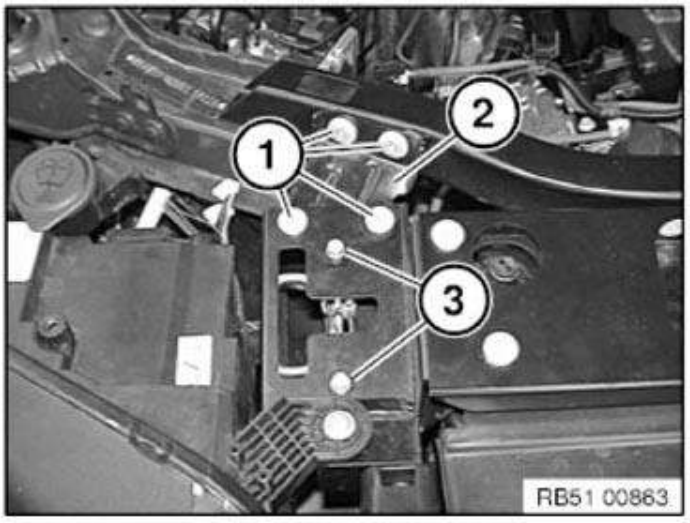


Fig. 307: Identifying Engine Compartment Lid Lock, Holder And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Remove engine compartment lid lock (1) in direction of arrow.

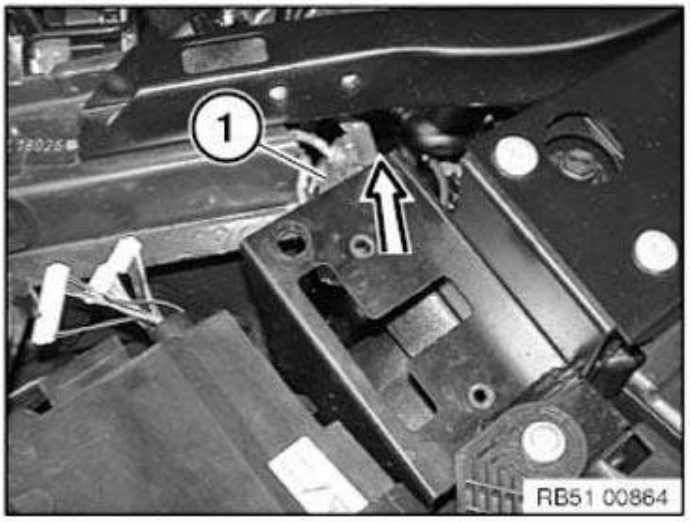


Fig. 308: Removing Engine Compartment Lid Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Disengage Bowden cable (1) in direction of arrow from engine compartment lid lock (2).

Remove engine compartment lid lock (2).

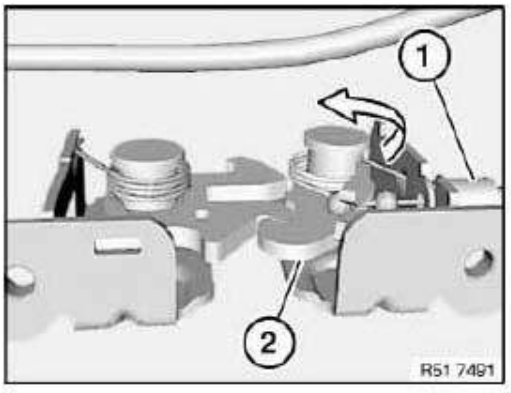


Fig. 309: Disengaging Bowden Cable From Engine Compartment Lid Lock
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

51 23... REMOVING/INSTALLING BALL SOCKETS WITH CLIP

WARNING: **Danger of injury! When installed, the gas pressurized shock absorber is under preload. Minimize preload as far as possible before removing.**

IMPORTANT: Never lift off ball socket with engaged clamp.

Version A:

1. Push on clamp in direction of groove with screwdriver
2. Lift off ball socket from ball pin
3. Slide clamp back
4. Fit ball socket on ball stud and snap into place with force

Installation note:

Pack grease into two opposite positions in socket. The grease spreads after installation on the ball pin all round in the ball socket.

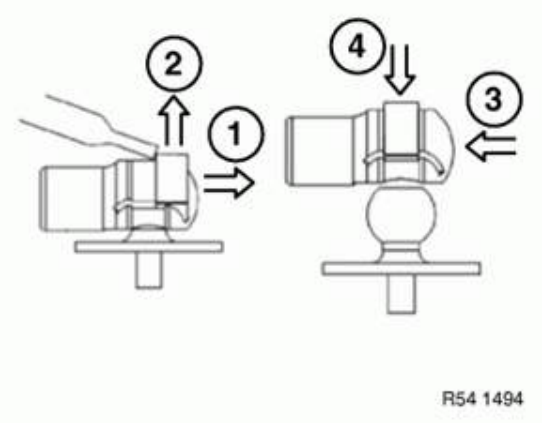


Fig. 310: Fitting Ball Socket On Ball Stud
Courtesy of BMW OF NORTH AMERICA, INC.

Version B:

IMPORTANT: Risk of damage!

If you are not careful, retaining spring (2) may be bent to such an extent that the entire drive spindle will have to be replaced.

Press drive spindle (1) against ball pin in order to relieve strain on retaining spring (2) at ball pin.

Pull out retaining spring (2) approx. 2-3 mm with screwdriver (3).

Pull off spindle foot.

cardiagn.com

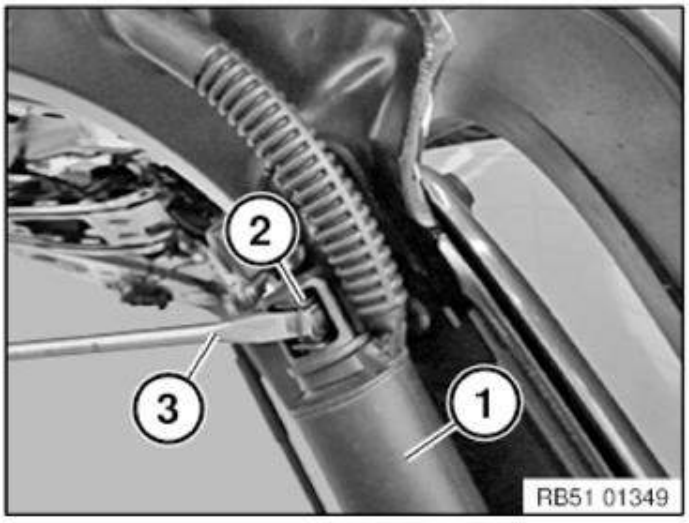


Fig. 311: Pulling Retaining Spring
Courtesy of BMW OF NORTH AMERICA, INC.

WARNING: **Observe warning notices on the damper.**
Electrical spindle drive for tailgate is under mechanical spring load!
The component must be secured against falling down.

Attention!

Risk of damage!

Do not press on spindle drive at an angle or twisted.

Installation note:

Press ball socket (1) onto ball pin (2) until retaining spring (3) engages correctly (clicking sound).

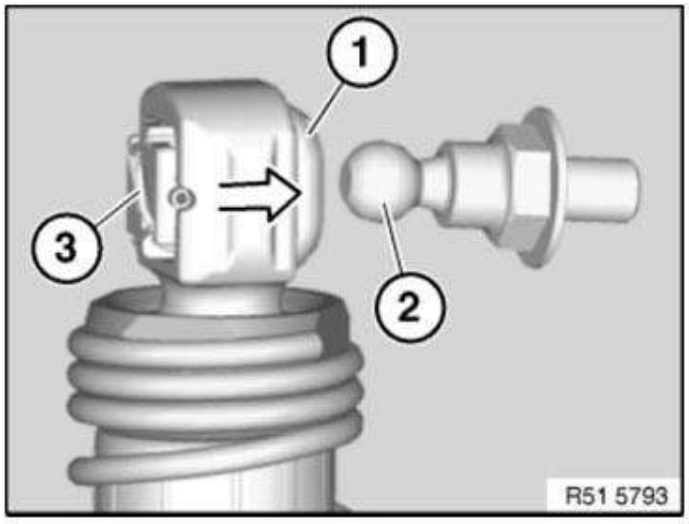


Fig. 312: Pressing Ball Socket Onto Ball Pin
Courtesy of BMW OF NORTH AMERICA, INC.

If retaining spring (4) is damaged!
Release pin (1).
IMPORTANT: Remove spindle drive (3).
Remove ball socket (2).
Remove retaining spring (4) and replace if necessary.

cardiagn.com

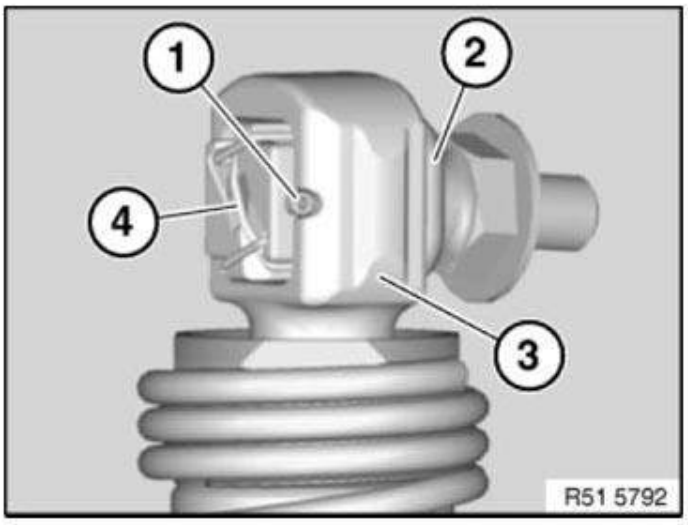


Fig. 313: Identifying Ball Socket, Spindle Drive And Retaining Pin
Courtesy of BMW OF NORTH AMERICA, INC.

TRUNK LATCH, LOCKS

51 24... ADJUSTING OPENING HEIGHT OF AUTOMATIC LUGGAGE COMPARTMENT LID ACTUATION (AUTOMATIC TAILGATE ACTIVATION)

NOTE: **For more information, see operating instructions.**
Graphics may vary depending on the vehicle.

Select menu item "Settings - Tailgate" via controller.



Fig. 314: Display - Settings Tailgate Screen
Courtesy of BMW OF NORTH AMERICA, INC.

Use the controller to select "Opening Height Power tailgate".

cardiagn.com



Fig. 315: Display - Opening Height Power Tailgate Screen
Courtesy of BMW OF NORTH AMERICA, INC.

51 24 004 ADJUSTING REAR LID LOCK

Prerequisite:

Rear lid must be correctly adjusted to fit; if necessary, **ADJUST REAR LID** .

For ideal adjustment, refer to **BODY GAP DIMENSIONS** .

Completely screw in stop pad (1) left/right.

See **Removing and installing/replacing bump stops on tailgate** . See **51 23... ADJUSTING/REPLACING BUMP STOPS** or **51 23... ADJUSTING/REPLACING BUMP STOPS** .

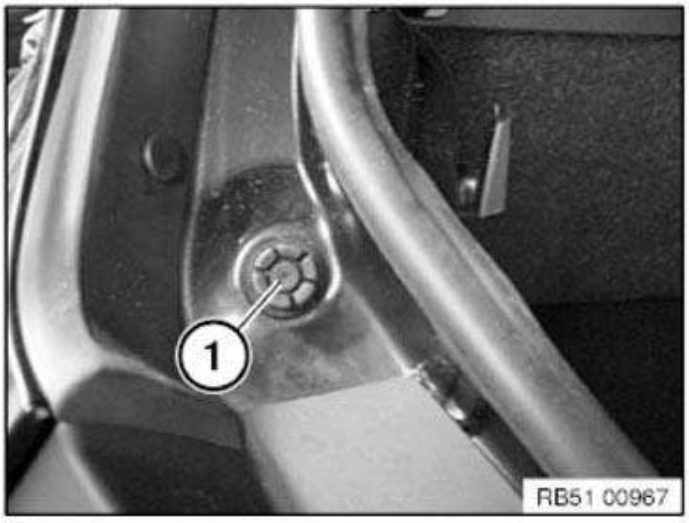


Fig. 316: Identifying Lid Lock Stop Pad
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip cover (1) from the lock strap (2) and set aside.

cardiagn.com

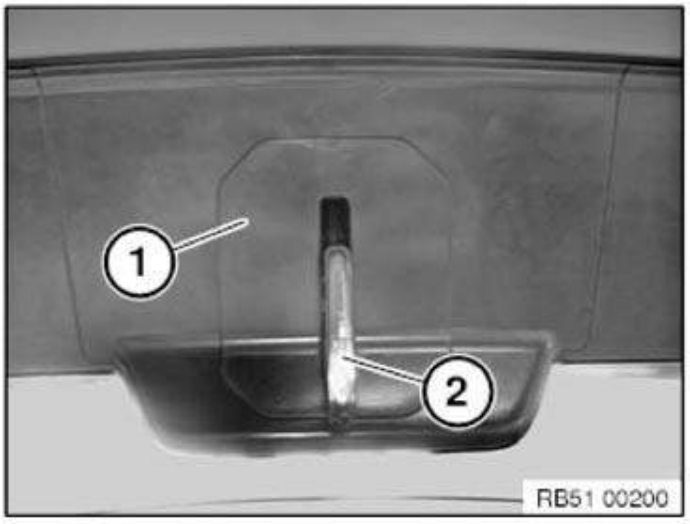


Fig. 317: Identifying Lock Strap
Courtesy of BMW OF NORTH AMERICA, INC.

Slacken screws (1) until striker (2) can still just be moved and centers itself.

Close rear lid.

Adjust tailgate to **NOMINAL DIMENSION** .

Tighten down screws (1).

Tightening torque **51 24 8AZ** .

NOTE: **When the tailgate is closed, the striker must not touch or scrape against the rear lid lock. Look out for scratch marks.**

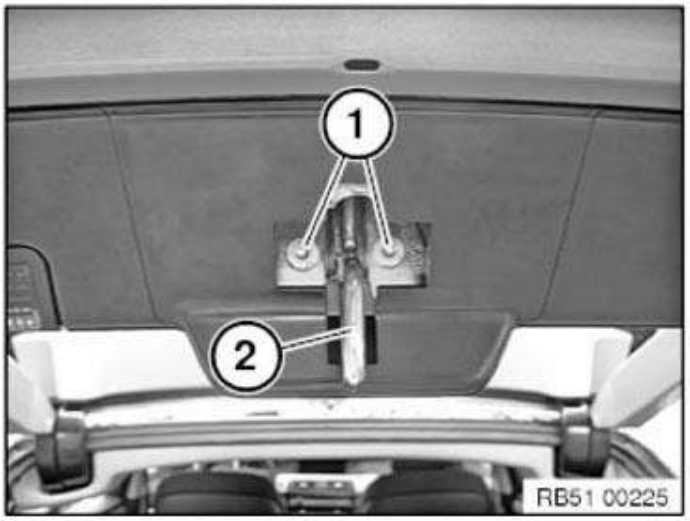


Fig. 318: Identifying Door Striker
Courtesy of BMW OF NORTH AMERICA, INC.

Screw out stop pad (1) left/right until they are in contact with the tailgate.

It must be possible to pull out paper strips with moderate friction resistance between the tailgate and stop pad (1).

Then screw out stop pad (1) one-half rotation further.

See **Removing and installing/replacing bump stops on tailgate** . See **51 23... ADJUSTING/REPLACING BUMP STOPS** or **51 23... ADJUSTING/REPLACING BUMP STOPS** .

cardiagn.com

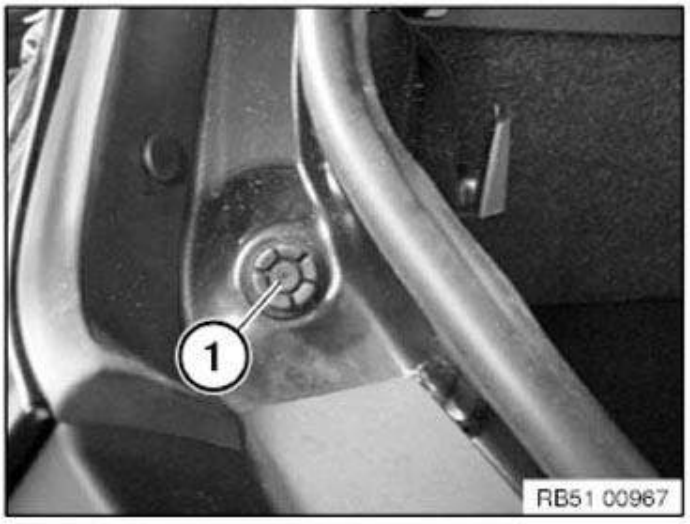


Fig. 319: Identifying Lid Lock Stop Pad
Courtesy of BMW OF NORTH AMERICA, INC.

51 23... ADJUSTING/REPLACING BUMP STOPS (VERSION 1)

The illustrations are schematic representations and are to be applied to the relevant vehicle type.

Version 1:

Following parts must not be damaged:

- (1) Bump stop

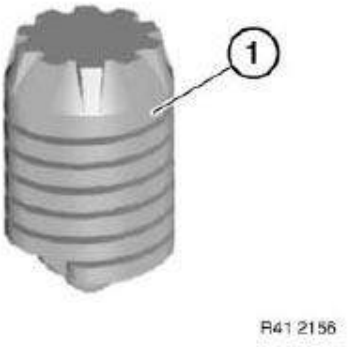


Fig. 320: Identifying Bump Stop
Courtesy of BMW OF NORTH AMERICA, INC.

Adjust bump stop (1) to correct height by turning left or right.

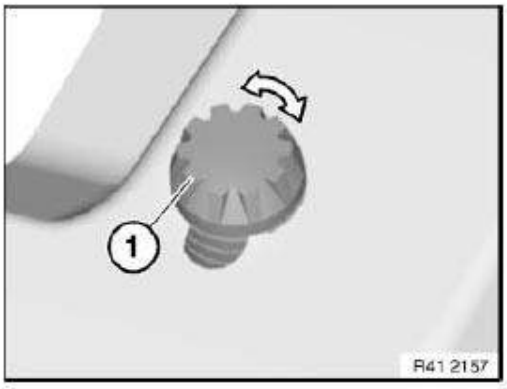


Fig. 321: Adjusting Bump Stop
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Version 2:

Replace damaged bump stops:

- (1) Bump stop with ejector

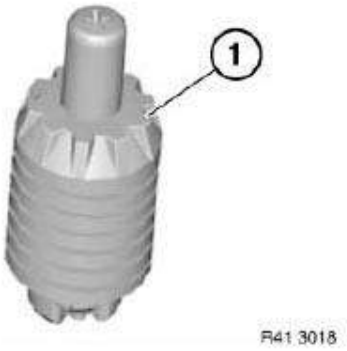


Fig. 322: Identifying Bump Stop With Ejector
Courtesy of BMW OF NORTH AMERICA, INC.

Press ejector (1) into bump stop and, in this position, twist approx. 90Â° counterclockwise with a Phillips screwdriver.

This locks the ejectors (1) in the bump stops.

Adjust bump stop (2) to correct height by turning left or right.

Unlock the ejector (1) again after completing adjustment.

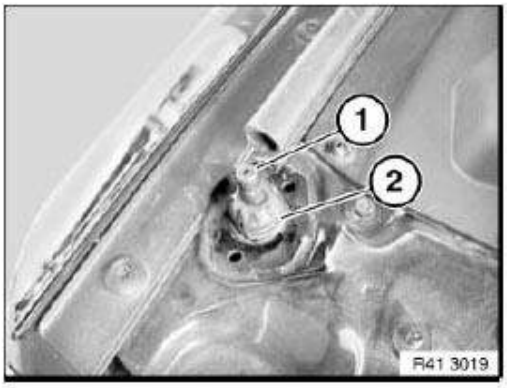
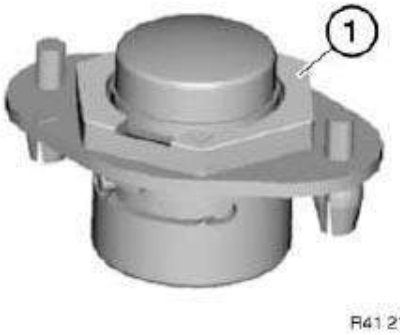


Fig. 323: Identifying Bump Stop And Ejector
Courtesy of BMW OF NORTH AMERICA, INC.

Version 3:

Replace damaged bump stops:

- (1) Bump stop



cardiagn.com

Fig. 324: Identifying Bump Stop
Courtesy of BMW OF NORTH AMERICA, INC.

Turn lock (1) 45Â° counterclockwise.

Pull bump stop (2) upwards.

Close lid slowly until it is at the same height as the side panel.

Open lid and turn lock (1) clockwise.

Installation:

Press bump stop into panel and drive in expanding pins (3).

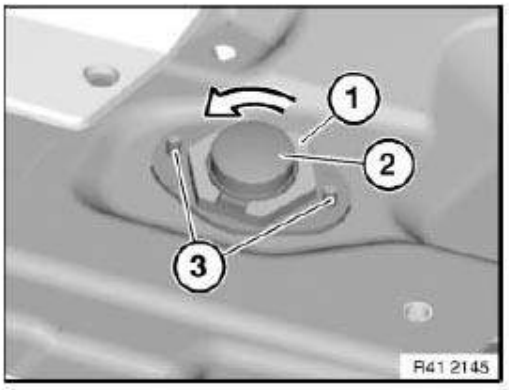


Fig. 325: Turning Bump Stop Lock
Courtesy of BMW OF NORTH AMERICA, INC.

51 23... ADJUSTING/REPLACING BUMP STOPS (VERSION 3)

Necessary preliminary tasks:

Remove **luggage compartment wheel arch panel** . See 51 47 151 REMOVING AND INSTALLING/REPLACING LEFT LUGGAGE COMPARTMENT WHEEL ARCH PANEL or 51 47 161 REMOVING AND INSTALLING/REPLACING RIGHT LUGGAGE COMPARTMENT WHEEL ARCH PANEL.

Following parts must not be damaged:

- (1) Bump stop
- (2) Lock nut (following illustration)

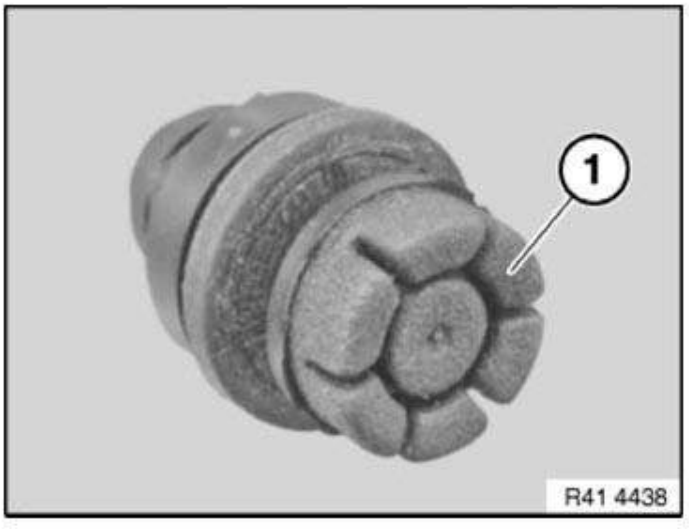


Fig. 326: Identifying Bump Stop
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

General view of rear side:

- **Adjust stop pads**

  Remove cap (1).

  Adjust stop pad to correct height by turning screw (2) to left or right.

- **Remove stop pads**

  Release nut (3) and remove stop pads.

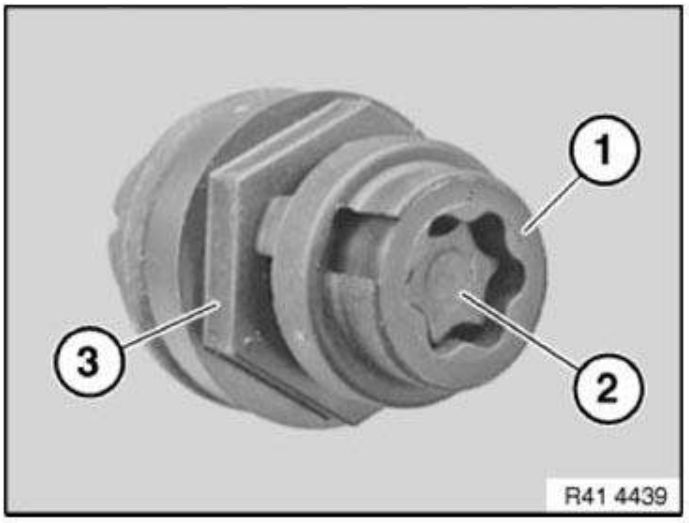


Fig. 327: Identifying Bump Stop, Cap, Screw And Nut
Courtesy of BMW OF NORTH AMERICA, INC.

51 24 300 REMOVING AND INSTALLING OR REPLACING LEFT OR RIGHT GAS PRESSURE SPRING FOR TAILGATE

WARNING: **Danger of injury!**
Support tailgate in fully opened position with suitable apparatus.

NOTE: **Graphic similar.**

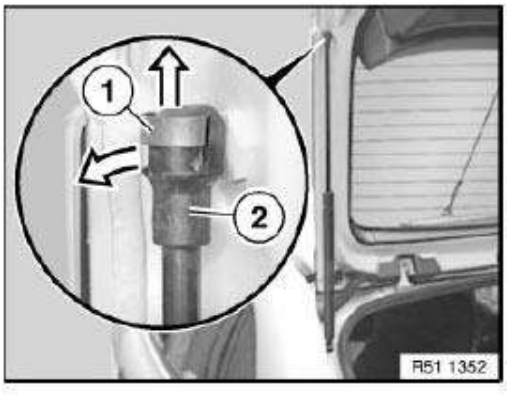
Make a written record of the installation position of the gas pressure spring(s) before removing.

Slide retaining spring (1) to end of gas pressure spring (2) and lever out gas pressure spring (2).

Repeat the procedure at the other end of the gas pressure spring (2) and remove.

Installation note:

Mount gas pressure spring (2) with retaining spring (1) pushed back.



cardiagn.com

Fig. 328: Sliding Tailgate Retaining Spring
Courtesy of BMW OF NORTH AMERICA, INC.

51 24 133 REMOVING AND INSTALLING/REPLACING AUTOMATIC SOFT CLOSE DRIVE ON TAILGATE (AUTOMATIC SOFT CLOSING)

Necessary preliminary tasks:

- Remove **BATTERY**
- Remove **TRIM FOR TAIL PANEL AT TOP**

Unclip the Bowden cable cover (1) from the tailgate lock counter support. Then feed out the Bowden cable nipple (1) from the tailgate lock inlet.

Release and disconnect plug connection (2) from wiring harness.

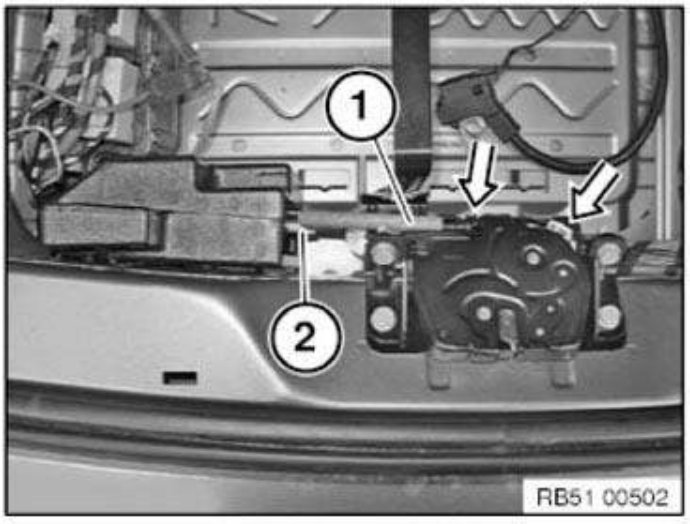


Fig. 329: Removing Bowden Cable Cover From Tailgate
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully feed out the Automatic Soft Close system drive bracket (2) toward the front from the bore hole on the tail panel (3) and do not damage the fastening nipple (1) in the process.

Installation note:

The fastening nipple (1) of the Automatic Soft Close system drive holder (2) may not be damaged or missing.

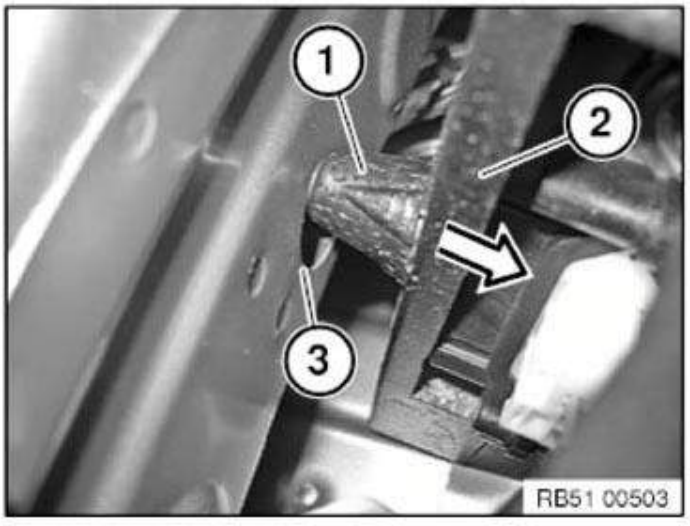


Fig. 330: Removing Automatic Soft Close System Drive Bracket
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Replacement

Remove the bracket of the upper section (1) from the bracket of the lower section (2) and feed out the Automatic Soft Close system drive (4).

Installation note:

Fastening nipples (3) and (5) must not be damaged or missing.

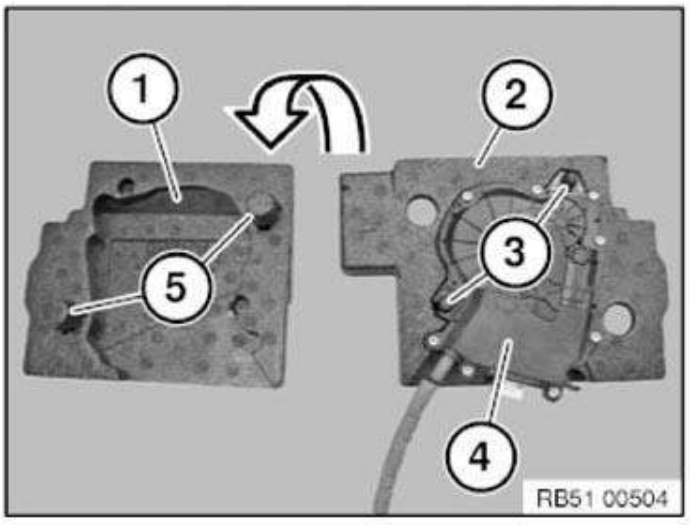


Fig. 331: Removing Tailgate Upper Section Bracket From Lower Section
Courtesy of BMW OF NORTH AMERICA, INC.

51 24 350 REMOVING AND INSTALLING/REPLACING LEFT SPINDLE DRIVE (AUTOMATIC TAILGATE ACTIVATION)

WARNING: **Danger of injury!**
Support tailgate in fully opened position with suitable apparatus.

WARNING: **In the event of customer complaints:**

- **Rattling when opening and closing**
- **Drive not functioning**
- **Drive is blocked or sluggish**
- **No longer closes or opens**

Or if incorrect operation is suspected:

- **Rear lid was closed with excessive exertion of force**
- **Bent, broken piston rod**
- **Broken ball head**

The compression spring must be secured against unintentional sudden release.

WARNING: **Observe warning notices on the damper.**
Electric spindle drive for tailgate is under mechanical spring preload!
The component must be secured against falling down.

Risk of damage to spindle drive!
IMPORTANT: If spindle drive has been electrically disabled (e.g. connector unplugged) the tailgate must only be moved slowly by hand.

cardiagn.com

These repair instructions are based on the **DISASSEMBLY AND INSTALLATION OF BALL SOCKETS WITH CLAMP**.

Necessary preliminary tasks:

- Determine and note down **OPENING HEIGHT OF AUTOMATIC LUGGAGE COMPARTMENT LID ACTUATION**
- Remove **TRIM PANEL FOR REAR ROOF PILLAR, LEFT (C-PILLAR)**
- Remove **TRIM PANEL FOR REAR ROOF PILLAR, LEFT (D-PILLAR)**

Version with load area net mounts:

Remove all load area net mounts (3).

Open protective cap (1).

Release screw (2) and remove dividing net mounts (3).

Installation note:

Pay attention to position specifications on rear side of dividing net mounts.

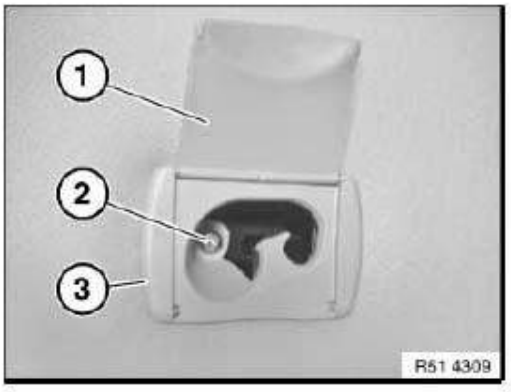


Fig. 332: Identifying Spindle Drive, Net Mounts, Cap And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Release edge protection of headlining (3) between left D-pillar and right D-pillar.

Unclamp clamp (2).

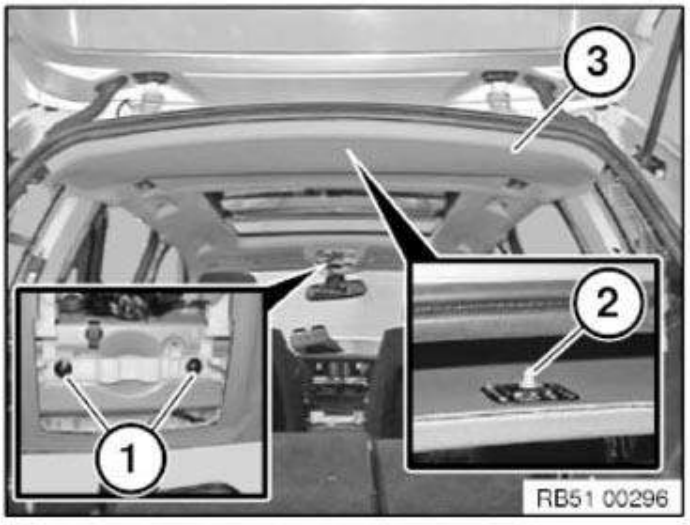


Fig. 333: Identifying D-Pillar, Headlining And Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Lower headlining (1) in area of D-pillar by 7 cm.

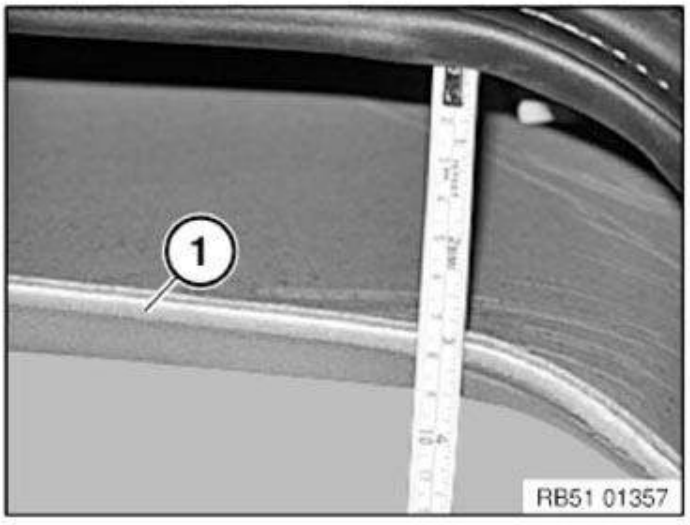


Fig. 334: Checking D-Pillar Headlining
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip wiring harness (1) from top to bottom at marked points.

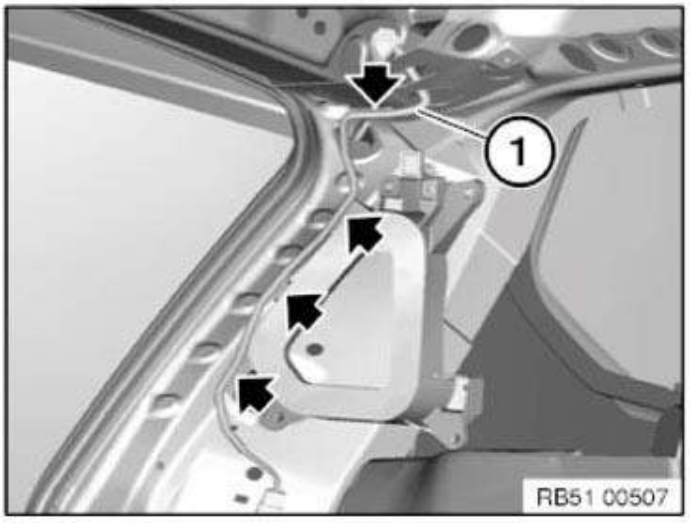
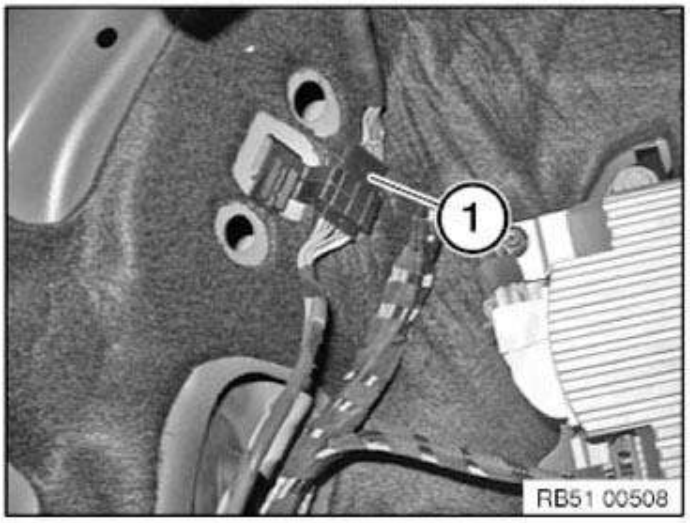


Fig. 335: Locating Spindle Drive Wiring Harness Marked Points
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1) at bottom.



cardiagn.com

Fig. 336: Identifying Spindle Drive Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Feed the rubber grommet (1) including wiring harness out.

Installation note:

Rubber hose with rubber grommet (1) of spindle drive (2) may not be damaged or missing. Install rubber grommet (1) correctly to prevent water penetration.

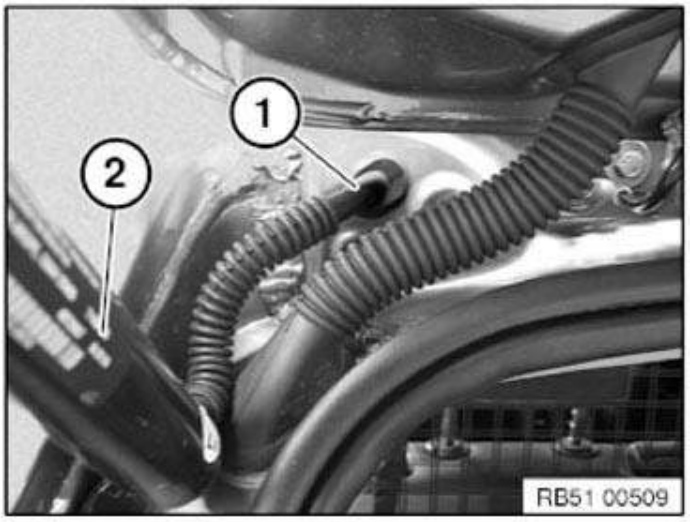


Fig. 337: Identifying Spindle Drive And Rubber Grommet
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip spindle drive (2) from ball sockets (1) and remove.

NOTE: **For possibly required tightening torques for holders of the spindle drive and/or ball head. See 51 24 14/15AZ .**

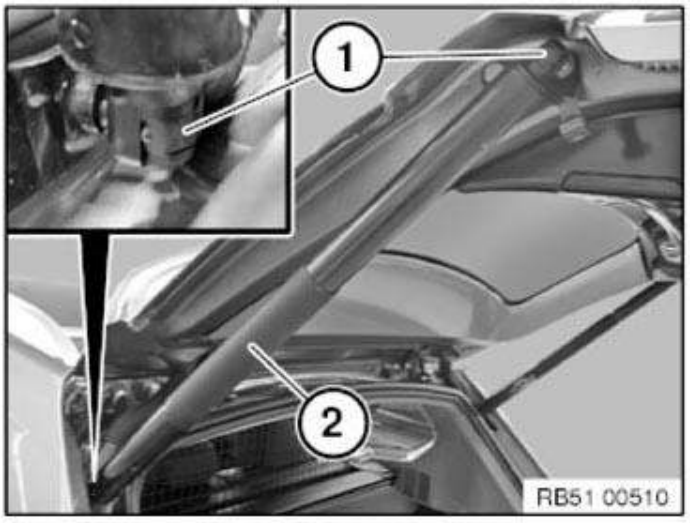


Fig. 338: Identifying Spindle Drive And Ball Sockets
Courtesy of BMW OF NORTH AMERICA, INC.

Concluding tasks:

Initialize automatic operation of tailgate using the service function in the diagnosis system.

Selection via:

- Body

cardiagn.com

- Automatic luggage compartment lid actuation
  - Power tailgate initialization

Check the opening angle setting of the tailgate and restore the customer setting if necessary.

51 24 351 REMOVING AND INSTALLING/REPLACING RIGHT SPINDLE DRIVE (AUTOMATIC TAILGATE ACTIVATION)

Work is mirror-identical with:

REMOVING AND INSTALLING/REPLACING LEFT SPINDLE DRIVE

51 24 105 REMOVING AND INSTALLING/REPLACING TAILGATE LOCK

Necessary preliminary tasks:

- Remove TOP COVER FROM TAIL PANEL

Removal:

Release screws (1).

Tightening torque 51 24 1AZ .

Version with Automatic Soft Close system only:

- Unclip Bowden cable (2) from tailgate lock counter support, then feed out Bowden cable nipple from fixture on tailgate lock (3).

Feed out tailgate lock (1).

Unlock plug connections (4) and disconnect.

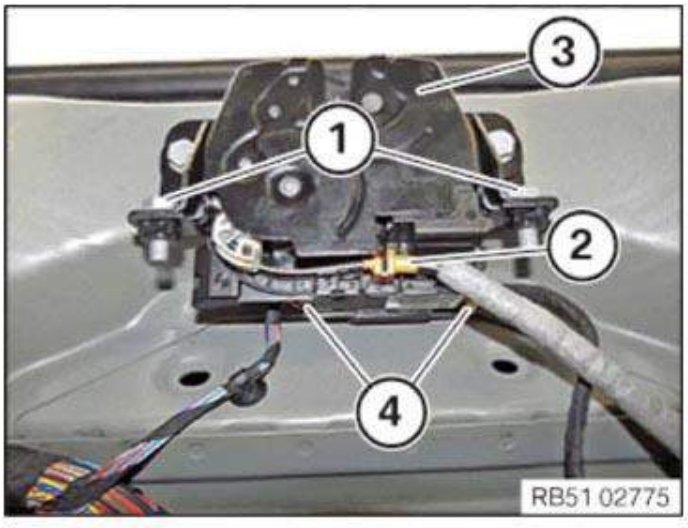


Fig. 339: Identifying Bowden Cable, Tailgate Lock And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Connect and lock the plug connections (4).

Feed in tailgate lock (1).

Tighten down screws (1).

Tightening torque 51 24 1AZ .

Version with Automatic Soft Close system only:

cardiagn.com

- Feed Bowden cable nipple into fixture on tailgate lock (3), then clip Bowden cable (2) into tailgate lock counter support.

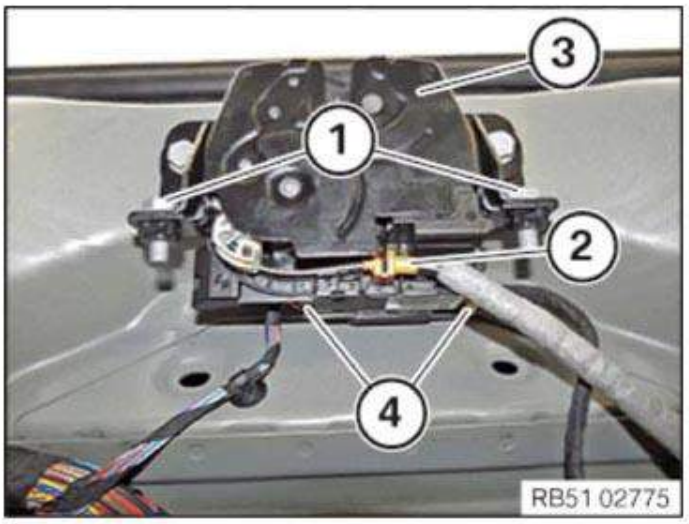


Fig. 340: Identifying Bowden Cable, Tailgate Lock And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Perform a function check of tailgate lock with the tailgate open.

Required follow-up work:

- Mount **TOP TRIM ON TAIL PANEL**

51 23... REMOVING/INSTALLING BALL SOCKETS WITH CLIP

Refer to **51 23... REMOVING/INSTALLING BALL SOCKETS WITH CLIP**.

51 24 147 REPLACE BUTTON FOR TAILGATE ACTIVATION

Special tools required:

- **00 9 327**

Attention!

Disassembly of the button is not possible without destroying it.

To avoid water ingress, the button must be replaced every time after disassembly.

Place special tool **00 9 327** at areas (A) between tailgate and button (1).

Destroy retaining tabs (2) in areas (A) by striking special tool **00 9 327** .

Pull out button (1) from latch mechanisms (2) in area (B).

Disconnect associated plug connections and remove button (1).

Installation note:

Check tailgate for damage, touch up if required.

Perform function check with tailgate open.

cardiagn.com

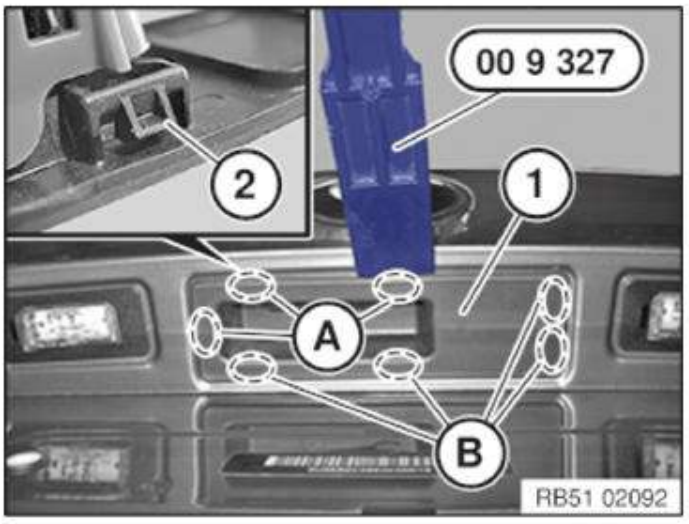


Fig. 341: Installing Special Tool (00 9 327)
Courtesy of BMW OF NORTH AMERICA, INC.

Version with rear view camera:

Remount the **rear view camera** . See 66 53 020 REMOVING AND INSTALLING (REPLACING) REVERSING CAMERA or 66 53 020 REMOVING AND INSTALLING (REPLACING) REVERSING CAMERA .

FRONT AND REAR WINDOW

62 30... GENERAL NOTES ON THE HEAD-UP DISPLAY

NOTE: **A special windscreen must be fitted to ensure that the Head-Up Display image can be projected correctly.**
This windscreen comprises three sections. An outer and an inner glass pane are connected by a wedge-shaped plastic film.
The wedge shape prevents double projection of the Head-Up Display.
When the windscreen is replaced, the vehicle identification number and parts catalogue must be consulted to ascertain whether the windscreen in question is suitable for Head-Up Display.

Example of the display with a conventional windscreen:

With a conventional windscreen, the projected image is reflected on the inner and outer glass pane, producing a double image.



Fig. 342: Example Of Conventional Windscreen
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

NOTE: **Windscreens for Head-Up Display are marked with the letters "HUD" on the outside at the bottom right below the seal (1) .**

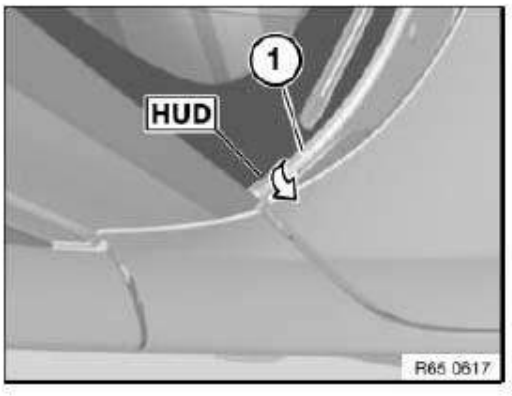


Fig. 343: Removing Head-Up Display Seal
Courtesy of BMW OF NORTH AMERICA, INC.

51 31... GENERAL PROCEDURE WHEN DISMANTLING/INSTALLING BONDED WINDOW GLASS

1. **General information**

   Follow general instructions on window bonding. See **41 00... SAFETY AT WORK** , **41 00... INFORMATION ON VEHICLE PROTECTION** , **62 30... GENERAL NOTES ON THE HEAD-UP DISPLAY** , **51 31... MATERIALS FOR BONDING WINDOW** or **99 00... TOUCHING UP PAINTWORK DAMAGE** .

   MATERIALS needed for window bonding.

   The vehicle can be towed away or driven without a windscreen, rear window and side window.

   When carrying out disassembly/installation work and during the hardening time, the vehicle must be standing on its wheels on a level surface.

   The windscreen, rear window and side windows are glued to the body. This bonding will increase the torsional rigidity of the vehicle. To obtain perfect bonding, comply with the installation procedure described in the following.

2. **Disassembly**

   The following dismantling methods are applied, according to the version:

   - **ROLL OUT 2000**
   - **OSCILLATING KNIFE** (not permissible for vehicles with window bonding on carbon body components)
   - Cutting wire with **WIRE PULL HANDLES**
   - Windscreen removal system "**SPIDER**"

   NOTE: **When cutting out the window glass with wire pull handles, there is a risk of damage to the window glass if the wire is pulled over the window edge. Unless otherwise described, only use this method when replacing the window glass.**

   Follow the vehicle-specific repair instructions!

3. **Installation**

   3.1 Preparation

   Position the windscreen or rear window on a universal work top or secure the components on a tool trolley using suction lifters.

   Attach two suction lifters to the outsides of the window glass in the event of storage on a universal work

cardiagn.com

top.

According to its size, fix side and door window glass onto the tool trolley using suction lifters or special tool **51 3 220** and set down on a suitable support.

Always keep the suction faces of the window glass suction lifters dry and clean.

NOTE: If accessibility is restricted, insert the window glass on a trial basis.

Bond two yellow plastic adhesive tapes (1) approx. 400 mm in length to the roof.

(A) = 250 mm

Only the yellow plastic adhesive tape may be used to fix the window glass.

The glass will slip down if other adhesive tapes are used.

Window glass slippage will result in leaks and wind noises.

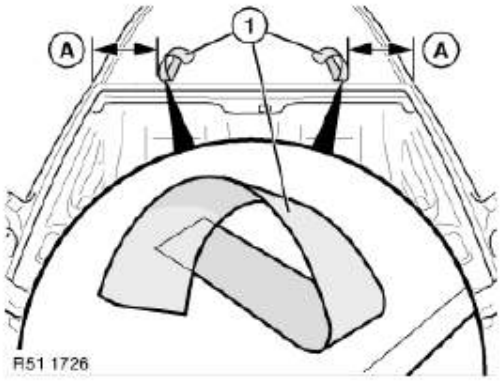


Fig. 344: Identifying Plastic Adhesive Tapes
Courtesy of BMW OF NORTH AMERICA, INC.

After completing the paint work, the paint must be fully hardened before the plastic adhesive tapes are applied.

3.2 Pre-treatment of bonding surfaces

- Clean window glass and body aperture (with residual adhesive bead) with cleaning agent R2

  Attention! Do **not** use Sika remover 208 for cleaning in the adhesive area.

- Observe an air drying time of at least 5 minutes (at least 15 minutes when applied to residual adhesive bead)
- Remove residual adhesive bead from body and window glass (see point 3.3)
- Touch up **PAINTWORK DAMAGE** to body aperture with BMW multibase filler (except for carbon body components)

Pretreatment on new body component (no residual adhesive beads present):

Surface	Pretreatment
Panel painted	Wipe cleaning agent R1 dry with a paper towel or observe the air drying time of at least 1 minute
Carbon	Only cleaning agent R2
Carbon painted (e.g. roof outer skin M3)	Wipe cleaning agent R1 dry with a paper towel or observe the air drying time of at least 1 minute
Plastic (e.g. I01 A-pillar)	Cleaning agent R2 and ScotchBrite Multiflex abrasive pad

3.3 Remove adhesive residue from the body and window glass

cardiagn.com

Do not remove residual adhesive bead (1) until shortly before bonding.

Use the pitchweld scraper to remove the residual adhesive bead (1) from the body aperture and window glass (3).

Position the pinchweld scraper (2) as shown and remove the residual adhesive bead (1) up to a thickness of approx. 0.5 mm.

Attention!

Carbon body components are not to have scratches with a depth greater than 0.2 mm.

Note, comply with life module check!

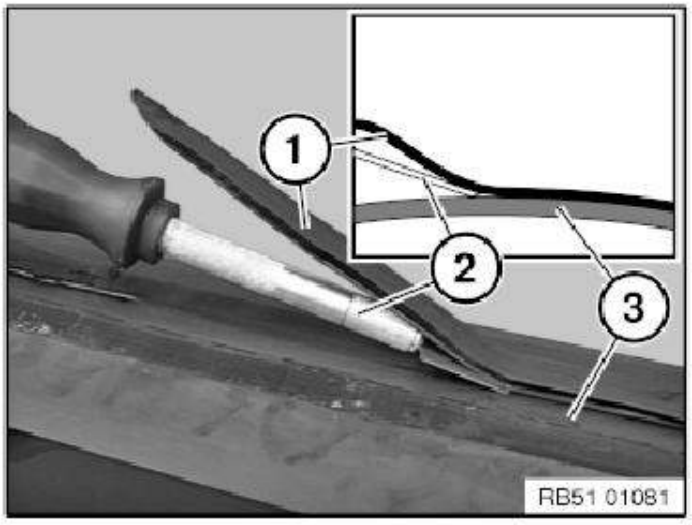


Fig. 345: Removing Residual Adhesive Bead From Body Aperture And Window Glass
Courtesy of BMW OF NORTH AMERICA, INC.

3.4 Installation of spacer (spacer buffer/dual-lock tapes)

Completely remove all residue of existing spacers before positioning on new adhesive spacers.

The exact position of the spacers must be retained (see vehicle-specific repair instructions).

Incorrectly fitted spacers will result in:

- Window glass breakage due to tension
- Leakage (if the spacer is in the adhesive area)
- Wind noises

3.5 Add-on part

Depending on the version, attach sealing, expanding foam tape, rain sensor, etc.

Observe **OVERVIEW OF ADDITIONAL WORK WITH RAIN SENSOR** when working with versions including the rain sensor!

Follow the vehicle-specific repair instructions!

3.6 Pre-treatment of new window glass

- Apply a thin coat of glass activator (yellow stick); a final wipe is not necessary.
- Observe an air drying time of at least 2 minutes

The glass activator is used for adhesion between glass or ceramic glass and the adhesive. Therefore, a thin, homogeneous and continuous line of glass activator must be applied. If the window glass is to be reused with a cut-back adhesive bead, glass activator is not needed.

cardiagn.com

It must be guaranteed that a 1 to 2 mm wide line of glass activator is located on the ceramic glass next to the squeezed adhesive bead.

The adhesive bead may become up to 15 mm wide in compressed condition. The width of the glass activator is therefore normally a minimum of 17 mm for windscreens and rear windows and a minimum of 9 mm for side windows.

The glass activator may not be applied in the field of view or the point grid. Fresh glass activator in the field of view must immediately be wiped off with cleaning agent R2 because hardened glass activator will leave a haze behind.

3.7 Version with inspection glass for vehicle identification number in windscreen

Foam tape (2) must be installed to protect the vehicle identification number (1) against tampering. If applicable, install foam tape TNR 07 14 7 222 909.

Close off the inspection glass on the windscreen (bottom left) with Sika bonding base VP 206.

Except for:

- All US/GB models
- All models with a black dashboard cover, which means that the vehicle colour cannot be seen through the inspection glass

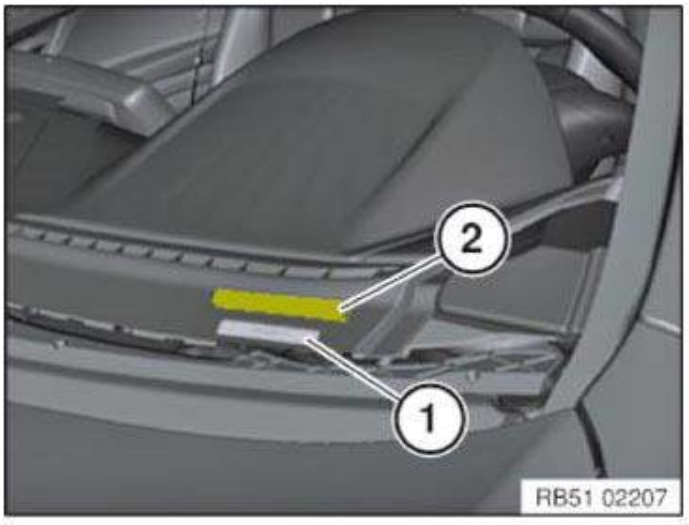
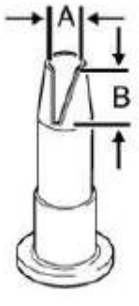


Fig. 346: Identifying Vehicle Identification Number And Tape
Courtesy of BMW OF NORTH AMERICA, INC.

3.8 Nozzle preparation

Use standard nozzle C for windscreens, rear windows, and body-specific fixed side window glass.

A	8 Â±1 mm
B	12 Â±1 mm



31 51 190

cardiagn.com

Fig. 347: Identifying Windscreens Nozzle Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

Prepare plastic nozzle for fixed door window glass.

A	8 Â±1 mm
B	15 Â±1 mm

Deviations are described in the vehicle-specific repair instructions.

Black ceramic glass impermeable to UV light is located on the peripheral zone of the inside of the window to protect the adhesive bead.

Ceramic glass must not be damaged.

3.9 Apply adhesive

Adhesive is applied to the window glass using a cartridge gun.

Glue cartridge must be vertical to window glass.

The almost vertical part of the adhesive bead must be facing the outer window glass edge.

On window glass with guidelines, the adhesive bead must be applied centrally between the guidelines.

On window glass without guidelines, the position of the adhesive bead is specified in the vehicle-specific repair instructions.

Coat bead joint.

Effect of differing adhesive quantities:

Too little adhesive:	**Too much adhesive:**
• Window glass rests too low in body aperture • Insufficient squeezing of adhesive bead (leaking)	• Window glass rests too high in body aperture • Wind noise may occur • Strains/tensions may occur (window glass breakage) • Dirt contamination of add-on parts by emerging adhesive • Adhesive on uninsulated strainer pressure lines of aerial(s) (interference of reception)

Note on bonding of windscreen:

The adhesive amount specified in the vehicle-specific repair instructions is sufficient if the specified adhesive bead size is maintained.

If too much adhesive is applied due to application-related variations (manual application), the specified adhesive amount may not be sufficient. To avoid interrupting adhesive application for longer than the permitted period, have another glue cartridge ready.

IMPORTANT: Once the adhesive bead has been applied, the window glass must be installed within 7 minutes (depending on air humidity, temperature).
After 7 minutes the adhesive bead forms a skin which can no longer guarantee a perfect bond.

3.10 Mounting the window glass

To prevent a pressure build-up in the passenger compartment when the doors are closed:

- Open a side window

Mount window glass (1) with suction lifter (51 3 010).

cardiagn.com

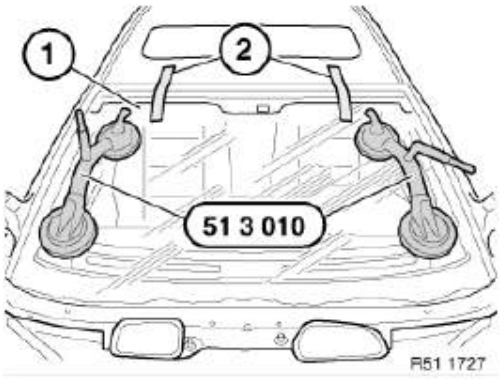


Fig. 348: Holding Window Glass
Courtesy of BMW OF NORTH AMERICA, INC.

3.11 Adjusting the window glass

To avoid wind noise, the front and rear windows (1) must be lower than the roof outer skin (2).

Check ride height of the windscreen or rear window using special tool **51 0 010** .

Dimension (A) of window glass offset, refer to vehicle-specific repair instructions.

X = measurement stages 1... 4 mm

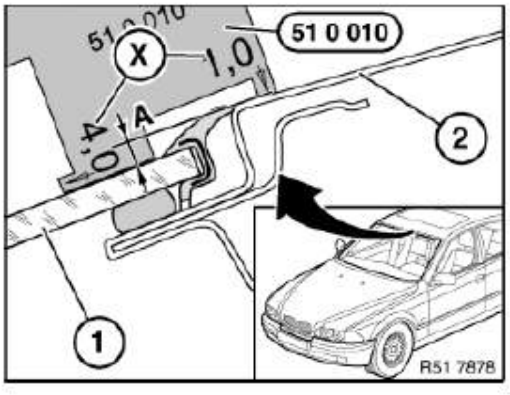


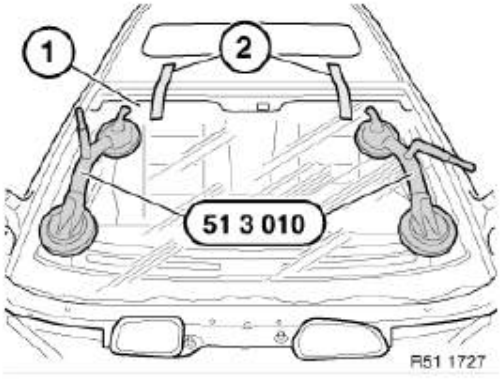
Fig. 349: Adjusting Window Glass
Courtesy of BMW OF NORTH AMERICA, INC.

3.12 Fixing the window glass

Fix the window glass with yellow plastic adhesive tapes (2).

Immediately remove dirt contamination with adhesive residue using Sika remover 208. Do not press out the window glass again.

Hardened adhesive can only be removed mechanically.



cardiagn.com

Fig. 350: Holding Window Glass
Courtesy of BMW OF NORTH AMERICA, INC.

3.13 Label

Depending on version, apply **LABEL** .

51 31... INSTRUCTIONS FOR REPAIRING STONE CHIP DAMAGE ON LAMINATED SAFETY GLASS (CLEAR AND TINTED)

NOTE: **These repair instructions are intended for qualified skilled workers who work conscientiously and accept full responsibility for their work.**

General:

- These instructions are restricted to the repair materials approved by the plant (sourcing reference: BMW Parts Department), the repair method and related tips to simplify the work involved.
- The instructions can only outline the general work procedure.
- The actual work scope must be adapted to the damage pattern.
- The repair work represents an economical and swift solution which can not rule out visual impairment.
- The repair should be offered to the customer on passing through or for used vehicles and on special customer request.
- The conditions detailed below for repairing laminated safety glass conform to the legal regulations in Germany.
- In other countries, the relevant regulations must be observed.

IMPORTANT:

- Repair work may only be carried out outside the field of vision.
- Only damage to the outer area of the windscreen may be repaired.
- The inner window pane and the plastic film between inner and outer window panes must not be damaged.
- Repairing should be carried out as soon as possible after occurrence of the damage.
- The penetration of moisture or dirt must not be visible in the damaged spot.
- Impact spot cavities must not exceed a diameter of 5 mm.
- Cracks leading away from the impact spot must not be longer than 50 mm.
- Cracks must not end in the rubber window frame trim or decorative strip.
- Visibility through the repaired surface must be clear, transparent and with minimum distortion.
- Cover engine compartment lid and front side panels with protective covers.
- Note processing instructions!

Repairing laminated safety glass,

See repair instructions.

51 31... MATERIALS FOR BONDING WINDOW

Special tools required:

- **51 3 220**

1 Tools

Type	Type	Order/part number
Electric special cutter	SuperCut FSC 1.6Q	81 43 2 296 987
BMW knife set		81 43 9 428 596
Contains:		
Knife (U-shape)	24/36/45 mm	Â

cardiagn.com

Knife (L shape)	25, 4 mm	Â
Knife (straight with stop roller)	16 to 43 mm (adjustable)	Â
Â	14 mm (fixed)	Â
"Roll Out **2000**"	Wire cutting system	81 62 0 301 768
" Spider"	Cutting system with nylon string	81 43 2 357 248
WIRE PULL HANDLES	Â	Â 81 43 2 326 501
CARTRIDGE GUN	Â	81 49 2 213 059
Pinchweld scraper set	Â	81 62 0 410 436
SIPHON	Â	81 64 2 184 377
Single suction cup	Special tool	**51 3 220**
Universal work table	Â	81 49 0 151 675

Sourcing reference via BMW Parts Service, Aftersales Assistance Portal (ASAP) - Service/Technology - Workshop Equipment (Start BMW) - Shop Workshop Equipment or at www.bmwgroup-wep.com.

2 Consumables:

Type:	Additional info:	BMW part number:
SMALL REPAIR KIT	Â	83 19 2 289 285 83 19 2 289 180 (US) 83 19 2 180 001 (China)
LARGE REPAIR KIT	Like small repair kit, plus 1x window glass adhesive 300 ml	83 19 2 360 680 (not available for the US/China)
Cutting wire	Square wire	83 19 2 150 267
Nylon string	Â	81 43 2 344 272
BMW multibase filler	Â	Â
Cleaning agent R1	Â	83 19 2 211 217
Cleaning agent R2	Â	83 19 0 417 324
Plastic adhesive tape	yellow	83 19 9 410 979
Sika remover 208	Adhesive remover	83 19 9 407 780
Sika Activator 205	e.g. for rubber frame on windscreen	83 19 0 030 155
Sika bonding base VP 206	e.g. for inspection glass for vehicle identification number	83 19 9 407 777

Sourcing reference via BMW Parts Service, Aftersales Assistance Portal (ASAP) - Service/Technology - Workshop Equipment (Start BMW) - Shop Workshop Equipment or at www.bmwgroup-wep.com.

Storage of all consumables

Dry at 15Â°- 25 Â°C.

51 31... NOTES ON WINDOW BONDING REPAIR KIT

Â	Part number	Part number (US)	Part number (China)
Small repair kit	83 19 2 289 285	83 19 2 289 180	83 19 2 180 001
• Window glass adhesive 300 ml	83 19 2 289 286	83 19 2 289 181	83 19 2 180 002
• Glass activator	83 19 0 444 142		
• C nozzle	83 19 2 155 589		

cardiagn.com

• Plastic nozzle and paper tissue	Â		
Large repair kit (Contains an additional window glass adhesive 300 ml)	83 19 2 360 680	Not available	Not available

Before working with the consumables, note the following information.

IMPORTANT:

- Country-specific safety and industrial safety regulations
- Material safety data sheet of manufacturer
- Processing instructions on the packaging

1. **Storage and processing of all consumables**

   Dry at 15 Â° - 25 Â°C.

2. **Expiry date of adhesive:**

   Repair kit and glue cartridges are marked with a date (expiry).

   Date (1) refers to the calendar week and year (KW/JJJJ).

   The adhesive cannot be used after this date (1).

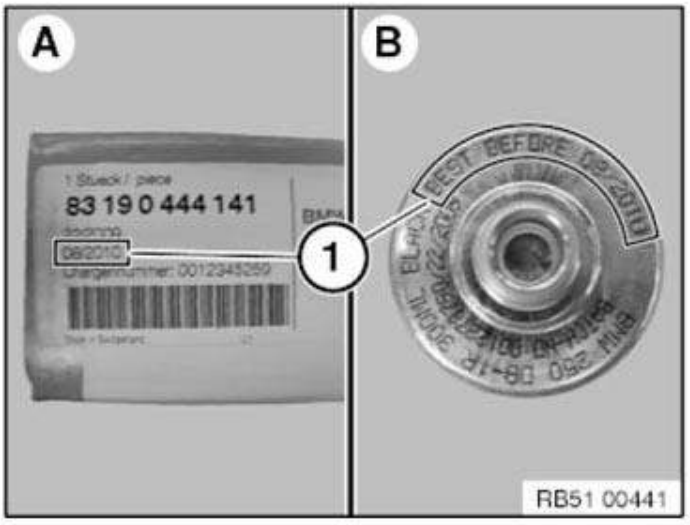


Fig. 351: Identifying Expiry Date Label
Courtesy of BMW OF NORTH AMERICA, INC.

3. **Hardening of adhesive:**

   The adhesive hardens by reacting with air humidity at room temperature.

   IMPORTANT: Once the adhesive bead has been applied, the window glass must be installed within 7 minutes (depending on air humidity, temperature).
   After 7 minutes the adhesive bead forms a skin which can no longer guarantee a perfect bond.

   At ambient temperatures above 23 Â°C and 50 % relative air humidity (hot countries), the adhesive open time is shortened to approx. 5 minutes (skin formation time).

   A relative air humidity of < 30% significantly slows hardening.

   The adhesive hardening process is interrupted completely at ambient temperatures below 5 Â°C. In this event, there will be no increase in the strength of the bonded connection.

   3.1 Minimum hardening time:

cardiagn.com

Minimum hardening time is reached beginning at 22 Â°C and 38 % relative air humidity.

- 1 hour, vehicles without front passenger airbag (after which vehicle can be moved)
- 2 hours, vehicles with front passenger airbag in countries without mandatory seat belt usage

NOTE: **In vehicles with front passenger airbag in countries without mandatory seat belt usage:**
The vehicle can be transferred to the customer after a 1-hour hardening time with the following warning:
Once the windscreen glass has been bonded, all occupants must travel with their seat belts attached for 1 hour.

IMPORTANT: If the minimum hardening time is not adhered to, an accident can cause the passenger together with the windscreen to fall out of the vehicle after the front passenger airbag deploys.

During the minimum hardening time of 1 hour, the vehicle must not be subjected to load on one side such as e.g.:

- one wheel on kerb
- vehicle hoist
- etc.

Maneuvering inside garage/workshop:

- only permitted on level ground
- do not under any circumstances drive over approach ramps, e.g. into multi-storey car parks

Do not remove adhesive tapes until after hardening time.

If the minimum hardening time of 1 hour is undercut, leaks and wind noises may occur at the window glass.

4. **Disposal of adhesive:**

   Hardened adhesive is disposed of as normal waste.

   Non-hardened adhesive, glue cartridge and mixtures of adhesive and solvents and the like must be disposed of as hazardous waste.

   The adhesive is disposed of in paper sacks so that it can react with moisture.

5. **Glass activator:**

   WARNING: **Wear cut resistant gloves when breaking the glass ampule.**

   Prepare glass activator for processing by shaking and snapping (breaking glass ampoule).

   Apply glass activator by pressing gently. There is no need for final wiping. Air drying time approx. 2 minutes.

6. **Expiry date of glass activator:**

   Repair kit and glass activator are marked with a date (best before date).

   - The glass activator may only be used up to this date (if not already opened previously).
   - After opening, keep only for one week even if the expiry date has not yet been reached.

7. **Disposal of glass activator:**

   Glass activator must not be disposed of as part of household waste.

   Glass activator must be disposed of as hazardous waste.

cardiagn.com

61 35... OVERVIEW, RAIN SENSOR (ADDITIONAL WORK WHEN REPLACING THE WINDSCREEN/SENSOR REPLACEMENT)

- **1-Series:** E8x
- **3-Series:** E9x
- **5-Series:** E6x
- **6-Series:** E6x
- **X1:** E84
- **X5:** E70
- **X6:** E7x
- **Z4:** E89

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor/Encoding/programming necessary	When replacing the sensor/Initialisation required	Connecting the diagnosis system required
Condensation sensor square 30 x 20 mm	Yes	No	No	No

- **5-Series:** E6x
- **6-Series:** E6x
- **7-Series:** E6x

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing substitute visuals Encoding/programming necessary	When replacing the sensor/substitute visuals Initialisation required	Connecting the diagnosis system required
all types square 60 x 40 mm	No	Yes	-	Yes	Yes
RLS approximately Ã˜ 50 mm	No (new **substitute visuals** required, refer to **OVERVIEW OF CONSUMABLES**)	-	No	Yes	Yes

- **X5:** E70
- **X6:** E7x

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing substitute visuals Encoding/programming necessary	When replacing the sensor/substitute visuals Initialisation required	Connecting the diagnosis system required
RLPSS (Rain, light and precipitation solar sensor) (Designation is located on the back of the sensor) approximately Ã˜ 50 mm	Yes	Yes	-	Yes	Yes
RLS (vehicle					

cardiagn.com

with no HUD) (Designation is located on the back of the sensor) approximately Ã˜ 50 mm	No (new **substitute visuals** required, refer to **OVERVIEW OF CONSUMABLES**)	-	No	Yes	Yes
RLSS (vehicle **with HUD)** (Designation is located on the back of the sensor) approximately Ã˜ 50 mm	Yes	Yes	-	Yes	Yes

- **1-Series:** E8x
- **3-Series:** E9x
- **X1:** E84
- **X3:** E83
- **Z4:** E89

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing the sensor Initialisation required	Connecting the diagnosis system required
all types square 60 x 40 mm	No	Yes	Yes	Yes

- **5-Series:** F1x
- **5-Series** GT: F07
- **6-Series:** F06, F1x
- **7-Series:** F0x
- **X3:** F25
- **X4:** F26

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing substitute visuals Encoding/programming necessary	When replacing the sensor/substitute visuals Initialisation required	Connecting the diagnosis system required
all types approximately Ã˜ 35 mm	No	No	-	Yes	Yes
all types approximately Ã˜ 50 mm	Yes	Yes	-	Yes	Yes
Only for F25: RLS approximately Ã˜ 50 mm	No (new **substitute visuals** required, refer to **OVERVIEW OF CONSUMABLES**)	-	No	Yes	Yes

- **X5:** F15, F85
- **X6:** F16, F86

cardiagn.com

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing the sensor Initialisation required	Connecting the diagnosis system required
all types approximately Ã˜ 35 mm	No	No	No	No

- **1-Series:** F2x
- **2-Series:** F2x
- **3-Series:** F3x, F8x
- **3-Series** GT: F34
- **4-Series:** F3x, F8x

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing the sensor Initialisation required	Connecting the diagnosis system required
all **up to 03/2014** except SBS (01) (Designation is located on the back of the sensor) approximately Ã˜ 35 mm	No	No	Yes	Yes
SBS (01) (Designation is located on the back of the sensor) approximately Ã˜ 35 mm	No	No	No	No
All **as from 03/2014** approximately Ã˜ 35 mm	No	No	No	No

BMW i:

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing the sensor Initialisation required	Connecting the diagnosis system required
all types approximately Ã˜ 35 mm	No	No	No	No

MINI (all):

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing the sensor Initialisation required	Connecting the diagnosis system required
all types square 60 x 40 mm	No	Yes	Yes	Yes
all types approximately Ã˜ 35 mm	No	No	No	No

Rolls-Royce (all):

Sensor type/Sensor	With windscreen replacement sensor	When replacing the sensor Encoding/programming	When replacing the sensor Initialisation	Connecting the diagnosis system

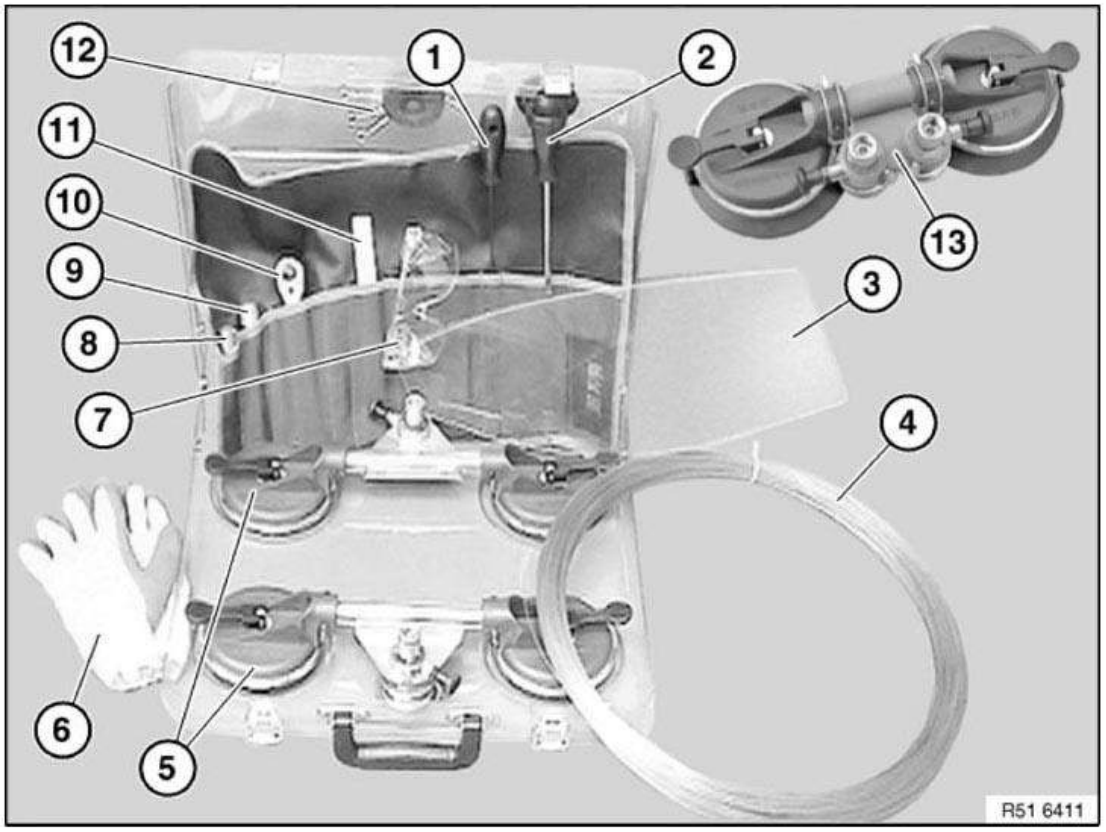
cardiagn.com

shape	required	necessary	required	required
all types square 60 x 40 mm	No	Yes	Yes	Yes
all types approximately Ã˜ 35 mm	No	No	Yes	Yes
all types approximately Ã˜ 50 mm	Yes	Yes	Yes	Yes

51 31... REMOVE WINDSCREEN WITH "ROLL OUT 2000"

Special tools required:

- 2 150 267



1	Wire starter	8	Extension (short)
2	Parabolic tool	9	Extension (long)
3	Plastic washer	10	Reversible ratchet
4	Wire cutting roller	11	Plastic wedge
5	Suction cup lifters	12	Guide needles
6	Protective gloves	13	Suction cup lifter with double spool
7	Safety goggles		

Fig. 352: Identifying Windscreen Removal System Tool
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Both paint and ergonomic and health endangering damage is minimized with the "Roll Out 2000" system.**

WARNING: **Follow safety instructions . See 51 00... SAFETY INSTRUCTIONS FOR WORKING ON**

cardiagn.com

CARS WITH AIRBAG SYSTEMS or 72 SAFETY PRECAUTIONS AND GENERAL INFORMATION for working on vehicles with airbag systems (risk of injury).

IMPORTANT: Take care when handling sharp-edged tools and cutting wire (risk of damage to head airbag and window glass).

IMPORTANT: Always keep both suction cups dry and clean to ensure their optimum adhesion on the windscreen. Suction cup may not be applied at the damaged point (crack in window glass).

Lubricate spool if lock rattling becomes too loud.

Always wear safety goggles and protective gloves for your own safety.

Mounting suction cup lifters on windscreen or rear window:

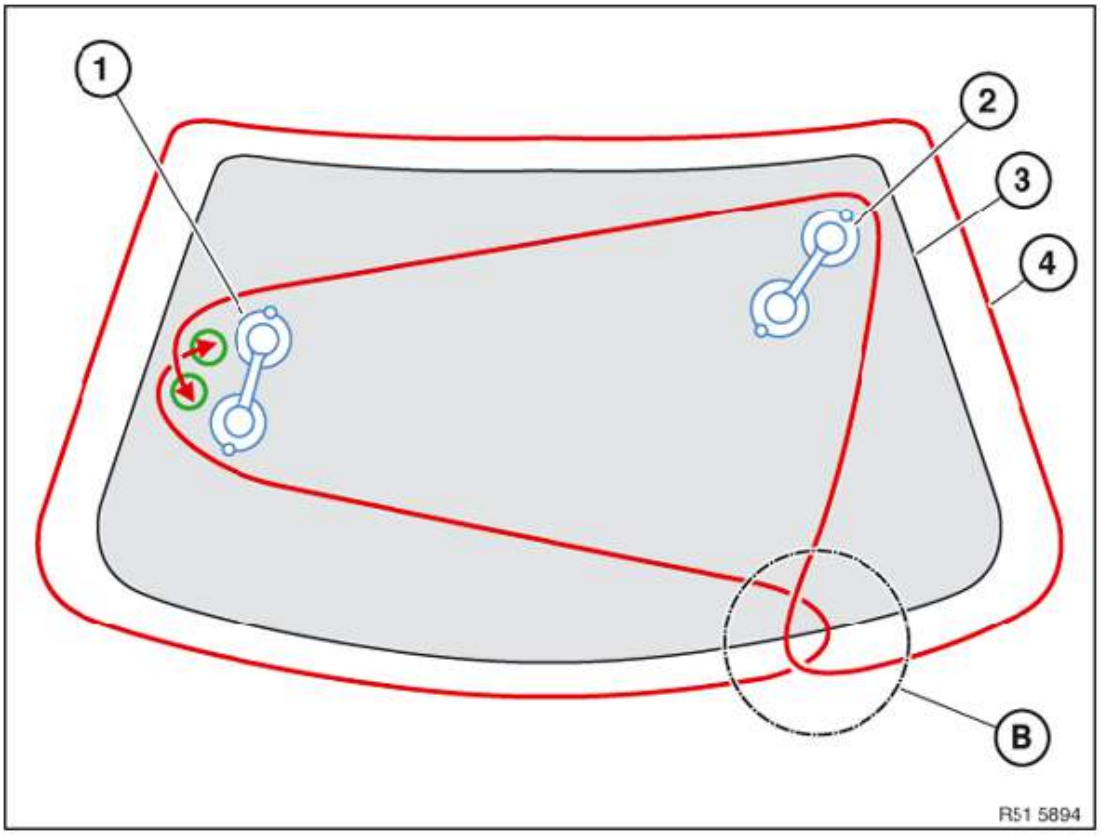


Fig. 353: Identifying Windscreen Suction Cup Lifters
Courtesy of BMW OF NORTH AMERICA, INC.

- Secure position of lifting jacks as shown (view from outside):
  1. Suction cup lifter with double spool
  2. Suction cup lifter with single spool (as deflecting point)
  3. Window
  4. Cutting wire

NOTE: **Optimum cutting is guaranteed when the cutting wire is at an acute angle to the adhesive bead. There is a risk of the cutting wire breaking if the angle is too obtuse. The suction cup lifter (2) is used as the deflection point to achieve the corresponding angle.**
Depending on the window glass version and the effort applied during cutting, it may be necessary to change the deflection point during cutting.

The suction cups without a spool can even be used as the deflection point.

cardiagn.com

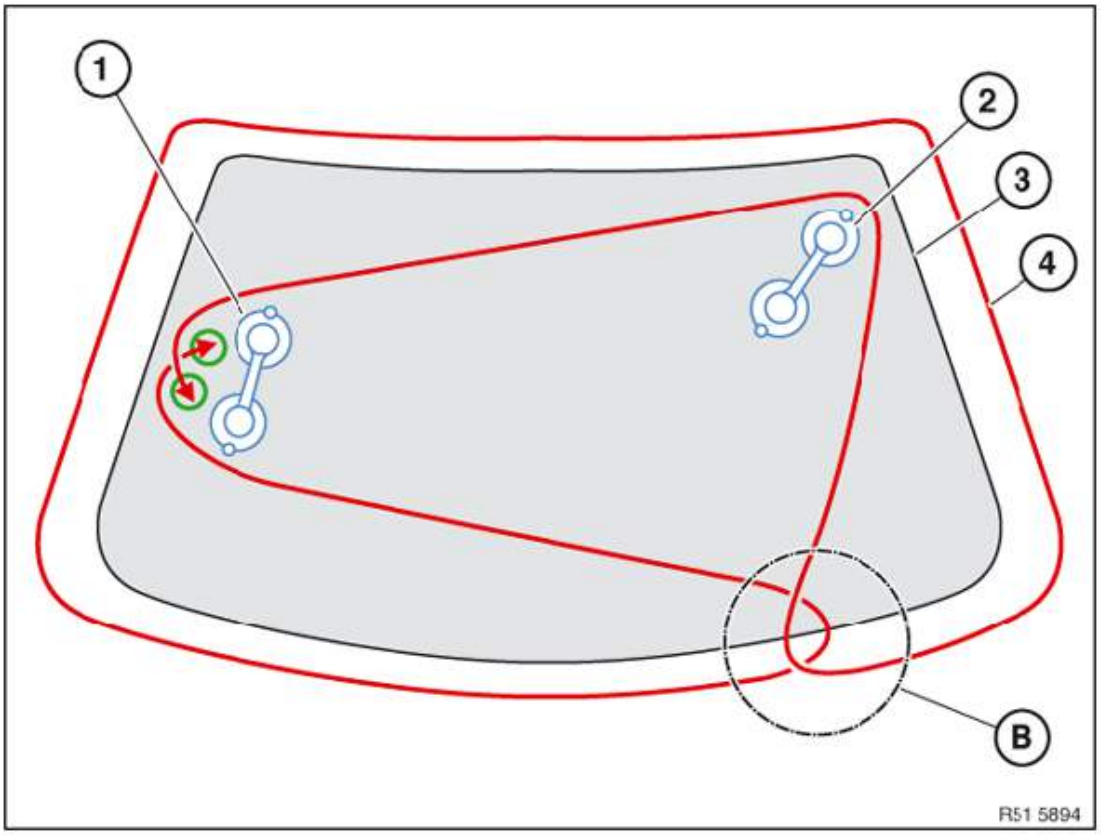


Fig. 354: Identifying Windscreen Suction Cup Lifters
Courtesy of BMW OF NORTH AMERICA, INC.

Preparatory work:

- Cut off required cutting wire length:

  Length approximately = 6 x window glass diagonal

- The cutting wire loops must lie on top of each other in area (B).

  They must not get caught up in each other. (Otherwise no possibility of cutting the adhesive bead/wire will break.)

  Overlapping of cutting wire loops approx. 10 cm.

  Distance from right window edge approx. 30 cm.

Pulling cutting wire into vehicle:

- Grip wire with pliers (If accessibility is bad, stick wire with wire starter 2 150 267 through adhesive bead.)
- Wire end (1) must be bent towards window glass.
- Heat wire end (1) and use it to pierce adhesive bead (2).
- Pull the wire approximately 1.5 m into the passenger compartment

cardiagn.com

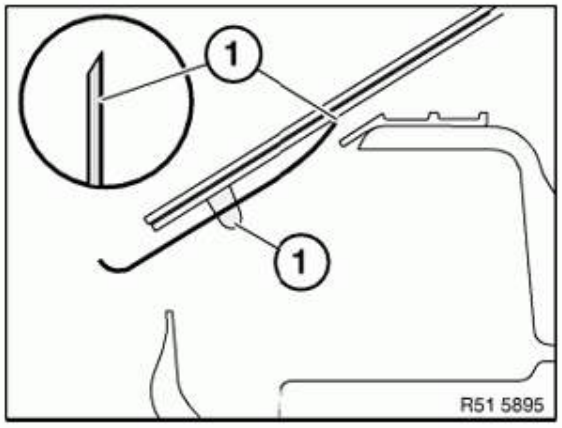


Fig. 355: Identifying Heat Wire End And Adhesive Bead
Courtesy of BMW OF NORTH AMERICA, INC.

Using wire starter:

Bend wire end approx. 10 mm and insert in notched tip.

Pierce wire starter with uniform pressure through adhesive bead, wire end (bent part) must be positioned on window glass.

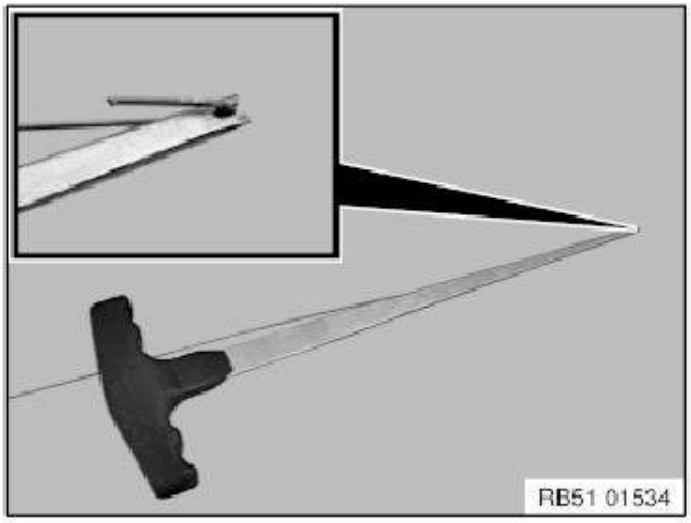
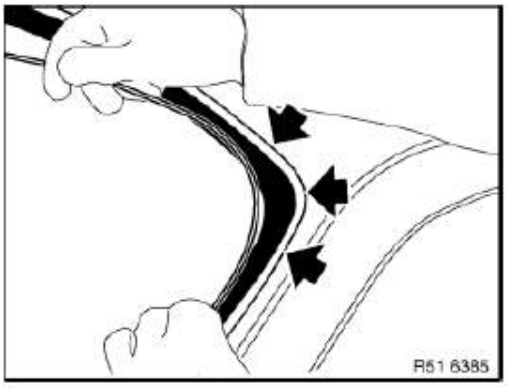


Fig. 356: Identifying Wire Starter
Courtesy of BMW OF NORTH AMERICA, INC.

Laying cutting wire around window glass:

- Starting from pull-in point, lay wire eyelet created on the outside around the window glass
- Pull excess wire into passenger compartment



cardiagn.com

Fig. 357: Installing Wire Around Window Glass
Courtesy of BMW OF NORTH AMERICA, INC.

Make sure the cutting wire is located at all four corner points below the window glass.
IMPORTANT: Check that the cutting wire is not caught on clamps or body.
Secure window glass on outside with adhesive tape against sliding.

NOTE: Window glass (1) with installed seals (3) or molded-on surrounds:

- **Moisten cutting wire (4) and seals (3) on window glass (1) with water**
- **Insert cutting wire (4) in bend (without kinking) between window glass(1) and body aperture (2)**

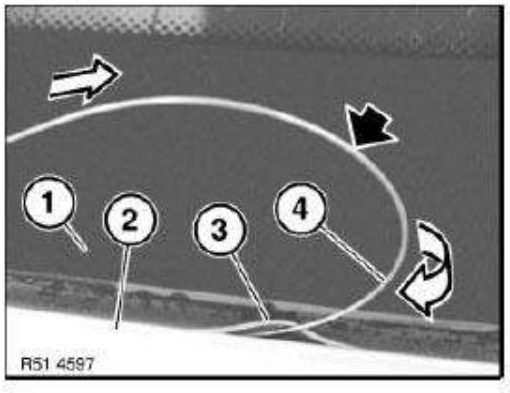


Fig. 358: Inserting Wire Between Window Glass And Body Aperture
Courtesy of BMW OF NORTH AMERICA, INC.

Protect the passenger compartment:

- To avoid damage and possible dirt contamination, protect A-pillars, roof and dashboard trim panel (3) by means of plastic washer (1)
- Always carry plastic washer (1) between respective wire (2) being tightened and trim panels

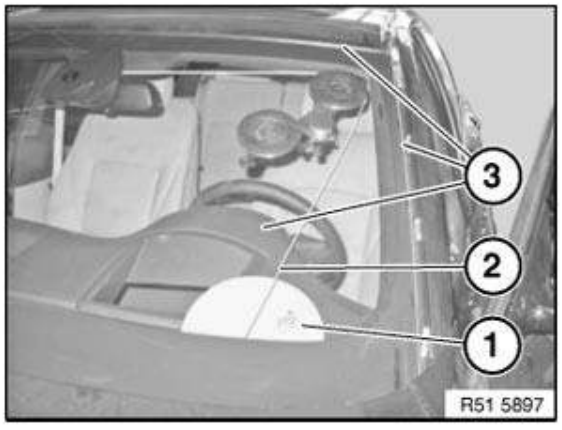


Fig. 359: Identifying Plastic Washer, Wire And Dashboard Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Attaching wire in hoisting winch with double coil:

- Bend over cutting wire end (1) approximately 10 mm and insert into slot of spool (2)
- Repeat process with other end of wire (1) and second spool (2)
- Wind cutting wire (1) onto spools by hand until cutting wire (1) is under slight tension

cardiagn.com

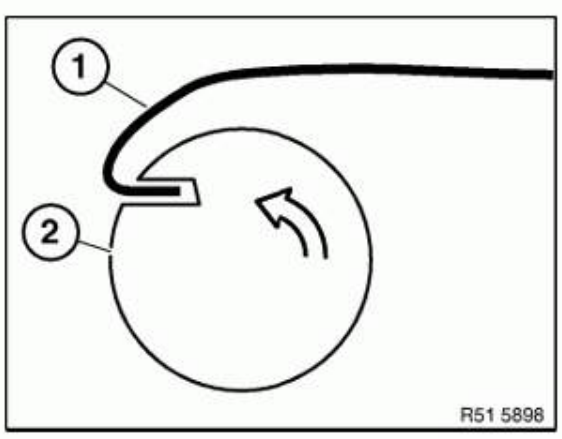


Fig. 360: Attaching Wire In Hoisting Winch
Courtesy of BMW OF NORTH AMERICA, INC.

Starting the dismantling:

NOTE: Spools can only be rotated in one direction.

- Make sure the wire is always situated in the guide channel of the suction cup lifter (1)
- Fit reversible ratchet onto top spool shaft (2) and tighten wire
- Start by cutting lower adhesive bead
- At the end of the cutting process, the two wire loops join up at the lifting winch (1)
- Remove "Roll Out 2000"
- Remove window glass

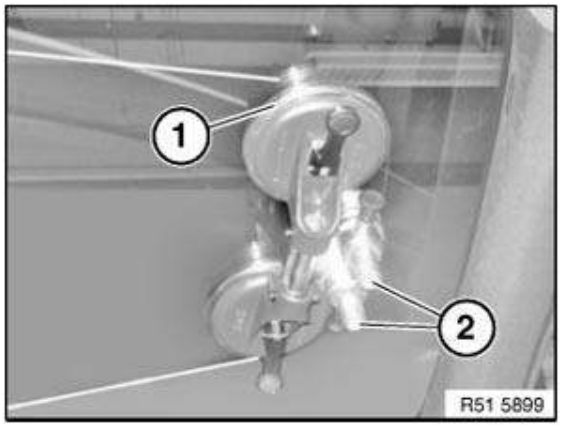


Fig. 361: Identifying Suction Cup Lifter
Courtesy of BMW OF NORTH AMERICA, INC.

51 31 030 REMOVING AND INSTALLING OR REPLACING LEFT OR RIGHT GUTTER STRIP ALONG WINDSCREEN

Remove gutter strip (1) from clips (2), starting at top.

Remove gutter strip (1) attached at bottom by ball head clip (3) from holder (4).

cardiagn.com

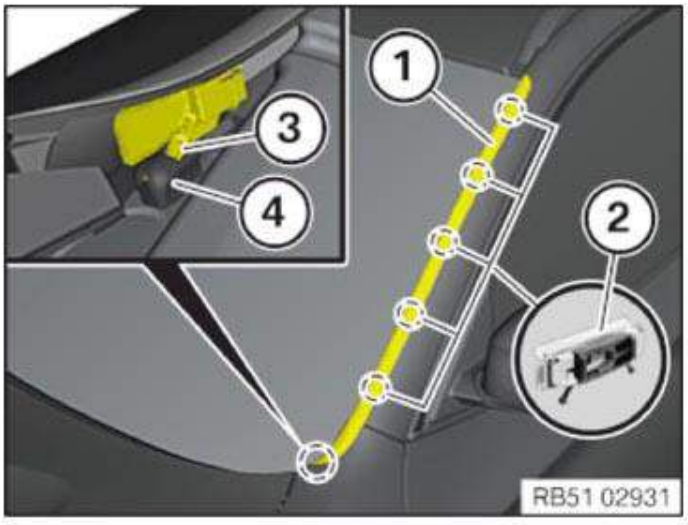


Fig. 362: Identifying Windscreen Gutter Strip And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Replace clamps (1 and 2) after each removal.

Note installation location of clamps (1 and 2).

Holder (3) must not be missing or damaged.

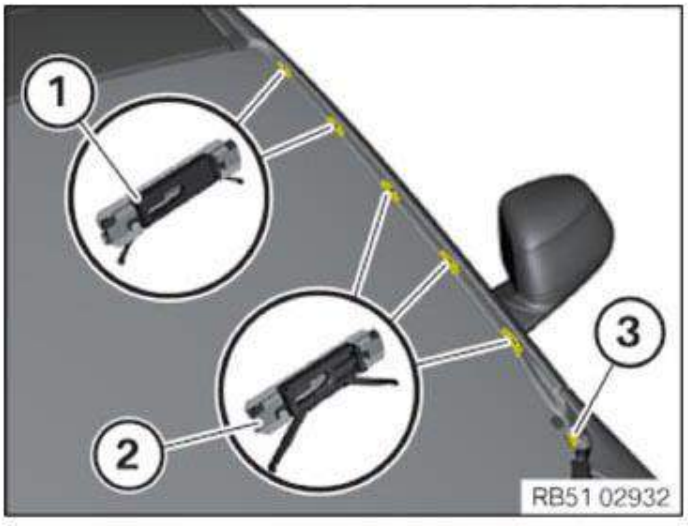


Fig. 363: Identifying Windscreen Holder And Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

51 31 000 REMOVING AND INSTALLING/RENEWING WINDSCREEN

Special tools required:

- 51 0 300
- 51 0 010

IMPORTANT:

The following notes form the basis for these repair instructions and must be adhered to at all times:

- Notes on window bonding. See 41 00... SAFETY AT WORK , 41 00... INFORMATION ON VEHICLE PROTECTION , 62 30... GENERAL NOTES ON THE HEAD-UP DISPLAY , 51 31... MATERIALS FOR BONDING WINDOW or 99 00... TOUCHING UP PAINTWORK DAMAGE .
- GENERAL PROCEDURE for dismantling/installation of affixed window glass

cardiagn.com

NOTE: **Removal is performed with ROLL OUT 2000 or SPIDER.**

The following new parts/consumables are required (sourcing reference BMW Parts Department).

Material	Quantity
Windscreen	1
Windscreen cover (for replacement of windscreen)	1
Spacer 3.8x4x12.7 mm	4
Stop pad, half-round (h = 5 mm), from repair kit	5
Small repair kit	1
Sika Activator 205 (for windscreen cover)	1
In the case of replacement up to version (build date) 04/2012 with appropriate version: Rain/light/solar sensor or Rain/light/solar and condensation sensor	1

Necessary preliminary tasks:

- Remove GUTTER STRIP on left and right
- Remove COVER FOR COWL PANEL
- Remove INSIDE MIRROR
- REMOVE TRIM PANEL FOR ROOF PILLAR (A-PILLAR) on left and right
- Unlock and disconnect all plug connections on windscreen.
- Cover front side panels with protective covers.

IMPORTANT: Tape off body in area of piercing point with fabric adhesive tape.

Push wire from ROLL OUT 2000 along line (1) through adhesive bead (2).

For details on how to proceed, refer to: WINDOW REMOVAL WITH "ROLL OUT 2000".

Lift out windscreen with suction cup. See 51 3 220 .

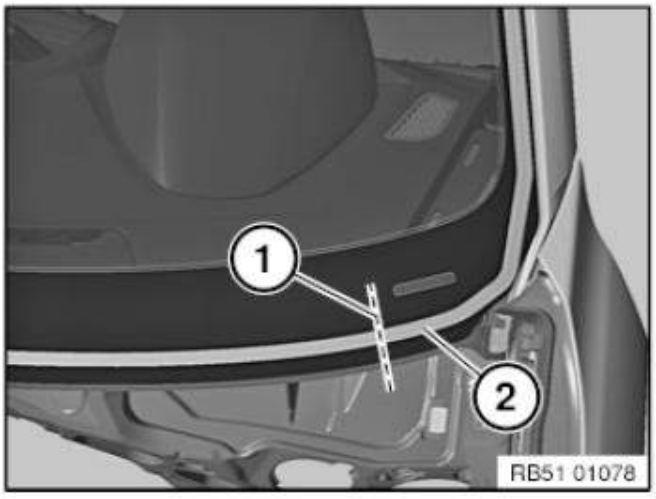


Fig. 364: Identifying Windscreen Adhesive Bead
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **When cutting is carried out at the bottom, the engine compartment lid must be in the service position.**
Wires and hoses remain connected.

Move ENGINE COMPARTMENT LID INTO SERVICE POSITION.

Cut through windscreen adhesive bead at bottom.

cardiagn.com

Lift out windscreen with suction cup. See **51 3 220** .

Pull off adhesive tapes all round.

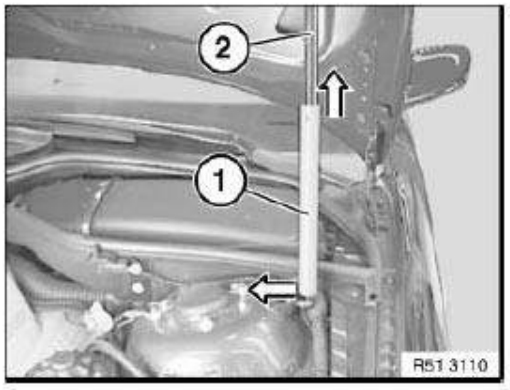


Fig. 365: Moving Engine Compartment Lid Into Service Position
Courtesy of BMW OF NORTH AMERICA, INC.

Fitting spacer buffers (spacers):

IMPORTANT: To avoid windscreen breakage and wind noises:
Completely remove remnants of removed spacer buffers (1) and (2) and maintain installation location exactly.

Spacer* (1) and semicircular spacer buffer** (2) must be mounted centrally so that they cover the embossed marks on sheet metal flange.

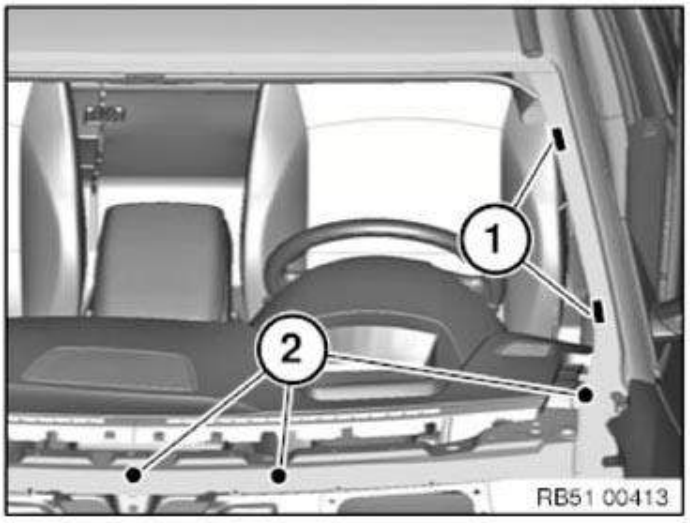


Fig. 366: Identifying Windscreen Spacer Buffers
Courtesy of BMW OF NORTH AMERICA, INC.

*Spacer 3.8x4x12.7 mm

**Semicircular spacer buffer from repair kit

Installation note:

If necessary, replace defective **EXPANDING FOAM TAPE** (1).

IMPORTANT: Just before the windscreen is installed, press down expanding foam tape (1) using special tool **51 0 300** or reattach expanding foam tape (1). An expanding foam tape (1) that has become relaxed could change the position of the adhesive bead and thereby lead to wind noise or windscreen leaks.

cardiagn.com

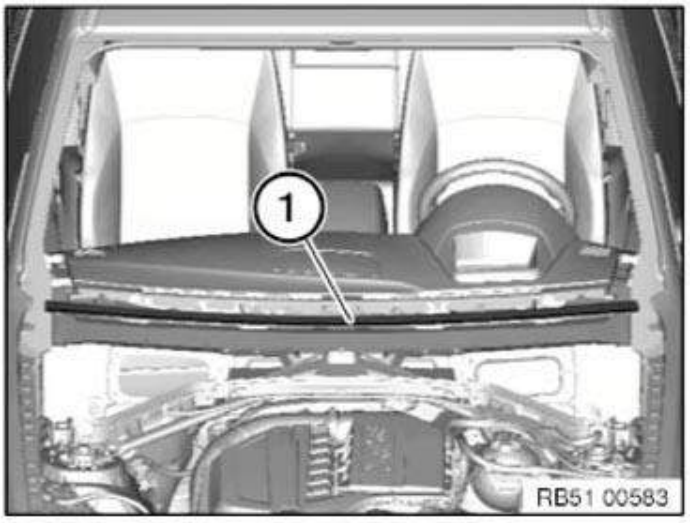


Fig. 367: Identifying Windscreen Tape
Courtesy of BMW OF NORTH AMERICA, INC.

If necessary, fit **COVER/RUBBER FRAME** (1) for windscreen.

Pre-treat adhesive area with Sika-Aktivator205.

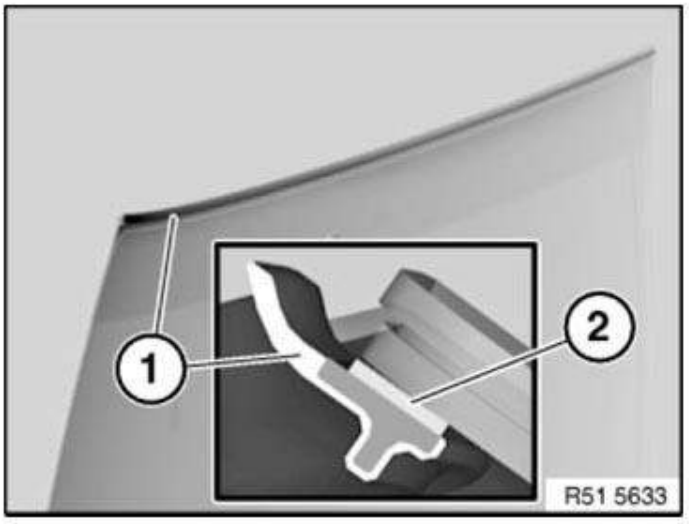


Fig. 368: Identifying Windscreen Rubber Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Overview of windscreen bonding:

cardiagn.com

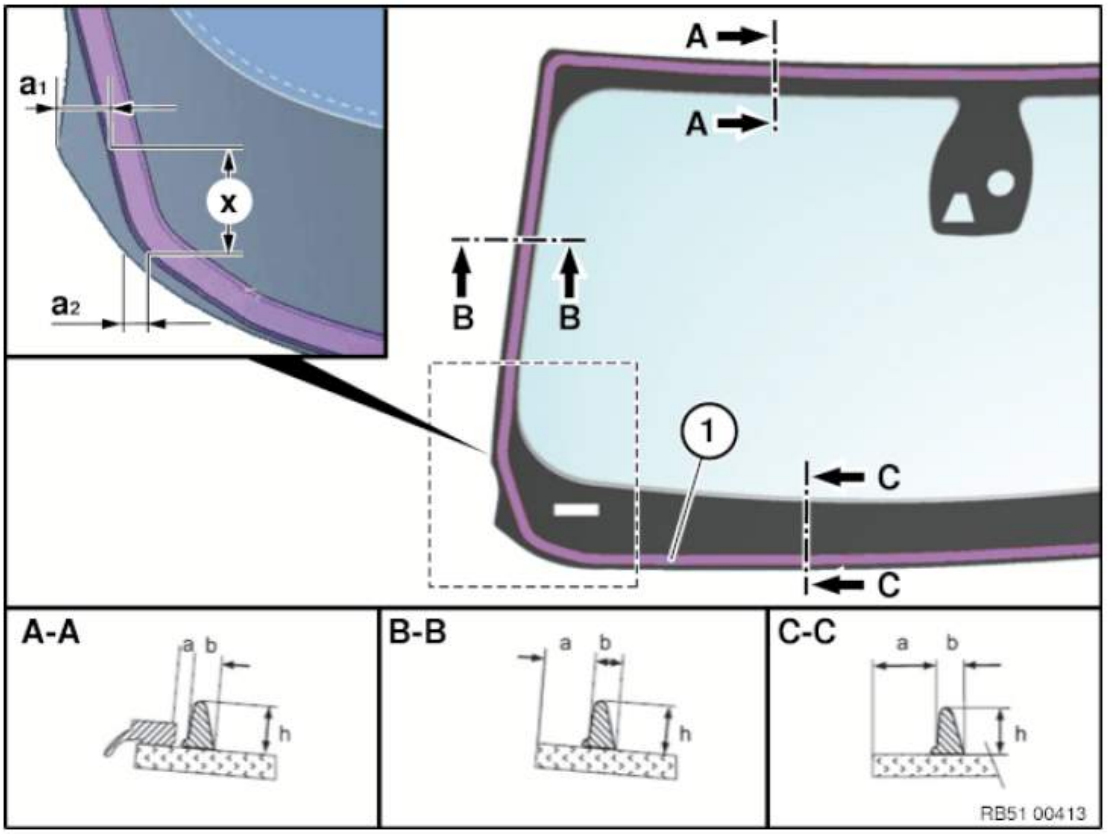


Fig. 369: Identifying Windscreen Spacer Buffers
Courtesy of BMW OF NORTH AMERICA, INC.

a_1 = 23 mm 1 = bead joint (approx. 300 mm from edge of window glass)

a_2 = 7 mm 2 = window glass corner (measuring point for a_1)

x = 60 mm

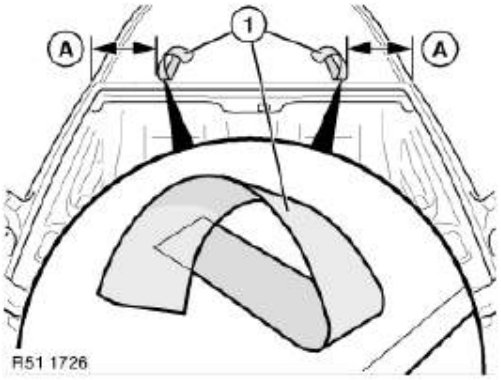
Cut	A - A	B - B	C - C
a [mm] = Position adhesive bead	1 +1	3 +1	3 +1
b [mm] = Width adhesive bead	8 Â±2	8 Â±2	8 Â±2
h [mm] = Height adhesive bead	12 -2	12 -2	12 -2

NOTE: **Adhesive area for plastic adhesive tapes (1) must be free from grease and dust.**

Stick two yellow plastic adhesive tapes (1) to roof at distance (A) from outside corners.

Length: 400 mm

A. 250 mm



cardiagn.com

Fig. 370: Identifying Plastic Adhesive Tapes
Courtesy of BMW OF NORTH AMERICA, INC.

Perform the following steps carefully on windscreen (1) using **SIPHON** :

- position windscreen first at top
- Align sides evenly
- then insert at bottom and press down
- press upwards until sealing rests evenly on roof
- Adjust gap dimensions (see next operation)
- secure in terms of height in this position at top with two yellow plastic adhesive tapes (2)

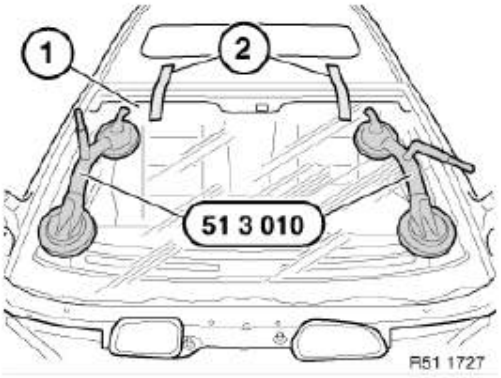


Fig. 371: Holding Window Glass
Courtesy of BMW OF NORTH AMERICA, INC.

Windscreen gap dimensions:

To avoid wind noises, the windscreen (1) must be lower than the roof outer skin (2).

Measure the short length (A) on the left and right using special tool **51 0 010** .

Rubber frame (3) must be even and in parallel to roof outer skin (2).

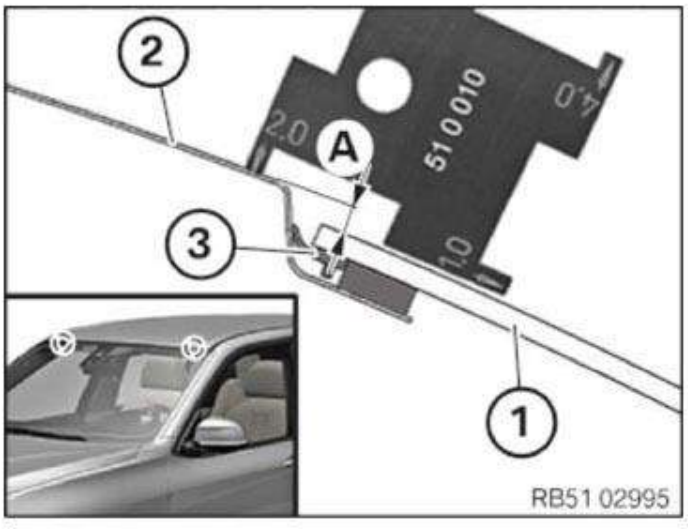


Fig. 372: Identifying Windscreen Gap Dimensions
Courtesy of BMW OF NORTH AMERICA, INC.

Â	F25	F26
(A) with HUD	3 Â± 1 mm	5 Â± 1.5 mm
(A) without HUD	3.4 Â± 1.5 mm	5.5 Â± 1.5 mm

In the case of replacement with appropriate version:

cardiagn.com

Version up to 04/2012:

Install new **rain/light/solar and (condensation) sensor** . See 61 35 685 REPLACING RAIN/LIGHT SOLAR SENSOR or 61 35 688 REPLACING SOLAR RAIN/LIGHT SENSOR AND CONDENSATION SENSOR .

Version after 04/2012:

Remount RAIN-LIGHT-SOLAR AND (CONDENSATION SENSOR) .

51 31 200 REMOVING AND INSTALLING/REPLACING REAR WINDOW

The following notes form the basis for these repair instructions and must be adhered to at all times:

IMPORTANT:

- Notes on window bonding. See 41 00... SAFETY AT WORK , 41 00... INFORMATION ON VEHICLE PROTECTION , 62 30... GENERAL NOTES ON THE HEAD-UP DISPLAY , 51 31... MATERIALS FOR BONDING WINDOW or 99 00... TOUCHING UP PAINTWORK DAMAGE .
- GENERAL PROCEDURE for dismantling/installation of affixed window glass

When reusing the rear window:

Avoid damaging lines for heated rear window/-aerial.

NOTE: **Removal is performed with ROLL OUT 2000. Only use an oscillating blade when replacing the windscreen.**

The following new parts/consumables are required (sourcing reference BMW Parts Department).

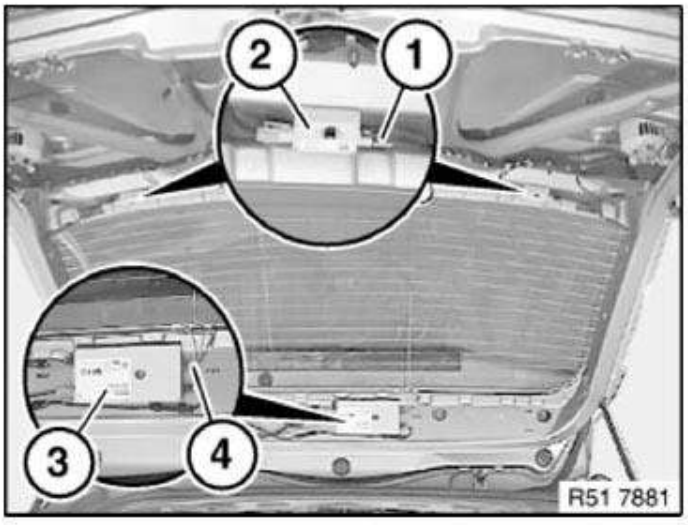
Material	Quantity
Rear window (with replacement)	1
Spacer buffer 5x5x20 mm	8
Dual Lock/Velcro fastener on rear window	4
Dual Lock/Velcro fastener on tailgate	4
Small repair kit	1

Necessary preliminary tasks:

- Remove REAR WINDOW WIPER MOTOR

Disconnect connector (1) on wave trap (2) on left/right and secure cable with adhesive tape to rear window.

Disconnect connector (4) on aerial amplifier (3) and secure cable with adhesive tape to rear window.



cardiagn.com

Fig. 373: Identifying Rear Window Connector And Aerial Amplifier
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Tape off body in area of piercing point with fabric adhesive tape (risk of damage).

Push wire from **ROLL OUT 2000** at line (1) through adhesive bead.

For details on how to proceed, refer to: **WINDOW REMOVAL WITH ROLL OUT 2000**.

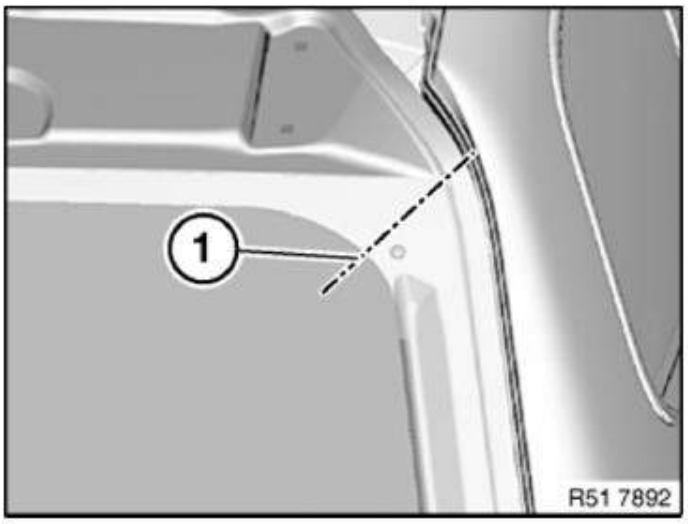


Fig. 374: Identifying Window Removal Tool Line
Courtesy of BMW OF NORTH AMERICA, INC.

Slide protective cover (3) between rear window frame and body and secure with adhesive tape.

Attach fabric adhesive tape (5) at bottom between rear window and rear window frame.

Only replace:

Rear window is cut out with two different lengths of blade (risk of damage).

A. Blade length 24 mm at top
B. Blade length 45 mm at side
C. Blade length 24 mm at bottom

NOTE: **First, cuts are made at top (A) and bottom (C).**

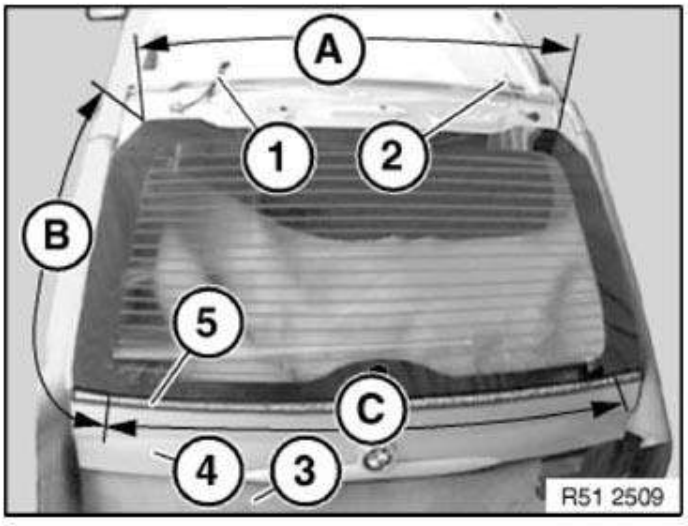


Fig. 375: Identifying Rear Window Blade Lengths

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Only replace:

Mount U-shape knife (sourcing reference: BMW Parts Department) on tool.

Regrind blade with a grinding stone while machine is running (new blades also).

Carefully insert knife between body aperture and rear window.

Guide web of knife parallel to rear window.

Cut through adhesive bead as closely as possible to rear window.

IMPORTANT: Carefully cut in area of electric connections (risk of damage).



Fig. 376: Identifying U-Shape Knife
Courtesy of BMW OF NORTH AMERICA, INC.

Installation of spacer buffers/Dual Locks (spacers):

IMPORTANT: Spacer buffers and Dual Locks are installed to avoid rear window breakage.
Completely remove old spacer buffers (1) and Dual Locks (2).
Bond new spacer buffers (1) within the tabs.

Position of new Dual Locks (2) must be matched to position of Dual Locks on rear window.

1. Spacer buffer (part number 2 996 980*)
2. Dual Locks (part number 7 164 933*)

* Sourcing reference: BMW Parts Department

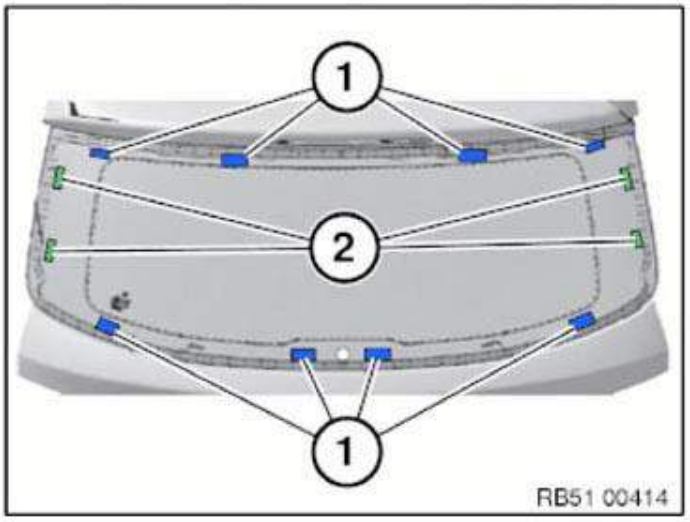


Fig. 377: Identifying Windscreen Spacer Buffers And Dual Locks

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Overview of rear window bonding (F25):

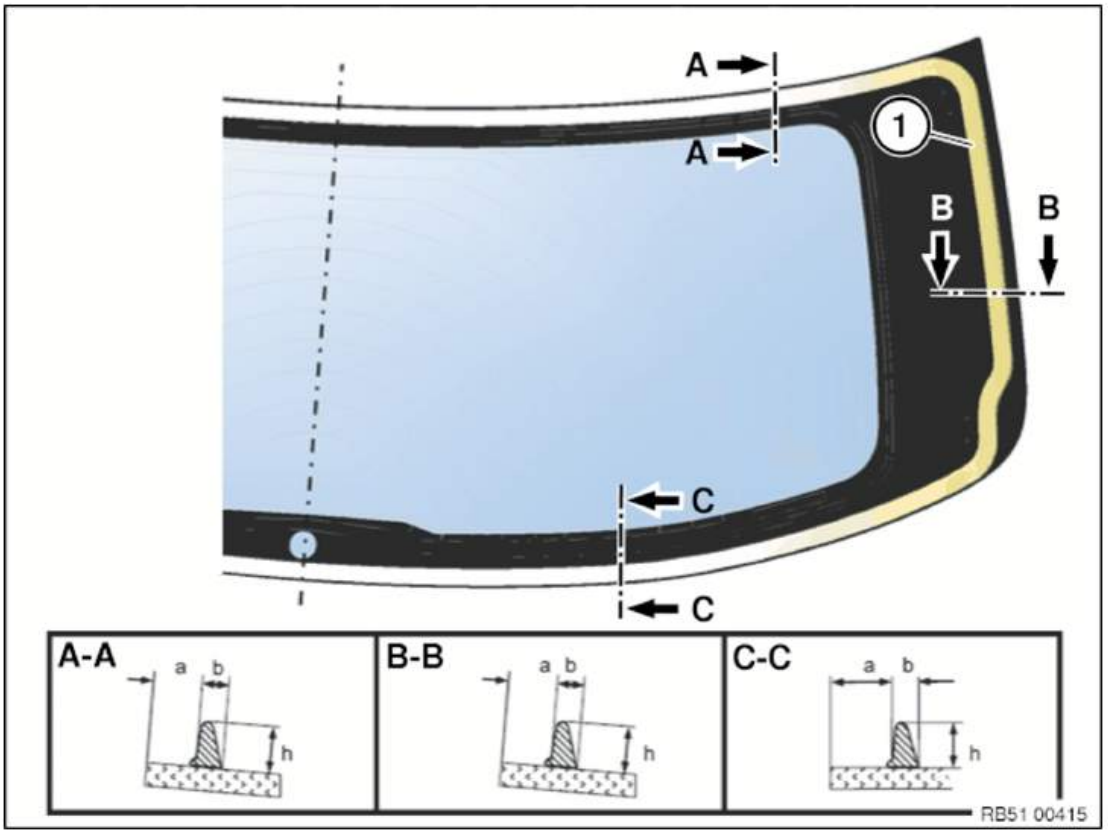


Fig. 378: Overview Of Rear Window Bonding (F25)
Courtesy of BMW OF NORTH AMERICA, INC.

Cut	A - A	B - B	C - C
a [mm] = Position adhesive bead	7, 5 Â±1	14, 5 Â±1	6 Â±1
b [mm] = Width adhesive bead	8 Â±2	8 Â±2	8 Â±2
h [mm] = Height adhesive bead	12 -2	12 -2	12 -2

1. Bead joint

A tolerance band is printed on the ceramic (two dashed lines) that marks the position of the adhesive bead. Place the adhesive bead centrally on the tolerance band.

Aerial structure of rear window must not come into contact with adhesive.

Installation note:

Carefully working on rear window with **SIPHON** :

- install at top
- Align sides evenly
- install at bottom at distance (A) and press down
- engage in Dual Locks

Distance (A) of rear window bottom to tailgate edge:

A. 3.9 Â±1 mm

cardiagn.com

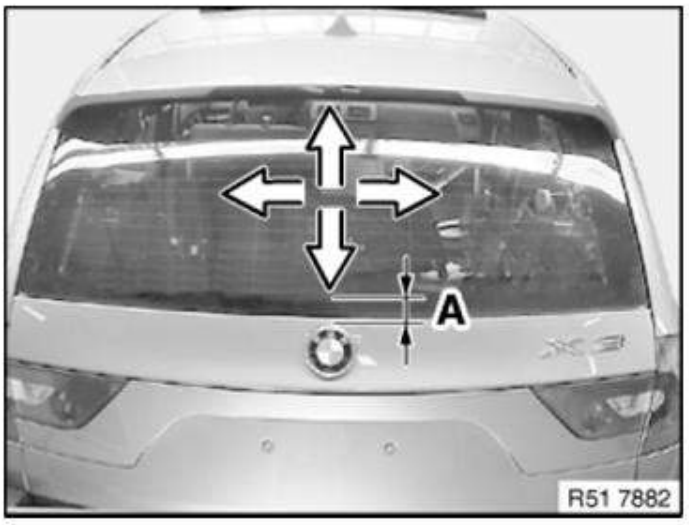


Fig. 379: Adjusting Rear Window
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement

Modify rubber grommet of wiper motor at rear window.

51 48... REMOVING AND INSTALLING/REPLACING SOUND INSULATION ON COWL PANEL

Refer to **51 48... REMOVING AND INSTALLING/REPLACING SOUND INSULATION ON COWL PANEL**.

51 13 280 REMOVING AND INSTALLING/REPLACING TRIM STRIP ON ROOF FRAME AT LEFT OR RIGHT

Refer to **51 13 280 REMOVING AND INSTALLING/REPLACING TRIM STRIP ON ROOF FRAME AT LEFT OR RIGHT**.

51 31 021 REMOVING AND INSTALLING/REPLACING WINDSCREEN RUBBER SURROUND

Special tools required:

- **51 3 320**

Necessary preliminary tasks:

- Remove **WINDSCREEN**

IMPORTANT:	The glass activator to pre-treat the area of the windscreen adhesive bead may **not** come in contact with the adhesive area of the cover. The bonding result of the cover is otherwise compromised. Therefore, the cover must be installed prior to application of the glass activator. Following **INSTRUCTIONS** for bonding components with double-sided adhesive tape.

Detach cover (1).

Remove remnants of adhesive tape (2).

Clean bonding surface.

Air drying time: ≥ 1 minute

IMPORTANT:	Adhesive area must be dry and free from dust and grease. Once it has been cleaned, do not touch the adhesive area with bare hands.

cardiagn.com

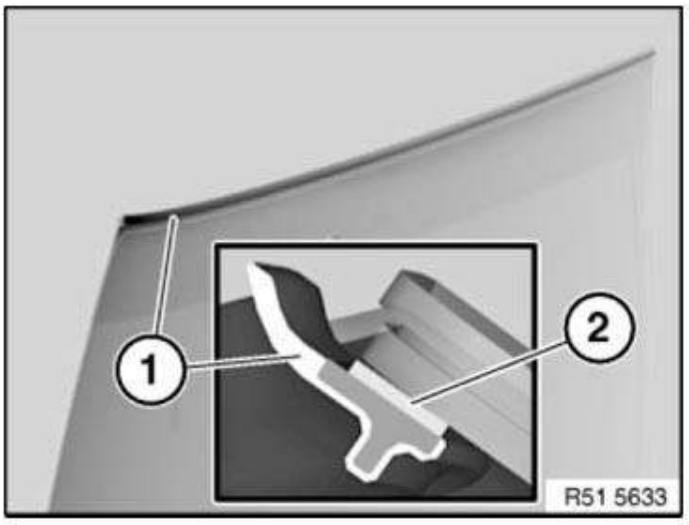


Fig. 380: Identifying Windscreen Rubber Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Pre-treat adhesive area with Sika-Aktivator205.

Air drying time: ≥ 1 minute

Sika Activator 205 must not get onto adhesive area of adhesive bead.

Reposition lever (1) and open special tool **51 3 320** .

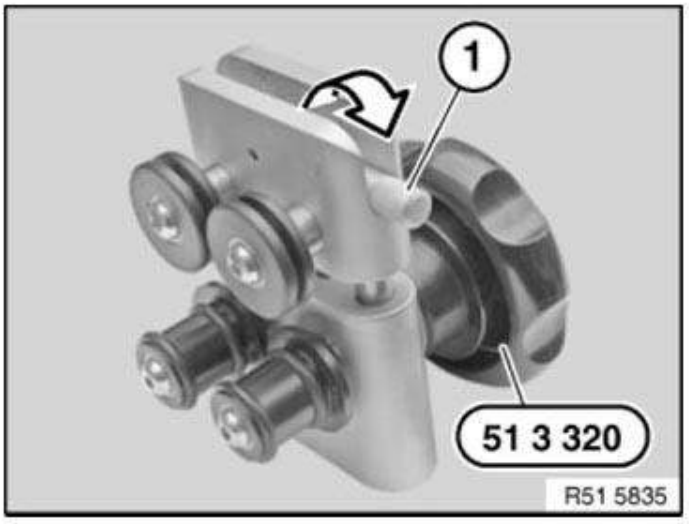


Fig. 381: Positioning Special Tool (51 3 320)
Courtesy of BMW OF NORTH AMERICA, INC.

Pull off protective film (2) in stages from adhesive tape.

Insert cover (1) in guide pulleys (3).

cardiagn.com

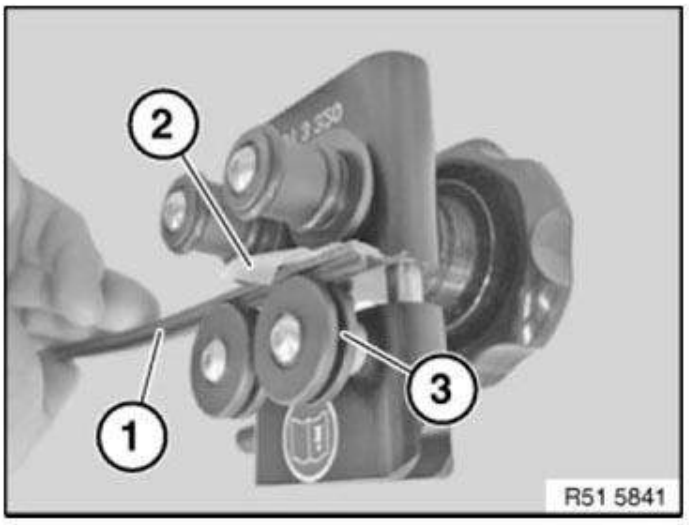


Fig. 382: Pulling Protective Film
Courtesy of BMW OF NORTH AMERICA, INC.

Place special tool with contact rollers (1) up against window edge.

Align cover to window outer edge.

Fit cover and visually check for perfect seating.

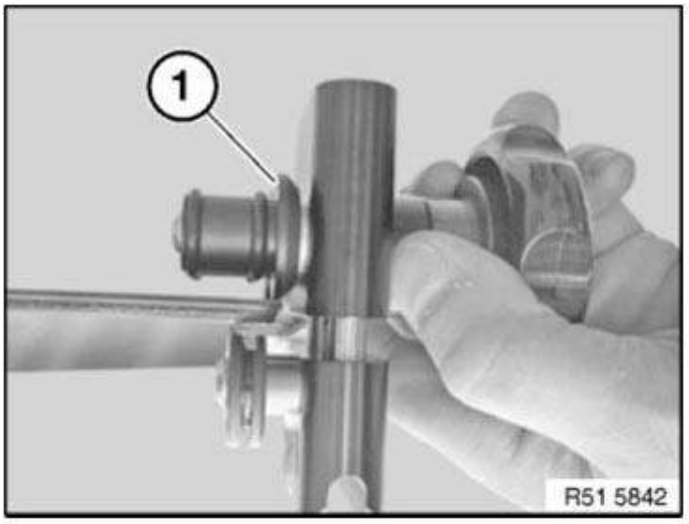


Fig. 383: Placing Special Tool With Contact Rollers
Courtesy of BMW OF NORTH AMERICA, INC.

Reposition lever (1) and close special tool.

Make cover (3) is correctly seated in guide pulleys (2).

cardiagn.com

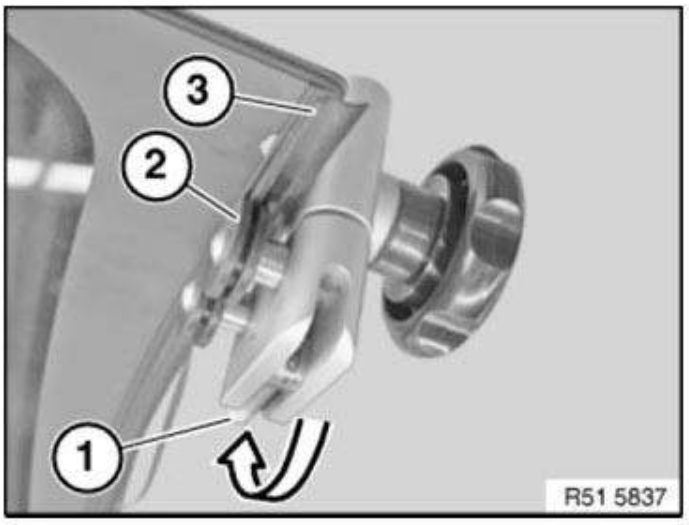


Fig. 384: Turning Special Tool Lever
Courtesy of BMW OF NORTH AMERICA, INC.

Continue to pull off protective film (1) in stages from adhesive tape.

Run special tool with hand wheel over entire upper window edge.

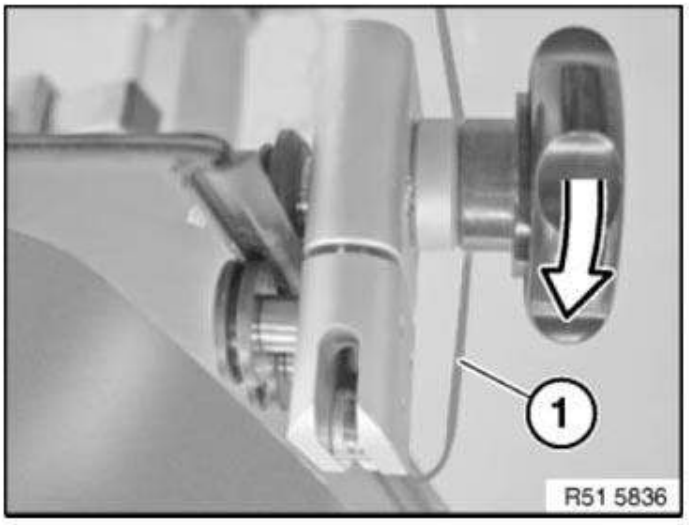


Fig. 385: Turning Special Tool Lever
Courtesy of BMW OF NORTH AMERICA, INC.

51 31... REMOVING WINDOWS WITH A "SPIDER"

Windscreen removal system "Spider"

cardiagn.com



1	"Spider" separation device	6	Line threader
2	Bit holder	7	Line routing tool
3	Operating instructions	8	Suction anchor
4	Dashboard protection	9	Cord for separating adhesive strips
5	Angular transmission		

Fig. 386: Identifying Windscreen Removal System Tool
Courtesy of BMW OF NORTH AMERICA, INC.

Accessories required for operation (not included):

Cordless screwdriver/drill with at least a 10.8 V Li-ion battery or a 18 V Ni-Cd battery and variable speed.

NOTE: **Always use a low gear setting.**

NOTE: **Damage as well as ergonomic and health-endangering damage are minimized with the "Spider" disassembly system.**

WARNING: **Follow safety instructions . See 51 00... SAFETY INSTRUCTIONS FOR WORKING ON CARS WITH AIRBAG SYSTEMS or 72 SAFETY PRECAUTIONS AND GENERAL INFORMATION for working on vehicles with airbag systems (risk of injury).**

IMPORTANT: Handle sharp-edged tools with care (risk of damage to the head airbag and the window glass).

IMPORTANT: Always keep both suction cups dry and clean to ensure their optimum adhesion on the windscreen.
Suction cup may not be applied at the damaged point (crack in window glass).
The bearing bushes of the shaft (spindle) must always be lubricated.
Always wear safety goggles and protective gloves for your own safety.

The procedure for disassembly of the windscreen is described below as an example.

Deviations in the work procedure can be found in the vehicle-specific repair instructions.

cardiagn.com

General

A cord approx. 6.8 m long is used to cut through the adhesive bead.

The cord length to be used is identified by a short red mark (A) approx. 5 cm.

The part of the cord laid outside around the window glass (approx. 5 m) is identified with a long red mark (B) (approx. 18 cm).

The marks are applied so that the cord has to be pulled from the inside to the outside.

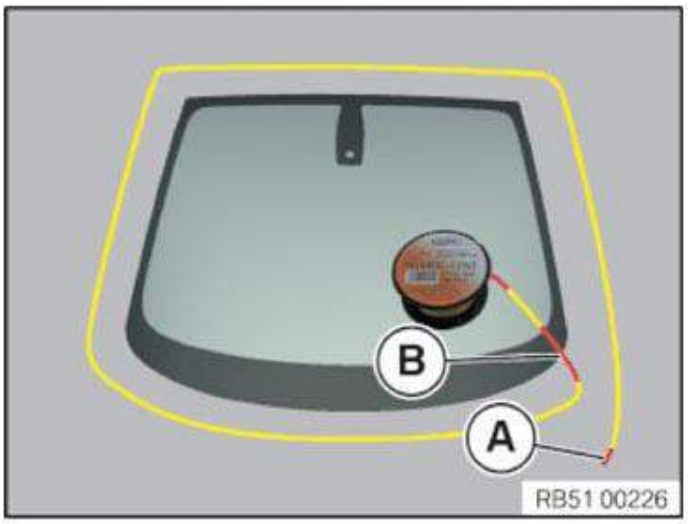


Fig. 387: Identifying Window Glass Cord Red Mark
Courtesy of BMW OF NORTH AMERICA, INC.

Preparation

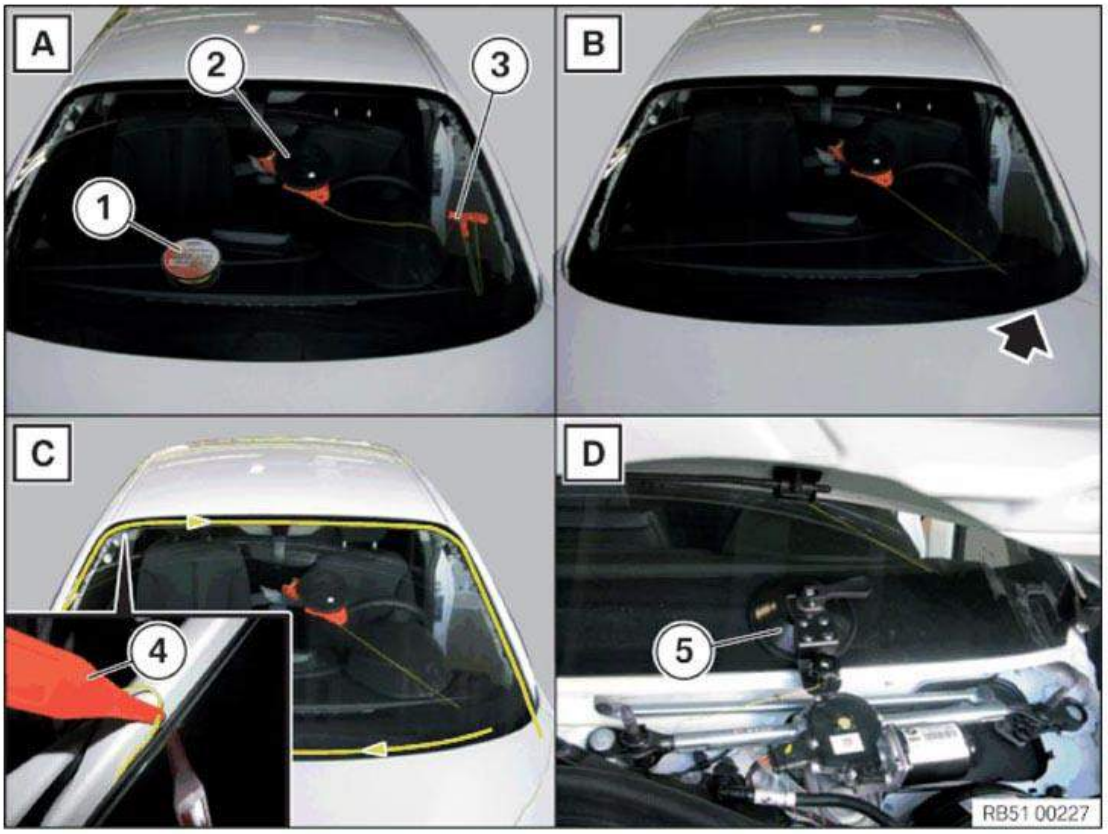


Fig. 388: Installing Cord Around Window Glass Using Pulling Aid
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

A. Pierce cord from the roller (1) or separation device (2) with cord threader (3) through the adhesive bead from the inside, protect the area from the inside as required.
B. Pull out cord up to the first red mark (approx. 18 cm long).
C. Lay cord around the window glass, use pulling aid (4) if required.
D. Secure suction anchor (5) outside on window glass, secure cord to suction anchor (5).

If required, unwind cord from roller (1) up to the second red mark (approx. 5 cm long) and cut off.

Make sure the cord lies below the window glass at all four corners.

Check that the cord is not caught on clamps or body.

Secure window glass on outside with adhesive tape against sliding.

Feeding in the cord on the separation device

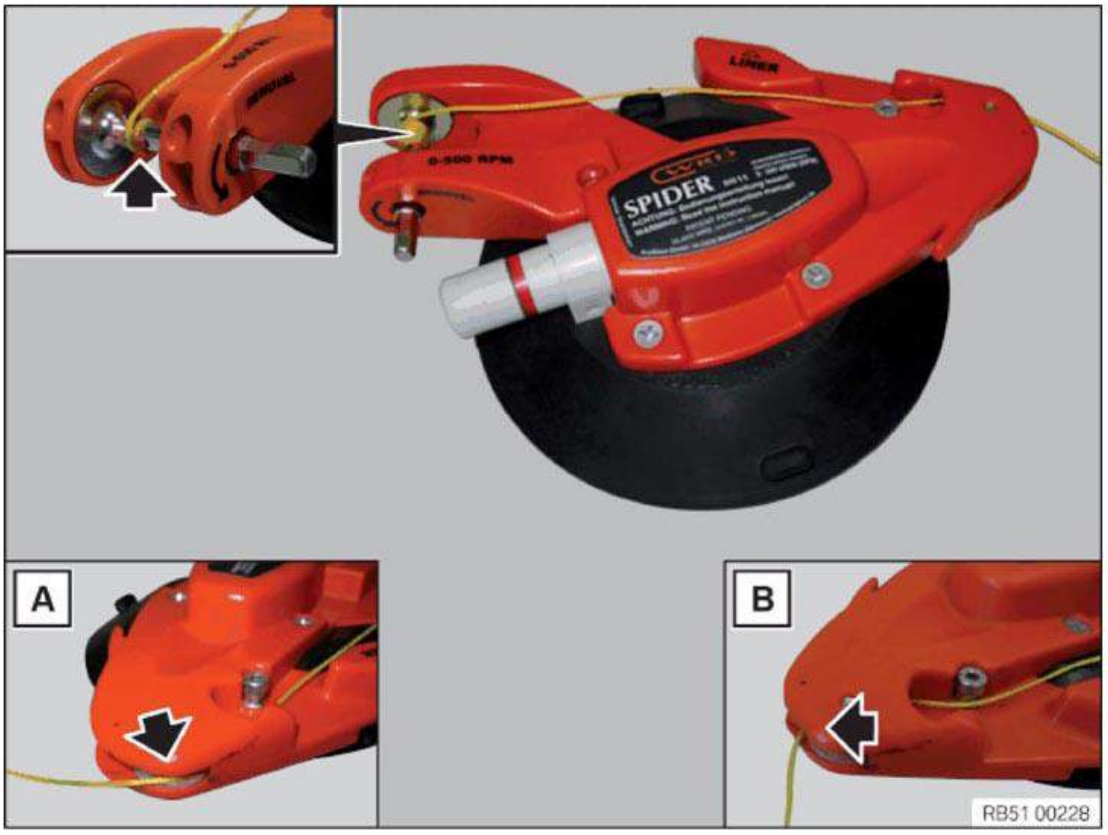


Fig. 389: Identifying Cord Separation Device
Courtesy of BMW OF NORTH AMERICA, INC.

Normally, the adhesive bead is cut through anticlockwise seen from the passenger compartment.

- This means the cord must be fed into the separation device as shown in graphic A.

When accessibility is not optimal, the opposite cutting direction may be required (comply with vehicle-specific repair instructions).

- This means the cord must be fed into the separation device as shown in graphic B.

Feed cord into coil and wind it on, at the same time trapping the end of the cord.

When winding the cord, the correct direction of rotation on the separation device must be observed.

Cutting out procedure

cardiagn.com

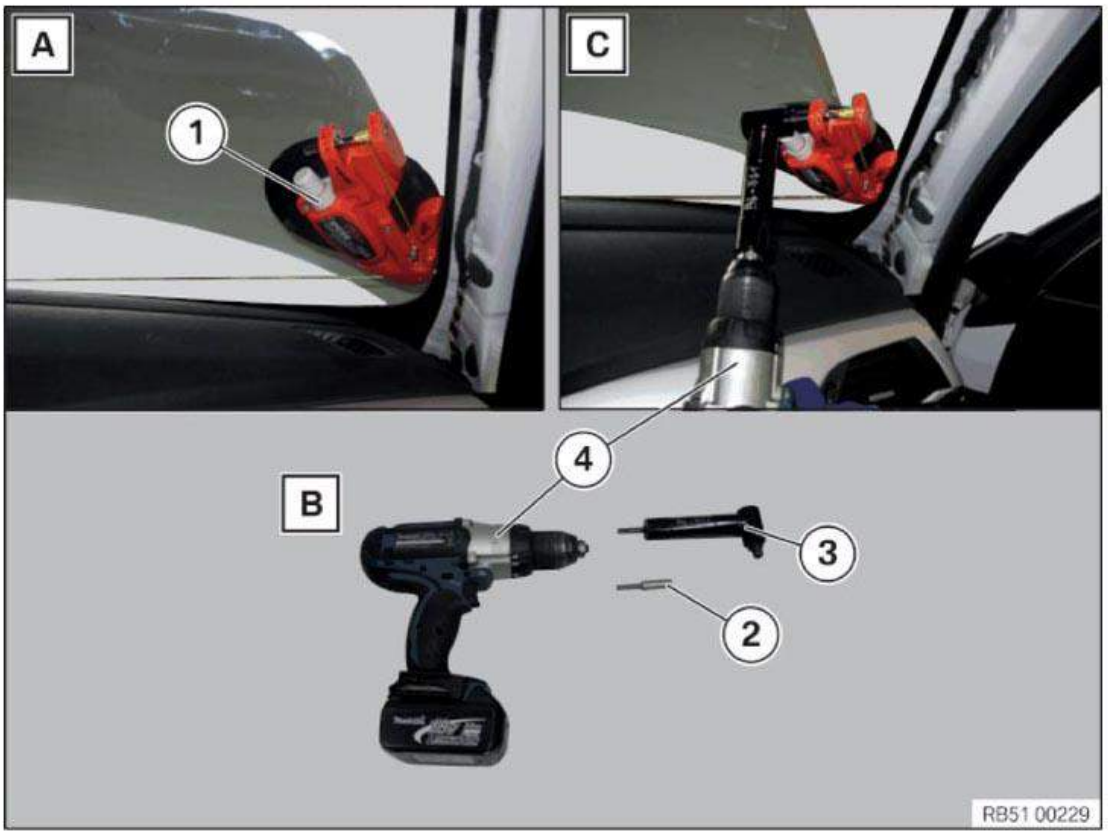


Fig. 390: Identifying Separation Device, Bit Holder And Angle Gear
Courtesy of BMW OF NORTH AMERICA, INC.

Optimum cutting is guaranteed when the cord is at an acute angle to the adhesive bead. There is a risk of the cord ripping if the angle is too obtuse.

The separation device must be positioned correspondingly to achieve the appropriate angle.

A. Fix separation device (1) on window glass at bottom right.
B. Depending on accessibility, attach bit holder (2) or angle gear (3) to cordless screwdriver (4).
C. Place cordless screwdriver (4) on separation device (1) and start winding cord, observe direction of rotation on separation device.

If required, over trim panel components with plastic protection.

Guide cord with plastic protection around sharp-edged positions.

Cut through adhesive bead up to bottom area of A-pillar.

Turn back cordless screwdriver (4) approx. 2 rotations and remove.

Cutting out procedure

cardiagn.com

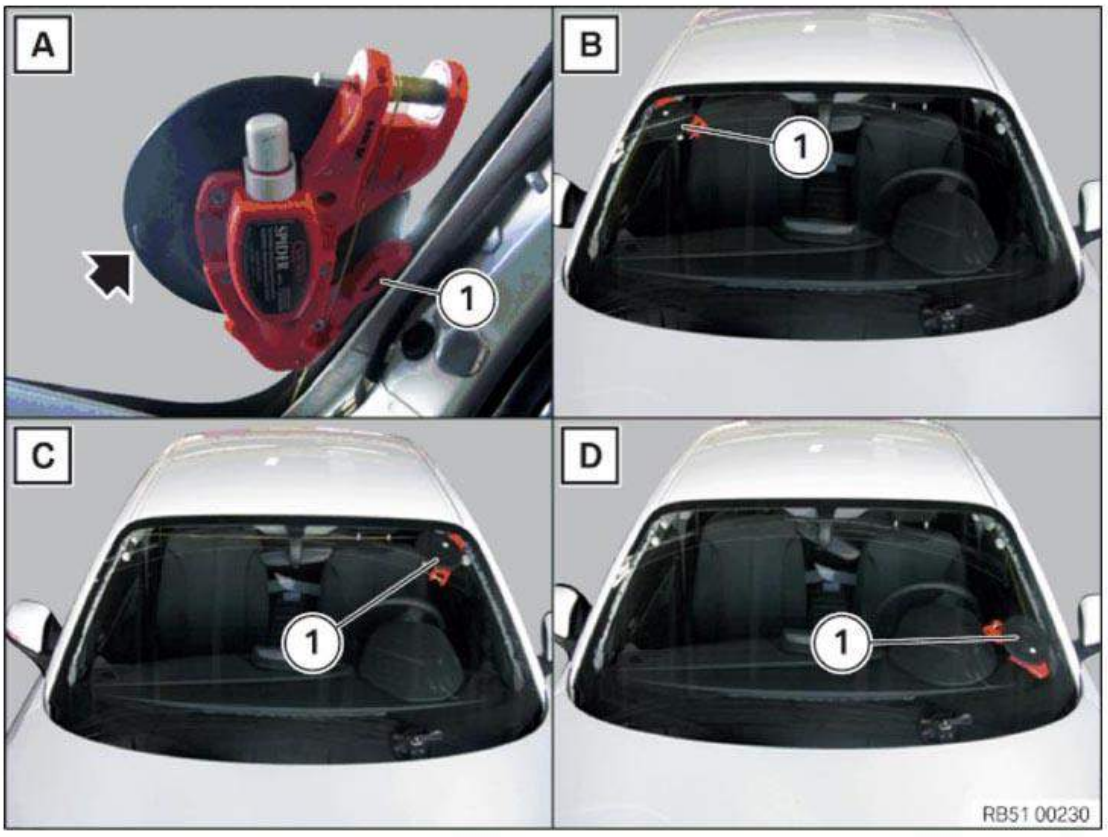


Fig. 391: Positioning Windscreen Removal Tool
Courtesy of BMW OF NORTH AMERICA, INC.

A. Discharge vacuum on windscreen removal tool (1) by pressing the tab, remove windscreen removal tool (1) from window glass.

B. Reset removal tool (1) at illustrated and wind up cord up to the position of windscreen removal tool (1).

C./D. Repeat further resetting, work sequence as given at B.

Additional resetting may be required for very curved window glass.

It is possible to reuse the cord. When a cord is used many times the risk of ripping increases.

Dirt contamination must be avoided when a cord is reused.

51 31... REMOVING WINDOWS WITH AN OSCILLATING KNIFE

WARNING: **Follow safety instructions . See 51 00... SAFETY INSTRUCTIONS FOR WORKING ON CARS WITH AIRBAG SYSTEMS or 72 SAFETY PRECAUTIONS AND GENERAL INFORMATION for working on vehicles with airbag systems (risk of injury).**

IMPORTANT: Handle sharp-edged tools with care (risk of damage to the head airbag and the window glass).

IMPORTANT:
Follow the vehicle-specific repair instructions!
Always wear safety goggles and protective gloves for your own safety.
Cover the working area (side walls, roof-mounted aerial and if necessary interior equipment) with protective covers.
Tape off body with fabric adhesive tape (e.g. Tesa) in areas where the oscillating knife could damage the window glass or the paint.

Use suction cups to lift out the window glass. See 51 3 220 .

Always keep both suction cups dry and clean to ensure their optimum adhesion on the windscreen.

Secure window glass against falling out.

cardiagn.com

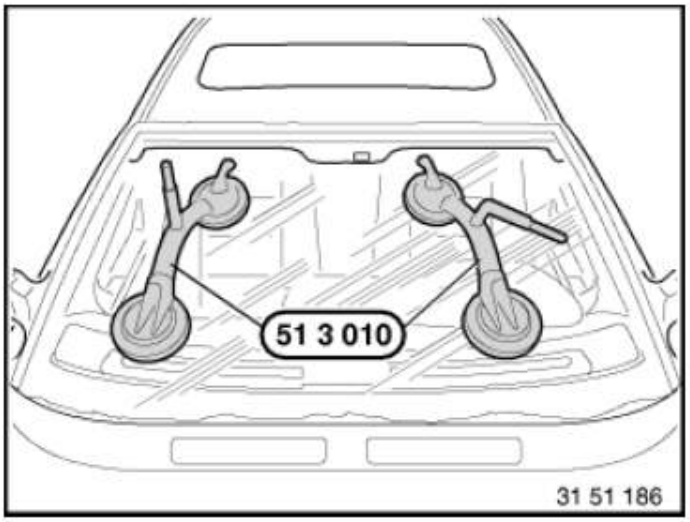


Fig. 392: Lifting Window Glass Using Suction Cups (51 3 010)
Courtesy of BMW OF NORTH AMERICA, INC.

Depending on the area of application, knife 1 or 2 is used.

1. Straight knife with adjustable thrust roller
2. U-shaped knife

Dimension (X) on the knife (1) can be adjusted individually, see vehicle-specific repair instructions.

NOTE: Sharpen knife blade before every use on a running machine with a grinding stone (even with new knife blade).

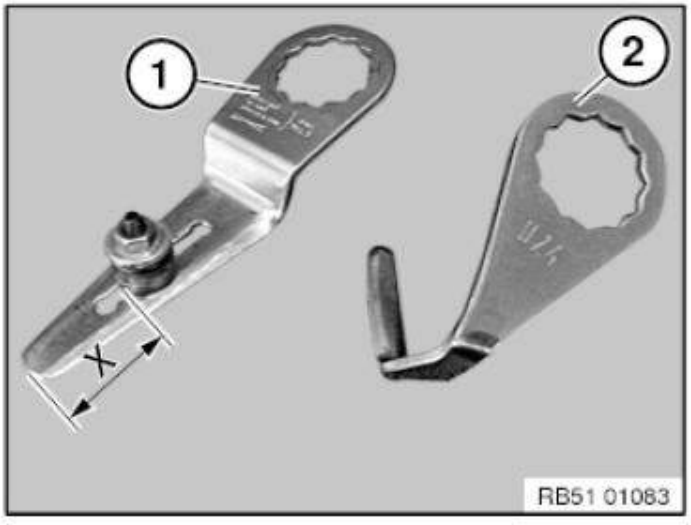


Fig. 393: Identifying U-Shaped Knife Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

Removing from the inside:

Guide knife carefully between body and window glass.

Run blade of knife parallel to glass.

Take care not to damage paintwork.

Cut through adhesive bead all the way around.

Pull window glass outwards to remove.

cardiagn.com

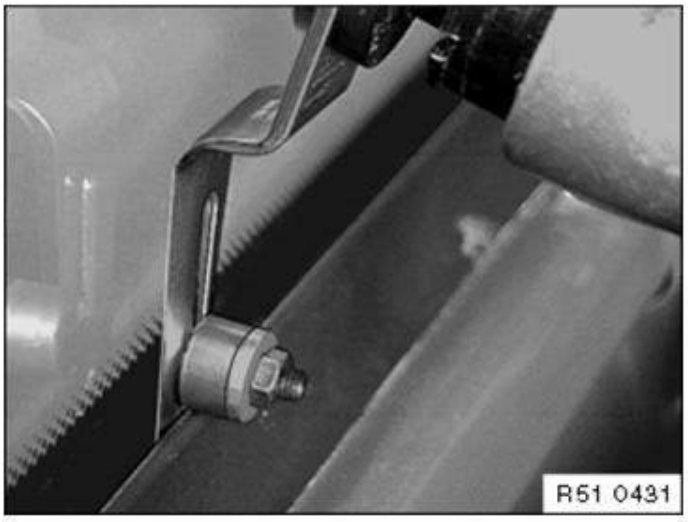


Fig. 394: Removing Window Glass
Courtesy of BMW OF NORTH AMERICA, INC.

Removal from outside:

Guide knife carefully between body and window glass.

Run blade of knife parallel to glass.

Take care not to damage paintwork.

Cut through adhesive bead all the way around.

Pull window glass outwards to remove.

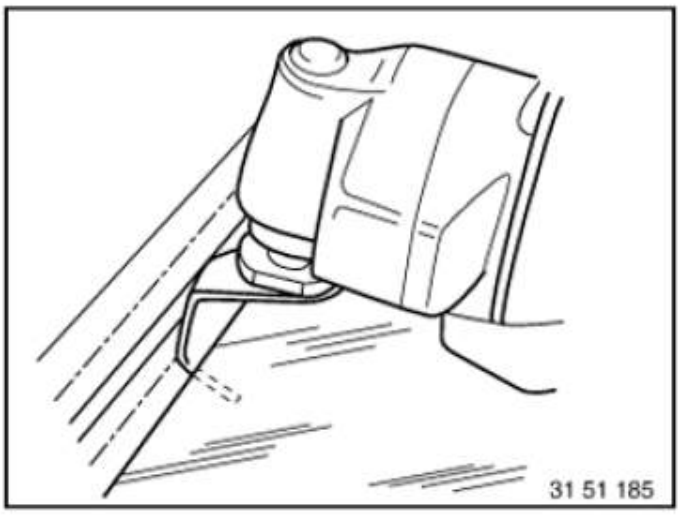


Fig. 395: Adjusting Knife Between Body And Window Glass (Outside)
Courtesy of BMW OF NORTH AMERICA, INC.

Cut through adhesive bead as closely as possible to window glass.

1. Body opening
2. Adhesive bead
3. Knife
4. Window

cardiagn.com

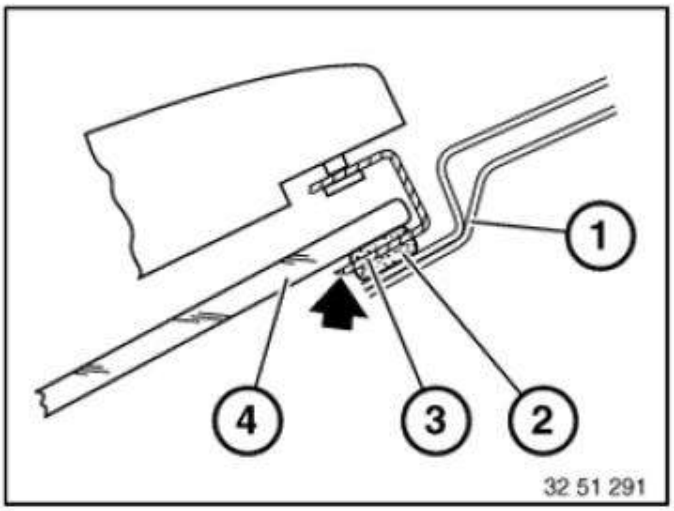
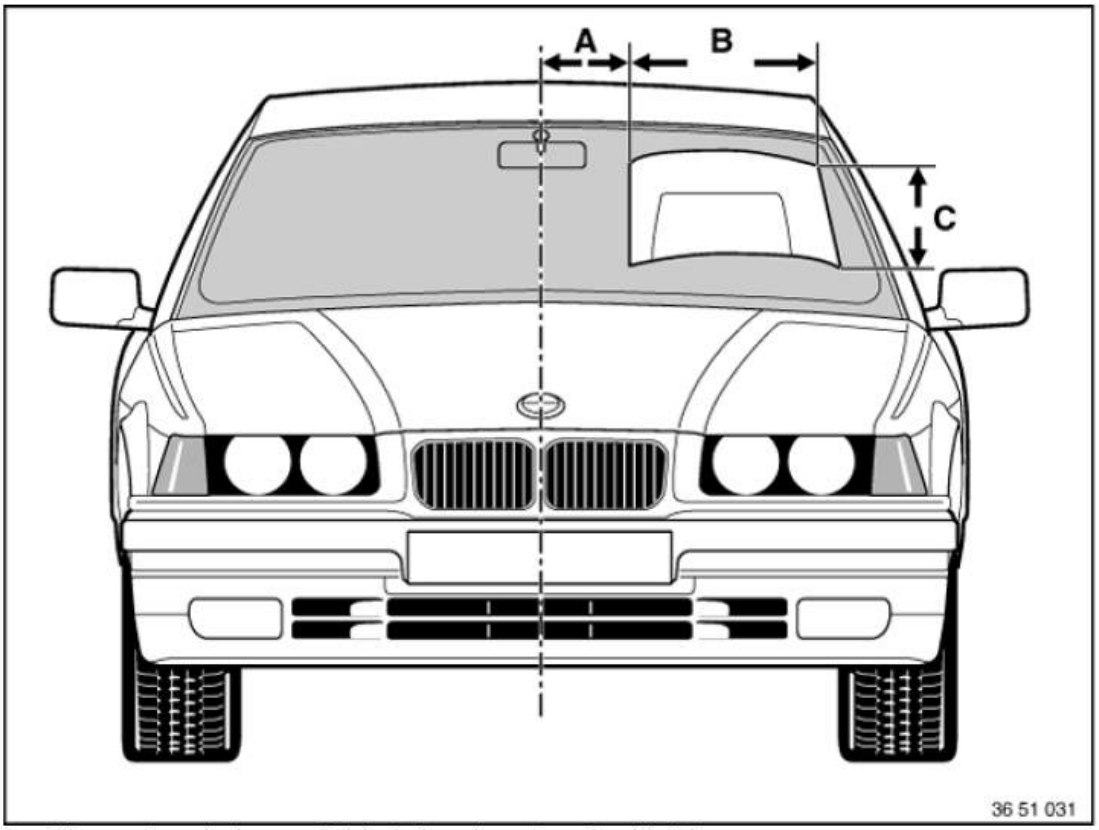


Fig. 396: Locating Body Opening, Adhesive Bead, Knife And Window
Courtesy of BMW OF NORTH AMERICA, INC.

51 31 015 REPAIRING DAMAGE TO WINDSCREEN CAUSED BY STONE CHIPS (CLEAR AND TINTED LAMINATED SAFETY GLASS)

Field of vision (no repairs acceptable):



A 50 mm (gap between field of view / centre of vehicle)
B Up to end of wiper range, outside (field of view width)
C Restriction by wiper range (field of view height)

Fig. 397: Identifying Vehicle Field
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Repairs must only be carried out outside of the field of vision (refer to Fig. 397).
If the stone chip damage is outside the field of vision, refer to REPAIR INSTRUCTION.

51 31... REPLACING CAPACITOR AT REAR WINDOW

cardiagn.com

Special tools required:

- 00 9 322

Necessary preliminary tasks:

Remove TRIM FOR REAR LID

IMPORTANT: Risk of damage!
Work on rear window is only permitted using special tool 00 9 322 .

Remove window spacer (1) with special tool 00 9 322 .

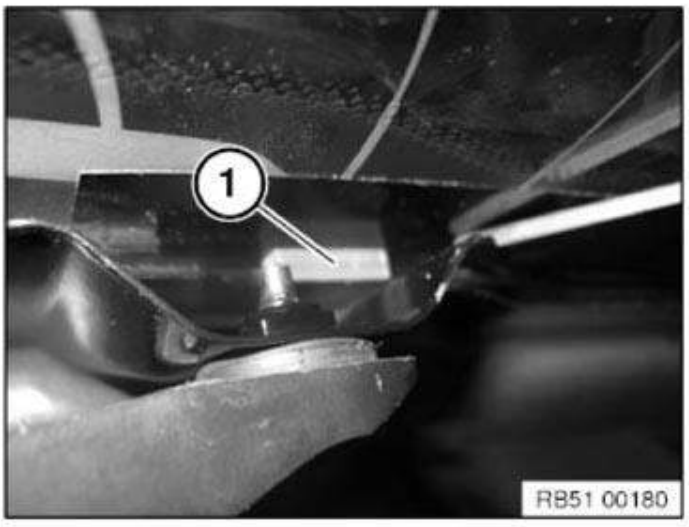


Fig. 398: Identifying Window Spacer
Courtesy of BMW OF NORTH AMERICA, INC.

Mark position of capacitor film (1) with adhesive tape.

Pull off capacitor film at an angle of 45Â°.

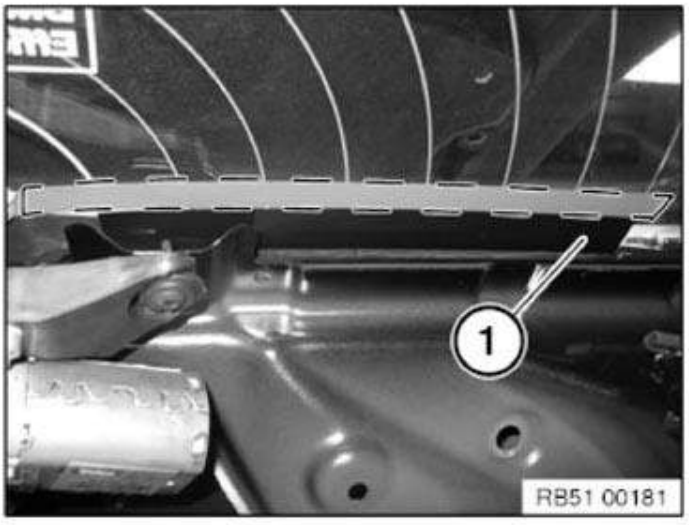


Fig. 399: Identifying Window Capacitor Film
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Clean bonding surface (1) for capacitor film with R2 cleaning agent (Sourcing reference: BMW Parts Department).

Area must be dust- and grease-free.

cardiagn.com

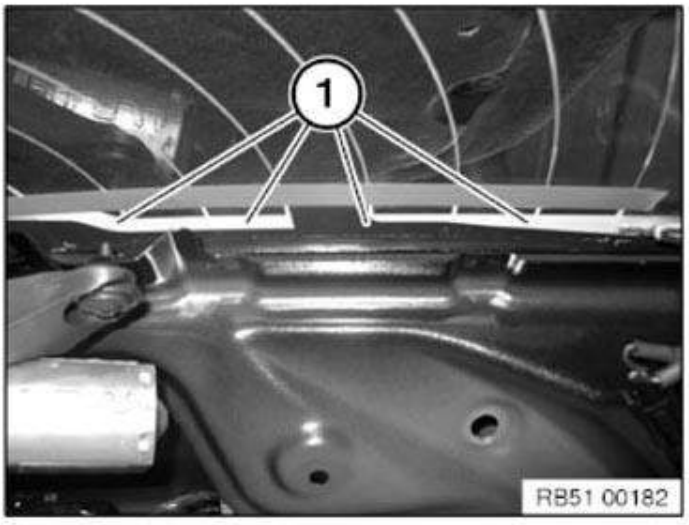


Fig. 400: Identifying Window Capacitor Film Bonding Surface
Courtesy of BMW OF NORTH AMERICA, INC.

Check rear window for damage to conductor paths.

If conductor paths are damaged, the **REAR WINDOW MUST BE REPLACED**.

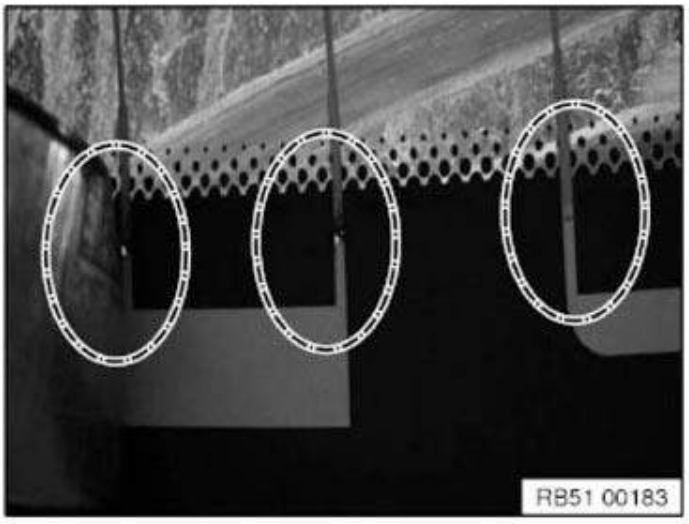


Fig. 401: Identifying Rear Window Damage
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

When installing the capacitor film the rear window should at least be at room temperature and ideally heated to a temperature of 30 Â°C to 60 Â°C for better adhesion of the bonding surface. Rear window may only be heated on the outer side.

Position the capacitor film on the rear window first before adhering it to the rear window.

Only when the capacitor film is positioned exactly, can the first layer of the adhesive tape be pulled off and bonded, then the second layer pulled off and bonded, in order to avoid the capacitor film slipping.

cardiagn.com

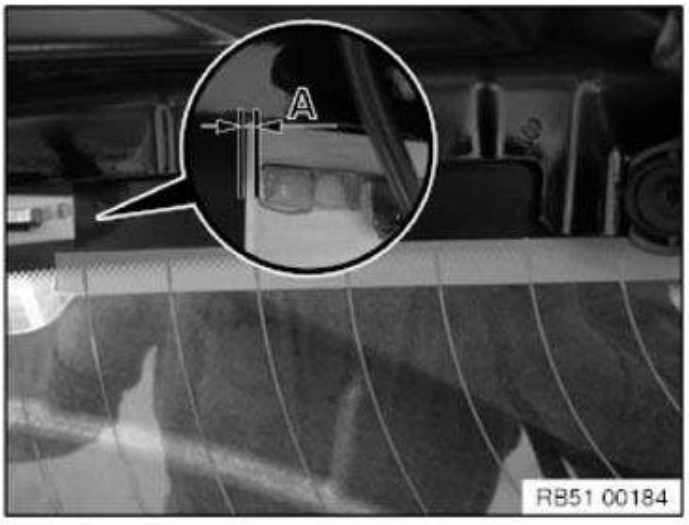


Fig. 402: Identifying Window Electrical Contact
Courtesy of BMW OF NORTH AMERICA, INC.

Do not hold in the cleaned adhesive joint at the rear window or bonding surface of the capacitor.

IMPORTANT: It is imperative to observe the exact positioning of the capacitor film in order to be able to guarantee fault-free radio mode.

Observe distance to the electrical contact of A = 1 mm.

IMPORTANT: Capacitor film must not have any kinks before installation.
Stretch out capacitor film straight when adhering using special tool **00 9 322** . There must be no creases or bubbles in the capacitor film.

After modifying the capacitor film check functioning of the heated rear window and radio.

51 31 221 REPLACING REAR WINDOW (REAR WINDOW BROKEN)

IMPORTANT: Remove all glass splinters, also from underneath seats.

In case of bonded rear windows:

If required by the condition, remove bonded window remnants with an **OSCILLATING KNIFE** or fold scraper.

Check seat belts:

- Condition of seat belt strap
- Function of automatic reel
- Seat belt locking reel
- Check seat belt buckle

Other operations correspond to:

Remove and install **REAR WINDOW**.

51 45... REPLACING RESILIENT SEALING TAPE FOR INSPECTION GLASS IN WINDSCREEN (ADDITIONAL WORK)

Refer to **51 45... REPLACING RESILIENT SEALING TAPE FOR INSPECTION GLASS IN WINDSCREEN (ADDITIONAL WORK)**.

51 31... WINDOW GLASS REMOVAL WITH WIRE PULL HANDLE

Special tools required:

cardiagn.com

- 2 150 267

WARNING: **Follow safety instructions . See 51 00... SAFETY INSTRUCTIONS FOR WORKING ON CARS WITH AIRBAG SYSTEMS or 72 SAFETY PRECAUTIONS AND GENERAL INFORMATION for working on vehicles with airbag systems (risk of injury).**
Always wear safety goggles and protective gloves for your own safety.
Attention!
Handle sharp-edged tools with care (risk of damage to the head airbag and the window glass).

Attention!

Follow the vehicle-specific repair instructions!

Protect inner and outer working area (body, trim panels, cables etc.) against damage.

Depending on the area of application, a **SEPARATING CORD** can also be used as an alternative to wire.

Using the separating cord prevents any damage to the body.

Do not pull the separating cord over any sharp edges (risk of tearing)!

Used tool:

- **WIRE PULL HANDLES**
- Dashboard protection
- **WIRE STARTER**

Use suction cups (51 3 010) to lift out the window glass.

Always keep both suction cups dry and clean to ensure their optimum adhesion on the windscreen.

Secure window glass (if necessary with adhesive tape) against falling out.

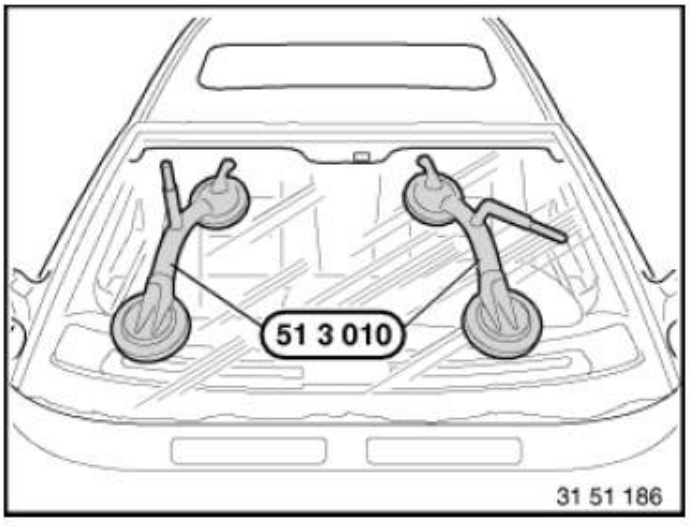


Fig. 403: Lifting Window Glass Using Suction Cups (51 3 010)
Courtesy of BMW OF NORTH AMERICA, INC.

Pulling cutting wire into vehicle:

- Grip wire with pliers

  (If access is difficult: using wire starter 2 150 267, feed wire through adhesive bead.)

- Wire end (1) must be bent towards window glass.
- Heat wire end (1) and use it to pierce adhesive bead (2).

cardiagn.com

- Pull approximately half of the wire into the passenger compartment

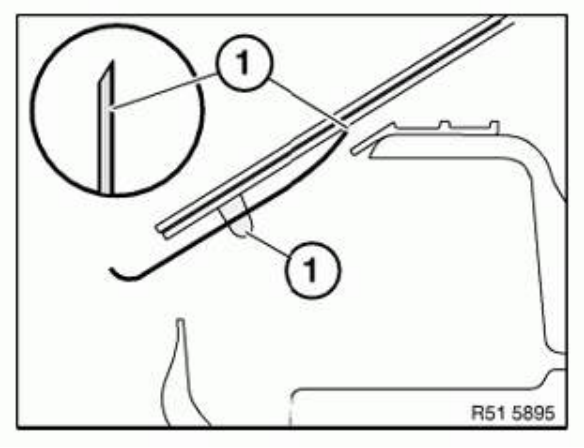


Fig. 404: Identifying Heat Wire End And Adhesive Bead
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: When using the separating cord, always pull it in using the wire starter 2 150 267.

Using wire starter:

Bend wire end approx. 10 mm and insert in notched tip.

Pierce wire starter with uniform pressure through adhesive bead, wire end (bent part) must be positioned on window glass.

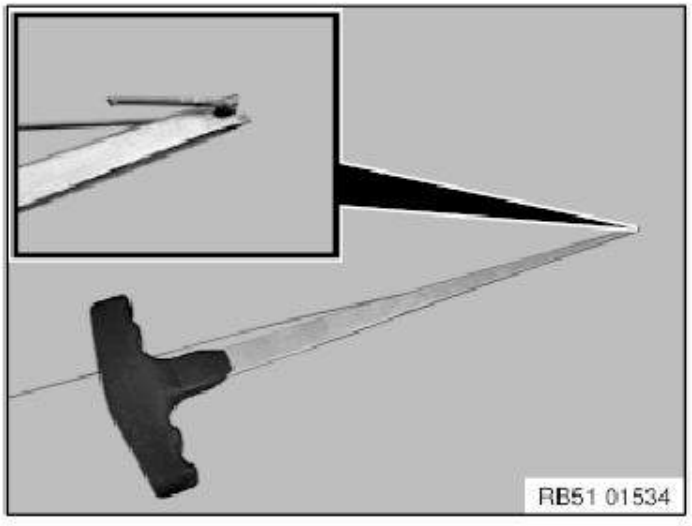


Fig. 405: Identifying Wire Starter
Courtesy of BMW OF NORTH AMERICA, INC.

Attach wire pull handles:

Feed in cutting wire (1) in cutting handle (2) and clamping element (3) as illustrated.

Move back cutting handle (2) over clamping element (3) and trap wire end (4).

Danger of injury!

Wire end (4) must not protrude out of cutting handle (2).

cardiagn.com

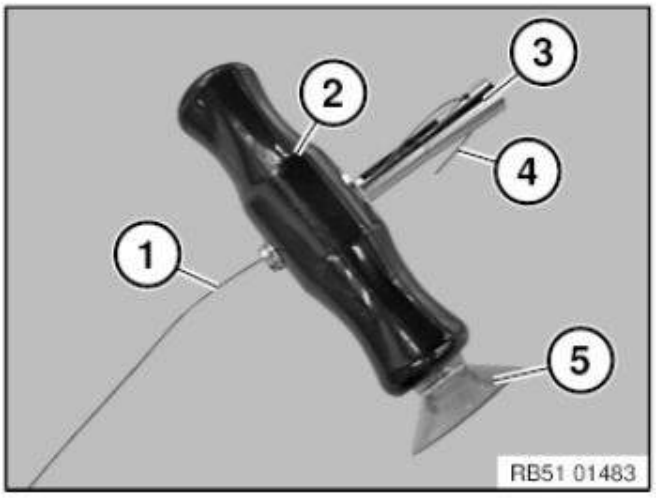


Fig. 406: Positioning Wire Starter On Window Glass
Courtesy of BMW OF NORTH AMERICA, INC.

Cutting handle (2) can be secured with suction cup (5) to the vehicle window or body during each of the work operations. This prevents damage to the paint.

Fit second wire pull handle to other wire end.

Perform repair work with the aid of a second person.

Cutting wire (4) must be guided in cutting direction at an acute as possible angle (>45Â°) to adhesive bead (1).

Cut through adhesive bead (1) by pulling cutting handle (2) and at the same time providing counter support with cutting handle (3).

Pull back cutting wire (4) with cutting handle (3) and make sure that cutting wire (4) is always held under tension.

Cut through remaining adhesive bead in the same way.

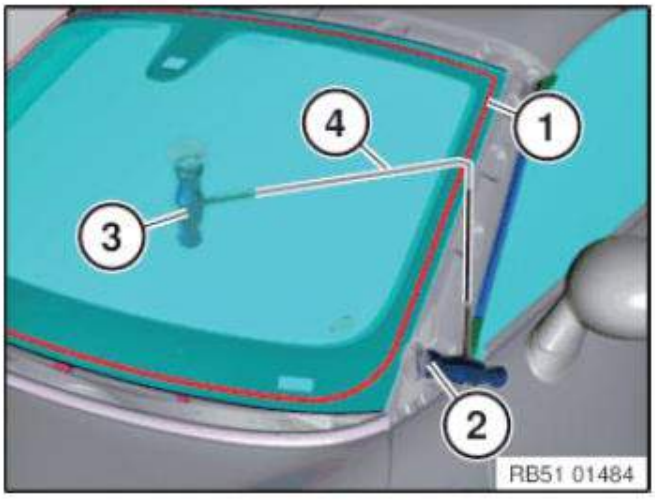


Fig. 407: Identifying Wire Pull Tool Components
Courtesy of BMW OF NORTH AMERICA, INC.

FRONT MANUALLY OPERATED WINDOWS

51 00.. OVERVIEW OF FRONT DOOR

Refer to **51 00.. OVERVIEW OF FRONT DOOR**.

51 32 170 REMOVING AND INSTALLING/REPLACING DOOR WINDOW GLASS, FRONT LEFT OR RIGHT

cardiagn.com

IMPORTANT: Before replacement of door window glass, observe **NOTES** on installation status!

Necessary preliminary tasks:

- Remove **SOUND INSULATION IN FRONT DOOR**
- Remove **WEATHER STRIP ON INSIDE OF FRONT DOOR**

Move door window (1) until the mount stop (2) can be operated via the recess (3) on the guide rails (4).

Using a screw driver, press stop of mount (2) on the left and right toward the rear and disengage door window (1) toward the top.

Installation note:

Make sure door window (1) is correctly seated on rubber window seal at front and rear.

Door window (1) must be correctly clipped into stop of mount (2).

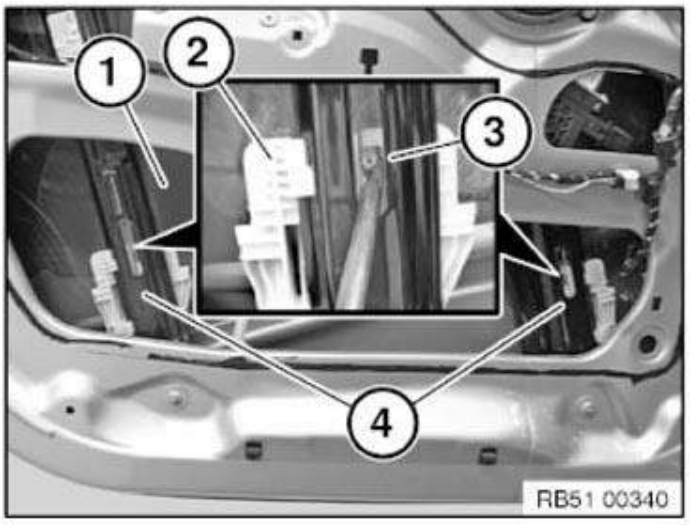


Fig. 408: Identifying Door Window, Mount And Guide Rails
Courtesy of BMW OF NORTH AMERICA, INC.

Turn door window glass and lift out rearwards/top.

Installation note:

The door window does not require adjustment.

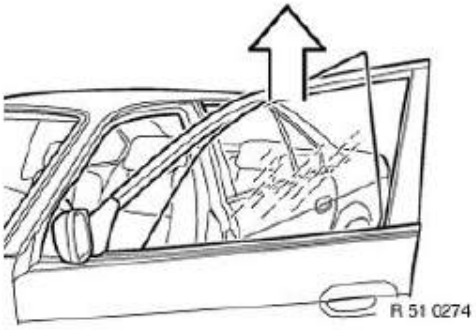


Fig. 409: Removing Door Window Does
Courtesy of BMW OF NORTH AMERICA, INC.

51 32 160 REMOVING AND INSTALLING/REPLACING INNER COVER ON LEFT OR RIGHT WINDOW FRAME

Necessary preliminary tasks:

cardiagn.com

- Open side window if necessary
- Remove **FRONT DOOR TRIM PANEL**

F30/F31/F35/F80 only:

- Remove inner **WEATHER STRIP**

IMPORTANT: Risk of damage!
Cover (2) must not be kinked.

Lever out cover (2) at clamps (3).

Unclamp cover (2) in direction of arrow and remove.

Installation note:

Fixtures for clamps (3) on cover (2) must not be missing or damaged.

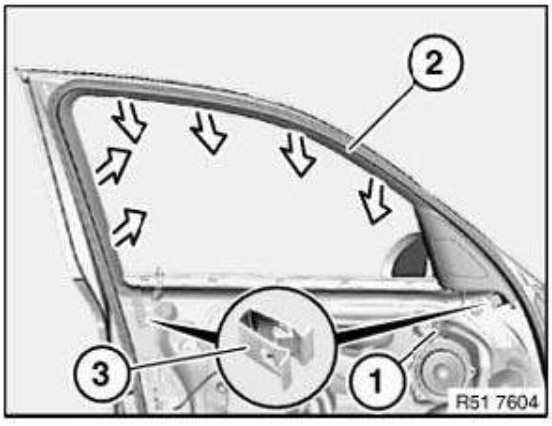


Fig. 410: Removing Window Frame Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure cover (1) is correctly seated in joint of rubber window seal (2).

Make sure cover (1) is correctly seated on door seal.

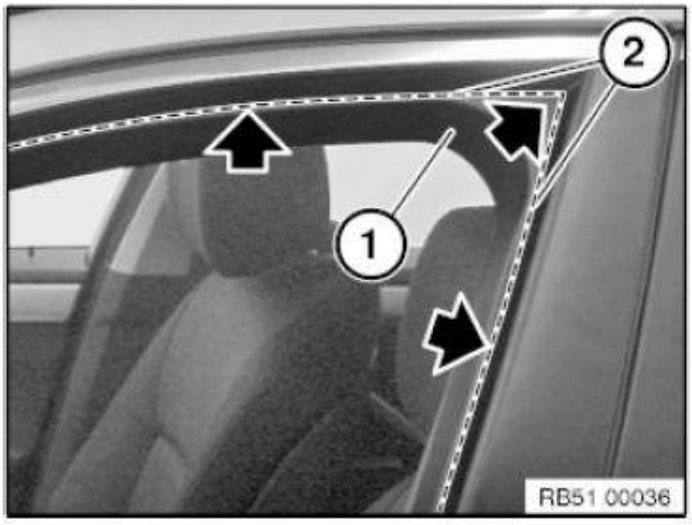


Fig. 411: Locating Window Frame Cover
Courtesy of BMW OF NORTH AMERICA, INC.

51 32 420 REMOVING AND INSTALLING/REPLACING TRIM COVER ON FRONT DOOR WINDOW

cardiagn.com

FRAME, LEFT OR RIGHT

Necessary preliminary tasks:

- Open side window
- Release **COVER ON DOOR WINDOW FRAME** in trim cover area

Pull rubber window seal (1) out of rear window guide.

Installation note:

Moisten rubber window seal (1) slightly with water to facilitate installation.

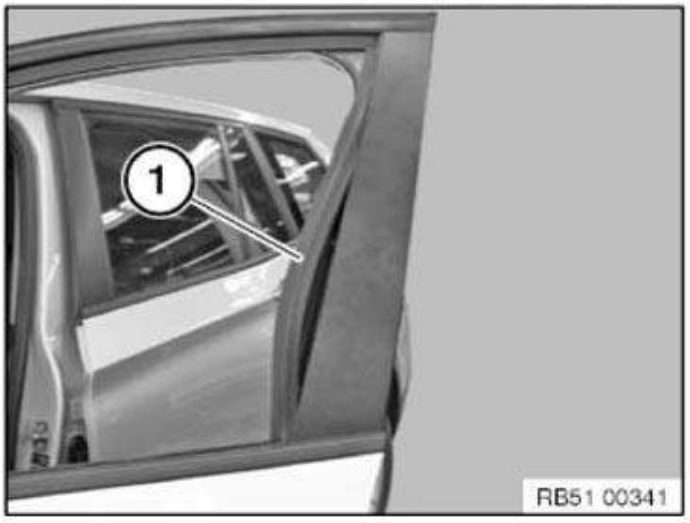


Fig. 412: Identifying Rubber Window Seal
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

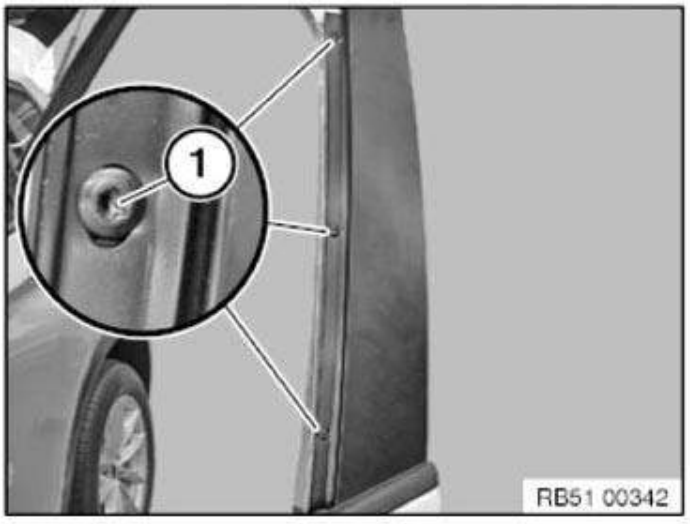


Fig. 413: Identifying Rubber Window Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Push trim cover on window frame (2) down slightly until it can be fed out at the top at the rubber window seal (1).

Now carefully pull out trim cover at window frame (2) upwards and toward the rear.

Installation note:

Sealing on end plate of B-pillar (3) must not be damaged or missing.

cardiagn.com

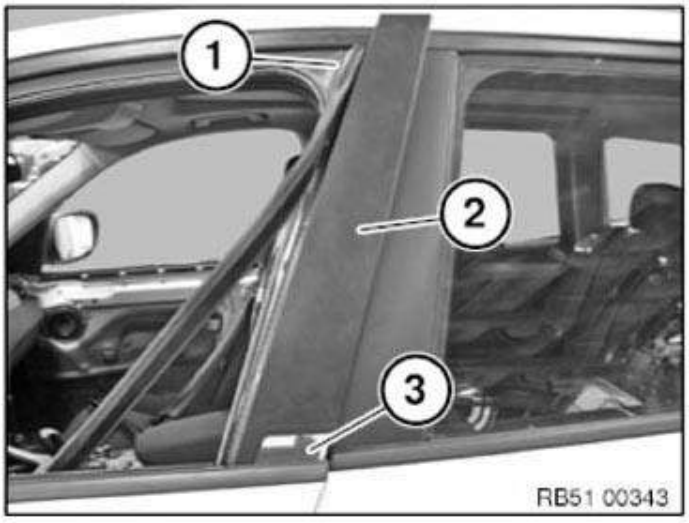


Fig. 414: Identifying Window Frame, Seal And B-Pillar
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Correctly slide trim cover on window frame (1) over sheet metal edge (3) and rubber window seal (2).

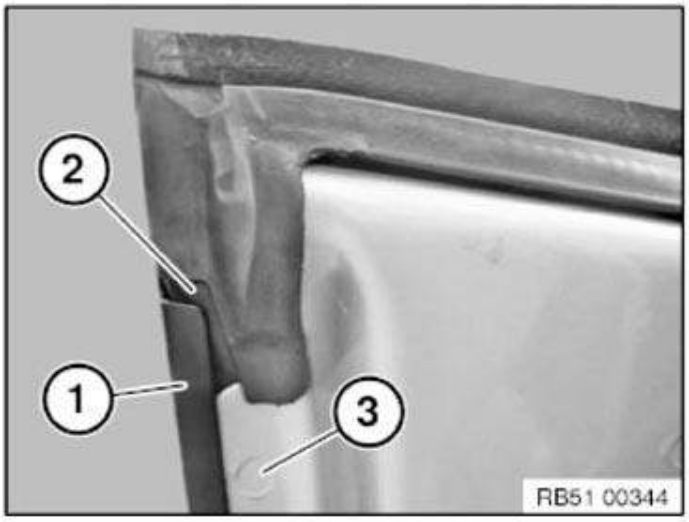


Fig. 415: Identifying Window Frame And Sheet Metal Edge
Courtesy of BMW OF NORTH AMERICA, INC.

51 32 211 REPLACING FRONT LEFT OR RIGHT RUBBER GUIDE FOR LEFT OR RIGHT DOOR WINDOW

Necessary preliminary tasks:

- Remove **EXTERIOR MIRROR ON FRONT DOOR**
- Remove **FRONT DOOR TRIM PANEL**
- **REMOVE** cover on window frame of front door

IMPORTANT: The "**INSTRUCTIONS ON FITTING WINDOW GUIDE SEALS**" serve as the basis for this repair instruction and must be observed without fail.

Remove sound insulation (1).

cardiagn.com

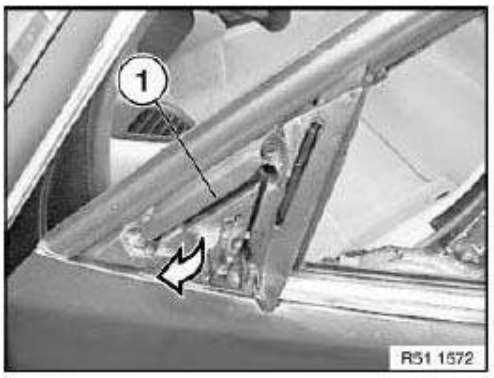


Fig. 416: Removing Sound Insulation
Courtesy of BMW OF NORTH AMERICA, INC.

Detach rubber window seal (1) in direction of arrow from front door (2).

Installation note:

Moisten rubber window seal (2) with water before fitting.

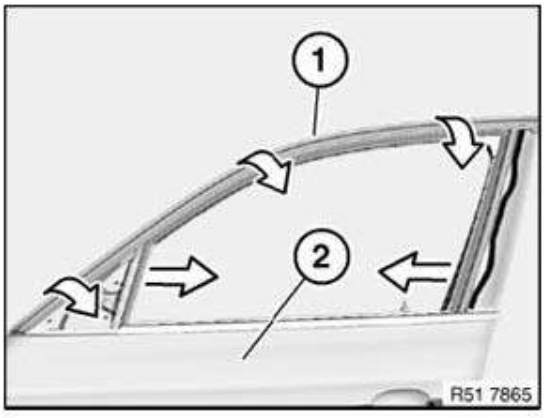


Fig. 417: Detaching Rubber Window Seal
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Rubber guide (1) must not be damaged in corners (2).

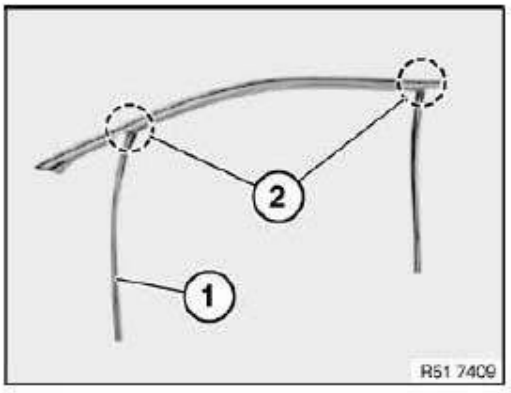


Fig. 418: Identifying Window Guide And Corners
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Ensure that the rubber window seal (2) is correctly mounted on the window frame (3) and the cover is correctly mounted on the window frame (1).

cardiagn.com

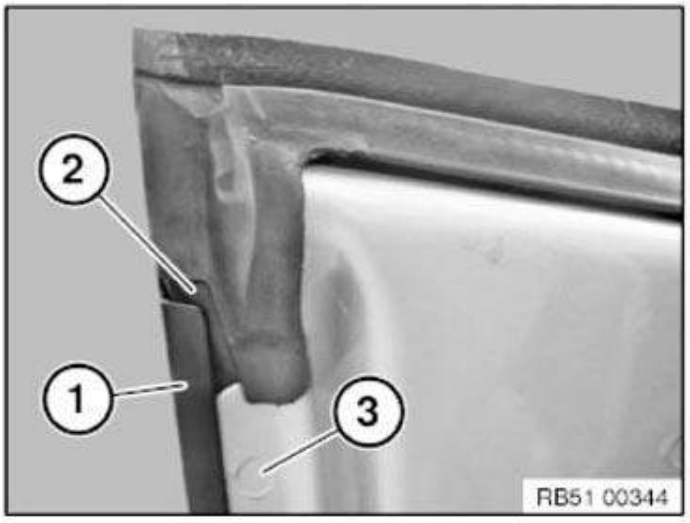


Fig. 419: Identifying Window Frame And Sheet Metal Edge
Courtesy of BMW OF NORTH AMERICA, INC.

FRONT ELECTRICALLY OPERATED WINDOWS

51 33... NOTE ON INSTALLATION STATUS OF THE POWER WINDOW REGULATOR SYSTEM

Special tools required:

- 2 298 505

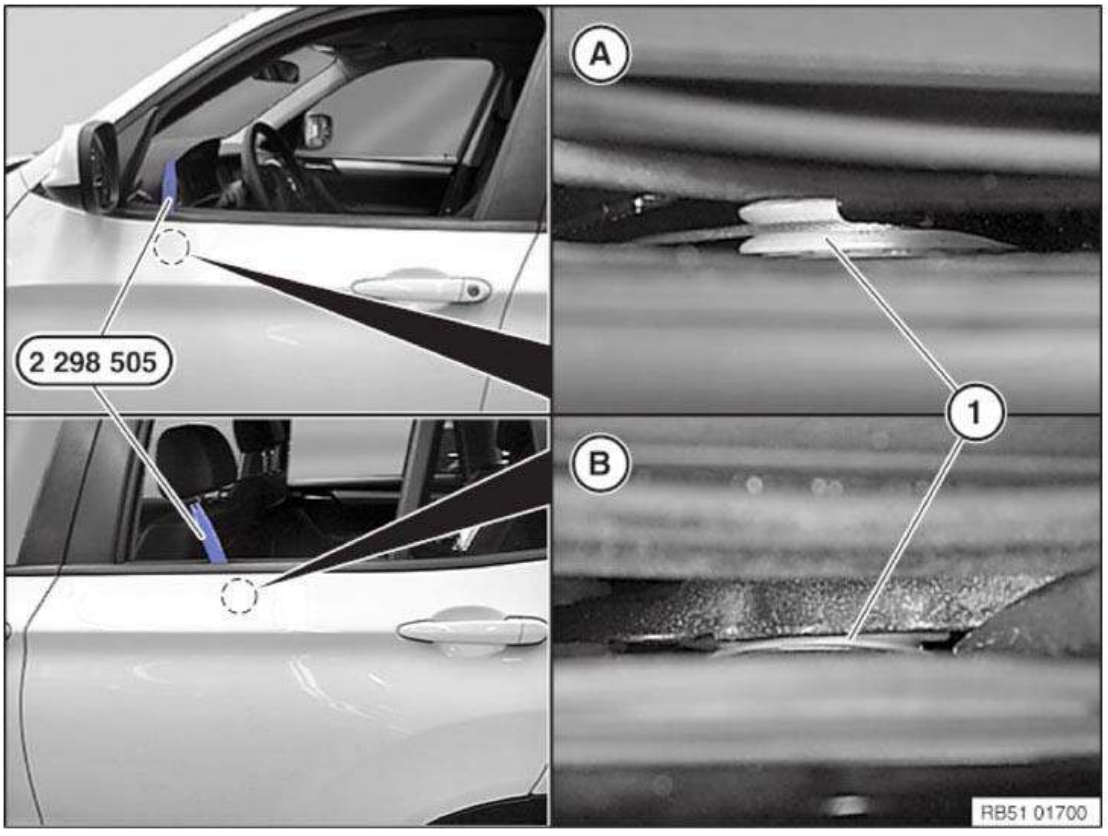


Fig. 420: Identifying Special Tools (2 298 505)
Courtesy of BMW OF NORTH AMERICA, INC.

From **04/2013** only power window regulators made by "Brose" are still installed during production.

On vehicles with a version before **03/2013** the installation status must be checked.

Open complete door window glass.

cardiagn.com

Insert special tool **2 298 505** in window cavity as illustrated and look at deflecting element (1).

A. Visible deflecting element = "Inteva" system (up to 03/2013)
B. Covered deflecting element = "Brose" system (from 04/2013)

Install replacement part according to the version.

If a replacement part is not available for the "Inteva" system, a conversion must be made to the "Brose" system.

The following parts must be replaced at **both** front or rear doors for conversion to the "Brose" system.

- **Power-window mechanism** . See **51 37 000 REMOVING AND INSTALLING/REPLACING COMPLETE REAR LEFT OR RIGHT POWER WINDOW REGULATOR** or **51 33 000 REMOVING AND INSTALLING (REPLACING) POWER WINDOW REGULATOR IN LEFT OR RIGHT FRONT DOOR**
- **Electric motor for power window regulator** . See **67 62 020 REMOVING AND INSTALLING/REPLACING FLAT MOTOR FOR REAR LEFT OR RIGHT POWER WINDOW REGULATOR** or **67 62 000 REMOVING AND INSTALLING OR REPLACING FLAT MOTOR FOR FRONT LEFT OR RIGHT POWER WINDOW REGULATOR**
- **Door window glass** . See **51 32 170 REMOVING AND INSTALLING/REPLACING DOOR WINDOW GLASS, FRONT LEFT OR RIGHT** or **51 34 171 REPLACING REAR LEFT OR RIGHT DOOR WINDOW**

Attention! The following mixed installation of components from different manufacturers is not possible for technical reasons:

- Mixed installation inside one door (constructional differences)
- Mixed installation between left and right (software differences)

Mixed installation between the front and rear door is permissible.

Connect the ISTA/P programming system and perform a conversion using ISTA/P after having modified the power window lifter system.

Selection : "Conversion, exchange of front power window" or "Conversion, exchange rear power window".

Then perform **VEHICLE PROGRAMMING** .

51 33 000 REMOVING AND INSTALLING (REPLACING) POWER WINDOW REGULATOR IN LEFT OR RIGHT FRONT DOOR

IMPORTANT: **F25 only:** Before replacing the electric power window regulator, observe **NOTE** on installation!

NOTE: **Disengage, but do not remove, the door window and secure in the door window frame.**

Necessary preliminary work:

- **FRONT DOOR WINDOW**
- Remove **(MID-RANGE) SPEAKER**

Release plug connection of flat motor (3) and disconnect.

Release cable from holder in area (4).

Release nuts (2) and feed out power window regulator (1).

Tightening torque **51 33 2AZ** .

Replacement

Remount **FLAT MOTOR FOR POWER WINDOW REGULATOR**.

cardiagn.com

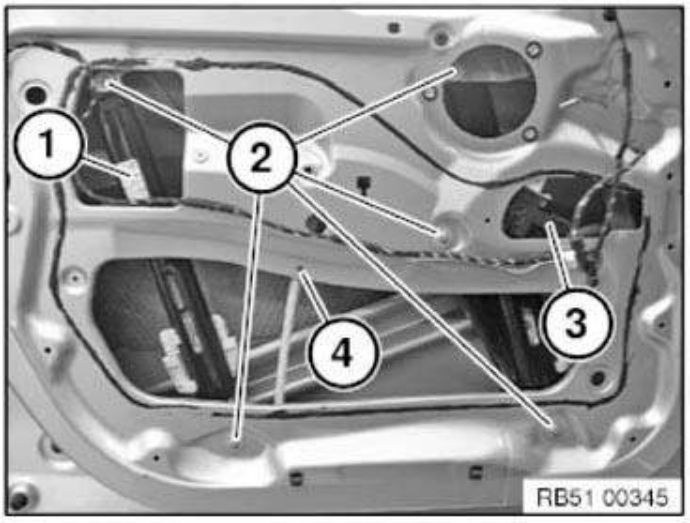


Fig. 421: Identifying Power Window Regulator, Flat Motor And Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

67 62 000 REMOVING AND INSTALLING OR REPLACING FLAT MOTOR FOR FRONT LEFT OR RIGHT POWER WINDOW REGULATOR

IMPORTANT: Before replacement of flat motor, observe **NOTES** on installation status!

Necessary preliminary work:

- Remove **FRONT POWER WINDOWS**

Release screws and detach flat motor (1) from power window regulator (2).

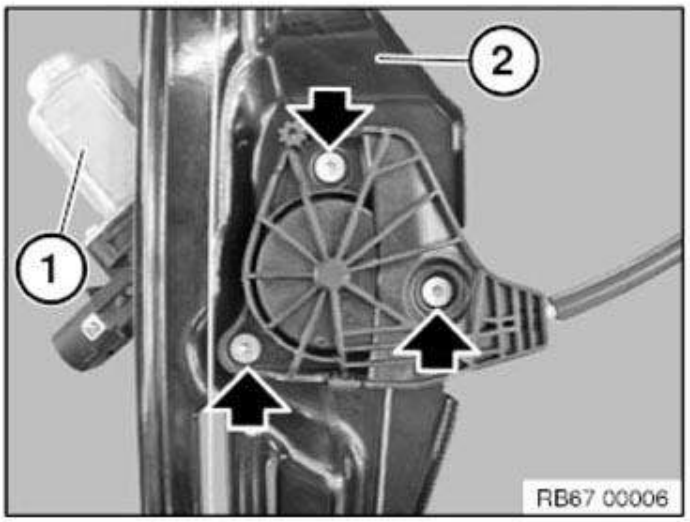


Fig. 422: Locating Flat Motor Screws
Courtesy of BMW OF NORTH AMERICA, INC.

After installation:

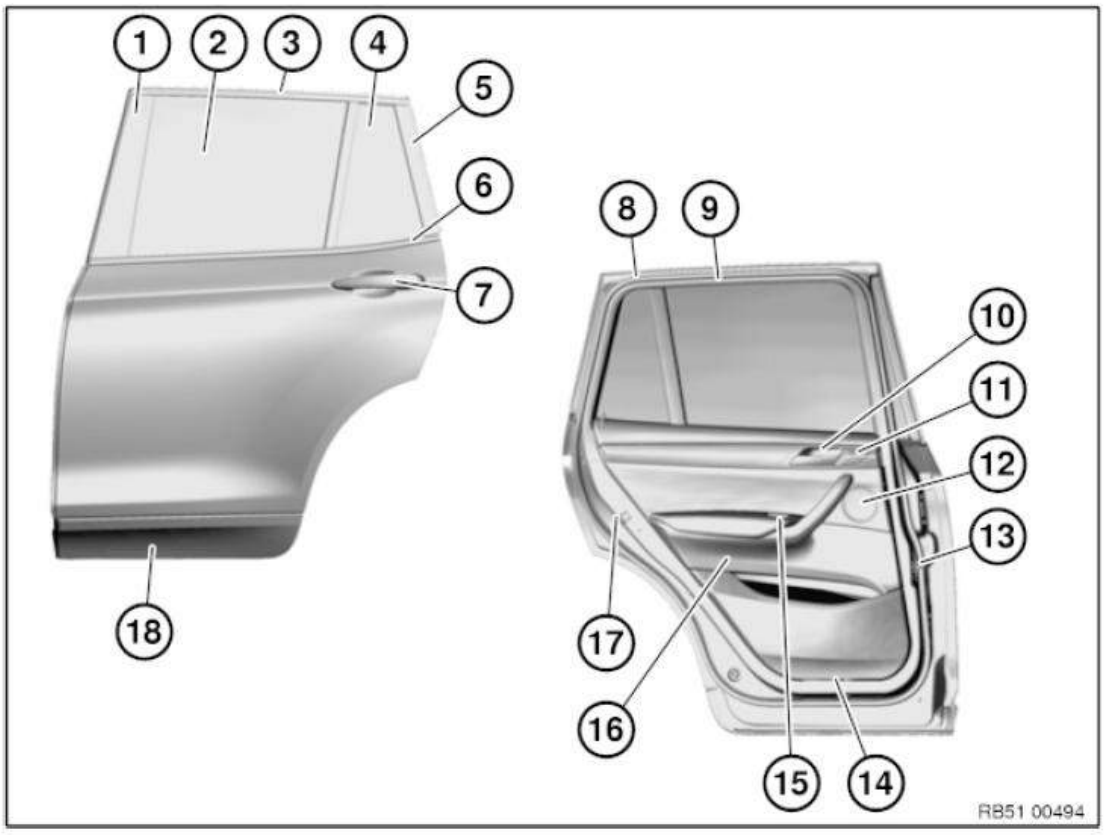
An initialization must be carried out in order to activate anti-trap mechanism.

Read and comply with **NOTES** on initialization of power window regulator.

REAR MANUALLY OPERATED WINDOWS

51 00.. OVERVIEW OF REAR DOOR

cardiagn.com



1	Cover (front) on window frame	10	Door opener, inside
2	Door window glass	11	Blind cover or tweeter cover
3	Rubber guide for door window glass	12	Mid-range speaker cover
4	Door window (stationary)	13	Door brake
5	Cover (rear) on window frame	14	Footwell light
6	Window cavity cover strip	15	Rocker switch
7	Outside handle	16	Door trim panel
8	Seal	17	Door lock
9	Cover on door window frame	18	Body moulding

Fig. 423: Overview Of Rear Door
Courtesy of BMW OF NORTH AMERICA, INC.

51 34 420 REMOVING AND INSTALLING/REPLACING COVER ON WINDOW FRAME OF REAR DOOR (FRONT), LEFT OR RIGHT

Necessary preliminary tasks:

- Open rear side window
- Detach **COVER ON DOOR WINDOW FRAME** in B-pillar area.

Detach rubber seal (1) and rubber window seal (2) from cover.

cardiagn.com

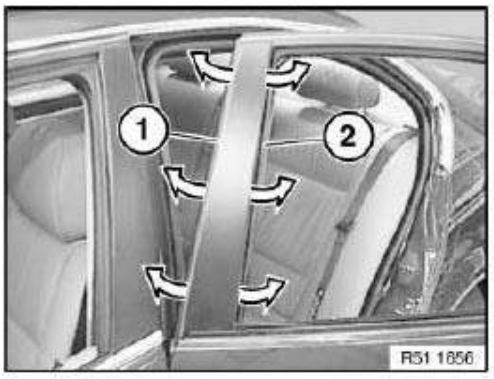


Fig. 424: Detaching Window Rubber Seal
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

Carefully detach trim (2) towards front/top.

Installation note:

Moisten rubber window seal prior to fitting with water.

Fitted foam parts must not be damaged when cover (2) is pushed in.

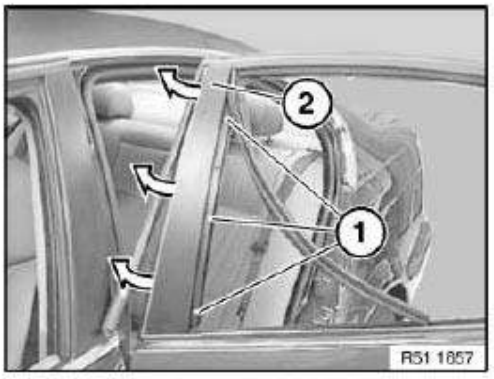


Fig. 425: Detaching Window Trim
Courtesy of BMW OF NORTH AMERICA, INC.

51 34 160 REMOVING AND INSTALLING/REPLACING HOUSING COVER ON INNER LEFT OR RIGHT DOOR WINDOW FRAME

Special tools required:

- 00 9 317

Necessary preliminary work:

- Open side window if necessary.
- Remove REAR DOOR TRIM PANEL

Only with roller sunblind optional equipment:

Press hook (1) down toward the inside using your thumb until the locking tab (2) becomes visible through the distortion.

In this position, push the hook (1) outward and set down.

Installation note:

Locking tab (2) and mounting T-piece on hook (1) must not be damaged or missing.

cardiagn.com

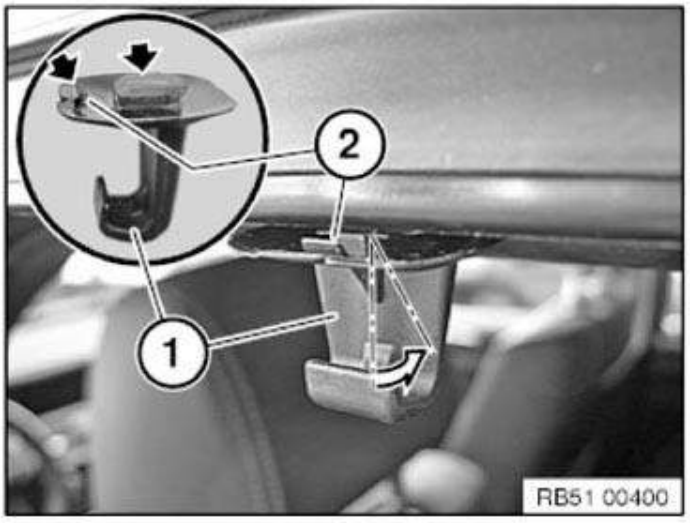


Fig. 426: Removing Window Hook
Courtesy of BMW OF NORTH AMERICA, INC.

Only with roller sunblind optional equipment:

Installation note:

Retaining clip (1) must not be bent or damaged.

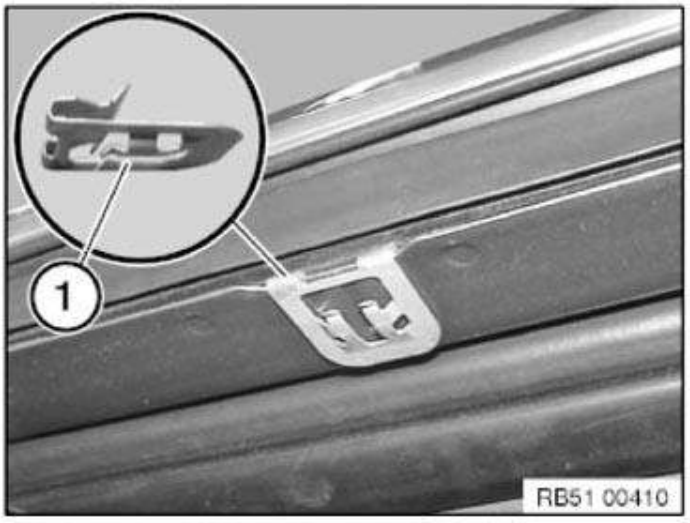


Fig. 427: Identifying Window Clip
Courtesy of BMW OF NORTH AMERICA, INC.

Unclamp cover (1) at the bottom front and rear.

Lever out cover (1) in area of fixed side window using special tool **00 9 317** .

Lever out remaining cover (1) in direction of arrow and remove.

NOTE: Do not damage cover (1) in area (2).

cardiagn.com

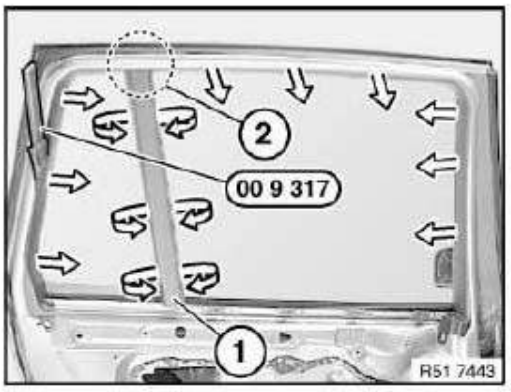


Fig. 428: Removing Window Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Feed cover on window frame (2) neatly into the gap of the rubber window seal (1).

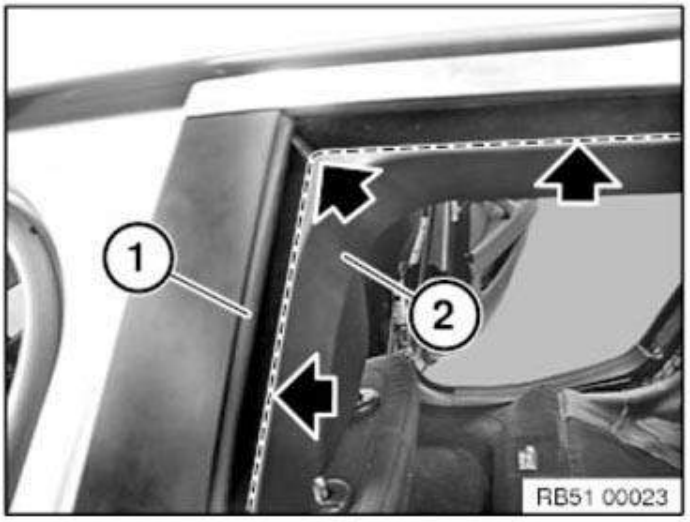


Fig. 429: Locating Window Frame Cover Seal
Courtesy of BMW OF NORTH AMERICA, INC.

51 34 425 REMOVING AND INSTALLING/REPLACING TRIM ON WINDOW FRAME OF REAR LEFT OR RIGHT DOOR

Removal:

Version up to 04/2014:

Detach sealing (1) from trim (3).

Release screws (2).

Remove trim (3) towards rear.

cardiagn.com

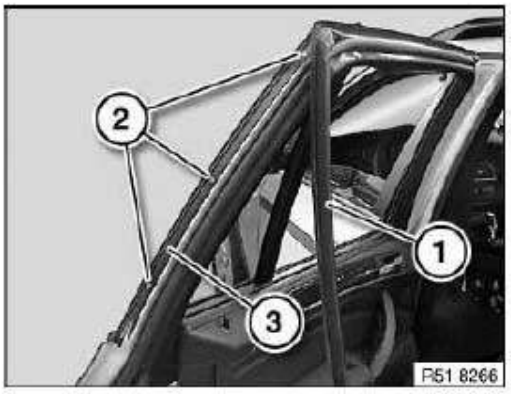


Fig. 430: Identifying Right Door Sealing, Trim And Screen
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Detach sealing (1) from trim (3).

Release screws (2).

Remove trim (3) towards rear.

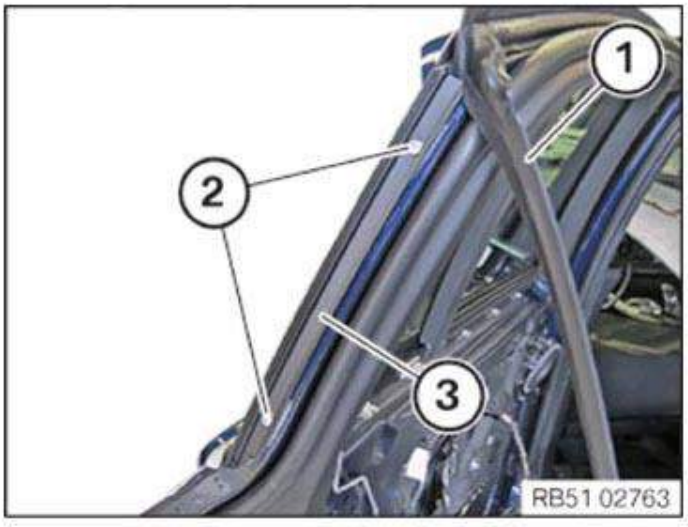


Fig. 431: Identifying Right Door Sealing, Trim And Screen
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Version up to 04/2014:

Install trim (3).

Tighten screws (2).

Fit sealing (1) on trim (3).

cardiagn.com

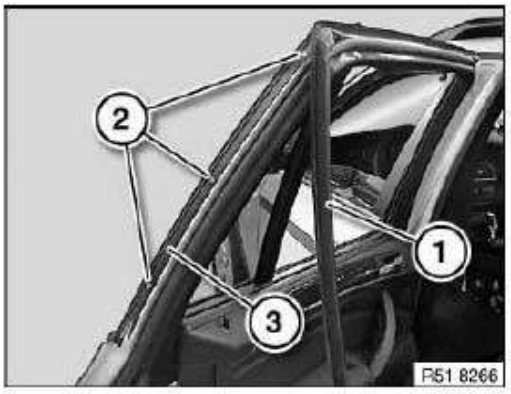


Fig. 432: Identifying Right Door Sealing, Trim And Screen
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **The guide of the sealing (2) must be fed correctly into the recess in the trim (1).**

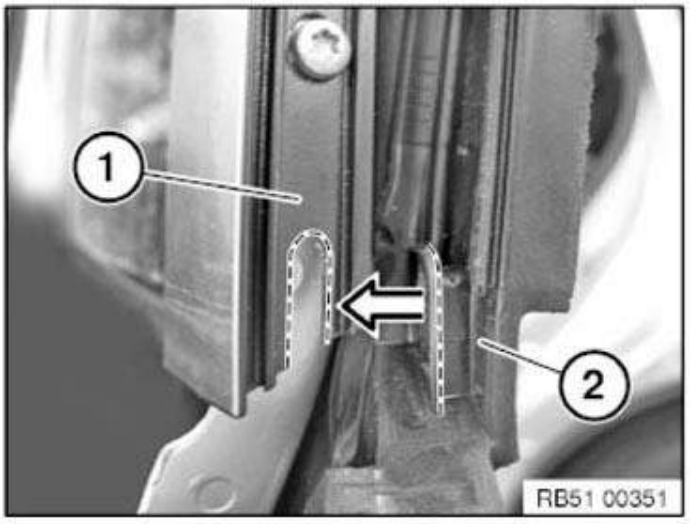


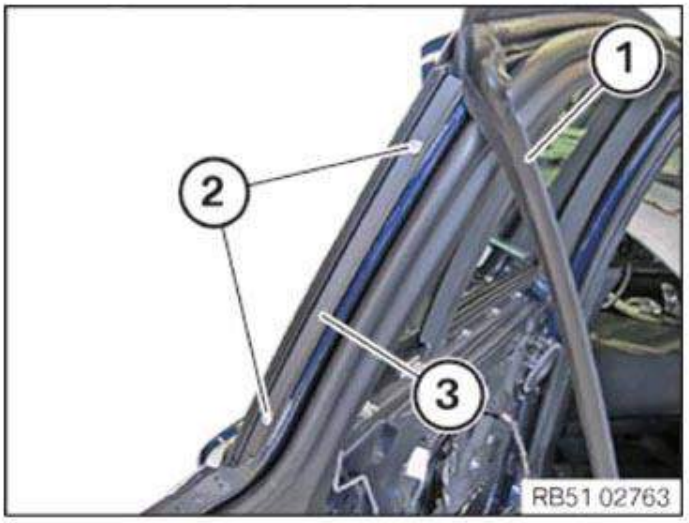
Fig. 433: Installing Door Sealing Guide
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Install trim (3).

Tighten screws (2).

Fit sealing (1) on trim (3).



cardiagn.com

Fig. 434: Identifying Right Door Sealing, Trim And Screen
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **The guide of the sealing (2) must be fed correctly into the recess in the trim (1).**

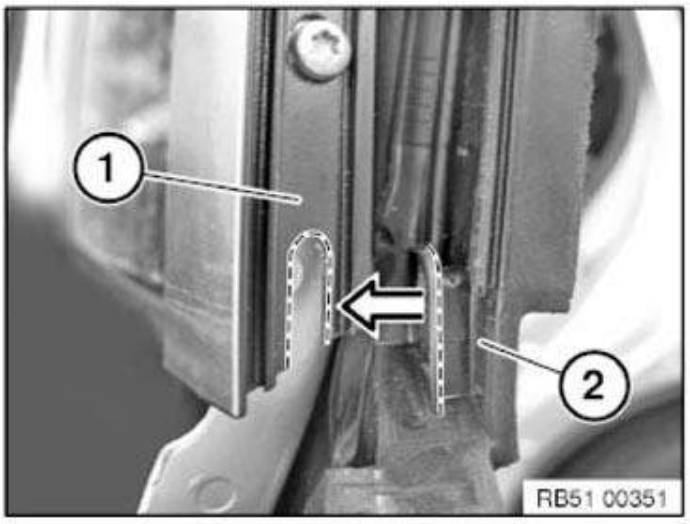


Fig. 435: Installing Door Sealing Guide
Courtesy of BMW OF NORTH AMERICA, INC.

51 34 191 REPLACING LEFT OR RIGHT FIXED DOOR WINDOW IN REAR WINDOW FRAME

Special tools required:

- 51 3 220

IMPORTANT:

The following notes form the basis for these repair instructions and must be adhered to at all times:

- Notes on window bonding. See 41 00... SAFETY AT WORK , 41 00... INFORMATION ON VEHICLE PROTECTION , 62 30... GENERAL NOTES ON THE HEAD-UP DISPLAY , 51 31... MATERIALS FOR BONDING WINDOW or 99 00... TOUCHING UP PAINTWORK DAMAGE .
- GENERAL PROCEDURE for dismantling/installation of affixed window glass

NOTE: **Removal with OSCILLATING BLADE.**

Necessary preliminary tasks:

- Remove SIDE WINDOW
- Remove REAR WEATHER STRIP
- Remove RUBBER WINDOW SEAL FOR DOOR WINDOW

Release screws (1).

cardiagn.com

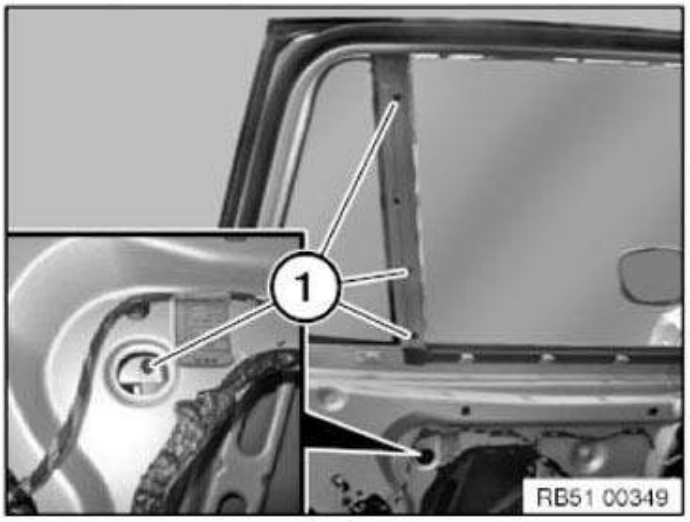


Fig. 436: Identifying Window Frame Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully feed out cover (2) upward over window frame (1).

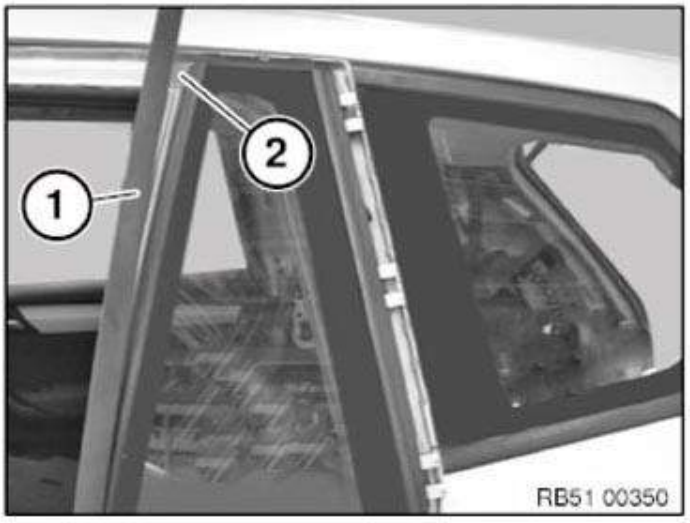


Fig. 437: Identifying Window Frame Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Remove clamps (1).

Installation note:

If necessary, replace faulty clamps (1).

cardiagn.com

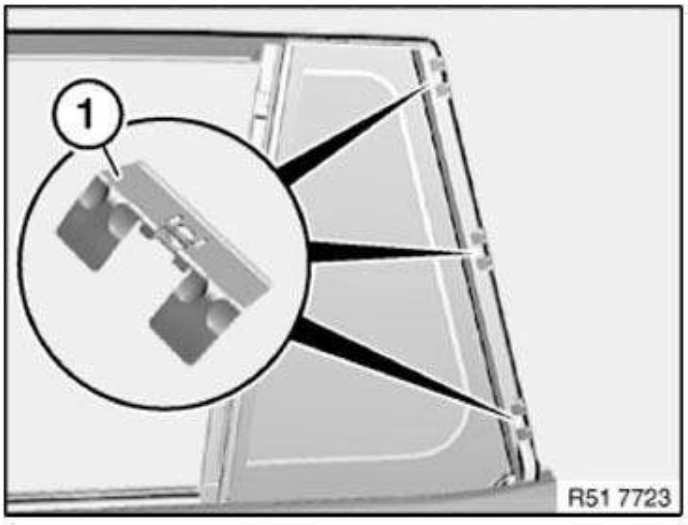


Fig. 438: Identifying Window Frame Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

Fit straight blade with adjustable roller (Sourcing Reference: BMW Parts Department) on tool and set dimension (X).

Adjust dimension (X) differently according to different position of adhesive bead, refer to **Fig. 440**

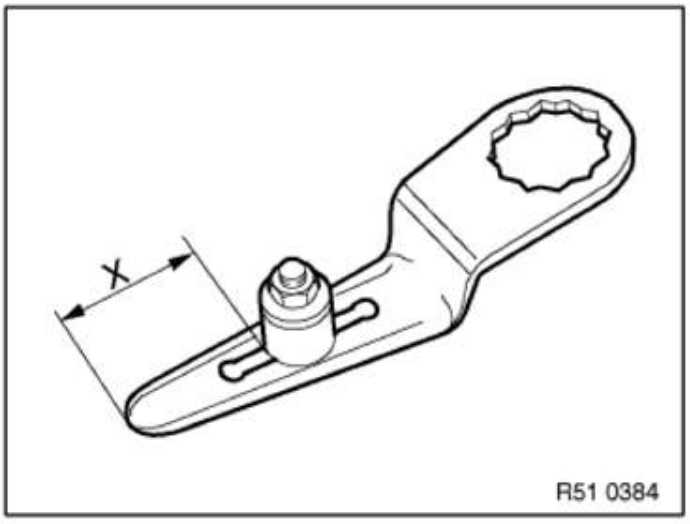


Fig. 439: Identifying Special Tool Adjustment Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

Tape off door window glass and sheet metal flange all round with fabric adhesive tape (1) (e.g. Tesa).

Adjust blade thrust roller differently in areas (A) to (E) (risk of damage).

A. 9 mm
B. 16 mm
C. 16 mm
D. 45 mm
E. 20-35 mm

Carefully cut in corner points.

cardiagn.com

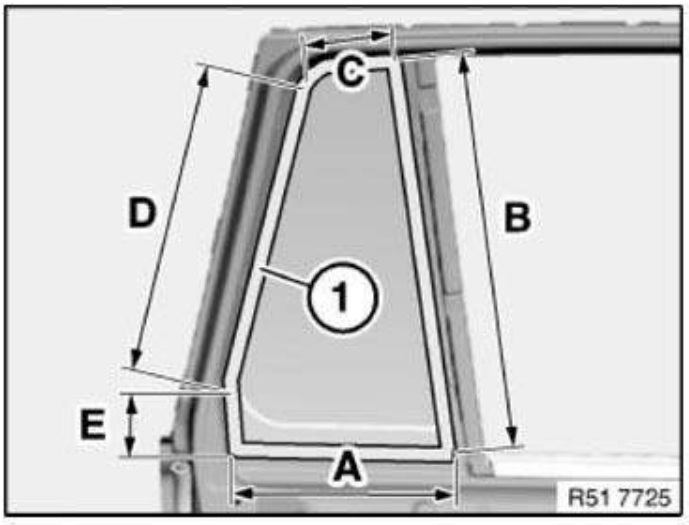


Fig. 440: Identifying Door Window Glass Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

Attach new frame (1) to door window (2).

Following parts on frame (1) must not be damaged or missing:

3 Spacer (Z-direction)
4 Spacer (X-direction)
5 Spacer (Y-direction)
6 Latch mechanism

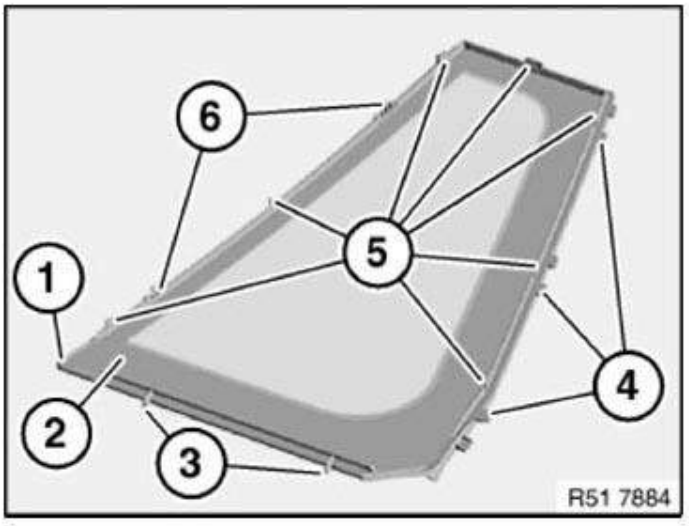


Fig. 441: Identifying Door Window Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Remove remnants of (1) frame catch.

Installation note:

Seal (2) must be fitted.

cardiagn.com

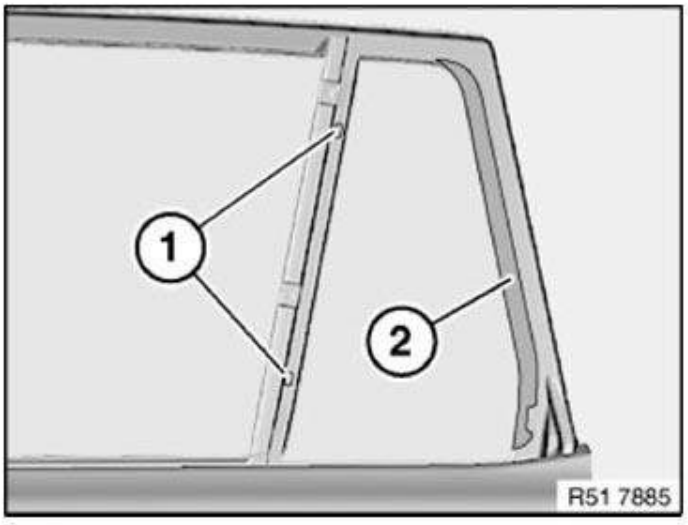


Fig. 442: Identifying Frame Catch Remnants
Courtesy of BMW OF NORTH AMERICA, INC.

Overview of door window bonding, fixed, rear (F25):

Cut	**A - A**
a [mm] = Position adhesive bead	1.5 Â±1/along socket contour
b [mm] = Width adhesive bead	8 Â±2
h [mm] = Height adhesive bead	13 +2/-1

1 = Bead joint

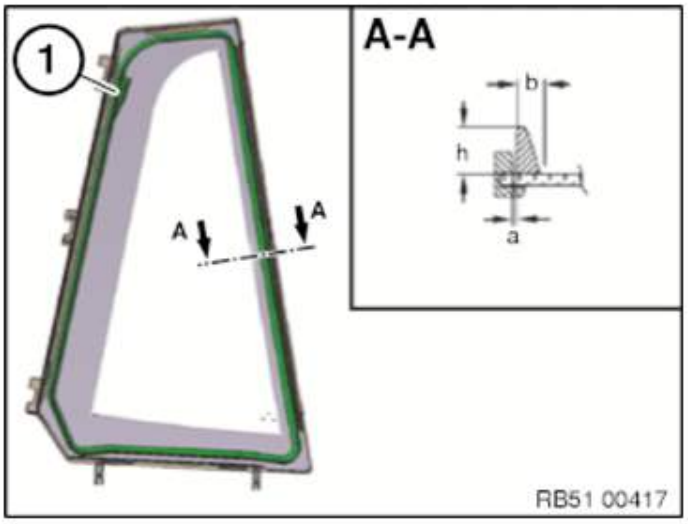


Fig. 443: Identifying Door Window Bonding Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully position door window (1) with special tool **51 3 220** at bottom first, align sideways and insert latch mechanisms (2) in mountings (3).

Assemble vehicle immediately after installing door window.

If adhesive has hardened, covers can no longer be fitted.

cardiagn.com

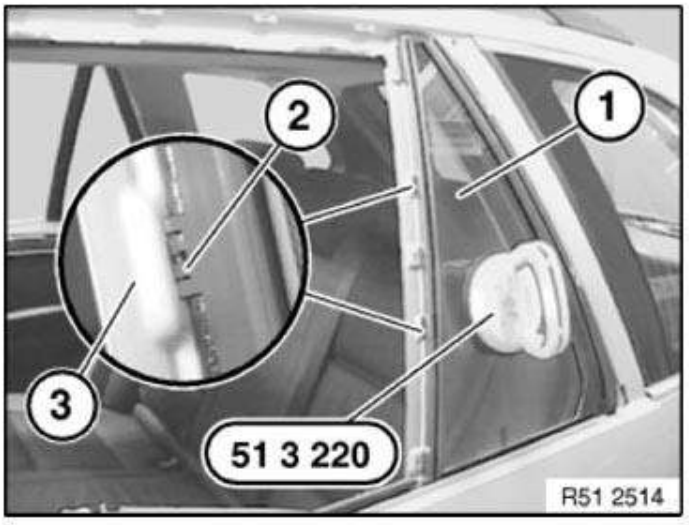


Fig. 444: Positioning Door Window Using Special Tool (51 3 220)
Courtesy of BMW OF NORTH AMERICA, INC.

51 34 171 REPLACING REAR LEFT OR RIGHT DOOR WINDOW

IMPORTANT: Before replacement of door window glass, observe **NOTES** on installation status!

Necessary preliminary tasks:

- Remove **SOUND INSULATION IN REAR DOOR**
- Remove **COVER ON WINDOW FRAME**

Move door window (1) until the mount stop (2) of the power window regulator can be operated via the recess (3) on the guide rails of the power window regulators (4).

Operate stop of mount (2) and disengage door window (1) toward the top.

Installation note:

Catch (2) must be correctly clamped into place.

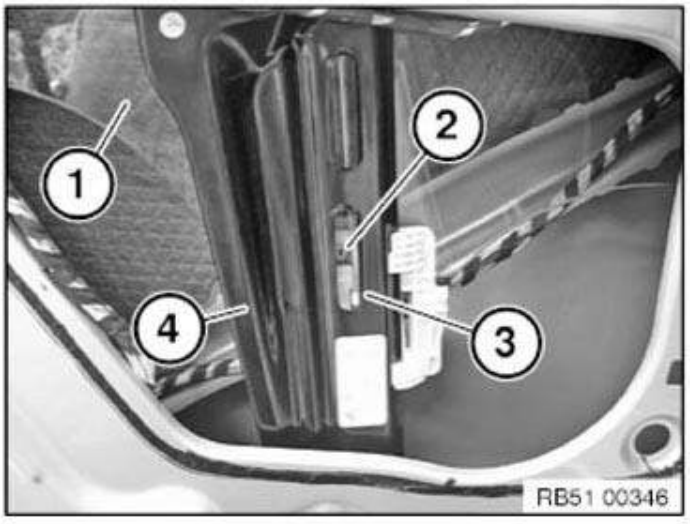


Fig. 445: Identifying Power Window Regulators, Mount Stop And Recess
Courtesy of BMW OF NORTH AMERICA, INC.

Remove door window glass (1) towards top.

Installation note:

cardiagn.com

The door window (1) does not require adjustment.



Fig. 446: Removing Door Window Glass
Courtesy of BMW OF NORTH AMERICA, INC.

51 34 211 REPLACING RUBBER SEAL FOR REAR LEFT OR RIGHT DOOR WINDOW

Necessary preliminary work:

- Remove **COVER ON INSIDE OF DOOR WINDOW FRAME**
- Remove **COVER ON WINDOW FRAME (FRONT)**
- Remove **COVER ON WINDOW FRAME (REAR)**

IMPORTANT: The "**INSTRUCTIONS ON FITTING WINDOW GUIDE SEALS**" serve as the basis for this repair instruction and must be observed without fail.

Pull rubber seal (1) at side out of window guides.

Feed rubber seal (1) at top out of window frame.

Installation note:

Moisten rubber window seal (1) for side fitting with **APPROVED LUBRICANT**.

If necessary, retract door window glass approx. 50 mm into rubber seal (1).

Open door window glass and at same time slide rubber seal (1) downwards.

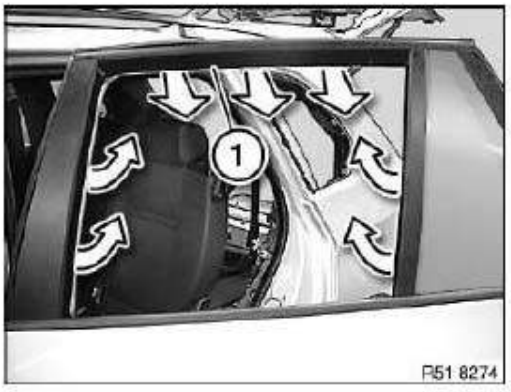


Fig. 447: Removing Door Window Glass Rubber Seal
Courtesy of BMW OF NORTH AMERICA, INC.

REAR ELECTRICALLY OPERATED WINDOWS

51 37 000 REMOVING AND INSTALLING/REPLACING COMPLETE REAR LEFT OR RIGHT POWER WINDOW REGULATOR

cardiagn.com

Refer to **51 37 000 REMOVING AND INSTALLING/REPLACING COMPLETE REAR LEFT OR RIGHT POWER WINDOW REGULATOR**.

51 34 191 REPLACING LEFT OR RIGHT FIXED DOOR WINDOW IN REAR WINDOW FRAME

Refer to **51 34 191 REPLACING LEFT OR RIGHT FIXED DOOR WINDOW IN REAR WINDOW FRAME**.

HINGED WINDOW

51 36 070 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT REAR SIDE WINDOW

The following notes form the basis for these repair instructions and must be adhered to at all times:

IMPORTANT:

- Notes on window bonding. See **41 00... SAFETY AT WORK** , **41 00... INFORMATION ON VEHICLE PROTECTION** , **62 30... GENERAL NOTES ON THE HEAD-UP DISPLAY** , **51 31... MATERIALS FOR BONDING WINDOW** or **99 00... TOUCHING UP PAINTWORK DAMAGE** .
- **GENERAL PROCEDURE** for dismantling/installation of affixed window glass

NOTE: **Removal with OSCILLATING BLADE.**

Necessary preliminary tasks:

- If necessary, remove **STRIP ON SIDE WINDOW** at rear
- Remove **TRIM PANEL FOR ROOF PILLAR** at rear (D-pillar)

Version with TV function:

- Disconnect **plug connection on TV amplifier** . See **65 20 190 REMOVING AND INSTALLING/REPLACING LEFT TV AMPLIFIER** or **65 20 192 REMOVING AND INSTALLING/REPLACING TV AMPLIFIER ON RIGHT**
- Secure connector and cable to side window with adhesive tape (risk of damage)
- Tape off all aerial wires on side window with fabric adhesive tape (risk of damage)

Fit straight blade with adjustable roller (Sourcing Reference: BMW Parts Department) on tool and set dimension (X).

Adjust dimension (X) differently according to different position of adhesive bead, refer to **Fig. 449**

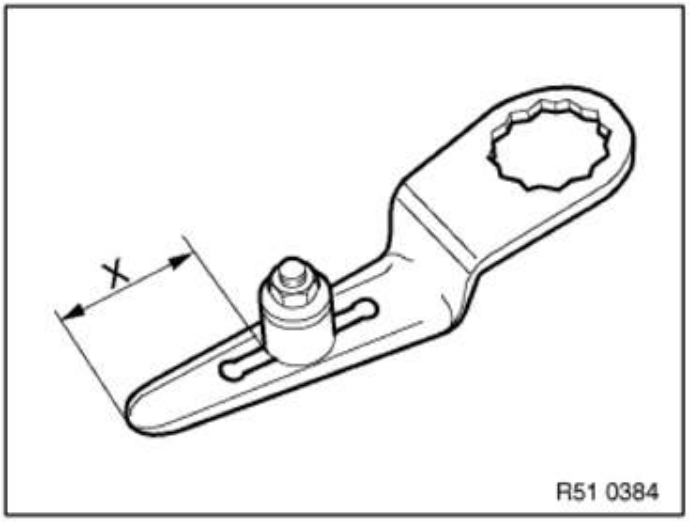


Fig. 448: Identifying Special Tool Adjustment Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

Adjust thrust roller if blade differently in areas (A) to (D) (risk of damage).

cardiagn.com

A. 22 mm
B. 26 mm
C. 25 mm
D. 35... 65 mm (cut with scalpel from top downwards)

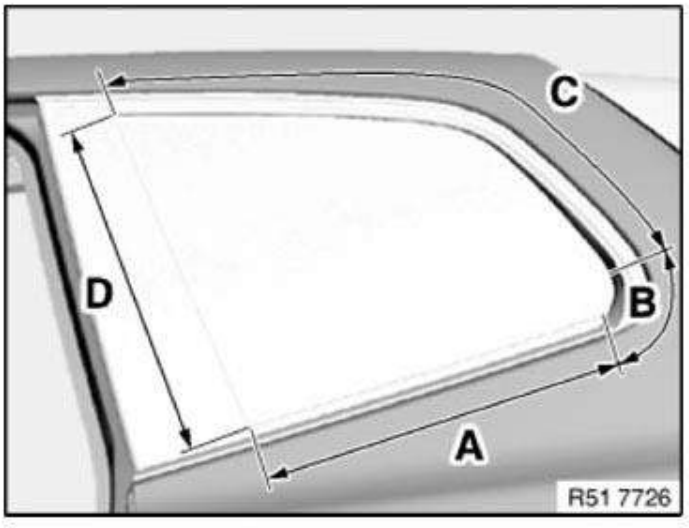


Fig. 449: Identifying Side Window Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

Use a scalpel (1) (for heavy-duty applications) in C-pillar area which cannot be reached with oscillating blade.

Carefully cut through adhesive bead with scalpel.
IMPORTANT: During the cutting procedure, a 2nd person must pull side window with **SIPHON** at rear in outwards direction.

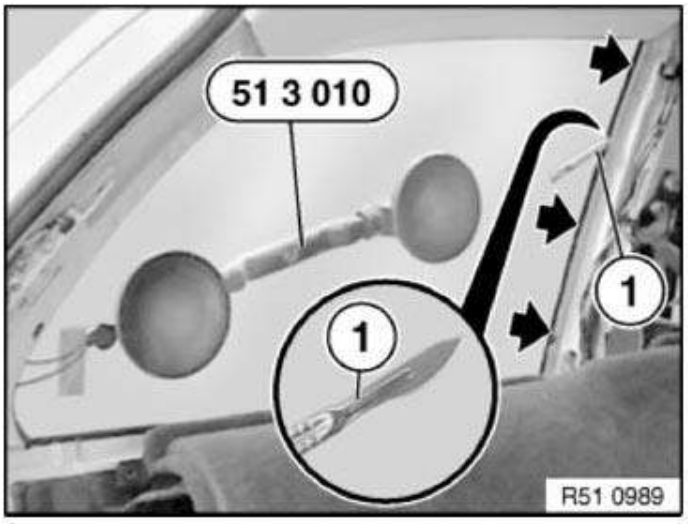


Fig. 450: Pulling Side Window
Courtesy of BMW OF NORTH AMERICA, INC.

Overview for side window bonding (F25):

Cut	**A - A**
a [mm] = Position adhesive bead	1 +1/along socket contour
b [mm] = Width adhesive bead	8 Â±2
h [mm] = Height adhesive bead	12 -2

cardiagn.com

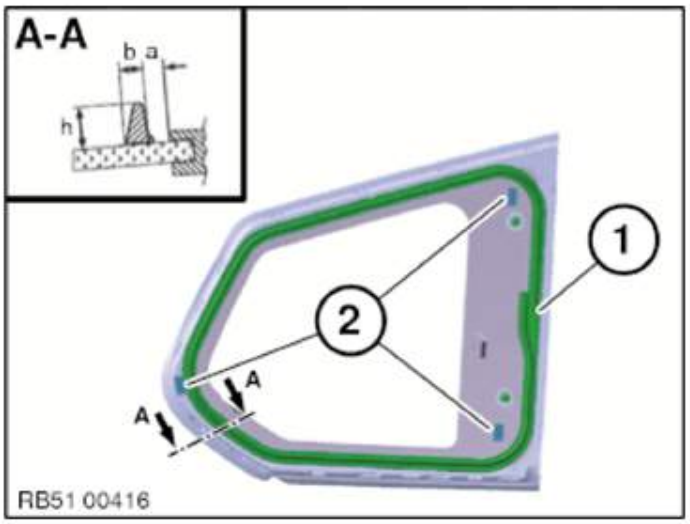


Fig. 451: Identifying Side Window Bonding
Courtesy of BMW OF NORTH AMERICA, INC.

1. Bead joint
2. positions of Dual Locks (part number 7 164 933*). There are marks on the sheet metal flange.

Velcro fasteners (2) on side window must be matched to Velcro fasteners on sheet metal flange.

(*sourcing reference: BMW Parts Department)

Position side window with **SIPHON** at bottom.

Position side window at top.

Close rear door.

Adapt side window to rear door if necessary.

Engage side window in Velcro fasteners (Dual Lock tape).

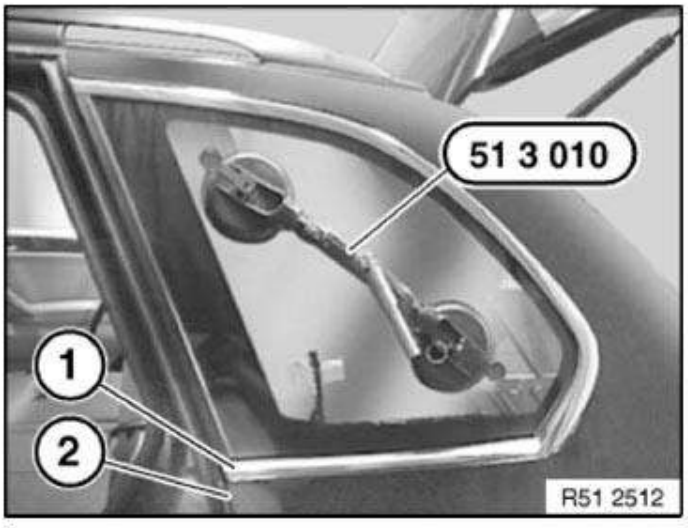


Fig. 452: Positioning Side Window
Courtesy of BMW OF NORTH AMERICA, INC.

51 36 056 REMOVING AND INSTALLING/REPLACING TRIM STRIP ON SIDE WINDOW ON REAR LEFT OR RIGHT

Special tools required:

- 00 9 317

cardiagn.com

NOTE: **Trim strip (1) must not be bent during removal.**

Starting at bottom, unclip trim strip (1) 00 9 317 from lugs (2) in succession with special tool.

Installation note:

Lugs (2) must not be missing or damaged.

Apply pressure to snap Dual-Lock on to trim strip.

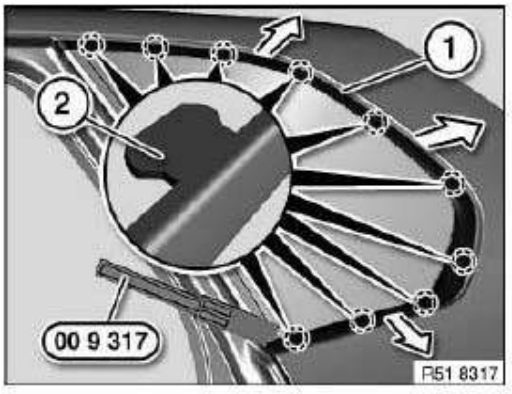


Fig. 453: Identifying Trim Strip With Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

ELECTRICAL POWER WINDOWS, BODY

51 37 000 REMOVING AND INSTALLING/REPLACING COMPLETE REAR LEFT OR RIGHT POWER WINDOW REGULATOR

IMPORTANT: Before replacement of power window regulator, pay attention to NOTES on installation status!

NOTE: **Disengage, but do not remove, the door window and secure in the door window frame. The cover on the window frame does not need to be removed.**

Necessary preliminary tasks:

- Remove REAR DOOR WINDOW GLASS

Unlock plug connection for flat motor and disconnect.

Release nuts (1) and feed out power window regulator (2).

Tightening torque 51 35 2AZ .

Replacement

Swap over FLAT MOTOR FOR POWER WINDOW REGULATOR.

cardiagn.com

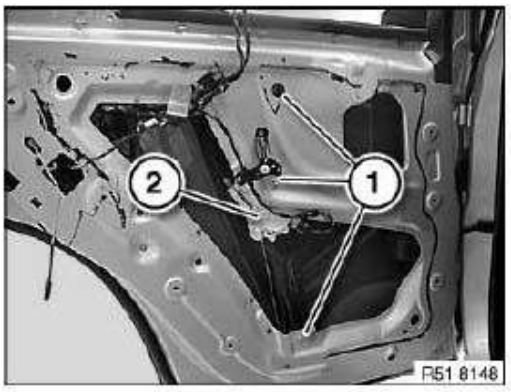


Fig. 454: Identifying Power Window Regulator And Nut
Courtesy of BMW OF NORTH AMERICA, INC.

67 62 020 REMOVING AND INSTALLING/REPLACING FLAT MOTOR FOR REAR LEFT OR RIGHT POWER WINDOW REGULATOR

IMPORTANT: Before replacement of flat motor, observe **NOTES** on installation status!

Necessary preliminary work:

- Remove **REAR POWER WINDOW REGULATOR**

Release screws (1).

Remove flat motor (2) from power window regulator.

IMPORTANT: Ensure that the flat motor (2) is assembled without tension.

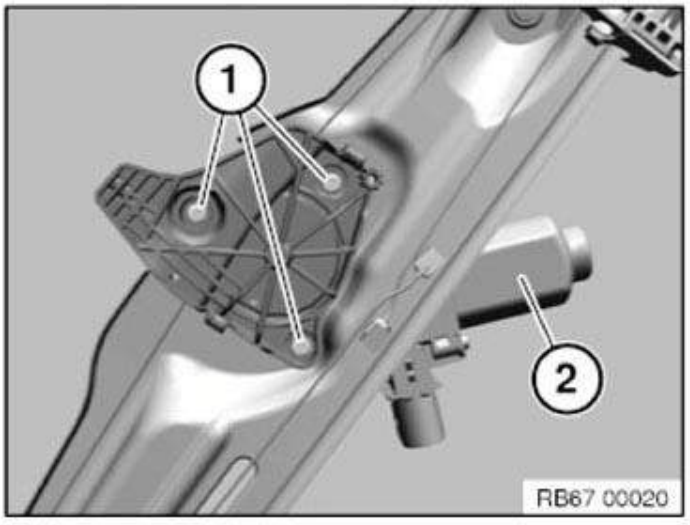


Fig. 455: Identifying Power Window Regulator, Flat Motor And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

After installation:

An initialization must be carried out in order to activate anti-trap mechanism.

Read and comply with **NOTES** on initialization of power window regulator.

FRONT DOOR TRIM PANEL WITH ARM REST

51 48... NOTES FOR BONDING SOUND INSULATION (SI), DOORS

Refer to **51 48... NOTES FOR BONDING SOUND INSULATION (SI), DOORS**.

cardiagn.com

51 00.. OVERVIEW OF FRONT DOOR

Refer to **51 00.. OVERVIEW OF FRONT DOOR**.

51 41 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT DOOR TRIM PANEL

Special tools required:

- **00 9 317**
- **00 9 325**

When working with trim panels, be sure that visible surfaces are not damaged or scratched (e.g. with sharp-edged tools).

Necessary preliminary work:

- Remove **BLIND COVER OR TWEETER COVER**

Release screw (1).

Tightening torque **51 41 1AZ** .



Fig. 456: Identifying Front Door Trim Panel Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Front passenger side:

- Carefully lever out the handle cover (1) using special tool **00 9 325** , first at the top and then down to the bottom screw.
- Swing handle cover (1) inward and then detach it toward the bottom.
- Release the screws behind it.
- Tightening torque **51 41 1AZ** .

cardiagn.com

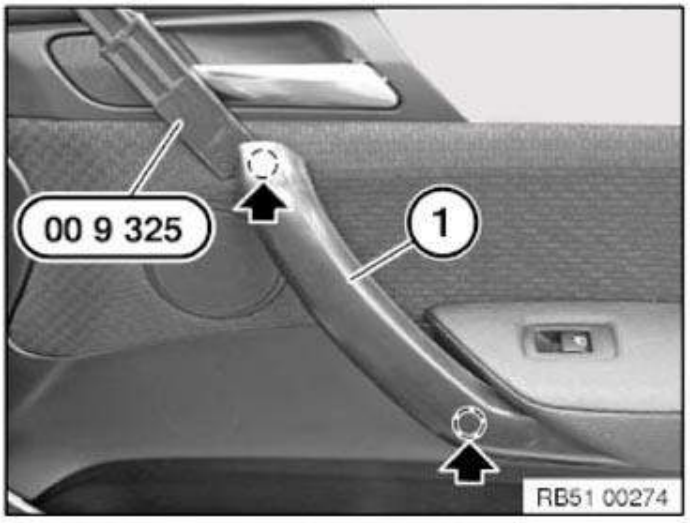


Fig. 457: Removing Handle Cover Using Special Tool (00 9 325)
Courtesy of BMW OF NORTH AMERICA, INC.

Front passenger side:

Installation note:

- Retaining tabs (2) and retaining hooks (3) of handle cover (1) must not be damaged.

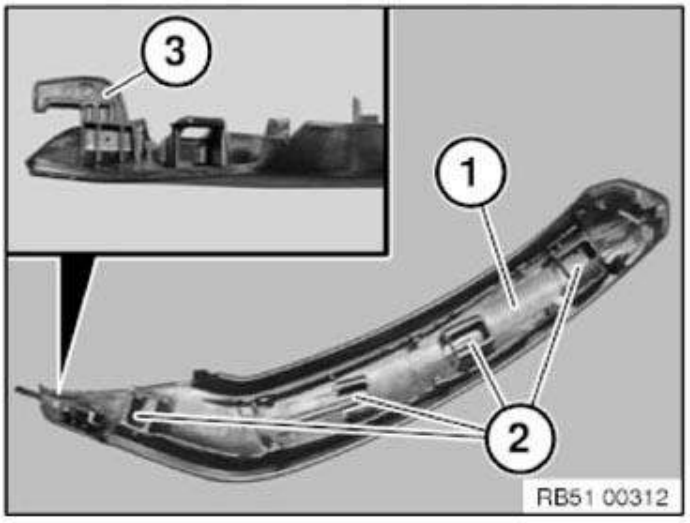


Fig. 458: Identifying Door Tabs, Retaining Hooks And Handle Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Driver's side:

- Feed out handle cover (1) without using tools in the area of the upper retaining lugs (2) toward the inside and up.
- Release the screws behind it.
- Tightening torque **51 41 1AZ** .

Installation note:

Retaining tabs (2) must not be damaged or missing.

cardiagn.com

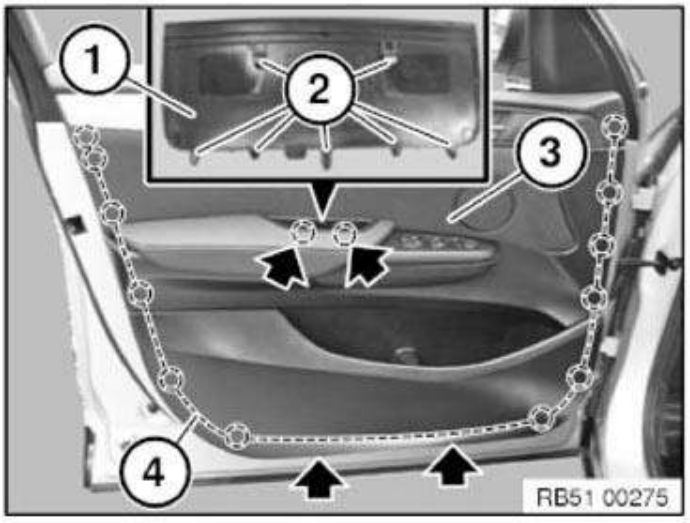


Fig. 459: Identifying Door Handle Cover Retaining Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws on door trim panel (3) at bottom.

Carefully unclip door trim panel (3) using special tool **00 9 325** , beginning at the bottom and proceeding all around (4).

NOTE: Mount the special tool directly next to the retaining clip and apply leverage against the inner door panel. Continue clipping out the part without using the tool if possible. Excessive leverage against the door trim edge alone causes permanent deformations of the door trim edge.

Finally, unclamp the part at the weather strip at the top.

Installation note:

If necessary, replace any faulty clamps (3) of weather strip (1). Note that the first clamp (3) differs from the others (3).

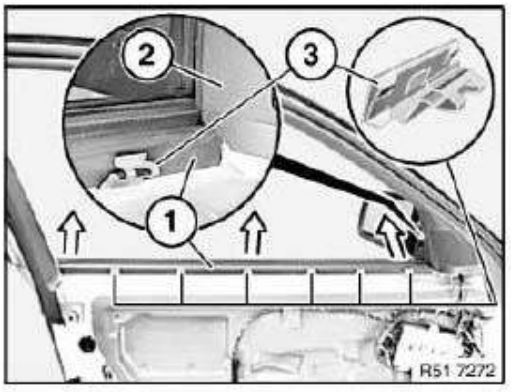


Fig. 460: Pulling Off Window Cavity Cover Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Fold open front door trim panel (1) slightly and unlock and disconnect all plug connections (2).

cardiagn.com

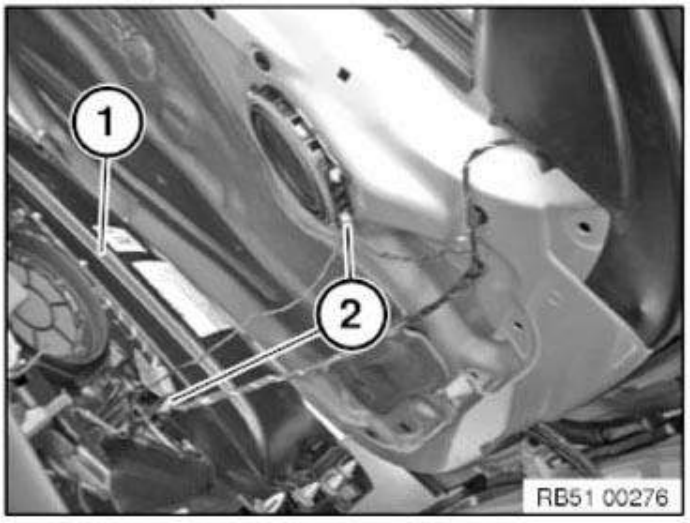


Fig. 461: Identifying Front Door Trim Panel And Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

Feed out door trim panel via linkage of locking button and detach Bowden cable (1) from door lock (2).

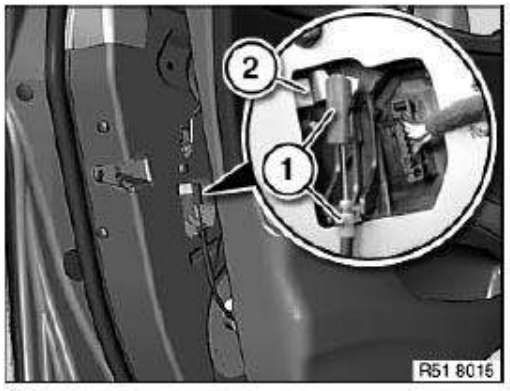


Fig. 462: Identifying Bowden Cable And Door Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Damping disc (2) on guide pin of door trim panel (1) must not be missing or damaged.

Check that the Bowden cable (3) is correctly positioned.

Clips (4) and (5) must not be damaged or missing.

Clips (4) = white

Clips (5) = grey

cardiagn.com

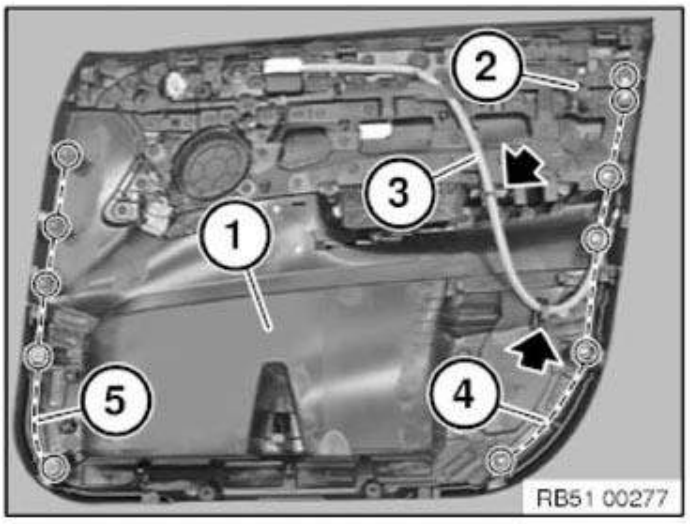


Fig. 463: Locating Door Trim Panel Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

After assembling the door trim panel proceed as follows:

- Open side window
- Lock with ignition key
- Check for ease of movement on locking button linkage
- If necessary, align linkages

51 41 030 REMOVING AND INSTALLING/REPLACING DECORATIVE STRIP ON FRONT LEFT OR RIGHT DOOR TRIM PANEL

Special tools required:

- 00 9 317
- 00 9 325

When working with trim panels, be sure that visible surfaces are not damaged or scratched (e.g. with sharp-edged tools).

Necessary preliminary work:

- Remove FRONT DOOR TRIM PANEL

NOTE: Bowden cable (3) removed for purposes of clarity.

Release decorative strip screw connections (2) on door trim panel (1).

Unclamp decorative strip with special tool 00 9 325 and unhook from door trim panel (1) toward the top.

cardiagn.com

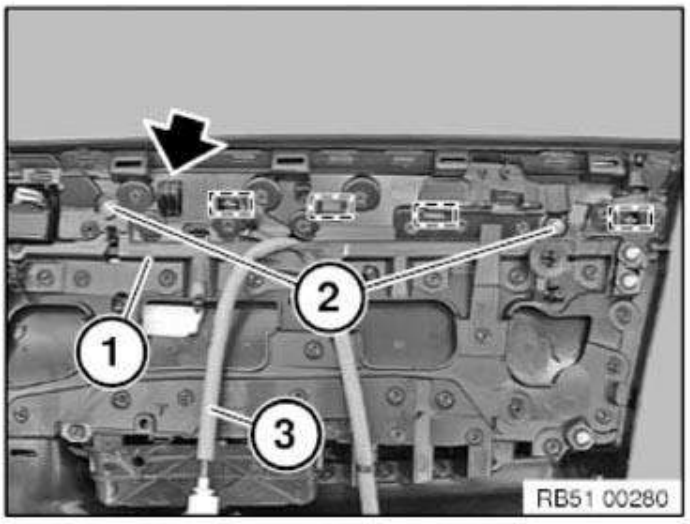


Fig. 464: Locating Door Trim Panel Screw Connections
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining clips (2) of decorative trim (1) must not be damaged or missing.

Replacement

- Modify retaining clips (2).

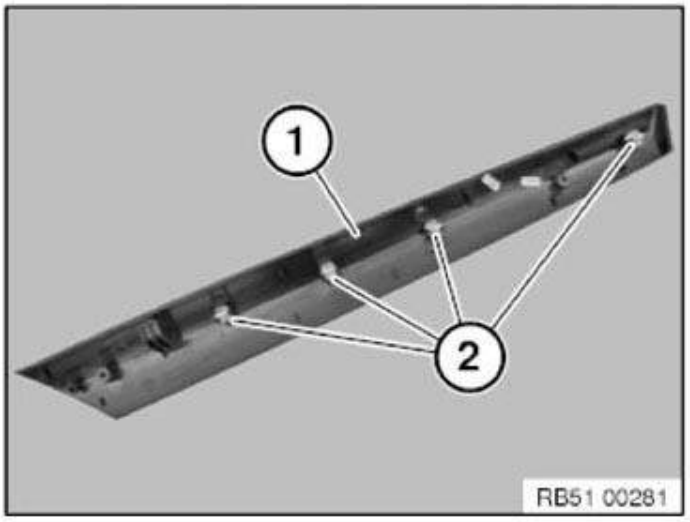


Fig. 465: Identifying Door Trim Panel Decorative Trim
Courtesy of BMW OF NORTH AMERICA, INC.

51 41 019 REMOVING AND INSTALLING/REPLACING DOOR HANDLE ON FRONT LEFT OR RIGHT DOOR TRIM PANEL (FRONT PASSENGER SIDE ONLY)

Special tools required:

- 00 9 317

When working with trim panels, be sure that visible surfaces are not damaged or scratched (e.g. with sharp-edged tools).

Necessary preliminary work:

- Remove FRONT DOOR TRIM PANEL

Release screws (3) and (4).

cardiagn.com

Release locking hooks at top and bottom mandrels of handle (2).

Feed handle outward out of door trim panel (1).

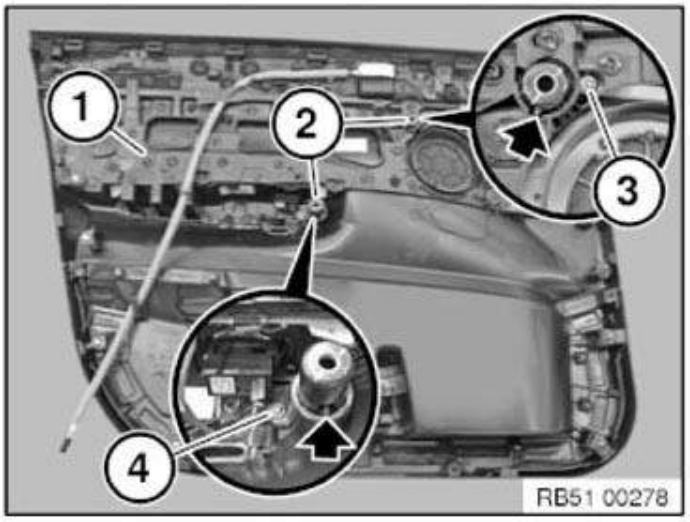


Fig. 466: Locating Door Trim Panel Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Locking hooks (1) on handle (2) must not be damaged or missing.

Replacement

- Modify retaining clips (3) of handle cover

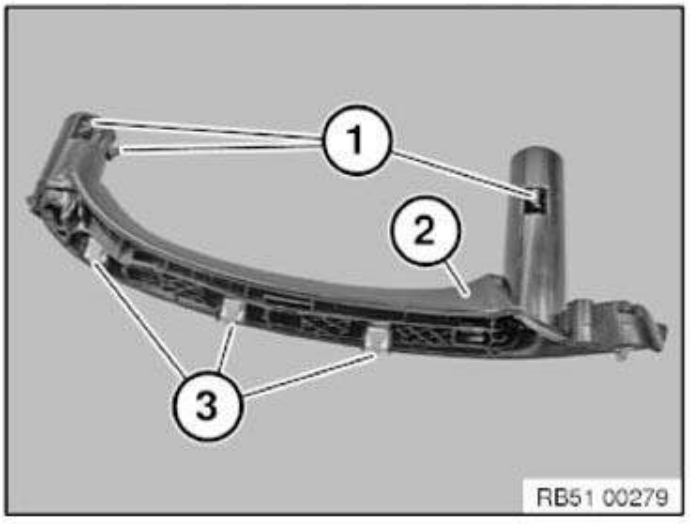


Fig. 467: Identifying Door Handle Locking Hooks
Courtesy of BMW OF NORTH AMERICA, INC.

51 41... REMOVING AND INSTALLING/REPLACING DUMMY COVER OR TWEETER COVER ON LEFT OR RIGHT DOOR TRIM PANEL

Special tools required:

- 64 1 020

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Removal:

cardiagn.com

Version up to 04/2014:

Lever out dummy cover (1) or tweeter speaker cover at front using special tool **64 1 020** and remove.

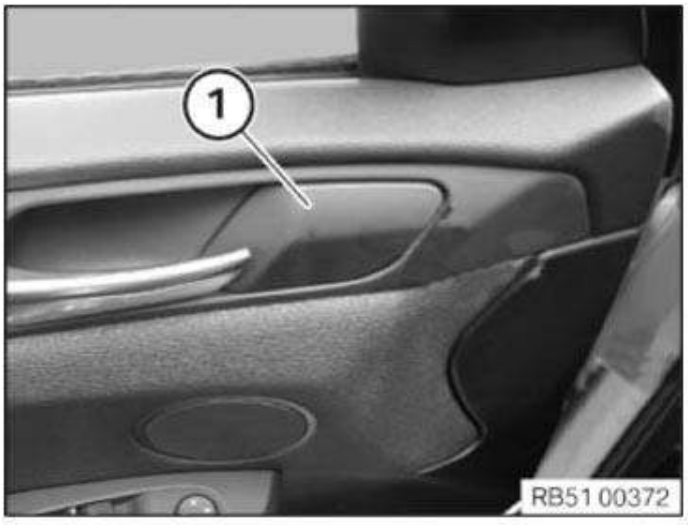


Fig. 468: Identifying Tweeter Speaker Dummy Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Lever out dummy cover (1) or tweeter speaker cover at front using special tool **64 1 020** .

If necessary, disconnect plug connection and remove cover.

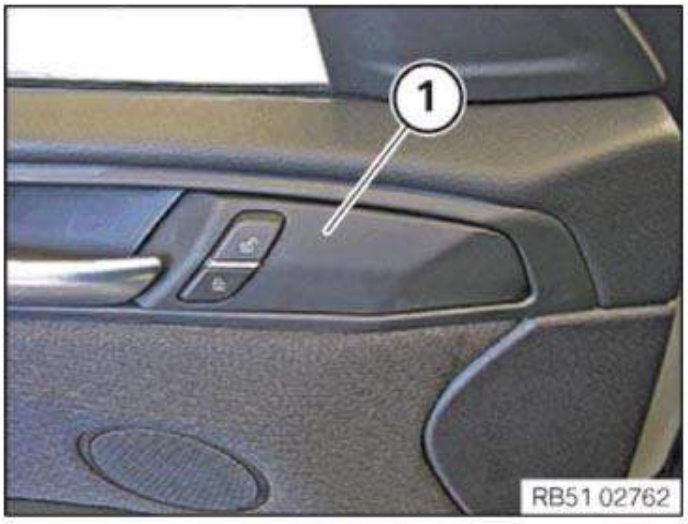


Fig. 469: Identifying Tweeter Speaker Dummy Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Version up to 04/2014:

Mount dummy cover (1) or tweeter speaker cover.

cardiagn.com

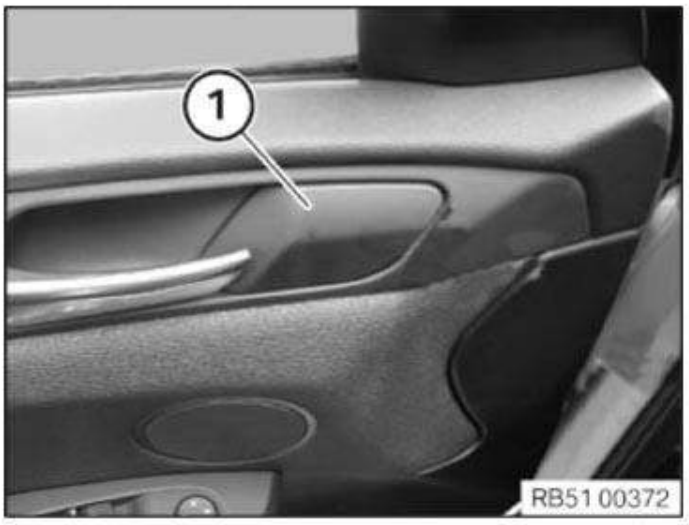


Fig. 470: Identifying Tweeter Speaker Dummy Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Connect plug connection.

Mount dummy cover (1) or tweeter speaker cover.

- **Replacement:** Remount **SWITCH FOR CENTRAL LOCKING SYSTEM** .

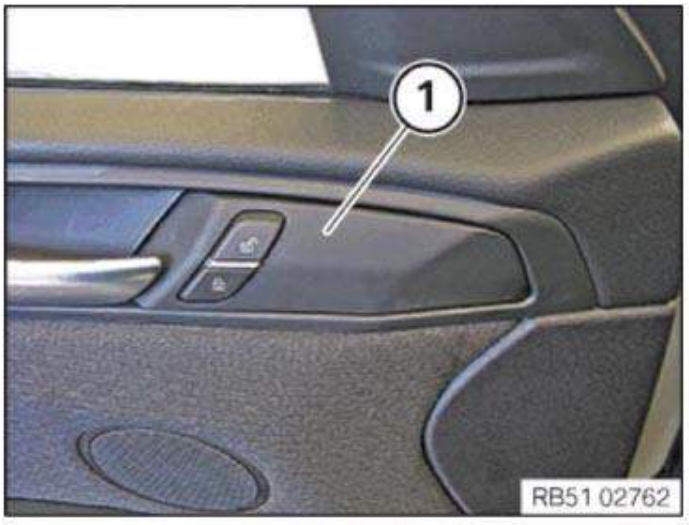


Fig. 471: Identifying Tweeter Speaker Dummy Cover
Courtesy of BMW OF NORTH AMERICA, INC.

51 48 060 REMOVING AND INSTALLING/REPLACING SOUND INSULATION IN LEFT OR RIGHT FRONT DOOR

Refer to **51 48 060 REMOVING AND INSTALLING/REPLACING SOUND INSULATION IN LEFT OR RIGHT FRONT DOOR**.

51 41... REPLACING ARMREST ON LEFT OR RIGHT DOOR TRIM PANEL

Special tools required:

- **00 9 317**

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

cardiagn.com

Necessary preliminary work:

- Remove **door trim panel** . See **51 41 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT DOOR TRIM PANEL** or **51 42 000 REMOVE AND INSTALL LEFT OR RIGHT REAR DOOR TRIM PANEL**

Drill out welded plastic joints (1) on armrest (2).

Remove armrest (2) from door trim panel (3).

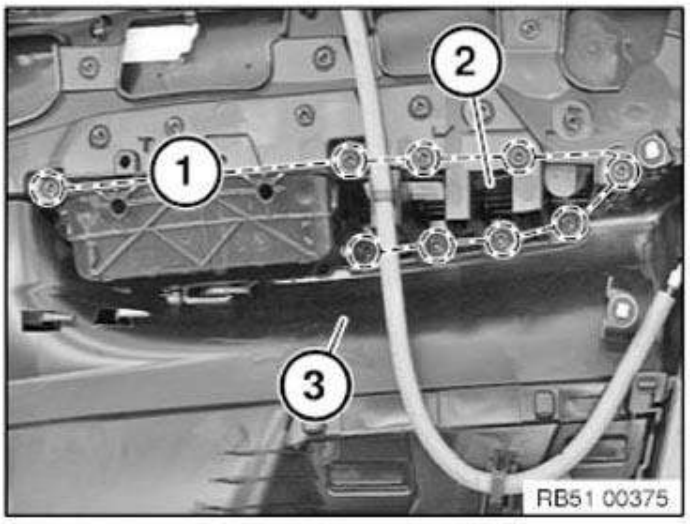


Fig. 472: Identifying Door Trim Panel, Armrest And Welded Plastic Joints
Courtesy of BMW OF NORTH AMERICA, INC.

New armrests are to be prepared for installation as follows

Shorten all mounting domes (1) on armrest (2) by dimension "x".

x = 9 mm.

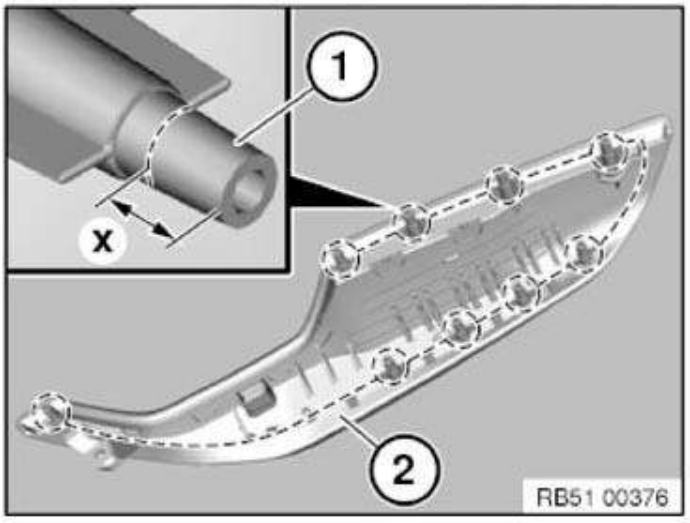


Fig. 473: Identifying Armrest Mounting Domes Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Secure new armrest (2) to door trim panel (3) with supplied screws (1).

Tightening torque **51 41 5AZ** (front door) and **51 42 3AZ** (rear door).

cardiagn.com

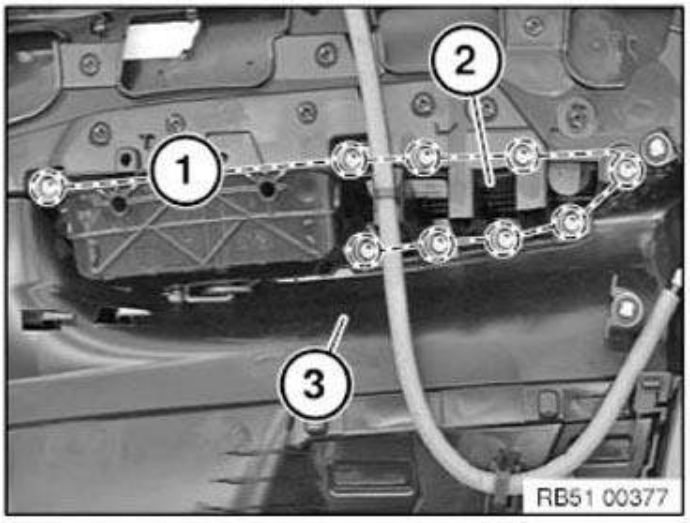


Fig. 474: Identifying Door Trim Panel, Armrest And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 41 017 REPLACING COVER ON FRONT DOOR HANDLE, LEFT OR RIGHT

Operations described in:

REMOVING AND INSTALLING LEFT OR RIGHT FRONT DOOR TRIM PANEL

51 21... REPLACING INSIDE DOOR OPENER ON LEFT OR RIGHT FRONT DOOR

Refer to **51 21... REPLACING INSIDE DOOR OPENER ON LEFT OR RIGHT FRONT DOOR**.

51 41 001 REPLACING LEFT OR RIGHT FRONT DOOR TRIM PANEL

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

In vehicles without light package optional equipment:

If necessary, also order cover for light cut-out for footwell lighting.

Necessary preliminary tasks:

- Remove **FRONT DOOR TRIM PANEL**

Lever cover of locking button (2) out of door trim panel (1) and remount.



Fig. 475: Identifying Door Trim Panel And Locking Button

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Clip out connector (1) from control panel wiring harness.

Release screws (2) from control panel fixture.

Detach control panel fixture toward the front out of door trim panel (3) and feed out control panel wiring harness.

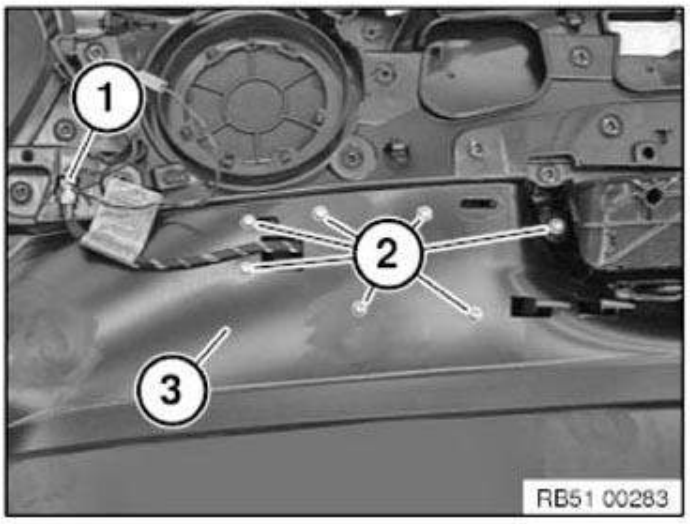


Fig. 476: Identifying Door Trim Panel, Connector And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Hooks (1) on control panel fixture (2) must not be damaged or missing.

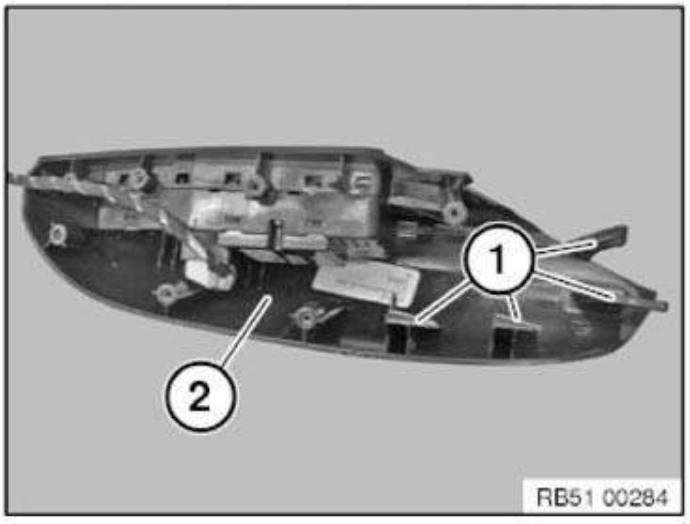


Fig. 477: Identifying Control Panel Fixture And Hooks
Courtesy of BMW OF NORTH AMERICA, INC.

Further operations are described in:

- If necessary, remount **TWEETER**
- Remount **BOWDEN CABLE FOR INSIDE DOOR OPENER**
- Remount **DECORATIVE STRIP ON DOOR TRIM PANEL**
- Remount **MID-RANGE SPEAKER COVER** Passenger's side only:
- Remount **DOOR HANDLE ON DOOR TRIM PANEL**

Only for light package optional equipment:

cardiagn.com

- Remount additional wiring harness
- Remount **FOOTWELL LIGHTING**
- Remount prisms for door handle lighting and map pocket lighting

51 41... REPLACING MID-RANGE SPEAKER COVER ON LEFT OR RIGHT DOOR TRIM PANEL

Special tools required:

- **00 9 317**

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary work:

- Remove **door trim panel** . See **51 41 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT DOOR TRIM PANEL** or **51 42 000 REMOVE AND INSTALL LEFT OR RIGHT REAR DOOR TRIM PANEL**

Use suitable tool to release plastic joints (2) on mid-range speaker cover (1).

Remove mid-range speaker cover (1).

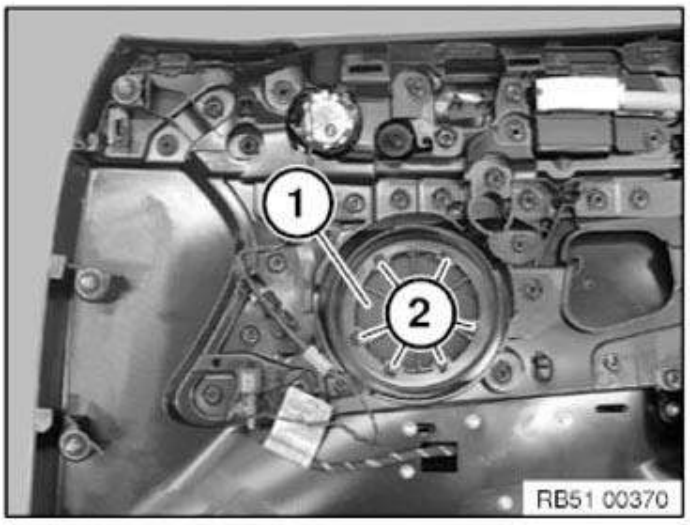


Fig. 478: Identifying Mid-Range Speaker Cover And Plastic Joints
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Secure replacement mid-range speaker cover (1) by means of retaining clips (3) over retaining tabs (2).

cardiagn.com

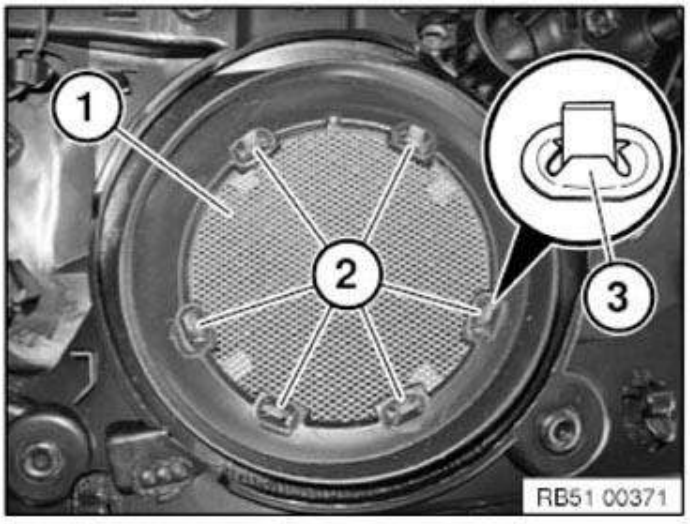


Fig. 479: Identifying Mid-Range Speaker Cover And Retaining Clips
Courtesy of BMW OF NORTH AMERICA, INC.

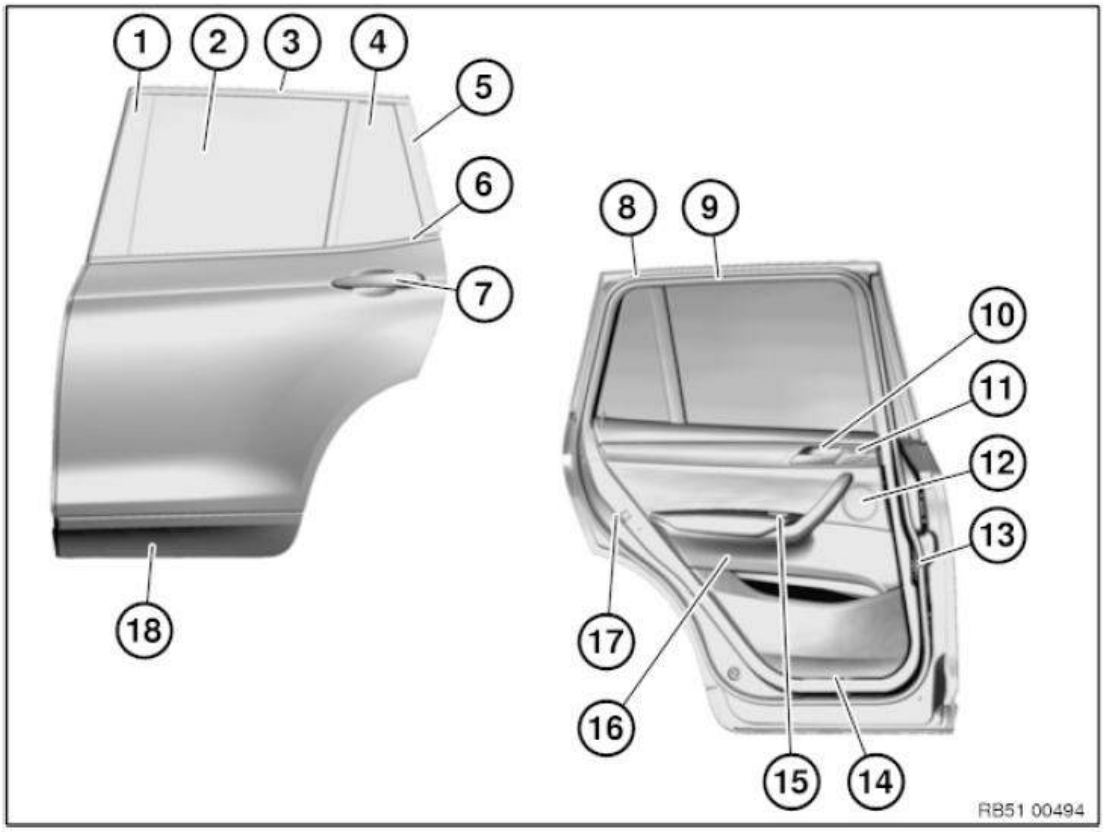
REAR DOOR TRIM PANEL WITH ARM REST

51 48... NOTES FOR BONDING SOUND INSULATION (SI), DOORS

Refer to **51 48... NOTES FOR BONDING SOUND INSULATION (SI), DOORS**.

51 00.. OVERVIEW OF REAR DOOR

cardiagn.com



1	Cover (front) on window frame	10	Door opener, inside
2	Door window glass	11	Blind cover or tweeter cover
3	Rubber guide for door window glass	12	Mid-range speaker cover
4	Door window (stationary)	13	Door brake
5	Cover (rear) on window frame	14	Footwell light
6	Window cavity cover strip	15	Rocker switch
7	Outside handle	16	Door trim panel
8	Seal	17	Door lock
9	Cover on door window frame	18	Body moulding

Fig. 480: Overview Of Rear Door
Courtesy of BMW OF NORTH AMERICA, INC.

51 42 000 REMOVE AND INSTALL LEFT OR RIGHT REAR DOOR TRIM PANEL

Special tools required:

- 00 9 317
- 00 9 325

When working with trim panels, be sure that visible surfaces are not damaged or scratched (e.g. with sharp-edged tools).

Necessary preliminary work:

- Remove BLIND COVER OR TWEETER COVER

Release screw (1).

Tightening torque 51 42 1AZ .

cardiagn.com



Fig. 481: Identifying Front Door Trim Panel Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully lever out the handle cover (1) using special tool **00 9 325** , first at the top and then down to the bottom screw.

Swing handle cover (1) inward and then detach it toward the bottom.

Release the screws behind it.

Tightening torque **51 42 1AZ** .

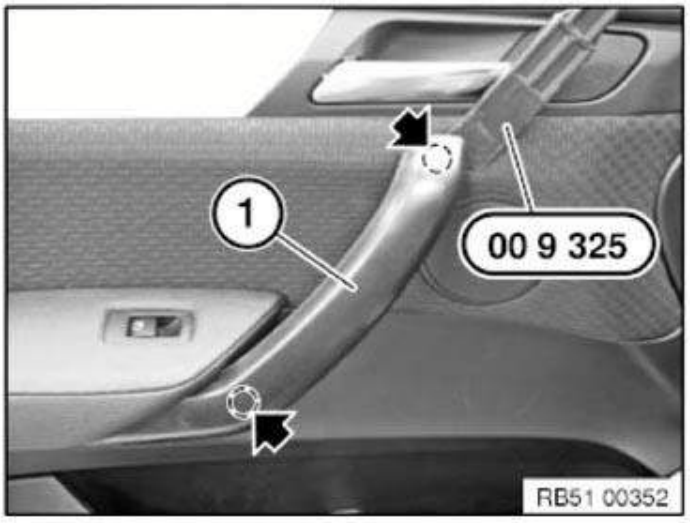


Fig. 482: Removing Door Handle Cover Using Special Tool (00 9 325)
Courtesy of BMW OF NORTH AMERICA, INC.

Retaining tabs (2) and retaining hooks (3) of handle cover (1) must not be damaged.

cardiagn.com

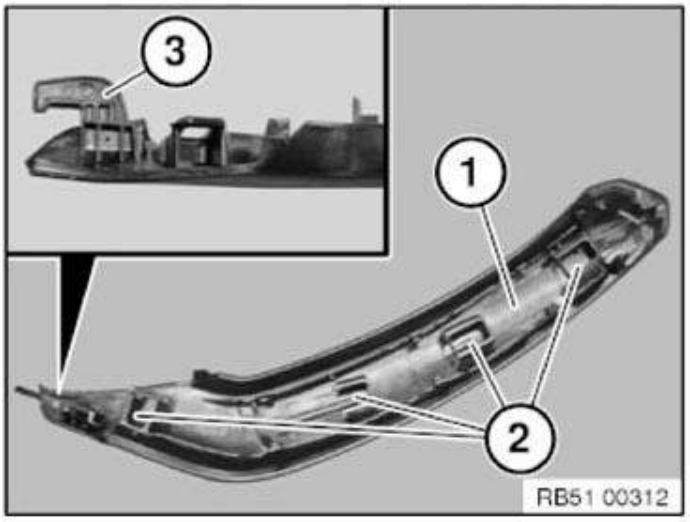


Fig. 483: Identifying Door Tabs, Retaining Hooks And Handle Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1) at bottom on door trim panel.

Unclip door trim panel (1) all around using special tool **00 9 325** .

NOTE: **Mount the special tool directly next to the retaining clip and apply leverage against the inner door panel. Continue clipping out the part without using the tool if possible. Excessive leverage against the door trim edge alone causes permanent deformations of the door trim edge.**

Not for optional roller sunblind:

To unclamp door trim panel (1) out of weather strip at the top, pull away door trim panel (1) toward the inside.

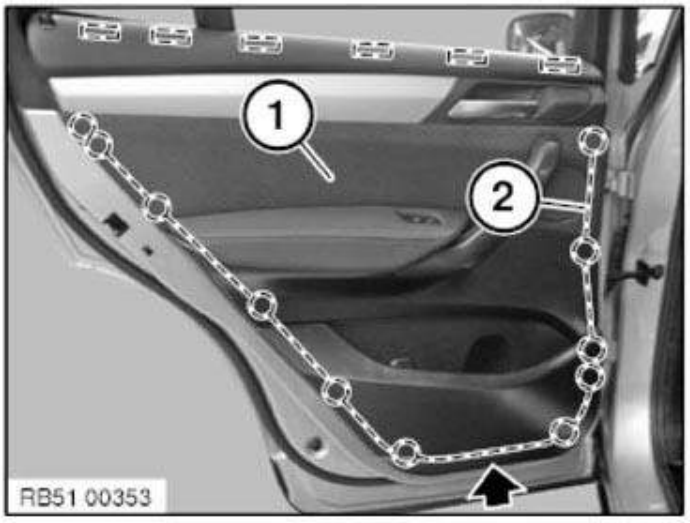


Fig. 484: Locating Door Trim Panel Retaining Clip
Courtesy of BMW OF NORTH AMERICA, INC.

For optional roller sunblind only:

Different retaining clips (2) are used at the window cavity. To remove, swing door trim panel (1) up as far as possible until door trim panel (1) unclamps by itself.

If this is not performed properly, retaining clips (2) or metal rib will be bent.

Installation note:

cardiagn.com

Retaining clips (2) must lie flush against inner door panel.

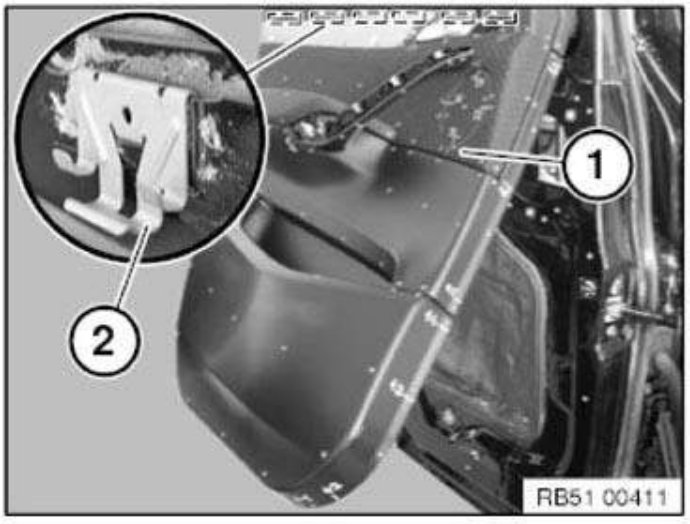


Fig. 485: Identifying Swing Door Trim Panel And Retaining Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

If necessary, replace any faulty clamps (2) of weather strip (1). Note that the first clamp (2) differs from the others (2).

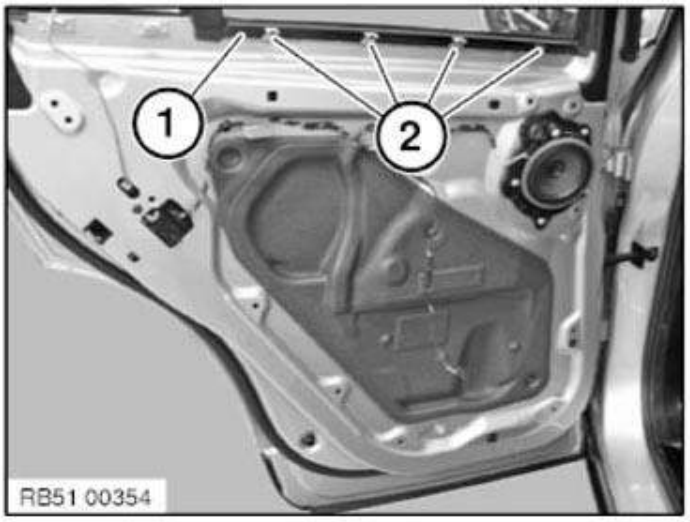


Fig. 486: Identifying Weather Strip And Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

Lift front door trim panel (1) slightly away from inner door panel and unlock and disconnect plug connections (2).

cardiagn.com

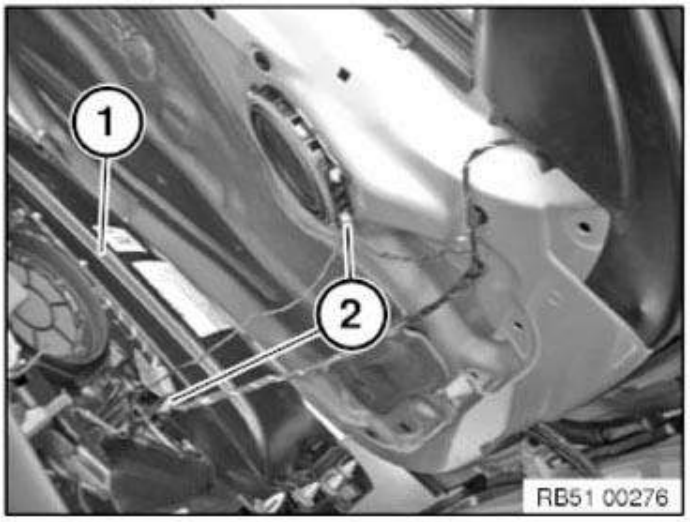


Fig. 487: Identifying Front Door Trim Panel And Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

Unhook Bowden cable (1) from door lock (2).

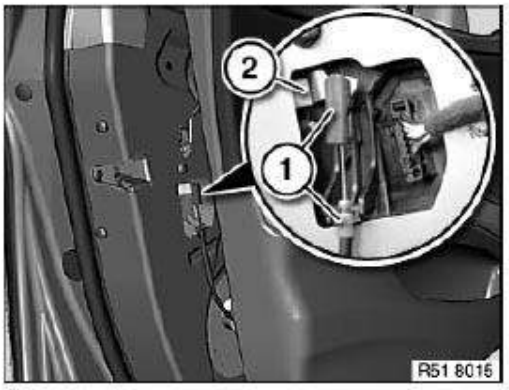


Fig. 488: Identifying Bowden Cable And Door Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Damping disc (2) on guide pin of door trim panel (1) must not be missing or damaged.

Check that the Bowden cable (3) is correctly positioned.

Clips (4) and (5) must not be damaged or missing.

Clips (4) = white

Clips (5) = grey

cardiagn.com

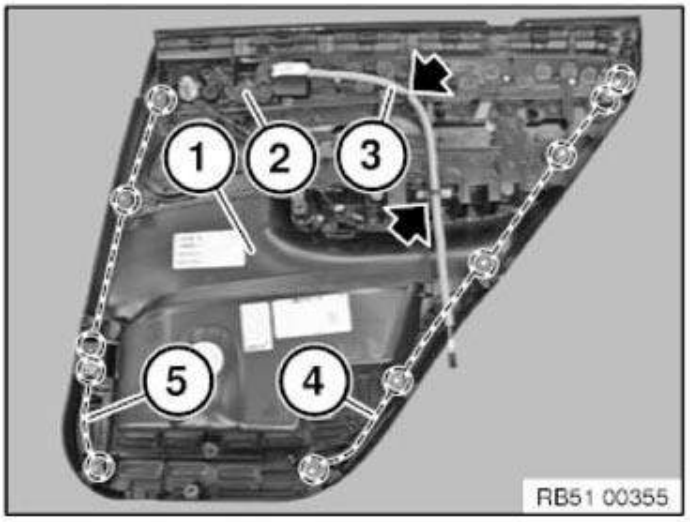


Fig. 489: Locating Bowden Cable Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

After assembling the door trim panel proceed as follows:

- Open side window
- Lock with ignition key
- Check for ease of movement on locking button linkage
- If necessary, align linkages

51 42 019 REMOVING AND INSTALLING OR REPLACING DOOR HANDLE ON DOOR TRIM PANEL, REAR LEFT OR RIGHT

Special tools required:

- 00 9 317

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary work:

- REMOVE rear door trim panel

Undo screws (3) and (4).

Release retaining hook at upper and lower dome of handle (2).

Feed handle outwards out of door trim panel (1).

cardiagn.com

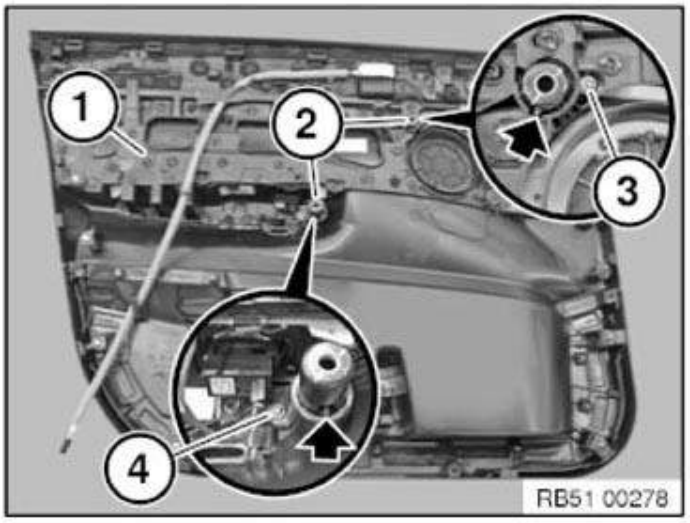


Fig. 490: Locating Door Trim Panel Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining catches (1) on handle (2) must not be damaged or missing.

Replacement

- Reinstall retaining clips (3) for handle trim cover

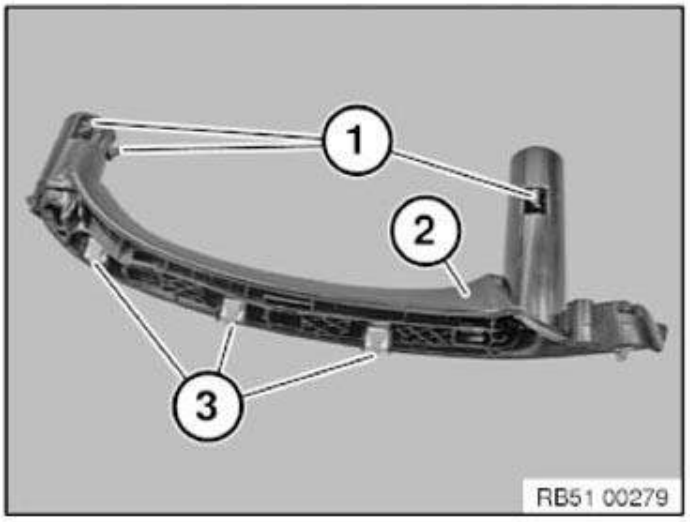


Fig. 491: Identifying Door Handle Locking Hooks
Courtesy of BMW OF NORTH AMERICA, INC.

51 42 030 REMOVING AND INSTALLING/REPLACING DECORATIVE STRIP ON LEFT OR RIGHT REAR DOOR TRIM PANEL

Special tools required:

- 00 9 317
- 00 9 325

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary work:

- REMOVE rear door trim panel

cardiagn.com

NOTE: **Shown with bowden cable (3) removed.**

Release screw connections for trim strip (2) on door trim panel (1).

Unclip trim strip with special tool **00 9 325** and lift upwards out of door trim panel (1).

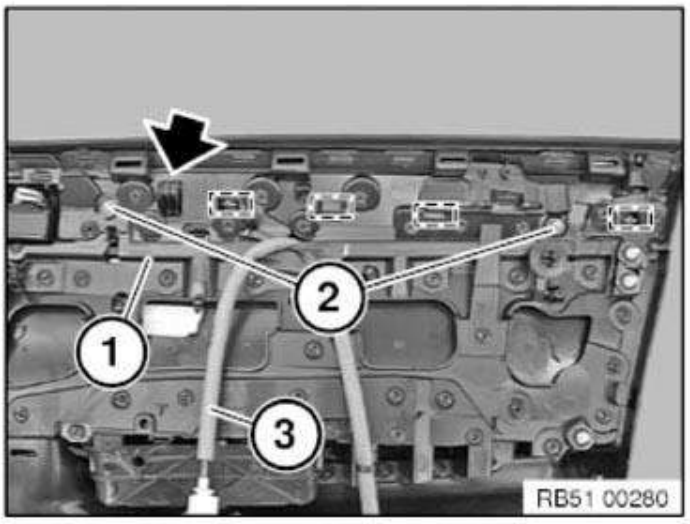


Fig. 492: Locating Door Trim Panel Screw Connections
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining clips (2) of trim cover (1) must not be missing or damaged.

Replacement

- Reinstall retaining clips (2).

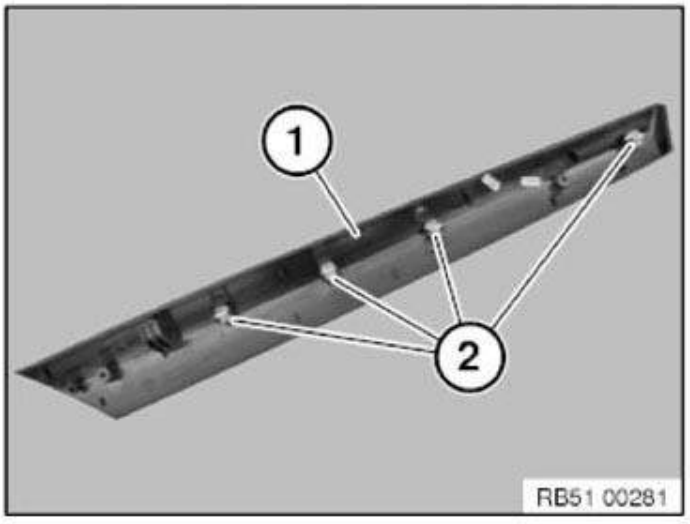


Fig. 493: Identifying Door Trim Panel Decorative Trim
Courtesy of BMW OF NORTH AMERICA, INC.

51 48 070 REMOVING AND INSTALLING/REPLACING SOUND INSULATION ON LEFT OR RIGHT REAR DOOR

Refer to **51 48 070 REMOVING AND INSTALLING/REPLACING SOUND INSULATION ON LEFT OR RIGHT REAR DOOR**.

51 41... REPLACING ARMREST ON LEFT OR RIGHT DOOR TRIM PANEL

cardiagn.com

Refer to **51 41... REPLACING ARMREST ON LEFT OR RIGHT DOOR TRIM PANEL**.

51 42 017 REPLACING COVER ON REAR LEFT OR RIGHT DOOR HANDLE

Operations described in:

REMOVE AND INSTALL LEFT OR RIGHT REAR DOOR TRIM PANEL

51 22... REPLACING INSIDE DOOR OPENER ON LEFT OR RIGHT REAR DOOR

Refer to **51 22... REPLACING INSIDE DOOR OPENER ON LEFT OR RIGHT REAR DOOR**.

51 42 001 REPLACING LEFT OR RIGHT REAR DOOR TRIM PANEL

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

In vehicles without light package optional equipment:

If necessary, also order cover for light cut-out for footwell lighting.

Necessary preliminary tasks:

- **REMOVE** rear door trim panel

Lever cover of locking button (2) out of door trim panel (1) and remount.



Fig. 494: Identifying Door Trim Panel And Locking Button
Courtesy of BMW OF NORTH AMERICA, INC.

Further operations are described in:

- Remount **DOOR HANDLE ON DOOR TRIM PANEL**
- If necessary, remount **TWEETER**
- Remount **BOWDEN CABLE FOR INSIDE DOOR OPENER**
- Remount **DECORATIVE STRIP ON DOOR TRIM PANEL**
- Remount **MID-RANGE SPEAKER COVER**
- Remount **ROCKER SWITCH FOR SIDE WINDOW OPERATION**

  Only with roller sunblind optional equipment:

  Remount **ROLLER SUNBLIND**

- Only for light package optional equipment:
- Remount additional wiring harness

cardiagn.com

- Remount **FOOTWELL LIGHTING**
- Remount prisms for door handle lighting and map pocket lighting

51 41... REPLACING MID-RANGE SPEAKER COVER ON LEFT OR RIGHT DOOR TRIM PANEL

Refer to **51 41... REPLACING MID-RANGE SPEAKER COVER ON LEFT OR RIGHT DOOR TRIM PANEL**.

SIDE COVERING WITH ARMRESTS

51 43 201 REMOVING AND INSTALLING OR REPLACING TRIM FOR ROOF PILLAR AT FRONT (A-PILLAR), LEFT OR RIGHT

WARNING: **Follow SAFETY INSTRUCTIONS for working on vehicles with airbag systems.**

IMPORTANT: Do not use any sharp-edged tools to remove trim (risk of damage to head airbag).

Detach edge protection (1) in area of trim panel (2).

Detach trim panel (2) from the first detent position of the clamp (4) toward the inside.

Loosen the trim panel (2) toward the top and thereby detach it from the clips (3).

Feed out trim panel (2) from dashboard and remove.

Installation note:

Make sure **EDGE PROTECTION** (1) is correctly seated.

Always replace clamps (4).

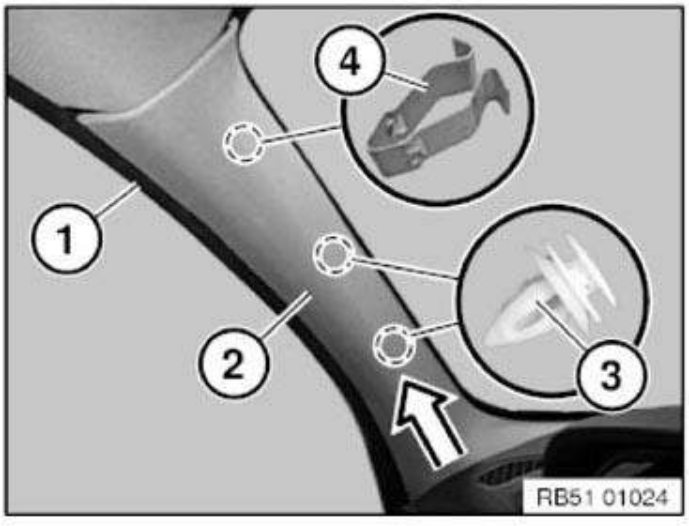


Fig. 495: Detaching Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Always replace clamps (2).

Pry out any clips (1) remaining in the body and insert in cover

Replace faulty clips (1).

Make sure guides (3) is correctly seated in associated mounts.

cardiagn.com

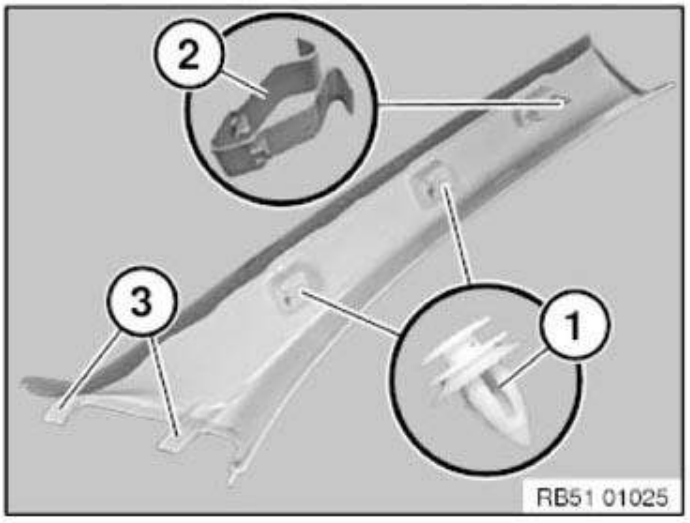


Fig. 496: Identifying Front Pillar Guides And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 43 150 REMOVING AND INSTALLING OR REPLACING TRIM PANEL FOR LEFT OR RIGHT DOOR POST (BOTTOM)

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Necessary preliminary work:

- Remove **FRONT DOOR SILL COVER STRIP**
- Remove rear door sill cover strip

NOTE: Remove edge guard in area of trim panel (2).

Detach trim panel (2) from clips (1).

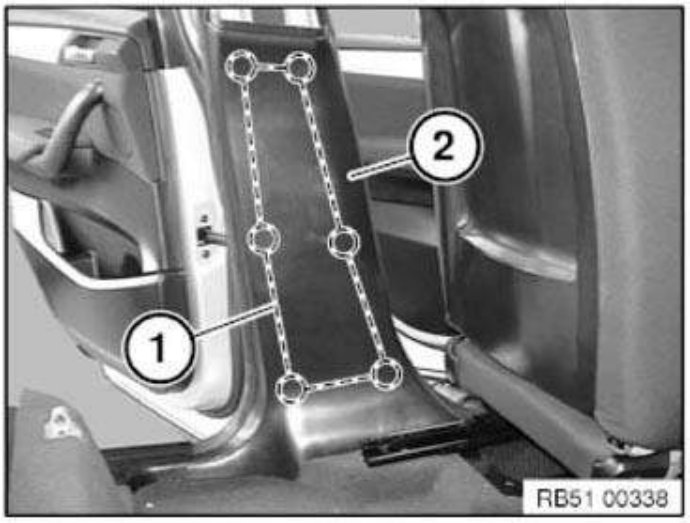


Fig. 497: Identifying Door Trim Panel Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Clips (1) on trim panel (2) must not be damaged or missing.

cardiagn.com

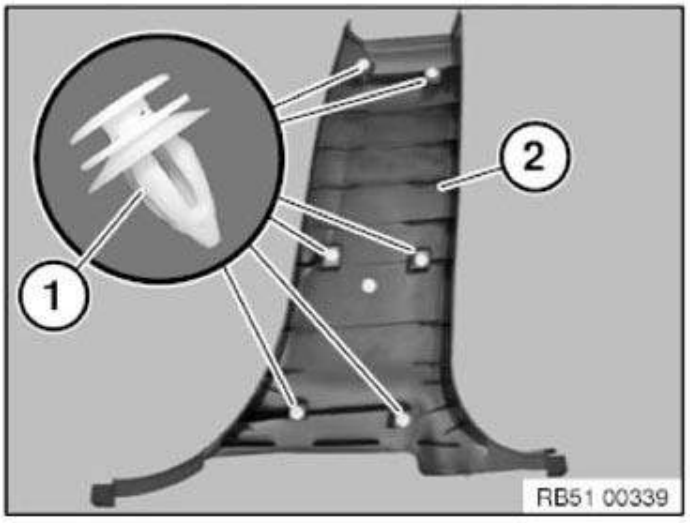


Fig. 498: Identifying Door Trim Panel Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Clips (1) on trim panel (2) must not be damaged or missing.

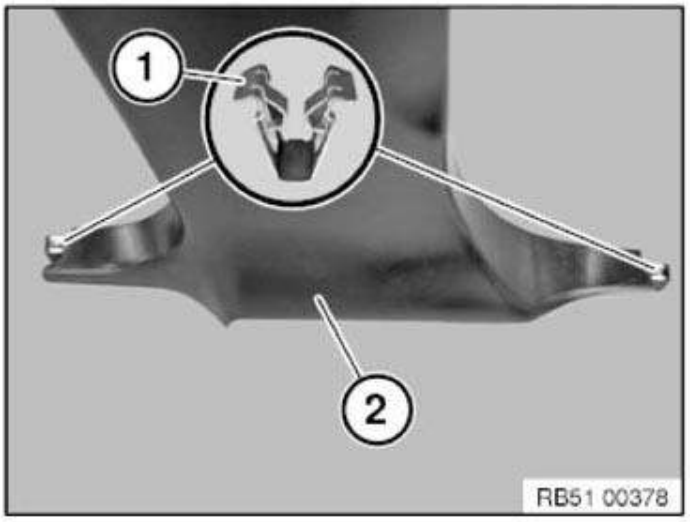


Fig. 499: Identifying Door Trim Panel Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 43 251 REMOVING AND INSTALLING OR REPLACING TRIM PANEL FOR LEFT OR RIGHT REAR ROOF PILLAR (C-PILLAR)

WARNING: **Follow SAFETY INSTRUCTIONS for working on vehicles with airbag systems.**

IMPORTANT: Do not use sharp-edged tools to remove trim (risk of damage).

Pry out cover (1) and release screw it concealed; tightening torque **51 43 2AZ** .

Feed trim panel (2) upwards/inwards out of mounting (3) and remove.

Installation note:

Make sure trim panel (2) is correctly seated in mounting (3) and edge protection (4).

cardiagn.com

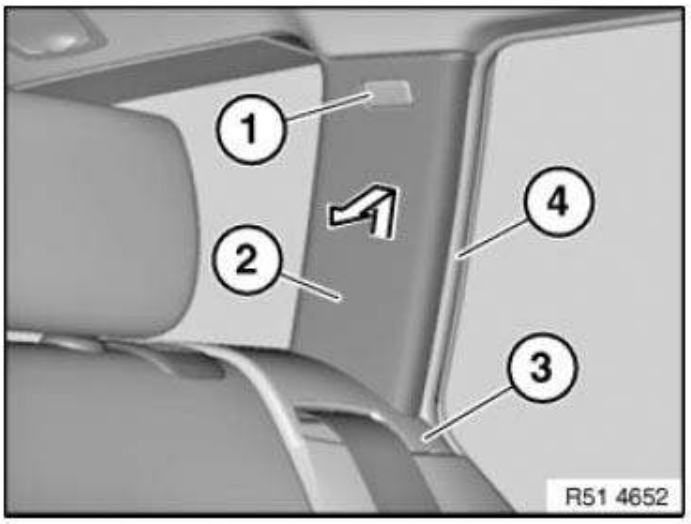


Fig. 500: Removing Door Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

51 43 148 REMOVING AND INSTALLING OR REPLACING TRIM PANEL ON LEFT OR RIGHT DOOR POST (TOP)

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Unclip trim panel (2) in lower area.

Pull off trim panel (2) towards bottom.

If necessary, unlock plug connection and disconnect.

Installation note:

Make sure trim panel (2) is correctly seated in edge protection (1).

Complete removal only:

Loosen the **END FITTING** at the front seat.

Feed out seat belt strap (3) from trim panel (2).

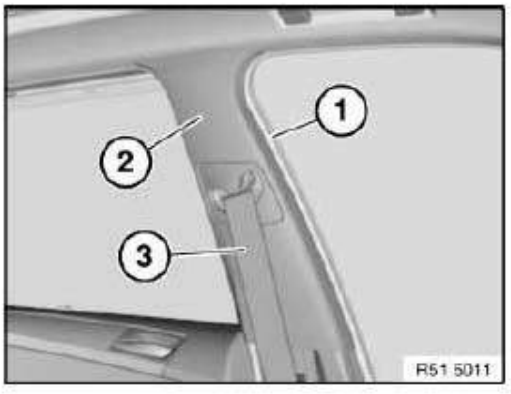


Fig. 501: Identifying Door Trim Panel Seat Belt Strap
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Guides (1) and clips (2) on trim panel (3) must not be damaged.

cardiagn.com

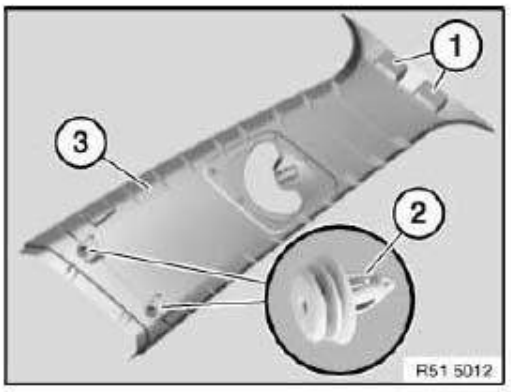


Fig. 502: Identifying Door Trim Panel, Guides And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 43 070 REMOVING AND INSTALLING/REPLACING SIDE TRIM PANEL, FOOTWELL, ON A-PILLAR, LEFT

Necessary preliminary tasks:

- Remove **FRONT DOOR SILL COVER STRIP (INSIDE)**
- Remove **trim panel for pedal mechanism** . See **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (ECE ONLY)** or **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (US ONLY)**

Detach edge protection (1) in area of side trim panel (2).

Release screw (3).

Remove engine compartment lid release lever (4) from side trim panel (2).

Installation note:

Make sure **EDGE PROTECTION** (1) is correctly seated.

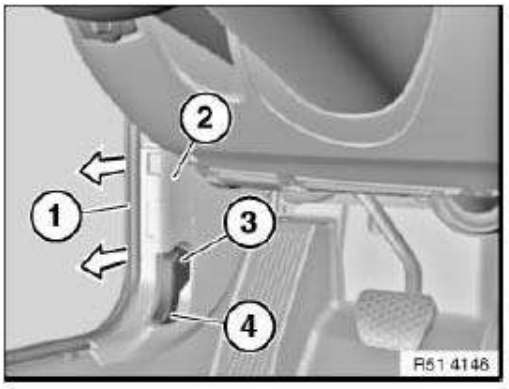


Fig. 503: Removing Engine Compartment Lid
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Unclip side trim panel (3) in direction of arrow from retaining points (2).

If necessary, disconnect associated plug connection and remove side trim panel (3).

cardiagn.com

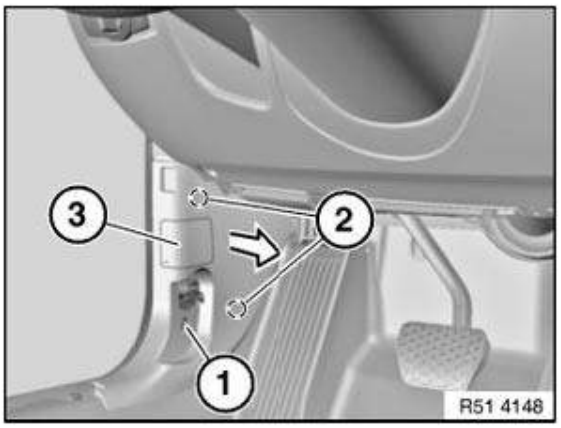


Fig. 504: Removing Side Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

If necessary, lever out clamps (1) remaining in bore.

Replace faulty clips (1).

Position side trim panel (2) pre-installed with clips (1) on associated bore holes and clip into place.

Replacement:

Modify **REAR LID UNLOCKING SWITCH** , if applicable.

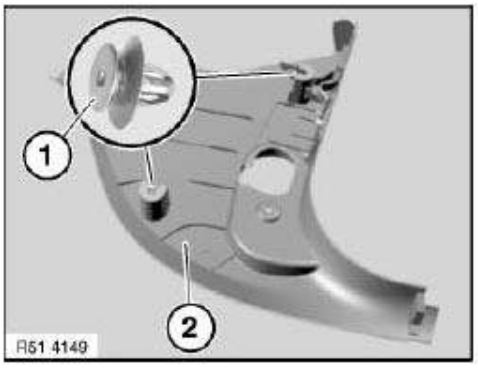


Fig. 505: Identifying Side Trim Panel, Clips And Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

51 43 075 REMOVING AND INSTALLING/REPLACING SIDE TRIM PANEL, FOOTWELL, ON A-PILLAR, RIGHT

Necessary preliminary work:

- Remove door sill cover strip, front (inside) right
- Remove trim for instrument panel at bottom right

Detach edge protection (1) in area of side trim (3).

Release clips (2) in direction of arrow.

Pull out side trim panel (3) from carpet.

Installation note:

Clips (2) for side trim panel trim (3) must not be damaged.

cardiagn.com

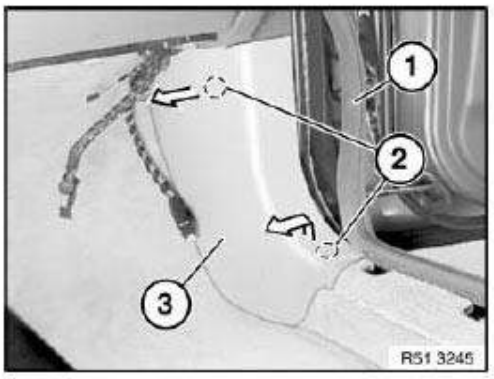


Fig. 506: Pulling Side Trim Panel From Carpet
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement

Modify clips (2) for side trim panel (1).

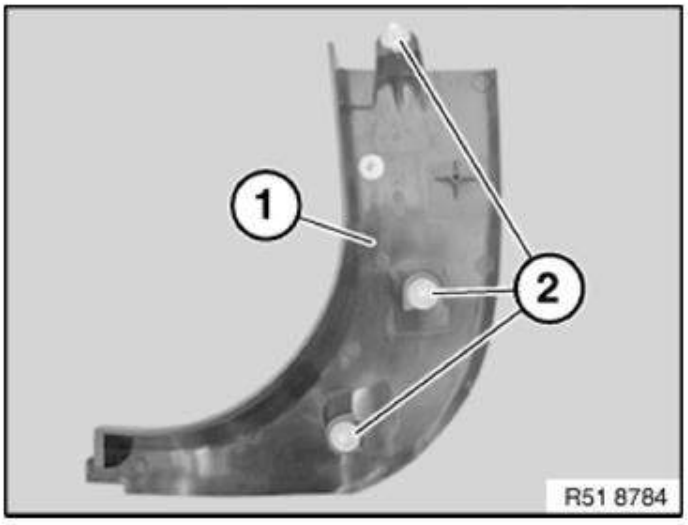


Fig. 507: Identifying Side Trim Panel And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 43 259 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR REAR ROOF PILLAR (D-PILLAR), LEFT OR RIGHT

Necessary preliminary tasks:

- Remove **TRIM FOR ROOF PILLAR AT REAR**
- Remove **luggage compartment-wheel arch trim cover** . See **51 47 151 REMOVING AND INSTALLING/REPLACING LEFT LUGGAGE COMPARTMENT WHEEL ARCH PANEL** or **51 47 161 REMOVING AND INSTALLING/REPLACING RIGHT LUGGAGE COMPARTMENT WHEEL ARCH PANEL**

Release screw (1).

cardiagn.com



Fig. 508: Identifying Roof Pillar Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Release edge protection (1).

Detach trim panel (3) from clips (2).

Release plug connection of switch for trailer tow hitch/luggage compartment lighting (right) and disconnect.

IMPORTANT: Risk of damage!

Carefully remove trim panel (3) to avoid damaging the headlining.

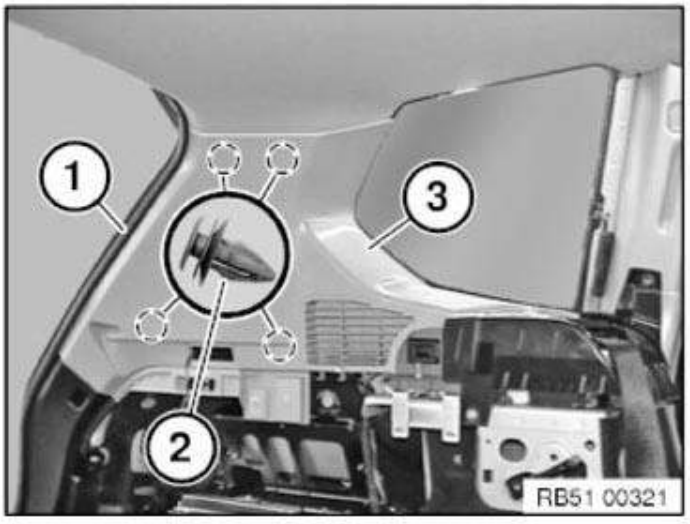


Fig. 509: Identifying Edge Protection, Trim Panel And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Replace faulty clamps (1).

Guide (2) must not be missing or damaged.

Replacement (depending on version):

Convert **SWITCH FOR TRAILER TOW HITCH** .

Reinstall luggage compartment lighting.

cardiagn.com

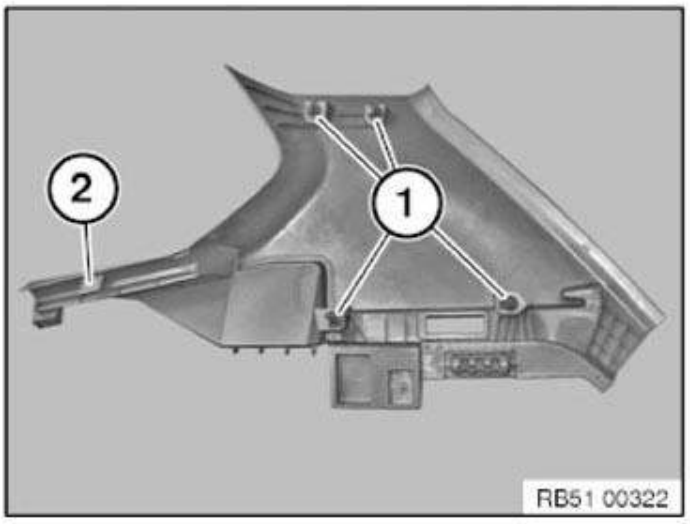


Fig. 510: Identifying Roof Pillar Clamps And Guide
Courtesy of BMW OF NORTH AMERICA, INC.

ROOF TRIM PANEL

51 44 013 REMOVING AND INSTALLING/REPLACING HEADLINING (WITH PANORAMA GLASS ROOF)

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Necessary preliminary tasks:

- Open slide/tilt sunroof
- Remove **SUN VISOR AND COUNTER SUPPORTS** on left and right
- Remove **SWITCH CENTER**
- Remove **INTERIOR ROOF LIGHT**
- Remove all **HANDLES**
- Detach edge protection from all doors in the headlining area
- Remove **TRIM PANEL FOR ROOF PILLAR AT FRONT** (A-pillar) left and right
- Remove **TRIM PANEL FOR DOOR POST** (top), left and right
- **REMOVE** trim panel for rear roof pillar (C-pillar), left and right
- **REMOVE** trim panel for rear roof pillar (D-pillar), left and right

NOTE: Graphic used is similar.

Release 5x screws (1).

cardiagn.com

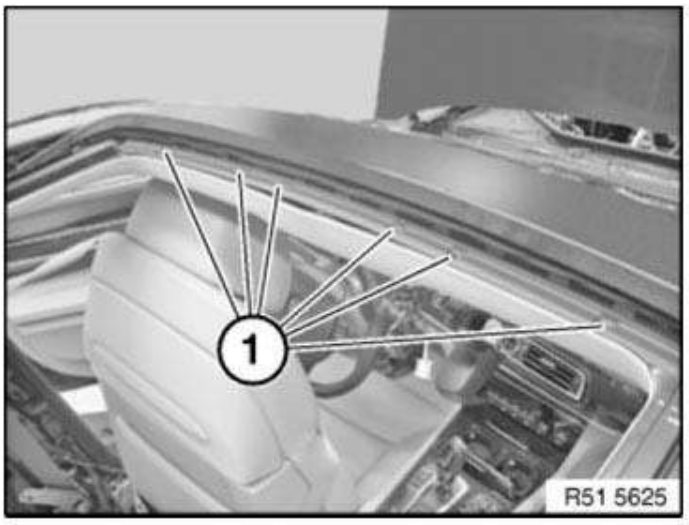


Fig. 511: Identifying Headlining
Courtesy of BMW OF NORTH AMERICA, INC.

Version with dividing net mounts:

Remove all load area net mounts (3).

Open protective cap (1).

Release screw (2) and remove dividing net mounts (3).

Installation note:

Pay attention to position specifications on rear side of dividing net mounts.

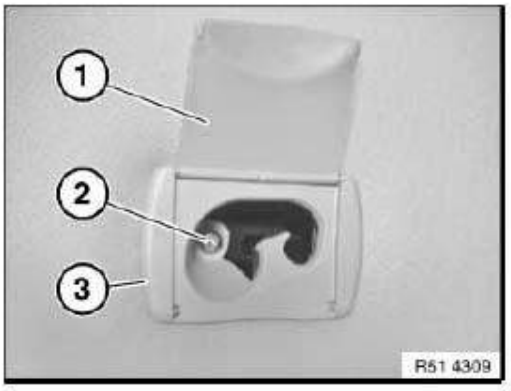


Fig. 512: Identifying Spindle Drive, Net Mounts, Cap And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Headlining (3) bends between B- and C-pillars for kinking.
IMPORTANT: The following tasks must be carried out with a second person assisting:
Support headlining (3) at front/back.

Release expanding rivets (1).

Unclamp clamp (2).

Installation note:

Replace clip (2)

cardiagn.com

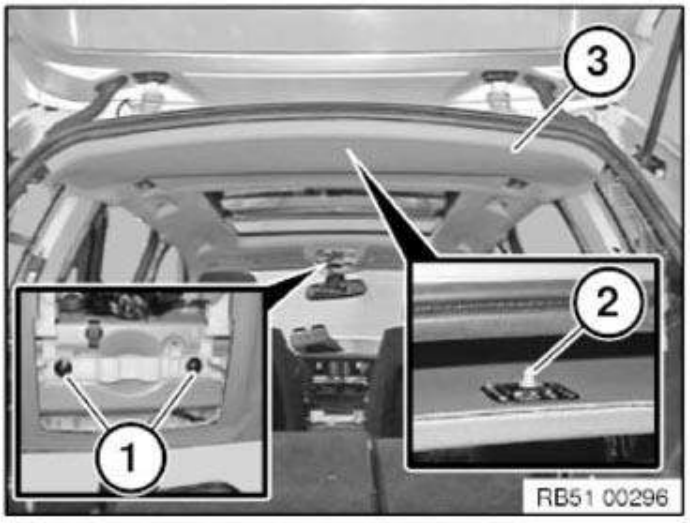


Fig. 513: Identifying D-Pillar, Headlining And Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Support headlining (1) at front/back.

Unclip headlining (1) in marked side area in downward direction (2).

Carefully pull headlining (1) forward until headlining (1) is fed out of remaining clips (2).

Pull down headlining (1).

Installation note:

Unclip rear clips (2) from roof frame.

Replace faulty clips (2).

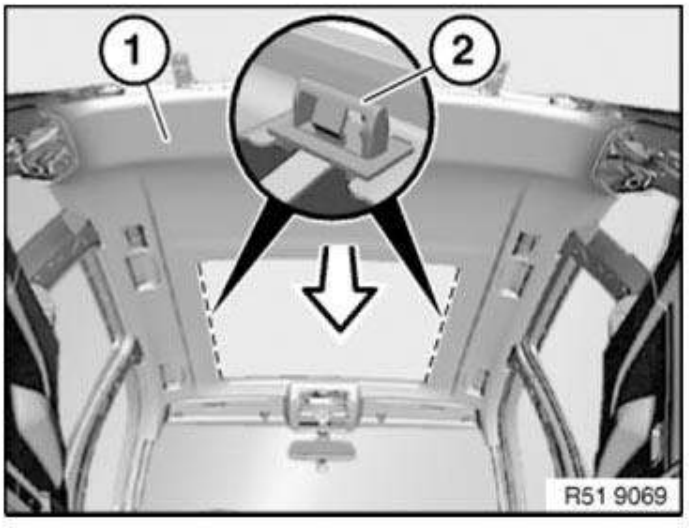


Fig. 514: Pulling Headlining
Courtesy of BMW OF NORTH AMERICA, INC.

Only necessary for complete removal of headlining:

Fold away headlining (1) towards bottom right and remove through tailgate opening.

cardiagn.com



Fig. 515: Identifying Headlining
Courtesy of BMW OF NORTH AMERICA, INC.

Installation sequence:

1. Snap headlining at rear into clip
2. Screw down front headlining
3. Screw down rear headlining
4. Install grab handles at front first, then at rear
5. Screw down sun visors and counter supports
6. Secure edge protection to headlining
7. Fix tailgate gasket on headlining
8. Add final details to vehicle

Replacement:

Version with dividing net mounts:

Cut out premarked openings (1) on left and right with a scalpel.

IMPORTANT: Ensure a clean cut so that the headliner material is not damaged on the inside.

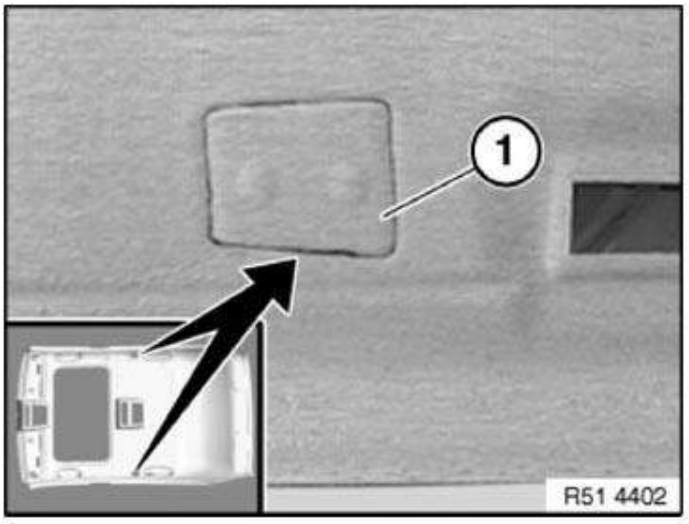


Fig. 516: Identifying Headlining Opening
Courtesy of BMW OF NORTH AMERICA, INC.

51 44 002 REMOVING AND REFITTING (REPLACING) ROOFLINER (VERSION WITHOUT

cardiagn.com

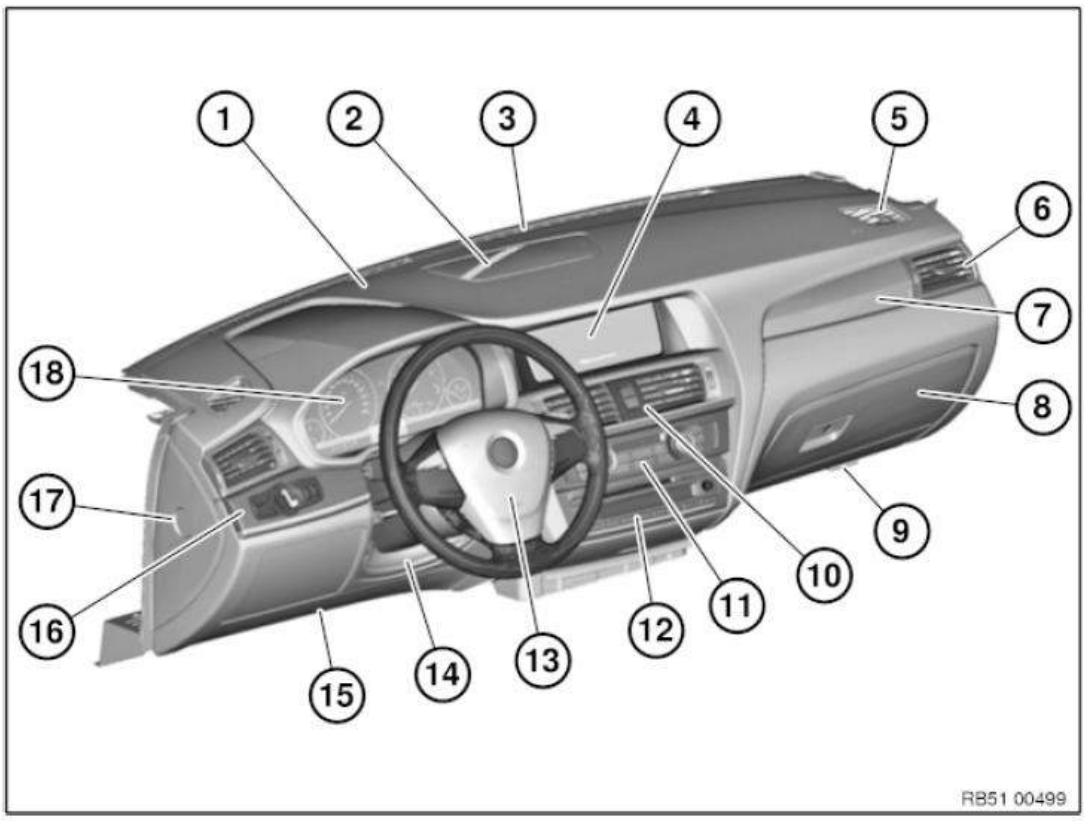
PANORAMIC SUNROOF)

Except for the steps relating to the panoramic sunroof, the work is identical to:

REMOVING AND INSTALLING/REPLACING ROOFLINER (VERSION WITH PANORAMA SUNROOF)

INSTRUMENT CLUSTER TRIM PANEL

51 45.. OVERVIEW OF DASHBOARD



1	Dashboard trim panel	10	Fresh-air grille, middle
2	Speaker carrier, front	11	Control panel for heater/air conditioner
3	Front defrost nozzles (see Replacement of instrument panel trim)	12	Radio receiver
4	Centre console or Central Information Display (CID)	13	Steering wheel
5	Side defrost nozzles (see Replacement of instrument panel trim)	14	Gap cover
6	Left or right fresh air grille	15	Panel for pedals
7	Decorative strip on dashboard, right	16	Decorative strip on dashboard, left
8	Glove box, right	17	Dashboard cover
9	Instrument panel trim, bottom right	18	Instrument panel control unit

Fig. 517: Overview Of Dashboard
Courtesy of BMW OF NORTH AMERICA, INC.

51 45 370 REMOVING AND INSTALLING (REPLACING) LEFT DECORATIVE STRIP ON DASHBOARD

Special tools required:

cardiagn.com

- 00 9 317

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

NOTE: Graphic shows F01.

Carefully remove decorative strip (1) 00 9 317 with special tool and disconnect plug connection behind.

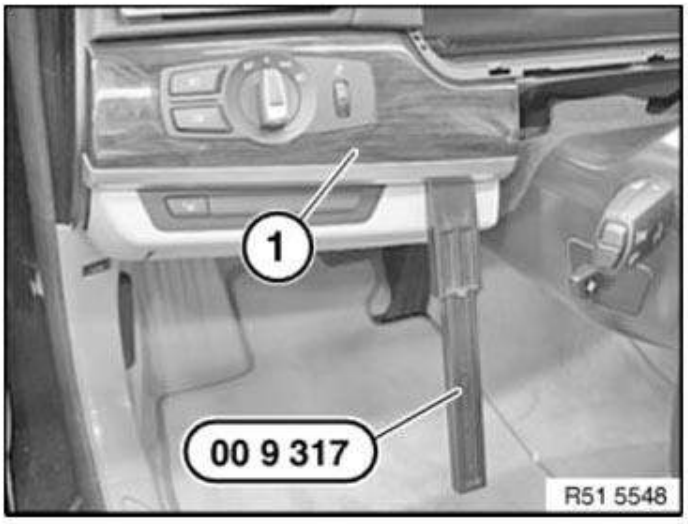


Fig. 518: Removing Decorative Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure clamps (1) are correctly seated on decorative strip (2).

Replace defective clamps.

Replacement

Modify **LIGHT OPERATING UNIT** .

Modify clamps (1).

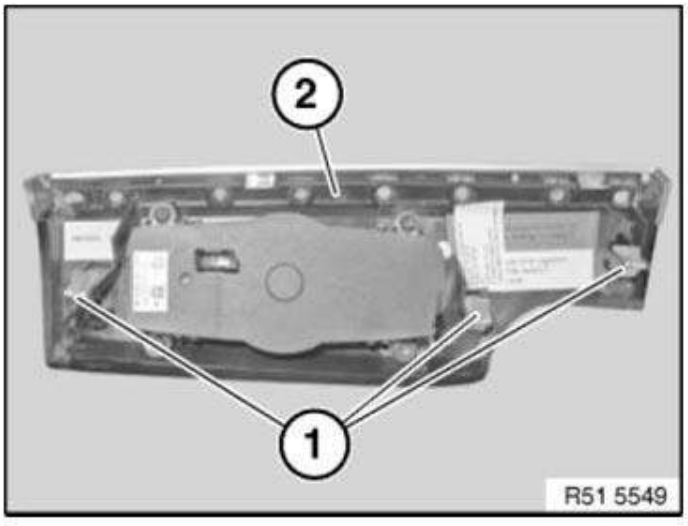


Fig. 519: Identifying Defective Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

51 45 380 REMOVING AND INSTALLING (REPLACING) RIGHT DECORATIVE STRIP ON DASHBOARD

Special tools required:

cardiagn.com

- 00 9 325

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Unclip sides of decorative strip (1) with special tool 00 9 325 .

Then unclip further up toward the middle.

Remove decorative strip (1).

Installation note:

If necessary, replace faulty clamps on back of the decorative strip (1).

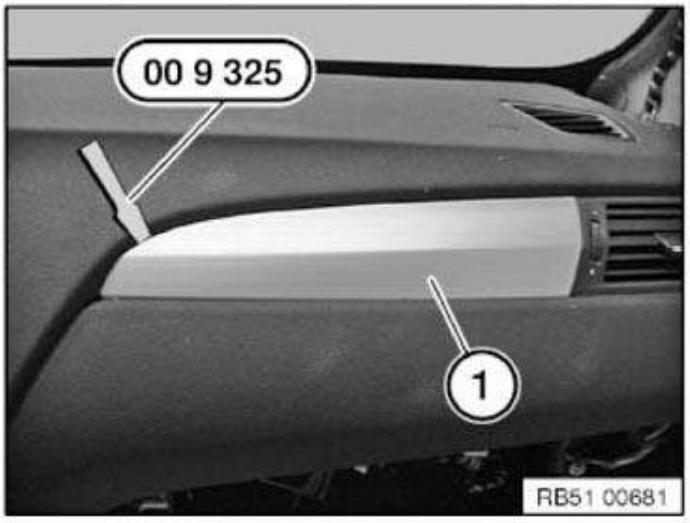


Fig. 520: Removing Decorative Strip Sides Using Special Tool (00 9 325)
Courtesy of BMW OF NORTH AMERICA, INC.

51 45... REMOVING AND INSTALLING/REPLACING LEFT COVER ON INSTRUMENT PANEL

Special tools required:

- 00 9 325

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Pull off seal (1) in the area of the instrument panel cover (2).

Unclip instrument panel cover (2) at the side, as illustrated, using special tool 00 9 325 .

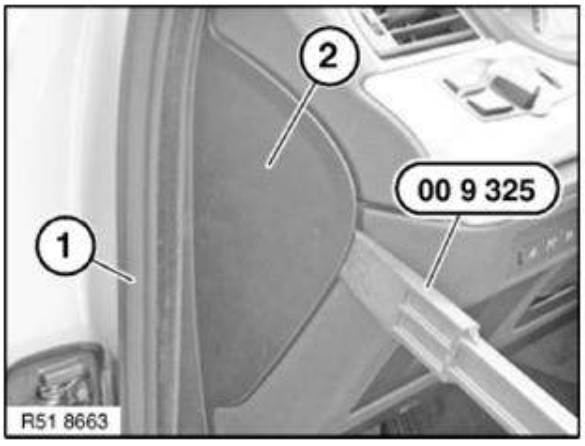


Fig. 521: Removing Instrument Panel Cover
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Different versions:

Graphic A shows cover version up to 12/2009

Graphic B shows cover version from 12/2009

Installation note:

Retaining tabs on cover (1) or (1) and (2) must not be damaged or missing.

Replacement

Only applies to F07 up to 12/2009

As only the new version of the cover (Graphic B) is obtainable from the BMW Parts Department, remove retaining tab (2) before fitting as shown in Graphic A.

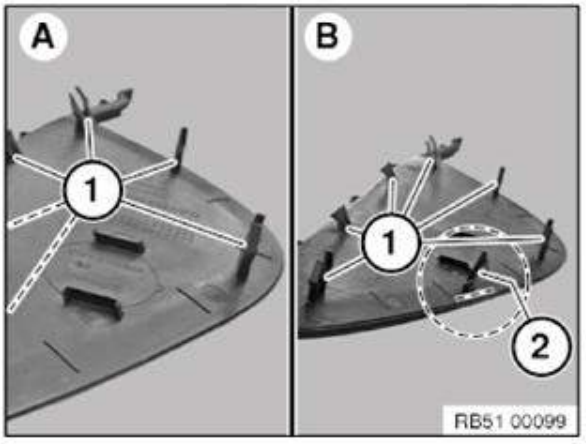


Fig. 522: Identifying Instrument Panel Cover Retaining Tab
Courtesy of BMW OF NORTH AMERICA, INC.

51 45 030 REMOVING AND INSTALLING INSTRUMENT PANEL TRIM

NOTE: **Observe the following instructions to facilitate removal of the instrument panel trim:**

- **Move front seats back completely and lower**
- **Move steering column into "lower" and "extended" position**

Necessary preliminary tasks:

- Remove **TRIM PANELS FOR ROOF PILLAR AT FRONT**
- Remove **STEERING-COLUMN SWITCH CLUSTER**
- Remove **steering column shroud upper section/lower section** . See **32 31 003 REMOVING AND INSTALLING/REPLACING UPPER SECTION OF STEERING COLUMN SHROUD** or **32 31 020 REMOVING AND INSTALLING/REPLACING LOWER SECTION OF STEERING COLUMN SHROUD**
- Remove **INSTRUMENT CLUSTER**
- Remove **RADIO AND IHKA CONTROLS**
- Remove **LIGHT OPERATING UNIT**
- **CENTRAL INFORMATION DISPLAY**
- Remove **RIGHT GLOVE BOX WITH HOUSING**
- Remove **COMPLETE CENTER CONSOLE**
- Remove **trim panel for pedal mechanism** . See **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (ECE ONLY)** or **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (US ONLY)**

cardiagn.com

- In appropriate version:
  - Remove **COVER FOR HEAD-UP DISPLAY**

NOTE: **Shown removed here for purposes of clarity. Wiring harness is therefore not included in graphic.**

Disconnect plug connection (1) from front passenger airbag unit.

(Observe notes regarding **AIRBAG PLUG CONNECTIONS**).

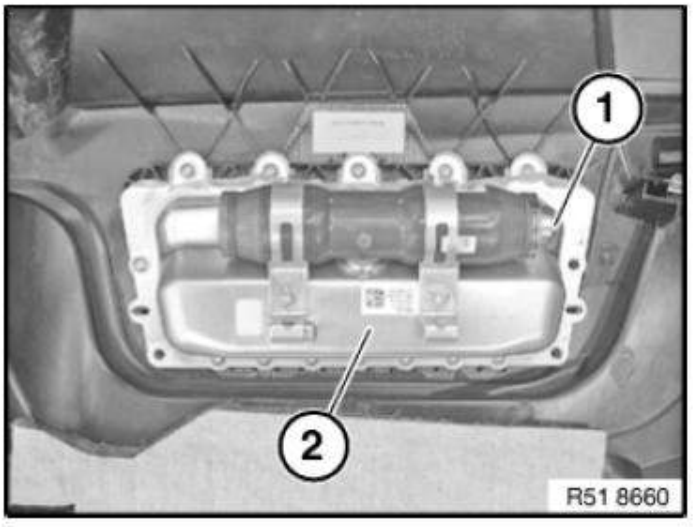


Fig. 523: Identifying Front Passenger Airbag Unit Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

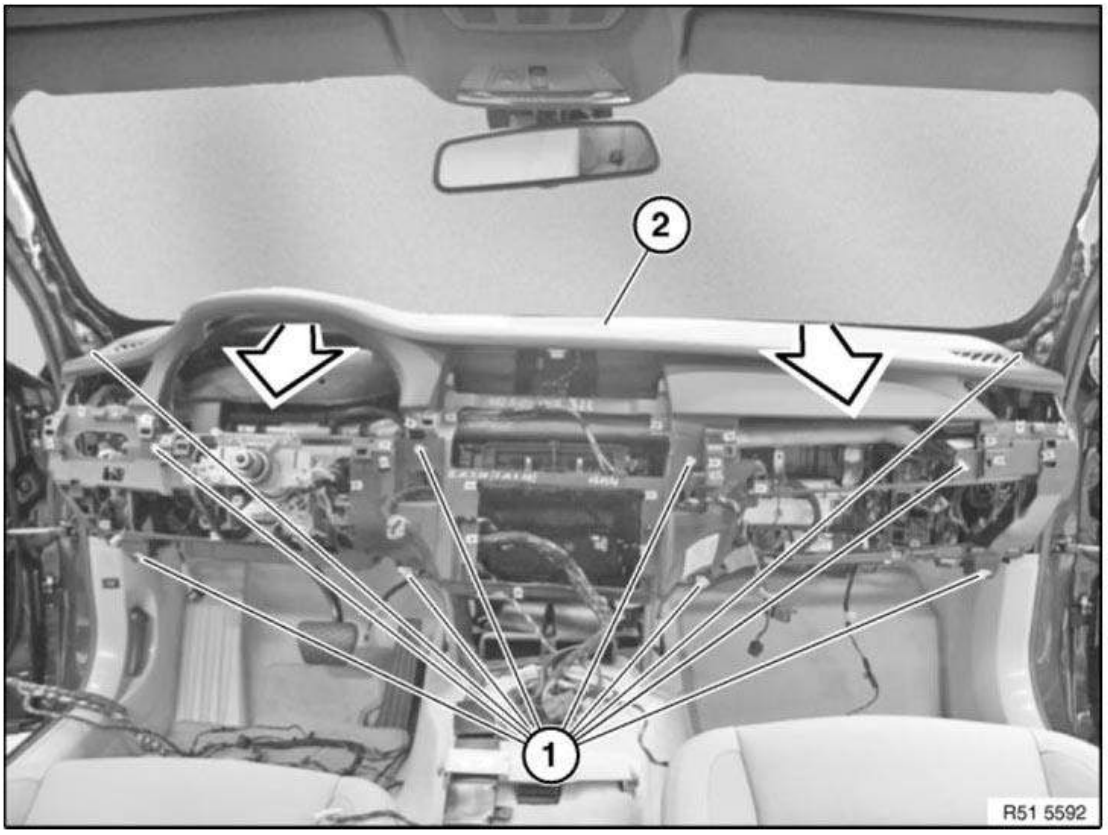


Fig. 524: Disconnecting Plug Connection From Front Passenger Airbag Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

Tightening torque **51 45 5AZ** .

cardiagn.com

Pull back instrument panel trim (2) and remove in direction of arrow.

Unlock plug connections behind and disconnect.

Installation note:

Make sure guides (1) on instrument panel trim (2) are correctly seated in respective mountings.

Make sure gaskets are correctly seated on air ducts.

Make sure electrical leads are correctly laid.

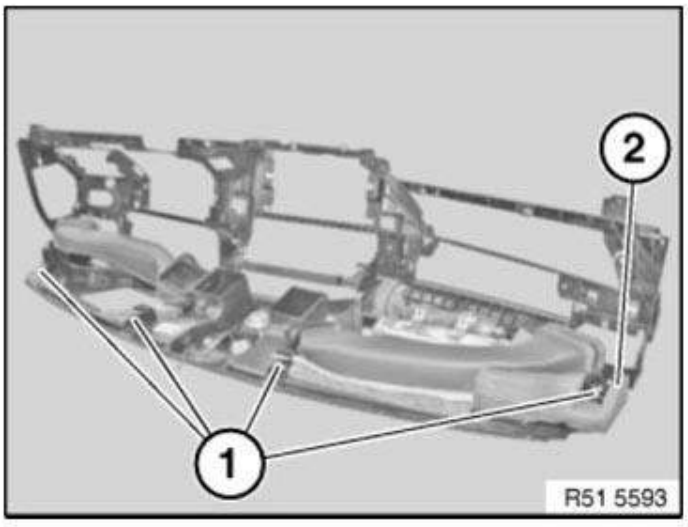


Fig. 525: Identifying Instrument Panel Trim Guides
Courtesy of BMW OF NORTH AMERICA, INC.

51 45 075 REMOVING AND INSTALLING/REPLACING CARRIER FOR INSTRUMENT PANEL

Necessary preliminary tasks:

- Remove **INSTRUMENT PANEL TRIM**
- Remove **STEERING COLUMN**
- Release plug connections.

Version with Head-Up Display:

- **REMOVE HEAD-UP DISPLAY**

Undo bolts (1) on bulkhead.

Tightening torque **51 45 8AZ** .

cardiagn.com

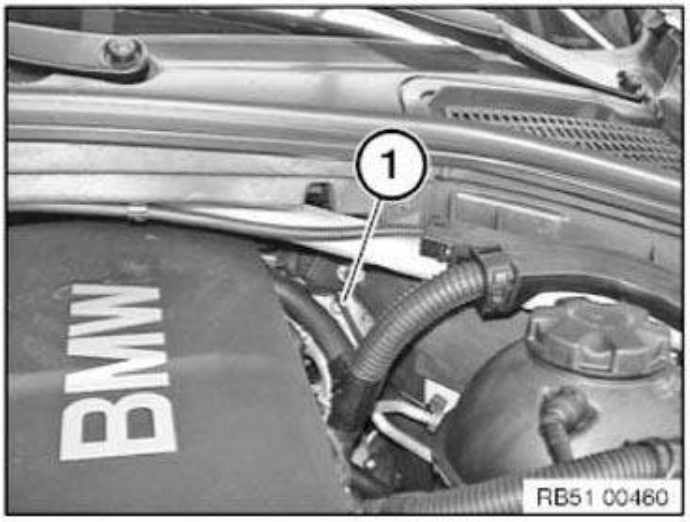


Fig. 526: Identifying Bulkhead Bolts
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Seal (1) between carrier and bulkhead must not be damaged or missing.

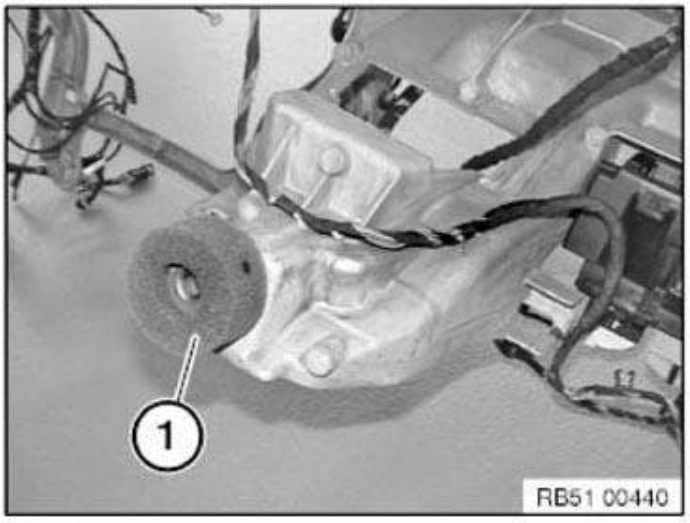


Fig. 527: Identifying Between Carrier And Bulkhead Seal
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

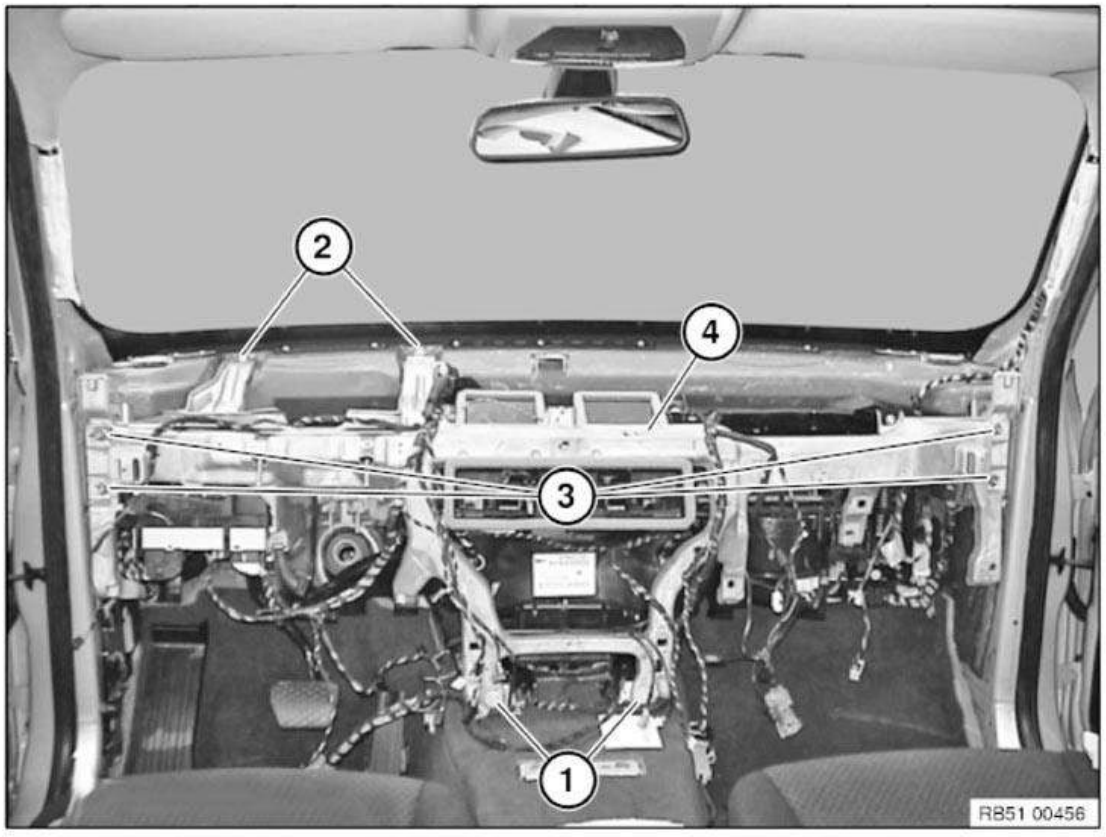


Fig. 528: Identifying A-Pillar Nuts And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) on tunnel.

Tightening torque **51 45 3AZ** .

Loosen screws (2) by approx. 2 turns.

Tightening torque **51 45 3AZ** .

Release nuts (3) on A-pillar.

Tightening torque **51 45 2AZ**

Remove dashboard support and feed out through driver's door.

Replacement:

Remount wiring harness (1) on support (2).

cardiagn.com

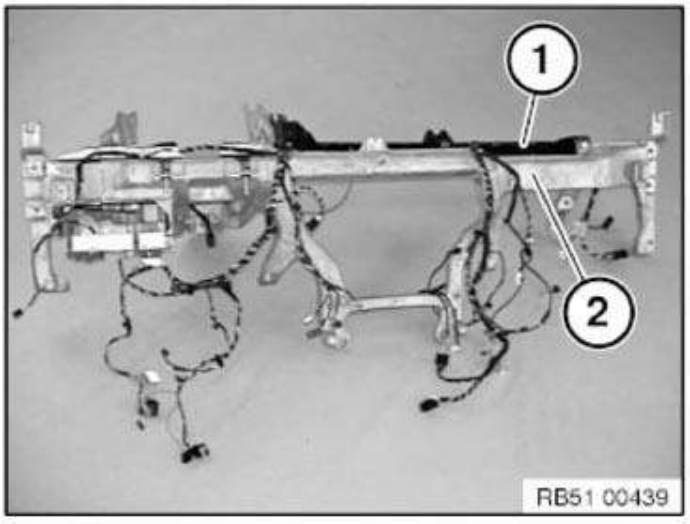


Fig. 529: Identifying Dashboard Support Wiring Harness
Courtesy of BMW OF NORTH AMERICA, INC.

51 45 195 REMOVING AND INSTALLING/REPLACING INSTRUMENT PANEL TRIM, BOTTOM RIGHT

Release screws (1).

Firstly push trim panel (2) forward and then loosen from guides in area (3).

Lower front trim panel (2) a little and then pull off from guide in area (4) to the rear.

Disconnect plug connections behind and remove trim panel (2).

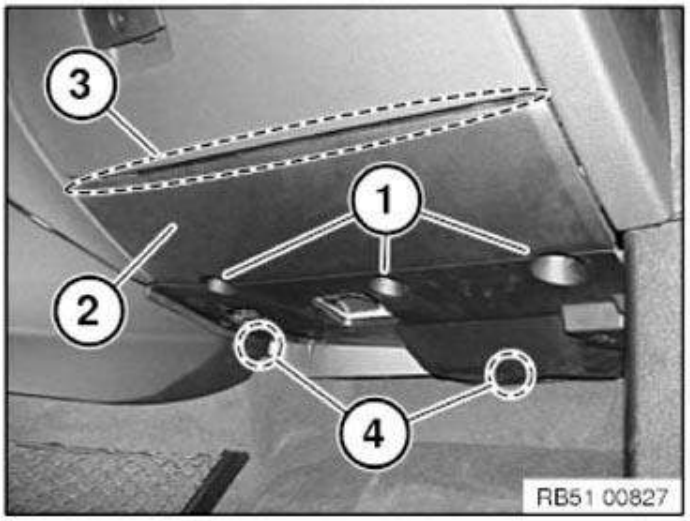


Fig. 530: Identifying Front Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms (1) and guides (2) must not be damaged.

Replacement

Modify **FOOTWELL LIGHT** .

cardiagn.com

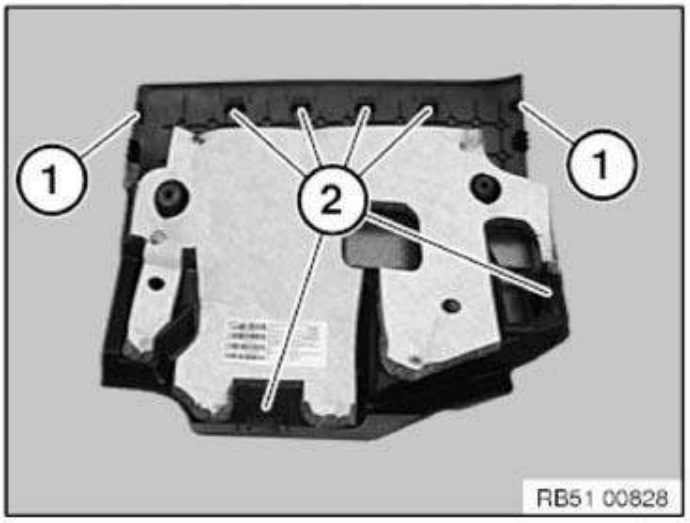


Fig. 531: Identifying Instrument Panel Trim Latch Mechanisms And Guides
Courtesy of BMW OF NORTH AMERICA, INC.

51 45 385 REMOVING AND INSTALLING/REPLACING MIDDLE DECORATIVE STRIP ON INSTRUMENT PANEL

IMPORTANT: Risk of damage!

A hard disk is installed in the Car Information Computer (CIC).

Carry out mechanical work on the CIC and adjacent components with care.

Avoid subjecting the CIC to vibration/shocks.

Unclip trim strip (1) at marked points.

If necessary, replace defective clips.

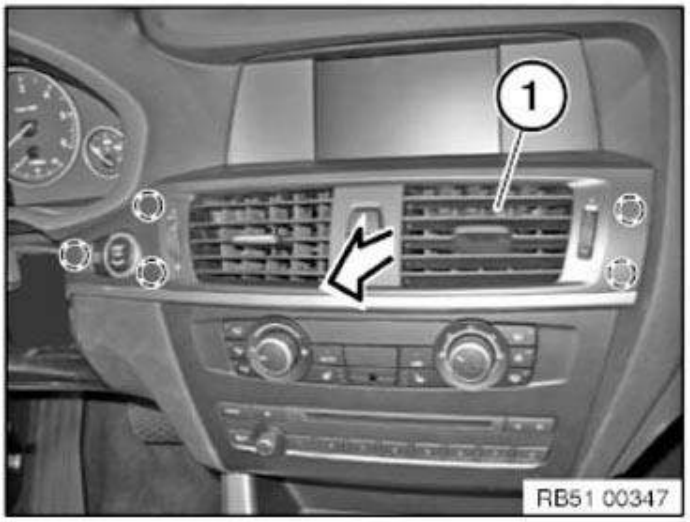


Fig. 532: Removing Instrument Panel Trim Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock plug connections (1) and (2) and disconnect.

Remove decorative strip (3).

cardiagn.com

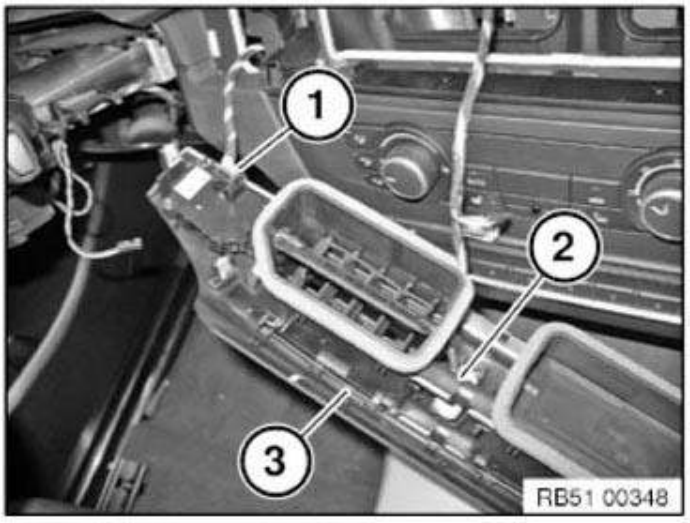


Fig. 533: Identifying Decorative Strip Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (ECE ONLY)

Release screws (1).

Release screw (3).

Fold back console trim (4).

Lower panel (2) slightly and disconnect plug connections behind.

Remove trim panel (2).

Replacement:

- Remove **FOOTWELL LIGHT**
- Remove **SPEAKER FOR HANDS-FREE SYSTEM**

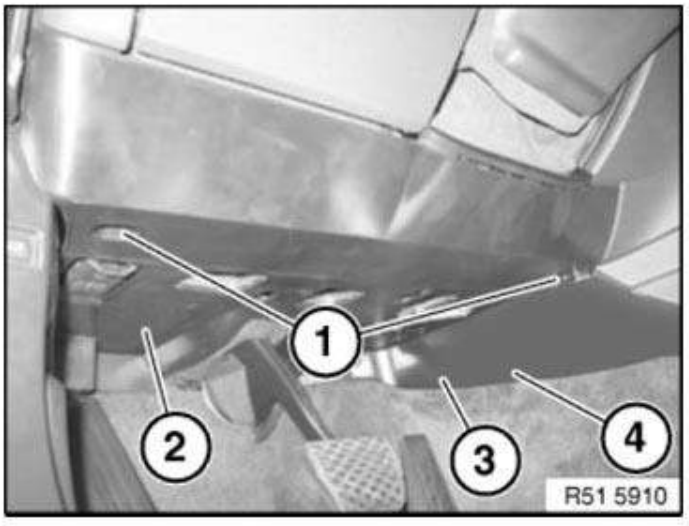


Fig. 534: Identifying Back Console Trim, Lower Panel And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (US ONLY)

WARNING: **Read and comply with SAFETY REGULATIONS for handling airbag modules and**

cardiagn.com

pyrotechnical belt tensioners.

Operations on pyrotechnical devices may only be carried out by authorized experts.
IMPORTANT: Improper, unauthorized operations may result in serious dangers.
Unauthorized persons are strictly prohibited from performing any operations on this system.

Clamp off battery lead from negative connection point

US only:

Release screws (1).

Installation note:

Replace screws.

Tightening torque **51 45 4AZ** .

Release screw (3).

Fold back console trim (4).

Lower panel (2) slightly and disconnect plug connections behind.

Remove trim panel (2).

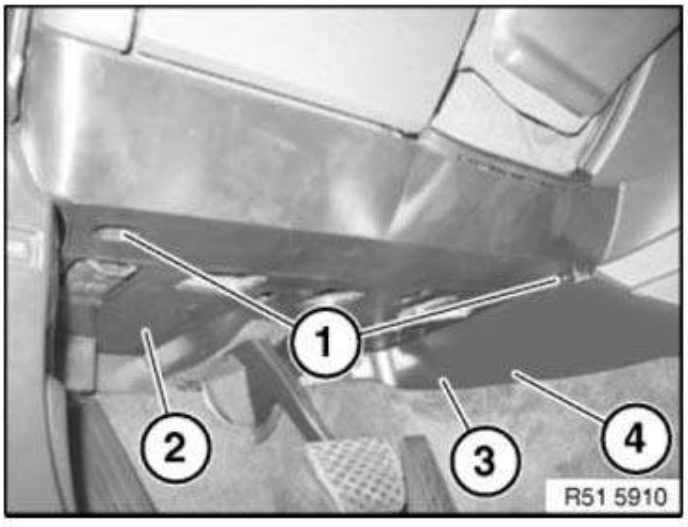


Fig. 535: Identifying Back Console Trim, Lower Panel And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

- Remove **FOOTWELL LIGHT**
- Remove **SPEAKER FOR HANDS-FREE SYSTEM**
- Remove airbag module

51 45 460 REMOVING AND INSTALLING/REPLACING UPPER INSTRUMENT PANEL STORAGE COMPARTMENT

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary work:

- Remove **DECORATIVE STRIP ON DASHBOARD IN MIDDLE**

Release screws (2) on storage compartment (1).

cardiagn.com

Tightening torque **51 16 16AZ** .

Remove storage compartment (1).

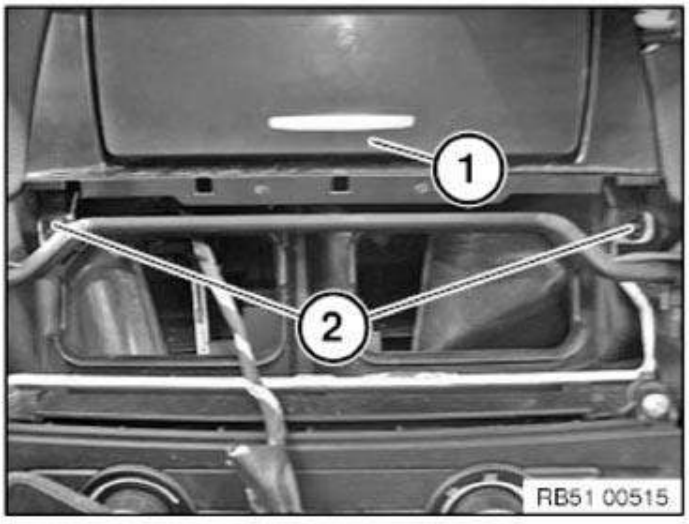


Fig. 536: Identifying Storage Compartment Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 45 069 REPLACE THE DECORATIVE TRIM OF THE CONTROL PANEL

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary work:

- Remove **RADIO**

Disconnect plug connection (1).

Unlock latch mechanisms (3) on the IHKA controls (2) by pressing the retaining tabs (3) inward with a suitable tool.

At the same time, press the IHKA controls (2) forward out of the holder frame and remove.

Installation note:

The IHKA control (2) must be felt and heard to engage in the retaining frame.

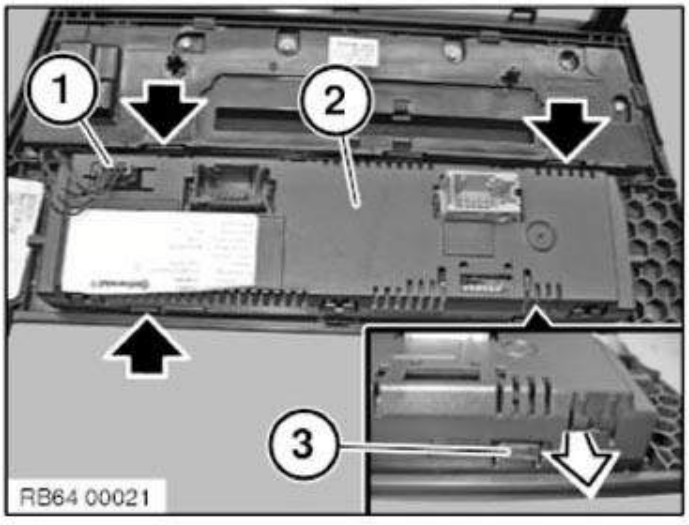


Fig. 537: Locating IHKA Controls Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

Retaining lugs on trim cover (1) must not be damaged.

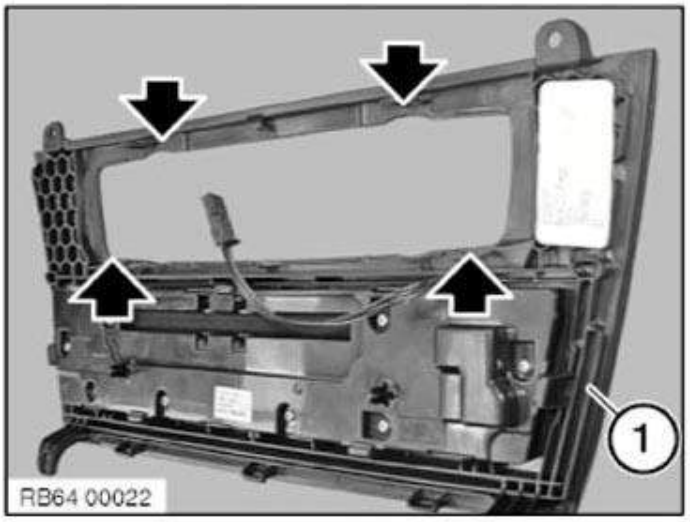


Fig. 538: Locating Trim Cover Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock the retaining tabs (3) in the lower and side area of the radio control panel.

Remove radio control panel (1) from trim (4).

Installation note:

Retaining lugs (3) must not be damaged or missing.

Radio control panel (1) must noticeably and audibly engage in trim (4).

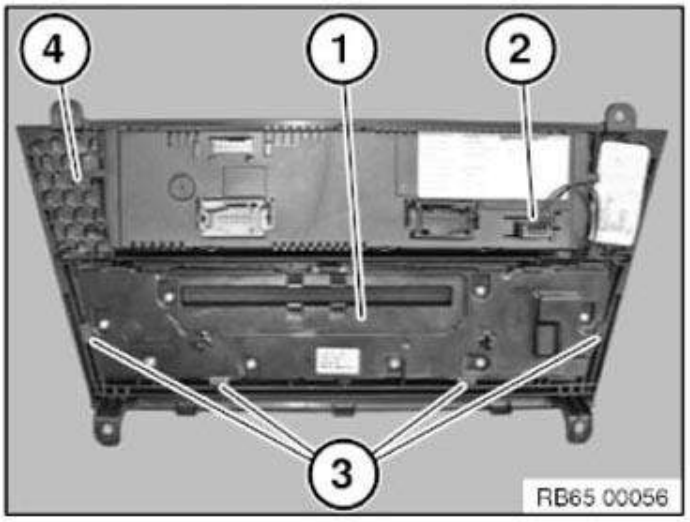


Fig. 539: Identifying Radio Control Panel Trim And Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

51 45 031 REPLACING INSTRUMENT PANEL TRIM

When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary tasks:

- Remove **INSTRUMENT PANEL TRIM**

cardiagn.com

- If necessary, remove **FRESH AIR VENT ON LEFT AND RIGHT**
- **REMOVE** decorative strip on dashboard on right

Release screws (1).

Tightening torque **72 12 1AZ** .

Installation note:

Replace screws (1).

Remove airbag module (2) from dashboard.

Release screws (3) from the right-hand fresh-air duct (4).

Detach right fresh-air duct (4).

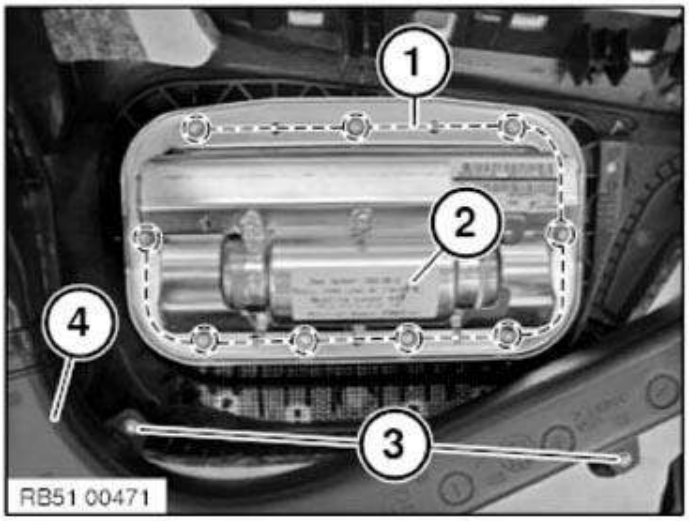


Fig. 540: Identifying Airbag Module, Air Duct And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) from fresh-air duct (2).

Detach fresh-air duct (2).

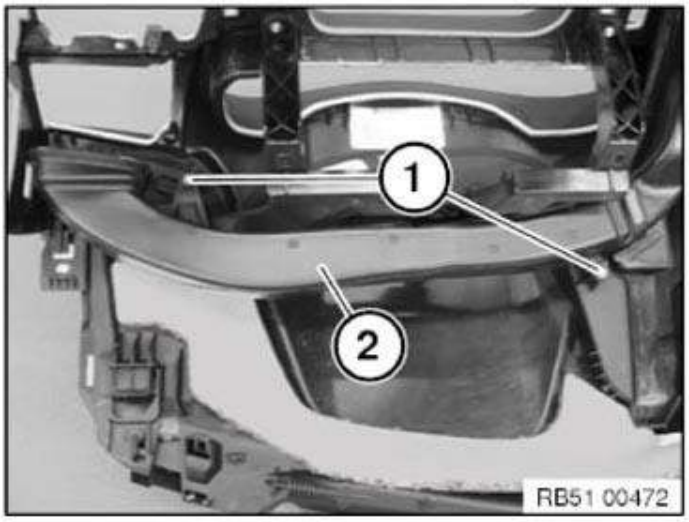


Fig. 541: Identifying Fresh-Air Duct Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Slightly bend side of frame for gap cover (1) inwards and first feed out top and bend bottom of gap cover (1) and place

cardiagn.com

to one side.

With radio basic version:

Radio basic version does not fit in function carrier on new instrument panel.

Undo screws (3) from units carrier (2).

Feed out function carrier (2) and install in new instrument panel.

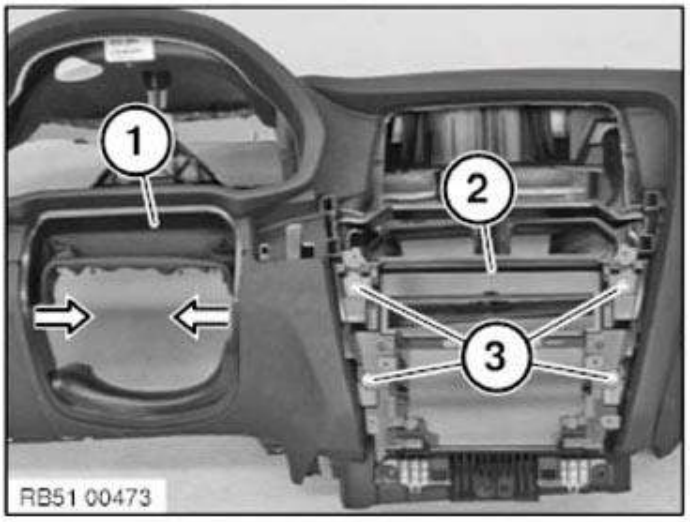


Fig. 542: Pressing Instrument Panel Trim Gap Cover
Courtesy of BMW OF NORTH AMERICA, INC.

With radio basic version:

If an instrument panel built before 04/2014 is replaced by one built after 04/2014, the replacement must be reworked in the marked area (for dimensions see next operation).

Distinguishing feature:

A. version before 04/2014, mounting of function carrier by clamp (1)
B. version after 04/2014, mounting of function carrier by screw (2)

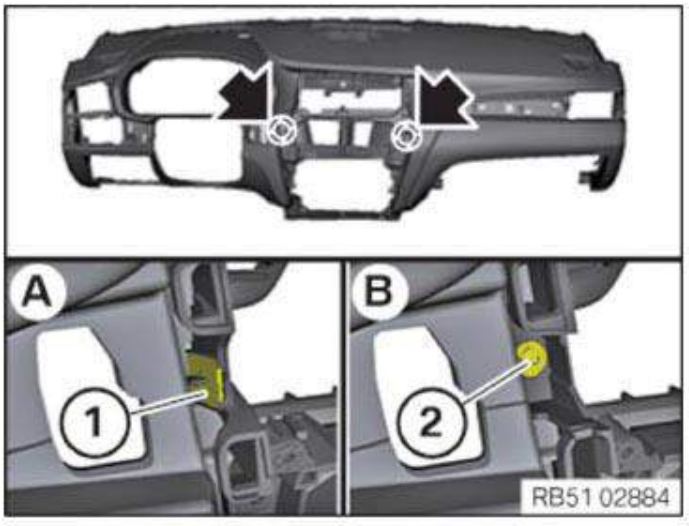


Fig. 543: Locating Instrument Panel Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Mark and cut out instrument panel as per dimensions a to d.

cardiagn.com

Left side		Right side	
a_1	10 mm	a_2	7 mm
b_1	13 mm	b_2	10 mm
c_1	22 mm	c_2	22 mm
d_1	11 mm	d_2	11 mm

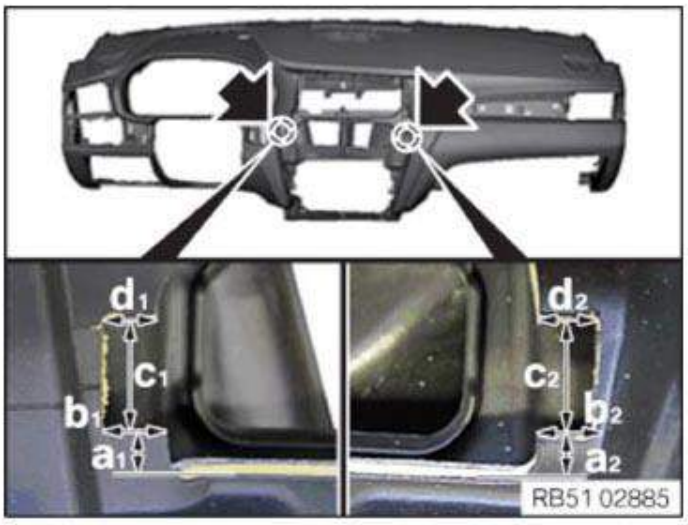


Fig. 544: Locating Instrument Panel Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

In order for the ventilation grille to be correctly fitted, the gap dimension (x and y) between the function carrier and the dashboard trim panel must be correctly adjusted.

Press the function carrier in direction of arrow and tighten the screws (1 to 4) (note the tightening sequence).

Check gap dimension (x and y), re-align function carrier if necessary.

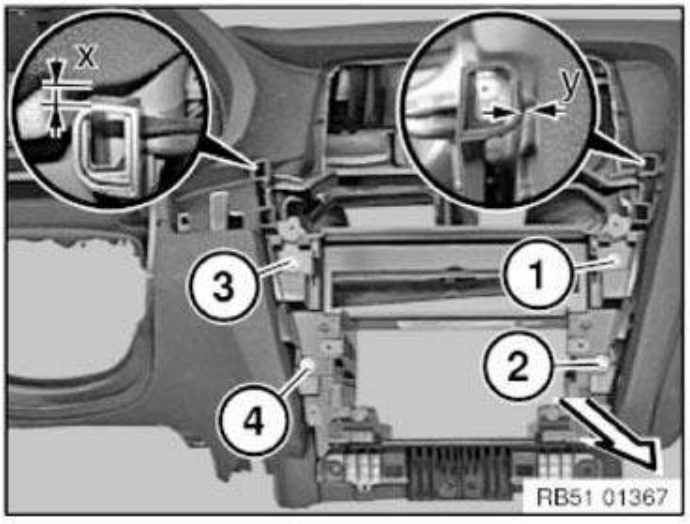


Fig. 545: Pressing Function Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

(x) = 2 mm

(y) = 0^{+1} mm

Remove all C-clip nuts (4) from dashboard (1).

cardiagn.com

Remove right defrost outlet (2) from dashboard before left defrost outlet (2).

Proceed as follows:

- Detach all retaining hooks (3) at front.
- Starting from the outside and working inwards, lever out the front of the defrost outlet (2) and detach.

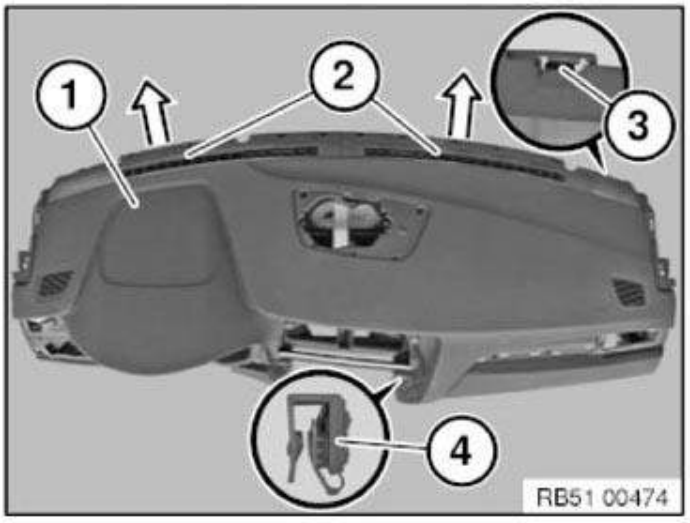


Fig. 546: Detaching Instrument Panel Trim Retaining Hooks
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

All latch mechanisms or retaining elements (2) on the defrost outlet (1) must neither be damaged nor missing.

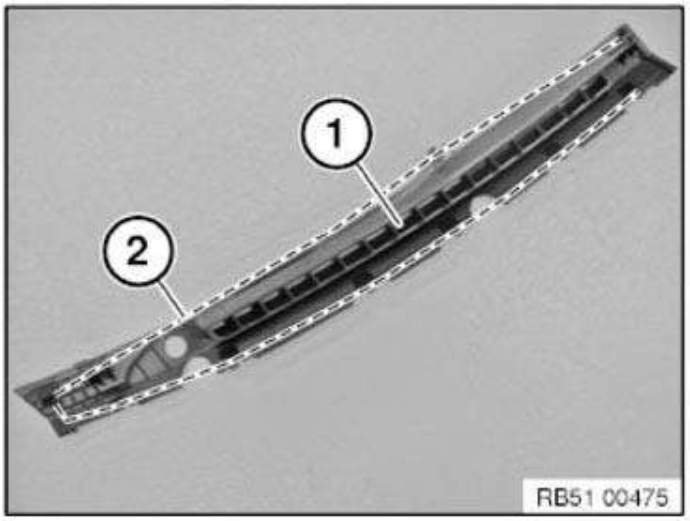


Fig. 547: Identifying Defrost Outlet Retaining Elements
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out rear of side defrost outlet (1) as shown and pull out at an upward angle.

Repeat process for right side defrost outlet (1).

cardiagn.com

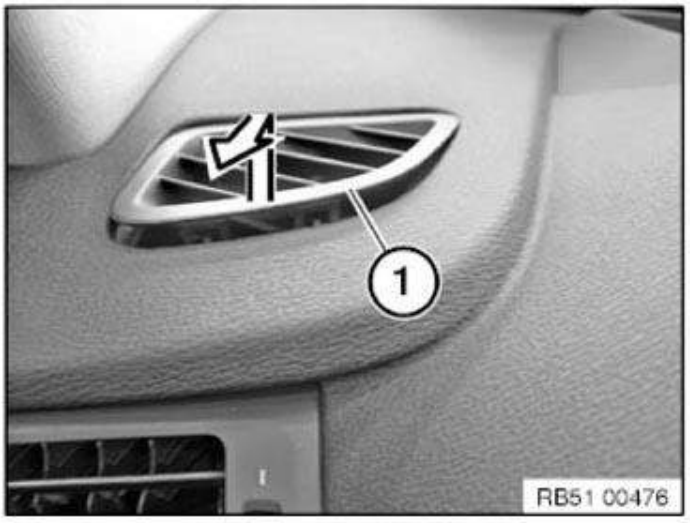


Fig. 548: Removing Defrost Outlet
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms (2) on defrost outlet (1) must not be damaged or missing.

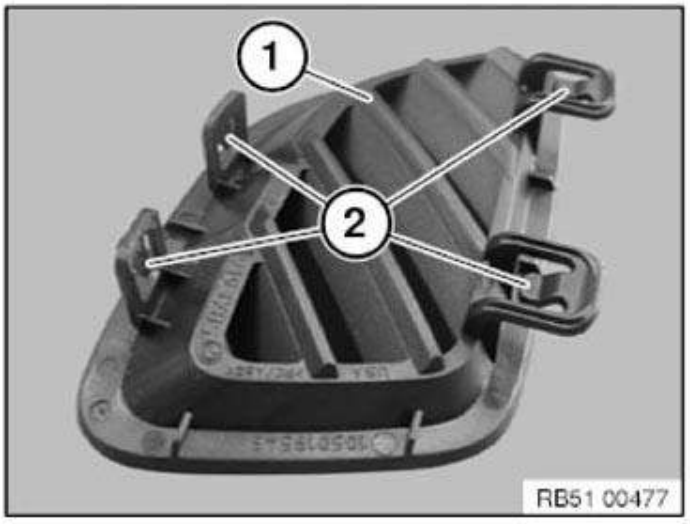


Fig. 549: Identifying Defrost Outlet Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

51 45... REPLACING RESILIENT SEALING TAPE FOR INSPECTION GLASS IN WINDSCREEN (ADDITIONAL WORK)

Remove strip of resilient sealing tape (2) above stamp area for VIN number (3).

Installation note:

Length of resilient sealing tape (2) = 100 mm

cardiagn.com

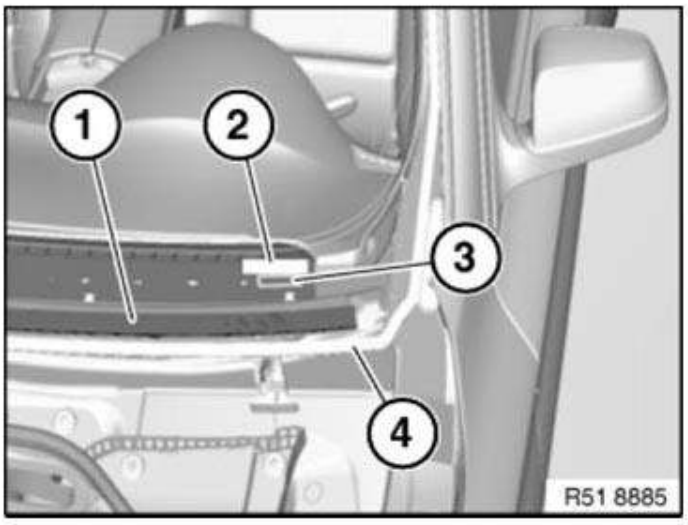


Fig. 550: Identifying VIN Number And Sealing Tape
Courtesy of BMW OF NORTH AMERICA, INC.

PARCEL SHELF TRIM PAN./ROLLER SUN BLIND

51 46 050 REMOVING AND INSTALLING/REPLACING TOP COVER ON TAIL PANEL

Special tools required:

- 00 9 325

Necessary preliminary tasks:

- Remove LUGGAGE COMPARTMENT FLOOR TRIM PANEL (luggage compartment mat)
- Remove **flap in luggage compartment trim panel** . See 51 47 173 REMOVING AND INSTALLING/REPLACING FLAP IN LUGGAGE COMPARTMENT TRIM ON LEFT or 51 47 171 REMOVING AND INSTALLING/REPLACING FLAP IN LUGGAGE COMPARTMENT TRIM ON RIGHT on left/right

Undo screw (1), release expanding rivets (2) and remove storage compartment.

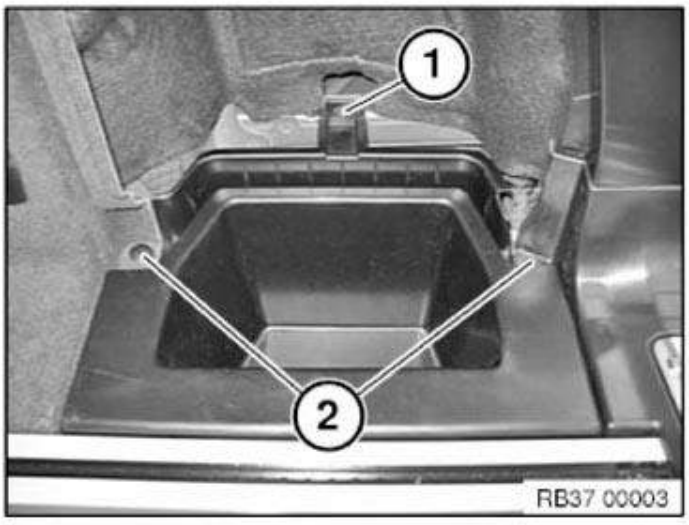


Fig. 551: Identifying Tail Panel Rivets And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Detach trim panel (1) from clip (2).

Pull trim panel (1) inward slightly and release expanding rivet (3).

cardiagn.com

Installation note:

Renew faulty clip (2) and expanding rivet (3).

Make sure edge protection (4) is correctly seated.

NOTE: Carry out work on the right side in the same way as for the left side illustrated here.

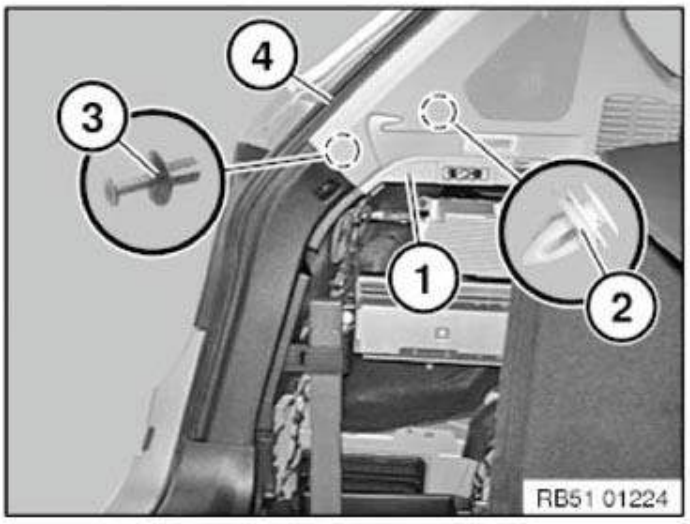


Fig. 552: Identifying Trim Panel, Clip And Expanding Rivet
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Detach trim panel (2) from clips (3).

Pull trim panel for roof pillar (5) inward slightly and feed out trim panel (2).

Installation note:

Replace faulty clips (3).

Make sure edge protection (4) is correctly seated.

NOTE: Carry out work on the right side in the same way as for the left side illustrated here.

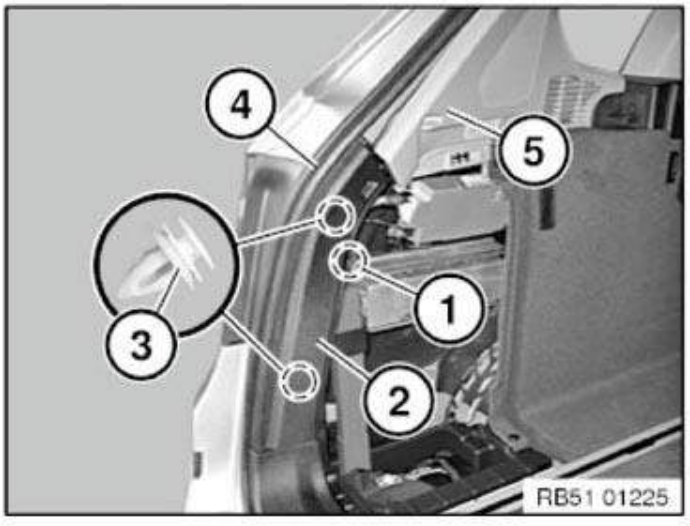


Fig. 553: Identifying Roof Pillar Trim Panel Clips And Edge Protection
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Lift out cover (1) with special tool **00 9 325** .

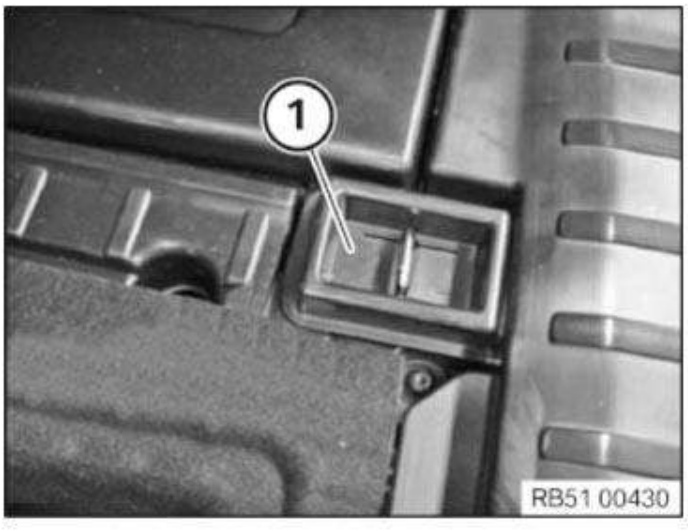


Fig. 554: Identifying Tail Panel Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) on left/right.

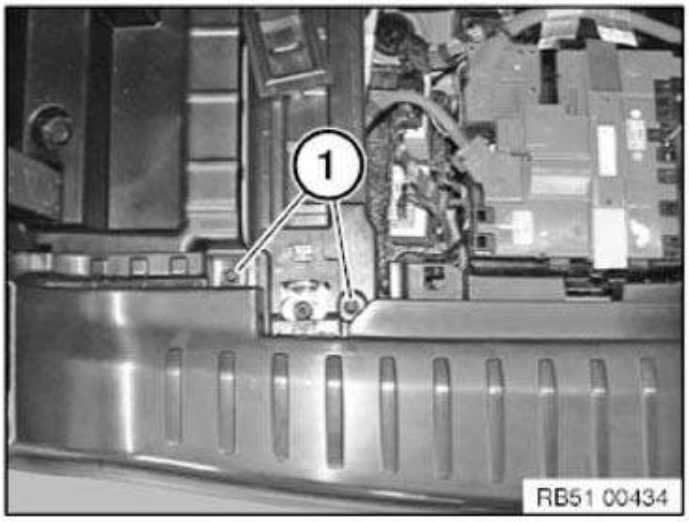
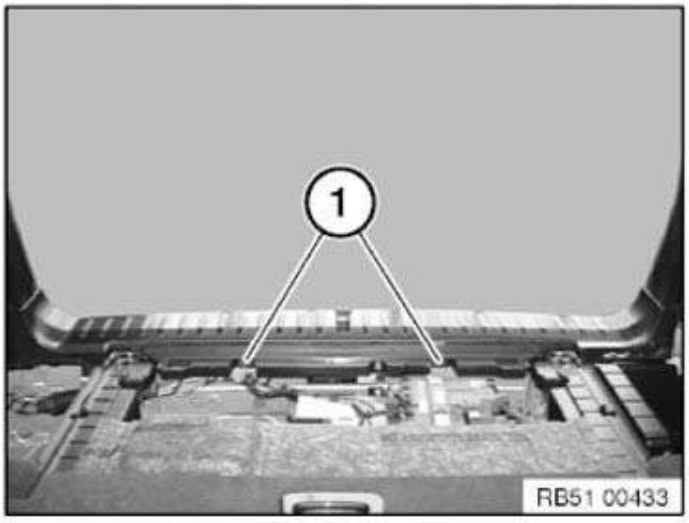


Fig. 555: Identifying Tail Panel Cover Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).



cardiagn.com

Fig. 556: Identifying Tail Panel Cover Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Detach edge guard for rear lid (2) in marked area of cover (1).

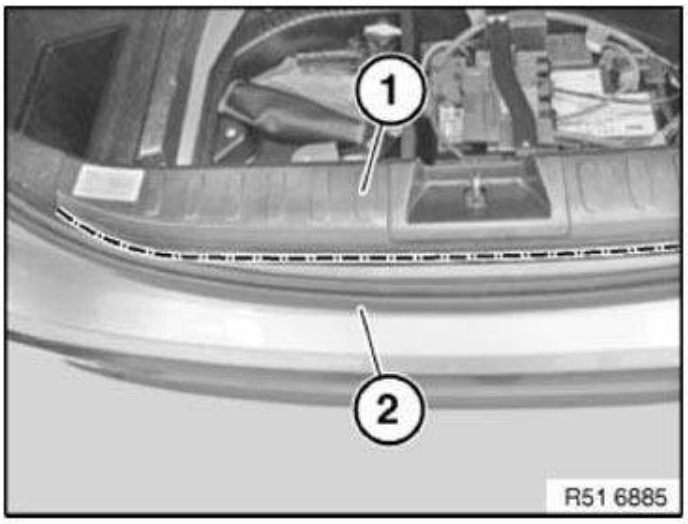


Fig. 557: Identifying Rear Lid Edge Guard
Courtesy of BMW OF NORTH AMERICA, INC.

Lever off cover (1) straight up from retaining clips (2).

Installation note:

Replace faulty retaining clips (2).

Retainers for tail panel (arrow) cover must not be damaged.

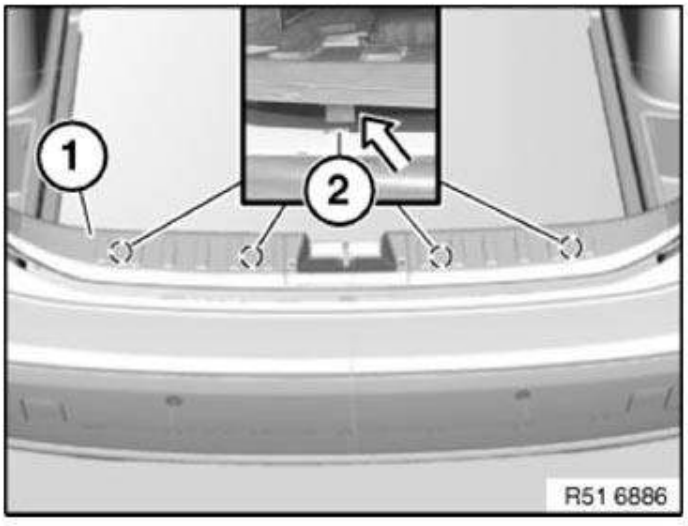


Fig. 558: Removing Tail Panel Retaining Clips
Courtesy of BMW OF NORTH AMERICA, INC.

FLOOR-LUGGAGE COMPARTMENT-ENGINE COMPARTMENT. TRIM PANELS

51 47... REMOVE AND INSTALL/REPLACE THE MOUNTING FOR THE LEFT ROLLER COVER FOR THE LUGGAGE COMPARTMENT

Necessary preliminary tasks:

- Remove **PANEL FOR ROOF PILLAR** at rear (D-pillar)

cardiagn.com

NOTE: **Mark the lock position prior to removal.**

Release screws (1) from lock (2).

Tightening torque **51 47 16AZ** .

Remove the lock (2).

Installation note:

Tighten the lock at the marked position.

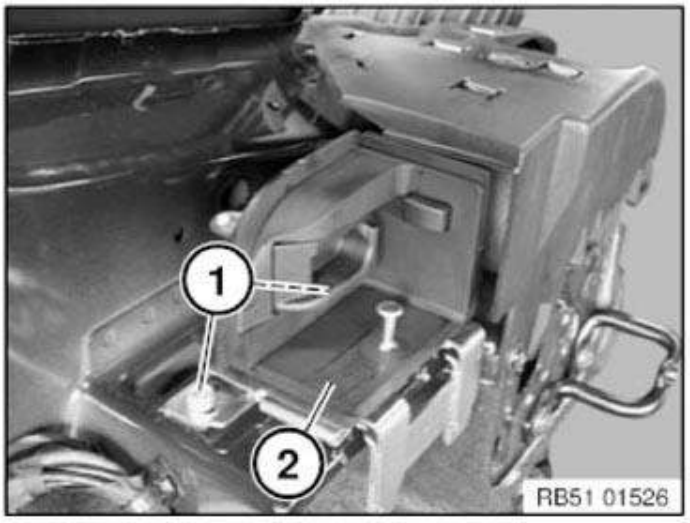


Fig. 559: Identifying Luggage Compartment Screw And Lock
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 315 REMOVING AND INSTALLING/REPLACING FRONT CARPET FOR PASSENGER COMPARTMENT

Necessary preliminary tasks:

- Remove **BOTH FRONT SEATS**
- Remove **complete accelerator pedal module** . See **35 40 001 REMOVING AND INSTALLING OR REPLACING ACCELERATOR PEDAL MODULE** or **35 40 001 REMOVING AND INSTALLING OR REPLACING ACCELERATOR PEDAL MODULE**
- Remove **CENTER CONSOLE**.
- Remove **trim panel for pedal mechanism** . See **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (ECE ONLY)** or **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (US ONLY)**
- **REMOVE** lower trim from instrument panel
- Remove **cover for central bass speaker** . See **65 12 053 REMOVING AND INSTALLING/RENEWING CENTRAL BASS SPEAKER - PASSENGER'S SIDE - (UNDER FRONT SEAT)** or **65 12 051 REMOVING AND INSTALLING/RENEWING CENTRAL BASS SPEAKER -DRIVER'S SIDE- (UNDER FRONT SEAT)** left/right
- Remove front left/right **footwell side trim panel** . See **51 43 070 REMOVING AND INSTALLING/REPLACING SIDE TRIM PANEL, FOOTWELL, ON A-PILLAR, LEFT** or **51 43 075 REMOVING AND INSTALLING/REPLACING SIDE TRIM PANEL, FOOTWELL, ON A-PILLAR, RIGHT**

IMPORTANT:
Risk of damage!
Pay attention to cables when cutting.
Start cuts towards center of vehicle as far as is possible. This guarantees that cutting edges are covered by storage compartment and/or dashboard.

cardiagn.com

Cut out carpet along lines (1).

Remove carpet to the rear/top and feed out cable.

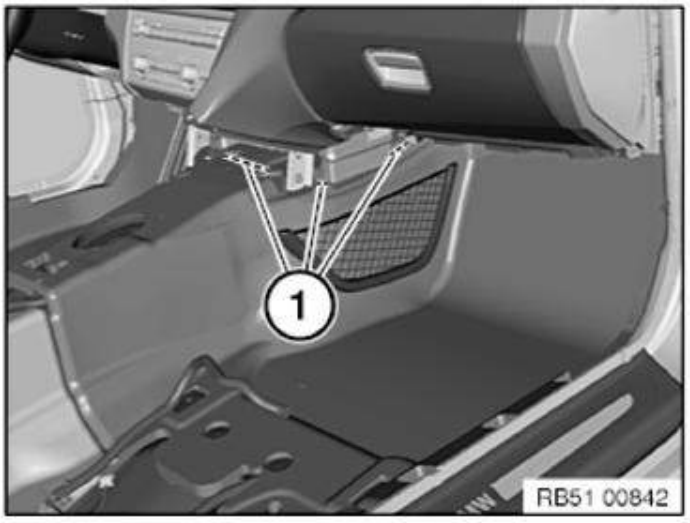


Fig. 560: Identifying Passenger Compartment Carpet Lines
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Apertures (1) serve as fixing points for fitting carpet.

Replacement:

Lay removed carpet over new one and transfer cuts to new carpet.

If necessary, modify **STORAGE NET**.

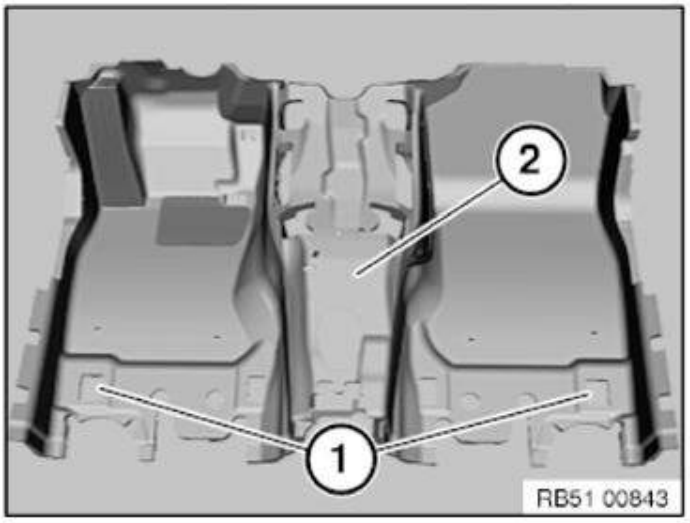


Fig. 561: Identifying Carpet Apertures
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 490 REMOVING AND INSTALLING/REPLACING FRONT UNDERBODY PROTECTION

NOTE: **Illustration only an example. Detail deviations, depending on engine version, are possible.**

Unfasten screws (2).

Tightening torque **51 75 1AZ** .

cardiagn.com

Remove front underbody protection (1).

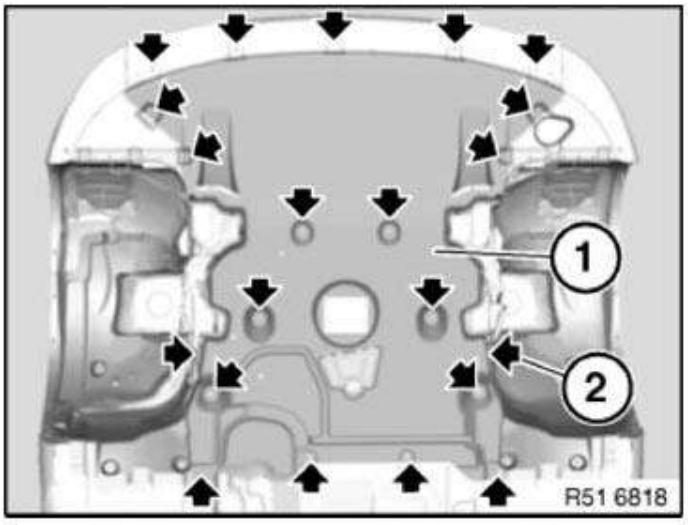


Fig. 562: Locating Front Underbody Protection Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 316 REMOVING AND INSTALLING/REPLACING CARPET FOR REAR PASSENGER COMPARTMENT

Necessary preliminary tasks:

- Remove **BOTH FRONT SEATS**
- Remove **TRIM PANEL FOR DOOR POST, BOTTOM** left/right
- Remove **COMPLETE CENTER CONSOLE**
- Remove **cover for central bass speaker** . See **65 12 053 REMOVING AND INSTALLING/RENEWING CENTRAL BASS SPEAKER - PASSENGER'S SIDE - (UNDER FRONT SEAT)** or **65 12 051 REMOVING AND INSTALLING/RENEWING CENTRAL BASS SPEAKER -DRIVER'S SIDE- (UNDER FRONT SEAT)** left/right

Feed back wiring harness (1).

Feed out carpet (2) to rear/top.

Installation note:

Make sure wiring harness (1) is laid correctly.

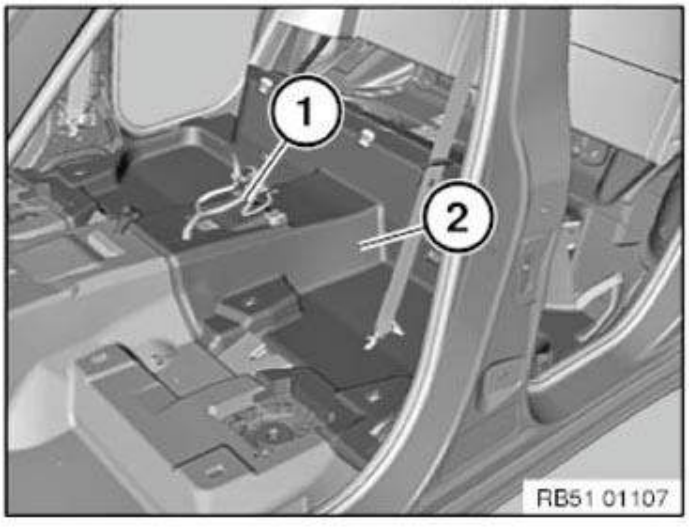


Fig. 563: Identifying Rear Passenger Compartment Wiring Harness And Carpet
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

Similar to graphic.

Apertures (1) serve as alignment points when fitting carpet (2).

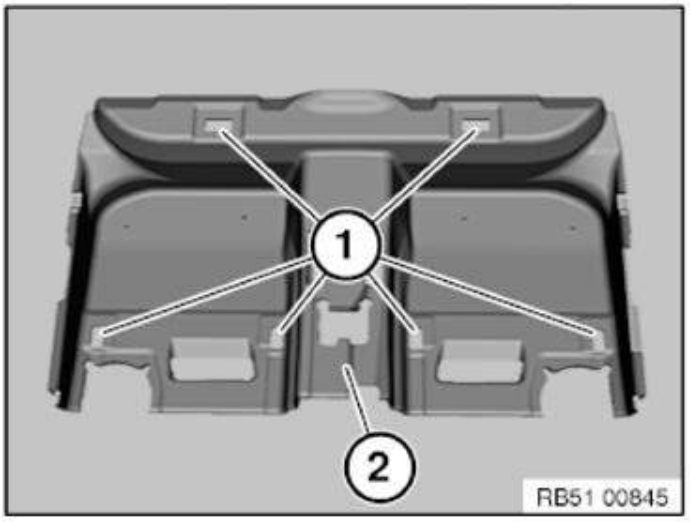


Fig. 564: Identifying Carpet And Apertures
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 072 REMOVING AND INSTALLING/REPLACING FINISHING STRIP ON REAR LEFT OR RIGHT ENTRANCE (OUTER)

Special tools required:

- 00 9 325

NOTE: Cover trim (1) is bonded with adhesive tape lengthwise.

Press off cover trim (1) with special tool 00 9 325 and remove.

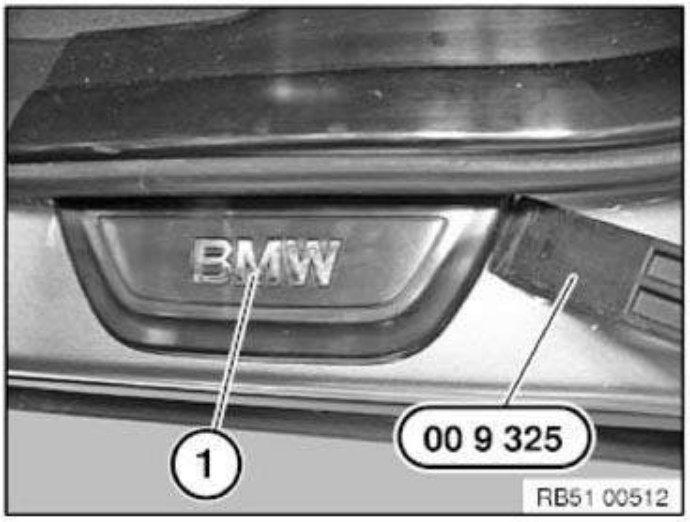


Fig. 565: Pressing Cover Trim Using Special Tool (00 9 325)
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 173 REMOVING AND INSTALLING/REPLACING FLAP IN LUGGAGE COMPARTMENT TRIM ON LEFT

Pull release handle (1).

cardiagn.com

Open flap (2) and remove.

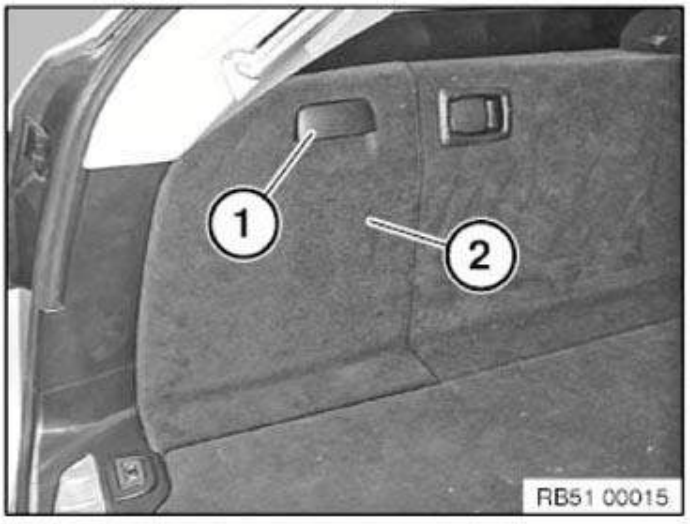


Fig. 566: Identifying Luggage Compartment Trim Flap And Handle
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanism (1) and guide (2) must not be damaged.

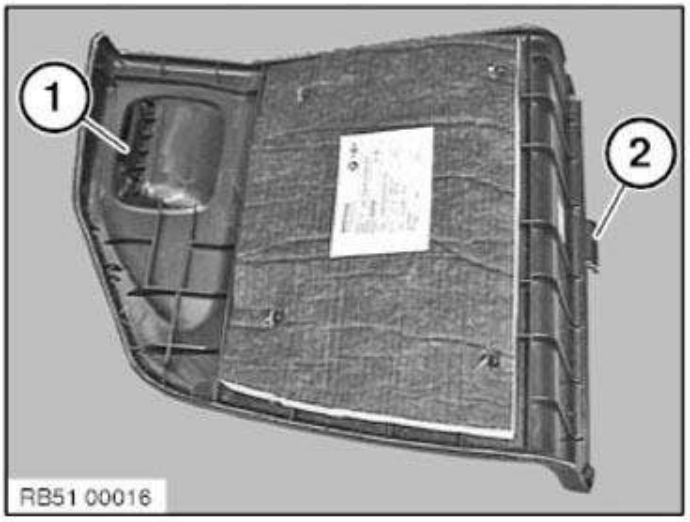


Fig. 567: Identifying Luggage Compartment Trim Latch Mechanism And Guide
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 171 REMOVING AND INSTALLING/REPLACING FLAP IN LUGGAGE COMPARTMENT TRIM ON RIGHT

Pull release handle (1).

Open flap (2) and remove.

cardiagn.com

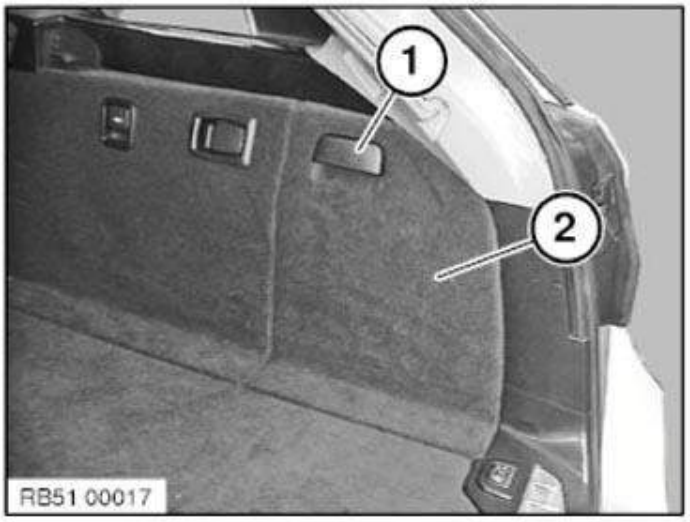


Fig. 568: Identifying Luggage Compartment Trim Flap And Handle
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanism (1) and guide (2) must not be damaged.

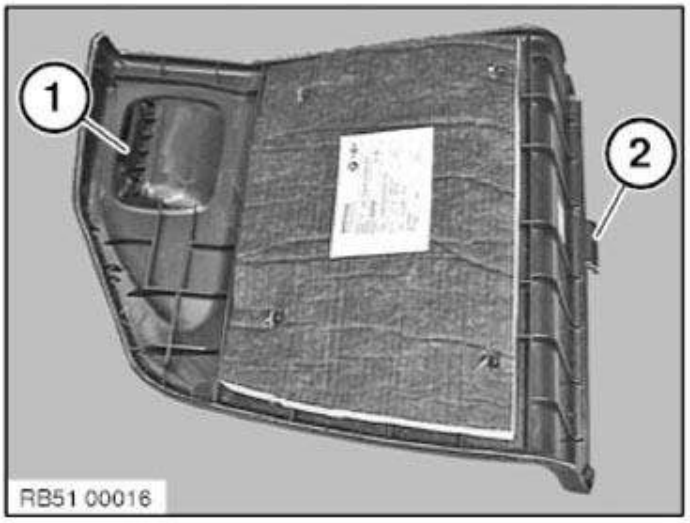


Fig. 569: Identifying Luggage Compartment Trim Latch Mechanism And Guide
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 000 REMOVING AND INSTALLING/REPLACING FRONT (INSIDE) LEFT OR RIGHT DOOR SILL COVER STRIP

Special tools required:

- 00 9 317

IMPORTANT: Do not raise door sill cover strip (1) over entire length simultaneously.

Unclip rear door sill cover strip (1) from clips (2) starting from the rear with special tool 00 9 317 .

cardiagn.com

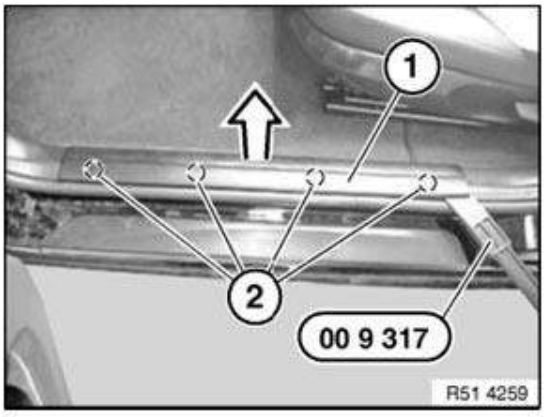


Fig. 570: Removing Rear Door Sill Cover Strip From Clips
Courtesy of BMW OF NORTH AMERICA, INC.

If necessary lift clip (1) from floor panel (2) and clip on door sill cover strip.

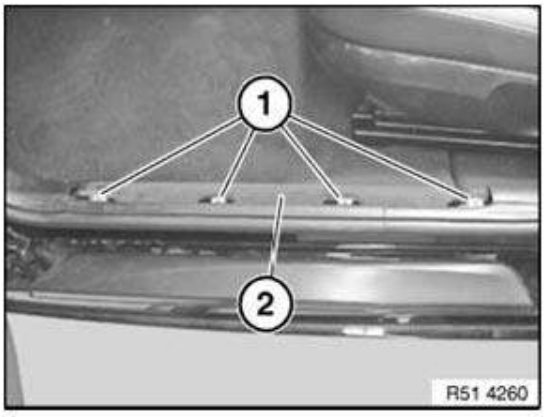


Fig. 571: Identifying Floor Panel Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Replace defective clips (1) on door sill cover strip (2).

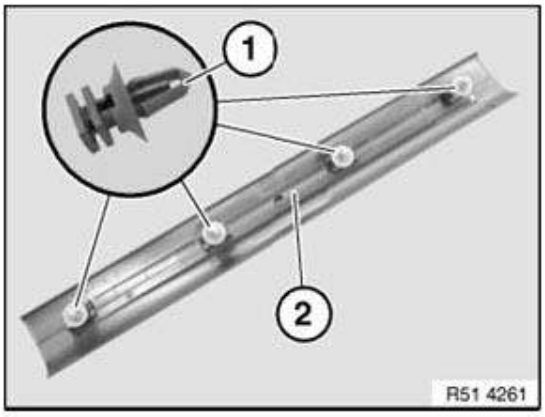


Fig. 572: Identifying Door Sill Cover Strip Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 151 REMOVING AND INSTALLING/REPLACING LEFT LUGGAGE COMPARTMENT WHEEL ARCH PANEL

Necessary preliminary work:

- Remove **LUGGAGE COMPARTMENT FLOOR TRIM PANEL**

cardiagn.com

- Remove **FLAP IN LUGGAGE COMPARTMENT TRIM PANEL**
- Remove **ARMREST SIDE SECTION**

Release screw (1).

Unclip cover (2) and release expanding rivet (3) below.

Release remaining expanding rivets (3).

Feed out luggage compartment wheel arch panel (2).

Installation note:

Replace faulty expanding rivets (3).

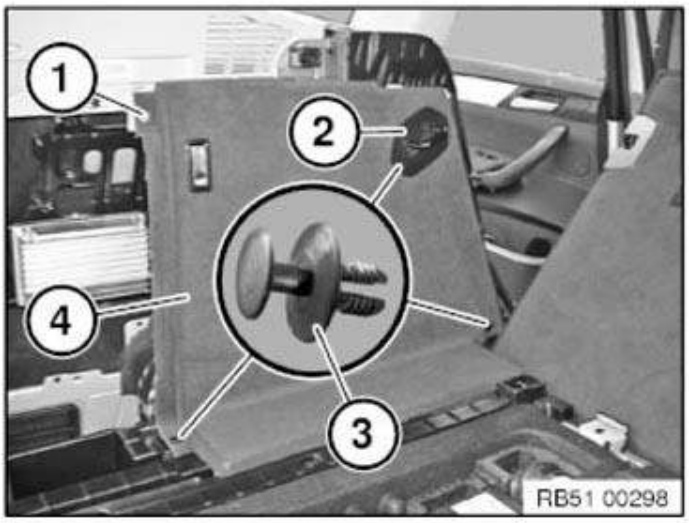


Fig. 573: Identifying Luggage Compartment Wheel Arch Panel, Cover And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 47... REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT CAPPING IN LUGGAGE COMPARTMENT

Necessary preliminary tasks:

- Remove **TRIM PANEL FOR ROOF PILLAR** (C-pillar) at rear
- Remove **TRIM PANEL FOR ROOF PILLAR** (D-pillar) at rear

Release screw (1).

Installation note:

Replace screw (1).

Tightening torque **72 11 21AZ** .

End fitting is coded against incorrect installation.

cardiagn.com

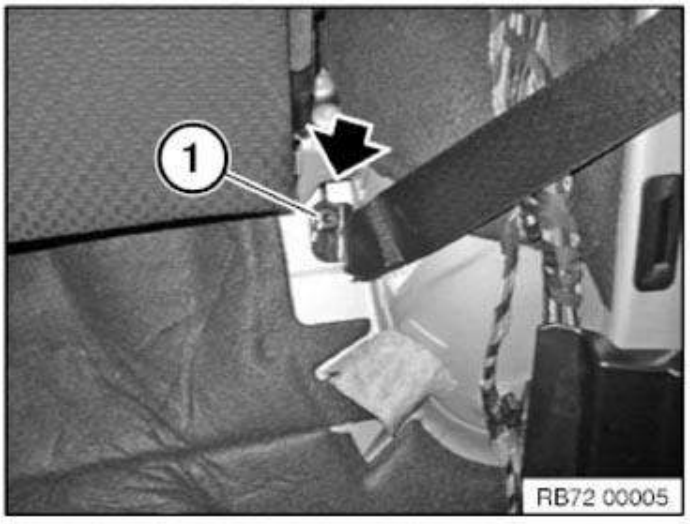


Fig. 574: Locating Luggage Compartment Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

Feed capping (3) out of seat belt strap (2) and remove.

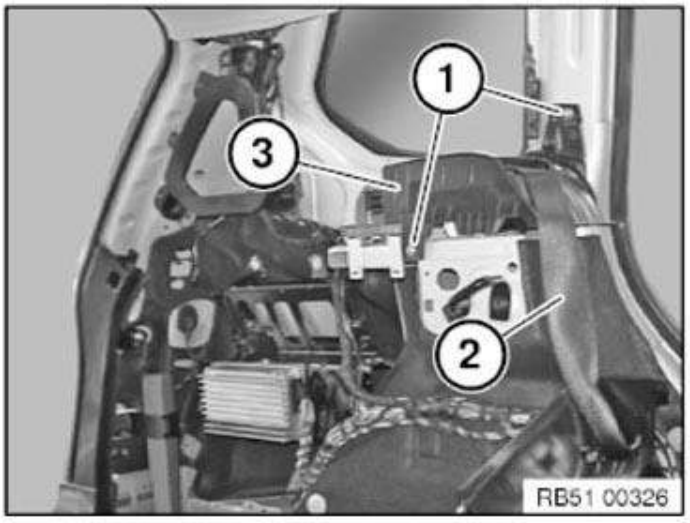


Fig. 575: Identifying Seat Belt Strap, Capping And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 135 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT LASHING RAIL IN LUGGAGE COMPARTMENT FLOOR

Necessary preliminary tasks:

- Remove **luggage compartment wheel arch panel** . See 51 47 151 REMOVING AND INSTALLING/REPLACING LEFT LUGGAGE COMPARTMENT WHEEL ARCH PANEL or 51 47 161 REMOVING AND INSTALLING/REPLACING RIGHT LUGGAGE COMPARTMENT WHEEL ARCH PANEL

Release expanding rivet (1).

Unfasten screws (2).

Tightening torque 51 47 15AZ .

Feed out lashing rail (3) to the front.

cardiagn.com

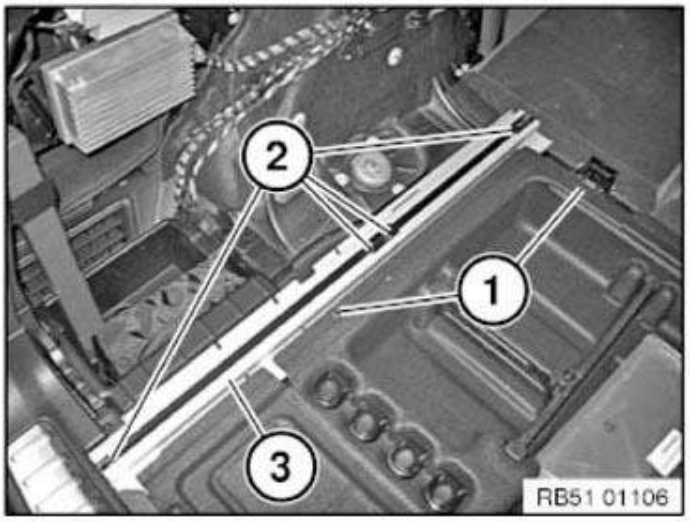


Fig. 576: Identifying Lashing Rail, Expanding Rivet And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 71 015 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT UNDERBODY PANELLING

Refer to **51 71 015 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT UNDERBODY PANELLING**.

51 12... REMOVING AND INSTALLING/REPLACING LOWER COVER (MIDDLE)

Refer to **51 12... REMOVING AND INSTALLING/REPLACING LOWER COVER (MIDDLE)**.

51 47 102 REMOVING AND INSTALLING/REPLACING LUGGAGE COMPARTMENT FLOOR TRIM PANEL

Unlock luggage compartment floor trim panel (1) at handle (2) and remove in direction of arrow.

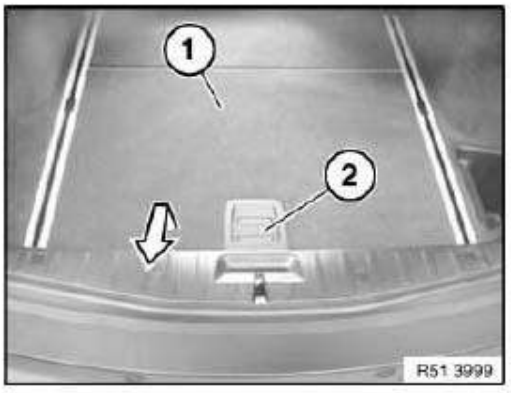


Fig. 577: Removing Luggage Compartment Floor Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 030 REMOVING AND INSTALLING/REPLACING REAR (INSIDE) LEFT OR RIGHT DOOR SILL COVER STRIP

Special tools required:

- **00 9 317**

Necessary preliminary tasks:

- Release **REAR SEAT**

Release expansion rivet (1).

cardiagn.com

Release clips (2) on door sill cover strip (3) with special tool **00 9 317** .

Pull door sill cover strip (3) up and remove.

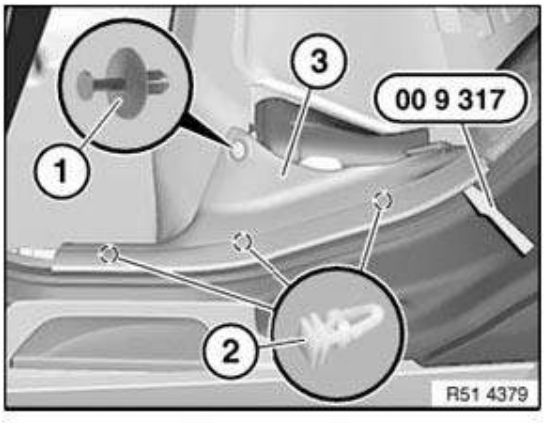


Fig. 578: Removing Door Sill Cover Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Replace faulty clips (1).

Fit door sill cover strip (2) with preinstalled clips (1).

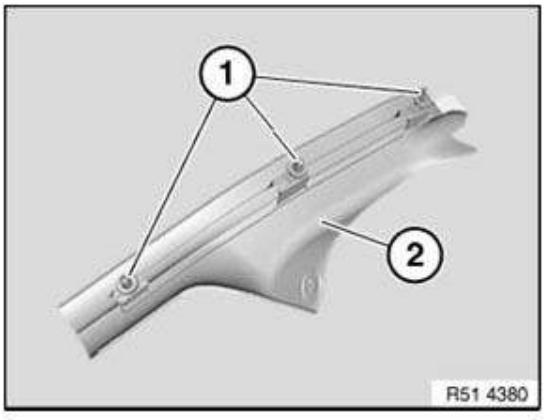


Fig. 579: Identifying Door Sill Cover Strip And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 491 REMOVING AND INSTALLING/REPLACING REAR UNDERBODY PROTECTION

NOTE: **Schematic diagram created using the F25 28iX as an example. There may be differences in detail in the case of other models.**

Release screws in area (1) and remove underbody protection (2).

Tightening torque **51 75 1AZ** .

cardiagn.com

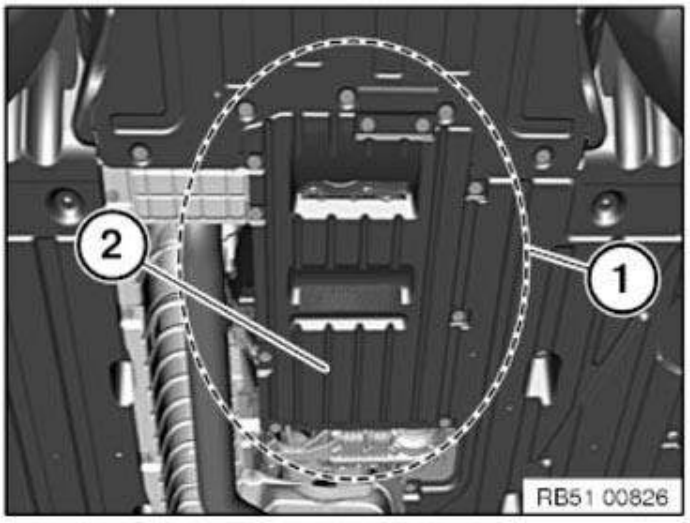


Fig. 580: Identifying Underbody Protection Screw
Courtesy of BMW OF NORTH AMERICA, INC.

51 47 161 REMOVING AND INSTALLING/REPLACING RIGHT LUGGAGE COMPARTMENT WHEEL ARCH PANEL

Procedure is identical to:

- REMOVING AND INSTALLING/REPLACING LEFT LUGGAGE COMPARTMENT WHEEL ARCH PANEL.
- UNLOCK THE PLUG CONNECTION AND DISCONNECT IT FROM THE 12 V CHARGING SOCKET.

Replacement:

Reinstall 12V socket.

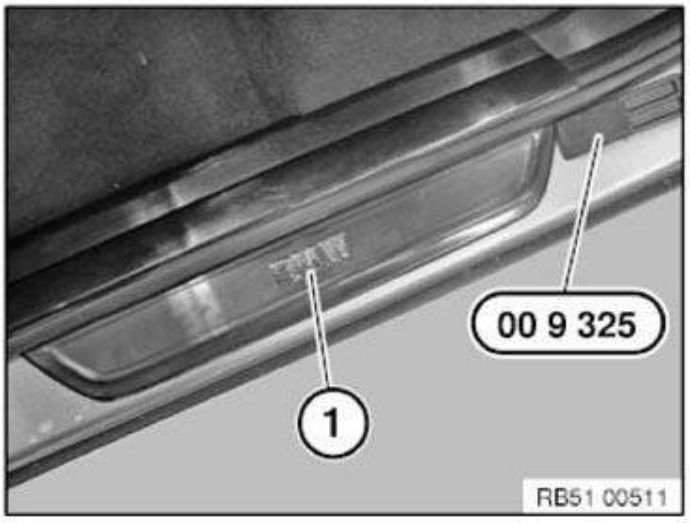
51 47 065 REMOVING AND INSTALLING/REPLACING ROCKER PANEL TRIM ON FRONT LEFT OR RIGHT ENTRANCE (OUTER)

Special tools required:

- 00 9 325

NOTE: **The cover trim (1) is taped lengthwise with adhesive tape.**

Lever out and remove the cover trim (1) with special tool 00 9 325 .



cardiagn.com

Fig. 581: Removing Cover Trim Using Special Tool (00 9 325)
Courtesy of BMW OF NORTH AMERICA, INC.

51 47... REMOVING AND INSTALLING/REPLACING STORAGE NET AT FRONT FOOTWELL

Special tools required:

- 00 9 325

Detach storage net (1) from clips (2) in direction of arrow with special tool 00 9 325 and remove.

Installation note:

Replace all clips (2).

Position storage net (1) at clips (2) and press on until latch mechanism audibly engages.

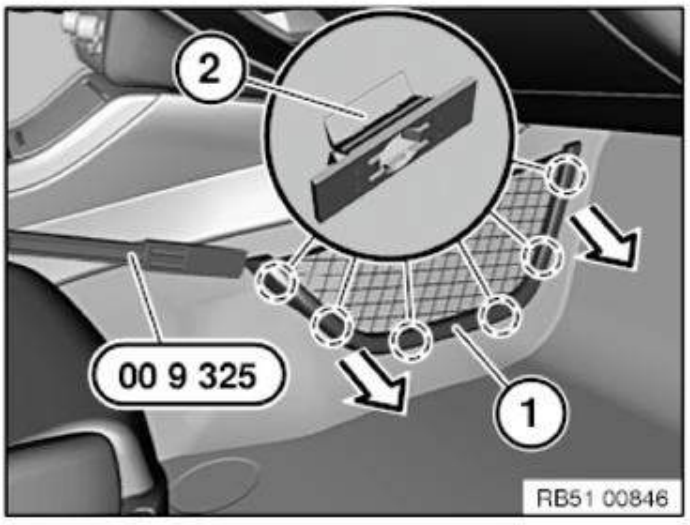


Fig. 582: Detaching Storage Net From Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 43 259 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR REAR ROOF PILLAR (D-PILLAR), LEFT OR RIGHT

Refer to 51 43 259 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR REAR ROOF PILLAR (D-PILLAR), LEFT OR RIGHT.

51 71... REMOVING AND INSTALLING/REPLACING UNITS COMPARTMENT PARTITION WALL

Refer to 51 71... REMOVING AND INSTALLING/REPLACING UNITS COMPARTMENT PARTITION WALL.

FRONT LID INSULATION LINING

51 48... NOTES FOR BONDING SOUND INSULATION (SI), DOORS

Special tools required:

- 51 0 300

IMPORTANT: Do not yank at the sound insulation (risk of damage).

General:

Sound insulation is bonded to the inner door panel.

Bonded sound insulation must not be subjected to load (e.g. leak test) before 5 hours have elapsed.

cardiagn.com

On-the-job safety:

When working with bonding products (adhesive, cleaning agent, etc.):

- Wear safety goggles, protective gloves and if necessary an apron.
- Ensure the area is well ventilated.
- Change work clothing contaminated with adhesive immediately.
- Change work clothing contaminated with solvents and swelling agents immediately (keep spare work clothing on hand).
- Take skin protection measures, provide washing facilities including hot water, use silicone-free skin creams.
- Always keep an eye douche on hand, change the water regularly (once a month).
- Comply with the relevant safety regulations.

Handling adhesive area on inner door panel:

Adhesive	Cleaning
a. Butyl bead applied to sound insulation with protective film b. Butyl mini-round profile Ã˜ 3 mm from the roller c. Butyl round profile Ã˜ 6 mm from the roller	a. **CLEANING AGENTR2** *Under no circumstances: paint thinning* b. Carry out bonding only after an air drying time ≥ 1 min. Air drying time may be omitted if the entire bonding surface is wiped with a dry cloth c. After cleaning, the bonding surface may not be touched with hands or fouled again

Repair in area of sound insulation, door:

Repair in the event of damaged sound insulation or leakage	• Cut the butyl rope between the sound insulation and the inner door panel with a sharp knife • After the repair is finished, position a new butyl rope Ã˜ 3 mm directly on the original adhesive bead • Heat the butyl bead with a standard hot air blower until the butyl rope strings when touched slightly. Do not damage the sound insulation in the process • Press on with special tool **51 0 300** . Perform this work extremely carefully because the increased amount of adhesive requires contact pressure of ≥ 20 N/cm^2 (compared to firm thumb pressure ~ 30 N/cm^2) • Visually check the adhesive bead and its compression (no capillaries or broken adhesive bead permitted) • In the cases mentioned, the complete sound insulation must be replaced. After removing the sound insulation, removal all butyl remnants from the inner door panel. Apply 6 mm Ã˜ butyl rope to new sound insulation • Press on with special tool **51 0 300** . Contact pressure ≥ 20 N/cm^2 (compare to firm thumb pressure ~ 30 N/cm^2)

The sound insulation must be bonded watertight below the door lock:

- Flat bonding surface required all round.
- No bonding in the event of moisture (e.g. condensation, etc.).
- Bonding area must not show any traces of adhesion-reducing residues (e.g. separating agents, greases, oils, paraffins, plastisols, cavity wax, polishing dust residues, etc.).
- Remove the protective film directly before joining (under no circumstances remove earlier, since the butyl, because of its stickiness, will very quickly pick up adhesion-reducing dirt contaminants).

cardiagn.com

- The sound insulation must be attached with positional accuracy to the inner door panel because it will no longer be possible to change the position without damaging the butyl bead.
- With repainted areas, the maximum permitted temperature of 90Â°C may not be exceeded in the area of the sound insulation. Otherwise, the sound insulation must be removed (and replaced, if necessary).

Expiry date of adhesive:

24 months, see label on packaging.

Disposal of the cleaning cloth:

Cleaning cloths and cleaning agent residues are hazardous waste (see also safety data sheet).

Disposal of adhesive:

Hazardous waste (see also safety data sheet).

51 48 001 REMOVING AND INSTALLING/REPLACING INSULATION LINING ON ENGINE HOOD/BONNET

NOTE: **Example shown on F01: There may be differences in detail in the case of other vehicle types.**

Release all expanding rivets/clips on damping material (1).

Remove damping material (1).

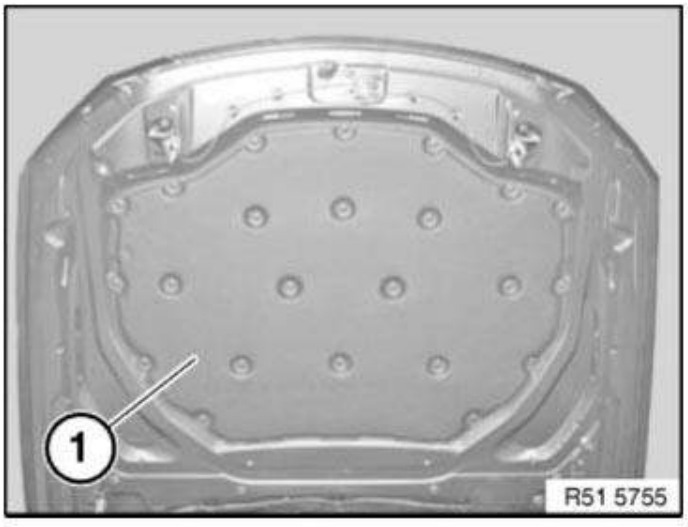


Fig. 583: Identifying Engine Bonnet Damping Material
Courtesy of BMW OF NORTH AMERICA, INC.

51 48 060 REMOVING AND INSTALLING/REPLACING SOUND INSULATION IN LEFT OR RIGHT FRONT DOOR

IMPORTANT: INSTRUCTIONS FOR BONDING SOUND INSULATION are an essential part of these repair instructions and must be followed without fail.
Do not detach sound insulation in jerks (risk of damage).
Ensure watertightness of sound insulation after every repair (water ingress).

Necessary preliminary tasks:

- Remove FRONT DOOR TRIM PANEL

IMPORTANT: When cutting through sealing bead (1), do not damage sound insulation (2) and if necessary cable.
With a suitable sharp cutting tool (3) cut through sealing bead (1) of sound insulation (2) in the area to be detached.

cardiagn.com

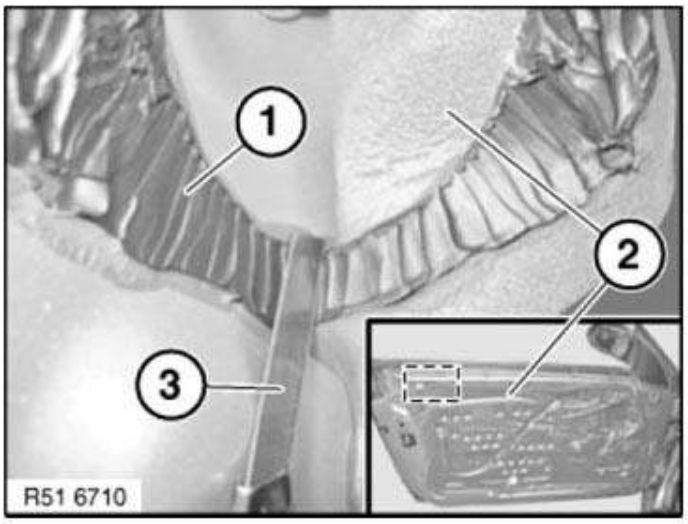


Fig. 584: Cutting Sound Insulation Door Sealing Bead
Courtesy of BMW OF NORTH AMERICA, INC.

Position of sealing bead (3).

Feed out sound insulation (1) at cables (2) and remove.

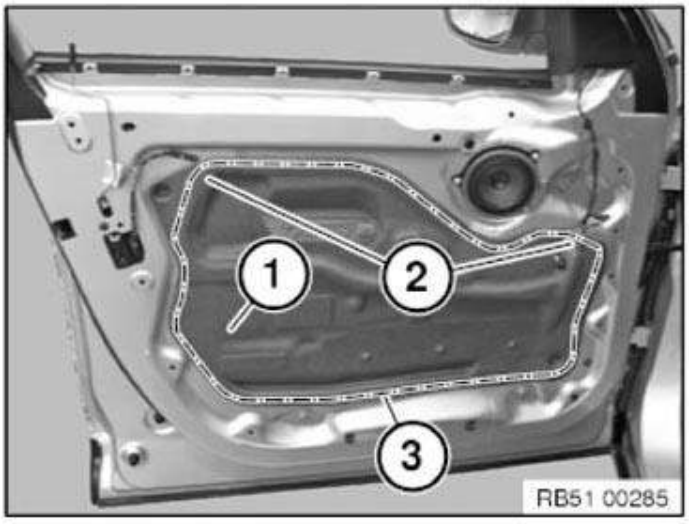


Fig. 585: Identifying Door Sound Insulation, Cables And Sealing Bead
Courtesy of BMW OF NORTH AMERICA, INC.

When refitting:

Damaged sound insulation must be replaced.

Lay butyl rope with Ã˜ 3 mm (sourcing reference: BMW Parts Department) onto the original butyl rope.

Replacement:

Remove residual butyl at the door and clean the adhesive area.

Air drying time: 1 minute

IMPORTANT: Bonding surface must be dry and free of dust and grease.
Once it has been cleaned, do not touch the adhesive area with bare hands.

Lay 6 mm dia. butyl rope (sourcing reference: BMW Parts Department) in specified adhesive area onto the sound insulation.

cardiagn.com

NOTE: **A mark (2) is provided all round on the sound insulation (1).**

Butyl rope (3) rests on or inside the marking (2).

Heat butyl rope (3) (hot air blower) and press sound insulation (1) on firmly all-round.

Contact pressure with hand roller: approx. 20 N/cm^2

Manual contact pressure: approx. 10 N/cm^2

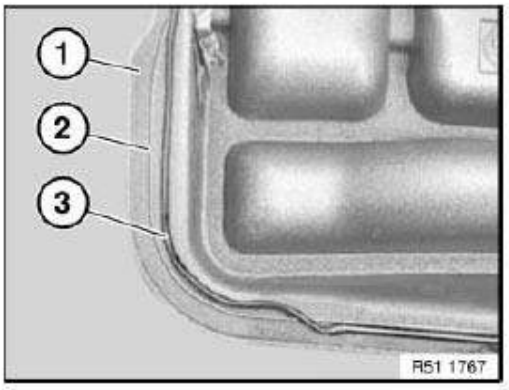


Fig. 586: Identifying Door Sound Insulation And Butyl Rope
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Firm thumb pressure has approx. 30 N/cm^2**

51 48... REMOVING AND INSTALLING/REPLACING SOUND INSULATION ON COWL PANEL

Special tools required:

- 51 0 300

Sound insulation can only be replaced with the following removed:

- INSTRUMENT PANEL or
- WINDSCREEN

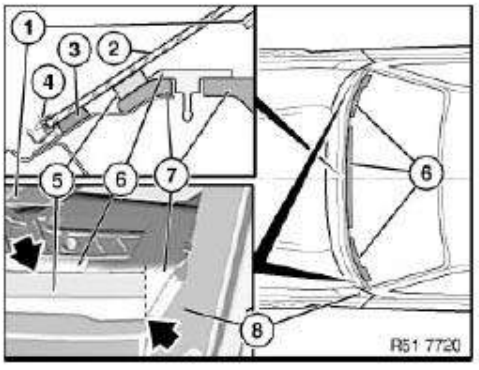


Fig. 587: Identifying Windscreen Installation Position
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Press down expanding foam tape (5) just before installing, or glue on when replacing, the windscreen (2) with special tool 51 0 300 . Relaxed expanding foam tape could crush cement bead (3) (leaks, wind noises).

Replacement:

Stick new expanding foam tape (5) on sound insulation (7) along press-down elements (6).

cardiagn.com

Expanding foam tape (5) may only be stuck up to corner point of sound insulation (7).

1. Dashboard trim panel
2. Windscreen
3. Adhesive bead
4. Retaining strip, bottom
5. Expanding foam tape (sound insulation, cowl panel)
6. Press-down element for sound insulation (7)
7. Sound insulation, bulkhead upper section
8. Side frame

51 48 070 REMOVING AND INSTALLING/REPLACING SOUND INSULATION ON LEFT OR RIGHT REAR DOOR

IMPORTANT: **INSTRUCTIONS FOR BONDING SOUND INSULATION** are an essential part of these repair instructions and must be followed without fail.
Do not detach sound insulation in jerks (risk of damage).
Ensure watertightness of sound insulation after every repair (water ingress).

Necessary preliminary tasks:

- Remove **REAR DOOR TRIM PANEL**

IMPORTANT: When cutting through sealing bead (1), do not damage sound insulation (2) and if necessary cable.
With a suitable sharp cutting tool (3) cut through sealing bead (1) of sound insulation (2) in the area to be detached.

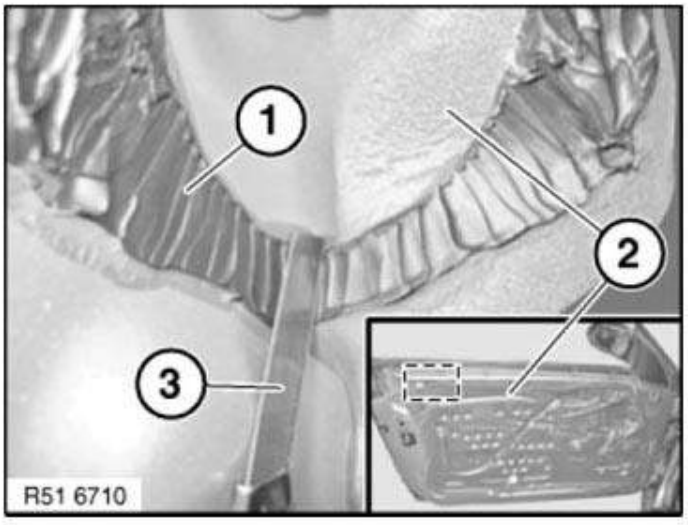


Fig. 588: Cutting Sound Insulation Door Sealing Bead
Courtesy of BMW OF NORTH AMERICA, INC.

When refitting:

Damaged sound insulation must be replaced.

Lay butyl rope with Ã˜ 3 mm (sourcing reference: BMW Parts Department) onto the original butyl rope.

Replacement:

Remove residual butyl at the door and clean the adhesive area.

Air drying time: 1 minute

IMPORTANT: Bonding surface must be dry and free of dust and grease.

cardiagn.com

Once it has been cleaned, do not touch the adhesive area with bare hands.

Lay 6 mm dia. butyl rope (sourcing reference: BMW Parts Department) in specified adhesive area onto the sound insulation.

Position of sealing bead (1).

Feed out sound insulation (3) at cable (2) and remove.

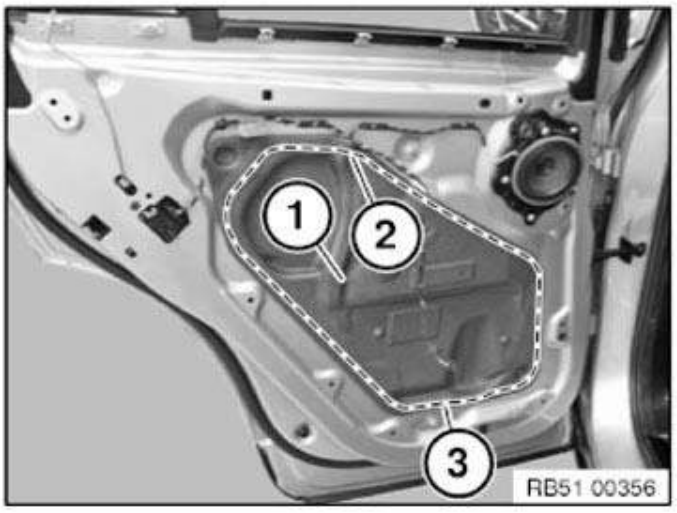


Fig. 589: Identifying Sound Insulation, Cable And Sealing Bead
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **A mark (2) is provided all round on the sound insulation (1).**
Butyl rope (3) rests on or inside the marking (2).
Heat butyl rope (3) (hot air blower) and press sound insulation (1) on firmly all-round.
Contact pressure with hand roller: approx. 20 N/cm^2
Manual contact pressure: approx. 10 N/cm^2

NOTE: **Firm thumb pressure has approx. 30 N/cm^2**

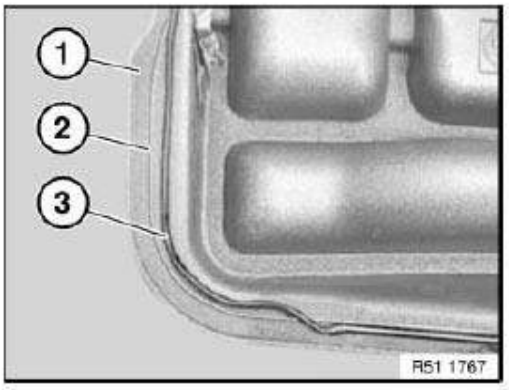


Fig. 590: Identifying Door Sound Insulation And Butyl Rope
Courtesy of BMW OF NORTH AMERICA, INC.

REAR LID TRIM PANEL

51 49 008 REMOVING AND INSTALLING (REPLACING) TRIM FOR REAR LID

Necessary preliminary work:

- Remove **TRIM PANEL FOR REAR WINDOW FRAME** on left/right

cardiagn.com

Release screw (1) on left/right in handle recess.

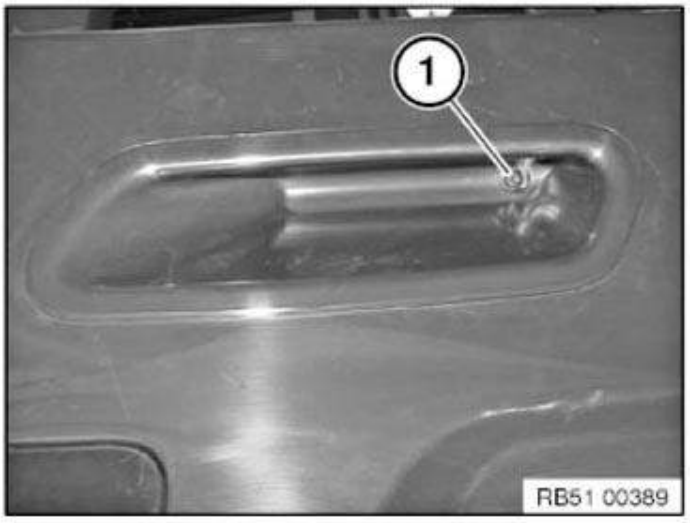


Fig. 591: Identifying Handle Recess Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip trim panel (1) in marked areas are remove by pulling downward.

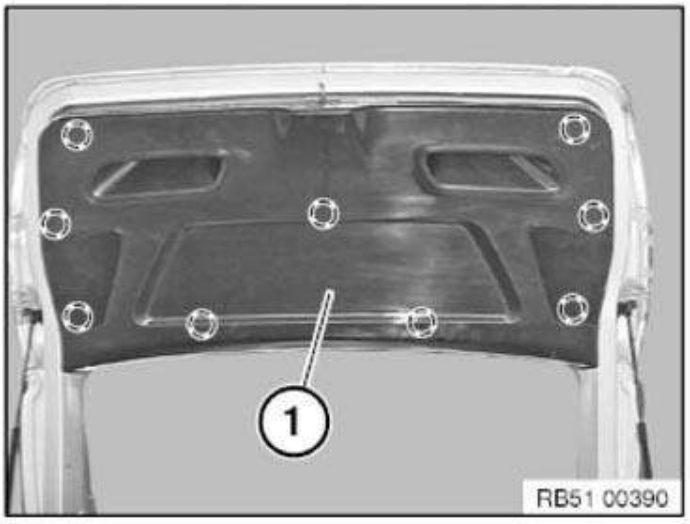


Fig. 592: Identifying Trim Panel Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Replace faulty clips (1).

cardiagn.com

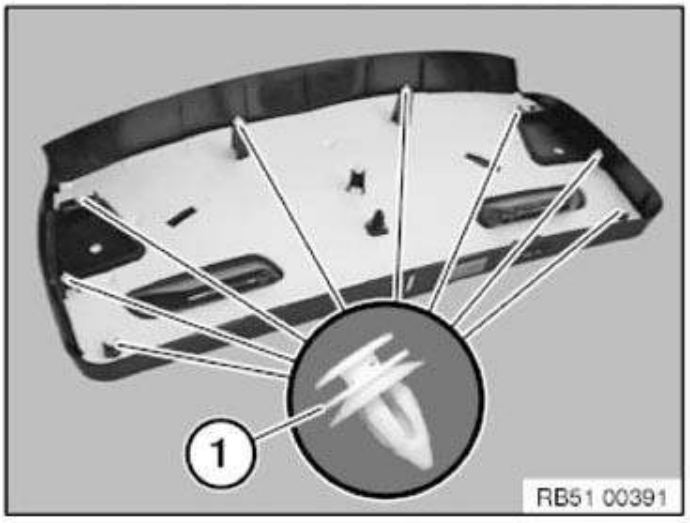


Fig. 593: Identifying Rear Lid Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 49 015 REMOVING AND INSTALLING/REPLACING COVER FOR REAR WINDOW FRAME AT TOP

Unclip cover (1) in marked area and remove downwards.

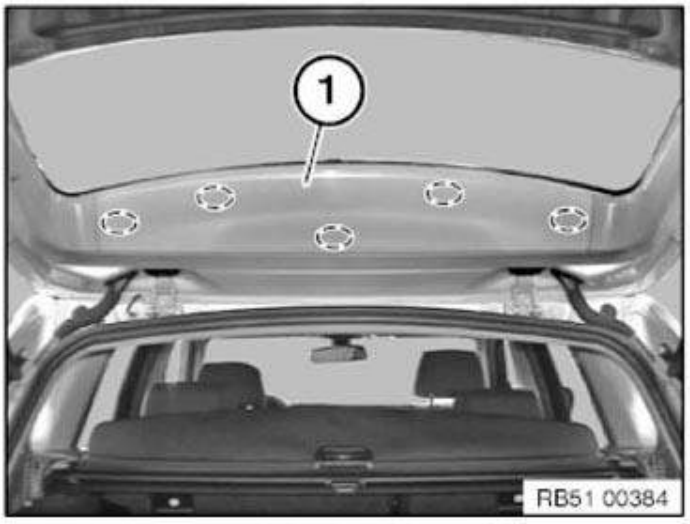


Fig. 594: Identifying Window Frame Cover Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Clips (1) and guide (2) must not be damaged or missing.

cardiagn.com

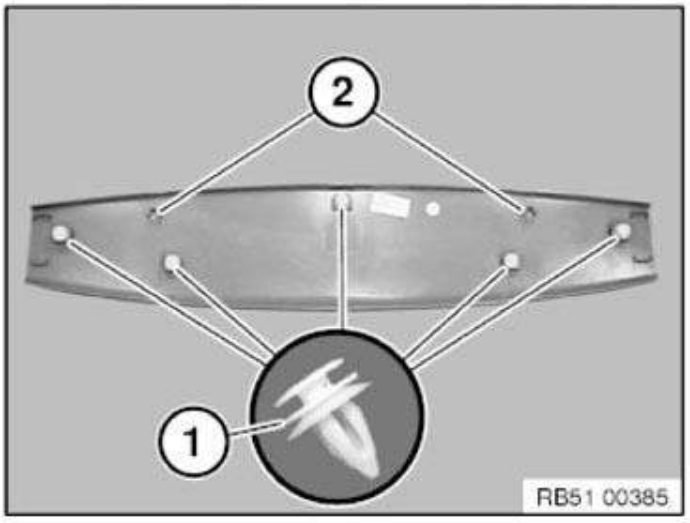


Fig. 595: Identifying Window Frame Clips And Guide
Courtesy of BMW OF NORTH AMERICA, INC.

51 49 003 REMOVING AND INSTALLING/REPLACING TRIM FOR REAR WINDOW FRAME ON LEFT OR RIGHT

Necessary preliminary work:

- Remove **TRIM FOR REAR WINDOW FRAME AT TOP**

Unclip trim cover (1) in marked areas and remove to the side.

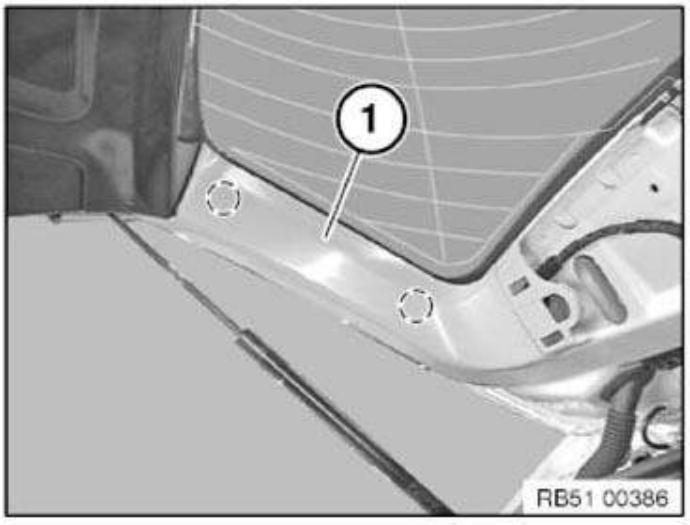


Fig. 596: Identifying Trim Cover Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Replace faulty clips (1).

cardiagn.com

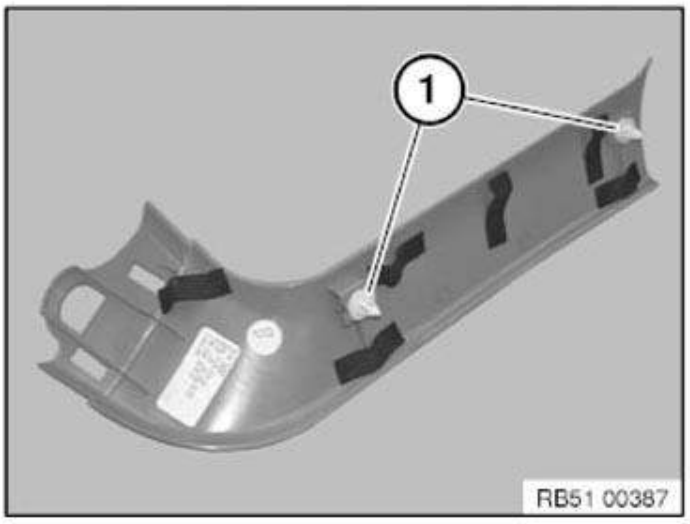


Fig. 597: Identifying Window Frame Clips
Courtesy of BMW OF NORTH AMERICA, INC.

REINFORCEMENT, BODY

51 71 371 REMOVING AND INSTALLING/REPLACING TRAILING LINK ON LEFT OR RIGHT SPRING STRUT DOME

Refer to **51 71 371 REMOVING AND INSTALLING/REPLACING TRAILING LINK ON LEFT OR RIGHT SPRING STRUT DOME**.

FRONT PANEL, FRONT END

51 64 010 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT V-SUPPORT

IMPORTANT: Driving without V-support is not permissible (risk of damage to body).

Necessary preliminary tasks:

- Remove **FRONT BUMPER PANEL**.

Undo screw (1) on upper V-support (2).

Tightening torque **51 64 1AZ** .

Undo screw (3) on V-support (2) on left or right.

Tightening torque **51 64 1AZ** .

Remove V-support (2) on left or right.

cardiagn.com

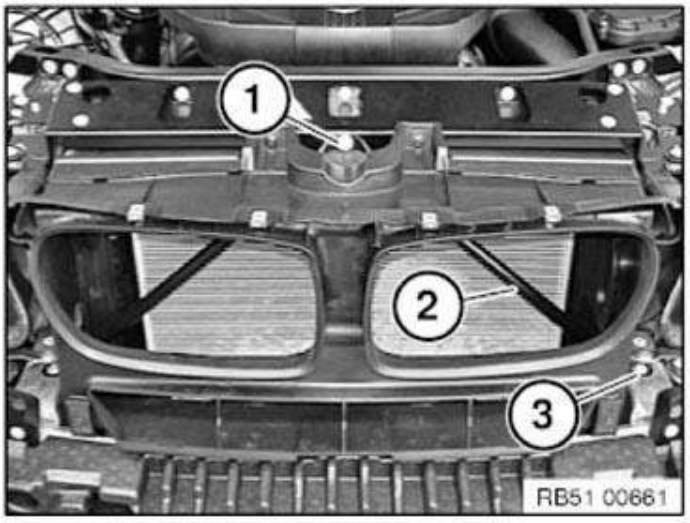


Fig. 598: Identifying V-Support Screw
Courtesy of BMW OF NORTH AMERICA, INC.

51 64 025 REMOVING AND INSTALLING/REPLACING UPPER FRONT CONNECTION

WARNING: **Risk of burning!**
Only perform work after engine has cooled down.

IMPORTANT: Driving without connection is not permissible (risk of damage to body).

Necessary preliminary tasks:

- Remove **HEADLIGHT MOUNTING** on left

Undo screws (1) from adapter plate.

Tightening torque **51 64 3AZ** .

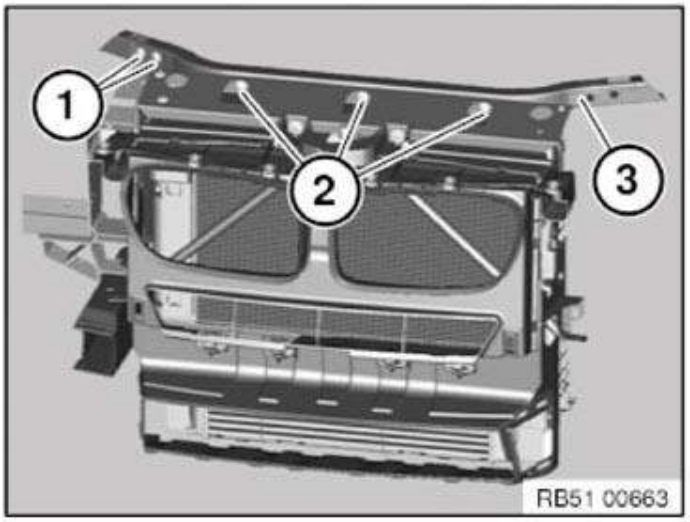
Undo screws (2) from upper rear connection (3).

Tightening torque **51 64 4AZ** .

Remove upper rear connection (3) downwards.

Installation note:

Guide lug secures upper rear connection (3) to upper front connection.



cardiagn.com

Fig. 599: Identifying Upper Rear Connection Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Undo screws (2) from radiator air duct.

Tightening torque **51 64 7AZ** .

Undo screw (5) from V-strut (4).

Tightening torque **51 64 1AZ** .

Remove V-strut (4) downwards.

Undo screws (1) between upper front connection (3) and support for engine compartment lid catch.

Tightening torque **51 64 5AZ** .

Remove upper front connection (3) to the left.

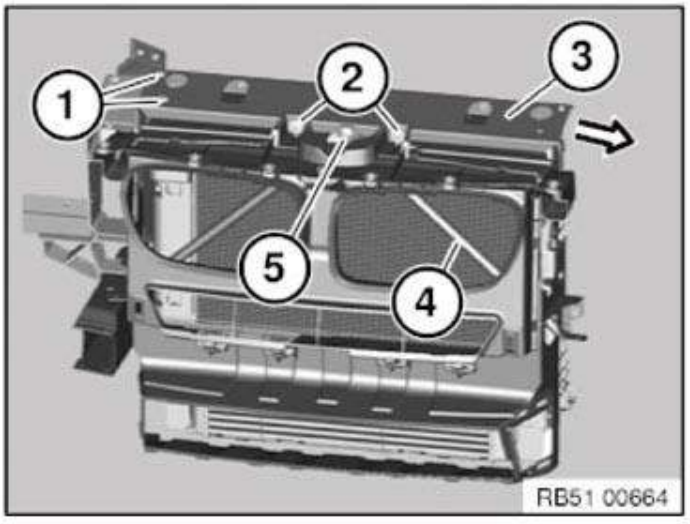


Fig. 600: Removing V-Strut
Courtesy of BMW OF NORTH AMERICA, INC.

51 64 020 REMOVING AND INSTALLING/REPLACING UPPER REAR CONNECTION

WARNING: **Risk of burning!**
Only perform work after engine has cooled down.

IMPORTANT: Driving without connection is not permissible (risk of damage to body).

Undo screws (1) of the connection at the top rear (6) on the carrier support (2) and the adapter plate (3).

Tightening torque **51 64 3AZ** .

Undo screws (4) and pull the connection out towards the top rear (6).

Tightening torque **51 64 4AZ** .

Installation note:

The guide lug affixes the connection at the top rear (6) with the connection at the top front (5).

cardiagn.com

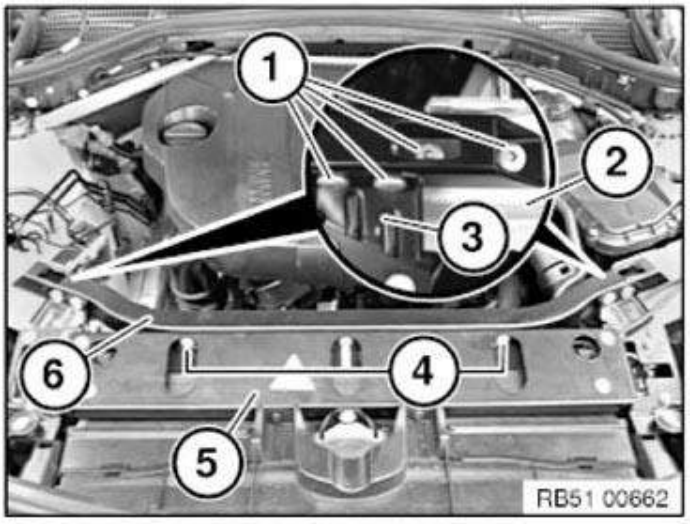


Fig. 601: Identifying Carrier Support And Adapter Plate Screw
Courtesy of BMW OF NORTH AMERICA, INC.

51 64 043 REPLACING LEFT OR RIGHT HEADLIGHT MOUNTING

Necessary preliminary tasks:

- Remove **FRONT PANEL**
- Remove **HEADLIGHT**
- Release engine compartment lid catch in headlight mounting
- Remove **SUPPORT FOR BUMPER TRIM**

Release screws (1).

Tightening torque **51 64 5AZ** .

Unfasten screws (2).

Tightening torque **51 64 3AZ** .

Release screws (3).

Tightening torque **51 64 2AZ** .

Remove headlight mounting (4).

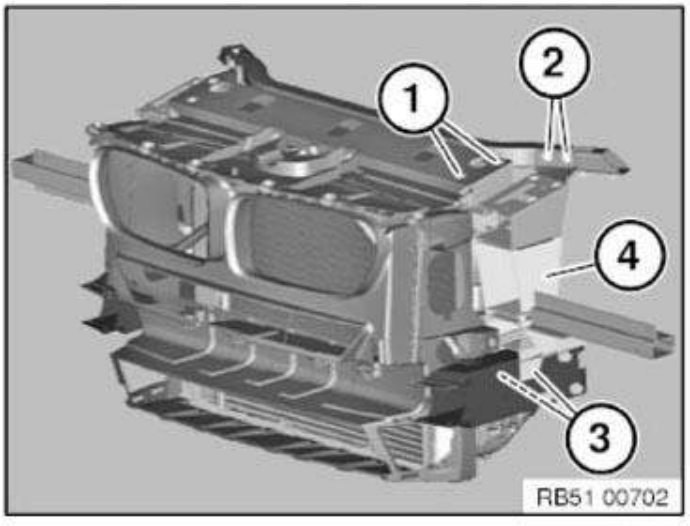


Fig. 602: Identifying Headlight Mounting Screws
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Replacement:

Undo screws (1) on headlight mounting (3) and modify holder (2).

Tightening torque **51 64 3AZ** .

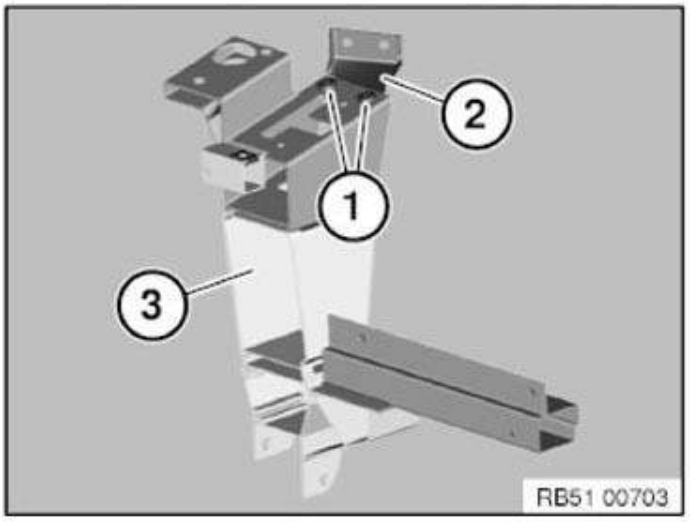


Fig. 603: Identifying Headlight Mounting Screw
Courtesy of BMW OF NORTH AMERICA, INC.

GASKETS/SEALS, LOOSE BODY COMPONENTS

51 71... INSTALLING AND REMOVING/REPLACING VEHICLE HOIST MOUNTING

Special tools required:

- **51 3 330**

Insert special tool **51 3 330** between vehicle hoist mounting (1) and vehicle underbody (2) and remove.

IMPORTANT: Risk of corrosion!
Touch up paintwork damage.
Re-establish wax layer.

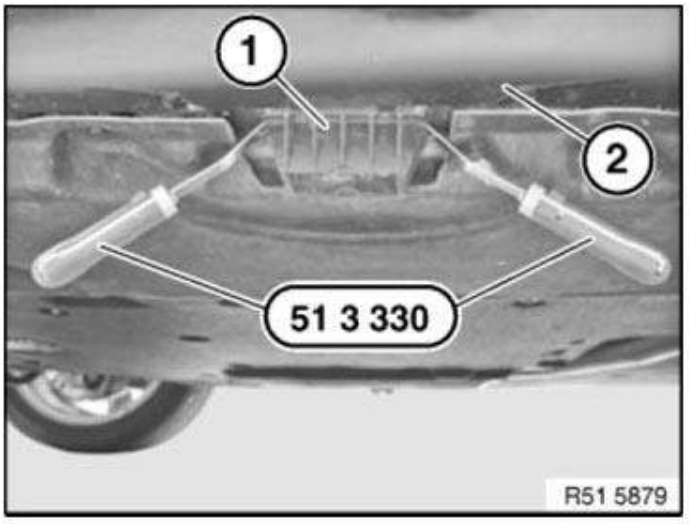


Fig. 604: Inserting Special Tool (51 3 330) Between Vehicle Hoist Mounting And Vehicle Underbody
Courtesy of BMW OF NORTH AMERICA, INC.

51 71... PARTIALLY REMOVE AND INSTALL COVER OF FRONT LEFT OR RIGHT WHEEL ARCH (FRONT PART)

cardiagn.com

NOTE: **Wheel shown removed for purposes of clarity.**

Remove expanding rivets (1) from wheel arch trim (2).

Installation note:

Renew expanding rivets (1).

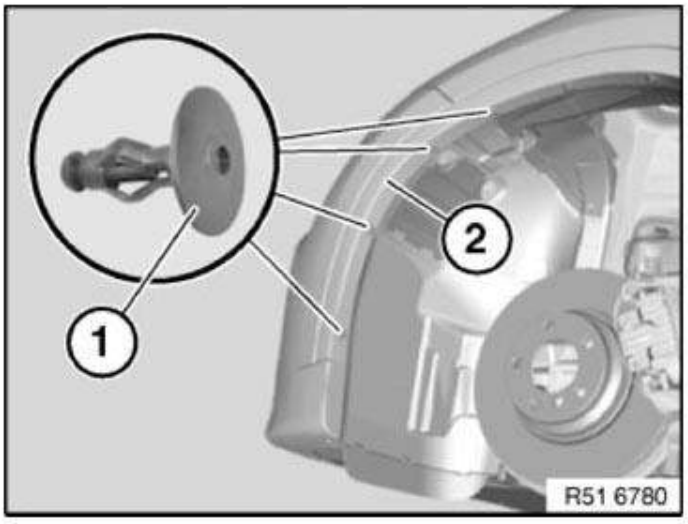


Fig. 605: Identifying Wheel Arch Trim And Expanding Rivets
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip wheel arch strip (1) in front area (2).

Installation note:

Observe lower guide tab (arrow).

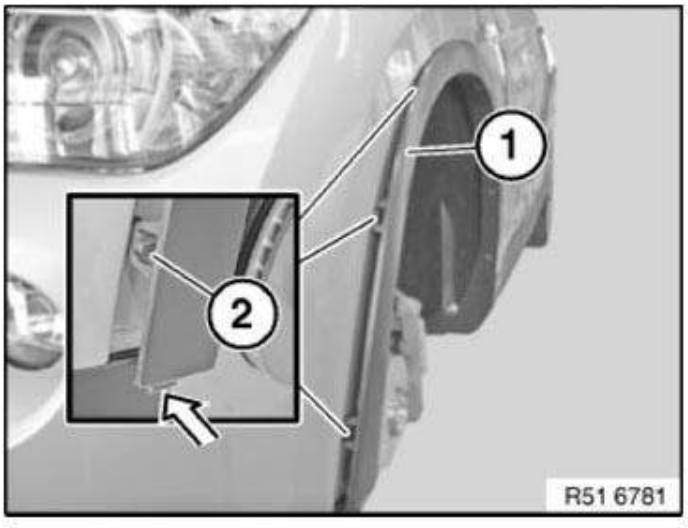


Fig. 606: Identifying Wheel Arch Strip
Courtesy of BMW OF NORTH AMERICA, INC.

51 71 447 REMOVING AND INSTALLING OR REPLACING TRIM PANEL FOR COVER ON LEFT OR RIGHT SIDE MEMBER

Necessary preliminary tasks:

- Remove the **PROTECTIVE STRIP FROM THE REAR DOOR**

Release expanding rivets (1).

cardiagn.com

Installation note:

Replace faulty expanding rivets (1).

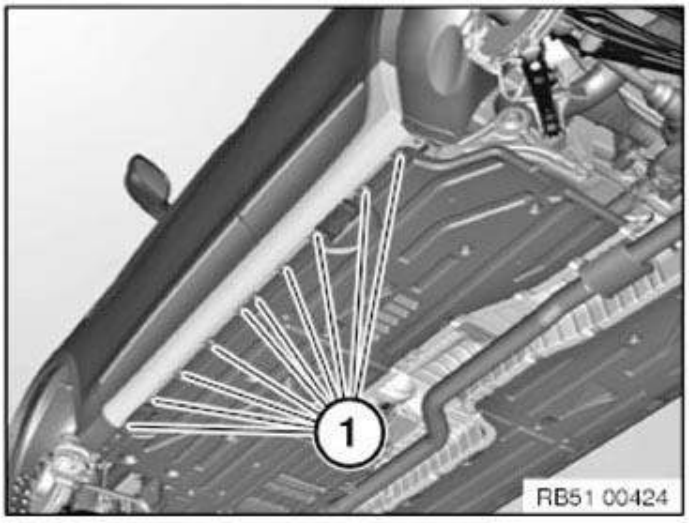


Fig. 607: Identifying Side Member Expanding Rivets
Courtesy of BMW OF NORTH AMERICA, INC.

Detach the wheel arch trim (1) in the area of the side member.

Unclip the clip (2).

Release remaining clips (3).

Remove cover on frame side member.

Installation note:

Replace defective clips (2) and (3).

Feed the wheel arch trim (1) on top under the door first and then under the underbody panelling.

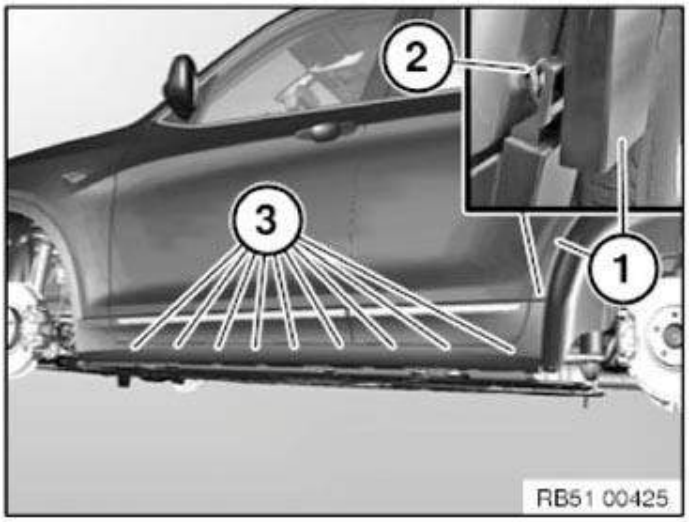


Fig. 608: Identifying Side Member, Wheel Arch Trim And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 71 470 REMOVING AND INSTALLING/REPLACING COVER ON FRONT LEFT OR RIGHT WHEEL ARCH

Special tools required:

cardiagn.com

- 00 2 230

Removal:

Version up to 04/2014:

NOTE: For clarity the vehicle is only partially pictured.

Release blind rivet (1) and screw (2).

Disengage cover (4) at clips (3) and thread out.

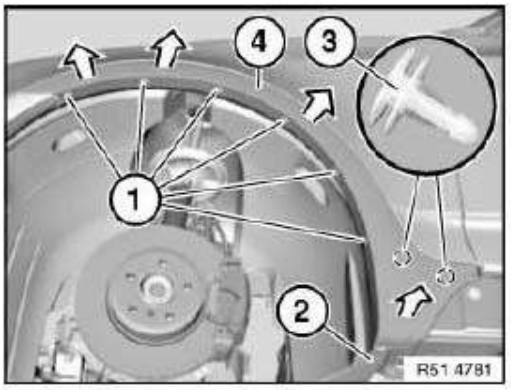


Fig. 609: Disengaging Wheel Arch Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Release marked blind rivets and expanding rivets.

Release cover (1) from latch mechanisms on bumper.

Disengage cover (1) at clips (2) and thread out.

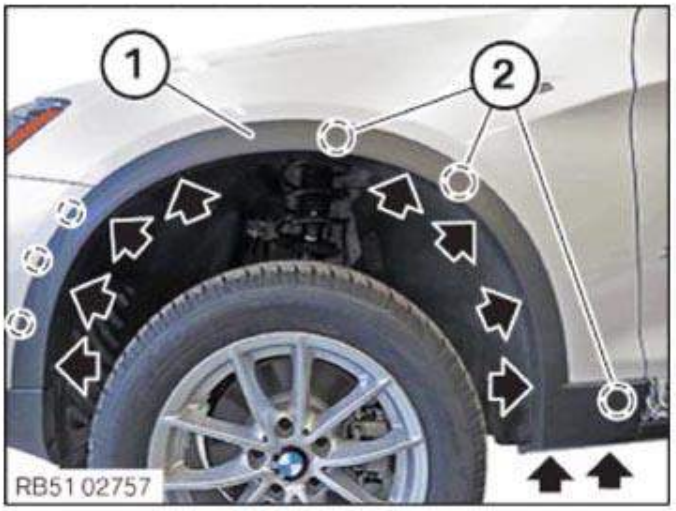


Fig. 610: Locating Wheel Arch Cover Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Version up to 04/2014:

NOTE: Replace faulty clips (3).
Mount blind rivet with special tool 00 2 230 .
Make sure cover (4) is correctly fitted on underbody protection and bumper.

cardiagn.com

Thread cover (4) in and engage at clips (3).

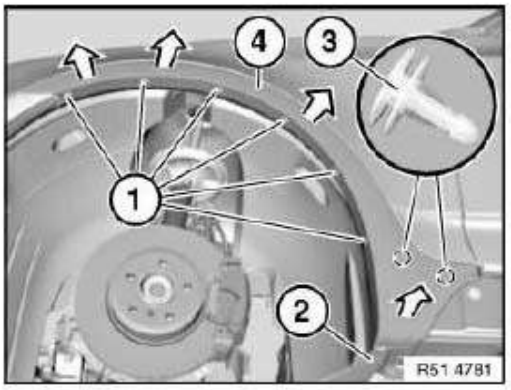


Fig. 611: Disengaging Wheel Arch Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Mount blind rivet (1) and tighten screw (2).

Version after 04/2014:

NOTE: Mount blind rivet with special tool 00 2 230 .
Replace faulty clips (2).

Thread cover (1) in and engage at clips (2).

Engage cover (1) in latch mechanisms on bumper.

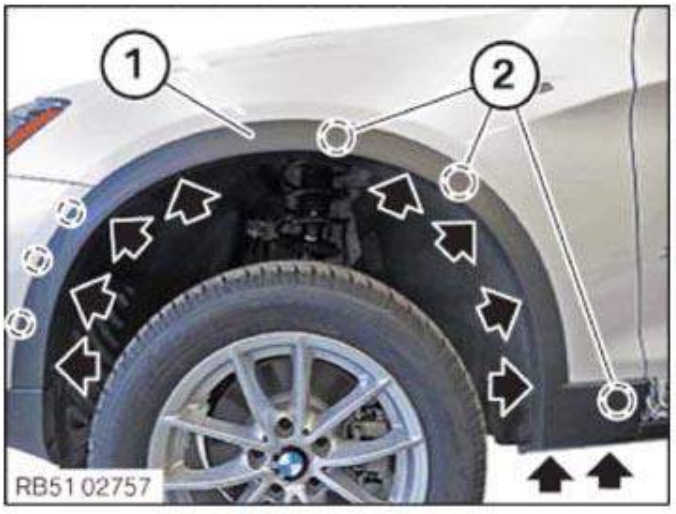


Fig. 612: Locating Wheel Arch Cover Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Mount blind rivet and expanding rivet.

51 71 478 REMOVING AND INSTALLING/REPLACING COVER ON REAR LEFT OR RIGHT WHEEL ARCH

Release the rivets (1).

Release cover (2) at clips (3) and remove.

cardiagn.com

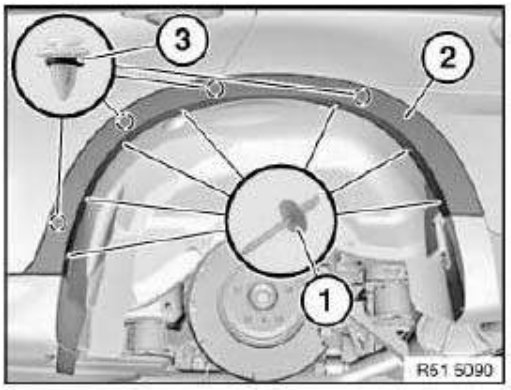


Fig. 613: Identifying Wheel Arch Cover Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Catches (1) must not be damaged or missing.

Replace faulty clips (2).

Water ingress!

Always install clips (2) with sealing ring.

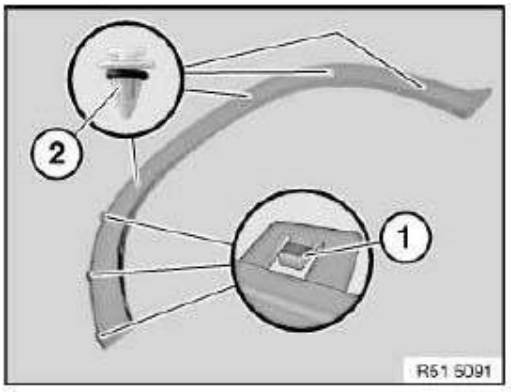


Fig. 614: Identifying Bumper Panel Clips
Courtesy of BMW OF NORTH AMERICA, INC.

51 13 116 REMOVING AND INSTALLING/REPLACING COWL PANEL COVER

Refer to **51 13 116 REMOVING AND INSTALLING/REPLACING COWL PANEL COVER**.

51 71 039 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT WHEEL ARCH COVER (REAR PART)

Necessary preliminary work:

- Remove **FRONT WHEEL**
- Remove **FRONT WHEEL ARCH TRIM**

Removal:

Version up to 04/2014:

NOTE: For clarity the vehicle is only partially pictured.

Release nuts (1) and screws (2).

Thread cover (3) out.

cardiagn.com

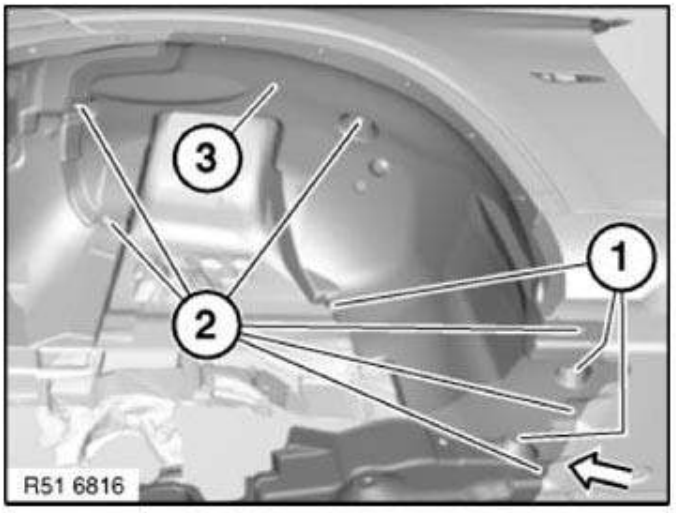


Fig. 615: Identifying Wheel Arch Cover Nut And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

NOTE: For clarity the vehicle is only partially pictured.

Release nuts and screws (1).

Thread cover (2) out.

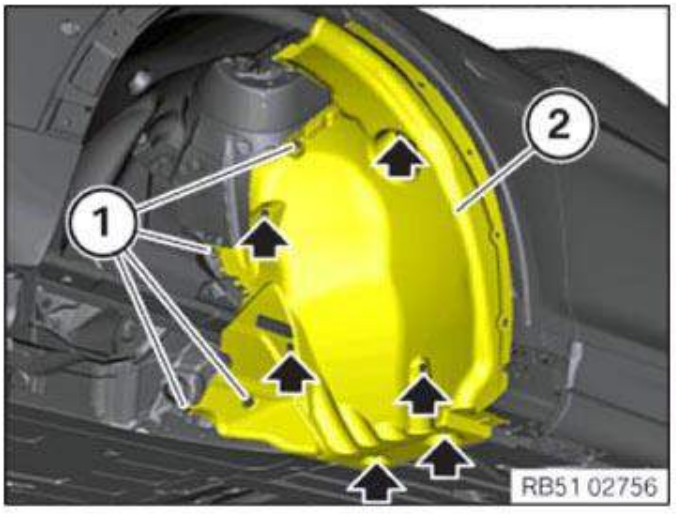


Fig. 616: Locating Wheel Arch Cover Nut And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Version up to 04/2014:

Thread cover (3) in.

Tighten nuts (1) and screws (2).

NOTE: in the area of the arrows side sill or front underbody protection overlaps the cover (3).

cardiagn.com

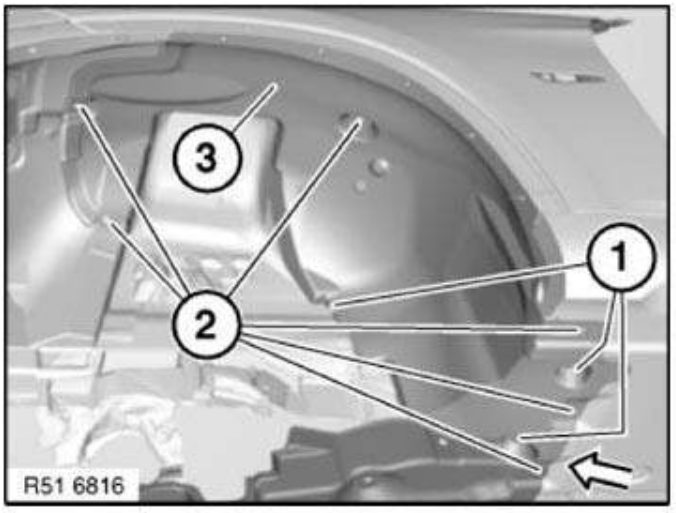


Fig. 617: Identifying Wheel Arch Cover Nut And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Thread cover (2) in.

Tighten nuts and screws (1).

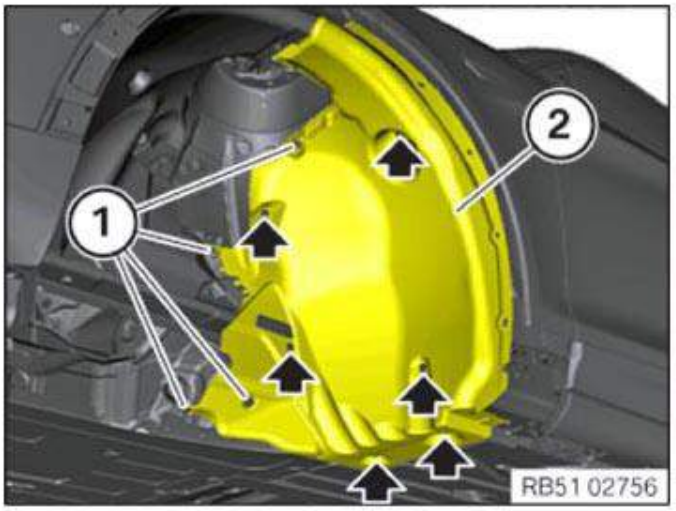


Fig. 618: Locating Wheel Arch Cover Nut And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **FRONT WHEEL ARCH TRIM**
- Install **FRONT WHEEL**

51 71 038 REMOVING AND INSTALLING/REPLACING FRONT WHEEL ARCH COVER (FRONT SECTION) ON THE LEFT OR RIGHT

Necessary preliminary work:

- Remove **FRONT WHEEL**
- **PARTIALLY** remove front wheel arch cover

Removal:

Version up to 04/2014:

cardiagn.com

NOTE: **For a better view surrounding components have been omitted.**

Prior to removing, pay attention to the exact installation position with respect to the adjoining components.

Release all screws (2).

Feed out wheel arch cover (1).

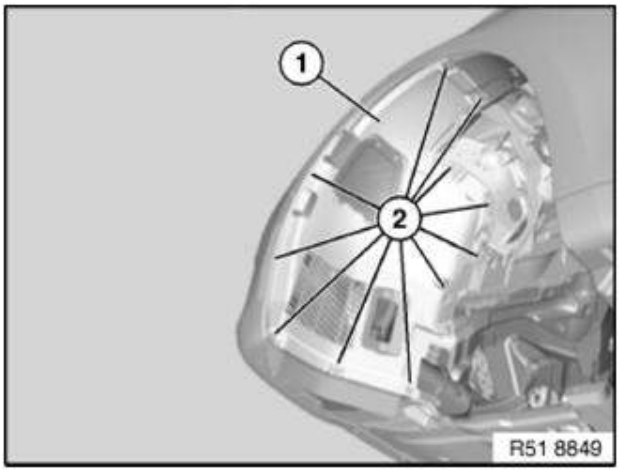


Fig. 619: Identifying Wheel Arch Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

NOTE: **For a better view surrounding components have been omitted.**
Prior to removing, pay attention to the exact installation position with respect to the adjoining components.

Release nuts (1).

Release screws (2).

Feed out wheel arch cover (3).

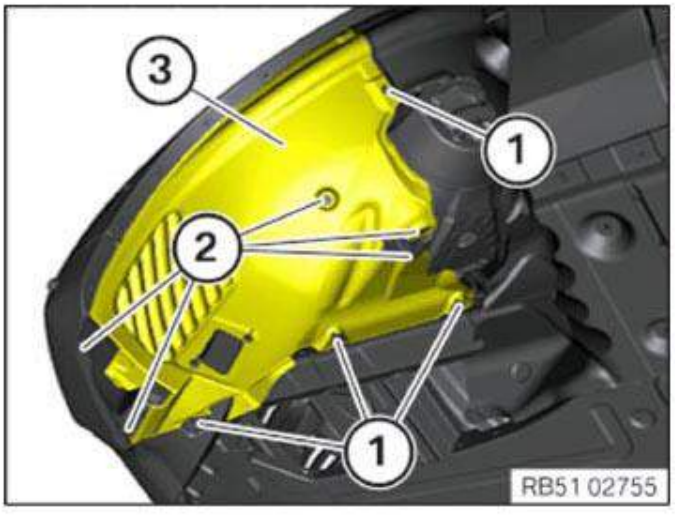


Fig. 620: Identifying Wheel Arch Cover, Nut And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Version up to 04/2014:

cardiagn.com

Feed in wheel arch cover (1).

Tighten all screws (2).

NOTE: **Make sure wheel arch cover (1) and cooling air routing are correctly fitted.**

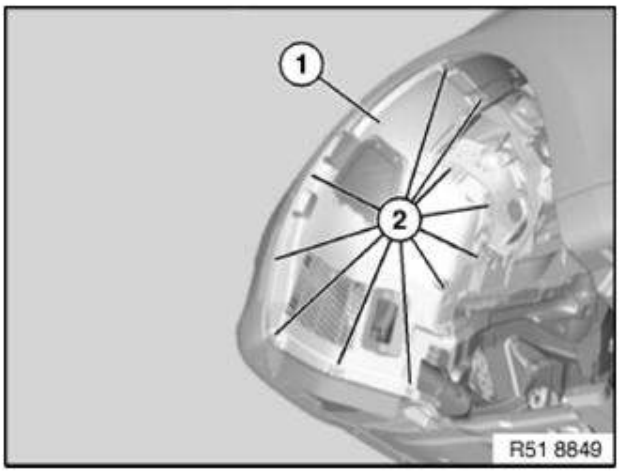


Fig. 621: Identifying Wheel Arch Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Feed in wheel arch cover (3).

Tighten nuts (1).

Tighten screws (2).

NOTE: **Make sure wheel arch cover (3) and cooling air routing are correctly fitted.**

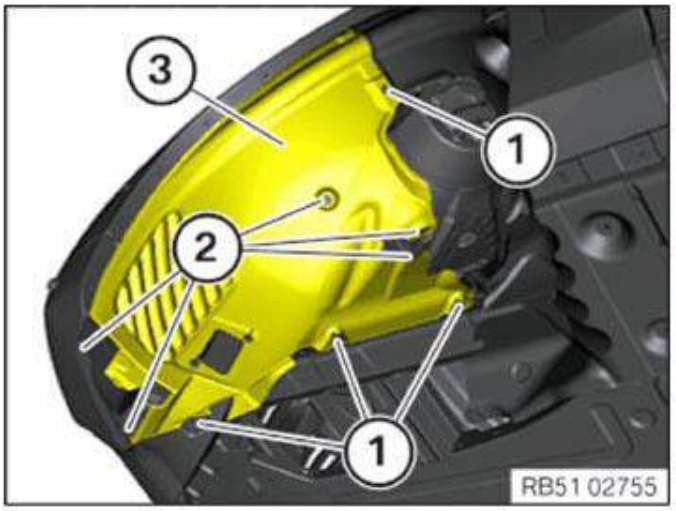


Fig. 622: Identifying Wheel Arch Cover, Nut And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **FRONT WHEEL**
- Partially remove **TRIM ON FRONT WHEEL ARCH**

51 64 010 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT V-SUPPORT

Refer to **51 64 010 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT V-SUPPORT**.

cardiagn.com

51 71 015 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT UNDERBODY PANELLING

Graphic is only an example. There may be differences in specific details depending on engine version.

Unscrew all bolts.

Tightening torque **51 75 1AZ** .

Remove underbody panelling (1).

Installation note:

Make sure underbody panelling (1) is correctly seated.

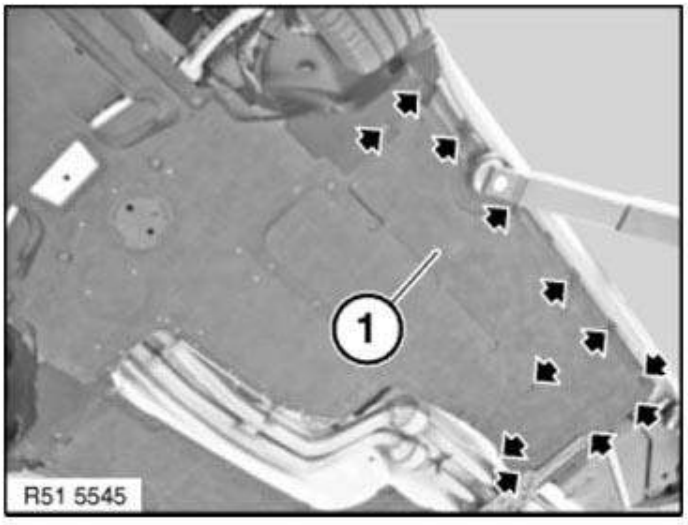


Fig. 623: Locating Underbody Panelling Bolts
Courtesy of BMW OF NORTH AMERICA, INC.

51 71 041 REMOVING AND INSTALLING/REPLACING REAR LEFT OR RIGHT WHEEL ARCH COVER

Necessary preliminary work:

- Remove **REAR WHEEL**
- Remove **COVER ON REAR WHEEL ARCH**

Removal:

Version up to 04/2014:

Release plastic nut (1) and screws (2).

Pull air guide (3) down to feed out wheel arch cover.

cardiagn.com

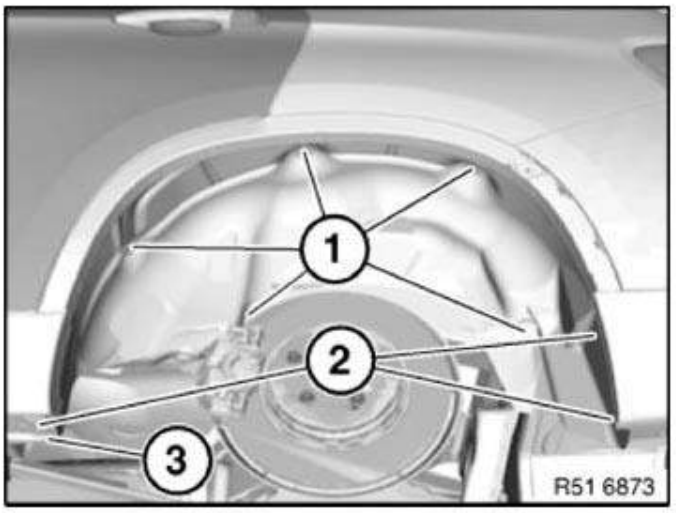


Fig. 624: Identifying Air Guide, Plastic Nut And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Release plastic nuts (1) and screws (2).

Feed out wheel arch cover.

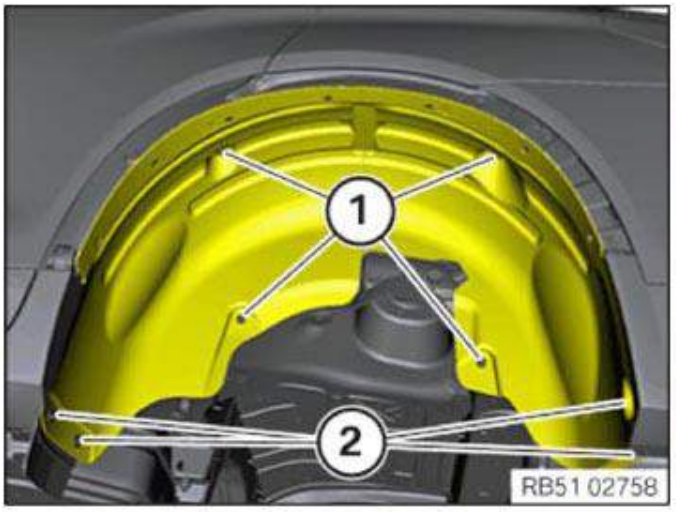


Fig. 625: Identifying Wheel Arch Cover Nut And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Version up to 04/2014:

Pull air guide (3) down to feed out wheel arch cover.

Tighten plastic nut (1) and screws (2).

cardiagn.com

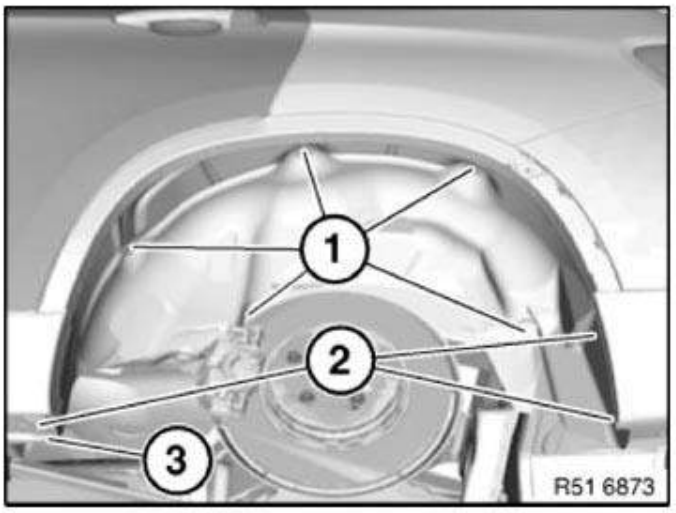


Fig. 626: Identifying Air Guide, Plastic Nut And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Version after 04/2014:

Feed in wheel arch cover.

Tighten plastic nuts (1) and screws (2).

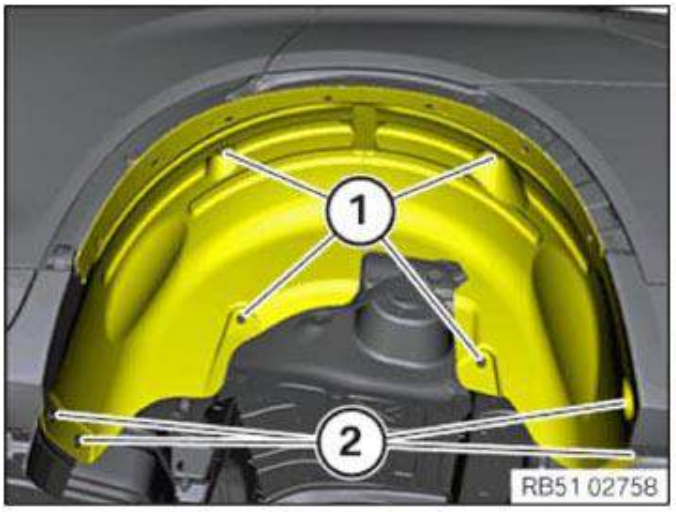


Fig. 627: Identifying Wheel Arch Cover Nut And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **REAR WHEEL**
- Mount **TRIM ON REAR WHEEL ARCH**

51 71 371 REMOVING AND INSTALLING/REPLACING TRAILING LINK ON LEFT OR RIGHT SPRING STRUT DOME

Special tools required:

- **00 9 120**

IMPORTANT: Vehicles must not be driven without tension struts.
Driving without trailing links may damage the vehicle body.
trailing links can be secured with screws or nuts.
Screws must be tightened to specified torque and then tightened down to specified angle of rotation with special tool **00 9 120** .

cardiagn.com

Necessary preliminary tasks:

- Remove **COWL PANEL COVER**

Release screws (1).

Lever out cable clip (2).

Remove cover (3).

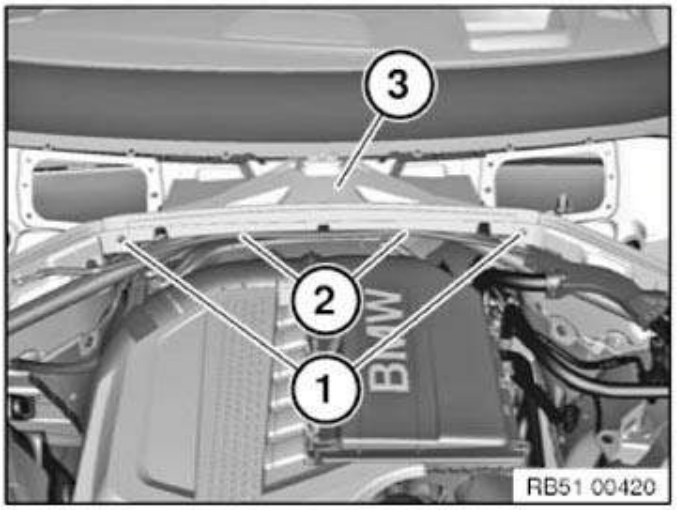


Fig. 628: Identifying Spring Strut Dome Cover, Cable Clip And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten cable clip (3).

Release screws (1).

Tightening torque **51 61 1AZ** .

Remove trailing link (2).

Installation note:

Replace screws (1), tighten to specified torque and then to angle of rotation.

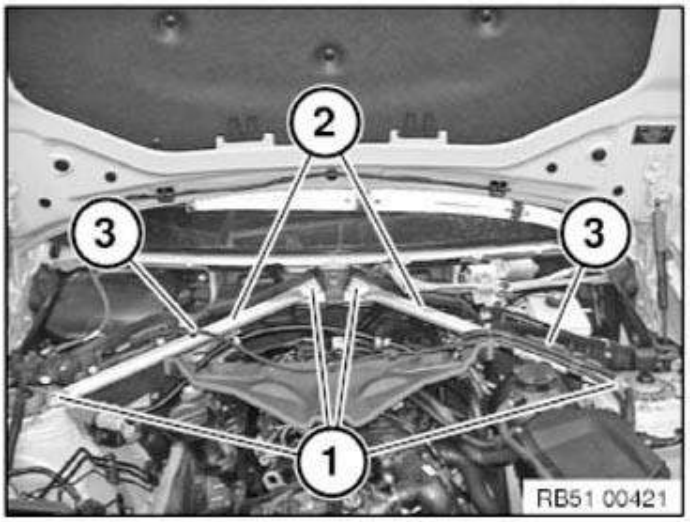


Fig. 629: Identifying Trailing Link, Cable Clip And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 71... REMOVING AND INSTALLING/REPLACING UNITS COMPARTMENT PARTITION WALL

cardiagn.com

Necessary preliminary tasks:

- Remove **COWL PANEL COVER PANEL**.

Middle partition wall:

Release screws (1).

Lever out cable clip (2).

Remove partition wall (3).

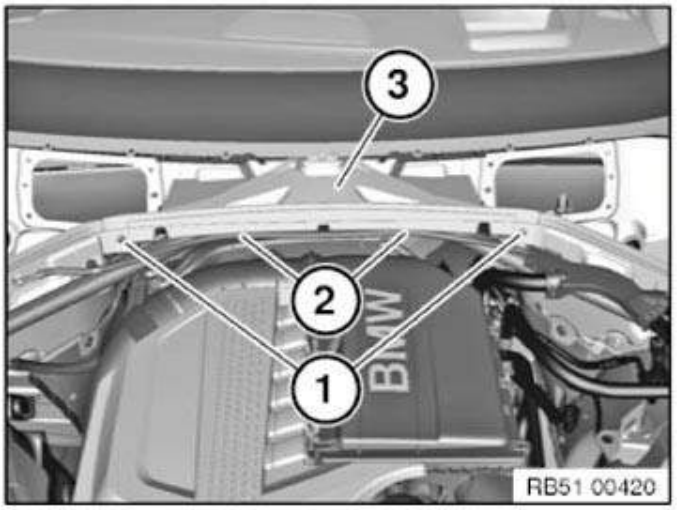


Fig. 630: Identifying Spring Strut Dome Cover, Cable Clip And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Left/right partition wall:

Release screws (1 and 4).

Unscrew screws (2) and lay cable clip (3) slightly towards front.

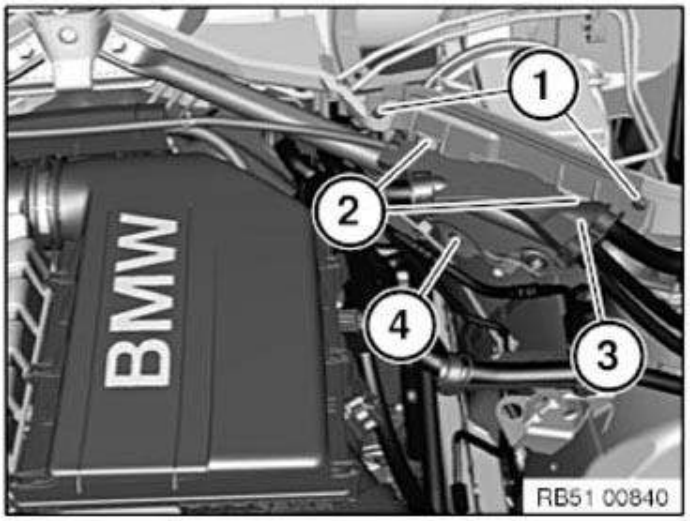


Fig. 631: Identifying Compartment Partition Wall, Cable Clip And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1 and 2).

Remove partition wall (3).

Installation note:

cardiagn.com

Make sure partition wall is installed in correct position.

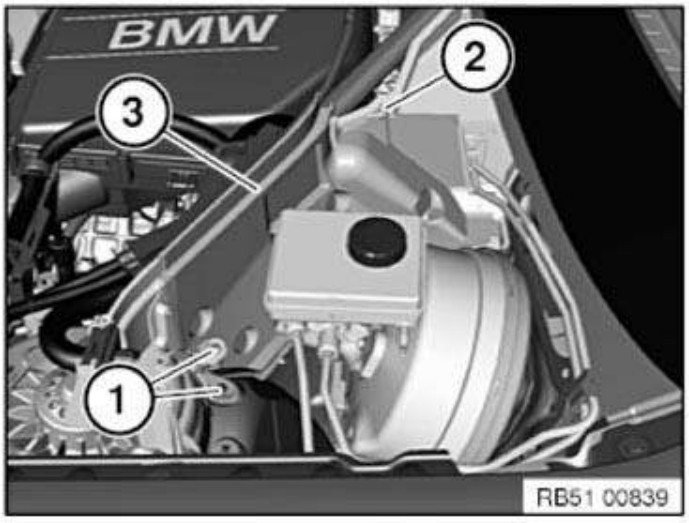


Fig. 632: Identifying Compartment Partition Wall Screws
Courtesy of BMW OF NORTH AMERICA, INC.

51 64 025 REMOVING AND INSTALLING/REPLACING UPPER FRONT CONNECTION

Refer to **51 64 025 REMOVING AND INSTALLING/REPLACING UPPER FRONT CONNECTION**.

51 64 020 REMOVING AND INSTALLING/REPLACING UPPER REAR CONNECTION

Refer to **51 64 020 REMOVING AND INSTALLING/REPLACING UPPER REAR CONNECTION**.

51 71 115 REPLACING SEAL ON LEFT OR RIGHT FRONT DOOR

Follow **REPAIR INSTRUCTIONS** for bonded seals.

Necessary preliminary work:

- If necessary, remove sealing on front door
- Remove **COVER ON INSIDE DOOR WINDOW FRAME**
- Release **DOOR STOP FROM DOOR PILLAR**
- Affix **TEMPLATES FOR SEALING** on inner door panel

IMPORTANT:

- After disengaging door stop, use suitable means of preventing door from opening past its maximum permissible opening angle (risk of damaging paintwork or bodywork)
- Do not touch the bonding surface and make sure it is kept perfectly clean
- Do not overstretch or compress the seal when positioning it
- Maximum permissible sag of seal during positioning process 30 mm
- Always apply pressure perpendicular to the bonding surface to affix the seal
- It is the contact pressure applied (approx. 10... 15 N/cm^2) that is decisive for a good bond, not the length of time over which pressure is maintained.
- **Only after being pressed on gently,** the seal can still be peeled off and repositioned up to 3 times
- Disengaging the seal after it has been pressed on firmly destroys the adhesive bond.

Suspend seal (1) with open lip pointing inwards over door.

Remove protective film around colour coding (positioning aid).

Position seal (1) with colour coding at the top front on the window frame.

cardiagn.com

Glue seal as follows:

- Follow the gluing sequence described below

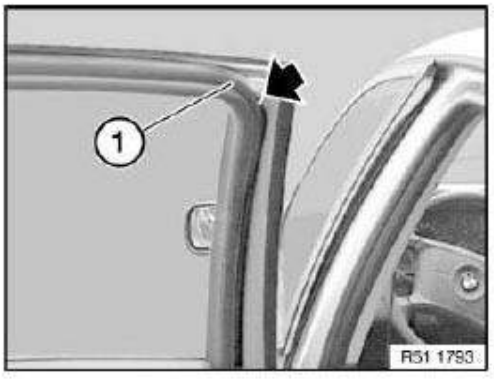


Fig. 633: Locating Front Door Suspend Seal
Courtesy of BMW OF NORTH AMERICA, INC.

- Gradually peel off protective film and lightly press seal (1) into position on inner door panel
- Check position of seal (1); correct if necessary until positioning is perfect
- Apply firm pressure to seal (1).

Gluing sequence:

1. Along window frame to start of template
2. From door post to entrance area
3. Rest of door area

Positioning seal:

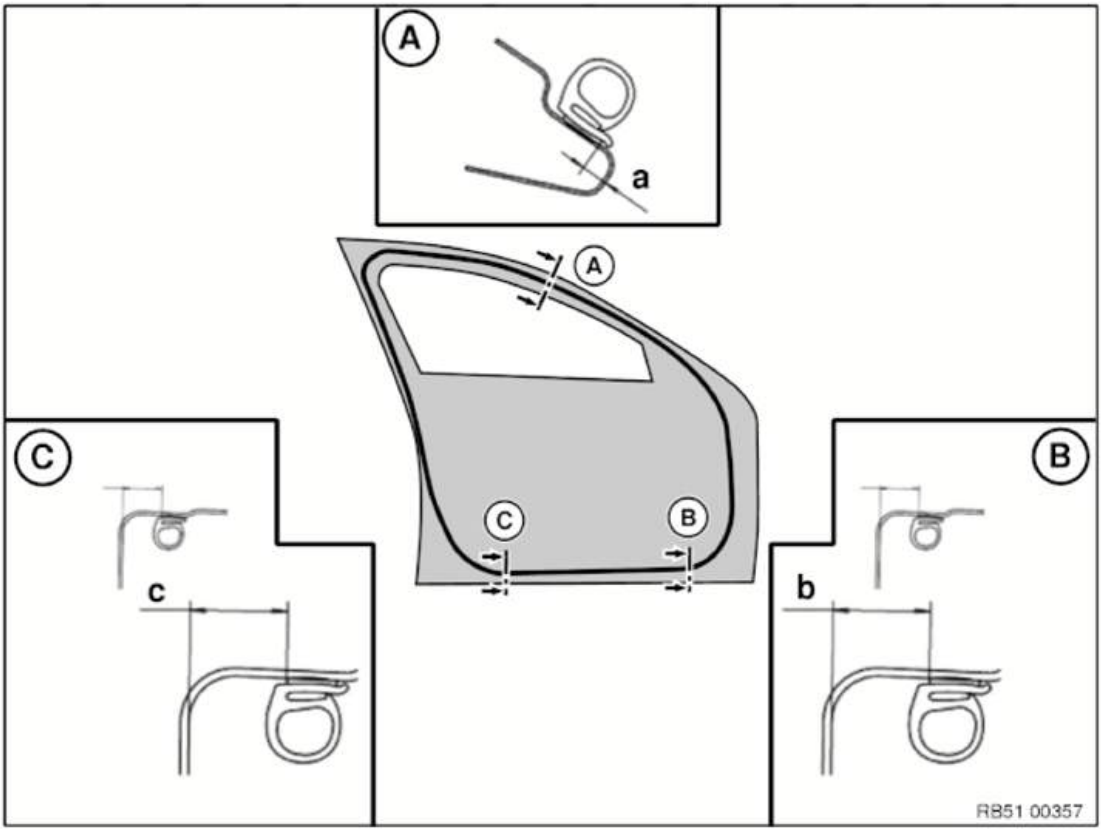


Fig. 634: Identifying Front Door Seal Position
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Position	Distance between adhesive strip on rubber profile and to sheet metal edge (in mm)
a	6.5
b	21.5
C	22.5

Positioning seal along templates:

Edge of adhesive tape (2) is aligned with cut edge of template (3).

1. Seal
2. Adhesive tape of seal
3. Template

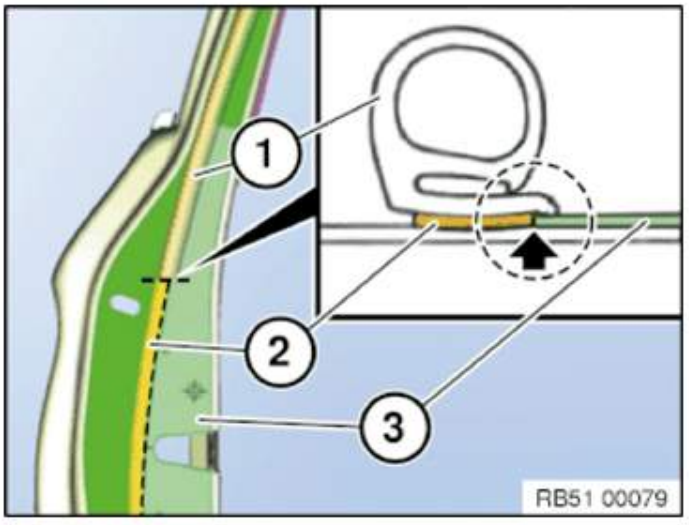


Fig. 635: Locating Door Seal
Courtesy of BMW OF NORTH AMERICA, INC.

Concluding tasks:

- Remove all templates

51 71 215 REPLACING SEALING ON LEFT OR RIGHT REAR DOOR

Follow **REPAIR INSTRUCTIONS** for bonded seals.

Necessary preliminary work:

- If applicable, remove the sealing on the rear door
- Remove **COVER ON INSIDE DOOR WINDOW FRAME**
- **RELEASE REAR DOOR STOP FROM DOOR POST**.
- Affix **TEMPLATES FOR SEALING** on inner door panel

IMPORTANT:

- After disengaging door stop, use suitable means of preventing door from opening past its maximum permissible opening angle (risk of damaging paintwork or bodywork)
- Do not touch the bonding surface and make sure it is kept perfectly clean
- Do not overstretch or compress the seal when positioning it
- Maximum permissible sag of seal during positioning process 30 mm
- Always apply pressure perpendicular to the bonding surface to affix the seal
- It is the contact pressure applied (approx. 10... 15 N/cm^2) that is decisive for a good bond, not the length of time over which pressure is maintained.
- **Only after being pressed on gently,** the seal can still be peeled off and repositioned up to 3 times

cardiagn.com

- Disengaging the seal after it has been pressed on firmly destroys the adhesive bond.

Suspend seal (1) with open lip pointing inwards over door.

Remove protective film around colour coding (positioning aid).

Position seal (1) with colour coding at the top front on the window frame.

Glue seal as follows:

- Follow the gluing sequence described below
- Gradually peel off protective film and lightly press seal (1) into position on inner door panel
- Check position of seal (1); correct if necessary until positioning is perfect
- Apply firm pressure to seal (1).

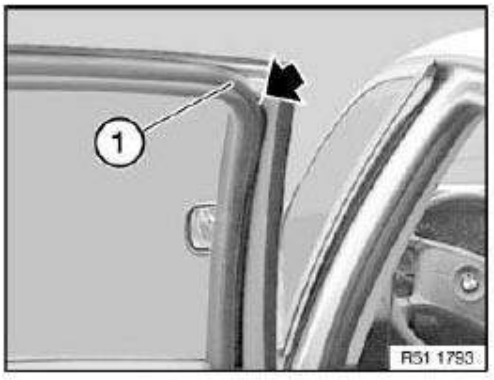


Fig. 636: Locating Front Door Suspend Seal
Courtesy of BMW OF NORTH AMERICA, INC.

Gluing sequence:

1. Along window frame to start of template
2. From door post to entrance area
3. Rest of door area

Positioning seal:

cardiagn.com

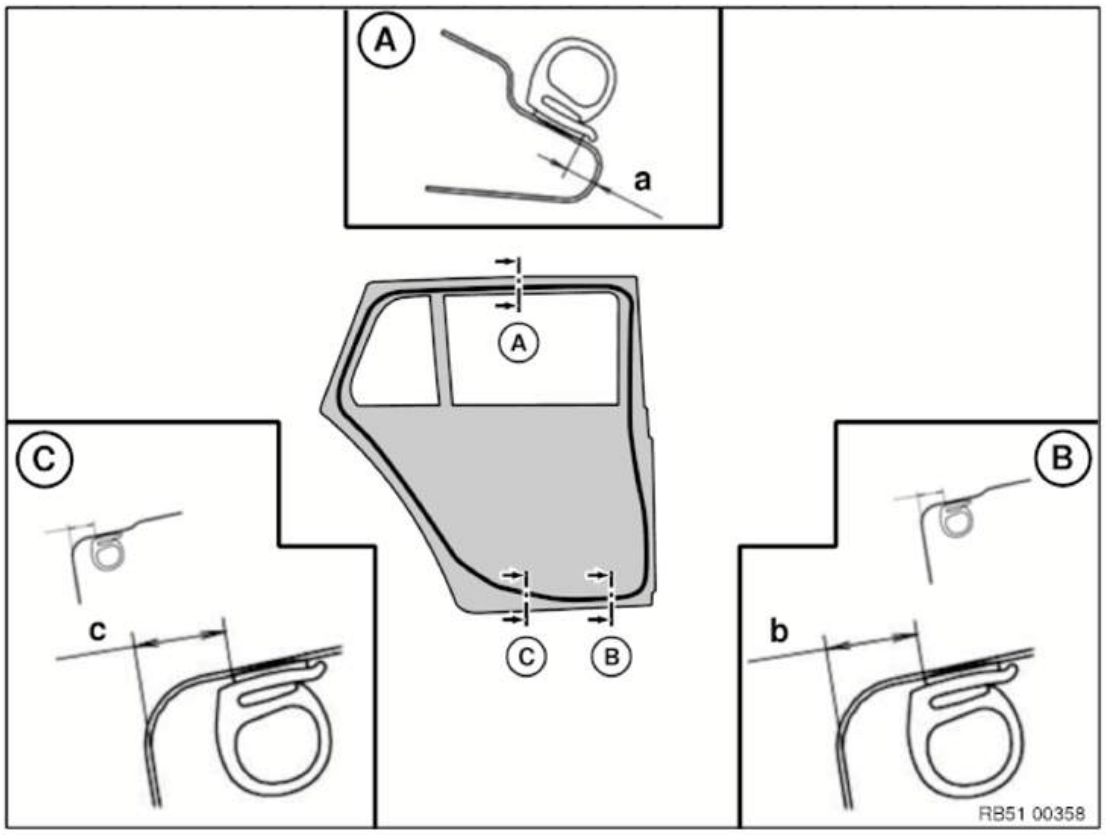


Fig. 637: Identifying Rear Door Seal Position
Courtesy of BMW OF NORTH AMERICA, INC.

Position	Distance between adhesive strip on rubber profile and sheet metal edge (in mm)
a	6.5
b	13
C	14.5

Positioning seal along templates:

Edge of adhesive tape (2) is aligned with cut edge of template (3).

1. Seal
2. Adhesive tape of seal
3. Template

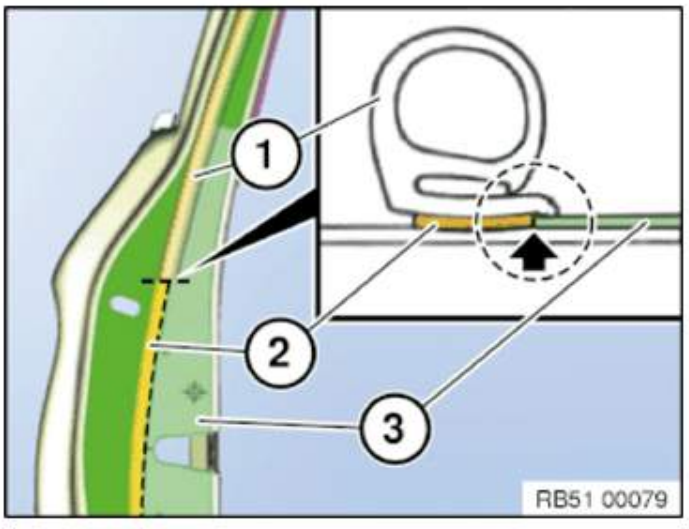


Fig. 638: Locating Door Seal
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Concluding tasks:

- Remove all templates

51 72... SEALING INSTALLATION

Refer to **51 72... SEALING INSTALLATION**.

51 71... STICKING TEMPLATES FOR DOOR SEAL TO INNER DOOR PANEL (DOOR SEAL REMOVED)

The position of the seal in the area of the door lock is set by means of templates (in the form of adhesive film).

Matching templates are supplied with new seals.

Procedure applies universally but is illustrated for front door.

Necessary preliminary tasks:

- Separate pre-perforated cut-outs (2) for door lock fixings, reflectors, etc. from templates (1) if necessary.
- Clean surfaces where templates are to be stuck on inner door panel with adhesive remover (sourcing reference: BMW Parts Department).

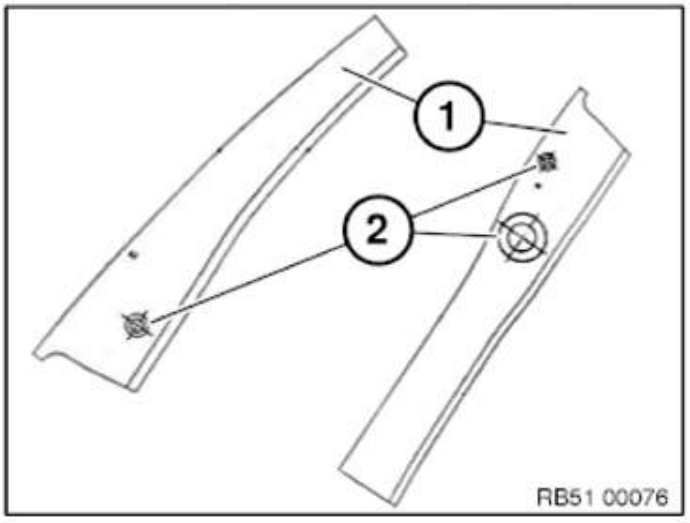


Fig. 639: Identifying Inner Door Panel And Templates
Courtesy of BMW OF NORTH AMERICA, INC.

Apply templates to inner door panel:

cardiagn.com

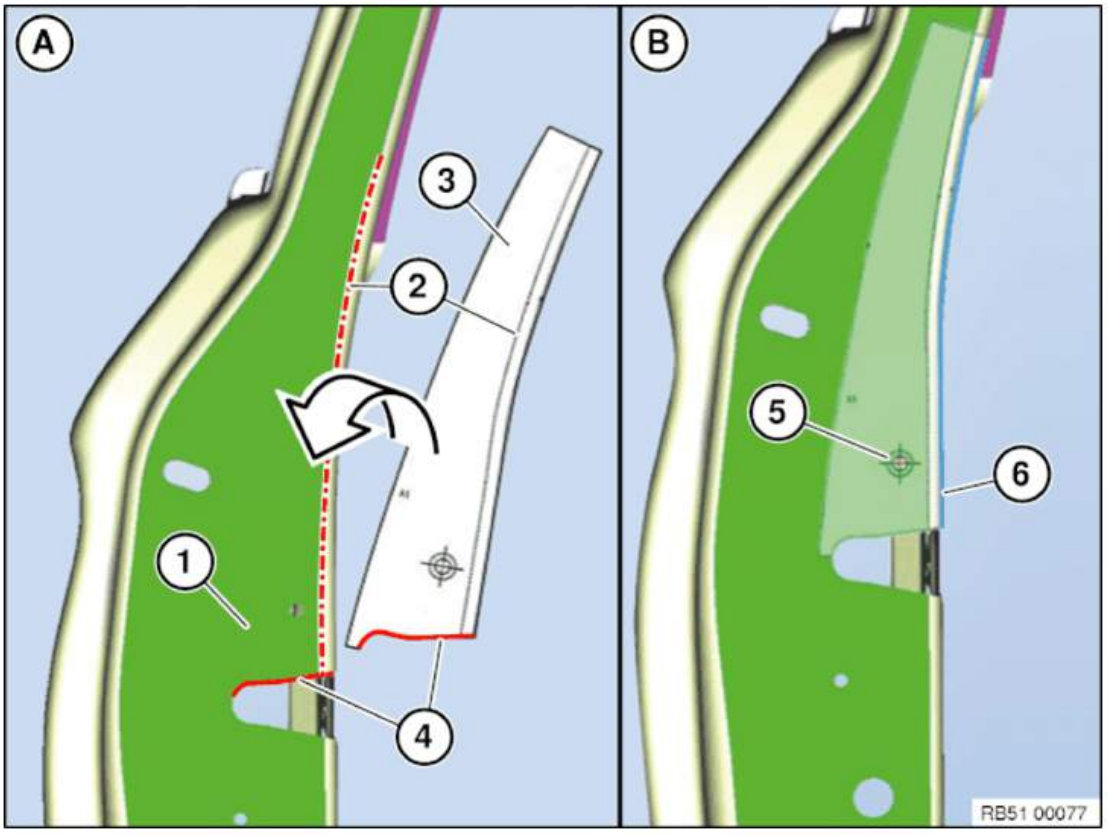


Fig. 640: Applying Templates To Inner Door Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Graphic (A): before sticking down template (3) align with inner door panel (1)

- Template contact edge and door lock cut-out edge match identically (4)
- Marking on template and start of inner door panel curvature match identically (2)

Graphic (B): checking position of template relative to inner door panel after sticking on

- Template cutting edge and projected inner door panel contact edge are flush (6)
- Template markings/cut-outs (5) are flush with relevant hole, screw fixing, reflector, etc.

Repeat preceding operation for other templates (1) if necessary.

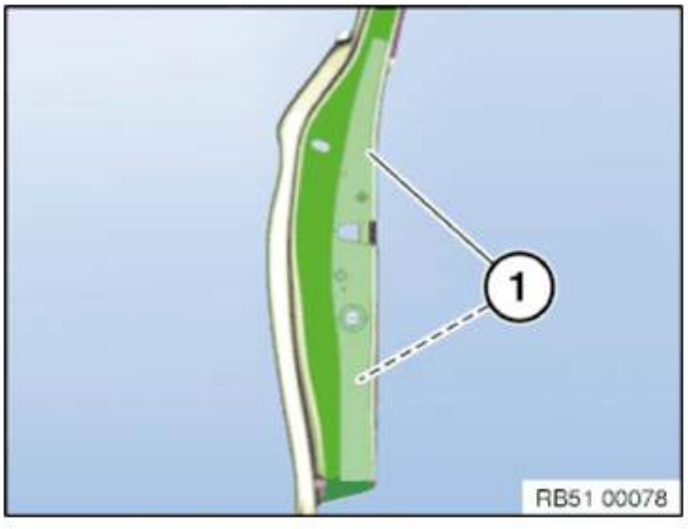


Fig. 641: Identifying Door Templates
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

MUCKET FOR DOORS

51 72 000 REPLACING EDGE PROTECTION FOR LEFT OR RIGHT FRONT DOOR

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Necessary preliminary tasks:

- Remove **FRONT DOOR SILL COVER STRIP (INNER)**

IMPORTANT: Follow **NOTES** for fitting sealing!

Detach edge protection (1).

Installation note:

Install edge protection (1) starting in area "A".

When installed, the location of joint of edge protection (1) must be in area "B".

Pull off mounting cord starting in area "B".

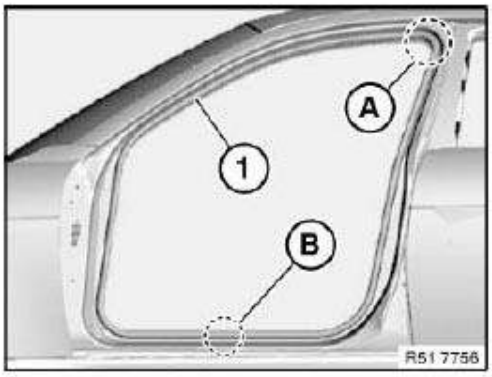


Fig. 642: Identifying Front Door Edge Protection
Courtesy of BMW OF NORTH AMERICA, INC.

51 72 010 REPLACING EDGE PROTECTION FOR LEFT OR RIGHT REAR DOOR

When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Necessary preliminary tasks:

- Remove **REAR DOOR SILL COVER STRIP (INNER)**

IMPORTANT: Follow **NOTES** for fitting sealing!

Detach edge protection (1).

Installation note:

Install edge protection (1) starting in area "A".

When installed, the location of joint of edge protection (1) must be in area "B".

Pull off mounting cord starting in area "B".

cardiagn.com

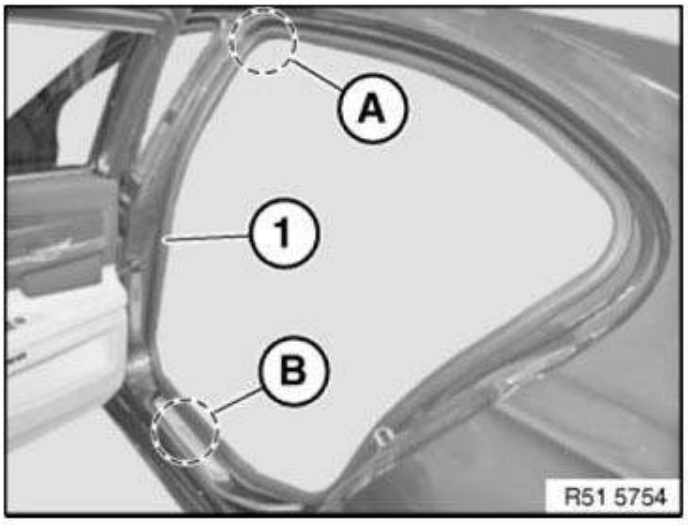


Fig. 643: Identifying Rear Door Edge Protection
Courtesy of BMW OF NORTH AMERICA, INC.

51 72... SEALING INSTALLATION

NOTE: **The utmost care must be taken when removing all sealings on the vehicle. Incorrect fitting can lead to wind noise and water ingress among other things and can affect the ease of closing and opening.**

The following instructions only apply to sealing without sealant.

Sealings with sealant must be replaced each time they are disassembled.

Sealing surfaces must be cleaned.

- **In general, the following applies:** Sealings on the side frame can be fitted and removed any number of times.
- Sealings must not be damaged or torn.

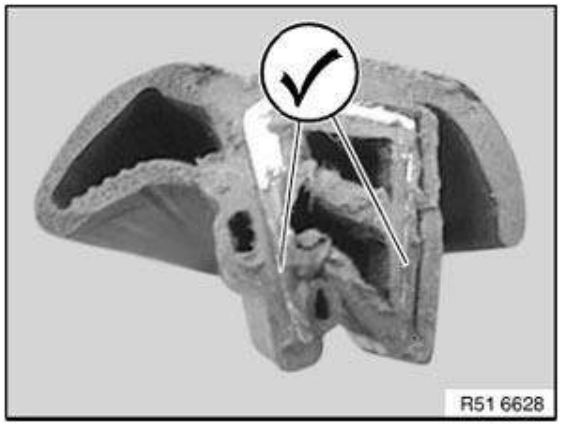


Fig. 644: Identifying Door Sealing Installation Position (Correct)
Courtesy of BMW OF NORTH AMERICA, INC.

- The clamping surface must be compressed by hand far enough to ensure that a tight connection on the side flange is still possible. The sealing shanks may touch each other slightly. A completely compressed sealing is not permitted.
- It is not necessary to use special tools to compress the clamping surface. This can be done carefully by hand.
- The sealings must always be fitted except in the case of blockages. There is no defined contact pressure.
- A new gasket must be fitted if sealings in the tailgate area are repeatedly fitted and removed (water ingress due to cracked sheet metal).

cardiagn.com

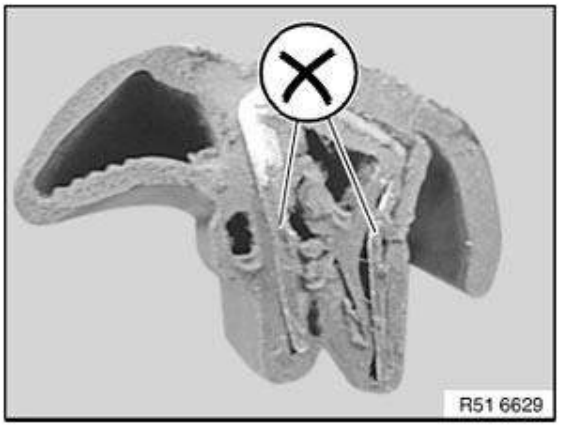


Fig. 645: Identifying Door Sealing Installation Position (Incorrect)
Courtesy of BMW OF NORTH AMERICA, INC.

- Sealings must be checked for correct fit after installation. If necessary, sealings should be lifted over the adjacent components using the appropriate tool. Neighboring components must not be damaged.
- Sealings must be replaced if the metal inlay of the sealing is visible (corrosion).
- Ensure the clamping surface is even all round.

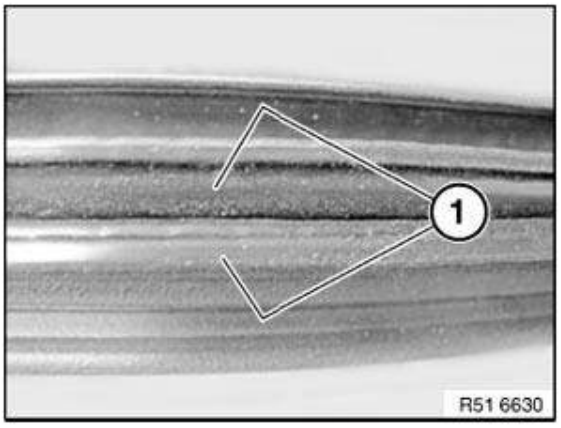


Fig. 646: Identifying Door Sealing Installation Clamping Surface
Courtesy of BMW OF NORTH AMERICA, INC.

- Sealings that are installed with plastic clips fit tightly against the body. If this is not the case, replace the clips or sealings.

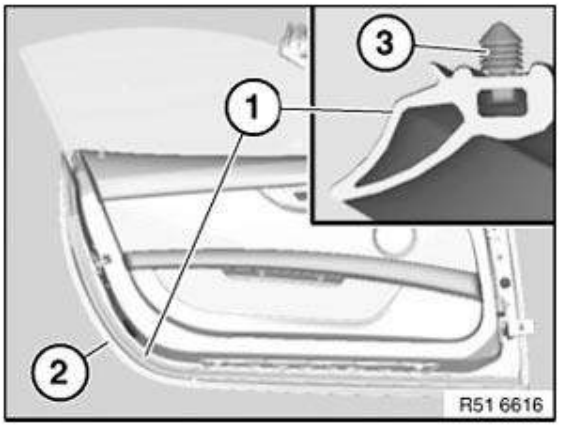


Fig. 647: Identifying Door Sealings And Plastic Clips
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

cardiagn.com

BODY EQUIPMENT

2355737 ACCESSORIES

2355737 Accessories Minimum set: Mechanical tools AM

NOTE: Applies to: BMW i Aftersales CFRP Full Grip cone for blind rivets, item number 83 19 0 301 414 and 83 19 0 301 419

SI number

01 07 13 (937)



Fig. 1: Identifying Accessories (2355737)
Courtesy of BMW OF NORTH AMERICA, INC.

2357834 ACCESSORIES

2357834 Accessories AM

NOTE: Applies to: BMW i Aftersales Carbon Full

SI number

01 07 13 (937)

cardiagn.com

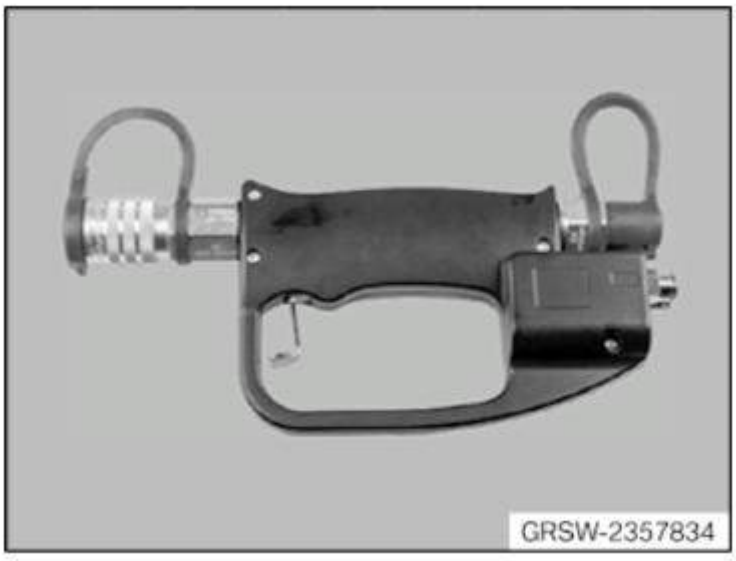


Fig. 2: Identifying Accessories (2357834)
Courtesy of BMW OF NORTH AMERICA, INC.

0494325 ADJUSTER

0494325 512190 Adjuster Minimum set: Mechanical tools AM

NOTE: **(door lock tensioner) For pre-tensioning front and rear door locks when installing. Change to tool through use of noise-optimized locks from 02/2004. Illustration items: 1 = knurled nut 51 2 191 2 = support 51 2 192 3 = protection 51 2 196 4 = mandrel 51 2 197**

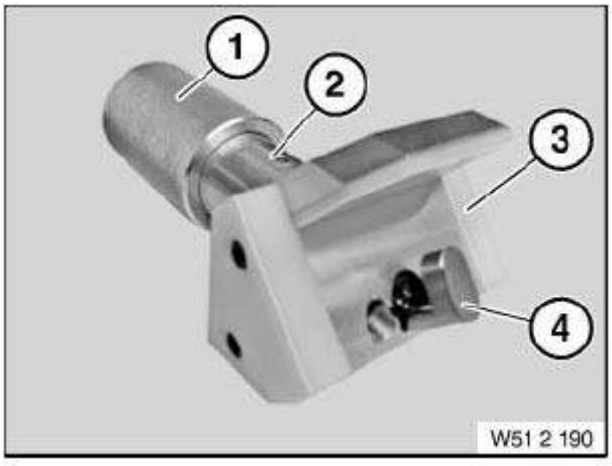


Fig. 3: Identifying Adjuster (0494325)
Courtesy of BMW OF NORTH AMERICA, INC.

Storage Location

B44

C44

SI number

01 06 02 (864)

Consisting of:

cardiagn.com

1 = 0494470 Nut

NOTE: **(Knurled nut) Replaced by 00 9 120 (0 490 504)**

2 = 0494471 Upholstery

2 = 0494472 Guard

NOTE: **Is replaced by 51 2 196 with the use of noise-optimized locks from 02/2004 Replaced by 51 2 196 (0 494 906)**

2 = 0494473 Mandrel

NOTE: **Is replaced by 51 2 197 with the use of noise-optimized locks from 02/2004 Replaced by 51 2 197 (0 494 907)**

2 = 0494474 Shaped element

NOTE: **E85 (omitted)**

3 = 0494906 Guard

NOTE: **Replaces guard 51 2 193**

4 = 0494907 Mandrel

NOTE: **Replaces mandrel 51 2 194**

0492618 BELT

0492618 513044 Belt AM

NOTE: **(Lashing strap)**

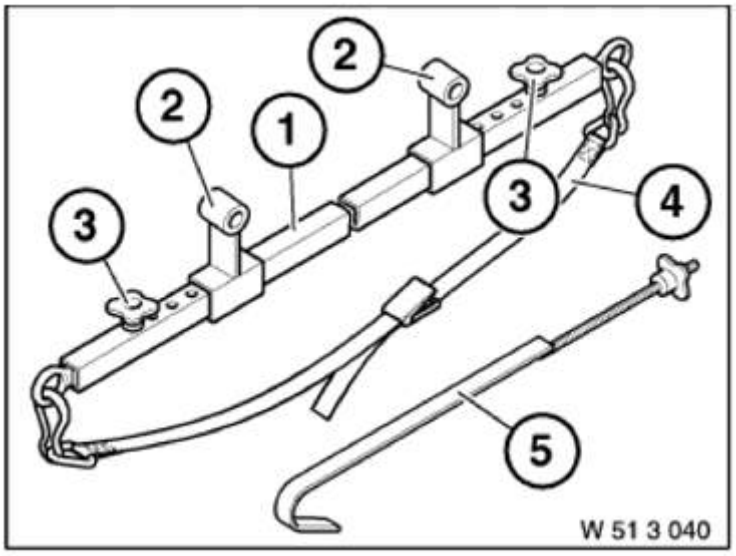


Fig. 4: Identifying Belt (0492618)
Courtesy of BMW OF NORTH AMERICA, INC.

0492666 BLADE

0492666 519105 Blade AM

cardiagn.com

NOTE: (Paring knife)

0492660 BOX

0492660 519005 Box AM

NOTE: (Storage box)

0492581 BOX SPANNER

0492581 511040 Box spanner Mechanical tool

NOTE: For turning the adjusting screw on the bumper

Storage Location

Y4

SI number

01 01 88 (812)

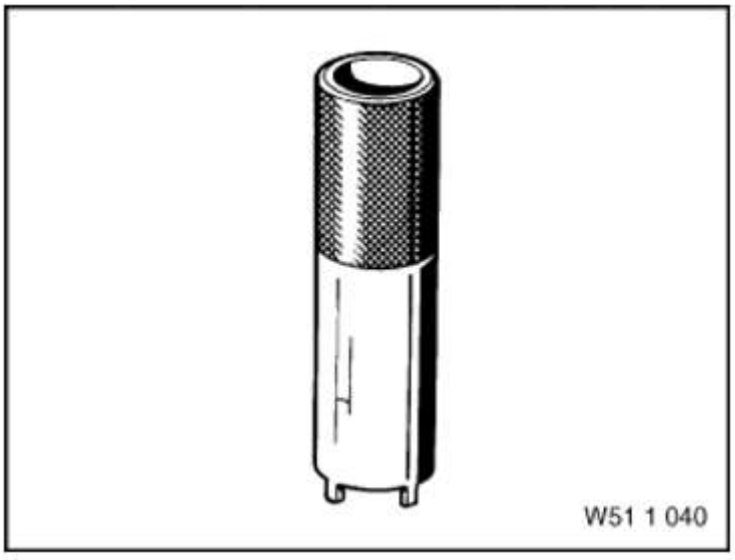


Fig. 5: Identifying Box Spanner (0492581)
Courtesy of BMW OF NORTH AMERICA, INC.

0492593 BOX SPANNER

0492593 512020 Box spanner Mechanical tool

NOTE: For lock barrel screw connection of tailgate/Since February 84

0492595 BOX SPANNER

0492595 512060 Box spanner Mechanical tool

NOTE: For the lock barrel screw connection (thread ring)

cardiagn.com

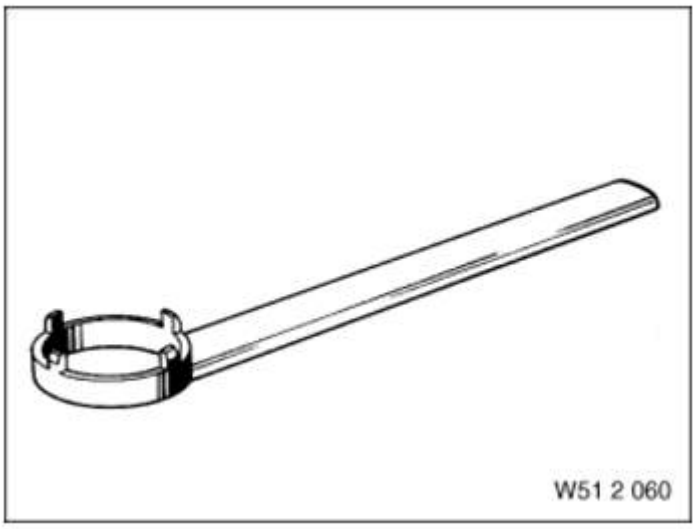


Fig. 6: Identifying Box Spanner (0492595)
Courtesy of BMW OF NORTH AMERICA, INC.

0492659 CARTRIDGE GUN

0492659 519004 Cartridge gun AM

NOTE: (Glue cartridge air gun) Discontinued; this is available at the dealer organization.

0494766 CLAMP

0494766 512232 Clamp AM

NOTE: (Fixing clamp) Deletion, only available via tool set

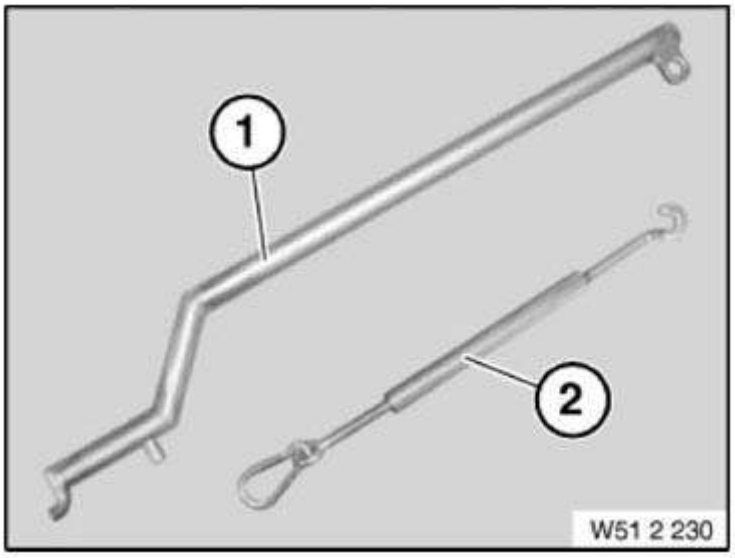


Fig. 7: Identifying Clamp (0494766)
Courtesy of BMW OF NORTH AMERICA, INC.

0492610 CLIP

0492610 513020 Clip Mechanical tool

NOTE: (Mounting clip for window holder)

cardiagn.com

0492640 CLIP

0492640 513104 Clip AM

NOTE: (Installation bracket) For rolling up sheet metal angles

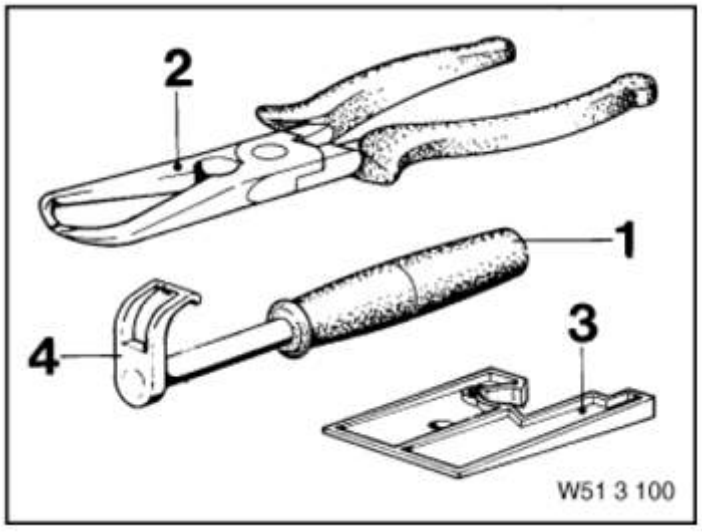


Fig. 8: Identifying Clip (0492640)
Courtesy of BMW OF NORTH AMERICA, INC.

0492582 CLIP

0492582 511050 Clip Mechanical tool

NOTE: For mounting the trim strips on the gutter strips

Storage Location

Y4

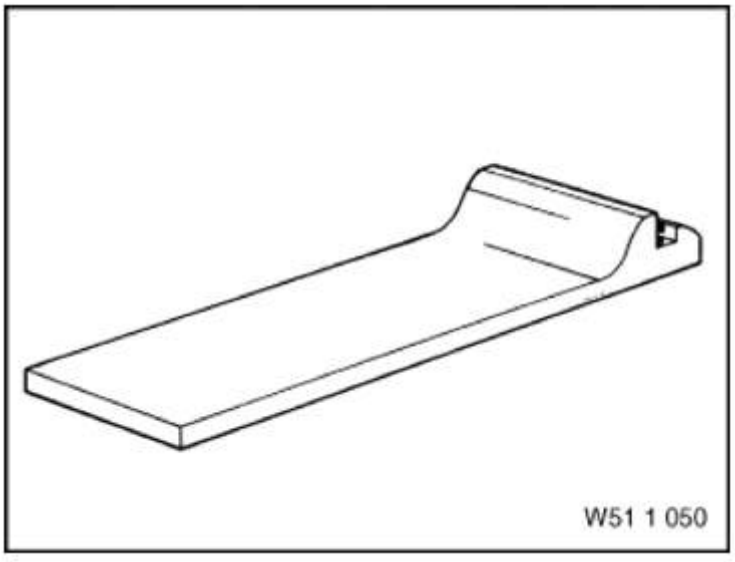


Fig. 9: Identifying Clip (0492582)
Courtesy of BMW OF NORTH AMERICA, INC.

0494771 DEVICE

0494771 511091 Device AM

cardiagn.com

NOTE: **(Basic unit) Only available as part of complete tool 511090 (83300494736).**

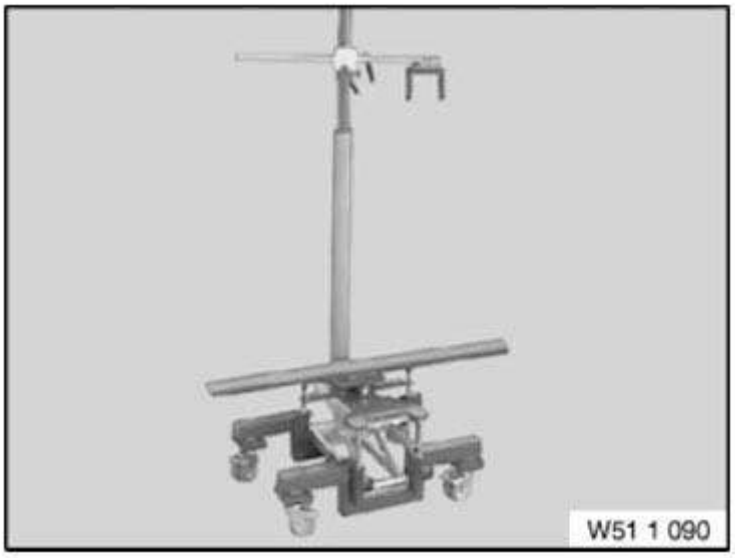


Fig. 10: Identifying Device (0494771)
Courtesy of BMW OF NORTH AMERICA, INC.

0492630 DEVICE

0492630 513060 Device AM

NOTE: **(Mounting device) For securing the frame of the windscreen in high-security vehicle (incl. 24 locking pliers) E32/3**

Consisting of:

1. 0492631 Upholstery
2. 0492632 Pliers

NOTE: **(Clamping pliers) 24 clamping pliers in the set**

2356862 DEVICE

2356862 Device Minimum set: Measuring and testing equipment MP

NOTE: **Device for measuring the side window retraction depth. also valid for: BMW i Aftersales Basic**

SI number

01 29 13 (998)

cardiagn.com



Fig. 11: Identifying Device (2356862)
Courtesy of BMW OF NORTH AMERICA, INC.

0492577 DEVICE

0492577 511010 Device AM

NOTE: **(Stamping device) For stamping the vehicle identification number into the type plate (E-label)**

Consisting of:

1. 0492578 Device

   NOTE: **(Stamping device, single)**

2. 0492579 Punch element

   NOTE: **(Punch numbers 0...9 (set))**

3. 0492580 Punch element

   NOTE: **(Punch letters A...Z (set))**

cardiagn.com

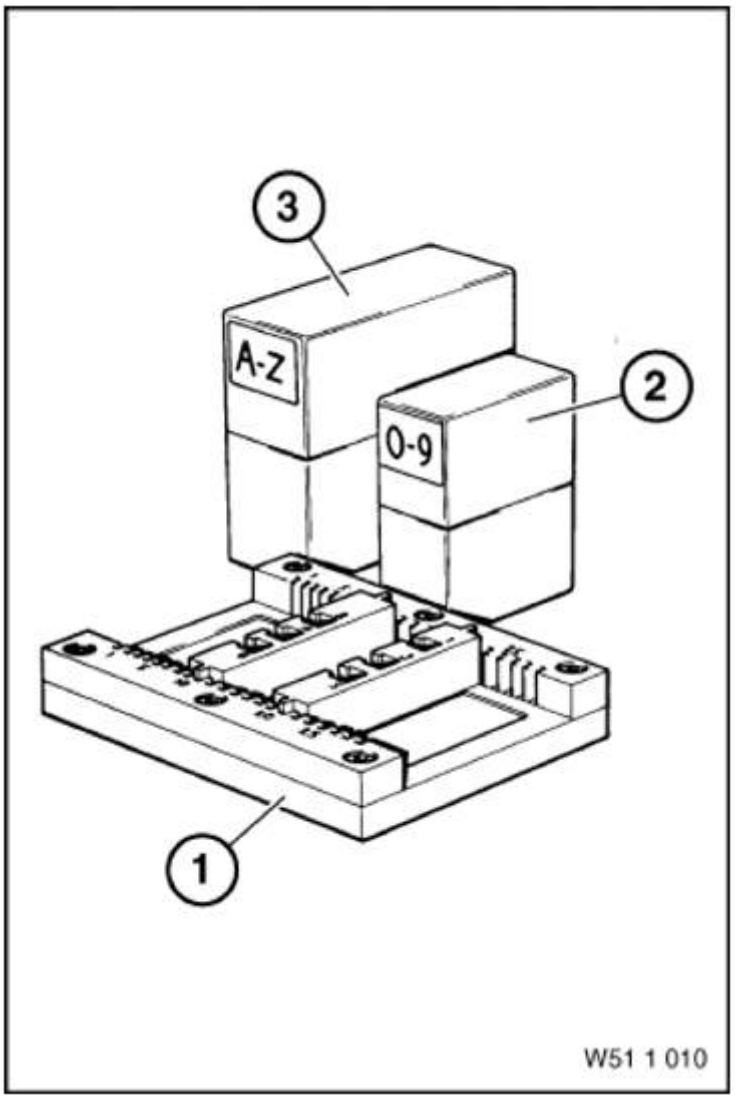


Fig. 12: Identifying Device (0492577)
Courtesy of BMW OF NORTH AMERICA, INC.

0492578 DEVICE

0492578 511011 Device AM

NOTE: (Stamping device, single)

cardiagn.com

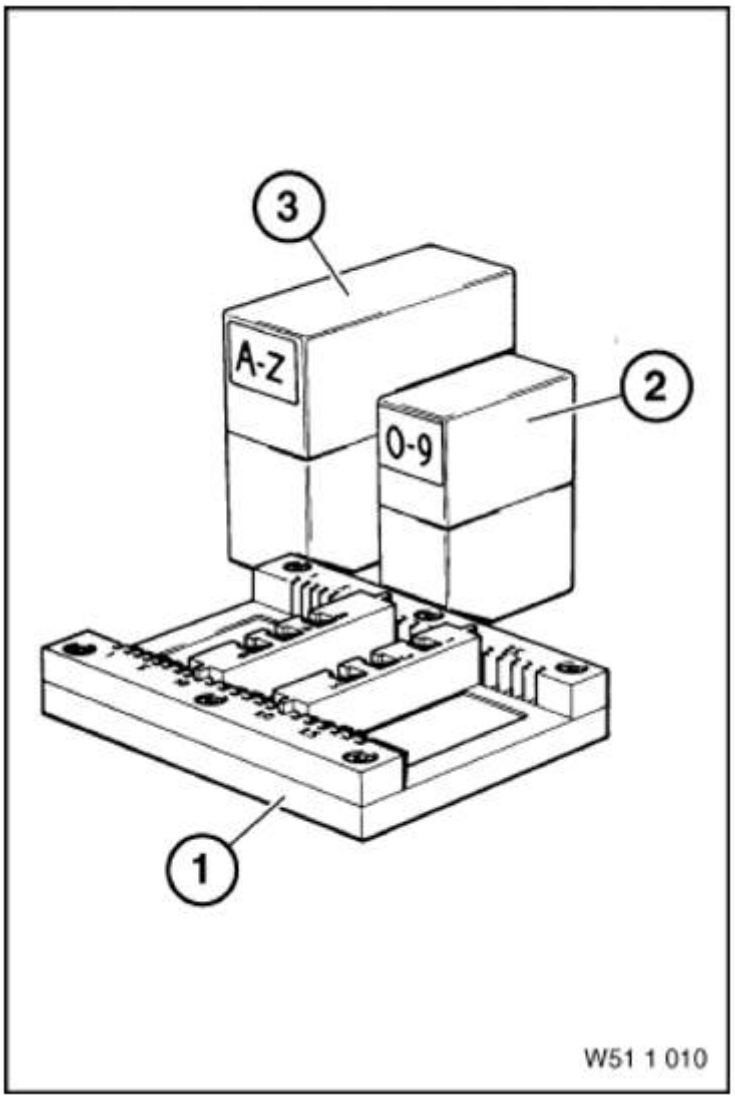


Fig. 13: Identifying Device (0492578)
Courtesy of BMW OF NORTH AMERICA, INC.

0492614 DEVICE

0492614 513040 Device AM

NOTE: **For pressing down the glued window glass**

Consisting of:

1. 0492615 Pipe

   NOTE: **(Transverse pipe)**

2. 0492616 Gauge

   NOTE: **(Positioning eyes)**

3. 0492617 Screw

   NOTE: **(Star bolt)**

4. 0492618 Belt

   NOTE: **(Lashing strap)**

cardiagn.com

5. 0492619 Hook

NOTE: (Drawing hook)

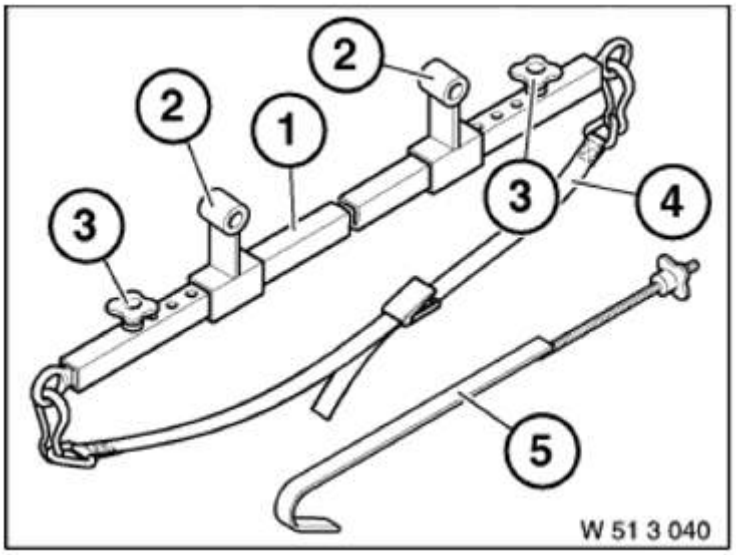


Fig. 14: Identifying Device (0492614)
Courtesy of BMW OF NORTH AMERICA, INC.

0492585 DEVICE

0492585 511070 Device Mechanical tool

NOTE: For reshaping the door seals before fitting

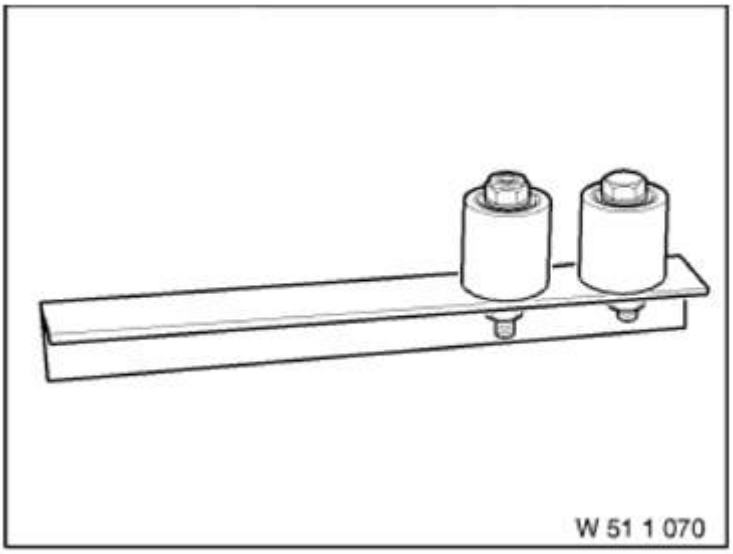


Fig. 15: Identifying Device (0492585)
Courtesy of BMW OF NORTH AMERICA, INC.

0492665 EXTENSION

0492665 519104 Extension AM

0492604 FITTING AID

0492604 512150 Fitting aid AM

cardiagn.com

NOTE: **(Mounting tool) For gas pressure springs of the tailgate and of the rear window frame E39t ou**

Storage Location

A1

B1

C1

SI number

01 08 97 (193)

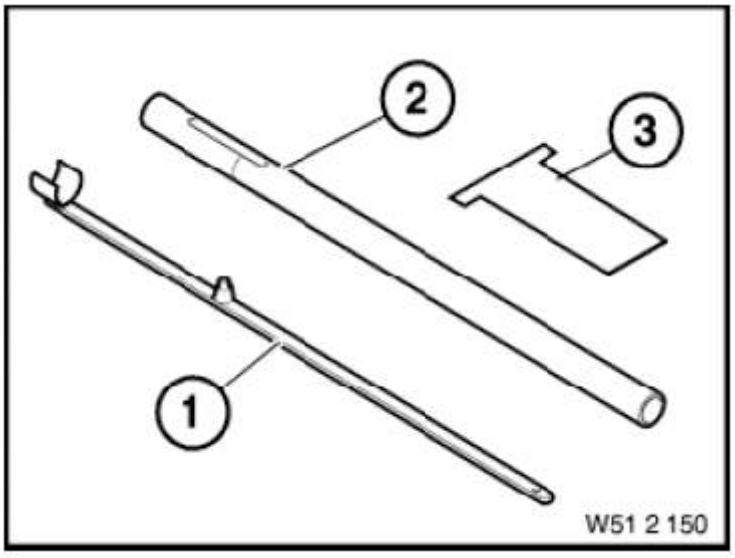


Fig. 16: Identifying Fitting Aid (0492604)
Courtesy of BMW OF NORTH AMERICA, INC.

Consisting of:

2 = **0493673** Lever

NOTE: **(Mounting lever) For hydraulic cylinder of the tailgate**

1 = **0492605** Lever

NOTE: **(Mounting lever) For gas pressure springs of the tailgate**

2 = **0492606** Pipe

NOTE: **(Mounting tube) For gas pressure springs of the rear window frame**

3 = **0492607** Guard

NOTE: **(Mounting protection)**

0494736 FITTING AID

0494736 511090 Fitting aid AM

NOTE: **(door fitting aid) Door fitting aid for removing and fitting the doors.**

cardiagn.com

SI number

01 13 03 (001)

Consisting of:

1. 0494771 Device

NOTE: **(Basic unit) Only available as part of complete tool 511090 (83300494736).**

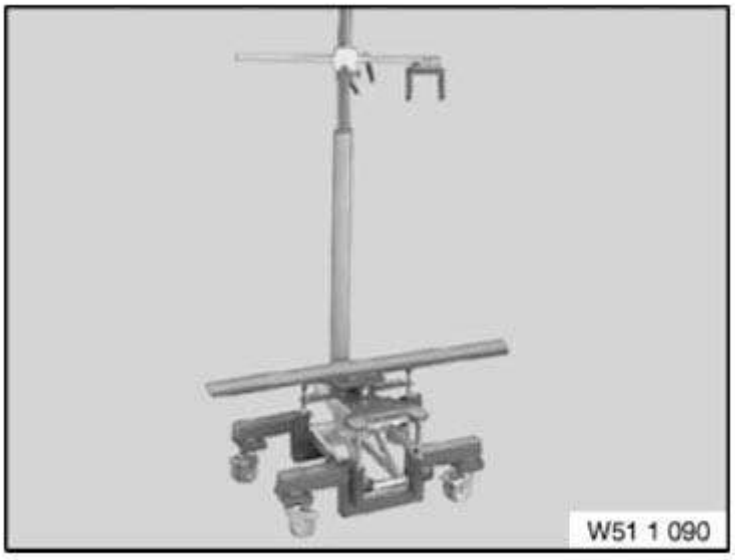


Fig. 17: Identifying Fitting Aid (0494736)
Courtesy of BMW OF NORTH AMERICA, INC.

2. 0494772 Rail

NOTE: **For front doors (1 piece). Only available as part of complete tool 511090 (83300494736).**

3. 0494773 Rail

NOTE: **(rails) For rear doors (2 pieces). Only available as part of complete tool 511090 (83300494736).**

0493397 FITTING AID

0493397 519010 Fitting aid Mechanical tool

NOTE: **(Mounting cross) for securing of adhesive frame for E38/3**

0496529 FITTING AID

0496529 513320 Fitting aid Minimum set: Mechanical tools Mechanical tool

NOTE: **For correct installation of upper rubber seal on windscreen.**

Storage Location

A26

SI number

01 18 08 (482)

cardiagn.com



Fig. 18: Identifying Fitting Aid (0496529)
Courtesy of BMW OF NORTH AMERICA, INC.

0494647 FIXTURE

0494647 513280 Fixture Mechanical tool

NOTE: **For accommodating the underbody protection during removal and installation**

SI number

01 13 03 (001)

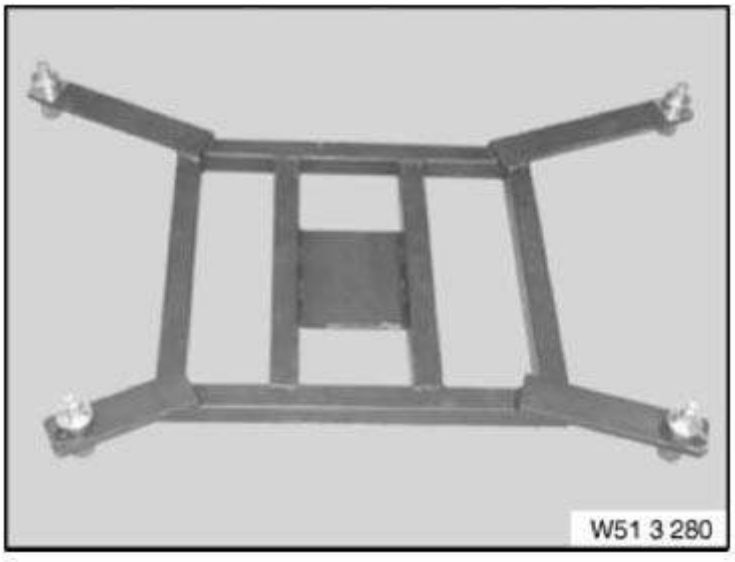


Fig. 19: Identifying Fixture (0494647)
Courtesy of BMW OF NORTH AMERICA, INC.

0492654 FOIL

0492654 514000 Foil Mechanical tool

NOTE: **(Assembly film) For inserting headlining into rear fixture point**

SI number

cardiagn.com

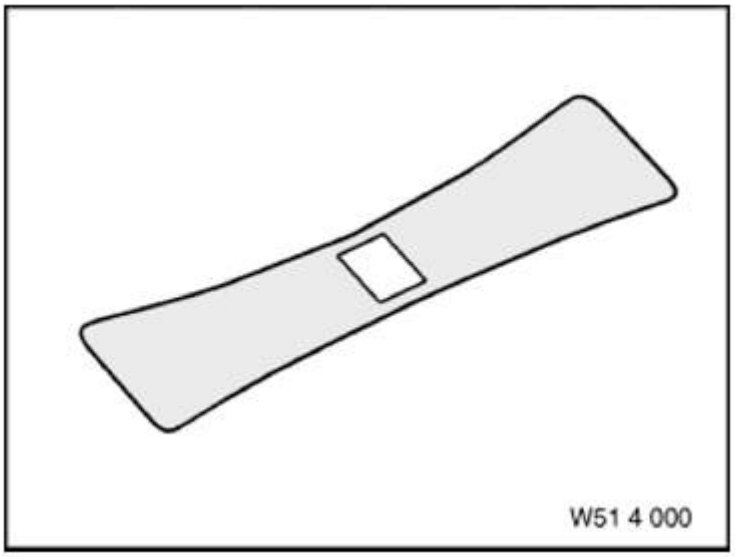


Fig. 20: Identifying Foil (0492654)
Courtesy of BMW OF NORTH AMERICA, INC.

0492633 FOLDING STICK

0492633 513070 Folding stick Mechanical tool

Replaced by: 83300490538

NOTE: **Replaced by 00 9 321. (0 490 538)**

cardiagn.com

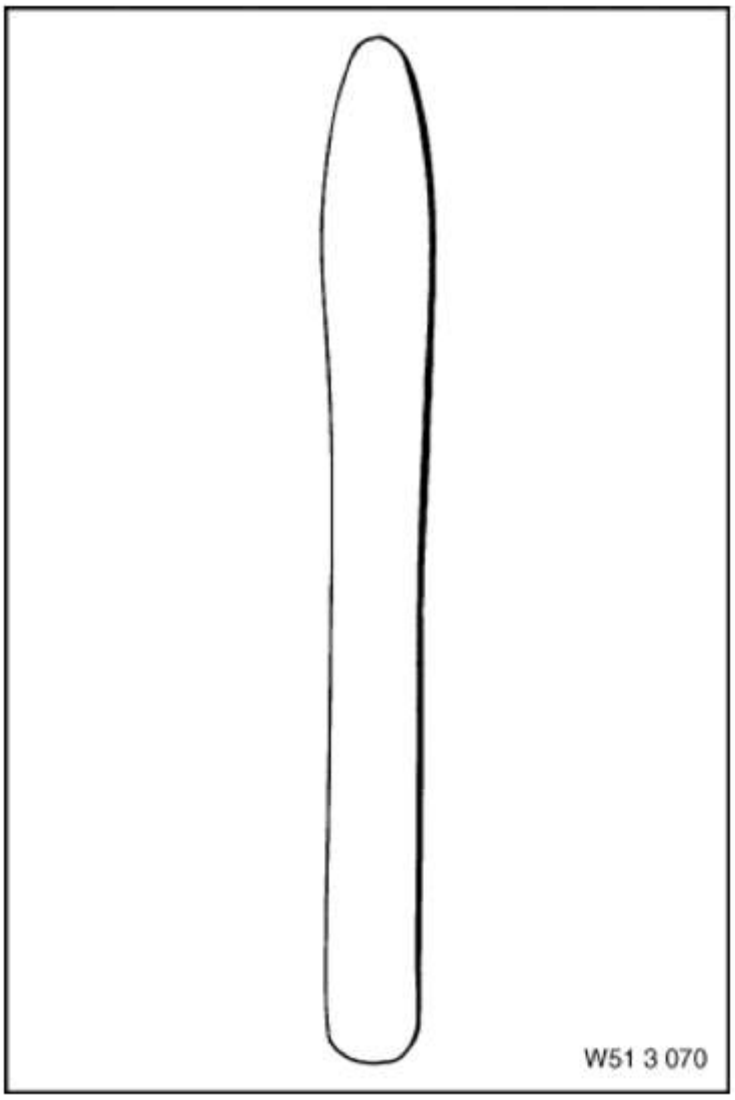


Fig. 21: Identifying Folding Stick (0492633)
Courtesy of BMW OF NORTH AMERICA, INC.

0492597 GAUGE

0492597 512080 Gauge Mechanical tool

NOTE: **(test gauge) For testing the door contact switch**

Storage Location

C4

cardiagn.com

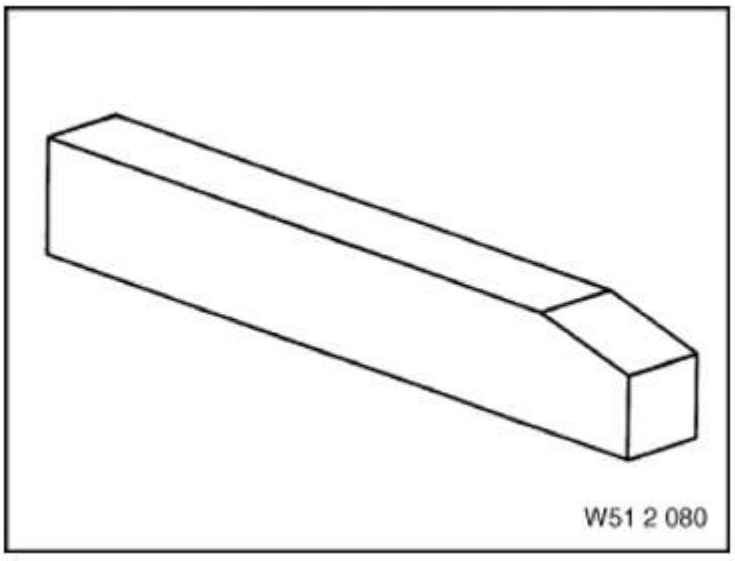


Fig. 22: Identifying Gauge (0492597)
Courtesy of BMW OF NORTH AMERICA, INC.

0496710 GAUGE

0496710 510000 Gauge Minimum set: Mechanical tools Mechanical tool

Replaced by: 83302304553

NOTE: **For measuring of retraction depth of window glass (replaces special tool 51 3 080 as of 10/2009). Replaced by 83 30 2 304 553 as of 07/2012.**

Storage Location

B27

SI number

01 22 09 (587)



Fig. 23: Identifying Gauge (0496710)
Courtesy of BMW OF NORTH AMERICA, INC.

0494278 GAUGE

cardiagn.com

0494278 514380 Gauge Mechanical tool

NOTE: **(Test gauge) To check the gap on the door handle Onetime action, no publication in TIS**

0495259 GAUGE

0495259 510010 Gauge Minimum set: Mechanical tools Mechanical tool

NOTE: **(test gauge for installing windscreen and rear window) (replaces special tool 51 3 210 from 06/2005)**

Storage Location

B2

SI number

01 10 05 (189)

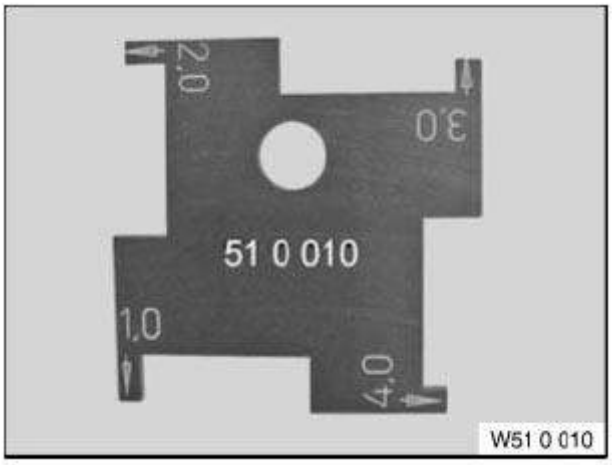


Fig. 24: Identifying Gauge (0495259)
Courtesy of BMW OF NORTH AMERICA, INC.

0492616 GAUGE

0492616 513042 Gauge AM

NOTE: **(Positioning eyes)**

cardiagn.com

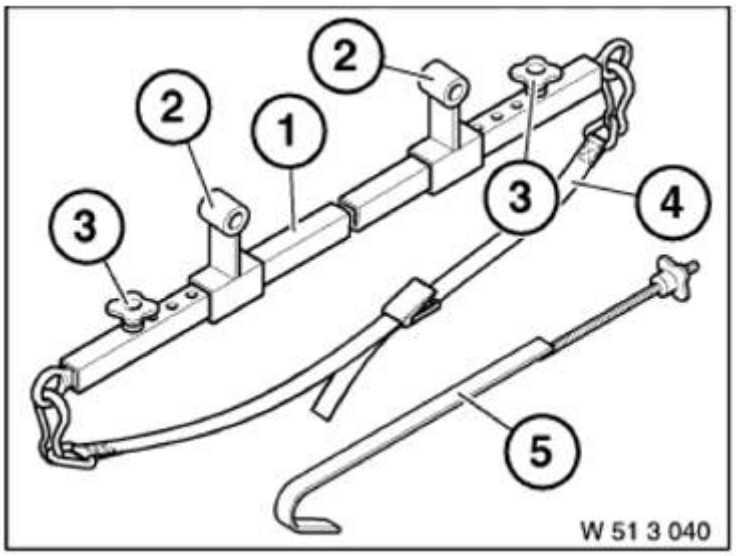


Fig. 25: Identifying Gauge (0492616)
Courtesy of BMW OF NORTH AMERICA, INC.

2304553 GAUGE

2304553 Gauge Minimum set: Mechanical tools Mechanical tool

Replaced by: 83302356862

NOTE: **To measure the retraction depth of the side window in the door rubber. Used with frameless door windows (convertible and coupe). Set consisting of 3 pcs in one packaging unit. Replaces the special tools 51 0 000. Special tools replaced by 83 30 2 356 862 from 10/2013.**

Storage Location

C33

SI number

01 14 12 (828)



Fig. 26: Identifying Gauge (2304553)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

0492639 GAUGE

0492639 513103 Gauge AM

NOTE: (Test gauge) For checking and adjusting the sheet metal angles on the window frame

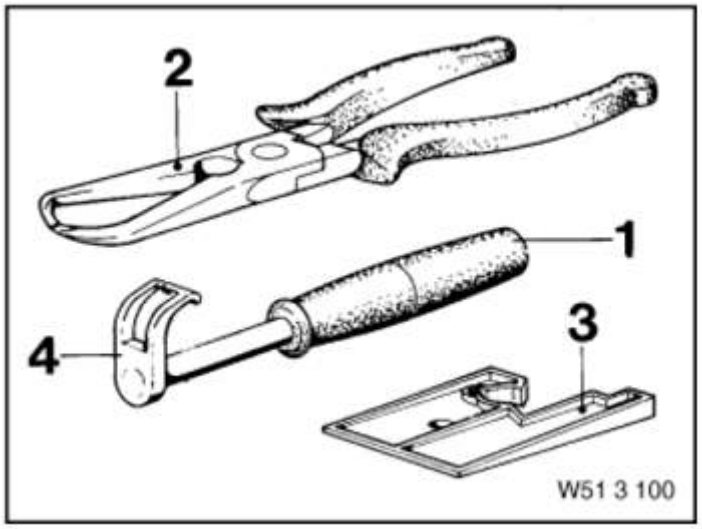


Fig. 27: Identifying Gauge (0492639)
Courtesy of BMW OF NORTH AMERICA, INC.

0492607 GUARD

0492607 512153 Guard AM

NOTE: (Mounting protection)

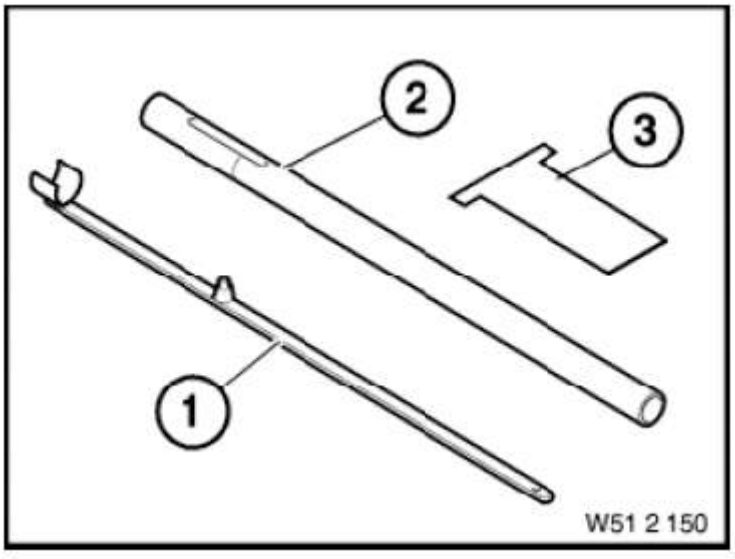


Fig. 28: Identifying Guard (0492607)
Courtesy of BMW OF NORTH AMERICA, INC.

0494906 GUARD

0494906 512196 Guard Minimum set: Mechanical tools AM

NOTE: Replaces guard 51 2 193

cardiagn.com

2339719 GUARD

2339719 Guard Mechanical tool

NOTE: **The transparent interior protectors are used to protect the window frame trim when working on window removals.**

SI number

05 15 12 (869)

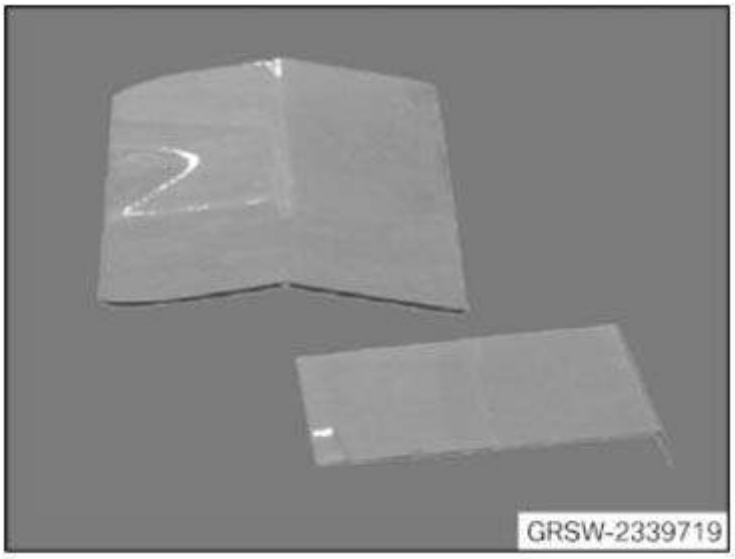


Fig. 29: Identifying Guard (2339719)
Courtesy of BMW OF NORTH AMERICA, INC.

0494472 GUARD

0494472 512193 Guard Minimum set: Mechanical tools AM

Replaced by: 83300494906

NOTE: **Is replaced by 51 2 196 with the use of noise-optimized locks from 02/2004 Replaced by 51 2 196 (0 494 906)**

0492592 GUARD

0492592 512010 Guard Mechanical tool

NOTE: **(Pillar protection (2 pieces)) To prevent damage to the A-pillar and B-pillar when driving the bolt of the door stop out and in**

Storage Location

B4

SI number

01 03 97 (179)

cardiagn.com

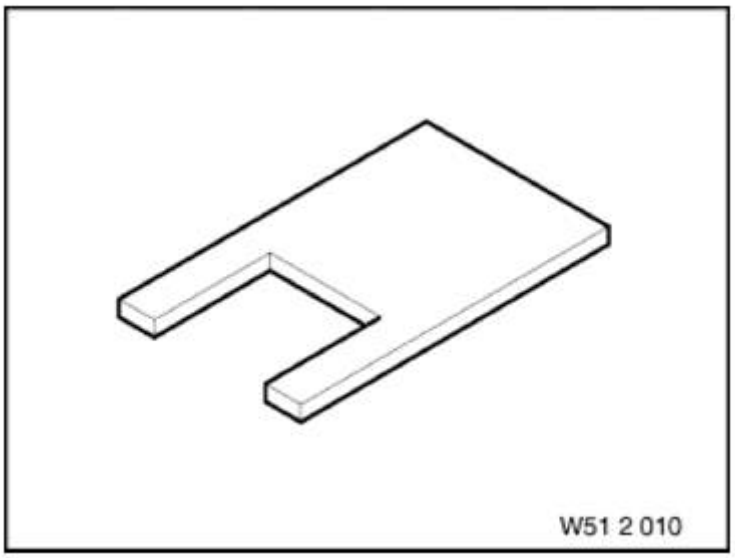


Fig. 30: Identifying Guard (0492592)
Courtesy of BMW OF NORTH AMERICA, INC.

0495843 HANDLE

0495843 510301 Handle AM

NOTE: **Only available as part of complete tool 51 0 300.**

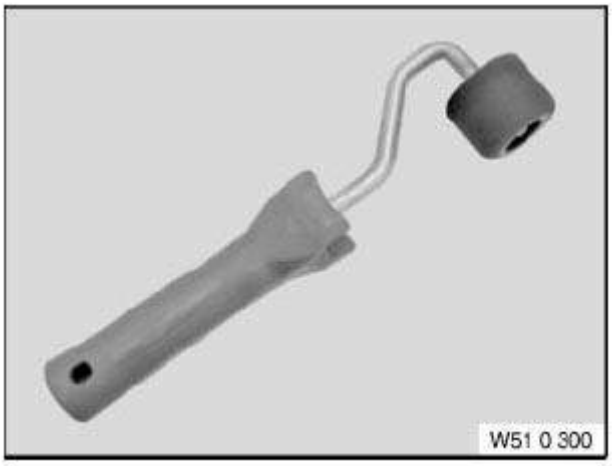


Fig. 31: Identifying Handle (0495843)
Courtesy of BMW OF NORTH AMERICA, INC.

2326501 HANDLE

2326501 Handle Mechanical tool

NOTE: **(Pull handles) Cutting wire pull handles for removing rear, quarter light and side windows. Replaces tool 513270.**

cardiagn.com



Fig. 32: Identifying Handle (2326501)
Courtesy of BMW OF NORTH AMERICA, INC.

0492637 HANDLE

0492637 513101 Handle AM

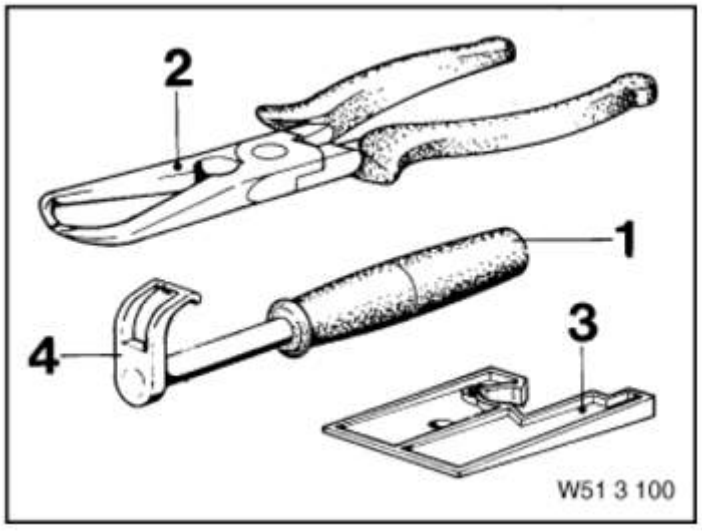


Fig. 33: Identifying Handle (0492637)
Courtesy of BMW OF NORTH AMERICA, INC.

0492587 HANDLE

0492587 511110 Handle Mechanical tool

NOTE: **For removing the trim strip on the gutter strips**

Storage Location

A4

SI number

01 03 89 (037)

cardiagn.com

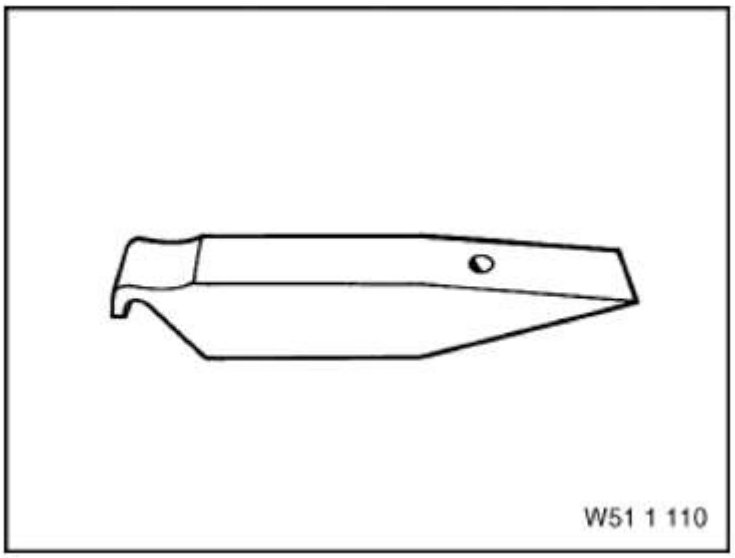


Fig. 34: Identifying Handle (0492587)
Courtesy of BMW OF NORTH AMERICA, INC.

0494633 HANDLE

0494633 513270 Handle Minimum set: Mechanical tools Mechanical tool

NOTE: **(Pull handles) Cutting wire pull handles for removing rear, quarter light and side windows. Replaced by new pull handles with suction cup. New order number 81 43 2 326 501.**

SI number

01 13 03 (001)

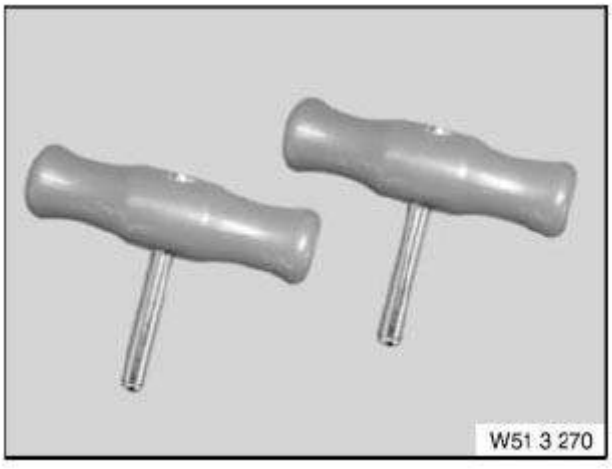


Fig. 35: Identifying Handle (0494633)
Courtesy of BMW OF NORTH AMERICA, INC.

0492586 HEXAGON SOCKET

0492586 511080 Hexagon socket Minimum set: Mechanical tools Mechanical tool

NOTE: **(Hexagon socket SW10 (spherical)) For loosening rear bumper**

Storage Location

B10

cardiagn.com

SI number

01 06 94 (801)

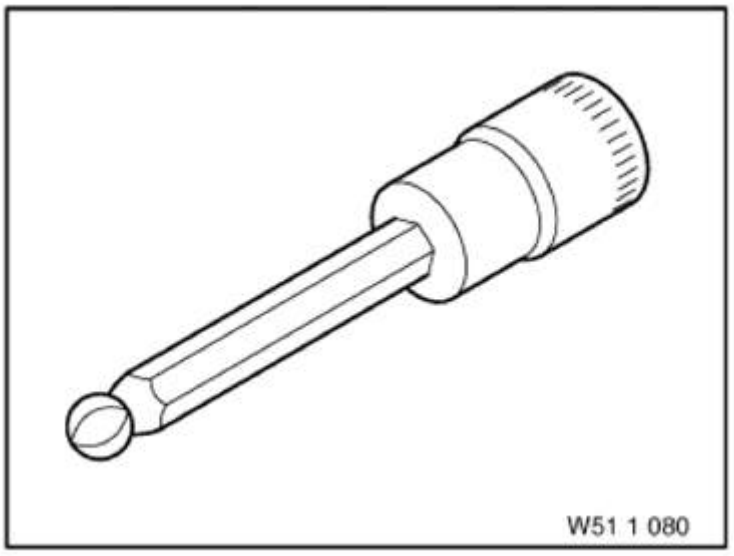


Fig. 36: Identifying Hexagon Socket (0492586)
Courtesy of BMW OF NORTH AMERICA, INC.

0492608 HOLDER

0492608 513000 Holder Mechanical tool

Replaced by: 83300492609

NOTE: **(Window glass holder) For holding the front and rear window glass when mounting the window glass/replaced by 51 3 010. (0 492 609)**

2351399 HOLDER

2351399 Holder AM

In conjunction with: 513300 = 0495590

NOTE: **LED bulb holder. Bulb with batteries in delivery specification.**

SI number

01 03 13 (915)

cardiagn.com

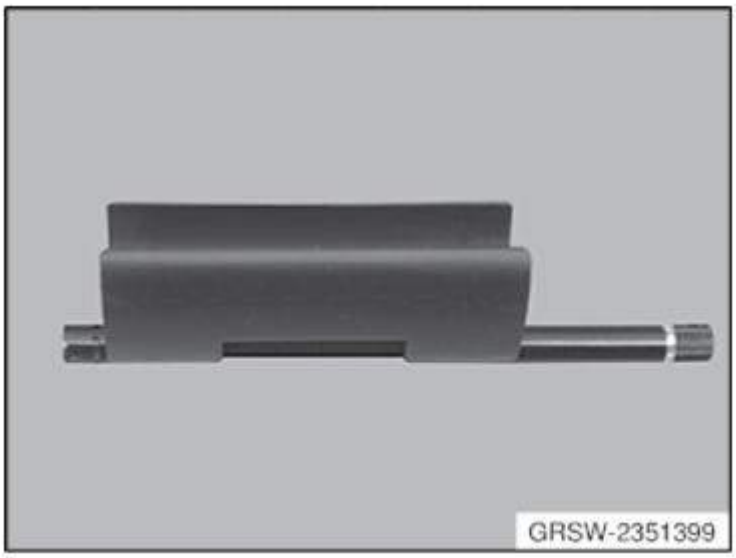


Fig. 37: Identifying Holder (2351399)
Courtesy of BMW OF NORTH AMERICA, INC.

0492619 HOOK

0492619 513045 Hook AM

NOTE: **(Drawing hook)**

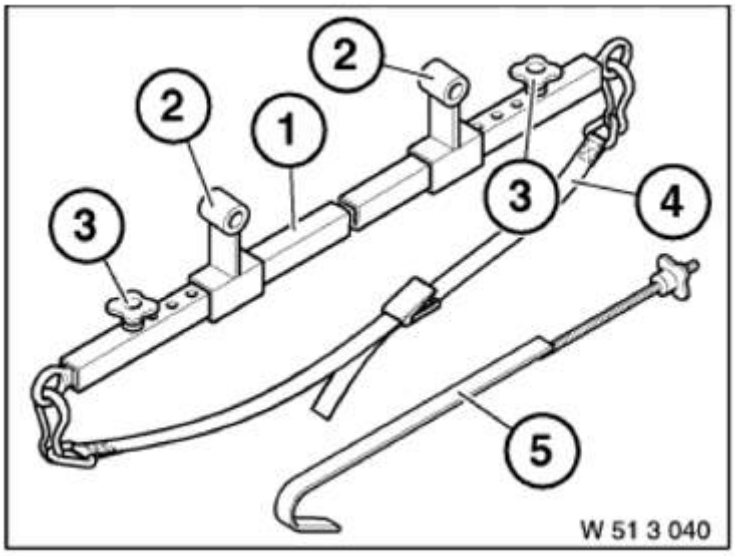


Fig. 38: Identifying Hook (0492619)
Courtesy of BMW OF NORTH AMERICA, INC.

0492645 HOOK

0492645 513160 Hook Mechanical tool

NOTE: **For drawing in the rubber protective strips on the bumper**

Storage Location

B2

cardiagn.com

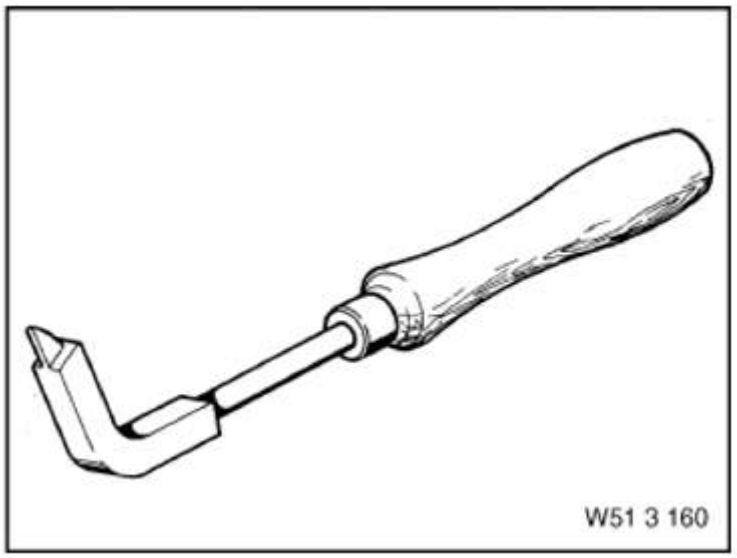


Fig. 39: Identifying Hook (0492645)
Courtesy of BMW OF NORTH AMERICA, INC.

2355740 HOSE

2355740 Hose AM

NOTE: **Applies to: BMW i Aftersales Carbon Full**

SI number

01 07 13 (937)

Consisting of:

1. 2357834 Accessories

NOTE: **Applies to: BMW i Aftersales Carbon Full**



Fig. 40: Identifying Hose (2355740)
Courtesy of BMW OF NORTH AMERICA, INC.

0492658 HOSE

0492658 519003 Hose AM

cardiagn.com

NOTE: **(Vacuum hose with clamp)**

0494765 LEVER

0494765 512231 Lever AM

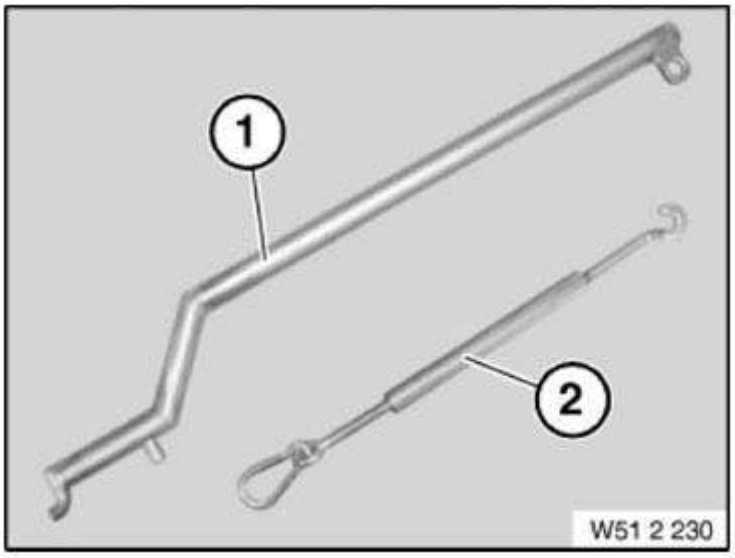


Fig. 41: Identifying Lever (0494765)
Courtesy of BMW OF NORTH AMERICA, INC.

0496532 LEVER

0496532 513330 Lever Mechanical tool

NOTE: **(Lever (2 x)) Lever for unlocking the jacking mounts.**

Storage Location

C26

SI number

01 24 08 (501)



Fig. 42: Identifying Lever (0496532)

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

0493673 LEVER

0493673 512154 Lever AM

NOTE: (Mounting lever) For hydraulic cylinder of the tailgate

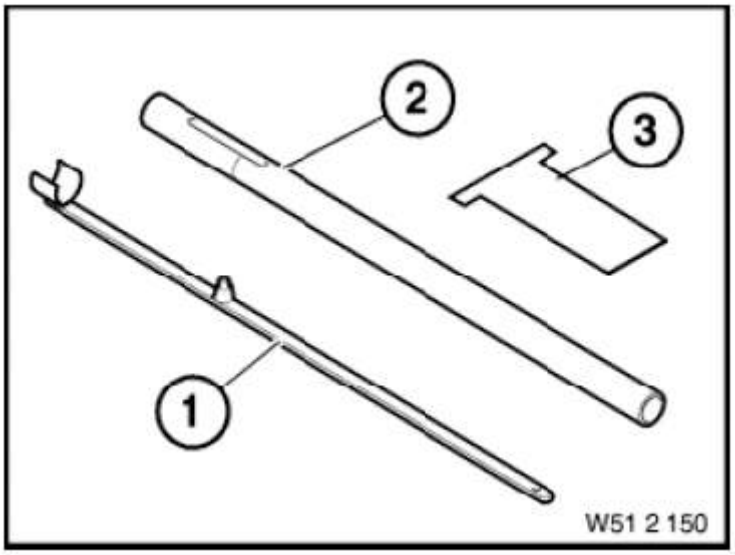


Fig. 43: Identifying Lever (0493673)
Courtesy of BMW OF NORTH AMERICA, INC.

0492605 LEVER

0492605 512151 Lever AM

NOTE: (Mounting lever) For gas pressure springs of the tailgate

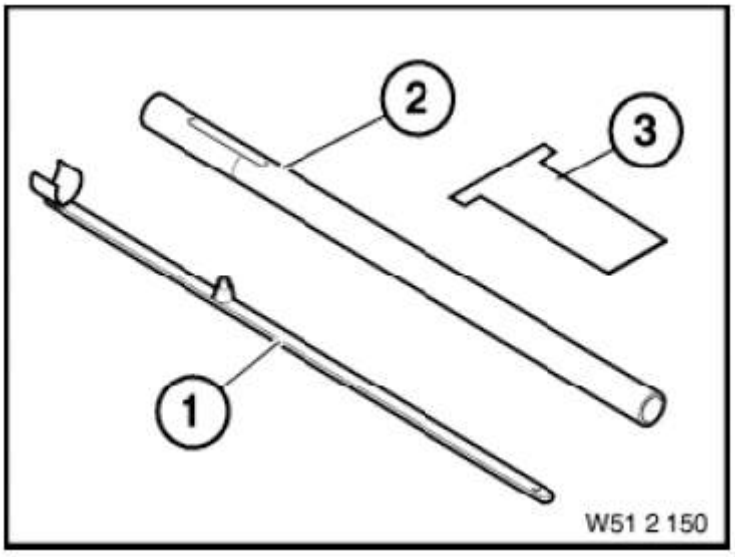


Fig. 44: Identifying Lever (0492605)
Courtesy of BMW OF NORTH AMERICA, INC.

0494907 MANDREL

0494907 512197 Mandrel Minimum set: Mechanical tools AM

NOTE: Replaces mandrel 51 2 194

cardiagn.com



Fig. 45: Identifying Mandrel (0494907)
Courtesy of BMW OF NORTH AMERICA, INC.

0494473 MANDREL

0494473 512194 Mandrel Minimum set: Mechanical tools AM

Replaced by: 83300494907

NOTE: **Is replaced by 51 2 197 with the use of noise-optimized locks from 02/2004**
Replaced by 51 2 197 (0 494 907)

0494470 NUT

0494470 512191 Nut Minimum set: Mechanical tools AM

NOTE: **(Knurled nut) Replaced by 00 9 120 (0 490 504)**

0492646 PIN WRENCH

0492646 513170 Pin wrench Mechanical tool

NOTE: **For removing the glove box lock**

Storage Location

Y7

cardiagn.com

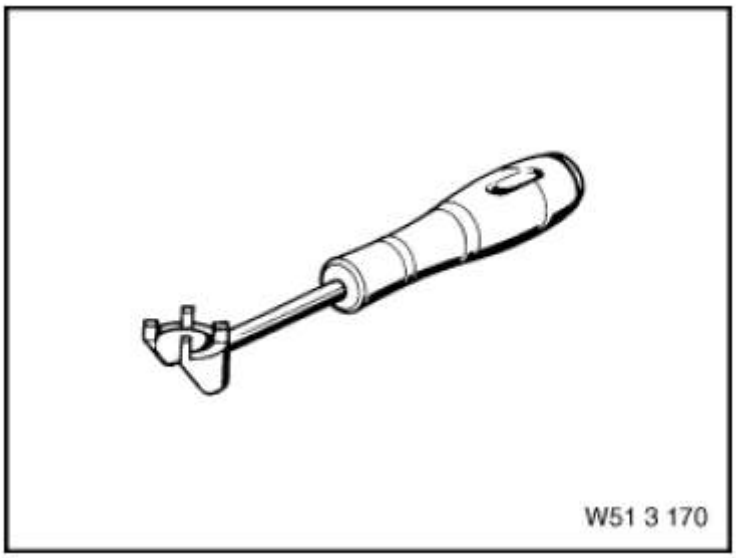


Fig. 46: Identifying Pin Wrench (0492646)
Courtesy of BMW OF NORTH AMERICA, INC.

0492591 PIN WRENCH

0492591 512000 Pin wrench Mechanical tool

0492596 PIN WRENCH

0492596 512070 Pin wrench Mechanical tool

NOTE: **For releasing and tightening down the lock nut on the door lock**

Storage Location

A9

SI number

01 04 88 (566)

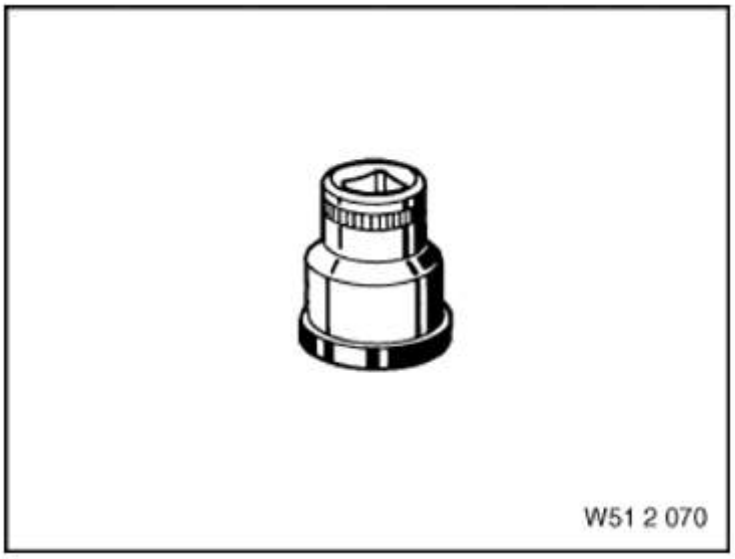


Fig. 47: Identifying Pin Wrench (0492596)
Courtesy of BMW OF NORTH AMERICA, INC.

0492641 PIN WRENCH

cardiagn.com

0492641 513110 Pin wrench Mechanical tool

NOTE: **For removing and installing the special nut on the rear window and rear spoiler mountings E34tou**

Storage Location

X1

SI number

01 02 92 (484)

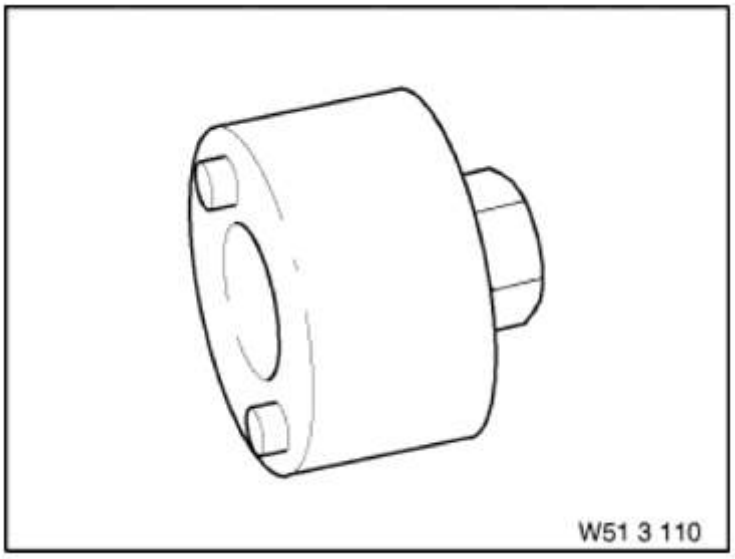


Fig. 48: Identifying Pin Wrench (0492641)
Courtesy of BMW OF NORTH AMERICA, INC.

0492606 PIPE

0492606 512152 Pipe AM

NOTE: **(Mounting tube) For gas pressure springs of the rear window frame**

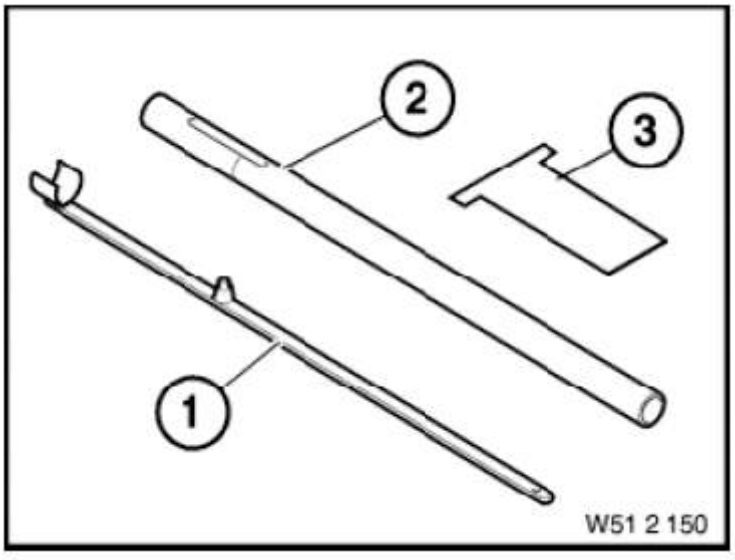


Fig. 49: Identifying Pipe (0492606)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

0492615 PIPE

0492615 513041 Pipe AM

NOTE: **(Transverse pipe)**

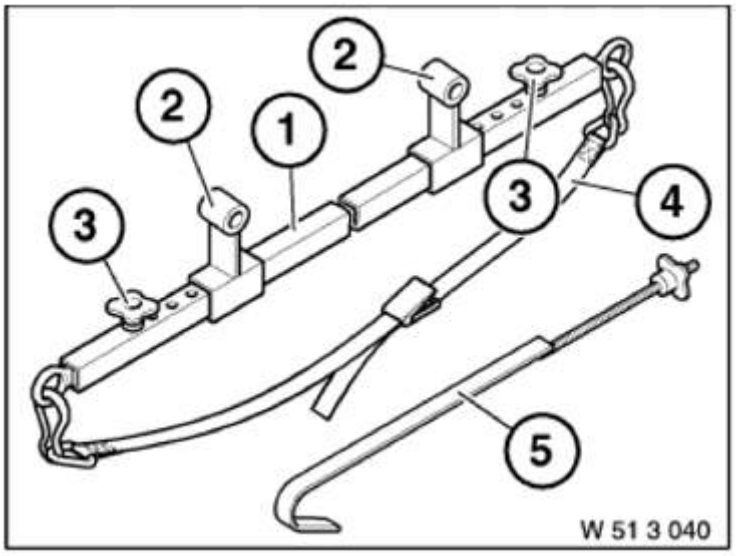


Fig. 50: Identifying Pipe (0492615)
Courtesy of BMW OF NORTH AMERICA, INC.

0492583 PLIERS

0492583 511060 Pliers AM

NOTE: **For clamping the trim strips on the gutter strips**

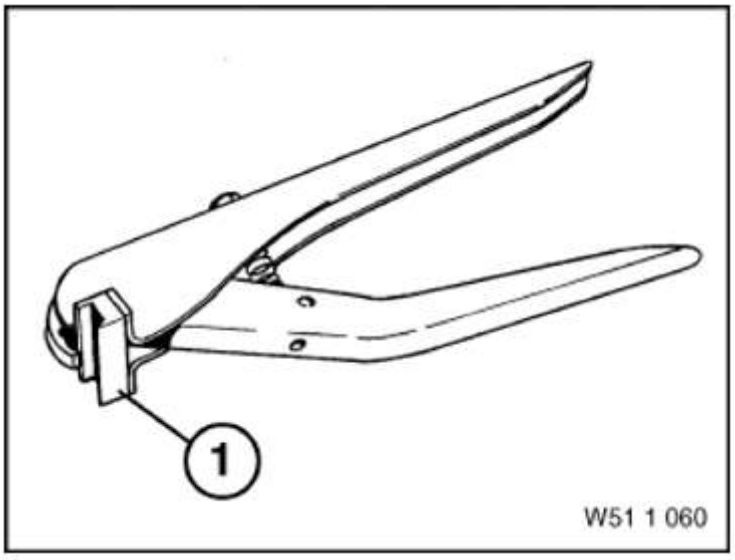
Storage Location

X10

Consisting of:

1. 0492584 Supplement

NOTE: **(Replacement jaws)**



cardiagn.com

Fig. 51: Identifying Pliers (0492583)
Courtesy of BMW OF NORTH AMERICA, INC.

0492632 PLIERS

0492632 513062 Pliers AM

NOTE: (Clamping pliers) 24 clamping pliers in the set

0492576 PLIERS

0492576 511000 Pliers Mechanical tool

NOTE: (Pliers for trim strips)

0492638 PLIERS

0492638 513102 Pliers AM

NOTE: For bending up the sheet metal angles

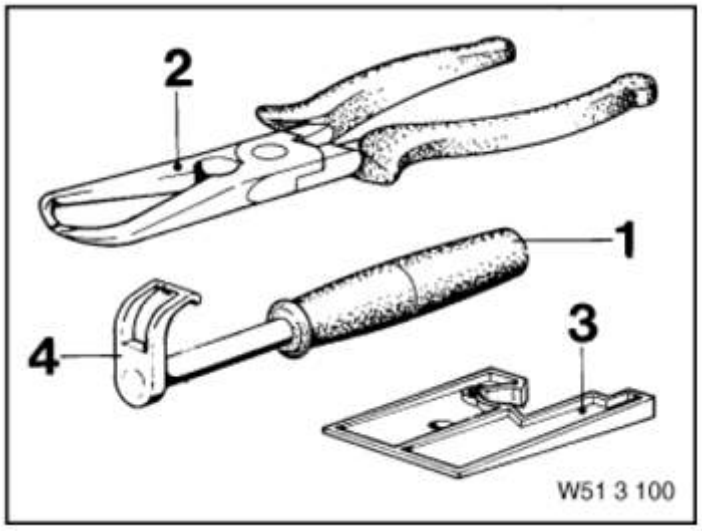


Fig. 52: Identifying Pliers (0492638)
Courtesy of BMW OF NORTH AMERICA, INC.

0492656 PUMP

0492656 519001 Pump AM

NOTE: (Vacuum pump)

0492579 PUNCH ELEMENT

0492579 511012 Punch element AM

NOTE: (Punch numbers 0...9 (set))

cardiagn.com

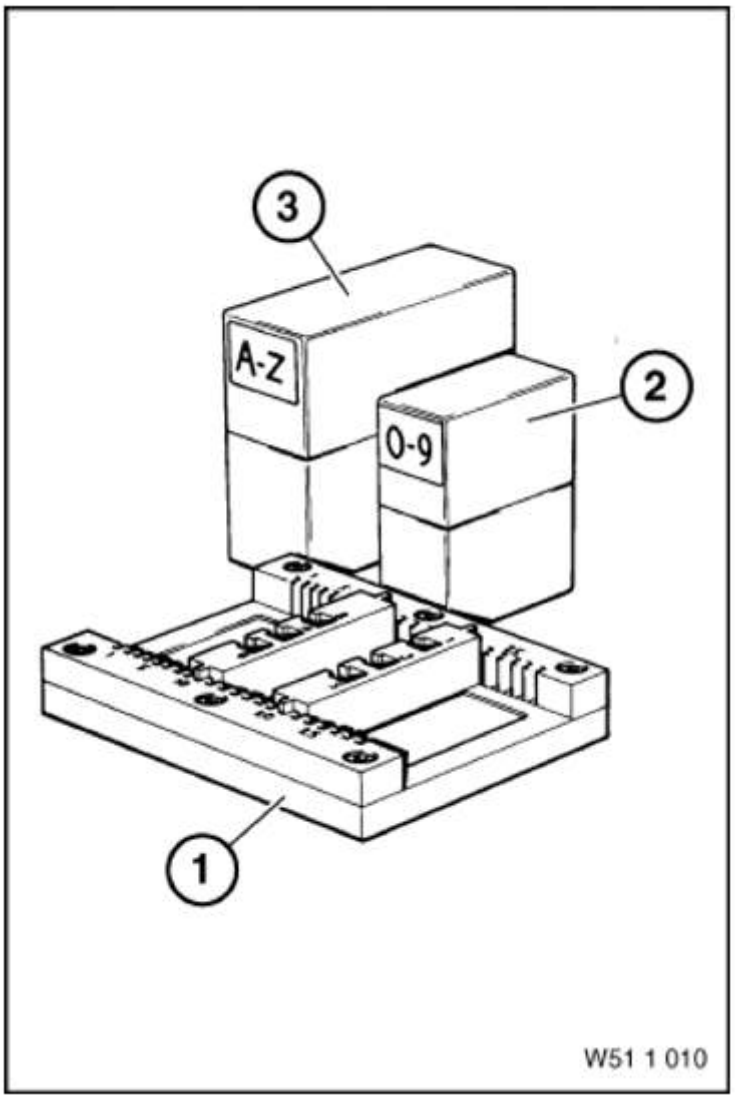


Fig. 53: Identifying Punch Element (0492579)
Courtesy of BMW OF NORTH AMERICA, INC.

0492580 PUNCH ELEMENT

0492580 511013 Punch element AM

NOTE: **(Punch letters A...Z (set))**

cardiagn.com

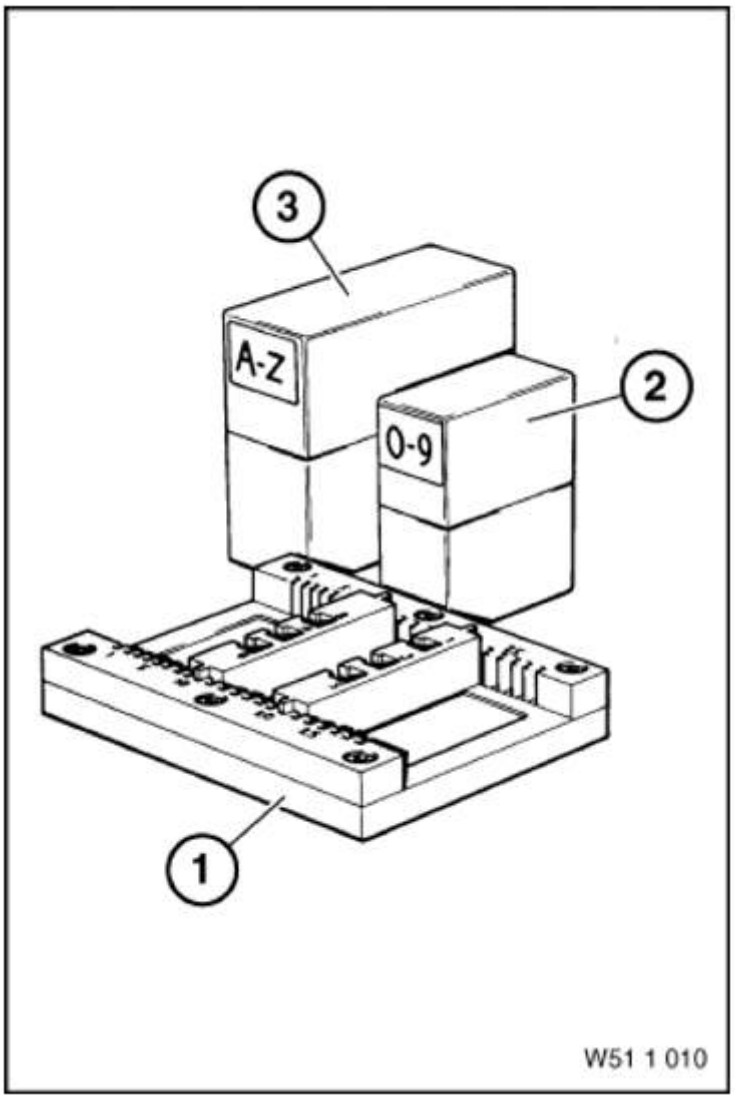


Fig. 54: Identifying Punch Element (0492580)
Courtesy of BMW OF NORTH AMERICA, INC.

0494772 RAIL

0494772 511092 Rail AM

NOTE: For front doors (1 piece). Only available as part of complete tool 511090 (83300494736).



cardiagn.com

Fig. 55: Identifying Rail (0494772)
Courtesy of BMW OF NORTH AMERICA, INC.

0494773 RAIL

0494773 511093 Rail AM

NOTE: **(rails) For rear doors (2 pieces). Only available as part of complete tool 511090 (83300494736).**

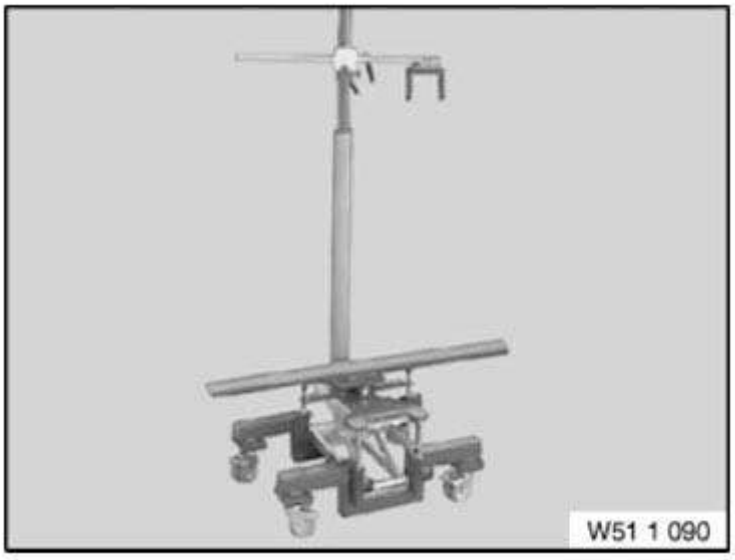


Fig. 56: Identifying Rail (0494773)
Courtesy of BMW OF NORTH AMERICA, INC.

0492652 RELEASE TOOL

0492652 513203 Release tool AM

NOTE: **(unlocking tool) Series: E39**

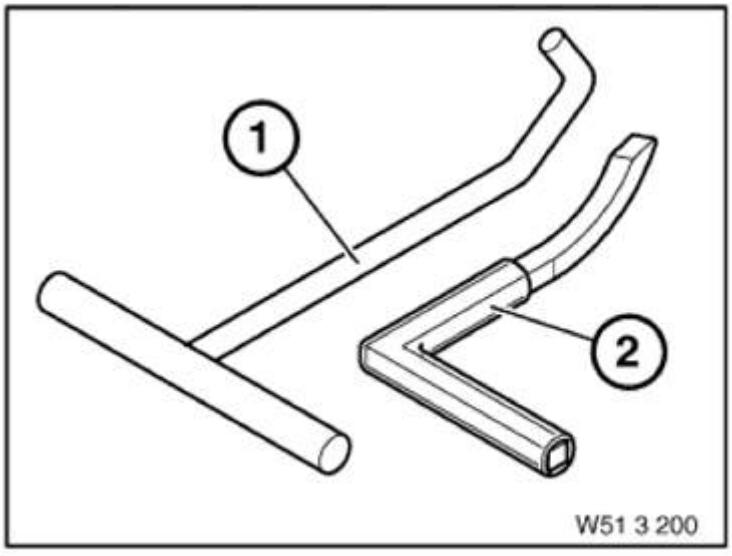


Fig. 57: Identifying Release Tool (0492652)
Courtesy of BMW OF NORTH AMERICA, INC.

0494450 RELEASE TOOL

0494450 513260 Release tool Mechanical tool

cardiagn.com

NOTE: **(Release slide) Door handle release E85**

Storage Location

C44

SI number

01 10 02 (907)

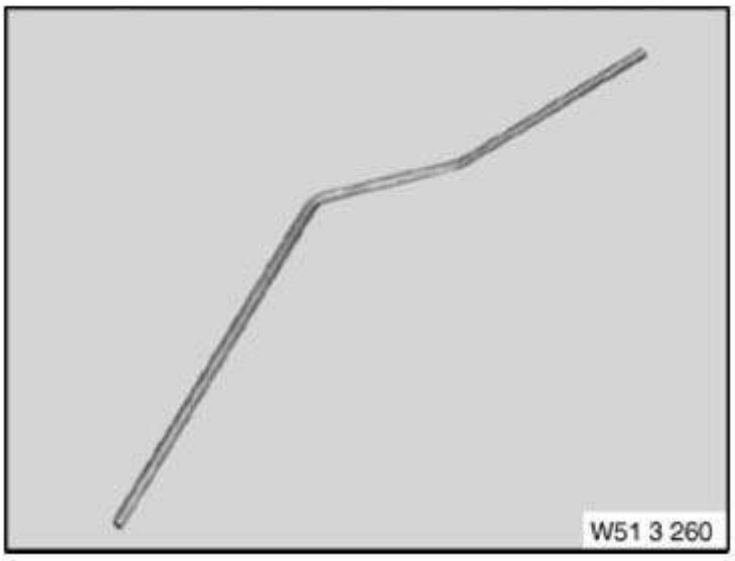


Fig. 58: Identifying Release Tool (0494450)
Courtesy of BMW OF NORTH AMERICA, INC.

0492651 RELEASE TOOL

0492651 513202 Release tool AM

NOTE: **(unlocking tool) Series: E38**

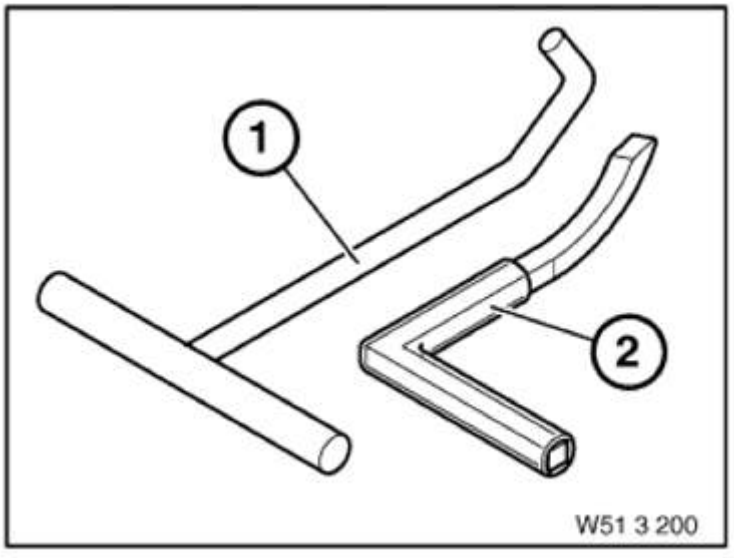


Fig. 59: Identifying Release Tool (0492651)
Courtesy of BMW OF NORTH AMERICA, INC.

2336541 REMOVAL AID

2336541 Removal aid Mechanical tool

cardiagn.com

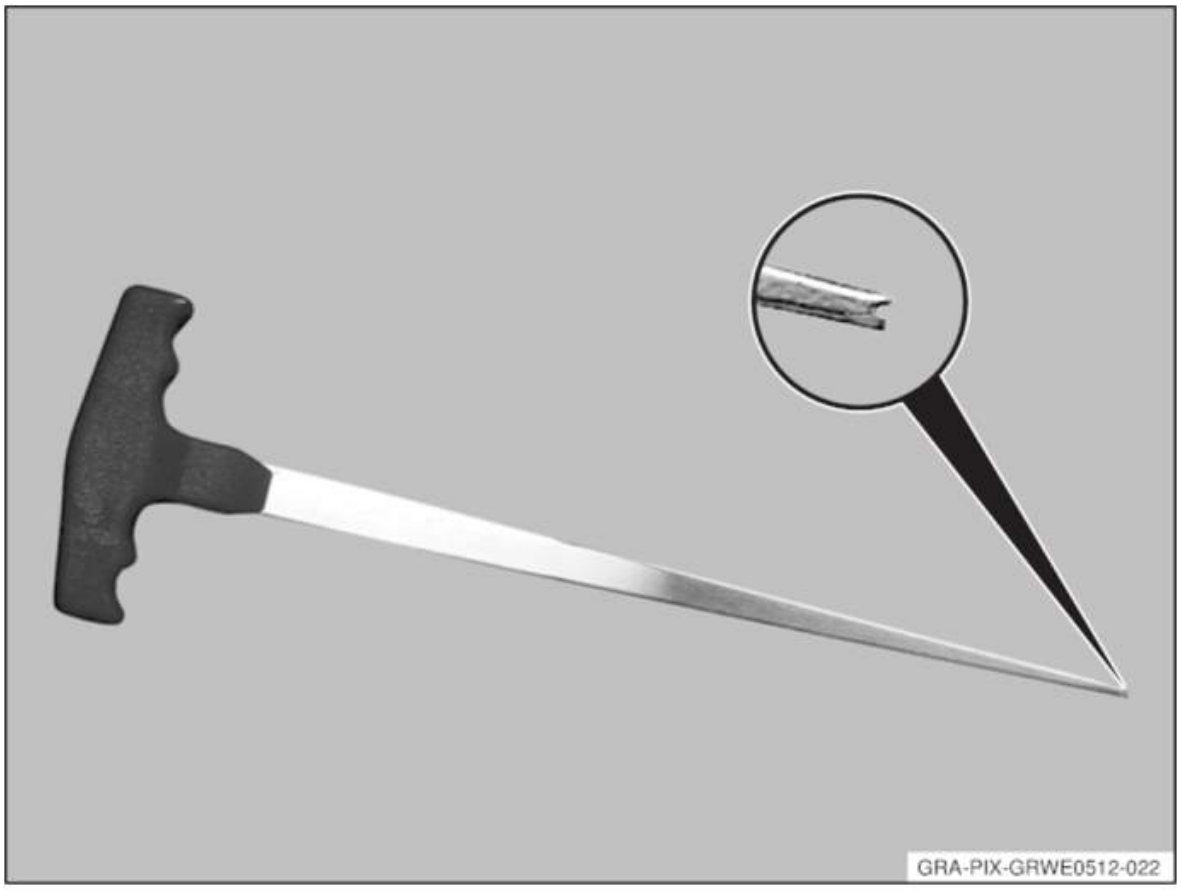


Fig. 60: Identifying Removal Aid (2336541)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Wire starter for window removal**

SI number

05 07 12 (849)

2355732 RIVETING TOOL SET

2355732 Riveting tool set Minimum set: Mechanical tools AM

NOTE: **Applies to: BMW i Aftersales Carbon Full**

SI number

01 07 13 (937)

Consisting of:

1. 2355737 Accessories

NOTE: **Applies to: BMW i Aftersales CFRP Full Grip cone for blind rivets, item number 83 19 0 301 414 and 83 19 0 301 419**

cardiagn.com

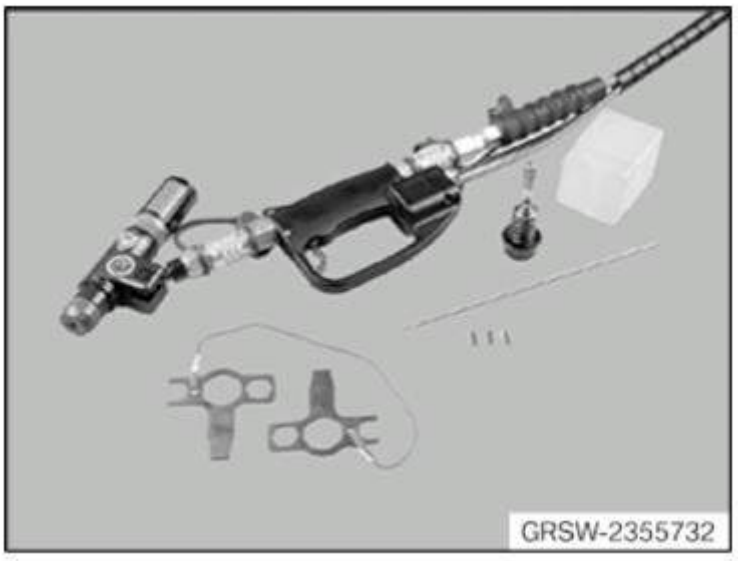


Fig. 61: Identifying Riveting Tool Set (2355732)
Courtesy of BMW OF NORTH AMERICA, INC.

0492602 ROD

0492602 512130 Rod Mechanical tool

NOTE: **(Mounting rod) For removing and installing the gas pressure spring on the rear window E34tou**

Storage Location

Y

Z10

SI number

01 02 92 (484)

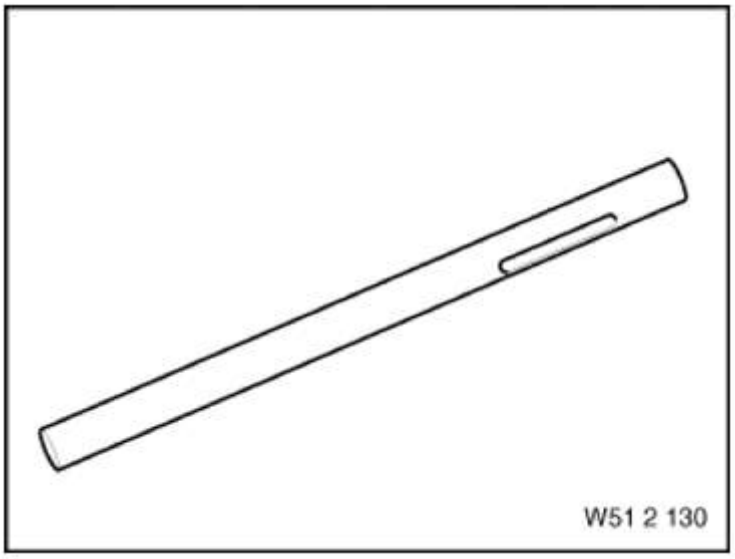


Fig. 62: Identifying Rod (0492602)
Courtesy of BMW OF NORTH AMERICA, INC.

0495505 ROLLER

cardiagn.com

0495505 510300 Roller AM

NOTE: **(Contact roller) For pressing sound insulation into doors; various rubber seals and covers**

Storage Location

B19

SI number

01 12 06 (271)

Consisting of:

1. 0495843 Handle

NOTE: **Only available as part of complete tool 51 0 300.**

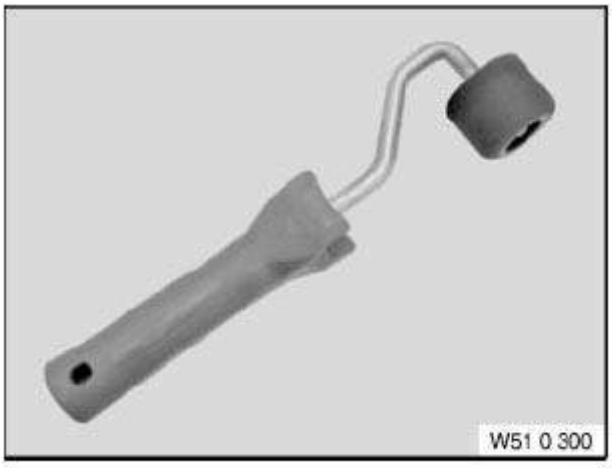


Fig. 63: Identifying Roller (0495505)
Courtesy of BMW OF NORTH AMERICA, INC.

2. 0495844 Roller

NOTE: **Only available as part of complete tool 51 0 300.**

0495844 ROLLER

0495844 510302 Roller AM

NOTE: **Only available as part of complete tool 51 0 300.**

cardiagn.com

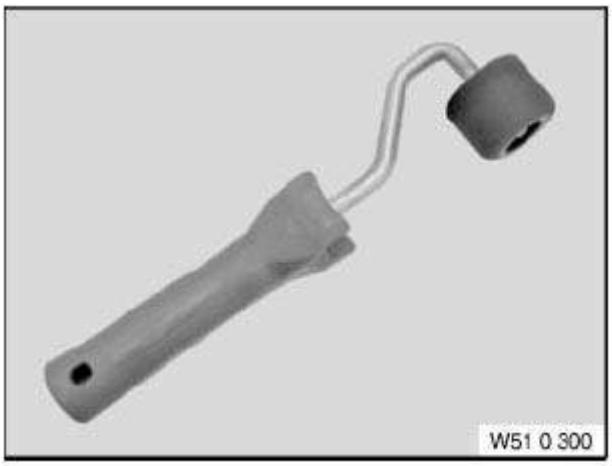


Fig. 64: Identifying Roller (0495844)
Courtesy of BMW OF NORTH AMERICA, INC.

0492661 SAW

0492661 519100 Saw AM

NOTE: (PLF 90 saw set, complete) manufacturer Wielander and Schill - Discontinued, is present in the dealer organization. (Fein compressed air/electric cutter)

Consisting of:

1. 0492662 Saw

   NOTE: (Saw without blades)

2. 0492663 Saw

   NOTE: (Saw blade, short)

3. 0492664 Saw

   NOTE: (Saw blade, long)

4. 0492665 Extension
5. 0492666 Blade

   NOTE: (Paring knife)

0492664 SAW

0492664 519103 Saw AM

NOTE: (Saw blade, long)

0492662 SAW

0492662 519101 Saw AM

NOTE: (Saw without blades)

0492663 SAW

0492663 519102 Saw AM

cardiagn.com

NOTE: (Saw blade, short)

0492617 SCREW

0492617 513043 Screw AM

NOTE: (Star bolt)

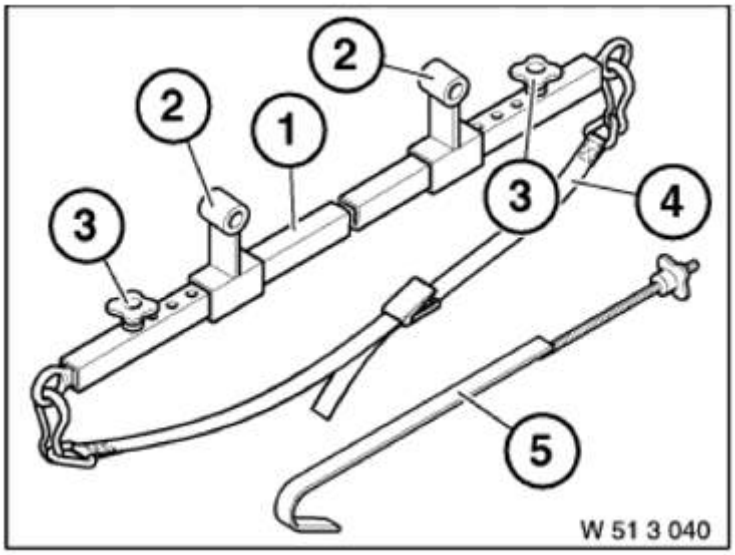


Fig. 65: Identifying Screw (0492617)
Courtesy of BMW OF NORTH AMERICA, INC.

0494474 SHAPED ELEMENT

0494474 512195 Shaped element Minimum set: Mechanical tools AM

NOTE: E85 (omitted)

2359976 SIPHON

2359976 Siphon Minimum set: Mechanical tools AM

NOTE: For fixing and adjusting frameless side/door window glass. Also valid for: BMW i Aftersales Basic

Storage Location

B74

A74

A73

SI number

01 27 14 (129)

cardiagn.com



Fig. 66: Identifying Siphon (2359976)
Courtesy of BMW OF NORTH AMERICA, INC.

0492657 SIPHON

0492657 519002 Siphon AM

2184377 SIPHON

2184377 Siphon Mechanical tool

NOTE: **Siphon for the removal, installation and positioning of vehicle windows.**

SI number

08 01 10 (635)



Fig. 67: Identifying Siphon (2184377)
Courtesy of BMW OF NORTH AMERICA, INC.

0492655 SIPHON

0492655 519000 Siphon AM

NOTE: **(Suction lifter (set)) For removing the safety window glass E38/3, E39PL, E32/3**

cardiagn.com

Consisting of:

1. **0492656** Pump

   NOTE: **(Vacuum pump)**

2. **0492657** Siphon
3. **0492658** Hose

   NOTE: **(Vacuum hose with clamp)**

4. **0492659** Cartridge gun

   NOTE: **(Glue cartridge air gun) Discontinued; this is available at the dealer organization.**

5. **0492660** Box

   NOTE: **(Storage box)**

0492588 SOCKET WRENCH

0492588 511130 Socket wrench AM

NOTE: **(1/2" socket wrench) With threaded insert WAF 14 - For adjusting the height of the front and rear bumpers E36/7**

Storage Location

B10

SI number

01 03 96 (042)

Consisting of:

1. **0492589** Socket wrench

   NOTE: **(1/2" socket wrench)**

2. **0492590** Use

   NOTE: **(threaded insert WAF 14)**

cardiagn.com

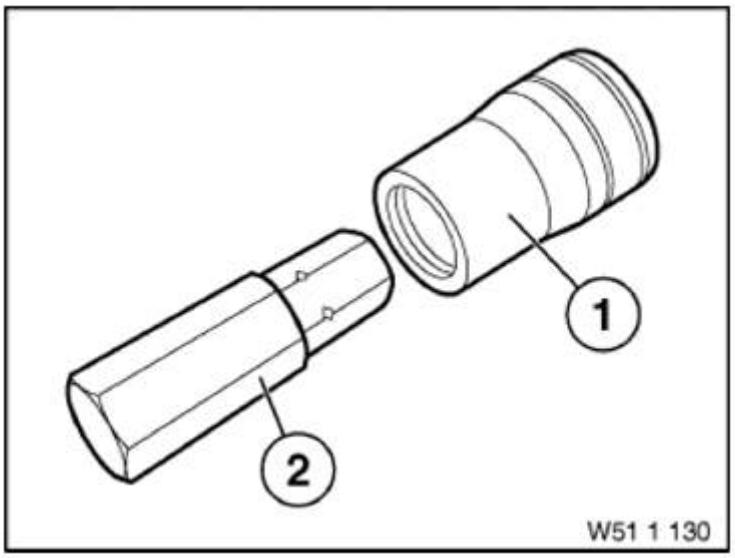


Fig. 68: Identifying Socket Wrench (0492588)
Courtesy of BMW OF NORTH AMERICA, INC.

0492589 SOCKET WRENCH

0492589 511131 Socket wrench AM

NOTE: (1/2" socket wrench)

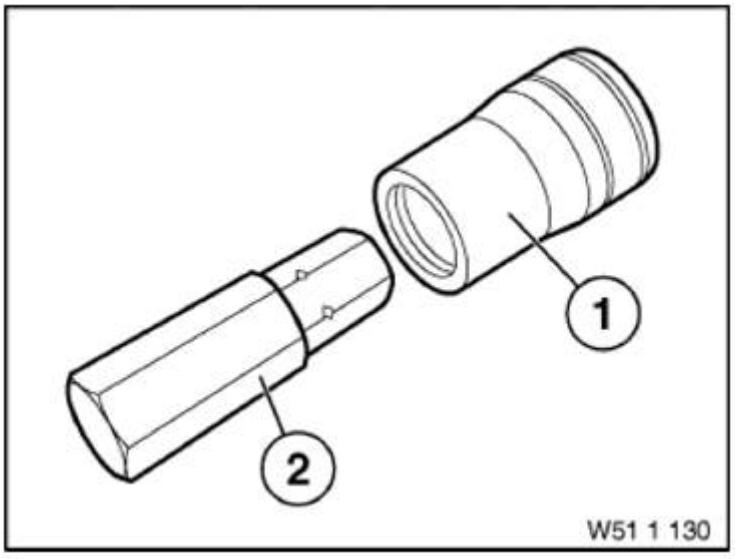


Fig. 69: Identifying Socket Wrench (0492589)
Courtesy of BMW OF NORTH AMERICA, INC.

0493400 SUCTION CUP

0493400 519022 Suction cup AM

NOTE: (Contact suction device, bent) Replaced by 51 9 021 (0 493 399)

0493731 SUCTION CUP

0493731 513220 Suction cup Mechanical tool

NOTE: (Suction cup) For lifting out side windows

SI number

cardiagn.com

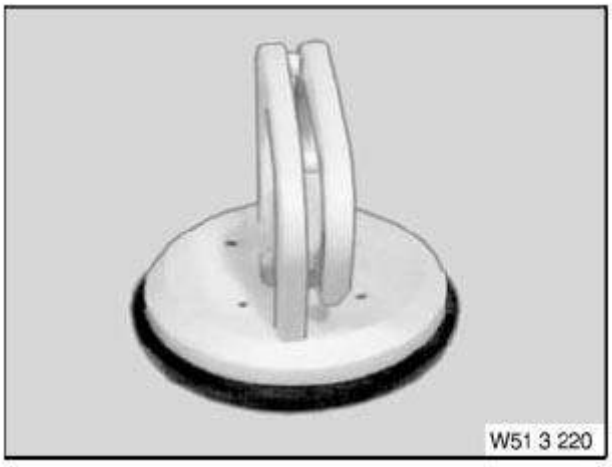


Fig. 70: Identifying Suction Cup (0493731)
Courtesy of BMW OF NORTH AMERICA, INC.

0493399 SUCTION CUP

0493399 519021 Suction cup AM

NOTE: (Contact suction device, straight)

0493398 SUCTION CUP

0493398 519020 Suction cup AM

NOTE: (Contact suction device set) For securing the top windscreen cover (Set: 6 x 51 2 021) E38/3

Consisting of:

1. **0493399** Suction cup

   NOTE: (Contact suction device, straight)

2. **0493400** Suction cup

   NOTE: (Contact suction device, bent) Replaced by 51 9 021 (0 493 399)

0496793 SUPPLEMENT

0496793 Supplement Mechanical tool

NOTE: to punching device 51 4 100

0492584 SUPPLEMENT

0492584 511061 Supplement AM

NOTE: (Replacement jaws)

cardiagn.com

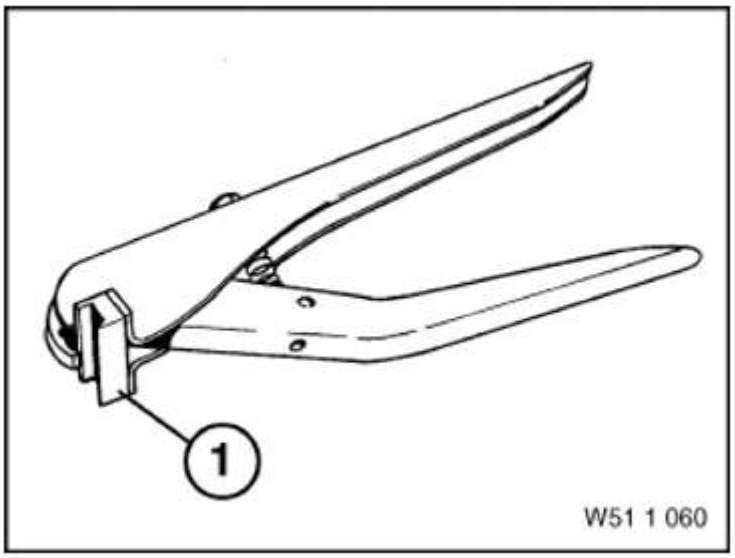


Fig. 71: Identifying Supplement (0492584)
Courtesy of BMW OF NORTH AMERICA, INC.

0493200 SUPPORT

0493200 512160 Support Minimum set: Mechanical tools Mechanical tool

NOTE: **(Bonnet support (2 x)) For retaining engine compartment lid in working position**

Storage Location

A2

SI number

01 02 98 (302)

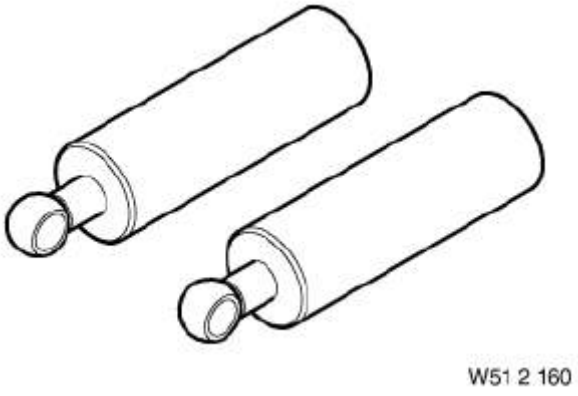


Fig. 72: Identifying Support (0493200)
Courtesy of BMW OF NORTH AMERICA, INC.

0492601 SUPPORT

0492601 512120 Support AM

NOTE: **For engine compartment lid when removing the engine**

Storage Location

A1

cardiagn.com

B1

C1

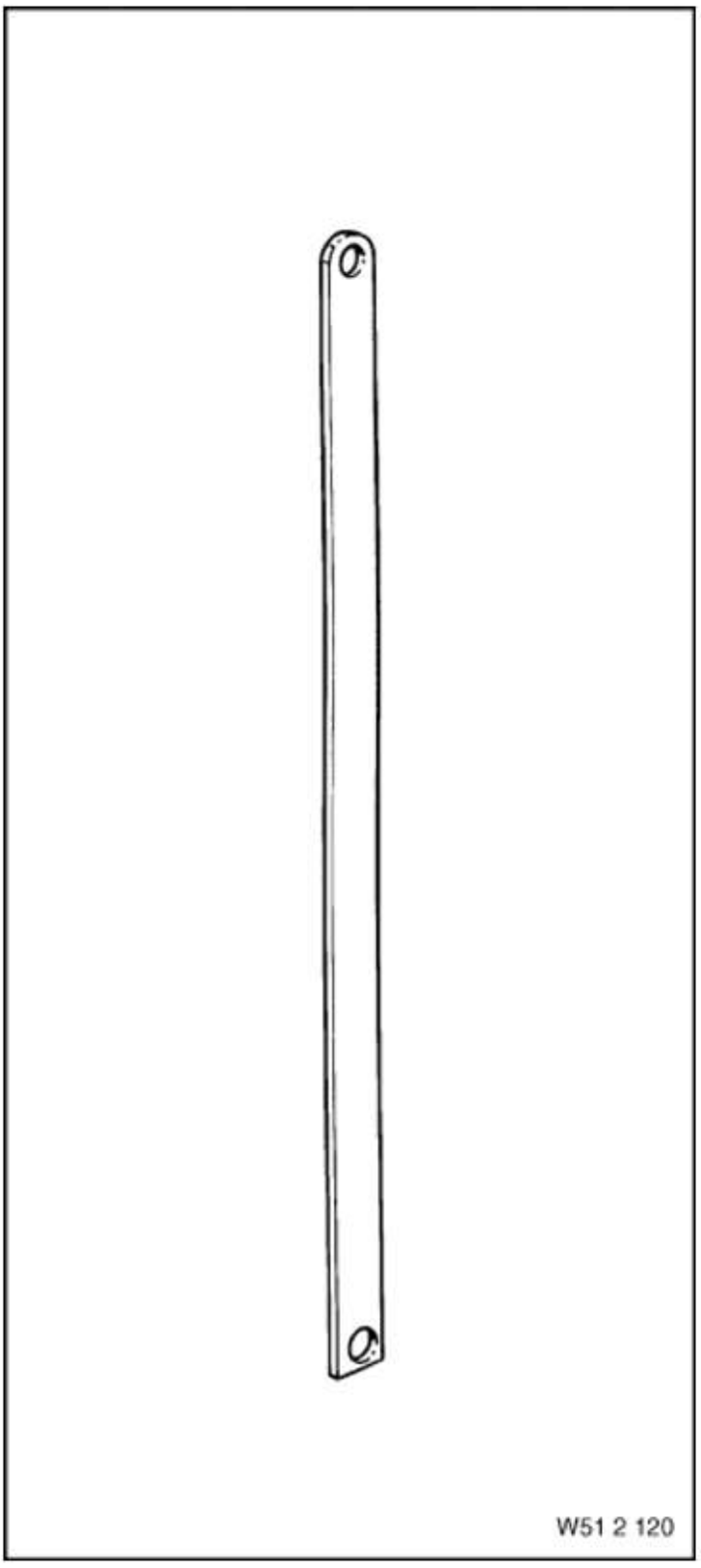


Fig. 73: Identifying Support (0492601)
Courtesy of BMW OF NORTH AMERICA, INC.

0492603 SUPPORT

0492603 512140 Support AM

NOTE: **For holding the engine compartment lid open during installation work**

cardiagn.com

Storage Location

A1

B1

C1

SI number

01 12 92 (606)

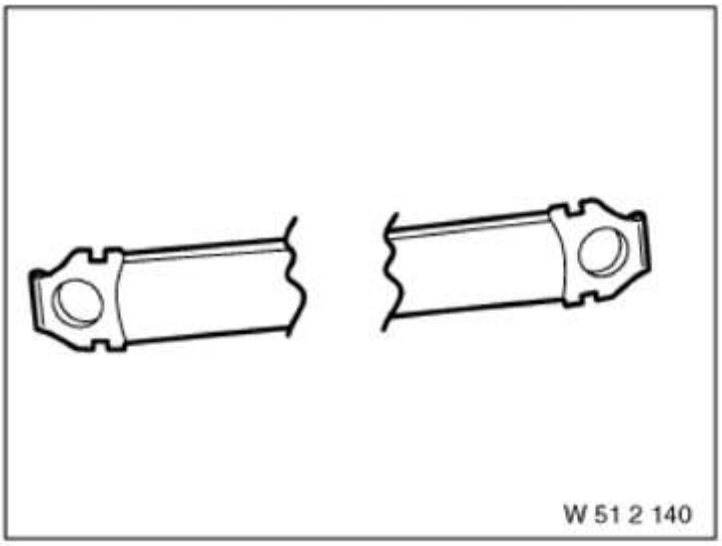


Fig. 74: Identifying Support (0492603)
Courtesy of BMW OF NORTH AMERICA, INC.

0492600 SUPPORT

0492600 512110 Support Mechanical tool

Replaced by: 83300492603

NOTE: **For the engine compartment lid when removing the engine/Replaced by 51 2 140. (0 492 603)**

cardiagn.com



W51 2 110

Fig. 75: Identifying Support (0492600)
Courtesy of BMW OF NORTH AMERICA, INC.

0496386 TOOL

0496386 510340 Tool Minimum set: Mechanical tools AM

NOTE: **(adapter striker) For adjusting disc pre-tension on frameless BMW door windows**

Storage Location

A25

SI number

01 13 08 (456)

Consisting of:

cardiagn.com

1. 0496455 Adapter
2. 0496456 Steel tape measure

NOTE: **Delivery 2 pcs.**

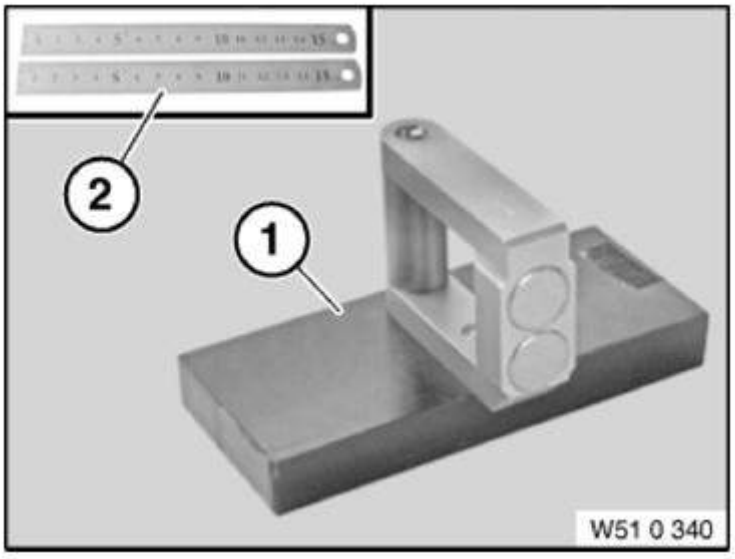


Fig. 76: Identifying Tool (0496386)
Courtesy of BMW OF NORTH AMERICA, INC.

0494646 TOOL

0494646 512230 Tool AM

NOTE: **(Press-down tool, tailgate) For pressing down the tailgate when mounting or removing the window glass**

SI number

01 13 03 (001)

Consisting of:

1. 0494765 Lever
2. 0494766 Clamp

NOTE: **(Fixing clamp) Deletion, only available via tool set**

cardiagn.com

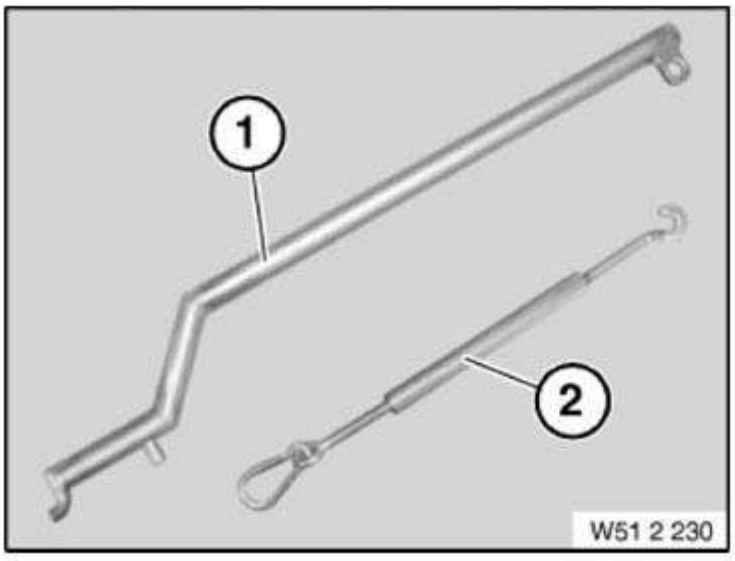


Fig. 77: Identifying Tool (0494646)
Courtesy of BMW OF NORTH AMERICA, INC.

0492667 TOOL

0492667 519130 Tool Mechanical tool

NOTE: **(Support and adjustment tool) For security door windows at front/rear E38/3**

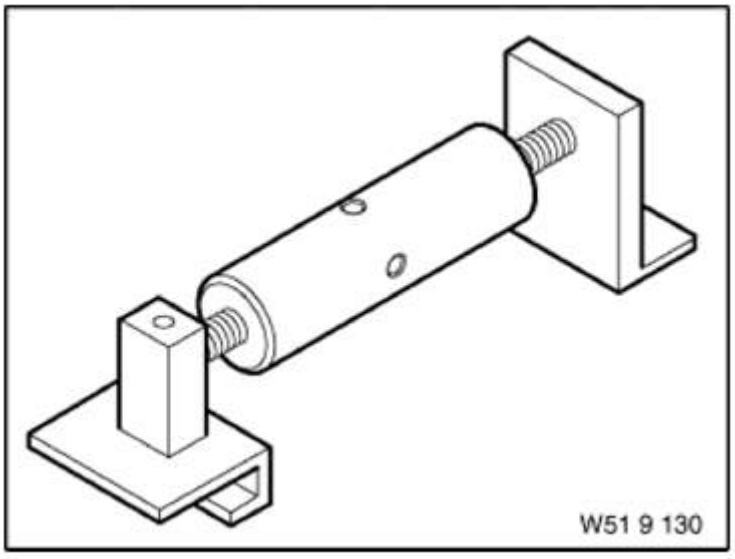


Fig. 78: Identifying Tool (0492667)
Courtesy of BMW OF NORTH AMERICA, INC.

2361287 TOOL

2361287 Tool Minimum set: Mechanical tools Mechanical tool

NOTE: **A new tool is necessary in order to adjust the punches for the front camera, side view camera and PDC, PMA sensors professionally according to the repair instructions specification. With the tool, the marks necessary for adjusting the punches can be drilled professionally into the replacement part of bumper.**

SI number

05 11 14 (190)

cardiagn.com



Fig. 79: Identifying Tool (2361287)
Courtesy of BMW OF NORTH AMERICA, INC.

0492636 TOOL

0492636 513100 Tool AM

NOTE: **For mounting the trims on the door frame**

Consisting of:

1. 0492637 Handle
2. 0492638 Pliers

   NOTE: **For bending up the sheet metal angles**

3. 0492639 Gauge

   NOTE: **(Test gauge) For checking and adjusting the sheet metal angles on the window frame**

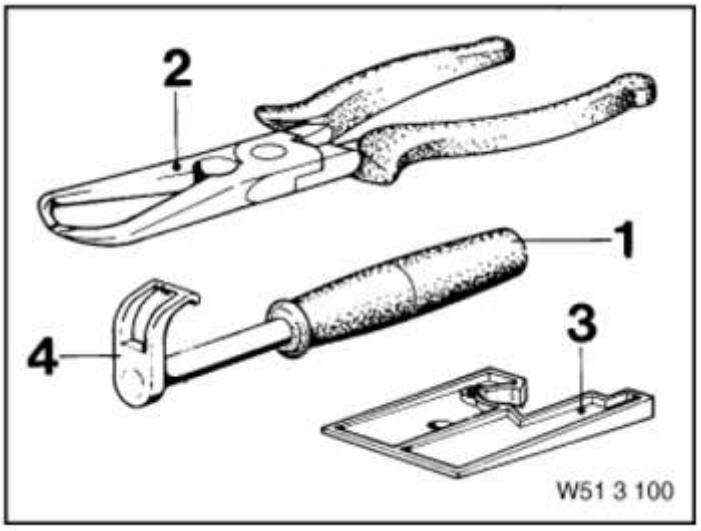


Fig. 80: Identifying Tool (0492636)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

4. 0492640 Clip

NOTE: **(Installation bracket) For rolling up sheet metal angles**

0494634 TOOL

0494634 519150 Tool Mechanical tool

NOTE: **(support and adjusting tool) For rear safety door window panes**

SI number

01 13 03 (001)

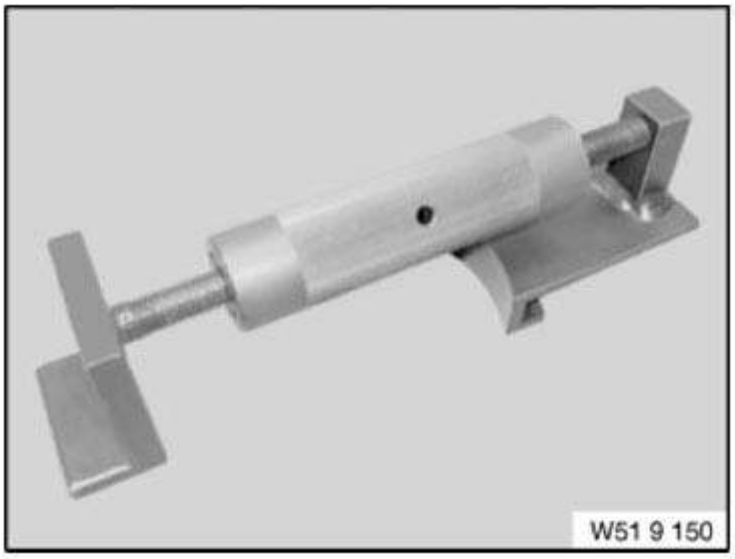


Fig. 81: Identifying Tool (0494634)
Courtesy of BMW OF NORTH AMERICA, INC.

0494645 TORX

0494645 512220 Torx Minimum set: Mechanical tools AM

NOTE: **For removing door handles and side windows**

Storage Location

B47

C47

SI number

01 08 03 (988)

cardiagn.com

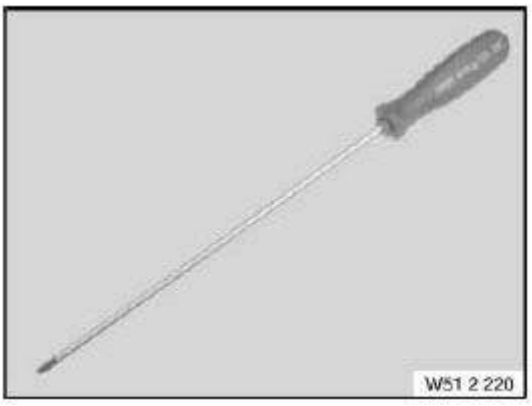


Fig. 82: Identifying Torx (0494645)
Courtesy of BMW OF NORTH AMERICA, INC.

0494471 UPHOLSTERY

0494471 512192 Upholstery Minimum set: Mechanical tools AM

0492631 UPHOLSTERY

0492631 513061 Upholstery AM

0492590 USE

0492590 511132 Use AM

NOTE: (threaded insert WAF 14)

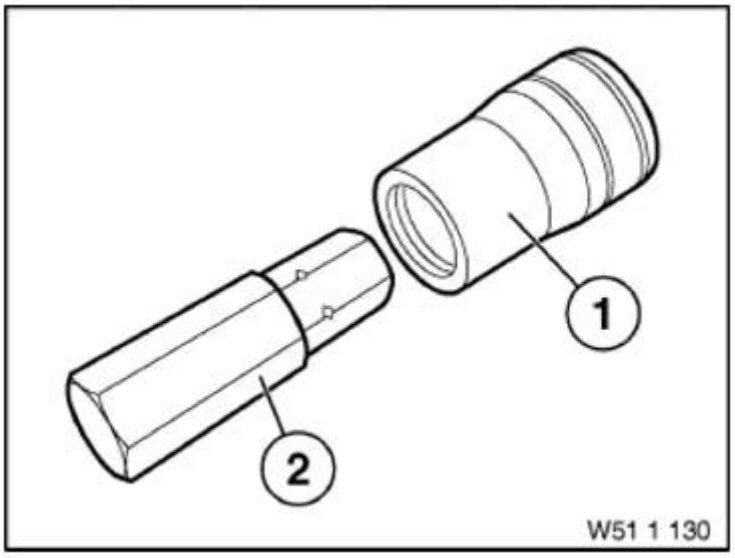


Fig. 83: Identifying Use (0492590)
Courtesy of BMW OF NORTH AMERICA, INC.

2298505 WEDGE

2298505 Wedge Minimum set: Mechanical tools Mechanical tool

NOTE: Set (delivery of 2 pieces)

Storage Location

C34

cardiagn.com

SI number

01 03 12 (792)

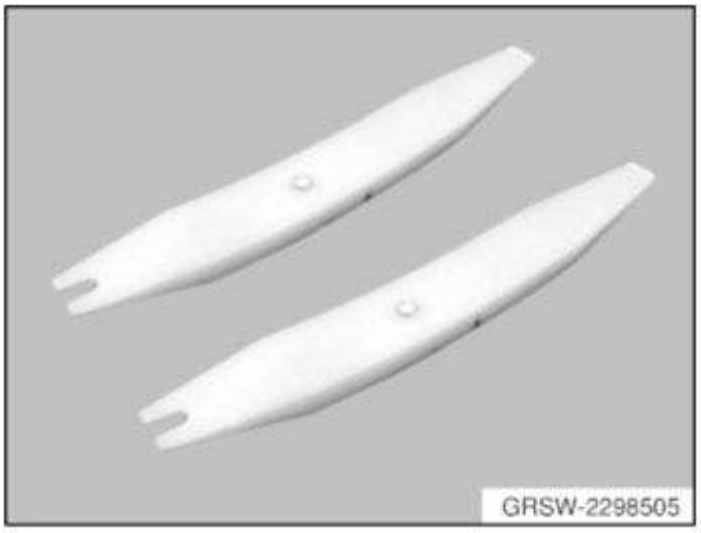


Fig. 84: Identifying Wedge (2298505)
Courtesy of BMW OF NORTH AMERICA, INC.

2298504 WEDGE

2298504 Wedge Minimum set: Mechanical tools Mechanical tool

NOTE: **Wedge with angled lug**

Storage Location

C34

SI number

01 03 12 (792)



Fig. 85: Identifying Wedge (2298504)
Courtesy of BMW OF NORTH AMERICA, INC.

0492642 WRENCH

0492642 513120 Wrench Mechanical tool

cardiagn.com

NOTE: **For removal and installation of threaded sleeves for the rail fixture (distance sleeves)**

Storage Location

X1

SI number

01 02 92 (484)

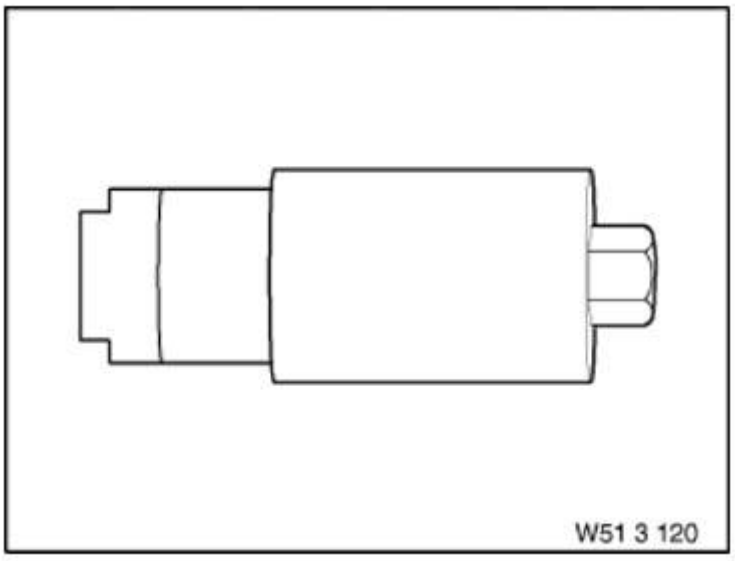


Fig. 86: Identifying Wrench (0492642)
Courtesy of BMW OF NORTH AMERICA, INC.

0492644 WRENCH

0492644 513150 Wrench Mechanical tool

NOTE: **For pretensioning the holders for the window lift rails**

Storage Location

Y4

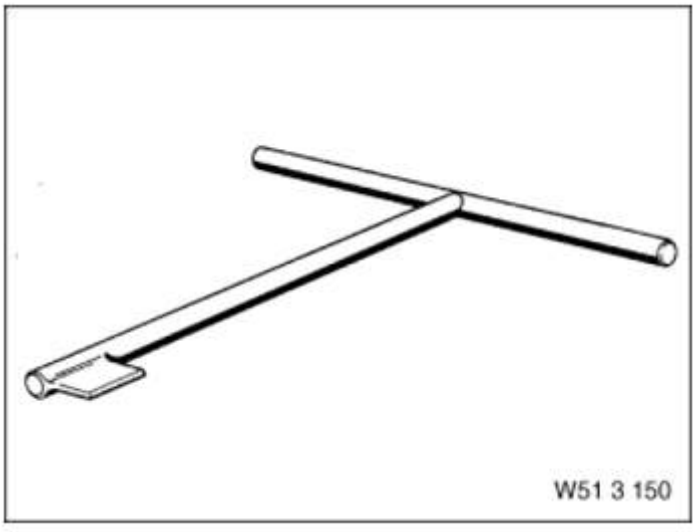


Fig. 87: Identifying Wrench (0492644)

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

0492650 WRENCH

0492650 513201 Wrench AM

NOTE: **(slide tool)**

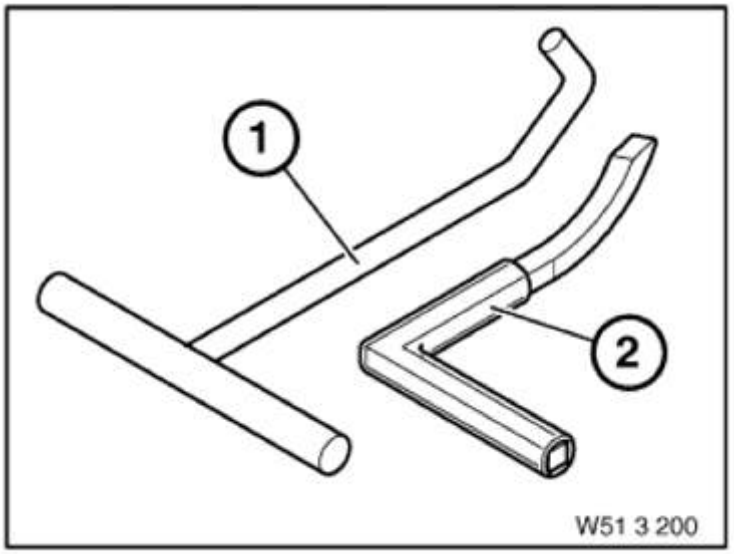


Fig. 88: Identifying Wrench (0492650)
Courtesy of BMW OF NORTH AMERICA, INC.

0492643 WRENCH

0492643 513140 Wrench Mechanical tool

Replaced by: 83300492648

NOTE: **For removing the door lock cover/, March 94 Replaced by 51 3 190. (0 492 648)**

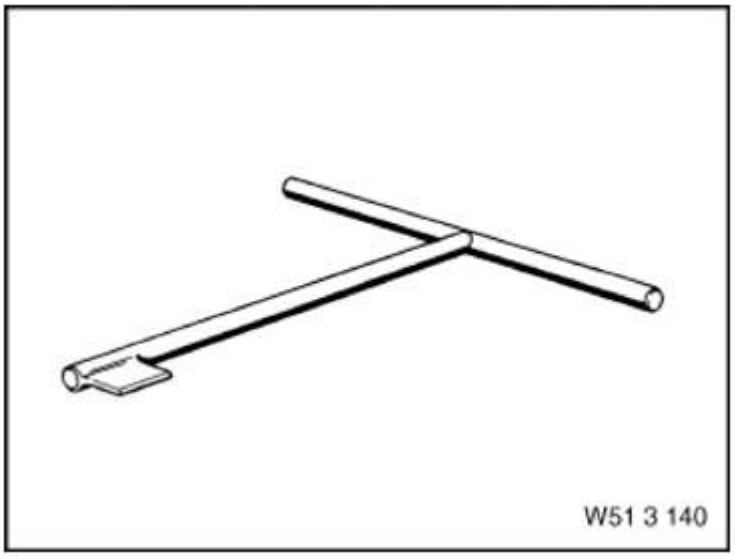


Fig. 89: Identifying Wrench (0492643)
Courtesy of BMW OF NORTH AMERICA, INC.

0492649 WRENCH

0492649 513200 Wrench AM

cardiagn.com

NOTE: **(special wrench) For removing the door handle with handle recess**

Storage Location

B10

SI number

01 03 95 (900)

Consisting of:

1. **0492650** Wrench

   NOTE: **(slide tool)**

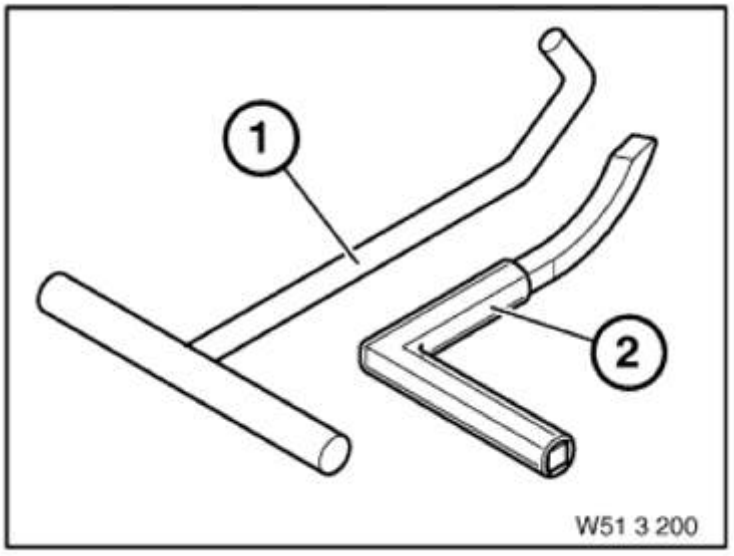


Fig. 90: Identifying Wrench (0492649)
Courtesy of BMW OF NORTH AMERICA, INC.

2. **0492651** Release tool

   NOTE: **(unlocking tool) Series: E38**

3. **0492652** Release tool

   NOTE: **(unlocking tool) Series: E39**

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702131

cardiagn.com

DOOR LOCKS, REAR

51 22 DOOR LOCKS, REAR

TIGHTENING TORQUE SPECIFICATION - DOOR LOCKS, REAR

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Door lock to rear door	F01/F02/F03/F04/F06/F07/F10/F11/F15/F16/F18/F25/F26/F85/F86	Â	Â	8, 6 Nm
2AZ	Lock striker to body	F01/F02/F03/F04/F06/F07/F10/F11/F15/F16/F18/F25/F26/F85/F86	Â	Â	21 Nm
3AZ	Door retainer to B-pillar	F01/F02/F03/F04/F07/F10/F11/F15/F16/F18/F25/F26/F85	Â	Â	22 Nm
		F06	Â	Â	28 Nm
		F86	Â	Â	24 Nm
4AZ	Door retainer to door	F01/F02/F04	Â	Â	18, 5 Nm
5AZ	Door stop to inner door panel	F06/F07/F10/F11/F15/F16/F18/F25/F26/F85/F86	Â	Â	10 Nm
6AZ	Soft-close automatic holder to inner door panel	F07	Â	Â	8 Nm
		F06	Â	Â	9, 5 Nm
7AZ	Soft-close automatic drive to inner door panel	F01/F02/F04/F10/F11/F18	Â	Â	5 Nm
		F15/F16/F85/F86	Â	Â	2, 1 Nm
8AZ	Soft-close automatic drive to holder	F06	Â	Â	4, 6 Nm

ENGINE COMPARTMENT LID CATCH

51 23 ENGINE COMPARTMENT LID CATCH

TIGHTENING TORQUE SPECIFICATION - ENGINE COMPARTMENT LID CATCH

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Striker to engine compartment lid	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26	Â	Replace screw	11, 8 Nm
		F15/F16/F85/F86	Â	Â	10 Nm
2AZ	Engine compartment lid catch to lock support	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26	Â	Â	11, 8 Nm
		F15/F16/F85/F86	Â	Â	10 Nm

FLOOR TRIM, LUGGAGE COMPARTMENT AND ENGINE COMPARTMENT TRIM PANELS

51 47 FLOOR TRIM, LUGGAGE COMPARTMENT AND ENGINE COMPARTMENT TRIM PANELS

TIGHTENING TORQUE SPECIFICATION - FLOOR TRIM, LUGGAGE COMPARTMENT AND ENGINE COMPARTMENT TRIM PANELS

			Tightening	

cardiagn.com

Â		Type	Thread	specifications	Dimension
1AZ	Roller cover for luggage compartment frame to body	F07	M8x22	Â	17, 5 Nm
2AZ	Luggage compartment removable panel hinge on rear luggage compartment to body	F07	Â	Â	3, 3 Nm
3AZ	Tail panel cover to transmission cross-member	F07	Â	Â	2 Nm
		F15/F85/F86	Â	Â	3 Nm
4AZ	Screw connection, lashing eyes	F07/F11	Â	Â	6 Nm
		F06/F12/F13	Â	Â	20, 5 Nm
5AZ	Stud, rail cover	F07	Â	Â	6 Nm
6AZ	Screw connection, rail support	F07	Â	Replace screws	8 Nm
7AZ	Roller cover for luggage compartment lock to body	F07	Â	Replace screws	8 Nm
8AZ	Screen trim, center	F07	Â	Â	1.8 Nm
9AZ	Lock/housing to roller cover for luggage compartment (center)	F07	Â	Â	2, 3 Nm
10AZ	Lock to retaining bracket	F07	Â	Â	25 Nm
11AZ	Locking bracket to roller cover for luggage compartment (center)	F07	Â	Â	8 Nm
12AZ	Mounting, cargo cover, to frame, cargo cover	F07	Â	Â	12 Nm
13AZ	Screw connection, underbody protection	F03	Â	Â	19 Nm
14AZ	Load area net cover mounting	F11	Â	Â	2.5 Nm
15AZ	Lashing rail to body	F25/F26	Â	Â	12 Nm
		F15/F16/F85/F86	Â	Â	20 Nm
16AZ	Mounting for roller cover	F25	Â	Â	7, 6 Nm
		F85/F86	Â	Â	8 Nm
17AZ	Battery cover to body	F15/F85/F86	Â	Â	3 Nm
18AZ	Shoulder to body	F15	Â	Â	3 Nm
		F85/F86	Â	Â	6 Nm
19AZ	Trim panel, D-pillar bottom to body	F15/F85/F86	Â	Â	3 Nm
20AZ	Trim panel for luggage compartment floor on body	F15	Flat-head screw M8x18	Â	8.5 Nm
			Sheet metal screw ST 4, 8x19	Â	3 Nm

FRONT DOOR LOCKS

51 21 FRONT DOOR LOCKS

cardiagn.com

TIGHTENING TORQUE SPECIFICATION - FRONT DOOR LOCKS

Â		Type	Thread	Tightening specifications	Value
1AZ	Door lock to front door	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F15/F16/F18/F25/F26/F85/F86	Â	Â	8, 6 Nm
2AZ	Lock striker to body	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F15/F16/F18/F25/F26/F85/F86	Â	Â	21 Nm
3AZ	Door stop to pillar	F01/F02/F04/F10/F11/F15/F16/F18/F25/F26	Â	Â	22 Nm
		F85/F86	Â	Â	24 Nm
		F06/F12/F13	Â	Â	28 Nm
4AZ	Door stop to inner door panel	F01/F02/F04	M8	Â	18, 5 Nm
5AZ	Door stop to inner door panel	F06/F07/F10/F11/F12/F13/F15/F16/F18/F25/F26/F85/F86	Â	Â	10 Nm
6AZ	Soft-close automatic drive to inner door panel	F01/F02/F04/F10/F11/F12/F13/F18	Â	Â	4, 6 Nm
		F15/F16/F85/F86	Â	Â	2, 1 Nm
7AZ	Soft-close automatic holder to inner door panel	F06	Â	Â	9, 5 Nm
8AZ	Soft-close automatic drive to holder	F06	Â	Â	4, 6 Nm

FRONT BUMPER

51 11 FRONT BUMPER

TIGHTENING TORQUE SPECIFICATION - FRONT BUMPER

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Bumper to air duct, top	F01/F02/F03/F04/F06/F07/F10/F11/F18	Â	Â	4 Nm
2AZ	Deformation element, top or bottom, to vertical connection	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	11, 8 Nm
3AZ	Deformation element to engine support	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26	M12	Replace screws Jointing torque Angle of rotation	Â 80 Nm 270 Â°
4AZ	Support to deformation element	F01/F02/F03/F04/F06/F07/F10/F11/F18/F12/F13	Â	Replace screws and nuts	27 Nm
		F25/F26	M8	Â	20 Nm
5AZ	Carrier to deformation element, bottom	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	11, 8 Nm

cardiagn.com

6AZ	Deformation element, bottom, to adapter plate, front axle carrier	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	19 Nm
7AZ	V-support to deformation element, top	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	19 Nm
8AZ	Car registration number to bumper	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	1 Nm
9AZ	Car registration number to bumper (thread repair)	F01/F02/F03/F04/F07/F10/F11/F12/F13/F18	M5	Â	4, 5 Nm
10AZ	Carrier, bottom, to deformation element, bottom	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	11, 8 Nm
11AZ	Bumper to side wall	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	3 Nm
12AZ	Bumper to radiator air duct	F25/F26	Â	Â	5 Nm

FRONT DOOR TRIM PANEL WITH ARMRESTS

51 41 FRONT DOOR TRIM PANEL WITH ARMRESTS

TIGHTENING TORQUE SPECIFICATION - FRONT DOOR TRIM PANEL WITH ARMRESTS

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Door trim panel to front door	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F15/F16/F18/F25/F26	Â	Â	3, 0 Nm
		F85/F86	Â	Â	2, 6 Nm
2AZ	Power window regulator switch to door trim panel	F07	Â	Â	1, 5 Nm
3AZ	Mid-range speaker to door trim panel	F07/F10/F11/F18	Â	Â	1, 5 Nm
4AZ	Bolt to repair clip	F10/F11/F18	Â	Â	0, 5 Nm
5AZ	Armrest to door trim panel (repair solution)	F25/F26	Â	Â	1, 2 Nm
6AZ	Decorative strip to door trim panel	F06/F12/F13	Â	Â	3 Nm

GASKETS AND LOOSE BODY COMPONENTS

51 71 GASKETS AND LOOSE BODY COMPONENTS

cardiagn.com

TIGHTENING TORQUE SPECIFICATION - GASKETS AND LOOSE BODY COMPONENTS

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Rear spoiler	F01/F02/F04/F07	Â	Screw	2 Nm
				Nut	8 Nm
		F11	M8	Â	8 Nm
		F15/F85	Â	Â	6 Nm
		F31	Â	Â	1.9 Nm
		F45/F46	Â	Screw	3, 1 Nm
2AZ	Gasket to tailgate	F11	Â	Â	1.5 Nm
3AZ	Bulkhead upper part	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Renew screws (Oval-head screw)	5 Nm
4AZ	Trim panel for cover on side member	F06/F12/F13	Â	Â	10 Nm
5AZ	Stiffening plate to luggage compartment floor	F34	M8	Â	19 Nm
6AZ	Spoiler module to tailgate	F34	Â	Â	2.5 Nm
7AZ	Spoiler cover to retaining bracket	F34	Â	Â	8 Nm
8AZ	Retaining bracket of spoiler cover to spoiler module	F34	Â	Â	8 Nm
9AZ	Cross-strut to body	F15/F85	Â	Renew screws	Â
				Jointing torque	10 Nm
				Angle of rotation	90 Â°
10AZ	Support part for entrance to body	F15/F16/F85/F86	Â	Â	10 Nm
11AZ	Torsion cover to body	F33/F83	Screw	Â	28 Nm
			Nut	Â	30 Nm
12AZ	Air duct to deformation element/cross connection	F45/F46	Screw	Â	6 Nm
13AZ	V-support to support/cross connection	F45/F46	Screw	Â	12 Nm
14AZ	Vertical connection to deformation element	F45/F46	Screw	Â	12 Nm
15AZ	Rear spoiler lower section to tailgate, top	F45	Screw	Â	8 Nm
16AZ	Rear spoiler lower section to tailgate, side	F45	Screw	Â	4, 5 Nm
17AZ	Bulkhead cover, top	F45/F46	Screw	Â	3, 0 Nm
18AZ	Side trim on tailgate	F46	Screw	Â	2, 7 Nm

MIRRORS, FINISHERS, ASHTRAYS, CONSOLES

cardiagn.com

TIGHTENING TORQUE SPECIFICATION - MIRRORS, FINISHERS, ASHTRAYS, CONSOLES

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Exterior mirror to front door	F01/F02/F03/F04/F07/F10/F11/F18	thread cutting	Â New exterior mirror initial screw connection	6 Nm 8 Nm
		F15/F16/F25/F26/F85/F86	thread cutting	Â New exterior mirror initial screw connection	9 Nm 11 Nm
		F06/F12/F13	thread cutting	Â	8 Nm
2AZ	Sun visor to body	F01/F02/F03/F04/F07/F10/F11/F18/F25/F26	Â	Â	2.5 Nm
3AZ	Grab handle, front/rear	F01/F02/F03/F04/F07/F10/F11/F18	Â	Â	3 Nm
4AZ	Support, center console	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26	Â	Â	4, 5 Nm
5AZ	Floor trim panel to carrier	F01/F02/F03/F04	Â	Â	2.5 Nm
6AZ	Decorative trim to center console/support	F01/F02/F03/F04/F06/F12/F13	Â	Â	1, 2 Nm
7AZ	Holder, center console, front, middle, to tunnel	F01/F02/F03/F04	Â	Â	4, 5 Nm
8AZ	Center console to instrument panel	F01/F02/F03/F04	Â	Â	2.5 Nm
9AZ	Decorative trim to center console	F01/F02/F03/F04	Dia. 5 mm	Oval-head screw for light alloy	4 Nm
		F01/F02/F03/F04	TS5 x 12	Plastic screw	2.8 Nm
10AZ	Center console/support to dashboard	F01/F02/F03/F04	Â	Â	2.5 Nm
		F12/F13	Â	Â	1, 2 Nm
11AZ	Trim, rear, with rear compartment nozzle	F01/F02/F03/F04	Â	Â	2.5 Nm
12AZ	Rear console to body shell holder	F01/F02/F03/F04	Â	Â	6 Nm
13AZ	Oddments tray, center armrest, to support, center console	F01/F02/F03/F04/F07	Â	Â	1.5 Nm
		F06/F12/F13	Â	Â	1, 2 Nm
14AZ	Handle to inner part, lid, glovebox	F01/F02/F03/F04/F25/F26	Â	Â	1.5 Nm
15AZ	Lid, glove box/end cover to housing	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	1.5 Nm
16AZ	Glove box/storage compartment to dashboard	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	1.8 Nm
		F25/F26	Â	Â	2.4 Nm
17AZ	Guide rail,	F01/F02/F03/F04	Â	Self-tapping	2 Nm

cardiagn.com

	roller sunblind, B-pillar			screw, black	
		F03	Â	Replace screws.	2.5 Nm
18AZ	Roller sunblind module	F01/F02/F04	Â	Oval flange head screw (ISA)	3 Nm
		F03	Â	Â	8 Nm
		F06/F07/F10/F11/F18	Â	Â	1.5 Nm
		F25/F26	Â	Â	0, 7 Nm
19AZ	Electric motor to function carrier	F01/F02/F04	Â	Flat-head screw	4, 4 Nm
		F03	Â	Â	8 Nm
20AZ	Engine to function carrier, top	F01/F02/F04	Â	Oval-head screw	2 Nm
		F03	Â	Â	3 Nm
21AZ	Vent window guide rail - window bar connection	F03	Â	Â	4.6 Nm
22AZ	Center console to support	F07	Â	Â	1.8 Nm
23AZ	Bracket, handle, to bodyshell	F01/F02/F04	Â	Â	3 Nm
24AZ	Support to holder, support part	F12/F13/F06	Â	Â	2.5 Nm
25AZ	Side bracket to support	F06/F12/F13	Â	Â	1, 2 Nm

POWER WINDOWS, FRONT

51 33 POWER WINDOWS, FRONT

TIGHTENING TORQUE SPECIFICATION - POWER WINDOWS, FRONT

Â		Type	Thread	Tightening specifications	Value
1AZ	Flat motor to power window regulator	F01/F02/F04/F10/F11/F15/F16/F18/F85/F86	Â	Â	5, 5 Nm
		F06/F12/F13	Â	Â	3, 5 Nm
2AZ	Window regulator to door	F01/F02/F03/F04/F10/F11/F18	Â	Replace screws	11, 8 Nm
		F15/F16/F25/F26/F85/F86	Â	Â	9, 5 Nm
3AZ	Holder to inner door panel	F01/F02/F04/F10/F11/F18	Â	Â	5, 5 Nm
4AZ	Window regulator to holder	F03	Â	Hexagon screw	18, 5 Nm
5AZ	Door window glass to power window regulator	F06/F12/F13	Â	Multipoint screw With special tool 51 3 240 and torque wrench (long lever arm)	12 Nm 9 Nm
6AZ	Window regulator to door body	F06/F12/F13	M6	Â	9, 5 Nm
7AZ	Power window regulator to door shell (adjusting element for preload)	F06	M8	Â	16 Nm
		F12/F13	M8	Â	19 Nm

POWER WINDOWS, REAR

cardiagn.com

51 35 POWER WINDOWS, REAR

TIGHTENING TORQUE SPECIFICATION - POWER WINDOWS, REAR

Â		Type	Thread	Tightening specifications	Value
1AZ	Flat motor to power window regulator	F01/F02/F04/F10/F11/F15/F16/F18/F85/F86	Â	Oval-head screw for thermoplastic	5, 5 Nm
2AZ	Window regulator to door	F01/F02/F04/F10/F11/F18	Â	Oval-head screw, self-locking	11, 8 Nm
		F15/F16/F25/F26/F85/F86	Â	Â	9, 5 Nm
3AZ	Side window, rear, non-opening (bottom)	F01/F02/F04/F10/F11/F18	Â	Â	7, 6 Nm
4AZ	Window frame trim (B-pillar)	F01/F02/F04/F10/F11/F18	Â	Â	2, 5 Nm
5AZ	Trim, window guide web • Side window, rear	F01/F02/F04/F10/F11/F18	Â	Â	3 Nm
		F15/F16/F85/F86	Â	Â	5 Nm
6AZ	Roller sunblind	F01/F02/F04	Â	Â	9 Nm
7AZ	Window frame trim (B-pillar) to inner door panel	F01/F02/F04/F15/F16/F85/F86	M5x30	Oval-head screw	2, 5 Nm
		F01/F02/F04	ST4.8x19	self-tapping screw	2 Nm
8AZ	Guide rail to closing plate	F01/F02/F04	Â	Oval-head screw for thermoplastic	3 Nm
		F01/F02/F04	ST4.8x19	self-tapping screw	2 Nm
9AZ	Roller shell	F01/F02/F04	Â	Oval-head screw for thermoplastic	3 Nm
		F01/F02/F04	Â	Flat-head screw	8 Nm
10AZ	Window guide rail rear, to window partition web	F01/F02/F04	Â	Â	8 Nm
11AZ	Holder to inner door panel	F01/F02/F04/F10/F11/F18	Â	Â	5, 5 Nm
12AZ	Window regulator to door	F03	Â	Hexagon screw	18, 5 Nm
13AZ	Side window, rear, non-opening (top)	F10/F11/F18	Â	Â	2, 5 Nm
14AZ	Window frame trim (C-pillar)	F11	Â	Â	1, 5 Nm
		F15/F16/F85/F86	Â	Â	2, 0 Nm

REAR BUMPER

51 12 REAR BUMPER

TIGHTENING TORQUE SPECIFICATION - REAR BUMPER

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Support to body	F01/F02/F03/F04/F06/F12/F13	M12	Replace nuts	66 Nm
		F07/F10/F11/F18	M12	Replace nuts	108 Nm
		F25/F26	Â	Â	68 Nm
2AZ	Guide, middle rear	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Replace nuts	4 Nm
		F25/F26	Â	Replace nuts	4, 5 Nm
3AZ	Guide, side, to body	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26	Â	Replace nuts	4, 5 Nm

cardiagn.com

				Screw	3 Nm
4AZ	Trailer tow hitch to bumper support	Â	Â	Â	Â
5AZ	Bumper trim panel to side fixture	F07/F10/F11/F18	Â	Â	2 Nm
		F25/F26	Â	Â	2, 5 Nm
6AZ	Bumper trim panel to rear light housing	F07/F25/F26	Â	Â	4, 5 Nm
		F06/F10/F11/F12/F13/F18	Â	Â	2 Nm
7AZ	Bumper trim panel to lower center fixture	F07/F10/F11/F18	Â	Â	4, 5 Nm
8AZ	Rear silencer holder	F07/F10/F11/F12/F13/F18	Nut	Â	21 Nm
9AZ	Cover on body	F25/F26	Nut	Â	5 Nm
10AZ	Bottom guide to luggage compartment floor	F10 M5	Â	Â	4 Nm

REAR DOOR TRIM PANEL WITH ARMRESTS

51 42 REAR DOOR TRIM PANEL WITH ARMRESTS

TIGHTENING TORQUE SPECIFICATION - REAR DOOR TRIM PANEL WITH ARMRESTS

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Door trim panel to rear door	F01/F02/F03/F04/F07/F10/F11/F15/F18/F25/F26	Â	Â	3, 0 Nm
2AZ	Mid-range speaker to door trim panel	F07	Â	Â	1, 5 Nm
3AZ	Armrest to door trim panel (repair solution)	F25/F26	Â	Â	1, 2 Nm
4AZ	Decorative strip to door trim panel	F06	Â	Â	3 Nm

REINFORCEMENT, BODY

51 61 REINFORCEMENT, BODY

TIGHTENING TORQUE SPECIFICATION - REINFORCEMENT, BODY

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Suspension cross-brace in engine compartment, rear	F25/F26	M10x25	Replace screws Jointing torque Angle of rotation	Â 56 Nm 90 Â°

51 64 REINFORCEMENT, BODY

TIGHTENING TORQUE SPECIFICATION - REINFORCEMENT, BODY

Â		Type	Thread	Tightening specifications	Dimension
1AZ	V-strut to connection, front top and/or to deformation	F25	M8	Â	24 Nm

cardiagn.com

	element				
2AZ	Support to deformation element	F25	M6	Â	8 Nm
3AZ	Connection, rear top, to carrier support, adapter plate to connection top rear	F25	Â	Â	20 Nm
4AZ	Connection, front top, to connection, rear top	F25	Â	Â	8 Nm
5AZ	Connection top front to support engine compartment lid catch	F25	Â	Â	8 Nm
6AZ	Support engine compartment lid catch to adapter plate	F25	Â	Â	8 Nm
7AZ	Radiator air duct on connection top front	F25	Â	Â	5 Nm

SIDE TRIM PANEL WITH ARMRESTS

51 43 SIDE TRIM PANEL WITH ARMRESTS

TIGHTENING TORQUE SPECIFICATION - SIDE TRIM PANEL WITH ARMRESTS

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Trim, front roof pillar (A-pillar) on body	F01/F02/F03/F04/F06/F07/F10/F11/F13/F15/F16/F18/F26/F34	Â	Â	2, 8 Nm
		F85/F86	Â	Â	3 Nm
2AZ	Trim, rear roof pillar (C-pillar) on body	F01/F02/F03/F04/F06/F07/F10/F11/F13/F15/F18/F25/F26/F31/F36	Â	Â	2, 8 Nm
		F16/F85/F86	Â	Â	2, 5 Nm
3AZ	Screw connection, convenient opening	F11	Â	Â	8, 5 Nm
4AZ	Decor moulding on side trim panel	F12/F13	Â	Â	3 Nm
5AZ	Armrest to side trim panel	F21/F22/F23/F32/F33/F82/F83	Â	Â	2 Nm
6AZ	Trim panel, roof pillar, rear (D-pillar) on body	F34	Â	Â	3, 3 Nm

TAILGATE LOCKS

51 24 TAILGATE LOCKS

TIGHTENING TORQUE SPECIFICATION - TAILGATE LOCKS

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Tailgate/tailgate lock	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26	Â	Â	18, 5 Nm

cardiagn.com

2AZ	Lock (closing cylinder) to rear lid	F01/F02/F03/F04	Â	Â	4, 5 Nm
3AZ	Striker to rear panel	F01/F02/F03/F04	Â	Â	10 Nm
		F06/F10/F12/F13/F18	Â	Â	7, 6 Nm
4AZ	Soft Close Automatic to retaining plate	F01/F02/F03/F04	Â	Â	1, 2 Nm
5AZ	Spring hook, hinge	F01/F02/F03/F04	Â	Â	10 Â±1 Nm
6AZ	Gas pressure spring to tailgate	F07	M6	Â	8 Nm
7AZ	Soft Close Automatic to retaining plate	F07	Â	Â	1, 4 Nm
8AZ	Striker to rear lid	F07	M8	Â	17, 5 Nm
		F11/F25/F26	Â	Â	18, 5 Nm
9AZ	Soft Close Automatic to rear lid	F10/F18	Â	Â	2, 6 Nm
10AZ	Retaining bracket/gas-filled shock absorber to body	F11	Â	Â	27 Nm
11AZ	Fixture, luggage-compartment separating net to body	F11	Â	Â	9 Nm
		F25	M6	Â	7, 6 Nm
12AZ	Limit position, tailgate	F11	M6	Â	3, 3 Nm
13AZ	Limit position, tailgate to rear side panel	F11	M6	Â	7, 6 Nm
14AZ	Gas pressure spring holder (spindle drive) to tailgate (also ball pin)	F25	M10x25	Â	36 Nm
15AZ	Gas pressure spring support bracket (spindle drive) to body	F25	M8x20	Â	20 Nm
16AZ	Emblem operation to holder	F06/F12/F13	Â	Â	4 Nm

TRIM ELEMENTS, COVERS, TAILGATE HANDLE STRIP

51 13 TRIM ELEMENTS, COVERS, TAILGATE HANDLE STRIP

TIGHTENING TORQUE SPECIFICATION - TRIM ELEMENTS, COVERS, TAILGATE HANDLE STRIP

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Center trim to tailgate	F01/F02/F03/F04/F07	Screw	Â	3 Nm
2AZ	Outer tailgate handle strip	F07	Screw	Â	3 Nm
3AZ	Inner tailgate handle strip	F07	Nut	Â	3 Nm
4AZ	Roof rails to roof	F11/F15/F16/F25/F26/F31/F85/F86	Nut	Replace nuts	19 Nm

cardiagn.com

5AZ	Filler piece on roof rail	F11	Screw	Â	2 Nm
6AZ	Chrome strip to roof frame	F07	Screw	Â	2 Nm

TRIM, INSTRUMENT TRIM PANEL

51-1 45 TRIM, INSTRUMENT TRIM PANEL

TIGHTENING TORQUE SPECIFICATION - INSTRUMENT TRIM PANEL

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Support for instrument panel to console for steering column support, bolt	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F15/F16/F18/F25/F26/F85/F86	M8	Â	21, 5 Nm
2AZ	Support for dashboard to A-pillar	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F15/F16/F18/F25/F26/F85/F86	M8	Â	21, 5 Nm
3AZ	Dashboard support to tunnel, screw	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F15/F16/F18/F25/F26/F85/F86	M8	Â	21, 5 Nm
4AZ	Trim panel, pedal mechanism, to dashboard support, screw	F01/F02/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26	Â	Replace screws	8 Nm
		F85/F86	Â	Replace screws	4 Nm
5AZ	Dashboard to support	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	1, 8 Nm
		F15/F16/F25/F26	Â	Â	8 Nm
		F85/F86	Â	Â	7 Nm
6AZ	Folding compartment (driver's side) to dashboard	F01/F02/F03/F04/F07	Â	Â	2, 4 Nm
7AZ	Handle recess to folding compartment (driver's side)	F01/F02/F03/F04	Â	Â	1, 5 Nm
8AZ	Support for dashboard to bulkhead	F15/F16/F25/F26/F85/F86	Â	Â	21, 5 Nm

UNDERBODY PANELLING

51 75 UNDERBODY PANELLING

TIGHTENING TORQUE SPECIFICATION - UNDERBODY PANELLING

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Underbody panelling on body	F-series	Bolt, non-metric thread	Â	3 Nm
			Screw M6	Â	8, 8 Nm
			Nut	Â	2.5 Nm
2AZ	Wheel arch cover to body	F-series	Screw	Â	3 Nm
			Nut	Â	2, 6 Nm
3AZ	Underbody	F18 National-	M8x33	Replace screw	28 Nm

cardiagn.com

	protection front	market version	M10x35	Replace screw	28 Nm

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702182

cardiagn.com

PARK DISTANCE CONTROL (PDC)

66 20 518 REMOVING AND INSTALLING/REPLACING A FRONT (SIDE) ULTRASONIC SENSOR

Release screws at marked points.

Remove nut (1) from wheel arch trim panel (2).

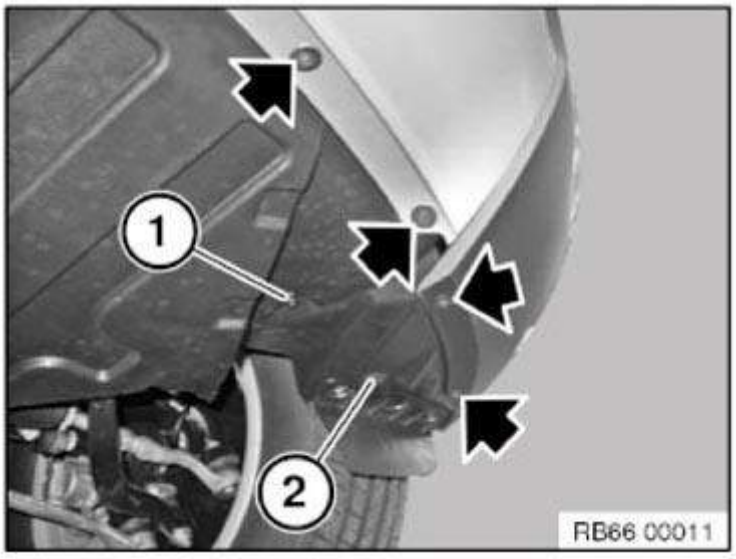


Fig. 1: Locating Wheel Arch Trim Panel Nuts And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Partially feed out wheel arch panel (1) downwards as illustrated.

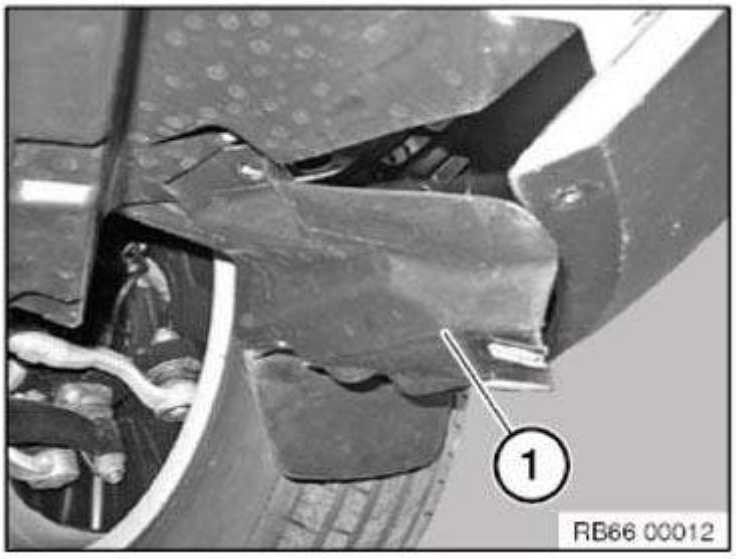


Fig. 2: Identifying Wheel Arch Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip trim grille (1) at the marked points and detach.

Unclip ultrasonic converter (2).

cardiagn.com

Remove plug connection at ultrasonic converter (2) and disconnect.

Installation note:

Before installation of ultrasonic sensor (2) on wiring harness, clean plug connection!

Retaining tabs on ultrasonic converter (2) must not be damaged!

Make sure ultrasonic transducer (2) is securely seated.

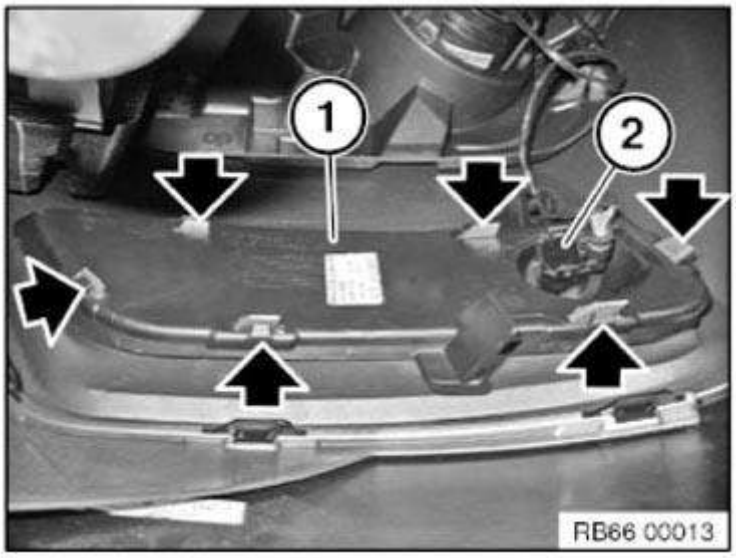


Fig. 3: Identifying Ultrasonic Sensor Assembly
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure rubber ring (1) is correctly seated on ultrasonic sensor (2).

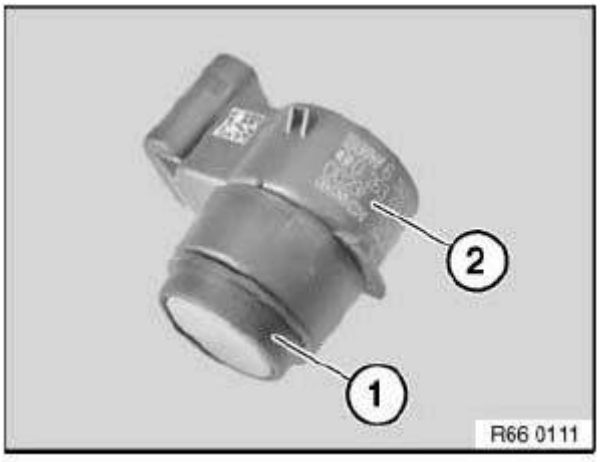


Fig. 4: Identifying Rubber Ring And Ultrasonic Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

66 20 520 REMOVING AND INSTALLING/REPLACING A FRONT ULTRASONIC SENSOR (CENTER)

Necessary preliminary work:

- Remove **FRONT BUMPER TRIM** .

cardiagn.com

Unclamp ultrasonic sensor (1) from retaining tabs (2).

Installation note:

Before installation of ultrasonic sensor (1) on wiring harness, clean plug connection!

Retaining tabs (2) must not be damaged!

Make sure ultrasonic sensor (1) is securely seated.

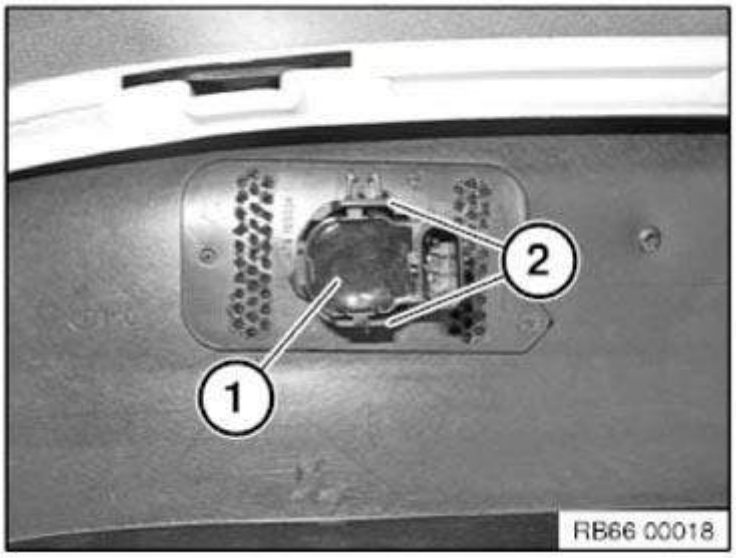


Fig. 5: Identifying Ultrasonic Sensor And Retaining Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure rubber ring (1) is correctly seated on ultrasonic sensor (2).

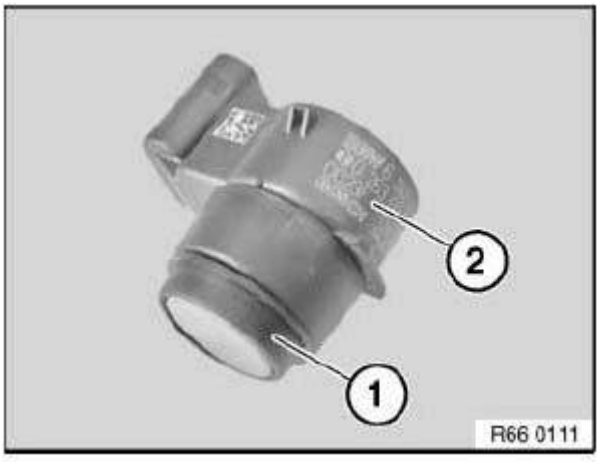


Fig. 6: Identifying Rubber Ring And Ultrasonic Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

66 20 534 REMOVING AND INSTALLING/REPLACING A REAR LEFT ULTRASONIC TRANSDUCER (PARK DISTANCE CONTROL)

WARNING: **Risk of burning!**
Work on the exhaust system may only be carried out when it has cooled down!

NOTE: **Ultrasonic transducers (1) can be removed without the bumper panel being**

cardiagn.com

removed.

Release retaining tabs.

Pull ultrasonic sensor (1) out of bracket and unlock and disconnected associated plug connection.

Installation note:

Before installation of ultrasonic sensor (1) on wiring harness, clean plug connection!

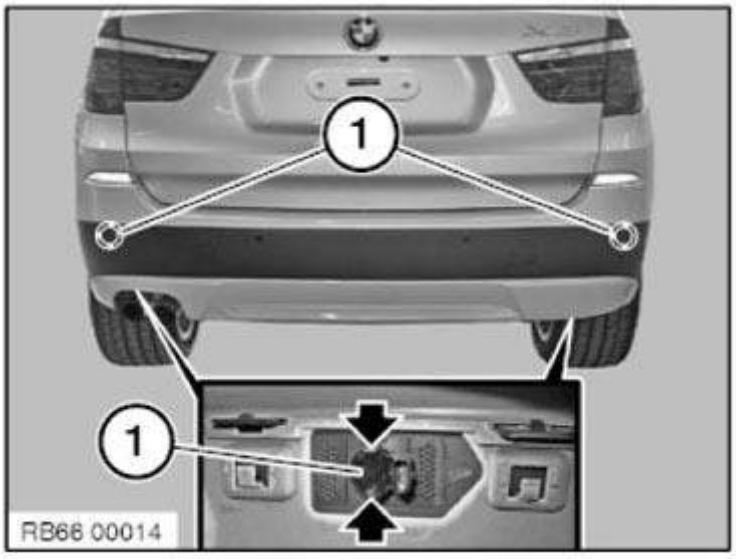


Fig. 7: Locating Rear Ultrasonic Sensors
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure rubber ring (1) is correctly seated on ultrasonic sensor (2).

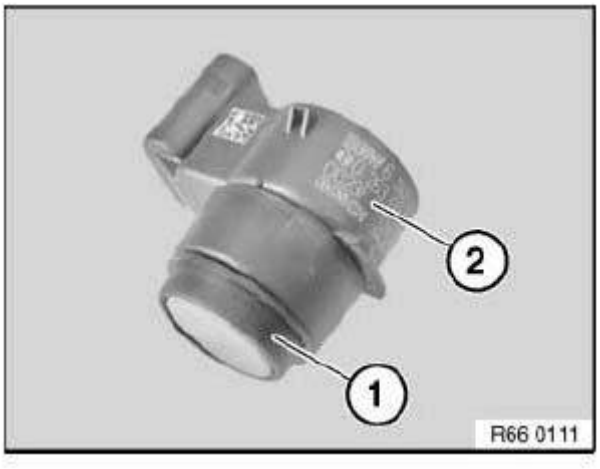


Fig. 8: Identifying Rubber Ring And Ultrasonic Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

66 20 536 REMOVING AND INSTALLING/REPLACING A REAR MIDDLE LEFT ULTRASONIC TRANSDUCER (PARK DISTANCE CONTROL)

WARNING: **Risk of burning!**
Work on the exhaust system may only be carried out when it has cooled down!

Lift out plastic rivets.

cardiagn.com

Installation note:

Replace plastic rivets.

Undo nuts in marked area (1).

Remove cover (2).

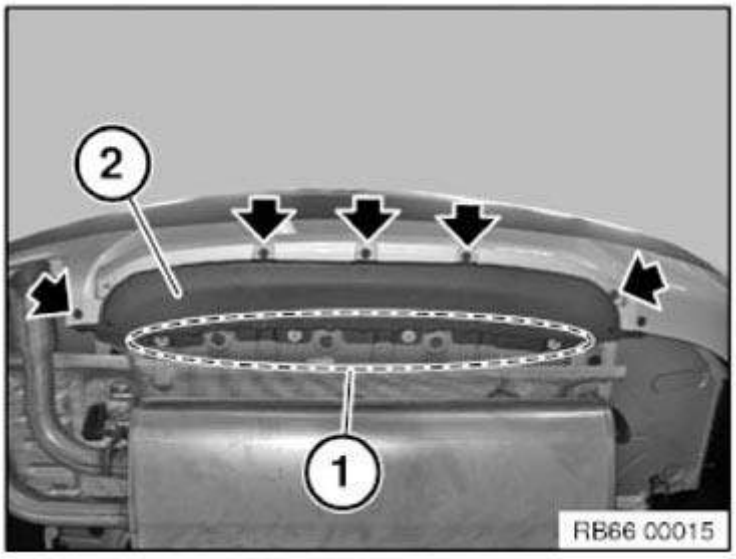


Fig. 9: Locating Plastic Cover Rivets And Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: For purposes of clarity, illustration shows bumper removed.

Unlock latch mechanisms (1).

Remove ultrasonic sensor (2).



Fig. 10: Identifying Ultrasonic Sensor And Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock plug connection (1) and disconnect.

Remove ultrasonic sensor (2).

cardiagn.com

Installation note:

Before installation of ultrasonic sensor (2) on wiring harness, clean plug connection!

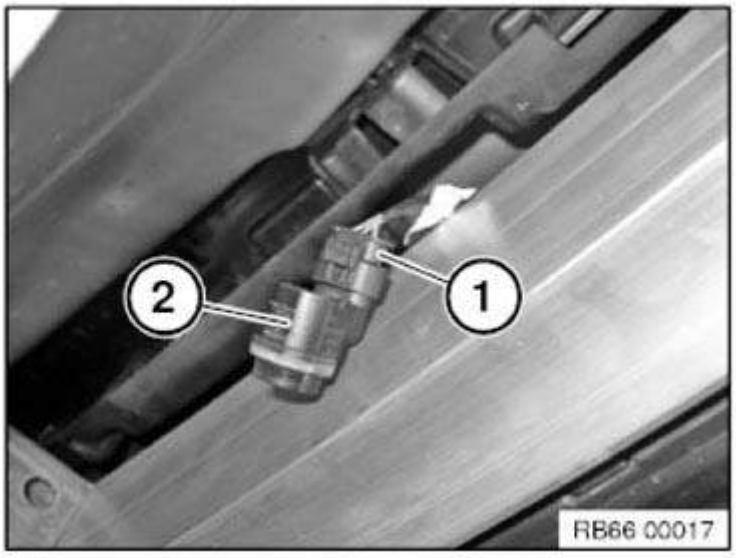


Fig. 11: Identifying Ultrasonic Sensor And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure rubber ring (1) is correctly seated on ultrasonic sensor (2).

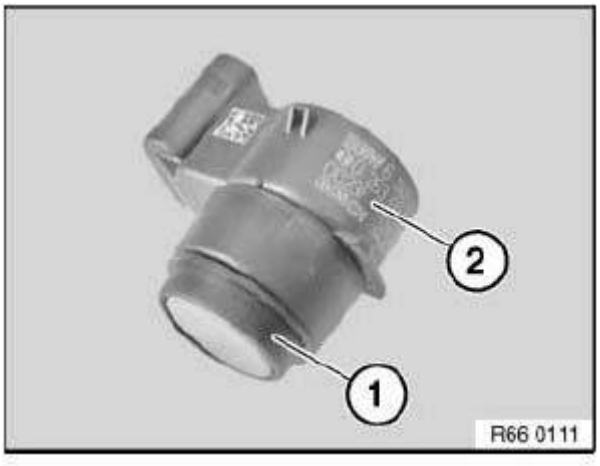


Fig. 12: Identifying Rubber Ring And Ultrasonic Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

66 20 537 REMOVING AND INSTALLING/REPLACING A REAR MIDDLE RIGHT ULTRASONIC TRANSDUCER (PARK DISTANCE CONTROL)

WARNING: **Risk of burning!**
Work on the exhaust system may only be carried out when it has cooled down!

Lift out plastic rivets.

Installation note:

Replace plastic rivets.

Undo nuts in marked area (1).

cardiagn.com

Remove cover (2).

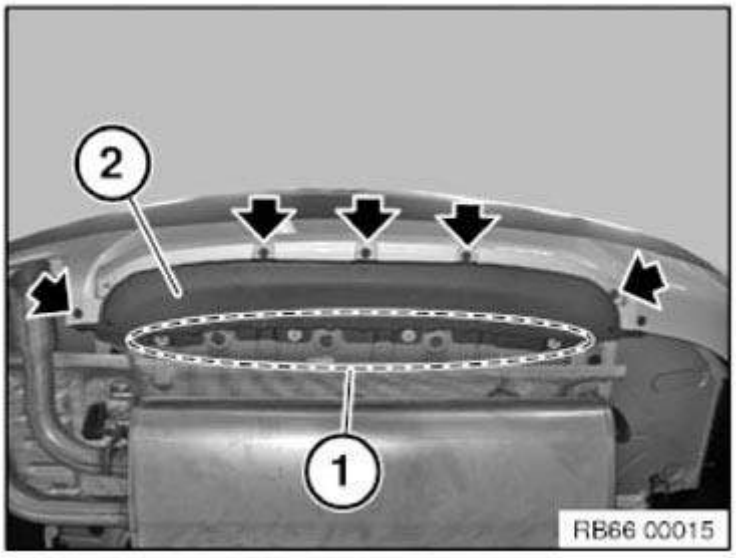


Fig. 13: Locating Plastic Cover Rivets And Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: For purposes of clarity, illustration shows bumper removed.

Unlock latch mechanisms (1).

Remove ultrasonic sensor (2).



Fig. 14: Identifying Ultrasonic Sensor And Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock plug connection (1) and disconnect.

Remove ultrasonic sensor (2).

Installation note:

Before installation of ultrasonic sensor (2) on wiring harness, clean plug connection!

cardiagn.com

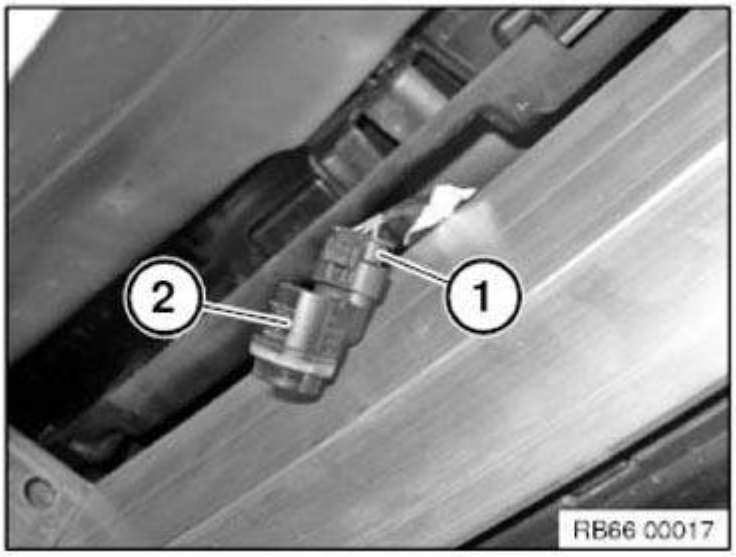


Fig. 15: Identifying Ultrasonic Sensor And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure rubber ring (1) is correctly seated on ultrasonic sensor (2).

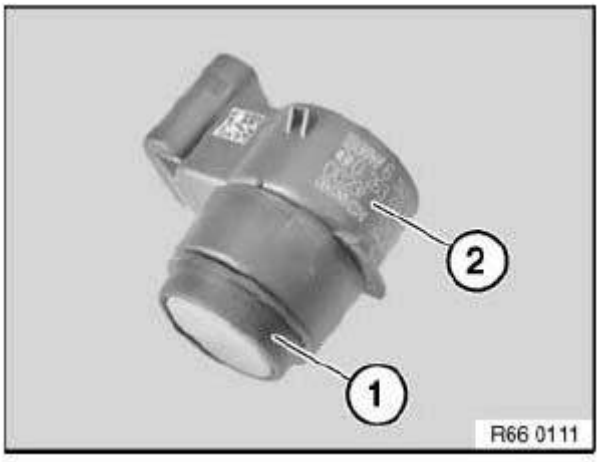


Fig. 16: Identifying Rubber Ring And Ultrasonic Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

66 20 535 REMOVING AND INSTALLING/REPLACING A REAR RIGHT ULTRASONIC SENSOR (PARK DISTANCE CONTROL)

WARNING: **Risk of burning!**
Work on the exhaust system may only be carried out when it has cooled down!

NOTE: **Ultrasonic transducers (1) can be removed without the bumper panel being removed.**

Release retaining tabs.

Pull ultrasonic sensor (1) out of bracket and unlock and disconnected associated plug connection.

Installation note:

Before installation of ultrasonic sensor (1) on wiring harness, clean plug connection!

cardiagn.com

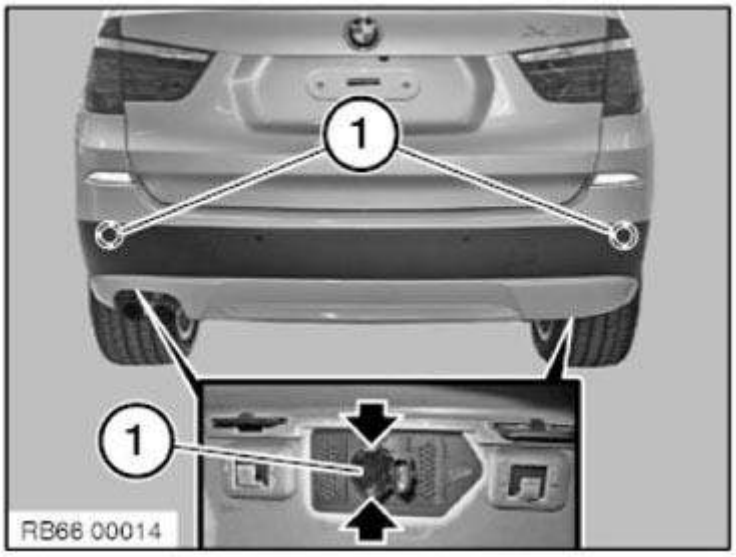


Fig. 17: Locating Rear Ultrasonic Sensors
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure rubber ring (1) is correctly seated on ultrasonic sensor (2).

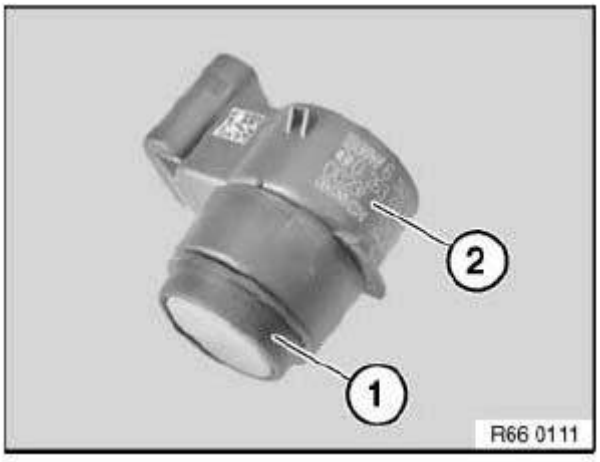


Fig. 18: Identifying Rubber Ring And Ultrasonic Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

66 20 535 REMOVING AND INSTALLING/REPLACING REAR RIGHT ULTRASONIC SENSOR

Removal:

NOTE: On version with cover:

Undo expanding rivet or screws (1).

Release nut (3).

Release screws (4).

Remove cover (2) downwards.

cardiagn.com

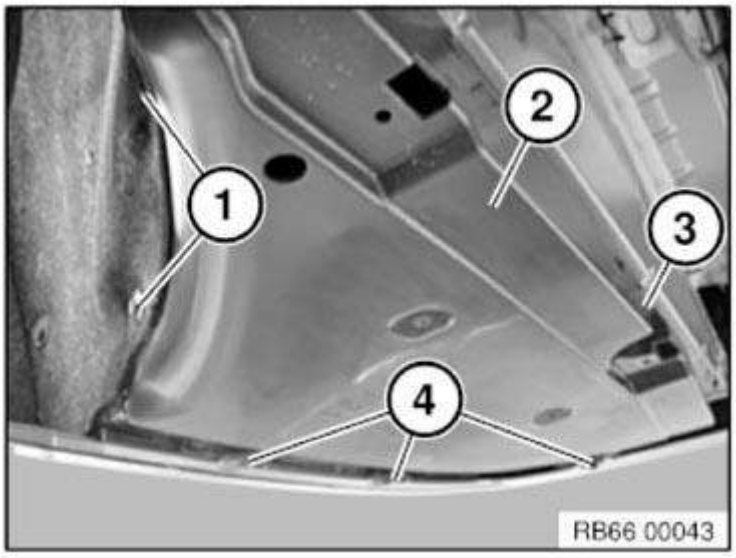


Fig. 19: Identifying Cover, Screws, Nut And Expanding Rivet Screws
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Ultrasonic transducers (3) can be removed without the bumper panel being disassembled.

Unlock and disconnect the connector (1).

Release retaining tabs (2).

Pull ultrasonic sensor (3) out of bracket.

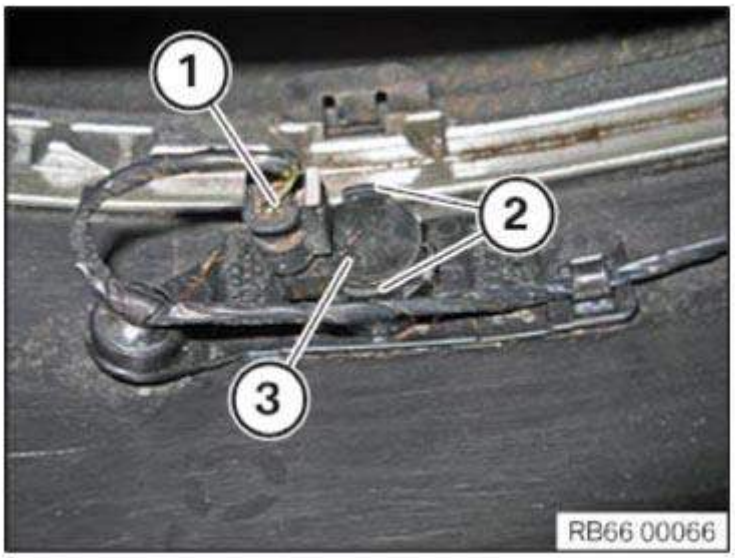


Fig. 20: Identifying Ultrasonic Sensor, Connector And Retaining Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

NOTE: Make sure rubber ring (1) is correctly seated on ultrasonic sensor (2).

cardiagn.com

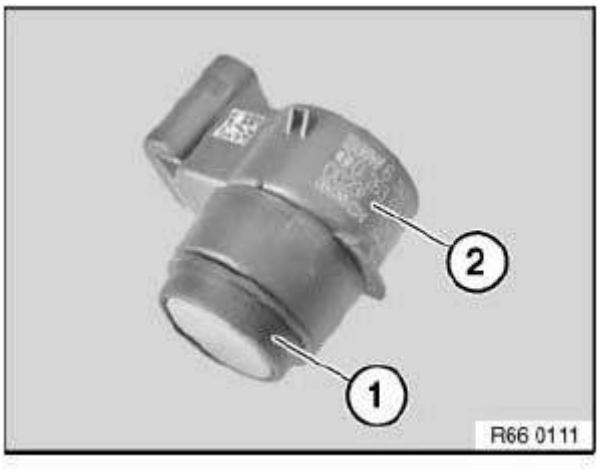


Fig. 21: Identifying Rubber Ring And Ultrasonic Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

Engage ultrasonic sensor (3) in bracket.

The retaining tabs (2) must lock correctly.

Connect the connector (1).

NOTE: Before installation of ultrasonic sensor (1) on wiring harness, clean plug connection!

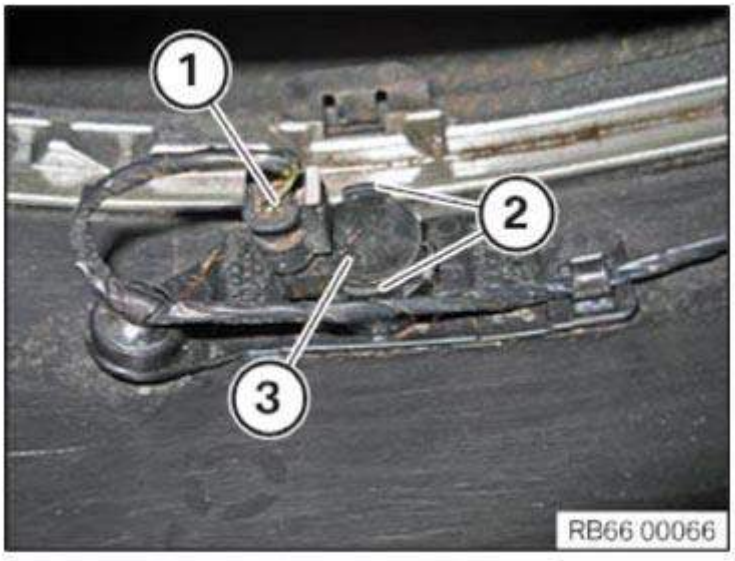


Fig. 22: Identifying Ultrasonic Sensor, Connector And Retaining Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: On version with cover:

Position cover (2) correctly.

Tighten screws (4).

Tighten the nut (3).

Fit expanding rivet or screws (1).

NOTE: Replace faulty expanding rivet (1) if necessary.

cardiagn.com

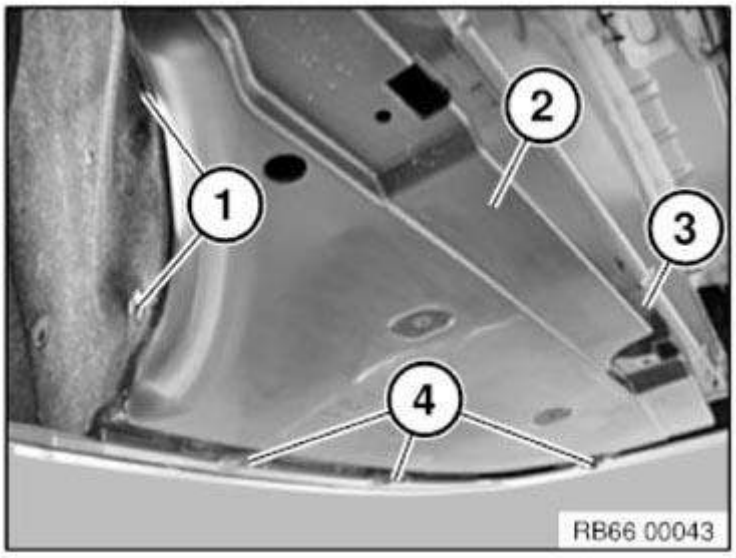


Fig. 23: Identifying Cover, Screws, Nut And Expanding Rivet Screws
Courtesy of BMW OF NORTH AMERICA, INC.

ADAPTIVE ACTIVE CRUISE CONTROL (ACC)

66 31 010 ADJUST ACC SENSOR

Special tools required:

- 2 338 466

NOTE: **This information is valid for the entire F-series with the new ACC sensor.**

Special tool required:

ACC adjusting device, complete.

Order number: 81 10 0 021 292

Consisting of:

1. Mirror, complete
2. Wheel laser
3. Slotted diaphragm
4. Control holder (for initial installation of rail)
5. Rail
6. Setup and Operating Instructions (not shown)

cardiagn.com

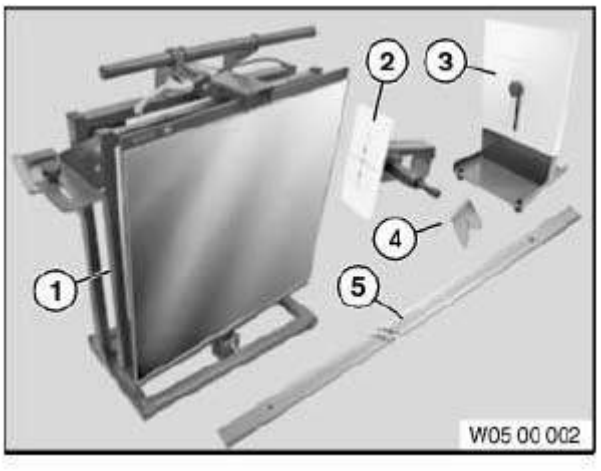


Fig. 24: Identifying ACC Adjusting Device Components
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **A mounting which is not included in the delivery specification is required to support the wheel laser. Use either the quick-action clamp from the existing KDS or ACC wheel holder (2 338 466).**

NOTE:

- **Follow notes for ACC ADJUSTING DEVICE.**

NOTE: **To set the ACC sensor, connect the BMW diagnosis system and fit the ACC adjusting device.**

Select ACC calibration in diagnosis.

- Service function
- Chassis and suspension
- ACC cruise control
- Start-up of ACC sensor

Handle ACC adjusting device in accordance with mounting and Owner's Handbook provided with device.

NOTE: **Further information on the ACC adjusting device can be found in the BMW Workshop Equipment and Planning Documentation.**

NOTE: **The following step must be taken if there is an "Incorrectly adjusted sensor" fault entry or there is a suspicion of frontal damage.**

All except for F34:

IMPORTANT: The vehicle must be parked on a flat, **horizontal** surface!

NOTE: **For purposes of clarity, graphic shows holder (1) removed.**

cardiagn.com

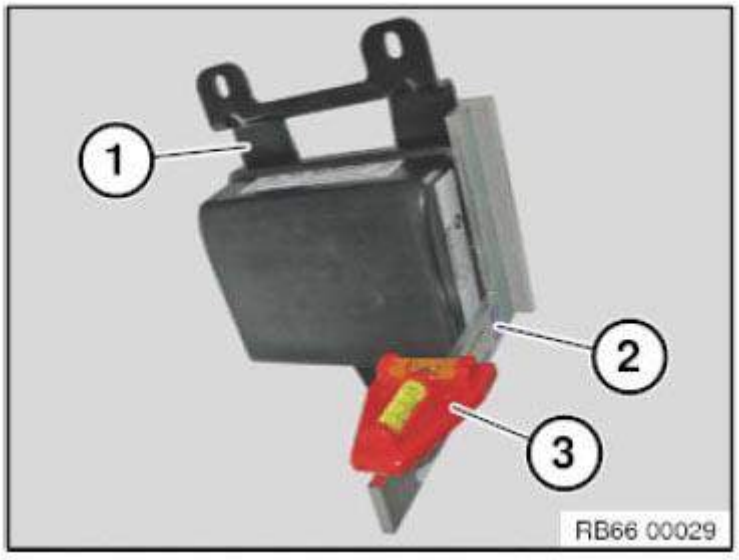


Fig. 25: Identifying ACC Adjusting Device
Courtesy of BMW OF NORTH AMERICA, INC.

Hold square (2) against holder (1) as shown.

Limit stop leg length: approx. 105 mm

Check vertical orientation in direction of travel with bubble level (3).

Replace holder if necessary.

IMPORTANT: After replacing the holder, check the ACC sensor position again using the square (2) and bubble level (3).
If the ACC sensor position is still not right, **CHECK THE SUPPORT FOR THE BUMPER PANEL AT THE BOTTOM FRONT FOR DAMAGE AND REPLACE IF NECESSARY** (except F34).
A damaged/bent holder (1) indicates mechanical misuse of the vehicle and cannot be handled as a warranty case.

F34 only:

IMPORTANT: The vehicle must be parked on a flat, **horizontal** surface!

Hold square (1) against holder (2) as shown.

Check vertical orientation in direction of travel with bubble level (3).

Adjust as appropriate by screws on side of holder (2).

cardiagn.com

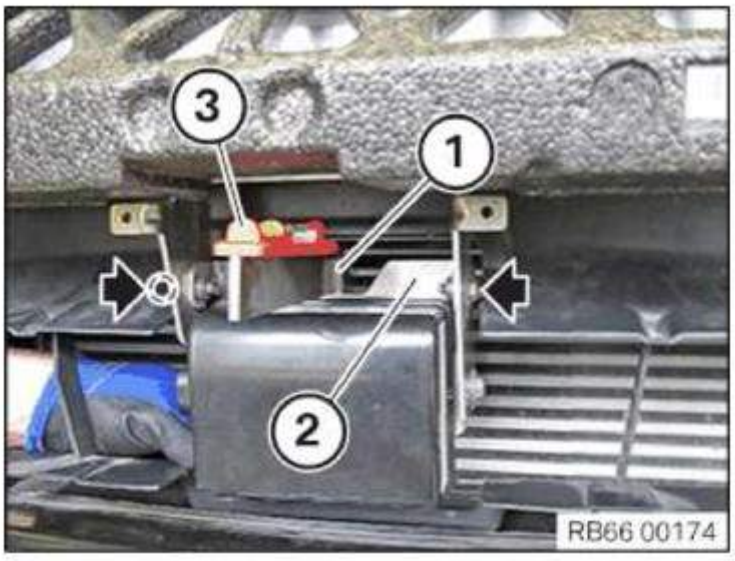


Fig. 26: Locating ACC Sensor Screws
Courtesy of BMW OF NORTH AMERICA, INC.

If no correct setting can be attained, replace the complete holder (2).

IMPORTANT: After replacing the holder, check the ACC sensor position again using the square (1) and bubble level (3).
If the ACC sensor position is still not right, check the support for the bumper panel for damage and replace if necessary.
A damaged/bent holder (1) indicates mechanical misuse of the vehicle and cannot be handled as a warranty case.

66 31 010 INSTRUCTIONS FOR ACC ADJUSTING DEVICE

NOTE: This information is valid for the entire F-series with the new ACC sensor.

cardiagn.com

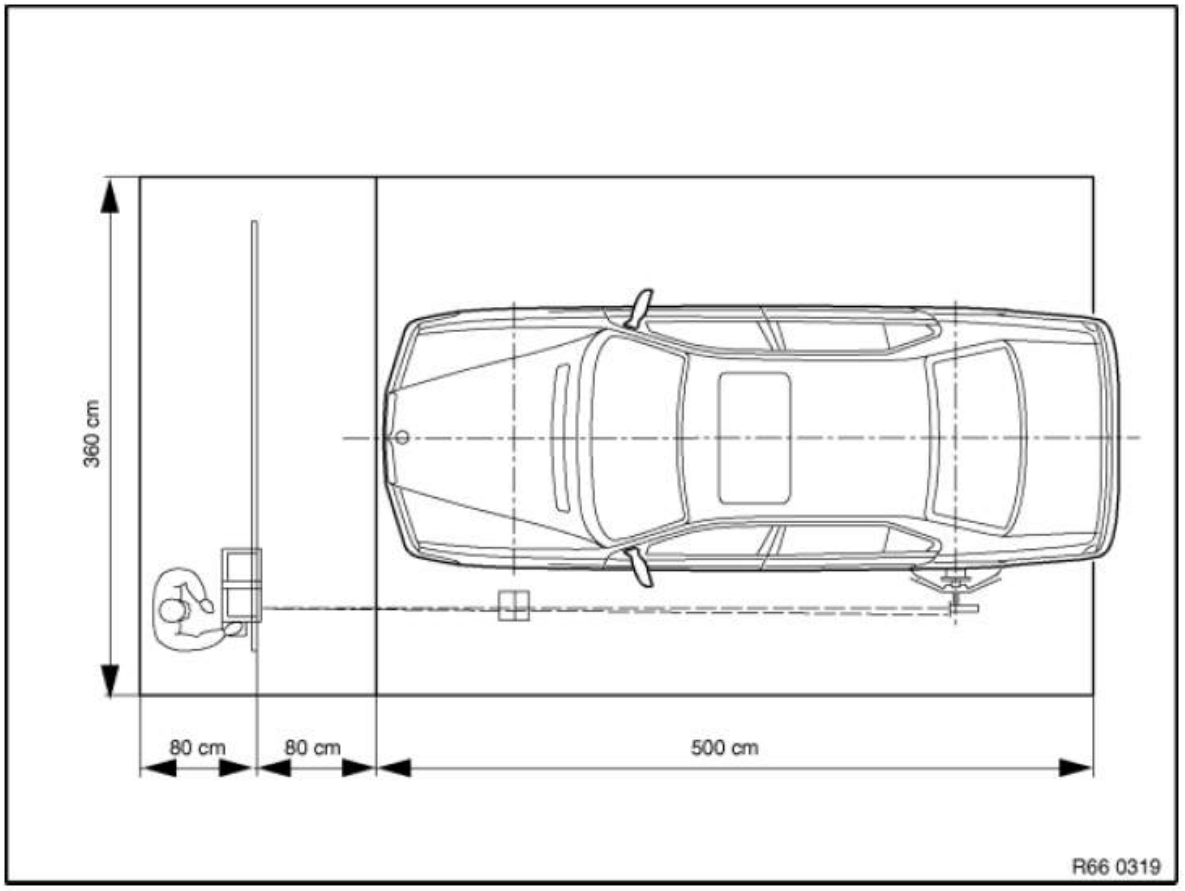


Fig. 27: Identifying ACC Adjusting Device Measurement Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

Requirements for the measurement area for ACC adjusting device

Dimensions:

1. Area behind the mirror of at least 80 cm that cane be entered
2. Distance between mirror and vehicle 80 cm +/- 5 cm

   (Distance between mirror and ACC sensor 100 cm +/- 5 cm)

3. Total area of work area 360 cm x 660 cm

Maximum irregularity of floor surface:

- Floor surface - adjusting device ≤ 1 mm
- Floor surface - vehicle ≤ 10 mm

cardiagn.com

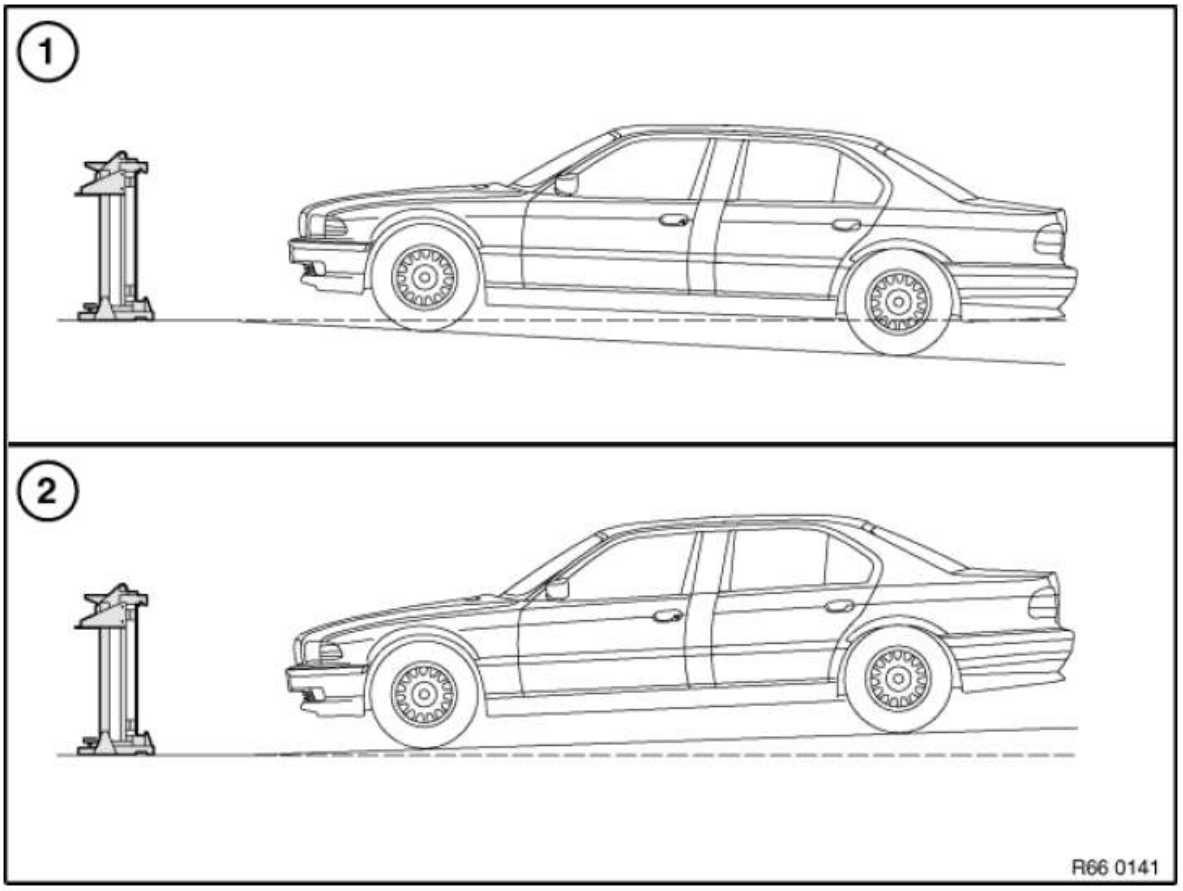


Fig. 28: Checking Maximum Irregularity Of Floor Surface
Courtesy of BMW OF NORTH AMERICA, INC.

Maximum angle of inclination of floor surface - vehicle:

- Downward incline of floor surface maximum 3Â°, see Fig. 28 above (1)
- Upward incline of floor surface maximum 1Â°, see Fig. 28 above (2)

NOTE: **Setting up the ACC adjusting device (one-off task) comprises the following steps:**

- **Assembly of adjusting device**
- **Assembly of rail**
- **Basic setting of adjusting device on measurement area**

Detailed setup and operating instructions are enclosed with every ACC adjusting device.

66 31 006 REMOVING AND INSTALLING (REPLACING) ACC SENSOR

Necessary preliminary work:

- Remove FRONT BUMPER PANEL

Undo screws in marked area on the rear side of the ACC sensor (1).

Tightening torque 66 31 1AZ .

Remove ACC sensor from holder (1).

cardiagn.com

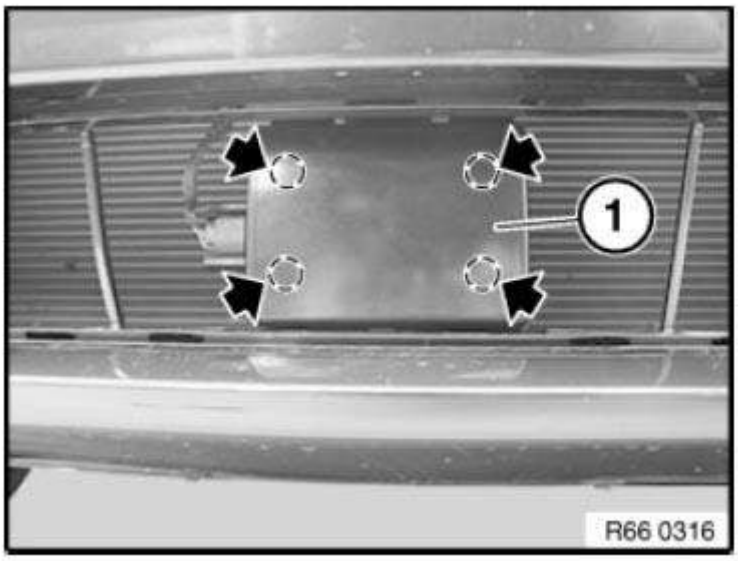


Fig. 29: Locating ACC Sensor From Holder Screws
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Secure ACC sensor (2) against falling out.

Unfasten plug connection (1) and disconnect.

Remove ACC sensor (2).

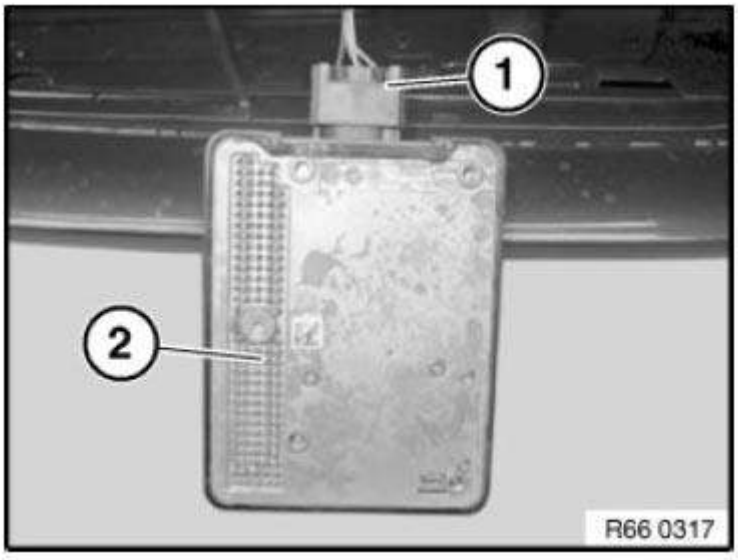


Fig. 30: Identifying ACC Sensor And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

After installation:

- If applicable, **ADJUST THE ACC SENSOR**

Replacement:

- Carry out **VEHICLE PROGRAMMING AND ENCODING**
- **ADJUSTING ACC SENSOR**

LANE CHANGE WARNING

66 32 020 REMOVING AND INSTALLING/REPLACING SENSOR FOR LANE CHANGE WARNING

cardiagn.com

Necessary preliminary tasks:

- Remove **REAR BUMPER PANEL**

Unfasten plug connection (1) and disconnect.

Unlock catch (2).

Remove sensor (3) from bracket in direction of arrow.

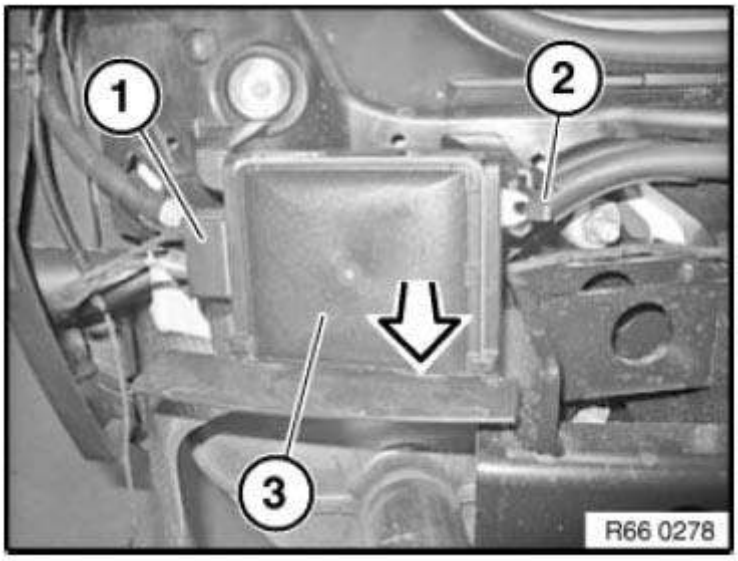


Fig. 31: Removing Sensor From Bracket
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Modify frame (2) for new sensor (1).

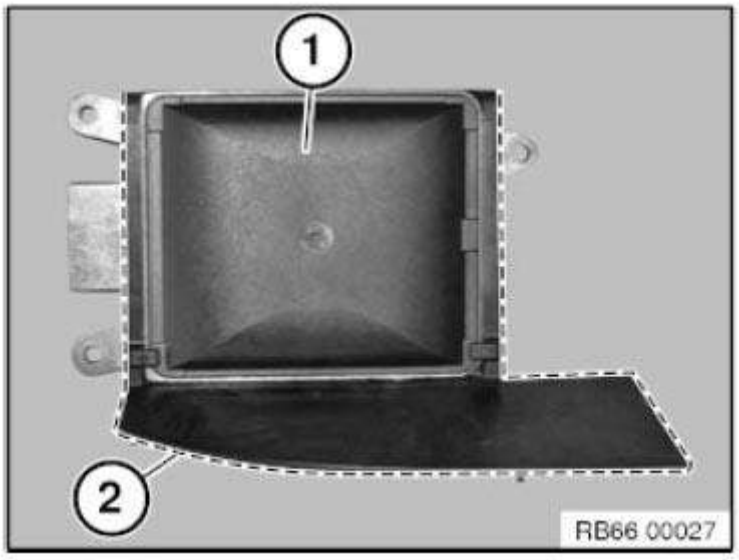


Fig. 32: Identifying Modify Frame For Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT:

If, in the event of side damage to the vehicle, it is not necessary to replace the tail panel, observe the following points:

- Fit middle bumper panel guide on undamaged side

cardiagn.com

- Use middle bumper panel guide as a gauge in order to check or correct the position of the remaining connecting points.
- Middle bumper panel guide must be a to be fitted without tension.

Replacement:

- Carry out **VEHICLE PROGRAMMING AND ENCODING** .

Replacement/after body repair:

-> Execute diagnosis job

- Start-up
  - Lane change warning sensor system

PARKING ASSIST SYSTEM

66 33 008 REMOVING AND INSTALLING/REPLACING PARK ASSIST CONTROL UNIT

Necessary preliminary work:

- Remove **LUGGAGE COMPARTMENT FLOOR TRIM PANEL**

Removal:

Release clips (1).

Fold up storage shelf (2).

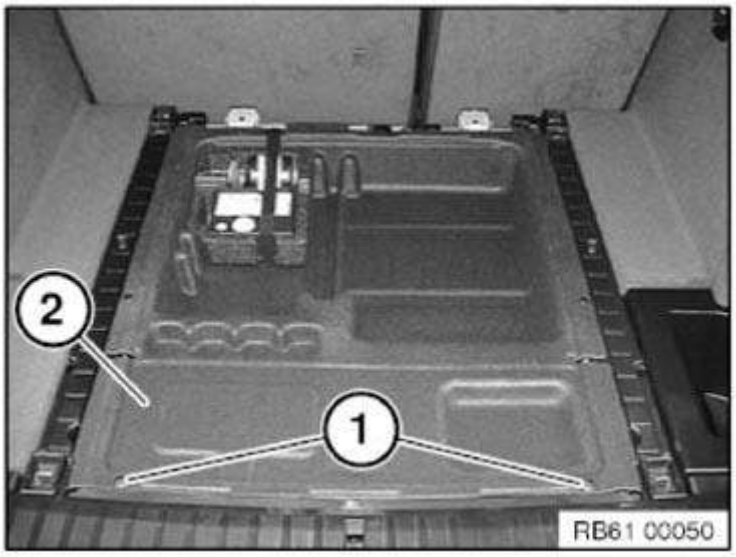


Fig. 33: Identifying Storage Shelf And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect the connector (1).

Pull Parking Maneuvering Assistant control unit (2) out upwards.

cardiagn.com

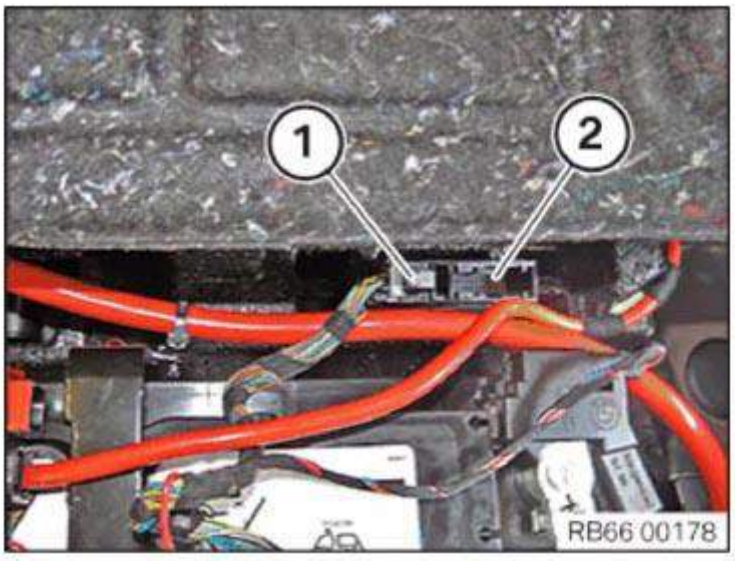


Fig. 34: Identifying Parking Maneuvering Assistant Control Unit And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Insert Parking Maneuvering Assistant control unit (2) downwards.

Connect and lock connector (1).

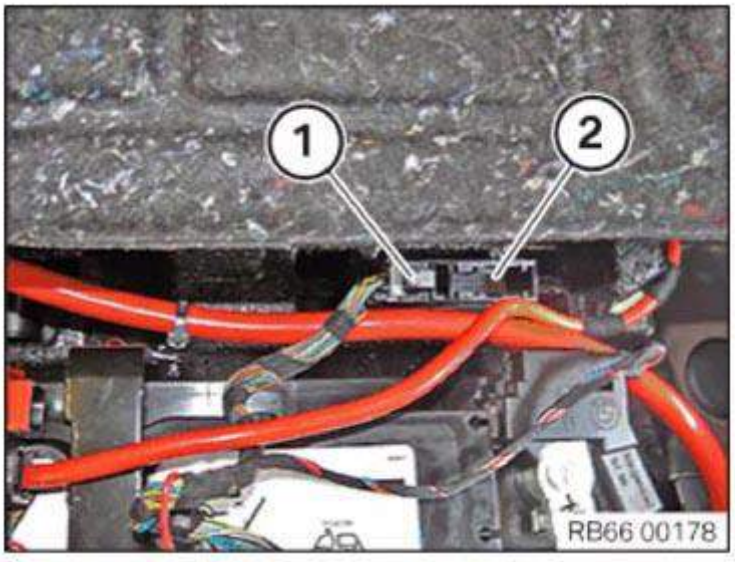


Fig. 35: Identifying Parking Maneuvering Assistant Control Unit And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Correctly position storage shelf (2).

Lock clips (1).

cardiagn.com

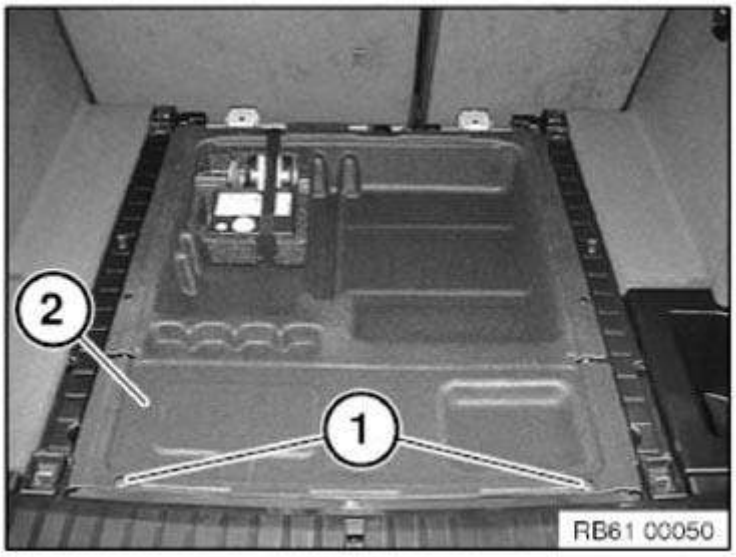


Fig. 36: Identifying Storage Shelf And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Required reworking:

- Install **LUGGAGE COMPARTMENT FLOOR TRIM PANEL**

Replacement:

Carry out **PROGRAMMING/ENCODING** .

66 33 010 REMOVING AND INSTALLING/REPLACING ULTRASONIC SENSORS FOR PARKING MANEUVERING ASSISTANT

Necessary preliminary tasks:

- Partially remove **WHEEL ARCH COVER, FRONT LEFT OR RIGHT**

Unfasten plug connection (2) and disconnect.

Unlock latch mechanisms where marked and pull ultrasonic sensor (1) out of bracket (3).

Installation note:

Latch mechanisms must not be damaged!

Make sure ultrasonic sensor is seated securely!

cardiagn.com

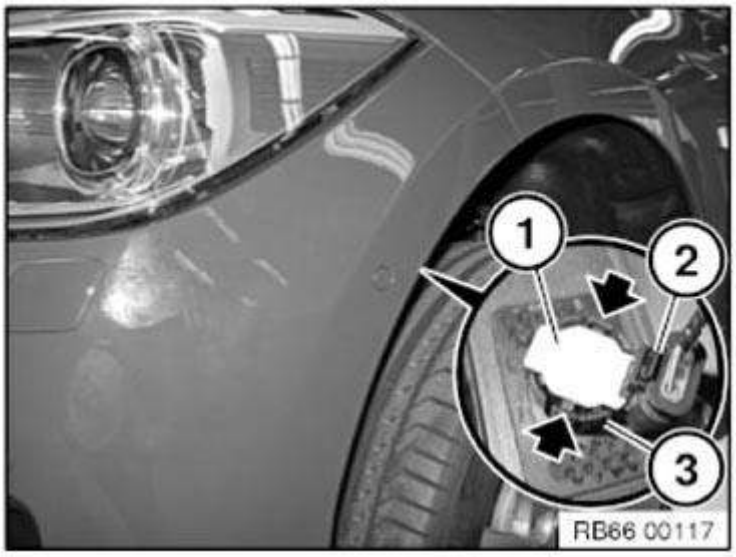


Fig. 37: Identifying Ultrasonic Sensor And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

FRONT CAMERA, CAMERA LANE DEPARTURE WARNING (CAMERA-BASED DRIVER SUPPORT SYSTEMS)

66 51 030 REMOVING AND INSTALLING/REPLACING CAMERA FOR LANE DEPARTURE WARNING

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)**.

Expand two-part mirror base cover (1) by pressing from below and detach.

Feed out two-part mirror base cover (1) and remove.

NOTE: Latch mechanisms of two-part mirror base cover (1) must not be damaged.

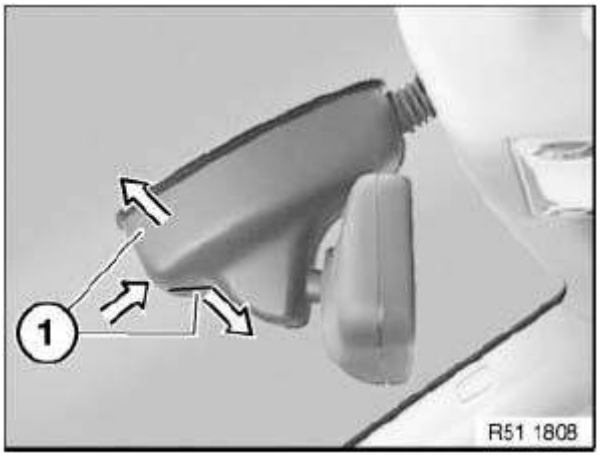


Fig. 38: Removing Mirror Base Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1).

Unclip cable in marked area.

Unlock retaining claps (2) and remove camera (3) in direction of arrow.

cardiagn.com

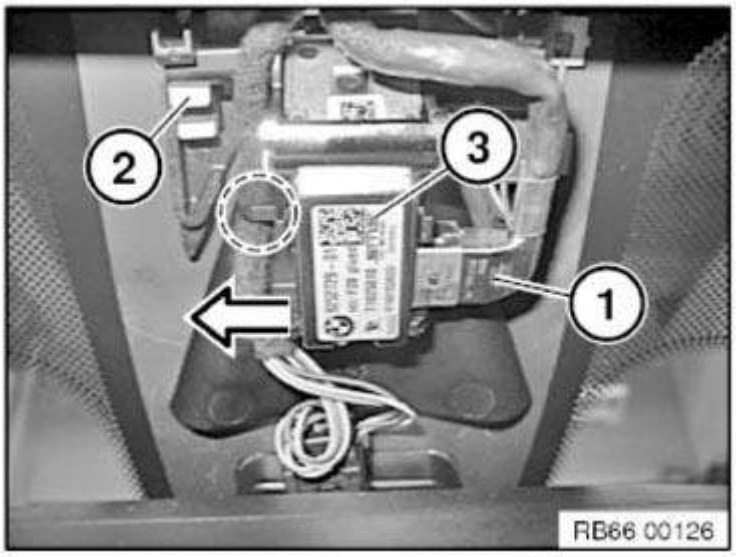


Fig. 39: Removing Camera
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Guides (2) on camera (1) must be correctly inserted in counter supports on windscreen!

Make sure camera (1) is securely seated.

When replacing windscreen:

Carry out calibration via BMW diagnosis system:

Service functions:

- Body
- Lane departure warning
- Calibrate camera

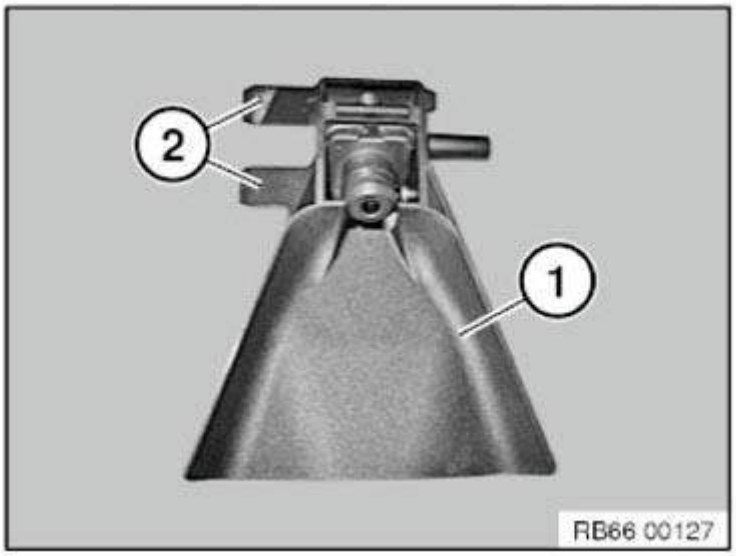


Fig. 40: Identifying Guides On Camera
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Heating of camera for lane departure warning is integrated in windscreen. If heating is defective, the windscreen must be replaced!**

cardiagn.com

66 53 120 REMOVING AND INSTALLING/REPLACING FRONT CAMERA

Refer to 66 53 120 REMOVING AND INSTALLING/REPLACING FRONT CAMERA.

66 32 020 REMOVING AND INSTALLING/REPLACING SENSOR FOR LANE CHANGE WARNING

Refer to 66 32 020 REMOVING AND INSTALLING/REPLACING SENSOR FOR LANE CHANGE WARNING.

REVERSING CAMERA (RFK), SIDE VIEW CAMERA, TOP VIEW CAMERA

66 53 010 CALIBRATING REVERSING CAMERA

NOTE: **Calibration of reversing camera must be carried out after the following work:**

- **Removal and installation/replacement of reversing camera**
- **Body repair work at rear end of vehicle**
- **Adjusting work at tailgate**

IMPORTANT:

Follow instructions and specifications in procedure.
To obtain an optimum result, always adhere to the following conditions:

- Vehicle standing level on headlight aiming station
- Rear seat bench is unoccupied
- Do not swap seats during calibration
- Steering wheel in straight-ahead position
- Do not move steering wheel

NOTE: **Also switch on reversing camera by means of PDC button.**

Calibration can only be carried out with the BMW diagnosis system.

Use of a special tool is no longer required from 03/2011!

Service functions:

- 04 Driver assistance
- All-round vision camera
- Calibration and teaching in for all-round vision camera

66 53... INSTRUCTIONS FOR ADAPTING ADJUSTMENT UNIT FOR REVERSING CAMERA (CORGHI KDS QUICK-ACTION CLAMP)

The following operations should only be carried out when using the tool kit for calibrating the reversing camera for the first time.

NOTE: **The operation is described for the left-hand side; proceed in the same way for the right-hand side.**

Remove support plate (1) from spindle (2).

Replace spindle (2) by spindle (3).

cardiagn.com

Press support plate (1) on to spindle (3).

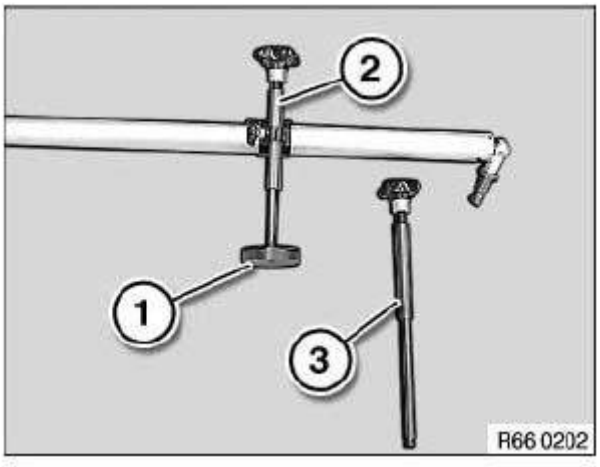


Fig. 41: Identifying Adjustment Unit For Reversing Camera
Courtesy of BMW OF NORTH AMERICA, INC.

Release retaining clip (1).

Remove ball pin (2) from rod (3).

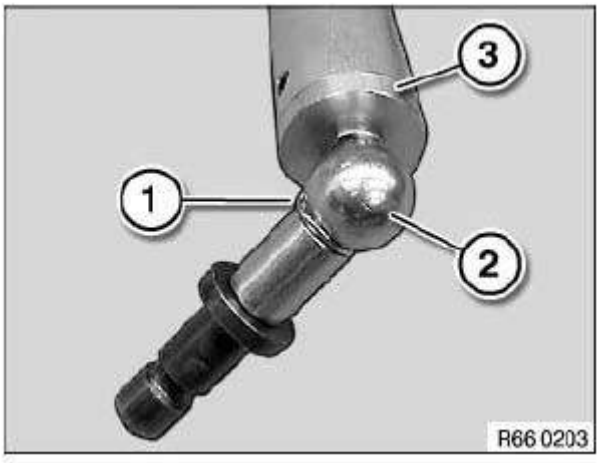
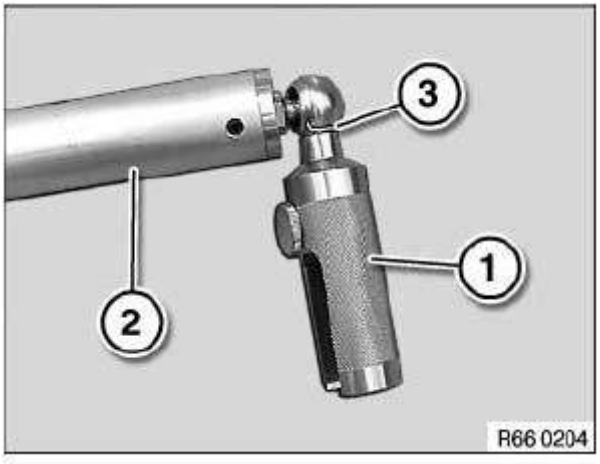


Fig. 42: Identifying Ball Pin From Rod, Retaining Clip
Courtesy of BMW OF NORTH AMERICA, INC.

Fit new ball pin (1) on rod (2) and secure with retaining clip (3).

Fit ball pin (1) on CORGHI KDS quick-release clamp and secure.



cardiagn.com

Fig. 43: Fitting Ball Pin On Rod
Courtesy of BMW OF NORTH AMERICA, INC.

Remove all spacers (1) on cross bar (2).

NOTE: Follow the same procedure for calibrating the reversing camera.

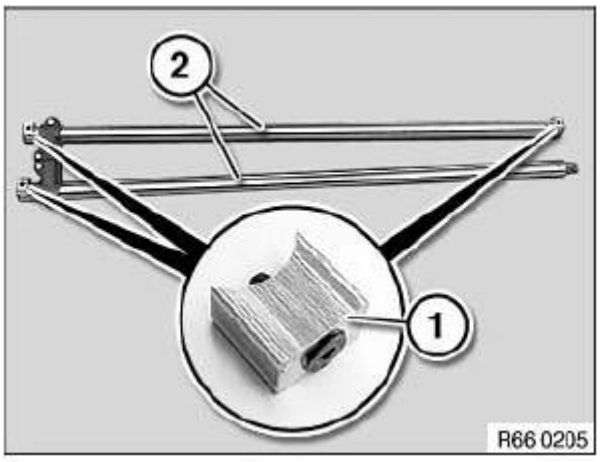


Fig. 44: Identifying Spacers On Cross Bar
Courtesy of BMW OF NORTH AMERICA, INC.

66 53 180 REMOVING AND INSTALLING (REPLACING) CONTROL UNIT FOR REVERSING CAMERA

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)** .

- Remove **FLAP IN LUGGAGE COMPARTMENT PANEL** on left

Release screws.

Remove control unit bracket (1).

NOTE: Control unit for rear-view camera is located at the back of the bracket.

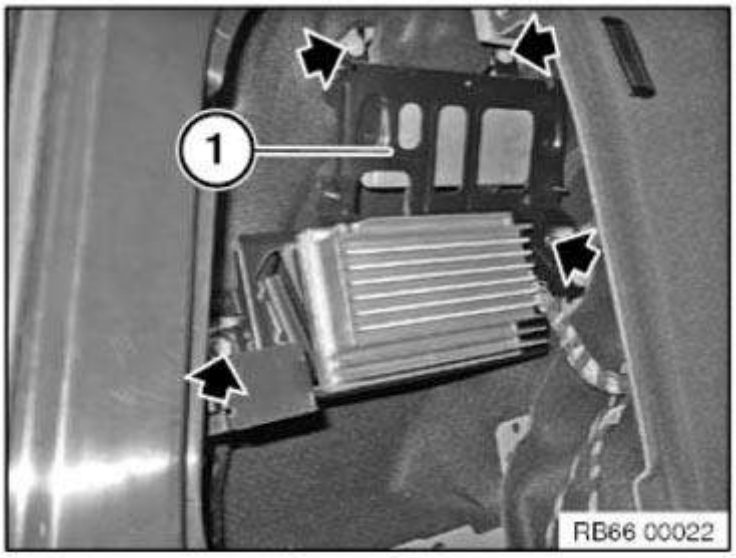


Fig. 45: Locating Control Unit Bracket Screws
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Unlock plug connections and disconnect.

Unscrew nuts (1).

Remove control unit for rear-view camera (3) from bracket (2).

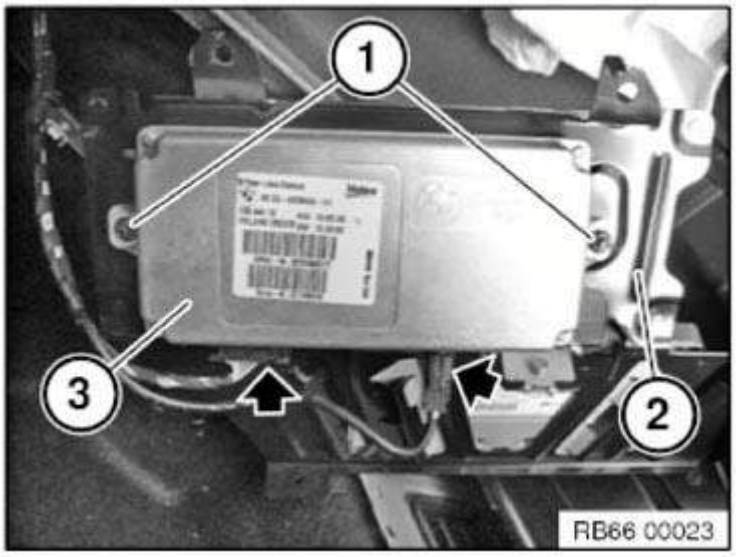


Fig. 46: Identifying Control Unit For Rear-View Camera From Bracket, Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

- Carry out **VEHICLE PROGRAMMING AND ENCODING** .
- **CALIBRATE REVERSING CAMERA**

66 53 020 REMOVING AND INSTALLING (REPLACING) REVERSING CAMERA

IMPORTANT: Read and comply with notes on **PROTECTION AGAINST ELECTROSTATIC DISCHARGE (ESD PROTECTION)** .

Necessary preliminary tasks:

- Remove **BUTTON FOR TAILGATE ACTIVATION**

Unlock latches at marked points.

Remove cover (1).

Remove reversing camera (2).

cardiagn.com

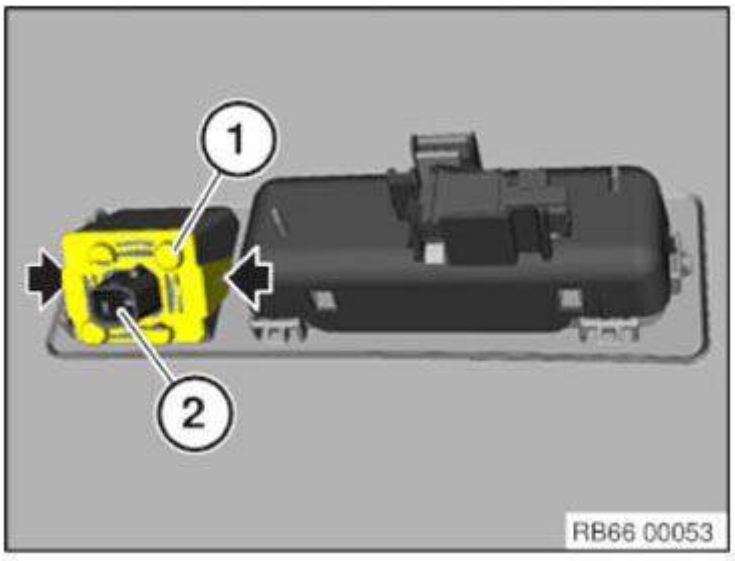


Fig. 47: Removing Button For Tailgate Activation
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/CODING** .

Also for version with other cameras:

Carry out service functions:

- 04 Driver assistance
- All-round vision camera
- Programming all-round vision camera

66 53 020 REMOVING AND INSTALLING (REPLACING) REVERSING CAMERA

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

Necessary preliminary tasks:

- Remove **REAR LID BUTTON**

With the aid of a suitable tool (1) (e.g. small screwdriver) release rear-view camera (2) and detach from housing (3).

Replacement:

Remove protective film from lens of reversing camera (2).

cardiagn.com

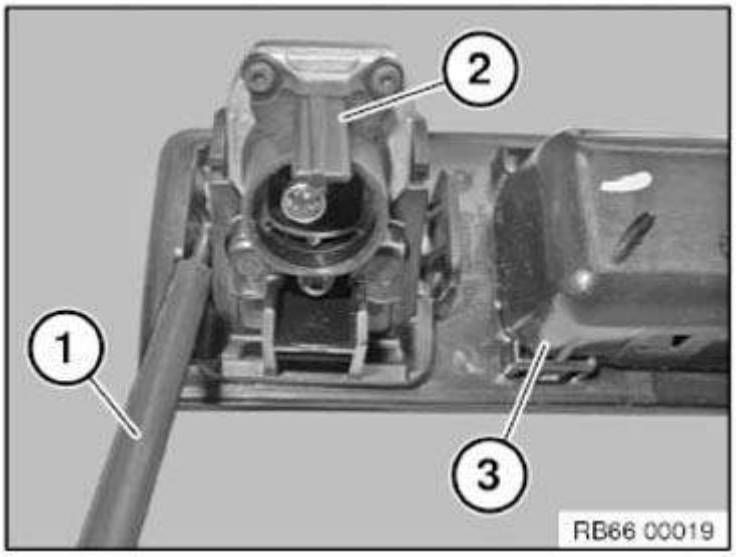


Fig. 48: Removing Rear-View Camera
Courtesy of BMW OF NORTH AMERICA, INC.

Retaining lugs (1) on housing (2) must not be damaged.

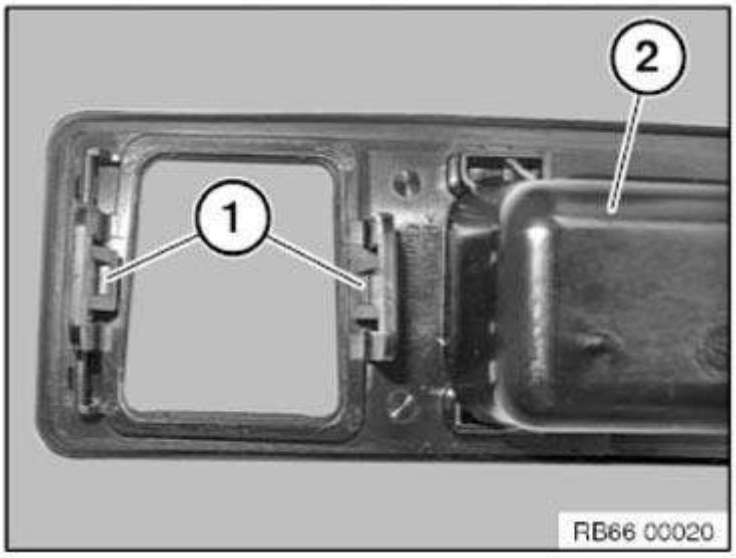


Fig. 49: Identifying Retaining Lugs On Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Seal (1) on rear view camera (2) must not be damaged.

cardiagn.com

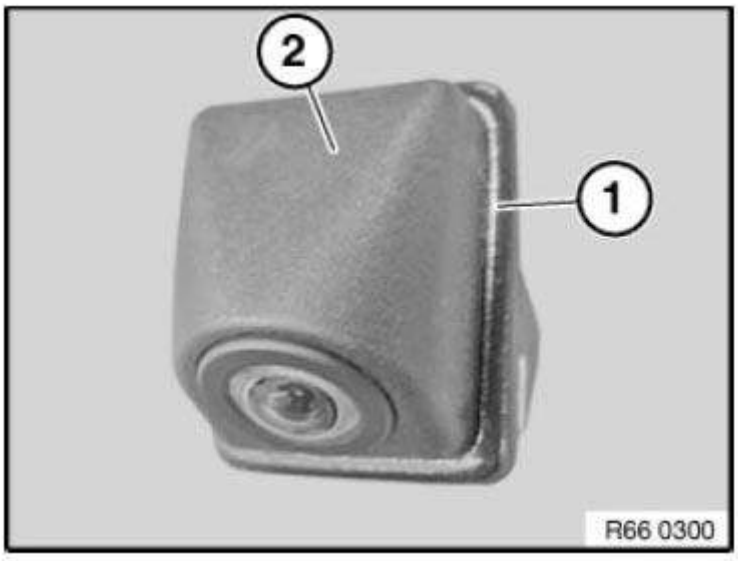


Fig. 50: Identifying Rear View Camera Seal
Courtesy of BMW OF NORTH AMERICA, INC.

Insert rear view camera (2) as shown in button holder (1).

Engage rear view camera (2) in direction of arrow in button holder (1).

Latch mechanisms (3) must not be damaged.

Installation note:

Make sure the rear view camera is latched correctly (2)!

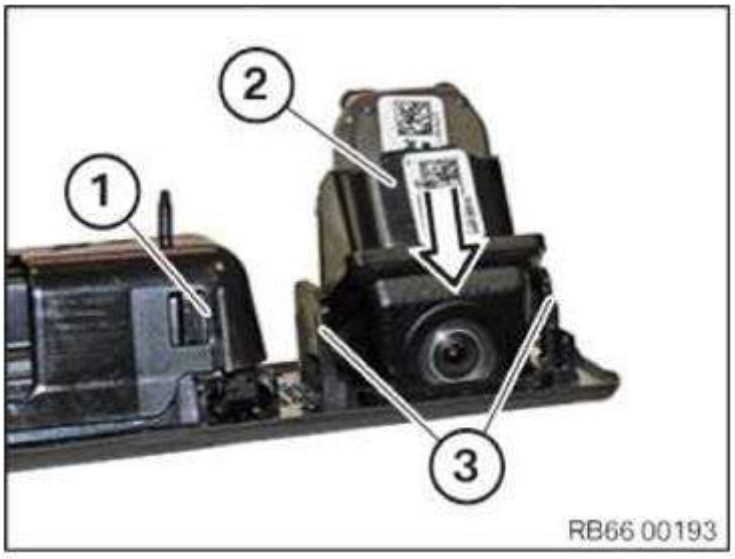


Fig. 51: Inserting Rear View Camera In Button Holder
Courtesy of BMW OF NORTH AMERICA, INC.

After installation:

- Calibrate **REVERSING CAMERA**

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING** .

66 53 060 REMOVING AND INSTALLING/RENEWING THE TOP VIEW CAMERA

cardiagn.com

Necessary preliminary work:

- Remove **HOUSING ON EXTERIOR MIRROR**

Release screws (1).

Remove cover (2).

Detach exterior mirror camera (3) from housing (4).

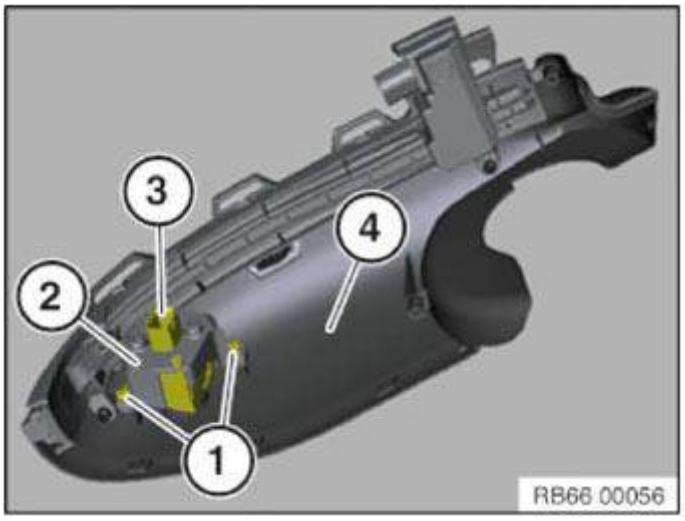


Fig. 52: Identifying Exterior Mirror Camera From Housing, Cover, Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/CODING** .

Carry out service function:

- 04 Driver assistance
- All-round vision camera
- Programming all-round vision camera

66 53 060 REMOVING AND INSTALLING/REPLACING TOP VIEW CAMERA ON LEFT OR RIGHT

Necessary preliminary tasks:

- Remove **PROTECTIVE CAP FROM EXTERIOR MIRROR**

NOTE: Shown with exterior mirror removed for purposes of clarity.

Release screws (1).

Unfasten plug connection (2) and disconnect.

Remove lower housing section (4).

Installation note:

Make sure lower housing section (4) is correctly fitted in guide (3).

cardiagn.com

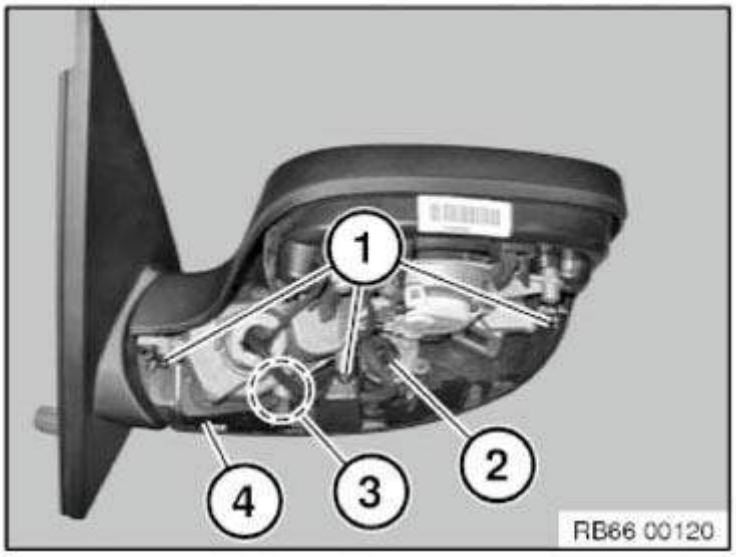


Fig. 53: Identifying Lower Housing Section, Plug Connection And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

Remove Top View camera (2).

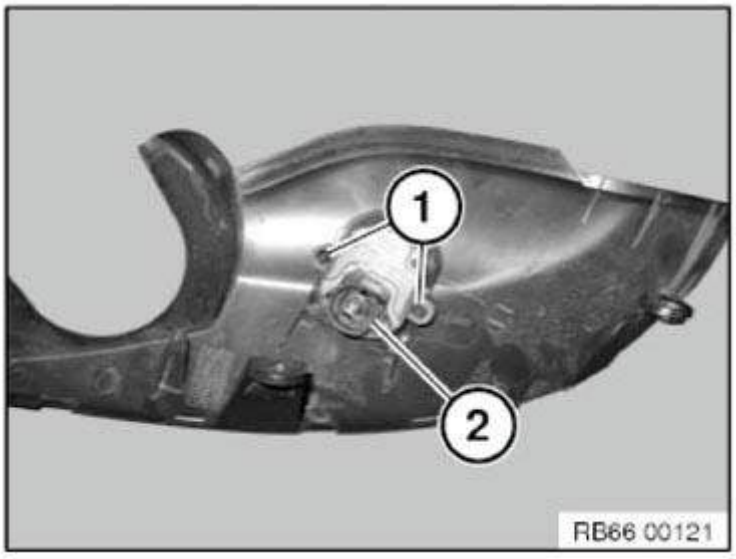


Fig. 54: Identifying Top View Camera And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Use of a special tool is no longer required.**

Calibration:

1. Calibration is performed via BMW diagnosis system:
    - Service function
    - Body
    - All-round vision camera
    - Calibration of all-round vision camera

66 53 170 REMOVING AND INSTALLING/REPLACING CONTROL UNIT FOR TOP-/REAR-/SIDE-VIEW CAMERA

cardiagn.com

The following procedure is identical to the instructions "**REMOVING AND INSTALLING/REPLACING CONTROL UNIT FOR REAR-VIEW CAMERA**"

66 53 120 REMOVING AND INSTALLING/REPLACING FRONT CAMERA

Special tools required:

- **00 9 340**

Necessary preliminary work:

- Remove **FRONT BUMPER PANEL**

IMPORTANT:	Risk of damage! Diaphragm (1) must **not** come into contact with latch mechanism (2) during removal and installation. Diaphragm (1) must not come into contact with grease (e.g. contact with skin).

If necessary, unlock and disconnect plug connection for front camera.

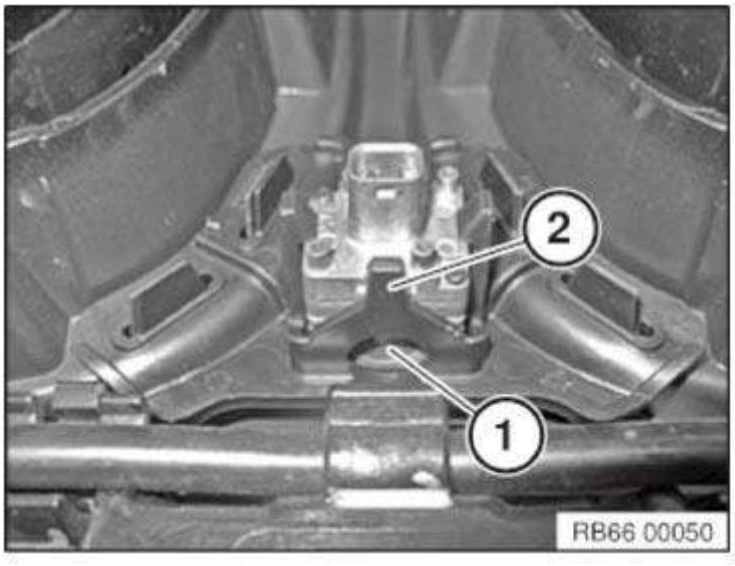


Fig. 55: Identifying Diaphragm With Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Insert special tool **00 9 340** between front camera (1) and latch mechanism thus protecting diaphragm.

Unlock latch mechanisms and remove front camera (1).

Installation note:

Protect diaphragm with special tool **00 9 340** .

Make sure latch mechanisms are correctly fitted.

cardiagn.com

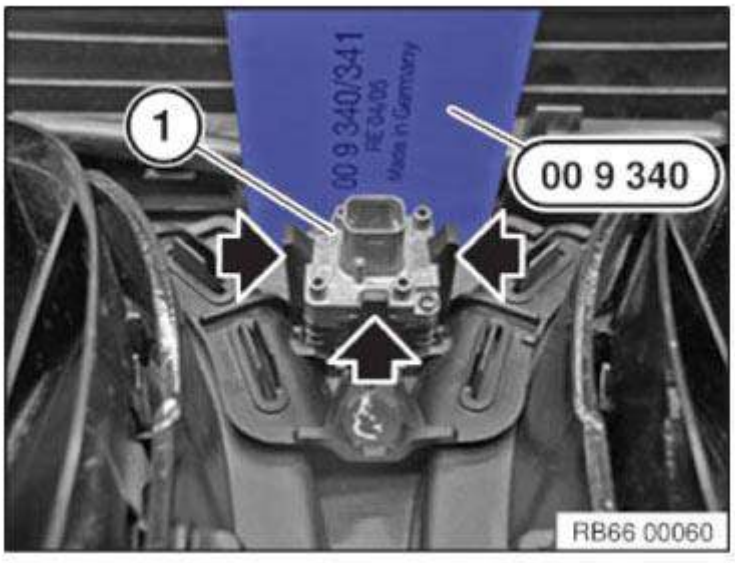


Fig. 56: Inserting Special Tool 00 9 340 Between Front Camera And Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/CODING** .

Carry out service function:

- 04 Driver assistance
  - All-round vision camera
    - All-round vision camera programming

NIGHT VISION

65 82 300 REMOVING AND INSTALLING (REPLACING) TOUCHBOX CONTROLLER CONTROL UNIT

IMPORTANT: Read and comply with **NOTES** on protection against electrostatic damage (ESD protection).

Necessary preliminary work:

- Remove **LUGGAGE COMPARTMENT FLOOR TRIM PANEL**

Removal:

Release clips (1).

Fold up storage shelf (2).

cardiagn.com

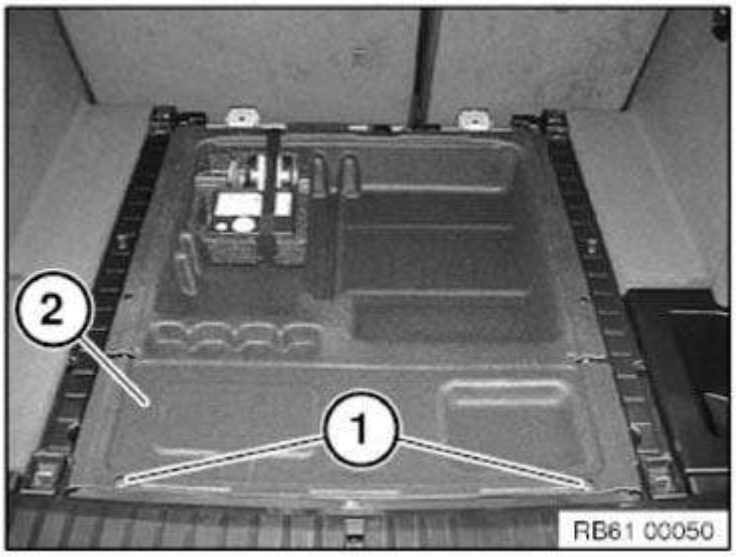


Fig. 57: Identifying Storage Shelf And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect the connector (1).

Pull out TBX (2) upwards.

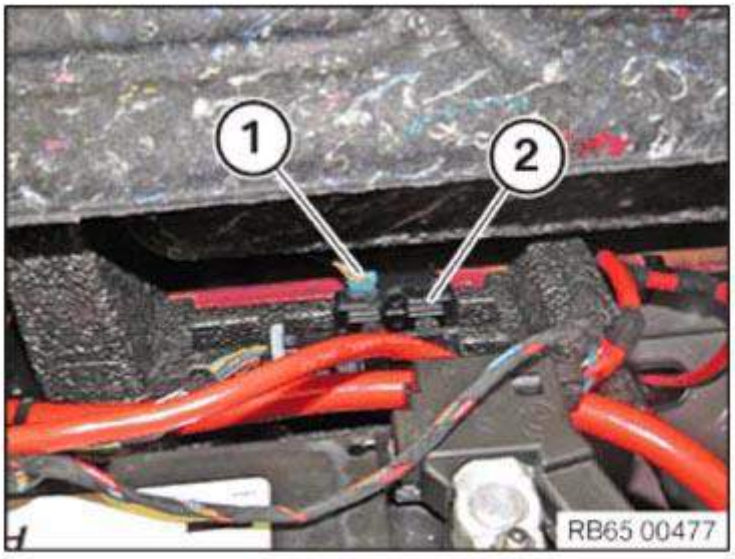


Fig. 58: Identifying TBX And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Insert TBX (2) downwards.

Connect the connector (1).

cardiagn.com

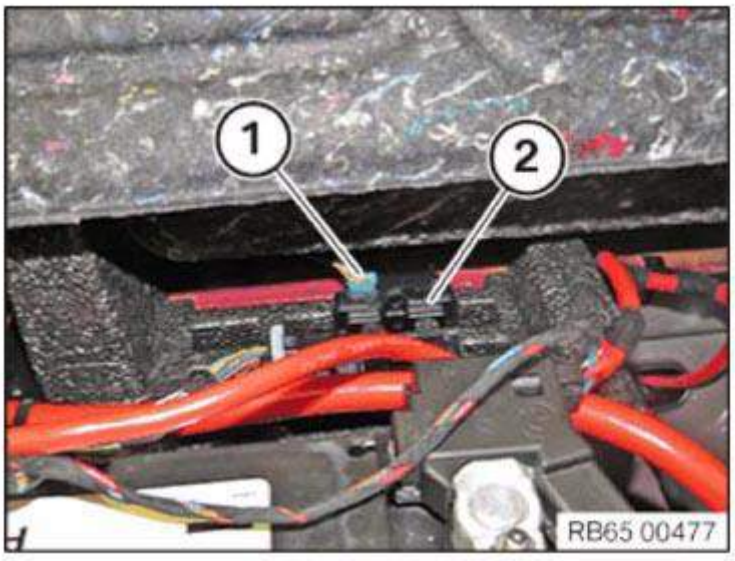


Fig. 59: Identifying TBX And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Correctly position storage shelf (2).

Lock clips (1).

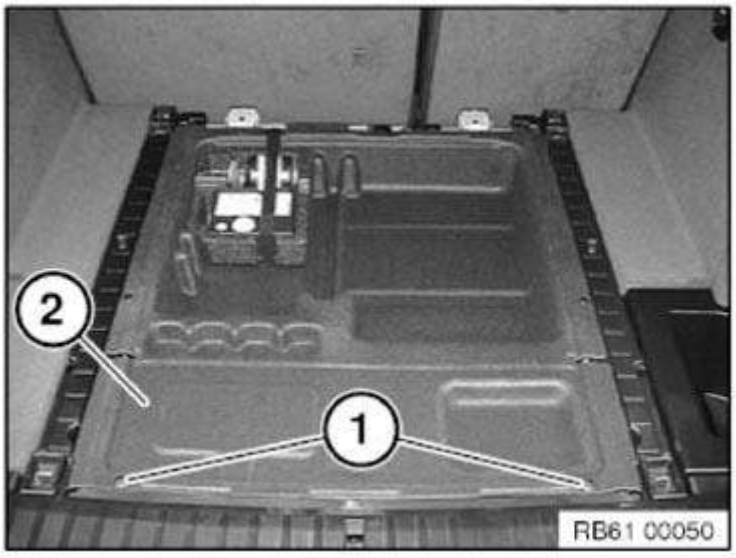


Fig. 60: Identifying Storage Shelf And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Required reworking:

- Install **LUGGAGE COMPARTMENT FLOOR TRIM PANEL**

Replacement:

Carry out **VEHICLE PROGRAMMING AND ENCODING** .

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702220

cardiagn.com

DISTANCE SYSTEMS, CRUISE CONTROL

0494304 ADAPTER

0494304 663136 Adapter AM

NOTE: **(Frame wiring harness adapter) For checking the byteflight wiring harness in the A-pillar**

Storage Location

M22 x 202

0494303 ADAPTER

0494303 663135 Adapter AM

NOTE: **(Door wiring harness adapter) For checking the byteflight wiring harness in the door**

Storage Location

M22 x 202

0494297 ADAPTER

0494297 663133 Adapter AM

NOTE: **(SIM adapter) For checking the SIM Safety and Information Module**

Storage Location

M22 x 202

0494302 ADAPTER

0494302 663134 Adapter AM

NOTE: **(SIM wiring harness adapter) For checking the byteflight wiring harnesses from the SIM**

Storage Location

M22 x 202

0494295 ADAPTER

0494295 663131 Adapter AM

NOTE: **(Satellite adapter) For checking the satellites**

Storage Location

M22 x 202

0494301 ADAPTER

cardiagn.com

0494301 663132 Adapter AM

NOTE: **(Satellite wiring harness adapter) For checking the byteflight wiring harness from the satellite**

Storage Location

M22 x 202

0495306 ADAPTER CABLE

0495306 663143 Adapter cable AM

NOTE: **(LAN adapter cable) To order the LAN adapter cable, please contact the appropriate SIEMENS hotline.**

NOTE: **Specify the LAN adapter cable model (crossed or uncrossed).**

0495305 CABLE

0495305 663142 Cable AM

NOTE: **(OBD cable, incl. CAN line)**

Storage Location

X 203

0494336 MOST DEVICES

0494336 663125 MOST devices AM

NOTE: **(MOST supporting housing) 5 pieces for adapting optical plug connections**

Storage Location

M22 x 202

0494332 MOST DEVICES

0494332 663121 MOST devices AM

NOTE: **(MOST programming cable) For connecting the OPPS device with the programming port**

Storage Location

M22 x 202

0494333 MOST DEVICES

0494333 663122 MOST devices AM

NOTE: **(MOST control unit cable) For checking a control unit**

Storage Location

M22 x 202

0494334 MOST DEVICES

cardiagn.com

0494334 663123 MOST devices AM

NOTE: **(MOST wiring harness extension) For checking the optical fibres in the wiring harness**

Storage Location

M22 x 202

0494335 MOST DEVICES

0494335 663124 MOST devices AM

NOTE: **(MOST checking loop) For a self-test of the optical testing and programming system (OPPS) device and for checking the MOST adapter.**

Storage Location

M22 x 202

0493104 MANDREL

0493104 662103 Mandrel AM

NOTE: **(Mounting mandrel) For removing the sensors on the side**

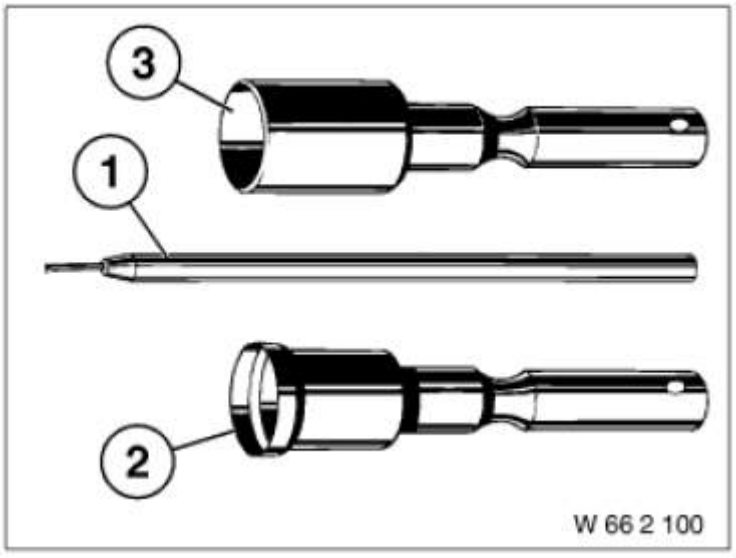


Fig. 1: Identifying Mandrel (0493104)
Courtesy of BMW OF NORTH AMERICA, INC.

0493103 MANDREL

0493103 662102 Mandrel AM

NOTE: **(Mounting mandrel) For installing the sensors on the side**

cardiagn.com

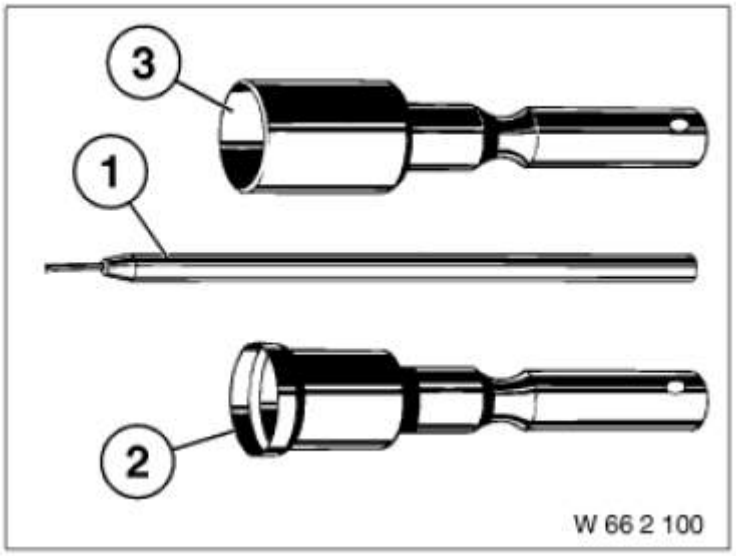


Fig. 2: Identifying Mandrel (0493103)
Courtesy of BMW OF NORTH AMERICA, INC.

0495303 OPPS DEVICE

0495303 663140 OPPS device AM

NOTE: **(OPS package) (complete set)**

Storage Location

X 203

Consisting of:

1. 0495304 OPS device

   NOTE: **To order the OPS devices, please contact the appropriate SIEMENS hotline.**

2. 0495305 Cable

   NOTE: **(OBD cable, incl. CAN line)**

3. 0495306 Adapter cable

   NOTE: **(LAN adapter cable) To order the LAN adapter cable, please contact the appropriate SIEMENS hotline.**

   NOTE: **Specify the LAN adapter cable model (crossed or uncrossed).**

0495304 OPS DEVICE

0495304 663141 OPS device AM

NOTE: **To order the OPS devices, please contact the appropriate SIEMENS hotline.**

0494382 OPERATING INSTRUCTIONS

0494382 663139 Operating instructions AM

cardiagn.com

NOTE: **For adapter and optical fibre for MOST and byteflight bus systems**

0493102 RELEASE TOOL

0493102 662101 Release tool AM

NOTE: **(Needle for sensors) Bumper front/middle**

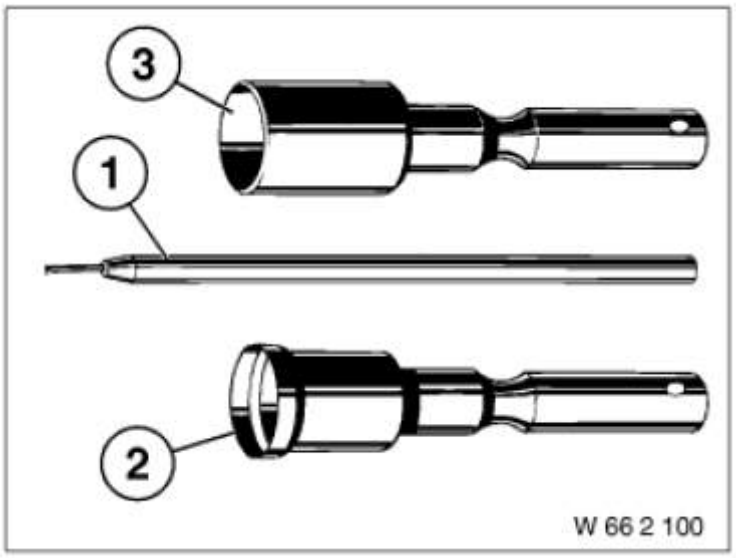


Fig. 3: Identifying Release Tool (0493102)
Courtesy of BMW OF NORTH AMERICA, INC.

0493101 TOOL

0493101 662100 Tool AM

NOTE: **(Tool set) For removing and installing the PDC sensors - Park Distance Control**

Storage Location

A4

SI number

01 04 88 (906)

Consisting of:

1. **0493102** Release tool

NOTE: **(Needle for sensors) Bumper front/middle**

cardiagn.com

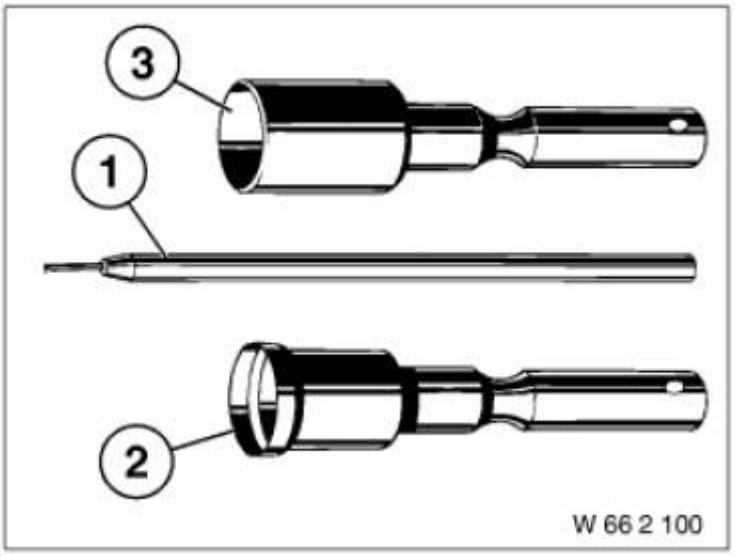


Fig. 4: Identifying Tool (0493101)
Courtesy of BMW OF NORTH AMERICA, INC.

2. **0493103** Mandrel

NOTE: **(Mounting mandrel) For installing the sensors on the side**

3. **0493104** Mandrel

NOTE: **(Mounting mandrel) For removing the sensors on the side**

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702139

cardiagn.com

ACC SENSOR

66 31 ACC SENSOR

TIGHTENING TORQUE SPECIFICATION - ACC SENSOR

Â	Type	Thread	Tightening specifications	Dimension
1AZ ACC sensor to holder (Only valid for FRR-sensor)	F01/F02/F06/F07/F10/F11/F12/F13/F15/F16/F18/F25/F26/F30/F31/F32/F33/F34/F35/F36	Â	Â	4 Nm

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702190

cardiagn.com

ELECTRIC MOTOR

00 SAFETY INFORMATION FOR WORKING ON VEHICLES WITH AUTOMATIC ENGINE START-STOP FUNCTION (MSA)

WARNING: **If the engine hood/bonnet contact is pulled upwards (workshop mode), the information "switch closed" is output. The automatic engine start-stop function is active.**
An automatic engine start is possible.

Observe safety precautions when working on MSA vehicles.

Before carrying out practical work on the engine, always ensure that the MSA functionality is deactivated so as to prevent automatic engine starting while work is being carried out in the engine compartment.

MSA function is deactivated by:

- Deactivate MSA by means of button (1) in passenger compartment
- Open seat belt buckle and driver's door

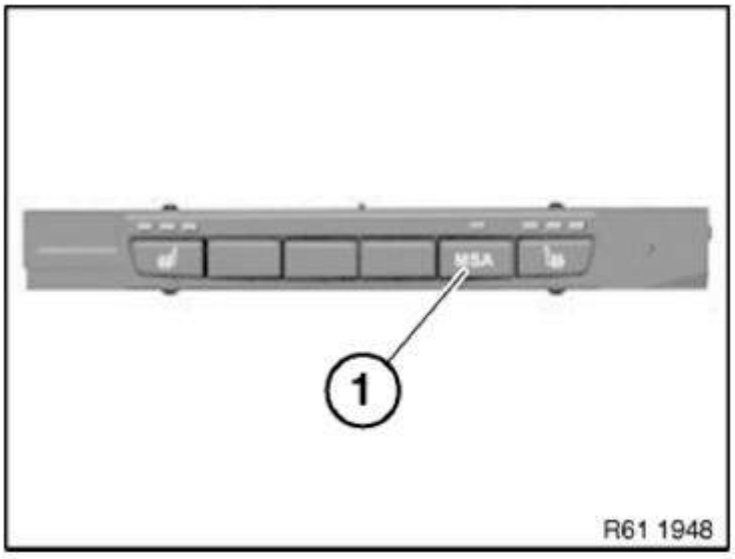


Fig. 1: Identifying MSA Button
Courtesy of BMW OF NORTH AMERICA, INC.

- Open engine bonnet/hood and ensure that engine hood/bonnet contact is not in workshop mode
  - Workshop mode

    A = 10 mm

  - Basic setting (engine hood/bonnet open)

    B = 7 mm

  To make sure that the engine hood/bonnet contact is at the basic setting, if necessary press the hood/bonnet contact up to the limit position before starting work and slowly release.

cardiagn.com

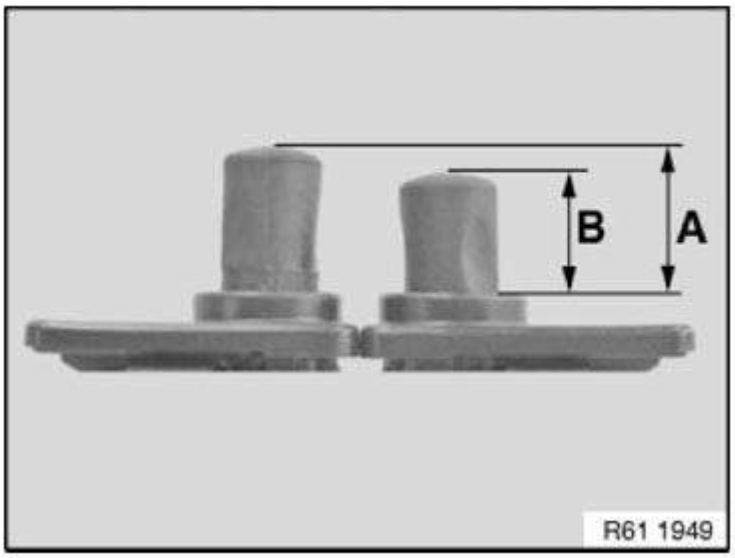


Fig. 2: Identifying Engine Hood/Bonnet Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

When working with diagnosis tools:

- Observe instructions in diagnosis tool

ACTUATOR DRIVES

67 11 510 REMOVING AND INSTALLING/REPLACING ACTUATOR DRIVE FOR FRONT LEFT OR RIGHT DOOR CENTRAL LOCKING DRIVE

NOTE: **Actuator drive for central locking drive is integrated in door lock in front door.**

Procedure is described in **DOOR LOCK IN FRONT DOOR** .

67 11 555 REMOVING AND INSTALLING/REPLACING ACTUATOR DRIVE FOR FUEL FILLER FLAP

Necessary preliminary work:

- Remove **COVER HOUSING**

Use a suitable tool to unlock the tabs (1) on the front and back.

Remove actuator drive (3) from cover pot (2).

cardiagn.com

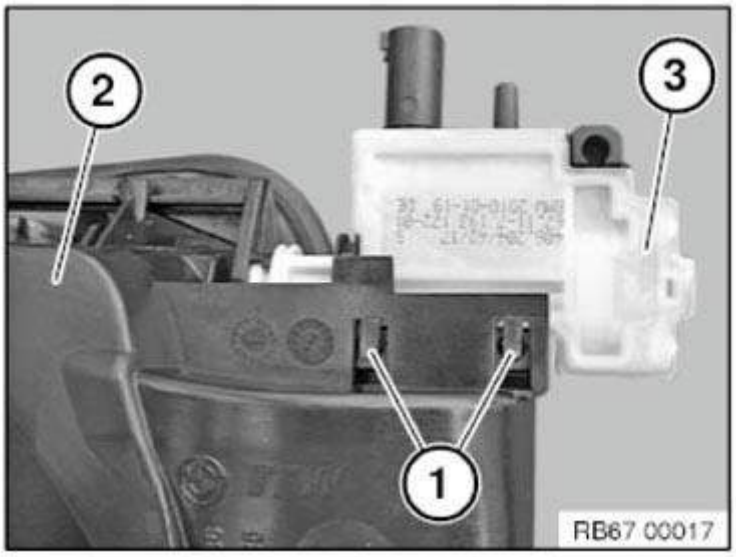


Fig. 3: Identifying Actuator Drive From Cover Pot
Courtesy of BMW OF NORTH AMERICA, INC.

Release the actuator drive (2) by simultaneously turning and pressing the locking pin (1).

Installation note:

Make sure the setting for the actuator drive (2) for the fuel filler flap is correct. It must be possible to lock or unlock the fuel filler flap completely.

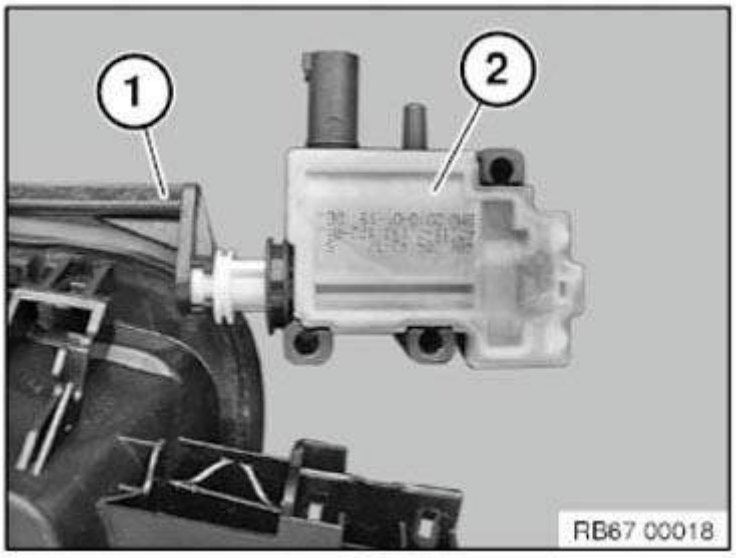


Fig. 4: Identifying Actuator Drive And Locking Pin
Courtesy of BMW OF NORTH AMERICA, INC.

67 11 530 REMOVING AND INSTALLING/REPLACING ACTUATOR DRIVE FOR REAR LEFT OR RIGHT CENTRAL LOCKING

NOTE: **Actuator drive of central locking drive can only be replaced in conjunction with door lock.**

This operation is described in:

Completely remove and install/replace the **DOOR LOCK ON THE REAR DOOR** .

67 11 560 REPLACING ACTUATOR DRIVE FOR TAILGATE LOCKING

cardiagn.com

This operation is described in:

TAILGATE LOCK

MIRROR ADJUSTMENT MOTOR

67 13 001 REPLACING DRIVE UNIT FOR ELECTRICALLY OPERATED LEFT OR RIGHT EXTERIOR MIRROR

Necessary preliminary work:

- Remove **MIRROR GLASS** for inside mirror.

NOTE: Picture for example purposes only!

Release screw (1).

Remove drive for electrically adjustable outside mirror (2).

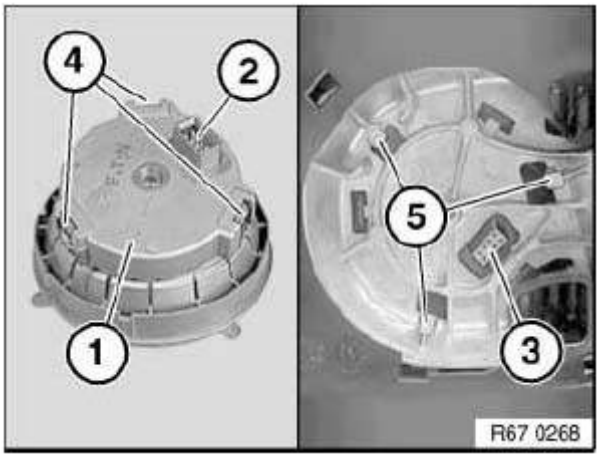


Fig. 5: Identifying Electrically Adjustable Outside Mirror And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure pin housing (2) is correctly seated in connector housing (3).

Fit drive for electrically operated exterior mirror (1) so that mountings (4) slide in guides (5).



cardiagn.com

Fig. 6: Identifying Door Mirror, Plug Housing And Guides
Courtesy of BMW OF NORTH AMERICA, INC.

SERVO/POSITIONING DRIVES

67 16 010 REMOVING AND INSTALLING/REPLACING LEFT HEADLIGHT VERTICAL AIM ADJUSTER (HALOGEN HEADLIGHT)

WARNING: **Version with xenon headlights: Danger to life due to high voltage! Therefore disconnect all components from voltage supply before removal. Work on the entire xenon lighting system (control unit, ignition unit with bulb) may only be carried out by specialist personnel.**

Danger of injury!
Risk of damage!
Do not make any cutting movements when removing the sprayed-on cover.
IMPORTANT: The cover may only be separated from the housing by punching. A groove of reduced wall thickness shows the punching line.
Cutting movements may damage cables inside the headlight.
The sealing edge must not be damaged!

Necessary preliminary tasks:

- Remove **HEADLIGHT**

Removal:

Open lid (1).

Disengage connector (2) inwards.

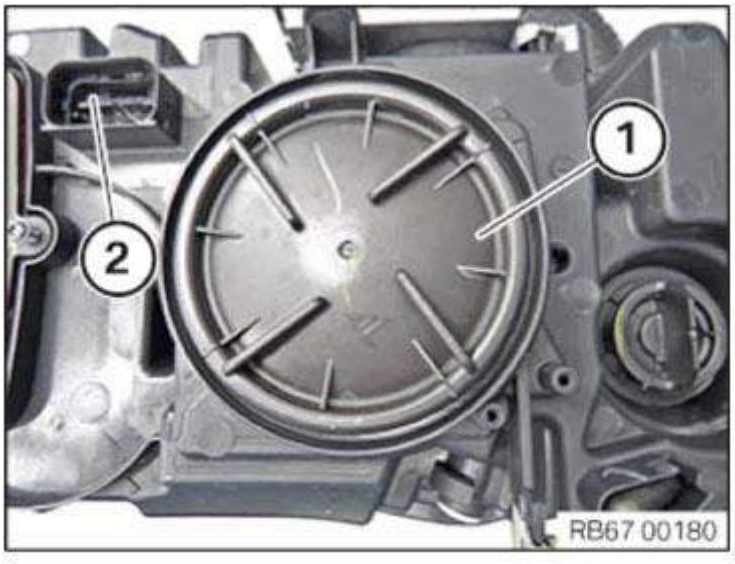


Fig. 7: Identifying Connector Lid And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

cardiagn.com

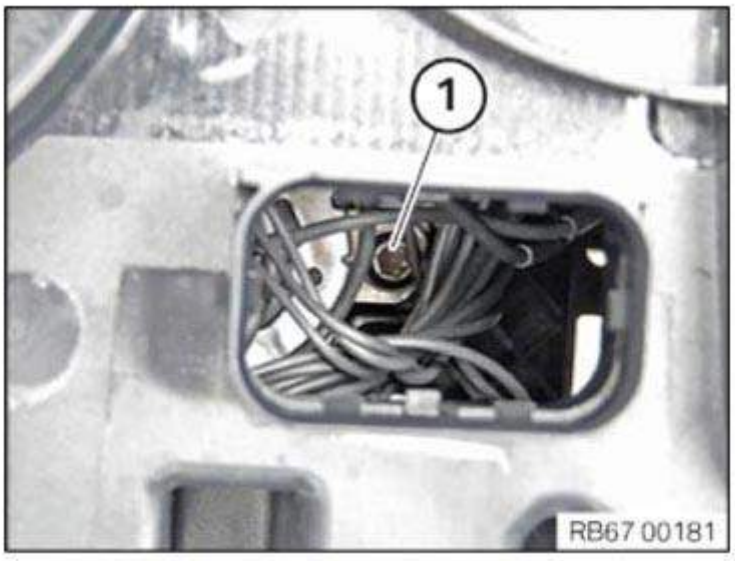


Fig. 8: Identifying Lid Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect the connector (1).

Release screw (2).

Thread headlight beam throw adjuster (3) out.

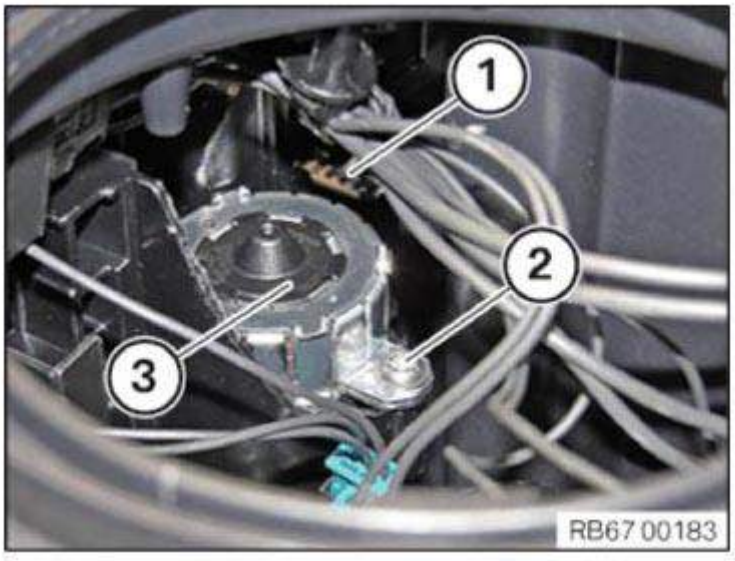


Fig. 9: Identifying Headlight Beam Throw Adjuster, Connector And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Ball head of headlight beam throw adjuster (1) must be threaded into fixture (2).

cardiagn.com

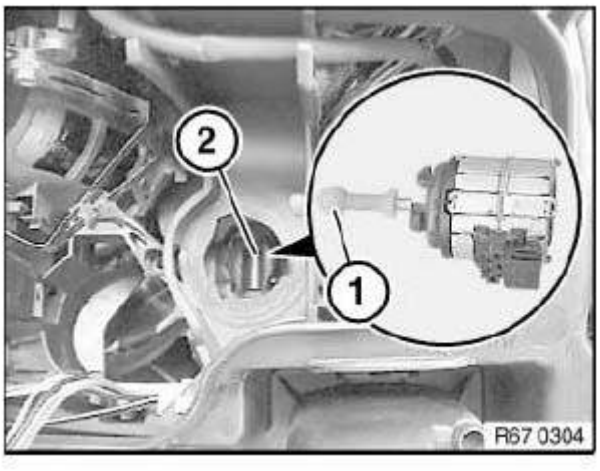


Fig. 10: Identifying Ball Head Headlight Beam Throw Adjuster
Courtesy of BMW OF NORTH AMERICA, INC.

Tighten the screw (2) on the headlight beam throw adjuster (3).

Connect the connector (1).

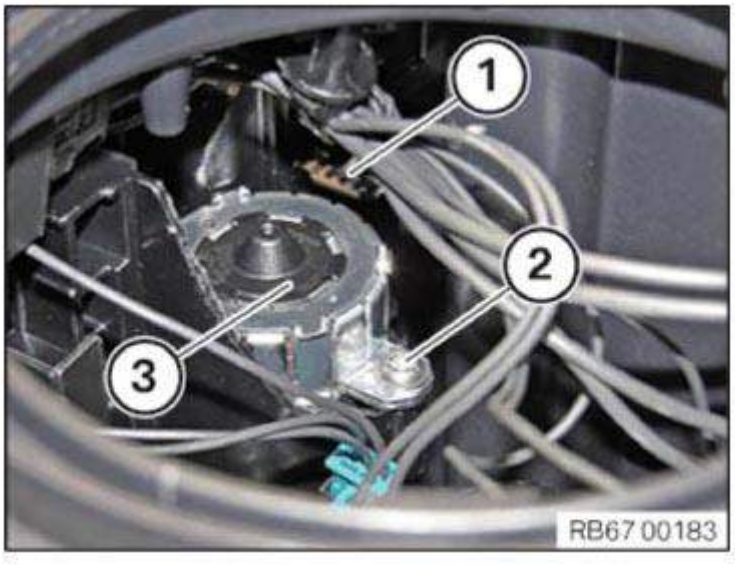


Fig. 11: Identifying Headlight Beam Throw Adjuster, Connector And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Tighten down screw (1).

cardiagn.com

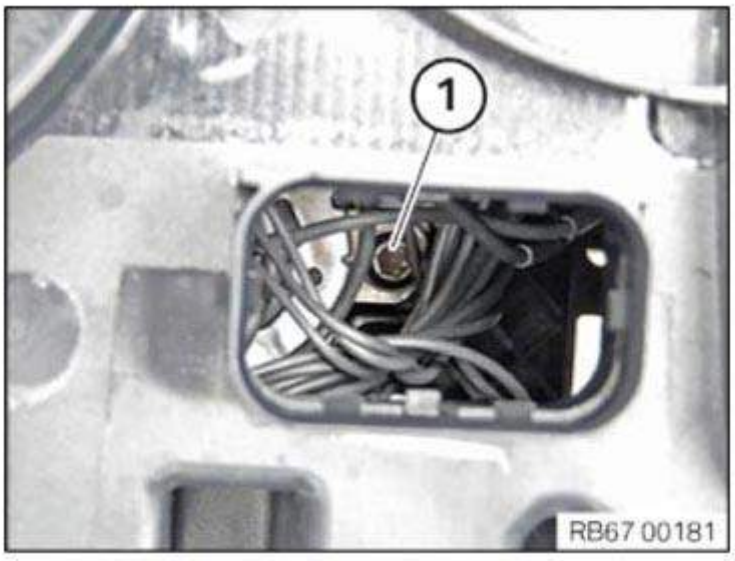


Fig. 12: Identifying Lid Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Engage connector (2) from inside.

Close lid (1).

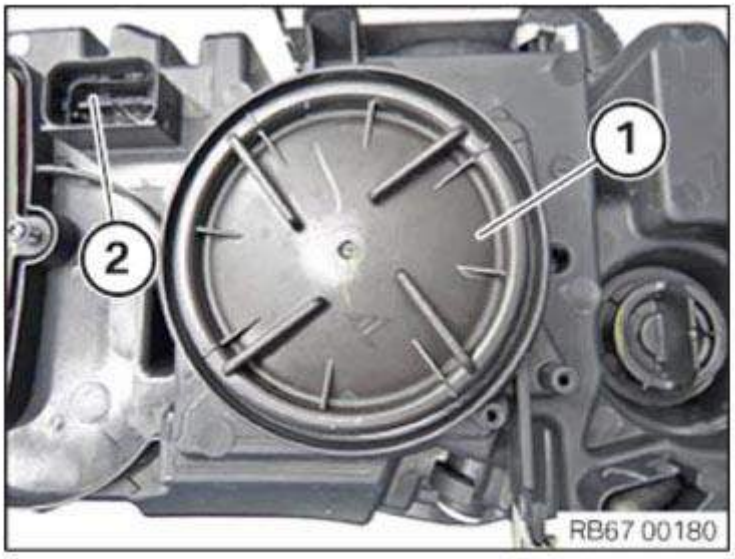


Fig. 13: Identifying Connector Lid And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Required reworking:

- Install **HEADLIGHT**
- Adjust **HEADLIGHTS**

67 16 011 REMOVING AND INSTALLING/REPLACING LEFT HEADLIGHT VERTICAL AIM ADJUSTER (XENON HEADLIGHT)

WARNING: **Version with xenon headlights: Danger to life due to high voltage! Therefore disconnect all components from voltage supply before removal. Work on the entire xenon lighting system (control unit, ignition unit with bulb) may only be carried out by specialist personnel.**

Danger of injury!

cardiagn.com

Risk of damage!
Do not make any cutting movements when removing the sprayed-on cover.

IMPORTANT: The cover may only be separated from the housing by punching. A groove of reduced wall thickness shows the punching line.
Cutting movements may damage cables inside the headlight.
The sealing edge must not be damaged!

Necessary preliminary tasks:

- Remove **HEADLIGHT**
- Remove **IGNITION DEVICE**

Removal:

Open lid (1).

Disengage connector (2) inwards.

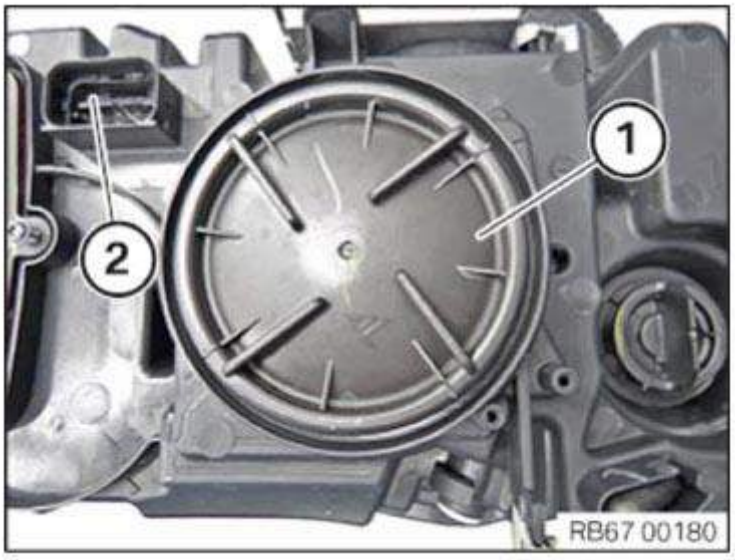


Fig. 14: Identifying Connector Lid And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

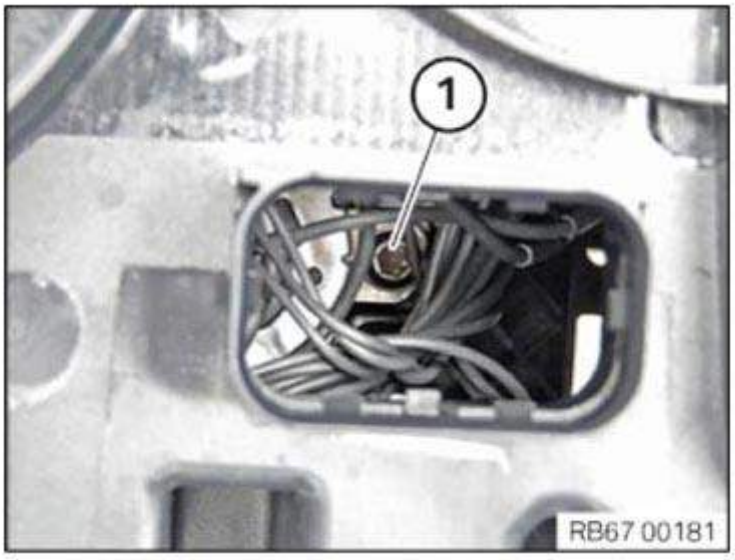


Fig. 15: Identifying Lid Screw

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect the connector (1).

Release screw (2).

Thread headlight beam throw adjuster (3) out.

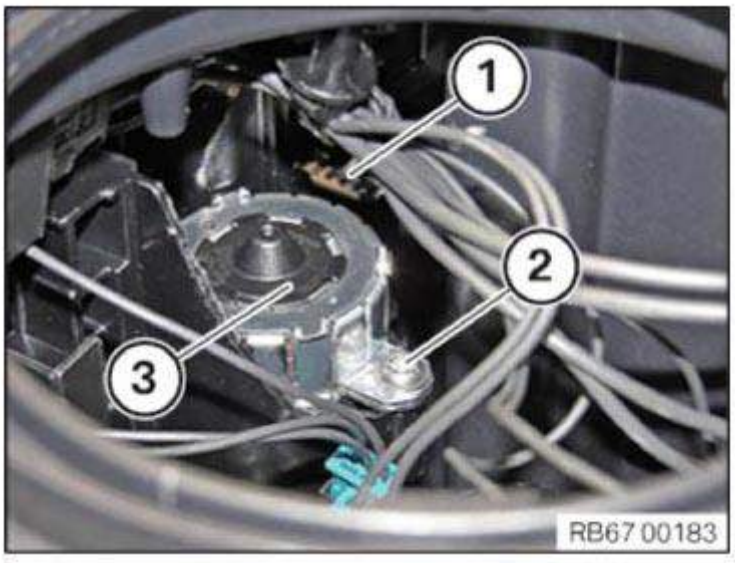


Fig. 16: Identifying Headlight Beam Throw Adjuster, Connector And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Ball head of headlight beam throw adjuster (1) must be threaded into fixture (2).

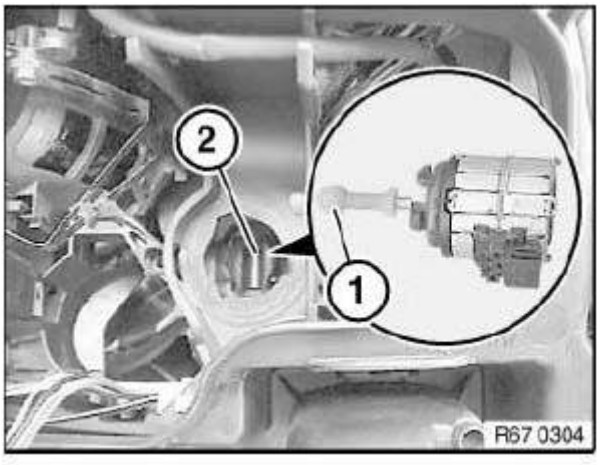


Fig. 17: Identifying Ball Head Headlight Beam Throw Adjuster
Courtesy of BMW OF NORTH AMERICA, INC.

Tighten the screw (2) on the headlight beam throw adjuster (3).

Connect the connector (1).

cardiagn.com

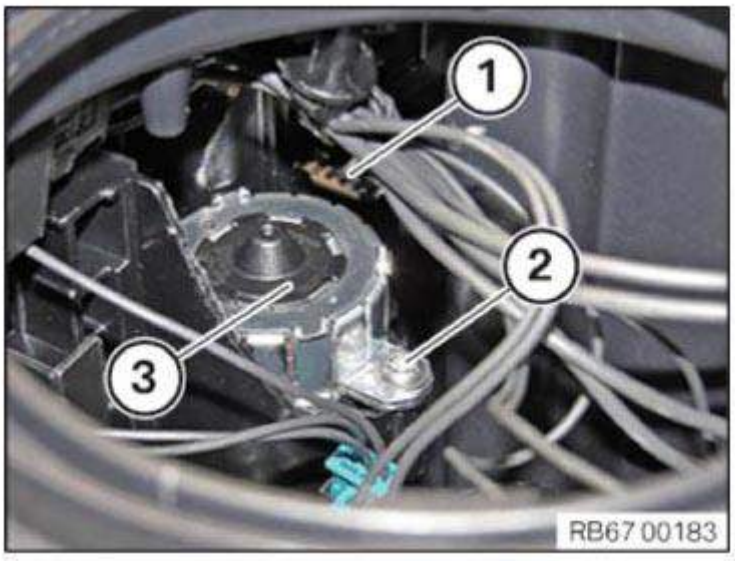


Fig. 18: Identifying Headlight Beam Throw Adjuster, Connector And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Tighten down screw (1).

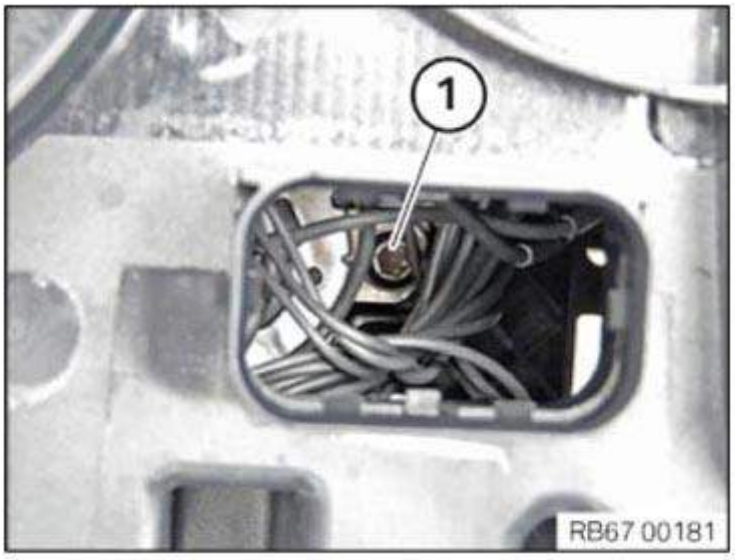


Fig. 19: Identifying Lid Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Engage connector (2) from inside.

Close lid (1).

cardiagn.com

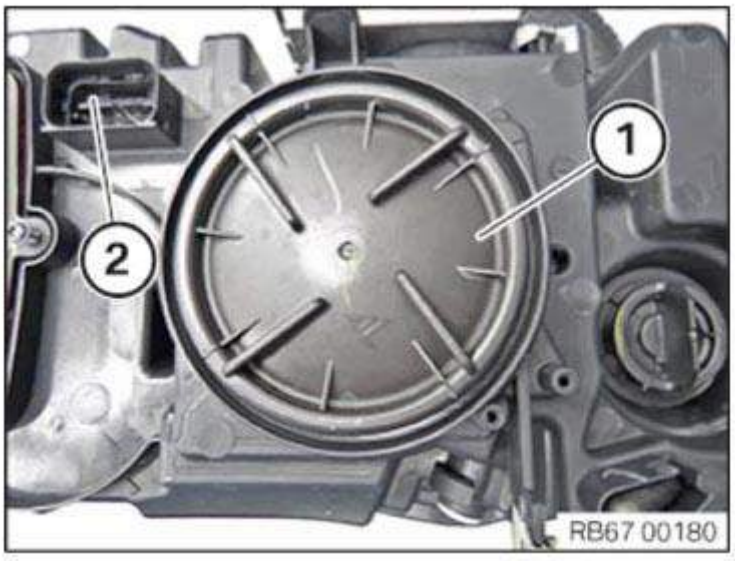


Fig. 20: Identifying Connector Lid And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Required reworking:

- Install **IGNITION DEVICE**
- Install **HEADLIGHT**
- Adjust **HEADLIGHTS**

67 16 011 REMOVING AND INSTALLING/REPLACING LEFT HEADLIGHT VERTICAL AIM ADJUSTER (XENON HEADLIGHT)

WARNING: **Version with xenon headlights: Danger to life due to high voltage! Therefore disconnect all components from voltage supply before removal. Work on the entire xenon lighting system (control unit, ignition unit with bulb) may only be carried out by specialist personnel.**

Danger of injury!
Risk of damage!
Do not make any cutting movements when removing the sprayed-on cover.
IMPORTANT: The cover may only be separated from the housing by punching. A groove of reduced wall thickness shows the punching line.
Cutting movements may damage cables inside the headlight.
The sealing edge must not be damaged!

Necessary preliminary work:

- Remove **WHEEL ARCH COVER** at front

NOTE: **For purposes of clarity, the headlight is shown removed.**

Cut out headlight housing (1) along line (2) with a suitable tool.

cardiagn.com

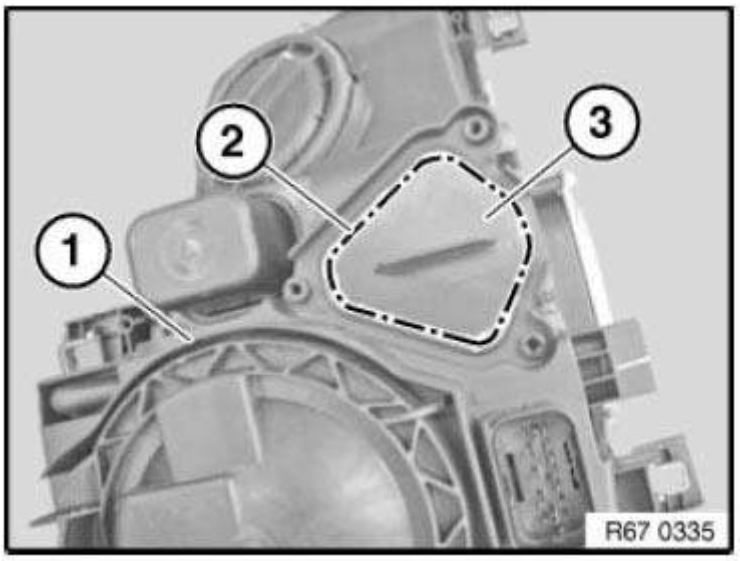


Fig. 21: Identifying Headlight Housing, Line And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

Feed out adjustment motor (2) and disconnect plug connection (3).

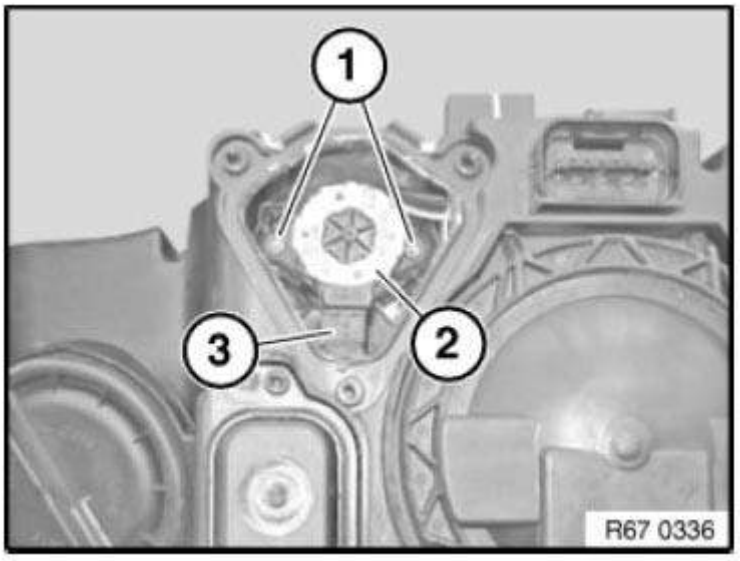


Fig. 22: Identifying Adjustment Motor, Plug Connection And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Work is shown on an E90 headlight by way of example. There may be differences in detail in the case of other vehicles.**

Installation note:

Slide headlight insert (1) upwards in direction of arrow.

cardiagn.com

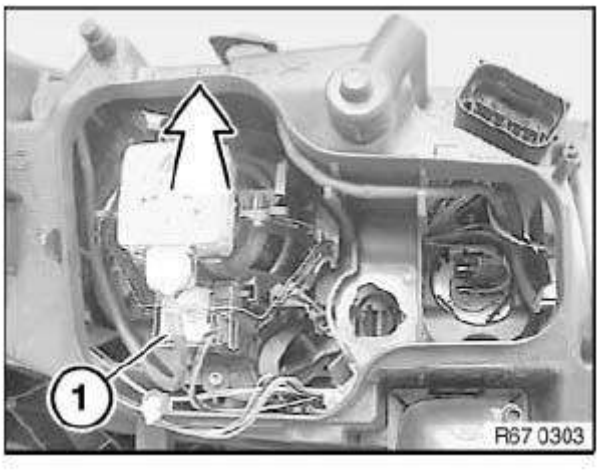


Fig. 23: Sliding Headlight Insert Upwards In Direction Of Arrow
Courtesy of BMW OF NORTH AMERICA, INC.

Feed ball head of vertical aim adjuster (1) into mounting (2).

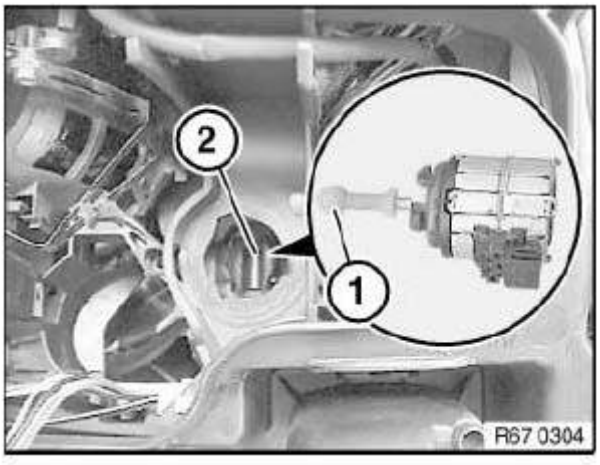


Fig. 24: Identifying Ball Head Headlight Beam Throw Adjuster
Courtesy of BMW OF NORTH AMERICA, INC.

Secure cover (1) supplied in repair kit with screws (2).

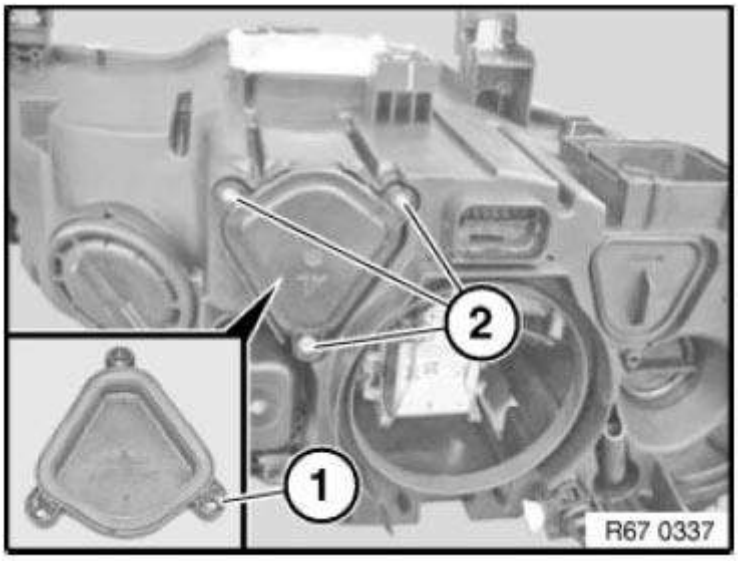


Fig. 25: Identifying Cover, Repair Kit With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

After installation:

- Adjust **HEADLIGHTS** .

67 16 016 REMOVING AND INSTALLING/REPLACING RIGHT HEADLIGHT BEAM THROW ADJUSTER

Operation is described in:

Removing and installing left headlight beam throw adjuster . See **67 16 011 REMOVING AND INSTALLING/REPLACING LEFT HEADLIGHT VERTICAL AIM ADJUSTER (XENON HEADLIGHT)**, **67 16 011 REMOVING AND INSTALLING/REPLACING LEFT HEADLIGHT VERTICAL AIM ADJUSTER (XENON HEADLIGHT)** or **67 16 010 REMOVING AND INSTALLING/REPLACING LEFT HEADLIGHT VERTICAL AIM ADJUSTER (HALOGEN HEADLIGHT)**

DRIVE, SEAT ADJUSTMENT

67 31... NOTES ON INITIALIZATION OF ELECTRIC SEAT ACTUATOR DRIVES

NOTE: Initialization is carried out at the adjusting switch of the relevant seat.

In this process, the end positions of the relevant electric seat actuator drive are recorded and stored.

An initialization must be performed:

- After replacing a drive unit for seat adjustment.
- After replacing/programming control unit for seat adjustment.

Operating procedure for initialization:

Move corresponding seat actuator drive(s) into both end positions.

67 31 531 REMOVING AND INSTALLING/REPLACING BACKREST ADJUSTMENT MOTOR

Necessary preliminary work:

- Remove **OUTER COVER**

Unlock plug connections (2) and disconnect.

Release screws (1).

Remove backrest adjustment motor from flange.

Installation note:

Make sure drive shaft is correctly seated in gearbox.

cardiagn.com

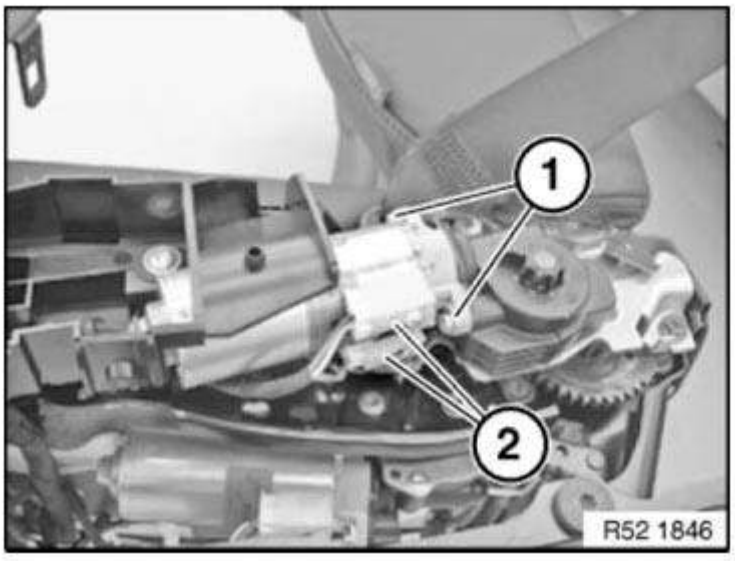


Fig. 26: Identifying Plug Connections And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

67 31 511 REMOVING AND INSTALLING/REPLACING DRIVE UNIT FOR SEAT CUSHION TILT ADJUSTMENT

Necessary preliminary work:

- Remove **FRONT SEAT**

Unlock plug connections (1) and disconnect.

Unfasten screws (2).

Installation note:

Make sure drive shaft is correctly seated in gearbox.

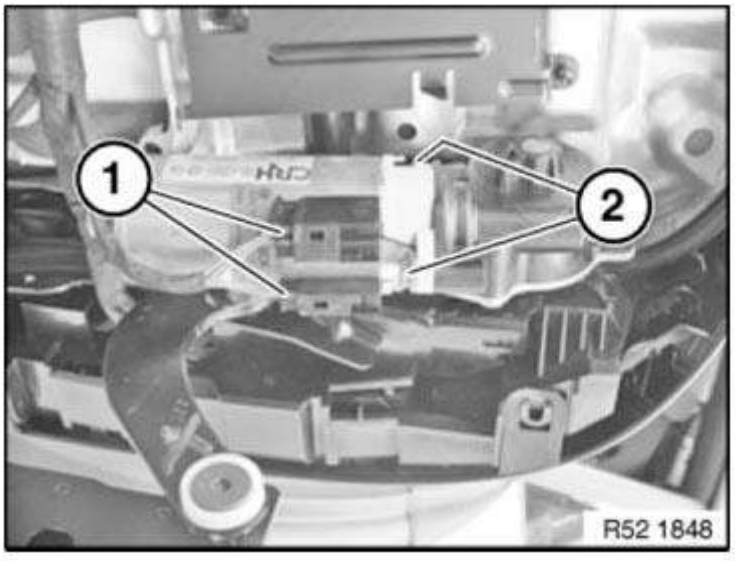


Fig. 27: Identifying Front Seat Plug Connections And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

67 31 501 REMOVING AND INSTALLING/REPLACING FORWARD/BACK SEAT ADJUSTMENT DRIVE UNIT

Necessary preliminary work:

cardiagn.com

- Remove **FRONT SEAT**

Unfasten plug connection (1) and disconnect.

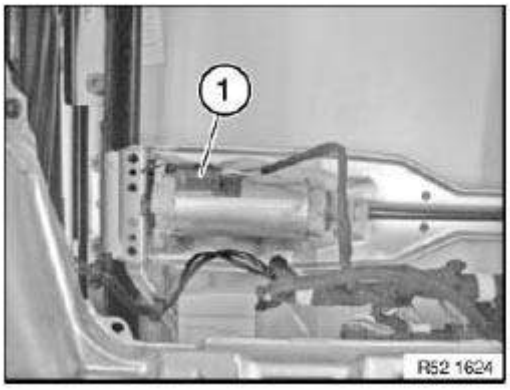


Fig. 28: Identifying Front Seat Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Bend metal tab (1) open.

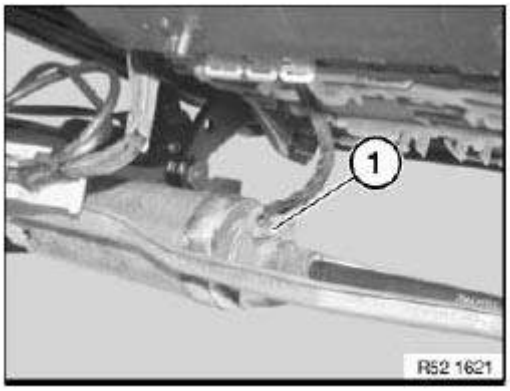


Fig. 29: Identifying Metal Tab
Courtesy of BMW OF NORTH AMERICA, INC.

Lift powertrain (1) and flex shaft (2) out of guide (4) in direction of arrow.

Detach drive (1) from rubber mounts (3).

Detach flex shaft (2) from powertrain (1).

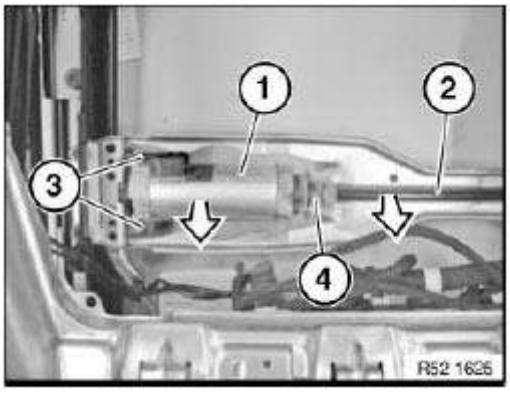


Fig. 30: Detaching Drive From Rubber Mounts
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

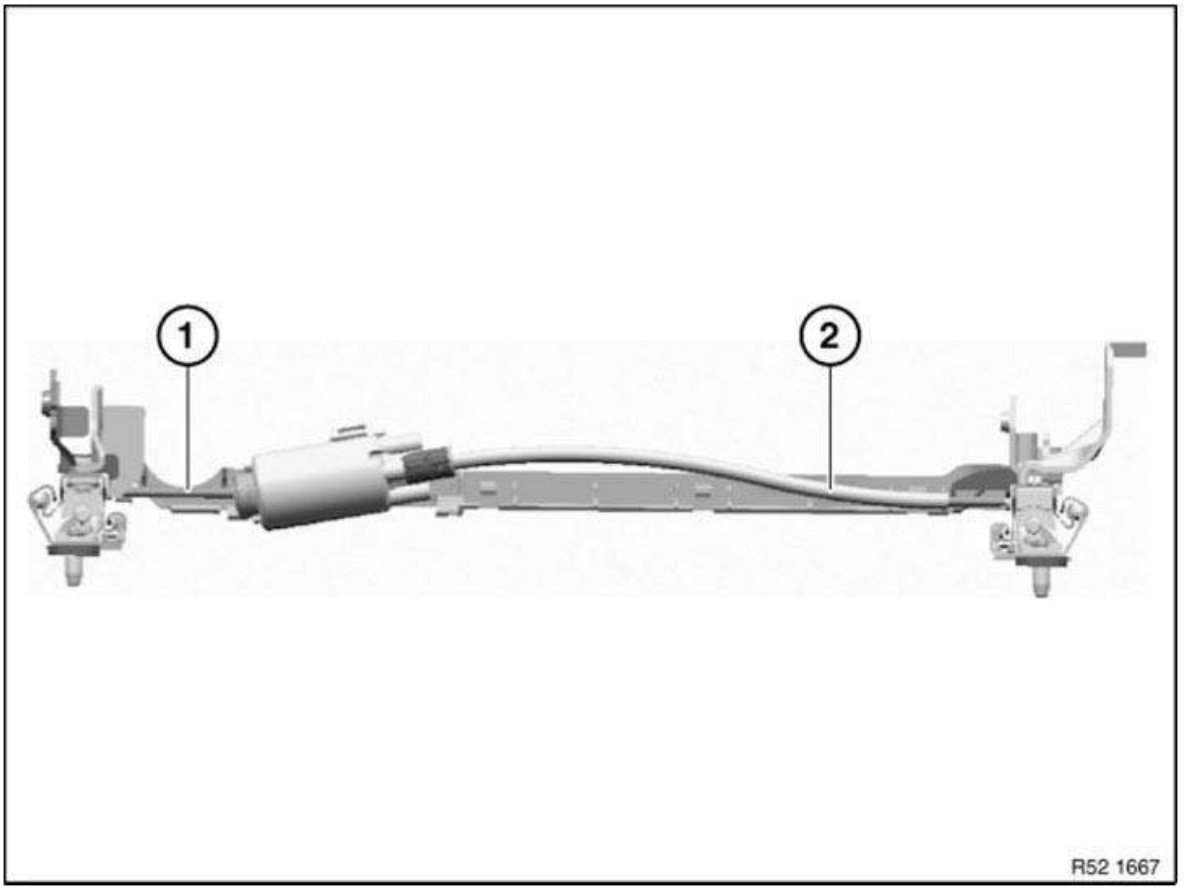


Fig. 31: Identifying Short Flex Shaft And Long Flex Shaft
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Slide short flex shaft (1) into longitudinal seat adjustment gearing square.

Bend long flex shaft (2) upwards and slide into longitudinal seat adjustment gearing.

Clip motor and flex shafts into carrier plate.

Make sure flex shafts are correctly seated in gearboxes.

67 31 521 REMOVING AND INSTALLING/REPLACING SEAT HEIGHT ADJUSTMENT DRIVE UNIT

Necessary preliminary tasks:

- Remove **FRONT SEAT**

Unlock plug connections (1) and disconnect.

Unfasten screws (2).

Remove seat height adjustment drive unit.

Installation note:

Make sure drive shaft is correctly seated in gearbox.

cardiagn.com

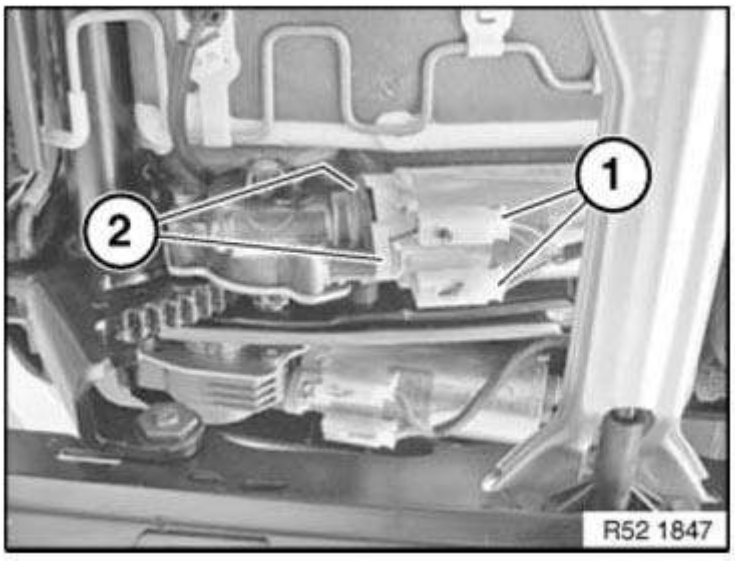


Fig. 32: Identifying Plug Connections And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

DRIVE, POWER WINDOW

67 31... NOTES ON INITIALIZATION OF ELECTRIC SEAT ACTUATOR DRIVES

Refer to **67 31... NOTES ON INITIALIZATION OF ELECTRIC SEAT ACTUATOR DRIVES**.

67 62... NOTES ON INITIALIZING POWER WINDOWS

NOTE: **Initialization is performed on the power window switch of the relevant door.**

Initialization comprises:

- Normalization
- Learning characteristic curve

With normalization, the mechanical end stops of the power window regulator are recorded and stored.

The characteristic curve is learnt immediately after normalization.

When the characteristic curve is learnt, the mechanical closing forces of the power windows are recorded and stored for correct operation of the anti-trapping mechanism.

Initialization, i.e. normalization and learning of characteristic curve, is performed in a continuous operation.

NOTE: **An initialization must be performed:**

- **In the event of malfunctions, e.g. no one-touch function, no opening or no convenience function possible.**
- **After the power windows drive or door module has been replaced.**
- **After work is carried out on the power windows mechanism.**

WARNING: **There is no anti-trap mechanism during initialization.**

Necessary preliminary work:

- Vehicle stationary

cardiagn.com

- Sufficient battery voltage available/connect charger if necessary
- Terminal "15" switched on
- All doors closed
- F12 up to 02/2012 soft top open, from 03/2012 soft top closed

Operating procedure for initialization (manual):

Deleting the initialization:

- Move side window into lower end position.
- Press and hold switch in "Open one-touch function" position (second switch position) for between 15 and 25 seconds.

NOTE: **Deletion of initialization was successful if toll function and anti-trap mechanism have been rendered inoperative.**

Performing initialization:

- Move side window to upper end position
- Pull and hold switch in "Close one-touch function" (2nd switch position) during the entire process.

NOTE: **Re-initialization was successful if toll function and anti-trap mechanism function flawlessly.**

Alternatively, initialization of the power window regulation can also be carried out via the Service function in ISTA.

Selection via:

- Body
  - Locking and security functions
    - Power window regulator
      - Initialize power window regulators

67 62 000 REMOVING AND INSTALLING OR REPLACING FLAT MOTOR FOR FRONT LEFT OR RIGHT POWER WINDOW REGULATOR

IMPORTANT: Before replacement of flat motor, observe **NOTES** on installation status!

Necessary preliminary work:

- Remove **FRONT POWER WINDOWS**

Release screws and detach flat motor (1) from power window regulator (2).

cardiagn.com

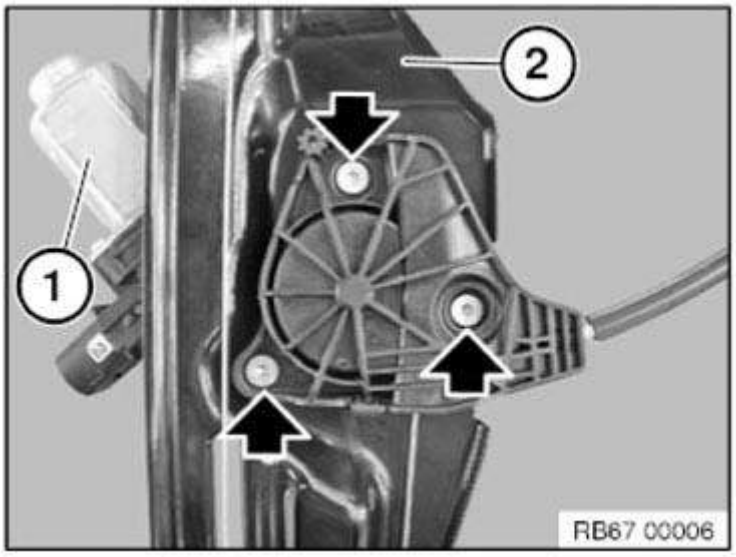


Fig. 33: Identifying Flat Motor From Power Window Regulator
Courtesy of BMW OF NORTH AMERICA, INC.

After installation:

An initialization must be carried out in order to activate anti-trap mechanism.

Read and comply with **NOTES** on initialization of power window regulator.

67 62 020 REMOVING AND INSTALLING/REPLACING FLAT MOTOR FOR REAR LEFT OR RIGHT POWER WINDOW REGULATOR

IMPORTANT: Before replacement of flat motor, observe **NOTES** on installation status!

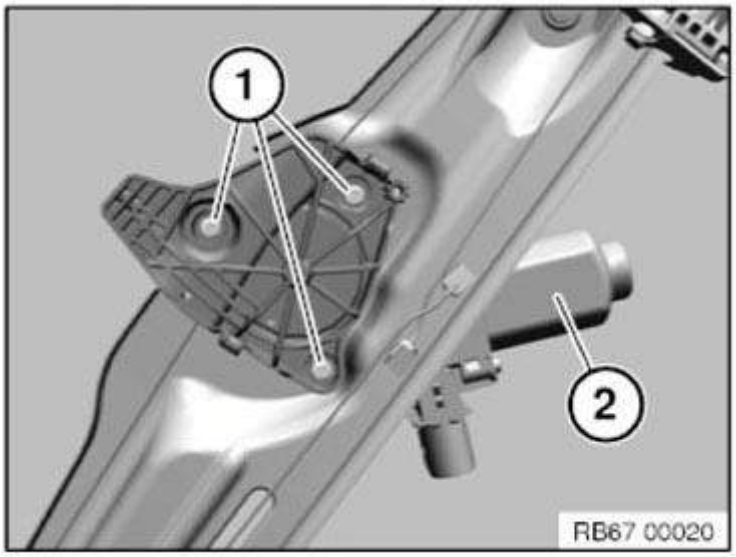
Necessary preliminary work:

- Remove **REAR POWER WINDOW REGULATOR**

Release screws (1).

Remove flat motor (2) from power window regulator.

IMPORTANT: Ensure that the flat motor (2) is assembled without tension.



cardiagn.com

Fig. 34: Identifying Power Window Regulator, Flat Motor And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

After installation:

An initialization must be carried out in order to activate anti-trap mechanism.

Read and comply with **NOTES** on initialization of power window regulator.

WIPER MOTOR, ACTUATOR DRIVE

67 63 512 REPLACING WIPER MOTOR

NOTE: **Wiper motor can only be replaced in conjunction with wiper console.**

Procedure is described in **REMOVING AND INSTALLING COMPLETE WIPER CONSOLE** .

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702207

cardiagn.com

TROUBLESHOOTING

61 00... BATTERY

NOTE: **Important notes and instructions for handling batteries in the dealership can be found in:**

- **Battery master document.**
- **Disconnecting battery.**
- **BATTERY CHARGE.**
- **WELDING WORK .**
- **EXTERNAL JUMP-STARTING AID .**

Battery care and maintenance

In low-maintenance batteries, check the electrolyte level at least once a year. If necessary, top up with distilled water up to the top marking.

The increasing number of electronic control units in the vehicle reduces the self-discharging time of the battery (even in standby mode). To maintain the battery service life and to avoid exhaustive discharging, recharge laid-up vehicles every 6 weeks at the latest. The time for self-discharging depends on vehicle type and equipment specification.

Battery test

The battery acid density can be used to measure the state of charge. However this check produces uncertainty caused by a design-related range of variation. The acid density e.g. for a charged battery is 1.28 kg/l (in the variant for hot countries the acid density is 1.23 kg/l).

Another interference factor is the acid layer immediately after filling with distilled water.

Battery wear with partially sulphated and/or heavily contaminated panels will also lead to incorrect acid density test results.

61 20... BATTERY REPLACEMENT INFORMATION

A vehicle battery is constructed for the installation location and the individual power requirements of the particular vehicle. These individual power requirements depend on the motorization and different types of equipment. The individually assigned vehicle battery is the ideal compromise between the power requirements of the vehicle electrical system and the weight and service life of the vehicle battery.

Vehicles with the automatic engine start-stop function or particular engine types and optional equipment are equipped with a special vehicle battery (AGM battery), since only this battery type can provide elevated power requirements over the extended service life. Installing a different vehicle battery can cause problems with vehicle electronics, can reduce functions or can cause leakage of battery acid.

In the event of an accident where the airbags are deployed in vehicles with a vehicle battery in the luggage compartment, the electrical connection between the vehicle battery and the trigger is automatically disconnected through pyrotechnics. This prevents possible short-circuiting.

Proper operation of all of these safety and convenience functions requires a battery that conforms with specifications and that is properly registered in vehicles with energy management systems (IBS, power module).

cardiagn.com

Vehicles with energy management systems (IBS, power module): Register battery replacement

The vehicle electrical system is informed about the vehicle battery characteristic data, such as type, size, age and current power capacity. Therefore, there will always be only one work scope provided that is permitted by the current status of information.

If the performance readiness drops below a defined minimum, a Check Control message will be generated to advise the driver that the battery must be replaced.

When installing a new vehicle battery, the battery must be registered and thus must also be registered with the vehicle electrical system.

NOTE: **Only this registration/logon will ensure that the corresponding Check Control message will go out again.**

Diagnosis system:

Register battery replacement

- Service functions
- Body
- Voltage supply
- Register battery replacement

When retrofitting, a more powerful battery may be used. Standard batteries may always be replaced by AGM batteries with the same specifications.

When installing a battery of a different size or a different battery type, this change in vehicle data must be programmed into the vehicle data in accordance with specifications.

Programming system:

- Battery retrofitting

61 20 908 CARRYING OUT BATTERY "POWER RESET"

IMPORTANT: Observe **SAFETY INFORMATIONS FOR HANDLING VEHICLE BATTERY** .

The following steps must be carried out for a "power reset":

- Switch off and disconnect battery charger
- Switch off ignition

  Vehicles with ID transmitter: Remove ID transmitter from slot

  Vehicles with comfort access system: Make sure terminal is in 0 position

- Disconnect battery negative terminal
- Reconnect battery negative terminal (to ensure bus activity)
- Waiting time (5-10 seconds)
- Disconnect battery negative terminal
- Waiting time (1 minute)
- Connect battery negative terminal and tighten, tightening torque **61 21 1AZ**
- Connect and switch on battery charger
- Switch on the ignition.

cardiagn.com

NOTE: ***Red symbol for pre-delivery check*** **The vehicle is coded at the end of line so that the red symbol for the pre-delivery check is shown in the Next Service indicator (same symbol as vehicle check).**
The symbol is a reminder to the Service staff that the pre-delivery check has not yet been carried out on this vehicle.



Fig. 1: Identifying Vehicle Check Symbol
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Do not carry out a reset.**
Do not confuse this function with the "Vehicle check" scope of maintenance work. Do not run a reset with the KOMBI.
When executing the pre-delivery check with the "Transport mode/Pre-delivery check" service function: The symbol will be suppressed automatically after the service function has been executed.

4 service functions are available in the BMW diagnosis system for maintenance:

- Transport mode/pre-delivery check
- CBS correction, tester data
- Reset CBS
- CBS vehicle data correction

Service Function: Transport Mode/Pre-delivery check

In order to ensure that a vehicle can be handed over to the customer in proper condition, the "Transport mode/pre-delivery check" service function must be performed.

The following positions are checked during the pre-delivery check:

- Deactivation of the transport mode.
- To determine the vehicle-specific vehicle performance per week an adaptation process is activated. Transport and immobilization periods before vehicle delivery to the customer therefore do not have any effect on the customer-specific weekly distance travelled.

  The weekly mileage/kilometrage is used to control escalation from "green" to "yellow" (approx. 4 weeks before "red") for maintenance scopes with remaining distances. It is the vehicle performance determined over the last 6 weeks which is taken into account.

- Encoding or deletion of the legally-specified intervals for the legally stipulated vehicle inspection and exhaust-gas test.
- Inputting the target dates for the legally stipulated vehicle inspection and exhaust-gas test (automatically

cardiagn.com

or manually).

Automatically: by date entry of the first registration and the interval

Manually: by directly entering the target date

- Information on initializing the TeleServices depending on the vehicle equipment.
- Checking and where necessary adjusting the on-board date for the vehicle.
- Entry of the date of the first registration of the vehicle.
- Clear diagnostic fault entries from fault memory.

NOTE: **Reduction of input effort.**
In order to minimize the input effort for the workshop, standardized data is saved on the BMW diagnosis system (for repeat use). The standardized data can be changed with the "CBS correction, tester data" service function.

Service Function: CBS correction, tester data

With the "Pre-delivery check" service function, data will automatically be stored in the vehicle. The standardized data can be changed with the "CBS correction, tester data" service function.

The following standardized data can be modified:

- Phone numbers:
  - BMW Group Mobile Service
  - BMW Hotline
  - Local dealer

  The country-specific phone numbers are contained in the BMW diagnosis system as a note (to be read off when required for input). The phone numbers must be input with the international dialling code.

- Legally stipulated vehicle inspection (country-specific):
  - Encoding or deletion
  - Interval for calculating the target date

  The target date is calculated on the basis of the date of the first registration.

- Legally stipulated exhaust-gas test (country-specific):
  - Encoding or deletion
  - Interval for calculating the target date

  The target date is calculated on the basis of the date of the first registration.

NOTE: **Automation after installation of the BMW diagnosis system.**

If the pre-delivery check is being carried out for the first time, the standardized data will be defined automatically. It is therefore not necessary to enter the data separately.

Service Function: Reset CBS Condition Based Service

The scope of maintenance work can be reset with the "Reset CBS Condition Based Service" service function. Even when the availability is above 80 %. The reset via the BMW diagnosis system has the advantage that the on-board date is corrected automatically.

The individual maintenance scopes are displayed in the BMW diagnosis system with service counter and availability.

cardiagn.com

- The service counter is increased by one count on resetting. In new vehicles all service counters are set to "1".

  The service counters are used in the Service Acceptance Module (SAM) to control the additional work for specific maintenance operations.

- On resetting the availability is set at 100%. The percentage availability is the wear value for the maintenance operation.

  The greater the availability, the further away the next service.

0% means that the maintenance measure must be carried out.

Service Function: CBS vehicle data correction

The datas have been exceeded.
IMPORTANT: After carrying out this service function, it will no longer be possible to restore the previous status.

The service function "CBS vehicle data correction" is available if resetting has been carried out **unintentionally.** Thus the availability of a maintenance measure can be corrected to a value which corresponds more closely to the actual situation.

For this correction a date or kilometer reading is entered. This data is processed internally to give a percentage availability. Here, the BMW diagnosis system will only accept a value which is lower that the current status in the control unit. In addition, the service counter of the scope is automatically reduced by one counter during correction.

The entries in the service booklet are used to determine the actual availability. The most recent maintenance measure (kilometer reading and date) allows the reconstruction availability for the specific scope that corresponds more closely to the actual situation. This does not include the correction of the brake pad availability. The remaining brake pad thickness must be measured and entered (in millimeters).

NOTE: Reference for distance- and time-dependent maintenance scopes

On correction the availability depends on the distance-dependent and time-dependent calculation.

61 12... INFORMATION ON INTELLIGENT BATTERY SENSOR (IBS)

Refer to **61 12... INFORMATION ON INTELLIGENT BATTERY SENSOR (IBS)**.

61 00... NOTES FOR DISCONNECTING AND CONNECTING BATTERY

Observe **SAFETY INFORMATIONS FOR HANDLING VEHICLE BATTERY** .

Before disconnecting battery:

Turn off the ignition and other electrical loads/consumers to prevent sparking when reconnecting.

NOTE: If the ignition is not turned off when the battery is disconnected, fault memories may be set in some control units.

IMPORTANT:

- There is a danger of mixing up battery cables: If the battery positive and negative leads are the same color and you are in doubt, follow the polarity to the battery, then mark and cover the leads.
- The on-board computer and clock may lose your data.

cardiagn.com

General notes on disconnecting battery:

- Do not disconnect battery leads and leads from alternator and starter motor while engine is running.
- Disconnect terminal of **BATTERY EARTH LEAD** from the battery. Cover battery negative terminal(s) and secure.
- Disconnect both battery earth leads in version with auxiliary battery. Cover battery negative terminal(s) and secure.
- When work is carried out on the electrical system, faults may be caused in the fault memories of some control units when the battery is connected.
- When installing battery terminal: Tightening torque **61 21 1AZ** .

Only lead AGM battery:

- On vehicles with IBS at negative battery terminal:

  Do not under any circumstances pull/lever off pole shoes by force.

  Do not under any circumstances release socket-head cap screw of IBS.

After connecting battery:

IMPORTANT: The scope of application of some systems may be restricted after an open circuit.
Personal Profiles may also be lost.
Settings or activations must be carried out, depending on the equipment specification.

For example:

- Activate **slide/tilt sunroof** . See **54 10... NOTES ON GLASS SLIDE/TILT SUNROOF (INITIALIZATION/NORMALIZATION/LEARNING OF CHARACTERISTIC CURVE)** or **54 0... NOTES ON PANORAMA GLASS ROOF (INITIALIZATION/NORMALIZATION/LEARNING OF CHARACTERISTIC CURVE)** , if necessary.
- Activate **power window** . See **67 62... NOTES ON INITIALIZING POWER WINDOWS** , **67 62 020 REMOVING AND INSTALLING/REPLACING FLAT MOTOR FOR REAR LEFT OR RIGHT POWER WINDOW REGULATOR** or **67 62 000 REMOVING AND INSTALLING OR REPLACING FLAT MOTOR FOR FRONT LEFT OR RIGHT POWER WINDOW REGULATOR** , if necessary.

61 13... NOTES FOR OPENING CONTACTS AND LOCKS OF DIFFERENT PLUG CONTACT SYSTEMS

Refer to **61 13... NOTES FOR OPENING CONTACTS AND LOCKS OF DIFFERENT PLUG CONTACT SYSTEMS**.

61 00... NOTES ON HANDLING OPTICAL FIBRES

IMPORTANT: To avoid damage when handling optical fibres, comply with the following points:

- The minimum permitted bending radius is 25 mm
- Do not subject optical fibres to compressive and tensile load
- Protect optical fibres against the effects of heat ≥85 Â°C (e.g. during welding work, drying work with infrared beams or hot air blower)
- Fibre-optic cables are permitted to show only \one junction point (bridge), replace fibre-optic cables if necessary

NOTE: **The optical fibres are colored differently as follows:**

cardiagn.com

- **Green = MOST (M edia O riented S ystems T ransport) optical fibre**
- **Yellow = ISIS (I ntelligent S afety and I ntegration S ystem) optical fibre**
- **Orange=repair fibre-optic cables**

Follow notes for processing cables and optical fibres . See 61 13... CUTTING OFF, STRIPPING INSULATION AND CUTTING OPTICAL FIBRES TO LENGTH or 61 13... CRIMPING OPTICAL FIBRES.

61 00... NOTES ON HANDLING THE HIGH PRESSURE CLEANER

WARNING: **Only used a high pressure cleaner approved by BMW!**
Only instructed persons aged over 16 years may work using a high pressure cleaner.
Check the high pressure cleaner and electrical wiring for visible damage.
Only use at a suitable location.

Pay attention to following hazard warnings:

IMPORTANT:

- Danger of injury due to water jet
- Contact with hazardous substances in spray
- Risk of skidding on wet floor
- Risk of stumbling due to hoses and cables
- Comply WITH NOTES AND INSTRUCTIONS ON HANDLING CLEANING AGENTS !
- Risk of scalding when cleaning with hot water.
- On electric or hybrid cars, the safety instructions for handling with hybrid cars are to be complied with.

WARNING: **The following personal protective equipment is to be used:**

- **Safety goggles/face guard**
- **Suitable gloves**
- **Apron**
- **Rubber boots**
- **Ear protectors**
- **Safety shoes**

Notes on washing a vehicle with a high pressure cleaner:

IMPORTANT:

- Do not wash directly on gaskets and control units during engine washes.
- A minimum distance of 30 cm must be adhered to for tires and tire valves.
- A minimum distance of 30 cm must be adhered to for the soft top and painted parts.
- Do not use if engine is still hot.
- Do not exceed maximum water temperature of 60 degrees.
- Do not spray directly onto cameras/sensors.
- On electric or hybrid cars do not wash on high-voltage components.

61 00... NOTES ON HANDLING WIRING HARNESSES AND CABLES

cardiagn.com

The following applies in general:

To avoid damage, observe the following instructions:

- Avoid compressive and tensile loads
- To ensure professional repairs, perform repair work only with BMW-approved or recommended special tools and spare parts
- Make sure cables are laid without kinks or abrasions
- Ensure non-contacting routing at sharp-edged body parts; use edge protection if necessary
- Secure additionally laid cables/leads with cable ties

The following additionally applies

Shielded cables

Contact points in the shield can cause problems with regard to noise radiation and interference immunity. Consequently, distinctions have to be drawn between the following types:

Coaxial cable

- Shielded RTK031 coaxial lines may only be repaired with special crimping tools.

CVBS cables

- CVBS cables may not be repaired.
- CVBS cables must be replaced in their entirety.

HSD cables

- HSD cables may not be repaired.
- HSD cables must be replaced in their entirety.

Fibre-optic cables:

NOTE: **Optical fibre cables are colored differently as follows:**

- **Green = MOST (M edia O riented S ystems T ransport) optical fibre**
- **Yellow = ISIS (I ntelligent S afety I ntegration S ystem) optical fibres**
- **Orange=repair fibre-optic cables**

IMPORTANT:

- Optical fibres are permitted to show only one junction point (bridge). Replace optical fibres if necessary
- Smallest permissible bending radius is 25 mm
- Avoid effects of heat ≥ 85 Â°

TREATING CABLES AND FIBRE-OPTIC CABLES

FlexRay:

It is possible to repair the FlexRay. In the event of damage, the cables can be joined with conventional **BUTT CONNECTORS AND HEAT-SHRINK TUBING** .

NOTE:

- **FlexRay lines may only reveal one separation point (bride); renew**

cardiagn.com

complete line if necessary.

- **The cable is a twisted cable. If possible, maintain twisted cable after repair.**

Airbag lines:

REPAIRING AIRBAG CABLES

12 00... NOTES/INFORMATION ON START ASSISTANCE (JUMP STARTING)

Do not start the engine with help of starting sprays.

Preparation:

Conform with the following when starting the engine with a jump starting cable.

- Ensure that the jump starting cable wires are of appropriate cross-section size.
- Only use fuse-protected jump starting cables.
- Check whether the current-supplying battery has 12 V voltage.
- If the engine is started from the battery of another vehicle, ensure that there is no contact between the bodies of both vehicles.

IMPORTANT: Never touch electrically live ignition system components: high voltage - danger of injury!

If the battery in the vehicle supplying power is weak, start the engine of this vehicle and let it run at idling speed.

Operation:

It is essential to conform to the procedures so as to avoid injury to persons or damage to parts.

- Automatic transmission: select drive position "P", apply parking brake.
- Manual transmission: move gear lever to neutral position, apply parking brake.
- Ensure that the jump leads cannot get caught in rotating parts, e.g. fan.
- First connect both positive poles of the batteries with one jump starting cable (red).
- Use the battery positive terminal in the engine compartment for vehicles with the battery in the luggage compartment.
- Then use the second jump starting cable (black) to connect the negative post of the current-supplying battery with the earth/ground point (not the negative pole or the body) of the vehicle to be started.

IMPORTANT: Do not connect the second jump starting cable (black) with the negative pole of the battery in the vehicle to be started. Produced gas could be ignited by sparks.

Risk of explosion!

After the engine of the vehicle to be started has fired, first disconnect the jump starting cable between the negative pole and the earth/ground point. Then remove the starting cable from the positive poles.

61 13... OPENING PLUG HOUSINGS AND REMOVING CONTACTS OF DIFFERENT PLUG SYSTEMS

Refer to **61 13... OPENING PLUG HOUSINGS AND REMOVING CONTACTS OF DIFFERENT PLUG SYSTEMS**.

61 00 730 PROGRAM/ENCODE THE CONTROL UNIT(S)

Programming/encoding control unit(s).

cardiagn.com

61 00 730 PROGRAM/ENCODE THE CONTROL UNIT(S)

PROGRAMMING/ENCODING CONTROL UNIT(S).

61 00 710 PROGRAM/ENCODE THE CONTROL UNIT(S)

PROGRAMMING/ENCODING CONTROL UNIT(S).

61 00 720 PROGRAM/ENCODE THE CONTROL UNIT(S)

PROGRAMMING/ENCODING CONTROL UNIT(S).

61 00... PROGRAM/ENCODE THE CONTROL UNIT(S)

NOTE:

- **In order to avoid incorrect programming procedures and fault messages, it is essential to always use the most current version when working with the ISTA/P programming system.**
- **Battery voltage must not drop below 13.0 V during programming. Connect battery charger prior to programming**

  Use only BMW-recommended battery chargers

programming routine via ISTA/P:

- Connect the battery charger to the vehicle.
- Connect the programming system with the vehicle.
- Determine the action plan.
- Accept action plan with the control units to be programmed/encoded and enabled, if necessary or work through.
- Observe the reworking list!
- If applicable, connect the workshop system to the motor vehicle, depending on the reworking list. Perform brief test and delete fault memory.

  NOTE: **A switch to the workshop system may not necessarily be required with the integration of the service functions and the "Delete fault memory" function in ISTA/P. Check the rework list accordingly!**

- Compliance with the information about programming in workshop systems and the corresponding notes in the user documentation is required.

61 00... REPAIRING AIRBAG CABLES

IMPORTANT: Only repair those cables which show visible signs of damage. In the event of visible damage, make sure there is only one cable repair in effect after the repair work. If no visible damage can be identified, the entire cable must be replaced.

Safety regulations for **HANDLING COMPONENTS OF AIRBAG SYSTEM** .

INSTRUCTIONS FOR DISCONNECTING AND CONNECTING BATTERY .

In event of non-visible damage to wiring harness:

Disconnect plug connection on airbag module or on adapter plug. It is absolutely vital to disconnect the contacts in succession as there is a risk of mixing up (similar parts)! Cut through one cable after the other at an appropriate position, do not under any circumstances cut through both cables at the same time. Insulate cables remaining in wiring harness with insulating tape. Now disconnect plug connection on airbag control unit. Unpin

cardiagn.com

contacts. Cut through one cable after the other at an appropriate position and insulate with insulating tape, do not under any circumstances cut through both cables at the same time. Pin contacts of repair cable for airbag control unit in control unit plug, assignment of repair cables is relevant. Lay repair cable in vehicle parallel to existing airbag lead. Now pin in contacts for airbag control unit or contacts of adapter plug, assignment of repair cables is relevant. Cut off excess length of repair cable in proximity (visible area) of airbag module or of adapter plug. Twist open cables. With the butt connectors and heat-shrink tubings, reconnect the cables with the same cable colors. Twist cables again, open length (twist) must not exceed 40 mm. Secure interface (heat-shrink tubing) with insulating tape to prevent cables from twisting open.

Instructions for cutting off, insulating, crimping cables, installing and removing contacts:

CUTTING OFF AND INSULATING CABLES.

REPAIRING A PLUG CONNECTION USING BUTT CONNECTORS .

INSTALLING AND REMOVING CONTACTS .

In event of visible damage:

Expose cable at damaged areas. Cut through one cable after the other at an appropriate position and insulate cables no longer required in wiring harness with insulating tape, do not under any circumstances cut through both cables at the same time. Now, depending on the scope of work, unpin contacts either on airbag control unit/airbag module or on adapter plug. Cut off unpinned cables. Insulate cables remaining in wiring harness with insulating tape. Now pin in contacts of repair cable, assignment of repair cables is relevant. Lay repair cable in vehicle parallel to existing airbag lead up to separation point. Cut off excess length of repair cable. Twist open cables. Connect cables with butt connectors and heat-shrink tubings assignment of repair cables is relevant. Twist cables again, open length (twist) must not exceed 40 mm. Secure interface (heat-shrink tubing) with insulating tape to prevent cables from twisting open.

Instructions for cutting off, insulating, crimping cables, installing and removing contacts:

CUTTING OFF AND INSULATING CABLES.

REPAIRING A PLUG CONNECTION USING CONNECTORS .

INSTALLING AND REMOVING CONTACTS .

00 SAFETY INFORMATION FOR WORKING ON VEHICLES WITH AUTOMATIC ENGINE START-STOP FUNCTION (MSA)

WARNING: **If the engine hood/bonnet contact is pulled upwards (workshop mode), the information "switch closed" is output. The automatic engine start-stop function is active.**
An automatic engine start is possible.

Observe safety precautions when working on MSA vehicles.

Before carrying out practical work on the engine, always ensure that the MSA functionality is deactivated so as to prevent automatic engine starting while work is being carried out in the engine compartment.

MSA function is deactivated by:

- Deactivate MSA by means of button (1) in passenger compartment
- Open seat belt buckle and driver's door

cardiagn.com

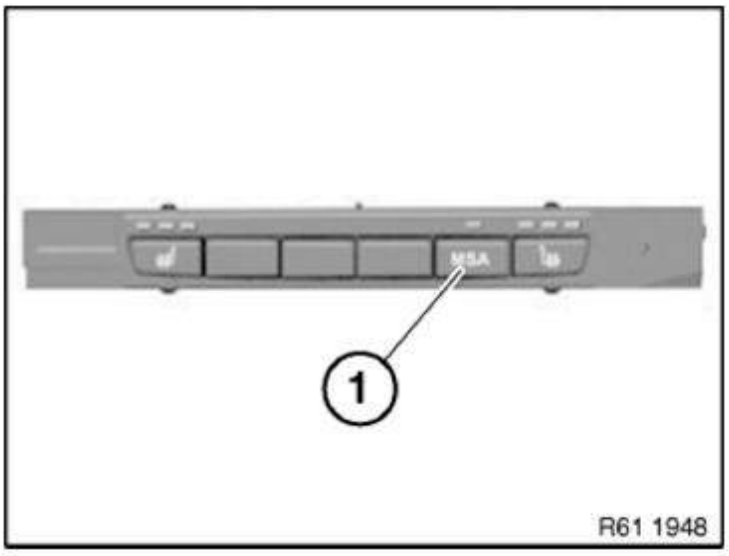


Fig. 2: Identifying MSA Button In Passenger Compartment
Courtesy of BMW OF NORTH AMERICA, INC.

- Open engine bonnet/hood and ensure that engine hood/bonnet contact is not in workshop mode
  - Workshop mode

    A = 10 mm

  - Basic setting (engine hood/bonnet open)

    B = 7 mm

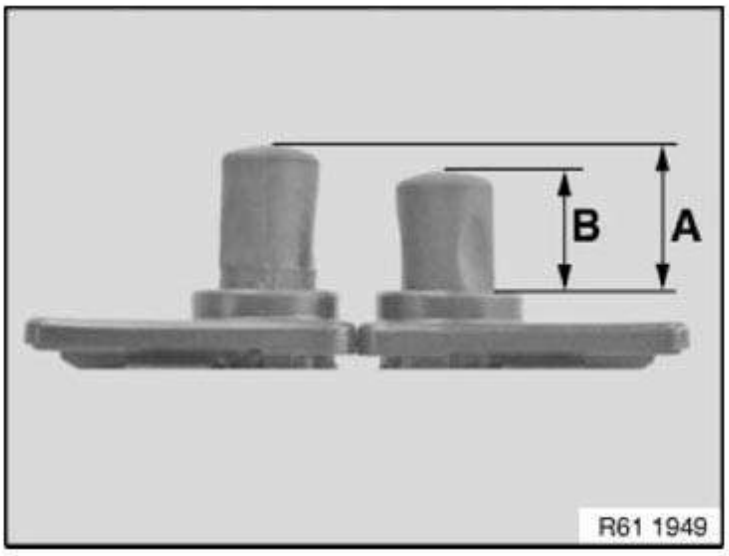


Fig. 3: Identifying Engine Hood/Bonnet Dimension
Courtesy of BMW OF NORTH AMERICA, INC.

To make sure that the engine hood/bonnet contact is at the basic setting, if necessary press the hood/bonnet contact up to the limit position before starting work and slowly release.

61 00... SAFETY INSTRUCTIONS FOR HANDLING VEHICLE BATTERY

Do not allow any battery acid to come into contact with the eyes, the skin or clothing. Therefore wear protective clothing, gloves and eye protection.

Do not tilt the battery, acid may emerge from the vent hole.

cardiagn.com

If acid is splashed into the eyes, rinse them immediately for several minutes with clear water. You must then consult a doctor without delay.

If acid is splashed onto the skin or clothing, neutralize it immediately with a soap solution and rinse with lots of water.

Seek medical attention immediately if battery acid is accidentally swallowed.

Strictly no flames, sparks, naked light or smoking!

A highly explosive detonating gas is created when batteries are charged. The rooms where charging is carried out must therefore always be well ventilated.

Avoid the formation of sparks when handling cables, wiring and electrical devices.

Turn the ignition lock to the 0 position before disconnecting or connecting the battery.

Do not place tools or any similar object on the battery (danger of short circuit and explosion hazard!).

61 13... SOCKET HOUSING (RADIO CONNECTOR), HYBRID SYSTEM MQS/MPQ

Refer to **61 13... SOCKET HOUSING (RADIO CONNECTOR), HYBRID SYSTEM MQS/MPQ**.

61 13... SOCKET HOUSING 42-, 43-PIN, HYBRID SYSTEM MQS/MPQ

Refer to **61 13... SOCKET HOUSING 42-, 43-PIN, HYBRID SYSTEM MQS/MPQ**.

61 13... SOCKET HOUSINGS, 2X21-, 2X27-PIN, HYBRID SYSTEMS MQS/MPQ, ELO/ELO POWER

Refer to **61 13... SOCKET HOUSINGS, 2X21-, 2X27-PIN, HYBRID SYSTEMS MQS/MPQ, ELO/ELO POWER**.

61 13... SOCKET HOUSINGS, 5- PIN, 8-PIN, SYSTEM MQS/MPQ

Manufactured by AMP: The following contact types without strand sealing can be fitted in the connector housings:

- MQS (Micro Quadlock System)
- MPQ, width 2.8 mm (Micro Power Quadlock)
- MPQ, width 5.2 mm (Micro Power Quadlock)

Socket housing, 5-pin (Hybrid System MQS/MPQ)

Raise fastener (1) over retaining lug (2) and pull off from contact carrier (3).

cardiagn.com

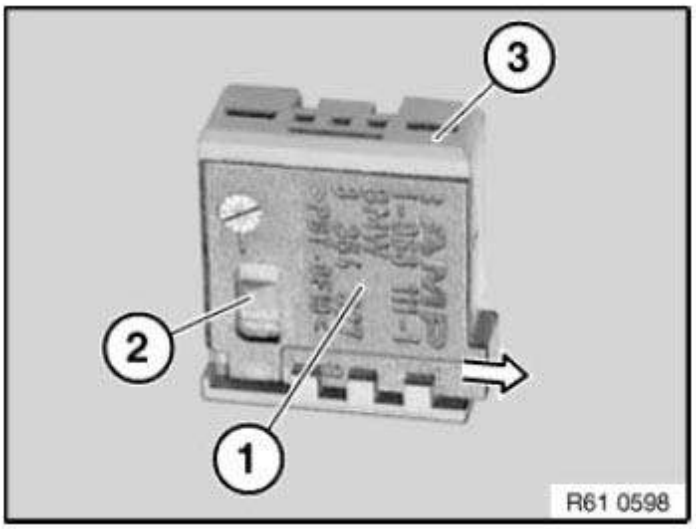


Fig. 4: Pulling Fastener From Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

Socket housing, 8-pin (MQS):

Raise fastener (1) over retaining lug (2) and pull off from contact carrier (3).

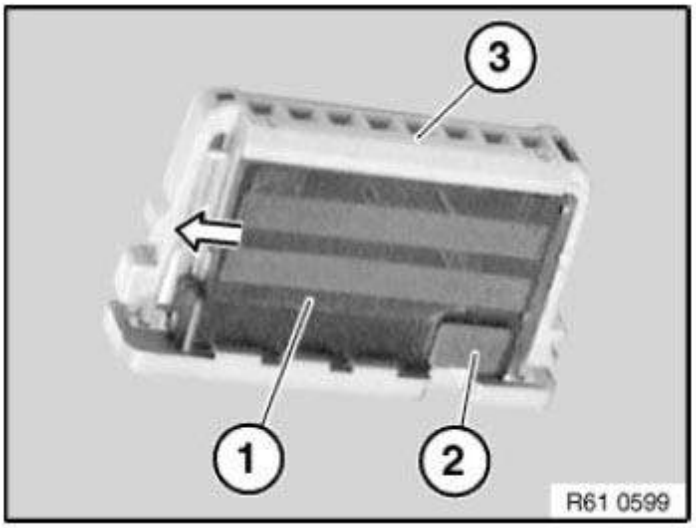
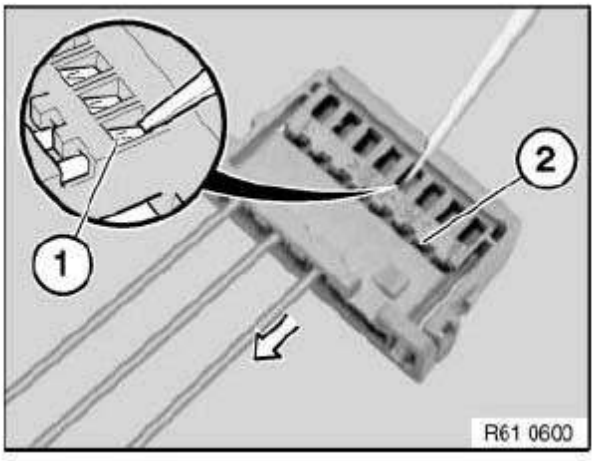


Fig. 5: Pulling Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook (1) of contact and pull cable with contact as far as secondary lock (2).



cardiagn.com

Fig. 6: Pulling Wire With Socket Contact
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook in secondary lock (1) again and pull cable with contact (2) completely out of contact carrier (3).

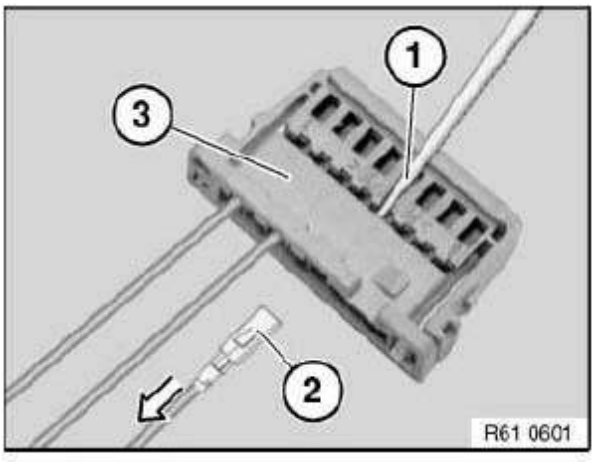


Fig. 7: Pulling Cable With Contact Completely Out Of Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... TREATING CABLES AND OPTICAL FIBRES

Refer to **61 13... TREATING CABLES AND OPTICAL FIBRES**.

61 13... UNLOCKING AND DISCONNECTING DIFFERENT PLUG CONNECTIONS

Refer to **61 13... UNLOCKING AND DISCONNECTING DIFFERENT PLUG CONNECTIONS**.

WIRING HARNESS, REPAIR CABLE

61 11... INSTALLING REPAIR CABLE FOR REVERSING CAMERA

Read and comply with notes on **HANDLING WIRING HARNESSES AND CABLES** .

NOTE: **Work is shown by way of example. There may be differences in detail in the case of other vehicle types and equipment specifications.**

cardiagn.com

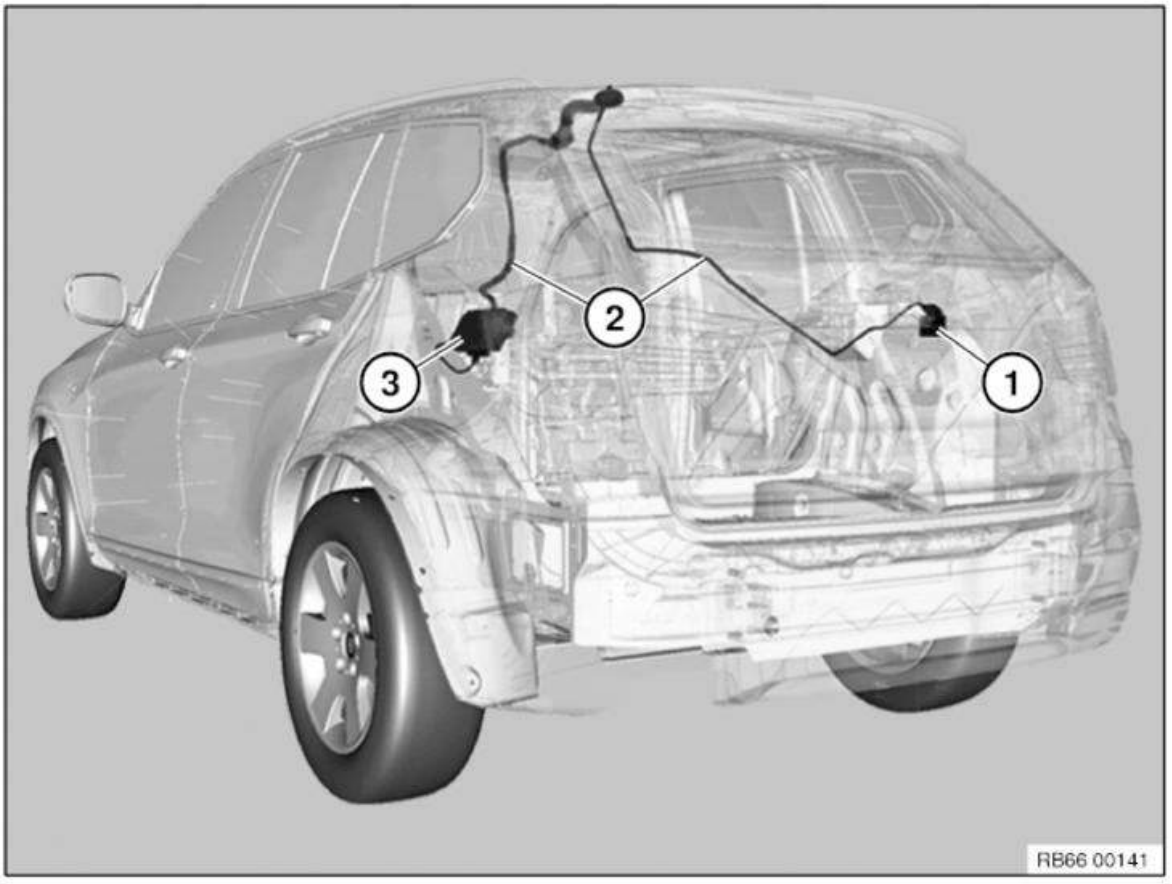


Fig. 8: Identifying Repair Cable For Reversing Camera Along Wiring Harness Up To TRSVC Control Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Remove trim panels.

Lay repair cable from reversing camera (1) along wiring harness (2) up to TRSVC control unit (3, middle slot) and secure sufficiently.

After successful completion of function check , detach start and end **of faulty cable** at first mounting point.

61 00... NOTES ON HANDLING WIRING HARNESSES AND CABLES

Refer to **61 00... NOTES ON HANDLING WIRING HARNESSES AND CABLES**.

61 13... SPECIAL TOOLS FOR WIRING HARNESS REPAIRS

Refer to **61 13... SPECIAL TOOLS FOR WIRING HARNESS REPAIRS**.

AUXILIARY CABLE, REPAIR CABLE

61 12... INFORMATION ON INTELLIGENT BATTERY SENSOR (IBS)

NOTE: Do not connect the charger to the 12 V charging socket

The 12 V charging socket is supplied with voltage by the rear power distribution box via relay. This relay drops out after terminal 15 OFF. This means that a trickle charger connected at the 12 V charging socket will be disconnected from the battery. Only charge the battery via the jump start terminal point. Only then can the voltage supply be registered by the vehicle.

WARNING: Danger of destruction in event of mechanical strain

cardiagn.com

- Do not introduce any additional connections at the battery negative terminal.
- Do not modify the grounding cable. The ground cable also serves heat dissipation.
- Do not establish any connection between the IBS and the sensor screw.
- Do not use force when disconnecting the pole shoe from the battery terminal:
  - Do not pull on the ground cable.
  - Do not place any tools under the IBS to lever off the pole shoe.
- Do not use IBS connections as levers.
- Use a torque wrench and set tightening torque in accordance with repair instructions.
- Do not release or tighten down sensor screw (Torx screw).
- Avoid contact between IBS and ground.

WARNING: **Danger of destruction to IBS and wiring upon battery replacement**

- The IBS and wiring can be destroyed by mechanical strain upon battery replacement. Therefore avoid mechanical strain.
- The size (capacity) of the battery required for the car is coded in the Car Access System (CAS).
- Use the battery size (capacity) installed as standard upon battery replacement.
- Recode the Car Access System (CAS) when installing a battery with a different capacity.
- Register battery replacement via Service functions in diagnosis system.
- Delete fault code entries in the Digital Engine Electronics (DME) associated with battery replacement.
- Always proceed in accordance with the repair instructions.

NOTE: **Battery draining possible in spite of the intelligent battery sensor IBS being fault-free.**

- A battery can be drained (e.g. with lights or radio switched on) even when the IBS functions perfectly in conjunction with power management.
- **For this reason, only exchange the IBS when there is a corresponding fault code entry!**

61 11... INSTALLING REPAIR CABLE FOR REVERSING CAMERA

Refer to 61 11... INSTALLING REPAIR CABLE FOR REVERSING CAMERA.

61 13... NOTES FOR OPENING CONTACTS AND LOCKS OF DIFFERENT PLUG CONTACT SYSTEMS

Refer to 61 13... NOTES FOR OPENING CONTACTS AND LOCKS OF DIFFERENT PLUG CONTACT SYSTEMS.

61 13... OPENING PLUG HOUSINGS AND REMOVING CONTACTS OF DIFFERENT PLUG SYSTEMS

Refer to 61 13... OPENING PLUG HOUSINGS AND REMOVING CONTACTS OF DIFFERENT PLUG SYSTEMS.

61 12 002 REPLACING POSITIVE BATTERY CABLE (FROM BATTERY TO LUGGAGE COMPARTMENT CABLE CONNECTOR)

WARNING: **Observe SAFETY INSTRUCTIONS for handling vehicle battery.**
Follow instructions on INTELLIGENT BATTERY SENSOR (IBS) .

IMPORTANT: Do not under any circumstances pull or lever safety battery terminal off by force.

Necessary preliminary work:

cardiagn.com

- Disconnect **BATTERY EARTH LEAD**

Disconnect plug connection (1).

Open cover and release nut (2). Tightening torque **61 21 2AZ** .

Open cover (3) and slacken nut underneath. Tightening torque **61 21 1AZ** .

Using a suitable tool, expand locking bracket (4) at lower end and clip out.

Raise power distribution box slightly and remove safety battery terminal.

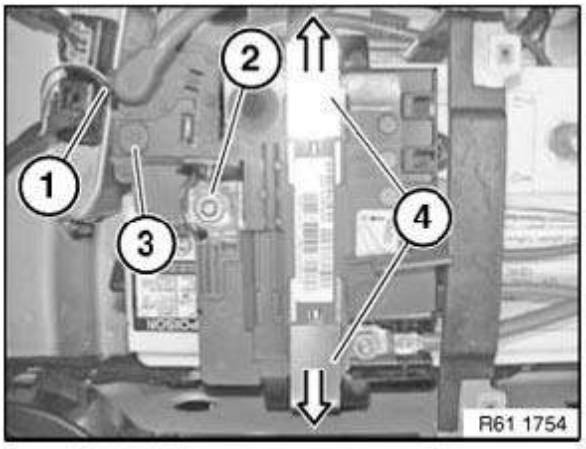


Fig. 9: Disconnecting Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Unclamp cover (1) from cable shoe mounting.

Slacken nut (2). Tightening torque **61 12 4AZ** .

Disconnect positive battery cable.

Installation note:

Risk of short circuits!

Make sure positive battery cable is correctly seated on cable shoe mounting.

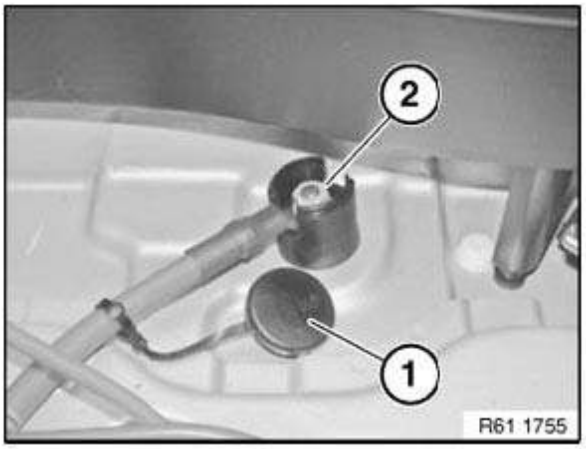


Fig. 10: Identifying Cable Shoe Mounting Cover
Courtesy of BMW OF NORTH AMERICA, INC.

61 12... REPLACING POSITIVE BATTERY CABLE (FROM BATTERY TO LUGGAGE

cardiagn.com

COMPARTMENT CABLE CONNECTOR) FROM 2014

WARNING: **Observe SAFETY INSTRUCTIONS for handling vehicle battery. Read and comply with notes on (IBS) .**

IMPORTANT: Do not under any circumstances pull or lever safety battery terminal off by force.

Necessary preliminary work:

- DISCONNECT NEGATIVE BATTERY LEAD

Removal:

Disconnect the connector (1).

Open the cover (2) and slacken the nut underneath.

Open the cover (3) and release the nut underneath.

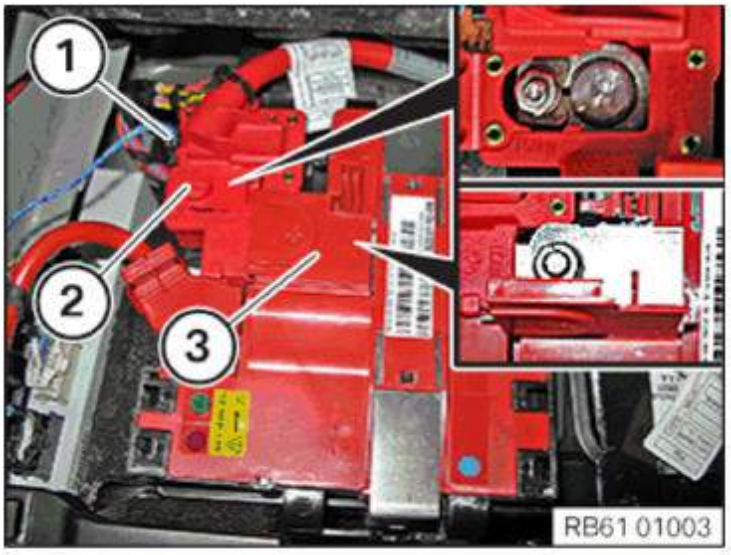


Fig. 11: Identifying Cover, Nut And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Using a suitable tool, expand the locking bracket (1) at lower end and unclip.

Raise the power distribution box (2) slightly and remove safety battery terminal (3).

cardiagn.com

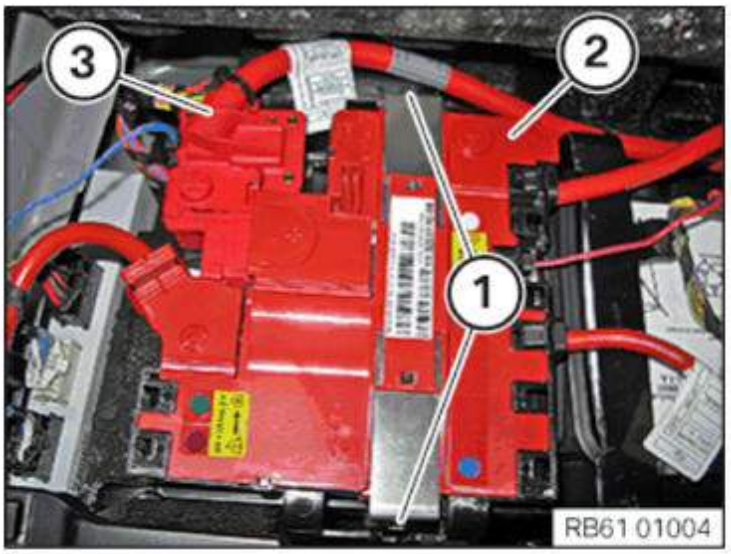


Fig. 12: Identifying Power Distribution Box, Locking Bracket And Battery Terminal
Courtesy of BMW OF NORTH AMERICA, INC.

Release the cover (1) from the cable shoe fixture on the latch mechanisms and remove.

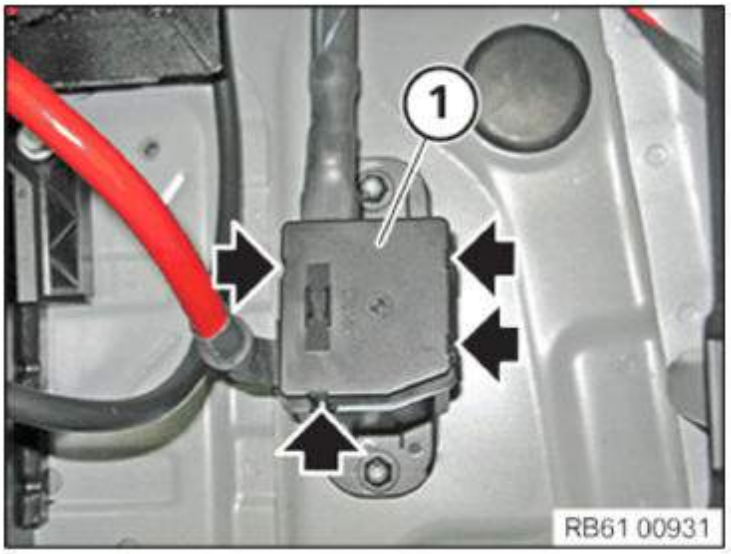


Fig. 13: Locating Cable Shoe Fixture Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Undo the nut (1) and remove the positive battery cable (2).

cardiagn.com

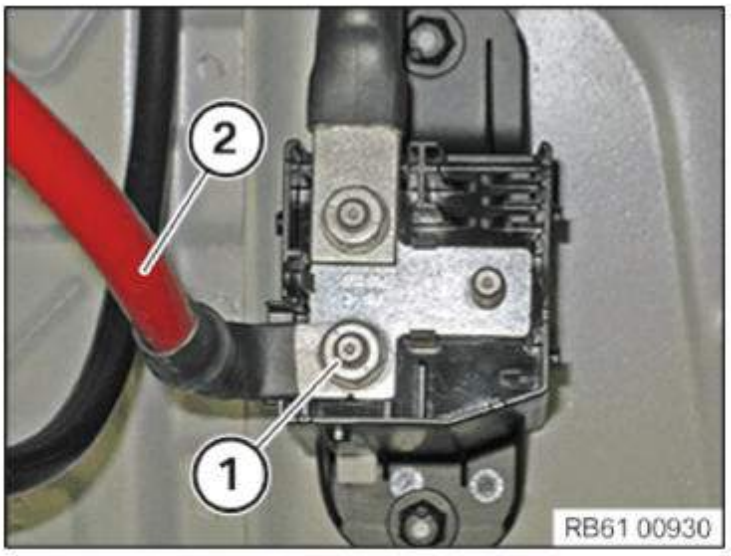


Fig. 14: Identifying Positive Battery Cable With Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Join positive battery cable (2) and tighten with the nut (1).

Tightening torque **61 12 4AZ** .

Installation note:

Risk of short circuits!

Make sure positive battery cable (2) is correctly fitted in the cable shoe fixture.

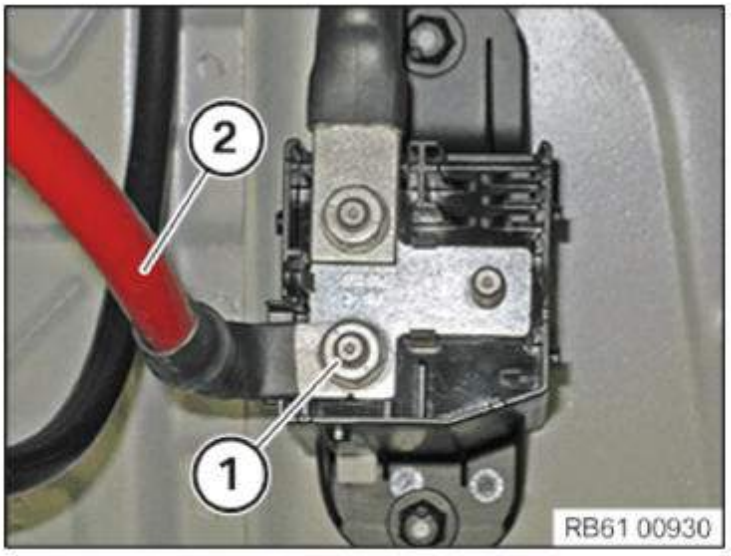


Fig. 15: Identifying Positive Battery Cable With Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

The retaining lugs on the lid (1) must not be missing or damaged.

cardiagn.com

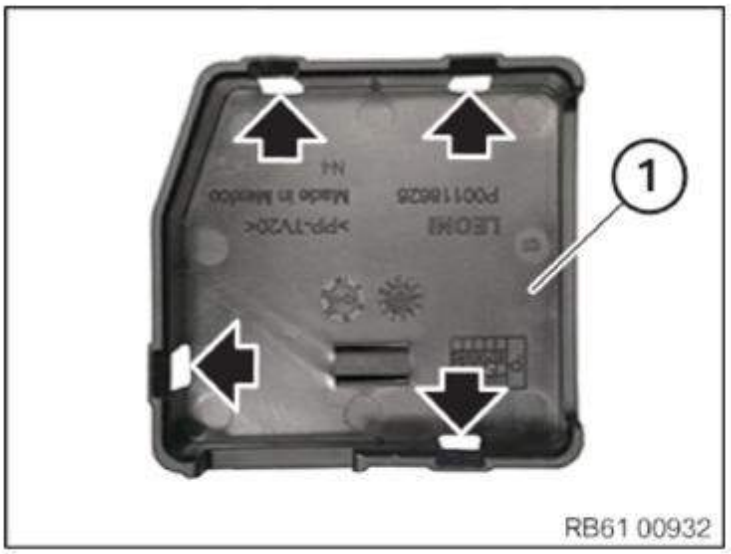


Fig. 16: Locating Retaining Lugs On Lid
Courtesy of BMW OF NORTH AMERICA, INC.

Join cover (1) to the cable shoe fixture.

Installation note:

Ensure the cover (1) is correctly fitted.

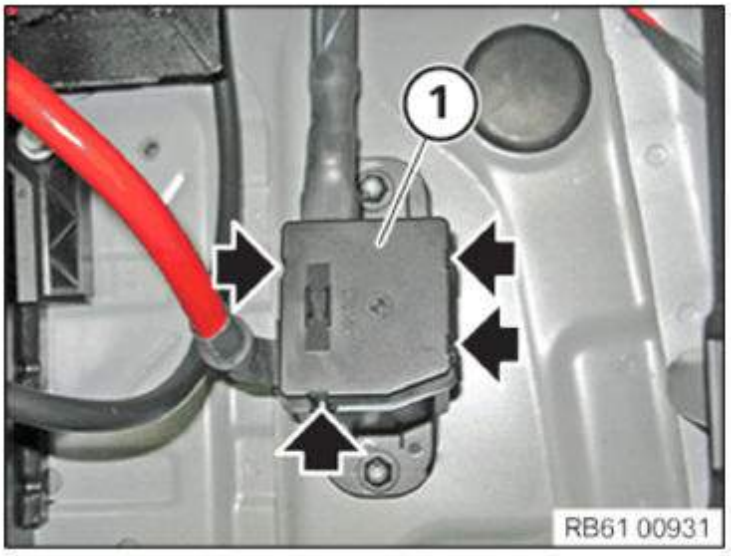


Fig. 17: Locating Cable Shoe Fixture Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Raise the power distribution box (2) slightly and join safety battery terminal (3).

Push the power distribution box (2) downwards on the locking brackets (1) and engage.

cardiagn.com

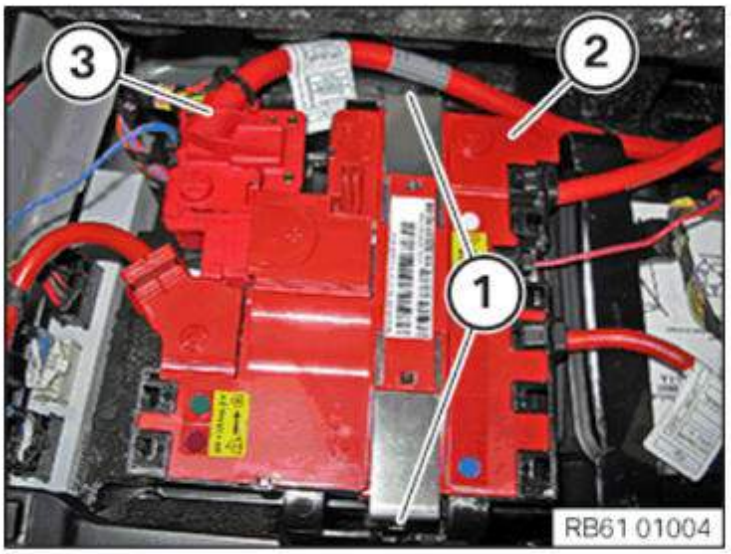


Fig. 18: Identifying Power Distribution Box, Locking Bracket And Battery Terminal
Courtesy of BMW OF NORTH AMERICA, INC.

Tighten the nut under the cover (3) and close it (3).

Tightening torque **61 12 1AZ** .

Tighten the nut under the cover (2) and close it (2).

Tightening torque **61 12 3AZ** .

Connect the connector (1).

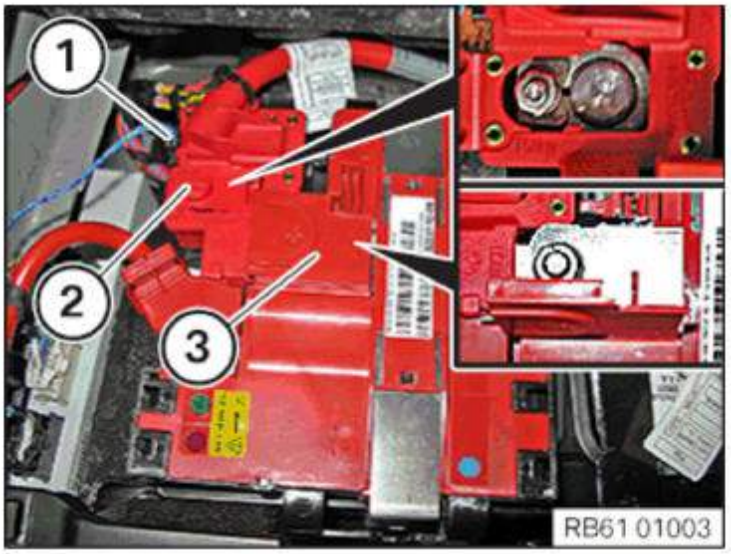


Fig. 19: Identifying Cover, Nut And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- **CONNECT BATTERY EARTH LEAD**

61 12 062 REPLACING WIRING HARNESS FOR FRONT BUMPER PANEL

IMPORTANT: Read and comply with notes on **HANDLING WIRING HARNESSES** and cables.

Necessary preliminary tasks:

cardiagn.com

- Remove **FRONT BUMPER PANEL** .

Release and disconnect plug connections in area (1).

Unlock and disconnect plug connections at the ultrasonic sensors.

Unclip wiring harness (3) in area (2).

Remove wiring harness (3).

Installation note:

Make sure wiring harness (3) is laid correctly.

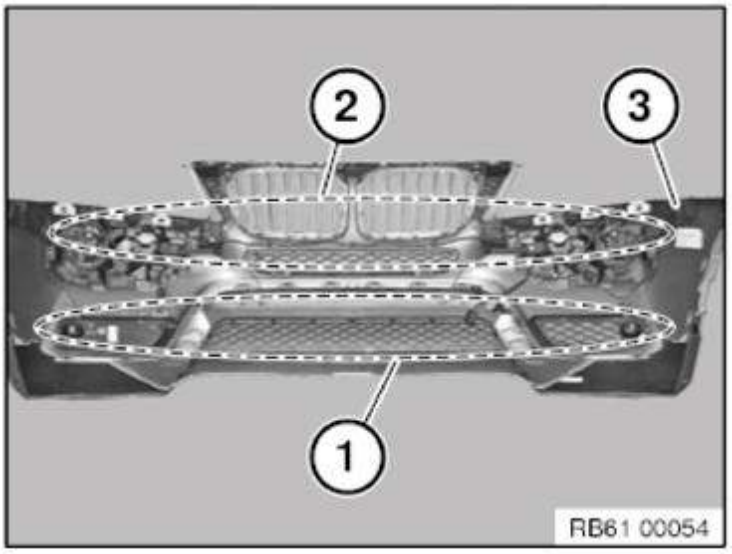


Fig. 20: Identifying Plug Connections Area
Courtesy of BMW OF NORTH AMERICA, INC.

61 12 200 REPLACING WIRING HARNESS IN LEFT OR RIGHT FRONT DOOR

IMPORTANT: Read and comply with notes on **HANDLING WIRING HARNESSES** and cables.

Necessary preliminary work:

- Close front side window completely.
- Disconnect **BATTERY GROUND LEAD**.
- Remove **SOUND INSULATION IN FRONT DOOR** .
- Remove **LEFT-HAND OUTER DOOR HANDLE ON FRONT DOOR** .

Unlock plug connections (1) and disconnect.

If necessary, unlock and disconnect Soft Close plug connection.

Unclip door wiring harness (2) at points (3).

Feed out door wiring harness (2).

Installation note:

Make sure door wiring harness (2) is correctly laid.

cardiagn.com

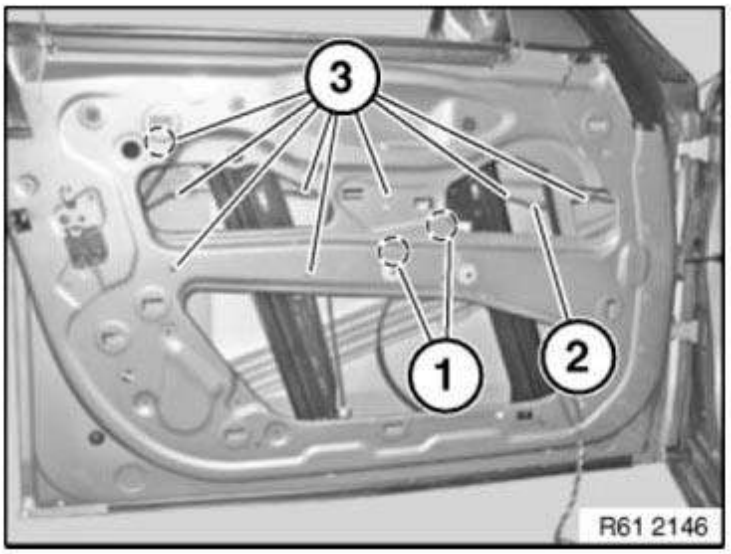


Fig. 21: Identifying Wiring Harness In Front Door
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Front side panel shown removed for purposes of clarity.

Release screw (1), fold door wiring harness connector on A-pillar (2) downwards slightly and remove.

Unlock plug connection behind and disconnect.

Pull rubber grommet (3) in direction of arrow out of front door (4).

Feed out door wiring harness towards front to A-pillar and remove.

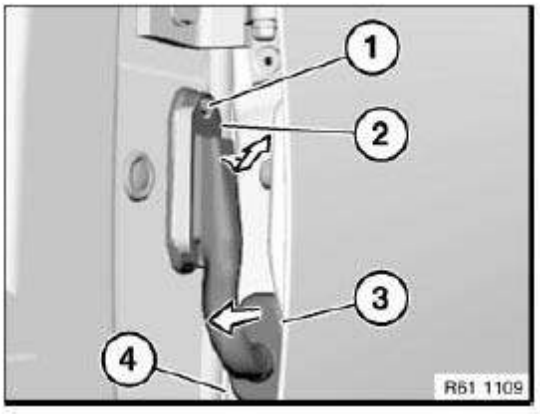


Fig. 22: Folding Door Wiring Harness Connector On A-Pillar
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... UNLOCKING AND DISCONNECTING DIFFERENT PLUG CONNECTIONS

Refer to 61 13... UNLOCKING AND DISCONNECTING DIFFERENT PLUG CONNECTIONS.

PLUG CONNECTION, TERMINAL, POWER DISTRIBUTION BOX

61 13... BUTT CONNECTOR FOR REPAIRING A PLUG CONNECTION

Special tools required:

- 61 0 300
- 61 4 340

cardiagn.com

- 61 0 240

IMPORTANT:

1. Identify cause of damage (e.g. sharp-edged body components, faulty electrical loads, jammed mechanisms, corrosion caused by ingress of water, etc.).
2. Read out fault memory
3. Eliminate cause of damage.
4. Disconnect battery negative terminal
5. Make sure that no safety-related system according to circuit diagram (e.g. antilock braking system, active rear-axle kinematics, airbags, etc.) are influenced. Otherwise replace faulty wiring harness or use repair cable (sourcing reference: BMW Parts Department)
6. Carry out function test and read out fault memories again
7. Eliminate new faults if applicable and clear fault memories

NOTE: **The repair range IV for vehicle electrical system contained the required special tools and individual parts for retrofitting and repair work with the aid of fan connectors.**

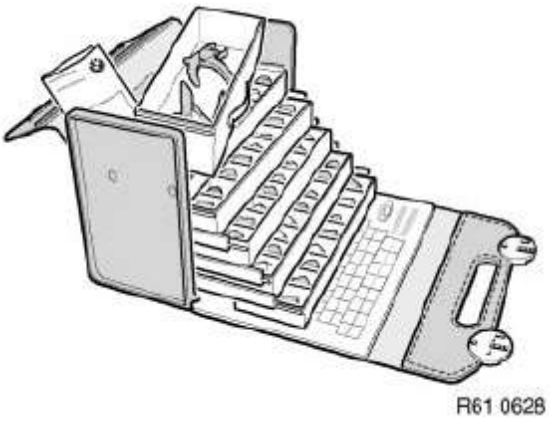


Fig. 23: Identifying Special Tools Kit
Courtesy of BMW OF NORTH AMERICA, INC.

Choose repair kit.

Example: Repair kit, circular connector system D 2.5.

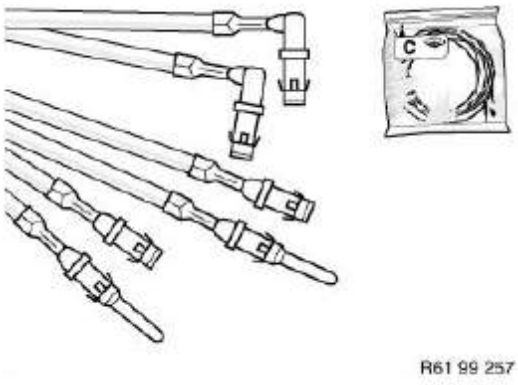


Fig. 24: Identifying Repair Kit
Courtesy of BMW OF NORTH AMERICA, INC.

Remove following parts:

cardiagn.com

1. Pre-packaged end of cable with requisite wire cross-section
2. Crimp connector for selected wire cross-section
3. Shrink-fit hose

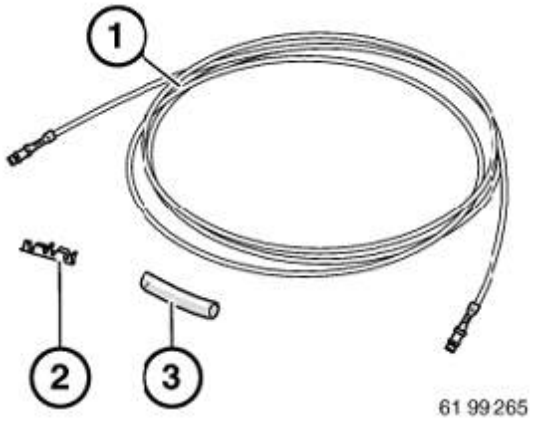


Fig. 25: Identifying Crimp Connector For Selected Wire Cross-Section
Courtesy of BMW OF NORTH AMERICA, INC.

Open secondary lock on housing.

Mark damaged contact (4) with socket number of housing and press it out of housing using appropriate special tool contained in special tool set **61 0 300**).

See repair instructions

NOTES FOR OPENING CONTACTS AND LOCKS of different plug contact systems.

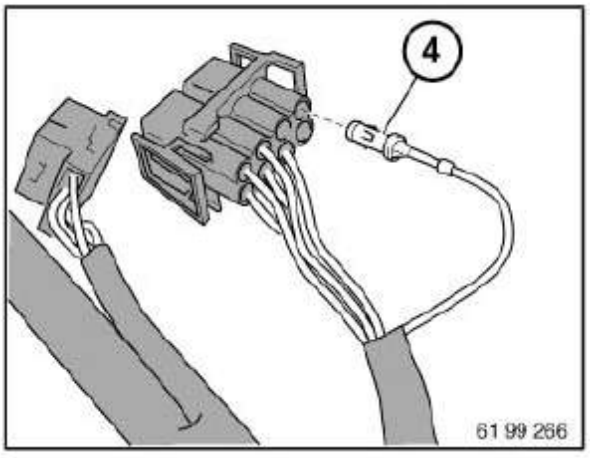


Fig. 26: Identifying Damaged Cable With Socket Number
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT:

- Check maximum length of repair cable
- If more than one wire is to be repaired, the individual interfaces must be offset so that the wiring harness is not too thick at the repaired point.

cardiagn.com

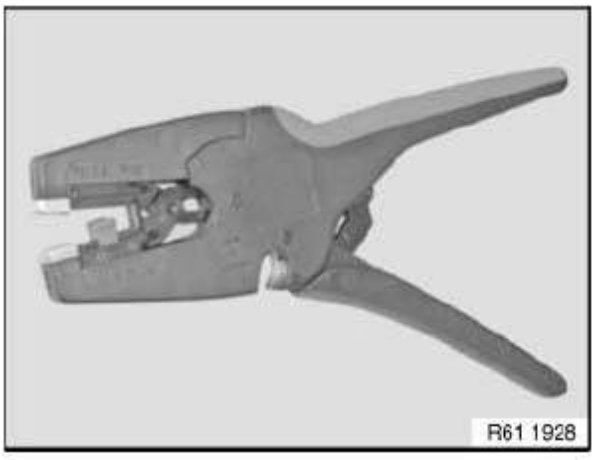


Fig. 27: Identifying Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

Adhere to following procedure:

- Cut off wire with faulty contact at point which is easily accessible
- Strip insulation from end of wire at wiring harness end
- Cut preassembled wire end to length and strip insulation

Refer also to repair instruction:

CUTTING TO LENGTH AND STRIPPING INSULATION FROM CABLES

Crimp butt connector on preassembled wire end.

Special tools:

- **61 4 340** (0.35 - 2.5 sq mm)
- **61 0 240** (4.0 - 6.0 sq mm)

See repair instructions

CRIMPING ON STOP PARTS

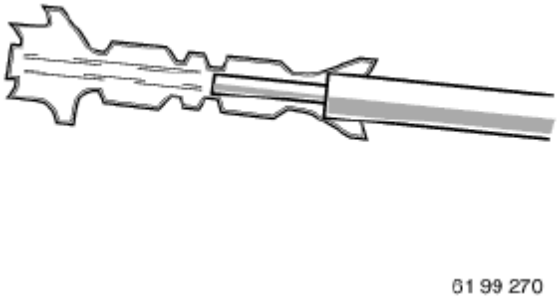


Fig. 28: Identifying Crimping On Stop Parts
Courtesy of BMW OF NORTH AMERICA, INC.

Push shrink-fit hose (8) onto free wire end.

cardiagn.com

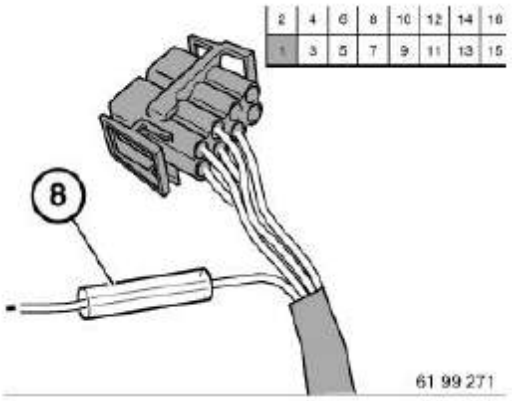


Fig. 29: Identifying Shrink-Fit Hose
Courtesy of BMW OF NORTH AMERICA, INC.

Crimp unused wire end to butt connector.

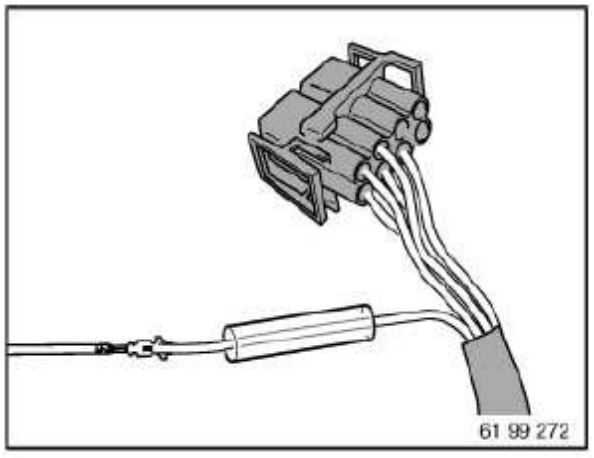


Fig. 30: Identifying Wire End To Butt Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Pull shrink-on sleeve over butt connector.

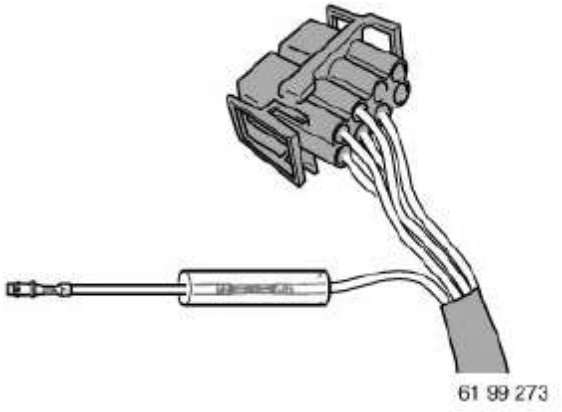


Fig. 31: Identifying Shrink-On Sleeve Over Butt Connector
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not burn shrink-on sleeve.

With hot air blower, shrink the shrink-on sleeve on both sides (9) of shrink-fit hose until glue emerges uniformly all round.

cardiagn.com

Insert contact in housing.

Close secondary lock on housing.

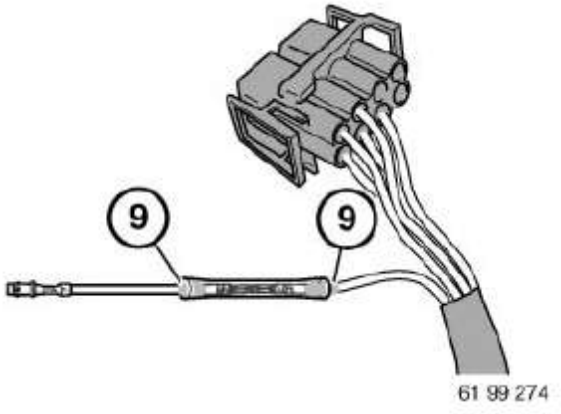


Fig. 32: Identifying Shrink On Shrink-On Sleeve Ends
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CIRCULAR CONNECTOR, 13-PIN, SYSTEM D2.5

Special tools required:

- 61 0 303

Pull off rubber grommet (1).

Carefully pull out lock (2) in direction of arrow.

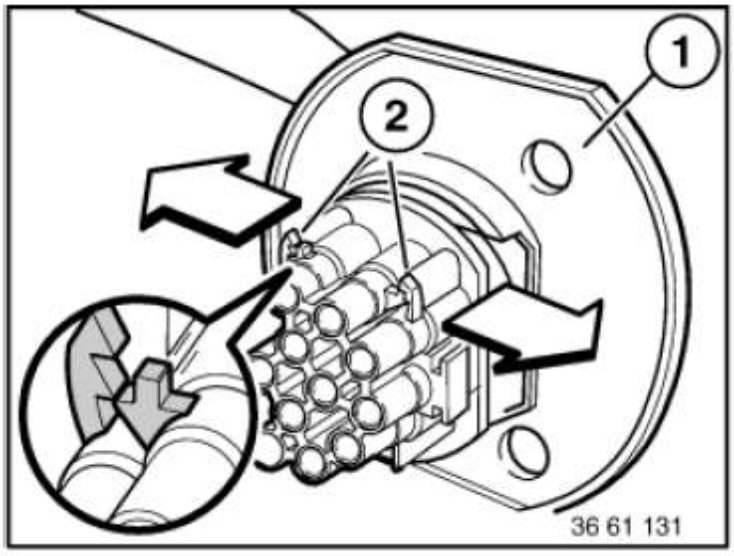


Fig. 33: Pulling Out Lock In Specified Direction
Courtesy of BMW OF NORTH AMERICA, INC.

Move lower section of connector (3) in direction of arrow until retaining lugs (4) snap into release groove (5).

cardiagn.com

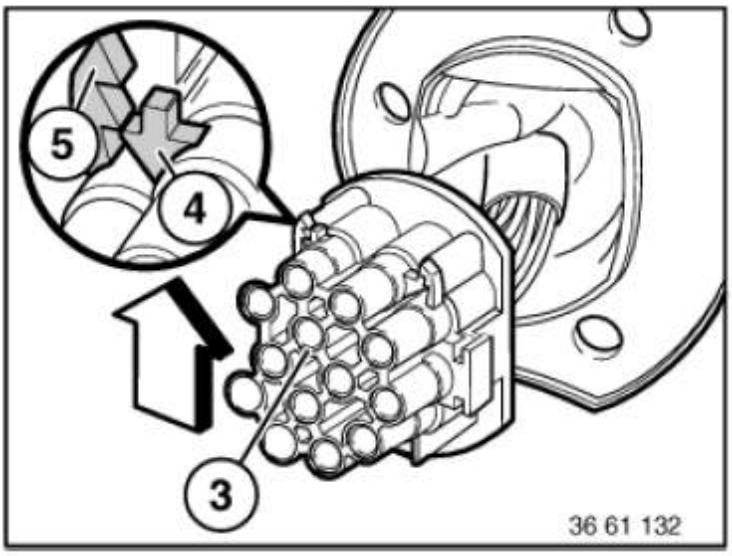


Fig. 34: Moving Lower Section Of Connector
Courtesy of BMW OF NORTH AMERICA, INC.

With special tool **61 0 303** , press down retaining lugs (6) of corresponding contact and pull out cable.

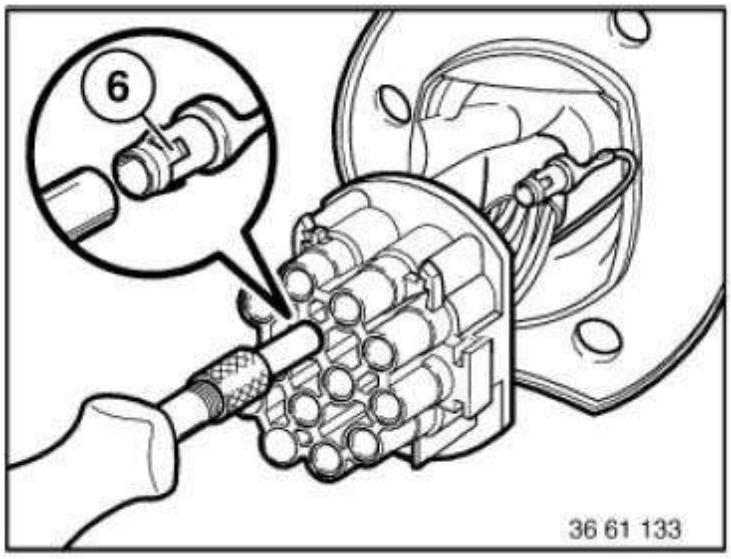


Fig. 35: Pressing Down Retaining Lugs Using Special Tool (61 0 303)
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CIRCULAR CONNECTOR, 20-PIN, SYSTEM D2.5

Special tools required:

- **61 0 303**

Carefully press back retaining tabs (1) of internal connector (2).

cardiagn.com

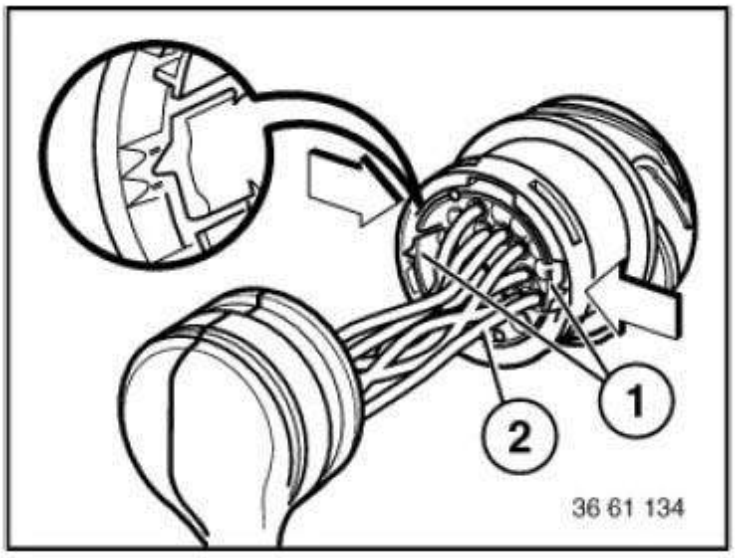


Fig. 36: Pressing Back Retaining Tabs Of Internal Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Turn internal connector (2) until retaining lugs (1) snap into release groove (3).

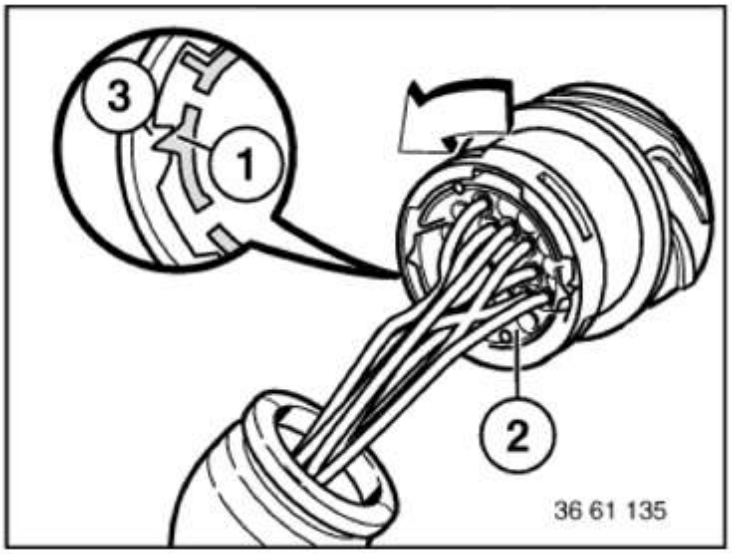


Fig. 37: Turning Internal Connector Until Retaining Lugs Snap Into Release Groove
Courtesy of BMW OF NORTH AMERICA, INC.

With special tool **61 0 303** press down retaining hook (4) of corresponding contact and pull out cable.

cardiagn.com

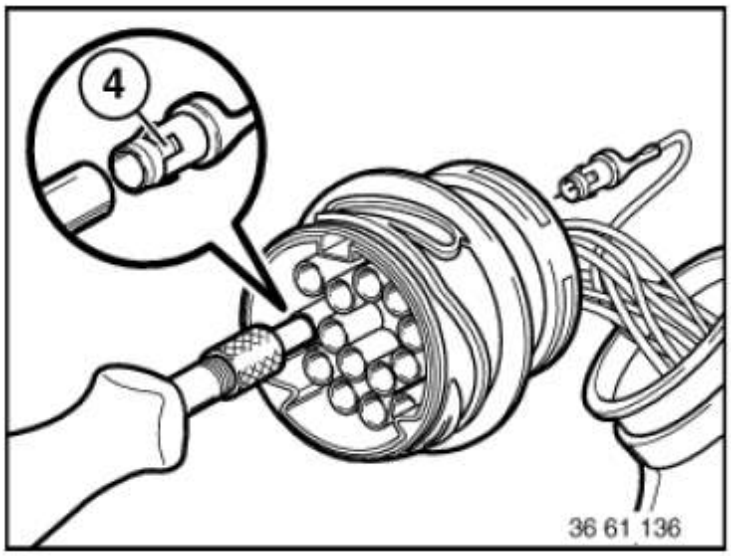


Fig. 38: Pressing Down Retaining Hook Using Special Tool (61 0 303)
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CIRCULAR CONNECTOR, 7-PIN, 8-PIN, SYSTEM D2.5

Special tools required:

- 61 0 303

Carefully pull off rubber grommet (1).

Carefully press back retaining tabs (2) of internal connector (3).

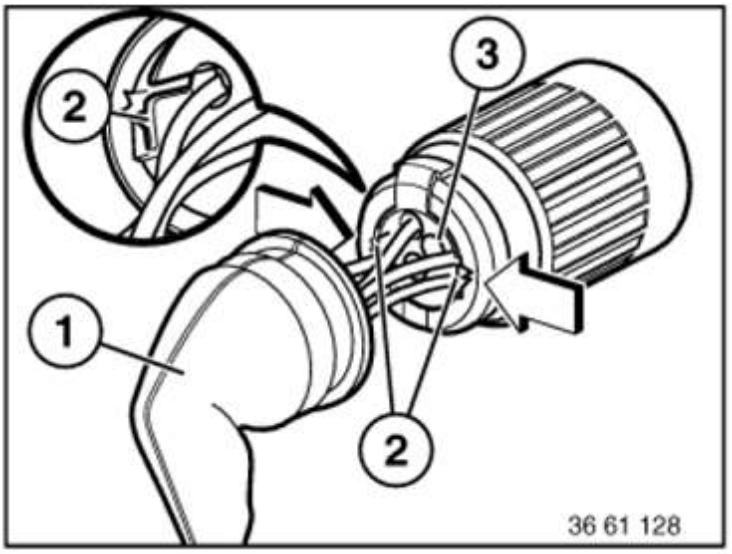


Fig. 39: Pressing Back Retaining Tabs Of Internal Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Slide internal connector (3) in direction of arrow until retaining tabs (2) lock into locking groove (4).

cardiagn.com

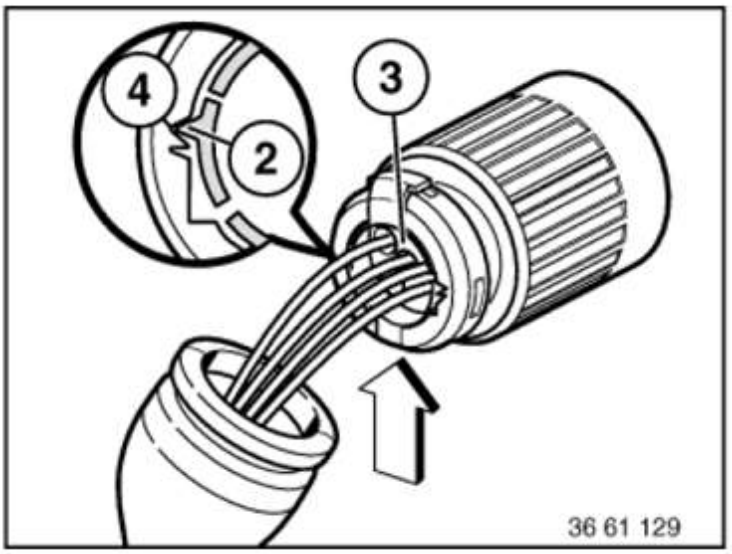


Fig. 40: Sliding Internal Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Use special tool **61 0 303** (61 1 132) to press back retaining hook (5) of corresponding contact and pull out cable with contact.

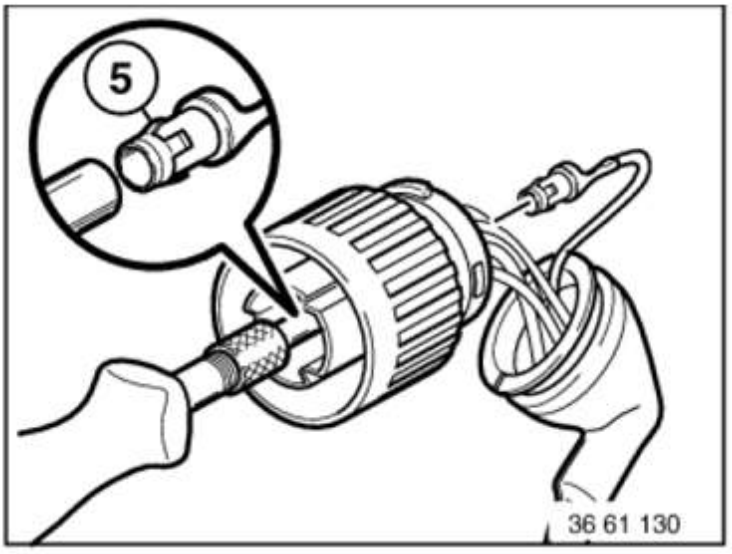


Fig. 41: Pressing Back Retaining Hook Using Special Tool (61 0 303)
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CIRCULAR PLUGS, 4-, 7-, 10- 12-, 25-PIN, SYSTEM D1.5/D2.5

Special tools required:

- **61 0 303**

Insert special tool with suitable connection side in connector and twist approx. 3Â° anticlockwise.

cardiagn.com

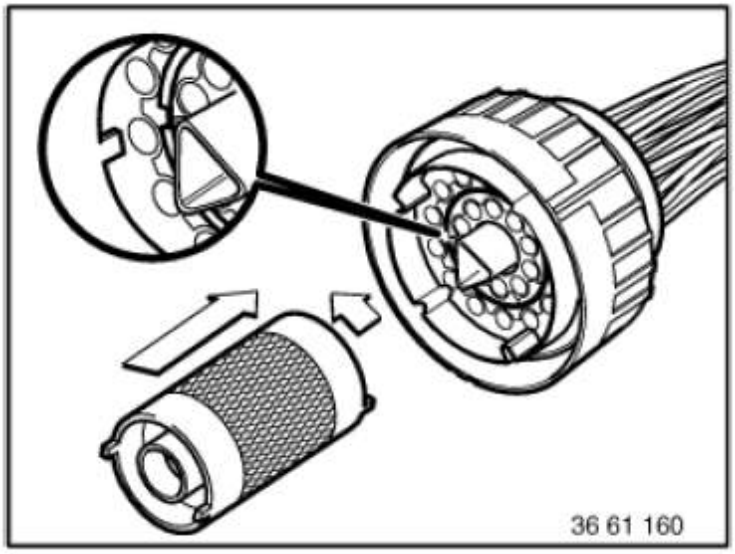


Fig. 42: Inserting Special Tool With Suitable Connection Side In Connector
Courtesy of BMW OF NORTH AMERICA, INC.

The connector is locked down if retaining lug (3) is located in locking groove (2).

1. Unlocking groove
2. Locking groove
3. Retaining lug

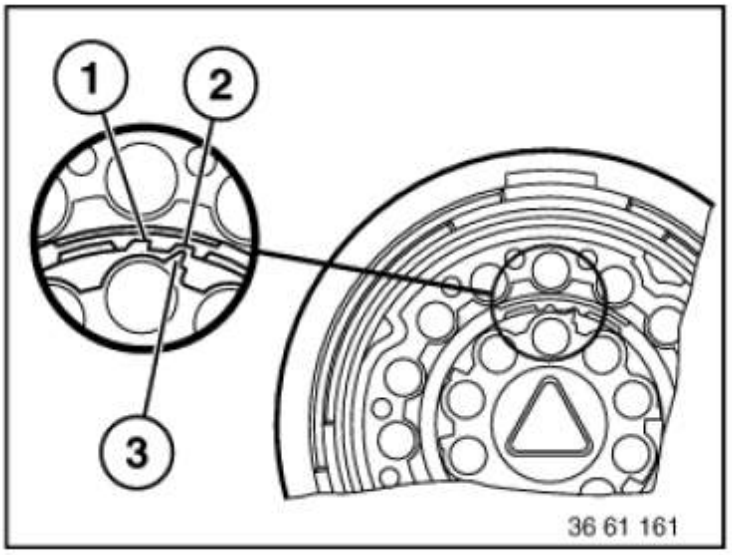


Fig. 43: Identifying Groove And Retaining Lug
Courtesy of BMW OF NORTH AMERICA, INC.

With special tool **61 0 303** press back retaining hook(4) of corresponding contact and pull out cable with contact.

cardiagn.com

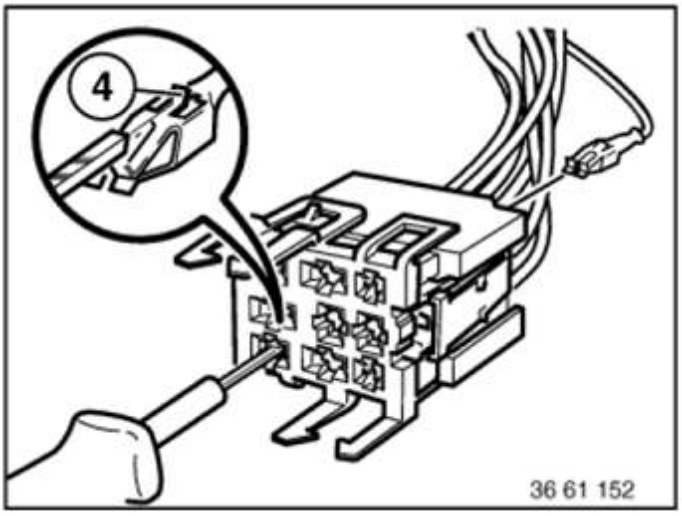


Fig. 44: Pressing Back Retaining Hook Using Special Tool (61 0 303)
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CONNECTOR HOUSING, LCC CONTACT (LOAD CURRENT CONTACT)

Special tools required:

- 61 0 317

Socket housing:

Press lock (1) with suitable tool (2) in direction of arrow out of socket housing (3).

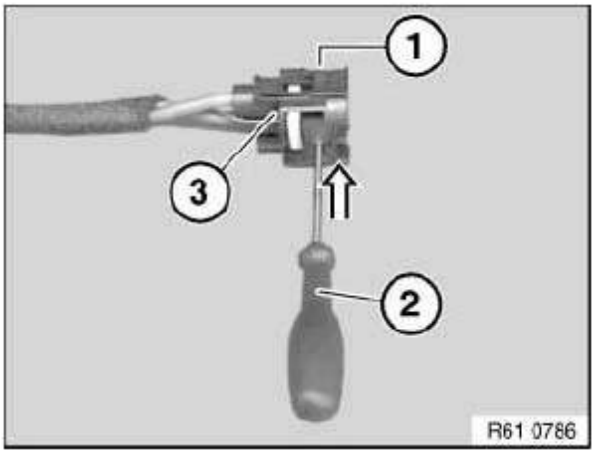


Fig. 45: Pressing Lock With Suitable Tool
Courtesy of BMW OF NORTH AMERICA, INC.

Pull lock (1) out of socket housing (2).

cardiagn.com

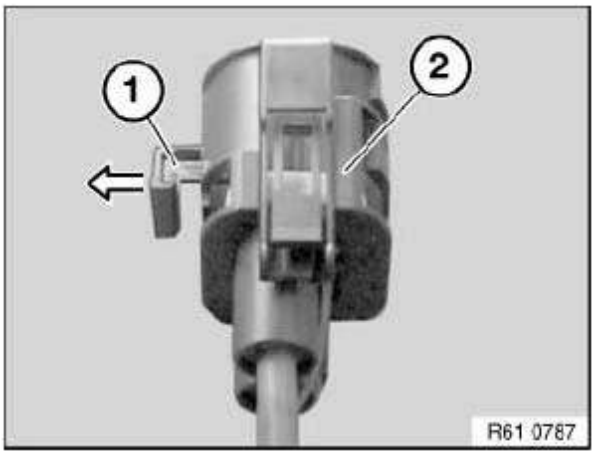


Fig. 46: Pulling Lock Out Of Socket Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Insert special tool **61 0 317** into socket housing (1) and pull out wiring with LCC contact (2) in direction of arrow.

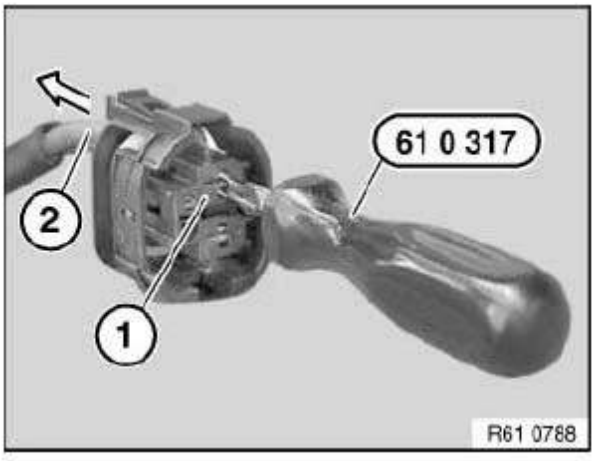


Fig. 47: Inserting Special Tool (61 0 317) Into Socket Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Pin housing:

Unlock locking slide (1) of pin housing (2) with suitable tool (3) in direction of arrow.

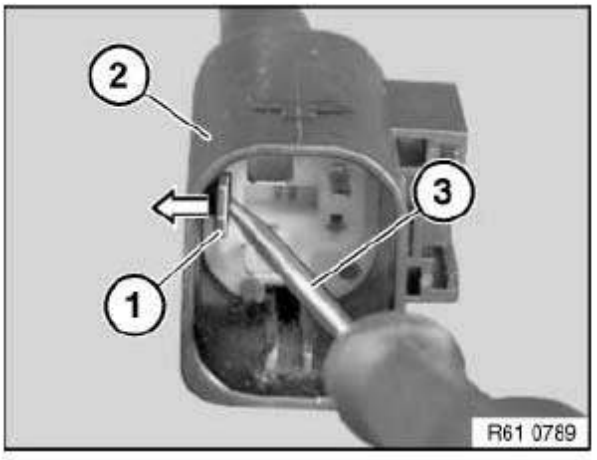


Fig. 48: Removing Locking Slide Of Pin Housing With Suitable Tool
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Insert special tool 61 0 317 into pin housing (1) and pull out wiring with LCC contact (2) in direction of arrow.

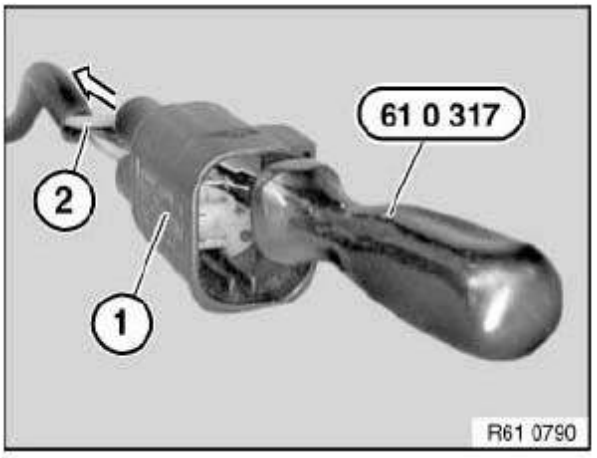


Fig. 49: Inserting Special Tool (61 0 317) Into Pin Housing
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CONTROL UNIT PLUGS, 25-, 35-, 55-, 83-, 88-PIN

Special tools required:

- 61 0 312
- 61 0 314
- 61 0 315
- 61 0 323

Release screws (1).

Lever out pin sensor (2) with gasket (3) in direction of arrow.

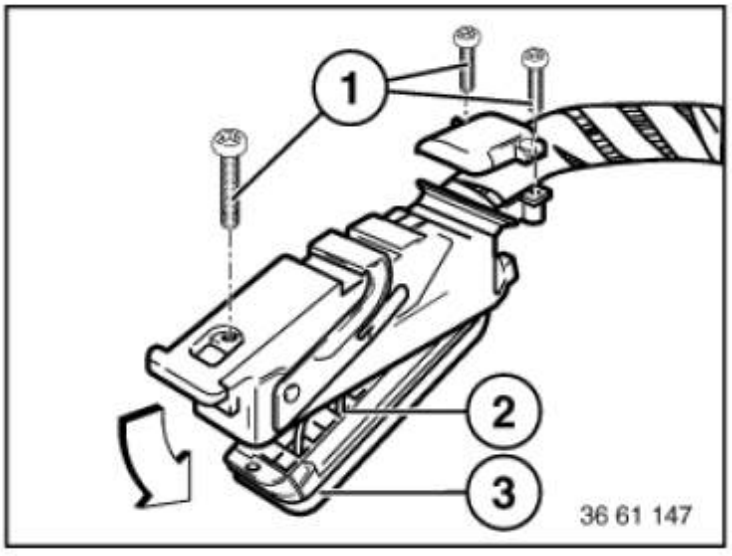


Fig. 50: Disconnecting Pin Sensor With Gasket
Courtesy of BMW OF NORTH AMERICA, INC.

Remove gasket (3).

Pull out housing lock (4) in direction of arrow and unlock.

cardiagn.com

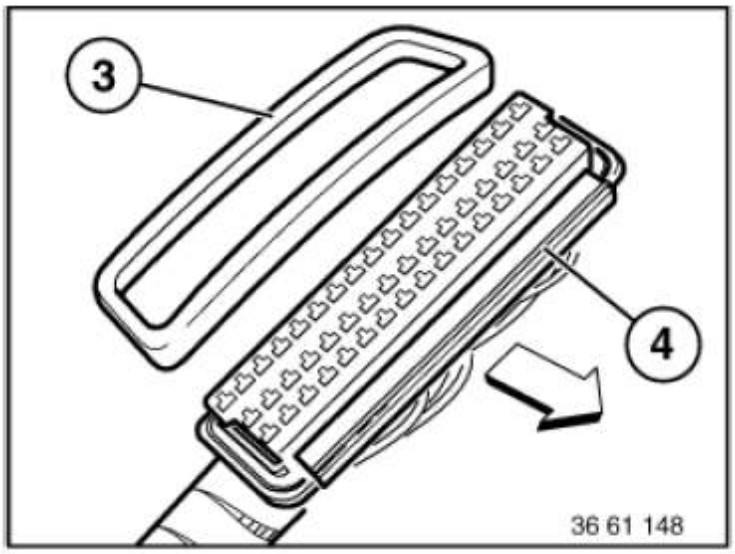


Fig. 51: Pulling Out Housing Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Press down retaining hook (5) of corresponding contact and pull out cable with contact.

Special tool **61 0 312** (61 1 134) for mini flat spring contacts.

Special tool **61 0 314** (61 1 135) for mini flat spring contacts.

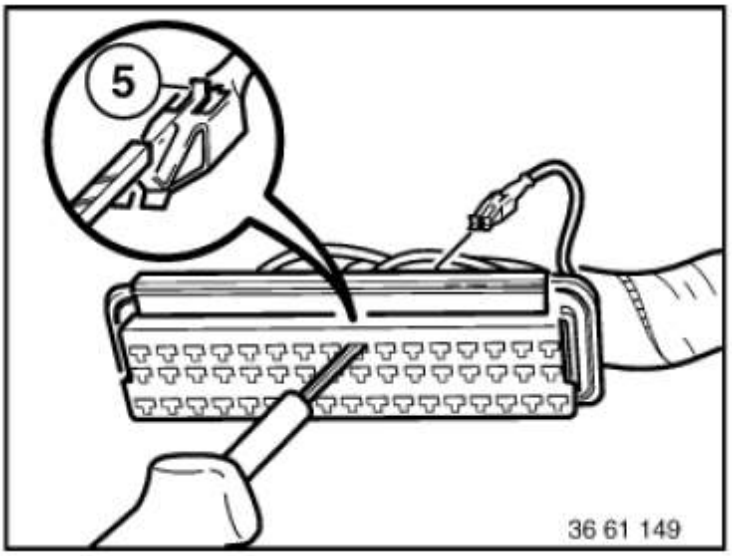


Fig. 52: Pressing Down Retaining Hook Of Corresponding Contact
Courtesy of BMW OF NORTH AMERICA, INC.

Special tool **61 0 315** (61 1 151) for double flat spring contacts (dual retaining hooks).

cardiagn.com

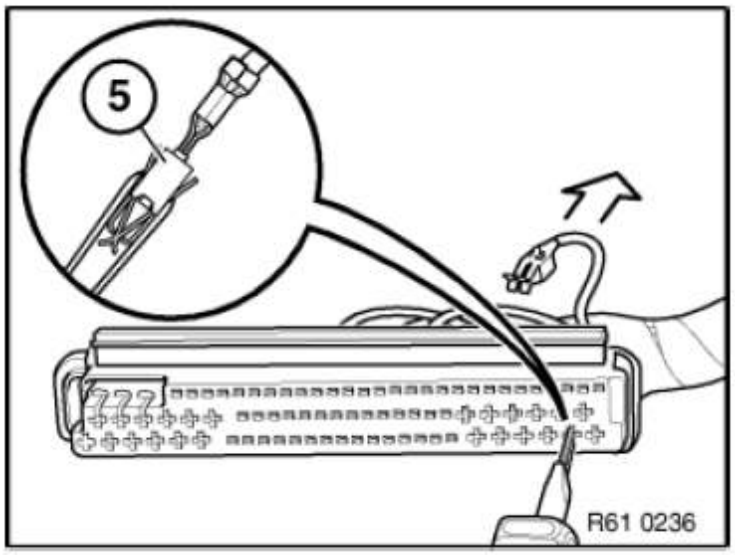


Fig. 53: Pressing Double Flat Spring Contacts Using Special Tool 61 0 315
Courtesy of BMW OF NORTH AMERICA, INC.

Special tool **61 0 323** (61 1 152) for double flat spring contacts (special retaining hook).

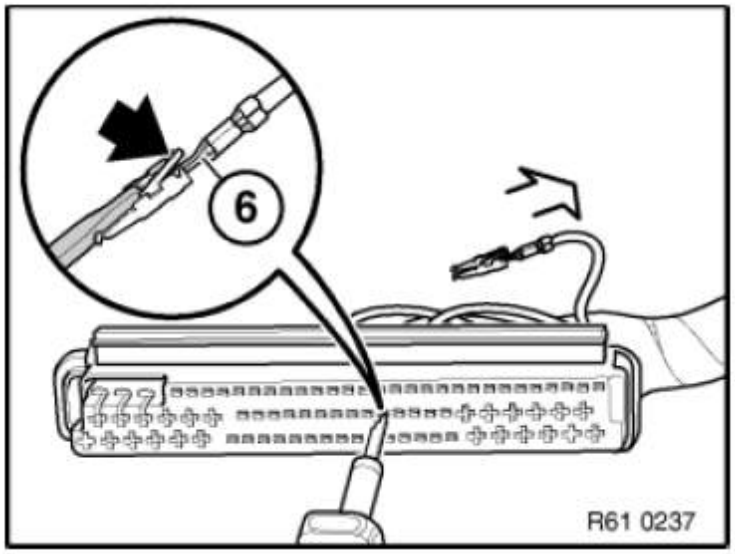


Fig. 54: Pressing Retaining Hook Contacts Using Special Tool 61 0 315
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CRIMPING MICRO POWER QUADLOCK CONTACTS (MPQ)

Special tools required:

- **61 4 320**

To crimp MPQ contacts, use hand pliers 61 4 321 (1) in conjunction with crimping head 61 4 325 (2) from crimping set **61 4 320** .

NOTE: **Hand pliers (1) open automatically until limit position when handles are pressed together.**

cardiagn.com

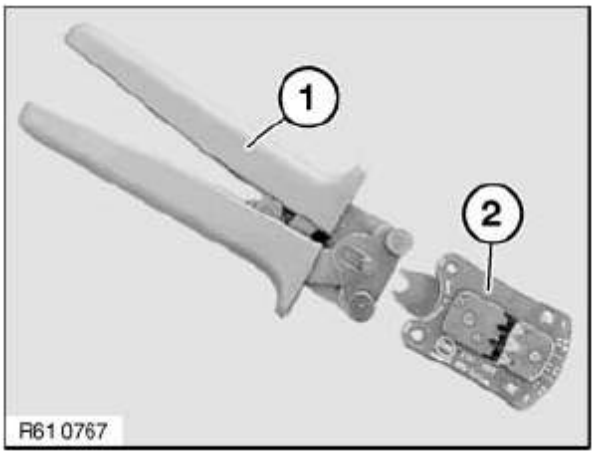


Fig. 55: Identifying Hand Pliers With Crimping Head (61 4 325)
Courtesy of BMW OF NORTH AMERICA, INC.

Open hand pliers (1).

NOTE: Place contact (2) with utmost care in designated nest (observe line cross-section) in crimping head (3). Make sure it is exactly positioned.

Place MPQ contact (2) in crimping head (3).

Close hand pliers (1) one notch.

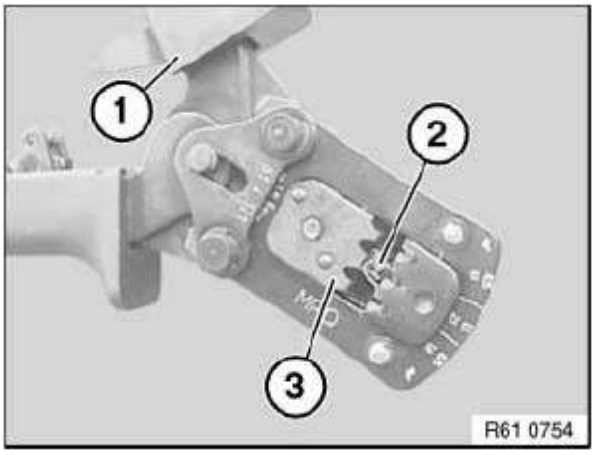


Fig. 56: Identifying Hand Pliers With Crimping Head And MPQ Contact
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Follow procedure for CUTTING AND STRIPPING INSULATION from cables.

Insert stripped cable (2).

Close hand pliers (1) fully.

Open hand pliers (1) and remove cable (2).

IMPORTANT: Check contact for correct crimping.

cardiagn.com

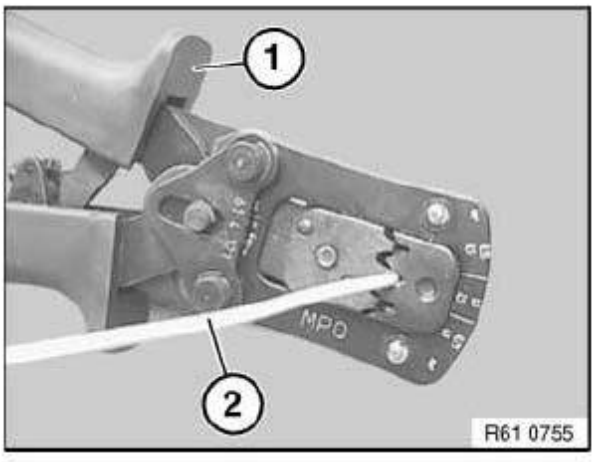


Fig. 57: Identifying Cable And Pliers
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CRIMPING MICRO QUADLOCK SYSTEM CONTACTS (MQS)

Special tools required:

- 61 4 320

To crimp MPQ contacts, use hand pliers 61 4 321 (1) in conjunction with crimping head 61 4 324 (2) from crimping set 61 4 320 .

NOTE: **Hand pliers (1) open automatically until limit position when handles are pressed together.**

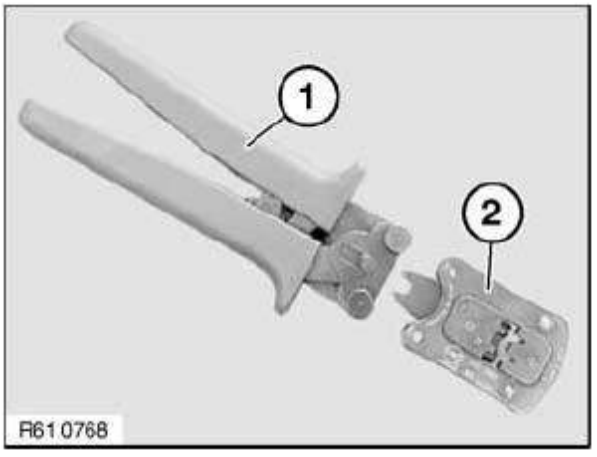


Fig. 58: Identifying Hand Pliers With Crimping Head (61 4 324)
Courtesy of BMW OF NORTH AMERICA, INC.

Open hand pliers (1).

Fold up contact carrier (2).

Insert MQS contact (3) in contact carrier (2).

Fold back contact carrier (2).

cardiagn.com

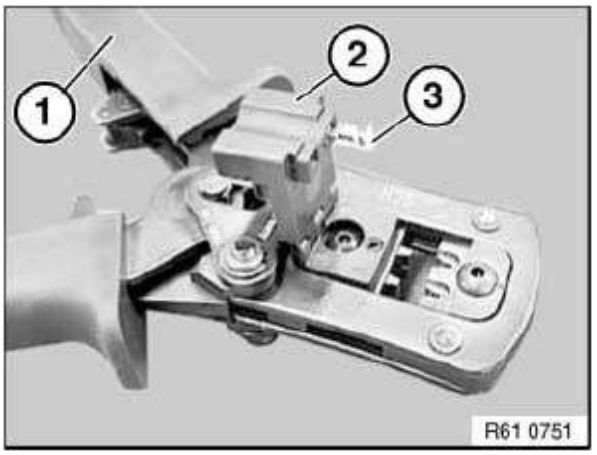


Fig. 59: Identifying MQS Contact And Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Follow procedure for CUTTING AND STRIPPING INSULATION from cables.**

Close hand pliers (1) one notch.

Insert stripped cable (2).

Close hand pliers (1) fully.

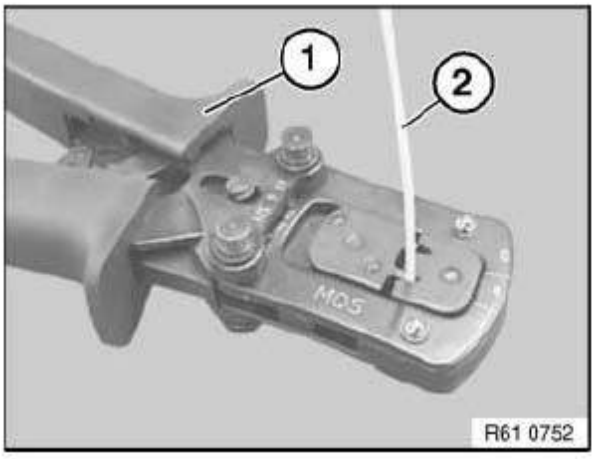


Fig. 60: Inserting Stripped Cable
Courtesy of BMW OF NORTH AMERICA, INC.

Open hand pliers (1).

Open contact carrier (2) gently and carefully remove MQS contact.

IMPORTANT: Check contact for correct crimping.

cardiagn.com

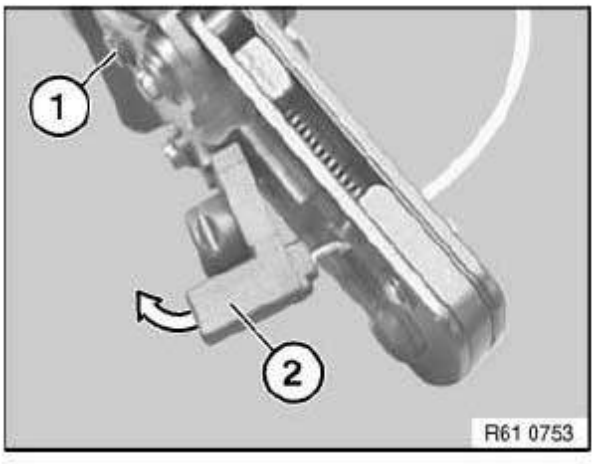


Fig. 61: Opening Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CRIMPING ANNULAR CONTACTS

Special tools required:

- 61 4 320

Crimping annular contacts:

Special tool 61 4 320

61 13... CRIMPING OPTICAL FIBRES

Special tools required:

- 61 4 320

To crimp optical fibres, use hand pliers 61 4 321 (1) in conjunction with crimping head 61 4 323 (2) from crimping set 61 4 320 .

NOTE: **Hand pliers (1) open automatically until limit position when handles are pressed together.**

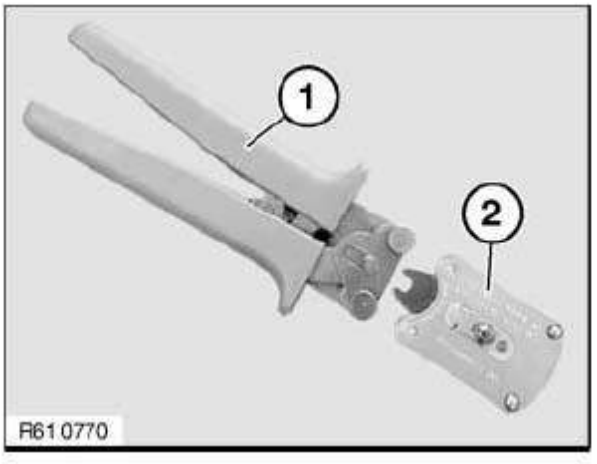


Fig. 62: Identifying Hand Pliers With Crimping Head (61 4 323)
Courtesy of BMW OF NORTH AMERICA, INC.

Move contact guide by means of stop lever (1) into corresponding position (pin contact or jack).

cardiagn.com

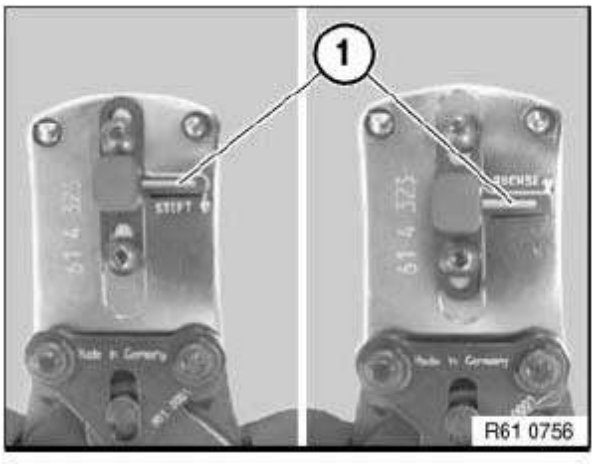


Fig. 63: Identifying Stop Lever
Courtesy of BMW OF NORTH AMERICA, INC.

Open hand pliers (2).

Place pin contact or jack (1) in crimping head and secure with locking lever (3).

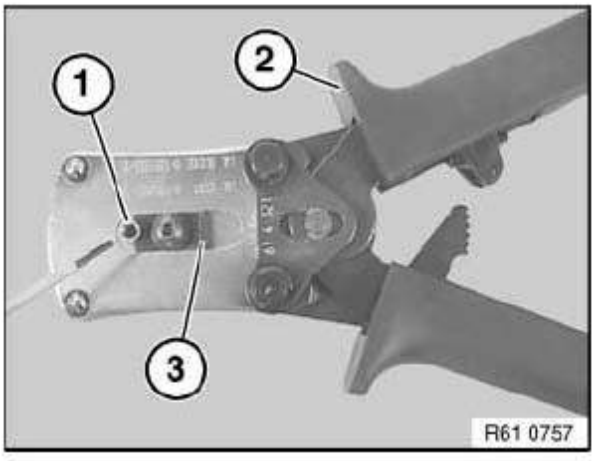


Fig. 64: Opening Hand Pliers
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Follow procedure for CUTTING AND STRIPPING INSULATION FROM OPTICAL FIBRES.**

Insert stripped optical fibre(1) until limit position into pin contact or jack (2).

Close hand pliers (3) fully.

Open hand pliers (3) and locking lever (4).

Remove optical fibre (1).

cardiagn.com

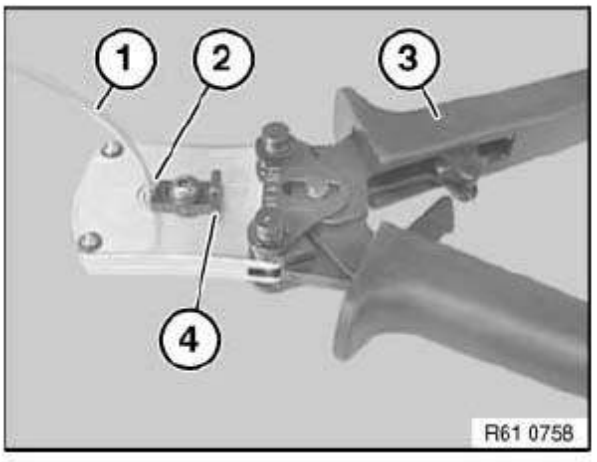


Fig. 65: Opening Hand Pliers And Locking Lever
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Make sure optical fibre is correctly seated in jack.

Right (A)

End of optical fibre (1) must be flush with tip of pin contact (2).

Wrong (B)

End of optical fibre (1) is not flush with tip of pin contact (2).

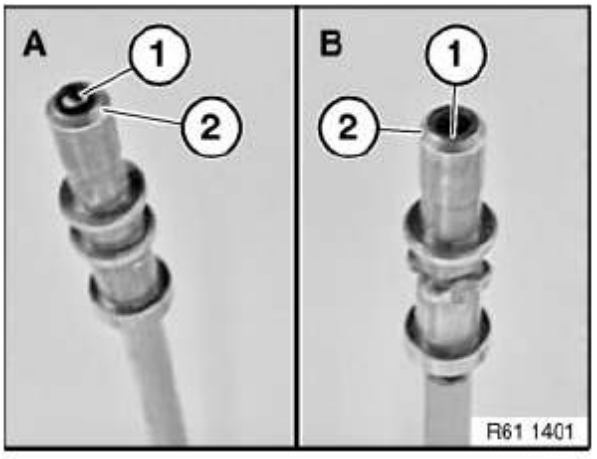


Fig. 66: Identifying Optical Fibre End
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CRIMPING STOP PARTS

Special tools required:

- 12 1 080
- 12 1 081
- 12 1 083

1. **Crimping butt connectors and contact sleeves for comb connectors up to 2.5 mm**
2. **Crimping butt connectors and contact sleeves for comb connectors larger than 2.5 mm 2**
3. **Crimping contact sleeves for 4 mm^2 comb connectors and ignition cable contacts**

Use special tool kit 12 1 080 to attach ignition cable contacts and crimp 4 mm^2 contact sleeves for comb

cardiagn.com

connectors.

- 12 1 081 (hand pliers)
- 12 1 083 (nest)

See repair instructions

Special tools for wiring harness repairs.

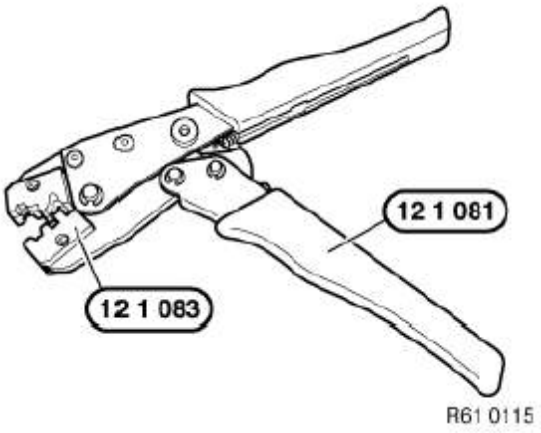


Fig. 67: Identifying Special Tools (12 1 081) And (12 1 083)
Courtesy of BMW OF NORTH AMERICA, INC.

Release special tool 12 1 081 :

Squeeze grips (1) lightly and push release lever (2) in direction of arrow.

Or:

Compress handles until limit position, hand pliers unlock automatically.

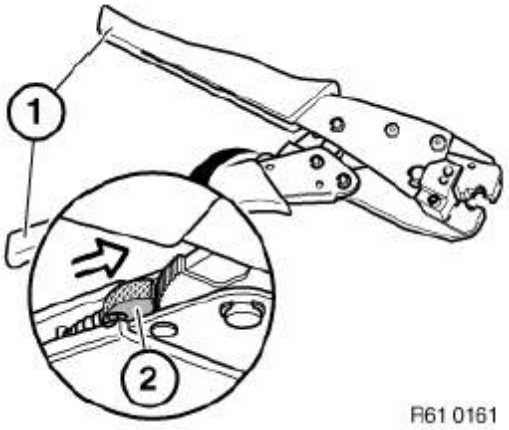


Fig. 68: Pushing Release Lever
Courtesy of BMW OF NORTH AMERICA, INC.

Place 4 mm^2 contact sleeve in nest with anti-twist safeguard (1) as far as possible.

cardiagn.com

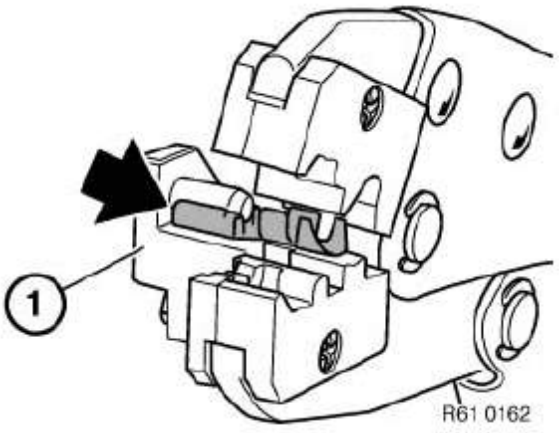


Fig. 69: Locating Contact Sleeve With Anti-Twist Safeguard
Courtesy of BMW OF NORTH AMERICA, INC.

Preload contact by squeezing matrix in crimping tool. Grip contact (1) firmly only, do not crimp.

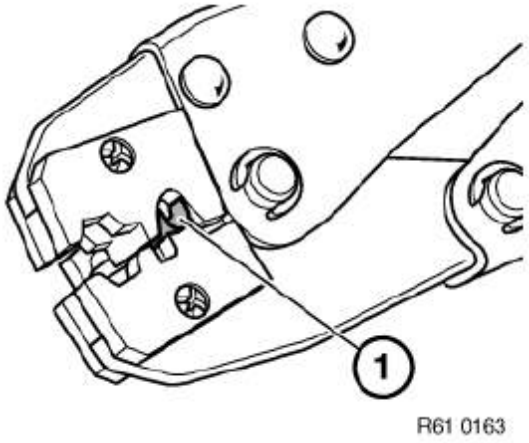


Fig. 70: Identifying Grip Contact
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Follow procedure for cutting and stripping insulation from cables.

Insert stripped end of wire (7) in the contact. Ensure insulation and stripped wire end are correctly laid in contact.

Compress crimping tool to limit position.

Crimping tool unlocks automatically.

Take contact out of crimping tool.

cardiagn.com

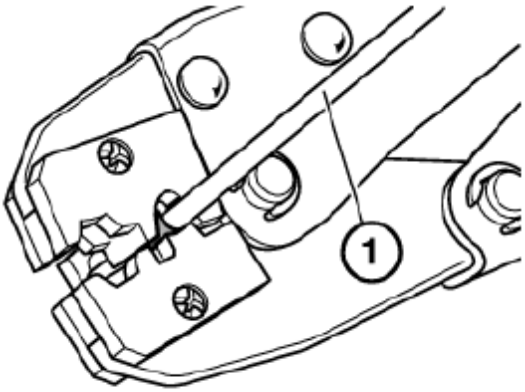


Fig. 71: Inserting Stripped End Of Wire In Contact
Courtesy of BMW OF NORTH AMERICA, INC.

4. **Checking crimping**

Check insulation crimping (8) and wire crimp (9) against following illustrations to ensure crimps are correctly located.

NOTE: Illustration shows butt connectors and contact sleeves for comb connectors knocked on one side. The crimping procedure is identical here.

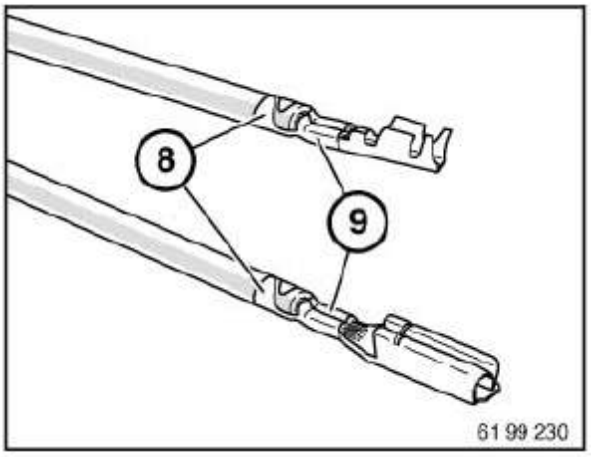


Fig. 72: Checking Insulation Crimping And Wire Crimp
Courtesy of BMW OF NORTH AMERICA, INC.

Correct crimping:

Visible conductor end (10).

Visible insulation end (11).

cardiagn.com

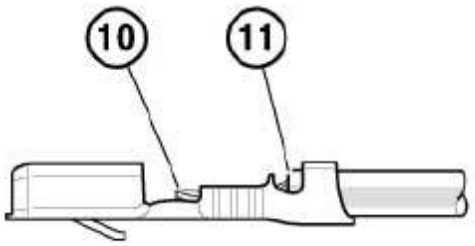


Fig. 73: Identifying Visible Conductor And Insulation End (Correct Crimping)
Courtesy of BMW OF NORTH AMERICA, INC.

Incorrect crimping:

Conductor end (10) inserted too far.

Insulation end (11) in wire crimp.

If necessary, repeat crimping with a new contact.

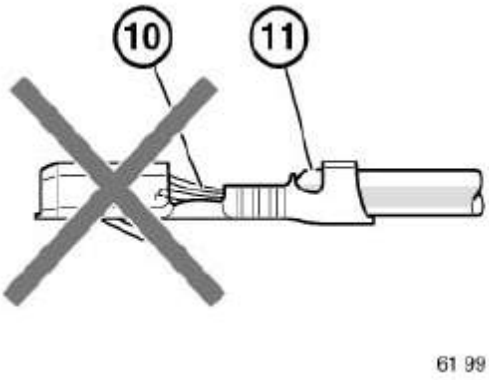


Fig. 74: Identifying Visible Conductor And Insulation End (Incorrect Crimping)
Courtesy of BMW OF NORTH AMERICA, INC.

Incorrect crimping:

Conductor end (10) not visible.

Insulation end (11) not visible.

If necessary, repeat crimping with a new contact.

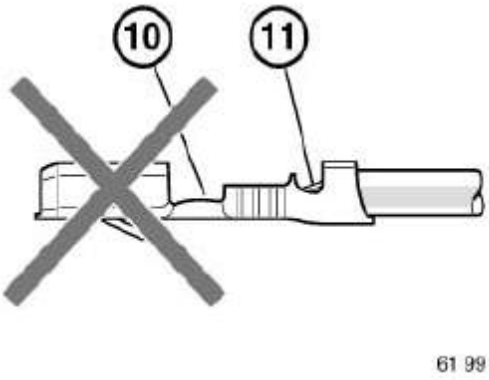


Fig. 75: Identifying Visible Conductor And Insulation End (Incorrect Crimping)

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CRIMPING STOP PARTS

Special tools required:

- 61 4 320
- 61 4 340
- 61 0 210
- 61 0 220
- 61 0 230

Necessary preliminary tasks:

- Notes for opening contacts and locks of different connector systems.
- CUTTING CABLES TO LENGTH AND STRIP INSULATION

Special tools for wiring harness repair.

1. **Crimping stops up to 2.5 mm ^{2}**

   Crimping MICRO QUADLOCK SYSTEM CONTACTS (MQS).

   - Special tool 61 4 320

   Crimping MICRO POWER QUADLOCK CONTACTS (MPQ).

   - Special tool 61 4 320

   Crimping miscellaneous stop parts up to 2.5 mm^2

   - Special tool 61 4 340 (up to 03/2010 SWZ 61 4 328)

2. **Crimping stops from to 2.5 mm ^{2}**

   Crimping load current contacts (LSK 8).

   - Special tool 61 0 210

   Crimping SLK 2.8.

   - Special tool 61 0 220

   Crimping double spring contact (DFK 40)

   Crimping MAK 8

   - Special tool 61 0 230

Checking crimping

Check insulation crimping (8) and wire crimp (9) against following illustrations to ensure crimps are correctly located.

NOTE: **Illustration shows butt connectors and contact sleeves for comb connectors knocked on one side. The crimping procedure is identical here.**

cardiagn.com

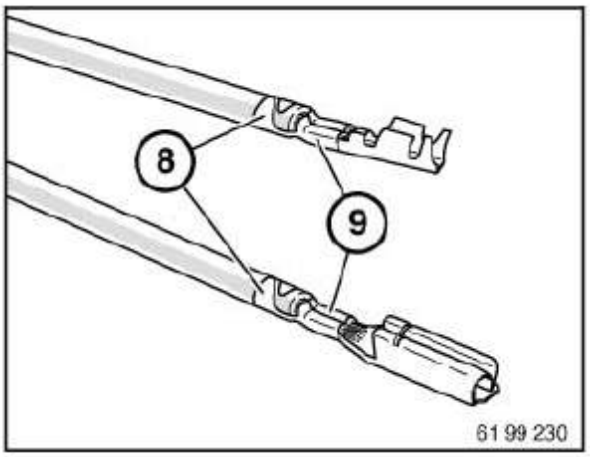


Fig. 76: Checking Insulation Crimping And Wire Crimp
Courtesy of BMW OF NORTH AMERICA, INC.

Correct crimping:

Visible conductor end (10).

Visible insulation end (11).

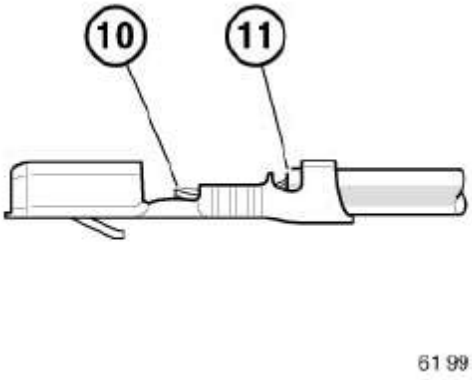


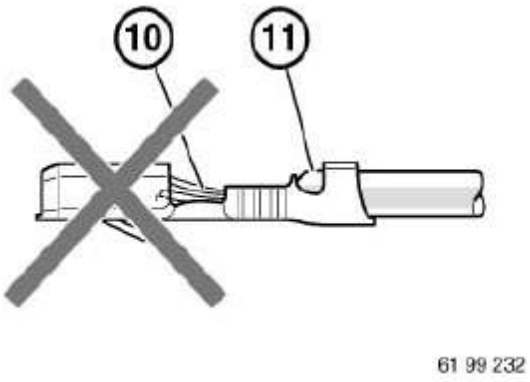
Fig. 77: Identifying Visible Conductor And Insulation End (Correct Crimping)
Courtesy of BMW OF NORTH AMERICA, INC.

Incorrect crimping:

Conductor end (10) inserted too far.

Insulation end (11) in wire crimp.

If necessary, repeat crimping with a new contact.



cardiagn.com

Fig. 78: Identifying Visible Conductor And Insulation End (Incorrect Crimping)
Courtesy of BMW OF NORTH AMERICA, INC.

Incorrect crimping:

Conductor end (10) not visible.

Insulation end (11) not visible.

If necessary, repeat crimping with a new contact.

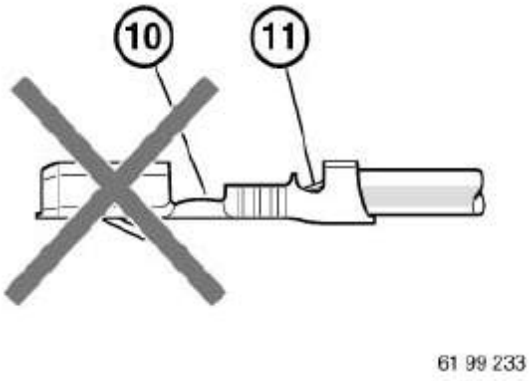


Fig. 79: Identifying Visible Conductor And Insulation End (Incorrect Crimping)
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CUTTING OFF, STRIPPING INSULATION AND CUTTING OPTICAL FIBRES TO LENGTH

Special tools required:

- 61 4 320

To cut off, strip insulation and cut optical fibres to length, use hand pliers 61 4 321 (1) in conjunction with crimping head 61 4 322 (2) from crimping set 61 4 320 .

NOTE: Hand pliers (1) open automatically until limit position when handles are pressed together.

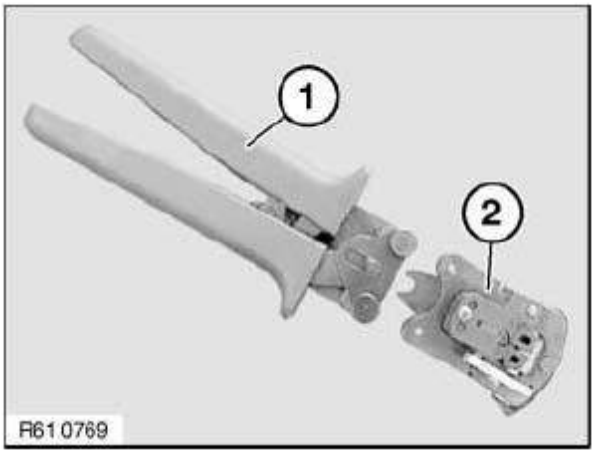


Fig. 80: Identifying Hand Pliers
Courtesy of BMW OF NORTH AMERICA, INC.

Cutting optical fibre

Open hand pliers (1).

cardiagn.com

Place optical fibre (2) in cutting device (3).

Close pliers (1) and remove optical fibre (2).

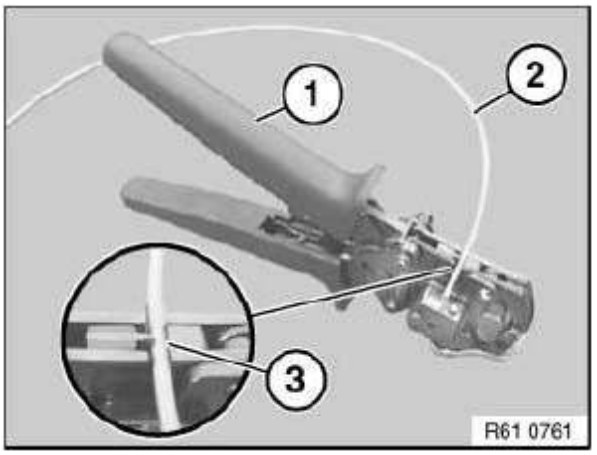


Fig. 81: Cutting Optical Fibre
Courtesy of BMW OF NORTH AMERICA, INC.

Stripping insulation from optical fibre

Open hand pliers (1).

Open lever (2) in direction of arrow.

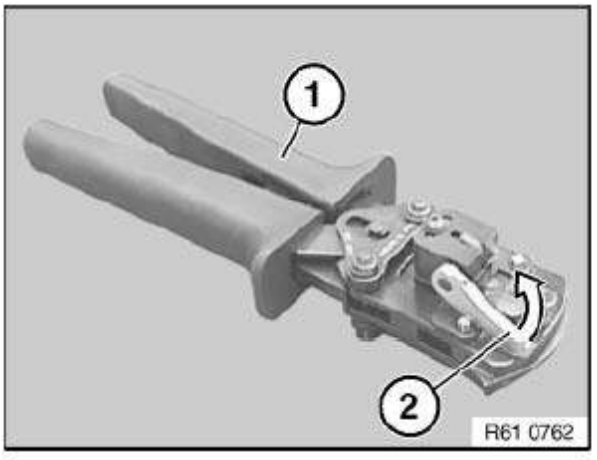


Fig. 82: Removing Insulation From Optical Fibre
Courtesy of BMW OF NORTH AMERICA, INC.

Slide optical fibre (1) into stripping device (2) until flush at point (3).

Close hand pliers (4) fully.

Close clamping lever (5) in direction of arrow.

Open hand pliers (4) by one tooth notch.

Open clamping lever (5) against direction of arrow again and remove optical fibre (1).

NOTE: A stripping replacement blade set is available under number 61 4 327.

cardiagn.com

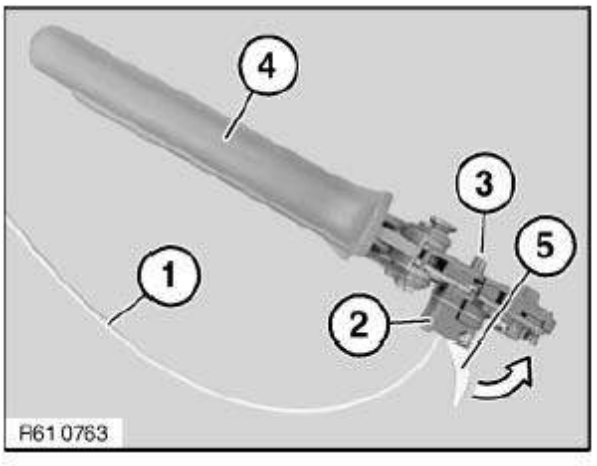


Fig. 83: Sliding Optical Fibre Into Stripping Device
Courtesy of BMW OF NORTH AMERICA, INC.

Cutting optical fibre to length

IMPORTANT: The cutting blade must be replaced prior to each cutting of the optical fibre.

Pull pin (1) in direction of arrow.

Fold up blade retaining link (2) in direction of arrow.

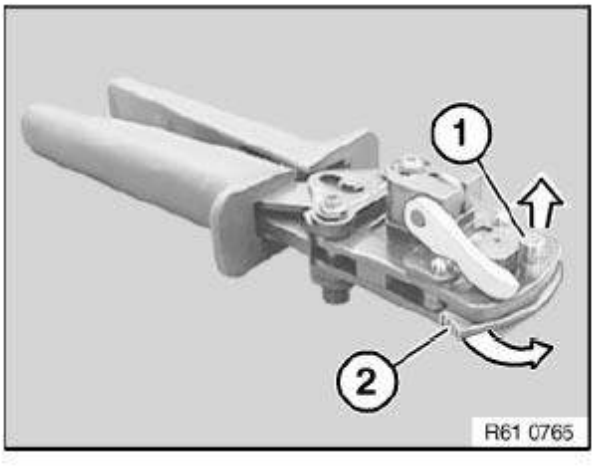


Fig. 84: Folding Blade Retaining Link
Courtesy of BMW OF NORTH AMERICA, INC.

WARNING: Danger of injury when changing the blade.

Remove blade (1) and replace.

Installation note:

Make sure blade (1) is correctly seated on locating points (2).

cardiagn.com

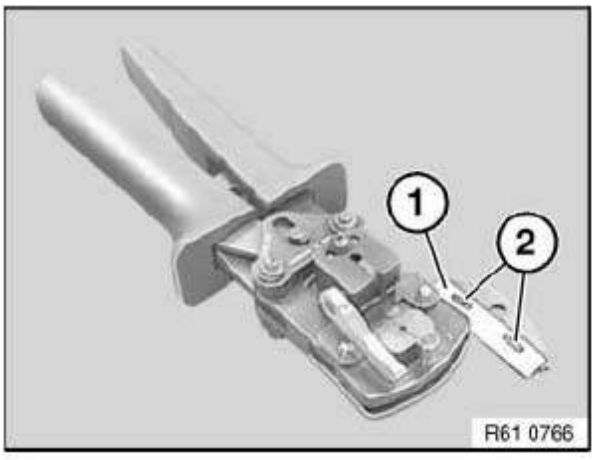


Fig. 85: Removing Blade
Courtesy of BMW OF NORTH AMERICA, INC.

Open hand pliers (3).

Slide optical fibre (1) into cutting device (2) until insulation of optical fibre (1) butts against clamping fixture.

Close hand pliers (3) fully and keep closed.

Remove optical fibre (1).

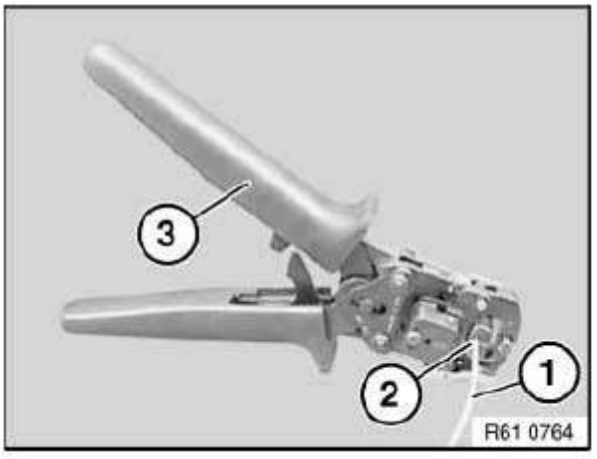


Fig. 86: Sliding Optical Fibre Into Cutting Device
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... CUTTING TO LENGTH AND STRIPPING INSULATION FROM CABLES

Stripped length:

Wire cross-section (mm^2)	Stripped length (mm)
0, 35... 0, 50	4, 0
0, 75... 1, 00	4, 5
1, 00... 2, 50	5, 0

61 13... IN-LINE CONNECTORS, 30-PIN, HYBRID SYSTEM MQS/MPQ

Manufactured by AMP: The following contact types without strand sealing can be fitted in the connector housings:

- MQS (Micro Quadlock System)

cardiagn.com

- MPQ, width 2.8 mm (Micro Power Quadlock)
- MPQ, width 5.2 mm (Micro Power Quadlock)

Socket housing:

Raise lock (1) on housing (2).

Push contact carrier (3) out of housing (2).

NOTE: Pushing out the contact carrier releases the secondary locks of the socket contacts.

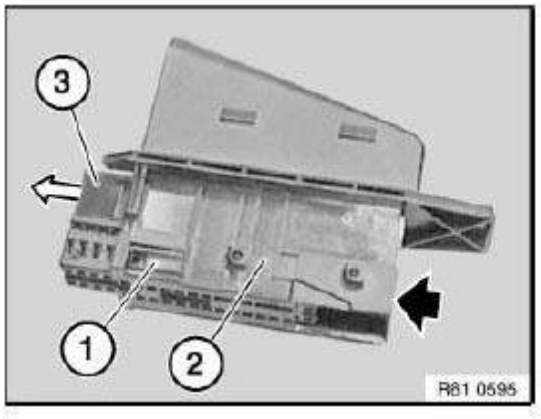


Fig. 87: Pushing Contact Carrier Out Of Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook (1) of socket contact in opening of contact carrier with a small screwdriver.

Pull wire with socket contact in direction of arrow as far as secondary lock (2).

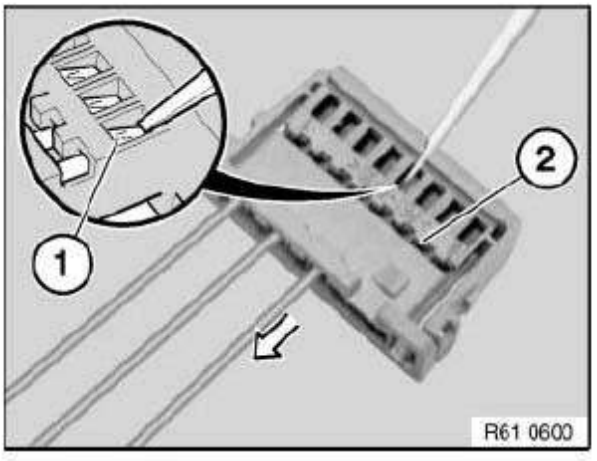


Fig. 88: Pulling Wire With Socket Contact
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook in secondary lock (1) again and pull cable with socket contact (2) completely out of contact carrier (3).

cardiagn.com

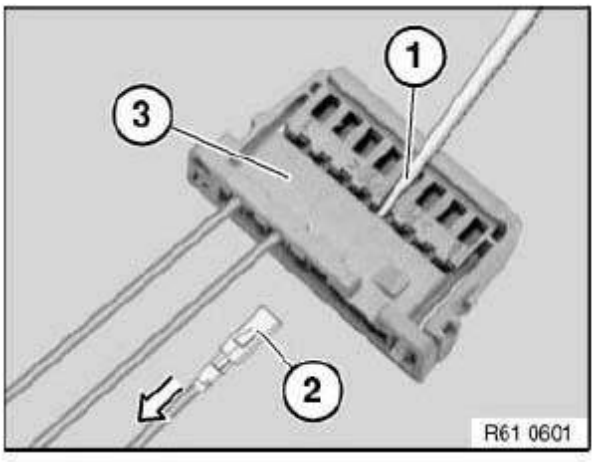


Fig. 89: Pulling Cable With Contact Completely Out Of Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

Pin housing:

Contacts 1... 13 and 19... 27:

Raise locking slide (1) on both sides (2) of housing and detach.

NOTE: Detaching the locking slide releases the secondary locks of the pin contacts.

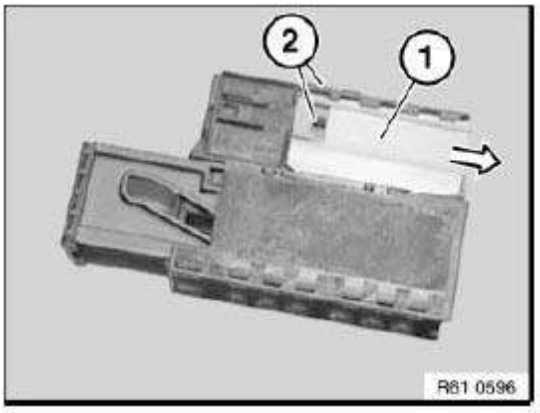


Fig. 90: Removing Pin Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Contacts 14... 18 and 28... 30:

Pull slide (1) outwards completely.

Raise lock (2) on housing.

Pull contact carrier (3) out of housing.

NOTE: Pulling out the contact carrier releases the secondary locks of the pin contacts.

cardiagn.com

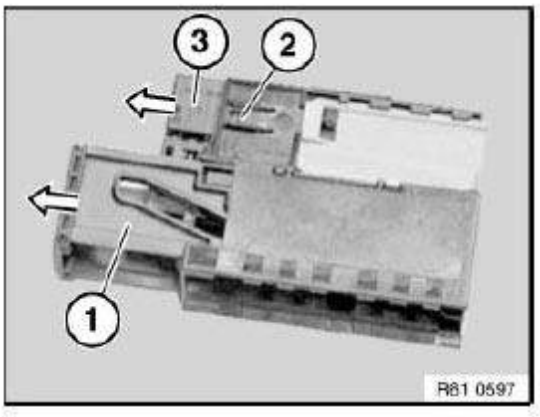


Fig. 91: Pulling Contact Carrier Out Of Housing
Courtesy of BMW OF NORTH AMERICA, INC.

The pin contacts are pulled out of a contact carrier as described under "Socket housing".

61 13... IN-LINE CONNECTORS, 30-PIN, SYSTEM D2.5

Special tools required:

- 61 0 303

Carefully pull external connector (1) in area of retaining lugs (2) apart slightly.

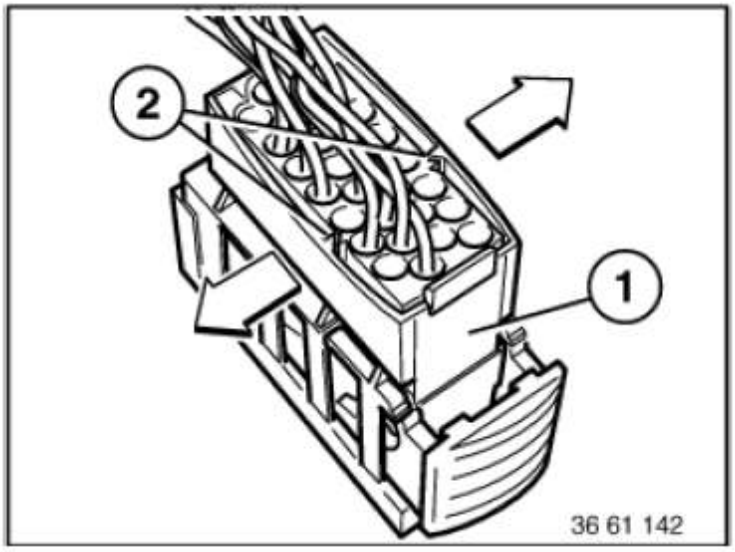


Fig. 92: Pulling External Connector Area Of Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Pull internal connector (3) until limit position in direction of arrow.

cardiagn.com

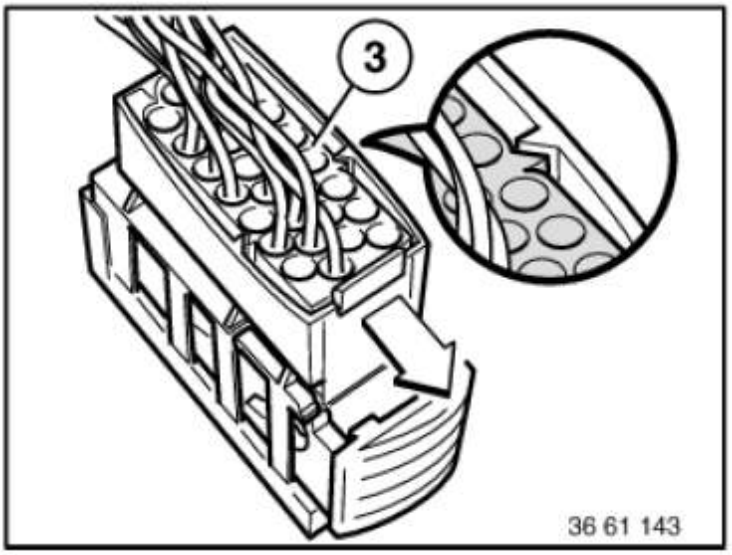


Fig. 93: Pulling Internal Connector
Courtesy of BMW OF NORTH AMERICA, INC.

With special tool **61 0 303** press back retaining hook(4) of corresponding contact and pull out cable with contact.

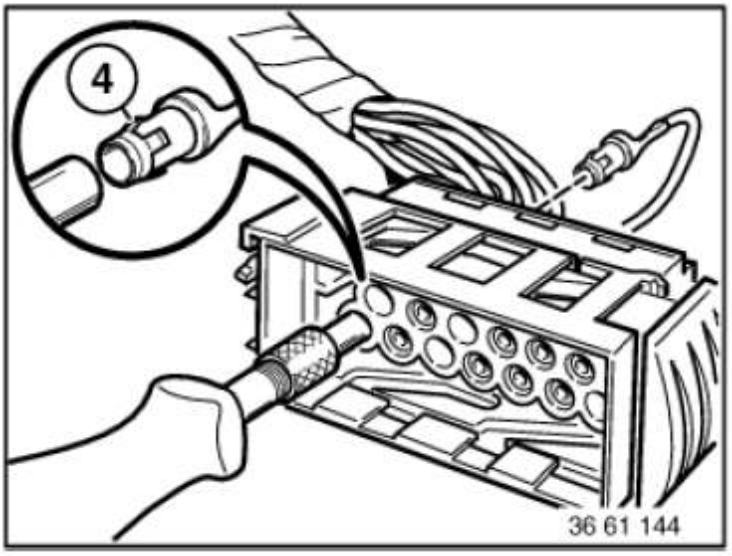


Fig. 94: Pressing Back Retaining Hook Using Special Tool (61 0 303)
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE PLUGS, 2- PIN, SYSTEM JPT ELA

Special tools required:

- **61 0 316**

Press lock (1) in direction of arrow and slide connector forward.

cardiagn.com

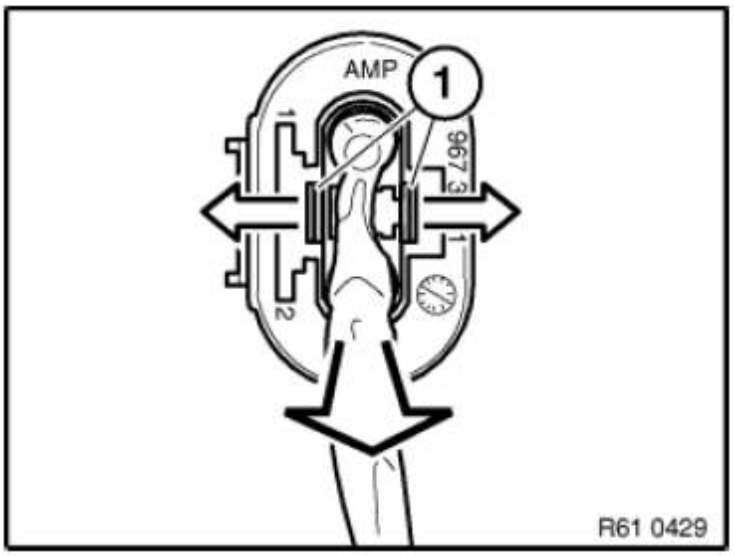


Fig. 95: Pressing Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Press lock (1) downward and slide out to one side.

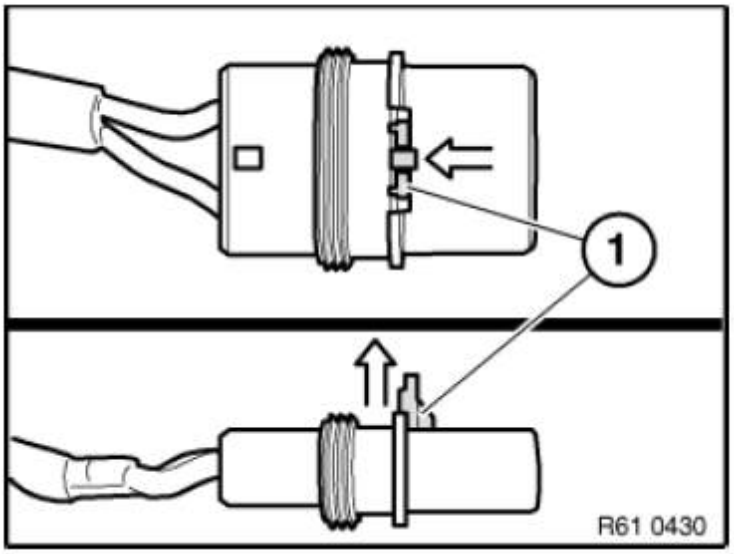


Fig. 96: Pressing Lock
Courtesy of BMW OF NORTH AMERICA, INC.

With special tool **61 0 316** (61 1 136), unlock contact and pull out cable with contact (1) towards rear.

cardiagn.com

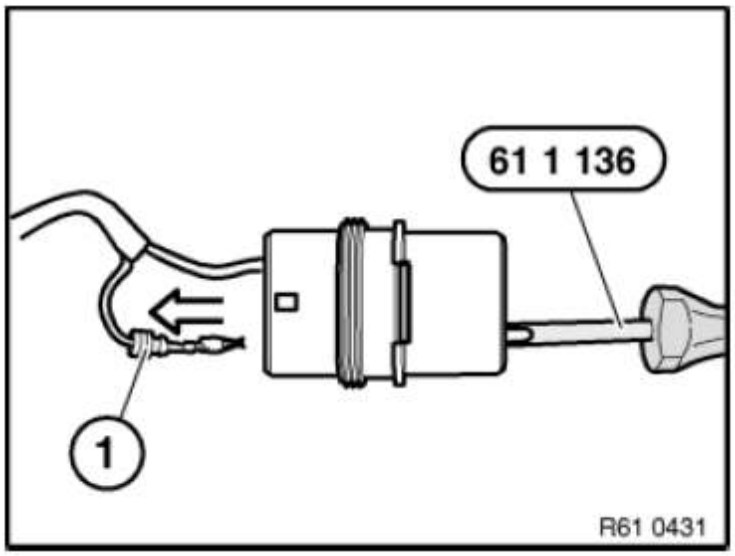


Fig. 97: Pulling Out Cable With Contact Using Special Tool (61 1 136)
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE PLUGS, 2- PIN, SYSTEM MDK 3 PLUS 2.8

Special tools required:

- **61 0 316**

Unlock lock (1) on outside at retaining hook and slide out lock (1) to side.

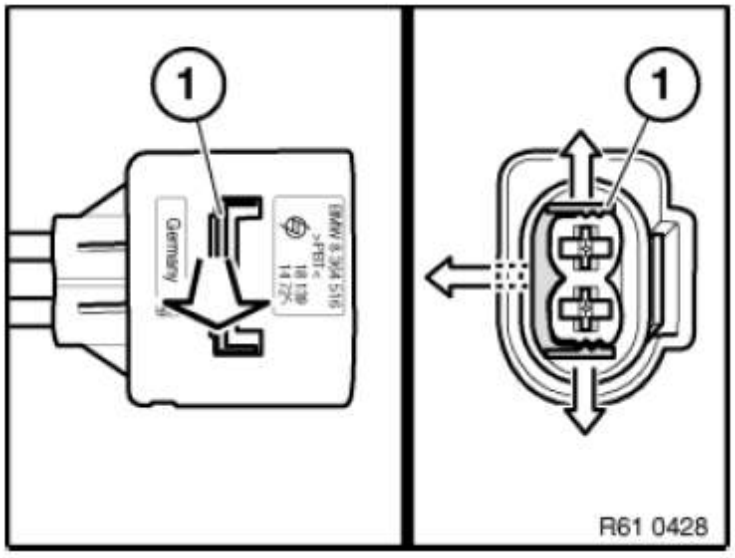


Fig. 98: Removing Lock
Courtesy of BMW OF NORTH AMERICA, INC.

With special tool **61 0 316** (61 1 136), unlock contact and pull out cable with contact (1) towards rear.

cardiagn.com

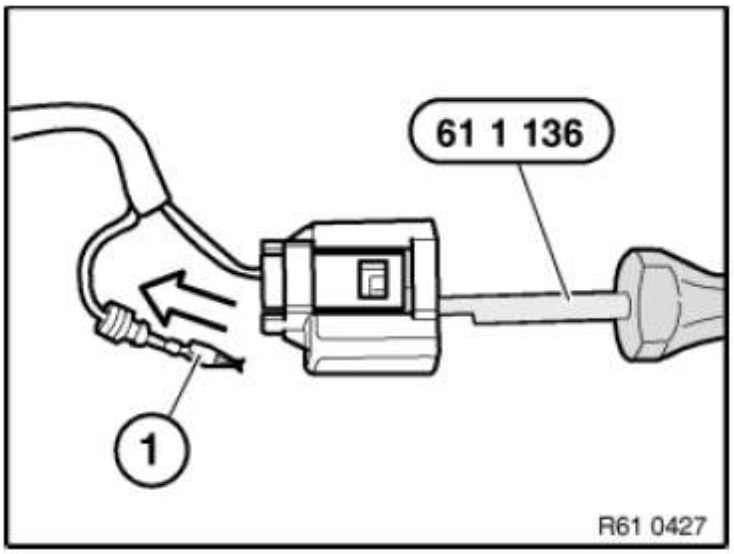


Fig. 99: Pulling Out Cable With Contact Using Special Tool (61 1 136)
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE PLUGS, 20- PIN, SYSTEM D2.5

Special tools required:

- 61 0 303

Pull locking slide (1) out of connector (2).

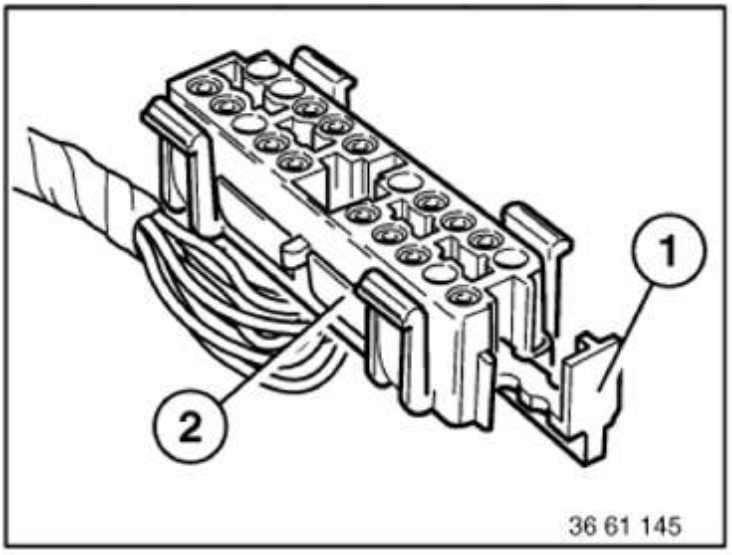


Fig. 100: Identifying Locking Slide Out Of Connector
Courtesy of BMW OF NORTH AMERICA, INC.

With special tool 61 0 303 , press down retaining hook (3) of corresponding contact and pull out cable with contact.

cardiagn.com

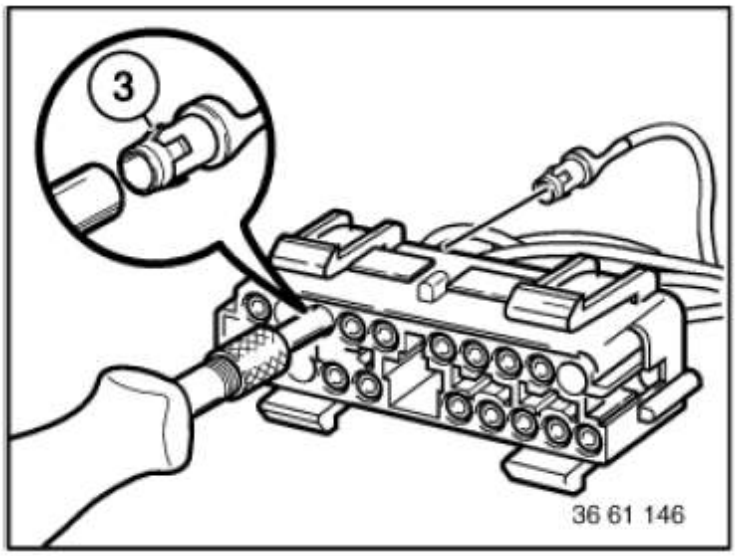


Fig. 101: Pressing Retaining Hook Using Special Tool (61 0 303)
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE PLUGS, 24- PIN, HYBRID SYSTEM MQS/MPQ

Manufactured by AMP: The following contact types without strand sealing can be fitted in the connector housings:

- MQS (Micro Quadlock System)
- MPQ, width 2.8 mm (Micro Power Quadlock)
- MPQ, width 5.2 mm (Micro Power Quadlock)

Socket housing:

Press locks (1) on protective cap (2) upwards on both sides.

Detach protective cap from contact carrier (3).

NOTE: Detaching the protective cap releases the secondary locks of the socket contacts.

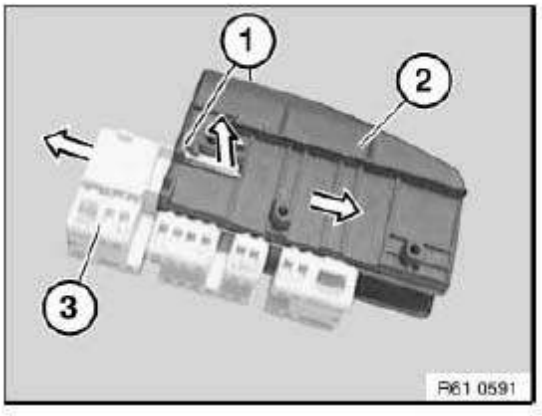


Fig. 102: Detaching Protective Cap From Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook (1) of socket contact in opening of contact carrier with a small screwdriver.

Pull wire with socket contact in direction of arrow as far as secondary lock (2).

cardiagn.com

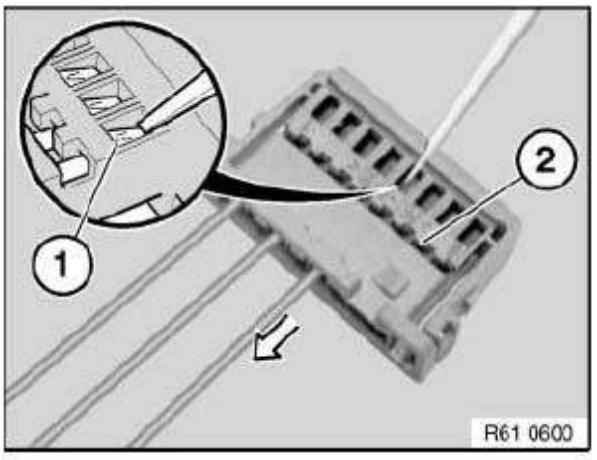


Fig. 103: Pulling Wire With Socket Contact
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook in secondary lock (1) again and pull cable with socket contact (2) completely out of contact carrier (3).

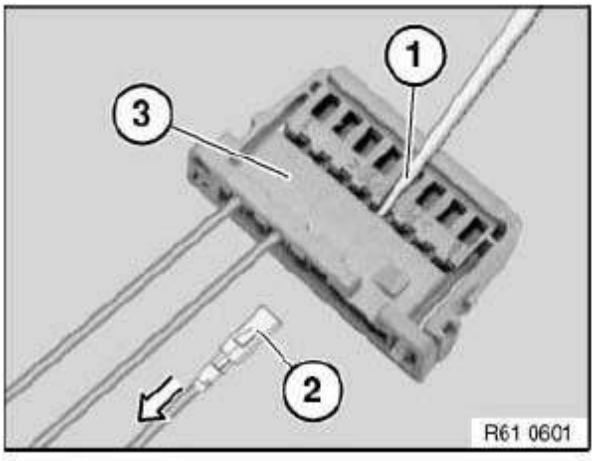


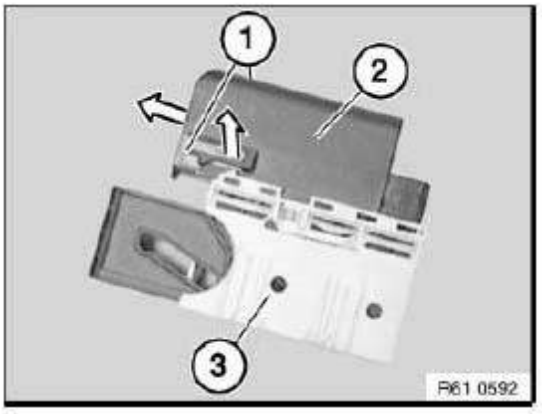
Fig. 104: Pulling Cable With Contact Completely Out Of Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

Pin housing:

Press locks (1) on protective cap (2) upwards on both sides.

Detach protective cap from housing carrier (3).

NOTE: Detaching the protective cap releases the secondary locks of the pin contacts in the contact carriers.



cardiagn.com

Fig. 105: Detaching Protective Cap From Housing Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

Pull contact carrier (1) out of housing carrier (2).

The pin contacts are pulled out of a contact carrier as described under "Socket housing".

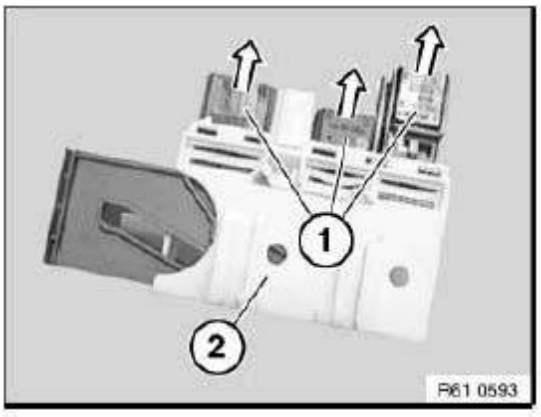


Fig. 106: Pulling Contact Carrier Out Of Housing Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE PLUGS, 4- PIN, SYSTEM DFK ELA

Special tools required:

- 61 0 316

Press retaining hook in direction of arrow and remove lock (1).

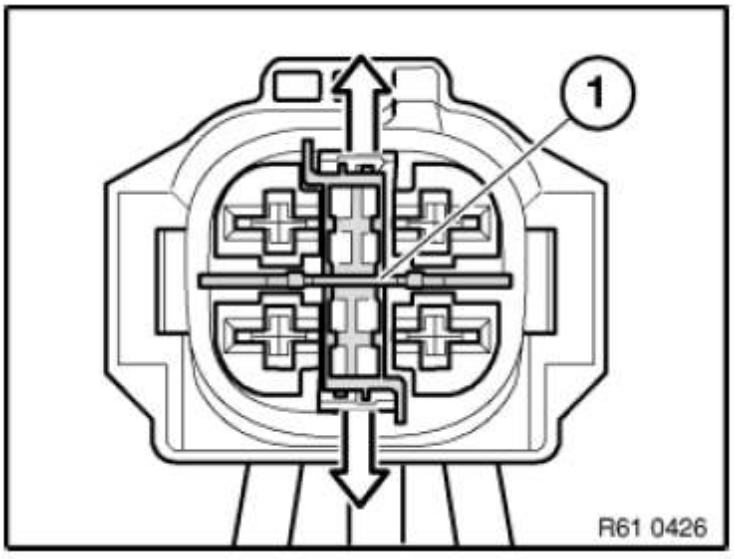


Fig. 107: Removing Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Installation notes:

If necessary, side lock must also be unlocked with screwdriver.

cardiagn.com

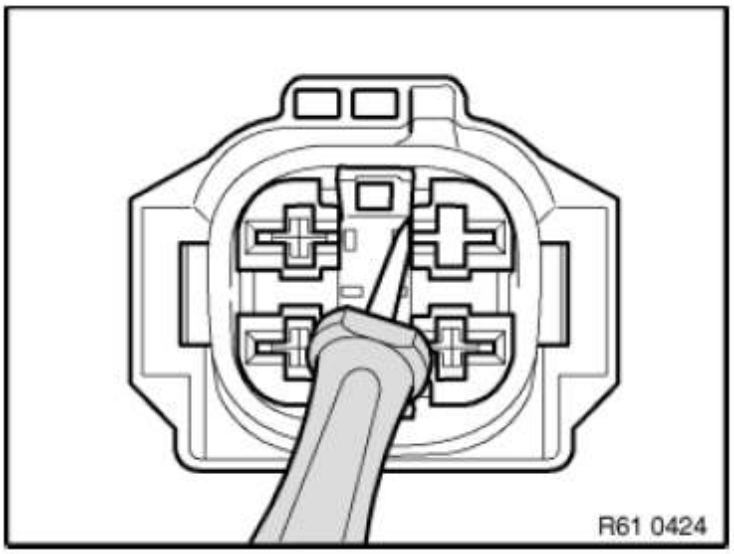


Fig. 108: Removing Side Lock Using Screwdriver
Courtesy of BMW OF NORTH AMERICA, INC.

With special tool **61 0 316** (61 1 136), unlock contact and pull out cable with contact (1) towards rear.

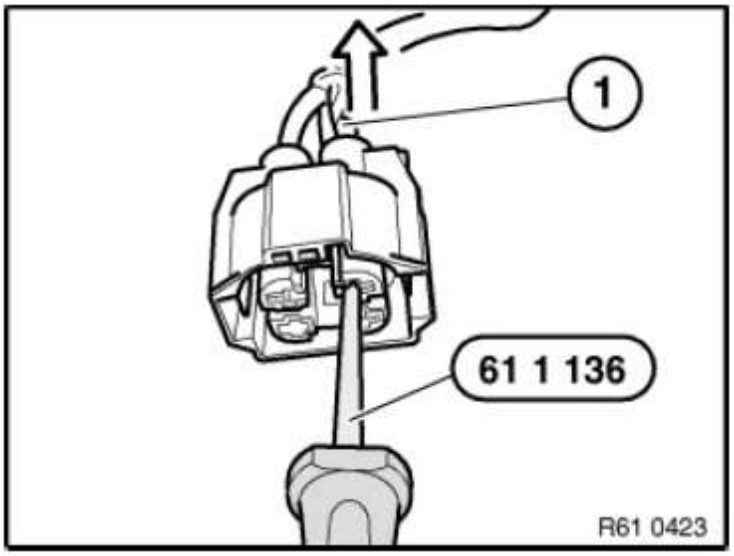
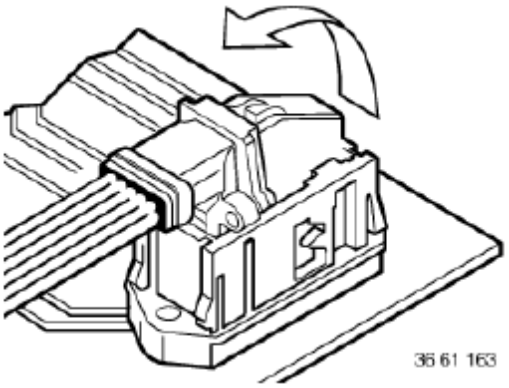


Fig. 109: Pulling Out Cable With Contact Towards Rear
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE PLUGS, 6- TO 50-PIN, SYSTEM ELO

Open lock.



cardiagn.com

Fig. 110: Opening Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Detach cable strap.

Installation note:

Cable strap must be reinstalled.

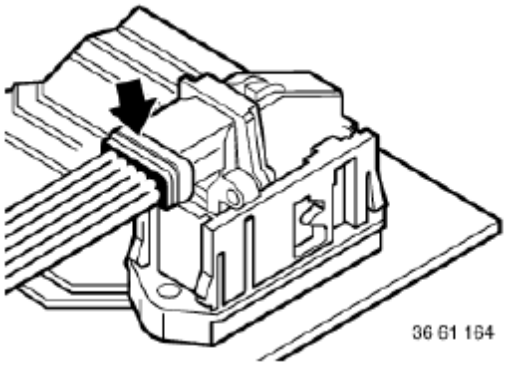


Fig. 111: Locating Cable Strap
Courtesy of BMW OF NORTH AMERICA, INC.

Detach catch (1) from connector housing (2).

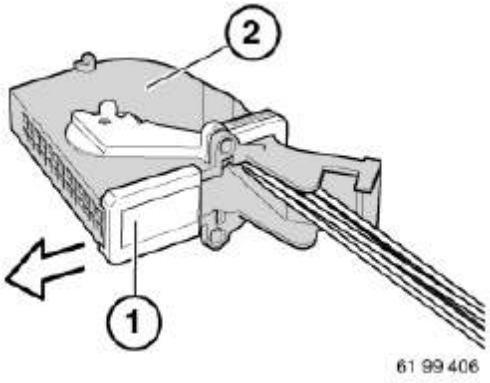


Fig. 112: Detaching Catch From Connector Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Press out contact carrier (3) with wiring harness (4) through opening (5).

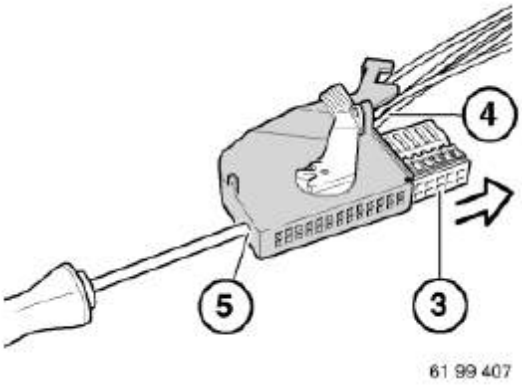


Fig. 113: Pressing Out Contact Carrier With Wiring Harness
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook (6) of defective contact and pull cable and contact up to secondary lock (8).

cardiagn.com

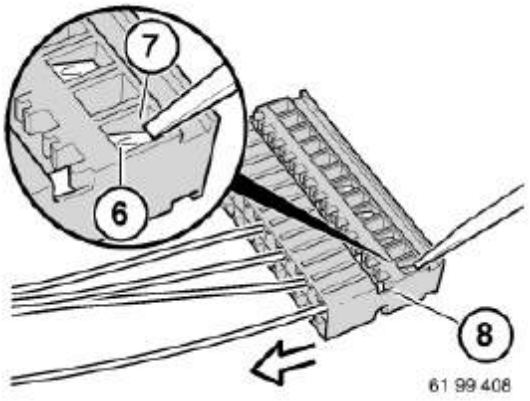


Fig. 114: Pulling Cable And Contact Up To Secondary Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook once again in secondary lock (8) and pull cable and contact completely out of contact carrier.

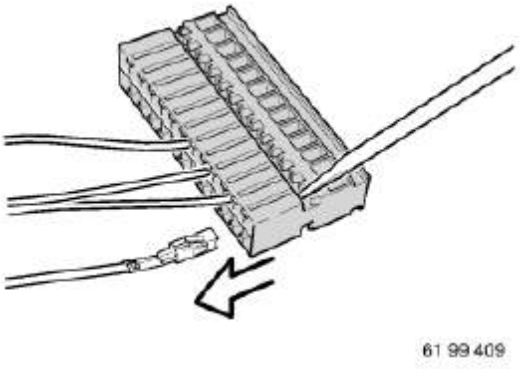


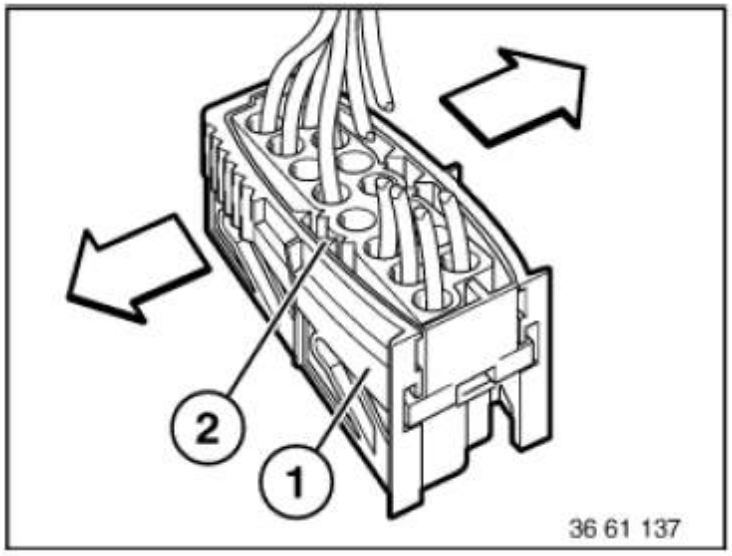
Fig. 115: Pulling Cable And Contact Completely Out Of Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE CONNECTORS, 15-PIN, SYSTEM D2.5

Special tools required:

- 61 0 303

Carefully pull external connector (1) in area of retaining lugs (2) apart slightly.



cardiagn.com

Fig. 116: Pulling External Connector In Area Of Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Pull internal connector (3) until limit position in direction of arrow.

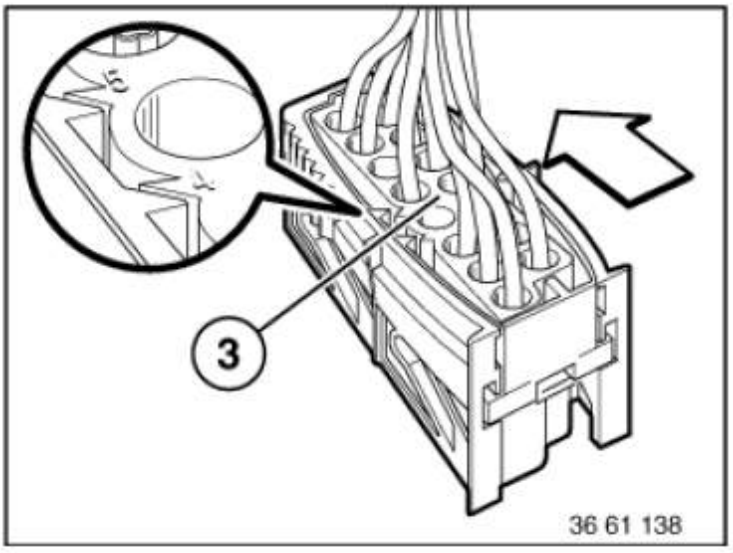


Fig. 117: Pulling Internal Connector
Courtesy of BMW OF NORTH AMERICA, INC.

With special tool **61 0 303** press back retaining hook(4) of corresponding contact and pull out cable with contact.

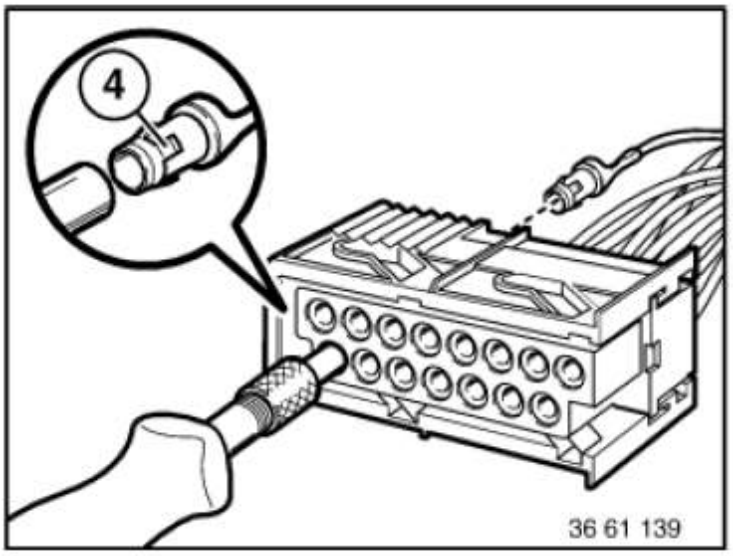


Fig. 118: Pressing Retaining Hook Using Special Tool (61 0 303)
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE CONNECTORS, 6-, 8-PIN, SYSTEM MQS

Press lock (1) in direction of arrow and slide connector forward.

cardiagn.com

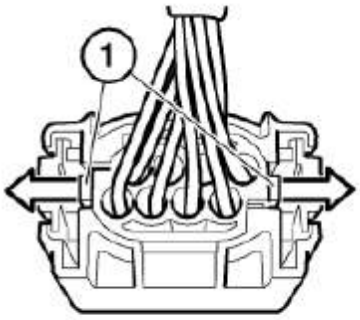


Fig. 119: Pressing Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Press locking hook (2) downward and slide lock (1) out.

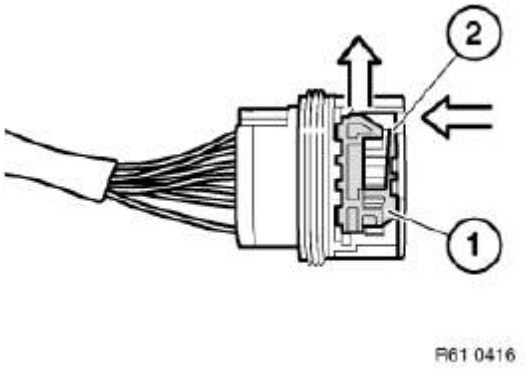


Fig. 120: Pressing Locking Hook
Courtesy of BMW OF NORTH AMERICA, INC.

Press down retaining hook (1) with screwdriver and pull out cable with contact towards rear.

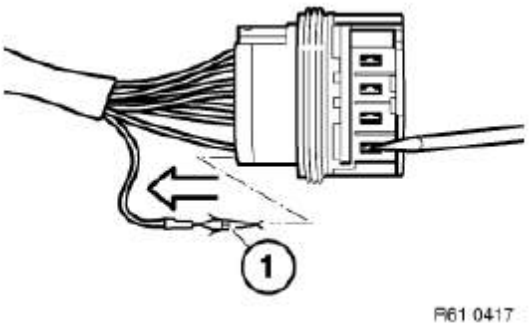


Fig. 121: Pressing Down Retaining Hook With Screwdriver
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE PLUGS, 2-PIN, SYSTEM MPQ 2.8

Press catch on outside in direction of arrow and remove towards top.

cardiagn.com

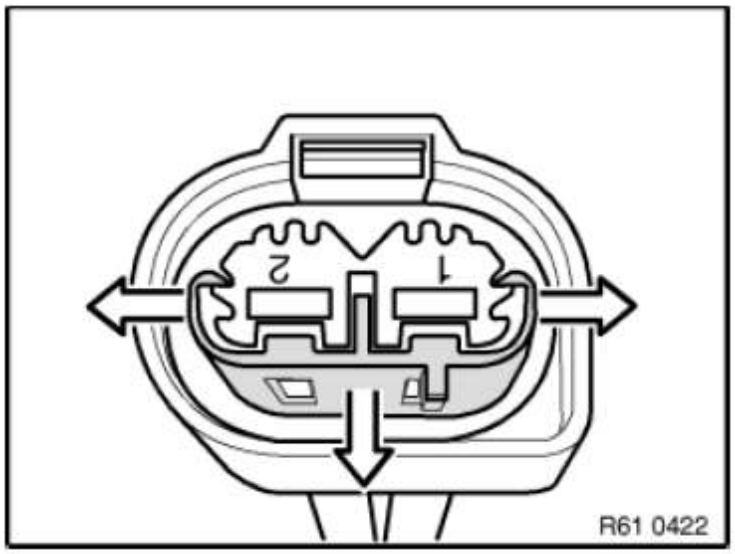


Fig. 122: Pressing Catch On Outside
Courtesy of BMW OF NORTH AMERICA, INC.

Press down retaining hook (1) with screwdriver and pull out cable and contact (2) towards rear.

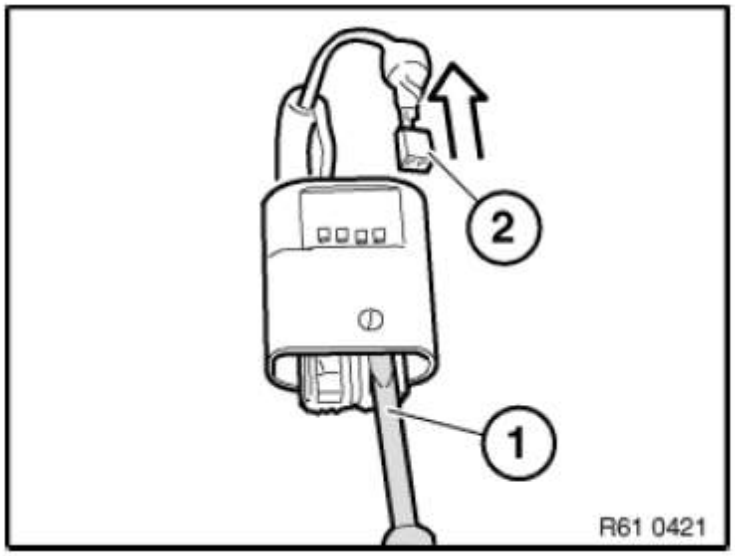


Fig. 123: Pressing Down Retaining Hook With Screwdriver
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE PLUGS, 3-, 6- PIN, SYSTEM ELO- POWER 2.8

Press locking hook (1) in direction of arrow and disengage. Then unlock locking hook (2) and remove lock.

cardiagn.com

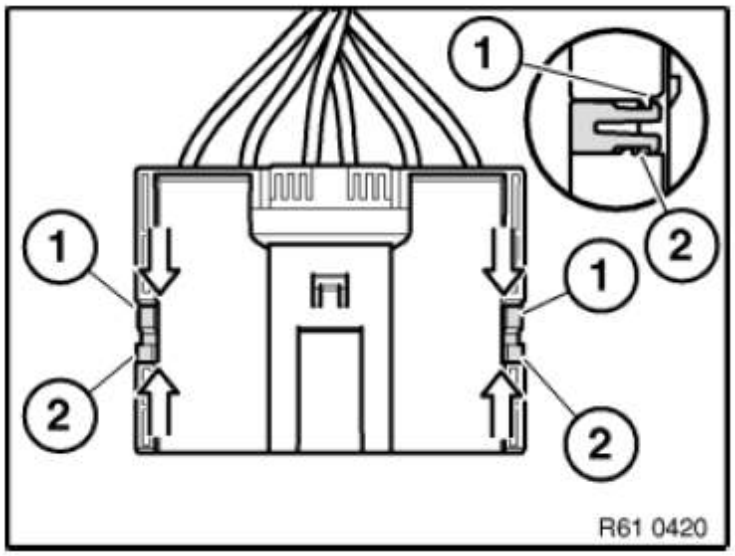


Fig. 124: Pressing Locking Hook
Courtesy of BMW OF NORTH AMERICA, INC.

Press down retaining hook with screwdriver (1) and pull out cable with contact towards rear.

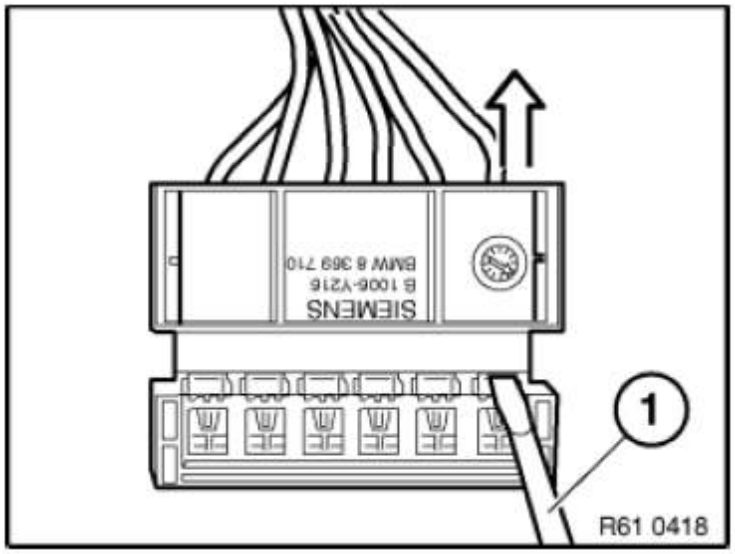


Fig. 125: Pressing Down Retaining Hook With Screwdriver
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE PLUGS, 4-, 10- PIN, SYSTEM ELO

Detach fastener (1) from contact carrier (2).

cardiagn.com

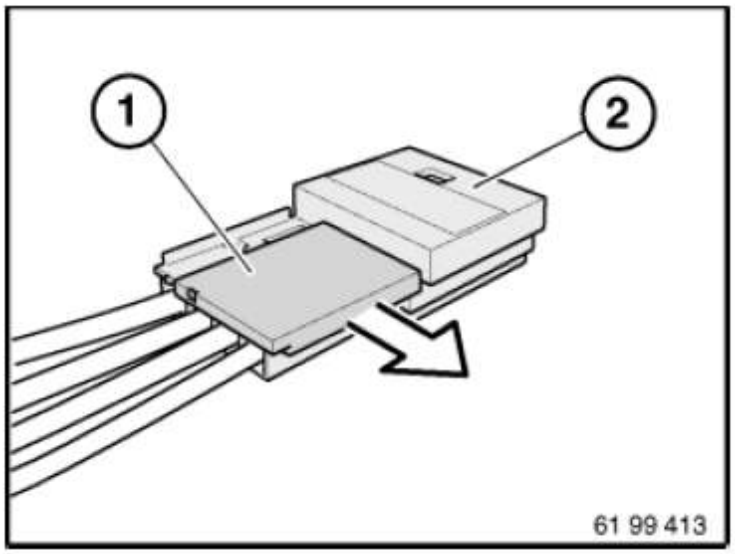


Fig. 126: Detaching Fastener From Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook (3) of defective contact and pull cable and contact up to secondary lock (6).

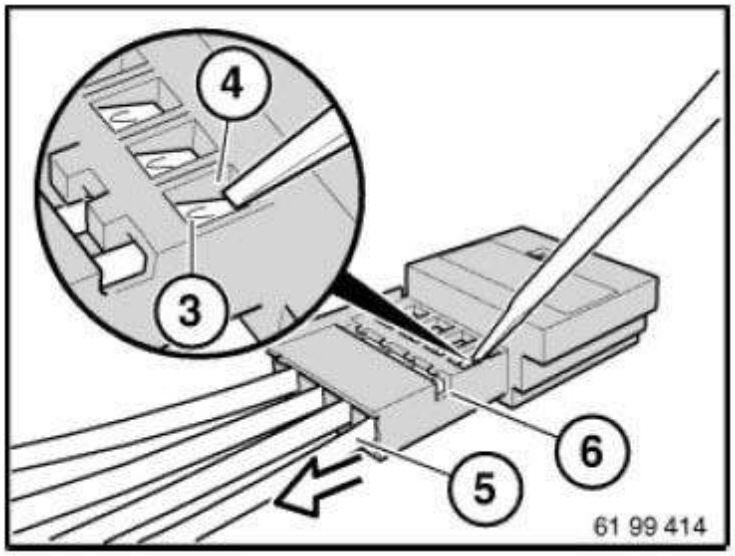


Fig. 127: Pulling Cable And Contact Up To Secondary Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook once again in secondary lock and pull cable and contact completely out of contact carrier.

cardiagn.com

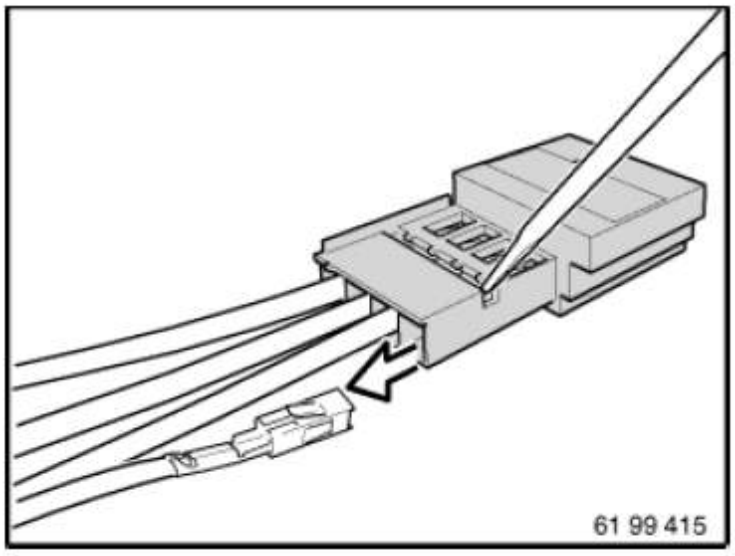


Fig. 128: Pulling Cable And Contact Completely Out Of Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... IN-LINE PLUGS, 8-, 12- PIN, SYSTEM D2.5

Special tools required:

- 61 0 303

Move upper section of connector (1) and lower section of connector (2) against each other in direction of arrow.

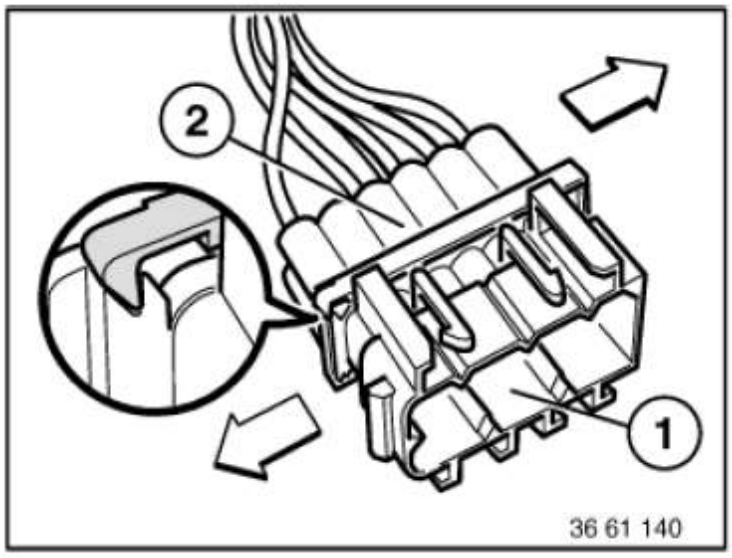


Fig. 129: Moving Upper Section Of Connector And Lower Section Of Connector
Courtesy of BMW OF NORTH AMERICA, INC.

With special tool 61 0 303 , press down retaining hook (3) of corresponding contact and pull out cable with contact.

cardiagn.com

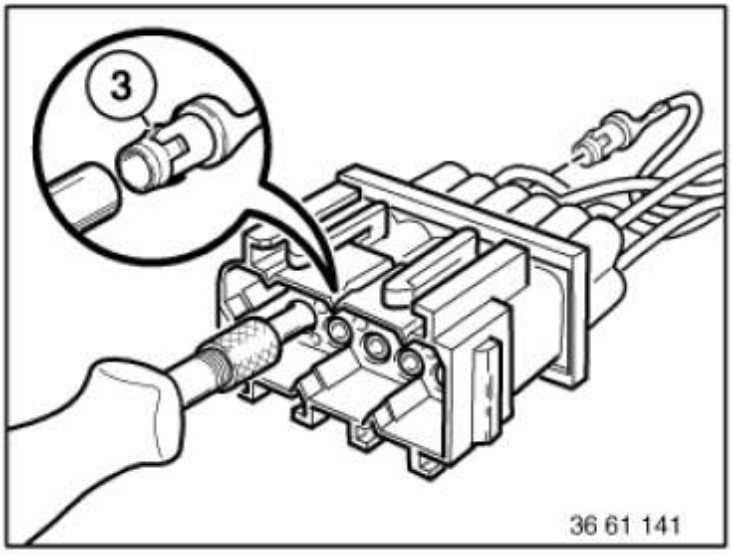


Fig. 130: Pressing Retaining Hook Using Special Tool (61 0 303)
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... INSTALLING COMB CONNECTOR FOR RETROFITTING/REPAIRS

Special tools required:

- 61 9 041
- 61 9 042

NOTE: **The repair range IV for vehicle electrical system contained the required special tools and individual parts for retrofitting and repair work with the aid of fan connectors.**
The case can no longer be ordered. Order individual parts for wiring harness repair through BMW Parts Department.

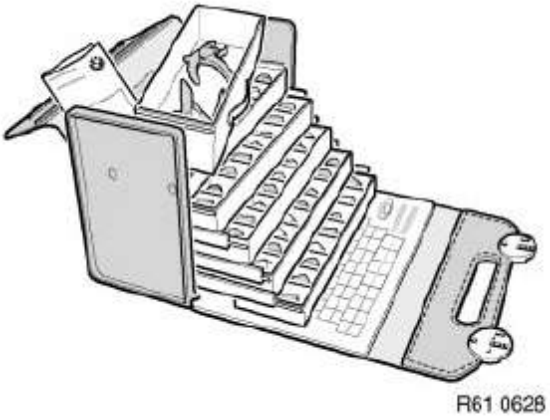


Fig. 131: Identifying Special Tools Kit
Courtesy of BMW OF NORTH AMERICA, INC.

Choose contact sleeve (up to 4 mm^2) in accordance with wire cross-section.

cardiagn.com

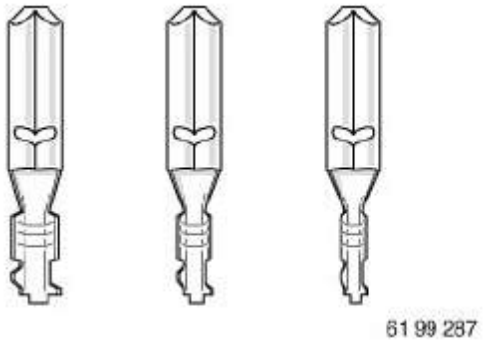


Fig. 132: Identifying Contact Sleeve
Courtesy of BMW OF NORTH AMERICA, INC.

Alternatively:

Choose contact sleeves (up to 2.5 mm 2) or comb connectors.

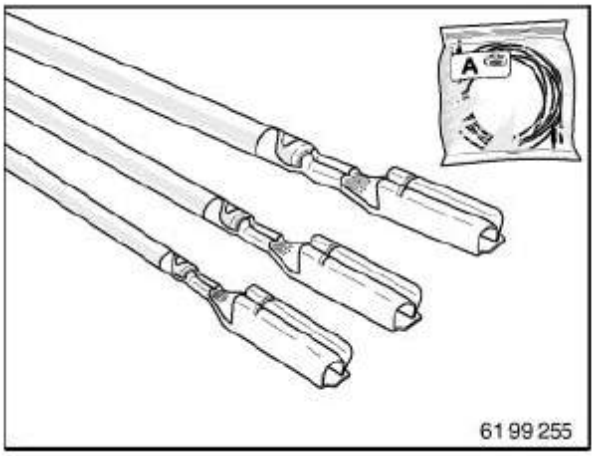


Fig. 133: Identifying Contact Sleeves/Comb Connectors
Courtesy of BMW OF NORTH AMERICA, INC.

Cut through wire loop in wiring harness at established point.

Strip insulation from both wire ends.

See repair instructions

CUTTING TO LENGTH AND STRIPPING INSULATION FROM CABLES

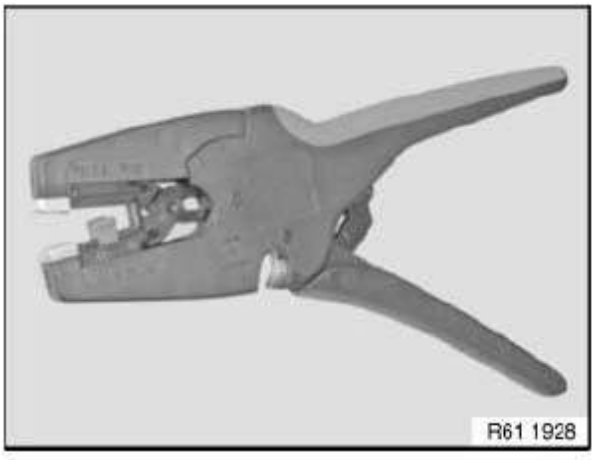


Fig. 134: Identifying Special Tool

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Crimp contact sleeves on both wire ends.

See repair instructions

CRIMPING ON STOP PARTS

NOTE: **If using repair kit for contact sleeves, refer to repair instructions: BUTT CONNECTOR FOR REPAIRING A PLUG CONNECTION .**

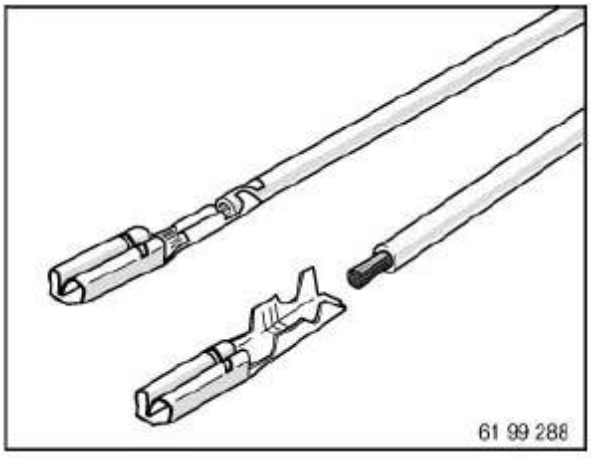


Fig. 135: Identifying Butt Connector For Repairing Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Crimp connecting cable for retrofitting likewise with contact sleeve.

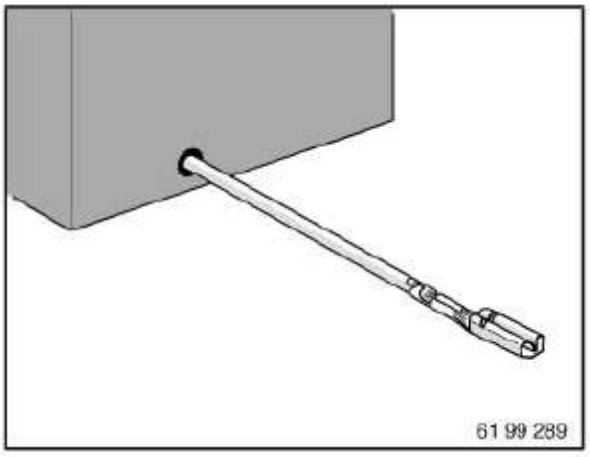


Fig. 136: Connecting Crimp Cable
Courtesy of BMW OF NORTH AMERICA, INC.

Cut required number of poles to length for comb connectors.

cardiagn.com

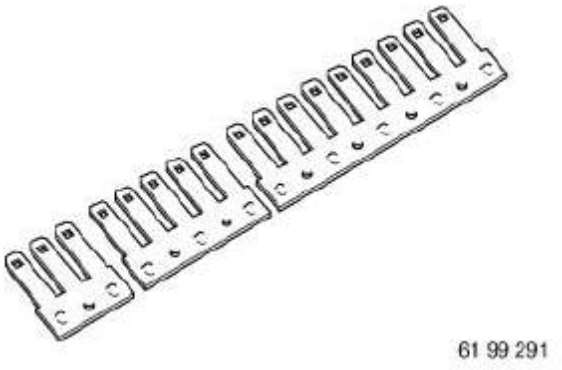


Fig. 137: Identifying Poles To Length For Comb Connectors
Courtesy of BMW OF NORTH AMERICA, INC.

Special tool 61 9 041 (hand pliers) in conjunction with 61 9 042 (matrix) are used for pushing contact sleeves onto comb connectors.

See repair instructions

SPECIAL TOOLS FOR WIRING HARNESS REPAIRS.

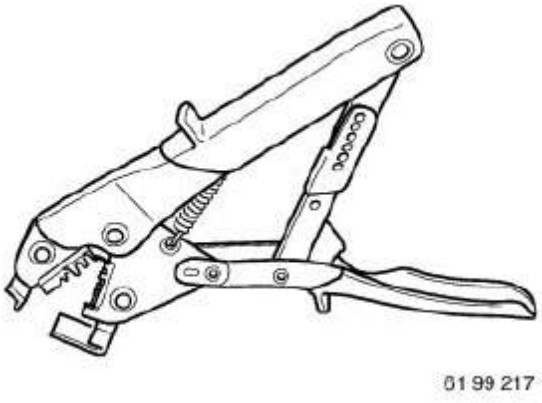


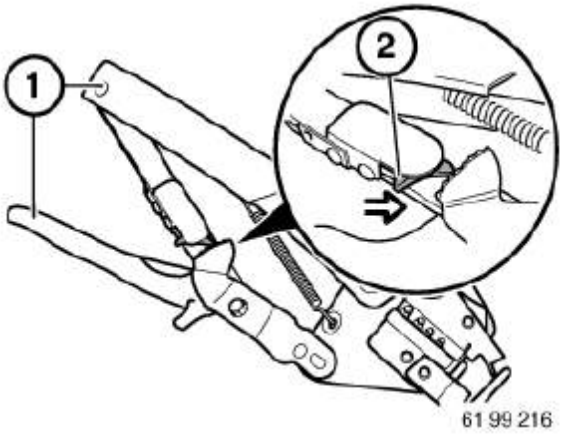
Fig. 138: Identifying Special Tool (61 9 041)
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock special tool 61 9 041:

Squeeze grips (1) lightly and push release lever (2) in direction of arrow.

Or:

Compress handles until limit position, hand pliers unlock automatically.



cardiagn.com

Fig. 139: Pushing Release Lever
Courtesy of BMW OF NORTH AMERICA, INC.

Insert prepared comb connectors (3) in special tool 61 9 041/61 9 042.

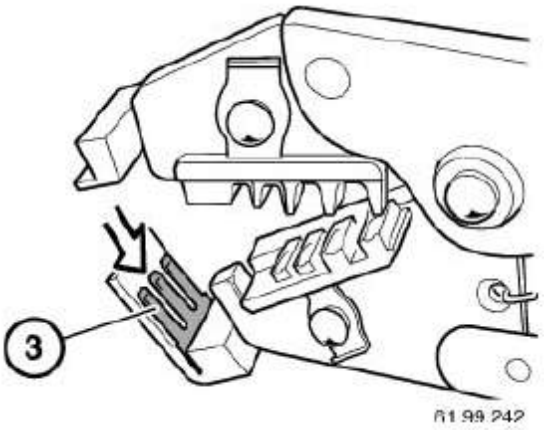


Fig. 140: Inserting Comb Connectors In Special Tool (61 9 041 / 61 9 042)
Courtesy of BMW OF NORTH AMERICA, INC.

Attach wire with contact sleeve to comb connector.

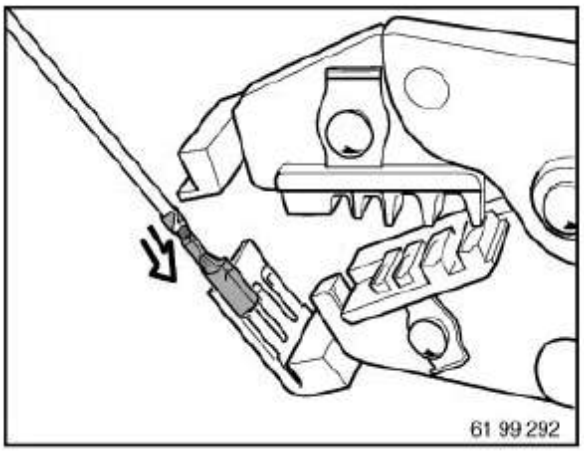


Fig. 141: Attaching Wire With Contact Sleeve To Comb Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Press hand pliers together and slide on contact sleeve until limit position.

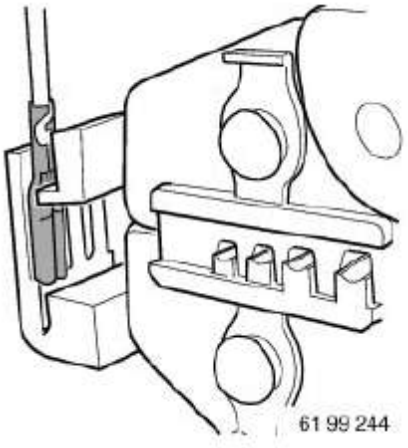


Fig. 142: Pressing Hand Pliers Together
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

IMPORTANT: Once contact sleeves have been pushed on, they should not be detached again from the comb connector or reused.

Push on further contact sleeves for potential branching.

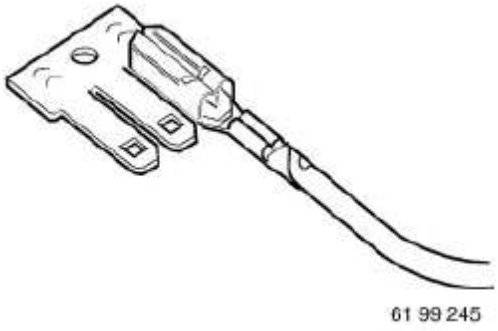


Fig. 143: Identifying Contact Sleeves
Courtesy of BMW OF NORTH AMERICA, INC.

Installation in wet area (engine compartment, wheel arch):

Apply sealing compound on both sides and press into contacts (1).

Fit heat-shrink tubing and heat up with hot air blower (2) (approx. 250 Â°C).

NOTE: Ensure that comb connector has sufficient contact surface on attachment point. Do not heat-shrink tubing on edges of comb connector too strongly, risk of cracking.

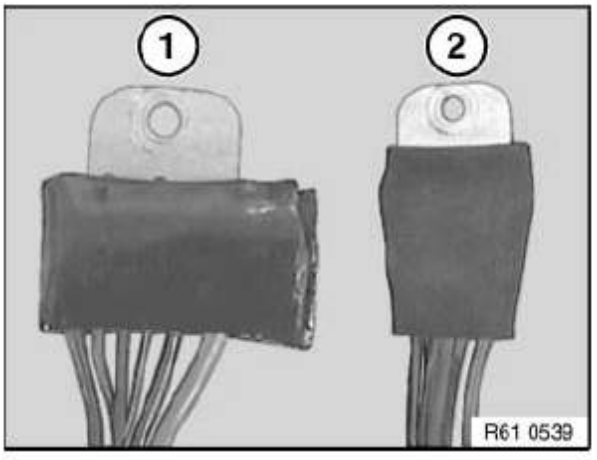


Fig. 144: Identifying Comb Connector Contacts
Courtesy of BMW OF NORTH AMERICA, INC.

Allow heat-shrink tubing to cool down until hand-warm. Then press sealing material again into contacts and onto edges of comb connector.

If necessary, carefully heat-shrink tubing again.

Installation in dry area (interior, luggage compartment):

Slide assembled comb connector into insulation housing until it locks into place.

cardiagn.com

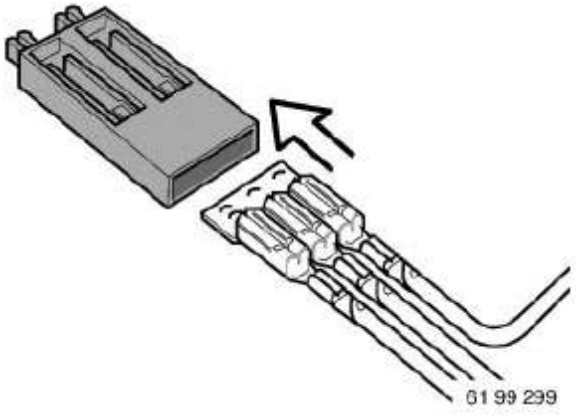


Fig. 145: Sliding Assembled Comb Connector Into Insulation Housing
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... NOTES FOR OPENING CONTACTS AND LOCKS OF DIFFERENT PLUG CONTACT SYSTEMS

Special tools required:

- **61 0 300**
- 61 0 400
- **61 1 100**

Abbreviations of contacts and what they mean:	
ELA	**Strand seal**
D 1.5/2.5/3.5	**Round contacts with 1.5 mm, 2.5 mm or 3.5 mm diameter**
MDK	**Miniature double flat spring contact**
JPT	Junior Power timer
DFK	Double flat spring contacts
Elo	Electronic contacts
Elo Power	Electronic contacts for heavy load
MQS	Micro Quadlock system
MPQ	Micro Power Quadlock
MLK	Mini laminated contact
SLK	Sensor laminated contact
LSK	Load current contact
MLK	Mini laminated contact
Mcon	Multi contact

The contacts can be changed on ultrasonically welded connectors (1).
IMPORTANT: Ultrasonically welded connectors (1) must be replaced completely.
Ultrasonic-welded connectors (1) can be identified by the welds (2) on their longitudinal side.

cardiagn.com

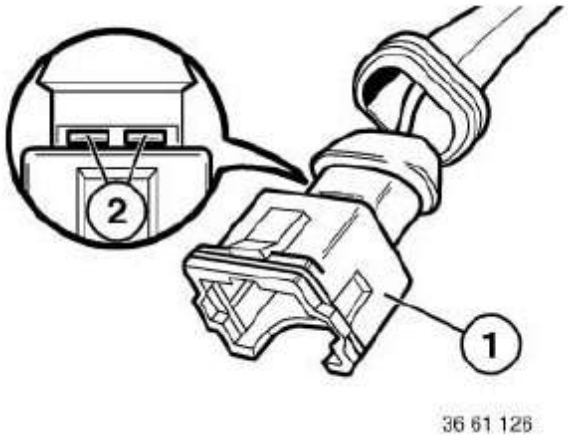


Fig. 146: Identifying Ultrasonic-Welded Connectors
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Special tools referred to in the repair instructions below are contained in the following special tool sets:**

- **Unlocking and pressing-off tool 61 1 150 is replaced as of 09/2005 by 61 0 300 (BMW) and 61 0 400 (MINI)**
- **Release and pressing-off tool 61 1 100 (engine)**

Repair instructions for opening connector housings and removing contacts of different connector systems:

Connector system D 1.5/D 2.5:

- CIRCULAR CONNECTORS, 7- OR 8-PIN, SYSTEM D 2.5
- CIRCULAR CONNECTORS, 13-PIN, SYSTEM D 2.5
- CIRCULAR CONNECTORS, 20-PIN, SYSTEM D 2.5
- CIRCULAR PLUGS, 4-, 7-, 10- 12-, 25-PIN, SYSTEM D1.5/D2.5
- IN-LINE CONNECTORS, 15-PIN, SYSTEM D 2.5
- INLINE PLUGS, 8-, 12- PIN, SYSTEM D2.5
- IN-LINE CONNECTORS, 30-PIN, SYSTEM D 2.5
- IN-LINE CONNECTORS, 20-PIN, SYSTEM D 2.5

Connector system JPT/MDK/DFK:

- IN-LINE PLUGS, 2- PIN, SYSTEM JPT ELA
- IN-LINE PLUGS, 2- PIN, SYSTEM MDK 3 PLUS 2.8
- IN-LINE PLUGS, 4- PIN, SYSTEM DFK ELA

Connector system Elo/Elo Power:

- IN-LINE PLUGS, 4-, 10- PIN, SYSTEM ELO
- IN-LINE CONNECTORS, 6- TO 50-PIN, SYSTEM ELO
- IN-LINE PLUGS, 3-, 6- PIN, SYSTEM ELO- POWER 2.8

Connector system LSK:

- CONNECTOR HOUSING LSK CONTACT

Connector system MQS/MPQ:

cardiagn.com

- INLINE CONNECTORS, 6-, 8-PIN, SYSTEM MQS
- INLINE PLUGS, 2-PIN, SYSTEM MPQ 2.8
- CONTROL UNIT CONNECTORS, 25-, 35-, 55-, 83-, 88-PIN
- IN-LINE PLUGS, 24- PIN, HYBRID SYSTEM MQS/MPQ
- SOCKET HOUSING 42-, 43-PIN, HYBRID SYSTEM MQS/MPQ
- SOCKET HOUSINGS 2X21-, 2X27-PIN, HYBRID SYSTEM MQS/MPQ, ELO/ELO POWER
- IN-LINE CONNECTORS, 30-PIN, HYBRID SYSTEM MQS/MPQ
- SOCKET HOUSINGS, 5-, 8-PIN, SYSTEM MQS/MPQ
- SOCKET HOUSING (RADIO CONNECTOR), HYBRID SYSTEM MQS/MPQ

61 00... NOTES ON HANDLING OPTICAL FIBRES

Refer to 61 00... NOTES ON HANDLING OPTICAL FIBRES.

61 00... NOTES ON HANDLING WIRING HARNESSES AND CABLES

Refer to 61 00... NOTES ON HANDLING WIRING HARNESSES AND CABLES.

61 13... OPENING PLUG HOUSINGS AND REMOVING CONTACTS OF DIFFERENT PLUG SYSTEMS

Special tools required:

- 61 0 300
- 61 0 400
- 61 1 100
- 61 1 150

Abbreviations of contacts and what they mean:	
ELA	**Strand seal**
D 1.5/2.5/3.5	**Round contacts with 1.5 mm, 2.5 mm or 3.5 mm diameter**
MDK	**Miniature double flat spring contact**
JPT	Junior Power timer
DFK	Double flat spring contacts
Elo	Electronic contacts
Elo Power	Electronic contacts for heavy load
MQS	Micro Quadlock system
MPQ	Micro Power Quadlock
MLK	Mini laminated contact
SLK	Sensor laminated contact
MLK	Mini laminated contact
Mcon	Multi contact

IMPORTANT: The contacts can be changed on ultrasonically welded plugs (1).
Ultrasonically welded plugs (1) must be replaced completely.
Ultrasonic-welded connectors (1) can be identified by the welds (2) on their longitudinal side.

cardiagn.com

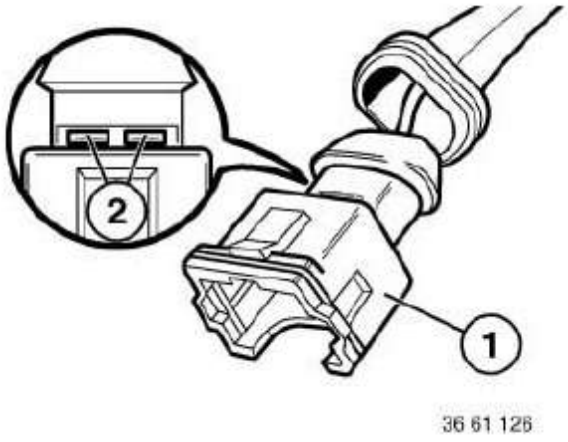


Fig. 147: Identifying Ultrasonic-Welded Connectors
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Special tools referred to in the repair instructions below are contained in the following special tool kits:**

- **Release and press-out tool 61 1 150 is replaced from 09/2005 by 61 0 300 (BMW) and 61 0 400 (MINI)**
- **Release and press-out tool 61 1 100 (engine)**

Repair instructions for opening plug housings and removing contacts of different plug systems:

Plug system D 1.5/D 2.5:

- **CIRCULAR CONNECTOR, 7-PIN, 8-PIN, SYSTEM D2.5**
- Circular plugs, 13-pin, System D 2.5
- Circular plugs, 20-pin, System D 2.5
- **CIRCULAR PLUGS, 4-, 7-, 10- 12-, 25-PIN, SYSTEM D1.5/D2.5**
- **IN-LINE CONNECTORS, 15-PIN, SYSTEM D2.5**
- In-line plugs, 8-, 12-pin, System D 2.5
- In-line plugs, 30-pin, System D 2.5
- In-line plugs, 20-pin, System D 2.5

Plug system JPT/MDK/DFK:

- In-line plugs, 2-pin, System JPT ELA
- In-line plugs, 2-pin, System MDK 3plus 2.8
- In-line plugs, 4-pin, System DFK ELA

Plug system Elo/Elo-Power:

- In-line plugs, 4-, 10-pin, System Elo
- In-line plugs, 6- to 50-pin, System Elo
- In-line plugs, 3-, 6-pin, System Elo-Power 2.8

Plug system MQS/MPQ:

- In-line plugs, 6-, 8-pin, System MQS
- In-line plugs, 2-pin, System MPQ 2.8
- Control unit plugs, 25-, 35-, 55-, 83-, 88-pin

cardiagn.com

- In-line plugs, 24-pin, Hybrid System MQS/MPQ
- Socket housing 42-, 43-pin, Hybrid System MQS/MPQ
- Socket housings 2x21-, 2x27-pin, Hybrid System MQS/MPQ, Elo/Elo-Power
- In-line plugs, 30-pin, Hybrid System MQS/MPQ
- Socket housings, 5-, 8-pin, System MQS/MPQ
- Socket housing (radio plug), Hybrid System MQS/MPQ

61 31 137 REMOVING AND INSTALLING/RENEWING USB INTERFACE CONNECTING SOCKET

Refer to **61 31 137 REMOVING AND INSTALLING/RENEWING USB INTERFACE CONNECTING SOCKET**.

61 13 050 REMOVING AND INSTALLING/REPLACING POWER DISTRIBUTION BOX IN PASSENGER COMPARTMENT

WARNING: **Observe SAFETY INFORMATIONS for handling vehicle battery.**

Necessary preliminary tasks:

- Clamp off **BATTERY LEAD FROM NEGATIVE CONNECTION POINT**.
- Detach both battery cables for negative terminal in F03.
- Remove **RIGHT GLOVE BOX WITH HOUSING** .

Disconnect plug connection (1) from power distribution box in passenger compartment (3) and junction box electronics.

Unfasten screws (2).

Tightening torque **61 14 1AZ** .

Feed out power distribution box in passenger compartment (3) from retaining clips (4) in direction of arrow.

UNLOCK AND DISCONNECT PLUG CONNECTIONS behind.

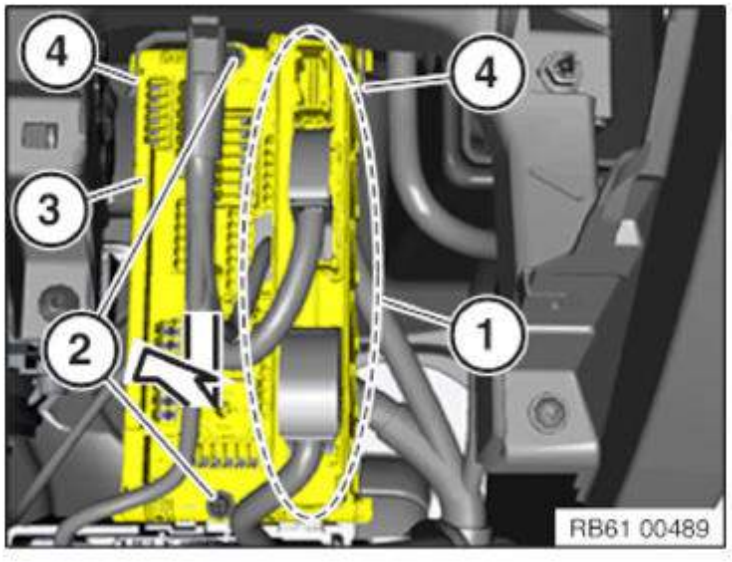


Fig. 148: Disconnecting Plug Connection From Power Distribution Box In Passenger Compartment
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

- Modify **JUNCTION BOX ELECTRONICS**.

cardiagn.com

- Modify fuses.

61 00... REPAIRING AIRBAG CABLES

Refer to 61 00... REPAIRING AIRBAG CABLES.

61 13 042 REPLACING POWER DISTRIBUTION BOX (LUGGAGE COMPARTMENT)

WARNING: Observe SAFETY INFORMATIONS for handling vehicle battery.

Necessary preliminary tasks:

- Disconnect BATTERY NEGATIVE CABLE.
- Remove FLAP IN LUGGAGE COMPARTMENT PANEL ON RIGHT .

Unfasten plug connection (1) and disconnect.

Unscrew nuts (2).

Remove power distribution box (3).

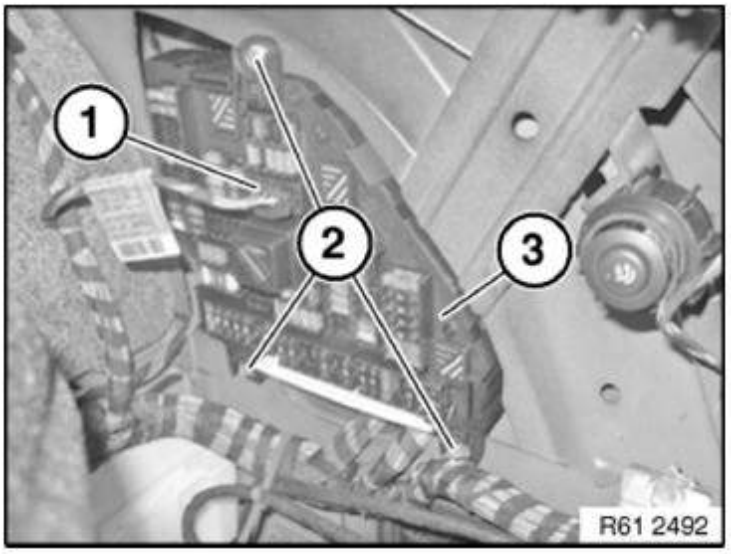


Fig. 149: Identifying Power Distribution Box Plug Connection With Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock all plug connections and disconnect.

Remove power distribution box (1).

Installation note:

Ensure correct cable routing.

Ensure that the power distribution box (1) is correctly seated.

cardiagn.com

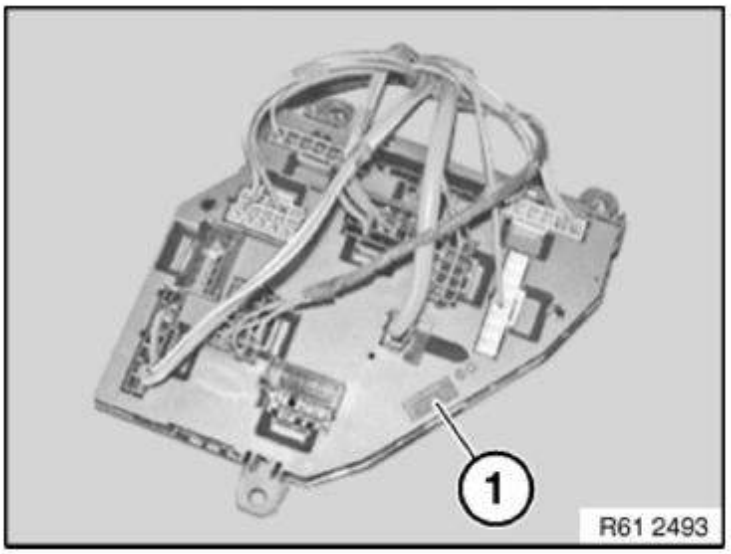


Fig. 150: Identifying Power Distribution Box
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... SOCKET HOUSING (RADIO CONNECTOR), HYBRID SYSTEM MQS/MPQ

Special tools required:

- **61 0 314**

Manufactured by AMP: The following contact types without strand sealing can be fitted in the connector housings:

- MQS (Micro Quadlock System)
- MPQ, width 2.8 mm (Micro Power Quadlock)
- MPQ, width 5.2 mm (Micro Power Quadlock)

Removing MPQ contacts from radio connector:

Press lock (1) in direction of arrow.

Detach secondary lock (2) from radio plug.

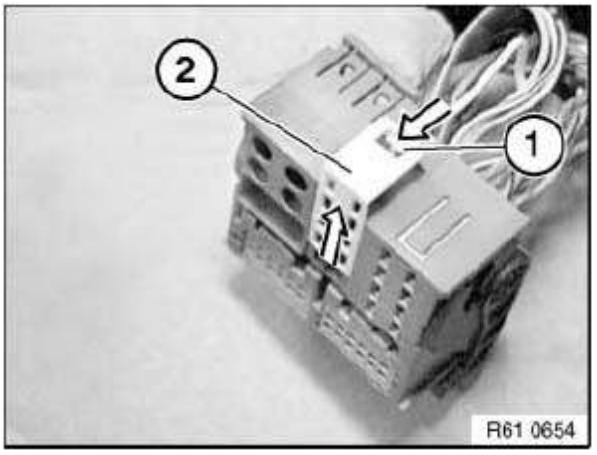


Fig. 151: Detaching Secondary Lock From Radio Plug
Courtesy of BMW OF NORTH AMERICA, INC.

Feed special tool **61 0 314** (61 1 135) past side of contact.

cardiagn.com

Press special tool **61 0 314** (61 1 135) in direction of arrow.

Pull wire (1) with socket contact out of radio connector (2).

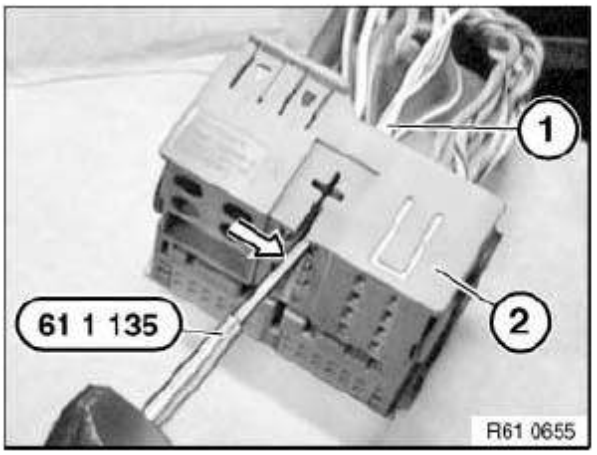


Fig. 152: Identifying Special Tool (61 1 135)
Courtesy of BMW OF NORTH AMERICA, INC.

Removing MQS contacts from contact carrier:

Press lock (1) in direction of arrow and pull housing (2) out of radio connector.

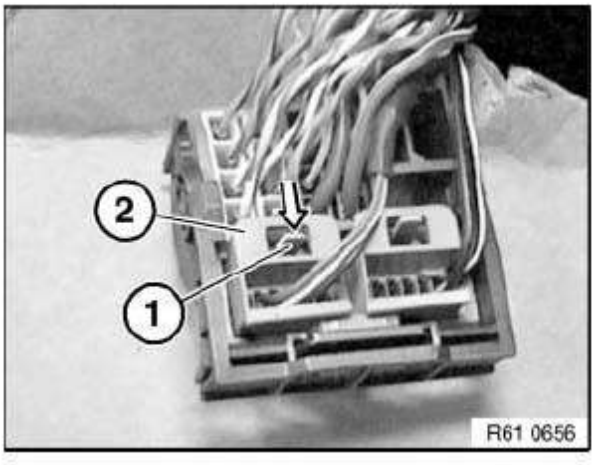


Fig. 153: Pulling Housing Out Of Radio Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Press lock (1) in direction of arrow. Pull contact carrier (2) out of housing (3).

NOTE: **When the contact carrier is pulled out, the secondary locks of the socket contacts are raised.**

cardiagn.com

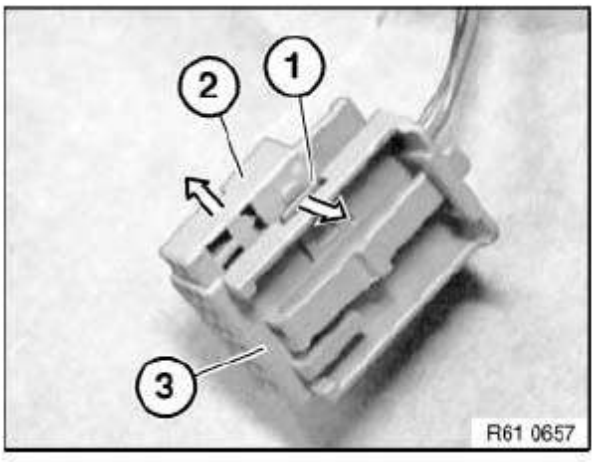


Fig. 154: Pulling Contact Carrier Out Of Housing
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Schematic diagram shows the 8-pin socket housing by way of example.

Hold down retaining hook (1) of socket contact in opening of contact carrier with a small screwdriver.

Pull wire with socket contact in direction of arrow as far as secondary lock (2).

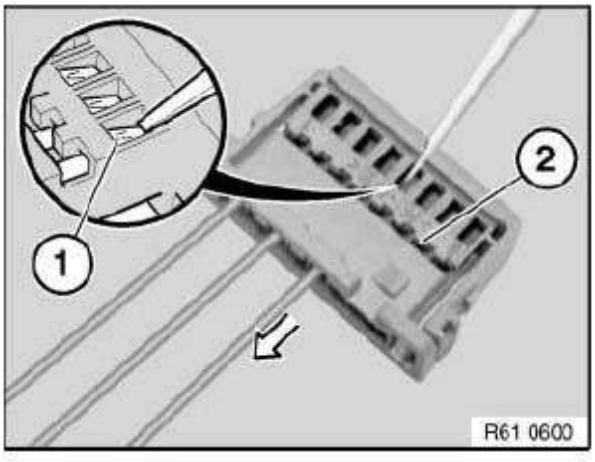
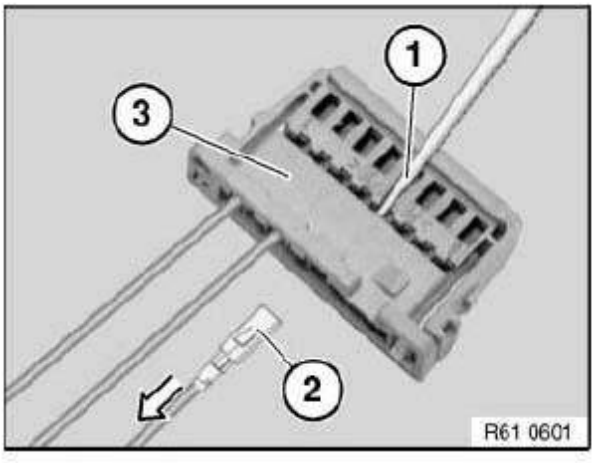


Fig. 155: Pulling Wire With Socket Contact
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook in secondary lock (1) again. Pull wire with socket contact (2) out of contact carrier (3).



cardiagn.com

Fig. 156: Pulling Cable With Contact Completely Out Of Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

Removing MPQ contacts from contact carrier:

Remove contact carrier (1) with MQS contacts from radio connector.

Raise lock (2) on radio connector.

Pull contact carrier (3) out of radio connector.

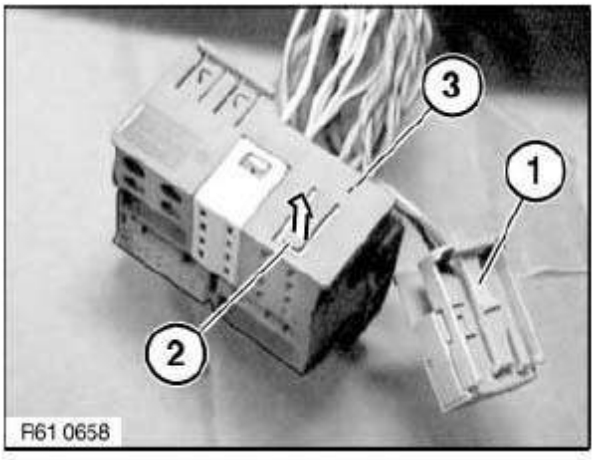


Fig. 157: Pulling Contact Carrier Out Of Radio Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Press lock (1) in direction of arrow.

Pull secondary lock (2) in direction of arrow completely out of contact carrier (3).

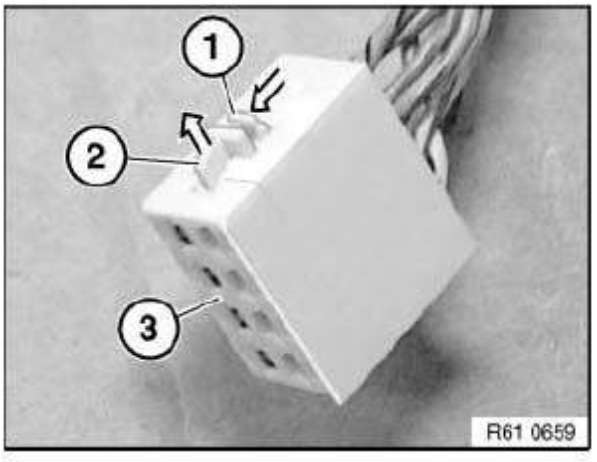


Fig. 158: Pulling Secondary Lock Of Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

Press special tool **61 0 314** (61 1 135) on inside of contact into contact carrier (2).

Pull wire with socket contact (1) out of contact carrier (2).

cardiagn.com

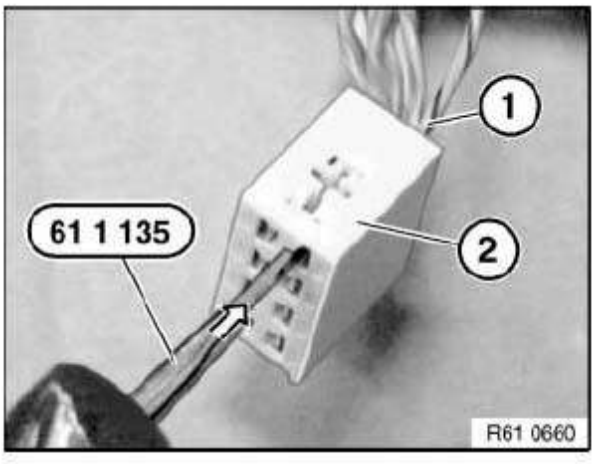


Fig. 159: Pressing Special Tool (61 1 135) On Inside Of Contact Into Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... SOCKET HOUSING 42-, 43-PIN, HYBRID SYSTEM MQS/MPQ

Special tools required:

- 61 0 312

Manufactured by AMP: The following contact types without strand sealing can be fitted in the socket housings:

- MQS (Micro Quadlock System)
- MPQ, width 2.8 mm (Micro Power Quadlock)
- MPQ, width 5.2 mm (Micro Power Quadlock)

Open secondary locks (1) on socket housing.

Press back retaining hook of MQS contacts (2) with special tool 61 0 312 61 1 134 and pull out cable with contact.

Press back retaining hook of MPQ contacts (3) with screwdriver and pull out cable with contact.

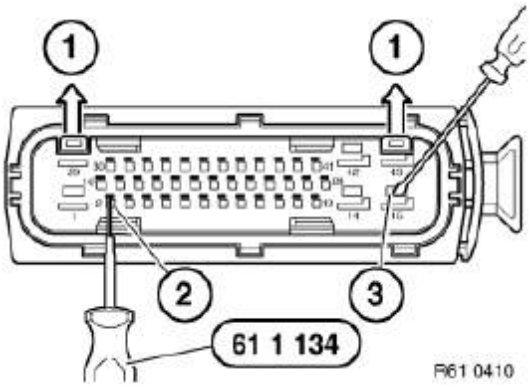


Fig. 160: Opening Secondary Locks On Socket Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Bend open retaining hook of contacts gently before inserting into connector housing.

For installation of contacts, observe chamber numbers on reverse side of socket housing.

cardiagn.com

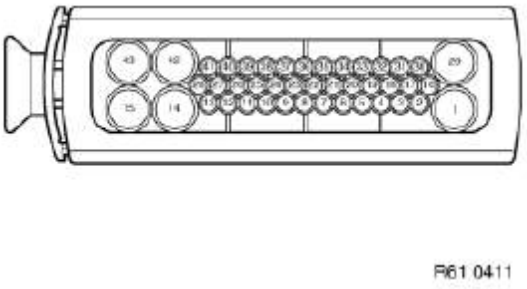


Fig. 161: Identifying Socket Housing
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... SOCKET HOUSINGS, 2X21-, 2X27-PIN, HYBRID SYSTEMS MQS/MPQ, ELO/ELO POWER

Manufactured by AMP: The following contact types without strand sealing can be fitted in the socket housings:

- MQS (Micro Quadlock System)
- MPQ, width 2.8 mm (Micro Power Quadlock)
- MPQ, width 5.2 mm (Micro Power Quadlock)

Manufactured by Siemens: The following contact types without strand sealing can be fitted in the socket housings:

- Elo (electrical contact)
- Elo Power 2.8 mm width (electrical contact for heavy loads)
- Elo Power 5.2 mm width (electrical contact for heavy loads)

Raise lock (1) on housing (2).

Push contact carrier (3) from rear out of housing.

NOTE: The second contact carrier is pushed out in the same way.

Pushing out the contact carrier releases the secondary locks of the socket contacts.

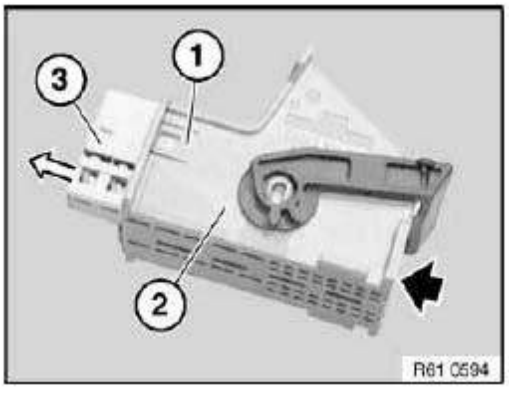


Fig. 162: Releasing Secondary Locks Of Socket Contacts
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook (1) of socket contact in opening of contact carrier with a small screwdriver.

Pull wire with socket contact in direction of arrow as far as secondary lock (2).

cardiagn.com

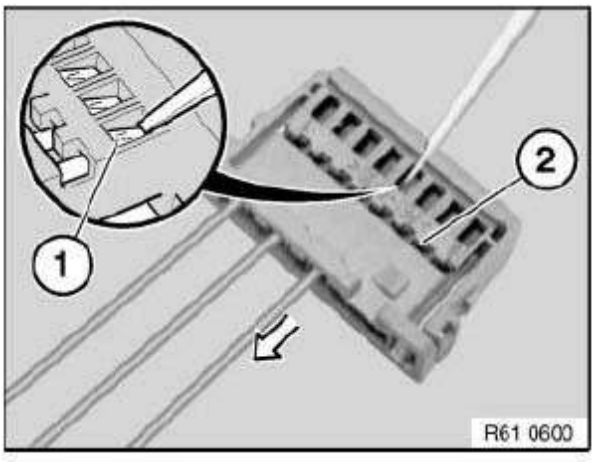


Fig. 163: Pulling Wire With Socket Contact
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook in secondary lock (1) again and pull cable with socket contact (2) completely out of contact carrier (3).

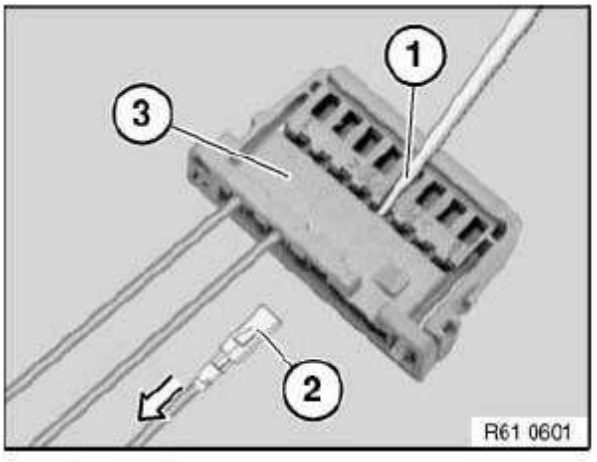


Fig. 164: Pulling Cable With Contact Completely Out Of Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... SOCKET HOUSINGS, 5-PIN, 8-PIN, SYSTEM MQS/MPQ

Manufactured by AMP: The following contact types without strand sealing can be fitted in the connector housings:

- MQS (Micro Quadlock System)
- MPQ, width 2.8 mm (Micro Power Quadlock)
- MPQ, width 5.2 mm (Micro Power Quadlock)

Socket housing, 5-pin (Hybrid System MQS/MPQ)

Raise fastener (1) over retaining lug (2) and pull off from contact carrier (3).

cardiagn.com

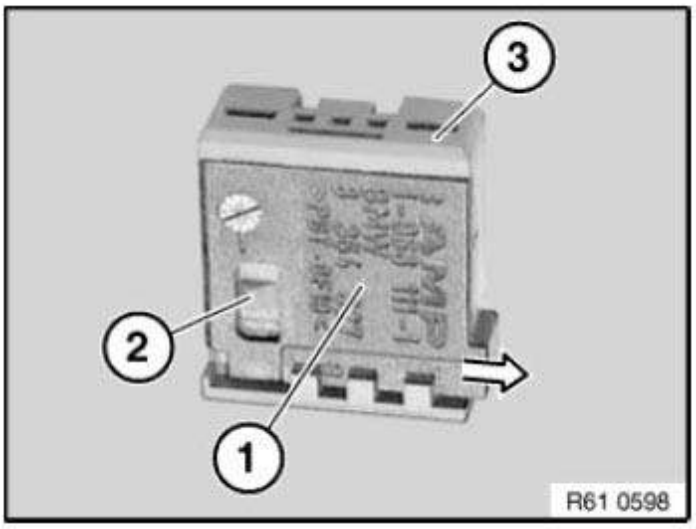


Fig. 165: Pulling Fastener From Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

Socket housing, 8-pin (MQS):

Raise fastener (1) over retaining lug (2) and pull off from contact carrier (3).

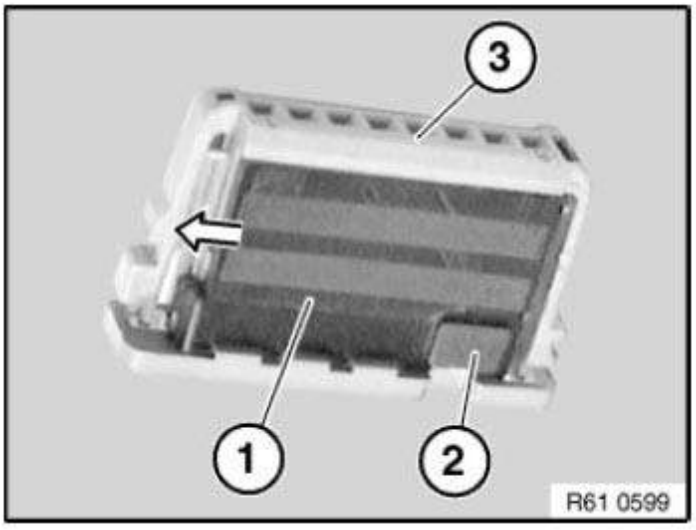
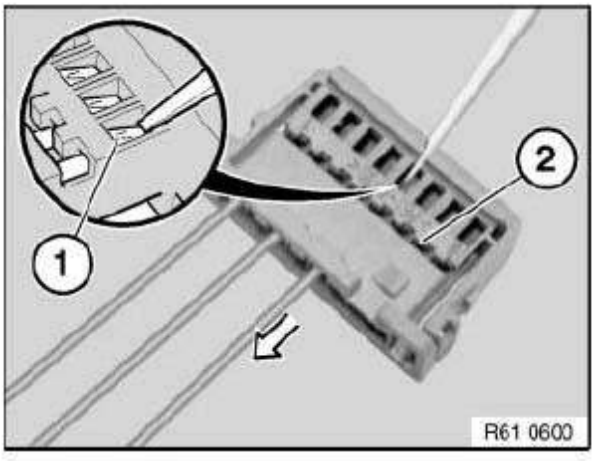


Fig. 166: Pulling Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook (1) of contact and pull cable with contact as far as secondary lock (2).



cardiagn.com

Fig. 167: Pulling Wire With Socket Contact
Courtesy of BMW OF NORTH AMERICA, INC.

Hold down retaining hook in secondary lock (1) again and pull cable with contact (2) completely out of contact carrier (3).

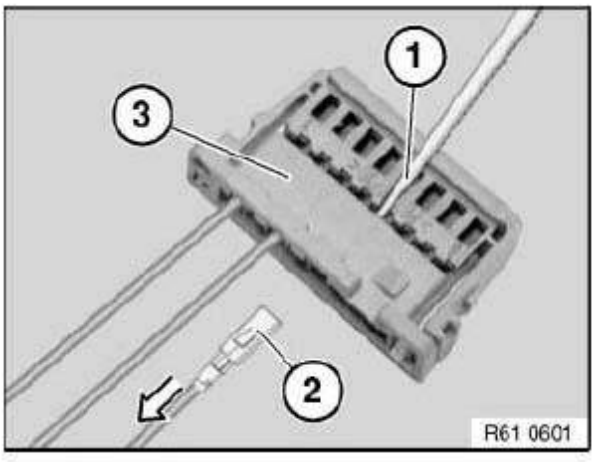


Fig. 168: Pulling Cable With Contact Completely Out Of Contact Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... SPECIAL TOOLS FOR WIRING HARNESS REPAIRS

Special tools required:

- 61 0 300
- 61 0 400
- 61 1 100
- 61 4 320
- 61 0 200
- 61 0 210
- 61 0 220
- 61 0 230
- 61 0 240

Repair range, vehicle electrical system:

Single parts for wiring harness repairs

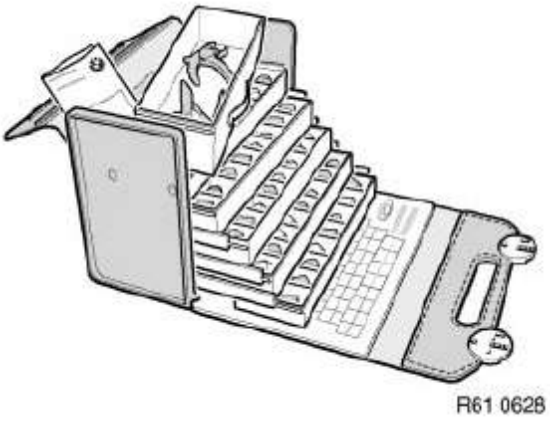


Fig. 169: Identifying Special Tools Kit
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Release and press-out tool:

- Special tool **61 0 300**
- Special tool 61 0 400 (MINI N12/N14)
- Special tool **61 1 100** (engine)

Handling:

- **NOTES FOR OPENING CONTACTS AND LOCKS** of different connector contact systems.



Fig. 170: Identifying Special Tool 61 1 100 (Engine)
Courtesy of BMW OF NORTH AMERICA, INC.

Cutting to length and stripping insulation from cables:

Wire stripper MultiStrip10*

Handling:

- **CUTTING CABLES TO LENGTH AND STRIP INSULATION**

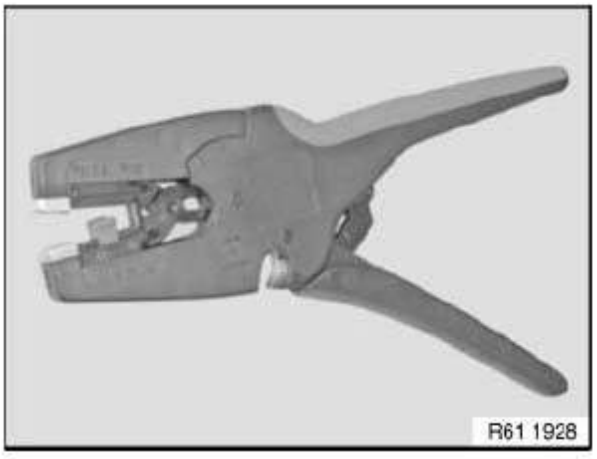


Fig. 171: Identifying Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

Crimping stop parts (small contacts) and butt connectors:

- Special tool **61 4 320**

cardiagn.com

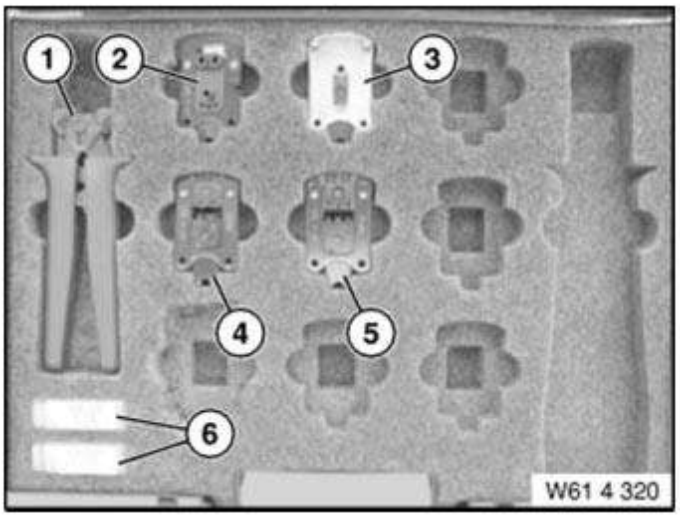


Fig. 172: Identifying Crimping Stop Parts (Small Contacts) And Butt Connectors
Courtesy of BMW OF NORTH AMERICA, INC.

1. Tool without crimping head
2. Crimping head **(STRIPPING INSULATION AND CUTTING FIBRE-OPTIC CABLES TO LENGTH)**
3. Crimping head **(CRIMPING FIBRE-OPTIC CABLE CONTACTS)**
4. Crimping head **(CRIMPING MQS CONTACTS)**
5. Crimping head **(CRIMPING MPQ CONTACTS)**
6. Replacement blade (face-cutting fibre-optic cables)
7. Replacement blade with tool (insulation stripping unit)
8. Universal crimping head

Crimping stop parts (large contacts) and butt connectors:

- Special tool **61 0 200** (crimping set)
- Special tool **61 0 210** (matrix set SLK 8)
- Special tool **61 0 220** (matrix set SLK 2.8)
- Special tool **61 0 230** (matrix set MAK 8/DFK4)
- Special tool **61 0 240** (butt connector 4.0 - 6.0 mm^2)

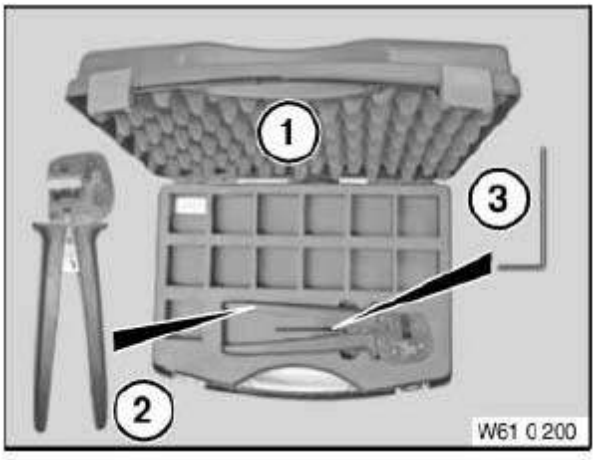


Fig. 173: Identifying Crimping Stop Parts (Large Contacts) And Butt Connectors
Courtesy of BMW OF NORTH AMERICA, INC.

61 13... TREATING CABLES AND OPTICAL FIBRES

cardiagn.com

Special tools required:

- 61 4 320
- 61 0 200

NOTE: **Special tools referred to in the repair instructions below are contained in the following special tool sets:**

Repair range for vehicle electrical system	
Crimping set with pliers for optical fibres, Micro Power Quadlock (MPQ), Micro Quadlock System (MQS) contacts and universal crimping head	61 4 320 61 0 200

Subject of repair instructions

- SPECIAL TOOLS FOR WIRING HARNESS REPAIRS.
- CUTTING CABLES TO LENGTH AND STRIP INSULATION.
- **Crimping stop parts (contacts)** . See 61 13... CRIMPING MICRO QUADLOCK SYSTEM CONTACTS (MQS), 61 13... CRIMPING MICRO POWER QUADLOCK CONTACTS (MPQ) or 61 13... CRIMPING STOP PARTS.
- BUTT CONNECTOR FOR REPAIRING A PLUG CONNECTION .
- COMB CONNECTOR FOR RETROFITTING/REPAIRS.
- CUTTING TO LENGTH AND STRIPPING INSULATION FROM OPTICAL FIBRES.
- CRIMPING OPTICAL FIBRES.

61 13... UNLOCKING AND DISCONNECTING DIFFERENT PLUG CONNECTIONS

NOTE: **Examples of unlocking and disconnecting different plug connections.**

Press lock and open clamp in direction of arrow.

Disconnect plug connection.

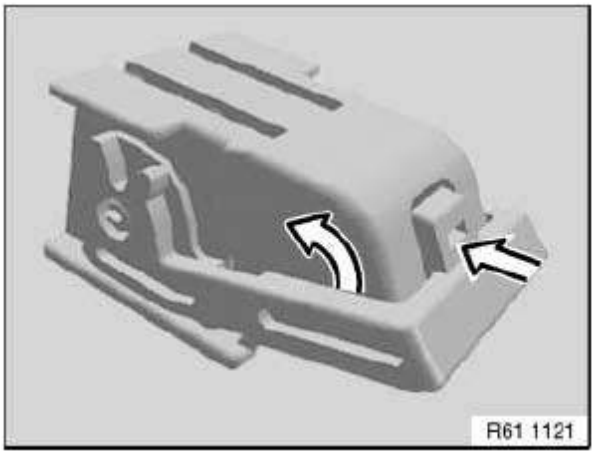


Fig. 174: Disconnecting Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Press lock and open clamp in direction of arrow.

Disconnect plug connection.

cardiagn.com

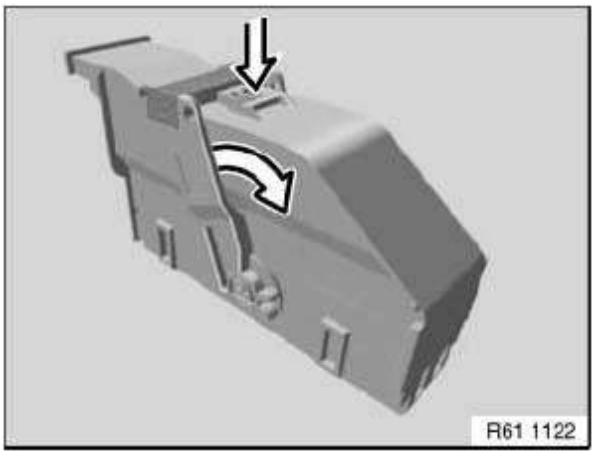


Fig. 175: Disconnecting Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Open clip in direction of arrow and disconnect plug connection in direction of arrow.

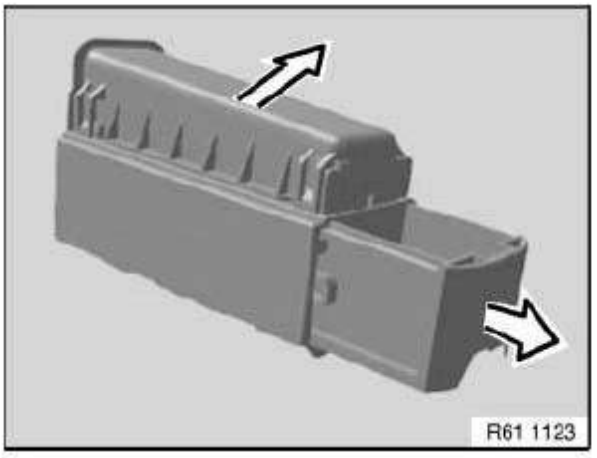


Fig. 176: Opening Clip
Courtesy of BMW OF NORTH AMERICA, INC.

Press lock and disconnect plug connection in direction of arrow.

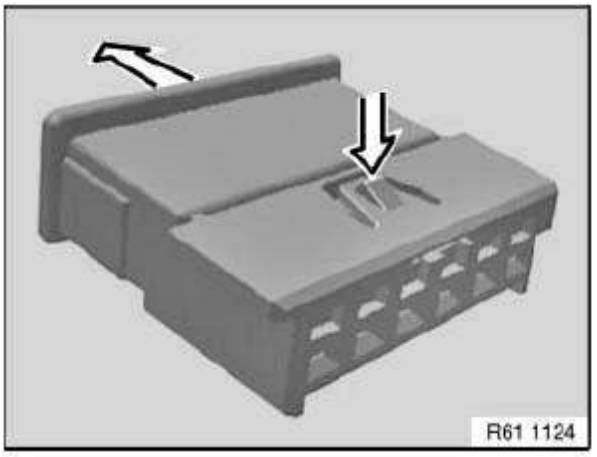


Fig. 177: Pressing Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Press lock and disconnect plug connection in direction of arrow.

cardiagn.com

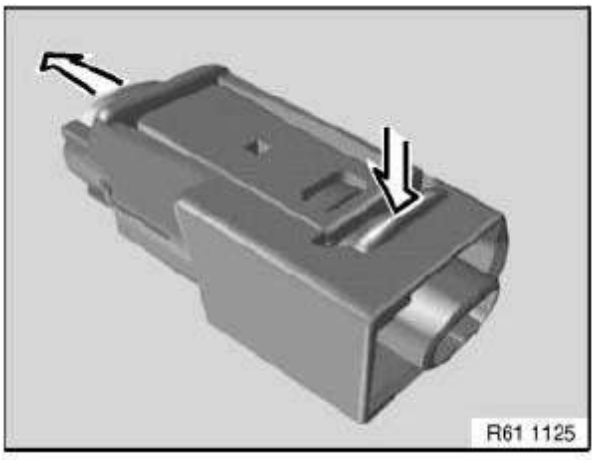


Fig. 178: Pressing Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Press lock and disconnect plug connection in direction of arrow.

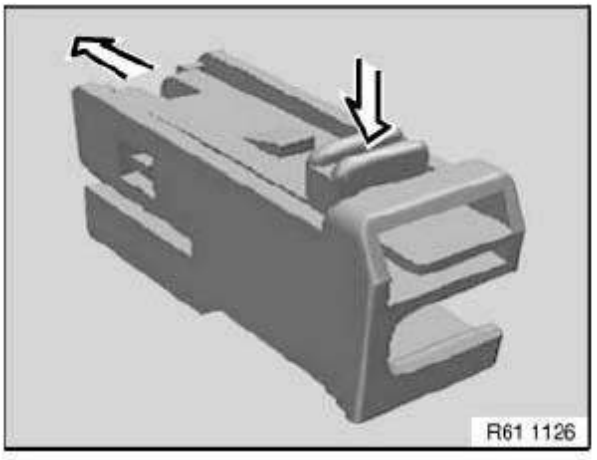


Fig. 179: Pressing Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Press lock and disconnect plug connection in direction of arrow.

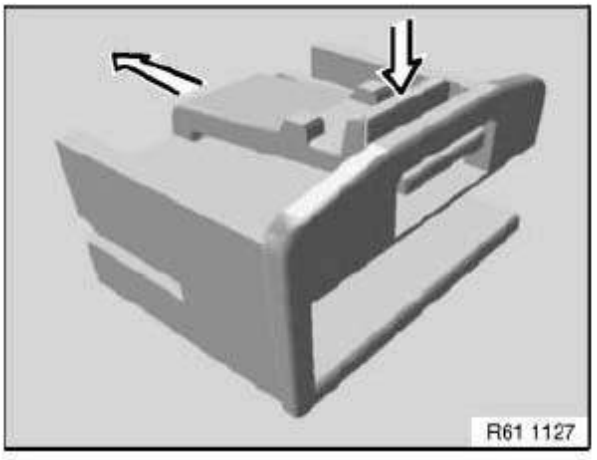


Fig. 180: Disconnecting Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Press lock and disconnect plug connection in direction of arrow.

cardiagn.com

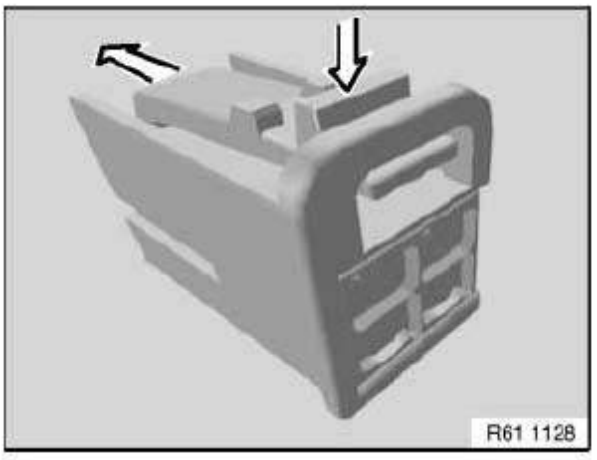


Fig. 181: Disconnecting Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Press lock and disconnect plug connection in direction of arrow.

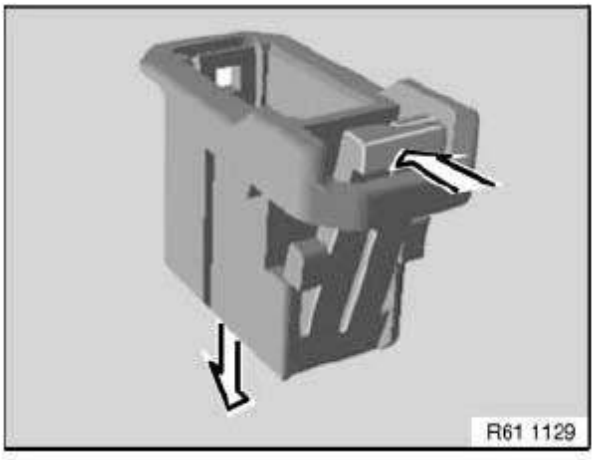


Fig. 182: Disconnecting Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Press the lock and detach plug connection.

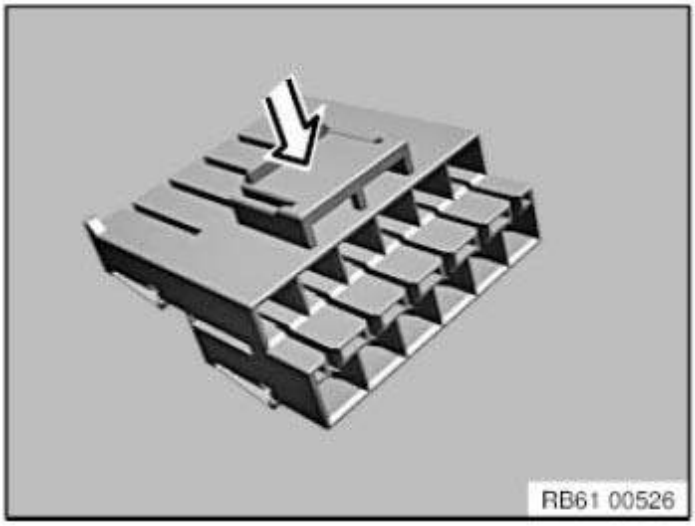


Fig. 183: Detaching Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Press the lock and detach plug connection.

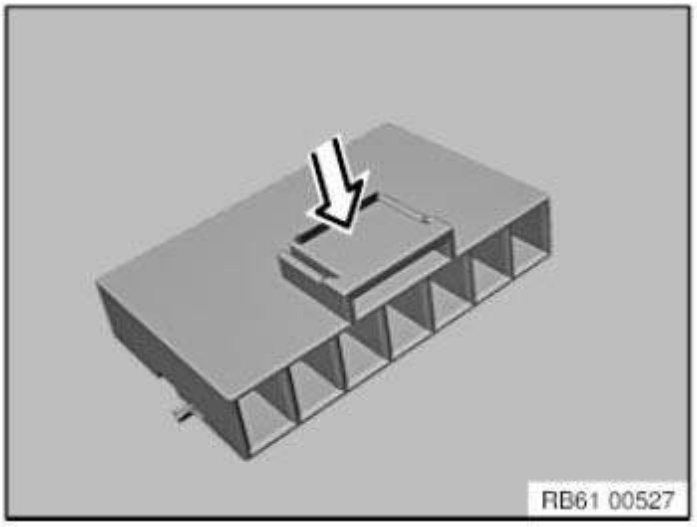


Fig. 184: Detaching Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Press the lock on both sides and detach plug connection.

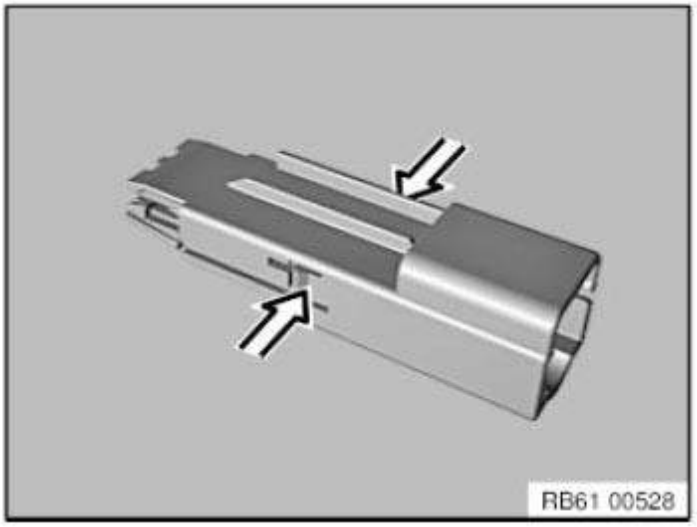


Fig. 185: Detaching Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Press the lock and detach plug connection.

cardiagn.com

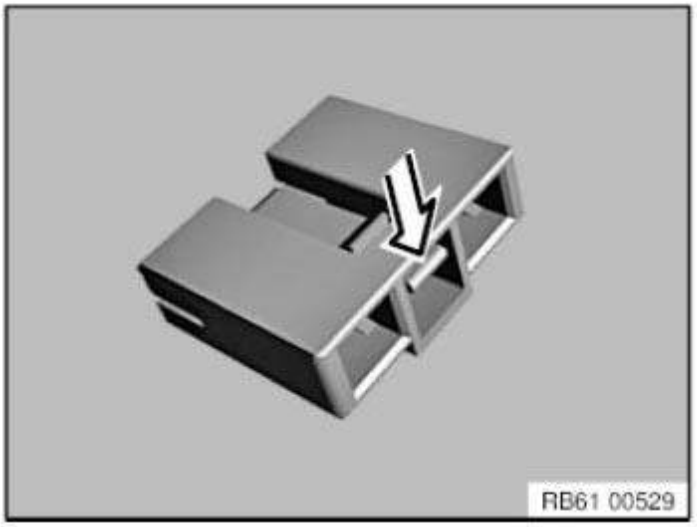


Fig. 186: Detaching Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

DISTRIBUTION BOX, POWER SUPPORT POINTS

61 14 010 REMOVING AND INSTALLING/RENEWING POWER DISTRIBUTION BOX (ON BATTERY)

WARNING: **Observe SAFETY INFORMATION for handling vehicle battery.**

Necessary preliminary tasks:

- Disconnect **BATTERY NEGATIVE CABLE**.

Fold up covers (1). Unscrew nuts (2).

Tightening torque **61 21 2AZ** .

Unscrew nut (3).

Tightening torque **61 21 3AZ** .

Disconnect plug connection (4).

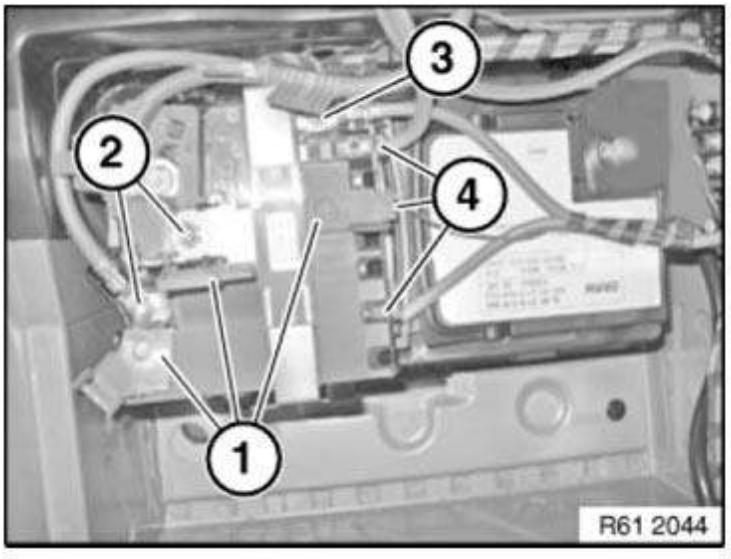


Fig. 187: Identifying Power Distribution Box (Battery) With Nuts

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Press locking brackets (1) downwards and unclip in direction of arrow.

If necessary, using a screwdriver, expand locking bracket (1) at lower end and clip out.

Remove power distribution box (2) towards top.

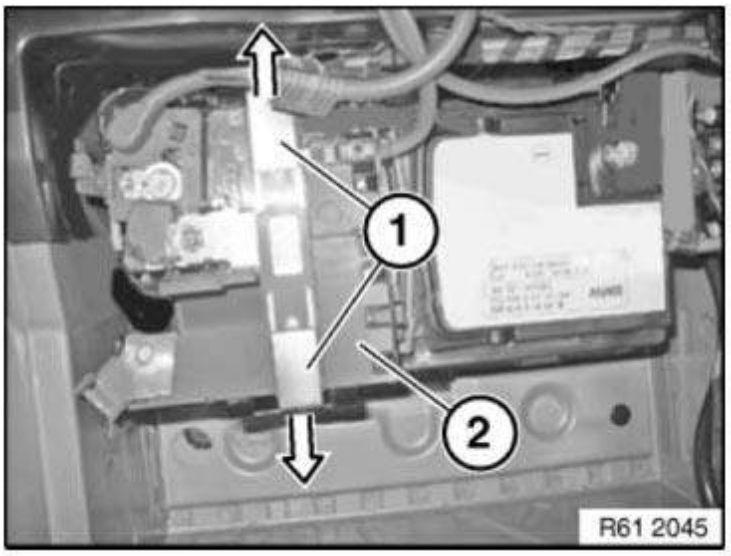


Fig. 188: Removing Power Distribution Box
Courtesy of BMW OF NORTH AMERICA, INC.

61 14... REMOVING AND INSTALLING/REPLACING POWER DISTRIBUTION BOX (PASSENGER COMPARTMENT)

Operation is described in:

- REMOVING AND INSTALLING/REPLACING POWER DISTRIBUTION BOX IN PASSENGER COMPARTMENT

61 13 042 REPLACING POWER DISTRIBUTION BOX (LUGGAGE COMPARTMENT)

Refer to 61 13 042 REPLACING POWER DISTRIBUTION BOX (LUGGAGE COMPARTMENT).

BATTERY PT. 1

61 00... BATTERY

Refer to 61 00... BATTERY.

61 20... BATTERY CHARGE

If a normal or quick charger is used to charge the battery, the battery must be disconnected from the vehicle electrical system and removed. This prevents damage to paintwork and upholstery.

IMPORTANT: In order to prevent malfunctions on the intelligent battery sensor (IBS), the charging terminals in the engine compartment must be used without fail on vehicles with IBS (from E60). On other vehicles, we recommend the charging terminals in the engine compartment are used.

IMPORTANT: Before charging the battery while it is installed, first carry out a closed-circuit current test. If here the voltage is 10 V or less, one or more of the cells may be faulty or the entire battery may already be damaged. In this case, always remove the battery as escaping gases during charging could damage the interior equipment and trim. Attempt to regenerate faulty cells with low

cardiagn.com

charging current.

If necessary, open existing seal plugs on the individual cells.

61 20... BATTERY REPLACEMENT INFORMATION

A vehicle battery is constructed for the installation location and the individual power requirements of the particular vehicle. These individual power requirements depend on the motorization and different types of equipment. The individually assigned vehicle battery is the ideal compromise between the power requirements of the vehicle electrical system and the weight and service life of the vehicle battery.

Vehicles with the automatic engine start-stop function or particular engine types and optional equipment are equipped with a special vehicle battery (AGM battery), since only this battery type can provide elevated power requirements over the extended service life. Installing a different vehicle battery can cause problems with vehicle electronics, can reduce functions or can cause leakage of battery acid.

In the event of an accident where the airbags are deployed in vehicles with a vehicle battery in the luggage compartment, the electrical connection between the vehicle battery and the trigger is automatically disconnected through pyrotechnics. This prevents possible short-circuiting.

Proper operation of all of these safety and convenience functions requires a battery that conforms with specifications and that is properly registered in vehicles with energy management systems (IBS, power module).

Vehicles with energy management systems (IBS, power module): Register battery replacement

The vehicle electrical system is informed about the vehicle battery characteristic data, such as type, size, age and current power capacity. Therefore, there will always be only one work scope provided that is permitted by the current status of information.

If the performance readiness drops below a defined minimum, a Check Control message will be generated to advise the driver that the battery must be replaced.

When installing a new vehicle battery, the battery must be registered and thus must also be registered with the vehicle electrical system.

NOTE: **Only this registration/logon will ensure that the corresponding Check Control message will go out again.**

Diagnosis system:

Register battery replacement

- Service functions
- Body
- Voltage supply
- Register battery replacement

When retrofitting, a more powerful battery may be used. Standard batteries may always be replaced by AGM batteries with the same specifications.

When installing a battery of a different size or a different battery type, this change in vehicle data must be programmed into the vehicle data in accordance with specifications.

Programming system:

- Battery retrofitting

61 20 908 CARRYING OUT BATTERY "POWER RESET"

cardiagn.com

IMPORTANT: Observe SAFETY INFORMATIONS FOR HANDLING VEHICLE BATTERY .

The following steps must be carried out for a "power reset":

- Switch off and disconnect battery charger
- Switch off ignition

  Vehicles with ID transmitter: Remove ID transmitter from slot

  Vehicles with comfort access system: Make sure terminal is in 0 position

- Disconnect battery negative terminal
- Reconnect battery negative terminal (to ensure bus activity)
- Waiting time (5-10 seconds)
- Disconnect battery negative terminal
- Waiting time (1 minute)
- Connect battery negative terminal and tighten, tightening torque 61 21 1AZ
- Connect and switch on battery charger
- Switch on the ignition.

61 20 900 DISCONNECTING AND CONNECTING BATTERY NEGATIVE LEAD

WARNING: **Observe SAFETY INFORMATIONS for handling vehicle battery. Follow instructions for DISCONNECTING AND CONNECTING BATTERY . Observe notes on VOLTAGE SUPPLY /on intelligent battery sensor (IBS).**

Necessary preliminary work:

- Remove LUGGAGE COMPARTMENT FLOOR TRIM PANEL .

Removal:

Release clamps (1).

Fold up storage shelf (2).

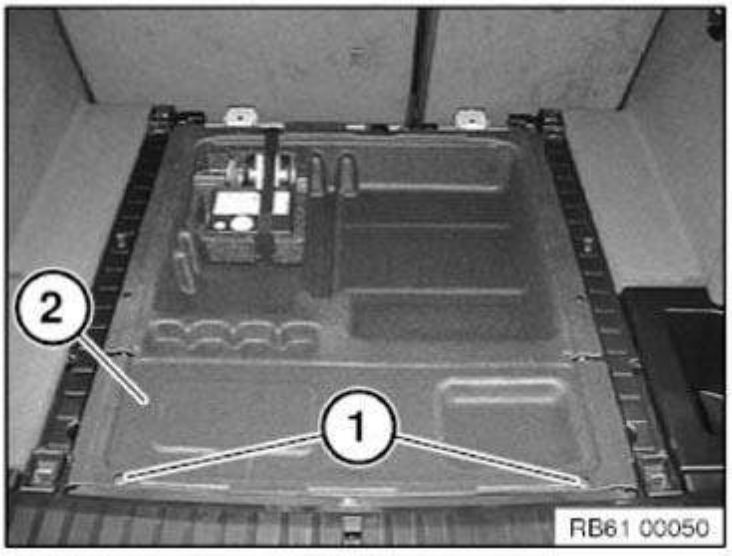


Fig. 189: Identifying Storage Shelf With Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

Loosen nut (1).

cardiagn.com

Detach battery negative lead with IBS towards top, lay to one side and secure.

IMPORTANT: Do not under any circumstances use force to pull off negative terminal.

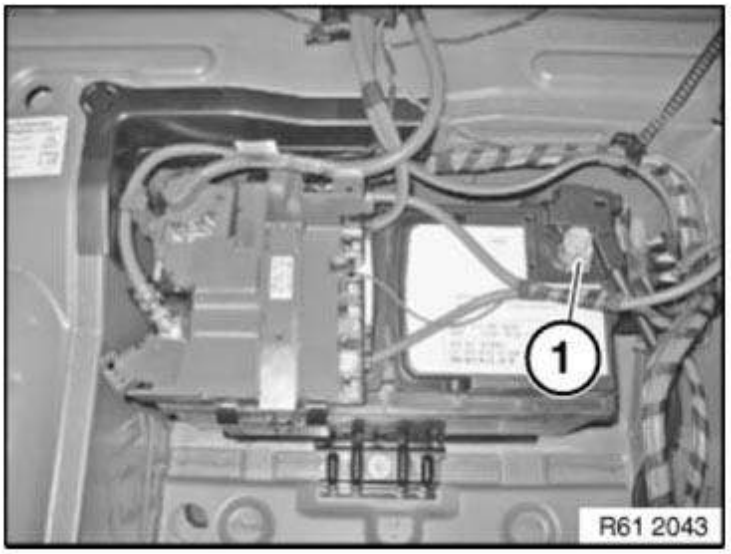


Fig. 190: Identifying Battery Earth Lead Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Insert battery earth lead with IBS and tighten with nuts (1).

Tightening torque **61 21 1AZ** .

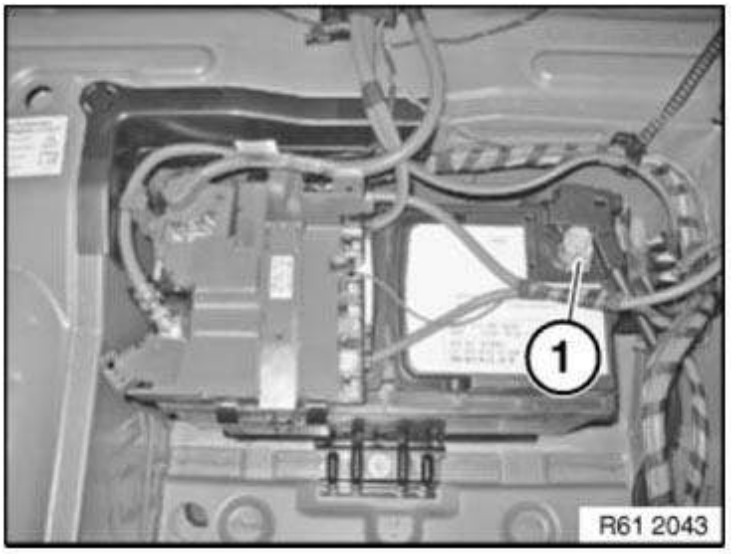


Fig. 191: Identifying Battery Earth Lead Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Insert storage shelf (2) and fasten with clips (1).

cardiagn.com

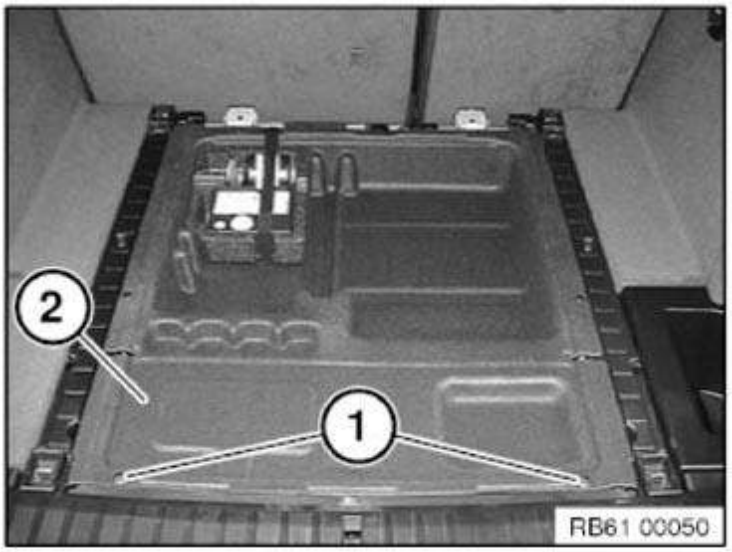


Fig. 192: Identifying Storage Shelf With Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install luggage compartment floor trim panel

61 20... INFORMATION ON AGM BATTERY



Fig. 193: Identifying AGM Battery
Courtesy of BMW OF NORTH AMERICA, INC.

Introduction

In September 2002, the first so-called VRLA batteries, better known as **AGM batteries** came into use. (VRLA stands for **V** alve **R** egulated **L** ead **A** cid, i.e. lead-acid battery with pressure relief valve; **AGM stands for A** bsorbent **G** lass **M** at, i.e. absorbent glass-fibre fleece).

The constantly increasing energy demand of modern vehicle electrical systems calls for ever more powerful battery solutions. A modern luxury-class vehicle has some 100 actuator motors that have to be fed with

cardiagn.com

electrical current. Added to these are safety, environmental and comfort elements which are increasingly becoming standard features, such as e.g. Antilock Brake System (ABS), Dynamic Stability Control (DSC), steering assistance (EPS), electronic chassis and suspension control, air conditioning and navigation system. Current consumption is considerable even when the vehicle is not in use.

The somewhat higher price compared with a battery of similar size is fully balanced by the following benefits:

- greatly longer service life
- improved starting reliability at low temperatures
- reliable starting of engines with high starting current requirements, e.g. high-performance diesel engines
- 100 % freedom from maintenance
- low risk in the event of an accident (reduced environmental risk)

Service life of AGM batteries

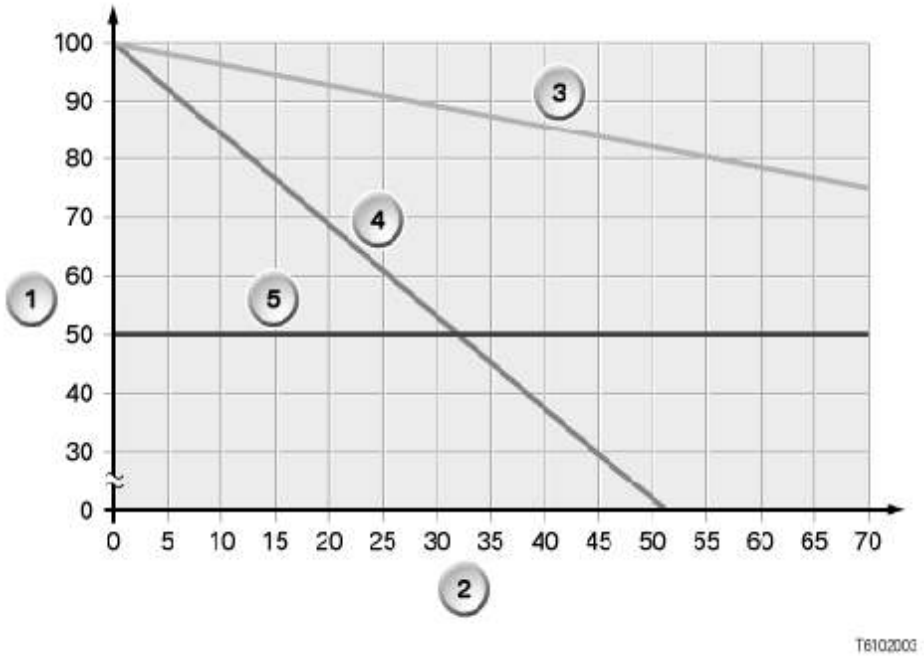


Fig. 194: AGM Batteries Service Life Graph
Courtesy of BMW OF NORTH AMERICA, INC.

Item	Explanation
1	Available capacity [%]
2	Mileage [thousand km]
3	AGM battery
4	Lead-calcium battery
5	50 % capacity limit

In contrast to conventional lead-calcium batteries, the sulphuric acid in a battery with fleece technology is not held freely in the battery housing. Rather, 100% of the sulphuric acid is bound into the mats of the glass-fibre fleece (separators). For this reason, no battery acid can escape if the battery housing is damaged. In addition, the AGM battery is sealed to be airtight. This is possible because the gases are converted back into water by the permeability of the separators.

Brief component description

An AGM battery can be recognized by its black housing and the lack of a so-called "Magic Eye".

cardiagn.com

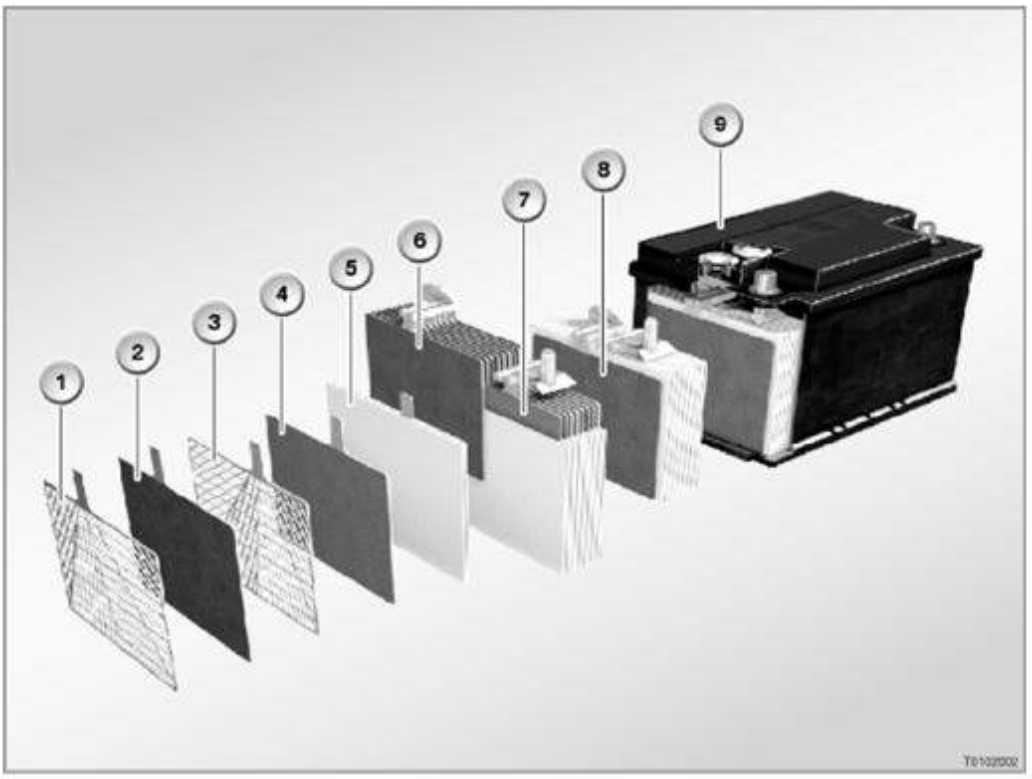


Fig. 195: Identifying AGM Battery Components
Courtesy of BMW OF NORTH AMERICA, INC.

Item	Explanation
1	Positive grille with silver alloy
2	Positive plate
3	Negative grille
4	Negative plate
5	Separator made of glass-fibre fleece
6	Set of positive plates
7	Set of negative plates
8	Block of plates
9	Block box with base strips

Construction

The AGM battery differs from the conventional lead calcium battery as follows:

- larger plates: Larger plates allow a 25% larger power density.
- Separators made of glass-fibre fleece: These can cause an up to 3-times higher cycle stability to be reached. This improves the cold starting capability, the power consumption and service life.
- Airtight housing with pressure relief valve (please refer to "How it works"):

  The inspection plugs are sealed and can not be opened.

- Battery acid bound in glass-fibre fleece: Battery acid is not found free in the housing as before, but is rather bound 100% in the glass-fibre fleece. This gives increased security against the acid escaping and thus reduces the environmental risk.

How it works

The AGM battery differs from conventional batteries in its non-polluting and substance-retaining behavior during charging.

cardiagn.com

When a battery is charged, the electrolysis process emits the gases oxygen and hydrogen.

- In a conventional wet lead calcium battery, the two gases hydrogen and oxygen are dissipated into the atmosphere.
- In an AGM battery, the two gases are converted back into water: The oxygen which is created at the positive electrode during charging passes through the permeable glass fibre fleece to the negative electrode. At the negative electrode the oxygen reacts with the arriving hydrogen ions in the electrolyte to form water (oxygen cycle).

In this manner, the gas and thus also the electrolyte are not lost.

Only in the event of an excessively heavy build-up of gas, i.e. excessively high pressure build-up (20 to 200 mbar), does the pressure relief valve discharge the gas. In this process, the pressure relief valve does not allow any oxygen in the air to enter. Because the pressure in the battery is regulated by a valve, the AGM battery is also known as the VRLA battery (valve-regulated lead acid).

Notes for Service department

It is necessary when handling an AGM battery to observe some particular points pertaining to battery changing and installation location.

Charging

WARNING: Do not charge the AGM battery with ≥ 14.8 V. Do not use rapid-charging programs!

When charging removed batteries (so-called stand-alone batteries), do not exceed the maximum charging voltage of 14.8 V at room temperature. Also, for charging via the external start connection point, the maximum charging voltage of 14.8 V at room temperature must not be exceeded. The battery can be damaged even if the AGM battery is only briefly charged with a charging voltage higher than 14.8 V. A charging voltage of more than 14.8 V is usually used in quick-charging routines.

Installation location

WARNING: Do not install the AGM battery in the engine compartment.

The AGM battery must not be installed in the engine compartment on account of the high spatial temperature differences, otherwise its service life will be significantly shortened.

Housing

WARNING: Do not open AGM batteries.

On no account may AGM batteries be opened, as the ingress of oxygen from the atmosphere would cause the battery to lose its chemical balance, rendering it unserviceable.

61 12... INFORMATION ON INTELLIGENT BATTERY SENSOR (IBS)

Refer to **61 12... INFORMATION ON INTELLIGENT BATTERY SENSOR (IBS)**.

61 00... NOTES FOR DISCONNECTING AND CONNECTING BATTERY

Refer to **61 00... NOTES FOR DISCONNECTING AND CONNECTING BATTERY**.

12 00... NOTES/INFORMATION ON START ASSISTANCE (JUMP STARTING)

Do not start the engine with help of starting sprays.

Preparation:

cardiagn.com

Conform with the following when starting the engine with a jump starting cable.

- Ensure that the jump starting cable wires are of appropriate cross-section size.
- Only use fuse-protected jump starting cables.
- Check whether the current-supplying battery has 12 V voltage.
- If the engine is started from the battery of another vehicle, ensure that there is no contact between the bodies of both vehicles.

IMPORTANT: Never touch electrically live ignition system components: high voltage - danger of injury!

If the battery in the vehicle supplying power is weak, start the engine of this vehicle and let it run at idling speed.

Operation:

It is essential to conform to the procedures so as to avoid injury to persons or damage to parts.

- Automatic transmission: select drive position "P", apply parking brake.
- Manual transmission: move gear lever to neutral position, apply parking brake.
- Ensure that the jump leads cannot get caught in rotating parts, e.g. fan.
- First connect both positive poles of the batteries with one jump starting cable (red).
- Use the battery positive terminal in the engine compartment for vehicles with the battery in the luggage compartment.
- Then use the second jump starting cable (black) to connect the negative post of the current-supplying battery with the earth/ground point (not the negative pole or the body) of the vehicle to be started.

IMPORTANT: Do not connect the second jump starting cable (black) with the negative pole of the battery in the vehicle to be started. Produced gas could be ignited by sparks.

Risk of explosion!

After the engine of the vehicle to be started has fired, first disconnect the jump starting cable between the negative pole and the earth/ground point. Then remove the starting cable from the positive poles.

61 00... SAFETY INSTRUCTIONS FOR HANDLING VEHICLE BATTERY

Refer to **61 00... SAFETY INSTRUCTIONS FOR HANDLING VEHICLE BATTERY**.

61 20 005 TESTING BATTERY WITH BATTERY TESTER

IMPORTANT: Check is not permissible for AGM and lithium ion batteries!
Check does not apply to F-series!

WARNING: **Observe SAFETY INFORMATION on the 12 V battery.**

Necessary preliminary tasks:

Remove **LUGGAGE COMPARTMENT FLOOR TRIM PANEL** .

Procedure:

- Turn off ignition and close doors
- Connect battery tester directly to battery terminals
- Select Battery test and confirm
- Enter vehicle identification number

cardiagn.com

- Enter battery data
- Carry out battery test



Fig. 196: Identifying Battery Tester
Courtesy of BMW OF NORTH AMERICA, INC.

61 20 503 VEHICLE BATTERY - CLOSED-CIRCUIT CURRENT MONITORING

Necessary preliminary tasks:

To access the ground cable of the battery, perform the necessary preliminary work described in the information **DISCONNECTING BATTERY EARTH LEAD**.

Do not disconnect negative lead of battery.

Connect diagnosis system.

Connect clip-on probe to negative lead of battery. The arrow on the current clamp must point towards the battery.

Measure closed-circuit current.

BATTERY PT. 2

61 20 908 CARRYING OUT BATTERY "POWER RESET"

IMPORTANT: Observe **SAFETY INFORMATIONS FOR HANDLING VEHICLE BATTERY** .

The following steps must be carried out for a "power reset":

- Switch off and disconnect battery charger
- Switch off ignition

  Vehicles with ID transmitter: Remove ID transmitter from slot

  Vehicles with comfort access system: Make sure terminal is in 0 position

- Disconnect battery negative terminal.
- Reconnect battery negative terminal (to ensure bus activity).
- Waiting time (5-10 seconds).
- Disconnect battery negative terminal.

cardiagn.com

- Waiting time (1 minute).
- Connect battery negative terminal and tighten, tightening torque 61 21 1AZ .
- Connect and switch on battery charger.
- Switch on the ignition.

61 21 028 CHARGE BATTERY

WARNING: READ AND COMPLY WITH SAFETY INFORMATIONS PERTAINING TO VEHICLE BATTERY .

Lead-acid battery, AGM battery:
IMPORTANT: To prevent the intelligent battery sensor from malfunctioning, use the charging points in the engine compartment.

OBSERVE INSTRUCTIONS ON INTELLIGENT BATTERY SENSOR/BATTERY ELECTRONICS .

NOTE: **Use BMW-recommended charging computers to charge the battery.**

Pay attention when charging the lithium ion battery!

Risk of damage!

The charging voltage that is generated by existing chargers that are designed for the lead-acid or AGM battery is too high for the lithium ion battery!

This excessive charging voltage will result in damage to the lithium ion battery!

Therefore, the charging voltage of existing chargers must be reduced before charging a lithium ion battery:

- Following a prior charger software update, the charging voltage is automatically adapted to the relevant battery type.
- The charging voltage must be manually adapted to the relevant battery type prior to charging.

61 21 010 REMOVE AND INSTALL OR REPLACE BATTERY

WARNING: **Observe SAFETY INFORMATIONS for handling vehicle battery.**

To ensure the correct safety and convenience functions, install only the original battery (battery size and type) stored in the vehicle order. OBSERVE NOTE ON BATTERY REPLACEMENT .

Necessary preliminary tasks:

- Remove POWER DISTRIBUTION BOX.

Release screws (1).

Tightening torque 61 21 5AZ .

Remove retaining bracket (2) from battery (3).

cardiagn.com

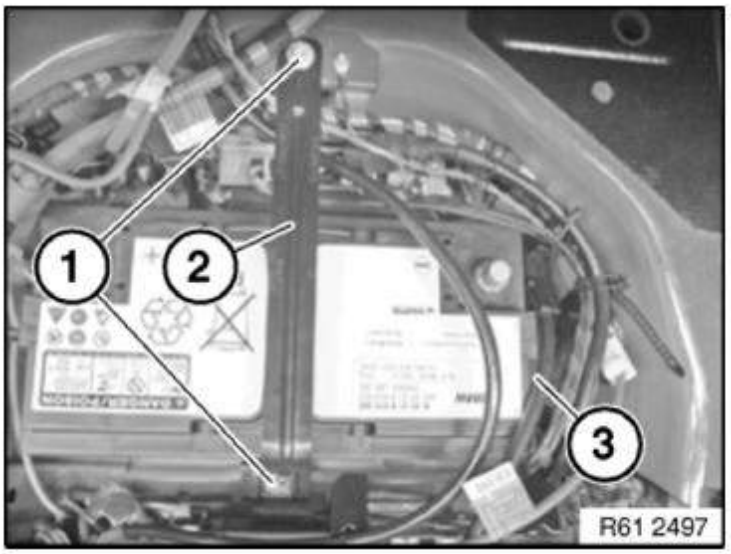


Fig. 197: Identifying Retaining Bracket From Battery
Courtesy of BMW OF NORTH AMERICA, INC.

Loosen nut (1).

Tightening torque **61 21 1AZ**

IMPORTANT: Do not under any circumstances use force to pull or lever off safety battery terminal.

Pull off safety battery terminal (2) towards top, lay to one side and secure.

Remove vent line (3).

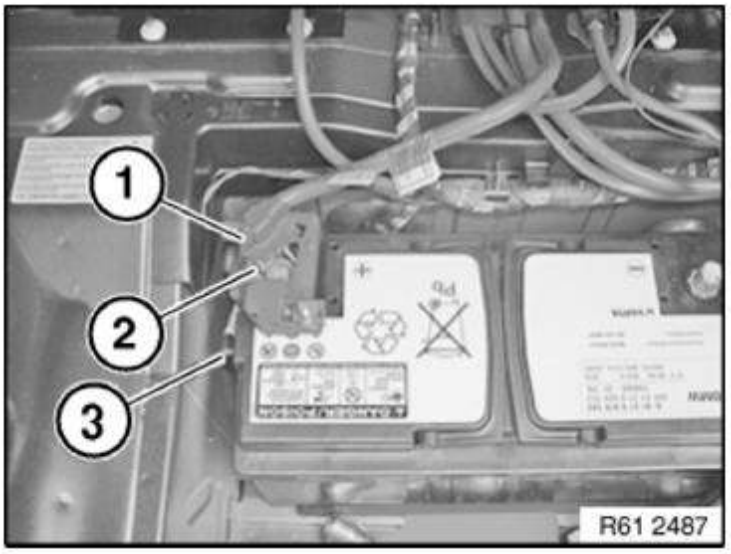


Fig. 198: Identifying Safety Battery Terminal, Vent Line And Nut
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE:

- **Always route ventilation line (1) at a downhill gradient outwards to prevent any siphonic action.**
- **Fig. 199 depicts an incorrect installation, Fig. 199 depicts a correct installation.**

cardiagn.com

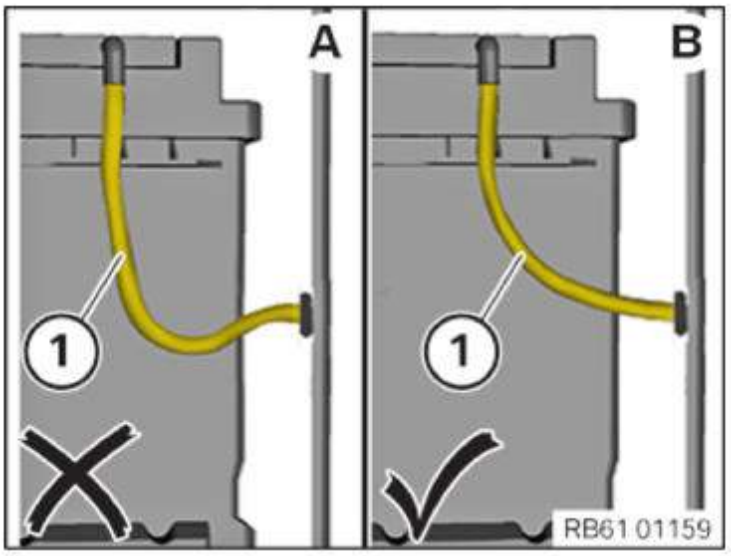


Fig. 199: Identifying Ventilation Line Correct And Incorrect Position
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1) and remove side holder (2).

Tightening torque **61 21 5AZ** .

Remove battery.

Installation note:

Ensure correct fit of the battery in the battery fixture.

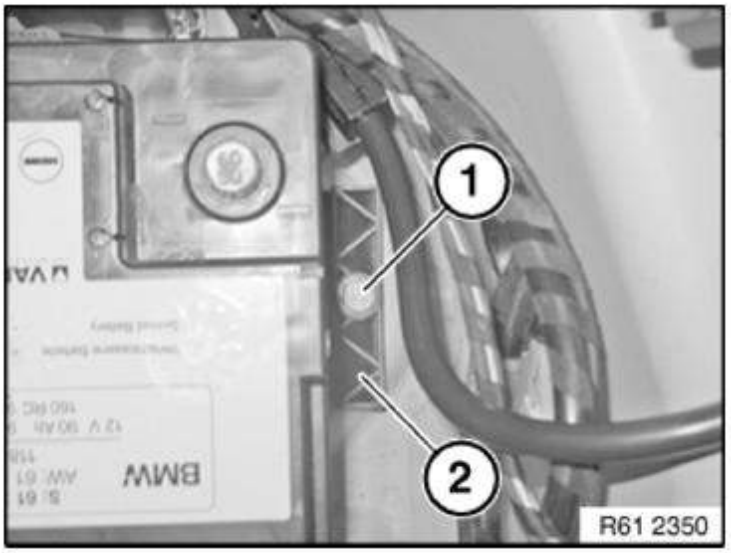


Fig. 200: Identifying Side Holder Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Extra in versions starting from 07/2013:

Release screw (1) and remove rear holder.

Tightening torque **61 21 5AZ**

Remove battery.

cardiagn.com

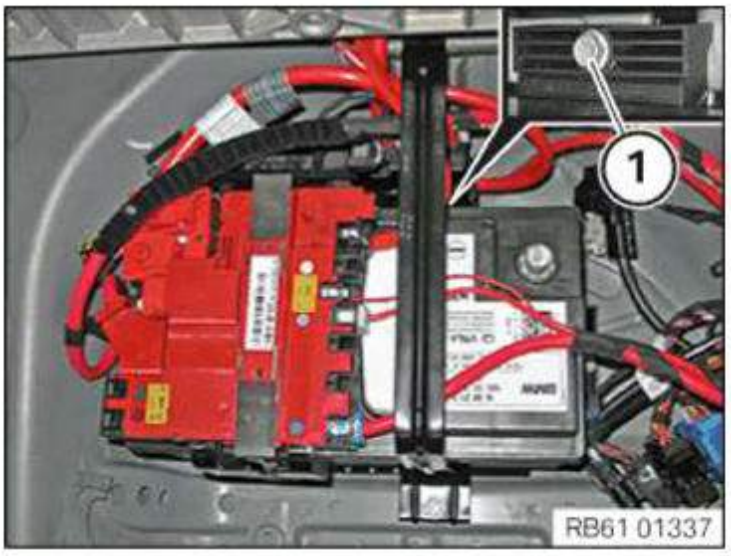


Fig. 201: Identifying Rear Holder Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

- Vehicles with intelligent battery sensor (IBS)

REGISTER BATTERY REPLACEMENT

NOTE: **If Check Control message is present:**

- **Delete fault memory**

61 20 005 TESTING BATTERY WITH BATTERY TESTER

Refer to **61 20 005 TESTING BATTERY WITH BATTERY TESTER**.

HIGH-VOLTAGE BATTERY UNIT INDIVIDUAL COMPONENT

61 27... NOTES ON OPENING AND CLOSING CABLE STRAPS ON ELECTRIC AND HYBRID CARS

Special tools required:

- 2 359 966

The following procedure must be followed without exception to loosen cable straps on electric and hybrid cars and in the high-voltage battery unit!

- Pointed or sharp-edged tools must not be used
- The following tools are permitted: combination pliers and coolant pump pliers
- Technical support must be contacted in case of damaged high-voltage cables.
- Remove the protruding end of the cable strap using the relevant special tool.

Grip and compress the cable strap (1) (as shown in the graphic) using the combination pliers or coolant pump pliers (2).

cardiagn.com

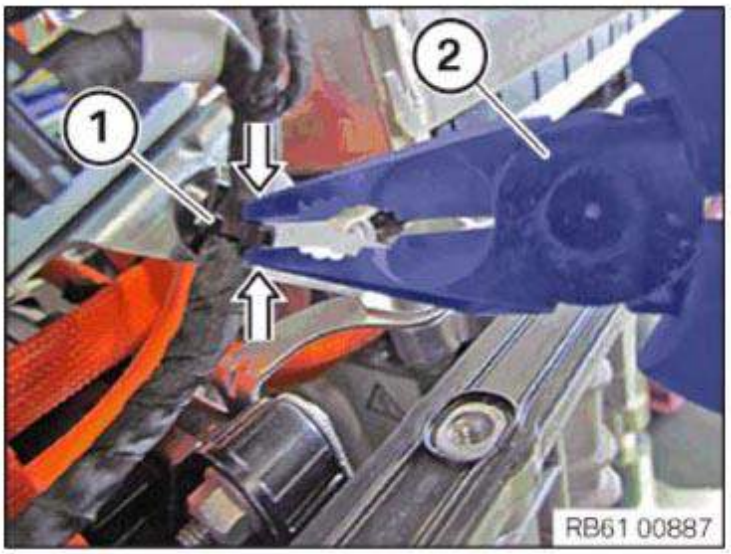


Fig. 202: Compressing Cable Strap Using Combination Pliers
Courtesy of BMW OF NORTH AMERICA, INC.

The cable strap (1) is opened at the closure (2) by pulling in the direction of arrow.

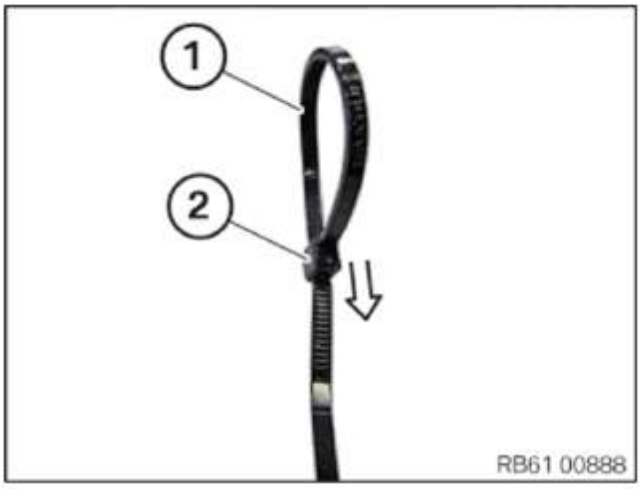


Fig. 203: Pulling Cable Strap
Courtesy of BMW OF NORTH AMERICA, INC.

If the closure does not open, the cable strap closure can also be twisted off.

Grab the closure (2) with the combination pliers or coolant pump pliers (1) and twist off in direction of arrow.

IMPORTANT: Technical support must be contacted in case of damaged high-voltage cables.

cardiagn.com

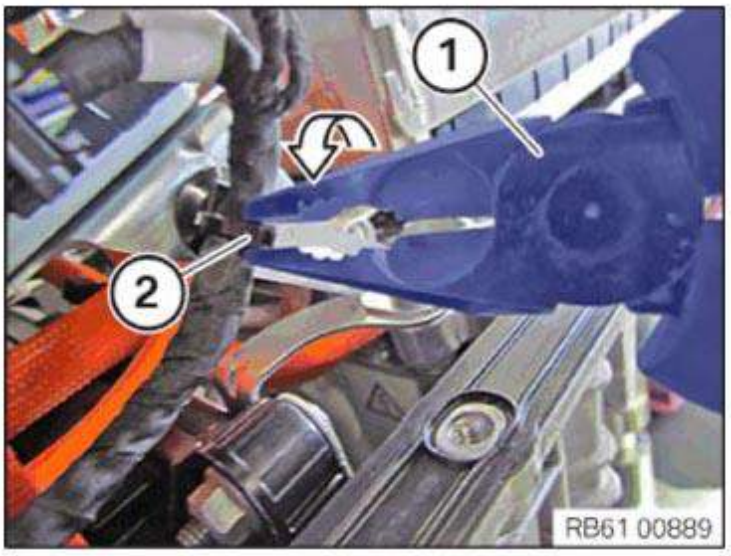


Fig. 204: Pressing Closure With Combination Pliers/Coolant Pump Pliers
Courtesy of BMW OF NORTH AMERICA, INC.

Setting the starting power above the rotary knob (1)

- Slide stop (2) in direction of arrow
- Hold stop (2) in position and rotate rotary knob (1) in the desired position.
- Release stop (2) again and let it be engaged.

Settings	0	1	2	3	4	5	6	7	8
Tensile force in N	20	38	51	68	85	104	125	143	165



Fig. 205: Rotating Rotary Knob
Courtesy of BMW OF NORTH AMERICA, INC.

Preload cable strap (1) by hand so that one stroke is enough for tightening and cutting-off.

Tighten cable strap (1) with special tool 2 359 966 until the protruding end of the cable strap is cut off.

Adjust the special tool 2 359 966 to **stage 4** for cable straps on high-voltage cables in the high-voltage battery unit.

Adjust the special tool 2 359 966 to **stage 3** for cable straps on 12 V lines in the high-voltage battery unit.

cardiagn.com



Fig. 206: Tightening Cable Strap Using Special Tool (2 359 966)
Courtesy of BMW OF NORTH AMERICA, INC.

SWITCH

61 31... REMOUNT OPERATING UNIT FOR ADDITIONAL SEAT FUNCTION (CLIPPED VERSION)

Necessary preliminary tasks:

- **REMOVE OPERATING UNIT OF ADDITIONAL SEAT FUNCTION**

Removal:

Release all latch mechanisms on the operating unit (1) using screwdriver (3- mm blade).



Fig. 207: Locating Operating Unit Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

Feed out the operating unit (1) from the rear panel (2).

cardiagn.com

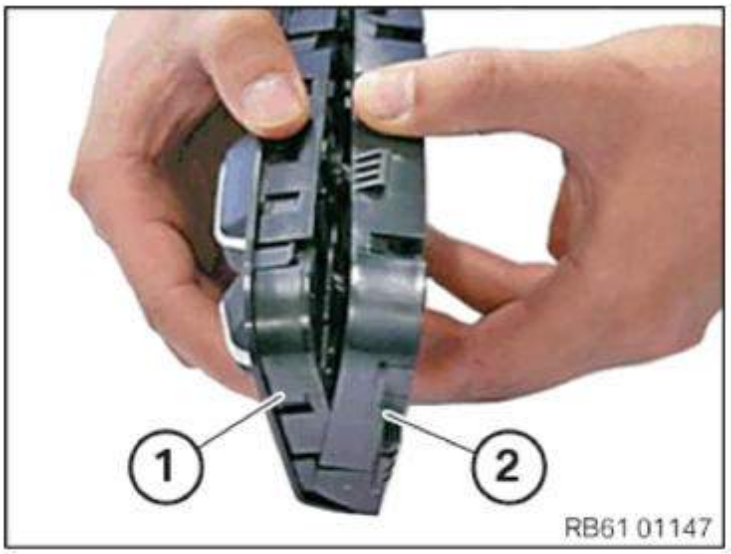


Fig. 208: Removing Operating Unit From Rear Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect the connector from the printed circuit board (2) and remove the operating unit (1).

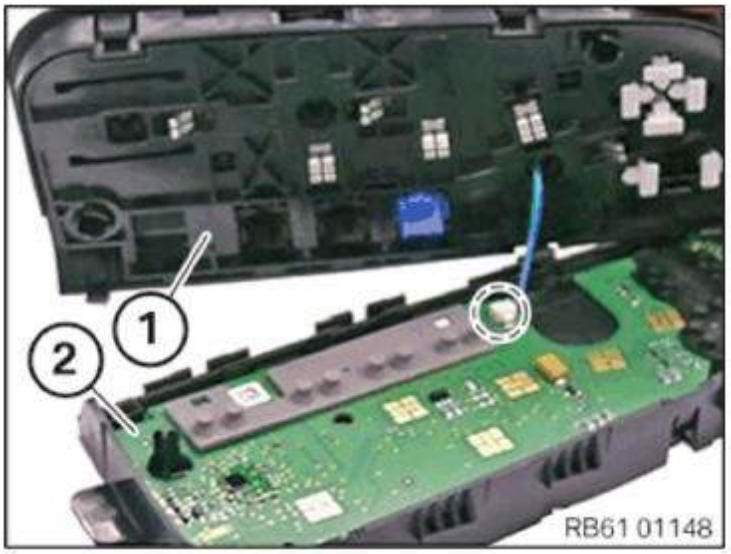


Fig. 209: Identifying Connector From Printed Circuit Board
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip the button (1) using screwdriver (2) and pull out forwards.

cardiagn.com

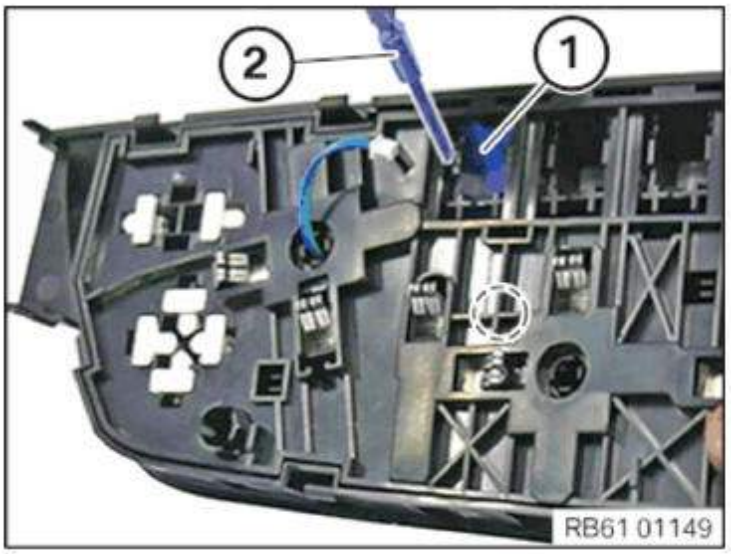


Fig. 210: Removing Button Using Screwdriver
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Fit the memory button to the operating unit and press to lock into place.



Fig. 211: Identifying Memory Button On Operating Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Ensure keypads (1) are seated correctly.

cardiagn.com

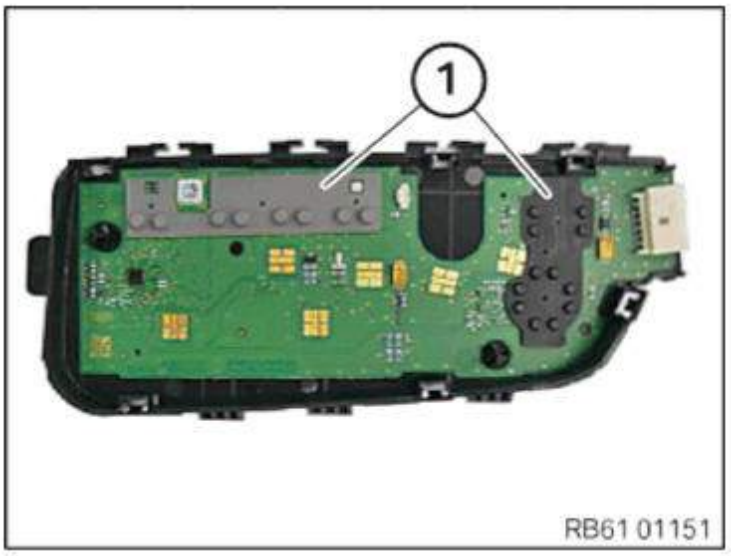


Fig. 212: Identifying Operating Unit Keypads
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect the connector from the printed circuit board (2) and remove the operating unit (1).

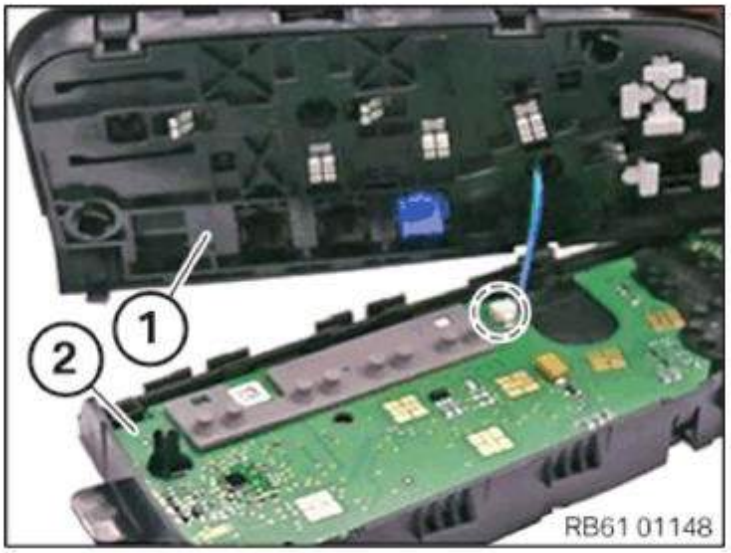


Fig. 213: Identifying Connector From Printed Circuit Board
Courtesy of BMW OF NORTH AMERICA, INC.

Fit the operating unit (1) to the rear panel (2) and press to lock into place.

IMPORTANT: Pay attention to the freedom of movement and function of the remounted button!

cardiagn.com

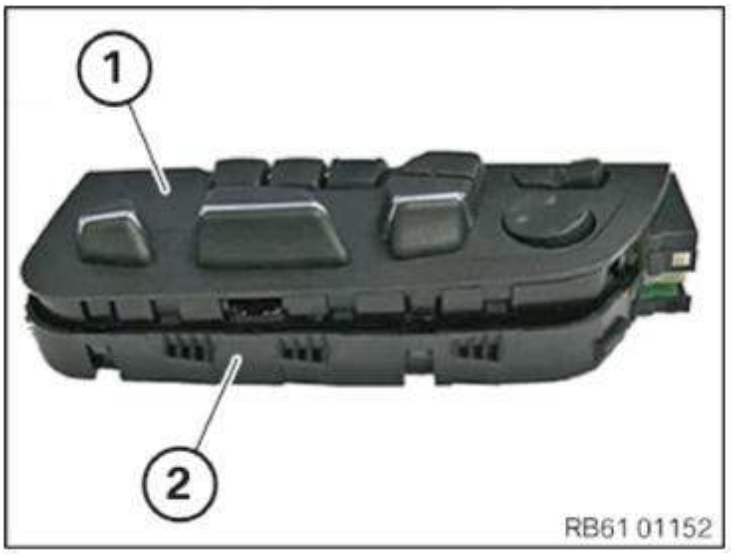


Fig. 214: Identifying Operating Unit On Rear Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Remove operating unit of additional seat function

61 31... REMOUNT OPERATING UNIT OF THE ADDITIONAL SEAT FUNCTION (SCREWED VERSION)

Necessary preliminary tasks:

- **REMOVE OPERATING UNIT OF ADDITIONAL SEAT FUNCTION**.

Removal:

Release all screws by means of screwdriver (1) on the operating unit (2).

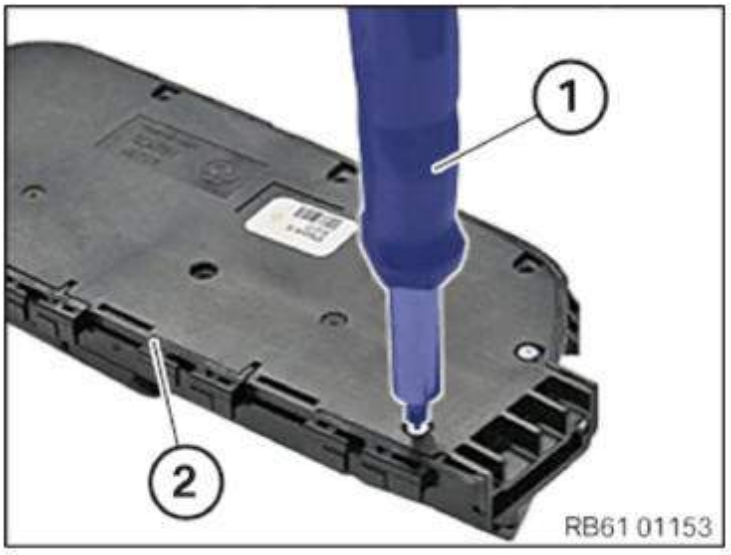


Fig. 215: Identifying Screws On Operating Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Remove the rear panel (1) and feed out the printed circuit board (2).

cardiagn.com

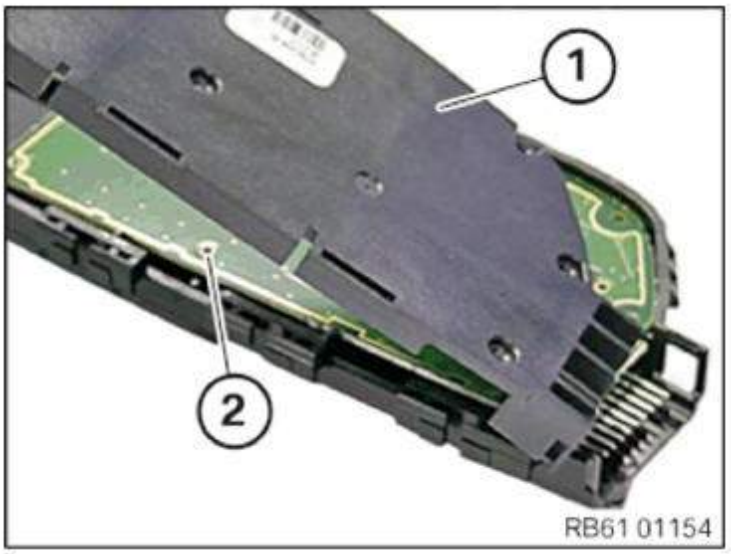


Fig. 216: Identifying Printed Circuit Board And Rear Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Take out the pressure pin (1) from the operating unit (2).

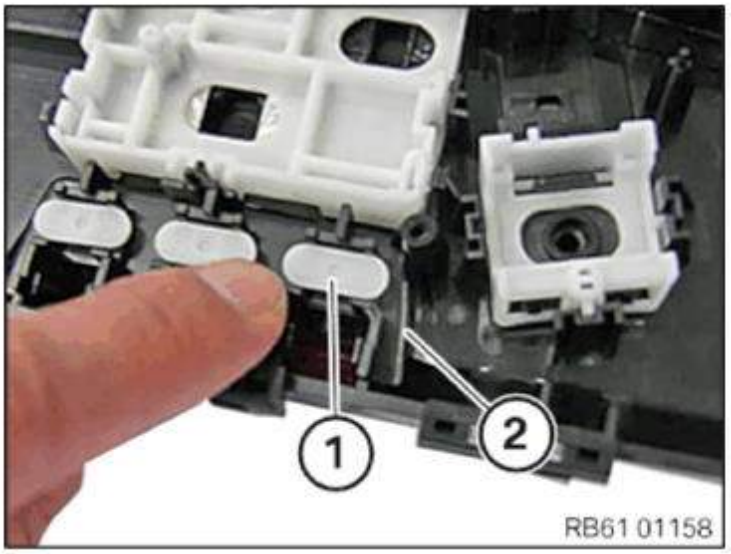


Fig. 217: Removing Pressure Pin From Operating Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip button (2) with the help of screwdriver (1) and remove.

cardiagn.com

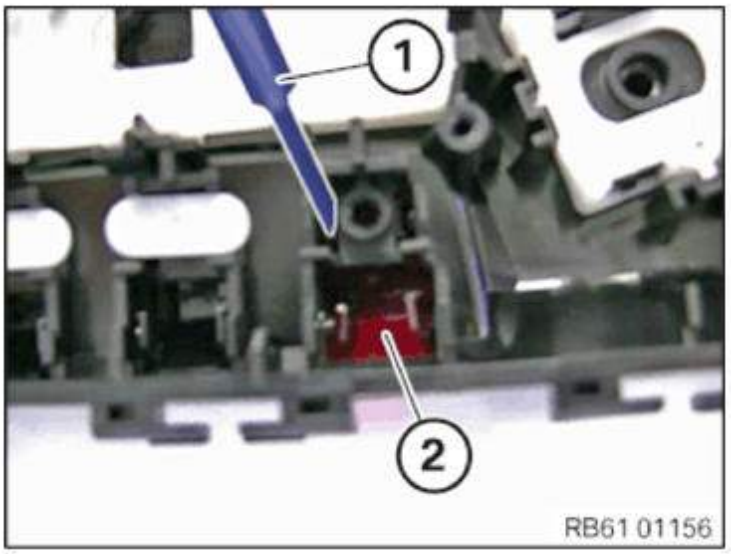


Fig. 218: Removing Button With Help Of Screwdriver
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Add the button (1) to the operating unit (2) and lock using pressure.

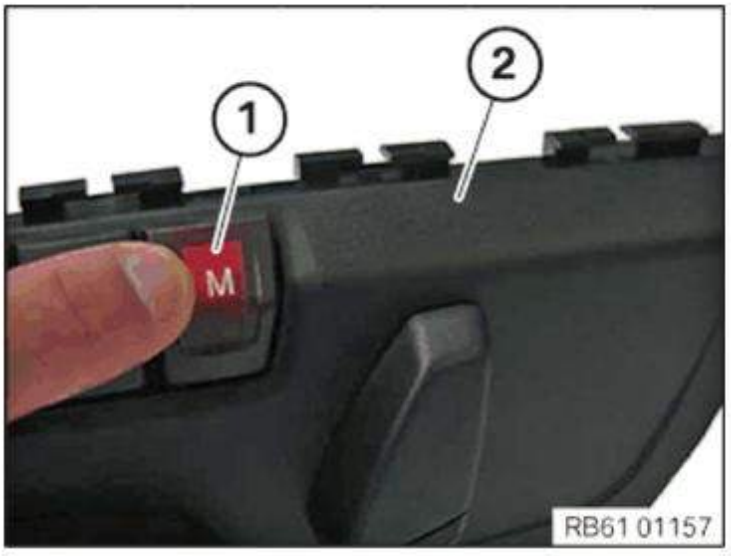


Fig. 219: Installing Button To Operating Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Add pressure pin (1) to the operating unit (2).

cardiagn.com

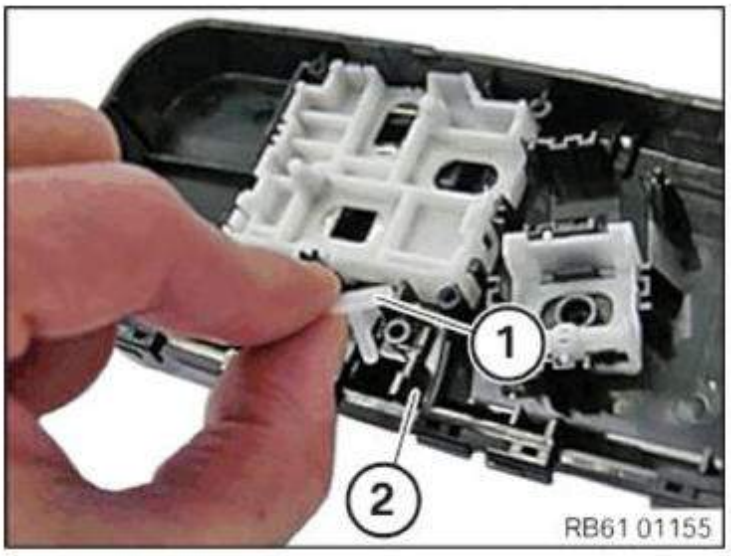


Fig. 220: Installing Pressure Pin To Operating Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Add the printed circuit board (2) and then the rear panel (2) to the operating unit.

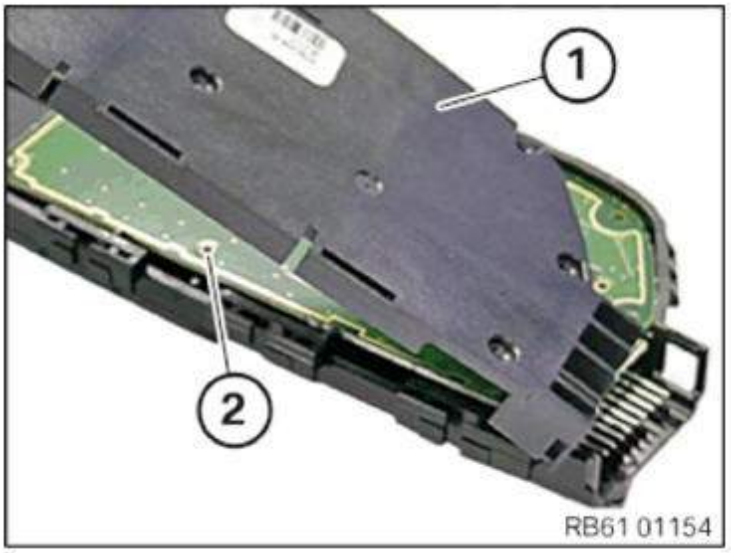


Fig. 221: Identifying Printed Circuit Board And Rear Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Tighten all screws on the operating unit (2) with the help of screwdriver (1).

IMPORTANT: Pay attention to the freedom of movement and function of the remounted button!

cardiagn.com

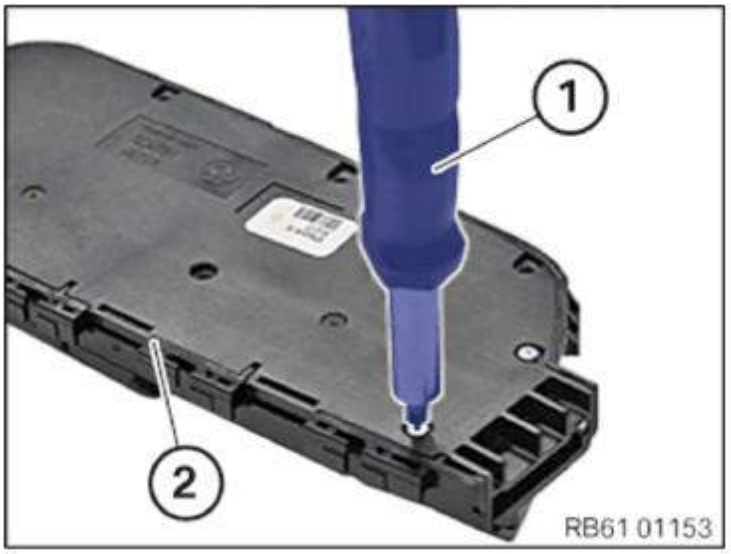


Fig. 222: Identifying Screws On Operating Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Remove operating unit of additional seat function

61 31 231 REMOVE AND INSTALL/REPLACE THE STEERING WHEEL MODULE

IMPORTANT: Observe the **INFORMATION ON PROTECTION FROM ELECTROSTATIC DISCHARGE**.

Necessary preliminary tasks:

- **REMOVE** both multifunction steering wheel switches

Remove steering wheel module (1) from steering wheel (2) in direction of arrow.

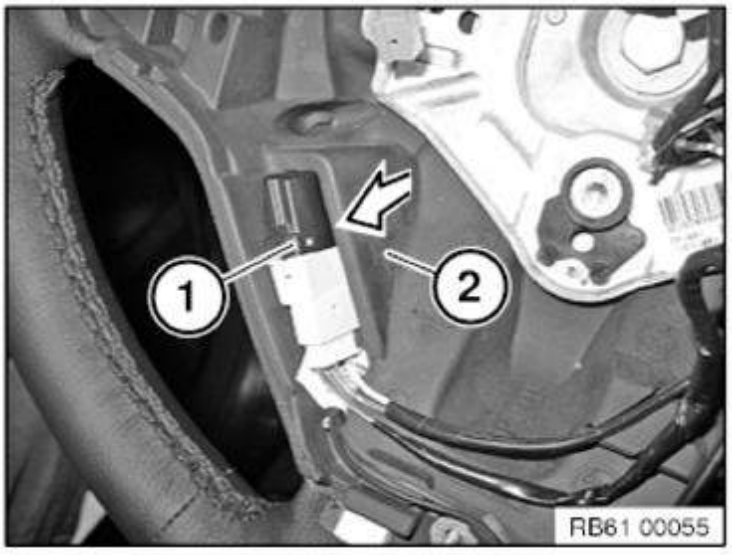


Fig. 223: Removing Steering Wheel Module From Steering Wheel
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1).

Remove steering wheel module (2).

cardiagn.com

Installation note:

Make sure electronic steering wheel module (2) is fitted correctly.

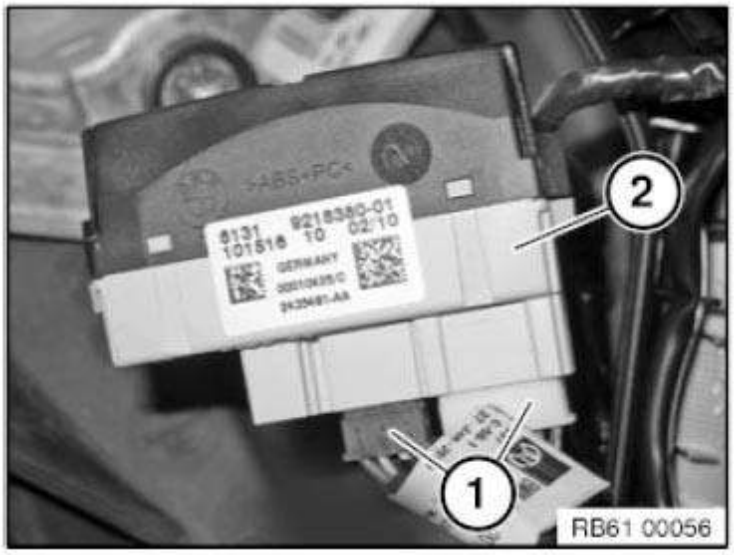


Fig. 224: Identifying Steering Wheel Module With Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 195 REMOVING AND INSTALLING (REPLACING) FRONT CONTROLLER

IMPORTANT: Risk of damage!
The button for the controller must not be removed!

Necessary preliminary work:

- **REMOVE CENTER CONSOLE TRIM** .

Removal:

Release all screws (1).

Remove controller (2) from center console trim (3).

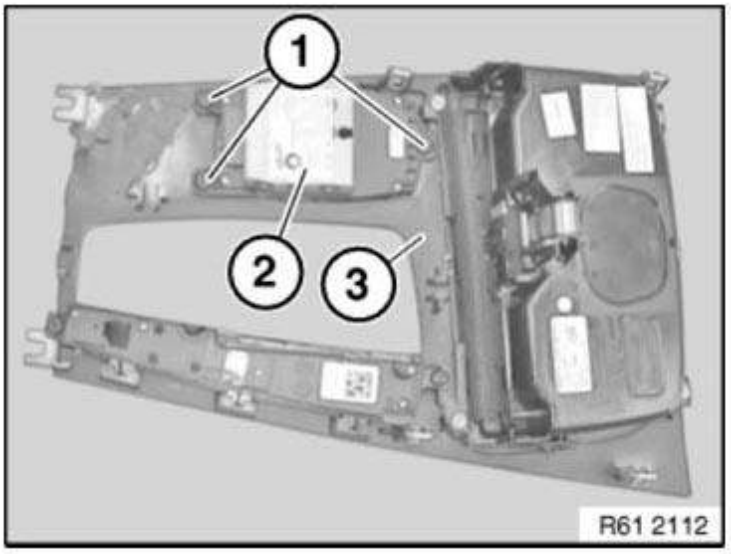


Fig. 225: Identifying Controller From Center Console Trim
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation:

Mount controller (2) on center console trim (3) and tighten with screws (1).

Tightening torque **61 31 2AZ** .

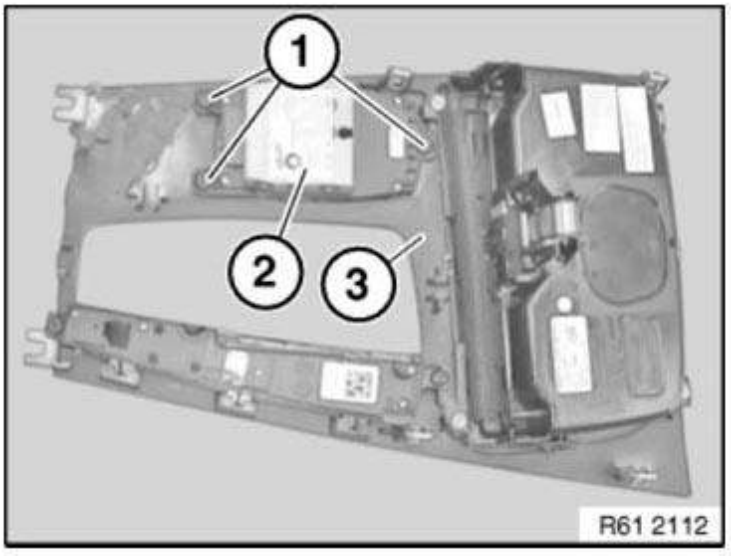


Fig. 226: Identifying Controller From Center Console Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING**.

Required follow-up work:

- **REMOVE CENTER CONSOLE TRIM** .

61 31 362 REMOVING AND INSTALLING (REPLACING) WIRELESS REMOTE CONTROL

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)**.

Necessary preliminary work:

- Lower **HEADLINING** .

Removal:

Unfasten plug connection (1) and disconnect.

Release expanding rivet (2) and remove control unit (3).

cardiagn.com

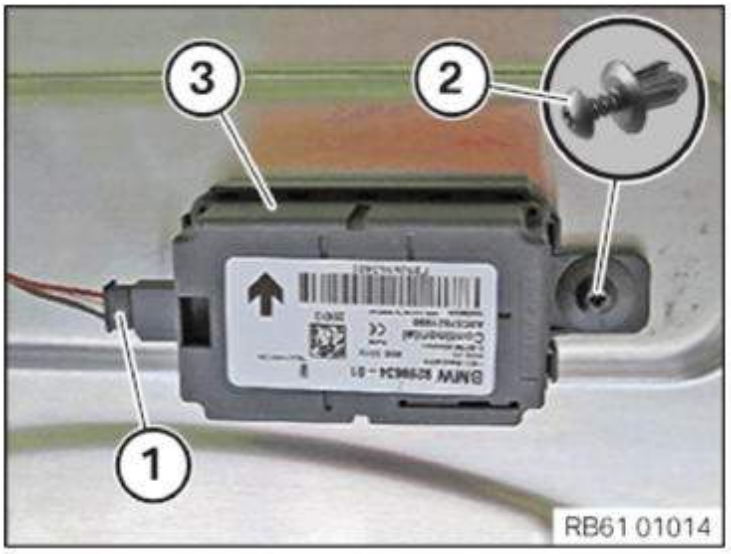


Fig. 227: Identifying Control Unit Expanding Rivet
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Installation note:

Position control unit (3) so that positioning pin on rear side engages in associated bore hole.

Insert control unit (3) and fasten with expanding rivet (2).

Connect the plug (1).

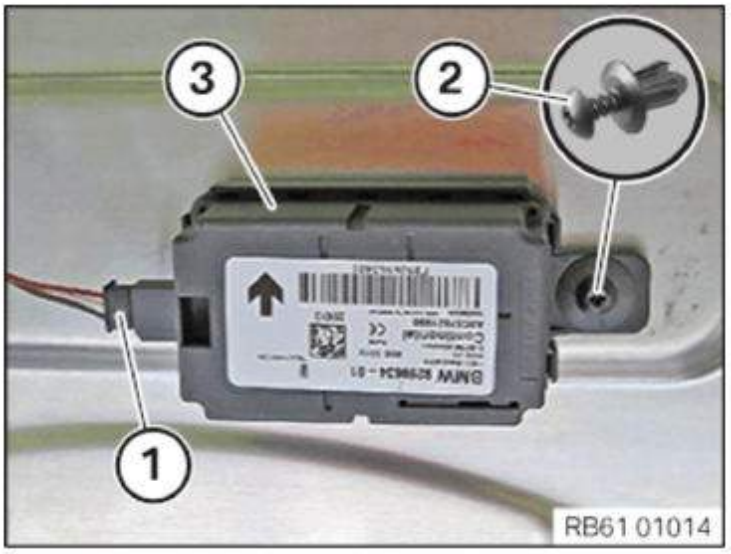


Fig. 228: Identifying Control Unit Expanding Rivet
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING**.

Required follow-up work:

- Disconnect battery earth lead

61 31 122 REMOVING AND INSTALLING/REPLACING TOW HITCH SWITCH

cardiagn.com

Necessary preliminary work:

- Remove **FLAP IN RIGHT LUGGAGE COMPARTMENT TRIM PANEL** .

Release screws (1).

Disconnect plug connection underneath and remove tow hitch switch (2).

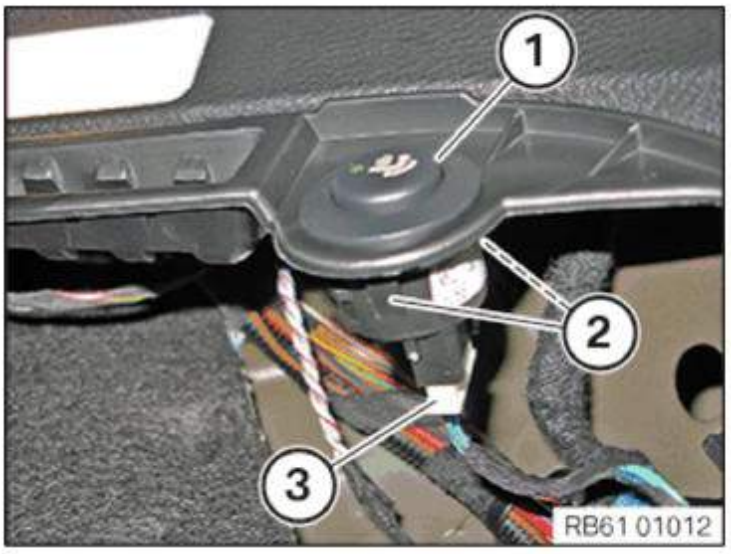


Fig. 229: Identifying Tow Hitch Switch With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 334 REMOVING AND INSTALLING OR REPLACING GRIP COVER FOR GEAR SELECTOR SWITCH

Special tools required:

- **00 9 322**

Carefully unclip cover (1) from gear selector switch (3) using special tool **00 9 322** at points (2) and remove in direction of arrow.

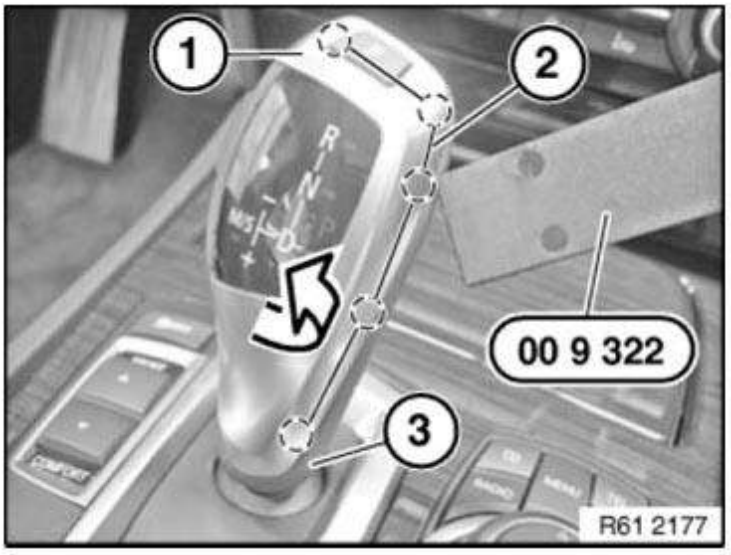


Fig. 230: Removing Gear Selector Switch Cover Using Special Tool (00 9 322)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

cardiagn.com

Latch mechanism (1) must not be damaged or missing.

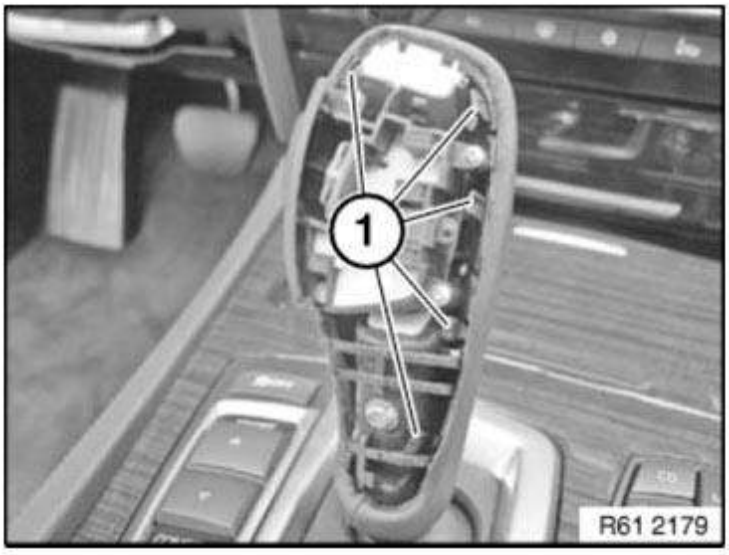


Fig. 231: Identifying Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanism (1) and guide (2) must not be damaged or missing.

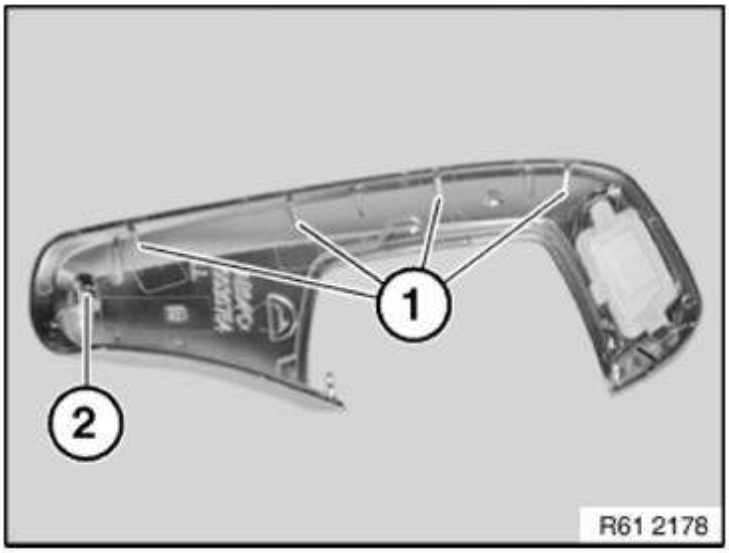


Fig. 232: Identifying Latch Mechanism And Guide
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 321 REMOVING AND INSTALLING RADIO AND A/C CONTROL PANEL

Special tools required:

- 00 9 340

IMPORTANT: Risk of damage!

A hard disk is installed in the Car Information Computer (CIC).

Carry out mechanical work on the CIC and adjacent components with care.

Avoid subjecting the CIC to vibration/shocks.

cardiagn.com

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)**.

IMPORTANT: Carry out installation in a dust-free workshop area only.

To avoid damage, do not touch or dirty the display field.

Necessary preliminary work:

- Remove **DECORATIVE STRIP ON DASHBOARD IN MIDDLE** .

Insert special tool **00 9 340** (00 9 341) as illustrated.

Lever trim cover (1) slightly forward and unclip.

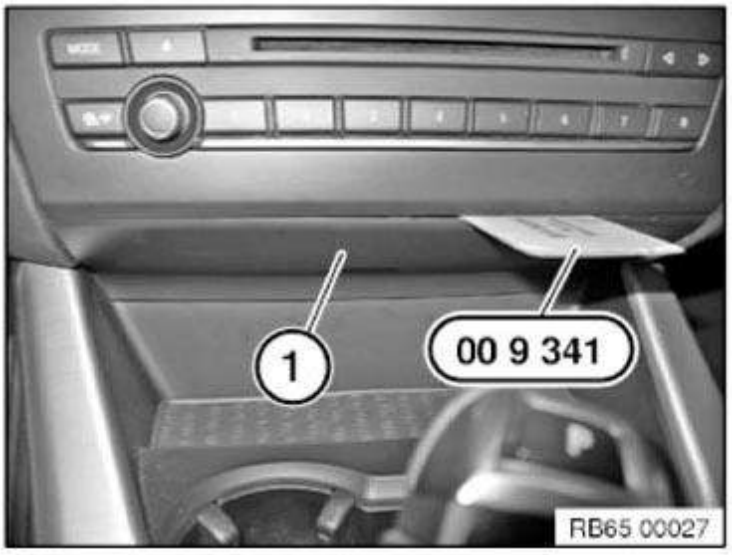


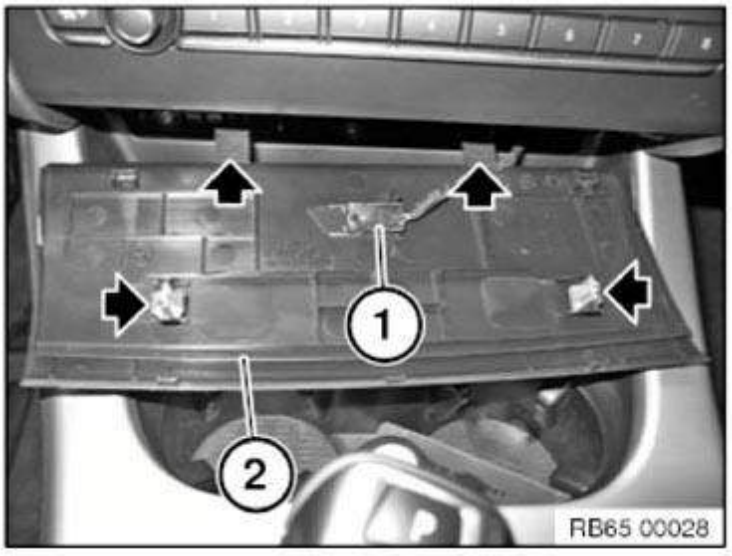
Fig. 233: Removing Trim Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip LED (1).

Remove cover (2).

Installation note:

Retaining lugs and clips must not be damaged.



cardiagn.com

Fig. 234: Locating Cover Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws.

Remove control panel (1) towards front.

Unlock associated plug connections and disconnect.

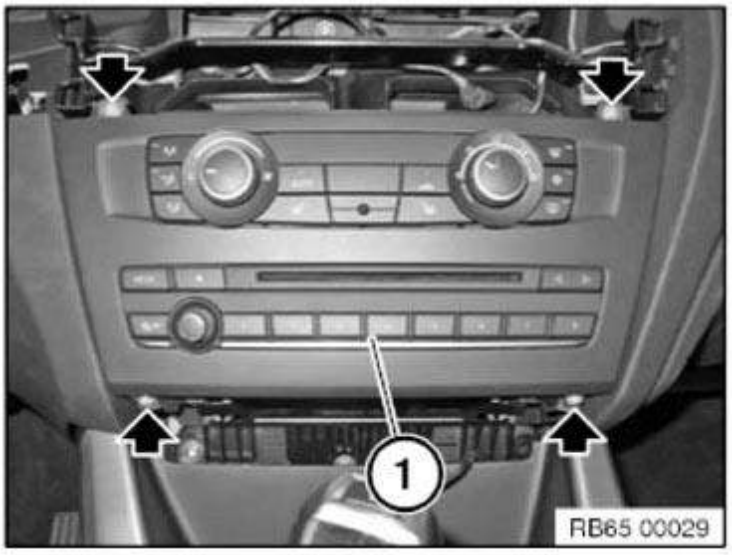


Fig. 235: Locating Control Panel Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out VEHICLE PROGRAMMING/ENCODING.

61 31 008 REMOVING AND INSTALLING STEERING COLUMN SWITCH CLUSTER

WARNING: **Move wheels into straight-ahead position and do not alter this position during the repair work.**
Do not under any circumstances turn the steering column switch cluster when the steering wheel is removed.

Necessary preliminary work:

- **Remove steering wheel** . See 32 33 000 REMOVING AND INSTALLING/REPLACING STEERING WHEEL or 32 33 010 REMOVING AND INSTALLING/REPLACING SPORT STEERING WHEEL .
- REMOVE LOWER SECTION OF STEERING COLUMN TRIM .

Removal:

Unfasten screws (2).

Remove steering column switch cluster (1) in direction of arrow.

cardiagn.com

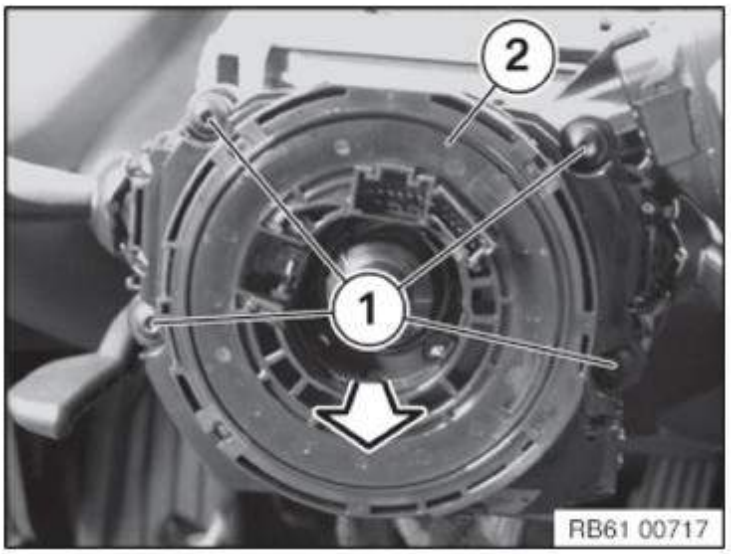


Fig. 236: Removing/Installing Steering Column Switch Cluster
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1).

Remove steering column switch cluster (2).

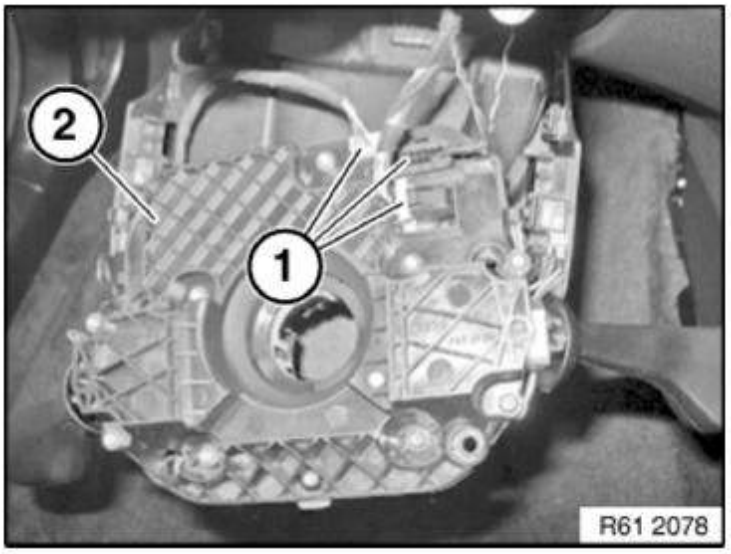


Fig. 237: Identifying Steering Column Switch Cluster Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Connect the plug (1).

cardiagn.com

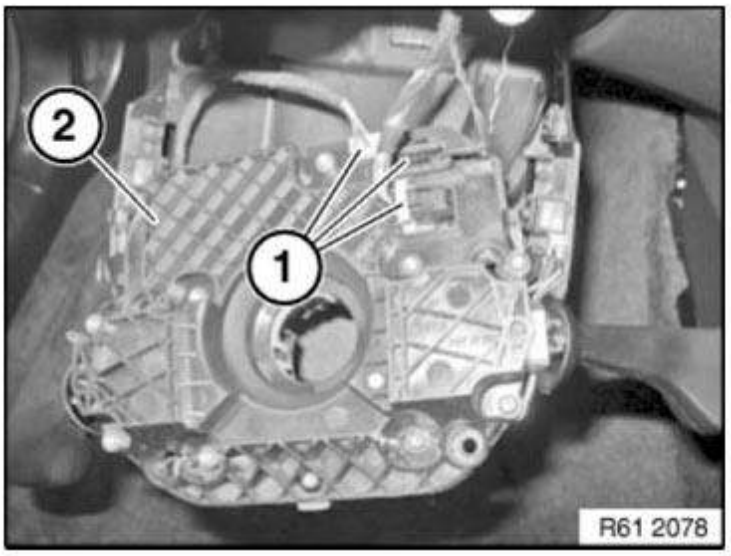


Fig. 238: Identifying Steering Column Switch Cluster Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Check zero position of clock spring on steering column switch cluster.

Zero position is correct only when yellow mark (1) is clearly visible!



Fig. 239: Identifying Clock Springs On Steering Column Switch Cluster
Courtesy of BMW OF NORTH AMERICA, INC.

Install steering column switch cluster (3) in direction of arrow.

Tighten down screws (2).

Tightening torque **61 31 3AZ** .

cardiagn.com

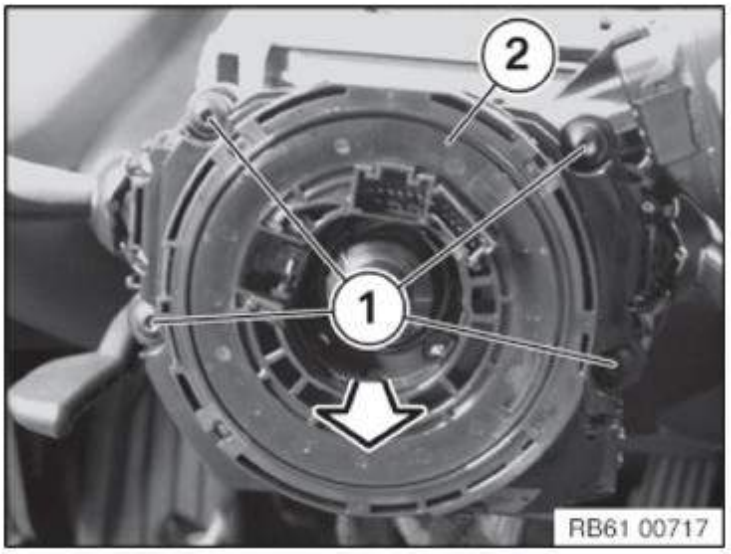


Fig. 240: Removing/Installing Steering Column Switch Cluster
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

- Carry out **VEHICLE PROGRAMMING/ENCODING**.

Required follow-up work:

- **Install steering wheel** . See **32 34 020 REMOVING AND INSTALLING/REPLACING AIRBAG UNIT** or **32 33 010 REMOVING AND INSTALLING/REPLACING SPORT STEERING WHEEL** .
- **INSTALL STEERING COLUMN SHROUD LOWER SECTION** .

61 31 008 REMOVING AND INSTALLING STEERING COLUMN SWITCH CLUSTER (SZL)

WARNING: **Move wheels into straight-ahead position and do not alter this position during the repair work.**
Do not under any circumstances turn the steering column switch cluster when the steering wheel is removed.

Necessary preliminary tasks:

- **Remove steering wheel** . See **32 33 000 REMOVING AND INSTALLING/REPLACING STEERING WHEEL** or **32 33 010 REMOVING AND INSTALLING/REPLACING SPORT STEERING WHEEL** .

Unclip steering column shroud upper section and lower section (1).

Unfasten screws (2).

Tightening torque **61 31 3AZ** .

Remove steering column switch cluster (3) in direction of arrow.

Installation note:

Not applicable to F25.

Carry out steering angle sensor adjustment.

On vehicles with active steering, steering angle sensor adjustment is performed by means of startup/alignment of the active steering.

cardiagn.com

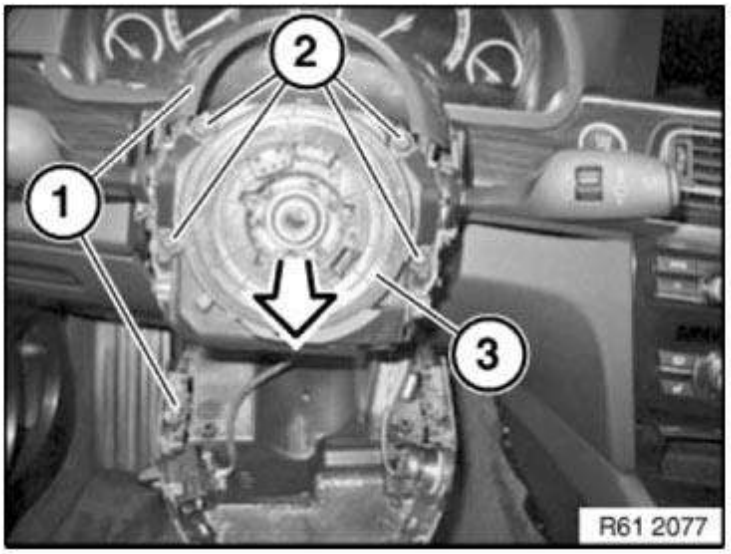


Fig. 241: Removing Steering Column Shroud Upper And Lower Section
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1).

Remove steering column switch cluster (2).

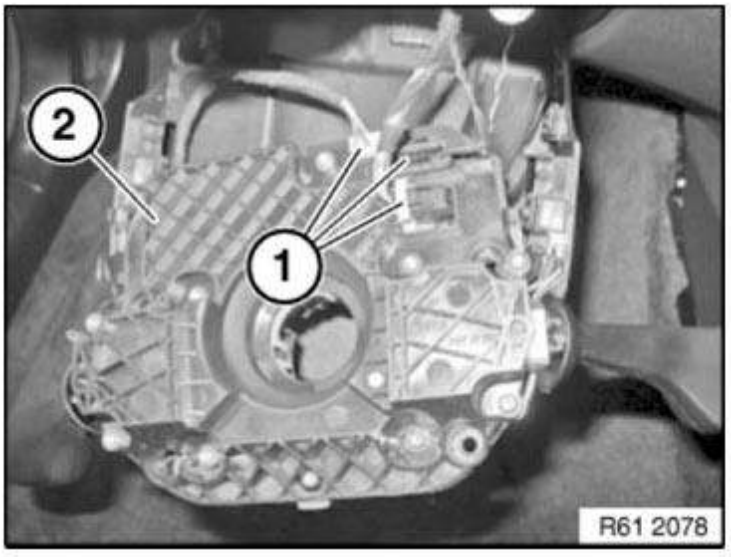


Fig. 242: Identifying Steering Column Switch Cluster Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Not applicable to F25.

- Carry out **VEHICLE PROGRAMMING/ENCODING**.
- Carry out steering angle sensor adjustment
- **Vehicles with active steering:**
  - Steering angle sensor adjustment is performed by means of start-up/adjustment of active front steering

61 31 137 REMOVING AND INSTALLING/RENEWING USB INTERFACE CONNECTING SOCKET

Necessary preliminary work:

cardiagn.com

- Remove **SWITCH FOR FRONT PASSENGER AIRBAG DEACTIVATION**.

NOTE: **Open glove box.**

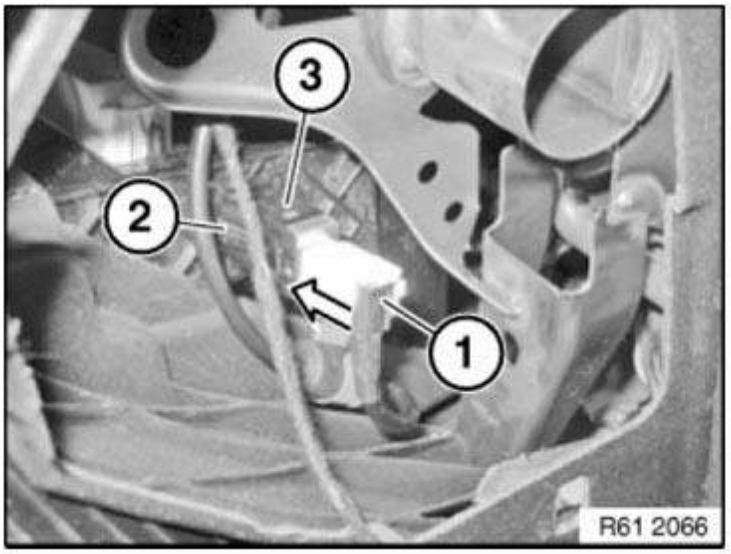


Fig. 243: Disconnecting Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1).

Unlock retaining clips (2) on left/right.

Press out USB interface connecting socket (3) in direction of arrow.

Installation note:

Retaining clips (2) must not be damaged.

Make sure USB interface connecting socket (3) is correctly seated.

61 31 229 REMOVING AND INSTALLING/RENEWING BOTH SWITCHES ON SPORTS STEERING WHEEL

Necessary preliminary work:

- **Remove airbag unit** . See **32 34 030 REMOVING AND INSTALLING/REPLACING AIRBAG UNIT (SPORTS STEERING WHEEL)** or **32 34 020 REMOVING AND INSTALLING/REPLACING AIRBAG UNIT** .

Release screws (1) on left/right/bottom on back of steering wheel (2).

cardiagn.com

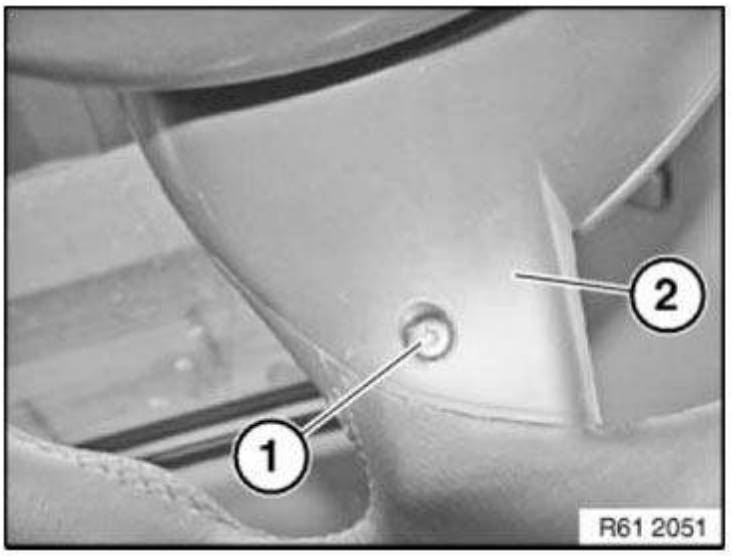


Fig. 244: Identifying Screws On Left/Right/Bottom On Back Of Steering Wheel
Courtesy of BMW OF NORTH AMERICA, INC.

Remove both multifunction steering wheel switches (1) together with trim cover from steering wheel (2) in direction of arrow.

Disconnect plug connections at the back.

Installation note:

Make sure multifunction steering wheel switch (1) is fitted correctly.

Make sure electrical wiring is correctly routed.

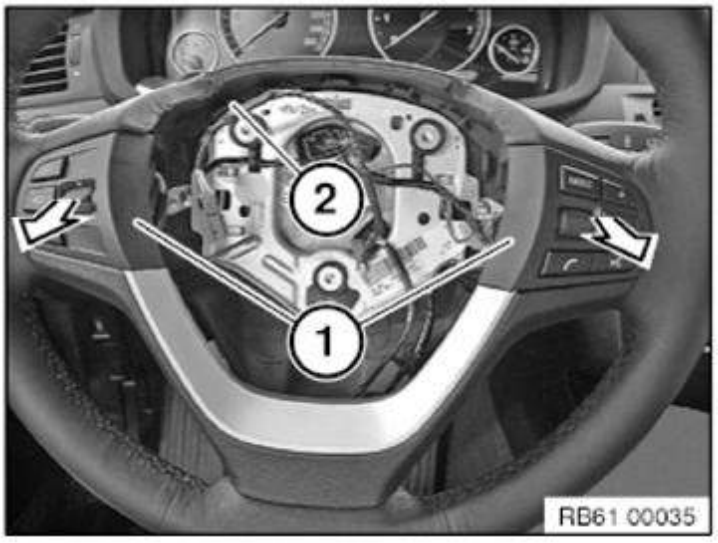


Fig. 245: Removing Multifunction Steering Wheel Switches
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully remove multifunction steering wheel switch (1) from cover (2) in direction of arrow.

Installation note:

Make sure both multifunction steering wheel switches (1) are fitted correctly.

Make sure electrical wiring is correctly routed.

cardiagn.com

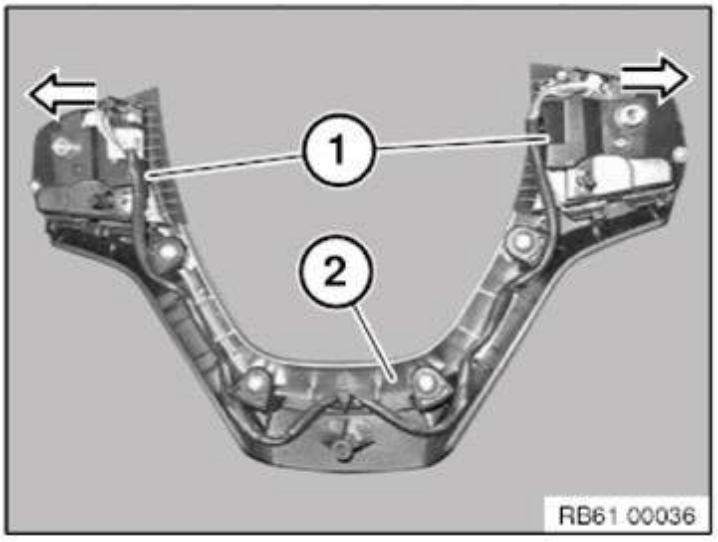


Fig. 246: Removing Multifunction Steering Wheel Switch From Cover
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 197 REMOVING AND INSTALLING/RENEWING CENTER CONSOLE OPERATING FACILITY

Necessary preliminary work:

- **REMOVE CENTER CONSOLE TRIM** .

Removal:

Slacken both screws (1).

Remove center console operating facility (2) from center console trim (3).

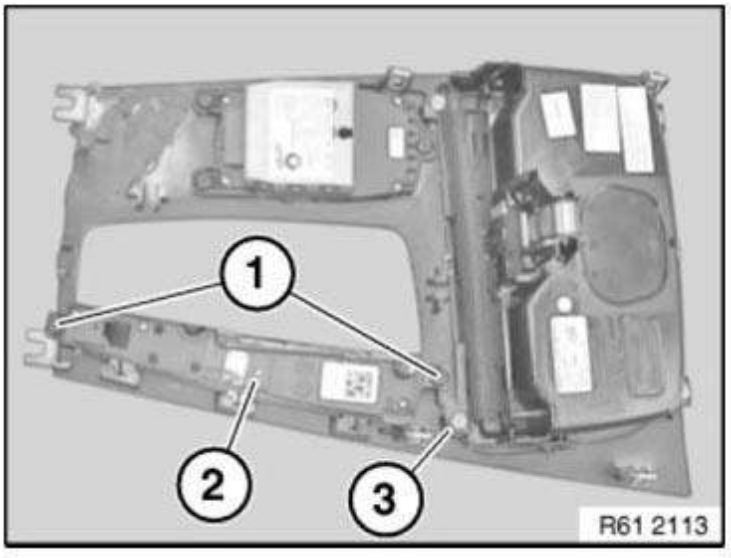


Fig. 247: Identifying Center Console Operating Facility From Center Console Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Installation note:

For a uniform joint, press center console operating facility (2) onto side of center console trim.

cardiagn.com

The centering ribs (1) must touch the center console trim.

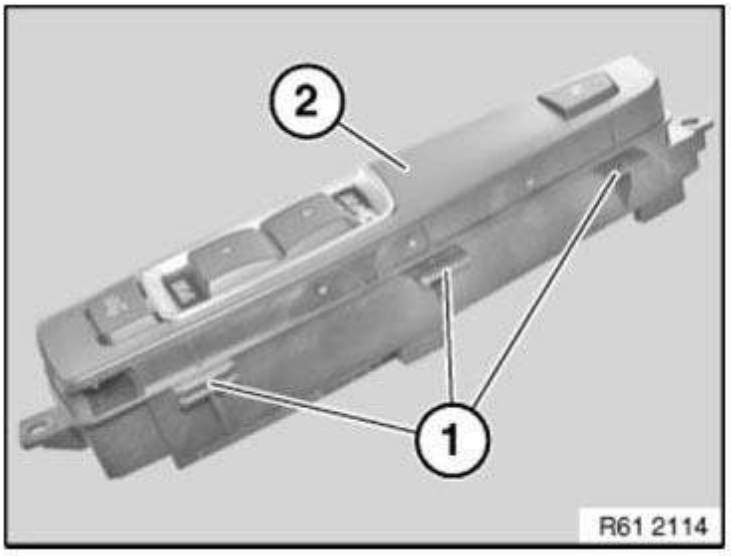


Fig. 248: Identifying Operating Facility Onto Side Of Center Console Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Join center console operating facility (2) to center console trim (3).

Tighten down the screws (1).

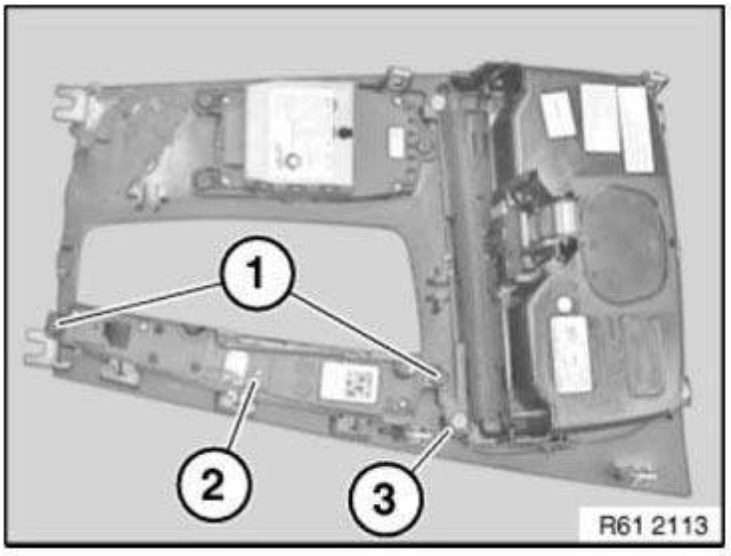


Fig. 249: Identifying Center Console Operating Facility From Center Console Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Mount **CENTER CONSOLE TRIM** .

61 31 133 REMOVING AND INSTALLING/REPLACING A/V CONNECTING SOCKET

NOTE: **Operation is described in:**
Remove USB AUDIO INTERFACE CONNECTING SOCKET.

61 31 023 REMOVING AND INSTALLING/REPLACING START/STOP SWITCH

Necessary preliminary work:

cardiagn.com

- Remove DECORATIVE STRIP ON DASHBOARD IN MIDDLE .

Removal:

Release all screws (1) and remove start/stop switch (2) from decorative strip.

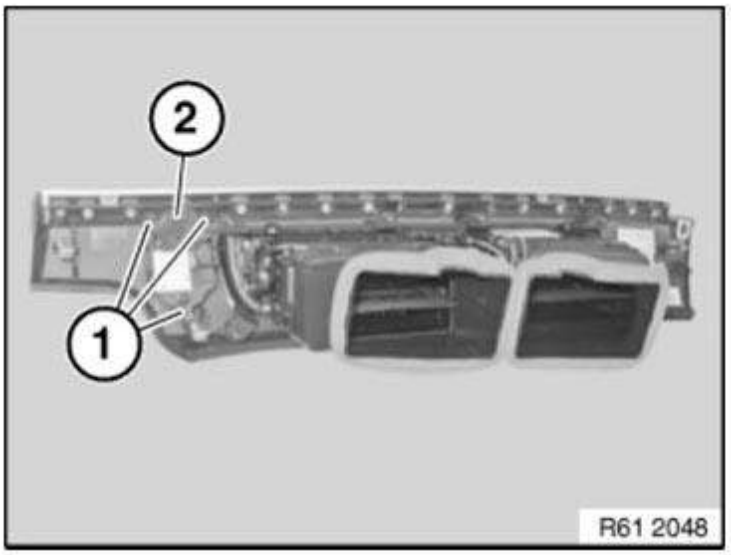


Fig. 250: Identifying Screws And Start/Stop Switch From Decorative Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Fasten start/stop switch (2) to decorative strip with screws (1).

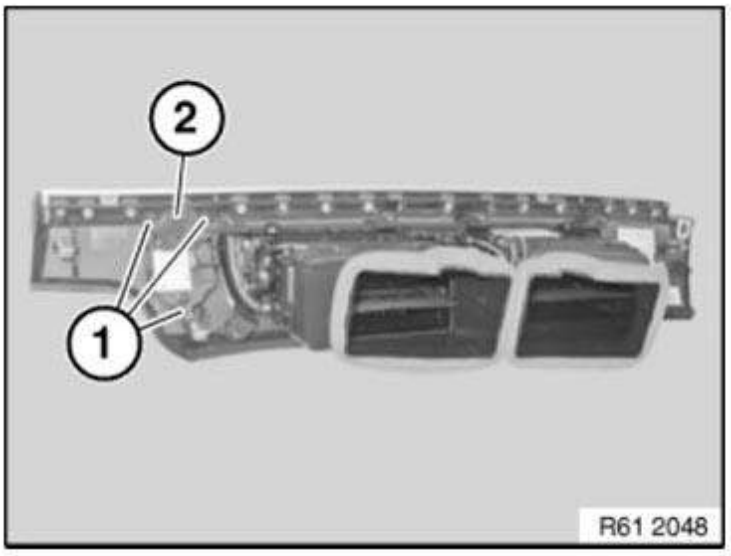


Fig. 251: Identifying Screws And Start/Stop Switch From Decorative Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install DECORATIVE STRIP ON CENTER OF INSTRUMENT PANEL .

61 31 134 REMOVING AND INSTALLING/REPLACING USB AUDIO INTERFACE CONNECTING SOCKET

Necessary preliminary tasks:

cardiagn.com

- Remove **CENTER ARMREST STORAGE COMPARTMENT** .

Disconnect plug connection (1).

Installation note:

- Retaining lug (3) must not be damaged.
- Make sure connecting socket (2) is correctly seated in storage compartment (4).

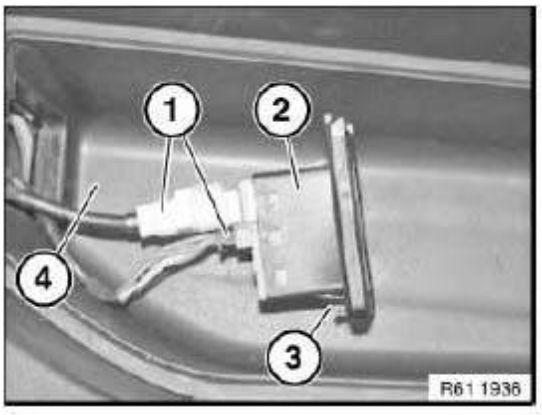


Fig. 252: Identifying Storage Compartment Plug Connection With Retaining Lug
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 221 REMOVING AND INSTALLING/REPLACING BOTH MULTIFUNCTION STEERING WHEEL SWITCHES

Necessary preliminary tasks:

- Remove **airbag unit** . See **32 34 030 REMOVING AND INSTALLING/REPLACING AIRBAG UNIT (SPORTS STEERING WHEEL)** or **32 34 020 REMOVING AND INSTALLING/REPLACING AIRBAG UNIT** .
- If necessary remove **SHIFT PADDLES FOR AUTOMATIC TRANSMISSION**.

NOTE: **Steering wheel is shown removed here for purposes of clarity.**

Unscrew bolts on rear of steering wheel (1).

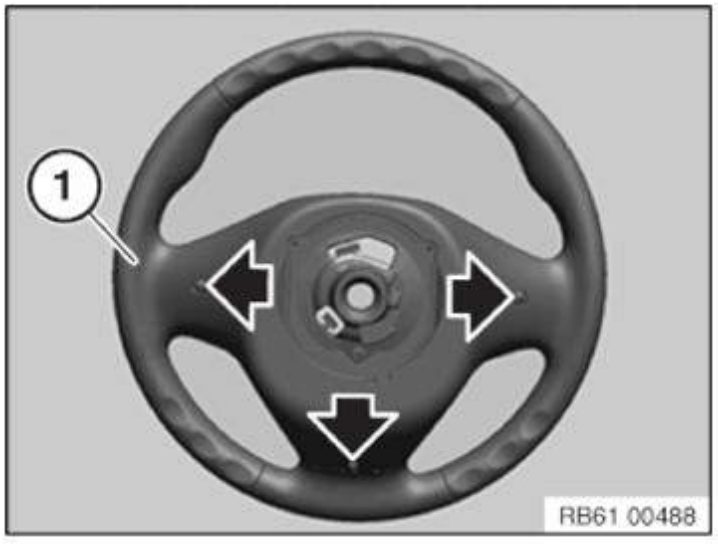


Fig. 253: Locating Bolts On Rear Of Steering Wheel
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Remove both multifunction steering wheel switches (1) together with trim cover from steering wheel (2) in direction of arrow.

Disconnect plug connections at the back.

Installation note:

Make sure multifunction steering wheel switch (1) is fitted correctly.

Make sure electrical wiring is correctly routed.

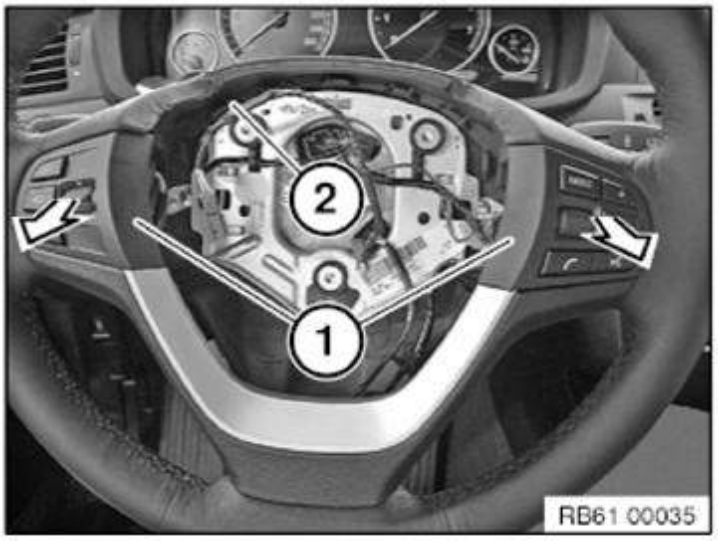


Fig. 254: Removing Multifunction Steering Wheel Switches
Courtesy of BMW OF NORTH AMERICA, INC.

Unscrew bolts multi-function steering wheel switch (1).

Carefully remove multifunction steering wheel switch (1) from cover (2) in direction of arrow.

Installation note:

Make sure both multifunction steering wheel switches (1) are fitted correctly.

Make sure electrical wiring is correctly routed.

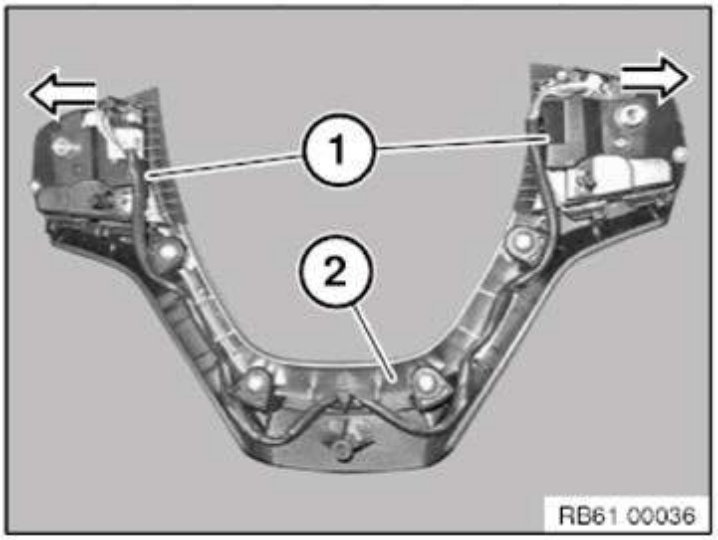


Fig. 255: Removing Multifunction Steering Wheel Switch From Cover
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

61 31 299 REMOVING AND INSTALLING/REPLACING CLUTCH SWITCH MODULE

Necessary preliminary work:

- Remove **trim panel for pedal mechanism** . See 51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (ECE ONLY) or 51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (US ONLY) .

NOTE: For purposes of clarity, the clutch master cylinder is shown removed.

Lever out clutch switch module (1) from clutch master cylinder (2) with screwdriver.

Unlock plug (4) and disconnect from housing (3).

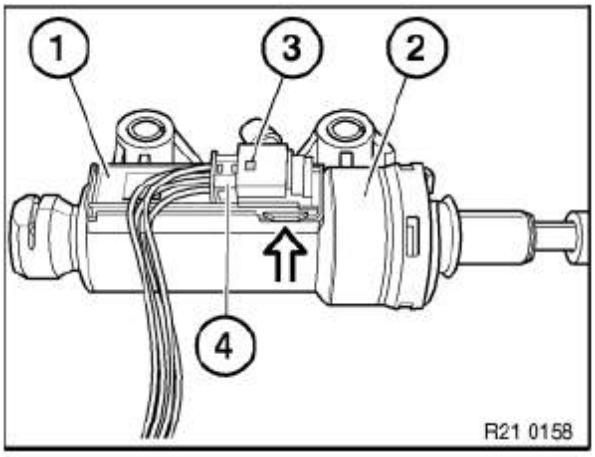


Fig. 256: Removing Clutch Switch Module From Clutch Master Cylinder
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Clutch switch module is secured against incorrect installation.

Clutch switch module must snap audibly into place.

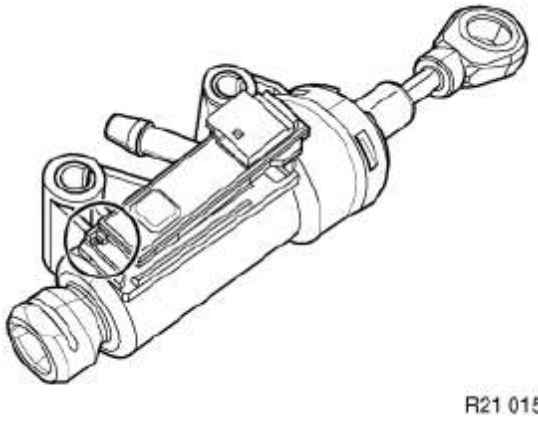


Fig. 257: Identifying Clutch Switch Module
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 021 REMOVING AND INSTALLING/REPLACING EMERGENCY STARTING COIL

Necessary preliminary tasks:

cardiagn.com

- **REMOVE STEERING COLUMN SHROUD LOWER SECTION** .

Release emergency starting coil (1) and pull in direction of arrow out of steering column shroud (2).

Installation note:

Make sure emergency starting coil (1) is correctly seated.

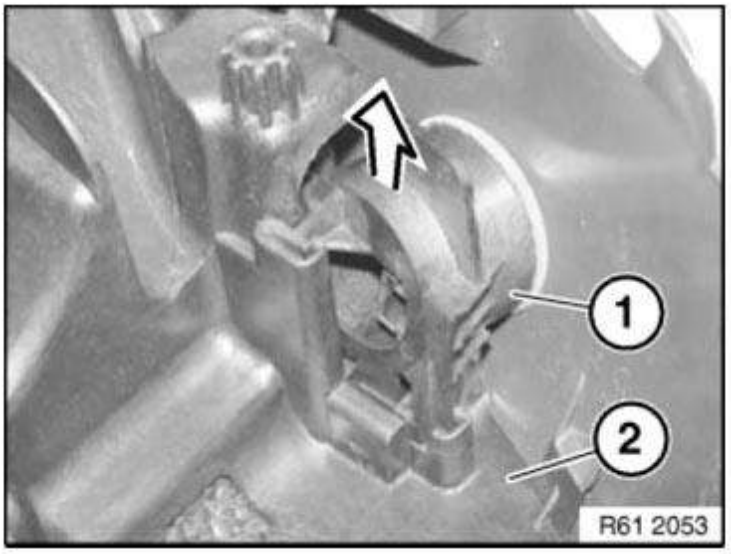


Fig. 258: Releasing Emergency Starting Coil
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 338 REMOVING AND INSTALLING/REPLACING GRIP COVER FOR GEAR SELECTOR SWITCH (CERAMIC APPLICATION, OPERATING ELEMENTS)

Special tools required:

- **00 9 322**

Carefully unclip knob cover (1) **00 9 322** with special tool at points (2) from gear selector switch (3) and remove in direction of arrow.

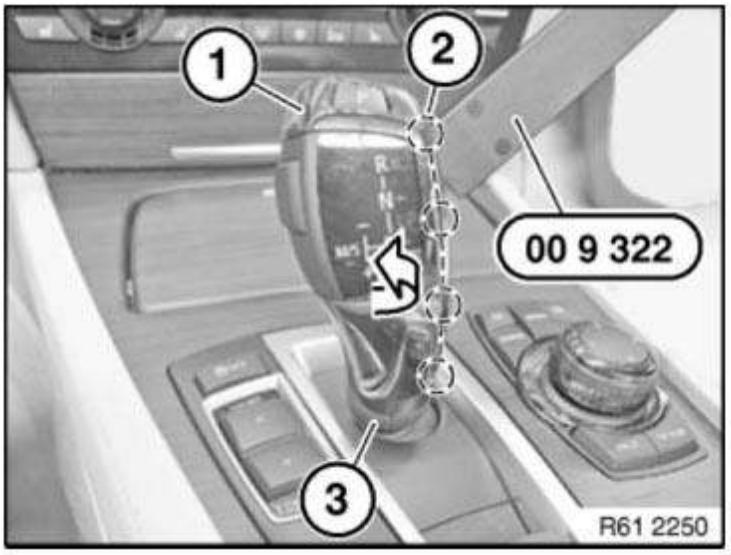


Fig. 259: Removing Knob Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) and remove support (2).

cardiagn.com

Tightening torque 61 31 4AZ .

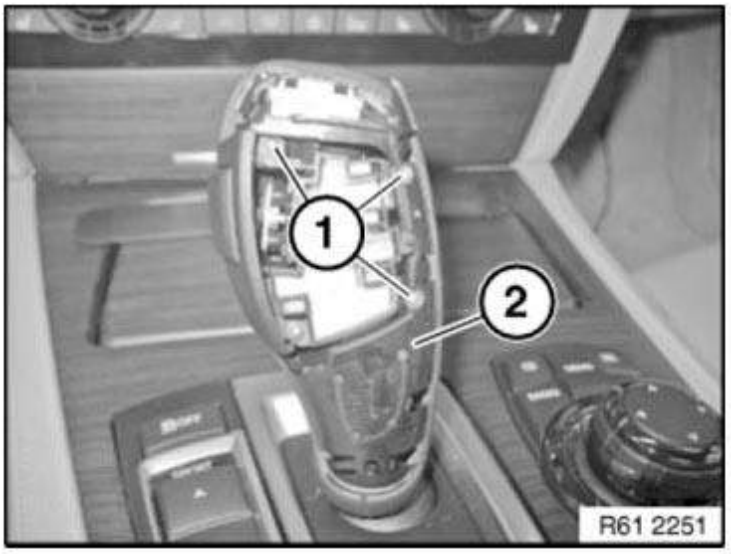


Fig. 260: Identifying Support Screws
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Removed ceramic carrier (2) must not be reused.

Installation note:

Engagement lugs (1) of ceramic carrier (2) must not be damaged.

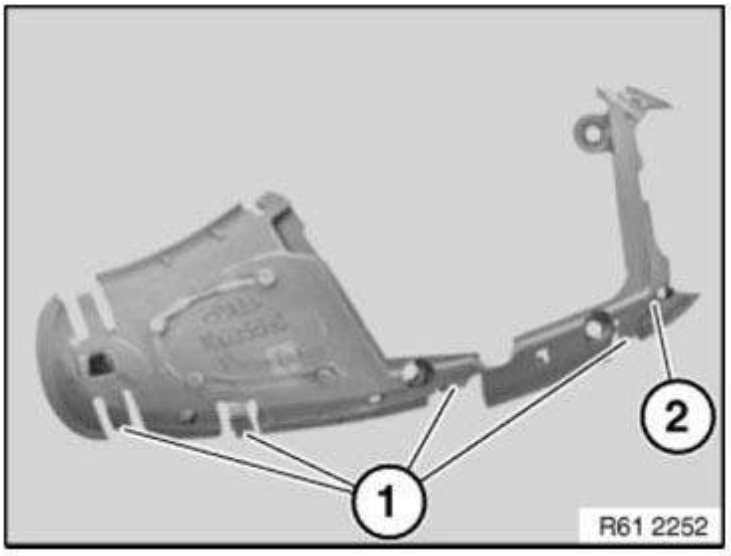


Fig. 261: Identifying Engagement Lugs Of Ceramic Carrier
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 334 REMOVING AND INSTALLING/REPLACING GRIP TRIM FOR GEAR SELECTOR SWITCH

Special tools required:

- 00 9 327

NOTE: Symbol plate (1) is glued on.

Mount special tool 00 9 327 as illustrated.

cardiagn.com

Detach symbol plate (1) from upper shell (2) in direction of arrow.

IMPORTANT: Risk of damage!
Do not leverage side panel (3) out of upper shell (2).

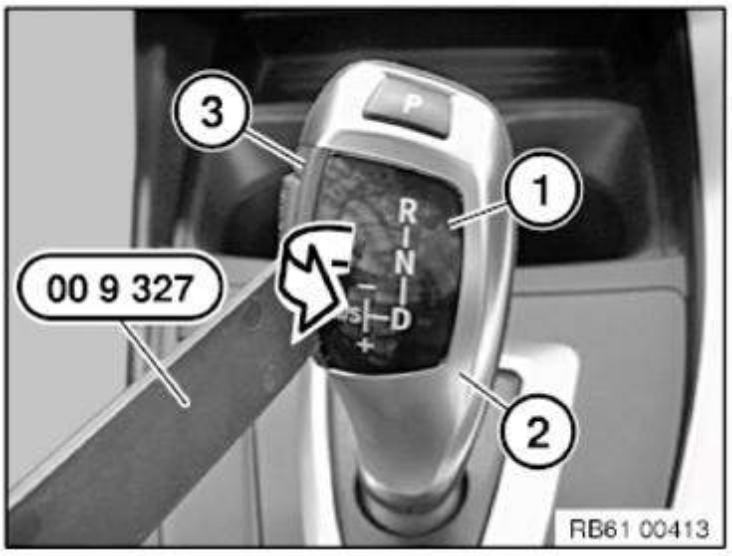


Fig. 262: Detaching Symbol Plate From Upper Shell
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Remove any adhesive residue.

Remove the protective film from the back of the symbol plate before installing.

Make sure symbol plate (1) is correctly seated on upper shell (2).

Release screw (1) and remove upper shell (2) with side panel (3) in direction of arrow.

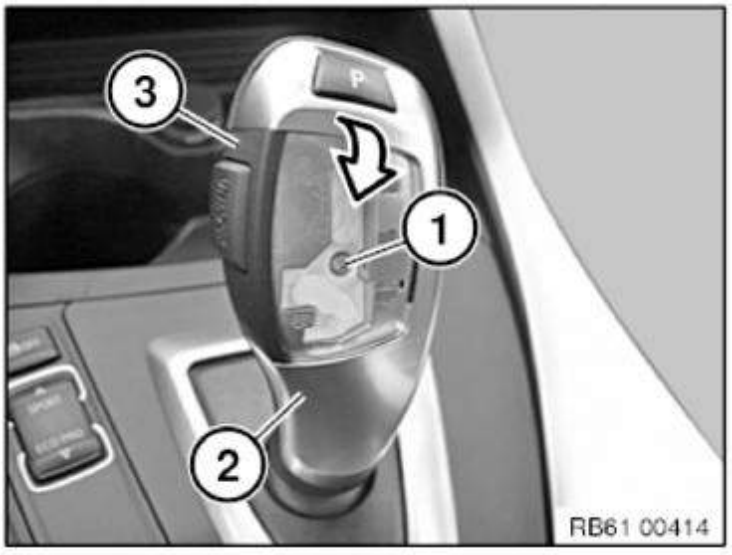


Fig. 263: Removing Upper Shell With Side Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Fixtures (1) and guide pins (2) on gear selector switch (3) must not be damaged or missing.

cardiagn.com

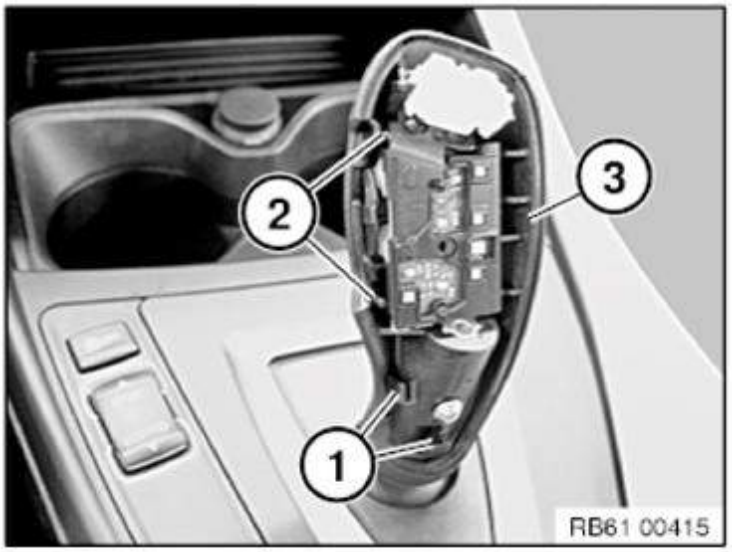


Fig. 264: Identifying Fixtures And Guide Pins On Gear Selector Switch
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Guides (1) and P-button (2) must not be damaged or missing.

Make sure P-button (2) is correctly seated in upper shell (3).

Make sure side panel (4) is correctly seated in upper shell (3)!

For better installation, secure UNLOCK button outside on the side panel (4) using adhesive tape.

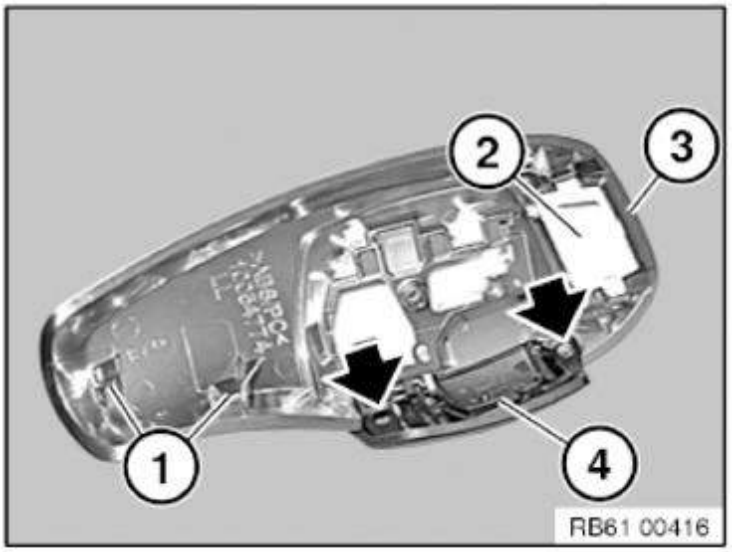


Fig. 265: Identifying Guides And P-Button
Courtesy of BMW OF NORTH AMERICA, INC.

Feed in upper shell with side panel into fixtures and guide pins on gear selector switch.

61 31 112 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT SHIFT PADDLE FOR AUTOMATIC TRANSMISSION

Necessary preliminary tasks:

- Remove **AIRBAG UNIT**

cardiagn.com

Disconnect plug connection (1).

Release screw (3).

Feed out wiring harness (2) and remove shift paddle for automatic transmission (4) in direction of arrow from steering wheel (5).

Installation note:

Make sure shift paddle for automatic transmission (4) is correctly seated on steering wheel (5)

Make sure wiring harness (2) is laid exactly.

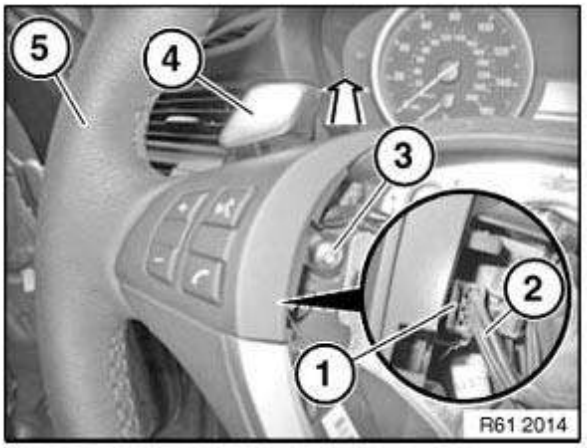


Fig. 266: Removing Shift Paddle For Automatic Transmission
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 037 REMOVING AND INSTALLING/REPLACING LIGHT OPERATING FACILITY

Necessary preliminary work:

- Remove **DECORATIVE STRIP ON DASHBOARD ON LEFT** .

Removal:

Release all screws (1) and detach light operating facility (2) from left decorative strip (3).

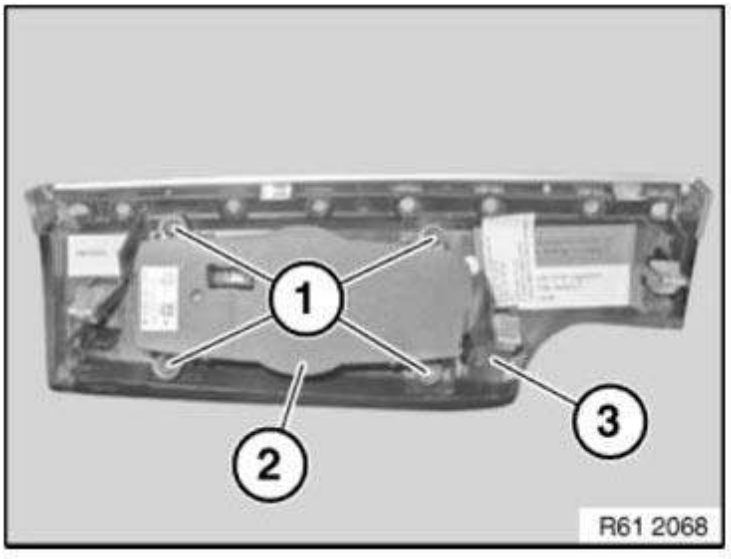


Fig. 267: Identifying Left Decorative Strip Screws
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation:

Join light operating facility (2) to left decorative strip (3).

Tighten all screws (1).

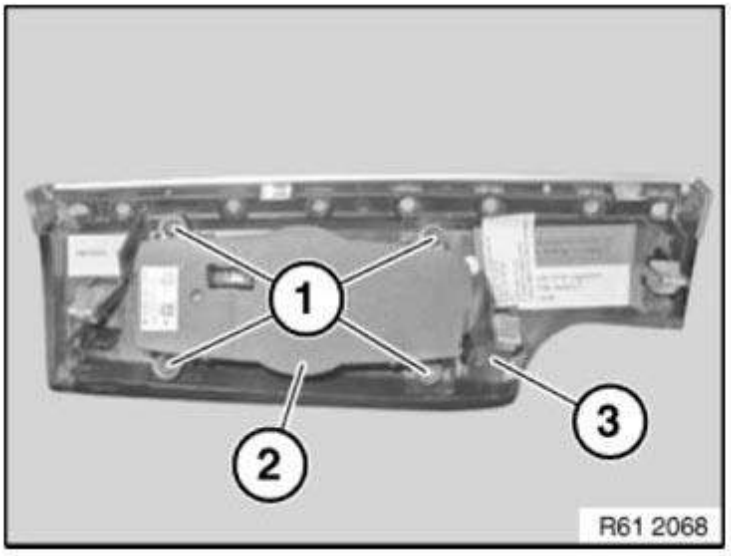


Fig. 268: Identifying Left Decorative Strip Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **DECORATIVE STRIP ON INSTRUMENT PANEL AT LEFT** .

61 31 117 REMOVING AND INSTALLING/REPLACING POWER WINDOW SWITCH (DRIVER'S SIDE)

Necessary preliminary tasks:

- Remove **FRONT DOOR TRIM PANEL, LEFT** .

Clip out connector (1) from control panel wiring harness.

Release screws (2) from control panel fixture.

Hook switch cluster support forward out of door trim panel (3) while feeding out wiring harness for switch cluster.

Feed out.

cardiagn.com

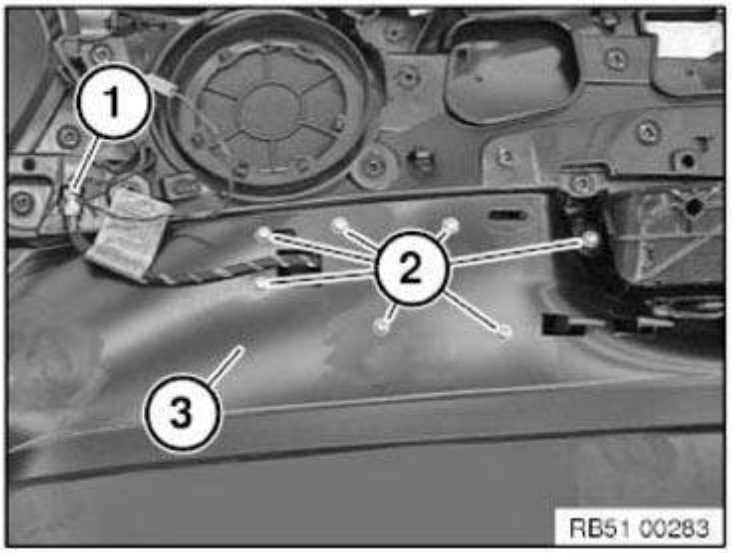


Fig. 269: Identifying Control Panel Fixture Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release retaining tabs (1) and clips (2).

Remove switch (3) in direction of arrow.

Installation note:

Retaining tabs (1) and clips (2) must not be damaged or missing.

Make sure switch (3) is correctly seated.

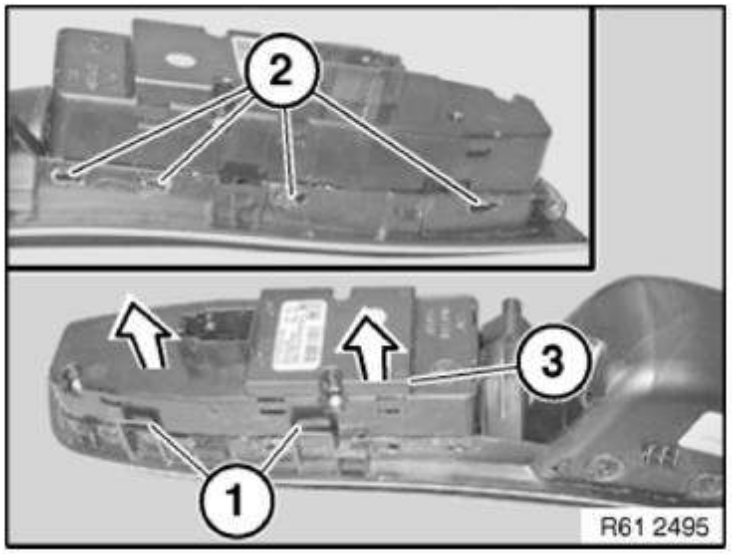


Fig. 270: Releasing Retaining Tabs And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 043 REMOVING AND INSTALLING/REPLACING ROOF SWITCH CLUSTER (COMPLETE WITH COVER) (ROOF FUNCTION CENTER)

Special tools required:

- 00 9 323
- 00 9 325

cardiagn.com

IMPORTANT: Follow notes for handling light bulbs **(INTERIOR LIGHTING)** .

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)**.

Carefully unclip cover (1) with special tool **00 9 323** and remove.

Installation note:

Ensure cover (1) is correctly seated.

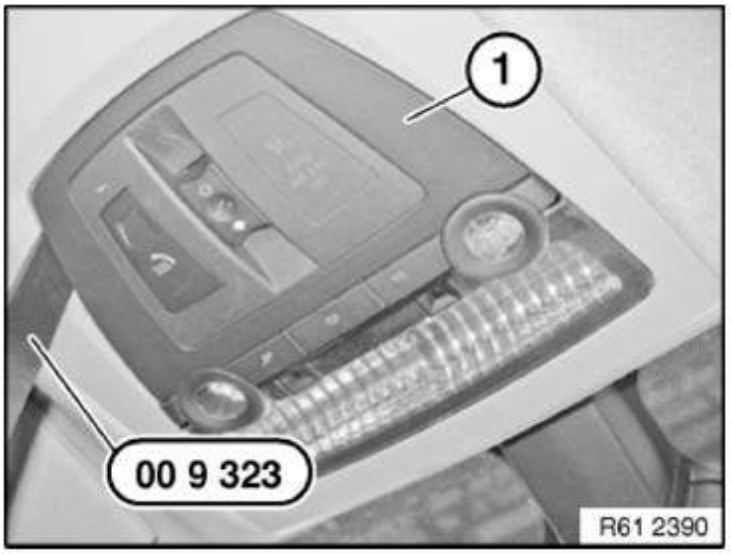


Fig. 271: Removing Cover With Special Tool (00 9 323)
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock retaining lugs (1) with suitable tool while carefully lifting out with special tool **00 9 325** .

Remove roof switch cluster (2) in direction of arrow.

Unlock plug connections underneath and disconnect.

Installation note:

Retaining lugs (1) must not be damaged.

Make sure roof switch cluster (2) is correctly fitted.

INITIALIZE slide/tilt sunroof if necessary.

cardiagn.com

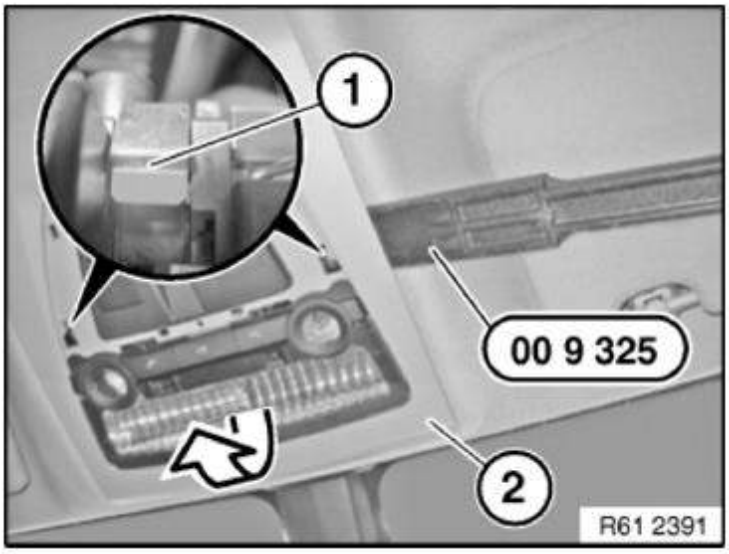


Fig. 272: Removing Roof Switch Cluster
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Disconnecting the plug connection for the SOS emergency call button results in fault entries in the telephone control unit (restriction in the emergency call system).
After installation, read out fault memory and if necessary delete entry.

61 31 082 REMOVING AND INSTALLING/REPLACING SWITCH FOR (LEFT OR RIGHT) CENTRAL LOCKING SYSTEM

Special tools required:

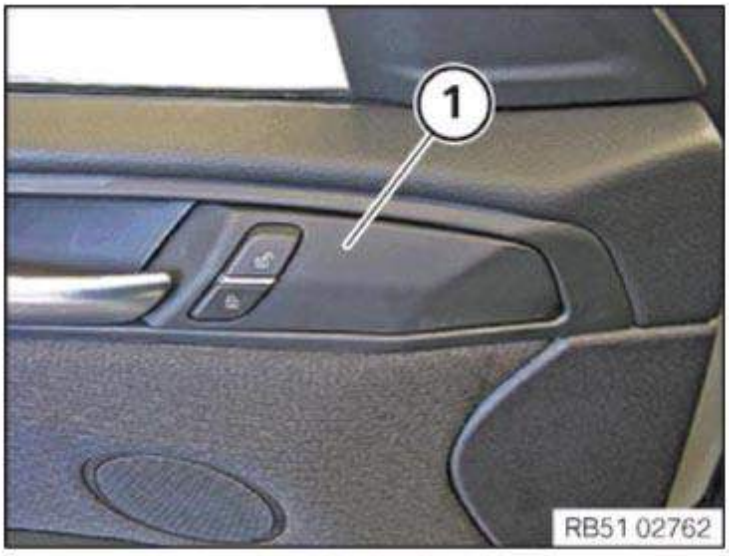
- 64 1 020

NOTE: **When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged. If necessary, protect the working area with yellow plastic adhesive tape.**

Removal:

Lever out trim (1) or tweeter speaker cover at front with special tool 64 1 020 .

Disconnect relevant connector and remove trim (1).



cardiagn.com

Fig. 273: Identifying Trim/Tweeter Speaker Cover Into Door Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Unlock latch mechanisms on both sides.

Remove switch for central locking system (1) from trim.

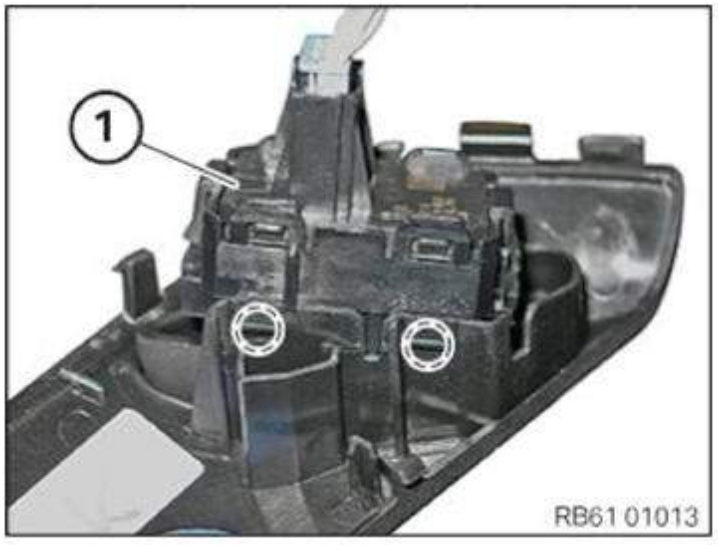


Fig. 274: Identifying Central Locking System From Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Connect corresponding connector.

Insert trim (1) or tweeter speaker cover into door trim panel.

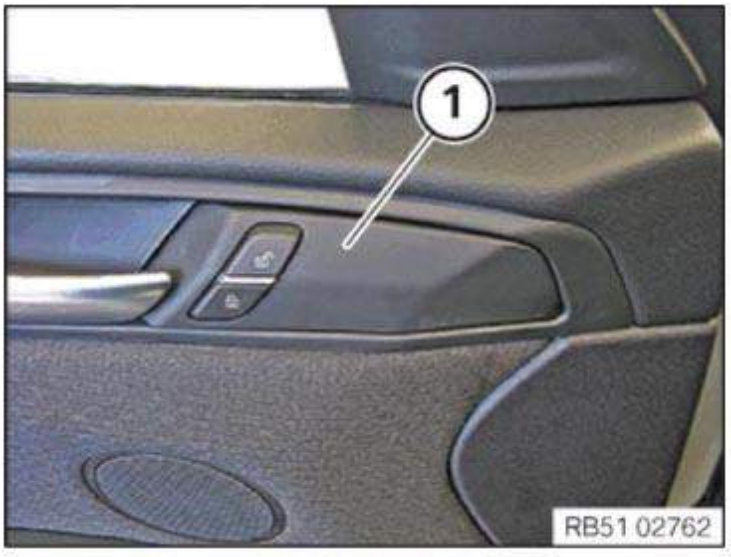


Fig. 275: Identifying Trim/Tweeter Speaker Cover Into Door Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 091 REMOVING AND INSTALLING/REPLACING SWITCH FOR (REAR) LEFT OR RIGHT SEAT HEATING

Special tools required:

cardiagn.com

- 00 9 340

Use special tool 00 9 340 to release trim in center console.

Installation note:

Retaining lugs of trim must not be damaged or missing.

Make sure trim is correctly engaged on center console.



Fig. 276: Unclip Trim With Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect left or right plug connection (1).

Press together retaining lugs (2) of left or right switch for seat heating and feed switch for seat heating in direction of arrow out of trim (3).

Installation note:

Make sure switch for seat heating is correctly seated in trim (3).

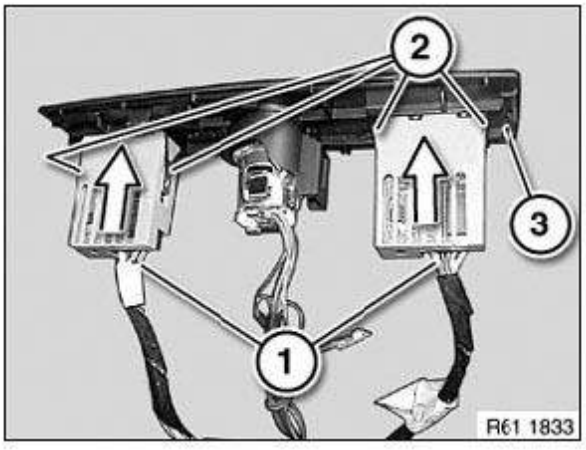


Fig. 277: Disconnecting Left/Right Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 084 REMOVING AND INSTALLING/REPLACING SWITCH FOR AUTOMATIC TAILGATE ACTIVATION

Special tools required:

- 00 9 325

cardiagn.com

Removal:

Lever switch for automatic operation of tailgate (1) out of tailgate trim panel (2) with special tool **00 9 325** .

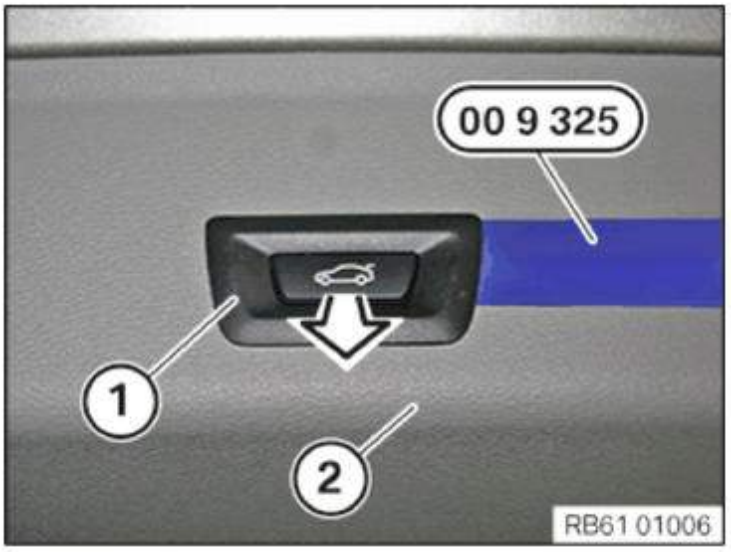


Fig. 278: Removing Tailgate Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock connector (1) on switch for automatic operation of tailgate (2) and disconnect.

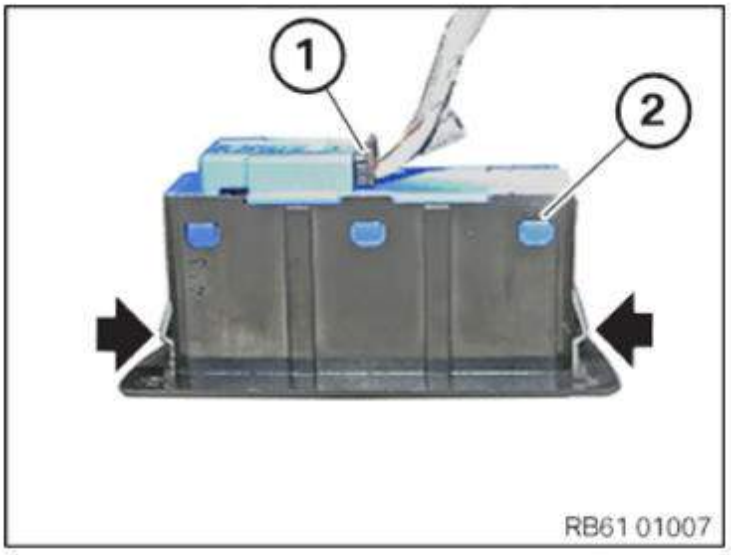


Fig. 279: Identifying Connector On Switch For Automatic Operation Of Tailgate
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

NOTE: Retaining clips on switch for automatic operation of tailgate (2) must not be missing or damaged.

Connect connector (1) to switch for automatic operation of tailgate (2).

cardiagn.com

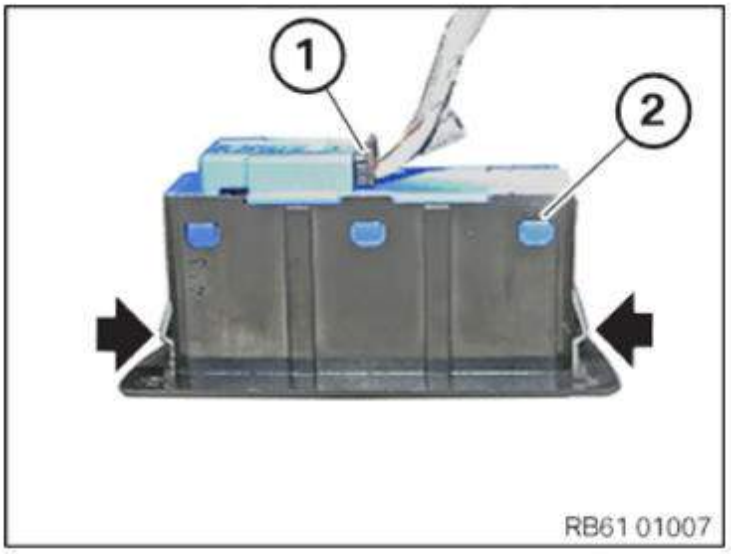


Fig. 280: Identifying Connector On Switch For Automatic Operation Of Tailgate
Courtesy of BMW OF NORTH AMERICA, INC.

Insert switch for automatic operation of tailgate (1) into tailgate trim panel (2).



Fig. 281: Inserting Switch For Automatic Operation Of Tailgate Into Tailgate Trim Panel
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 172 REMOVING AND INSTALLING/REPLACING SWITCH FOR ELECTROMECHANICAL PARKING BRAKE

Necessary preliminary work:

- DISCONNECT NEGATIVE BATTERY CABLE (to avoid fault memory entries).
- **F03** only: Disconnect both battery negative cables.
- Remove GEAR SELECTOR SWITCH COVER.

Release screws (1).

Remove switch for electromechanical parking brake (2) from cover for gear selector switch (3).

cardiagn.com

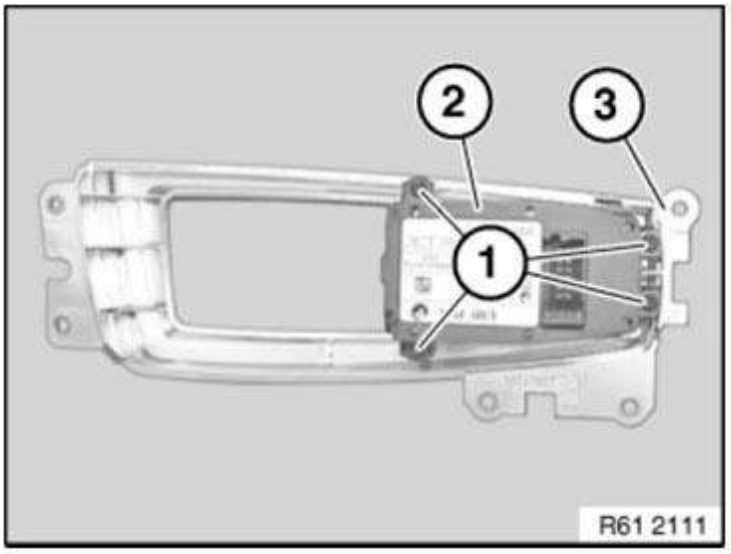


Fig. 282: Identifying Electromechanical Parking Brake From Cover For Gear Selector Switch
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 038 REMOVING AND INSTALLING/REPLACING SWITCH FOR FRONT PASSENGER AIRBAG DEACTIVATION

Special tools required:

- 00 9 323

WARNING: **Read and comply with SAFETY REGULATIONS for handling airbag modules and pyrotechnical belt pretensioners.**
Incorrect handling can activate airbag and cause injury.

Necessary preliminary work:

- Disconnect BATTERY EARTH LEAD.
- Disconnect both negative battery cables at F03.

Carefully lever out side cover (1) with special tool 00 9 323 .

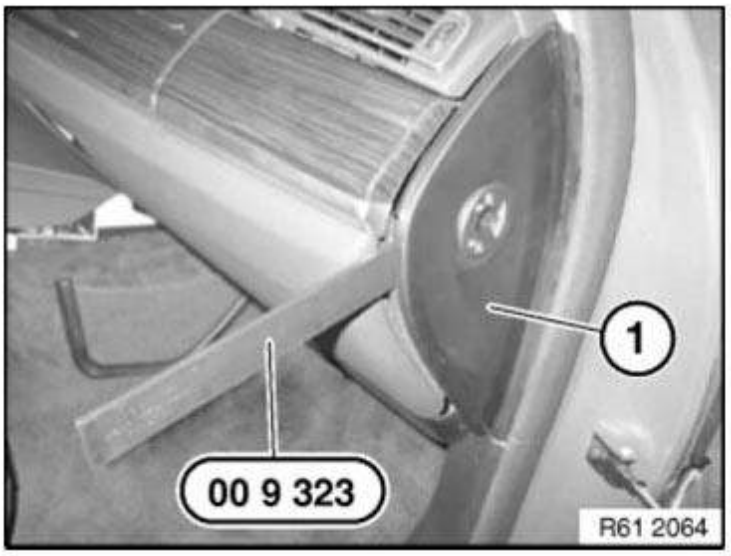


Fig. 283: Removing Out Side Cover Using Special Tool (00 9 323)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Disconnect plug connection (1).

Unlock latch mechanisms (4) in direction of arrow.

Feed switch for front passenger airbag deactivation (2) out of side cover (3).

Installation note:

Make sure switch for passenger airbag deactivation (2) is correctly seated in side cover (3).

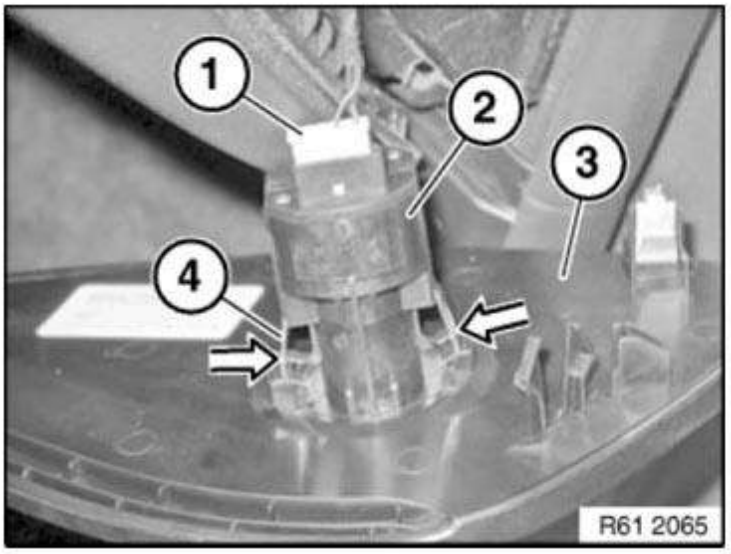


Fig. 284: Disconnecting Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 079 REMOVING AND INSTALLING/REPLACING SWITCH FOR HAZARD WARNING FLASHERS

Special tools required:

- 00 9 340

Removal:

Carefully lever out switch for hazard warning system (1) with special tool 00 9 340 in direction of arrow.

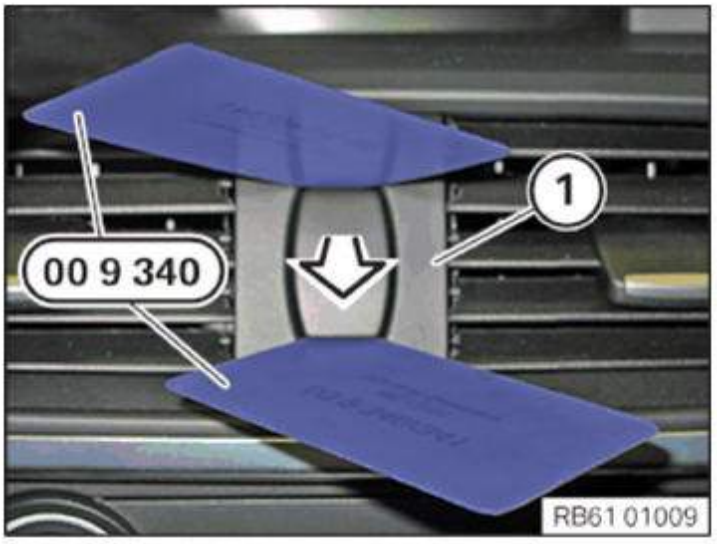


Fig. 285: Removing Switch For Hazard Warning System Using Special Tool 00 9 340

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Unlock connector (1) on switch for hazard warning lights system (2) and disconnect.

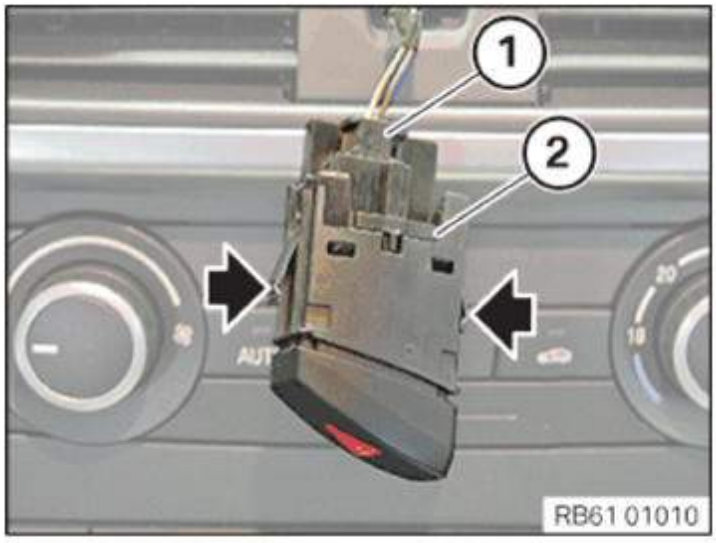


Fig. 286: Locating Connector Switch For Hazard Warning Lights System
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

NOTE: **The retaining clips on the switch for hazard warning lights system (2) must not be damaged or missing.**

Connect connector (1) to switch for hazard warning lights system (2).

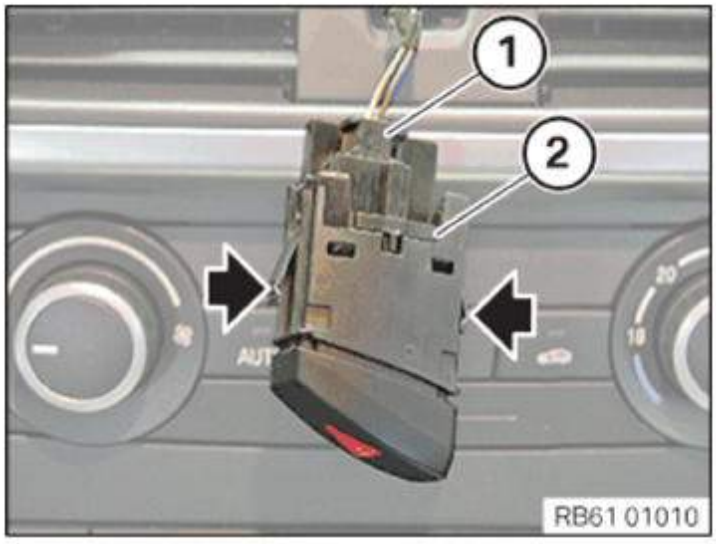


Fig. 287: Locating Connector Switch For Hazard Warning Lights System
Courtesy of BMW OF NORTH AMERICA, INC.

Join switch for hazard warning lights system (1) in direction of arrow to trim (2).

NOTE: **Make sure switch for hazard warning flashers (1) is correctly seated.**

cardiagn.com

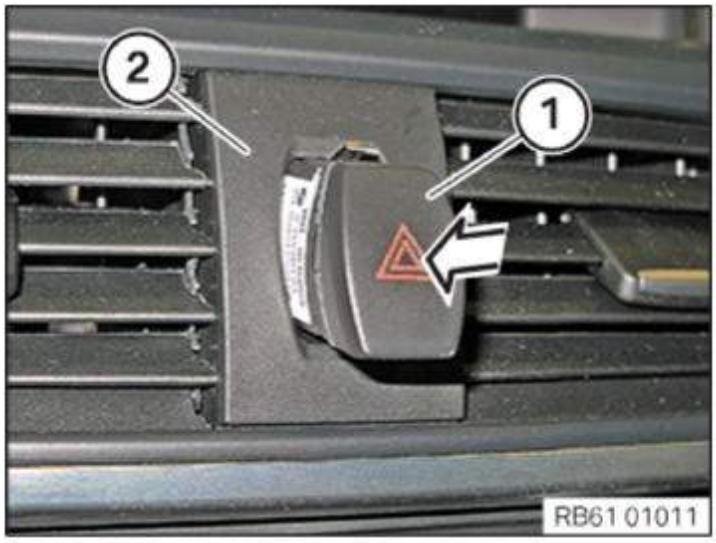


Fig. 288: Installing Switch For Hazard Warning Lights System
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 079 REMOVING AND INSTALLING/REPLACING SWITCH FOR HAZARD WARNING FLASHERS/CENTRAL LOCKING

Special tools required:

- 00 9 340

Carefully lever out switch for hazard warning system/central locking (1) with special tool 00 9 340 in direction of arrow.

Remove switch for hazard warning system/central locking (1) in direction of arrow and disconnect plug connection behind.

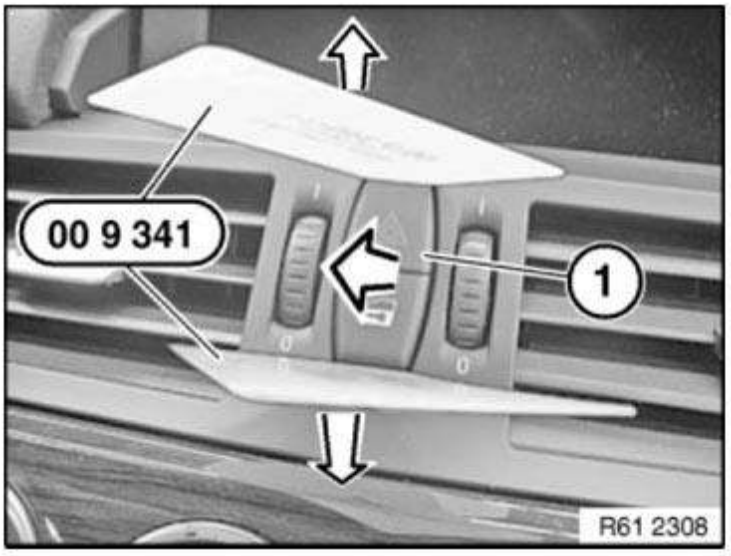


Fig. 289: Removing Switch For Hazard Warning System/Central Locking
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 208 REMOVING AND INSTALLING/REPLACING SWITCH FOR LUMBAR SUPPORT

Necessary preliminary tasks:

- Remove OUTER COVER on front seat.

cardiagn.com

Disconnect plug connection (3).

Unlock latch mechanisms (1).

Remove switch for lumbar support (2) in direction of arrow.

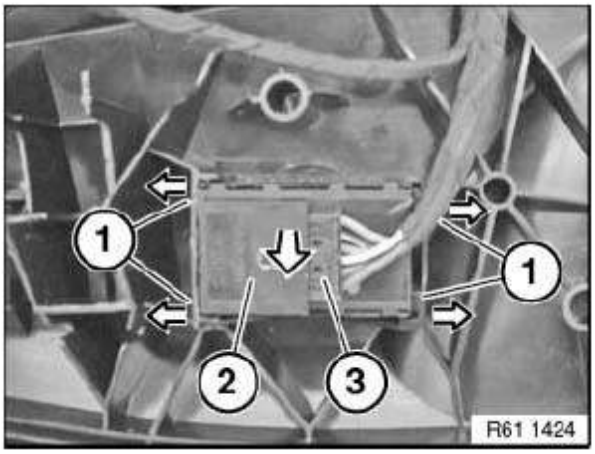


Fig. 290: Removing Switch For Lumbar Support
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 083 REMOVING AND INSTALLING/REPLACING SWITCH FOR UNLOCKING TAILGATE

Special tools required:

- 00 9 323

NOTE: Graphic similar!

Lever switch for tailgate unlocking (1) sideways out of A-pillar trim panel (2) using special tool 00 9 323 .

Disconnect associated plug connection and remove switch for unlocking rear lid (1).

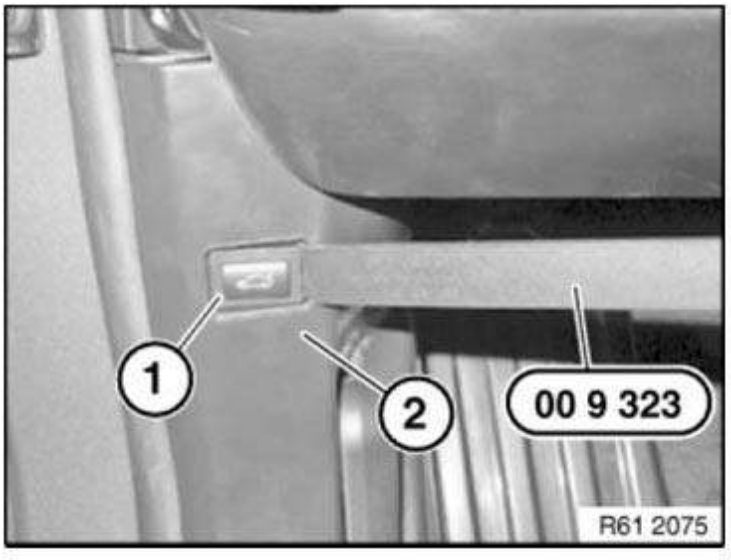


Fig. 291: Removing Sideways Out Of A-Pillar Trim Panel Using Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 083 REMOVING AND INSTALLING/REPLACING SWITCH FOR UNLOCKING TAILGATE

Necessary preliminary work:

cardiagn.com

- REMOVE LEFT FRONT DOOR TRIM PANEL

Removal:

Release catches (1) on both sides.

Remove switch for rear lid unlocking (2) in direction of arrow.

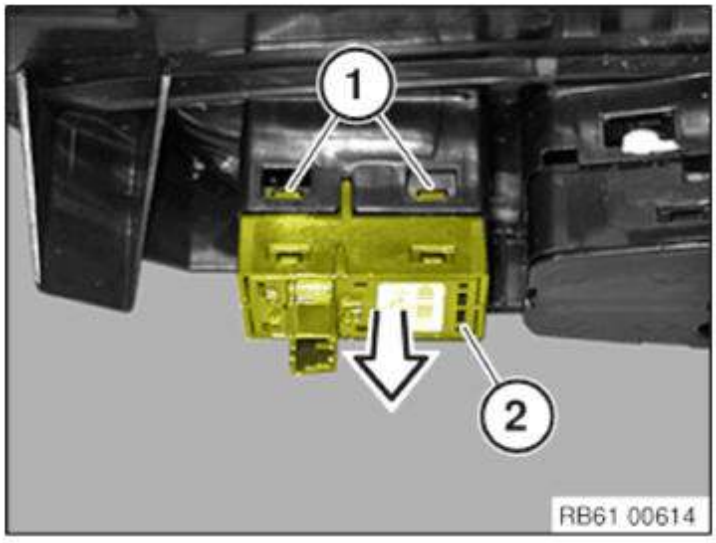


Fig. 292: Identifying Switch For Rear Lid Unlocking
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Join switch for tailgate release (2) in direction of arrow.

NOTE: Ensure correct engagement of latch mechanism (1) on both sides.

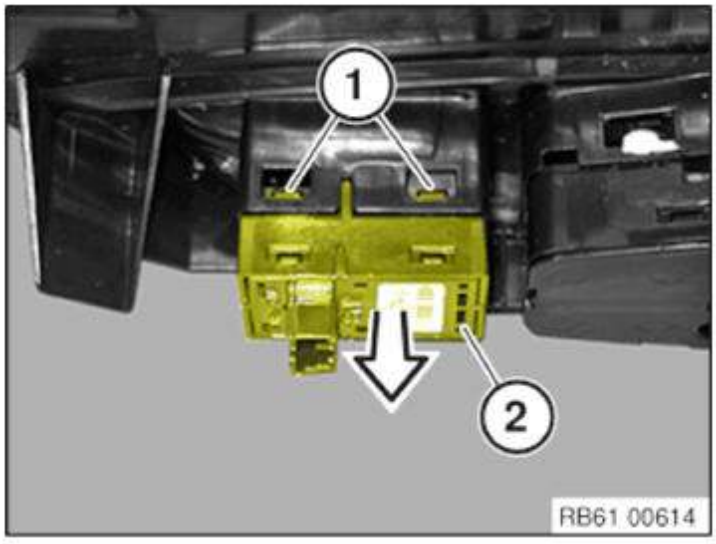


Fig. 293: Identifying Switch For Rear Lid Unlocking
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install FRONT LEFT DOOR TRIM PANEL .

61 31 246 REMOVING AND INSTALLING/REPLACING TAILGATE BUTTON

cardiagn.com

Operation is described in:

Removing and installing **REAR LID BUTTON** .

61 31 342 REMOVING AND INSTALLING/REPLACING THE GEAR SELECTOR SWITCH (GWS)

Special tools required:

- **61 0 313**

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)**.

Necessary preliminary work:

- Remove **GEAR SELECTOR SWITCH COVER**.

Removal:

Release all screws (1).

Take off gear selector switch (2) from center console (3).

Unlock and disconnect corresponding connector.

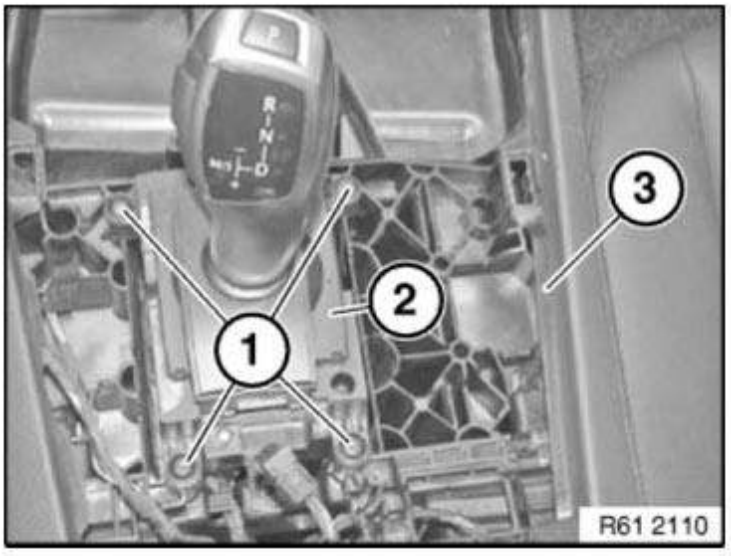


Fig. 294: Identifying Gear Selector Switch From Center Console
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Installation note:

Align gear selector switch (2) centrally.

Connect corresponding connector.

Join gear selector switch (2) to center console (3).

Tighten all screws (1).

Tightening torque **61 31 1AZ** .

cardiagn.com

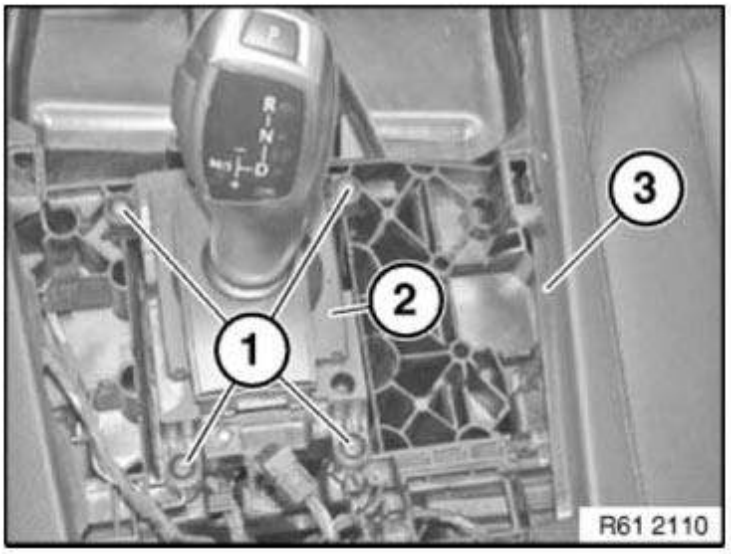


Fig. 295: Identifying Gear Selector Switch From Center Console
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

NOTE: **A new connector with deviating pin assignment will be installed in the following vehicles.**

- **F25 from 03/2011**
- **F01, F02, F03, F04, F07 from 09/2011**
- **F10, F11, F12, F13, F18 from 03/2012**

On the above-mentioned vehicles which were produced before the relevant date, the wiring harness must, if necessary, be reconnected from the previous 8-pin connector to a new 10-pin connector (BMW Parts Department 9 132 577) with special tool **61 0 313** .

Pin assignment:

Eight-pin connector: current pin	Ten-pin connector: new pin
1	10
2	7
3	3
4	4
5	8
6	5
7	6

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING**.

61 31 336 REMOVING AND INSTALLING/REPLACING TRIM FOR GEAR SELECTOR SWITCH

Necessary preliminary work:

- Disconnect **BATTERY EARTH LEAD**.
- Remove both negative battery cables at F03.
- Remove **CENTER CONSOLE COVER** .

cardiagn.com

NOTE: **Trim for gear selector switch (2) is secured from version 04/2009 with four screws.**

Release screws (1) and raise trim for gear selector switch (2) slightly.

Unlock and disconnect plug connection underneath for EMF switch.

Twist cover for gear selector switch (2) 90Â° and feed out upwards from the gear selector switch.

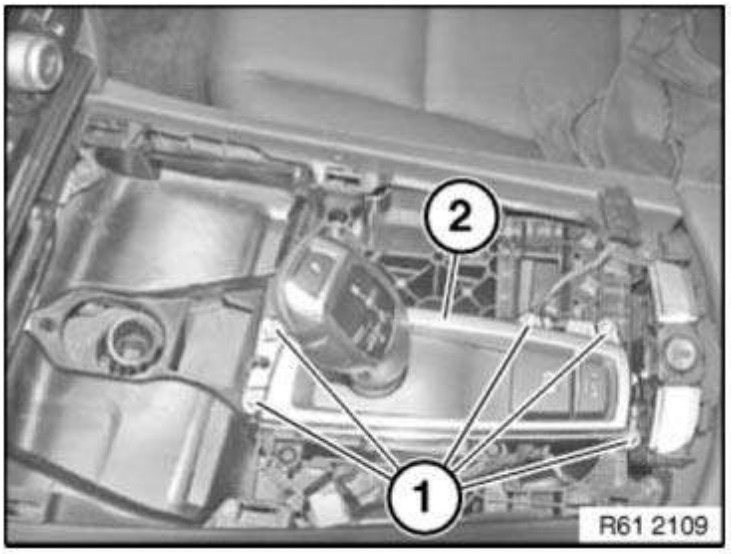


Fig. 296: Identifying Gear Selector Switch With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Remount **EMF SWITCH** .

61 31 198 REPLACE CONTROLLER CHROME RING

Special tools required:

- **00 9 340**

Lever out "OPTION", "BACK", "MENU" buttons with special tool **00 9 340** .



Fig. 297: Removing Controller Option, Back And Menu Buttons

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Lever out chrome ring (1) from latch mechanisms with special tool **00 9 340** and remove upwards.

Installation note:

Retaining lugs on controller must not be damaged.



Fig. 298: Removing Chrome Ring From Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

Check function of the controller.

61 31 339 REPLACE THE HANDLE COVER FOR THE GEAR SELECTOR SWITCH (SPORT)

Special tools required:

- **00 9 460**

Lever out the display (1) with a suitable tool.

NOTE: Display (1) is glued on.

Installation note:

Remove the protective film from the back of the display before installing.

Make sure display (1) is correctly seated!

cardiagn.com

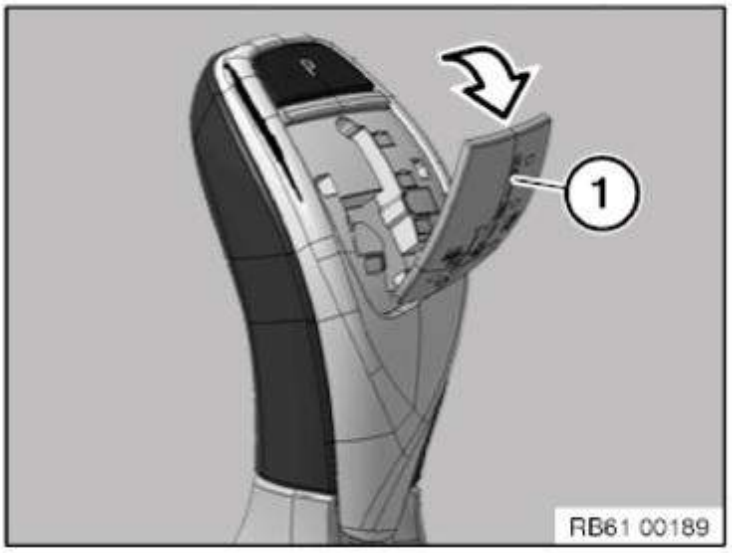


Fig. 299: Pulling Out Protective Film
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque **61 31 5AZ** .

NOTE: **To tighten screws, use special tool 00 9 460 .**

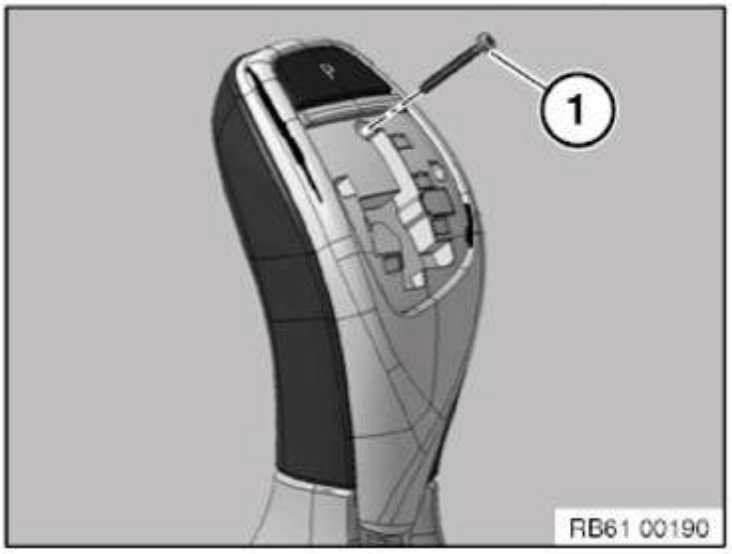


Fig. 300: Identifying Gear Selector Switch (Sport) Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Zinc plated top shell design:

Remove top shell (1).

cardiagn.com

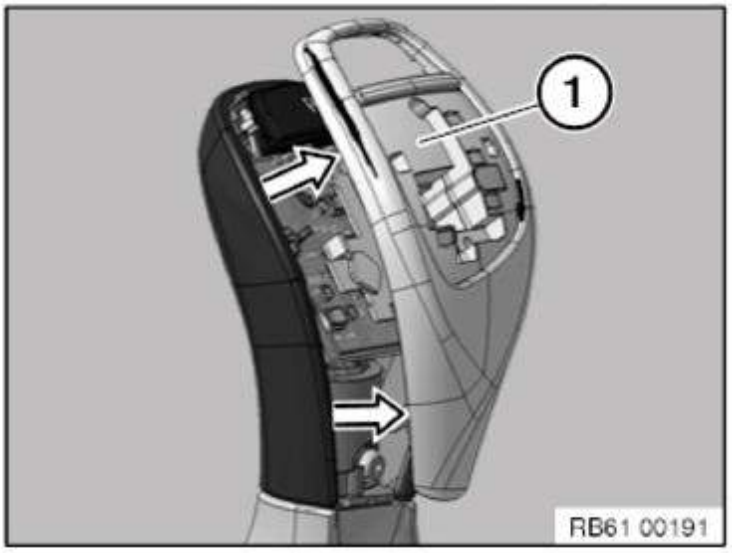


Fig. 301: Removing Zinc Plated Top Shell
Courtesy of BMW OF NORTH AMERICA, INC.

Ceramic top shell design:

Remove top shell (1).

NOTE: Hold-down device (2) is seated loosely in the top shell (1).

Installation note:

Make sure hold-down device (2) is correctly seated in upper shell (1)!

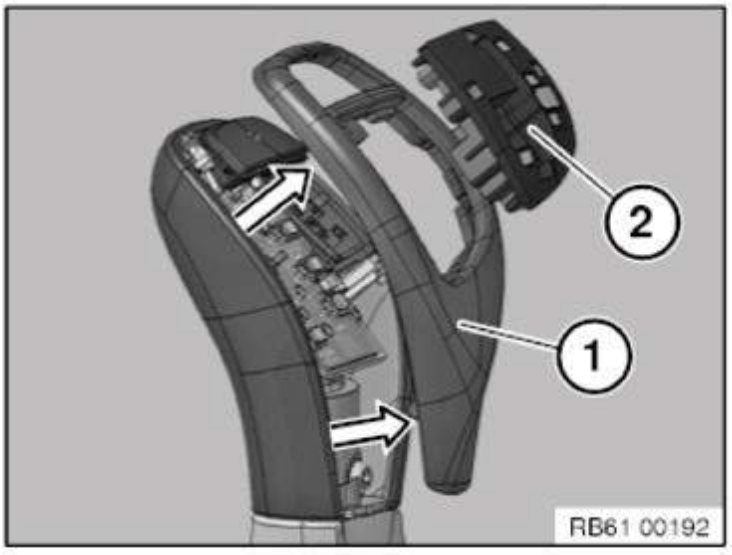


Fig. 302: Removing Ceramic Top Shell
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 823 REPLACING AUDIO UNIT

IMPORTANT: Read and comply with notes on **PROTECTION AGAINST ELECTROSTATIC DISCHARGE (ESD PROTECTION)**.

Necessary preliminary work:

- Remove **RADIO AND IHKA CONTROLS**.

cardiagn.com

Disconnect plug connection (2).

Release the retaining lugs (3) in the lower area and on the side of the radio control unit (1).

Remove the radio control panel (1) from the cover (4).

Installation note:

Radio control unit (1) must noticeably and audibly snap into trim (4).

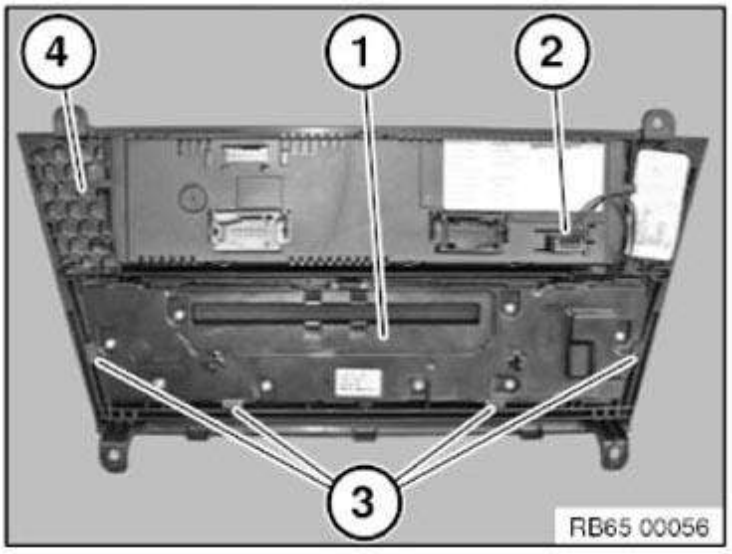


Fig. 303: Identifying Radio And IHKA Controls Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING**.

61 31 310 REPLACING BRAKE LIGHT SWITCH

Necessary preliminary tasks:

- Remove **trim panel for pedal mechanism** . See **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (ECE ONLY)** or **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (US ONLY)** .

Disconnect plug connection (1).

Pull brake light switch (2) in direction of arrow out of brake light switch holder (4).

Installation note:

- Press brake pedal (3) to floor.
- Push brake light switch (2) as far as it will go into brake light switch holder (4).
- Counter hold brake light switch (4) holder, slowly return brake pedal (3) to initial position and tighten to stop.

cardiagn.com

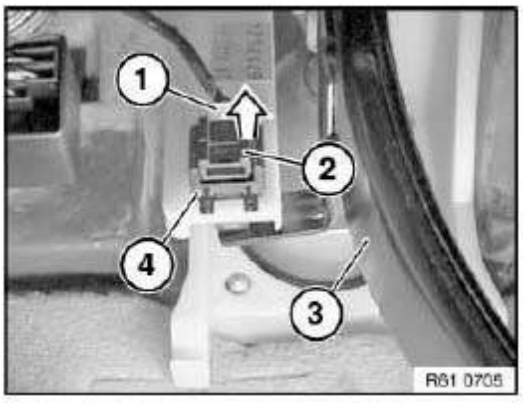


Fig. 304: Pulling Brake Light Switch Out Of Brake Light Switch Holder
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Removing brake light switch holder (1):**
Press brake pedal.
Unclip brake light switch holder (1) at shanks (2) and remove towards rear.

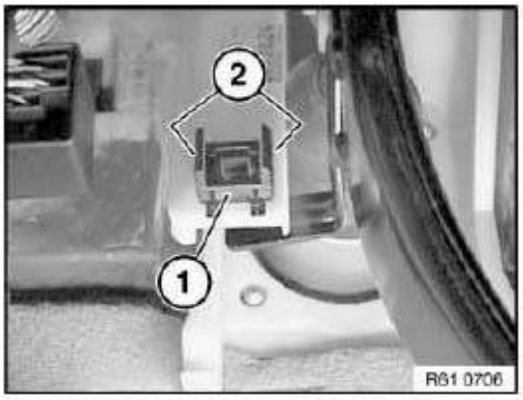


Fig. 305: Identifying Brake Light Switch Holder At Shanks
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 704 REPLACING CENTER CONSOLE OPERATING FACILITY (FROM 07/2012)

Necessary preliminary work:

- Remove CENTER CONSOLE OPERATING UNIT

Graphic shows repair kit for center console operating facility.

Function buttons (4) or dummy caps (5) must be clipped into the correct position.

Incorrect assignment may result in damage to the operating element (1) or functional impairment.

Assign symbol element (2) and function buttons (4) or dummy caps (5) to operating facility (1) according to the used part version.

cardiagn.com

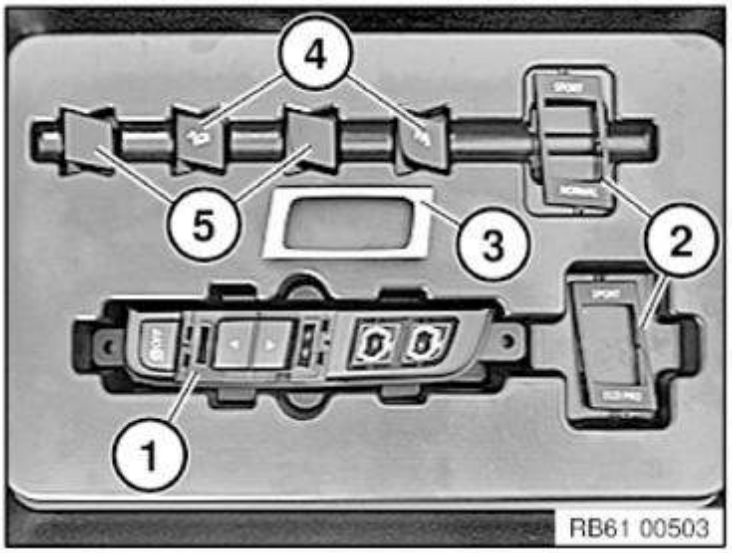


Fig. 306: Identifying Center Console Operating Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Fit operating element (1) with symbol element (2) and chrome frame (3).

Fit operating element (1) with function button (4) or dummy cap (5).

An incorrectly clipped function button (4) or dummy cap (5) can be levered out of the operating element (1) using a suitable tool.

Check locators on function button (4), these must not be damaged.

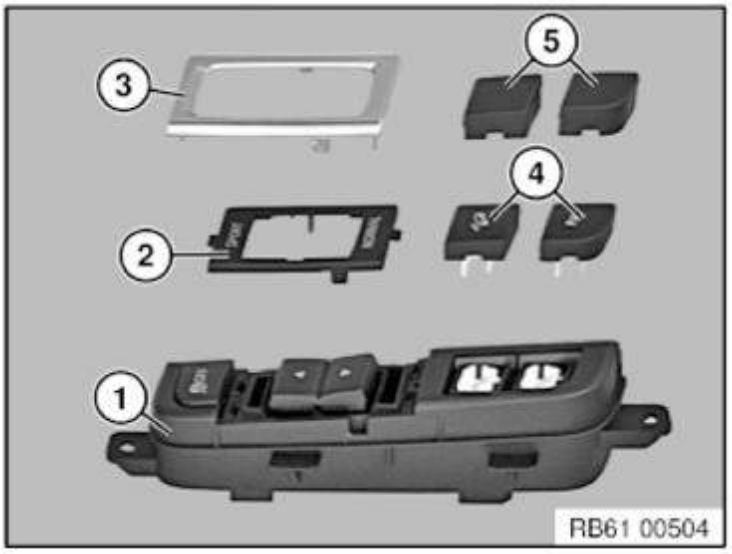


Fig. 307: Identifying Operating Element With Symbol Element And Chrome Frame
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 382 REPLACING COOLANT LEVEL SWITCH

WARNING: **Risk of scalding!**
Only perform this work after engine has cooled down.

Unfasten plug connection (1) and disconnect.

Turn coolant level switch (2) in direction of arrow and pull downwards out of expansion tank (3).

cardiagn.com

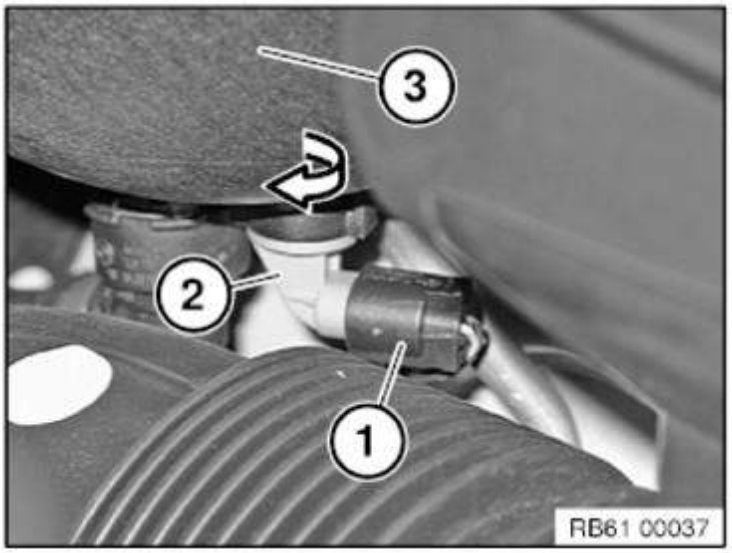


Fig. 308: Turning Coolant Level Switch
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 118 REPLACING FRONT PASSENGER POWER WINDOW SWITCH

Special tools required:

- 00 9 317

IMPORTANT: Carry out the following operation carefully so as to avoid damaging the door trim panel and switch.
If necessary, tape off working area.

Lever power window switch (1) with special tool 00 9 317 in direction of arrow out of armrest.

Disconnect associated plug connection and remove power window switch (1).

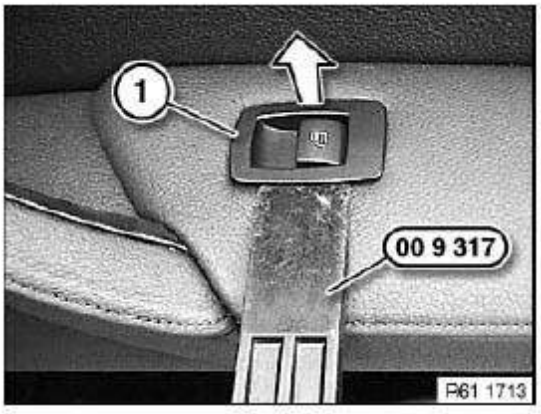


Fig. 309: Removing Power Window Switch
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining hooks (1) of power window switch (2) must not be damaged.

Make sure power window switch (2) is correctly seated in armrest.

cardiagn.com

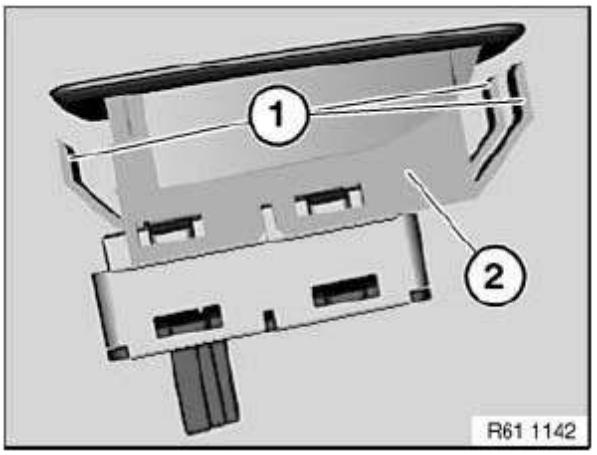


Fig. 310: Identifying Retaining Hooks Of Power Window Switch
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 492 REPLACING LEVEL SWITCH FOR WINDSCREEN WASHER SYSTEM

Necessary preliminary work:

- REMOVE trim cover from wheel arch at front left.
- Partially remove FRONT WHEEL ARCH COVER .

NOTE: For purposes of clarity, image shows wheel arch cover removed.

Disconnect plug connection (1).

Turn level switch for windscreen washer unit (2) to the left and remove from fluid reservoir for windscreen washer unit (3).

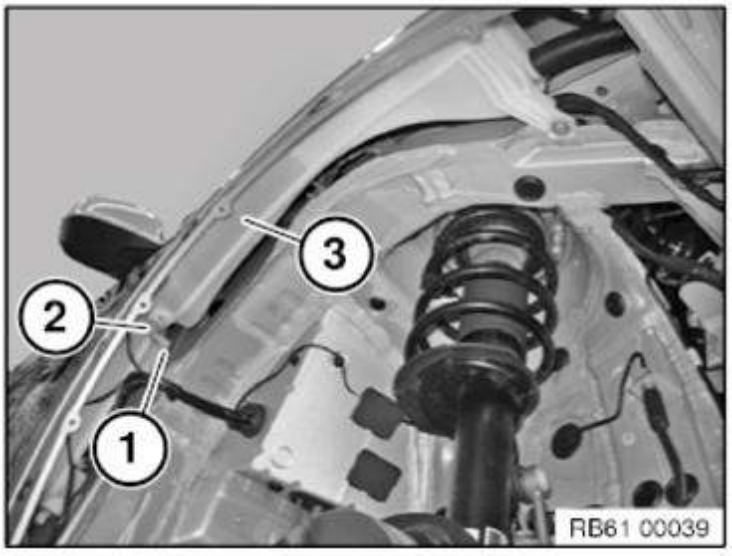


Fig. 311: Identifying Fluid Reservoir For Windscreen Washer Unit Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 204 REPLACING OPERATING UNIT FOR SEAT ADJUSTMENT

Necessary preliminary work:

- Remove OUTER COVER on front seat.

Unlock retaining tabs (3) in direction of arrow and remove operating unit (1) from cover.

cardiagn.com

Disconnect plug connection (2).

Installation note:

Retaining tabs (3) of cover and guide (4) of operating unit (1) must not be damaged.

Make sure operating unit (1) is correctly seated in retaining tabs (3).

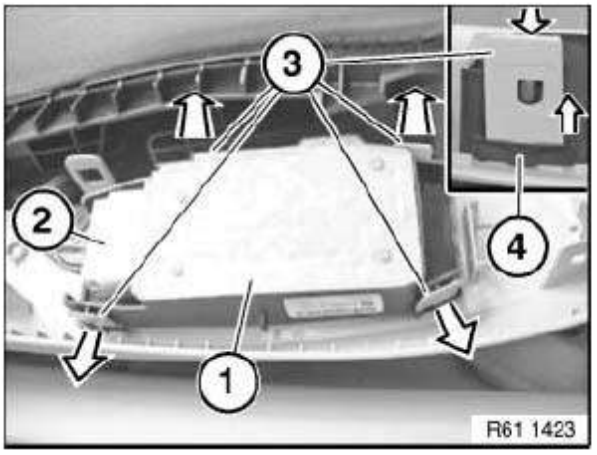


Fig. 312: Removing Operating Unit From Cover
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 116 REPLACING ROCKER SWITCH FOR SIDE WINDOW OPERATION (REAR)

Special tools required:

- 00 9 317

IMPORTANT: Carry out the following operation carefully so as to avoid damaging the door trim panel and switch.
If necessary, tape off working area.

Lever rocker switch for side window operation (1) with special tool 00 9 317 in direction of arrow out of armrest.

Disconnect associated plug connection and remove rocker switch for side window operation (1).

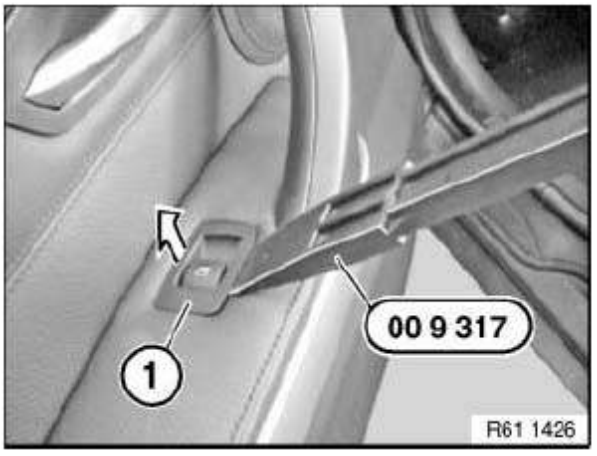


Fig. 313: Removing Rocker Switch For Side Window Operation
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

cardiagn.com

Retaining hooks (1) of rocker switch for side window operation (2) must not be damaged.

Make sure rocker switch for side window operation (2) is correctly seated in armrest.

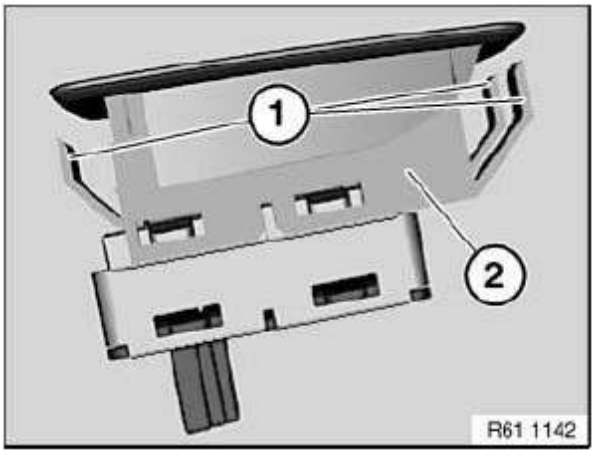


Fig. 314: Identifying Retaining Hooks Of Power Window Switch
Courtesy of BMW OF NORTH AMERICA, INC.

61 31 544 REPLACING ROOF SWITCH CLUSTER (ROOF FUNCTION CENTER)

IMPORTANT: Only new parts may be used for replacement (repair kit)*.

*Sourcing reference: BMW Parts Catalogue

IMPORTANT: Read and comply with notes on protection against electrostatic discharge **(ESD PROTECTION)**.

Necessary preliminary work:

- Remove **ROOF SWITCH CLUSTER**.

Secure switch unit (1) to cover (2).

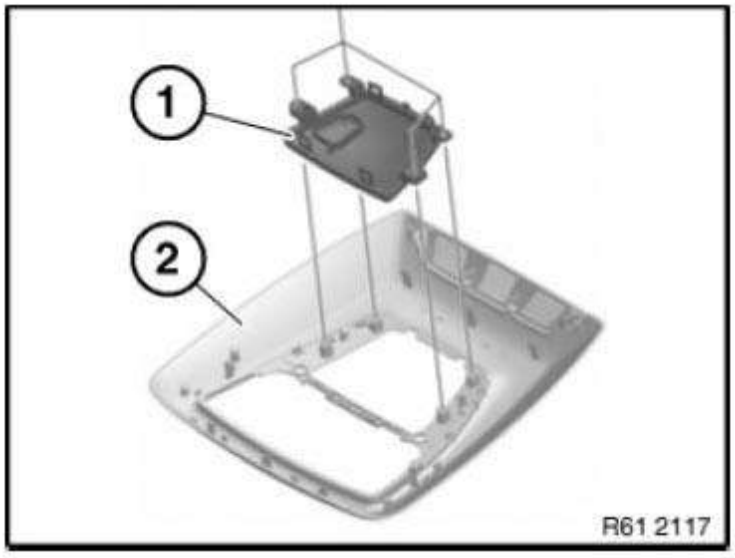


Fig. 315: Identifying Switch Unit To Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Clip light unit (1) into cover (2).

cardiagn.com

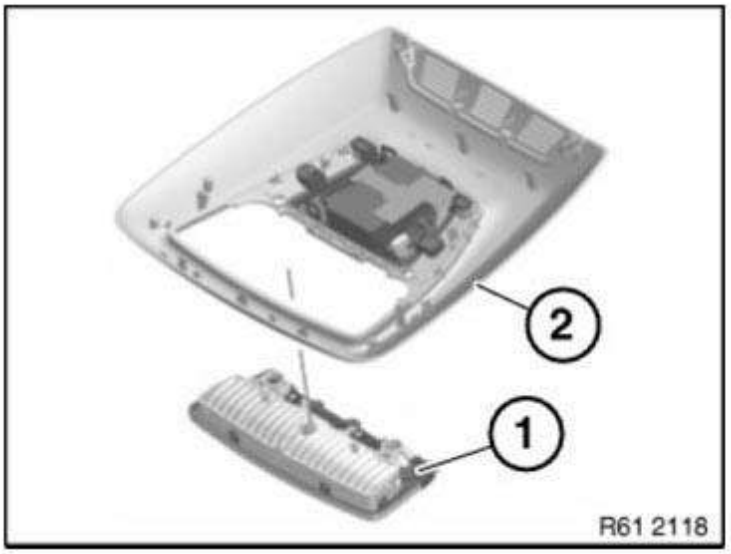


Fig. 316: Identifying Light Unit Into Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Insert retaining lugs on switching mat (1) correctly into designated guides on board (2).

Connect USIS sensor plug connections (3) to board (2).

NOTE: USIS sensors (3) are used only when antitheft alarm system is fitted.

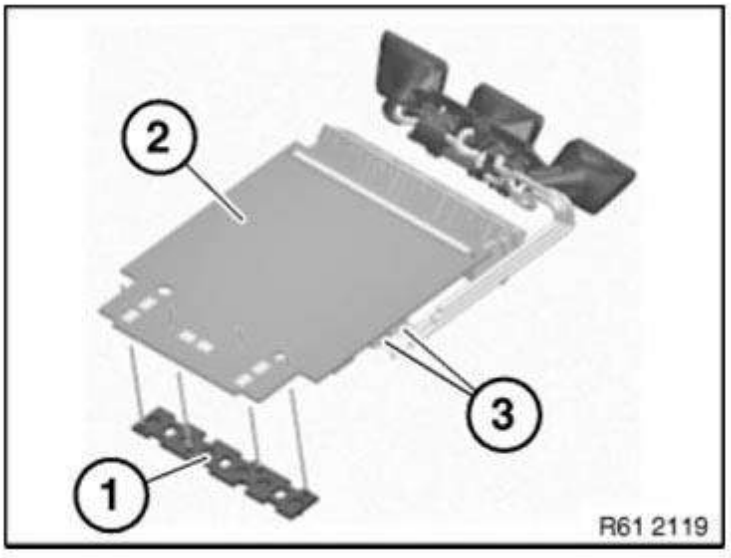


Fig. 317: Identifying USIS Sensor Plug Connections To Board
Courtesy of BMW OF NORTH AMERICA, INC.

Insert USIS sensors (1) in direction of arrow into frame (2).

NOTE: USIS sensors (1) are used only when antitheft alarm system is fitted.

cardiagn.com

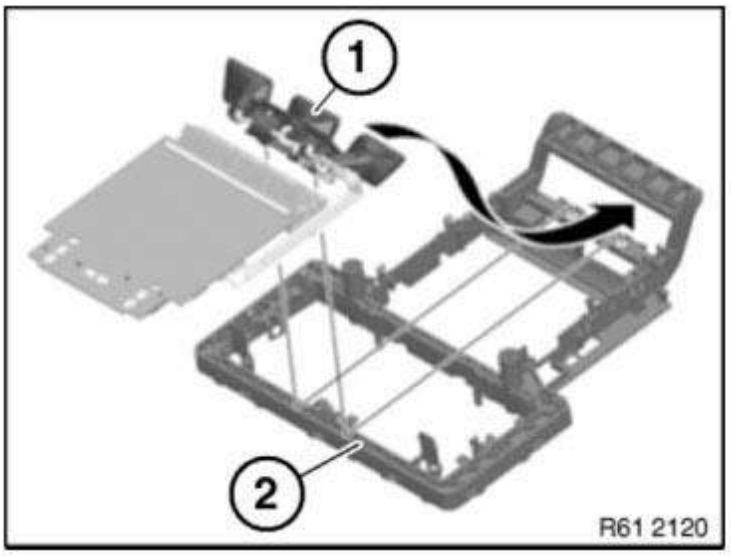


Fig. 318: Identifying USIS Sensors
Courtesy of BMW OF NORTH AMERICA, INC.

Clip frame (1) into cover (2).

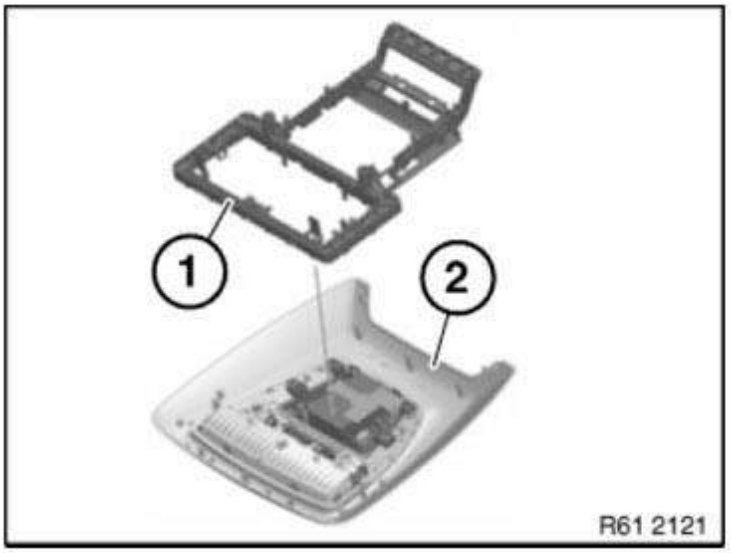


Fig. 319: Identifying Frame Into Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Turn board (1) over in direction of arrow and connect plug connection (2) to board (1).

cardiagn.com

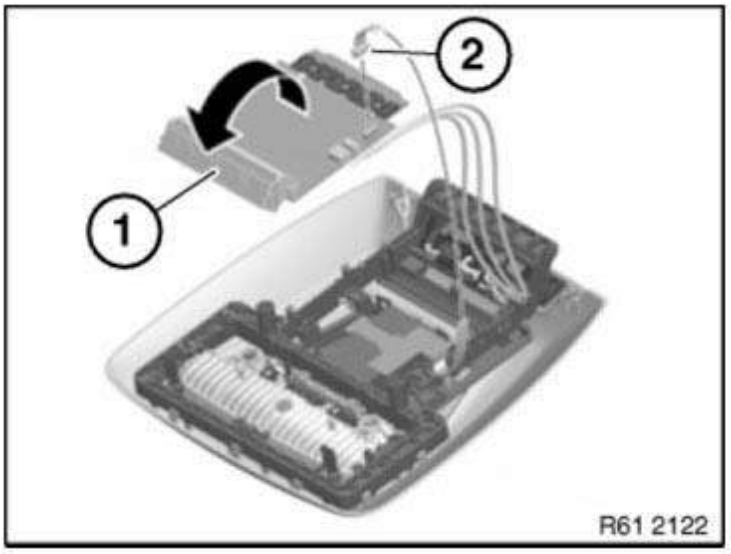


Fig. 320: Connecting Plug Connection To Board
Courtesy of BMW OF NORTH AMERICA, INC.

Version from 08/2009:

Rotate PCB (1) in direction of arrow.

Wind cable (2) in direction of arrow and connect with PCB (1).

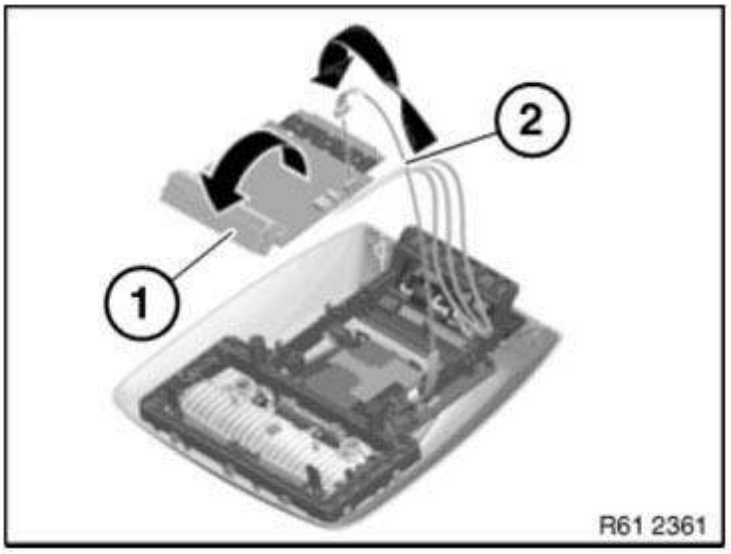


Fig. 321: Rotating PCB
Courtesy of BMW OF NORTH AMERICA, INC.

Clip board (1) onto frame (2).

Installation note:

Make sure guide (3) is correctly seated in frame (2).

cardiagn.com

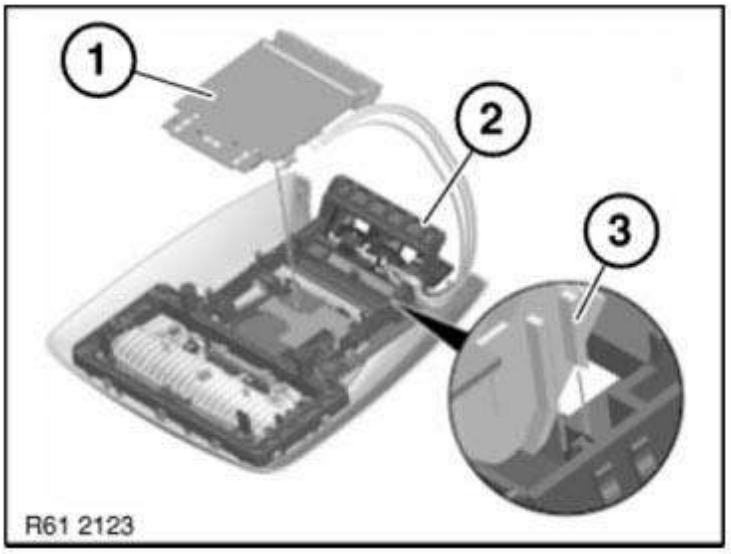


Fig. 322: Identifying Board Onto Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

If anti-theft alarm system is fitted, make sure USIS sensor lead (1) is correctly seated in retaining tabs (2) on frame (3).

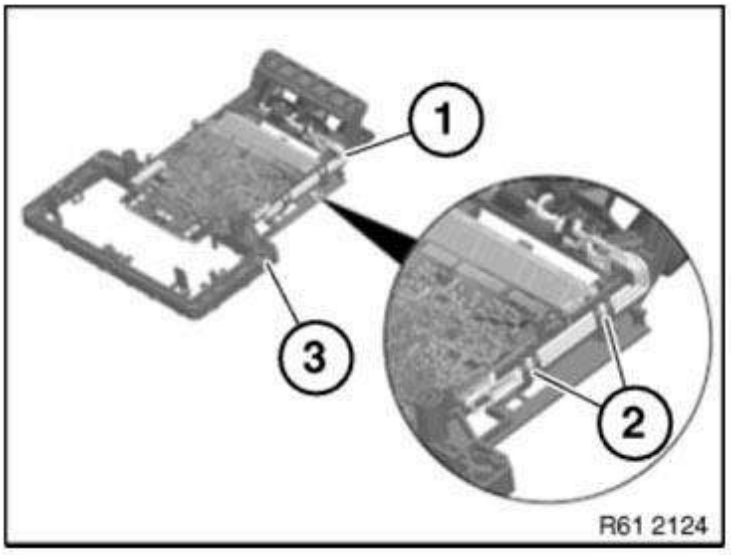


Fig. 323: Identifying USIS Sensor Lead With Retaining Tabs On Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Clip light pressed screen (1) into light unit (2).

Installation note:

Make sure pin (3) is correctly seated on board (4).

cardiagn.com

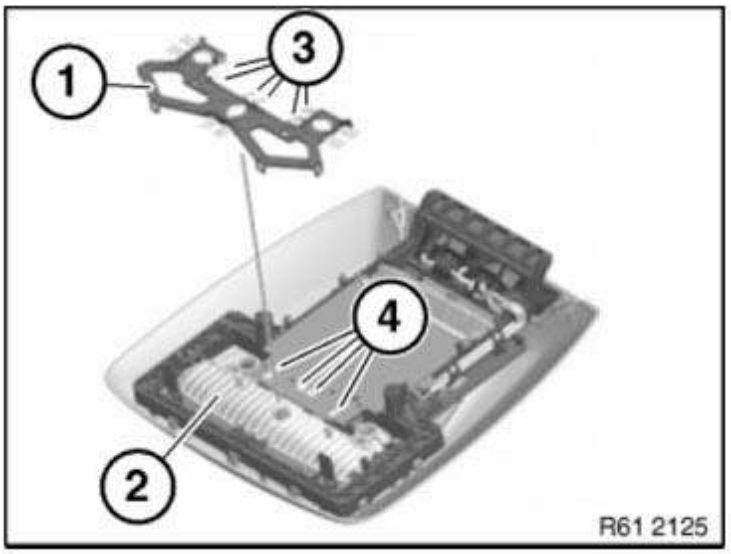


Fig. 324: Identifying Light Pressed Screen Into Light Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Install bulbs (1) in light pressed screen (2).

Installation note:

Note **BULB TYPE** .

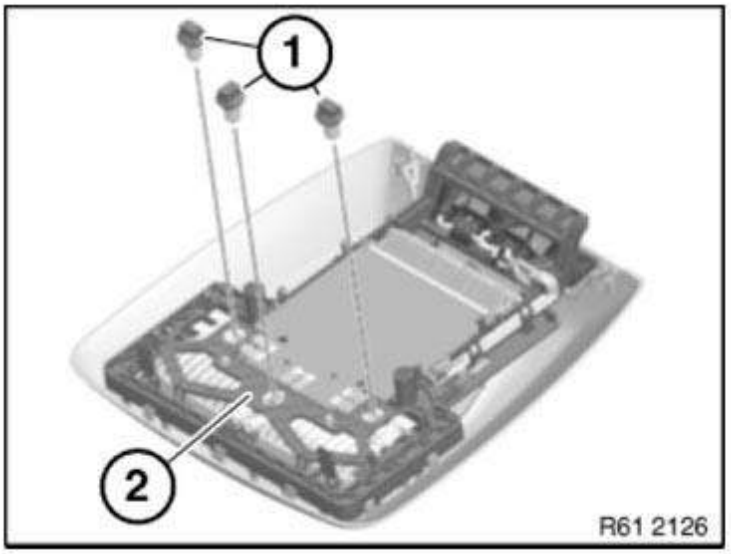


Fig. 325: Identifying Bulbs In Light Pressed Screen
Courtesy of BMW OF NORTH AMERICA, INC.

Screw down base (1) to roof switch cluster (2).

cardiagn.com

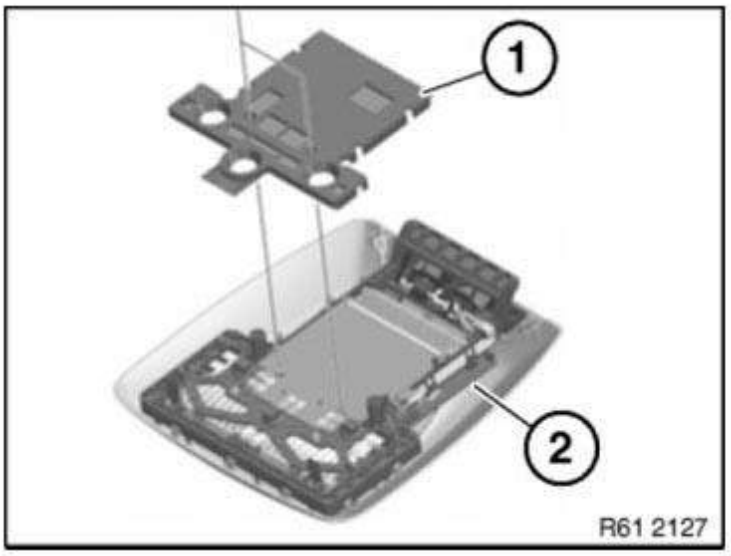


Fig. 326: Identifying Base To Roof Switch Cluster
Courtesy of BMW OF NORTH AMERICA, INC.

- Carry out **VEHICLE PROGRAMMING/ENCODING**.

61 31 255 REPLACING SWITCH FOR EXTERIOR MIRROR

Operation is described in:

Removing **POWER WINDOW SWITCH (DRIVER'S SIDE)**.

FANFARE, HORN

61 33 040 REMOVING AND INSTALLING/REPLACING A FANFARE HORN

Operation is described in:

- **REMOVING AND INSTALLING/REPLACING BOTH FANFARE HORNS**.

61 33 060 REMOVING AND INSTALLING/REPLACING BOTH FANFARE HORNS

Necessary preliminary tasks:

- **REMOVE FRONT RIGHT WHEEL ARCH COVER (FRONT SECTION)** .

Removal:

Only for version with auxiliary cooler:

Release screws (1).

Remove auxiliary cooler (2) in direction of arrow from holder.

cardiagn.com

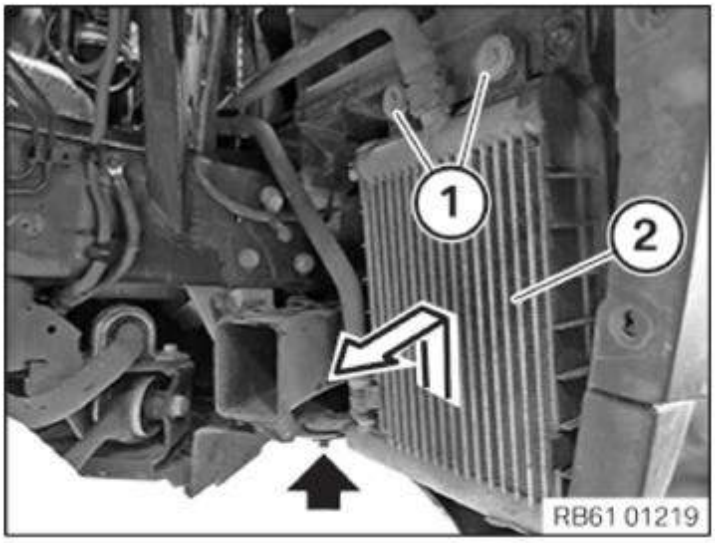


Fig. 327: Identifying Auxiliary Cooler From Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Only for version with auxiliary cooler:

Release screws (1).

Remove air duct (2).

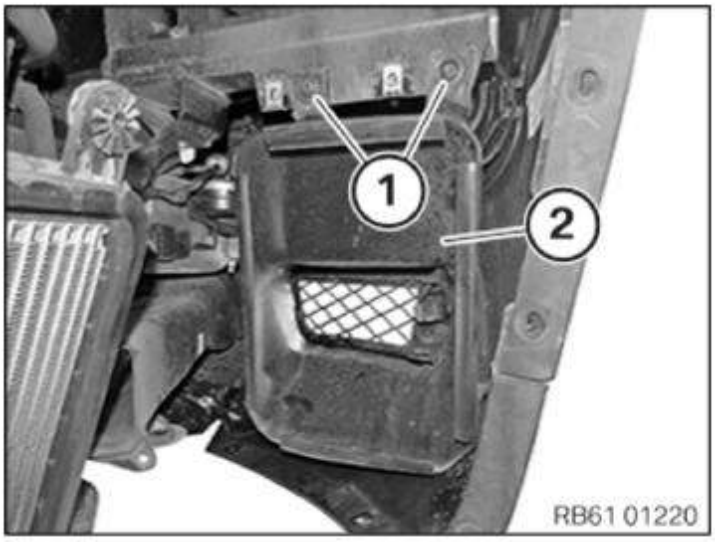


Fig. 328: Identifying Air Duct With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

High-tone fanfare:

Unlock and disconnect the connector (1).

Remove nut (2) and remove fanfare (3) with holder.

cardiagn.com

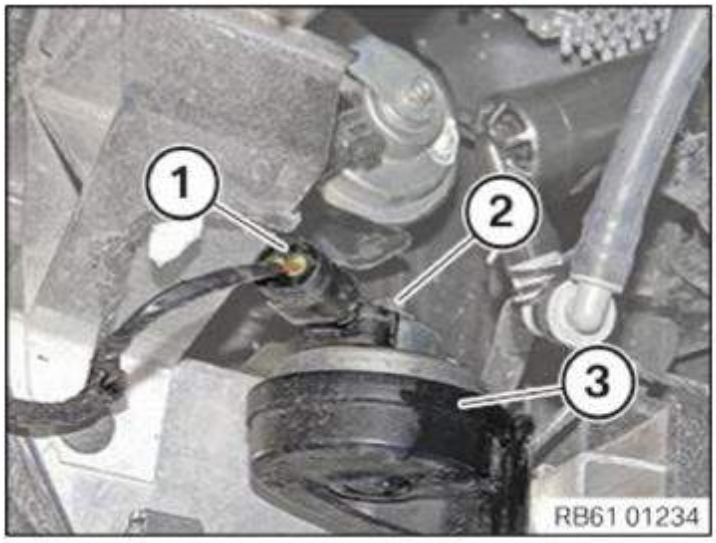


Fig. 329: Identifying Fanfare Nut With Holder (High-Tone Fanfare)
Courtesy of BMW OF NORTH AMERICA, INC.

Low-tone fanfare:

Unlock and disconnect the connector (1).

Remove nut (2) and remove fanfare (3) with holder.

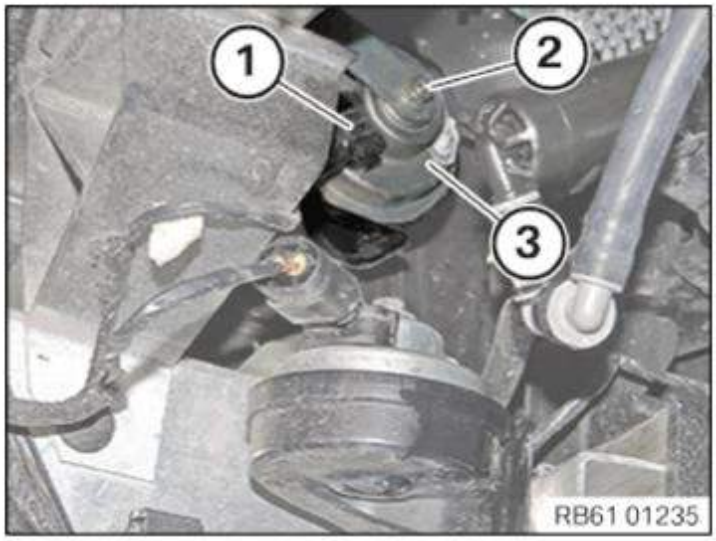


Fig. 330: Identifying Fanfare Nut With Holder (Low-Tone Fanfare)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

High-tone fanfare:

Fit fanfare (3) into place and tighten nut (2).

Connect the connector (1).

cardiagn.com

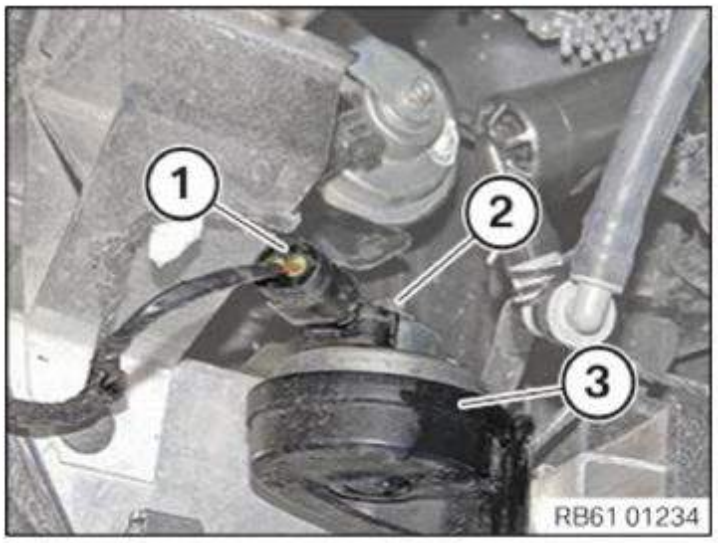


Fig. 331: Identifying Fanfare Nut With Holder (High-Tone Fanfare)
Courtesy of BMW OF NORTH AMERICA, INC.

Low-tone fanfare:

Fit fanfare (3) into place and tighten nut (2).

Connect the connector (1).

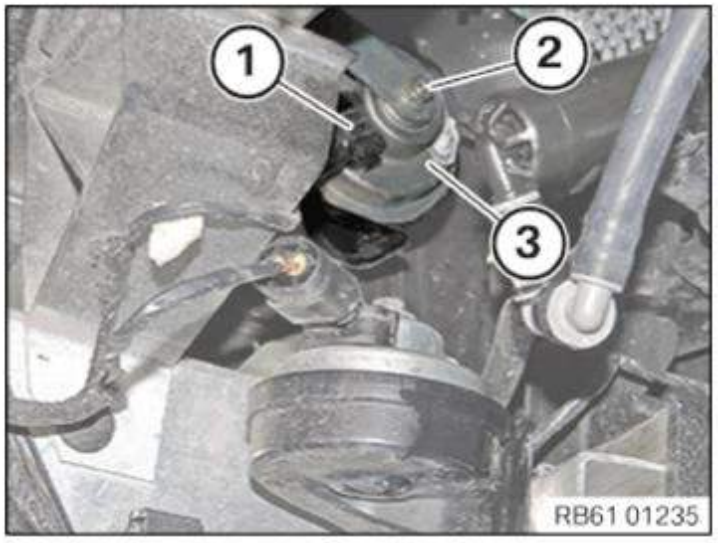


Fig. 332: Identifying Fanfare Nut With Holder (Low-Tone Fanfare)
Courtesy of BMW OF NORTH AMERICA, INC.

Only for version with auxiliary cooler:

Fit air duct (2) into place and tighten with screws (1).

cardiagn.com

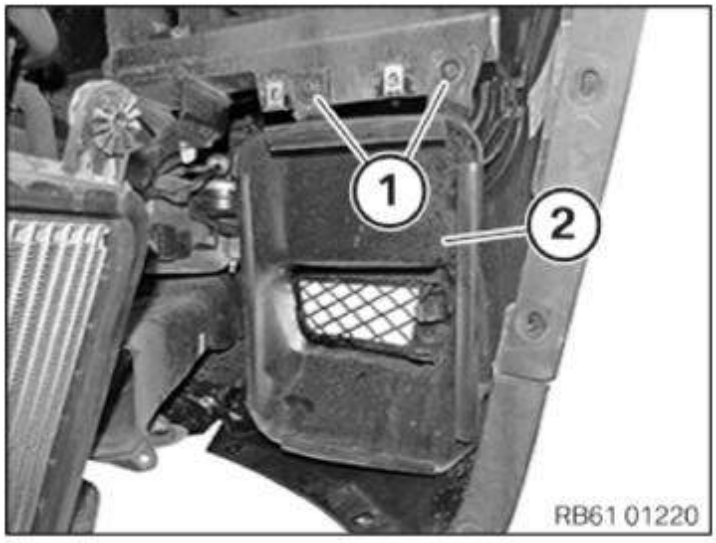


Fig. 333: Identifying Air Duct With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Only for version with auxiliary cooler:

Fit auxiliary cooler (2) in opposite direction of arrow into holder.

Tighten down screws (1).

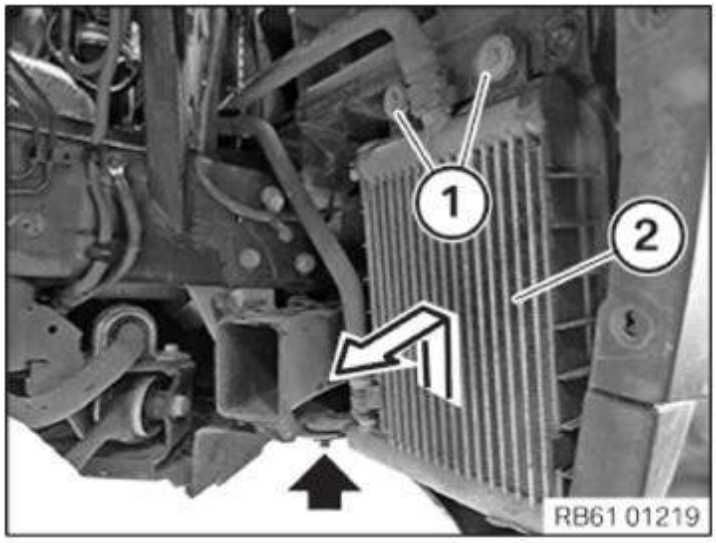


Fig. 334: Identifying Auxiliary Cooler From Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- REMOVE WHEEL ARCH COVER AT FRONT (FRONT SECTION) RIGHT .

12 V POWER SOCKET, CIGARETTE LIGHTER

61 34... REMOVING AND INSTALLING/REPLACING 12-V POWER SOCKET

Special tools required:

- 61 0 250

Necessary preliminary tasks:

cardiagn.com

- REMOVE THE FRONT DRINK HOLDER .
- REMOVE CENTER CONSOLE STORAGE COMPARTMENT .
- REMOVE REAR BOTTOM STORAGE COMPARTMENT .

Open flap in luggage compartment panel on right

Check the equipment dependent sockets that are available.

Cup holder:

Feed out the associated cable on the underside of the cup holder (2).

Remove the power socket (1) from the cup holder (2) using the special tool 61 0 250 .

See last operation.

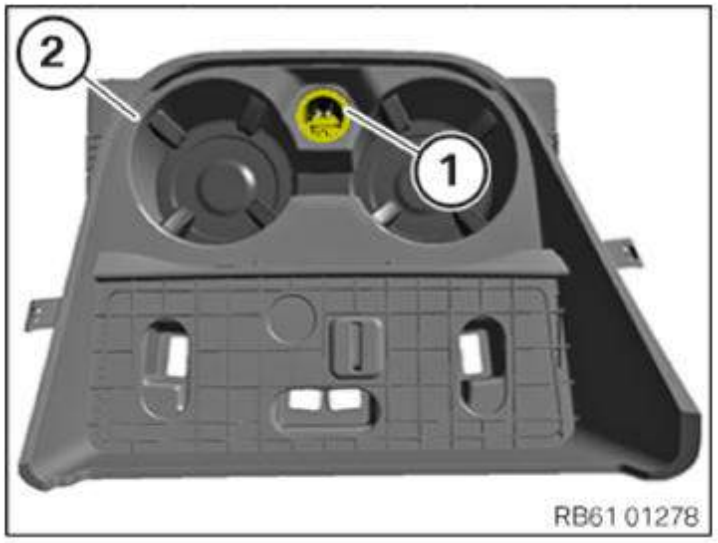
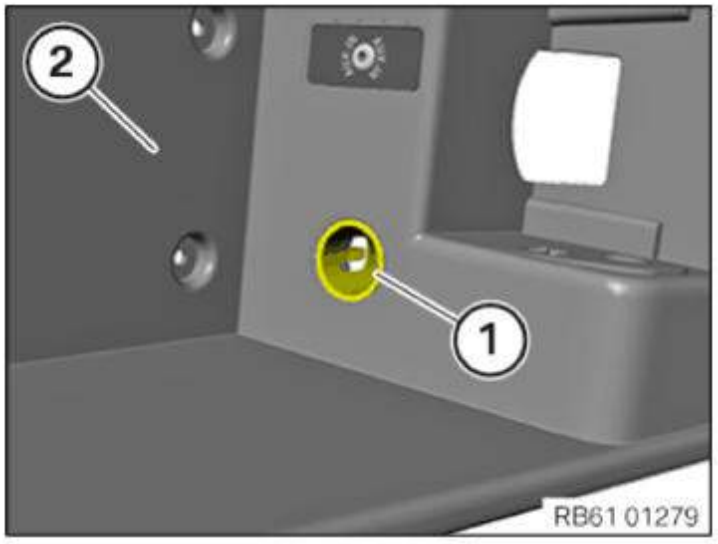


Fig. 335: Identifying Power Socket From Cup Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Center console storage compartment

Remove the power socket (1) from the center console storage compartment (2) using the special tool 61 0 250 .

See last operation.



cardiagn.com

Fig. 336: Identifying Power Socket From Center Console Storage Compartment
Courtesy of BMW OF NORTH AMERICA, INC.

Rear bottom storage compartment

Remove power socket (1) from the center console trim using special tool **61 0 250** .

See last operation.

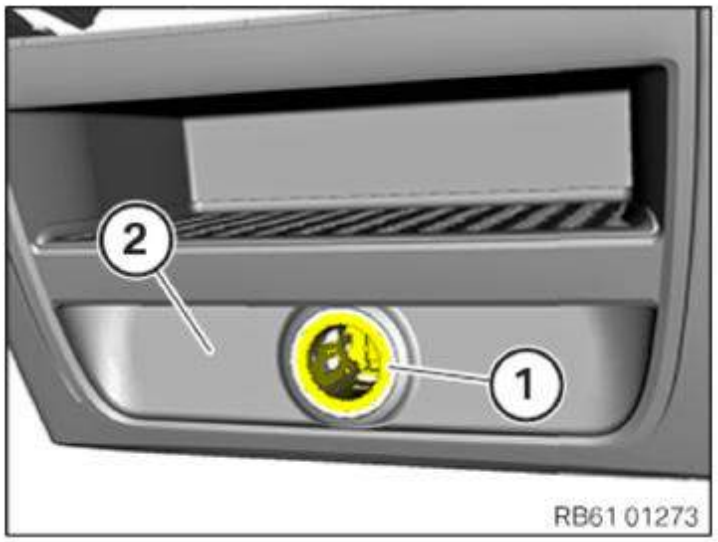


Fig. 337: Identifying Power Socket From Center Console Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Luggage compartment:

Open flap in luggage compartment trim panel on right.

Put your hand behind the right luggage compartment wheel arch panel.

Detach connector (1) from power socket (2).

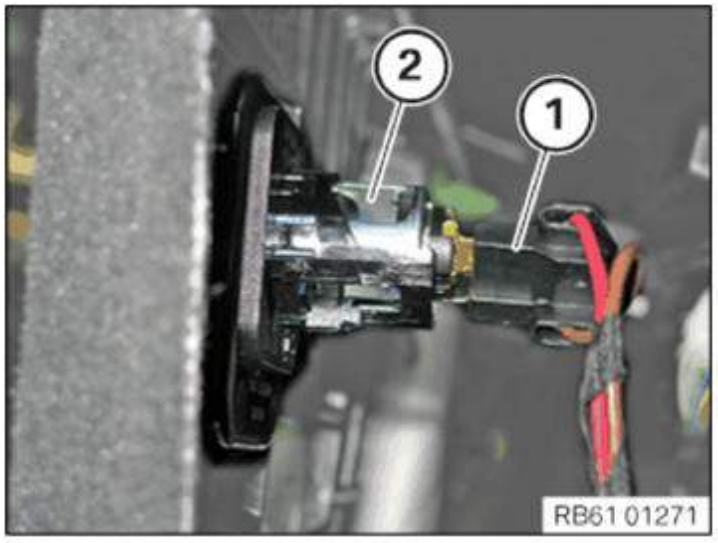


Fig. 338: Identifying Connector From Power Socket
Courtesy of BMW OF NORTH AMERICA, INC.

Luggage compartment:

Fold up the protective cap over power socket (1).

cardiagn.com

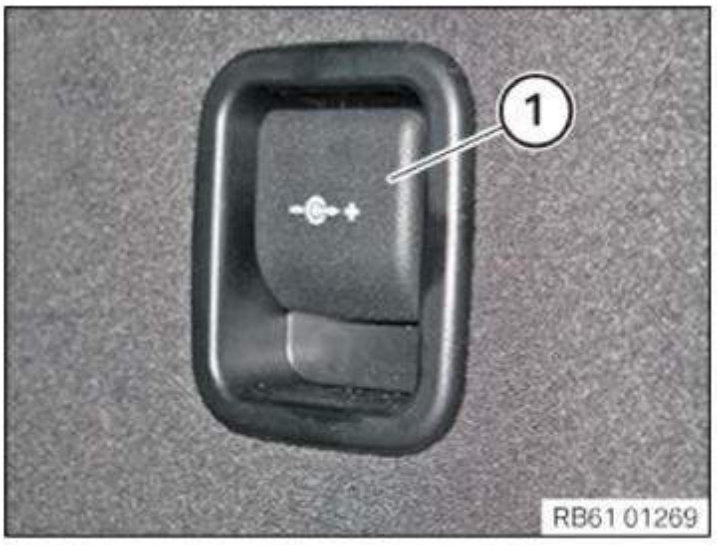


Fig. 339: Identifying Luggage Compartment Protective Cap Over Power Socket
Courtesy of BMW OF NORTH AMERICA, INC.

Luggage compartment:

Remove socket (1) using special tool **61 0 250** .

See last operation.



Fig. 340: Identifying Luggage Compartment Socket
Courtesy of BMW OF NORTH AMERICA, INC.

Pull out 12-V power socket from housing with special tool **61 0 250** until connector is at bottom of light ring.

cardiagn.com

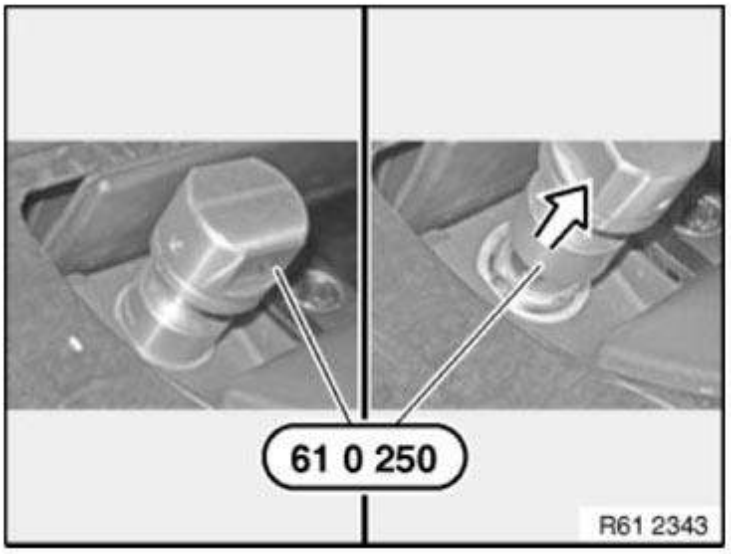


Fig. 341: Removing 12V Socket Using Special Tool (61 0 250)
Courtesy of BMW OF NORTH AMERICA, INC.

61 34... REMOVING AND INSTALLING/REPLACING 12-V SOCKET IN THE FRONT STORAGE COMPARTMENT

Special tools required:

- 61 0 250

Necessary preliminary tasks:

Remove CUP HOLDER INSERT .

Pull the 12-V socket with special tool 61 0 250 from the storage compartment housing until the connector is below on the light ring.

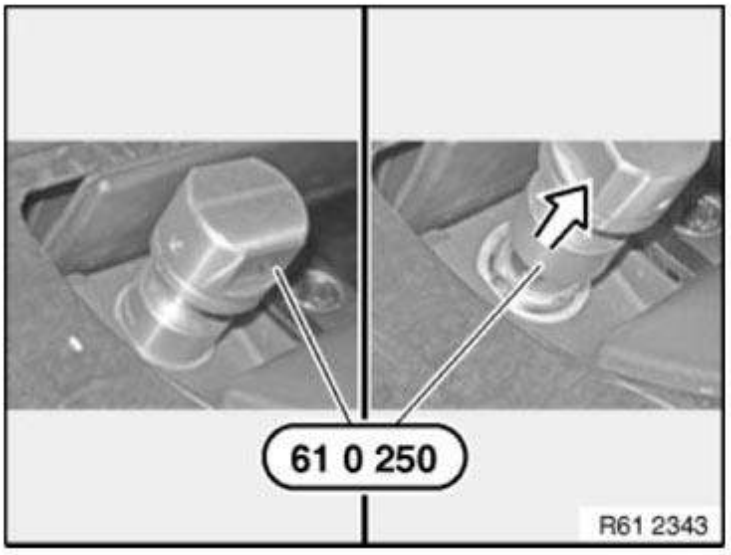


Fig. 342: Removing 12V Socket Using Special Tool (61 0 250)
Courtesy of BMW OF NORTH AMERICA, INC.

CONTROL UNITS, MODULES, SENSORS, AERIALS

61 35 679 INITIALIZE THE RAIN-LIGHT-SOLAR-CONDENSATION SENSOR

cardiagn.com

NOTE: **Initialization is necessary:**

- **after replacing the windscreen**
- **after replacing the rain-light-solar-condensation sensor**
- **after removing and installing the rain-light-solar-condensation sensor**

NOTE:

- **Connect BMW diagnosis system**
- **Initialize the rain-light-solar-condensation sensor**

61 35 679 INITIALIZING RAIN/LIGHT (SOLAR) SENSOR

NOTE: **Initialization is necessary:**

- **After replacing the windscreen**
- **after replacing rain/light (solar) sensor**
- **after replacing optics on rain/light (solar) sensor**
- **after installing a used rain/light (solar) sensor**

NOTE:

- **Connect BMW diagnosis system**
- **Initializing rain/light (solar) sensor**

61 35 679 INITIALIZING RAIN/LIGHT SENSOR

NOTE: **Initialization is necessary:**

- **after replacing the windscreen**
- **after replacing the rain-light sensor**
- **after removing and installing the rain-light sensor**

NOTE:

- **Connect BMW diagnosis system**
- **Initializing rain/light sensor**

61 35... NOTES ON ESD PROTECTION (ELECTRO STATIC DISCHARGE)

Special tools required:

- 12 7 060

NOTE: **Electrical components which are particularly sensitive to electrostatic discharge (electronic control units, sensors, etc.) are marked with the ESD warning symbol.**
E -Electro
S -Static
D -Discharge

IMPORTANT: Read and comply without fail with the notes on this subject from Service Information **2 06 04**

cardiagn.com

128.

Statically charged persons can discharge themselves when they touch electrical components.

NOTE: Humans can only detect a discharge starting from a level of approx. 3000 V.

The danger threshold for electrical components already starts from a level of approx. 100 V.

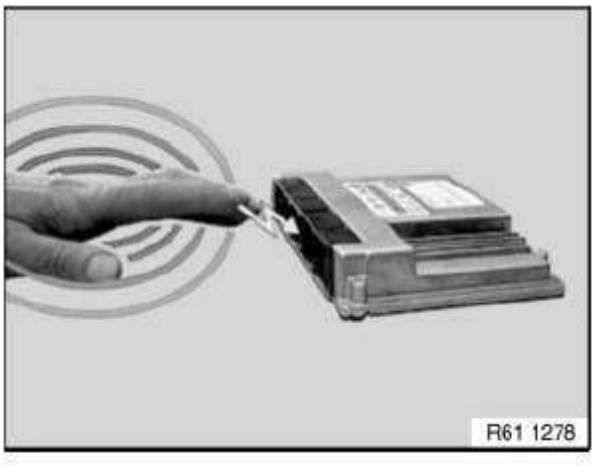


Fig. 343: Checking Threshold For Electrical Components
Courtesy of BMW OF NORTH AMERICA, INC.

Example:

Mechatronic control unit.

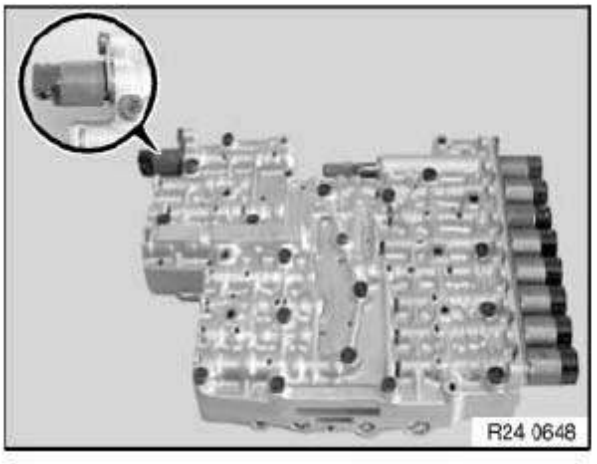


Fig. 344: Identifying Mechatronic Control Unit
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com



Fig. 345: Caution For Touching Pins And Multi-Pin Connectors Directly
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not touch pins and multi-pin connectors directly!
Touch electrical components by their housings only.

IMPORTANT:

To avoid damaging or destroying electrical components as a result of electrostatic discharge, it is absolutely essential to observe the following instructions:

- When replacing electrical components, leave the replacement components in their original packaging until immediately before they are to be installed
- If necessary, always return a removed component in its original packaging (always pack the component away immediately)
- Read and comply with user information on using the associated special tool 12 7 060

Personal protective equipment:

Electrically conducting clothing (high wool content, antistatic shoes required).

These can primarily be identified by the logo on the side.

cardiagn.com



Fig. 346: Identifying Antistatic Shoes
Courtesy of BMW OF NORTH AMERICA, INC.

61 35... OVERVIEW, RAIN SENSOR (ADDITIONAL WORK WHEN REPLACING THE WINDSCREEN/SENSOR REPLACEMENT)

- **1-Series:** E8x
- **3-Series:** E9x
- **5-Series:** E6x
- **6-Series:** E6x
- **X1:** E84
- **X5:** E70
- **X6:** E7x
- **Z4:** E89

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor/Encoding/programming necessary	When replacing the sensor/Initialization required	Connecting the diagnosis system required
Condensation sensor square 30 x 20 mm	Yes	No	No	No

- **5-Series:** E6x
- **6-Series:** E6x
- **7-Series:** E6x

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing substitute visuals Encoding/programming necessary	When replacing the sensor/substitute visuals Initialization required	Connecting the diagnosis system required
all types square 60 x 40 mm	No	Yes	-	Yes	Yes
RLS approximately Ã˜ 50 mm	No (new **substitute visuals** required.	-	No	Yes	Yes

- **X5:** E70

cardiagn.com

- **X6:** E7x

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing substitute visuals Encoding/programming necessary	When replacing the sensor/substitute visuals Initialization required	Connecting the diagnosis system required
RLPSS (Rain, light and precipitation solar sensor) (Designation is located on the back of the sensor) approximately Ã˜ 50 mm	Yes	Yes	-	Yes	Yes
RLS (vehicle **with no HUD)** (Designation is located on the back of the sensor) approximately Ã˜ 50 mm	No (new **substitute visuals** required.	-	No	Yes	Yes
RLSS (vehicle **with HUD**) (Designation is located on the back of the sensor) approximately Ã˜ 50 mm	Yes	Yes	-	Yes	Yes

- **1-Series:** E8x
- **3-Series:** E9x
- **X1:** E84
- **X3:** E83
- **Z4:** E89

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing the sensor Initialization required	Connecting the diagnosis system required
all types square 60 x 40 mm	No	Yes	Yes	Yes

- **5-Series:** F1x
- **5-Series** GT: F07
- **6-Series:** F06, F1x
- **7-Series:** F0x
- **X3:** F25

cardiagn.com

- **X4:** F26

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing substitute visuals Encoding/programming necessary	When replacing the sensor/substitute visuals Initialization required	Connecting the diagnosis system required
all types approximately Ã˜ 35 mm	No	No	-	Yes	Yes
all types approximately Ã˜ 50 mm	Yes	Yes	-	Yes	Yes
Only for F25: RLS approximately Ã˜ 50 mm	No (new **substitute visuals** required.	-	No	Yes	Yes

- **X5:** F15, F85
- **X6:** F16, F86

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing the sensor Initialization required	Connecting the diagnosis system required
all types approximately Ã˜ 35 mm	No	No	No	No

- **1-Series:** F2x
- **2-Series:** F2x
- **3-Series:** F3x, F8x
- **3-Series** GT: F34
- **4-Series:** F3x, F8x

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing the sensor Initialization required	Connecting the diagnosis system required
all **up to 03/2014** except SBS (01) (Designation is located on the back of the sensor) approximately Ã˜ 35 mm	No	No	Yes	Yes
SBS (01) (Designation is located on the back of the sensor) approximately Ã˜ 35 mm	No	No	No	No
All **as from**				

cardiagn.com

03/2014 approximately Ã˜ 35 mm	No	No	No	No

BMW i:

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing the sensor Initialization required	Connecting the diagnosis system required
all types approximately Ã˜ 35 mm	No	No	No	No

MINI (all):

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing the sensor Initialization required	Connecting the diagnosis system required
all types square 60 x 40 mm	No	Yes	Yes	Yes
all types approximately Ã˜ 35 mm	No	No	No	No

Rolls-Royce (all):

Sensor type/Sensor shape	With windscreen replacement sensor required	When replacing the sensor Encoding/programming necessary	When replacing the sensor Initialization required	Connecting the diagnosis system required
all types square 60 x 40 mm	No	Yes	Yes	Yes
all types approximately Ã˜ 35 mm	No	No	Yes	Yes
all types approximately Ã˜ 50 mm	Yes	Yes	Yes	Yes

61 00... PROGRAM/ENCODE THE CONTROL UNIT(S)

Refer to **61 00... PROGRAM/ENCODE THE CONTROL UNIT(S)**.

61 35 015 REMOVING AND INSTALLING (REPLACING) CONTROL UNIT FOR CAR ACCESS SYSTEM

IMPORTANT: Read and comply with notes on **PROTECTION AGAINST ELECTROSTATIC DISCHARGE (ESD PROTECTION)**.

Necessary preliminary work:

- Disconnect **BATTERY GROUND LEAD**
- Remove **trim panel for pedal mechanism** . See **51 45 184 REMOVING AND**

cardiagn.com

INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (ECE ONLY) or 51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (US ONLY) .

Unlock plug connections (1) and disconnect.

Release control unit for car access system (2) in area (3) and remove in direction of arrow.

Installation note:

Make sure the car access system (2) is fitted correctly.

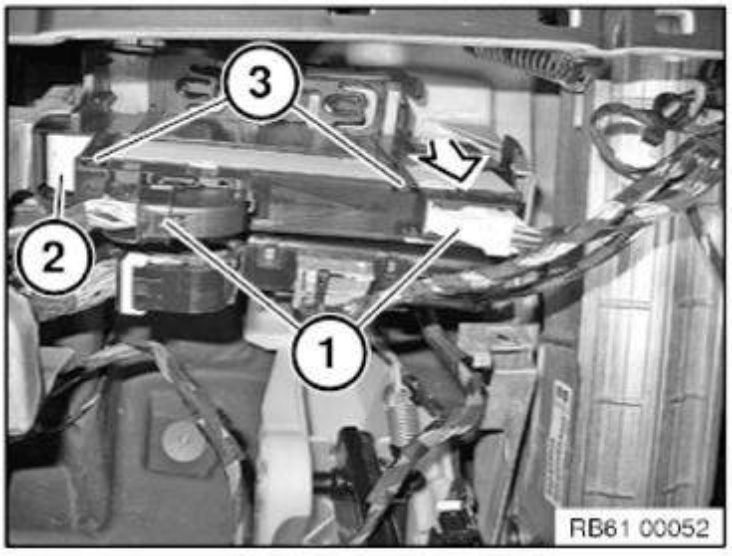


Fig. 347: Releasing Control Unit For Car Access System
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out VEHICLE PROGRAMMING/ENCODING.

61 35 196 REMOVING AND INSTALLING (REPLACING) CONTROL UNIT FOR AUTOMATIC OPERATION OF TAILGATE SYSTEM

IMPORTANT: Read and comply with notes on protection against electrostatic damage (ESD PROTECTION).

Necessary preliminary work:

- DISCONNECT NEGATIVE BATTERY CABLE.

Unlock plug connections (1) and disconnect.

Feed out control unit (2) from holder (3).

cardiagn.com

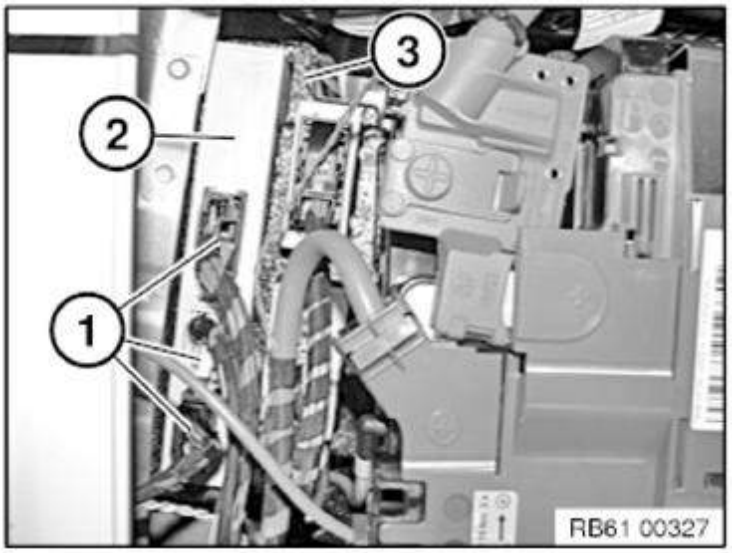


Fig. 348: Identifying Control Unit Plug Connections From Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING**.

NOTE: **From 03/2011, the control unit is installed with a different placement of connector chambers:**

1. **Control unit to 03/2011**
2. **Control unit from 03/2011**

Replacement:

When control unit (2) is installed in vehicles with a production date up to 03/2011, the wiring harness (3) must be retightened.

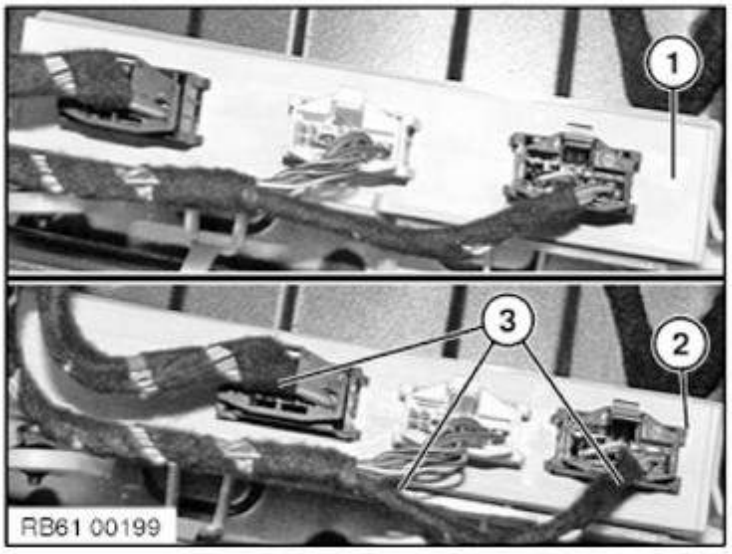


Fig. 349: Identifying Control Unit Wiring Harness
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Wiring harness length may vary dependent on the vehicle. If necessary, additional vehicle-specific work can be necessary.**

cardiagn.com

Necessary preliminary work:

- If optional equipment installed: **REMOVE AUTOMATIC SOFT CLOSE DRIVE** .
- **REMOVE BATTERY**.

Release clip (1). Release adhesive tape (2) from wiring harness mounting (3). Retighten wiring harness in direction of the arrow until connector can be securely locked. Then secure wiring harness with adhesive tape to wiring harness mounting (3). Adapt clip (1) to new length and secure.

IMPORTANT: Wiring harness may not be tensioned too tightly!

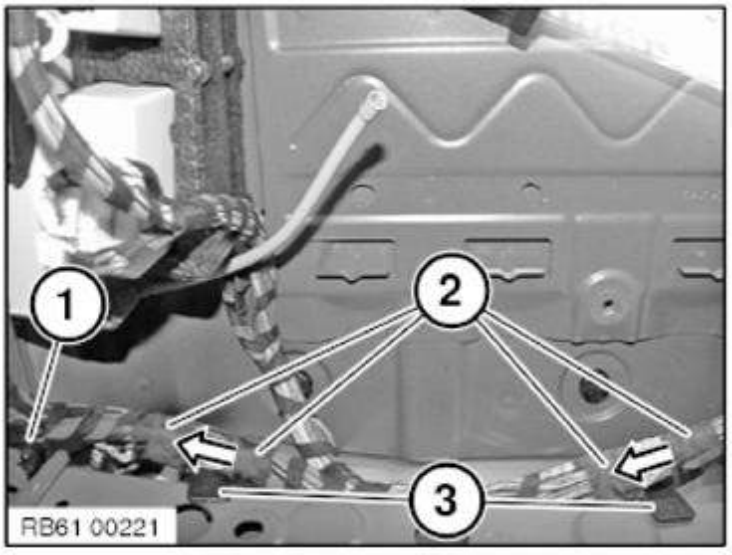


Fig. 350: Releasing Adhesive Tape From Wiring Harness Mounting
Courtesy of BMW OF NORTH AMERICA, INC.

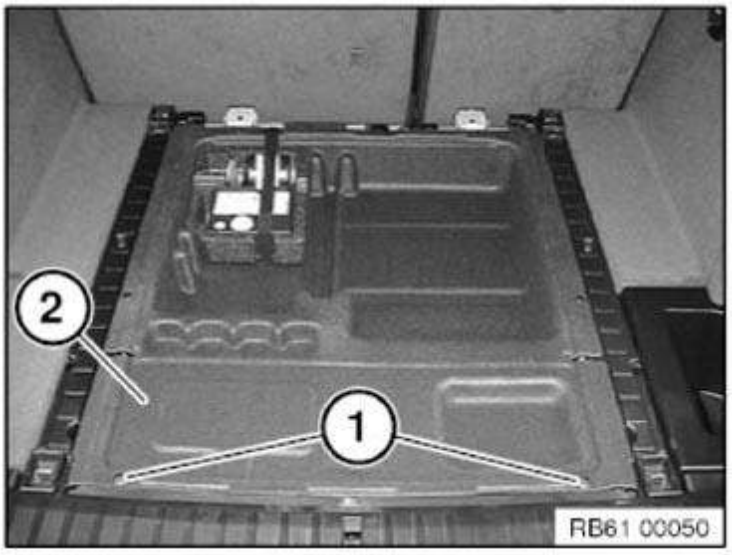
61 35 001 REMOVING AND INSTALLING (REPLACING) TRAILER MODULE

IMPORTANT: Read and comply with notes on protection against electrostatic discharge **(ESD PROTECTION)**.

Necessary preliminary tasks:

- Remove **LUGGAGE COMPARTMENT FLOOR TRIM PANEL** .

Release clips (1) and raise rear window shelf (2).



cardiagn.com

Fig. 351: Identifying Storage Shelf With Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Pull out trailer module (2) upwards in direction of arrow.

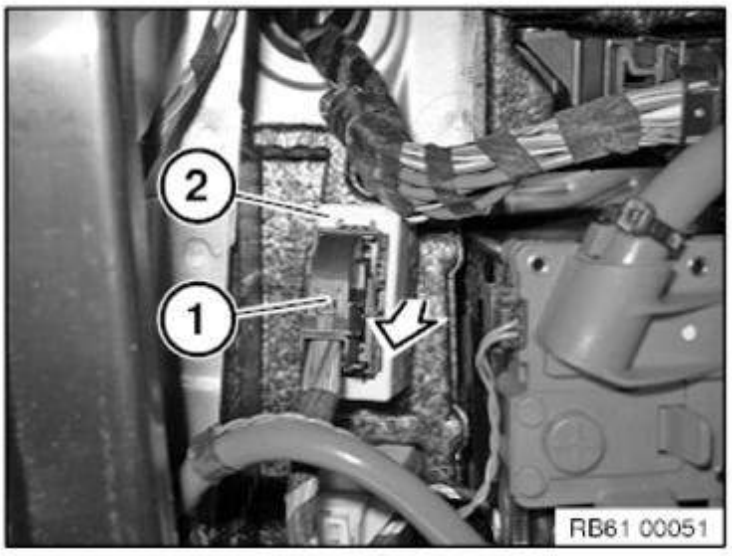


Fig. 352: Pulling Out Trailer Module
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING**.

61 35 107 REMOVING AND INSTALLING OR REPLACING JUNCTION BOX ELECTRONICS

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)**.

Necessary preliminary work:

- Partially remove **POWER DISTRIBUTION BOX FOR PASSENGER COMPARTMENT**.

Disconnect plug connection (1).

Pull junction box electronics (2) out of bracket.

Installation note:

Make sure junction box electronics and plug connections (1) are correctly seated.

cardiagn.com

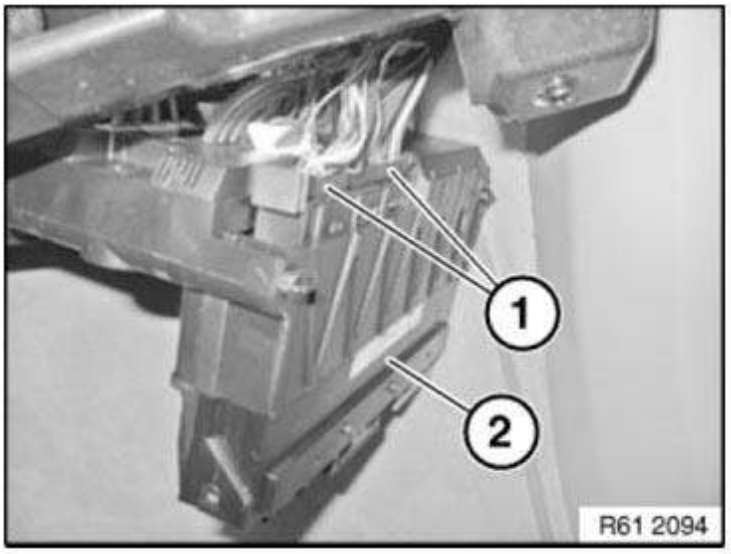


Fig. 353: Identifying Junction Box Electronics Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING**.

Delete transport mode.

61 35 127 REMOVING AND INSTALLING/REPLACING BODY GATEWAY MODULE

IMPORTANT: Read and comply with notes on **PROTECTION AGAINST ELECTROSTATIC DISCHARGE (ESD PROTECTION)**.

Read out **PROGRAMMING/ENCODING**.

- Print out and make a note of settings for car and key memory in CKM menu

Necessary preliminary work:

- Disconnect **BATTERY EARTH LEAD**.
- Remove **trim panel for pedal mechanism** . See **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (ECE ONLY)** or **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (US ONLY)**

Unlock plug connections (1) and disconnect.

Release body module (2) in area (3) and pull out in direction of arrow.

Installation note:

Make sure body module (3) is correctly installed.

cardiagn.com

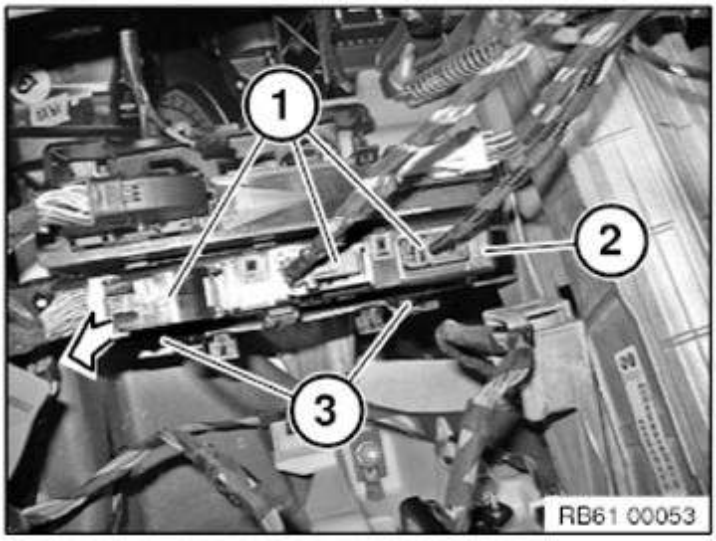


Fig. 354: Releasing Body Module
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **PROGRAMMING/ENCODING**.

61 35 975 REMOVING AND INSTALLING/REPLACING BUMPER AERIAL FOR COMFORT ACCESS SYSTEM

Necessary preliminary work:

- **REMOVE** rear bumper panel.

NOTE: **Graphic similar**

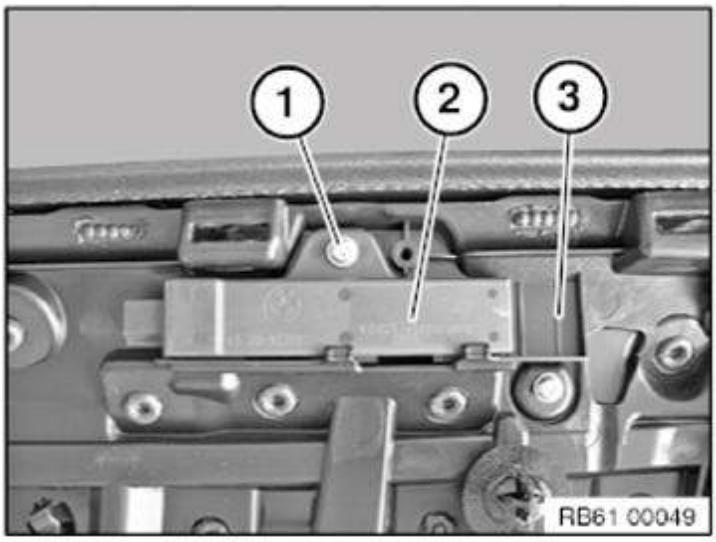
Unlock associated plug connection and disconnect.

Release screw (1).

Remove bumper aerial (2) from fixture (3).

Installation note:

Make sure bumper aerial (2) is seated correctly in fixture (3).



cardiagn.com

Fig. 355: Identifying Bumper Aerial, Fixture And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

61 35 132 REMOVING AND INSTALLING/REPLACING CENTRAL GATEWAY MODULE

IMPORTANT: Read and comply with notes on **PROTECTION AGAINST ELECTROSTATIC DISCHARGE (ESD PROTECTION)**.

Necessary preliminary work:

- Disconnect battery earth lead
- Disconnect both negative battery cables at F03
- Remove trim panel for pedal mechanism

Disconnect plug connection (1).

NOTE: Cable shoe (4) is currently no longer installed.
If installed, release screw (2) and remove cable shoe (4).

Pull central gateway module (3) off equipment holder (5) in direction of arrow.

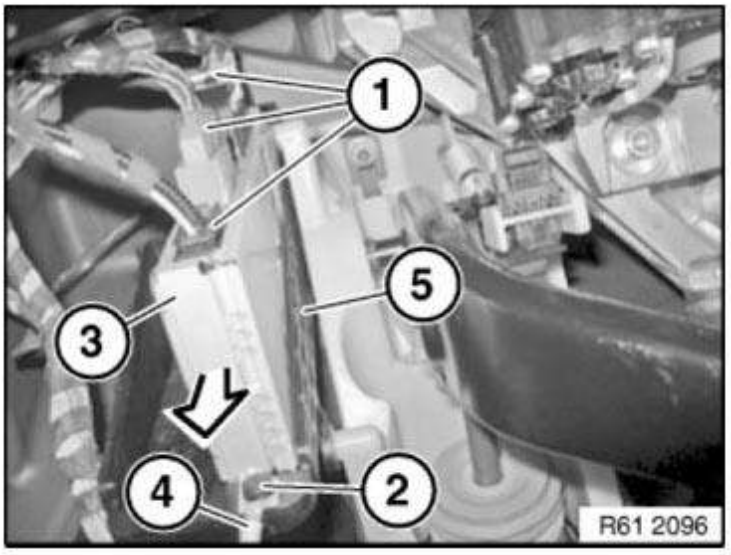


Fig. 356: Pulling Central Gateway Module Off Equipment Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure central gateway module (3) is correctly installed in equipment holder (5).

Replacement:

Carry out **PROGRAMMING/ENCODING**.

Perform FlexRay synchronization via path:

- Body
- Central Gateway Module
- Initialize FlexRay

66 53 170 REMOVING AND INSTALLING/REPLACING CONTROL UNIT FOR TOP-/REAR-/SIDE-VIEW CAMERA

cardiagn.com

The following procedure is identical to **REMOVING AND INSTALLING/REPLACING CONTROL UNIT FOR REAR-VIEW CAMERA** .

61 35 360 REMOVING AND INSTALLING/REPLACING CONTROL UNIT FOR CAMERA-BASED DRIVER SUPPORT SYSTEMS (KAFAS)

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)**.

Necessary preliminary tasks:

- Clamp off **BATTERY LEAD FROM NEGATIVE CONNECTION POINT**
- Remove **trim panel for pedal mechanism** . See **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (ECE ONLY)** or **51 45 184 REMOVING AND INSTALLING/REPLACING TRIM PANEL FOR PEDAL ASSEMBLY (US ONLY)**

Release latch mechanism (1) on equipment holder.

Feed out control unit (2) from equipment holder towards the top.

Disconnect connector (3) and remove control unit (2).

Installation note:

Ensure correct installation of control unit (2) in the equipment holder.

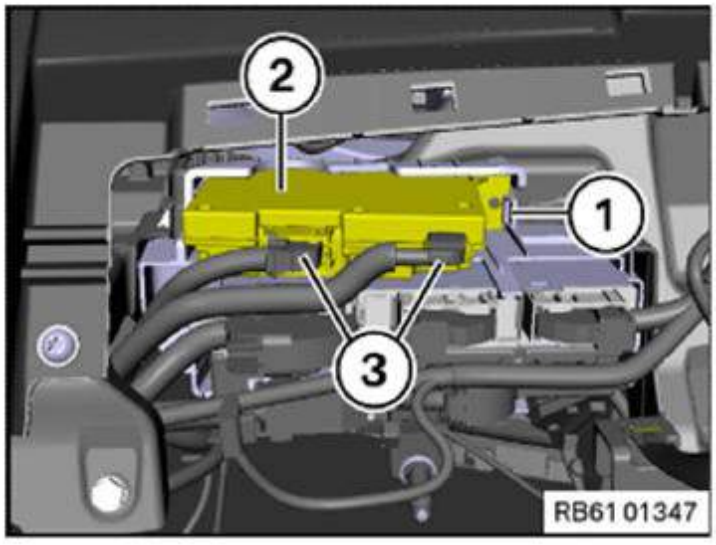


Fig. 357: Identifying Latch Mechanism On Equipment Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **PROGRAMMING/CODING**.

Carry out calibration:

- Service function
- Body
- Display and information functions
- Camera-based driver support systems
- Calibration of lane departure warning

cardiagn.com

71 60 100 REMOVING AND INSTALLING/REPLACING CONTROL UNIT FOR TRAILER COUPLING RELEASE

IMPORTANT: Read and comply with notes on protection against electrostatic discharge **(ESD PROTECTION)**.

Necessary preliminary tasks:

- Open luggage compartment floor trim panel

Release clips (1) and fold up storage shelf (2).

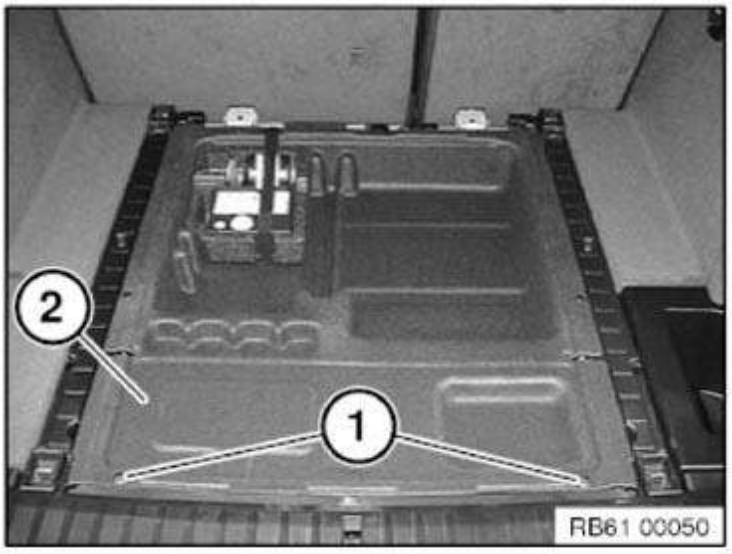


Fig. 358: Identifying Storage Shelf With Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

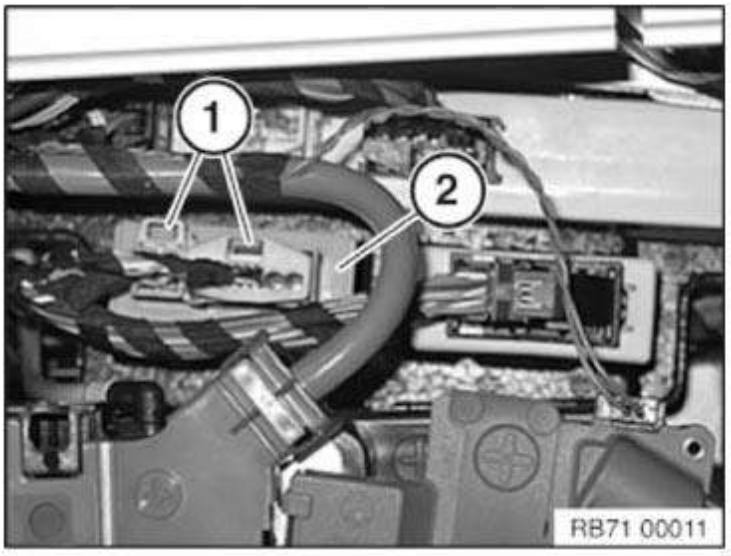
Unfasten plug connection (1) and disconnect.

Release retaining lug (2).

Pull out control unit for trailer coupling release (3) towards the top in direction of arrow.

Installation note:

Make sure control unit for trailer coupling release (3) if fitted correctly.



cardiagn.com

Fig. 359: Identifying Retaining Lug And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Perform an initialization in the procedure or manual initialization via the button in the luggage compartment. The manual initialization is described in the procedure.

61 35 080 REMOVING AND INSTALLING/REPLACING CONTROL UNIT/MODULE FOR LEFT OR RIGHT SEAT ADJUSTMENT

IMPORTANT: Observe NOTES ON PROTECTION FROM ELECTROSTATIC DISCHARGE.

NOTE: **To facilitate installation/removal of control unit, move seat upwards and to the rear fully.**

Unlock metal tab (1) towards front and remove control unit for seat adjustment (2) towards bottom.

Unlock and disconnect all associated plug connections.

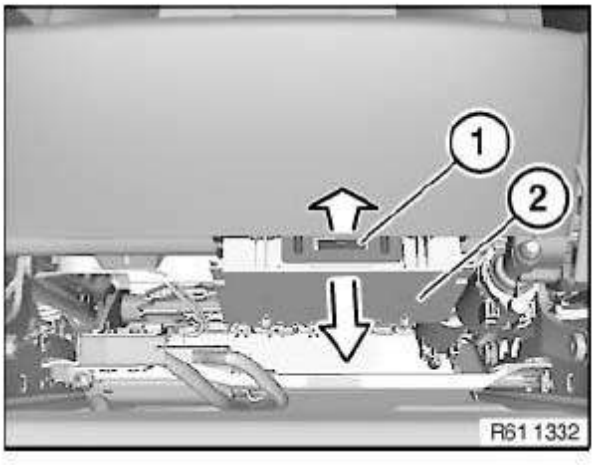


Fig. 360: Removing Control Unit For Seat Adjustment Towards Bottom
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure control unit for seat adjustment (1) is correctly seated in bracket (2).

Guides (3) and metal tab (4) must not be damaged.

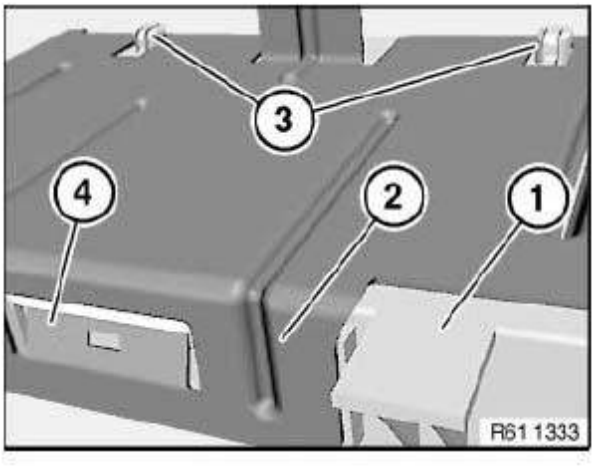


Fig. 361: Identifying Control Unit For Seat Adjustment, Mounting, Guides And Metal Lug

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **PROGRAMMING/ENCODING**.

61 35 095 REMOVING AND INSTALLING/REPLACING CONTROL UNIT/MODULE FOR SEAT HEATING

IMPORTANT: Follow **NOTES ON PROTECTION FROM ELECTROSTATIC DISCHARGE**!

NOTE: **To facilitate installation/removal of control unit, move seat upwards and to the rear fully.**

Disconnect plug connection (1).

Open lock (2) in direction of arrow.

Remove control unit/module for seat heating (3) downwards.

Installation note:

Make sure control unit/module for seat heating (3) is correctly engaged.

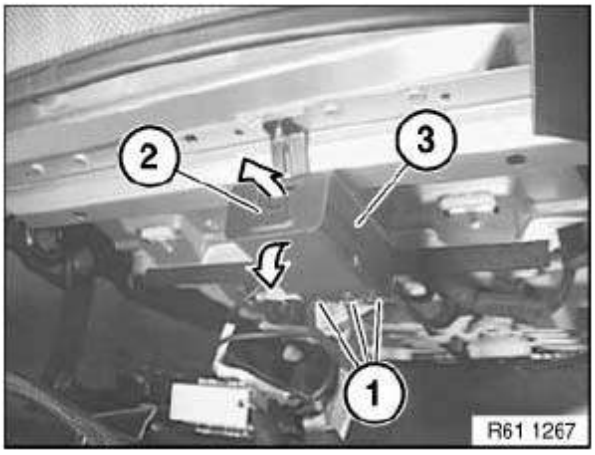


Fig. 362: Removing Control Unit/Module For Seat Heating Downwards
Courtesy of BMW OF NORTH AMERICA, INC.

61 35 115 REMOVING AND INSTALLING/REPLACING FOOTWELL MODULE

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)**.

Necessary preliminary work:

- Disconnect **NEGATIVE BATTERY LEAD**.
- Remove **FOOTWELL SIDE TRIM PANEL ON A-PILLAR, LEFT** .

Disconnect connector connections (1) and (3).

Release nuts (2) and remove footwell module (4).

cardiagn.com

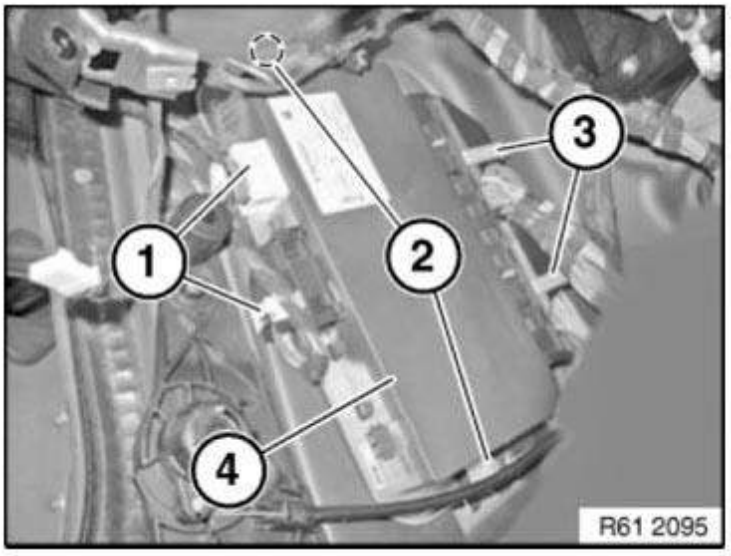


Fig. 363: Identifying Footwell Module With Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING**.

61 35 953 REMOVING AND INSTALLING/REPLACING INTERIOR AERIAL FOR COMFORT ACCESS (FRONT STORAGE COMPARTMENT)

Necessary preliminary work:

- Partially remove **CENTER CONSOLE** .

Disconnect plug connection (1).

Pull interior aerial for Comfort Access (2) out from loop (3).

Installation note:

Make sure interior aerial for Comfort Access (2) is fitted correctly.

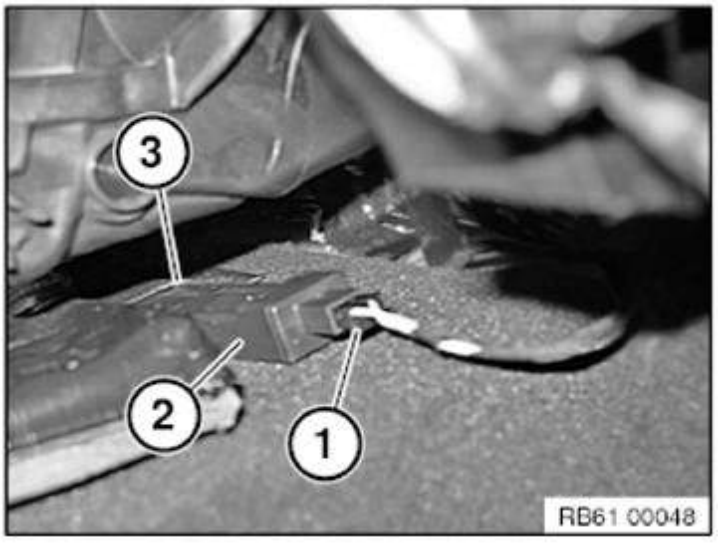


Fig. 364: Identifying Interior Aerial For Comfort Access Out From Loop
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

61 35 954 REMOVING AND INSTALLING/REPLACING INTERIOR AERIAL FOR COMFORT ACCESS (REAR STORAGE COMPARTMENT)

Necessary preliminary work:

- Remove **CENTER ARMREST STORAGE COMPARTMENT** .

Disconnect plug connection (1).

Release screw (2) and remove interior aerial for Comfort Access (3).

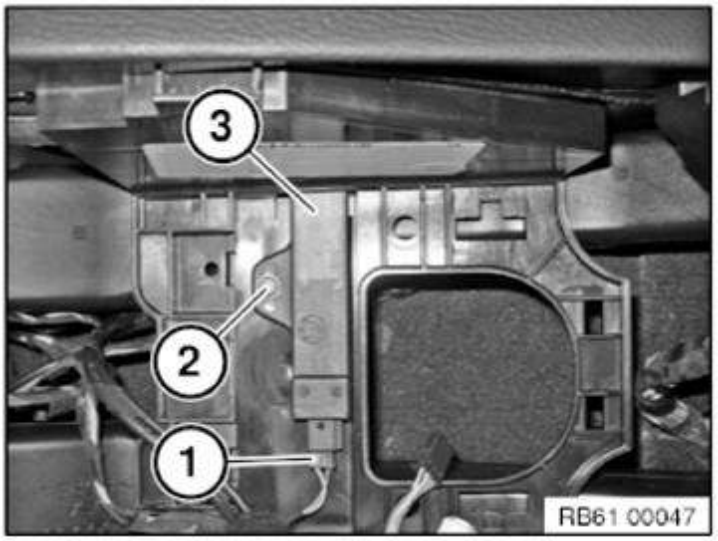


Fig. 365: Identifying Interior Aerial For Comfort Access Plug Connection With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

61 35 959 REMOVING AND INSTALLING/REPLACING INTERIOR AERIAL FOR COMFORT ACCESS ON LEFT OR RIGHT (LEFT OR RIGHT FRONT DOOR TRIM PANEL)

Operation is described in:

Remove **INTERIOR AERIAL FOR COMFORT ACCESS ON LEFT OR RIGHT**.

61 35 958 REMOVING AND INSTALLING/REPLACING INTERIOR AERIAL FOR COMFORT ACCESS ON LEFT OR RIGHT (LEFT OR RIGHT FRONT DOOR)

Necessary preliminary work:

- Remove **FRONT DOOR TRIM PANEL, LEFT** .

Release screw (1).

Remove interior aerial for Comfort Access (2) from bracket (3).

Installation note:

Make sure interior aerial for Comfort Access (2) is fitted correctly in intended holder.

cardiagn.com

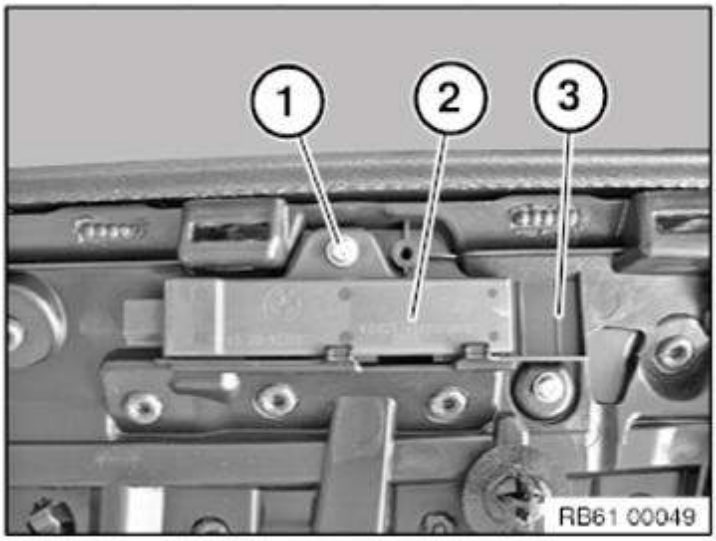


Fig. 366: Identifying Bumper Aerial, Fixture And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

61 35 970 REMOVING AND INSTALLING/REPLACING LUGGAGE COMPARTMENT AERIAL FOR COMFORT ACCESS (LEFT)

Necessary preliminary work:

- Remove **LUGGAGE COMPARTMENT WHEEL ARCH PANEL ON LEFT** .

Removal:

Disconnect the connector (1).

Release screw (2) and remove luggage compartment aerial for Comfort Access (3).

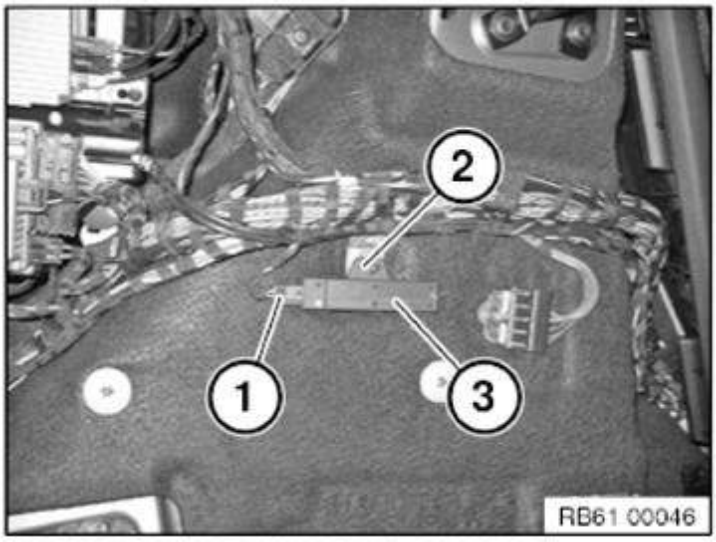


Fig. 367: Identifying Luggage Compartment Aerial For Comfort Access With Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Tighten luggage compartment aerial for Comfort Access (3) with screw (2).

Connect the connector (1).

cardiagn.com

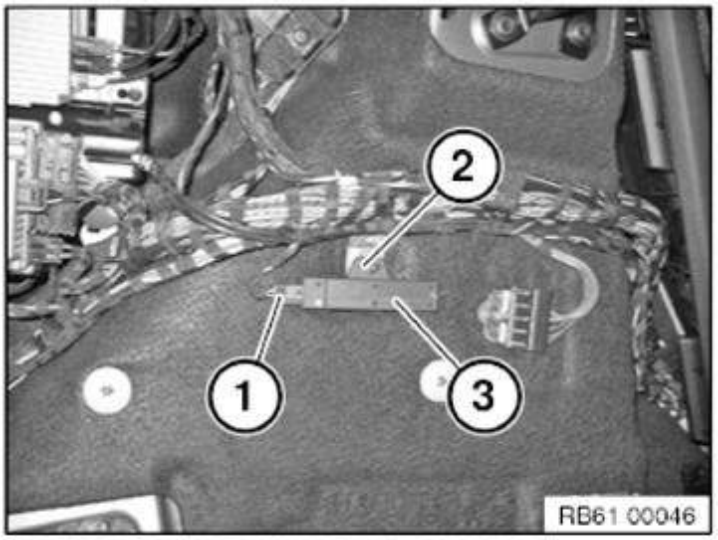


Fig. 368: Identifying Luggage Compartment Aerial For Comfort Access With Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **LUGGAGE COMPARTMENT WHEEL ARCH PANEL, LEFT** .

61 35 971 REMOVING AND INSTALLING/REPLACING LUGGAGE COMPARTMENT AERIAL FOR COMFORT ACCESS (RIGHT)

Operation is described in:

Removing and installing/replacing **LUGGAGE COMPARTMENT AERIAL FOR COMFORT ACCESS** (left).

71 60 700 REMOVING AND INSTALLING/REPLACING TRAILER TOW HITCH CONTROL UNIT

IMPORTANT: Read and comply with notes on protection against electrostatic discharge **(ESD PROTECTION)**.

Necessary preliminary tasks:

- Remove **LUGGAGE COMPARTMENT FLOOR TRIM PANEL** .

Removal:

Release clip (1) and fold up storage shelf (2).

cardiagn.com

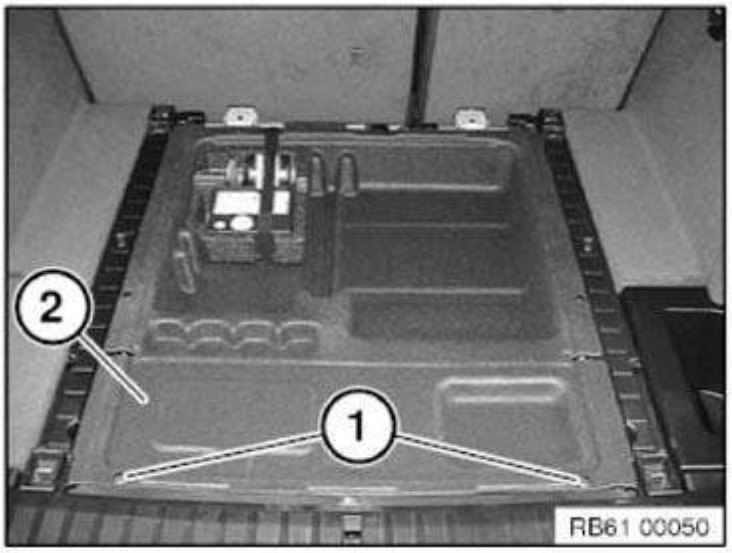


Fig. 369: Identifying Storage Shelf With Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect all connectors (1).

Remove trailer tow hitch control unit (2) from holder.

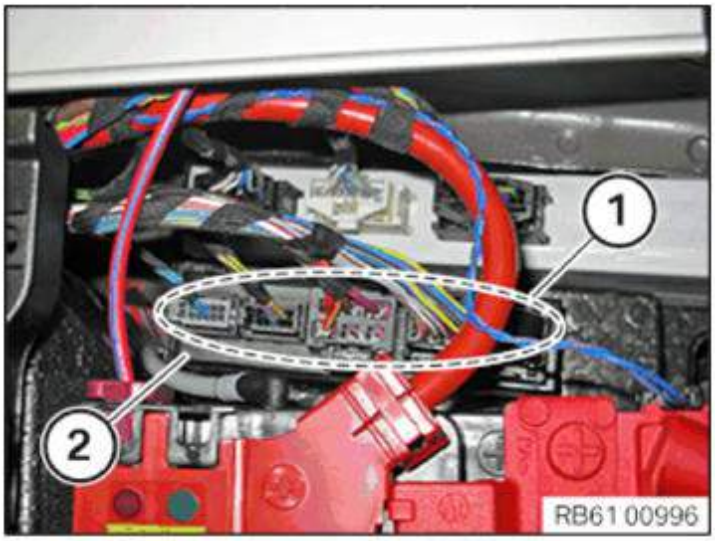


Fig. 370: Identifying Trailer Tow Hitch Control Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Join the trailer tow hitch control unit (3) into the holder.

Connect all connectors (1).

cardiagn.com

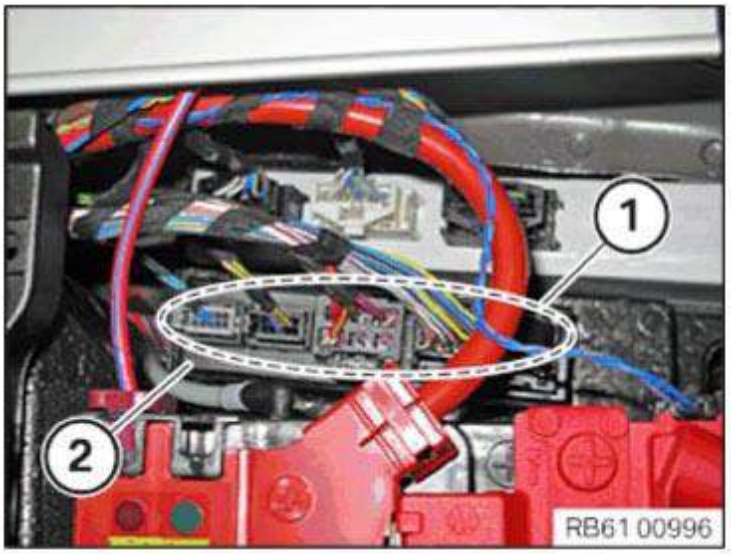


Fig. 371: Identifying Trailer Tow Hitch Control Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Close storage shelf (2) and fasten with clip (1).

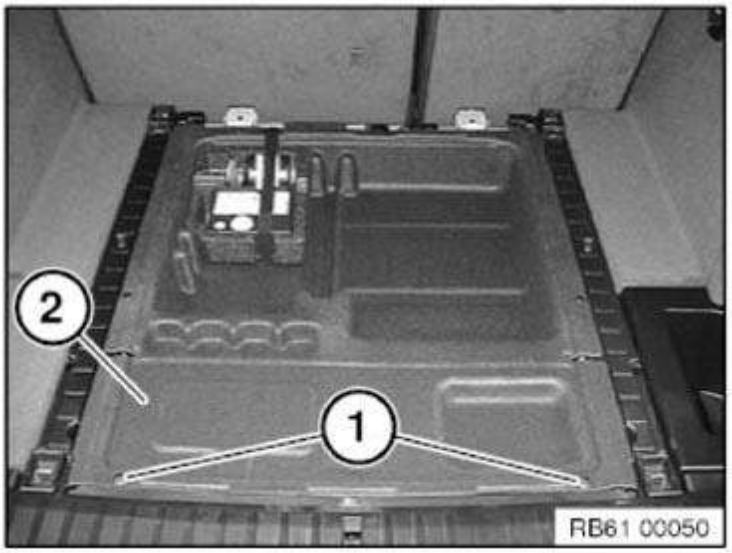


Fig. 372: Identifying Storage Shelf With Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **LUGGAGE COMPARTMENT FLOOR TRIM PANEL** .

61 35 179 REPLACING AND INSTALLING (REPLACING) THE SOLAR RAIN/LIGHT SENSOR AND CONDENSATION SENSOR

IMPORTANT: Observe the **INFORMATION ON PROTECTION FROM ELECTROSTATIC DISCHARGE**.

Necessary preliminary tasks:

- Remove **inside mirror** . See **51 16 063 REMOVING AND INSTALLING/REPLACING INTERIOR MIRROR (OVERVIEW)** or **51 16 063 REMOVING AND INSTALLING/REPLACING INTERIOR MIRROR (AS OF 07/2011)** .

cardiagn.com

Removal:

Disconnect connector (1).

Unlock rain/light/solar and condensation sensor (2) at metal spring (3).

For this purpose, push against metal spring (3) on both sides and release lock (4) using a screwdriver.

IMPORTANT: Risk of damage!
After releasing lock, wait approx. 30 min. at 20Â°C for silicone surface to relax.

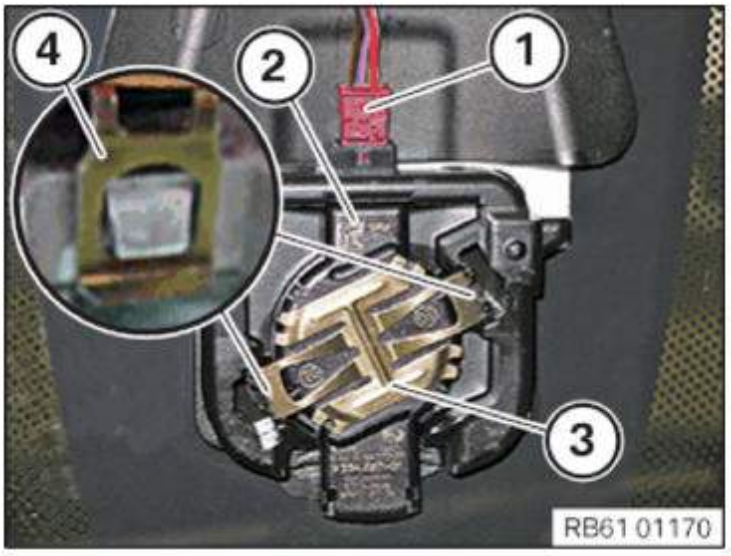


Fig. 373: Identifying Rain/Light/Solar And Condensation Sensor At Metal Spring
Courtesy of BMW OF NORTH AMERICA, INC.

Pull the rain/light/solar and condensation sensor (1) slowly from holder (2) in direction of arrow.

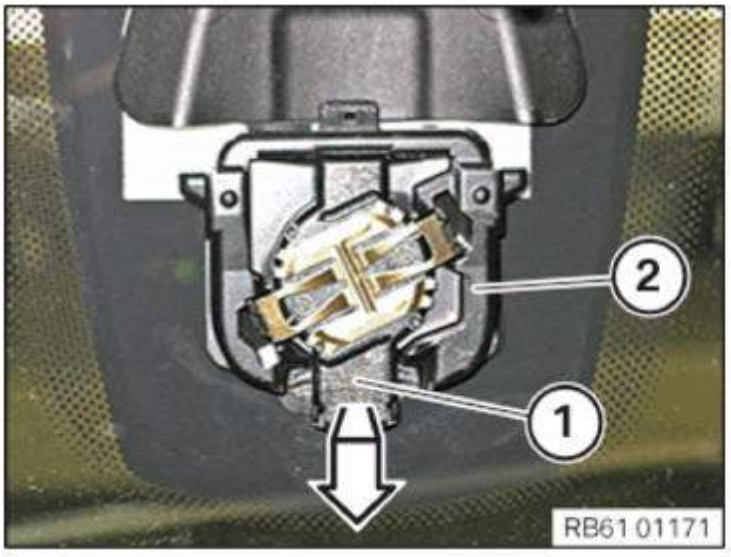


Fig. 374: Pulling Rain/Light/Solar And Condensation Sensor Slowly From Holder
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Risk of damage!
The silicone-coated surface (1) on the rain/light/solar and condensation sensor must not be touched or damaged.
When replacing the windscreen, immediately install the rain/light/solar and condensation sensor into the new windscreen following removal.

cardiagn.com



Fig. 375: Identifying Rain/Light/Solar And Condensation Sensor Silicone-Coated Surface
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Risk of damage!
The silicone-coated surface (1) on the windscreen must not be touched or damaged.



Fig. 376: Identifying Windscreen Silicone-Coated Surface
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carefully clean windscreen at contact area with the rain/light/solar and condensation sensor. Remove all silicone residues.

cardiagn.com

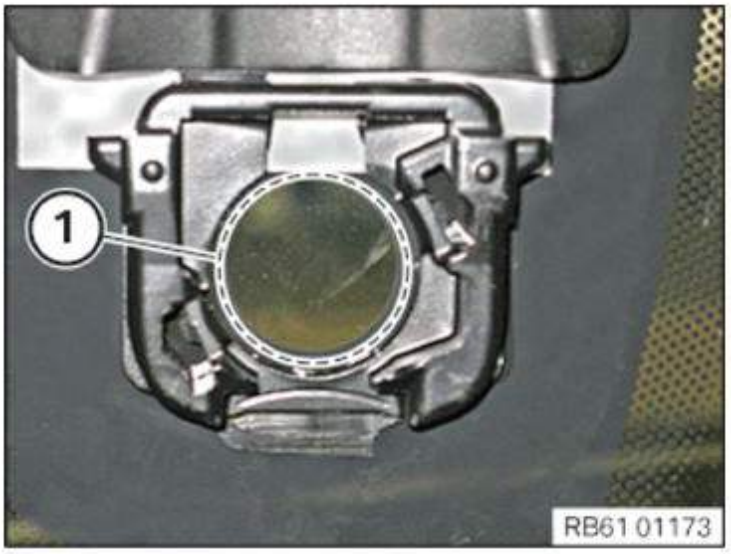


Fig. 377: Identifying Windscreen Silicone-Coated Surface
Courtesy of BMW OF NORTH AMERICA, INC.

Remove protective cover (1) from new rain/light/solar and condensation sensor.

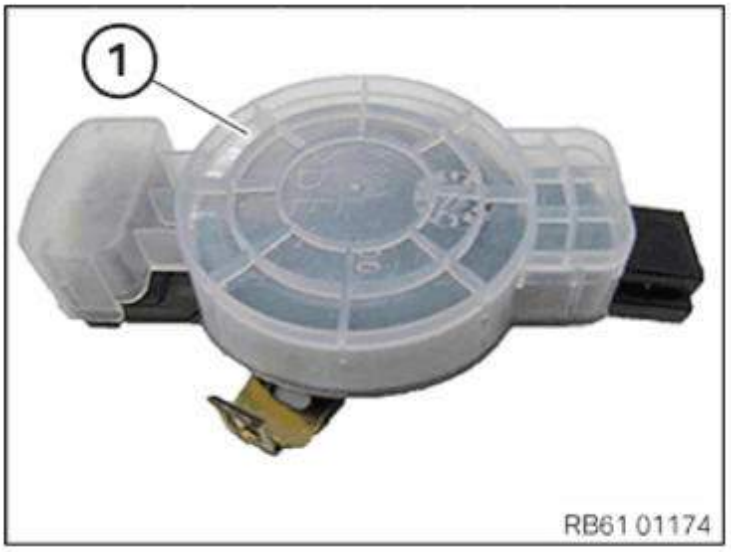


Fig. 378: Identifying Protective Cover From Rain/Light/Solar And Condensation Sensor
Courtesy of BMW OF NORTH AMERICA, INC.

The silicone-coated surface (1) on the rain/light/solar and condensation sensor must not be touched or damaged.

cardiagn.com



Fig. 379: Identifying Rain/Light/Solar And Condensation Sensor Silicone-Coated Surface
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Risk of damage!
IMPORTANT: The silicone-coated surface on the rain/light/solar and condensation sensor must not be touched or damaged.

Feed the rain/light/solar and condensation sensor (1) into holder (2) in direction of arrow.

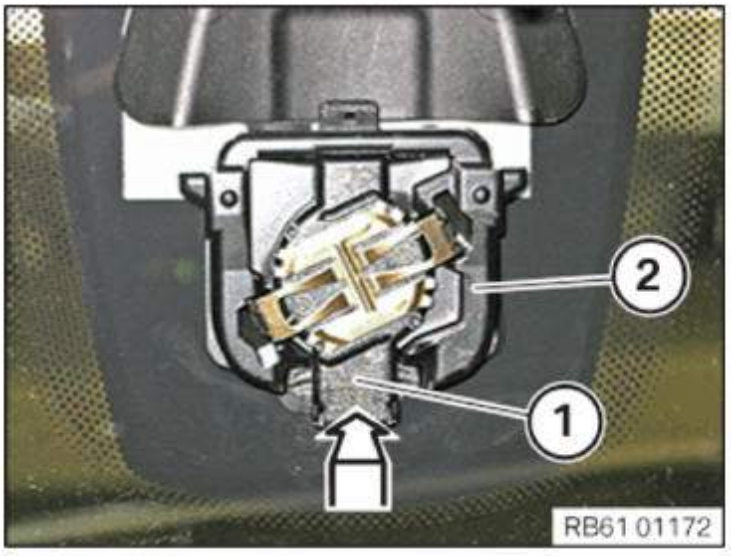


Fig. 380: Installing Rain/Light/Solar And Condensation Sensor Into Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Connect connector (1) only after the rain/light/solar and condensation sensor has been locked.

Press on the rain/light/solar and condensation sensor (2) at the metal spring (3) in a centered position.

To lock, consecutively push down both sheet metal tabs (4) on each side.

cardiagn.com

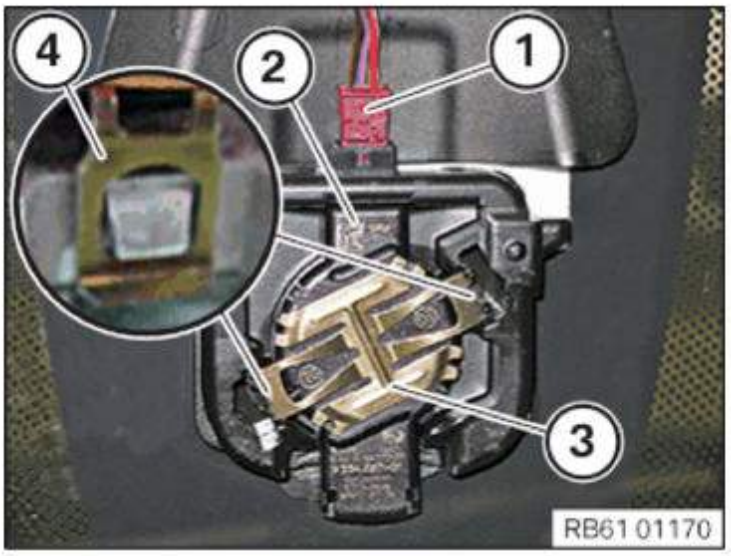


Fig. 381: Identifying Rain/Light/Solar And Condensation Sensor At Metal Spring
Courtesy of BMW OF NORTH AMERICA, INC.

Connect connector (1) with the rain/light/solar and condensation sensor (2).

Installation note:

Visible shades (1 and 2) do not have any air pockets, but show the optical element of the sensor.

Visible shades (1 and 2) do not represent **any** functional limitation.

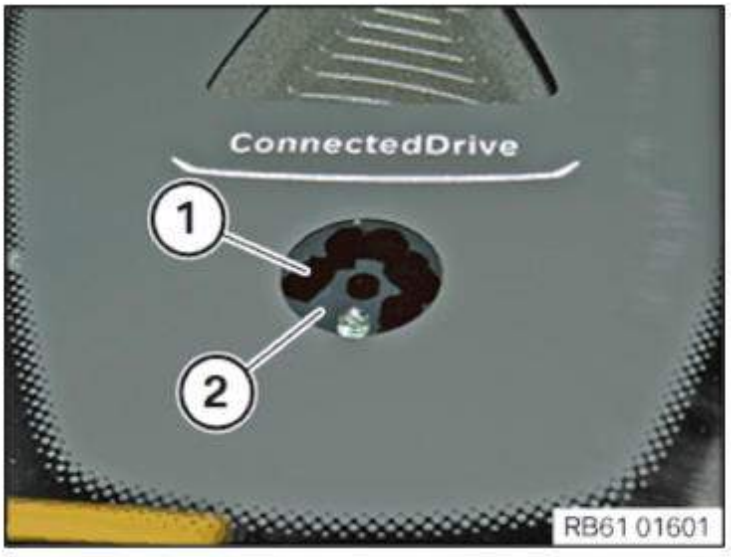


Fig. 382: Identifying Visible Shades
Courtesy of BMW OF NORTH AMERICA, INC.

For vehicles up to 03/2014:

INITIALIZE SENSOR.

NOTE:

- **For F2x; (not F25/F26); F3x and F80/F82/F83 the encoding is automatically implemented by JBBFE .**
- **For F25/F26 the encoding is implemented automatically with a terminal change (terminal 15) using the junction box .**

cardiagn.com

For vehicles built after 03/2014 (outer F25/F26):

Initialization and encoding are performed **automatically** by BDC control unit.

Required reworking:

- Install **interior mirror** . See **51 16 063 REMOVING AND INSTALLING/REPLACING INTERIOR MIRROR (OVERVIEW)** or **51 16 063 REMOVING AND INSTALLING/REPLACING INTERIOR MIRROR (AS OF 07/2011)** .

61 35 685 REPLACING RAIN/LIGHT SOLAR SENSOR

IMPORTANT: Read and comply with notes on protection against electrostatic discharge **(ESD PROTECTION)**.

Work is identical to:

- **Replace rain/light/solar and condensation sensor** . See **61 35 688 REPLACING SOLAR RAIN/LIGHT SENSOR AND CONDENSATION SENSOR** or **61 35 179 REPLACING AND INSTALLING (REPLACING) THE SOLAR RAIN/LIGHT SENSOR AND CONDENSATION SENSOR**.

61 35 688 REPLACING SOLAR RAIN/LIGHT SENSOR AND CONDENSATION SENSOR

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)**.

Necessary preliminary tasks:

- Remove **INSIDE MIRROR** .

For equipment specifications:

- with 2-zone automatic air conditioning (SA 534)
- with 4-zone automatic climate control (SA 4 NB)
- with Head-Up Display (optional equipment 610)

Disconnect plug connection (2).

Unlock metal spring (3) in direction of arrow.

Remove solar rain/light and condensation sensor (1) from windscreen.

Installation note:

Close plug connection (2) only after fitting solar rain/light and condensation sensor on windscreen!

Carefully clean windscreen in the contact area with the solar rain/light and condensation sensor! Remove all silicone residues.

cardiagn.com

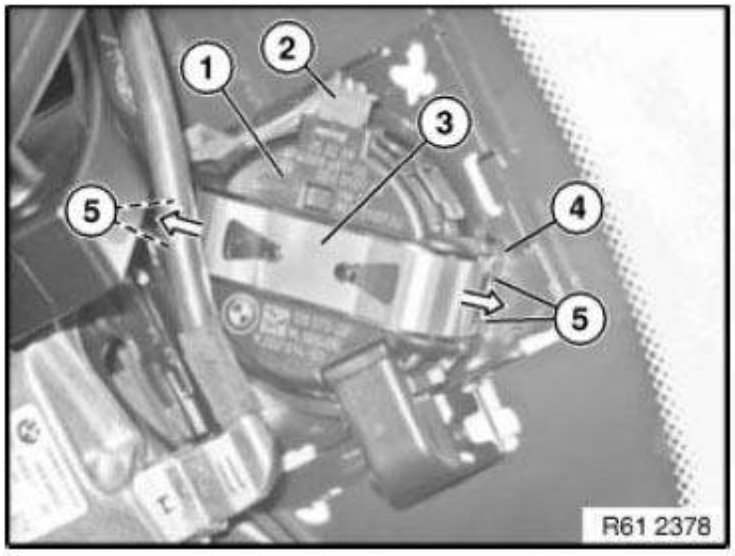


Fig. 383: Identifying Solar Rain/Light Sensor, Metal Spring And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Remove protective cover from the new solar rain/light and condensation sensor. The silicone-coated surface below it must not be touched!

Press metal spring (3) centrally to ensure that there is correct engagement in both hooks (5) on every side of the retaining element (4).

Replacement:

Encoding is automatically performed by **JBBFE** .

Carry out **INITIALIZATION** to calibrate the rain sensor to the windscreen.

WINDSCREEN WIPERS

61 61... CHECKING CONTACT ANGLE OF WINDSCREEN WIPER ON LEFT OR RIGHT

Special tools required:

- 61 6 100

Correctly adjusting the contact angle of the wiper arms is crucial to determining wiping quality. For adjustment, refer to the vehicle-specific repair instruction.

cardiagn.com

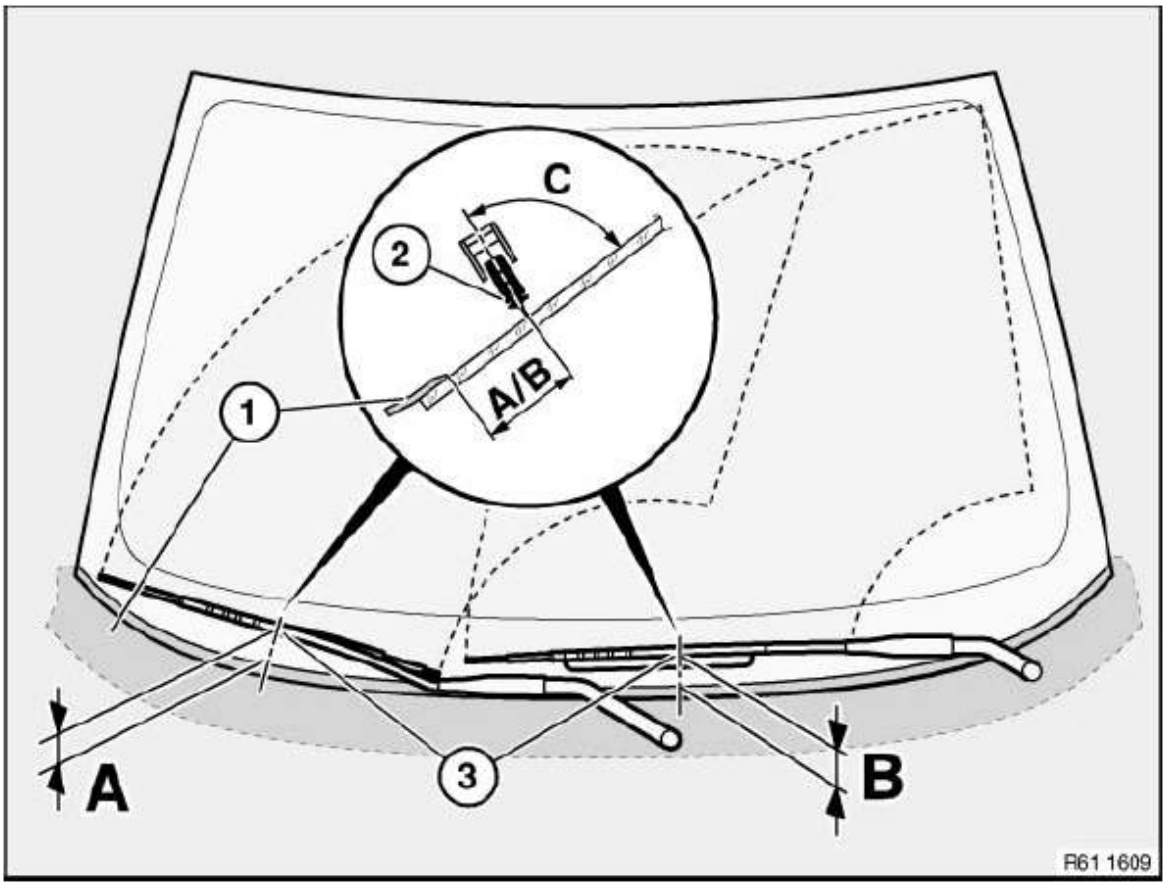


Fig. 384: Identifying Contact Angle Between Wiper Blade Center Plane And Windscreen
Courtesy of BMW OF NORTH AMERICA, INC.

A/B = Distance between wiper blade (2) and trim panel on cowl panel (1)

NOTE: Measurement is taken at the height of the locators (3) for the windscreen wiper arms

C= Contact angle between wiper blade center plane and windscreen

When using special tool 61 6 100, check the scale value according to the following table.

For RHD vehicles, change the preceding sign of the scale values.

- LHD vehicles, scale range 0 to -5
- RHD vehicles, scale range 0 to +5

Model	Contact angle (C) on windscreen wiper arm		Scale value (LHD) on special tool		Setting dimension (A, B) on windscreen wiper arm		
	Passenger's side	Driver side	Passenger's side	Driver side	Passenger's side	Driver side	Rear end
F01/F02/F03/F04	85.0 Â° +3.0Â°-3.0Â°	85.0 Â° +3.0Â °- 3.0Â°	-5 +3, 0 -3, 0	-5 +3, 0 -3, 0	60Â±3 mm	70 Â±3 mm	Â
F07	85.0 Â° +3.0Â°-3.0Â°	85.0 Â° +3.0Â °- 3.0Â°	-5 +3, 0 -3, 0	-5 +3, 0 -3, 0	67Â±3 mm	80Â±3 mm	Â
F10/F11/F18	85.0 Â° +3.0Â°-3.0Â°	85.0 Â° +3.0Â °- 3.0Â°	-5 +3, 0 -3, 0	-5 +3, 0 -3, 0	60Â±3 mm	65 Â±3 mm	30 mm
F06/F12/F13	85.0 Â° +3.0Â°-3.0Â°	85.0 Â° +3.0Â °- 3.0Â°	-5 +3, 0 -3, 0	-5 +3, 0 -3, 0	82Â±3 mm	88Â±3 mm	Â
F15/F85	82, 7 Â° +2.0Â°-2.0Â°	82, 9 Â° +2.0Â°- 2.0Â°	-7, 3 +2, 0 -2, 0	-7, 1 +2, 0 - 2, 0	109Â±3 mm	96Â±3 mm	30 mm

cardiagn.com

F16/F86	84, 0 Â° +2.0Â°-2.0Â°	83, 9 Â° +2.0Â°- 2.0Â°	-6 +2, 0 -2, 0	-6, 1 +2, 0 - 2, 0	109Â±3 mm	96Â±3 mm	Â
F25	84, 0 Â° +2.0Â°-2.0Â°	83, 9 Â° +2.0Â°- 2.0Â°	-6 +2, 0 -2, 0	-6, 1 +2, 0 - 2, 0	47 Â±3 mm	54 Â±3 mm	30 mm
F26	94, 1 Â° +2.0Â°-2.0Â°	94, 6 Â° +2.0Â°-2.0Â°	-6 +2, 0 -2, 0	-6, 1 +2, 0 -2, 0	47 Â±3 mm	54 Â±3 mm	Â

61 61 270 REMOVING AND INSTALLING OR REPLACING CONSOLE FOR WINDSCREEN WASHER SYSTEM COMPLETE WITH MOTOR

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)**.

IMPORTANT: Before installing the wiper arms, allow wiper motor to run into rest position.

IMPORTANT: Emergency operation - danger of injury!
Disconnect **BATTERY GROUND LEAD**

Necessary preliminary work:

- Remove **COWL PANEL COVER**

Release screws (1).

Remove center air duct (2).

Installation note:

Make sure center air duct (2) is fitted correctly.

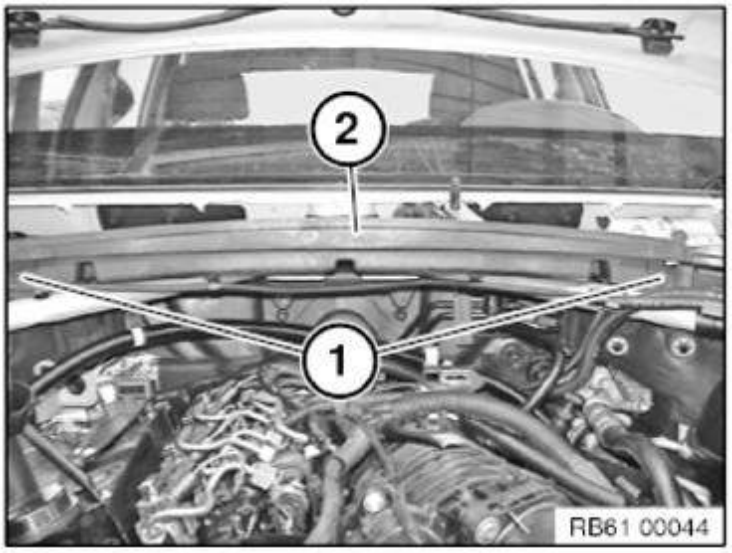


Fig. 385: Identifying Center Air Duct With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

Tightening torque **61 61 3AZ** .

Remove mounting bracket for windscreen wiper system (2) in direction of arrow.

cardiagn.com

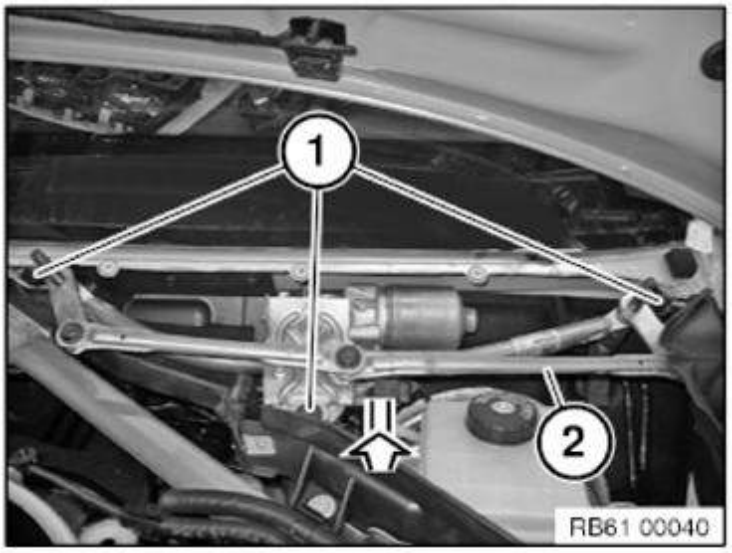


Fig. 386: Removing Mounting Bracket For Windscreen Wiper System
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Detach mounting bracket for windscreen wiper system (2).

Installation note:

Make sure mounting bracket for windscreen wiper system is fitted correctly.

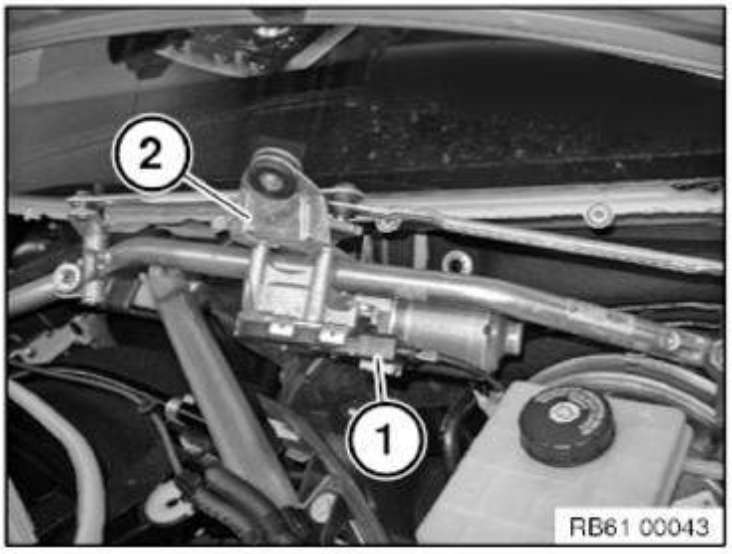


Fig. 387: Identifying Mounting Bracket For Windscreen Wiper System Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

61 61 100 REMOVING AND INSTALLING/REPLACING BOTH WINDSCREEN WIPER ARMS

Special tools required:

- 61 6 060

Take off protective cap.

cardiagn.com

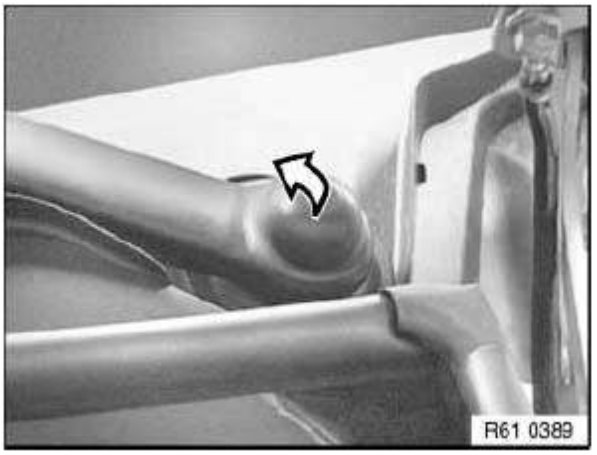


Fig. 388: Removing Protective Cap
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten nut.

Tightening torque **61 61 2AZ** .

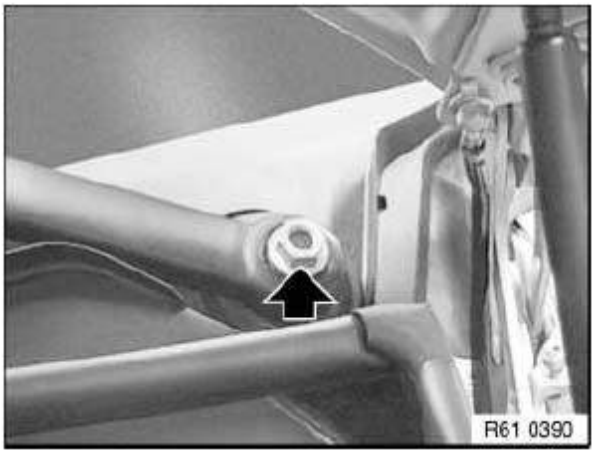


Fig. 389: Locating Wiper Arm Nut
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not bend windscreen wiper arm during removal (risk of breakage).

Detach windscreen wiper arm with special tool 61 6 060.



Fig. 390: Identifying Special Tool (61 6 060)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

Adjust position of wiper arm in question in rest position (measured between wiper lip and upper edge of cowl panel cover).

Then tighten nut of wiper arm and check position of relevant wiper arm again.

1. 47Â±3 mm
2. 54Â±3 mm

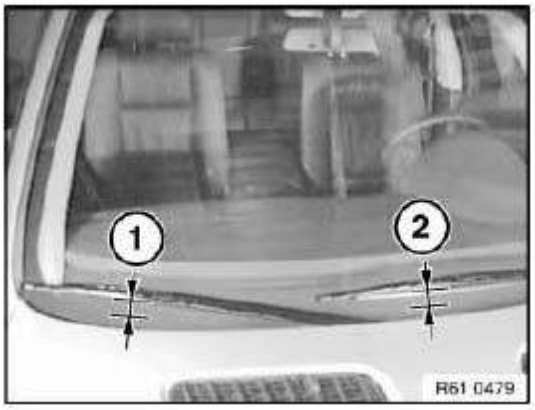


Fig. 391: Identifying Adjust Dimension Position Of Wiper Arm
Courtesy of BMW OF NORTH AMERICA, INC.

Tighten nut of wiper arm with specified torque.

Tightening torque **61 61 2AZ** .

61 61 131 REPLACING BOTH WIPER BLADES (BOSCH AEROTWIN)

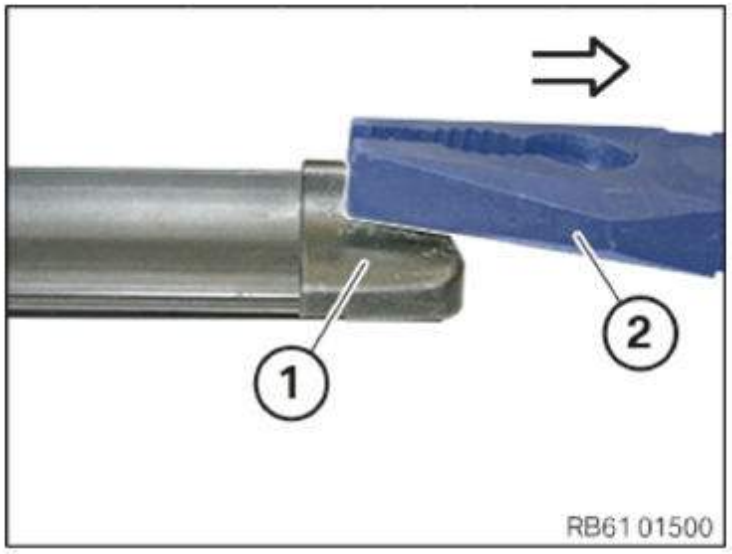
IMPORTANT: Make sure the wiper arm does not contact the windscreen without its wiper blade.

Necessary preliminary tasks:

- Remove **BOTH WIPER BLADES**.

Removal:

Pull off both sealing caps (1) using a suitable tool (2).



cardiagn.com

Fig. 392: Pulling Off Both Sealing Caps Using Suitable Tool
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not excessively bend the retaining tab (risk of breakage)!

Slightly bend retaining tab (1) upwards using a suitable tool (2) until the wiper blade is easily accessible.

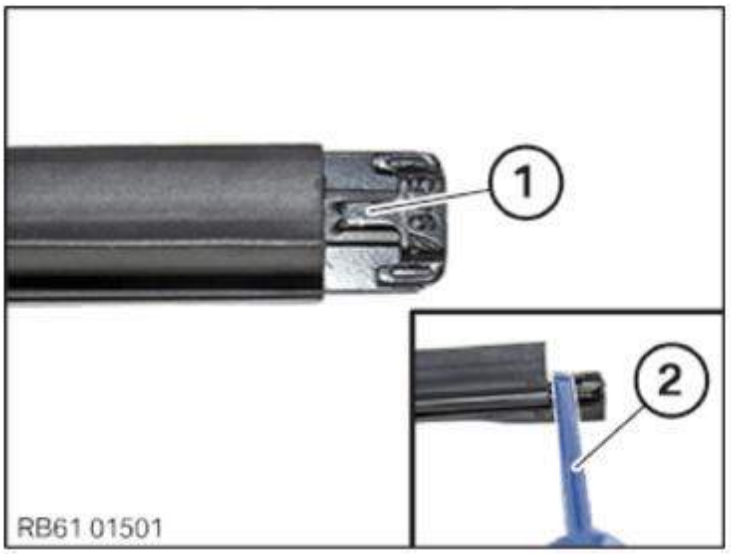


Fig. 393: Removing Retaining Tab Using Suitable Tool
Courtesy of BMW OF NORTH AMERICA, INC.

Pull out wiper blade (1) in the direction of the arrow.

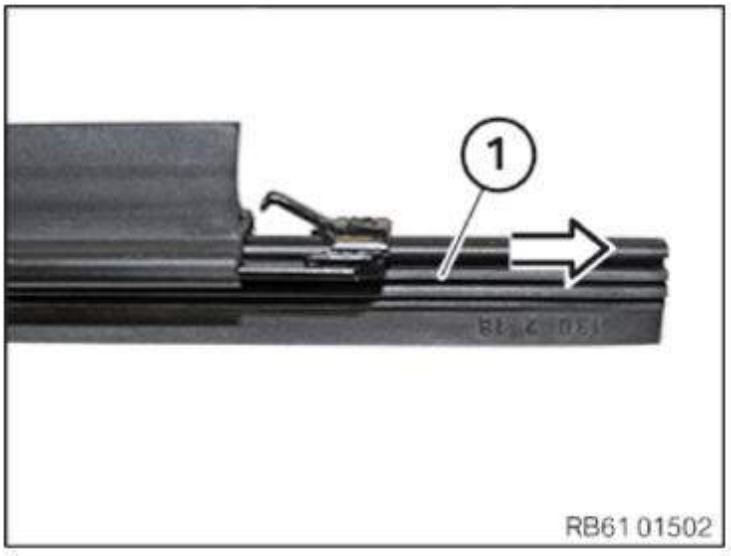


Fig. 394: Pulling Out Wiper Blade
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Insert wiper blade (1).

cardiagn.com

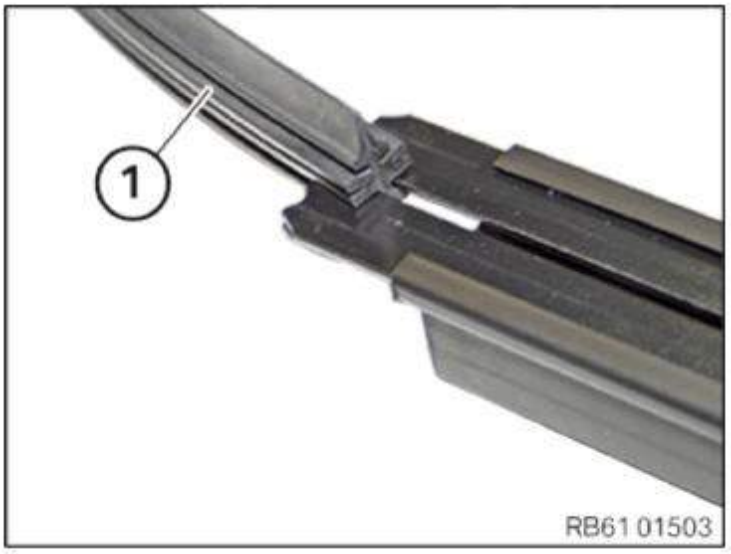


Fig. 395: Identifying Wiper Blade
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Position wiper blade (1) flush.

Bend retaining tabs (2) in the direction of the arrow using a suitable tool.

Secure wiper blade (1).

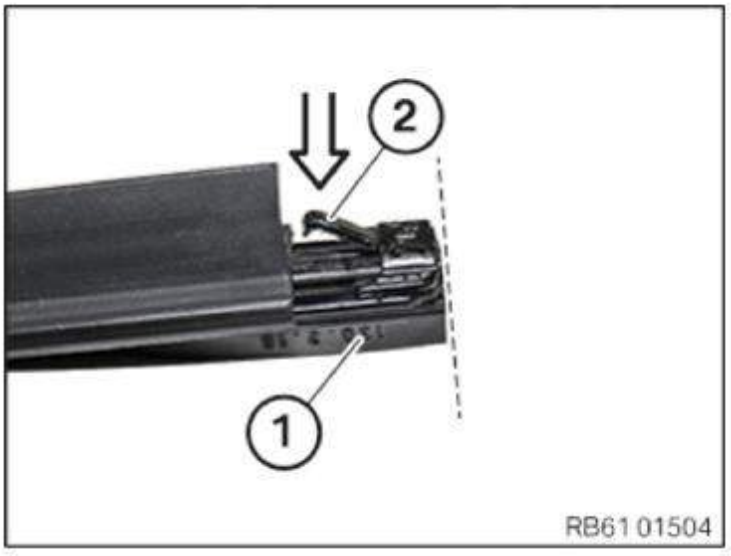


Fig. 396: Securing Wiper Blade
Courtesy of BMW OF NORTH AMERICA, INC.

Push on sealing caps (1) until they noticeably engage.

cardiagn.com

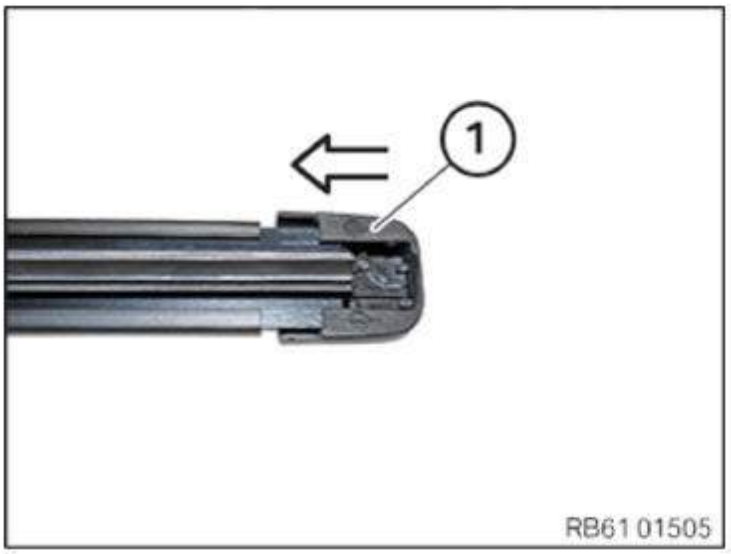


Fig. 397: Pushing On Sealing Caps
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **BOTH WIPER BLADES**.

61 61 021 REPLACING LEFT OR RIGHT WINDSCREEN WIPER BLADE

IMPORTANT: Make sure the wiper arm does not contact the windscreen without its wiper blade.

NOTE: **In the event of a customer complaint regarding the cleaning or wiping performance or noise build-up (scratching, squeaking) by the wiper blades, proceed as follows: First check whether the complaint is caused by dirt (preservation wax on new vehicles, resins or other environmental influences) on the windscreen; if necessary, clean the windscreen thoroughly! Replace the wiper blades only if cleaning the windscreen fails to remedy the situation.**

Move wipers into fold-out position:

- Switch on terminal "R" and then switch off again immediately
- Press wiper lever upwards and hold for approx. 3 seconds until wiper arms stop in roughly vertical position (fold-out position)

Take infrared remote key (ignition key).

Raise wiper arm (1) and fold back wiper blade (2).

Remove wiper blade (2) in direction of arrow from wiper arm (1).

Installation note:

Make sure wiper blade (2) is guided.

Fold wiper arms onto windscreen.

cardiagn.com

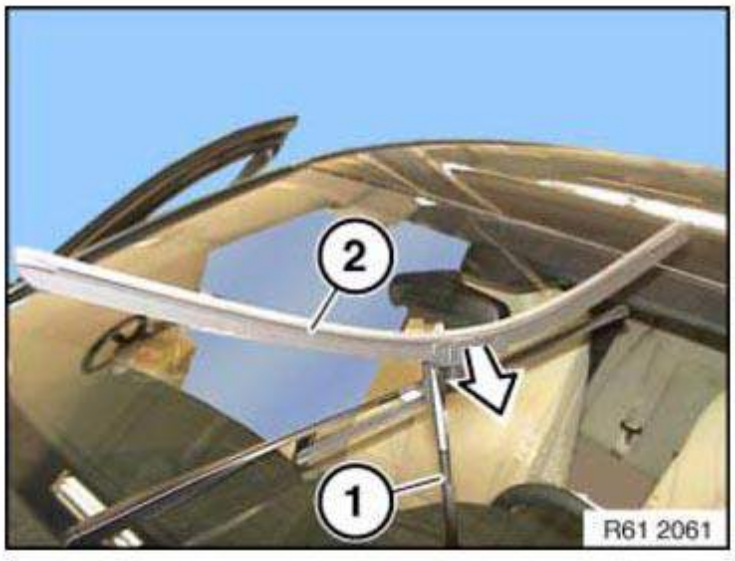


Fig. 398: Removing Wiper Blade From Wiper Arm
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Before switching on terminal "R" or the ignition or starting the engine, you must fold the wiper arms onto the windscreen otherwise damage will be caused.
Switch on terminal "R".
Move the windscreen wipers to the rest position with a flick wipe.

TAILGATE WINDOW WIPER

61 62 150 REMOVING AND INSTALLING/REPLACING REAR WINDOW WASHER PUMP FOR REAR WINDOW WASHER UNIT

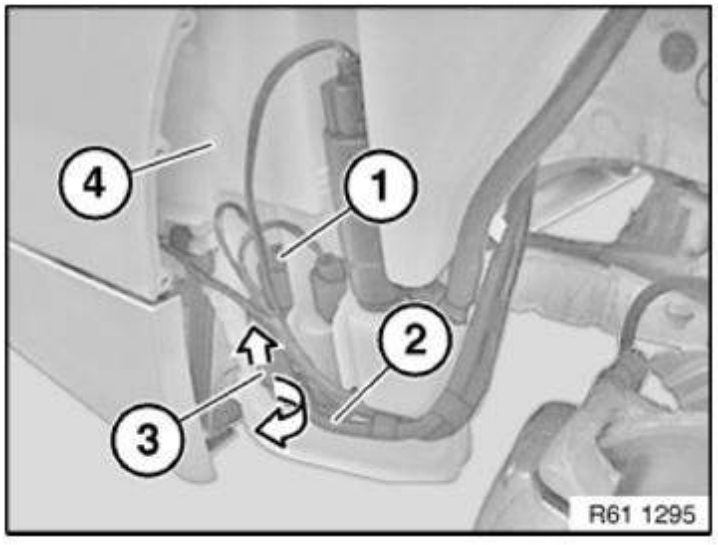
Necessary preliminary work:

- Release **FLUID RESERVOIR FOR WINDSCREEN WASHER SYSTEM** and pull out.

Disconnect plug connection (1).

Detach hose pipe (2) from washer pump for rear window washer unit (3).

Turn washer pump for rear window washer system (3) if necessary and pull in direction of arrow out of fluid reservoir for windscreen washer system (4).



cardiagn.com

Fig. 399: Detaching Hose Pipe From Washer Pump For Rear Window Washer Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

- Replace strainer of washer pump for rear window washer unit
- Coat sealing ring of washer pump for rear window washer unit with lubricant
- Lay hose of washer pump for rear window washer unit without kinks
- Fill fluid reservoir

61 62 060 REMOVING AND INSTALLING/REPLACING REAR WIPER MOTOR

Necessary preliminary tasks:

- Remove **REAR WINDOW WIPER ARM**.
- Remove **TRIM FOR REAR LID** .

Unfasten plug connection (1) and disconnect.

Release screws (2) and remove rear wiper motor (3).

Tightening torque **61 62 1AZ** .

Installation note:

Check wiper pivot grommet for signs of damage.

If necessary, replace grommet.

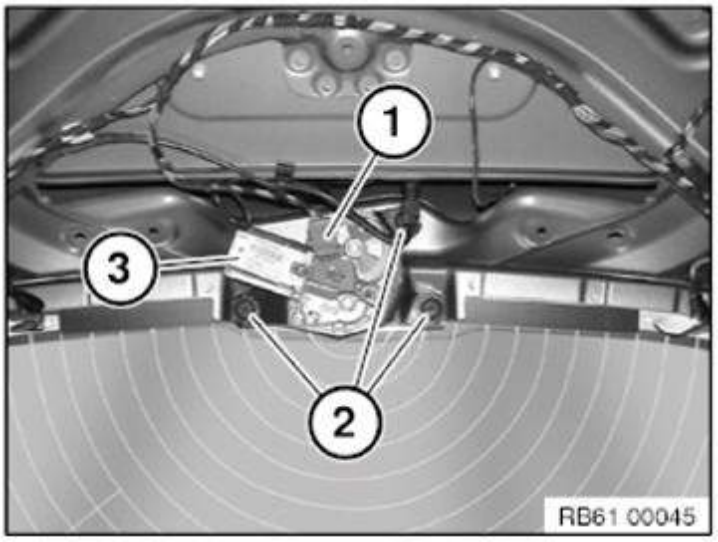


Fig. 400: Identifying Rear Wiper Motor Plug Connection With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

61 62 030 REMOVING AND INSTALLING/REPLACING WIPER ARM ON REAR WINDOW

Special tools required:

- 61 6 060

Fold open protective cap (1) in direction of arrow.

Release nut underneath.

cardiagn.com

Tightening torque **61 62 2AZ** .

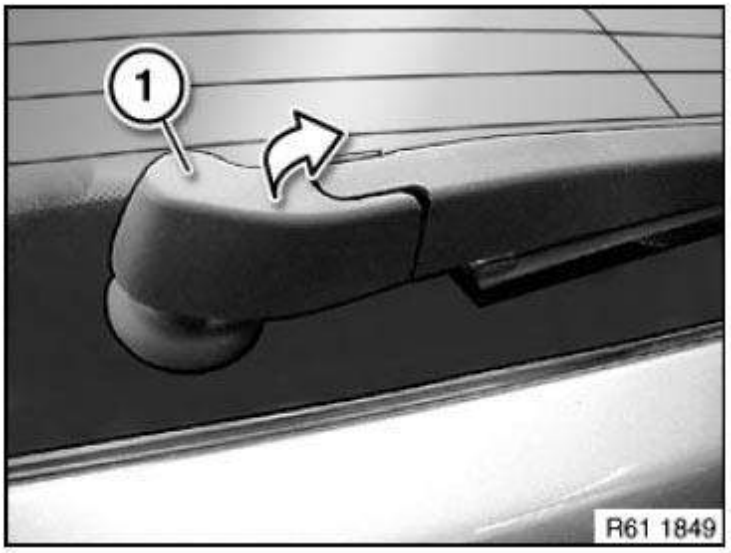


Fig. 401: Folding Open Protective Cap
Courtesy of BMW OF NORTH AMERICA, INC.

Detach wiper arm (1) with special tool 61 6 060.

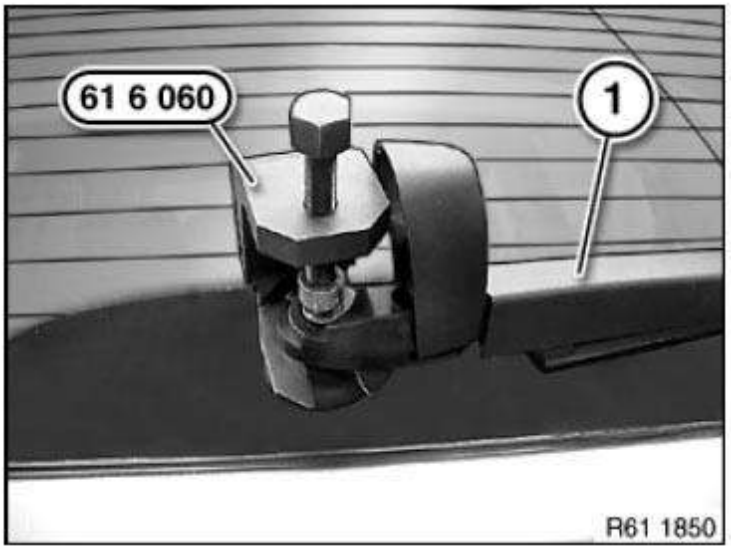


Fig. 402: Detaching Wiper Arm Using Special Tool (61 6 060)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Before fitting wiper arm, allow wiping system to run two wipe cycles into park position.

Adjust **MEASUREMENT (A)** between wiper arm and rear window edge.

cardiagn.com

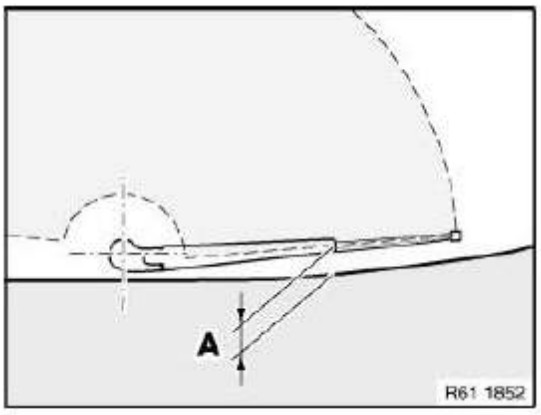


Fig. 403: Identifying Dimension Between Wiper Arm And Rear Window Edge
Courtesy of BMW OF NORTH AMERICA, INC.

61 62 115 REPLACING WASHER JET FOR REAR WINDSCREEN WASHER SYSTEM

Necessary preliminary work:

- Remove TRIM COVER FOR REAR WINDOW FRAME .

NOTE: **Additional brake light is shown removed for purposes of clarity.**

Disconnect hose connection (1).

Push latch mechanism (2) apart and pull washer jet (3) out of additional brake light.

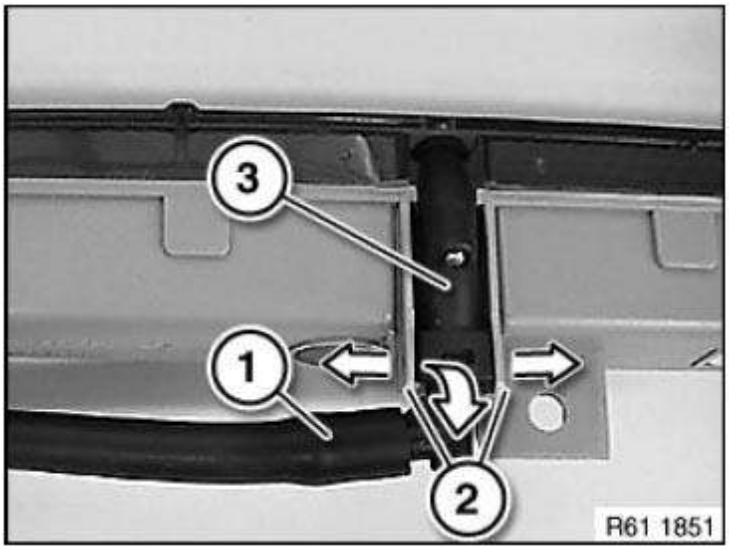


Fig. 404: Pulling Washer Jet Out Of Additional Brake Light
Courtesy of BMW OF NORTH AMERICA, INC.

HEADLIGHT CLEANING SYSTEM, WASHER JETS NIGHT VISION

61 67 122 REMOVING AND INSTALLING/RENEWING RIGHT HIGH-PRESSURE NOZZLE OF HEADLIGHT CLEANING SYSTEM

Special tools required:

- 00 9 340

Necessary preliminary tasks:

cardiagn.com

- Remove **FRONT WHEEL ARCH COVER ON RIGHT** .

Use special tool **00 9 340** to lift the cover (1).

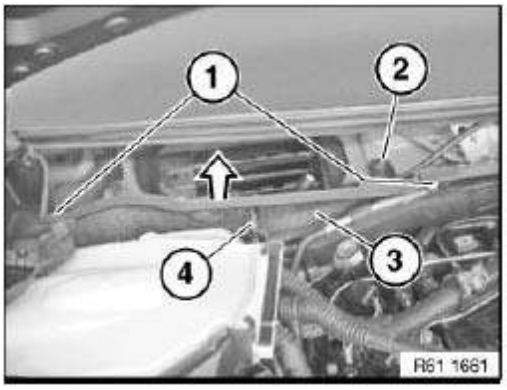


Fig. 405: Lifting Cover Using Special Tool 00 9 340
Courtesy of BMW OF NORTH AMERICA, INC.

Build date up to 04/2014

Slowly pull out high-pressure nozzle of headlight washer system (1) at cover (2).

Unclip cover (2) in direction of arrow and remove.

Allow high-pressure nozzle of headlight washer system (1) to slide back slowly.

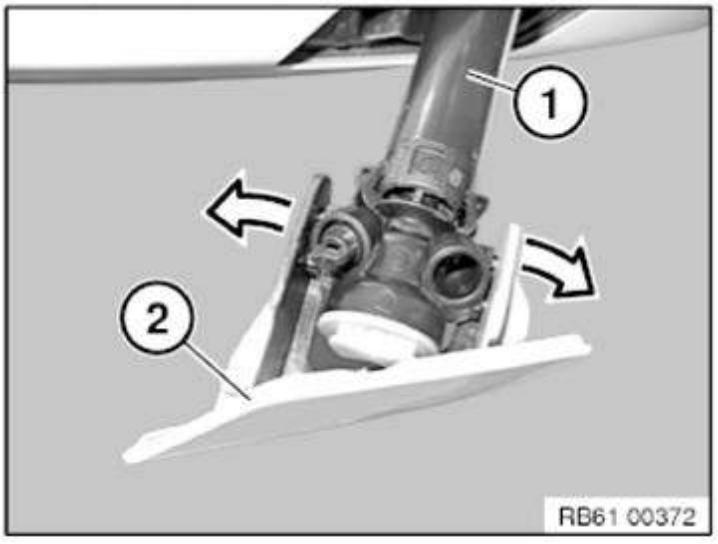


Fig. 406: Pulling Out High-Pressure Nozzle Of Headlight Washer System At Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Build date from 04/2014

Slowly pull out high-pressure nozzle of headlight cleaning system (1).

Unclip cover from retaining lugs (2) and remove.

Allow high-pressure nozzle of headlight washer system (1) to slide back slowly.

cardiagn.com

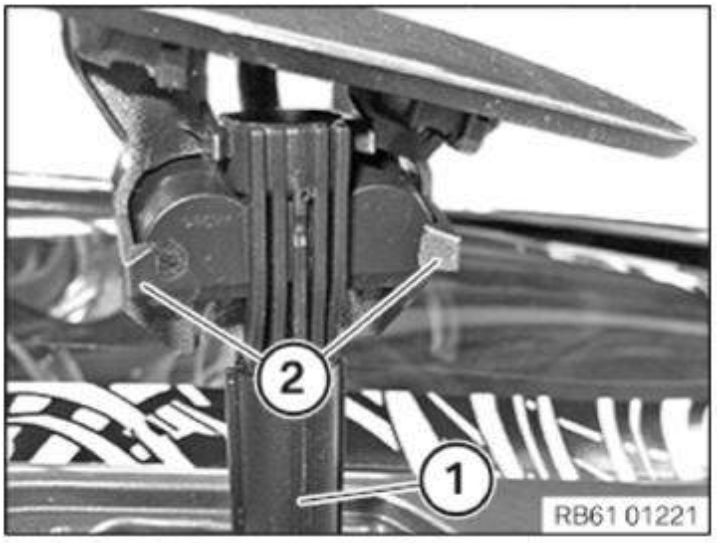


Fig. 407: Identifying High-Pressure Nozzle Of Headlight Washer System With Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

For N57 with additional radiator or N55 with additional engine oil cooler:

Loosen screws (1) and remove additional radiator (2) in the direction of the arrow and secure it against falling.

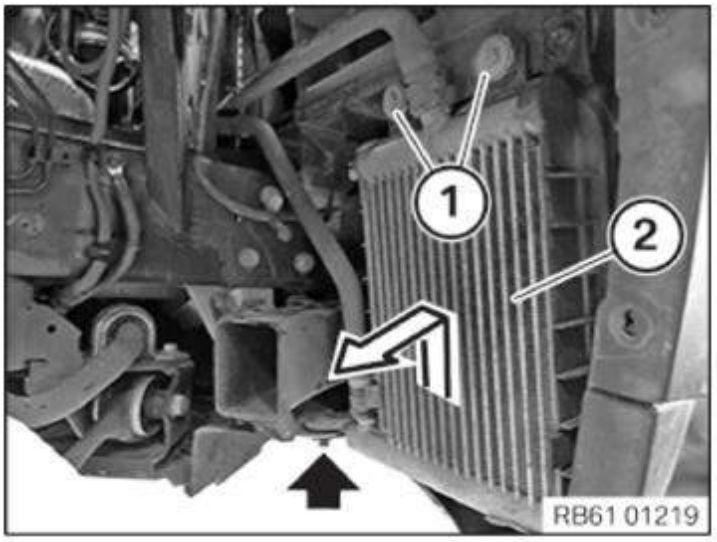


Fig. 408: Identifying Auxiliary Cooler From Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) and remove cover (2).

cardiagn.com

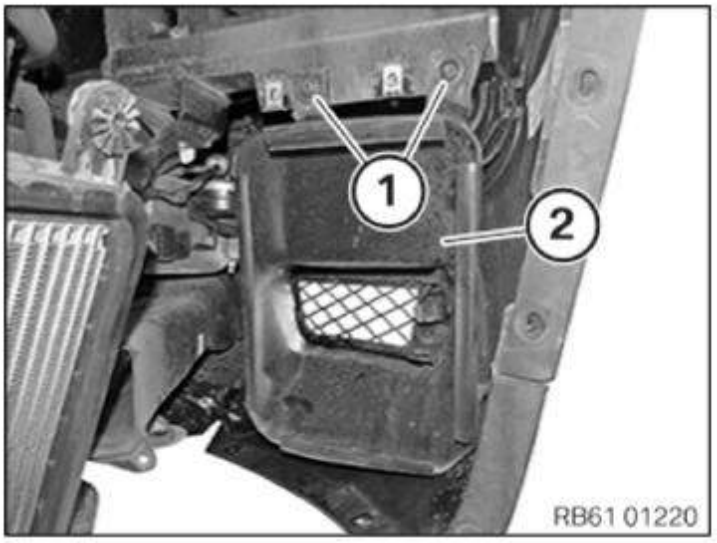


Fig. 409: Identifying Air Duct With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

All vehicles:

Unlock safety coupling (1) of high-pressure line (2) and detach high-pressure line (2) in direction of arrow.

Lift retaining lugs (3) in direction of arrow and feed high-pressure nozzle (4) towards rear out of bumper panel.

Installation note:

Keep hose connection for high-pressure nozzle (4) and high-pressure line (2) clean and free from grease.

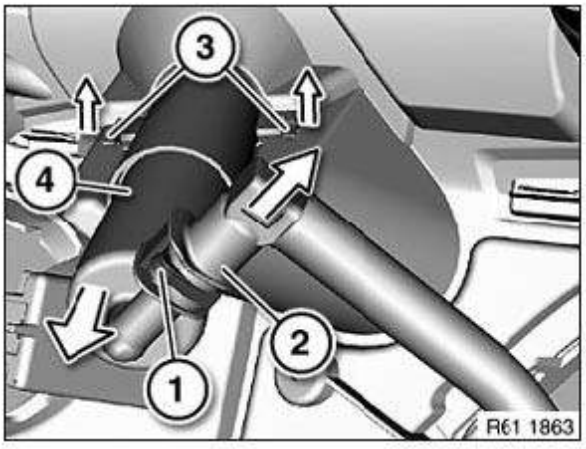


Fig. 410: Detaching High-Pressure Line
Courtesy of BMW OF NORTH AMERICA, INC.

Make sure high-pressure line (2) is correctly engaged on high-pressure nozzle (4).

Make sure high-pressure nozzle (4) is correctly engaged on front bumper panel.

Carry out a function check before fitting bumper panel.

If necessary, top up washer fluid.

61 67 120 REMOVING AND INSTALLING/REPLACING LEFT HIGH-PRESSURE NOZZLE OF HEADLIGHT CLEANING SYSTEM

Special tools required:

cardiagn.com

- 00 9 340

Necessary preliminary tasks:

- Remove **FRONT LEFT WHEEL ARCH COVER** .

Use special tool **00 9 340** to lift the cover (1).

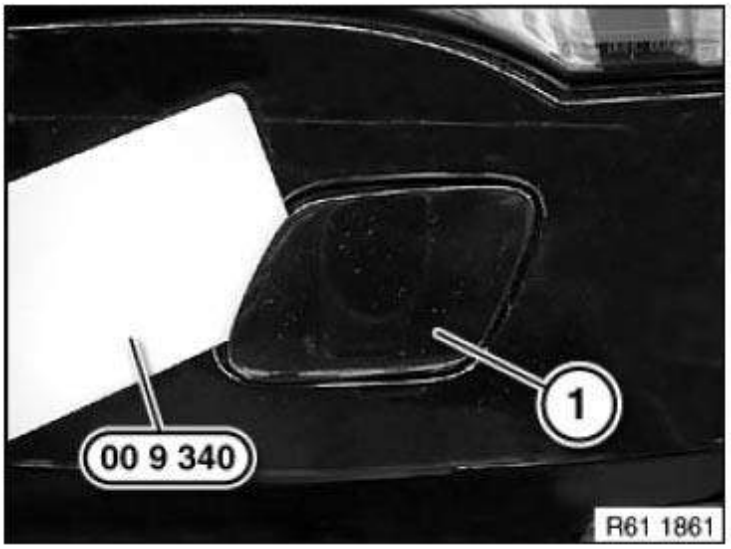


Fig. 411: Lifting Cover Using Special Tool (00 9 340)
Courtesy of BMW OF NORTH AMERICA, INC.

Build date up to 04/2014

Slowly pull out high-pressure nozzle of headlight washer system (1) at cover (2).

Unclip cover (2) in direction of arrow and remove.

Allow high-pressure nozzle of headlight washer system (1) to slide back slowly.

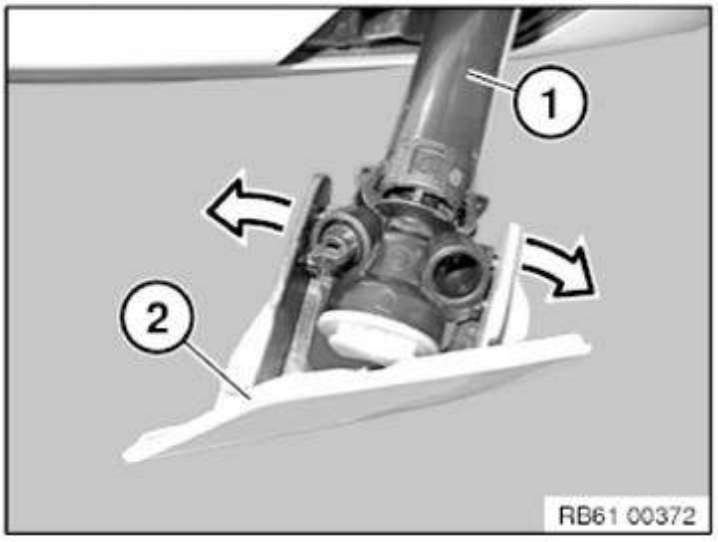


Fig. 412: Pulling Out High-Pressure Nozzle Of Headlight Washer System At Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Build date from 04/2014

Slowly pull out high-pressure nozzle of headlight cleaning system (1).

cardiagn.com

Unclip cover from retaining lugs (2) and remove.

Allow high-pressure nozzle of headlight washer system (1) to slide back slowly.

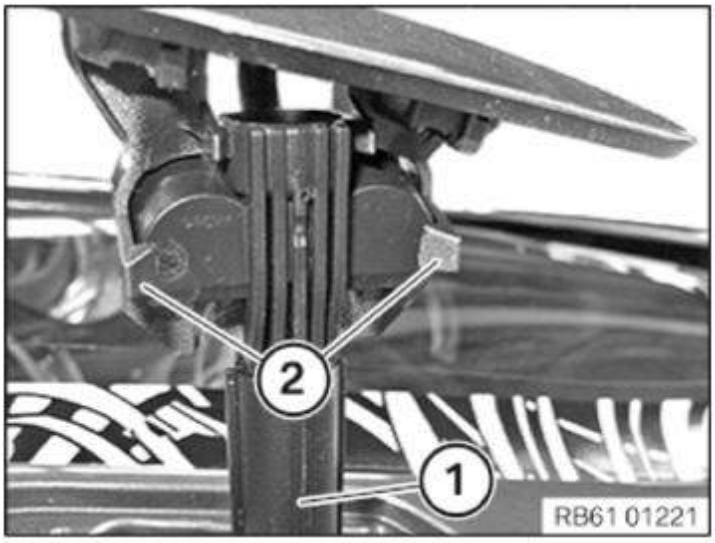


Fig. 413: Identifying High-Pressure Nozzle Of Headlight Washer System With Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Vehicles with auxiliary heater:

Unclip fuel line from brackets (1).

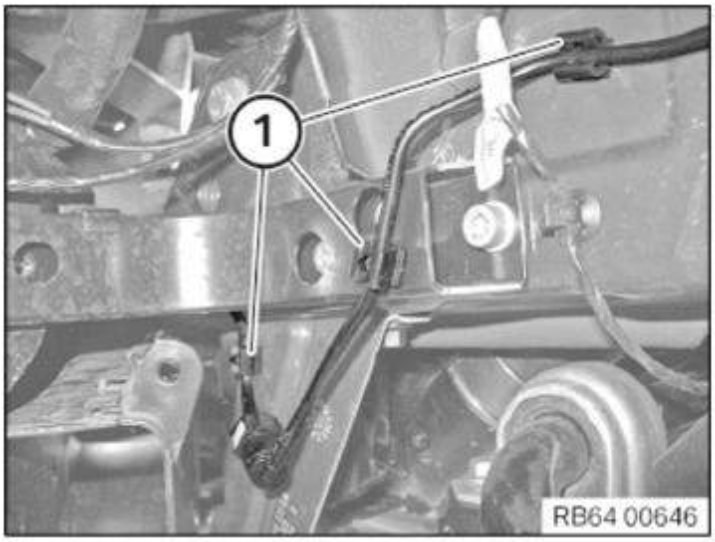


Fig. 414: Identifying Auxiliary Heater Brackets
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

cardiagn.com

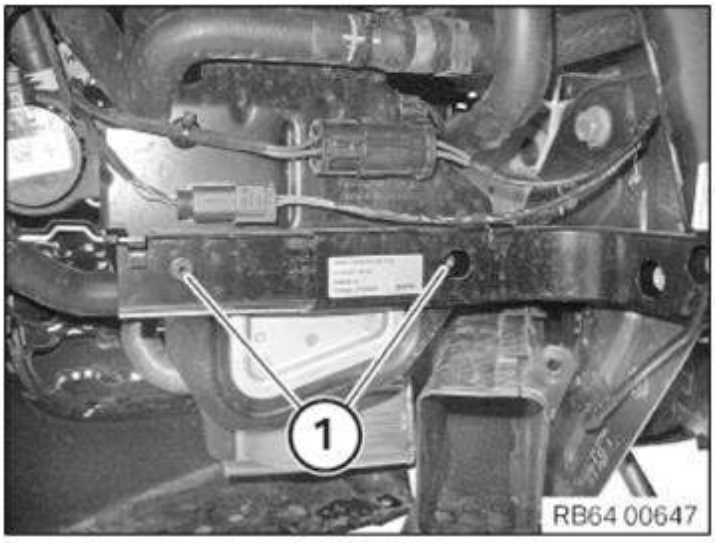


Fig. 415: Identifying Fuel Line From Brackets Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) and remove holder (2).

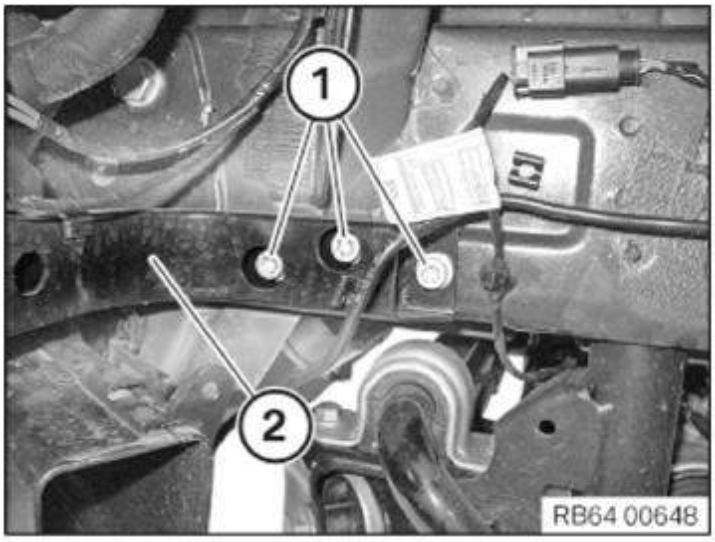


Fig. 416: Identifying Holder With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1) and secure auxiliary heater against falling down.

cardiagn.com

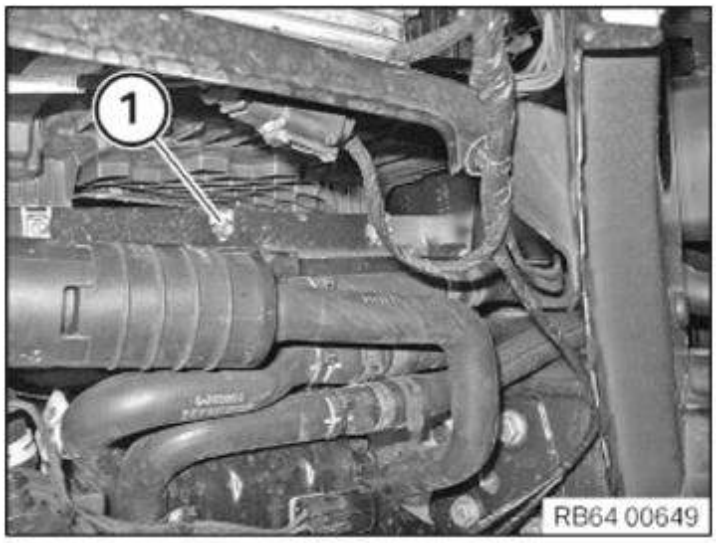


Fig. 417: Identifying Auxiliary Heater Screw
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not bend fuel line!

Turn auxiliary heater (1) to one side and tie up.

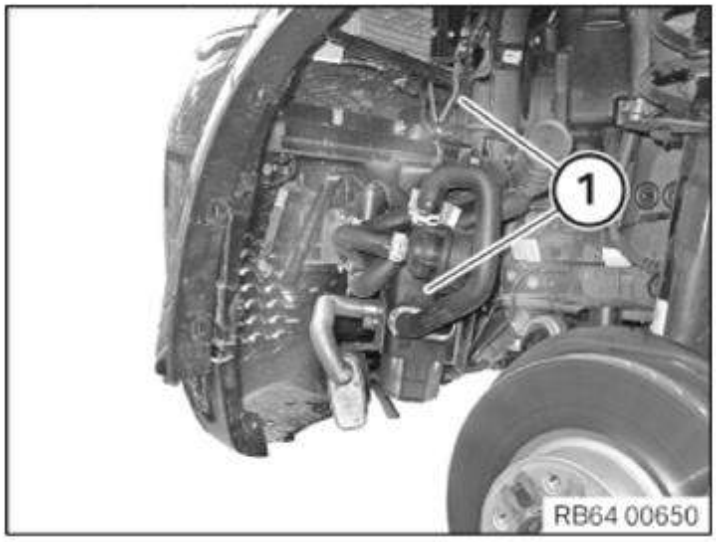


Fig. 418: Identifying Auxiliary Heater Screws
Courtesy of BMW OF NORTH AMERICA, INC.

All vehicles:

Unlock safety coupling (1) of high-pressure line (2) and detach high-pressure line (2) in direction of arrow.

Lift retaining lugs (3) in direction of arrow and feed high-pressure nozzle (4) towards rear out of bumper panel.

Installation note:

Keep hose connection for high-pressure nozzle (4) and high-pressure line (2) clean and free from grease.

cardiagn.com

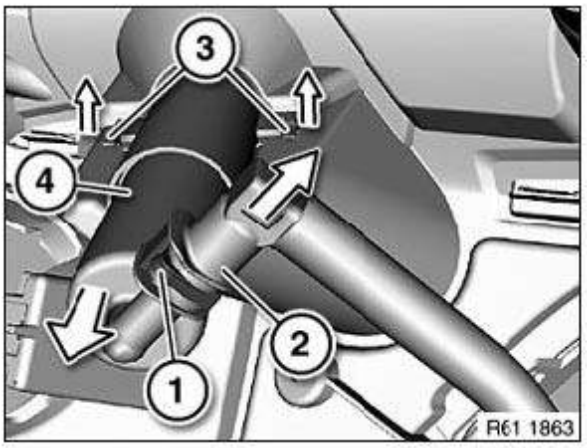


Fig. 419: Detaching High-Pressure Line
Courtesy of BMW OF NORTH AMERICA, INC.

Make sure high-pressure line (2) is correctly engaged on high-pressure nozzle (4).

Make sure high-pressure nozzle (4) is correctly engaged on front bumper panel.

Carry out a function check before fitting bumper panel.

If necessary, top up washer fluid.

61 67 010 REMOVING AND INSTALLING/REPLACING WASHER PUMP FOR HEADLIGHT CLEANING SYSTEM

Necessary preliminary work:

- Release **fluid reservoir for windscreen washer system** . See 61 71 061 REPLACING WASHER FLUID RESERVOIR FOR WINDSCREEN WASHER SYSTEM or 61 71 061 REPLACING WASHER FLUID RESERVOIR FOR WINDSCREEN WASHER SYSTEM and pull out.

Disconnect plug connection (1).

NOTE: Catch any escaping washer fluid if necessary.

Open cotter pin (3) and detach hose pipe (2) from washer pump for headlight cleaning system (4).

If necessary, turn washer pump for headlight cleaning system (4) and pull out of fluid reservoir for windscreen washer system (5).

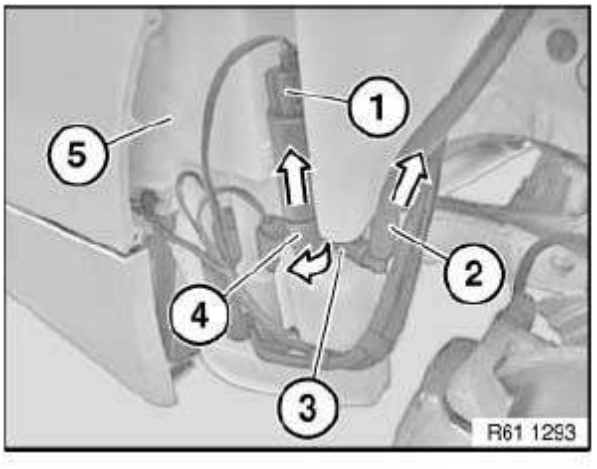


Fig. 420: Pulling Out Of Fluid Reservoir For Windscreen Washer System
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

- Replace strainer for washer pump for headlight cleaning system.
- Coat sealing ring of washer pump for headlight cleaning system with lubricant.
- Lay hose pipe of washer pump for headlight cleaning system without kinks
- Fill fluid reservoir

WINDSCREEN WASHER SYSTEM

61 71 004 ADJUSTING WASHER JETS FOR WINDSCREEN WASHER SYSTEM

Triple nozzle system

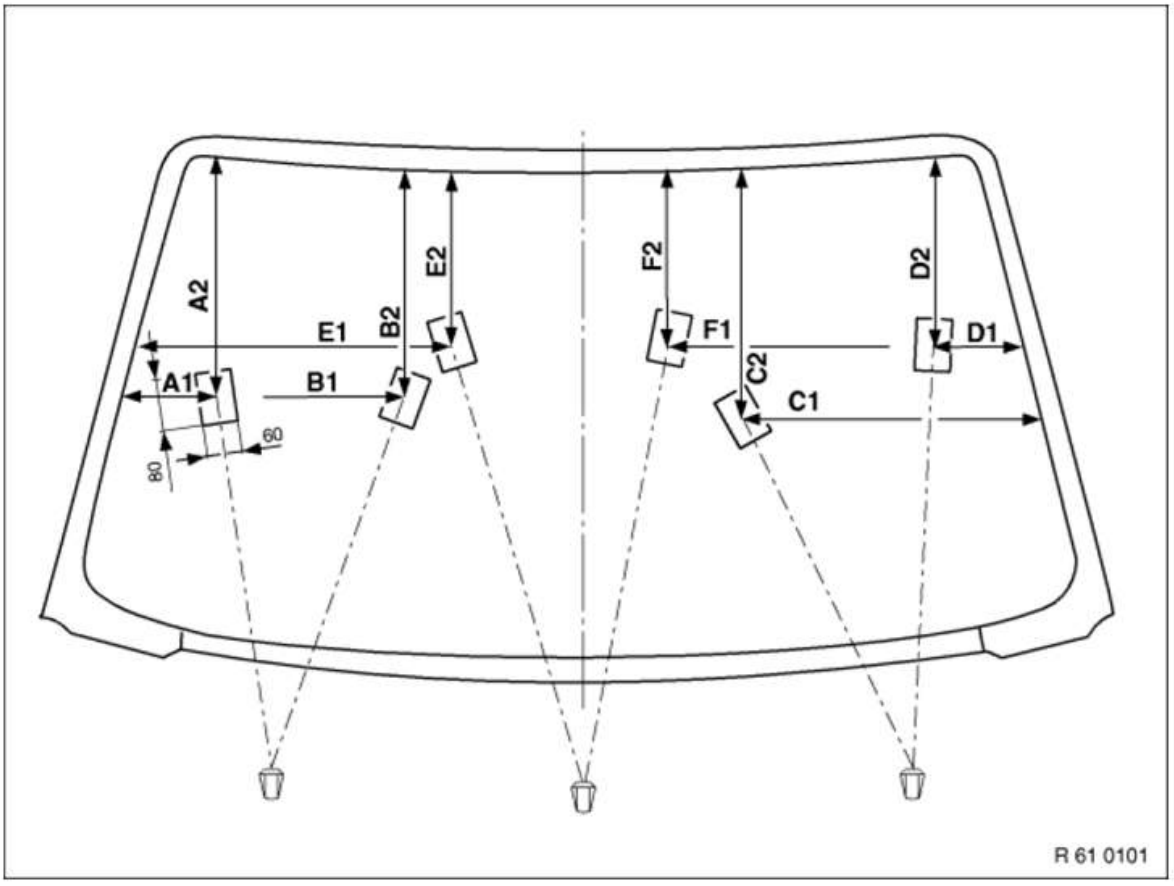


Fig. 421: Identifying Triple Nozzle System Adjusting Position
Courtesy of BMW OF NORTH AMERICA, INC.

The spray jets should hit the middle of the wiping area.

Adjustment values in mm

A1= 200

A2= 400

B1= 400

B2= 400

C1= 450

C2= 450

cardiagn.com

D1= 230

D2= 350

E1= 500

E2= 350

F1= 550

F2= 350

NOTE: **If necessary, remove adhesive residue from windscreen.**
Fill up with washer fluid.

NOTE: **Washer jets are preset; in case of customer complaint, the setting can be adjusted as needed.**
Changes in the setting must take into account the possible driving situations (high/low speed; with/without washing additive) and must be performed with care.

If necessary, adjust left/right or middle washer jet (1) by way of screw (2).

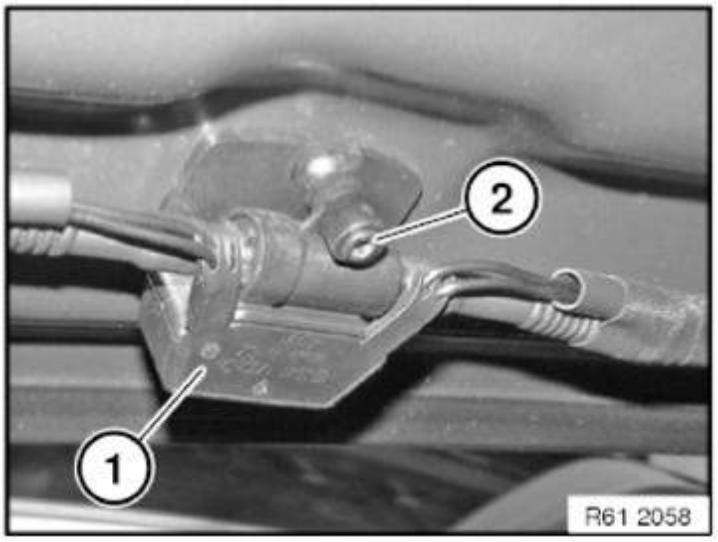


Fig. 422: Identifying Left/Right/Middle Washer Jet Screw
Courtesy of BMW OF NORTH AMERICA, INC.

61 71... CHECKING FUNCTION OF WASHER JETS FOR WINDSCREEN WASHER SYSTEM

- Switch on terminal "R" and then switch on again immediately.
- Press wiper lever to "Clean windscreen" for more than 3 seconds.
- Washer fluid is sprayed out of the washer jets without the wiper arms being moved.
- Check function of washer jets.
- If necessary, replace the **WASHER JETS**.
- Top up washer fluid.

61 71 030 REMOVING AND INSTALLING/RENEWING ALL WASHER JETS OF WINDSCREEN WASHER SYSTEM

Necessary preliminary work:

- Remove **RIGHT MICROFILTER HOUSING COVER** .

cardiagn.com

Turn clamp (3) in direction of arrow and washer fluid line (2) in direction of arrow.

Disconnect plug connection (1) and remove from holder (4).

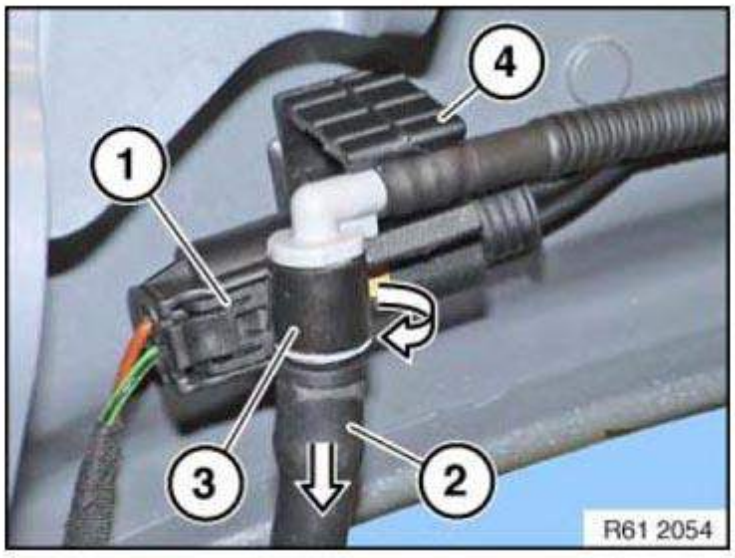


Fig. 423: Removing Right Microfilter Housing Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Press all washer jets (1) in direction of arrow upwards and remove.

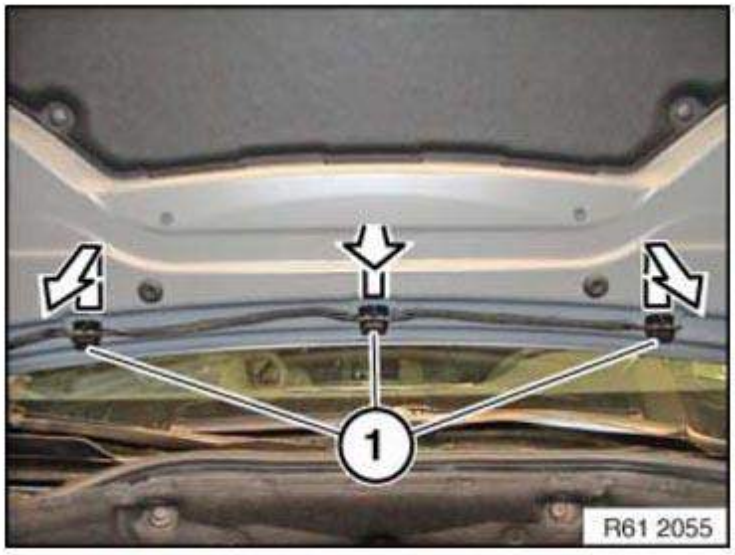


Fig. 424: Removing Washer Jets
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

- Retaining lugs (1) must not be damaged.
- Check **ADJUSTMENT OF WASHER JETS** and correct if necessary.
- Observe **FILLING CAPACITY FOR WINDSCREEN WASHER SYSTEM** .

cardiagn.com

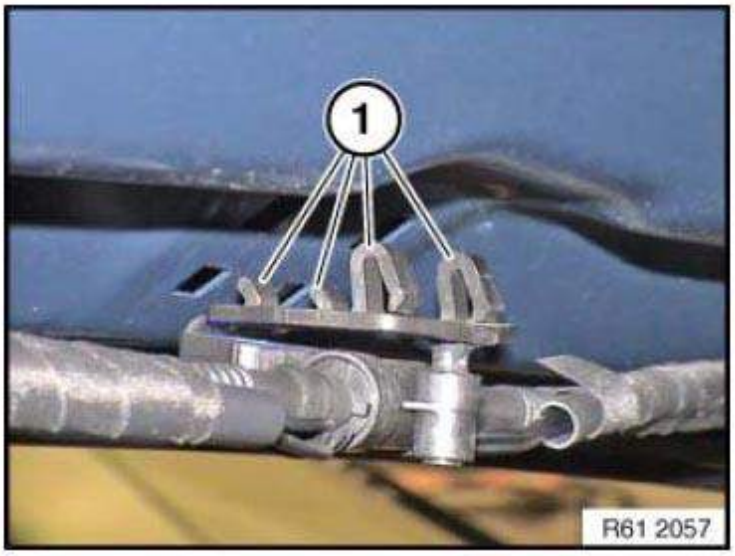


Fig. 425: Identifying Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

61 71 100 REMOVING AND INSTALLING/REPLACING WINDSCREEN WASHER PUMP

- Before replacing the windscreen washer pump, check the fluid reservoir for dirt contamination and clean if necessary!

Necessary preliminary work:

- Release **fluid reservoir for windscreen washer system** . See **61 71 061 REPLACING WASHER FLUID RESERVOIR FOR WINDSCREEN WASHER SYSTEM** or **61 71 061 REPLACING WASHER FLUID RESERVOIR FOR WINDSCREEN WASHER SYSTEM** and pull out.

Disconnect plug connection (1).

NOTE: Catch any escaping washer fluid if necessary.

Detach hose (2) from windscreen washer pump (3).

Turn windscreen washer pump (3) if necessary and pull in direction of arrow out of fluid reservoir for windscreen washer system (4).

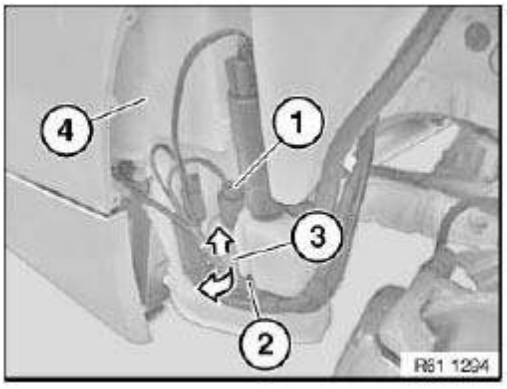


Fig. 426: Detaching Hose From Windscreen Washer Pump
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

- Replace strainer for windscreen washer pump

cardiagn.com

- Coat sealing ring of windscreen washer pump with lubricant
- Lay hose pipe of windscreen washer pump without kinks
- Fill fluid reservoir

61 71 061 REPLACING WASHER FLUID RESERVOIR FOR WINDSCREEN WASHER SYSTEM

Necessary preliminary work:

- Remove **TRIM ON FRONT RIGHT SIDE PANEL** .
- Remove **front right wheel arch cover** . See **51 71 038 REMOVING AND INSTALLING/REPLACING FRONT WHEEL ARCH COVER (FRONT SECTION) ON THE LEFT OR RIGHT** or **51 71 039 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT WHEEL ARCH COVER (REAR PART)** .

Release wiring harness retainers (1).

Unfasten plug connection (2) and disconnect.

Detach filler hose (3) from water reservoir (5).

Release screw (4).

Carefully remove water reservoir (5) in direction of arrow.

NOTE: **Catch any escaping washer fluid if necessary.**

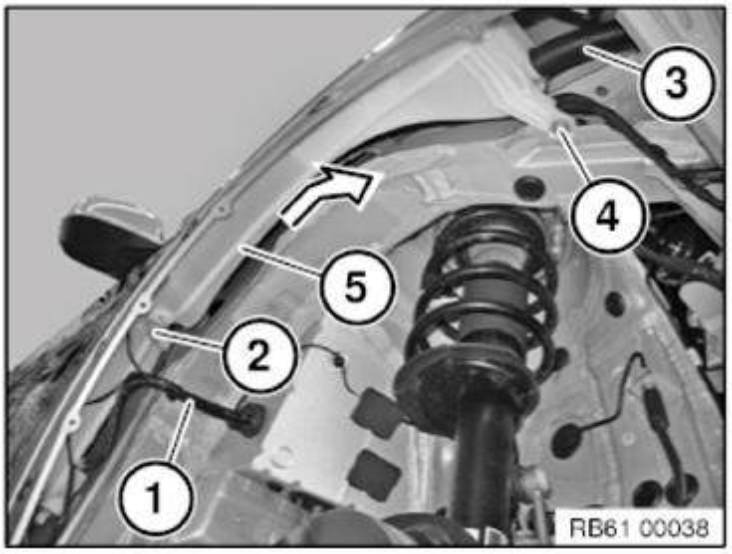


Fig. 427: Detaching Filler Hose From Water Reservoir
Courtesy of BMW OF NORTH AMERICA, INC.

Pull fluid reservoir for windscreen washer system (2) in direction of arrow out of bracket.

Disconnect all plug connections (1).

Disengage hose pipe for washer pump (3) from fluid reservoir for windscreen washer system (2).

cardiagn.com

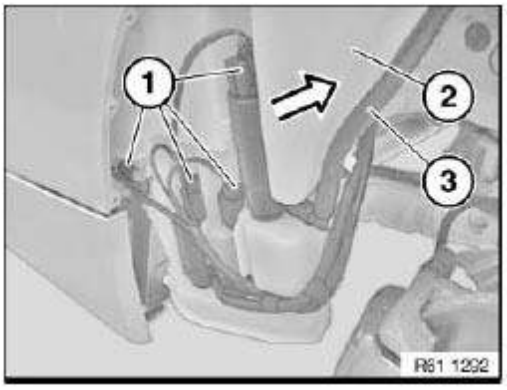


Fig. 428: Pulling Fluid Reservoir For Windscreen Washer System
Courtesy of BMW OF NORTH AMERICA, INC.

- Remove **WINDSCREEN WASHER PUMP**.
- Remove **LEVEL SWITCH**.
- If necessary, remove **WASHER PUMP FOR HEADLIGHT CLEANING SYSTEM**.
- If necessary, remove **WINDSCREEN WASHER PUMP FOR REAR WINDOW WASHER SYSTEM** (not F26).

Installation note:

Make sure lug (2) of water reservoir for windscreen washer system (1) fits correctly in retaining bracket (3).

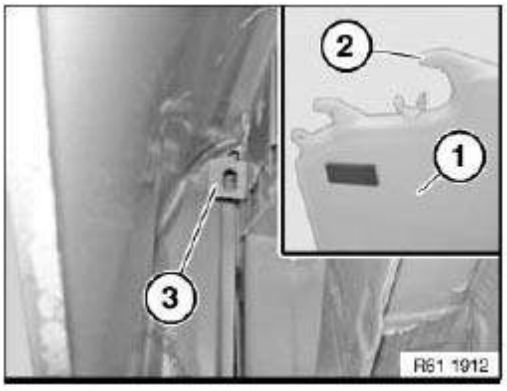


Fig. 429: Identifying Lug Of Water Reservoir For Windscreen Washer System
Courtesy of BMW OF NORTH AMERICA, INC.

Remove washer fluid reservoir for window washer system (2) from bracket (1) in direction of arrow.

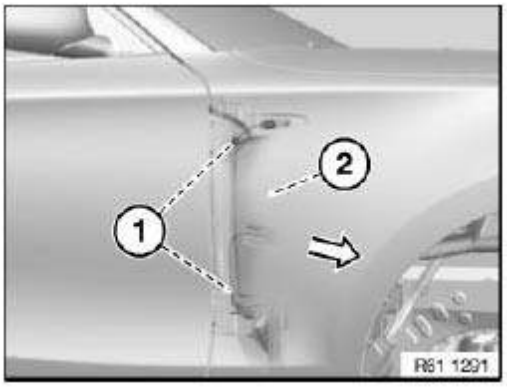


Fig. 430: Removing Washer Fluid Reservoir For Window Washer System From Bracket
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

- Replace strainers on washer pumps
- Coat sealing rings of washer pumps with lubricant.
- Lay hose pipes of washer pumps without kinks and clip into holders on fluid reservoir
- Fill fluid reservoir

61 71 061 REPLACING WASHER FLUID RESERVOIR FOR WINDSCREEN WASHER SYSTEM

Necessary preliminary work:

- Remove **FRONT RIGHT SIDE REPEATER LIGHT** .
- Remove **front right wheel arch cover** . See **51 71 038 REMOVING AND INSTALLING/REPLACING FRONT WHEEL ARCH COVER (FRONT SECTION) ON THE LEFT OR RIGHT** or **51 71 039 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT WHEEL ARCH COVER (REAR PART)** .

Release wiring harness retainers (1).

Unfasten plug connection (2) and disconnect.

Detach filler hose (3) from water reservoir (5).

Release screw (4).

Carefully remove water reservoir (5) in direction of arrow.

NOTE: Catch any escaping washer fluid if necessary.

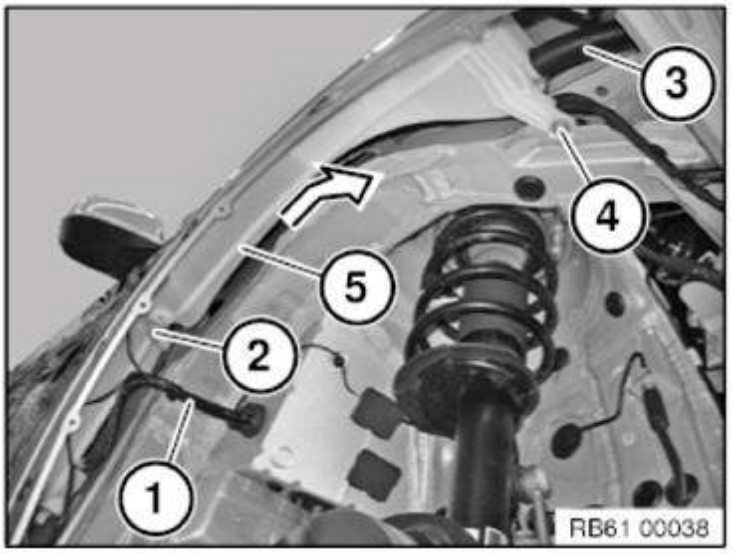


Fig. 431: Detaching Filler Hose From Water Reservoir
Courtesy of BMW OF NORTH AMERICA, INC.

Pull fluid reservoir for windscreen washer system (2) in direction of arrow out of bracket.

Disconnect all plug connections (1).

Disengage hose pipe for washer pump (3) from fluid reservoir for windscreen washer system (2).

cardiagn.com

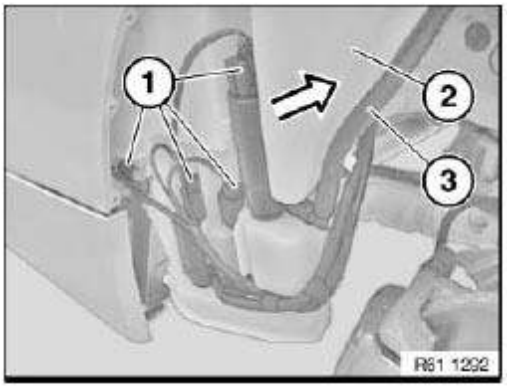


Fig. 432: Pulling Fluid Reservoir For Windscreen Washer System
Courtesy of BMW OF NORTH AMERICA, INC.

- Remove **WINDSCREEN WASHER PUMP**.
- Remove **LEVEL SWITCH**.
- If necessary, remove **WASHER PUMP FOR HEADLIGHT CLEANING SYSTEM**.
- If necessary, remove **WINDSCREEN WASHER PUMP FOR REAR WINDSCREEN WASHER SYSTEM**.

Installation note:

Make sure lug (2) of water reservoir for windscreen washer system (1) fits correctly in retaining bracket (3).

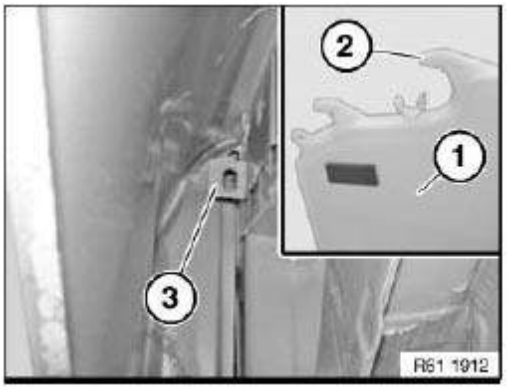


Fig. 433: Identifying Lug Of Water Reservoir For Windscreen Washer System
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip side repeater wiring harness (1) in direction of arrow out of fluid reservoir for windscreen washer system (2).

Installation note:

Make sure side repeater wiring harness (1) is laid correctly.

Remove fluid reservoir for windscreen washer system (2) in direction of arrow.

cardiagn.com

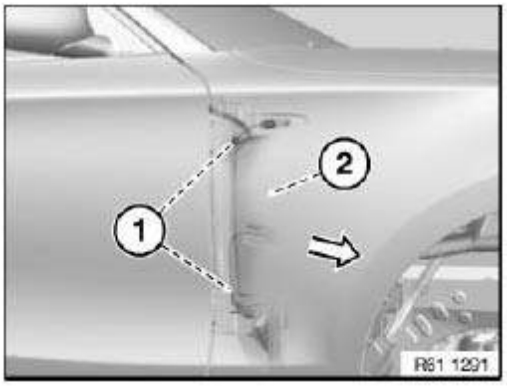


Fig. 434: Removing Washer Fluid Reservoir For Window Washer System From Bracket
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

- Replace strainers on washer pumps.
- Coat sealing rings of washer pumps with lubricant.
- Lay hose pipes of washer pumps without kinks and clip into holders on fluid reservoir.
- Fill fluid reservoir.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702194

cardiagn.com

GENERAL ELECTRICAL SYSTEM

2333697 ACCESSORIES

2333697 Accessories Minimum set: Measuring and testing equipment MP

NOTE: **Test cable labelling available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

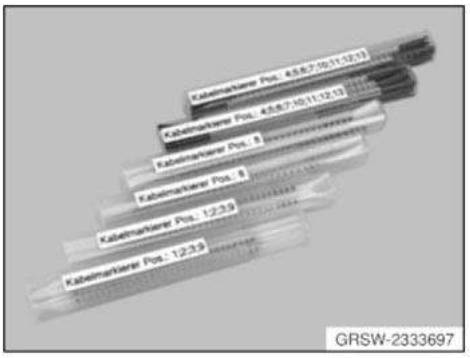


Fig. 1: Identifying Accessories (2333697)
Courtesy of BMW OF NORTH AMERICA, INC.

0493912 ADAPTER

0493912 612310 Adapter MP

NOTE: **(Adapter for closed-circuit current measurement) Modified measuring procedure, also suitable for voltage measurement**

Storage Location

I 108

SI number

02 05 99 (511)

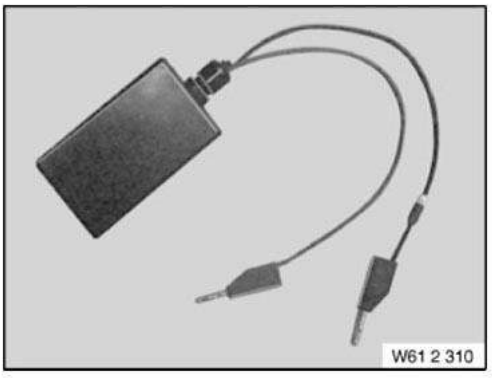


Fig. 2: Identifying Adapter (0493912)
Courtesy of BMW OF NORTH AMERICA, INC.

2299404 ADAPTER

2299404 Adapter Minimum set: Measuring and testing equipment MP

NOTE: **Flat-bladed fuse adapter kit available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

cardiagn.com

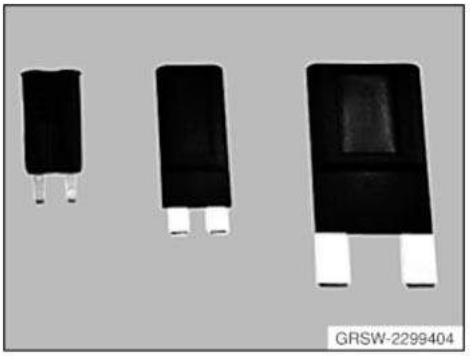


Fig. 3: Identifying Adapter (2299404)
Courtesy of BMW OF NORTH AMERICA, INC.

0494735 ADAPTER

0494735 610080 Adapter MP

NOTE: **(Test adapter for fire extinguisher) Test adapter with integrated LED for checking fire extinguishing system**

SI number

02 06 03 (002)

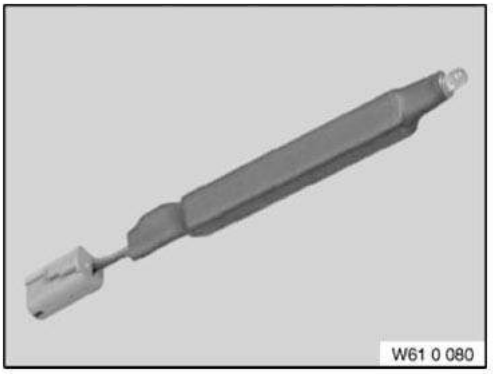


Fig. 4: Identifying Adapter (0494735)
Courtesy of BMW OF NORTH AMERICA, INC.

0492798 ADAPTER

0492798 612030 Adapter MP

NOTE: **For pushbutton test**

Storage Location

C103

SI number

02 03 89 (038)

cardiagn.com

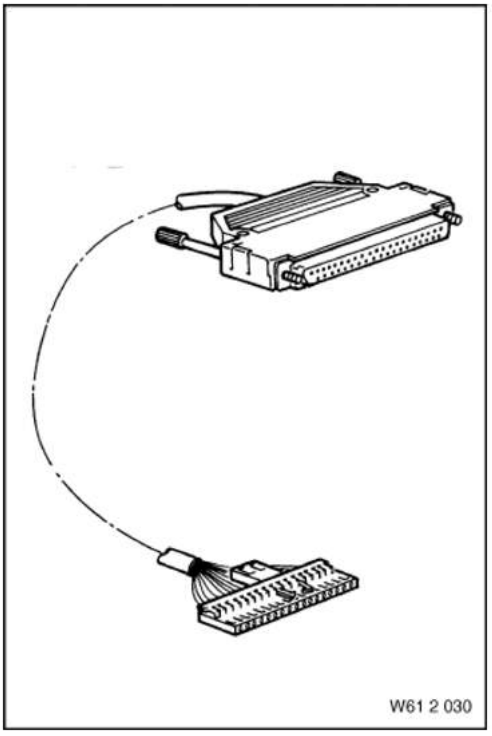


Fig. 5: Identifying Adapter (0492798)
Courtesy of BMW OF NORTH AMERICA, INC.

0494834 ADAPTER

0494834 610090 Adapter MP

NOTE: **(Test adapter (oxygen bottle E67)) Test adapter for testing high-pressure valve of oxygen bottle**

SI number

02 06 03 (002)

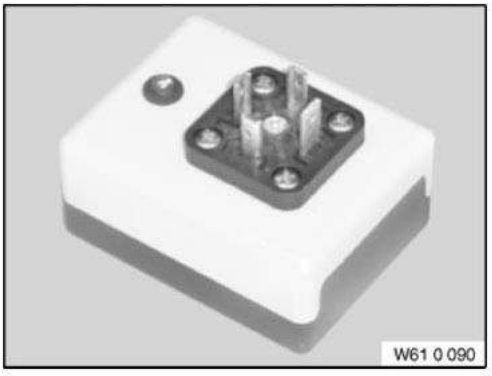


Fig. 6: Identifying Adapter (0494834)
Courtesy of BMW OF NORTH AMERICA, INC.

0492828 ADAPTER

0492828 614411 Adapter MP

NOTE: **(Test adapter, 88-pin) Liquidation of existing inventory and then available only via complete tool set 61 4 410 = 83 30 0 492 827 - s**

Storage Location

H 104

0492801 ADAPTER

0492801 612060 Adapter MP

NOTE: **For 15-pin/20-pin diagnostic socket**

Storage Location

I 104

SI number

02 03 89 (038)

cardiagn.com

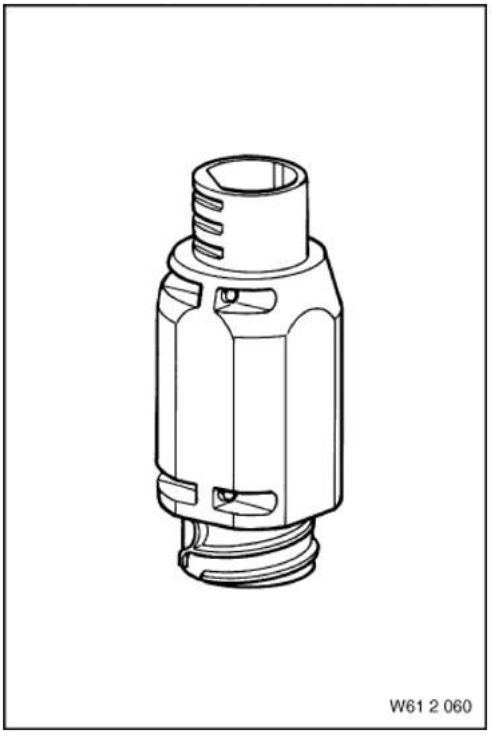


Fig. 7: Identifying Adapter (0492801)
Courtesy of BMW OF NORTH AMERICA, INC.

0492796 ADAPTER

0492796 612010 Adapter MP

NOTE: **(Ignition lead adapter)**

Storage Location

I 110

SI number

02 03 89 (038)

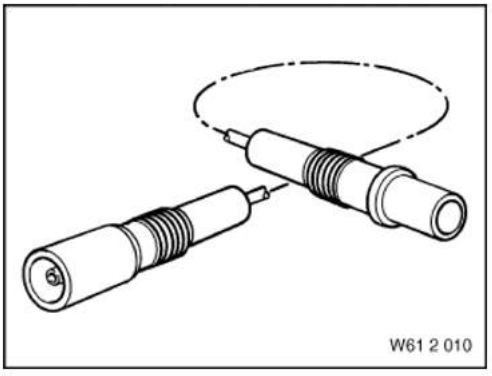


Fig. 8: Identifying Adapter (0492796)
Courtesy of BMW OF NORTH AMERICA, INC.

0492835 ADAPTER

0492835 614420 Adapter MP

NOTE: **(Test adapter set 83-pin) For checking and troubleshooting on Antilock Brake System 5 periphery - Included in set: 61 4 412 and**

Storage Location

H 101

SI number

02 02 94 (807)

Consisting of:

cardiagn.com

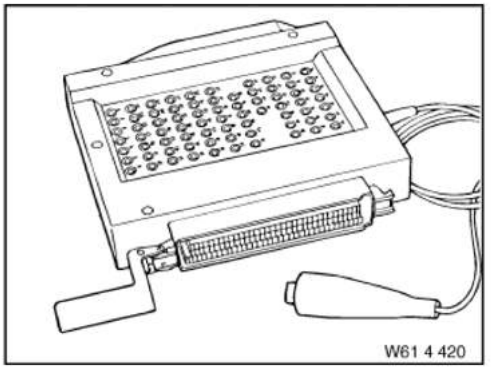


Fig. 9: Identifying Adapter (0492835)
Courtesy of BMW OF NORTH AMERICA, INC.

3 = 0492836 Adapter

NOTE: (Test adapter 83-pin) discontinued, available as part of set of special tools only

3 = 0492837 Operating instructions

0492836 ADAPTER

0492836 614421 Adapter MP

NOTE: (Test adapter 83-pin) discontinued, available as part of set of special tools only

Storage Location

H 101

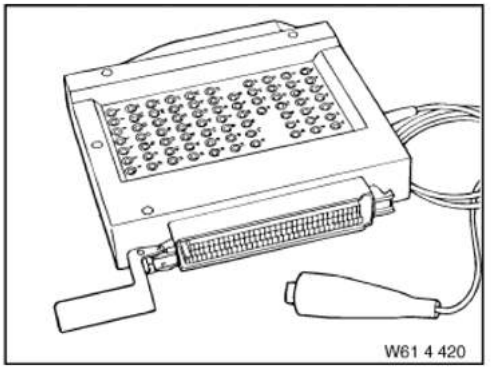


Fig. 10: Identifying Adapter (0492836)
Courtesy of BMW OF NORTH AMERICA, INC.

0492827 ADAPTER

0492827 614410 Adapter MP

NOTE: (88-pin test adapter set)

SI number

02 04 90 (189)

Consisting of:

1 = 0492828 Adapter

NOTE: (Test adapter, 88-pin) Liquidation of existing inventory and then available only via complete tool set 61 4 410 = 83 30 0 492 8

2 = 0492829 Measuring cable

NOTE: (Measuring cable for multimeter (2 mm), 1-pin, black)

2 = 0492830 Measuring cable

NOTE: (Measuring cable for multimeter (2 mm), 1-pin, red)

cardiagn.com

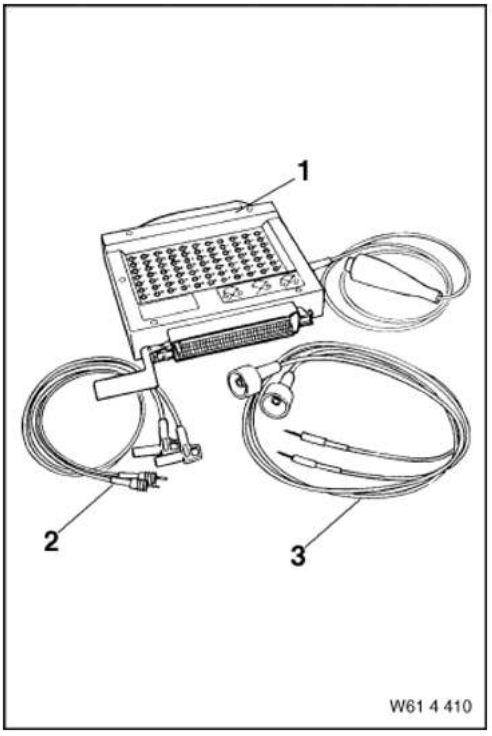


Fig. 11: Identifying Adapter (0492827)
Courtesy of BMW OF NORTH AMERICA, INC.

3 = 0492831 Measuring cable

NOTE: **(Measuring cable for BMW SERVICE TEST, 2 mm, black) Liquidation of existing inventory and then available only via comp 827 - status 29.11.2011**

3 = 0492832 Measuring cable

NOTE: **(Measuring cable for BMW SERVICE TEST, 2 mm, red) Liquidation of existing inventory and then available only via complet 827 - status 29.11.2011**

3 = 0492833 Operating instructions

NOTE: **Replaced by 61 4 429 (0492 837)**

3 = 0492834 Lever

NOTE: **(Locking lever for test adapter 88-pin and 83-pin) Liquidation of existing inventory and then available only via complete too status 29.11.2011**

0494967 ADAPTER

0494967 610100 Adapter MP

NOTE: **(Adapter for oxygen bottle high-pressure valve) For filling and draining (activation solenoid valve) oxygen bottle**

SI number

02 08 04 (139)

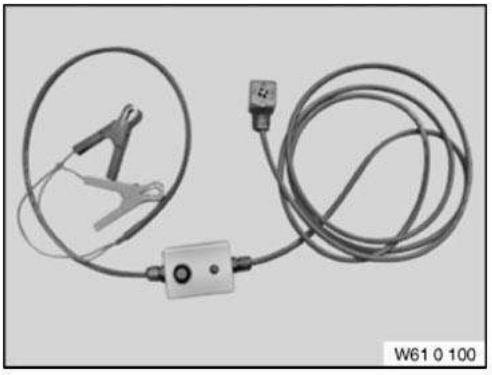


Fig. 12: Identifying Adapter (0494967)
Courtesy of BMW OF NORTH AMERICA, INC.

0493945 ADAPTER CABLE

0493945 612190 Adapter cable Minimum set: Measuring and testing equipment MP

cardiagn.com

NOTE: **(V adapter cable 20-pin) For a function check on the motors for backrest adjustment and for testing the z of the CIM control unit**

Storage Location

P209

SI number

02 06 01 (763)

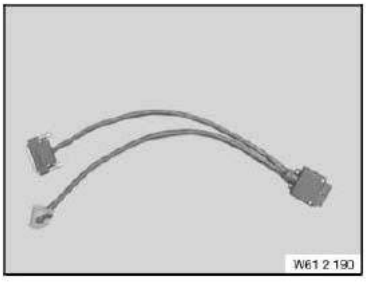


Fig. 13: Identifying Adapter Cable (0493945)
Courtesy of BMW OF NORTH AMERICA, INC.

0494882 ADAPTER CABLE

0494882 612420 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(Adapter cable set (engine) consisting of adapter cable and cover plate for test box) 88-pin test cable (61 2 421) Cover plate for a For engines: N46, N52 and S85**

Storage Location

F104

SI number

02 05 04 (120)

Consisting of:

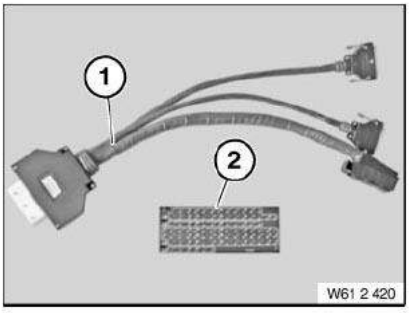


Fig. 14: Identifying Adapter Cable (0494882)
Courtesy of BMW OF NORTH AMERICA, INC.

1. 0494894 Adapter cable

   NOTE: **(Adapter cable 88-pin for engine control unit) Individual cable is discontinued; now only available via set 61 2 420 = 049488**

2. 0494895 Plate

   NOTE: **(cover plate for test box) For assignment of individual modules**

0492849 ADAPTER CABLE

0492849 614480 Adapter cable MP

NOTE: **(V adapter cable (Elo), 12- pin, zero-encoded) For EDC**

Storage Location

C111

SI number

02 12 91 (450)

Consisting of:

1. 0492850 Operating instructions

cardiagn.com

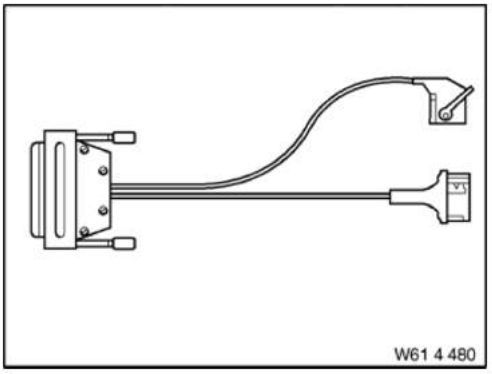


Fig. 15: Identifying Adapter Cable (0492849)
Courtesy of BMW OF NORTH AMERICA, INC.

0495194 ADAPTER CABLE

0495194 612470 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable, four-pin) 1st application: On engines with electric coolant pump (e.g. N52). 2nd application: On active steering on hot-film air-mass meter.**

Storage Location

B107

SI number

02 01 05 (186)

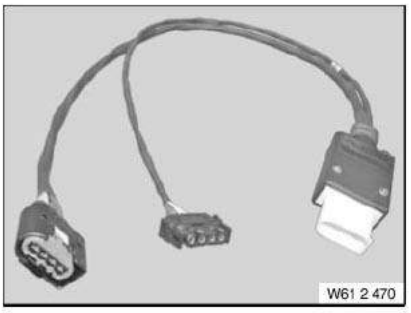


Fig. 16: Identifying Adapter Cable (0495194)
Courtesy of BMW OF NORTH AMERICA, INC.

0493401 ADAPTER CABLE

0493401 616050 Adapter cable MP

NOTE: **(V adapter cable, 6-pin, oval) Elo/ELA connector system for electrical test on separated plug connections (e.g. angular rate sens = strand sealing**

Storage Location

D117

SI number

02 04 98 (353)

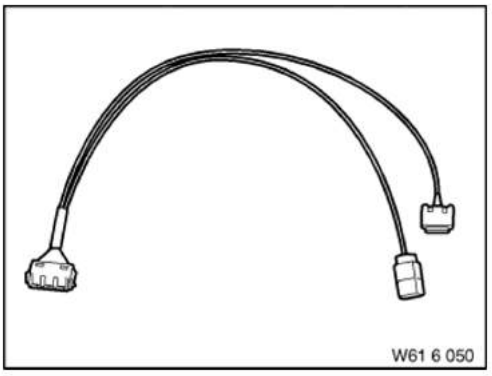


Fig. 17: Identifying Adapter Cable (0493401)
Courtesy of BMW OF NORTH AMERICA, INC.

0492843 ADAPTER CABLE

cardiagn.com

0492843 614460 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable set (Elo), 26-pin, zero-encoded) For integrated heating control 2 KEEK**

SI number

02 09 90 (258)

Consisting of:

1 = 0492844 Adapter cable

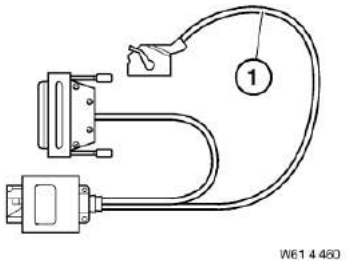


Fig. 18: Identifying Adapter Cable (0492843)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **(V adapter cable (Elo) 26-pin, zero-coded, cable 1) Remaining inventories will be sold off, followed by discontinuation and t tool 61 4 460 = 0492843 only.**

1 = 0492845 Adapter cable

NOTE: **(V adapter cable (Elo) 26-pin, zero-coded, cable 2) Remaining inventories will be sold off, followed by discontinuation and t tool 61 4 460 = 0492843 only.**

1 = 0492846 Adapter cable

NOTE: **(V adapter cable (Elo) 26-pin, zero-coded, cable 3) Remaining inventories will be sold off, followed by discontinuation and t tool 61 4 460 = 0492843 only.**

1 = 0492847 Adapter cable

NOTE: **(V adapter cable (Elo) 26-pin, zero-coded, cable 4) Remaining inventories will be sold off, followed by discontinuation and t tool 61 4 460 = 0492843 only.**

0496756 ADAPTER CABLE

0496756 614270 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **V adapter cable 24-pin for N55**

Storage Location

A107

SI number

02 09 09 (588)

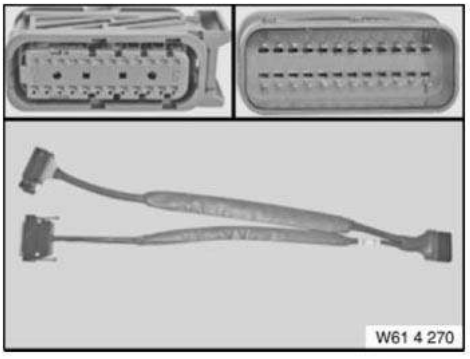


Fig. 19: Identifying Adapter Cable (0496756)
Courtesy of BMW OF NORTH AMERICA, INC.

0492877 ADAPTER CABLE

0492877 616042 Adapter cable MP

NOTE: **(V adapter cable (Elo/ELA), 3-pin, round, zero-encoded)**

Storage Location

D117 G111

cardiagn.com

0492795 ADAPTER CABLE

0492795 611493 Adapter cable MP

NOTE: **(V adapter cable (VEK), 12- pin green for integrated heating control unit)**

Storage Location

Y2

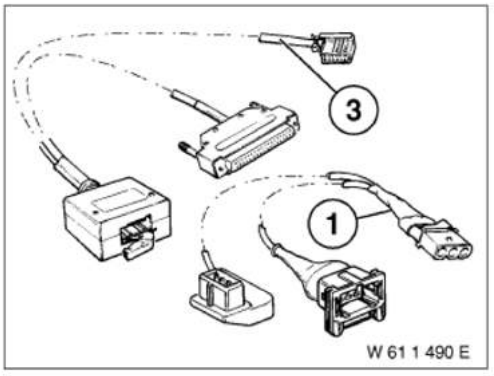


Fig. 20: Identifying Adapter Cable (0492795)
Courtesy of BMW OF NORTH AMERICA, INC.

0492787 ADAPTER CABLE

0492787 611483 Adapter cable MP

NOTE: **(V adapter cable (VEK), 26-pin, beige)**

Storage Location

Y2

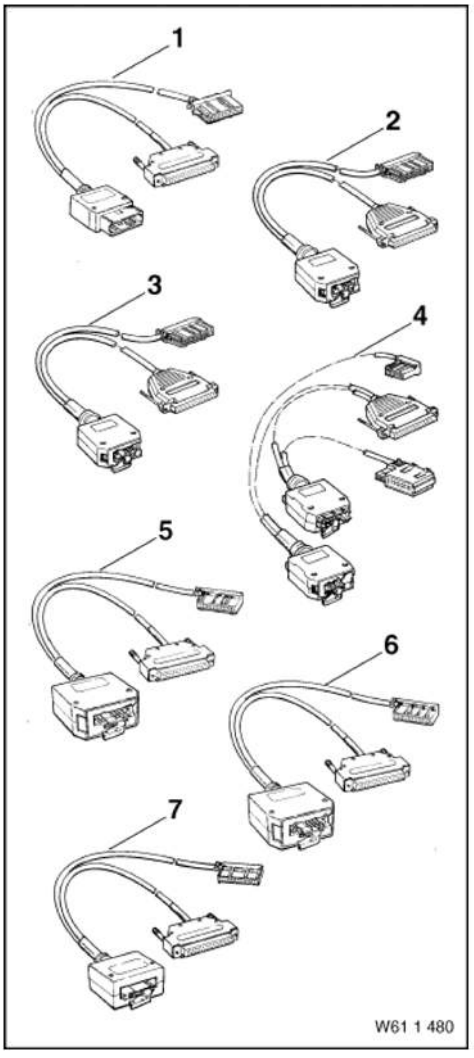


Fig. 21: Identifying Adapter Cable (0492787)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

0493946 ADAPTER CABLE

0493946 612180 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable, 8-pin) For troubleshooting the seat connector.**

Storage Location

P208

SI number

02 04 10 (643)

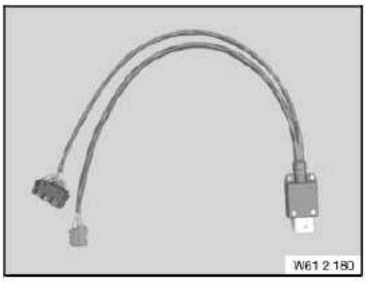


Fig. 22: Identifying Adapter Cable (0493946)
Courtesy of BMW OF NORTH AMERICA, INC.

0492777 ADAPTER CABLE

0492777 611471 Adapter cable MP

NOTE: **(V adapter cable (Modu), 6- pin, black) For integrated heating control/integrated automatic heating/air conditioning system stepp E32, E34 sale of existing inventory and then available as part of set of special tools 61 1 470 = 83 30 0 492 776 only - as of 30.11.**

Storage Location

C 102

0492800 ADAPTER CABLE

0492800 612050 Adapter cable MP

NOTE: **(V adapter cable (JPT), 2- pin, black) For Servotronic**

Storage Location

F 106

SI number

02 03 89 (038)

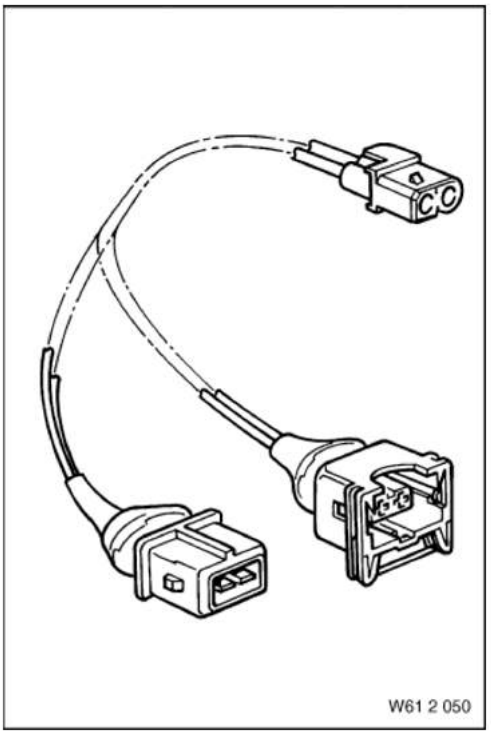


Fig. 23: Identifying Adapter Cable (0492800)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

0492846 ADAPTER CABLE

0492846 614463 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable (Elo) 26- pin, zero-coded, cable 3) Remaining inventories will be sold off, followed by discontinuation and then 61 4 460 = 0492843 only.**

Storage Location

C108

0495776 ADAPTER CABLE

0495776 610160 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable, ten-pin) For diagnosis on rear lid connector**

Storage Location

E106

SI number

02 10 06 (314)

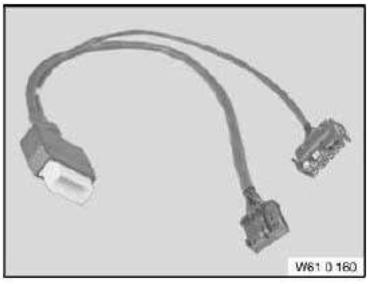


Fig. 24: Identifying Adapter Cable (0495776)
Courtesy of BMW OF NORTH AMERICA, INC.

0492771 ADAPTER CABLE

0492771 611464 Adapter cable MP

NOTE: **(V adapter cable (D 2.5), 2-pin, watertight, white)**

Storage Location

B111

cardiagn.com

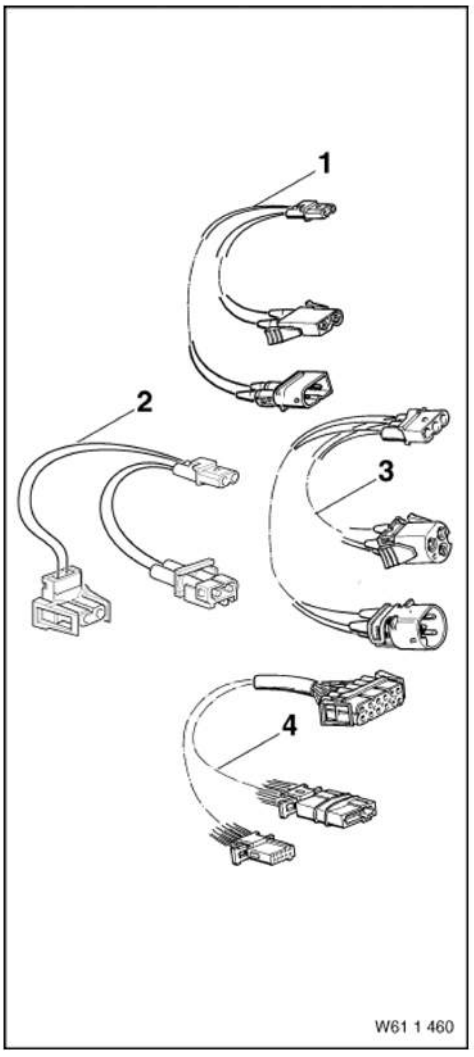


Fig. 25: Identifying Adapter Cable (0492771)
Courtesy of BMW OF NORTH AMERICA, INC.

0492783 ADAPTER CABLE

0492783 611477 Adapter cable MP

Replaced by: 83300492848

NOTE: **(V adapter cable (Modu), 18-pin) For heater control/model series: E34/replaced by 61 4 470. (0 492 848)**

cardiagn.com

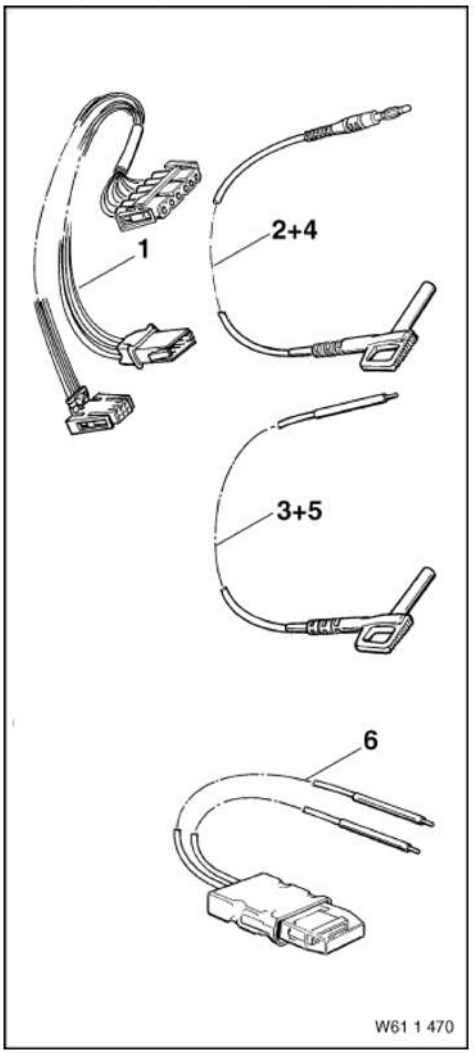


Fig. 26: Identifying Adapter Cable (0492783)
Courtesy of BMW OF NORTH AMERICA, INC.

0496755 ADAPTER CABLE

0496755 614260 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **V adapter cable N55 (11- pin)**

Storage Location

A106

SI number

02 09 09 (588)

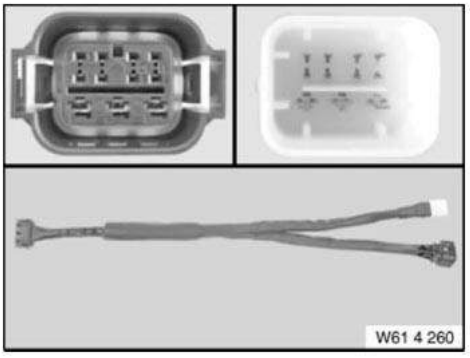


Fig. 27: Identifying Adapter Cable (0496755)
Courtesy of BMW OF NORTH AMERICA, INC.

0495971 ADAPTER CABLE

0495971 613470 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable, two-pin) Zero-gear sensor diagnosis work**

Storage Location

cardiagn.com

Y3

SI number

02 03 07 (340)

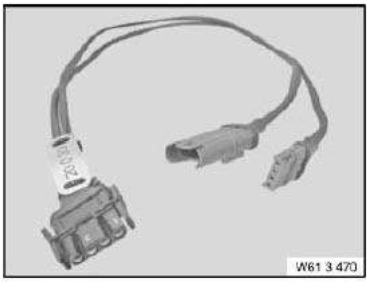


Fig. 28: Identifying Adapter Cable (0495971)
Courtesy of BMW OF NORTH AMERICA, INC.

0493184 ADAPTER CABLE

0493184 613150 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable, 54-pin) For measuring electrical variables at 54-pin plug connection on light switch cluster**

Storage Location

M 207

SI number

02 02 98 (308)

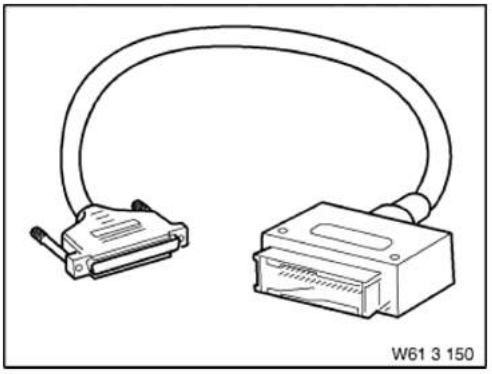


Fig. 29: Identifying Adapter Cable (0493184)
Courtesy of BMW OF NORTH AMERICA, INC.

0495774 ADAPTER CABLE

0495774 610140 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable, 5-pin) For diagnosis on HFM (hot film air mass meter)**

Storage Location

E104

SI number

02 10 06 (314)

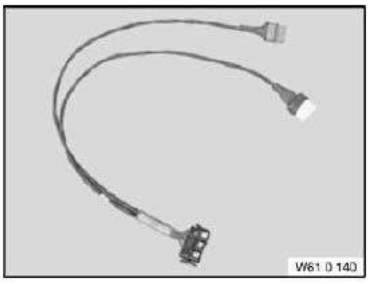


Fig. 30: Identifying Adapter Cable (0495774)
Courtesy of BMW OF NORTH AMERICA, INC.

0495495 ADAPTER CABLE

0495495 612240 Adapter cable Minimum set: Measuring and testing equipment MP

cardiagn.com

NOTE: **(V adapter cable for CAS control unit).**

Storage Location

C111 C113

SI number

02 06 05 (232)

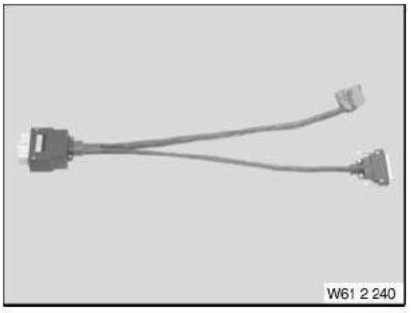


Fig. 31: Identifying Adapter Cable (0495495)
Courtesy of BMW OF NORTH AMERICA, INC.

0492861 ADAPTER CABLE

0492861 616021 Adapter cable MP

NOTE: **(V adapter cable (D 2.5/ELA), 2-pin, oval zero-encoded). From 07/2013 again available separately.**

Storage Location

D101

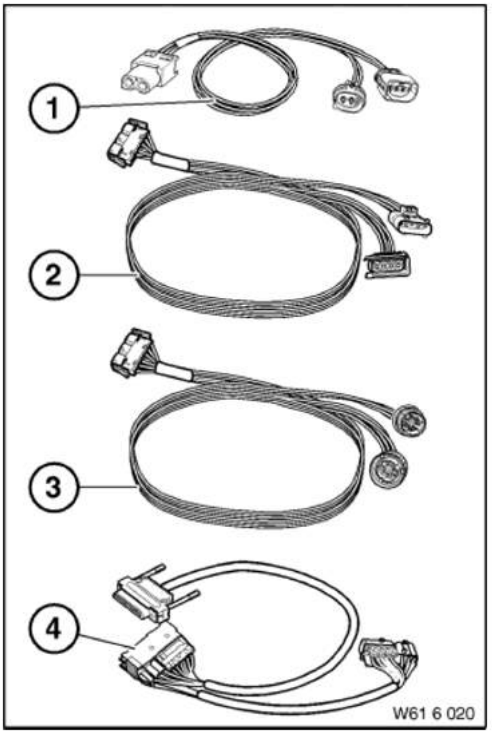


Fig. 32: Identifying Adapter Cable (0492861)
Courtesy of BMW OF NORTH AMERICA, INC.

0493182 ADAPTER CABLE

0493182 611260 Adapter cable MP

NOTE: **(V adapter cable, 30-pin) For measuring electrical variables at 30-pin plug connection on door wiring harness**

Storage Location

M 205

SI number

02 02 98 (308)

cardiagn.com

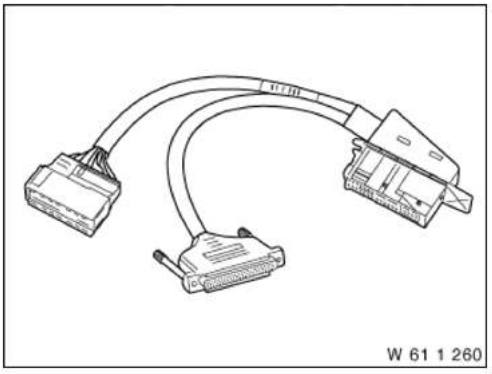


Fig. 33: Identifying Adapter Cable (0493182)
Courtesy of BMW OF NORTH AMERICA, INC.

0492866 ADAPTER CABLE

0492866 616026 Adapter cable MP

NOTE: **(V adapter cable (D 2.5/ELA), 21-pin, hybrid (Elo), black). From 07/2013 also no longer available as part of a set - discontinued.**

Storage Location

D106

0492873 ADAPTER CABLE

0492873 616035 Adapter cable MP

NOTE: **(V adapter cable (Elo), 10- pin, zero-encoded)**

Storage Location

D112 G105

0492772 ADAPTER CABLE

0492772 611465 Adapter cable MP

NOTE: **(V adapter cable (D 2.5), 2-pin) watertight, white, angled**

Storage Location

B112

cardiagn.com

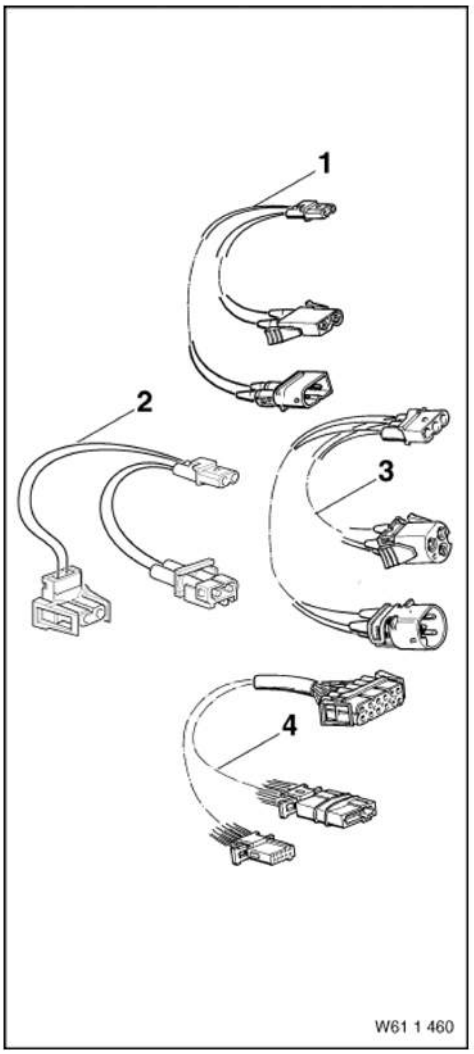


Fig. 34: Identifying Adapter Cable (0492772)
Courtesy of BMW OF NORTH AMERICA, INC.

0496476 ADAPTER CABLE

0496476 614050 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable) 40-pin for diagnosis of 3rd module DME/DDE**

Storage Location

E 113

SI number

02 07 08 (487)

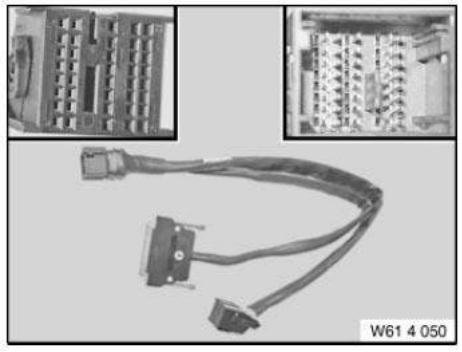


Fig. 35: Identifying Adapter Cable (0496476)
Courtesy of BMW OF NORTH AMERICA, INC.

0494881 ADAPTER CABLE

0494881 612390 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable, 3-pin) For diagnosis work, e.g. PDC, VANOS etc.**

cardiagn.com

Storage Location

B105

SI number

02 05 04 (120)

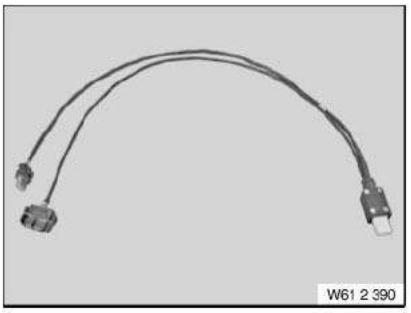


Fig. 36: Identifying Adapter Cable (0494881)
Courtesy of BMW OF NORTH AMERICA, INC.

0492789 ADAPTER CABLE

0492789 611485 Adapter cable MP

NOTE: **(V adapter cable (VEK), 26-pin, yellow)**

Storage Location

Y2

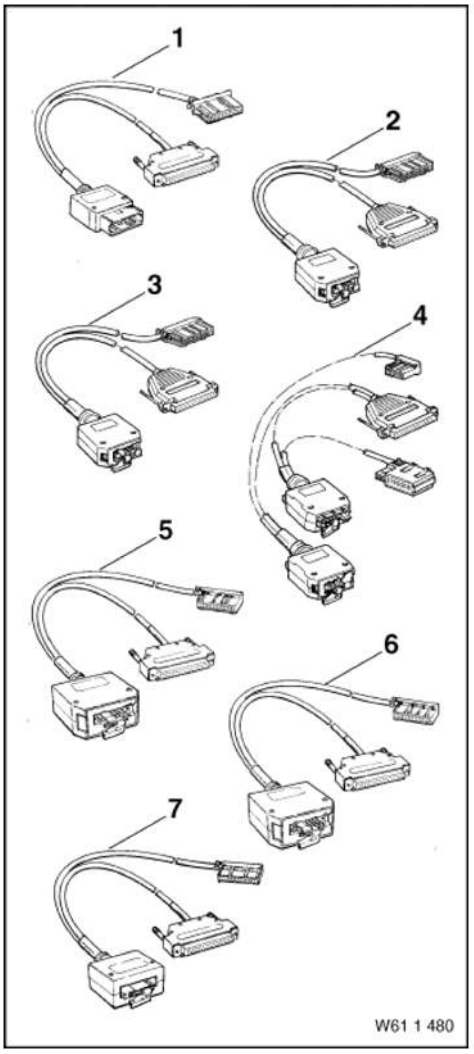


Fig. 37: Identifying Adapter Cable (0492789)
Courtesy of BMW OF NORTH AMERICA, INC.

0494454 ADAPTER CABLE

0494454 612080 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **Control of E85 and R52 convertible top hydraulics with convertible top removed.**

cardiagn.com

Storage Location

R211

SI number

01 10 02 (907)

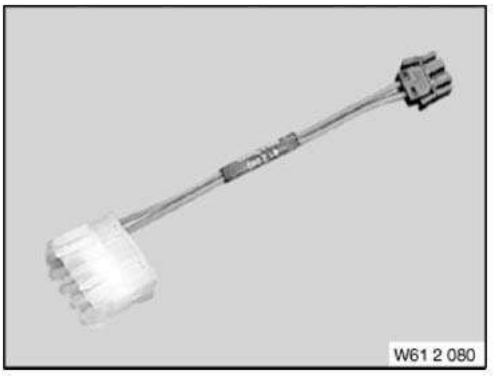


Fig. 38: Identifying Adapter Cable (0494454)
Courtesy of BMW OF NORTH AMERICA, INC.

0494602 ADAPTER CABLE

0494602 613060 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(Adapter cable, power window activation) For activating the power window regulator when the battery is removed**

Storage Location

R210

SI number

02 03 03 (989)

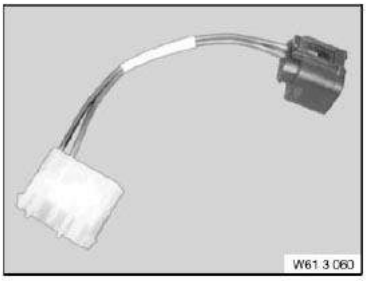


Fig. 39: Identifying Adapter Cable (0494602)
Courtesy of BMW OF NORTH AMERICA, INC.

0492865 ADAPTER CABLE

0492865 616025 Adapter cable MP

NOTE: **(V adapter cable (D 2.5/ELA), 24-pin, hybrid (Elo), black). From 07/2013 also no longer available as part of a set - discontinued.**

Storage Location

D105

0492870 ADAPTER CABLE

0492870 616032 Adapter cable MP

NOTE: **(V adapter cable (Elo), 4- pin, zero-encoded)**

Storage Location

D 108

cardiagn.com



Fig. 40: Identifying Adapter Cable (0492870)
Courtesy of BMW OF NORTH AMERICA, INC.

0409689 ADAPTER CABLE

0409689 Adapter cable MP

NOTE: **(V adapter, 6-pin) For diagnosis and troubleshooting at E-gas actuator, exhaust-gas recirculation valve DISA, HFM and SWIRL fl replaced from February 2011 by cable 13 8 030 (0493837).**

Storage Location

N206

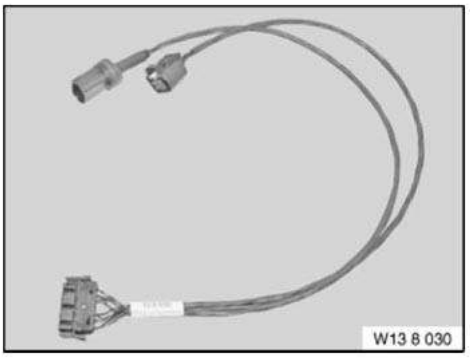


Fig. 41: Identifying Adapter Cable (0409689)
Courtesy of BMW OF NORTH AMERICA, INC.

0492868 ADAPTER CABLE

0492868 616030 Adapter cable MP

NOTE: **(V adapter cable set (5 x)) Elo connector system for electrical test on separated plug connections (program selection switch on a = electronic contacts**

SI number

02 02 94 (807)

Consisting of:

1 = 0492869 Adapter cable

NOTE: **(V adapter cable (Elo), 3- pin, zero-encoded)**

2 = 0492870 Adapter cable

NOTE: **(V adapter cable (Elo), 4- pin, zero-encoded)**

cardiagn.com

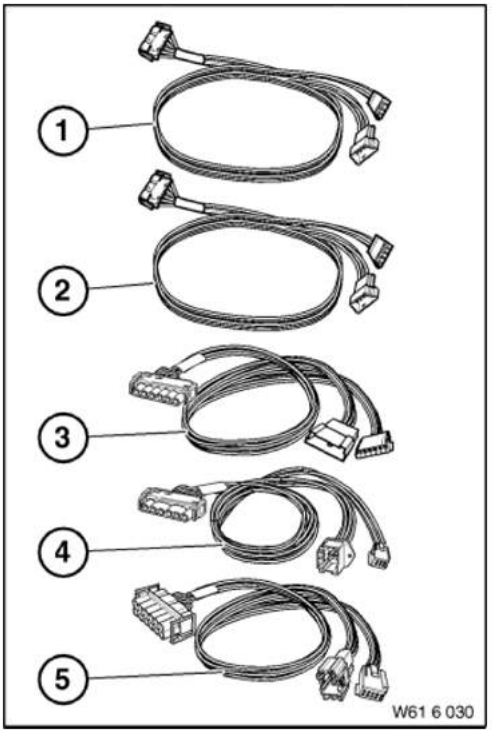


Fig. 42: Identifying Adapter Cable (0492868)
Courtesy of BMW OF NORTH AMERICA, INC.

3 = 0492871 Adapter cable

NOTE: **(V adapter cable (Elo), 6- pin, single row zero-encoded)**

4 = 0492872 Adapter cable

NOTE: **(V adapter cable (Elo), 6- pin, double row zero-encoded)**

5 = 0492873 Adapter cable

NOTE: **(V adapter cable (Elo), 10-pin, zero-encoded)**

9 = 0492874 Operating instructions

0496601 ADAPTER CABLE

0496601 614170 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable) 22-pin "Parking brake"**

Storage Location

F 111

SI number

02 05 09 (549)

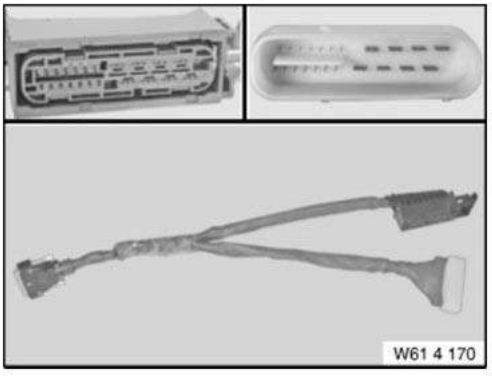


Fig. 43: Identifying Adapter Cable (0496601)
Courtesy of BMW OF NORTH AMERICA, INC.

0492862 ADAPTER CABLE

0492862 616022 Adapter cable MP

NOTE: **(V adapter cable (D 2.5/ELA), 4-pin, single row zero-encoded). From 07/2013 again available separately.**

cardiagn.com

Storage Location

D102

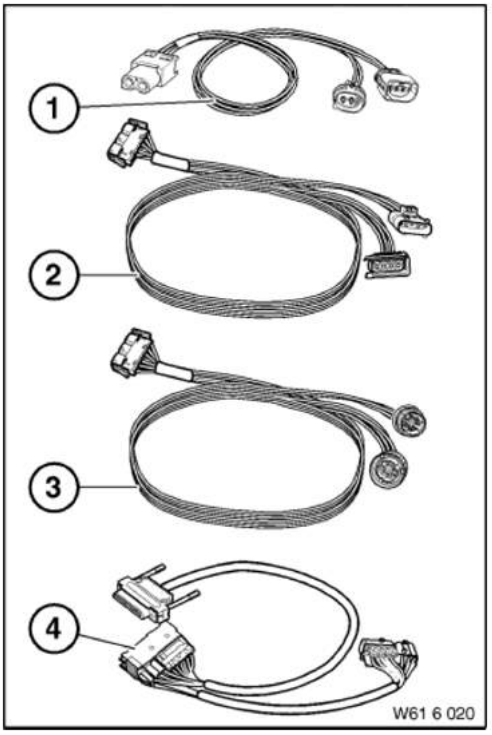


Fig. 44: Identifying Adapter Cable (0492862)
Courtesy of BMW OF NORTH AMERICA, INC.

0494696 ADAPTER CABLE

0494696 610052 Adapter cable MP

NOTE: **(Adapter cable, diagnostic socket to OBD 2)**

2214012 ADAPTER CABLE

2214012 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **22-pin V adapter cable for diagnostic work on the EMF control unit**

Storage Location

L203

SI number

02 05 11 (710)

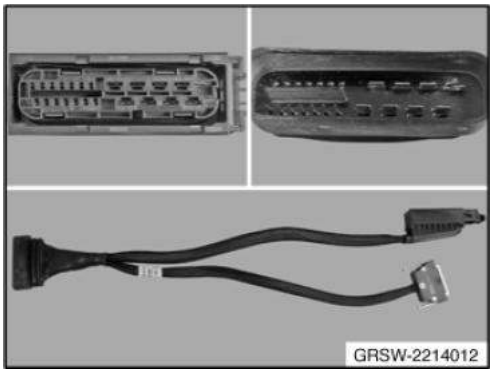


Fig. 45: Identifying Adapter Cable (2214012)
Courtesy of BMW OF NORTH AMERICA, INC.

0496519 ADAPTER CABLE

0496519 614150 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(I-adapter cable) 28-pin, for activating removed front seat.**

Storage Location

I 111

SI number

cardiagn.com

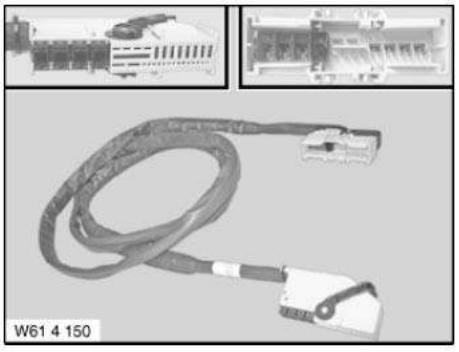


Fig. 46: Identifying Adapter Cable (0496519)
Courtesy of BMW OF NORTH AMERICA, INC.

0492869 ADAPTER CABLE

0492869 616031 Adapter cable MP

NOTE: **(V adapter cable (Elo), 3- pin, zero-encoded)**

Storage Location

D108 G101

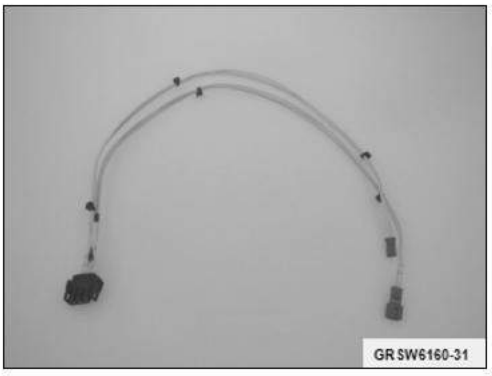


Fig. 47: Identifying Adapter Cable (0492869)
Courtesy of BMW OF NORTH AMERICA, INC.

0492793 ADAPTER CABLE

0492793 611491 Adapter cable MP

NOTE: **(V adapter cable (JPT/engine wiring harness), 3- pin, zero-encoded)**

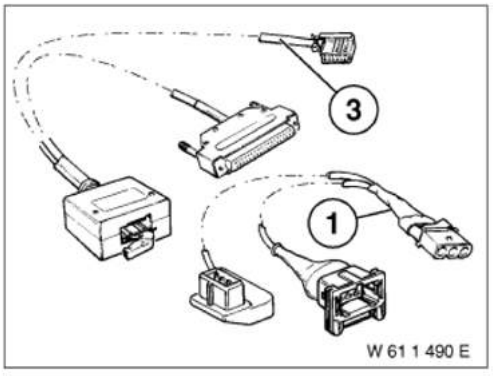


Fig. 48: Identifying Adapter Cable (0492793)
Courtesy of BMW OF NORTH AMERICA, INC.

0492860 ADAPTER CABLE

0492860 616020 Adapter cable MP

NOTE: **(V adapter cable set (6 pieces)) Connector system D2, 5/ELA for electrical check on disconnected plug connections (auxiliary fa contact diameter 2.5 mm ELA = strand sealing. Set is no longer supplied complete from 07/2013. Only 616021, 616022 and 61602**

SI number

02 02 94 (807)

cardiagn.com

Consisting of:

1 = 0492861 Adapter cable

NOTE: **(V adapter cable (D 2.5/ELA), 2-pin, oval zero-encoded). From 07/2013 again available separately.**

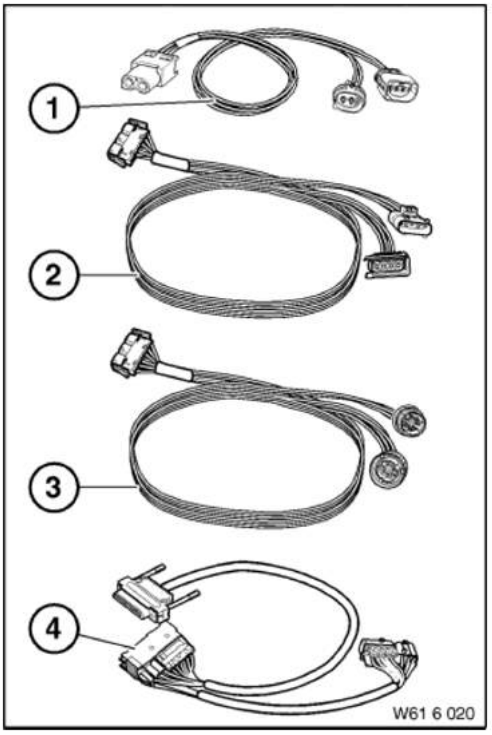


Fig. 49: Identifying Adapter Cable (0492860)
Courtesy of BMW OF NORTH AMERICA, INC.

2 = 0492862 Adapter cable

NOTE: **(V adapter cable (D 2.5/ELA), 4-pin, single row zero-encoded). From 07/2013 again available separately.**

3 = 0492863 Adapter cable

NOTE: **(V adapter cable (D 2.5/ELA), 4-pin, single row zero-encoded). From 07/2013 again available separately.**

4 = 0492864 Adapter cable

NOTE: **(V adapter cable (D 2.5/ELA), 7-pin, round, black). From 07/2013 also no longer available as part of a set - discontinued.**

5 = 0492865 Adapter cable

NOTE: **(V adapter cable (D 2.5/ELA), 24-pin, hybrid (Elo), black). From 07/2013 also no longer available as part of a set - discontinu**

6 = 0492866 Adapter cable

NOTE: **(V adapter cable (D 2.5/ELA), 21-pin, hybrid (Elo), black). From 07/2013 also no longer available as part of a set - discontinu**

9 = 0492867 Operating instructions

0492875 ADAPTER CABLE

0492875 616040 Adapter cable MP

NOTE: **(V adapter cable set (5 pieces)) Elo/ELA connector system for electrical test on separated plug connections (e.g. on Electronic D Elo=electronic contact/ELA=strand sealing**

SI number

02 02 94 (807)

Consisting of:

1 = 0492876 Adapter cable

NOTE: **(V adapter cable (Elo/strand sealing), 3-pin, round (EDC)), discontinued, available as part of set of special tools only**

cardiagn.com

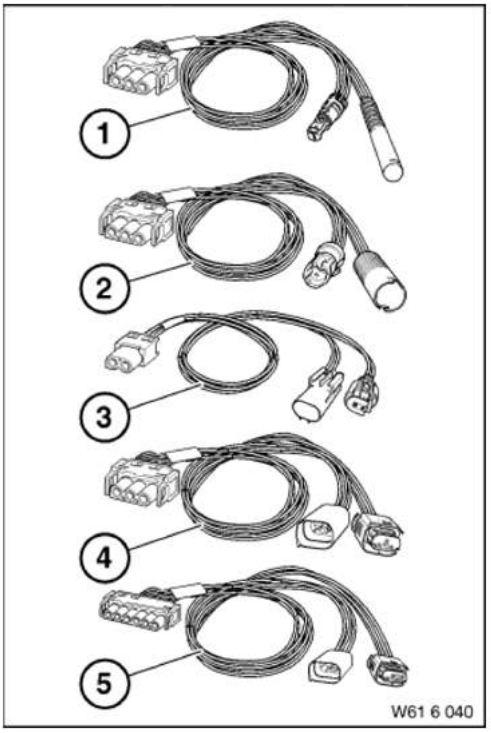


Fig. 50: Identifying Adapter Cable (0492875)
Courtesy of BMW OF NORTH AMERICA, INC.

2 = 0492877 Adapter cable

NOTE: **(V adapter cable (Elo/ELA), 3-pin, round, zero-encoded)**

3 = 0492878 Adapter cable

NOTE: **(V adapter cable (Elo/ELA), 2-pin, oval, zero-encoded)**

4 = 0492879 Adapter cable

NOTE: **(V adapter cable (Elo/ELA), 3-pin, oval, zero-encoded)**

5 = 0492880 Adapter cable

NOTE: **(V adapter cable (Elo/ELA), 4-pin, oval, zero-encoded)**

9 = 0492881 Operating instructions

0492879 ADAPTER CABLE

0492879 616044 Adapter cable MP

NOTE: **(V adapter cable (Elo/ELA), 3-pin, oval, zero-encoded)**

Storage Location

D119 G113

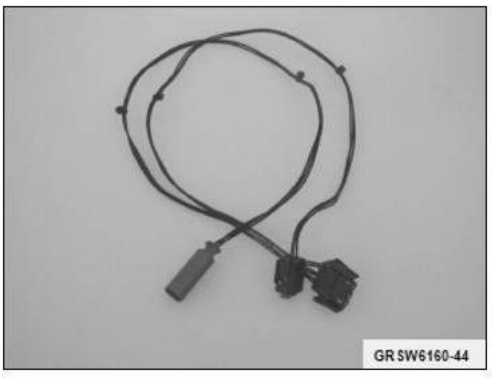


Fig. 51: Identifying Adapter Cable (0492879)
Courtesy of BMW OF NORTH AMERICA, INC.

0492863 ADAPTER CABLE

0492863 616023 Adapter cable MP

cardiagn.com

NOTE: **(V adapter cable (D 2.5/ELA), 4-pin, single row zero-encoded). From 07/2013 again available separately.**

Storage Location

D103

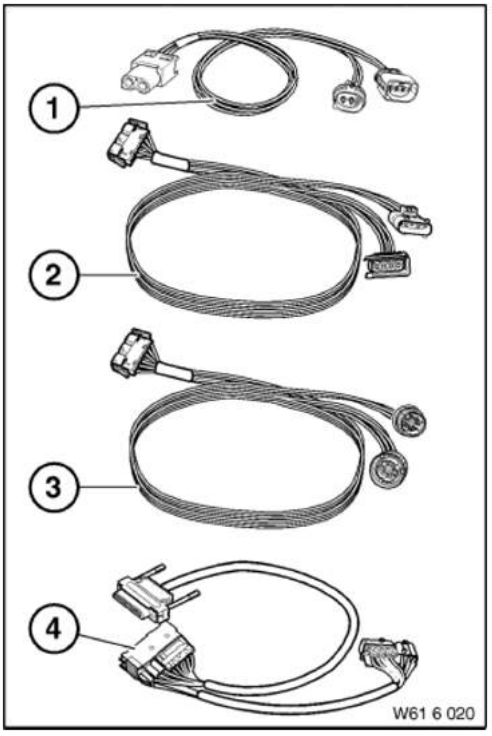


Fig. 52: Identifying Adapter Cable (0492863)
Courtesy of BMW OF NORTH AMERICA, INC.

0492844 ADAPTER CABLE

0492844 614461 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable (Elo) 26- pin, zero-coded, cable 1) Remaining inventories will be sold off, followed by discontinuation and then a 61 4 460 = 0492843 only.**

Storage Location

D103

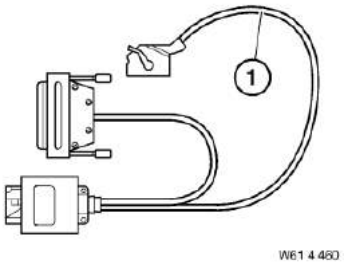


Fig. 53: Identifying Adapter Cable (0492844)
Courtesy of BMW OF NORTH AMERICA, INC.

0496477 ADAPTER CABLE

0496477 614060 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable) 54-pin for diagnosis of 4th module DME/5th module DDE**

Storage Location

E114

SI number

02 07 08 (487)

cardiagn.com

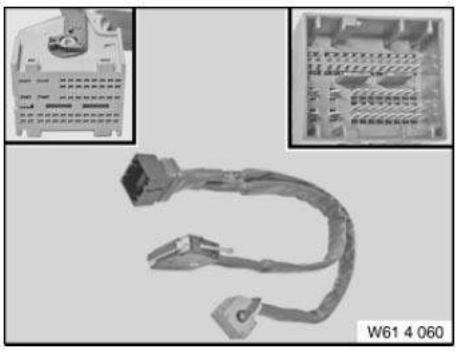


Fig. 54: Identifying Adapter Cable (0496477)
Courtesy of BMW OF NORTH AMERICA, INC.

0492774 ADAPTER CABLE

0492774 611467 Adapter cable MP

NOTE: **(V adapter cable (D 2.5), 3-pin, watertight, black)**

Storage Location

B 114

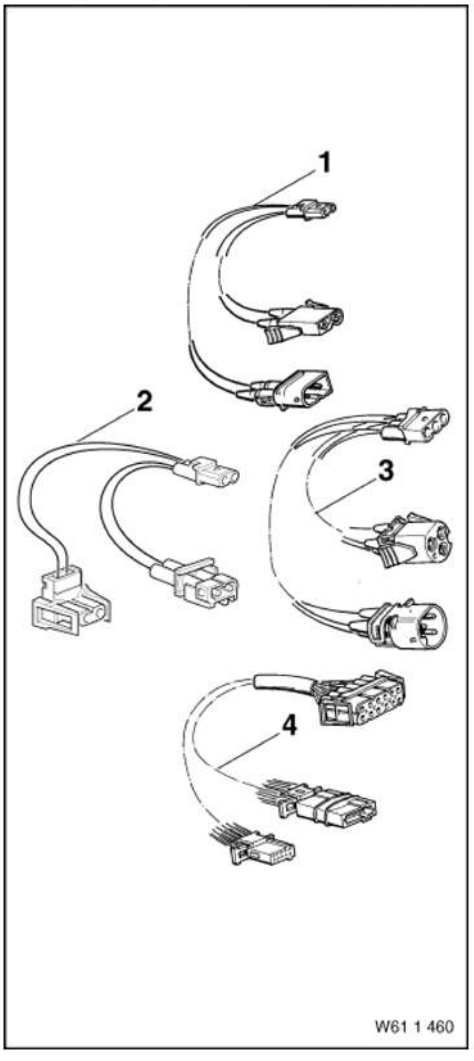


Fig. 55: Identifying Adapter Cable (0492774)
Courtesy of BMW OF NORTH AMERICA, INC.

0492799 ADAPTER CABLE

0492799 612040 Adapter cable MP

NOTE: **(V adapter cable) For infrared central locking**

Storage Location

Y2

cardiagn.com

SI number

02 03 89 (038)

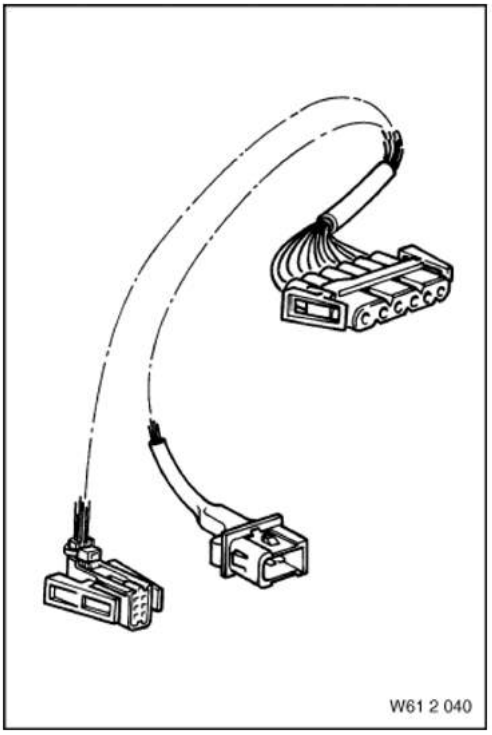


Fig. 56: Identifying Adapter Cable (0492799)
Courtesy of BMW OF NORTH AMERICA, INC.

0496604 ADAPTER CABLE

0496604 614200 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **11-pin diagnosis on N55 engine (F07)**

Storage Location

A104

SI number

02 09 09 (588)

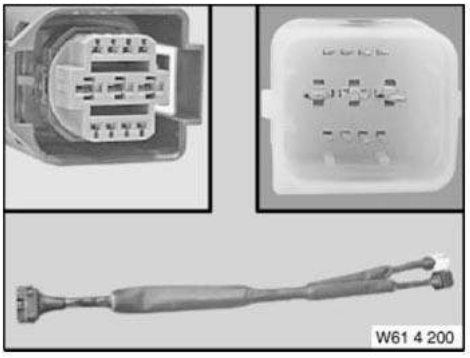


Fig. 57: Identifying Adapter Cable (0496604)
Courtesy of BMW OF NORTH AMERICA, INC.

0494880 ADAPTER CABLE

0494880 612380 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(Adapter cable (headlight)) 12-pin**

Storage Location

B101

SI number

02 05 04 (120)

cardiagn.com

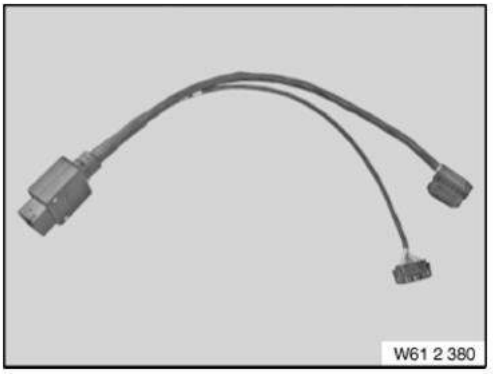


Fig. 58: Identifying Adapter Cable (0494880)
Courtesy of BMW OF NORTH AMERICA, INC.

0492784 ADAPTER CABLE

0492784 611480 Adapter cable MP

NOTE: **(V adapter cable set (7 cables)) For vehicle electrical system**

Storage Location

Y2

Consisting of:

1. 0492785 Adapter cable

   NOTE: **(V adapter cable (VEK), 26-pin, green)**

2. 0492786 Adapter cable

   NOTE: **(V adapter cable (VEK), 26-pin, white)**

3. 0492787 Adapter cable

   NOTE: **(V adapter cable (VEK), 26-pin, beige)**

4. 0492788 Adapter cable

   NOTE: **(V adapter cable (VEK), 24-pin, brown V adapter cable (VEK), 12-pin, grey)**

5. 0492789 Adapter cable

   NOTE: **(V adapter cable (VEK), 26-pin, yellow)**

6. 0492790 Adapter cable

   NOTE: **(V adapter cable (VEK), 26-pin, blue)**

7. 0492791 Adapter cable

   NOTE: **(V adapter cable (VEK/gear indicator), 14-pin, green)**

cardiagn.com

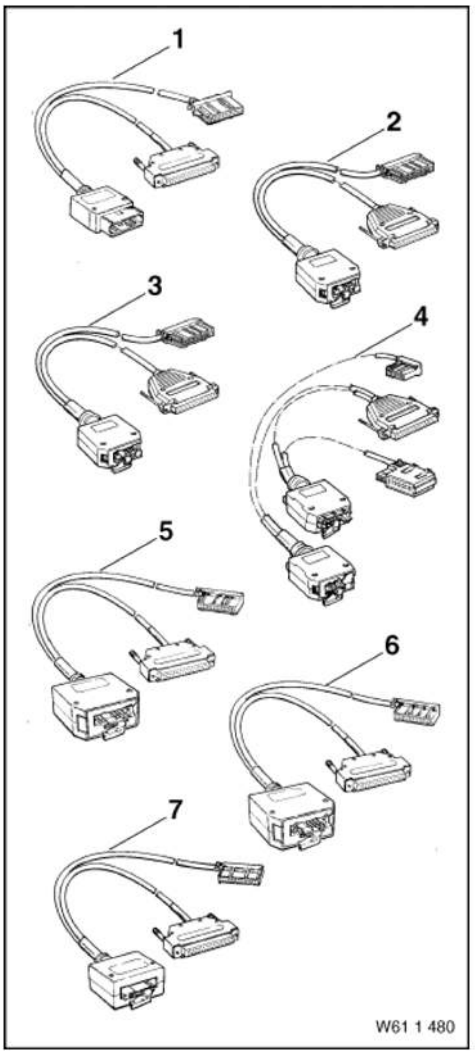


Fig. 59: Identifying Adapter Cable (0492784)
Courtesy of BMW OF NORTH AMERICA, INC.

0492790 ADAPTER CABLE

0492790 611486 Adapter cable MP

NOTE: **(V adapter cable (VEK), 26-pin, blue)**

Storage Location

Y2

cardiagn.com

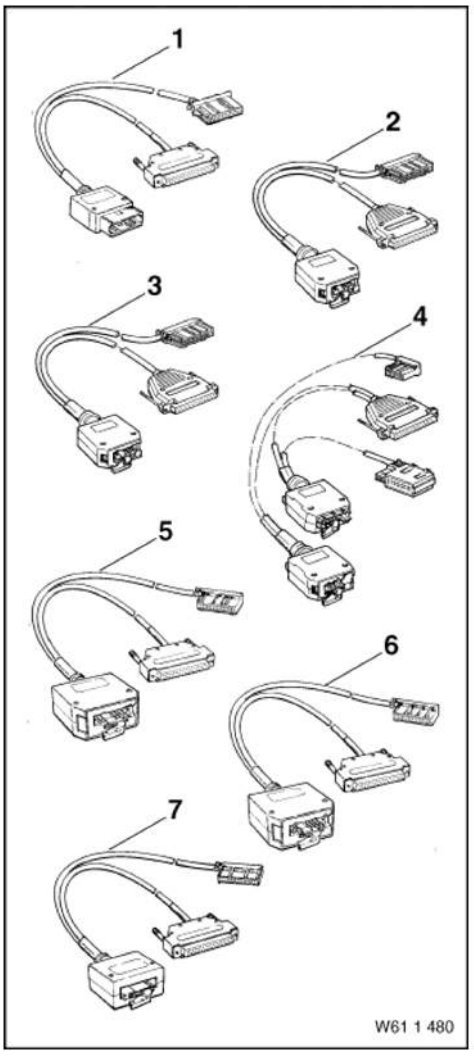


Fig. 60: Identifying Adapter Cable (0492790)
Courtesy of BMW OF NORTH AMERICA, INC.

0492769 ADAPTER CABLE

0492769 611462 Adapter cable MP

NOTE: (V adapter cable (D 2.5), 2-pin, watertight, blue)

Storage Location

B109

cardiagn.com

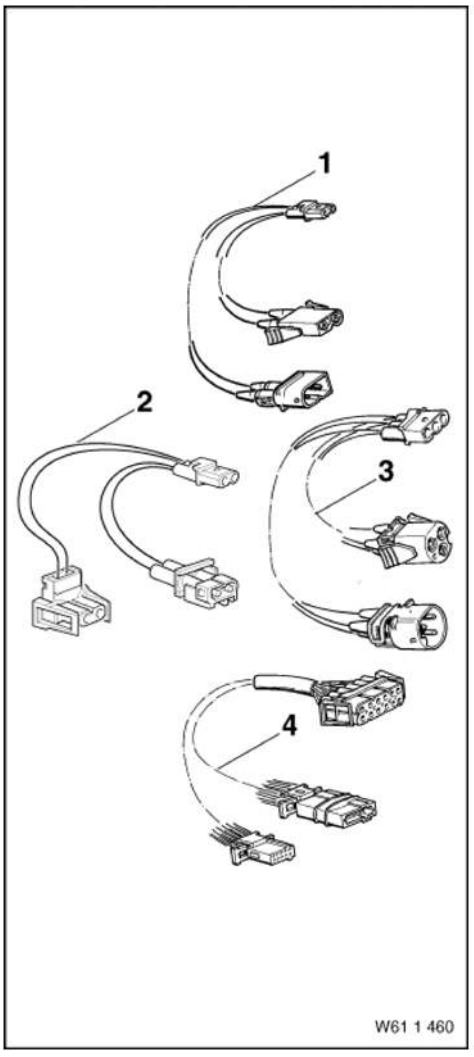


Fig. 61: Identifying Adapter Cable (0492769)
Courtesy of BMW OF NORTH AMERICA, INC.

0492768 ADAPTER CABLE

0492768 611461 Adapter cable MP

NOTE: **(V adapter cable (D 2.5), 2-pin, watertight, yellow)**

Storage Location

B108

cardiagn.com

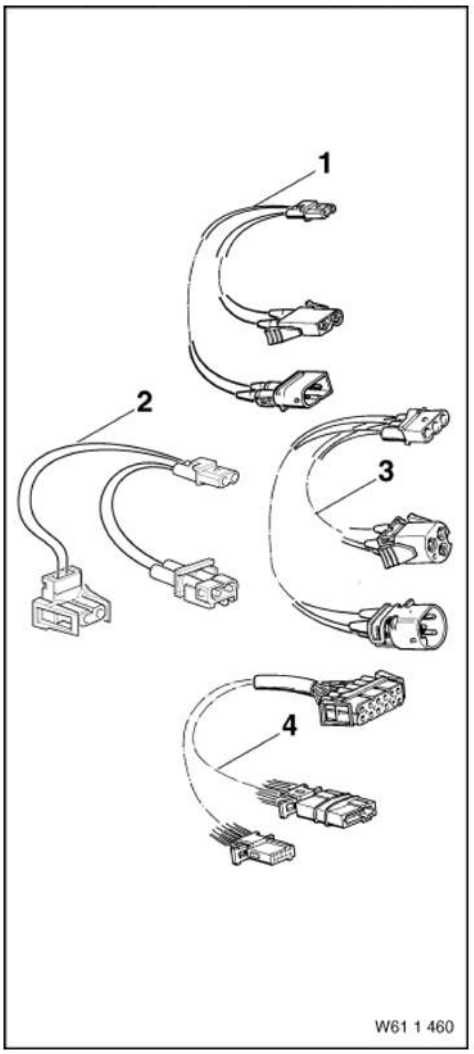


Fig. 62: Identifying Adapter Cable (0492768)
Courtesy of BMW OF NORTH AMERICA, INC.

2350531 ADAPTER CABLE

2350531 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **46-pin adapter cable for DSC control unit Applies to: BMW i Aftersales Basic**

SI number

02 07 13 (909)

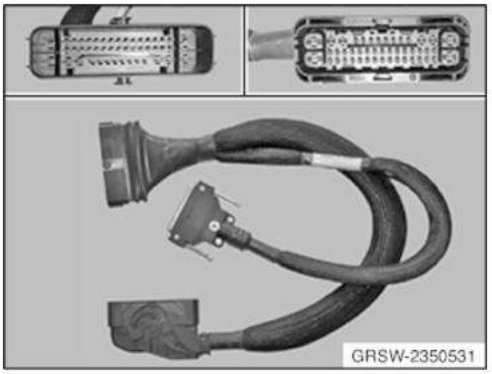


Fig. 63: Identifying Adapter Cable (2350531)
Courtesy of BMW OF NORTH AMERICA, INC.

0496471 ADAPTER CABLE

0496471 614000 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable) 14-pin for diagnosis of roof function center**

Storage Location

E108

cardiagn.com

SI number

02 07 08 (487)

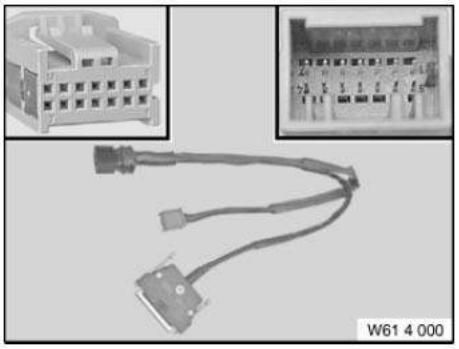


Fig. 64: Identifying Adapter Cable (0496471)
Courtesy of BMW OF NORTH AMERICA, INC.

0492871 ADAPTER CABLE

0492871 616033 Adapter cable MP

NOTE: **(V adapter cable (Elo), 6- pin, single row zero-encoded)**

Storage Location

D 109

0496731 ADAPTER CABLE

0496731 614180 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **V adapter cable, 48-pin N55TU**

Storage Location

A107

SI number

02 09 09 (588)

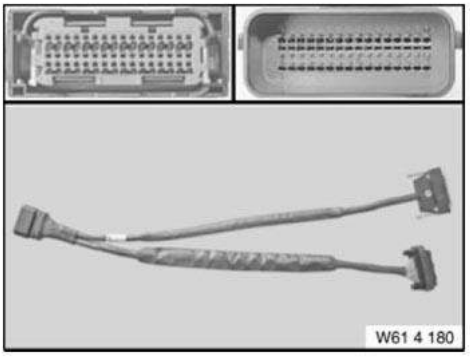


Fig. 65: Identifying Adapter Cable (0496731)
Courtesy of BMW OF NORTH AMERICA, INC.

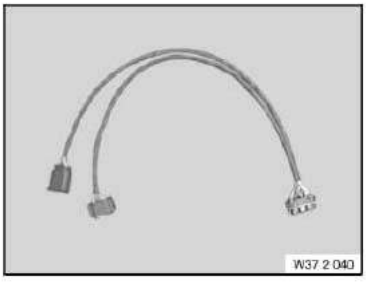
0409688 ADAPTER CABLE

0409688 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **12-pin V adapter cable. This cable replaces the 37 2 040 cable (0493956). Application: For troubleshooting for Dynamic Drive val**

Storage Location

P212



cardiagn.com

Fig. 66: Identifying Adapter Cable (0409688)
Courtesy of BMW OF NORTH AMERICA, INC.

0492878 ADAPTER CABLE

0492878 616043 Adapter cable MP

NOTE: **(V adapter cable (Elo/ELA), 2-pin, oval, zero-encoded)**

Storage Location

D 114



Fig. 67: Identifying Adapter Cable (0492878)
Courtesy of BMW OF NORTH AMERICA, INC.

0492880 ADAPTER CABLE

0492880 616045 Adapter cable MP

NOTE: **(V adapter cable (Elo/ELA), 4-pin, oval, zero-encoded)**

Storage Location

D120 G114

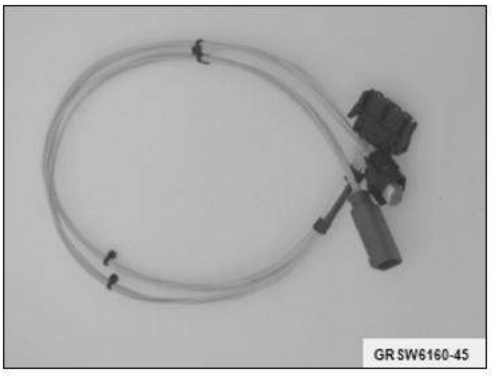


Fig. 68: Identifying Adapter Cable (0492880)
Courtesy of BMW OF NORTH AMERICA, INC.

0492770 ADAPTER CABLE

0492770 611463 Adapter cable MP

NOTE: **(V adapter cable (D 2.5), 2-pin, watertight, black)**

Storage Location

B110

cardiagn.com

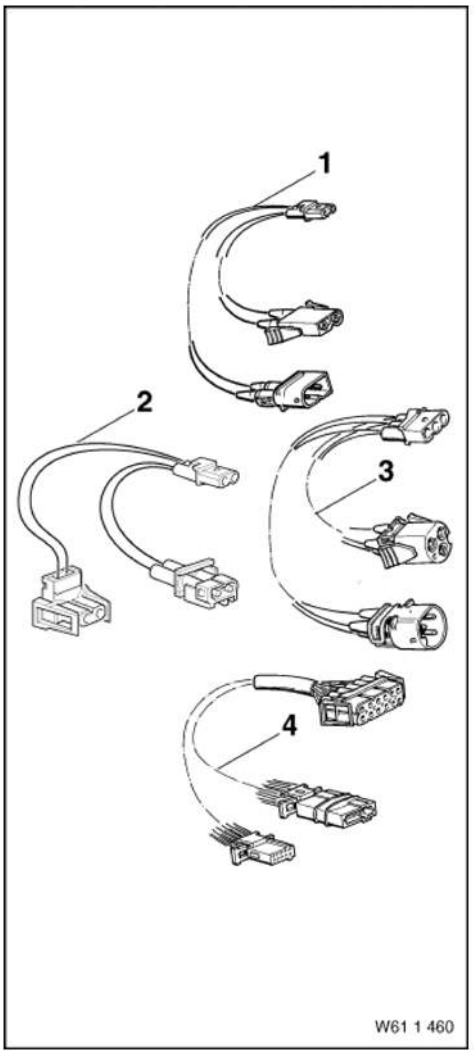


Fig. 69: Identifying Adapter Cable (0492770)
Courtesy of BMW OF NORTH AMERICA, INC.

0492852 ADAPTER CABLE

0492852 615410 Adapter cable MP

NOTE: (V adapter cable (D2.5), 5- pin, black) For multimeter measurements on electronics body general module and its periphery

Storage Location

C113

SI number

02 04 91 (321)

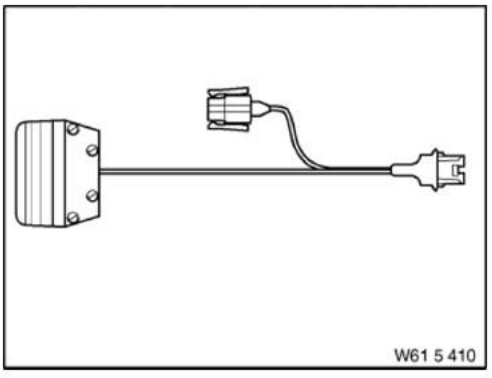


Fig. 70: Identifying Adapter Cable (0492852)
Courtesy of BMW OF NORTH AMERICA, INC.

0494875 ADAPTER CABLE

0494875 612330 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: (Junction box adapter cable) Cable 61 2 320, 47- pin, required for powering electronic control unit

cardiagn.com

Storage Location

F 104

SI number

02 05 04 (120)

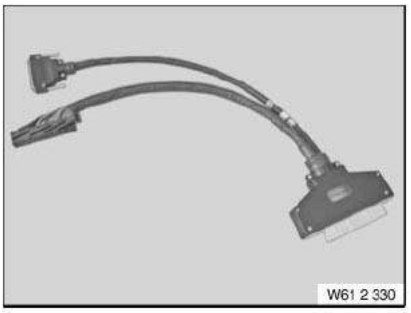


Fig. 71: Identifying Adapter Cable (0494875)
Courtesy of BMW OF NORTH AMERICA, INC.

0496605 ADAPTER CABLE

0496605 614210 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **12-pin diagnosis on N55 engine (F07)**

Storage Location

A105

SI number

02 09 09 (588)

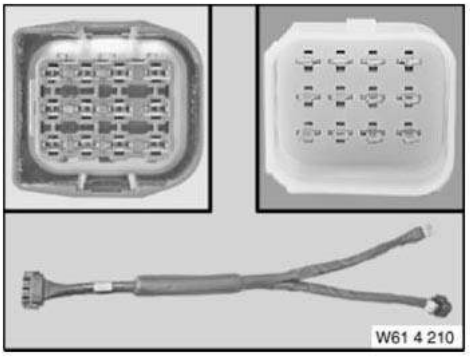


Fig. 72: Identifying Adapter Cable (0496605)
Courtesy of BMW OF NORTH AMERICA, INC.

0492791 ADAPTER CABLE

0492791 611487 Adapter cable MP

NOTE: **(V adapter cable (VEK/gear indicator), 14-pin, green)**

Storage Location

Y2

cardiagn.com

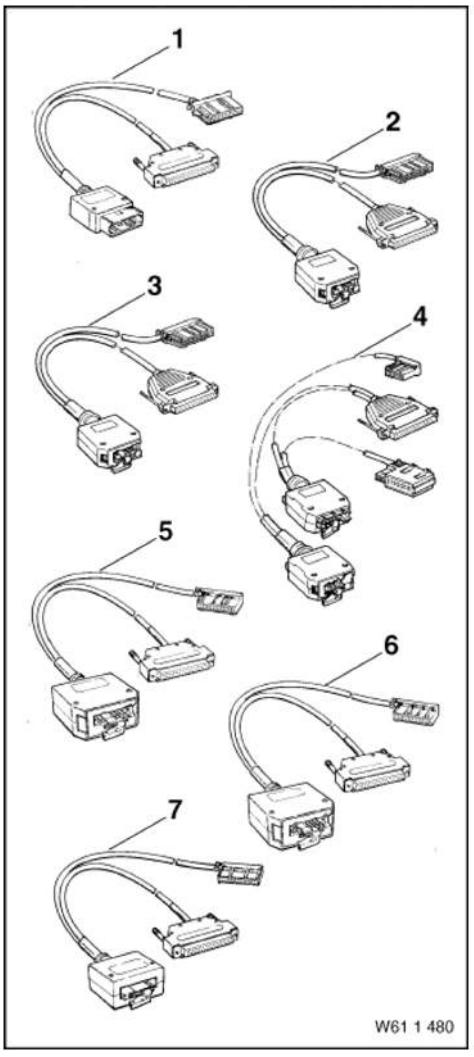


Fig. 73: Identifying Adapter Cable (0492791)
Courtesy of BMW OF NORTH AMERICA, INC.

0492785 ADAPTER CABLE

0492785 611481 Adapter cable MP

NOTE: (V adapter cable (VEK), 26-pin, green)

Storage Location

Y2

cardiagn.com

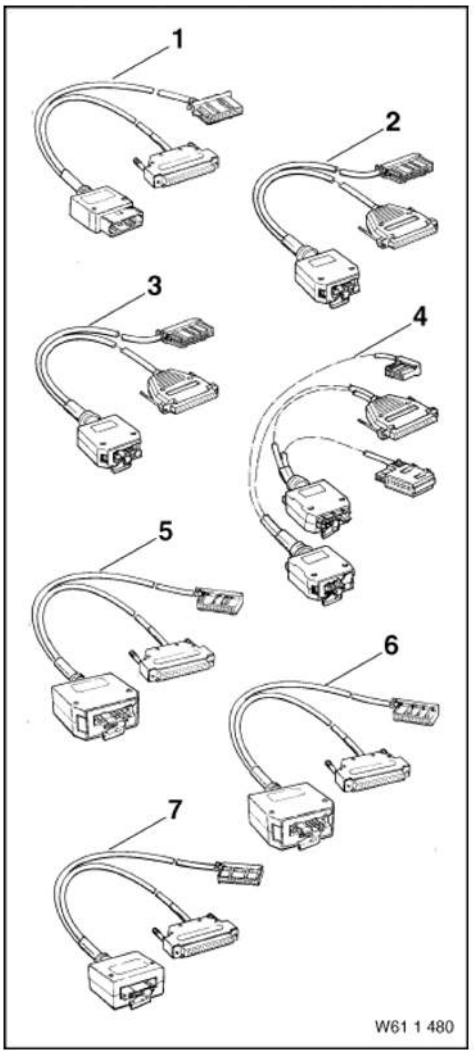


Fig. 74: Identifying Adapter Cable (0492785)
Courtesy of BMW OF NORTH AMERICA, INC.

0492767 ADAPTER CABLE

0492767 611460 Adapter cable MP

NOTE: (V adapter cable set (8 cables)) For troubleshooting at cable set interfaces - e.g. for door wiring harness

Consisting of:

1. 0492768 Adapter cable

   NOTE: (V adapter cable (D 2.5), 2-pin, watertight, yellow)

2. 0492769 Adapter cable

   NOTE: (V adapter cable (D 2.5), 2-pin, watertight, blue)

3. 0492770 Adapter cable

   NOTE: (V adapter cable (D 2.5), 2-pin, watertight, black)

4. 0492771 Adapter cable

   NOTE: (V adapter cable (D 2.5), 2-pin, watertight, white)

5. 0492772 Adapter cable

   NOTE: (V adapter cable (D 2.5), 2-pin) watertight, white, angled

6. 0492773 Adapter cable

   NOTE: (V adapter cable (D 2.5), 2-pin) watertight, black, angled

7. 0492774 Adapter cable

   NOTE: (V adapter cable (D 2.5), 3-pin, watertight, black)

8. 0492775 Adapter cable

cardiagn.com

NOTE: (V adapter cable (VEK), 10-pin, grey)

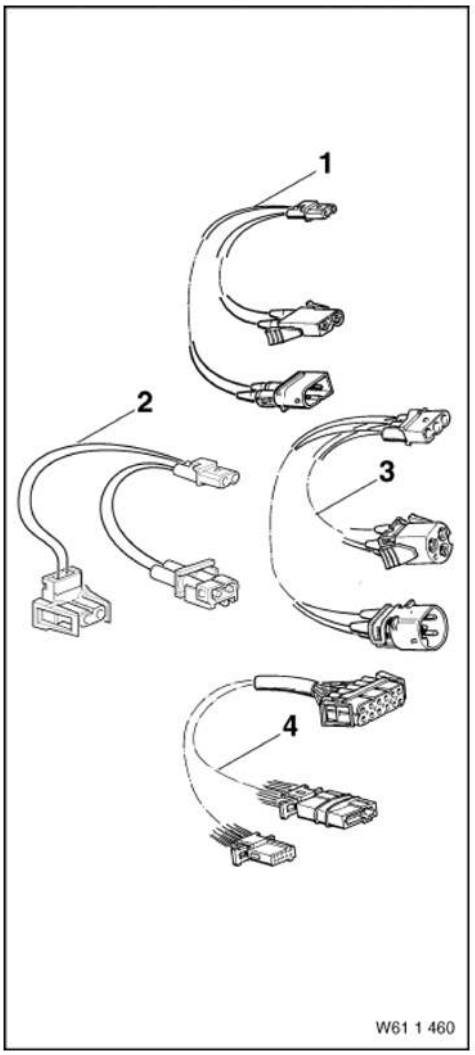


Fig. 75: Identifying Adapter Cable (0492767)
Courtesy of BMW OF NORTH AMERICA, INC.

0495254 ADAPTER CABLE

0495254 614370 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: (V adapter cable (two-pin) zero-coded) Can be used on different plug housings in engine wiring harness (e.g. from Kostal - "SLK Timer" or Bosch) with different codings.

Storage Location

F 108

SI number

02 01 05 (186)

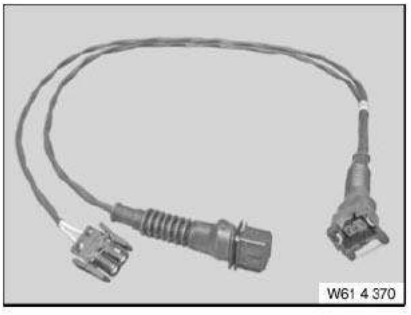


Fig. 76: Identifying Adapter Cable (0495254)
Courtesy of BMW OF NORTH AMERICA, INC.

0494894 ADAPTER CABLE

0494894 612421 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: (Adapter cable 88-pin for engine control unit) Individual cable is discontinued; now only available via set 61 2 420 = 0494882 - as

cardiagn.com

Storage Location

F102

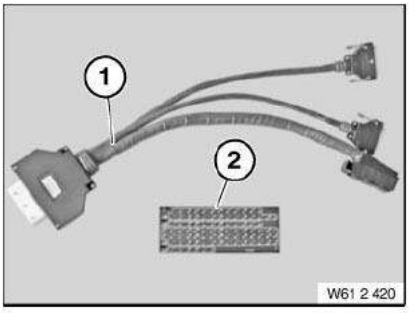


Fig. 77: Identifying Adapter Cable (0494894)
Courtesy of BMW OF NORTH AMERICA, INC.

0495773 ADAPTER CABLE

0495773 610130 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable, 4-pin) For diagnosis on electric coolant pump.**

Storage Location

E103

SI number

02 10 06 (314)



Fig. 78: Identifying Adapter Cable (0495773)
Courtesy of BMW OF NORTH AMERICA, INC.

0493852 ADAPTER CABLE

0493852 612090 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **For external connection of a servomotor during seat removal (faulty motor on seat) For E85: For activating soft top latch with re Convertible): for activating soft top latch (with removed soft top)**

Storage Location

R212

SI number

02 05 00 (624)

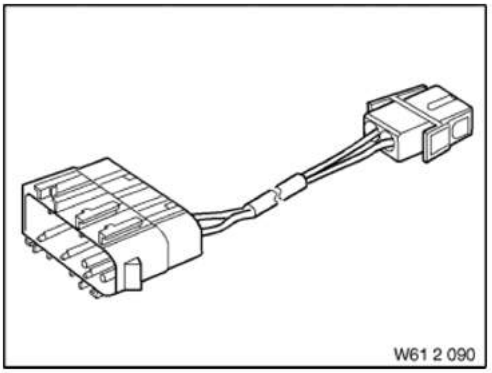


Fig. 79: Identifying Adapter Cable (0493852)
Courtesy of BMW OF NORTH AMERICA, INC.

0493814 ADAPTER CABLE

0493814 614300 Adapter cable MP

cardiagn.com

NOTE: **(Adapter cable for diagnostic socket) To connect diagnosis system to diagnostic socket from 06/2000 on.**

SI number

02 04 00 (561)

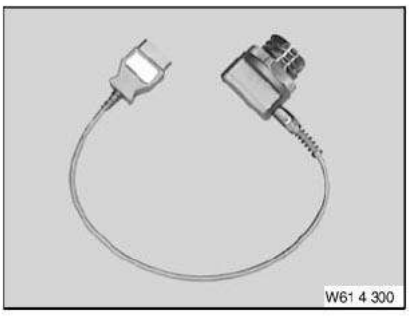


Fig. 80: Identifying Adapter Cable (0493814)
Courtesy of BMW OF NORTH AMERICA, INC.

0492876 ADAPTER CABLE

0492876 616041 Adapter cable MP

NOTE: **(V adapter cable (Elo/strand sealing), 3-pin, round (EDC)), discontinued, available as part of set of special tools only**

Storage Location

D 112

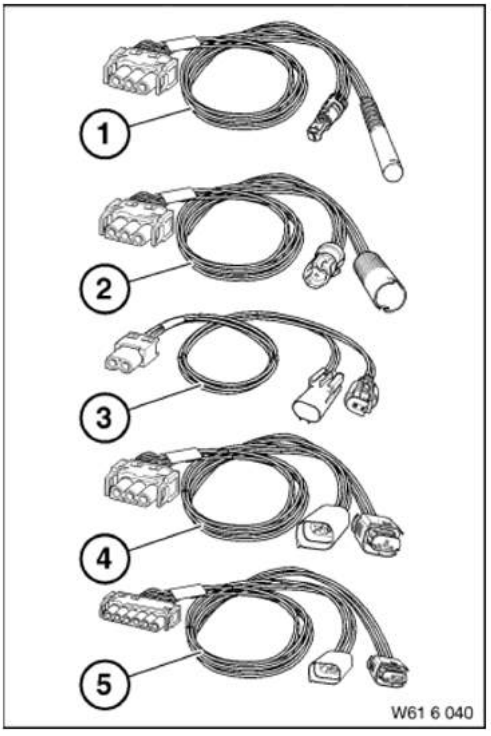


Fig. 81: Identifying Adapter Cable (0492876)
Courtesy of BMW OF NORTH AMERICA, INC.

0493126 ADAPTER CABLE

0493126 613220 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable, 8-pin) For measuring electrical variables on 8-pin plug connection on front passenger side window crank and c**

Storage Location

M 209

SI number

02 02 98 (308)

cardiagn.com

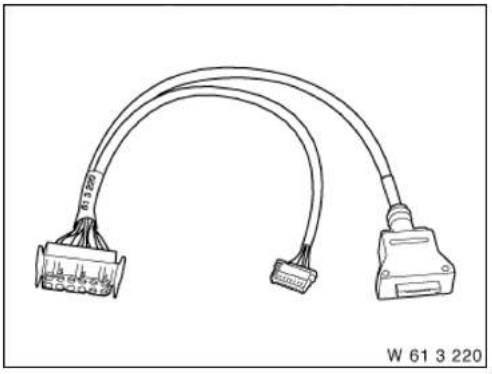


Fig. 82: Identifying Adapter Cable (0493126)
Courtesy of BMW OF NORTH AMERICA, INC.

0492847 ADAPTER CABLE

0492847 614464 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable (Elo) 26- pin, zero-coded, cable 4) Remaining inventories will be sold off, followed by discontinuation and then 61 4 460 = 0492843 only.**

Storage Location

C109

0494876 ADAPTER CABLE

0494876 612340 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(Adapter cable FRM (footwell module)) 51-pin FRM (located on the driver's side)**

Storage Location

F 101

SI number

02 05 04 (120)

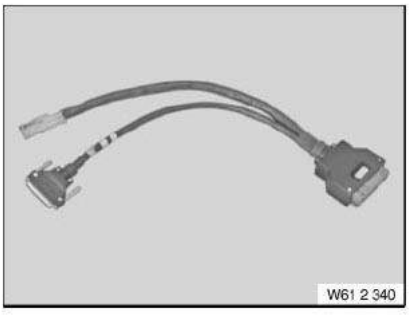


Fig. 83: Identifying Adapter Cable (0494876)
Courtesy of BMW OF NORTH AMERICA, INC.

0496499 ADAPTER CABLE

0496499 614110 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter) 12-pin for diagnosis of seat control unit**

Storage Location

E119

SI number

02 07 08 (487)

cardiagn.com

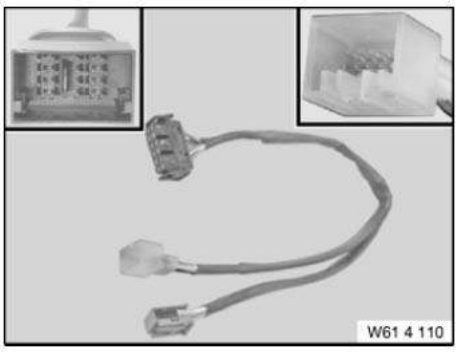


Fig. 84: Identifying Adapter Cable (0496499)
Courtesy of BMW OF NORTH AMERICA, INC.

0496732 ADAPTER CABLE

0496732 614190 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **V adapter cable, 58-pin N55TU**

Storage Location

A103

SI number

02 09 09 (588)

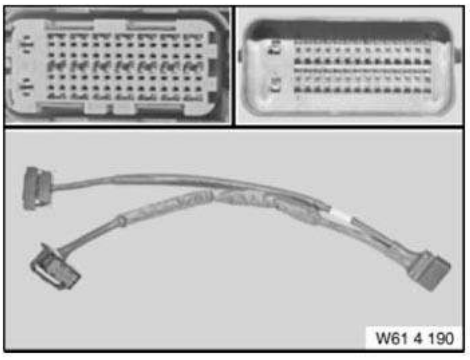


Fig. 85: Identifying Adapter Cable (0496732)
Courtesy of BMW OF NORTH AMERICA, INC.

0492872 ADAPTER CABLE

0492872 616034 Adapter cable MP

NOTE: **(V adapter cable (Elo), 6- pin, double row zero-encoded)**

Storage Location

D110

cardiagn.com

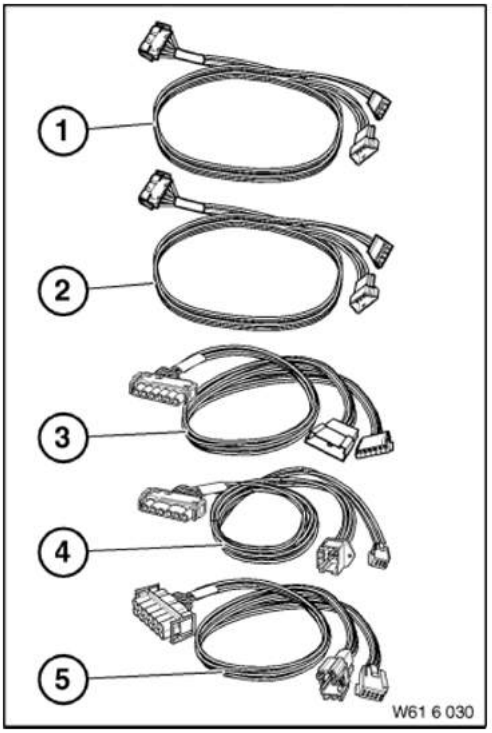


Fig. 86: Identifying Adapter Cable (0492872)
Courtesy of BMW OF NORTH AMERICA, INC.

0496888 ADAPTER CABLE

0496888 616240 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **94-pin V-adapter cable. For engine control unit diagnosis DDE 7.01 --> BMW and MINI N47 engine**

Storage Location

L204 C115

SI number

02 05 10 (671)

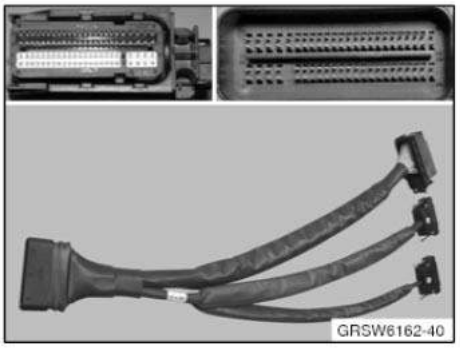


Fig. 87: Identifying Adapter Cable (0496888)
Courtesy of BMW OF NORTH AMERICA, INC.

0492845 ADAPTER CABLE

0492845 614462 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable (Elo) 26- pin, zero-coded, cable 2) Remaining inventories will be sold off, followed by discontinuation and then a 61 4 460 = 0492843 only.**

Storage Location

C107

0495771 ADAPTER CABLE

0495771 610110 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V-adapter cable 3-pin) For diagnosis on control unit of electric auxiliary heater, 3rd row seats.**

Storage Location

E101

cardiagn.com

SI number

02 10 06 (314)

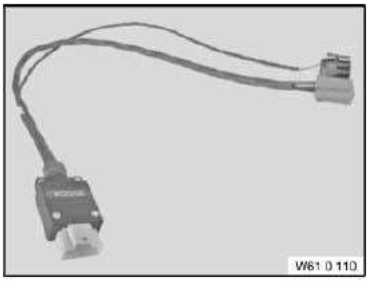


Fig. 88: Identifying Adapter Cable (0495771)
Courtesy of BMW OF NORTH AMERICA, INC.

0492773 ADAPTER CABLE

0492773 611466 Adapter cable MP

NOTE: **(V adapter cable (D 2.5), 2-pin) watertight, black, angled**

Storage Location

B113

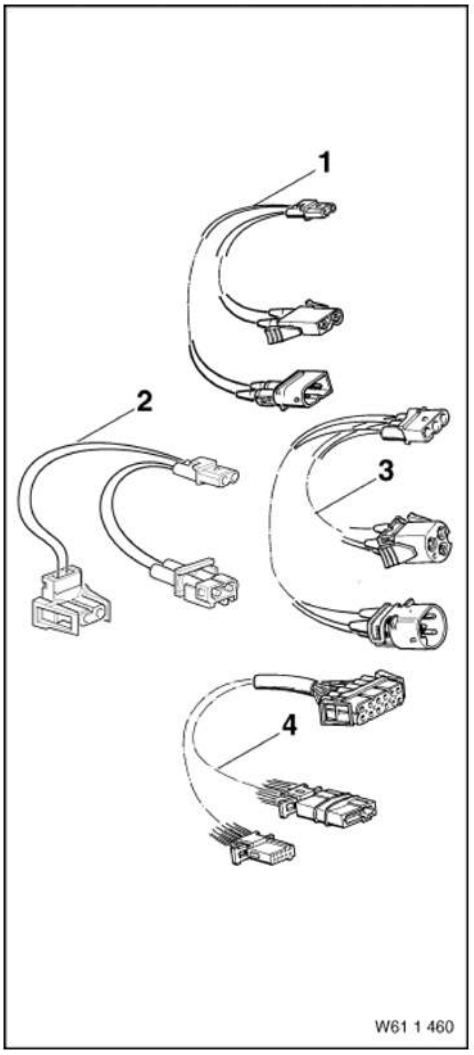


Fig. 89: Identifying Adapter Cable (0492773)
Courtesy of BMW OF NORTH AMERICA, INC.

0492851 ADAPTER CABLE

0492851 614490 Adapter cable MP

NOTE: **(V adapter cable (D 2.5), 20-pin, white) For light module and wiring harness**

Storage Location

C112

cardiagn.com

SI number

02 04 91 (321)

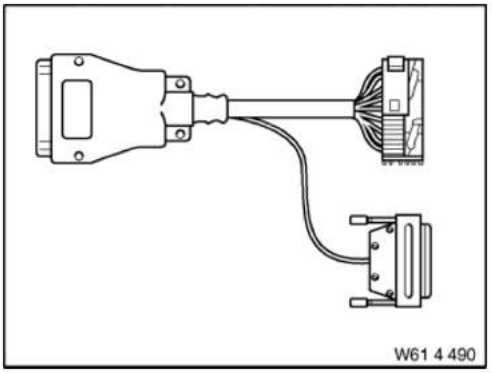


Fig. 90: Identifying Adapter Cable (0492851)
Courtesy of BMW OF NORTH AMERICA, INC.

0492775 ADAPTER CABLE

0492775 611468 Adapter cable MP

NOTE: **(V adapter cable (VEK), 10-pin, grey)**

Storage Location

B115

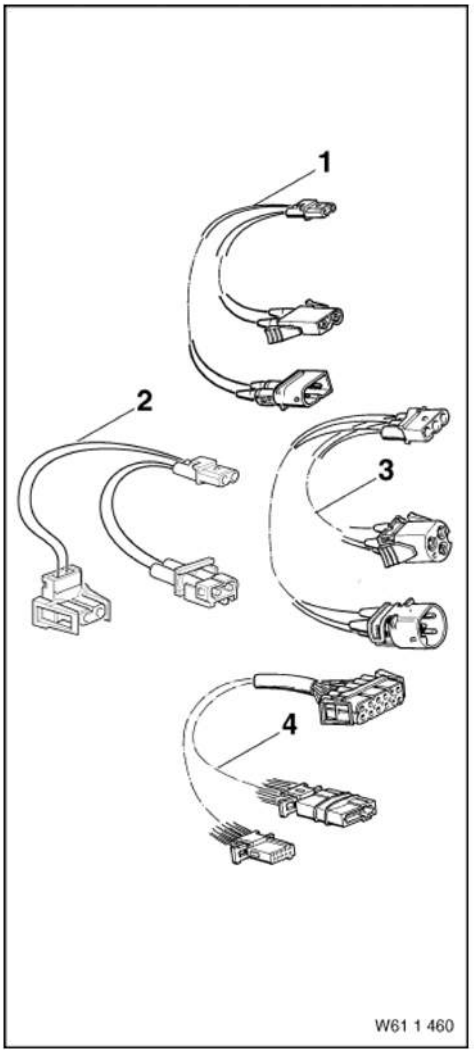


Fig. 91: Identifying Adapter Cable (0492775)
Courtesy of BMW OF NORTH AMERICA, INC.

0492864 ADAPTER CABLE

0492864 616024 Adapter cable MP

NOTE: **(V adapter cable (D 2.5/ELA), 7-pin, round, black). From 07/2013 also no longer available as part of a set - discontinued.**

cardiagn.com

Storage Location

D 104

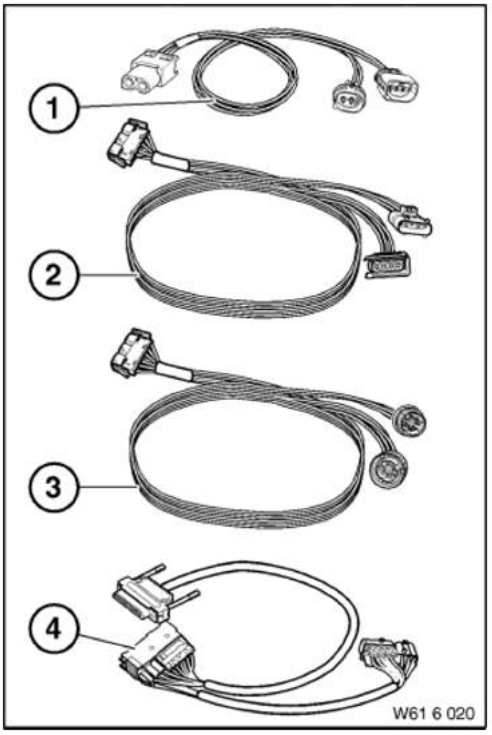


Fig. 92: Identifying Adapter Cable (0492864)
Courtesy of BMW OF NORTH AMERICA, INC.

0493396 ADAPTER CABLE

0493396 614350 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable, 23-pin) For electrical check on center console control panel/from 09/99**

Storage Location

M 211

SI number

02 04 98 (353)

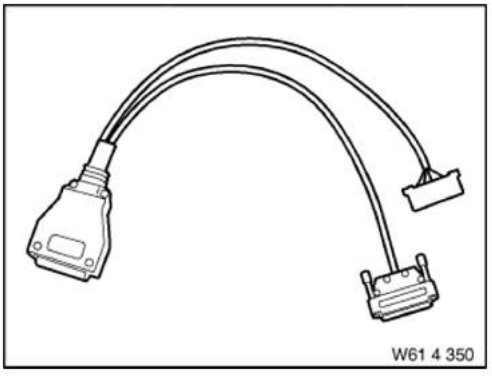


Fig. 93: Identifying Adapter Cable (0493396)
Courtesy of BMW OF NORTH AMERICA, INC.

0494767 ADAPTER CABLE

0494767 613080 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable for VGECU E83 (8-pin)) for testing motor at transfer box at (X3)**

Storage Location

B102

SI number

02 08 03 (045)

cardiagn.com

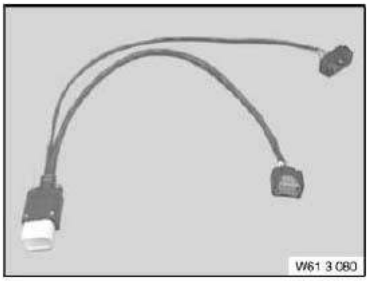


Fig. 94: Identifying Adapter Cable (0494767)
Courtesy of BMW OF NORTH AMERICA, INC.

0495574 ADAPTER CABLE

0495574 612250 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable (rail pressure sensor)) For system check of rail pressure control for common-rail diesel engines. Also suitable f Crank-/camshaft sensor, charging pressure sensor, particulate filter pressure sensor, swirl flap actuator, oil level sensor etc.**

Storage Location

M213 G123

SI number

02 01 06 (283)

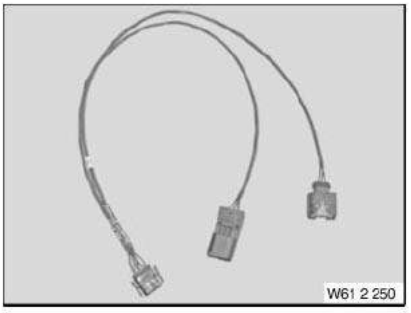


Fig. 95: Identifying Adapter Cable (0495574)
Courtesy of BMW OF NORTH AMERICA, INC.

0492788 ADAPTER CABLE

0492788 611484 Adapter cable MP

NOTE: **(V adapter cable (VEK), 24-pin, brown V adapter cable (VEK), 12-pin, grey)**

Storage Location

Y2

cardiagn.com

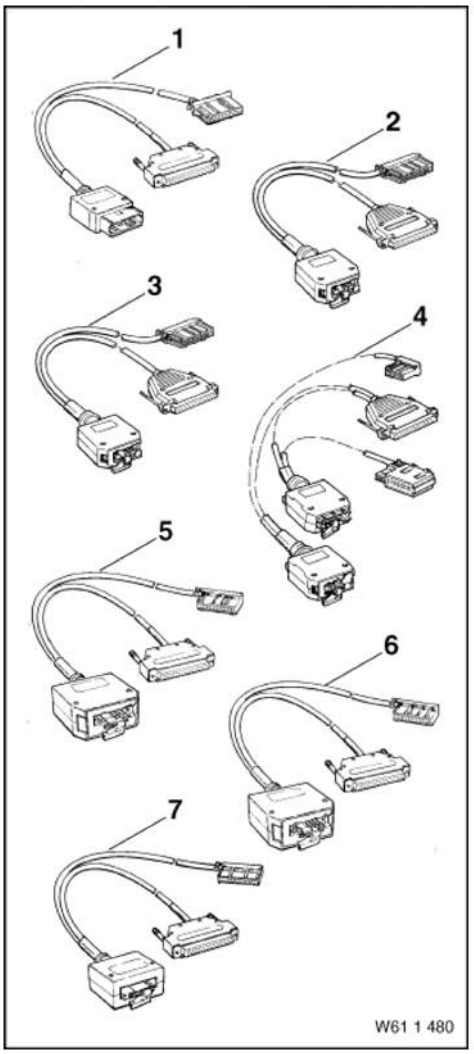


Fig. 96: Identifying Adapter Cable (0492788)
Courtesy of BMW OF NORTH AMERICA, INC.

0492792 ADAPTER CABLE

0492792 611490 Adapter cable MP

NOTE: **(V adapter cable set (2 cables)) For engine wiring harness**

Storage Location

Y2

Consisting of:

1. 0492793 Adapter cable

   NOTE: **(V adapter cable (JPT/engine wiring harness), 3-pin, zero-encoded)**

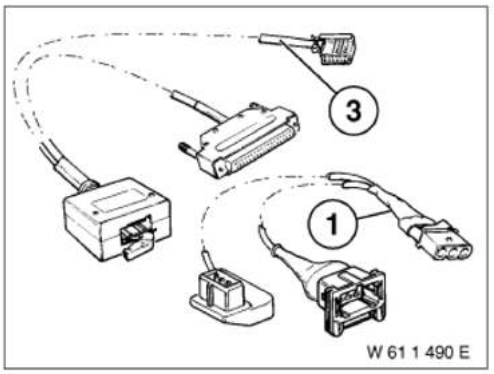


Fig. 97: Identifying Adapter Cable (0492792)
Courtesy of BMW OF NORTH AMERICA, INC.

2. 0492794 Adapter cable

   NOTE: **(Adapter cable for relay)**

cardiagn.com

3. 0492795 Adapter cable

NOTE: **(V adapter cable (VEK), 12-pin green for integrated heating control unit)**

0492848 ADAPTER CABLE

0492848 614470 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable (Elo), 18- pin, zero-encoded)**

Storage Location

C110

SI number

02 12 91 (450)

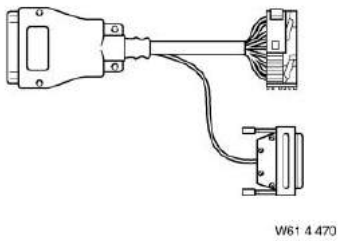


Fig. 98: Identifying Adapter Cable (0492848)
Courtesy of BMW OF NORTH AMERICA, INC.

0492822 ADAPTER CABLE

0492822 613030 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable) For checking lines between DSC3 control unit (Dynamic Stability Control 3) and angular rate sensor. Other: on**

Storage Location

C104

SI number

02 07 96 (162)

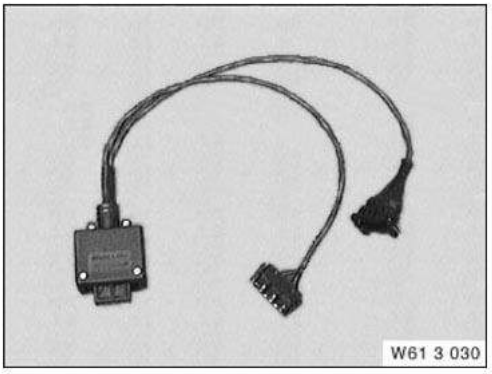


Fig. 99: Identifying Adapter Cable (0492822)
Courtesy of BMW OF NORTH AMERICA, INC.

0494131 ADAPTER CABLE

0494131 613160 Adapter cable Minimum set: Measuring and testing equipment MP

NOTE: **(V adapter cable, 54-pin) For checking the periphery on the ARS control unit**

Storage Location

P210

SI number

02 06 01 (763)

cardiagn.com

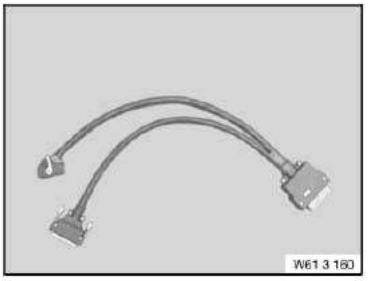


Fig. 100: Identifying Adapter Cable (0494131)
Courtesy of BMW OF NORTH AMERICA, INC.

0492794 ADAPTER CABLE

0492794 611492 Adapter cable MP

NOTE: (Adapter cable for relay)

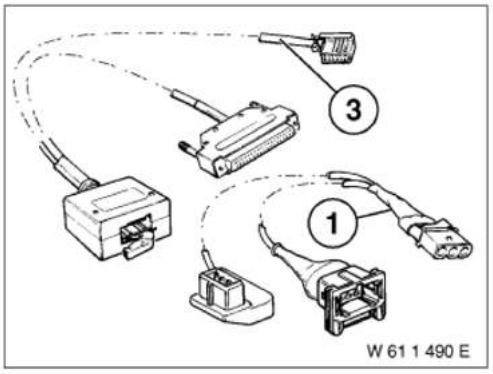


Fig. 101: Identifying Adapter Cable (0492794)
Courtesy of BMW OF NORTH AMERICA, INC.

0494877 ADAPTER CABLE

0494877 612350 Adapter cable Minimum set: Measuring and testing equipment MP

Storage Location

B105

SI number

02 05 04 (120)

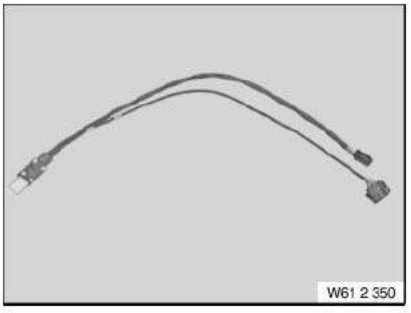


Fig. 102: Identifying Adapter Cable (0494877)
Courtesy of BMW OF NORTH AMERICA, INC.

0492786 ADAPTER CABLE

0492786 611482 Adapter cable MP

NOTE: (V adapter cable (VEK), 26-pin, white)

Storage Location

Y2

cardiagn.com

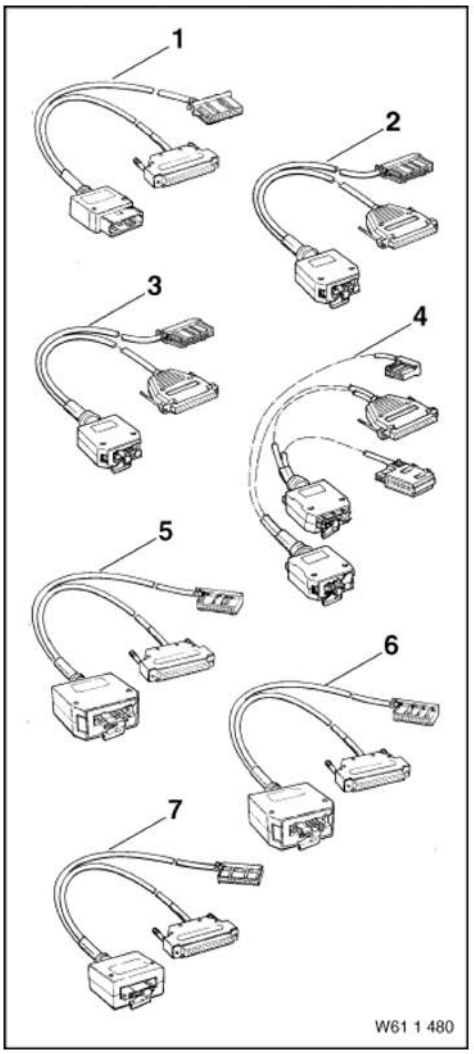


Fig. 103: Identifying Adapter Cable (0492786)
Courtesy of BMW OF NORTH AMERICA, INC.

0493222 ADJUSTER

0493222 616200 Adjuster MP

NOTE: **(Adjusting key) For adjusting the nozzles on the headlight cleaning system**

Storage Location

C1

SI number

01 26 97 (274)

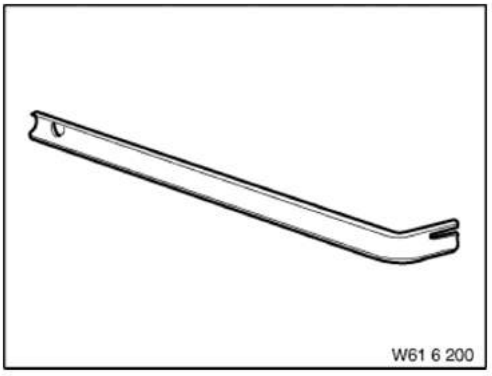


Fig. 104: Identifying Adjuster (0493222)
Courtesy of BMW OF NORTH AMERICA, INC.

0492733 ADJUSTER

0492733 611230 Adjuster MP

NOTE: **(Setting taper) For maintaining the extension height when adjusting the pop-up jet (cleaning jet) on the tailgate (on E34tou)**

cardiagn.com

Storage Location

Y4

SI number

01 02 92 (484)

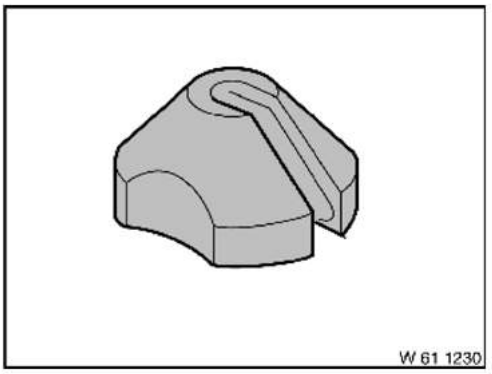


Fig. 105: Identifying Adjuster (0492733)
Courtesy of BMW OF NORTH AMERICA, INC.

0492854 BASIC BODY

0492854 616001 Basic body MP

Replaced by: 83300493441

NOTE: **Discontinuation and replaced by 61 6 060 (0 493 441)**

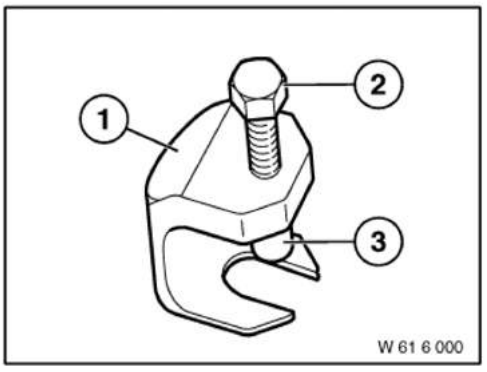


Fig. 106: Identifying Basic Body (0492854)
Courtesy of BMW OF NORTH AMERICA, INC.

0493564 BLADE

0493564 611149 Blade MP

NOTE: **(Replacement blades) For pressing-off tool 61 1 148**

0493009 BUTT CONNECTOR

0493009 619475 Butt connector MP

NOTE: **(Order no. old: 8 353 747 butt connector 0.75-1.00 mm^2) quantity per pack: 20 pcs.**

0493010 BUTT CONNECTOR

0493010 619476 Butt connector MP

NOTE: **(Order no. old: 8 353 748 Butt connector 1.50-2.50 mm^2) Quantity per package: 40 pcs.**

0493008 BUTT CONNECTOR

0493008 619474 Butt connector MP

NOTE: **(Order no. old: 8 353 746 Butt connector 0.35-0.50 mm^2) Quantity per package: 20 pcs.**

0492776 CABLE

0492776 611470 Cable MP

NOTE: **(Wiring harness (6 cables)) For measuring and testing purposes**

Consisting of:

1. **0492777** Adapter cable

cardiagn.com

NOTE: **(V adapter cable (Modu), 6-pin, black) For integrated heating control/integrated automatic heating/air conditioning system s E31, E32, E34 sale of existing inventory and then available as part of set of special tools 61 1 470 = 83 30 0 492 776 only - as**

2. 0492778 Measuring cable

NOTE: **(Measuring cable (D 4.0, 1-pin, red) sale of existing inventory and then available as part of set of special tools 61 1 470 = 83 30.11.2011**

3. 0492779 Measuring cable

NOTE: **(Measuring cable (D 2.5, 1-pin, red) sale of existing inventory and then available as part of set of special tools 61 1 470 = 83 30.11.2011**

4. 0492780 Measuring cable

NOTE: **(Measuring cable (D 4.0, 1-pin, black) sale of existing inventory and then available as part of set of special tools 61 1 470 = 30.11.2011**

5. 0492781 Measuring cable

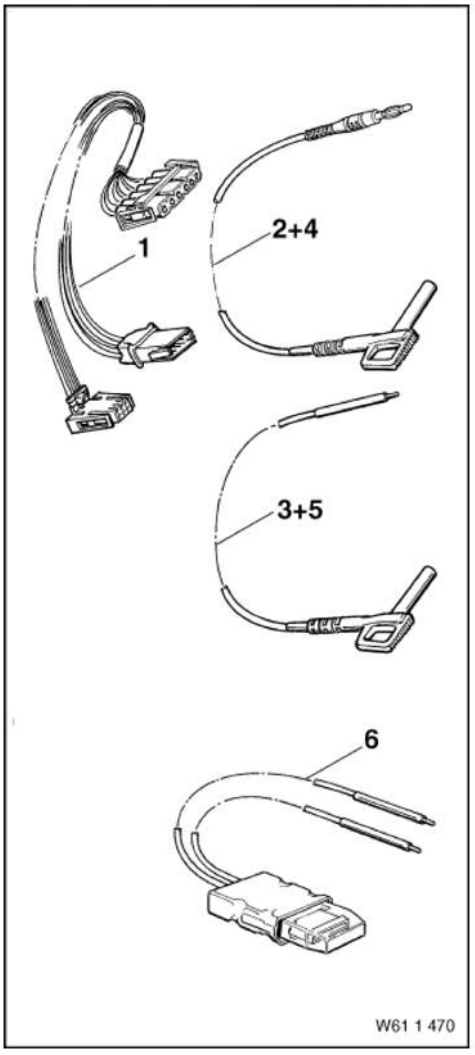


Fig. 107: Identifying Cable (0492776)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **(Wiring harness (6 cables)) For measuring and testing purposes**

Consisting of:

1. 0492777 Adapter cable

NOTE: **(V adapter cable (Modu), 6-pin, black) For integrated heating control/integrated automatic heating/air conditioning system s E31, E32, E34 sale of existing inventory and then available as part of set of special tools 61 1 470 = 83 30 0 492 776 only - as**

2. 0492778 Measuring cable

NOTE: **(Measuring cable (D 4.0, 1-pin, red) sale of existing inventory and then available as part of set of special tools 61 1 470 = 83 30.11.2011**

3. 0492779 Measuring cable

NOTE: **(Measuring cable (D 2.5, 1-pin, red) sale of existing inventory and then available as part of set of special tools 61 1 470 = 83 30.11.2011**

cardiagn.com

4. 0492780 Measuring cable

NOTE: **(Measuring cable (D 4.0, 1-pin, black) sale of existing inventory and then available as part of set of special tools 61 1 470 = 30.11.2011**

5. 0492781 Measuring cable

NOTE: **(Measuring cable (D 2.5, 1-pin, black) sale of existing inventory and then available as part of set of special tools 61 1 470 = 30.11.2011**

6. 0492782 Test cable

NOTE: **(Test cable with fuse 12 A (D 2.5)) sale of existing inventories, then discontinued and available as part of set of special tool as of 30.11.2011**

7. 0492783 Adapter cable

NOTE: **(V adapter cable (Modu), 18-pin) For heater control/model series: E34/replaced by 61 4 470. (0 492 848)**

2353365 CABLE

2353365 Cable Minimum set: Measuring and testing equipment MP

NOTE: **Applies to: BMW i Aftersales High Voltage**

SI number

08 06 13 (932)



Fig. 108: Identifying Cable (2353365)
Courtesy of BMW OF NORTH AMERICA, INC.

2353364 CABLE

2353364 Cable Minimum set: Mechanical tools AM

NOTE: **Applies to: BMW i Aftersales High Voltage**

SI number

08 06 13 (932)



Fig. 109: Identifying Cable (2353364)
Courtesy of BMW OF NORTH AMERICA, INC.

0492809 CABLE

0492809 612402 Cable MP

NOTE: **(auxiliary cable with battery terminals)**

cardiagn.com

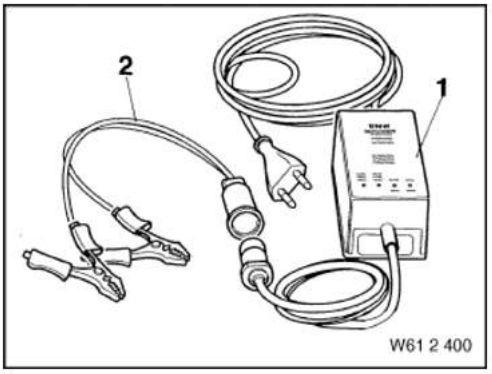


Fig. 110: Identifying Cable (0492809)
Courtesy of BMW OF NORTH AMERICA, INC.

2299561 CABLE

2299561 Cable MP

NOTE: **Measuring cable set for GT1 and next generation devices.**

SI number

02 10 11 (781)

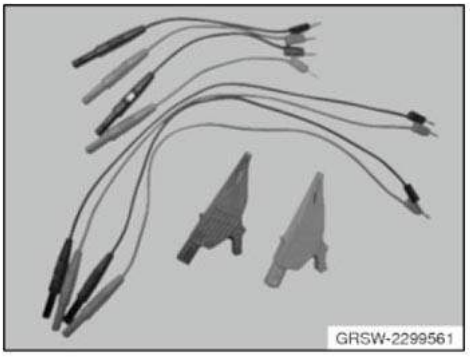


Fig. 111: Identifying Cable (2299561)
Courtesy of BMW OF NORTH AMERICA, INC.

0492932 CABLE END

0492932 619085 Cable end MP

NOTE: **(Cable end with angle bushes 1.0 mm^2)**

Storage Location

K 108

0492928 CABLE END

0492928 619081 Cable end MP

NOTE: **(Cable end with bush contact 1.0 mm^2)**

Storage Location

K 108

0492929 CABLE END

0492929 619082 Cable end MP

NOTE: **(Cable end with bush contact 2.5 mm^2)**

Storage Location

K 108

0492930 CABLE END

0492930 619083 Cable end MP

NOTE: **(Cable end with pin contact 1.0 mm^2)**

Storage Location

K 108

cardiagn.com

0492933 CABLE END

0492933 619086 Cable end MP

NOTE: **(Cable end with angle bushes 2.5 mm^2)**

Storage Location

K 108

0492931 CABLE END

0492931 619084 Cable end MP

NOTE: **(Cable end with pin contact 2.5 mm^2)**

Storage Location

K 108

0492968 CAP

0492968 619434 Cap MP

NOTE: **(Order no. old: 1 383 903 Caps for housing, 7-pin, black, ELA round) Quantity per package: 1 pcs.**

0492967 CAP

0492967 619433 Cap MP

NOTE: **(Order no. old: 1 383 901 Caps for housing, 4-pin, black, ELA round) Quantity per package: 1 pcs.**

0492728 CASE

0492728 611158 Case MP

Replaced by: 83300495407

NOTE: **(Case with insert) Replaced by special tool 61 0 329 from 09/2005. (0 495 407)**

0496848 CASE

0496848 614341 Case Minimum set: Measuring and testing equipment MP

NOTE: **For storing 61 4 342 and 61 4 343**

SI number

02 01 10 (615)

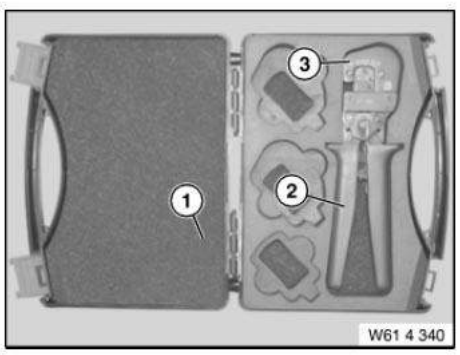


Fig. 112: Identifying Case (0496848)
Courtesy of BMW OF NORTH AMERICA, INC.

0496341 CASE

0496341 611101 Case MP

NOTE: **For storing release tools from set 61 1 100.**

SI number

02 01 08 (438)

0495321 CASE

0495321 610201 Case Minimum set: Measuring and testing equipment MP

NOTE: **(plastic case) As storage system for complete set. Liquidation of existing inventory and then available only as a complete tool s of 29.11.2011**

Storage Location

M22 x 204

cardiagn.com

SI number

02 02 05 (194)

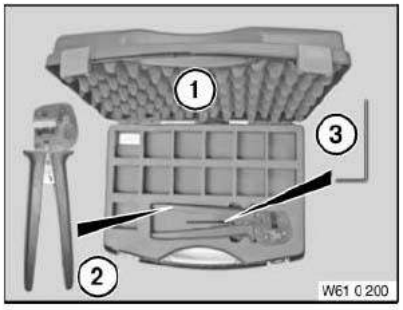


Fig. 113: Identifying Case (0495321)
Courtesy of BMW OF NORTH AMERICA, INC.

0495407 CASE

0495407 610329 Case MP

NOTE: **(case with foam material insert not incl. tools) Storage system for release tools from set 61 0 300**

SI number

02 05 05 (217)

0492807 CHARGER

0492807 612400 Charger MP

NOTE: **(Ladematic)**

Consisting of:

1 = **0492808** Charger

NOTE: **(floating current charger)**

2 = **0492809** Cable

NOTE: **(auxiliary cable with battery terminals)**

9 = **0492810** Operating instructions

NOTE: **Discontinued**

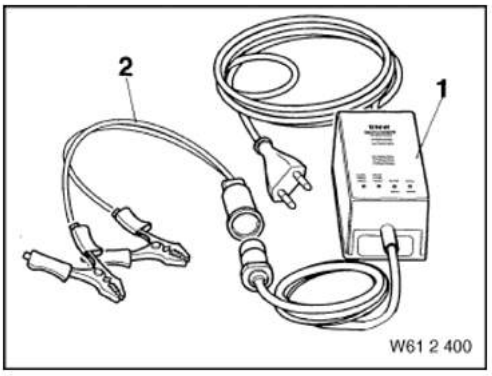


Fig. 114: Identifying Charger (0492807)
Courtesy of BMW OF NORTH AMERICA, INC.

2353363 CHARGER

2353363 Charger AM

Replaced by: 83302359907

NOTE: **State of charge adjustment of new HV battery modules before installation in the HV battery, valid for: BMW i Aftersales high volt**

SI number

08 06 13 (932)

cardiagn.com



Fig. 115: Identifying Charger (2353363)
Courtesy of BMW OF NORTH AMERICA, INC.

0492808 CHARGER

0492808 612401 Charger MP

NOTE: (floating current charger)

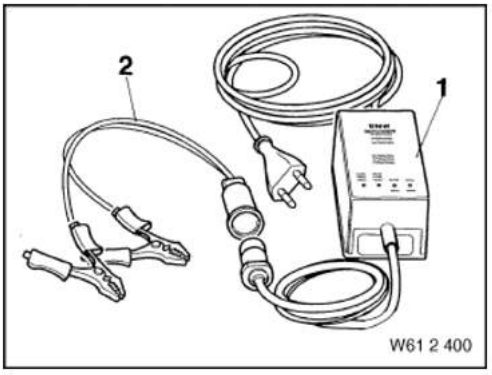


Fig. 116: Identifying Charger (0492808)
Courtesy of BMW OF NORTH AMERICA, INC.

0492972 COMB CONNECTOR

0492972 619438 Comb connector MP

NOTE: (Order no. old: 1 387 150 comb connector with 17 buckle tongues) quantity per pack: 5 pcs.

0492980 COMB CONNECTOR HOUSING

0492980 619446 Comb connector housing MP

NOTE: (Order no. old: 1 393 718 comb connector housing, three-pin, with retaining hook) quantity per pack: 2 pcs.

0492983 COMB CONNECTOR HOUSING

0492983 619449 Comb connector housing MP

NOTE: (Order no. old: 1 392 737 comb connector housing, three-pin, with retaining eye) quantity per pack: 2 pcs.

0492988 COMB CONNECTOR HOUSING

0492988 619454 Comb connector housing MP

NOTE: (Order no. old: 1 392 766 Comb connector housing, 9- pin, with retaining eye) Quantity per package: 2 pcs.

0492982 COMB CONNECTOR HOUSING

0492982 619448 Comb connector housing MP

NOTE: (Order no. old: 1 392 721 Comb connector housing, 9- pin, with retaining hook) Quantity per package: 2 pcs.

0492981 COMB CONNECTOR HOUSING

0492981 619447 Comb connector housing MP

NOTE: (Order no. old: 1 392 719 Comb connector housing, five-pin, with retaining hook) Quantity per package: 2 pcs.

0492985 COMB CONNECTOR HOUSING

0492985 619451 Comb connector housing MP

NOTE: (Order no. old: 1 392 739 Comb connector housing, five-pin, with retaining eye) Quantity per package: 2 pcs.

0492978 CONNECTOR HOUSING

cardiagn.com

0492978 619444 Connector housing MP

NOTE: (Order no. old: 1 392 232 double flat spring, gold 0.75-1.0 mm^2 for connector housing, three-pin) quantity per pack: 15 pcs.

0492990 CONNECTOR HOUSING

0492990 619456 Connector housing MP

NOTE: (Order no. old: 1 706 091 Connector housing, two-pin, black, with unlocking (JT), repair kit E) Quantity per package: 3 pcs.

0493000 CONNECTOR HOUSING

0493000 619466 Connector housing MP

NOTE: (Order no. old: 1 732 460 Connector housing, two-pin, black, encoding I, with unlocking (JPT), repair kit K) Quantity per package

0492991 CONNECTOR HOUSING

0492991 619457 Connector housing MP

NOTE: (Order no. old: 1 706 096 Connector housing, three-pin, black, with unlocking (JT), repair kit E) Quantity per package: 2 pcs.

0493001 CONNECTOR HOUSING

0493001 619467 Connector housing MP

NOTE: (Order no. old: 1 732 461 Connector housing, two-pin, black, encoding II, with unlocking (JPT), repair kit K) Quantity per package

0493002 CONNECTOR HOUSING

0493002 619468 Connector housing MP

NOTE: (Order no. old: 1 732 462 Connector housing, two-pin, black, encoding III, with unlocking (JPT), repair kit K) Quantity per packag

0493003 CONNECTOR HOUSING

0493003 619469 Connector housing MP

NOTE: (Order no. old: 1 732 596 Connector housing, three-pin, black, with unlocking (JPT), repair kit K) Quantity per package: 2 pcs.

0492993 CONNECTOR HOUSING

0492993 619459 Connector housing MP

NOTE: (Order no. old: 1 706 098 connector housing, seven-pin, black, with unlocking (JT), repair kit E) quantity per pack: 2 pcs.

0492999 CONNECTOR HOUSING

0492999 619465 Connector housing MP

NOTE: (Order no. old: 1 724 478 connector housing, three-pin, black, contacts 61 9 444) quantity per pack: 2 pcs.

0492992 CONNECTOR HOUSING

0492992 619458 Connector housing MP

NOTE: (Order no. old: 1 706 097 Connector housing, five-pin, black, with unlocking (JT), repair kit E) Quantity per package: 2 pcs.

2336647 CONNECTOR HOUSING

2336647 Connector housing Minimum set: Measuring and testing equipment MP

NOTE: Dummy plug for diagnosis work on HEV, PHEV and BEV

SI number

02 02 13 (901)

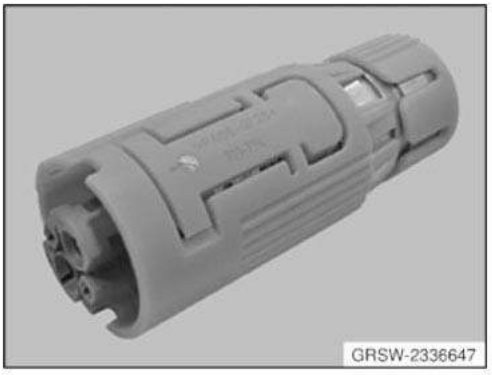


Fig. 117: Identifying Connector Housing (2336647)
Courtesy of BMW OF NORTH AMERICA, INC.

0492971 CONTACT TUBE

cardiagn.com

0492971 619437 Contact tube MP

NOTE: **(Order no. old: 1 387 144 Contact sleeve 1.5-2.5 mm^2 , for comb connector 61 9 438) Quantity per package: 30 pcs.**

0492970 CONTACT TUBE

0492970 619436 Contact tube MP

NOTE: **(Order no. old: 1 387 142 contact sleeve 0.75-1.0 mm^2 for comb connector 61 9 438) quantity per pack: 15 pcs.**

0492969 CONTACT TUBE

0492969 619435 Contact tube MP

NOTE: **(Order no. old: 1 387 140 Contact sleeve 0.35-0.5 mm^2 , for comb connector 61 9 438) Quantity per package: 15 pcs.**

0495555 CRIMPING TOOL

0495555 614328 Crimping tool Minimum set: Measuring and testing equipment MP

Replaced by: 83300496833

NOTE: **(Universal crimping head) For crimping contacts (without seal) and cable cross-sections from 0.35 - 2.5 mm.**

SI number

02 01 10 (615)

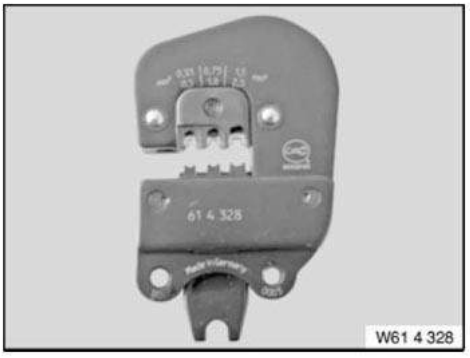


Fig. 118: Identifying Crimping Tool (0495555)
Courtesy of BMW OF NORTH AMERICA, INC.

0495320 CRIMPING TOOL

0495320 610200 Crimping tool Minimum set: Measuring and testing equipment MP

NOTE: **(Crimping set (basic tool)) comprising case + basic crimping tool. With this basic tool, the following matrices can be used deper 610220, 610230, 610240**

Storage Location

M22 x 204

SI number

02 02 05 (194)

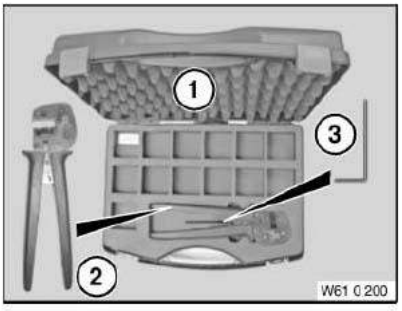


Fig. 119: Identifying Crimping Tool (0495320)
Courtesy of BMW OF NORTH AMERICA, INC.

Consisting of:

1. 0495321 Case

   NOTE: **(plastic case) As storage system for complete set. Liquidation of existing inventory and then available only as a complete t - as of 29.11.2011**

2. 0495324 Pliers

cardiagn.com

NOTE: **(crimping pliers) Basic tool for different matrices (crimp insert set)**

3. 0495360 Hexagon socket

NOTE: **(Allen key) For securing individual matrices in crimping pliers. Liquidation of existing inventory and then available only as 30 0 495 320 - as of 29.11.2011**

0496847 CRIMPING TOOL

0496847 614329 Crimping tool Minimum set: Measuring and testing equipment MP

NOTE: **Replaces special tool 61 4 322 as of 03/2010. Can be ordered separately again as of 04/2012.**

SI number

02 01 10 (615)

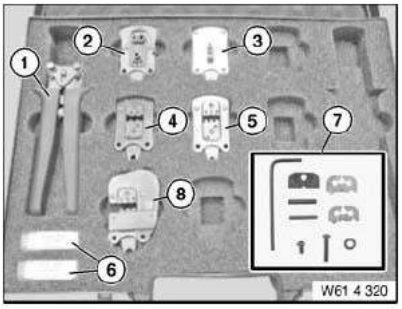


Fig. 120: Identifying Crimping Tool (0496847)
Courtesy of BMW OF NORTH AMERICA, INC.

0494162 CRIMPING TOOL

0494162 614324 Crimping tool Minimum set: Measuring and testing equipment MP

NOTE: **(Crimping head) For crimping MQS contacts**

Storage Location

M22 x 201

SI number

02 04 06 (293)



Fig. 121: Identifying Crimping Tool (0494162)
Courtesy of BMW OF NORTH AMERICA, INC.

2327752 CRIMPING TOOL

2327752 Crimping tool Mechanical tool

cardiagn.com

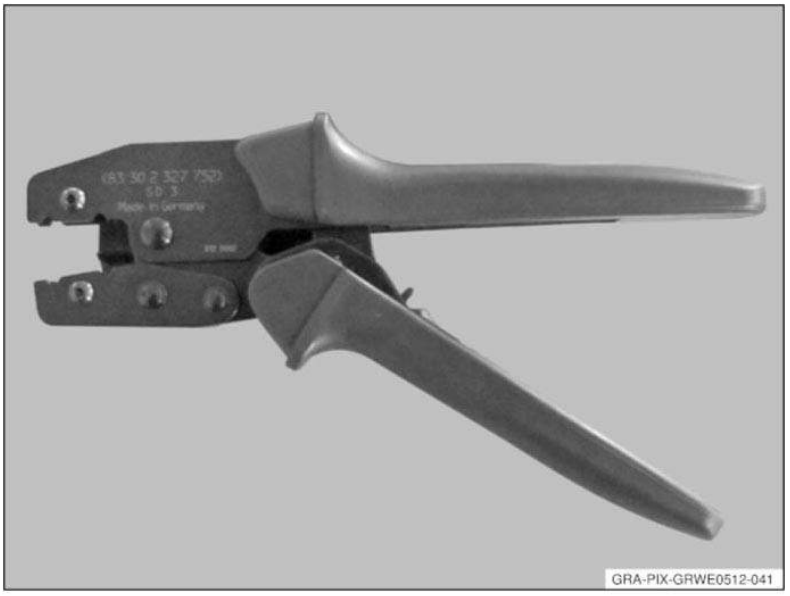


Fig. 122: Identifying Crimping Tool (2327752)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Basic pliers (e.g. in conjunction with die 54 0 230 for crimping the cables on the soft top in E93)**

SI number

05 05 12 (846)

0494178 CRIMPING TOOL

0494178 614325 Crimping tool Minimum set: Measuring and testing equipment MP

NOTE: **(crimping head) For crimping MPQ contacts**

Storage Location

M22 x 201

SI number

02 04 06 (293)

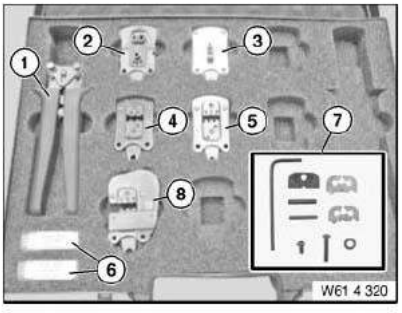


Fig. 123: Identifying Crimping Tool (0494178)
Courtesy of BMW OF NORTH AMERICA, INC.

0496880 CRIMPING TOOL

0496880 614280 Crimping tool Minimum set: Mechanical tools AM

NOTE: **Repair of the coaxial cable RTK 031.**

SI number

02 02 10 (622)

Consisting of:

1. **0496936** Handle

NOTE: **Only available as part of complete tool set 64 1 280 (83 30 0 496 880).**

cardiagn.com

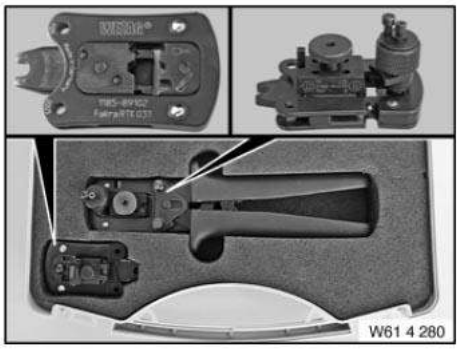


Fig. 124: Identifying Crimping Tool (0496880)
Courtesy of BMW OF NORTH AMERICA, INC.

2. 0496937 Crimping tool

NOTE: **Only available as part of complete tool set 64 1 280 (83 30 0 496 880).**

3. 0496938 Crimping tool

NOTE: **Only available as part of complete tool set 64 1 280 (83 30 0 496 880).**

4. 0496949 Crimping tool

NOTE: **Only available as part of complete tool set 64 1 280 (83 30 0 496 880).**

5. 0496950 Crimping tool

NOTE: **Only available as part of complete tool set 64 1 280 (83 30 0 496 880).**

0494161 CRIMPING TOOL

0494161 614323 Crimping tool Minimum set: Measuring and testing equipment MP

NOTE: **(Crimping head) For crimping optical fibre contacts**

Storage Location

M22 x 201

SI number

02 04 06 (293)

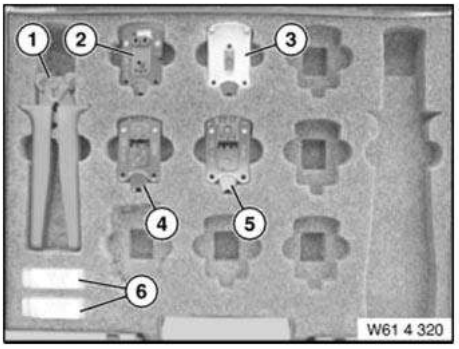


Fig. 125: Identifying Crimping Tool (0494161)
Courtesy of BMW OF NORTH AMERICA, INC.

0496949 CRIMPING TOOL

0496949 614284 Crimping tool Minimum set: Mechanical tools AM

NOTE: **Only available as part of complete tool set 64 1 280 (83 30 0 496 880).**

SI number

02 02 10 (622)

cardiagn.com

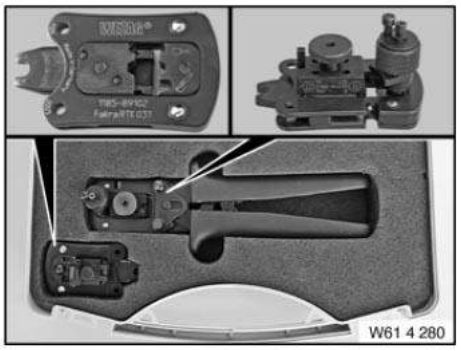


Fig. 126: Identifying Crimping Tool (0496949)
Courtesy of BMW OF NORTH AMERICA, INC.

0494158 CRIMPING TOOL

0494158 614320 Crimping tool Minimum set: Measuring and testing equipment MP

NOTE: **(Crimping set with pliers) For optical fibres and cable repairs. As from 06/2006 extended by universal crimping head 61 4 328.**

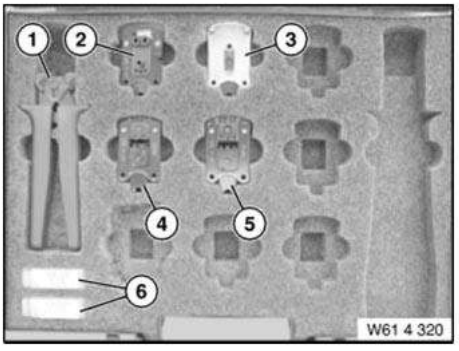


Fig. 127: Identifying Crimping Tool (0494158)
Courtesy of BMW OF NORTH AMERICA, INC.

Storage Location

M22 x 201

SI number

01 14 01 (766)

Consisting of:

1 = 0494159 Handle

NOTE: **Basic handle for crimping heads**

2 = 0494160 Crimping tool

NOTE: **(Crimping head) For stripping insulation and cutting optical fibre to length Replaced as from 03/2010 by 61 4 329 (0 496 847**

3 = 0494161 Crimping tool

NOTE: **(Crimping head) For crimping optical fibre contacts**

4 = 0494162 Crimping tool

NOTE: **(Crimping head) For crimping MQS contacts**

6 = 0494164 Supplement

NOTE: **(Replacement blade) For face-cutting optical fibres. From 03/2006, no longer included in set 61 4 320 but individually availa**

5 = 0494178 Crimping tool

NOTE: **(crimping head) For crimping MPQ contacts**

7 = 0494320 Supplement

NOTE: **(Replacement knife) With tool for changing blades in stripping unit. Must be ordered separately, not included in 61 4 320 de as from 03/2010**

8 = 0495555 Crimping tool

NOTE: **(Universal crimping head) For crimping contacts (without seal) and cable cross-sections from 0.35 - 2.5 mm.**

cardiagn.com

2 = 0496847 Crimping tool

NOTE: **Replaces special tool 61 4 322 as of 03/2010. Can be ordered separately again as of 04/2012.**

2339646 CRIMPING TOOL

2339646 Crimping tool Minimum set: Measuring and testing equipment MP

NOTE: **Crimping pliers CS40 for mounting matrices to process cable contacts for wires with cable cross-sections of 16mm^2 Delivery sp CS40 including case and ring spanner (for emergency release).**



Fig. 128: Identifying Crimping Tool (2339646)
Courtesy of BMW OF NORTH AMERICA, INC.

SI number

02 08 12 (892)

0496850 CRIMPING TOOL

0496850 614343 Crimping tool Minimum set: Measuring and testing equipment MP

NOTE: **Universal crimping head for contacts up to a conductor cross-section of 0.35 - 2.5 mm^2 (replaces special tool 61 4 328 as from 0**

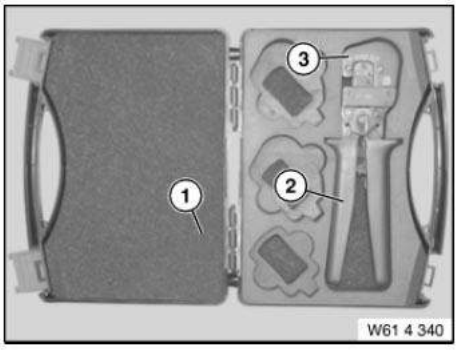


Fig. 129: Identifying Crimping Tool (0496850)
Courtesy of BMW OF NORTH AMERICA, INC.

0496833 CRIMPING TOOL

0496833 614340 Crimping tool Minimum set: Measuring and testing equipment MP

NOTE: **Universal crimping head for contacts for a conductor cross-section of 0.35 - 2.5 mm^2 (without seal). From 03/2010 replacement f 328. Delivered with handle in case as set.**

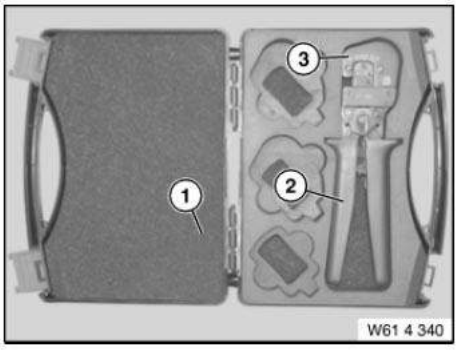


Fig. 130: Identifying Crimping Tool (0496833)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

SI number

02 01 10 (615)

Consisting of:

1. **0496848** Case

   NOTE: **For storing 61 4 342 and 61 4 343**

2. **0496849** Handle
3. **0496850** Crimping tool

   NOTE: **Universal crimping head for contacts up to a conductor cross-section of 0.35 - 2.5 mm^2 (replaces special tool 61 4 328 as fı**

0496937 CRIMPING TOOL

0496937 614282 Crimping tool Minimum set: Mechanical tools AM

NOTE: **Only available as part of complete tool set 64 1 280 (83 30 0 496 880).**

SI number

02 02 10 (622)

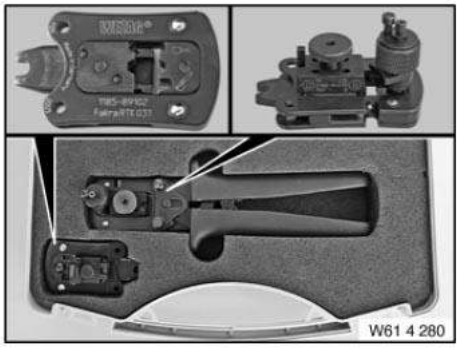


Fig. 131: Identifying Crimping Tool (0496937)
Courtesy of BMW OF NORTH AMERICA, INC.

0496950 CRIMPING TOOL

0496950 614285 Crimping tool Minimum set: Mechanical tools AM

NOTE: **Only available as part of complete tool set 64 1 280 (83 30 0 496 880).**

SI number

02 02 10 (622)

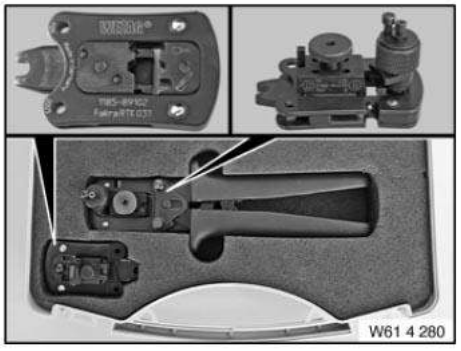


Fig. 132: Identifying Crimping Tool (0496950)
Courtesy of BMW OF NORTH AMERICA, INC.

0496938 CRIMPING TOOL

0496938 614283 Crimping tool Minimum set: Mechanical tools AM

NOTE: **Only available as part of complete tool set 64 1 280 (83 30 0 496 880).**

SI number

02 02 10 (622)

0494160 CRIMPING TOOL

0494160 614322 Crimping tool Minimum set: Measuring and testing equipment MP

Replaced by: 83300496847

cardiagn.com

NOTE: **(Crimping head) For stripping insulation and cutting optical fibre to length Replaced as from 03/2010 by 61 4 329 (0 496 847).**

SI number

02 01 10 (615)

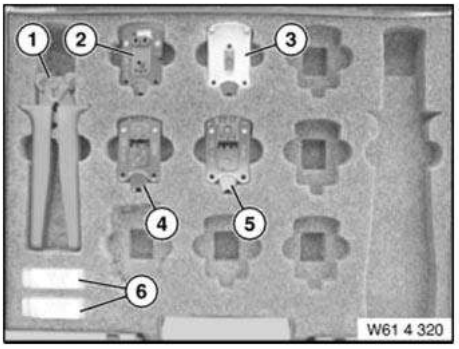


Fig. 133: Identifying Crimping Tool (0494160)
Courtesy of BMW OF NORTH AMERICA, INC.

2296491 DEVICE

2296491 Device Mechanical tool

NOTE: **For lifting out the HVS 2nd generation from the luggage compartment in hybrid vehicles with a manual or motorized crane.**

SI number

01 26 11 (763)

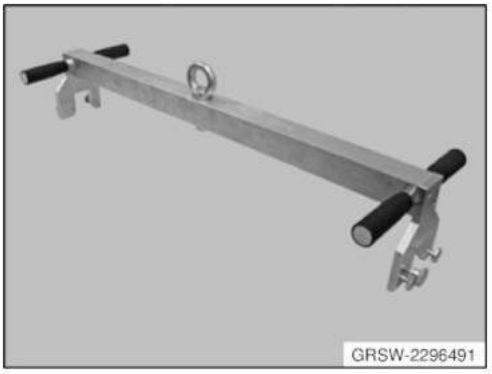


Fig. 134: Identifying Device (2296491)
Courtesy of BMW OF NORTH AMERICA, INC.

0496722 DEVICE

0496722 Device Mechanical tool

SI number

01 26 11 (763)

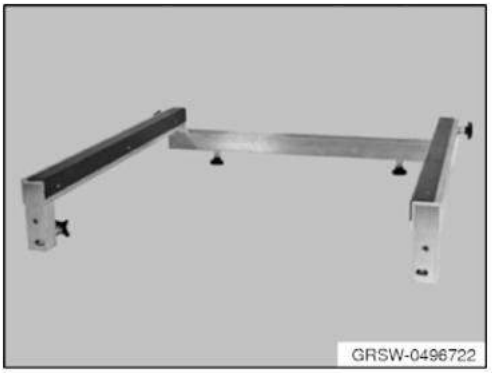


Fig. 135: Identifying Device (0496722)
Courtesy of BMW OF NORTH AMERICA, INC.

0494695 DIAGNOSTIC CONNECTOR

0494695 610051 Diagnostic connector MP

NOTE: **(Active diagnostic connector version 5.1)**

cardiagn.com

0493744 DIAGNOSTIC CONNECTOR

0493744 610050 Diagnostic connector MP

NOTE: **(Active diagnostic connector (diagnostic socket))**

Consisting of:

1. 0494695 Diagnostic connector

   NOTE: **(Active diagnostic connector version 5.1)**

2. 0494696 Adapter cable

   NOTE: **(Adapter cable, diagnostic socket to OBD 2)**

0495477 DIE-PLATE

0495477 610230 Die-plate MP

NOTE: **(Matrix for contacts "DFK 40" and "MAK 8") For crimping contacts when replacing interior fuse box (up to model year 09/2005) a to be used in conjunction with crimping pliers 610202 from the set 610200.**

Storage Location

M22 x 204

SI number

02 07 05 (233)

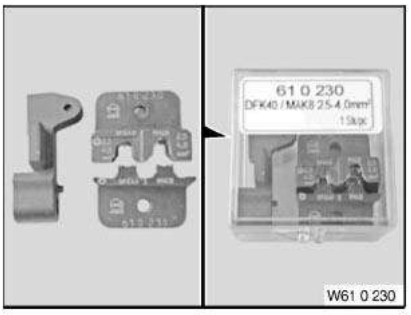


Fig. 136: Identifying Die-Plate (0495477)
Courtesy of BMW OF NORTH AMERICA, INC.

0496464 DIE-PLATE

0496464 610240 Die-plate Minimum set: Measuring and testing equipment MP

NOTE: **(dies) Butt connectors and LSK8 4.0 to 6.0 mm2**

Storage Location

M22 x 204

SI number

02 08 08 (494)

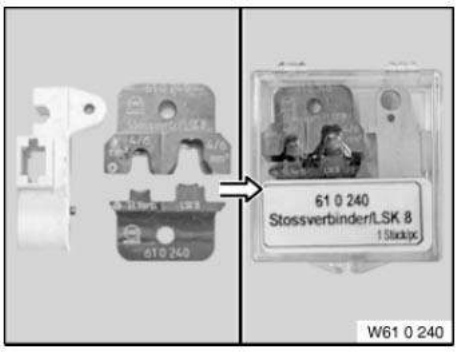


Fig. 137: Identifying Die-Plate (0496464)
Courtesy of BMW OF NORTH AMERICA, INC.

2352539 DIE-PLATE

2352539 Die-plate MP

NOTE: **A new cavity with a diameter of 8.5 mm is required for the butt connector in order to repair the 16 mm^2 battery cable (procured f in conjunction with crimping pliers 2339646.**

cardiagn.com

SI number

02 03 13 (904)



Fig. 138: Identifying Die-Plate (2352539)
Courtesy of BMW OF NORTH AMERICA, INC.

0495328 DIE-PLATE

0495328 610220 Die-plate MP

NOTE: **(Matrix for SLK 2.8) (crimp insert set for bushing contact 2.8) in conjunction with crimping pliers 61 0 202 (from the SWZ set 61 0**

Storage Location

M22 x 204

SI number

02 02 05 (194)



Fig. 139: Identifying Die-Plate (0495328)
Courtesy of BMW OF NORTH AMERICA, INC.

0495327 DIE-PLATE

0495327 610210 Die-plate MP

NOTE: **(Matrix LSK 8) (crimp insert set for load current contact 8) in conjunction with crimping pliers 61 0 202 (from the SWZ set 61 0 20**

Storage Location

M22 x 204

SI number

02 02 05 (194)

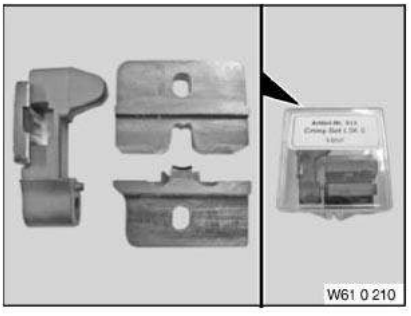


Fig. 140: Identifying Die-Plate (0495327)
Courtesy of BMW OF NORTH AMERICA, INC.

2339647 DIE-PLATE

cardiagn.com

2339647 Die-plate MP

NOTE: **For crimping butt connectors with outer diameter 12.0 mm and lines with cable cross-sections of 35 mm^2 . In conjunction with c**

SI number

02 08 12 (892)

Fig. 141: Identifying Die-Plate (2339647)
Courtesy of BMW OF NORTH AMERICA, INC.

2336806 DIE-PLATE

2336806 Die-plate Mechanical tool

NOTE: **For crimping repair cable with butt connector - order number 61 12 9 283 498 (battery positive cable underfloor battery tray). In c 495 324). Wiring with cable cross-sections of 6.7 - 10.5mm^2 .**

SI number

02 06 12 (857)

Fig. 142: Identifying Die-Plate (2336806)
Courtesy of BMW OF NORTH AMERICA, INC.

0494648 ELECTRONICS BOX

0494648 613070 Electronics box MP

NOTE: **(Power window controller) For controlling power windows with battery removed.**

SI number

02 06 03 (002)

Fig. 143: Identifying Electronics Box (0494648)
Courtesy of BMW OF NORTH AMERICA, INC.

0492838 EXTENSION

0492838 614430 Extension MP

NOTE: **(Measuring cable extension set) No longer available as set. Can only be order in single parts (83 30 0 492 839 and 83 30 0 492 84**

SI number

02 09 90 (258)

Consisting of:

1 = **0492839** Extension

NOTE: **(Measuring cable extension, 1-pin, red (cable length 4.5 m))**

Fig. 144: Identifying Extension (0492838)
Courtesy of BMW OF NORTH AMERICA, INC.

1 = **0492840** Extension

NOTE: **(Measuring cable extension, 1-pin, black (cable length 4.5 m))**

0492840 EXTENSION

0492840 614432 Extension MP

NOTE: **(Measuring cable extension, 1-pin, black (cable length 4.5 m))**

Storage Location

G102

Fig. 145: Identifying Extension (0492840)
Courtesy of BMW OF NORTH AMERICA, INC.

0492826 EXTENSION

0492826 614400 Extension MP

NOTE: **(Extension cable for battery charger)**

0492839 EXTENSION

0492839 614431 Extension MP

NOTE: **(Measuring cable extension, 1-pin, red (cable length 4.5 m))**

cardiagn.com

Storage Location

G 101

Fig. 146: Identifying Extension (0492839)
Courtesy of BMW OF NORTH AMERICA, INC.

0492853 EXTRACTOR

0492853 616000 Extractor MP

Replaced by: 83300493441

NOTE: **For extracting the wiper arm (E38, E39 front passenger only) from the drive shaft - Replaced by 61 6 060 (0 493 441)**

Storage Location

B21

SI number

01 06 94 (801)

Consisting of:

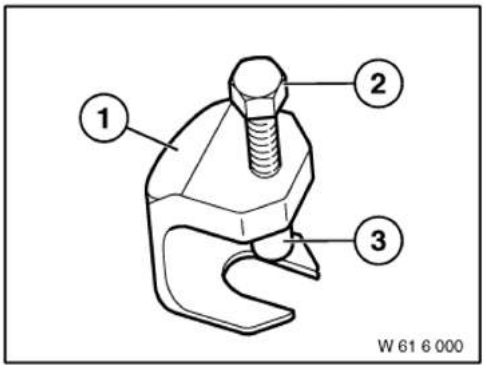


Fig. 147: Identifying Extractor (0492853)
Courtesy of BMW OF NORTH AMERICA, INC.

1. 0492854 Basic body

   NOTE: **Discontinuation and replaced by 61 6 060 (0 493 441)**

2. 0492855 Screw

   NOTE: **Discontinuation and replaced by 61 6 060 (0 493 441)**

3. 0492856 Synchronizing key

   NOTE: **Discontinuation and replaced by 61 6 060 (0 493 441)**

0496697 FOIL

0496697 000421 Foil Minimum set: Measuring and testing equipment MP

NOTE: **3 labels for cable cabinet revision and 1 rail (cable cabinet no. 1) from 10/2014 new sets of foils for cable cabinet 1 and cable cab**

SI number

02 07 09 (571)

Fig. 148: Identifying Foil (0496697)
Courtesy of BMW OF NORTH AMERICA, INC.

0496777 FOIL

0496777 000422 Foil Minimum set: Measuring and testing equipment MP

NOTE: **For storing the N55 cable in cable cabinet no. 1 field "A".**

SI number

02 09 09 (588)

Fig. 149: Identifying Foil (0496777)
Courtesy of BMW OF NORTH AMERICA, INC.

2240540 FOIL

2240540 Foil Minimum set: Measuring and testing equipment MP

cardiagn.com

NOTE: **Label for cardboard box Y1**

SI number

02 09 11 (728)

Fig. 150: Identifying Foil (2240540)
Courtesy of BMW OF NORTH AMERICA, INC.

2360334 FOIL

2360334 Foil Minimum set: Measuring and testing equipment MP

NOTE: **Foil set alphabets (L - R) for cable cabinet 2**

SI number

02 08 14 (115)

Fig. 151: Identifying Foil (2360334)
Courtesy of BMW OF NORTH AMERICA, INC.

2240539 FOIL

2240539 Foil Minimum set: Measuring and testing equipment MP

NOTE: **For storing cables in cable cabinet, no. 2, field "L" and field "R".**

SI number

02 09 11 (728)

Fig. 152: Identifying Foil (2240539)
Courtesy of BMW OF NORTH AMERICA, INC.

0492699 FUSE

0492699 610021 Fuse MP

NOTE: **(Safety fuse FF 3.15 A/500 V) For analogue/digital multimeter M 2005, M 2007, M2008**

0492702 FUSE

0492702 610032 Fuse MP

NOTE: **(Safety fuse FF 1.6 A/500 V) For Metrahit 18S (6.3 mm x 32 mm)**

0492695 FUSE

0492695 610001 Fuse MP

NOTE: **(Safety fuse 16 A/600 V) For Metrahit 14S (10 mm x 38 mm)**

0492701 FUSE

0492701 610031 Fuse MP

NOTE: **(Safety fuse 16 A/600 V) for Metrahit 18S (10 mm x 38 mm)**

0492696 FUSE

0492696 610002 Fuse MP

NOTE: **(Safety fuse FF 1.6 A/500 V) For Metrahit 14S (6.3 mm x 32 mm)**

0492901 FUSE

0492901 619010 Fuse MP

NOTE: **(Fuse for BMW SERVICE TEST)**

Storage Location

Individual

2299394 GAUGE

2299394 Gauge Minimum set: Measuring and testing equipment MP

NOTE: **Gauge to determine which test cable should be used; available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 153: Identifying Gauge (2299394)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

0492738 GAUGE

0492738 611320 Gauge Mechanical tool

NOTE: **(Assembly gauge) For aligning the wiper drive to the wiper axis on the rear window (E39tou)**

Storage Location

C5

Fig. 154: Identifying Gauge (0492738)
Courtesy of BMW OF NORTH AMERICA, INC.

0490510 GAUGE TIP

0490510 009201 Gauge tip Minimum set: Mechanical tools AM

NOTE: **(Needle)**

Fig. 155: Identifying Gauge Tip (0490510)
Courtesy of BMW OF NORTH AMERICA, INC.

0493006 GROMMET

0493006 619472 Grommet MP

NOTE: **(Order no. old: 1 732 694 Grommet for connector housing, two-pin, black, with unlocking (JPT)) Quantity per package: 2 pcs.**

0492937 GROMMET

0492937 619403 Grommet MP

NOTE: **(Order no. old: 1 358 332 Grommet for connector housing, seven-pin, black, with unlocking (JT)) number per package: 2 pcs.**

0492995 GROMMET

0492995 619461 Grommet MP

NOTE: **(Order no. old: 1 711 262 Grommet for socket housing, 7-pin, black, round) Quantity per package: 1 pcs.**

0492935 GROMMET

0492935 619401 Grommet MP

NOTE: **(Order no. old: 1 270 973 grommet for connector housing, five-pin, black, with unlocking (JT)) number per package: 2 pcs.**

0492939 GROMMET

0492939 619405 Grommet MP

NOTE: **(Order no. old: 1 378 147 Grommet for socket housing, six-pin, black, with slide) Number per package: 1 pcs.**

0493005 GROMMET

0493005 619471 Grommet MP

NOTE: **(Order no. old: 1 732 634 grommet for connector housing, three-pin, black, with unlocking (JPT)) quantity per pack: 2 pcs.**

0492936 GROMMET

0492936 619402 Grommet MP

NOTE: **(Order no. old: 1 358 330 Grommet for connector housing, two-pin, black, with unlocking (JT)) number per package: 3 pcs.**

0492998 GROMMET

0492998 619464 Grommet MP

NOTE: **(Order no. old: 1 724 452 grommet for connector housing, three-pin, black) quantity per pack: 2 pcs.**

0492938 GROMMET

0492938 619404 Grommet MP

NOTE: **(Order no. old: 1 358 603 Grommet for connector housing, three-pin, black, with unlocking (JT)) number per package: 2 pcs.**

0492960 GROMMET

0492960 619426 Grommet MP

NOTE: **(Order no. old: 1 382 530 Grommet for socket housing, four-pin, black, with slide) quantity per pack: 1 pcs.**

0496849 HANDLE

0496849 614342 Handle Minimum set: Measuring and testing equipment MP

cardiagn.com

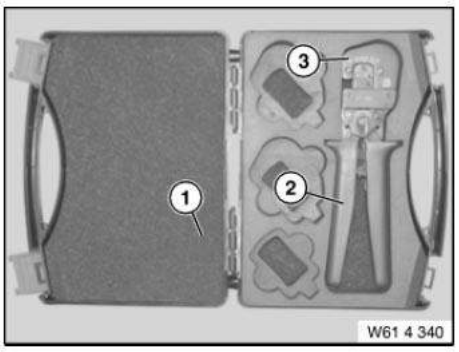


Fig. 156: Identifying Handle (0496849)
Courtesy of BMW OF NORTH AMERICA, INC.

0496936 HANDLE

0496936 614281 Handle Minimum set: Mechanical tools AM

NOTE: **Only available as part of complete tool set 64 1 280 (83 30 0 496 880).**

SI number

02 02 10 (622)

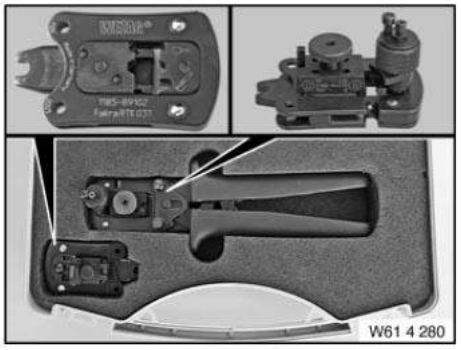


Fig. 157: Identifying Handle (0496936)
Courtesy of BMW OF NORTH AMERICA, INC.

0494159 HANDLE

0494159 614321 Handle Minimum set: Measuring and testing equipment MP

NOTE: **Basic handle for crimping heads**

Storage Location

M22 x 201

SI number

02 01 06 (283)

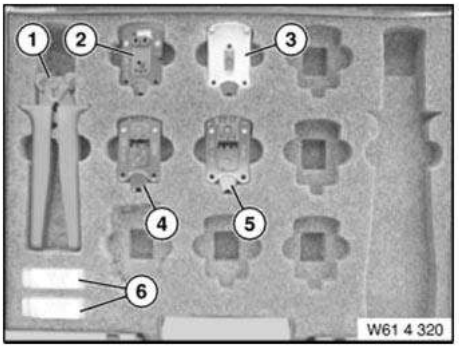


Fig. 158: Identifying Handle (0494159)
Courtesy of BMW OF NORTH AMERICA, INC.

0495360 HEXAGON SOCKET

0495360 610203 Hexagon socket Minimum set: Measuring and testing equipment MP

NOTE: **(Allen key) For securing individual matrices in crimping pliers. Liquidation of existing inventory and then available only as a con 495 320 - as of 29.11.2011**

cardiagn.com

Storage Location

M22 x 204

SI number

02 02 05 (194)

2360980 HOLDER

2360980 Holder Mechanical tool

NOTE: **Set of holders for special tool cabinet 550**

SI number

02 09 14 (116)

Fig. 159: Identifying Holder (2360980)
Courtesy of BMW OF NORTH AMERICA, INC.

0492858 HOLDER

0492858 616011 Holder AM

NOTE: **(holder 3/8"). Available as set 61 6 010 --> 0492857 only.**

Fig. 160: Identifying Holder (0492858)
Courtesy of BMW OF NORTH AMERICA, INC.

0492725 HOLDING SLEEVE

0492725 611155 Holding sleeve MP

Replaced by: 83300495388

NOTE: **(Spare sleeve Ã˜ 3.5 mm for 61 1 133) Replaced by special tool 61 0 306 from 09/2005. Replaced by 61 0 306. (0 495 388)**

0492727 HOLDING SLEEVE

0492727 611157 Holding sleeve MP

Replaced by: 83300495384

NOTE: **(Spare sleeve Ã˜ 1.5 mm for 61 1 131) Replaced by special tool 61 0 302 from 09/2005. Replaced by 61 0 302. (0 495 384)**

0492726 HOLDING SLEEVE

0492726 611156 Holding sleeve MP

Replaced by: 83300495386

NOTE: **(Spare sleeve Ã˜ 2.5 mm for 61 1 132) Replaced by special tool 61 0 304 from 09/2005. Replaced by 61 0 304. (0 495 386)**

0492724 HOLDING SLEEVE

0492724 611154 Holding sleeve MP

Replaced by: 83300495393

NOTE: **(Spare sleeve Ã˜ 1.5 mm for 61 1 139) Order number was used temporarily in 8/95 for the case insert for delivery of case Replace 09/2005. Replaced by 61 0 311. (0 495 393)**

0492883 HOLDING SLEEVE

0492883 616071 Holding sleeve MP

NOTE: **(Flat sleeve for 4 mm^2 (comb connector))**

Storage Location

K 108

Fig. 161: Identifying Holding Sleeve (0492883)
Courtesy of BMW OF NORTH AMERICA, INC.

0495386 HOLDING SLEEVE

0495386 610304 Holding sleeve MP

NOTE: **(Replacement sleeve D = 2.5) Replaced as of 09/2005 special tool 61 1 156**

Storage Location

M22 x 205

SI number

cardiagn.com

02 05 05 (217)

Fig. 162: Identifying Holding Sleeve (0495386)
Courtesy of BMW OF NORTH AMERICA, INC.

0495388 HOLDING SLEEVE

0495388 610306 Holding sleeve MP

NOTE: **(Replacement sleeve (D = 3.5) for 61 0 305) Replaced from 09/2005 special tool 61 1 155**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 163: Identifying Holding Sleeve (0495388)
Courtesy of BMW OF NORTH AMERICA, INC.

0495384 HOLDING SLEEVE

0495384 610302 Holding sleeve MP

NOTE: **(Replacement sleeve D = 1.5) Replaced as of 09/2005 special tool 61 1 157**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 164: Identifying Holding Sleeve (0495384)
Courtesy of BMW OF NORTH AMERICA, INC.

0495390 HOLDING SLEEVE

0495390 610308 Holding sleeve MP

NOTE: **(Spare sleeve for special tool 61 0 307 (D = 1.5))**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 165: Identifying Holding Sleeve (0495390)
Courtesy of BMW OF NORTH AMERICA, INC.

0495393 HOLDING SLEEVE

0495393 610311 Holding sleeve MP

NOTE: **(Replacement sleeve for special tool 61 0 309) Replaces from 09/2005 special tool 61 1 154**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 166: Identifying Holding Sleeve (0495393)
Courtesy of BMW OF NORTH AMERICA, INC.

0492959 HOSE

0492959 619425 Hose MP

NOTE: **(Order no. old: 379 833 heat-shrink tubing, with fuse) quantity per pack: 30 pcs.**

0492907 INSERT

0492907 619033 Insert MP

NOTE: **(Cover insert for repair range IV)**

Storage Location

cardiagn.com

Fig. 167: Identifying Insert (0492907)
Courtesy of BMW OF NORTH AMERICA, INC.

0495677 INSERTION AID

0495677 610327 Insertion aid MP

NOTE: For inserting contacts (0.64 - 1.2 mm) in housing

Storage Location

M22 x 205

SI number

02 05 06 (294)

Fig. 168: Identifying Insertion Aid (0495677)
Courtesy of BMW OF NORTH AMERICA, INC.

0495678 INSERTION AID

0495678 610328 Insertion aid MP

NOTE: For inserting contacts (2.8 - 4.8 mm) in housing

Storage Location

M22 x 205

SI number

02 05 06 (294)

Fig. 169: Identifying Insertion Aid (0495678)
Courtesy of BMW OF NORTH AMERICA, INC.

2221123 KNIFE

2221123 Knife Minimum set: Measuring and testing equipment MP

NOTE: Replacement knife for insulation strippers 83 30 2 221 122

SI number

02 07 11 (721)

Fig. 170: Identifying Knife (2221123)
Courtesy of BMW OF NORTH AMERICA, INC.

0492834 LEVER

0492834 614419 Lever MP

NOTE: (Locking lever for test adapter 88-pin and 83-pin) Liquidation of existing inventory and then available only via complete tool set (29.11.2011

2360081 LIFTING GEAR

2360081 Lifting gear AM

NOTE: Multi-service lifting gear for mounting high-voltage battery units or other loads.

SI number

06 07 14 (196)

Fig. 171: Identifying Lifting Gear (2360081)
Courtesy of BMW OF NORTH AMERICA, INC.

2284952 LIFTING GEAR

2284952 Lifting gear AM

NOTE: Swivel adapter for carrying loads with the workshop crane "WSK-1000".

SI number

06 06 14 (197)

Fig. 172: Identifying Lifting Gear (2284952)
Courtesy of BMW OF NORTH AMERICA, INC.

0492741 MANDREL

cardiagn.com

0492741 611352 Mandrel MP

NOTE: (Inserting drift)

Fig. 173: Identifying Mandrel (0492741)
Courtesy of BMW OF NORTH AMERICA, INC.

0492841 MEASUREMENT AID

0492841 614440 Measurement aid MP

NOTE: (Test box for microswitch) Door control and electro-hydraulic as well as electromechanical soft tops

Storage Location

R203

SI number

02 10 89 (141)

Fig. 174: Identifying Measurement Aid (0492841)
Courtesy of BMW OF NORTH AMERICA, INC.

0492781 MEASURING CABLE

0492781 611475 Measuring cable MP

NOTE: (Measuring cable (D 2.5, 1- pin, black) sale of existing inventory and then available as part of set of special tools 61 1 470 = 83 30

Storage Location

G104

0492830 MEASURING CABLE

0492830 614413 Measuring cable MP

NOTE: (Measuring cable for multimeter (2 mm), 1-pin, red)

Storage Location

G 105

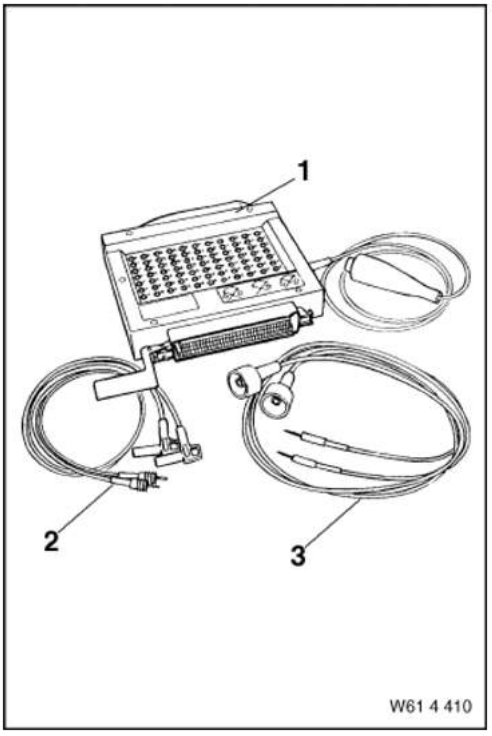


Fig. 175: Identifying Measuring Cable (0492830)
Courtesy of BMW OF NORTH AMERICA, INC.

0492829 MEASURING CABLE

0492829 614412 Measuring cable MP

NOTE: (Measuring cable for multimeter (2 mm), 1-pin, black)

Storage Location

G 105

cardiagn.com

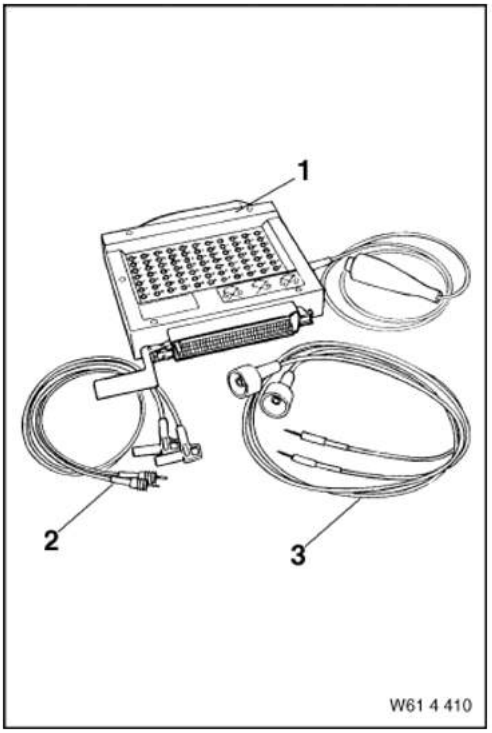


Fig. 176: Identifying Measuring Cable (0492829)
Courtesy of BMW OF NORTH AMERICA, INC.

2299399 MEASURING CABLE

2299399 Measuring cable Minimum set: Measuring and testing equipment MP

NOTE: **Measuring cable available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 177: Identifying Measuring Cable (2299399)
Courtesy of BMW OF NORTH AMERICA, INC.

0492779 MEASURING CABLE

0492779 611473 Measuring cable MP

NOTE: **(Measuring cable (D 2.5, 1- pin, red) sale of existing inventory and then available as part of set of special tools 61 1 470 = 83 30 0**

Storage Location

G104

0492831 MEASURING CABLE

0492831 614414 Measuring cable MP

NOTE: **(Measuring cable for BMW SERVICE TEST, 2 mm, black) Liquidation of existing inventory and then available only via complete t status 29.11.2011**

Storage Location

G106

0492780 MEASURING CABLE

0492780 611474 Measuring cable MP

NOTE: **(Measuring cable (D 4.0, 1- pin, black) sale of existing inventory and then available as part of set of special tools 61 1 470 = 83 3**

Storage Location

G 103

0492832 MEASURING CABLE

0492832 614415 Measuring cable MP

NOTE: **(Measuring cable for BMW SERVICE TEST, 2 mm, red) Liquidation of existing inventory and then available only via complete too status 29.11.2011**

Storage Location

G107

cardiagn.com

0492778 MEASURING CABLE

0492778 611472 Measuring cable MP

NOTE: **(Measuring cable (D 4.0, 1- pin, red) sale of existing inventory and then available as part of set of special tools 61 1 470 = 83 30 0**

Storage Location

G114

0492694 MULTIMETER

0492694 610000 Multimeter MP

NOTE: **(Analogue/digital multimeter Metrahit 14S) Replaces analogue/digital multimeter M 2005**

Consisting of:

1. 0492695 Fuse

   NOTE: **(Safety fuse 16 A/600 V) For Metrahit 14S (10 mm x 38 mm)**

2. 0492696 Fuse

   NOTE: **(Safety fuse FF 1.6 A/500 V) For Metrahit 14S (6.3 mm x 32 mm)**

Fig. 178: Identifying Multimeter (0492694)
Courtesy of BMW OF NORTH AMERICA, INC.

0492700 MULTIMETER

0492700 610030 Multimeter MP

NOTE: **(Analogue/digital multimeter Metrahit 18S) Replaces analogue/digital multimeter M 2008**

Consisting of:

1. 0492701 Fuse

   NOTE: **(Safety fuse 16 A/600 V) for Metrahit 18S (10 mm x 38 mm)**

2. 0492702 Fuse

   NOTE: **(Safety fuse FF 1.6 A/500 V) For Metrahit 18S (6.3 mm x 32 mm)**

Fig. 179: Identifying Multimeter (0492700)
Courtesy of BMW OF NORTH AMERICA, INC.

0492698 MULTIMETER

0492698 610020 Multimeter MP

NOTE: **(Analogue/digital multimeter M 2007) discontinued, but safety fuse 61 0 021 continues to be available**

Consisting of:

2 = 0492699 Fuse

NOTE: **(Safety fuse FF 3.15 A/500 V) For analogue/digital multimeter M 2005, M 2007, M2008**

Fig. 180: Identifying Multimeter (0492698)
Courtesy of BMW OF NORTH AMERICA, INC.

0492697 MULTIMETER

0492697 610010 Multimeter MP

NOTE: **(Analogue/digital multimeter M 2006)**

Fig. 181: Identifying Multimeter (0492697)
Courtesy of BMW OF NORTH AMERICA, INC.

0492833 OPERATING INSTRUCTIONS

0492833 614418 Operating instructions MP

Replaced by: 83300492837

NOTE: **Replaced by 61 4 429 (0492 837)**

cardiagn.com

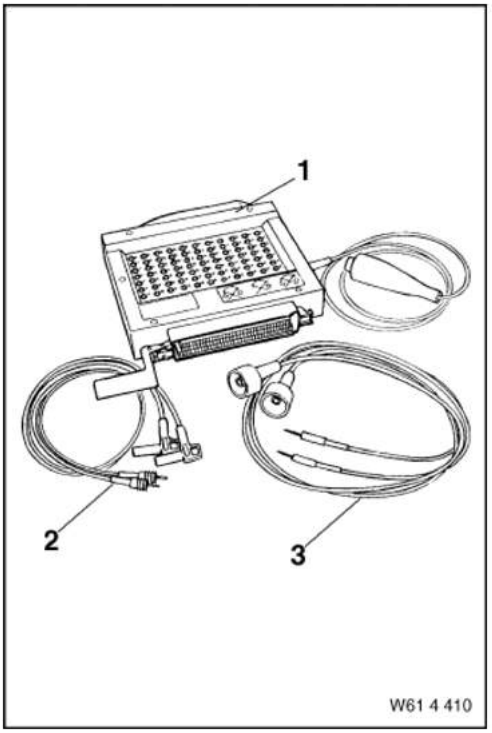


Fig. 182: Identifying Operating Instructions (0492833)
Courtesy of BMW OF NORTH AMERICA, INC.

0492821 OPERATING INSTRUCTIONS

0492821 613029 Operating instructions MP

Fig. 183: Identifying Operating Instructions (0492821)
Courtesy of BMW OF NORTH AMERICA, INC.

0492874 OPERATING INSTRUCTIONS

0492874 616039 Operating instructions MP

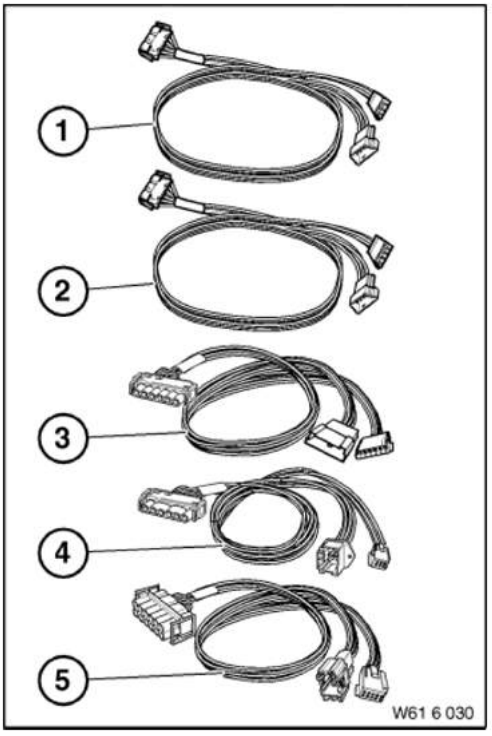


Fig. 184: Identifying Operating Instructions (0492874)
Courtesy of BMW OF NORTH AMERICA, INC.

0492837 OPERATING INSTRUCTIONS

0492837 614429 Operating instructions MP

cardiagn.com

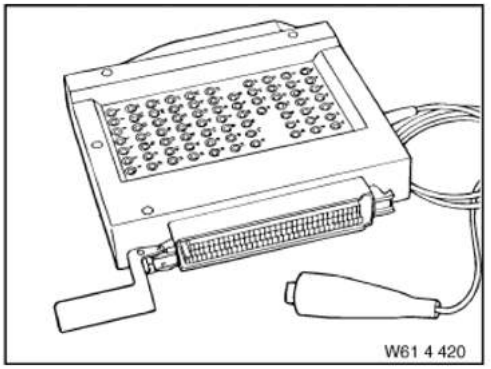


Fig. 185: Identifying Operating Instructions (0492837)
Courtesy of BMW OF NORTH AMERICA, INC.

0492729 OPERATING INSTRUCTIONS

0492729 611159 Operating instructions MP

0492810 OPERATING INSTRUCTIONS

0492810 612409 Operating instructions MP

NOTE: Discontinued

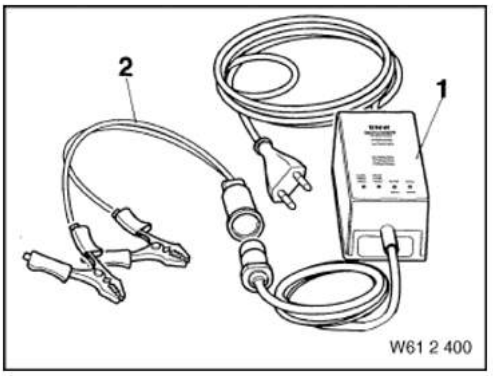


Fig. 186: Identifying Operating Instructions (0492810)
Courtesy of BMW OF NORTH AMERICA, INC.

0492850 OPERATING INSTRUCTIONS

0492850 614489 Operating instructions MP

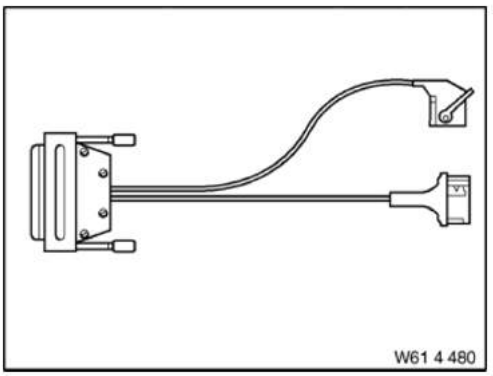


Fig. 187: Identifying Operating Instructions (0492850)
Courtesy of BMW OF NORTH AMERICA, INC.

0492881 OPERATING INSTRUCTIONS

0492881 616049 Operating instructions MP

cardiagn.com

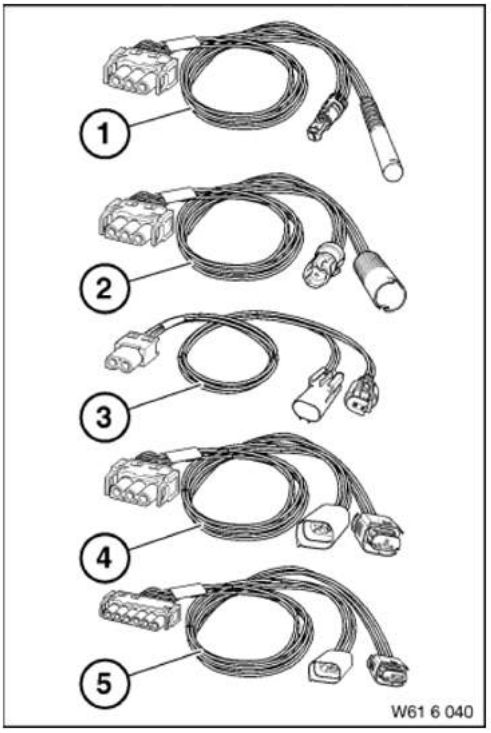


Fig. 188: Identifying Operating Instructions (0492881)
Courtesy of BMW OF NORTH AMERICA, INC.

0492903 OPERATING INSTRUCTIONS

0492903 619029 Operating instructions Minimum set: Measuring and testing equipment MP

NOTE: Volumes 1 to 4

Fig. 189: Identifying Operating Instructions (0492903)
Courtesy of BMW OF NORTH AMERICA, INC.

0492867 OPERATING INSTRUCTIONS

0492867 616029 Operating instructions MP

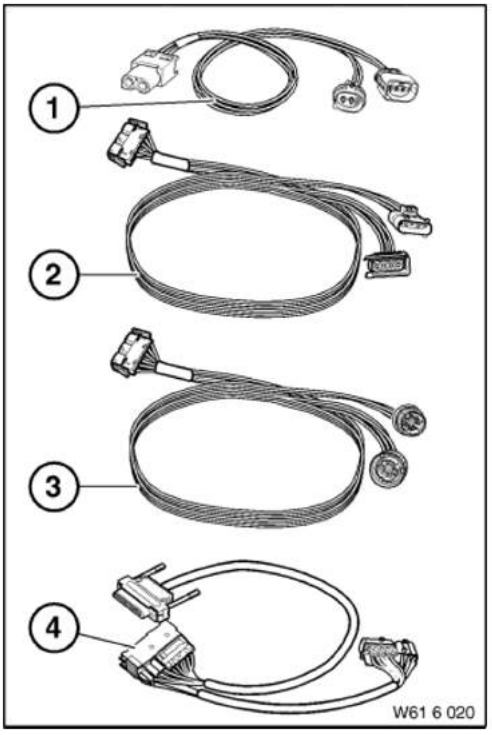


Fig. 190: Identifying Operating Instructions (0492867)
Courtesy of BMW OF NORTH AMERICA, INC.

0492900 OPERATING INSTRUCTIONS

0492900 618084 Operating instructions MP

cardiagn.com

0492711 OUTPUSHER

0492711 611136 Outpusher MP

Replaced by: 83300495398

NOTE: **For power timer contacts (G & H) Replaced by special tool 61 0 316 from 09/2005. Replaced by 61 0 316 (0 495 398)**

Fig. 191: Identifying Outpusher (0492711)
Courtesy of BMW OF NORTH AMERICA, INC.

0493855 OUTPUSHER

0493855 611180 Outpusher MP

NOTE: **Replaced by special tool 61 0 318 from 09/2005.**

SI number

02 06 00 (636)

Fig. 192: Identifying Outpusher (0493855)
Courtesy of BMW OF NORTH AMERICA, INC.

0492740 OUTPUSHER

0492740 611351 Outpusher MP

Fig. 193: Identifying Outpusher (0492740)
Courtesy of BMW OF NORTH AMERICA, INC.

0492708 OUTPUSHER

0492708 611133 Outpusher MP

Replaced by: 83300495387

NOTE: **For 3.5 mm round contacts Replaced by special tool 61 0 305 from 09/2005. Replaced by 61 0 305. (0 495 387)**

Fig. 194: Identifying Outpusher (0492708)
Courtesy of BMW OF NORTH AMERICA, INC.

0493272 OUTPUSHER

0493272 611139 Outpusher MP

Replaced by: 83300495393

NOTE: **Slotted sleeve for round contacts by Kostal corporation with 1.5 mm diameter Replaced by special tool 61 0 311 from 09/2005. R**

Fig. 195: Identifying Outpusher (0493272)
Courtesy of BMW OF NORTH AMERICA, INC.

0492710 OUTPUSHER

0492710 611135 Outpusher MP

Replaced by: 83300495396

NOTE: **For standard flat spring contacts Replaced by special tool 61 0 314 from 09/2005. Replaced by 61 0 314. (0 495 396)**

Fig. 196: Identifying Outpusher (0492710)
Courtesy of BMW OF NORTH AMERICA, INC.

0492721 OUTPUSHER

0492721 611151 Outpusher MP

Replaced by: 83300495397

NOTE: **For power timer contacts/AMP and Bosch Replaced by special tool 61 0 315 from 09/2005. Replaced by 61 0 315 (0 495 397)**

0492722 OUTPUSHER

0492722 611152 Outpusher MP

Replaced by: 83300495405

NOTE: **For micro-timer contacts Replaced by special tool 61 0 323 from 09/2005. Replaced by 61 0 323. (0 495 405)**

0492707 OUTPUSHER

0492707 611132 Outpusher MP

Replaced by: 83300495385

cardiagn.com

NOTE: **For 2.5 mm round contacts Replaced by special tool 61 0 303 from 09/2005. Replaced by 61 0 303. (0 495 385)**

Fig. 197: Identifying Outpusher (0492707)
Courtesy of BMW OF NORTH AMERICA, INC.

0492703 OUTPUSHER

0492703 611110 Outpusher MP

Replaced by: 83300495385

NOTE: **(Pressing-off tool for 2.5 mm round contacts) Replaced by 61 0 303. (0 495 385)**

0492709 OUTPUSHER

0492709 611134 Outpusher MP

Replaced by: 83300495394

NOTE: **For mini flat spring contacts Replaced by special tool 61 0 312 from 09/2005. Replaced by 61 0 312 (0 495 394)**

Fig. 198: Identifying Outpusher (0492709)
Courtesy of BMW OF NORTH AMERICA, INC.

0492706 OUTPUSHER

0492706 611131 Outpusher MP

Replaced by: 83300495383

NOTE: **As of 09/2005 Replaced by 61 0 301. (0 495 383)**

Fig. 199: Identifying Outpusher (0492706)
Courtesy of BMW OF NORTH AMERICA, INC.

0492705 OUTPUSHER

0492705 611130 Outpusher MP

NOTE: **(Pressing-off tool set) For contacts Individual tools of this set belong to 61 1 150, not available for delivery as a set**

Consisting of:

2 = **0492706** Outpusher

NOTE: **As of 09/2005 Replaced by 61 0 301. (0 495 383)**

2 = **0492707** Outpusher

NOTE: **For 2.5 mm round contacts Replaced by special tool 61 0 303 from 09/2005. Replaced by 61 0 303. (0 495 385)**

Fig. 200: Identifying Outpusher (0492705)
Courtesy of BMW OF NORTH AMERICA, INC.

2 = **0492708** Outpusher

NOTE: **For 3.5 mm round contacts Replaced by special tool 61 0 305 from 09/2005. Replaced by 61 0 305. (0 495 387)**

2 = **0492709** Outpusher

NOTE: **For mini flat spring contacts Replaced by special tool 61 0 312 from 09/2005. Replaced by 61 0 312 (0 495 394)**

2 = **0492710** Outpusher

NOTE: **For standard flat spring contacts Replaced by special tool 61 0 314 from 09/2005. Replaced by 61 0 314. (0 495 396)**

2 = **0492711** Outpusher

NOTE: **For power timer contacts (G & H) Replaced by special tool 61 0 316 from 09/2005. Replaced by 61 0 316 (0 495 398)**

2 = **0492712** Outpusher

NOTE: **For timer contacts Replaced by special tool 61 0 313 from 09/2005. Replaced by 61 0 313. (0 495 395)**

2 = **0492713** Socket wrench

NOTE: **For indicator lights (Instrument panel)**

2 = **0493272** Outpusher

NOTE: **Slotted sleeve for round contacts by Kostal corporation with 1.5 mm diameter Replaced by special tool 61 0 311 from 09/20 393)**

0492712 OUTPUSHER

cardiagn.com

0492712 611137 Outpusher MP

Replaced by: 83300495395

NOTE: **For timer contacts Replaced by special tool 61 0 313 from 09/2005. Replaced by 61 0 313. (0 495 395)**

Fig. 201: Identifying Outpusher (0492712)
Courtesy of BMW OF NORTH AMERICA, INC.

0492884 PIN HOUSING

0492884 616072 Pin housing MP

NOTE: **(Pin housing (D 2.5/ELA), 2- pin, oval)**

Storage Location

K 108

Fig. 202: Identifying Pin Housing (0492884)
Courtesy of BMW OF NORTH AMERICA, INC.

0492975 PIN HOUSING

0492975 619441 Pin housing MP

NOTE: **(Order no. old: 1 387 177 Pin housing, four-pin, black, AMP, black cap, repair kit H) quantity per pack: 2 pcs.**

0492943 PIN HOUSING

0492943 619409 Pin housing MP

NOTE: **(Order no. old: 1 378 404 Pin housing, two-pin, black, repair kit D) number per package: 3 pcs.**

0492945 PIN HOUSING

0492945 619411 Pin housing MP

NOTE: **(Order no. old: 1 378 406 pin housing, two-pin, grey, repair kit D) quantity per pack: 3 pcs.**

0492965 PIN HOUSING

0492965 619431 Pin housing MP

NOTE: **(Order no. old: 1 383 869 pin housing, ten-pin, black, AMP, black cap, repair kit H) quantity per pack: 2 pcs.**

0492962 PIN HOUSING

0492962 619428 Pin housing MP

NOTE: **(Order no. old: 1 383 777 Pin housing, four-pin, black, strand sealing, round, repair kit B) quantity per pack: 2 pcs.**

0492889 PIN HOUSING

0492889 616077 Pin housing MP

NOTE: **(Bushing and pin housing (D 1, 5/ELA), 4-pin, round)**

Storage Location

K 108

Fig. 203: Identifying Pin Housing (0492889)
Courtesy of BMW OF NORTH AMERICA, INC.

0492957 PIN HOUSING

0492957 619423 Pin housing MP

NOTE: **(Order no. old: 1 378 953 Pin housing, one-pin, black, repair kit D) quantity per pack: 3 pcs.**

0492989 PIN HOUSING

0492989 619455 Pin housing MP

NOTE: **(Order no. old: 1 392 771 Pin housing, four-pin, black, strand sealing, round, repair kit B) quantity per pack: 1 pcs.**

0492952 PIN HOUSING

0492952 619418 Pin housing MP

NOTE: **(Order no. old: 1 378 422 Pin housing, 4-pin, black, repair kit D) Quantity per package: 1 pcs.**

0492987 PIN HOUSING

0492987 619453 Pin housing MP

NOTE: **(Order no. old: 1 392 743 Pin housing, two-pin, black, repair kit I) Quantity per package: 2 pcs.**

cardiagn.com

0492955 PIN HOUSING

0492955 619421 Pin housing MP

NOTE: **(Order no. old: 1 378 949 Pin housing, three-pin, black, repair kit D) Quantity per package: 2 pcs.**

0492891 PIN HOUSING

0492891 616081 Pin housing MP

NOTE: **(Pin housing (Elo), 3/6-pin, single-row)**

Storage Location

K 108

Fig. 204: Identifying Pin Housing (0492891)
Courtesy of BMW OF NORTH AMERICA, INC.

0492963 PIN HOUSING

0492963 619429 Pin housing MP

NOTE: **(Order no. old: 1 383 783 Pin housing, seven-pin, black, round, repair kit B) quantity per pack: 1 pcs.**

0492895 PIN HOUSING

0492895 616092 Pin housing MP

NOTE: **(Pin housing (Elo ELA), 3- pin, round)**

Storage Location

K 108

Fig. 205: Identifying Pin Housing (0492895)
Courtesy of BMW OF NORTH AMERICA, INC.

0492737 PIN WRENCH

0492737 611310 Pin wrench MP

NOTE: **For removing and installing the headlight cleaning system (jets)**

Storage Location

X3

SI number

01 05 90 (207)

Fig. 206: Identifying Pin Wrench (0492737)
Courtesy of BMW OF NORTH AMERICA, INC.

0494895 PLATE

0494895 612422 Plate Minimum set: Measuring and testing equipment MP

NOTE: **(cover plate for test box) For assignment of individual modules**

Storage Location

F102

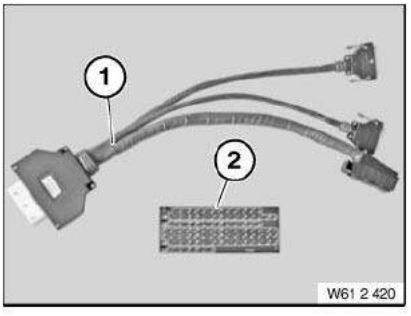


Fig. 207: Identifying Plate (0494895)
Courtesy of BMW OF NORTH AMERICA, INC.

0495324 PLIERS

0495324 610202 Pliers Minimum set: Measuring and testing equipment MP

NOTE: **(crimping pliers) Basic tool for different matrices (crimp insert set)**

cardiagn.com

Storage Location

M22 x 204

SI number

02 02 05 (194)

Fig. 208: Identifying Pliers (0495324)
Courtesy of BMW OF NORTH AMERICA, INC.

0492735 PLIERS

0492735 611250 Pliers Mechanical tool

NOTE: **For removal of relay from power distribution box**

Storage Location

A13

Fig. 209: Identifying Pliers (0492735)
Courtesy of BMW OF NORTH AMERICA, INC.

0492736 PLIERS

0492736 611300 Pliers Mechanical tool

NOTE: **For removing the exterior mirror switch/model year: from 83**

Storage Location

A13

Fig. 210: Identifying Pliers (0492736)
Courtesy of BMW OF NORTH AMERICA, INC.

0495212 PLIERS

0495212 520100 Pliers MP

NOTE: **Crimping pliers for wire end ferrules - for crimping wire end ferrules measuring 0.08 to 10 mm^2 and from 16 mm^2 .**

SI number

01 15 12 (830)

Fig. 211: Identifying Pliers (0495212)
Courtesy of BMW OF NORTH AMERICA, INC.

2221122 PLIERS

2221122 Pliers Minimum set: Measuring and testing equipment MP

NOTE: **Automatic self-adjusting insulation strippers for one or multi-wire cables with a cross-section of 0.03 to 10 mm**

SI number

02 07 11 (721)

Consisting of:

1. **2221123** Knife

   NOTE: **Replacement knife for insulation strippers 83 30 2 221 122**

Fig. 212: Identifying Pliers (2221122)
Courtesy of BMW OF NORTH AMERICA, INC.

0495669 POWER SUPPLY CABLE

0495669 612441 Power supply cable MP

NOTE: **(Mains lead (country-specific))**
Egypt/Algeria/Armenia/Belarus/Belgium/Brazil/Denmark/Germany/Dubai/Finland/France/Greece/Korea/Netherlands/Luxembourg/
Arabia/Sweden/Spain, etc.

0495670 POWER SUPPLY CABLE

0495670 612442 Power supply cable MP

NOTE: **(Mains lead (country-specific)) Australia/New Zealand**

0495672 POWER SUPPLY CABLE

0495672 612444 Power supply cable MP

cardiagn.com

NOTE: **(Mains lead (country-specific)) Bahrain/Brunei Darussalam/England/Hong Kong/India/Qatar/Kuwait/Nigeria/Northern Ireland/Oma**

0495674 POWER SUPPLY CABLE

0495674 612446 Power supply cable MP

NOTE: **(Mains lead (country-specific)) Argentina/Barbados/China/Guam/Honduras/Jamaica/Canada/Mexico/Panama/Philippines/Tahiti/Ta**

0495671 POWER SUPPLY CABLE

0495671 612443 Power supply cable MP

NOTE: **(Mains lead (country-specific)) Italy**

0495673 POWER SUPPLY CABLE

0495673 612445 Power supply cable MP

NOTE: **(Mains lead (country-specific)) Switzerland**

0495675 POWER SUPPLY CABLE

0495675 612447 Power supply cable MP

NOTE: **(Mains lead (country-specific)) Japan**

0495668 POWER SUPPLY CABLE

0495668 612440 Power supply cable MP

NOTE: **(Mains lead (country-specific)) Mains lead for trickle charger 61 2 410**

Consisting of:

1. 0495669 Power supply cable

   NOTE: **(Mains lead (country-specific)) Egypt/Algeria/Armenia/Belarus/Belgium/Brazil/Denmark/Germany/Dubai/Finland/France/Greece/Korea/Netherlands/Luxembourg/I Arabia/Sweden/Spain, etc.**

2. 0495670 Power supply cable

   NOTE: **(Mains lead (country-specific)) Australia/New Zealand**

3. 0495671 Power supply cable

   NOTE: **(Mains lead (country-specific)) Italy**

4. 0495672 Power supply cable

   NOTE: **(Mains lead (country-specific)) Bahrain/Brunei Darussalam/England/Hong Kong/India/Qatar/Kuwait/Nigeria/Northern Irelanc (Ceylon)**

5. 0495673 Power supply cable

   NOTE: **(Mains lead (country-specific)) Switzerland**

6. 0495674 Power supply cable

   NOTE: **(Mains lead (country-specific)) Argentina/Barbados/China/Guam/Honduras/Jamaica/Canada/Mexico/Panama/Philippines/Ta**

7. 0495675 Power supply cable

   NOTE: **(Mains lead (country-specific)) Japan**

0492730 PULLER

0492730 611160 Puller MP

NOTE: **For 6-pin connector housing, seat/mirror memory**

Storage Location

I 109

SI number

02 12 91 (450)

Fig. 213: Identifying Puller (0492730)
Courtesy of BMW OF NORTH AMERICA, INC.

2293548 RELEASE TOOL

2293548 Release tool Minimum set: Measuring and testing equipment MP

NOTE: **For unlocking contacts on the DSC**

cardiagn.com

SI number

01 20 11 (745)

Fig. 214: Identifying Release Tool (2293548)
Courtesy of BMW OF NORTH AMERICA, INC.

0492716 RELEASE TOOL

0492716 611142 Release tool MP

NOTE: **For D 2.5/strand sealing, 7-pin, round**

Storage Location

K 106

SI number

02 05 05 (217)

0495406 RELEASE TOOL

0495406 610324 Release tool MP

NOTE: **(release tool for secondary lock) Universal tool for damage-free opening/removal of secondary locks**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 215: Identifying Release Tool (0495406)
Courtesy of BMW OF NORTH AMERICA, INC.

0495385 RELEASE TOOL

0495385 610303 Release tool MP

NOTE: **(Release tool for round systems with D = 2.5) Replaces from 09/2005 special tool 61 1 132**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Consisting of:

4 = **0495386** Holding sleeve

NOTE: **(Replacement sleeve D = 2.5) Replaced as of 09/2005 special tool 61 1 156**

Fig. 216: Identifying Release Tool (0495385)
Courtesy of BMW OF NORTH AMERICA, INC.

0492717 RELEASE TOOL

0492717 611143 Release tool MP

NOTE: **For D 2.5/strand sealing, 12-pin, round**

Storage Location

K 106

SI number

02 05 05 (217)

Fig. 217: Identifying Release Tool (0492717)
Courtesy of BMW OF NORTH AMERICA, INC.

0496343 RELEASE TOOL

0496343 611103 Release tool MP

NOTE: **For unlocking "MLK 1.2" contacts (Sleeve)**

SI number

02 01 08 (438)

cardiagn.com

Fig. 218: Identifying Release Tool (0496343)
Courtesy of BMW OF NORTH AMERICA, INC.

0495391 RELEASE TOOL

0495391 610309 Release tool MP

NOTE: **(Release tool for pin-end round contact (D=1.5) manufactured by Kostal) Replaces from 09/2005 special tool 61 1 139**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Consisting of:

10 = **0495393** Holding sleeve

Fig. 219: Identifying Release Tool (0495391)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **(Replacement sleeve for special tool 61 0 309) Replaces from 09/2005 special tool 61 1 154**

0495389 RELEASE TOOL

0495389 610307 Release tool MP

NOTE: **(release tool for socket-end round contacts (D=1.5))**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Consisting of:

8 = **0495390** Holding sleeve

NOTE: **(Spare sleeve for special tool 61 0 307 (D = 1.5))**

Fig. 220: Identifying Release Tool (0495389)
Courtesy of BMW OF NORTH AMERICA, INC.

0495405 RELEASE TOOL

0495405 610323 Release tool MP

NOTE: **(release tool for flat spring contacts with a retaining tab (MQS)) Replaces from 09/2005 special tool 61 1 152**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 221: Identifying Release Tool (0495405)
Courtesy of BMW OF NORTH AMERICA, INC.

0492742 RELEASE TOOL

0492742 611360 Release tool MP

NOTE: **For releasing the connector housings from the holder/multiple-locked holders**

Storage Location

A2

SI number

01 13 97 (205)

Fig. 222: Identifying Release Tool (0492742)
Courtesy of BMW OF NORTH AMERICA, INC.

2220100 RELEASE TOOL

2220100 Release tool Minimum set: Measuring and testing equipment MP

NOTE: **for proper unlocking of the MCON 1, 2 contact on the engine control unit plug**

cardiagn.com

SI number

02 01 11 (706)

Fig. 223: Identifying Release Tool (2220100)
Courtesy of BMW OF NORTH AMERICA, INC.

0495398 RELEASE TOOL

0495398 610316 Release tool MP

NOTE: **(release tool for flat spring contacts with double retaining tab "SPT 4.8" "JPT 2.8") Replaces from 09/2005 special tool 61 1 136**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 224: Identifying Release Tool (0495398)
Courtesy of BMW OF NORTH AMERICA, INC.

0492714 RELEASE TOOL

0492714 611140 Release tool MP

NOTE: **(Release tool set) For circular connector (ELA), individual tools of this set belong to 61 1 150, not available as a set**

Consisting of:

1 = 0492715
2 = 0492716
3 = 0492717
4 = 0492718
45 = 0492719

0493564

0493832

Fig. 225: Identifying Release Tool (0492714)
Courtesy of BMW OF NORTH AMERICA, INC.

0492719 RELEASE TOOL

0492719 611145 Release tool MP

NOTE: **For D 1.5/strand sealing, 10-pin, round**

Storage Location

K 106

SI number

02 05 05 (217)

Fig. 226: Identifying Release Tool (0492719)
Courtesy of BMW OF NORTH AMERICA, INC.

0495396 RELEASE TOOL

0495396 610314 Release tool MP

NOTE: **(release tool for flat spring contact with a retaining tab (2.7 mm)) Replaces from 09/2005 special tool 61 1 135**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 227: Identifying Release Tool (0495396)
Courtesy of BMW OF NORTH AMERICA, INC.

0495403 RELEASE TOOL

0495403 610321 Release tool MP

NOTE: **(release tool for sensor laminated contacts with release device ("SLK 2.8"))**

cardiagn.com

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 228: Identifying Release Tool (0495403)
Courtesy of BMW OF NORTH AMERICA, INC.

0496344 RELEASE TOOL

0496344 611104 Release tool MP

NOTE: **For unlocking "SLK 2.8" mm contacts with secondary lock and supplementary slide**

SI number

02 01 08 (438)

Fig. 229: Identifying Release Tool (0496344)
Courtesy of BMW OF NORTH AMERICA, INC.

0495387 RELEASE TOOL

0495387 610305 Release tool MP

NOTE: **(Release tool for round contacts (D = 3.5)) Replaces from 09/2005 special tool 61 1 133**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Consisting of:

6 = **0495388** Holding sleeve

Fig. 230: Identifying Release Tool (0495387)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **(Replacement sleeve (D = 3.5) for 61 0 305) Replaced from 09/2005 special tool 61 1 155**

0492718 RELEASE TOOL

0492718 611144 Release tool MP

NOTE: **For D 2.5/strand sealing, 25-pin, round**

Storage Location

K 106

SI number

02 05 05 (217)

Fig. 231: Identifying Release Tool (0492718)
Courtesy of BMW OF NORTH AMERICA, INC.

0495401 RELEASE TOOL

0495401 610319 Release tool MP

Replaced by: 83300496333

NOTE: **(release tool for sensor disc contacts ("SLK2.8")) Replaces from 09/2005 special tool 61 1 148. To be replaced from 02/2008 by s| 61 0 333 (0 496 333)**

SI number

02 05 05 (217)

Fig. 232: Identifying Release Tool (0495401)
Courtesy of BMW OF NORTH AMERICA, INC.

0492715 RELEASE TOOL

0492715 611141 Release tool MP

NOTE: **For D 2.5/strand sealing, 4-pin, round**

Storage Location

cardiagn.com

K 106

SI number

02 05 05 (217)

Fig. 233: Identifying Release Tool (0492715)
Courtesy of BMW OF NORTH AMERICA, INC.

0496332 RELEASE TOOL

0496332 610332 Release tool MP

NOTE: **For unlocking "MQS 0.64 mm" contacts**

Storage Location

M22 x 205

SI number

02 03 08 (440)

Fig. 234: Identifying Release Tool (0496332)
Courtesy of BMW OF NORTH AMERICA, INC.

0496588 RELEASE TOOL

0496588 610250 Release tool Minimum set: Mechanical tools Mechanical tool

NOTE: **For disassembly of 12V power sockets.**

Storage Location

A26

SI number

01 08 09 (531)

Fig. 235: Identifying Release Tool (0496588)
Courtesy of BMW OF NORTH AMERICA, INC.

0495397 RELEASE TOOL

0495397 610315 Release tool MP

NOTE: **(release tool for flat spring contacts with double retaining tab "Micro-Timer 2") Replaces from 09/2005 special tool 61 1 151**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 236: Identifying Release Tool (0495397)
Courtesy of BMW OF NORTH AMERICA, INC.

0496345 RELEASE TOOL

0496345 611105 Release tool MP

NOTE: **For unlocking "SLK 5.8" mm contacts with secondary lock and supplementary slide**

SI number

02 01 08 (438)

Fig. 237: Identifying Release Tool (0496345)
Courtesy of BMW OF NORTH AMERICA, INC.

0496333 RELEASE TOOL

0496333 610333 Release tool MP

NOTE: **For unlocking "Mcon 2.8" contacts. Replaces special tool 61 0 319 from 2008.**

Storage Location

M22 x 205

SI number

02 03 08 (440)

cardiagn.com

Fig. 238: Identifying Release Tool (0496333)
Courtesy of BMW OF NORTH AMERICA, INC.

0496340 RELEASE TOOL

0496340 611100 Release tool Minimum set: Measuring and testing equipment MP

NOTE: **(release set) For releasing assorted electrical contacts on all 4-cylinder diesel engines.**

SI number

02 01 08 (438)

Consisting of:

1. 0496341
2. 0496342
3. 0496343
4. 0496344
5. 0496345

Fig. 239: Identifying Release Tool (0496340)
Courtesy of BMW OF NORTH AMERICA, INC.

0495400 RELEASE TOOL

0495400 610318 Release tool MP

NOTE: **(release tool for "Maxi Power Timer 9.5") Replaces from 09/2005 special tool 61 1 180**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 240: Identifying Release Tool (0495400)
Courtesy of BMW OF NORTH AMERICA, INC.

0495395 RELEASE TOOL

0495395 610313 Release tool MP

NOTE: **(Release tool for flat spring contacts with a retaining tab (1.9 mm)) Replaces from 09/2005 special tool 61 1 137**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 241: Identifying Release Tool (0495395)
Courtesy of BMW OF NORTH AMERICA, INC.

0495404 RELEASE TOOL

0495404 610322 Release tool MP

NOTE: **(release tool for mini laminated contact ("MLK 1.2 mm"))**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 242: Identifying Release Tool (0495404)
Courtesy of BMW OF NORTH AMERICA, INC.

0495394 RELEASE TOOL

0495394 610312 Release tool MP

NOTE: **(release tool for flat spring contact with a retaining lug (1.6 mm)) Replaces from 09/2005 special tool 61 1 134**

Storage Location

M22 x 205

SI number

cardiagn.com

02 05 05 (217)

Fig. 243: Identifying Release Tool (0495394)
Courtesy of BMW OF NORTH AMERICA, INC.

0492824 RELEASE TOOL

0492824 613100 Release tool MP

NOTE: **For light switches (E36/7 and E46)**

Storage Location

B3

C3

SI number

01 03 96 (042)

Fig. 244: Identifying Release Tool (0492824)
Courtesy of BMW OF NORTH AMERICA, INC.

0495399 RELEASE TOOL

0495399 610317 Release tool MP

NOTE: **(release tool for LSK 8) Replaces from 09/2005 special tool 61 1 200**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Fig. 245: Identifying Release Tool (0495399)
Courtesy of BMW OF NORTH AMERICA, INC.

0496342 RELEASE TOOL

0496342 611102 Release tool MP

NOTE: **For unlocking "MLK 1.2" contacts (connector)**

SI number

02 01 08 (438)

Fig. 246: Identifying Release Tool (0496342)
Courtesy of BMW OF NORTH AMERICA, INC.

0492723 RELEASE TOOL

0492723 611153 Release tool MP

NOTE: **For retaining tabs of relay carrier**

Storage Location

K 106

SI number

02 05 05 (217)

Fig. 247: Identifying Release Tool (0492723)
Courtesy of BMW OF NORTH AMERICA, INC.

0495578 RELEASE TOOL

0495578 610325 Release tool MP

NOTE: **(release tool "JPT")**

Storage Location

M22 x 205

SI number

02 05 06 (294)

Fig. 248: Identifying Release Tool (0495578)

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

0495676 RELEASE TOOL

0495676 610326 Release tool MP

NOTE: **(release tool "MQS") For releasing micro contacts**

Storage Location

M22 x 205

SI number

02 05 06 (294)

Fig. 249: Identifying Release Tool (0495676)
Courtesy of BMW OF NORTH AMERICA, INC.

0495383 RELEASE TOOL

0495383 610301 Release tool MP

NOTE: **(Release tool for round contacts (diameter 1.5)) Replaces from 09/2005 special tool 61 1 131**

Storage Location

M22 x 205

SI number

02 05 05 (217)

Consisting of:

2 = **0495384** Holding sleeve

Fig. 250: Identifying Release Tool (0495383)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **(Replacement sleeve D = 1.5) Replaced as of 09/2005 special tool 61 1 157**

0495680 RELEASE TOOL

0495680 610331 Release tool MP

NOTE: **(release tool "SLK 5.8") For releasing "SLK 5.8 mm" contacts**

Storage Location

M22 x 205

SI number

02 05 06 (294)

Fig. 251: Identifying Release Tool (0495680)
Courtesy of BMW OF NORTH AMERICA, INC.

0495382 RELEASE TOOL

0495382 610300 Release tool Minimum set: Measuring and testing equipment MP

NOTE: **(release tool (set complete)) Replaces from 09/2005 special tool 61 1 150. From 06/2006 extended by tools 61 0 325 - 61 0 331.**

Fig. 252: Identifying Release Tool (0495382)
Courtesy of BMW OF NORTH AMERICA, INC.

Storage Location

M22 x 205

SI number

02 05 05 (217)

Consisting of:

1 = 0495383
3 = 0495385
5 = 0495387
7 = 0495389
9 = 0495391
1 = 0495394
13 = 0495395

cardiagn.com

0495396

15 = 0495397
2 = 0495398
17 = 0495399
18 = 0495400

0495401

21 = 0495403
22 = 0495404
23 = 0495405
24 = 0495406
29 = 0495407
5 = 0495578
6 = 0495676
7 = 0495677
1 = 0495678
1 = 0495680
2 = 0496332
3 = 0496333

2354571 REMOVAL AID

2354571 Removal aid Mechanical tool

NOTE: **For removing the "Car-Sharing" module 3.0 in "DriveNow" vehicles**

SI number

01 31 13 (001)

Fig. 253: Identifying Removal Aid (2354571)
Courtesy of BMW OF NORTH AMERICA, INC.

0492920 REPAIR KIT

0492920 619058 Repair kit MP

NOTE: **(Repair kit H)**

0492921 REPAIR KIT

0492921 619059 Repair kit MP

NOTE: **(Repair kit I)**

0493226 REPAIR KIT

0493226 619211 Repair kit MP

NOTE: **(Repair kit O)**

Storage Location

K 108

0492920 REPAIR KIT

0492920 619058 Repair kit MP

NOTE: **(Repair kit H)**

0492916 REPAIR KIT

0492916 619054 Repair kit MP

NOTE: **(Repair kit D)**

Storage Location

K 108

0492915 REPAIR KIT

0492915 619053 Repair kit MP

NOTE: **(Repair kit C)**

Storage Location

K 108

0492912 REPAIR KIT

0492912 619050 Repair kit MP

cardiagn.com

NOTE: **(Repair kits A - N)**

SI number

02 04 07 (341)

Fig. 254: Identifying Repair Kit (0492912)
Courtesy of BMW OF NORTH AMERICA, INC.

Consisting of:

0492913

0492914

0492915

0492916

0492917

0492918

0492919

0492920

0492921

0492922

0492923

0492924

0492925

0493436 REPAIR KIT

0493436 619212 Repair kit MP

NOTE: **(Repair kit P)**

Storage Location

K 108

0492914 REPAIR KIT

0492914 619052 Repair kit MP

NOTE: **(Repair kit B)**

0492902 REPAIR KIT

0492902 619020 Repair kit Minimum set: Measuring and testing equipment MP

NOTE: **(Repair range IV for onboard electrics) Repair range IV is discontinued. Replacement parts can be obtained via parts service.**

SI number

02 04 07 (341)

Consisting of:

2 = **0492903** Operating instructions

NOTE: **Volumes 1 to 4**

Fig. 255: Identifying Repair Kit (0492902)
Courtesy of BMW OF NORTH AMERICA, INC.

0492924 REPAIR KIT

0492924 619063 Repair kit MP

NOTE: **(Repair kit M)**

Storage Location

K 108

0492917 REPAIR KIT

0492917 619055 Repair kit MP

NOTE: **(Repair kit E)**

0492927 REPAIR KIT

cardiagn.com

0492927 619080 Repair kit MP

Storage Location

K 108

SI number

02 04 07 (341)

Consisting of:

Fig. 256: Identifying Repair Kit (0492927)
Courtesy of BMW OF NORTH AMERICA, INC.

0492928

0492929

0492930

0492931

0492932

0492933

0492922 REPAIR KIT

0492922 619061 Repair kit MP

NOTE: **(Repair kit K)**

Storage Location

K 108

0492925 REPAIR KIT

0492925 619064 Repair kit MP

NOTE: **(Repair kit N)**

Storage Location

K 108

0492913 REPAIR KIT

0492913 619051 Repair kit MP

NOTE: **(Repair kit A)**

0492919 REPAIR KIT

0492919 619057 Repair kit MP

NOTE: **(Repair kit G)**

Storage Location

K 108

0492918 REPAIR KIT

0492918 619056 Repair kit MP

NOTE: **(Repair kit F)**

Storage Location

K 108

0493437 REPAIR KIT

0493437 619213 Repair kit MP

NOTE: **(Repair kit Q) Elo Power 2.8 connector system without strand sealing, butt connectors**

Storage Location

K 108

2338099 RESET

2338099 Reset Mechanical tool

NOTE: **Oil and service resetter As replacement for 62 1 110.**

Fig. 257: Identifying Reset (2338099)

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

0493745 RING SPANNER

0493745 616250 Ring spanner Minimum set: Mechanical tools Mechanical tool

NOTE: **(Open ring spanner SW13) For adjusting the wiper console**

Storage Location

B11

SI number

01 15 99 (483)

Fig. 258: Identifying Ring Spanner (0493745)
Courtesy of BMW OF NORTH AMERICA, INC.

0492855 SCREW

0492855 616002 Screw MP

Replaced by: 83300493441

NOTE: **Discontinuation and replaced by 61 6 060 (0 493 441)**

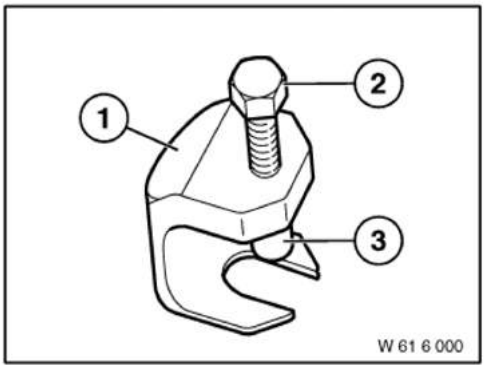


Fig. 259: Identifying Screw (0492855)
Courtesy of BMW OF NORTH AMERICA, INC.

0494218 SOCKET WAF 46

0494218 46 613330 Socket WAF MP

NOTE: **(1/4 inch socket) For tightening the special nut on the EWS. Other: only UK**

Storage Location

A83

Fig. 260: Identifying Socket WAF 46 (0494218)
Courtesy of BMW OF NORTH AMERICA, INC.

0492979 SOCKET HOUSING

0492979 619445 Socket housing MP

NOTE: **(Order no. old: 1 392 242 Socket housing, 18-pin, black, AMP, water blue 45Â° cap, repair kit H) Quantity per package: 2 pcs.**

0492888 SOCKET HOUSING

0492888 616076 Socket housing MP

NOTE: **(Socket housing (D 2.5/ELA), 6-pin/8-pin, oval)**

Storage Location

K 108

Fig. 261: Identifying Socket Housing (0492888)
Courtesy of BMW OF NORTH AMERICA, INC.

0492976 SOCKET HOUSING

0492976 619442 Socket housing MP

NOTE: **(Order no. old: 1 392 222 Socket housing, 4-pin, black, ELA round, repair kit B) Quantity per package: 2 pcs.**

0492942 SOCKET HOUSING

0492942 619408 Socket housing MP

cardiagn.com

NOTE: (Order no. old: 1 378 402 socket housing, two-pin, grey, repair kit D) number per package: 3 pcs.

0492961 SOCKET HOUSING

0492961 619427 Socket housing MP

NOTE: (Order no. old: 1 383 764 Socket housing, 26-pin, brown, Siemens, water blue 45Â° cap, repair kit H) Quantity per package: 2 pcs

0492946 SOCKET HOUSING

0492946 619412 Socket housing MP

NOTE: (Order no. old: 1 378 408 Socket housing, 2-pin, black, oval, repair kit D) Quantity per package: 2 pcs.

0492948 SOCKET HOUSING

0492948 619414 Socket housing MP

NOTE: (Order no. old: 1 378 412 Socket housing, 3-pin, black, repair kit D) quantity per pack: 2 pcs.

0492953 SOCKET HOUSING

0492953 619419 Socket housing MP

NOTE: (Order no. old: 1 378 426 Socket housing, six-pin, black, with slide, repair kit C) quantity per pack: 1 pcs.

0492885 SOCKET HOUSING

0492885 616073 Socket housing MP

NOTE: (Socket housing (D 2.5/ELA), 2-pin, oval)

Fig. 262: Identifying Socket Housing (0492885)
Courtesy of BMW OF NORTH AMERICA, INC.

0492947 SOCKET HOUSING

0492947 619413 Socket housing MP

NOTE: (Order no. old: 1 378 410 Socket housing, three-pin, black, repair kit D) Quantity per package: 2 pcs.

0493334 SOCKET HOUSING

0493334 619477 Socket housing MP

NOTE: (Order no. old: 1 382 520 Socket housing, 4-pin, black, with slide) Quantity per package: 1 pcs.

0492949 SOCKET HOUSING

0492949 619415 Socket housing MP

NOTE: (Order no. old: 1 378 416 Socket housing, two-pin, black, angled, repair kit D) Quantity per package: 2 pcs.

0492973 SOCKET HOUSING

0492973 619439 Socket housing MP

NOTE: (Order no. old: 1 387 160 Socket housing, 4-pin, black, AMP, black cap, repair kit H) Quantity per package: 2 pcs.

0492956 SOCKET HOUSING

0492956 619422 Socket housing MP

NOTE: (Order no. old: 1 378 951 Socket housing, 1-pin, black, repair kit D) Quantity per package: 3 pcs.

0492950 SOCKET HOUSING

0492950 619416 Socket housing MP

NOTE: (Order no. old: 1 378 418 Socket housing, two-pin, grey, angled, repair kit D) Quantity per package: 2 pcs.

0492940 SOCKET HOUSING

0492940 619406 Socket housing MP

NOTE: (Order no. old: 1 378 149 Socket housing, 2-pin, black, repair kit C) Quantity per package: 4 pcs.

0492977 SOCKET HOUSING

0492977 619443 Socket housing MP

NOTE: (Order no. old: 1 392 226 Socket housing, 7-pin, black, round, repair kit B) Quantity per package: 1 pcs.

0492951 SOCKET HOUSING

0492951 619417 Socket housing MP

NOTE: (Order no. old: 1 378 420 Socket housing, 4-pin, black, repair kit D) number per pack: 1 pcs.

cardiagn.com

0492997 SOCKET HOUSING

0492997 619463 Socket housing MP

NOTE: **(Order no. old: 1 718 126 Socket housing, 7-pin, black, round, repair kit C) Quantity per package: 1 pcs.**

0492996 SOCKET HOUSING

0492996 619462 Socket housing MP

NOTE: **(Order no. old: 1 714 053 Socket housing, eight-pin, black, round, repair kit C) quantity per pack: 1 pcs.**

0493277 SOCKET HOUSING

0493277 619111 Socket housing MP

NOTE: **(Socket housing, 2-pin) black, with unlocking, encoding 1, quantity per pack: 3 units**

Storage Location

K 108

Fig. 263: Identifying Socket Housing (0493277)
Courtesy of BMW OF NORTH AMERICA, INC.

0492894 SOCKET HOUSING

0492894 616091 Socket housing MP

NOTE: **(Socket housing (Elo strand sealing), 2-/3-/4-pin, oval)**

Storage Location

K 108

Fig. 264: Identifying Socket Housing (0492894)
Courtesy of BMW OF NORTH AMERICA, INC.

0492892 SOCKET HOUSING

0492892 616082 Socket housing MP

NOTE: **(Socket housing (Elo), 2-/3-/6-pin, single-row)**

Storage Location

K 108

Fig. 265: Identifying Socket Housing (0492892)
Courtesy of BMW OF NORTH AMERICA, INC.

0492887 SOCKET HOUSING

0492887 616075 Socket housing MP

NOTE: **(Socket housing (D 2.5/ELA), 4-pin, single-row)**

Storage Location

K 108

Fig. 266: Identifying Socket Housing (0492887)
Courtesy of BMW OF NORTH AMERICA, INC.

0493281 SOCKET HOUSING

0493281 619116 Socket housing MP

NOTE: **(Socket housing, 3-pin) black, with unlocking, encoding 1, packing unit: 3 units**

Storage Location

K 108

Fig. 267: Identifying Socket Housing (0493281)
Courtesy of BMW OF NORTH AMERICA, INC.

0492941 SOCKET HOUSING

0492941 619407 Socket housing MP

NOTE: **(Order no. old: 1 378 400 Socket housing, 2-pin, black, repair set D) number per pack: 3 pcs.**

0492958 SOCKET HOUSING

0492958 619424 Socket housing MP

cardiagn.com

NOTE: (Order no. old: 1 378 955 Socket housing, three-pin, black, repair kit D) Quantity per package: 3 pcs.

0492966 SOCKET HOUSING

0492966 619432 Socket housing MP

NOTE: (Order no. old: 1 383 886 Socket housing, ten-pin, black AMP, black cap, repair kit H) Quantity per package: 2 pcs.

0493282 SOCKET HOUSING

0493282 619117 Socket housing MP

NOTE: (Socket housing, 3-pin) black, with unlocking, encoding 2, quantity per pack: 3 units

Storage Location

K 108

Fig. 268: Identifying Socket Housing (0493282)
Courtesy of BMW OF NORTH AMERICA, INC.

0492886 SOCKET HOUSING

0492886 616074 Socket housing MP

NOTE: (Socket housing (D 2.5/ELA), 4-pin, oval)

Storage Location

K 108

Fig. 269: Identifying Socket Housing (0492886)
Courtesy of BMW OF NORTH AMERICA, INC.

0492986 SOCKET HOUSING

0492986 619452 Socket housing MP

NOTE: (Order no. old: 1 392 742 Socket housing, 2-pin, black, repair kit I) Quantity per package: 2 pcs.

0493278 SOCKET HOUSING

0493278 619112 Socket housing MP

NOTE: (Socket housing, 2-pin)

Storage Location

K 108

Fig. 270: Identifying Socket Housing (0493278)
Courtesy of BMW OF NORTH AMERICA, INC.

0495413 SOCKET HOUSING

0495413 616093 Socket housing MP

NOTE: (Socket housing, 3-pin, round)

0493280 SOCKET HOUSING

0493280 619115 Socket housing MP

NOTE: (Socket housing, 3-pin) Grey, with unlocking, encoding 1, packaging unit 3 pieces

Storage Location

K 108

Fig. 271: Identifying Socket Housing (0493280)
Courtesy of BMW OF NORTH AMERICA, INC.

0493007 SOCKET HOUSING

0493007 619473 Socket housing MP

NOTE: (Order no. old: 8 353 712 Socket housing, six-pin, black, AMP, water blue 90Â° cap, repair kit H) Quantity per package: 2 pcs.

0493279 SOCKET HOUSING

0493279 619114 Socket housing MP

NOTE: (Socket housing, 2-pin) Black, without unlocking, encoding 3, packaging unit 3 pieces

Storage Location

K 108

cardiagn.com

Fig. 272: Identifying Socket Housing (0493279)
Courtesy of BMW OF NORTH AMERICA, INC.

0492713 SOCKET WRENCH

0492713 611138 Socket wrench MP

Fig. 273: Identifying Socket Wrench (0492713)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **For indicator lights (Instrument panel)**

Storage Location

K 106

SI number

02 05 05 (217)

0492859 SOCKET WRENCH INSERT

0492859 616012 Socket wrench insert AM

NOTE: **(Torx socket T80). Available as set 61 6 010 --> 0492857 only.**

Fig. 274: Identifying Socket Wrench Insert (0492859)
Courtesy of BMW OF NORTH AMERICA, INC.

0492857 SOCKET WRENCH INSERT

0492857 616010 Socket wrench insert AM

NOTE: **(Torx socket T80 with holder) For loosening and tightening windscreen wiper - driver's side. Only available in set 61 6 010.**

Storage Location

A9

SI number

01 05 90 (207)

Consisting of:

Fig. 275: Identifying Socket Wrench Insert (0492857)
Courtesy of BMW OF NORTH AMERICA, INC.

1. 0492858 Holder

   NOTE: **(holder 3/8"). Available as set 61 6 010 - > 0492857 only.**

2. 0492859 Socket wrench insert

   NOTE: **(Torx socket T80). Available as set 61 6 010 - > 0492857 only.**

0494164 SUPPLEMENT

0494164 614326 Supplement Minimum set: Measuring and testing equipment MP

NOTE: **(Replacement blade) For face-cutting optical fibres. From 03/2006, no longer included in set 61 4 320 but individually available as**

Storage Location

M22 x 201

SI number

02 04 06 (293)

Fig. 276: Identifying Supplement (0494164)
Courtesy of BMW OF NORTH AMERICA, INC.

0492882 SUPPLEMENT

0492882 616070 Supplement MP

NOTE: **(Supplemental set D 1.5-D 2.5/ELA)**

Storage Location

K 108

SI number

02 01 94 (806)

cardiagn.com

Consisting of:

Fig. 277: Identifying Supplement (0492882)
Courtesy of BMW OF NORTH AMERICA, INC.

1. 0492883 Holding sleeve

   NOTE: (Flat sleeve for 4 mm^2 (comb connector))

2. 0492884 Pin housing

   NOTE: (Pin housing (D 2.5/ELA), 2-pin, oval)

3. 0492885 Socket housing

   NOTE: (Socket housing (D 2.5/ELA), 2-pin, oval)

4. 0492886 Socket housing

   NOTE: (Socket housing (D 2.5/ELA), 4-pin, oval)

5. 0492887 Socket housing

   NOTE: (Socket housing (D 2.5/ELA), 4-pin, single-row)

6. 0492888 Socket housing

   NOTE: (Socket housing (D 2.5/ELA), 6-pin/8-pin, oval)

7. 0492889 Pin housing

   NOTE: (Bushing and pin housing (D 1, 5/ELA), 4-pin, round)

0492897 SUPPLEMENT

0492897 618081 Supplement MP

NOTE: (Supplements to repair range I)

Storage Location

K 108

0493435 SUPPLEMENT

0493435 619120 Supplement MP

NOTE: (Supplementary set (body electronics))

Storage Location

K 108

SI number

02 05 98 (380)

Fig. 278: Identifying Supplement (0493435)
Courtesy of BMW OF NORTH AMERICA, INC.

0492904 SUPPLEMENT

0492904 619030 Supplement MP

NOTE: (Drawer bag without content) For repair range IV

Storage Location

K 108

SI number

02 02 92 (505)

Consisting of:

Fig. 279: Identifying Supplement (0492904)
Courtesy of BMW OF NORTH AMERICA, INC.

2 = 0492905 Supplement

NOTE: (Insert tray (20 pieces) with compartment divider)

2 = 0492906 oddments tray

NOTE: (Storage tray for tools)

cardiagn.com

2 = 0492907 Insert

NOTE: **(Cover insert for repair range IV)**

0492905 SUPPLEMENT

0492905 619031 Supplement MP

NOTE: **(Insert tray (20 pieces) with compartment divider)**

Storage Location

K 108

Fig. 280: Identifying Supplement (0492905)
Courtesy of BMW OF NORTH AMERICA, INC.

0493276 SUPPLEMENT

0493276 619110 Supplement MP

NOTE: **(Supplementary set (engine electrical system)**

Consisting of:

2 = 0493277 Socket housing

NOTE: **(Socket housing, 2- pin) black, with unlocking, encoding 1, quantity per pack: 3 units**

2 = 0493278 Socket housing

NOTE: **(Socket housing, 2- pin)**

Fig. 281: Identifying Supplement (0493276)
Courtesy of BMW OF NORTH AMERICA, INC.

2 = 0493279 Socket housing

NOTE: **(Socket housing, 2- pin) Black, without unlocking, encoding 3, packaging unit 3 pieces**

2 = 0493280 Socket housing

NOTE: **(Socket housing, 3- pin) Grey, with unlocking, encoding 1, packaging unit 3 pieces**

2 = 0493281 Socket housing

NOTE: **(Socket housing, 3- pin) black, with unlocking, encoding 1, packing unit: 3 units**

2 = 0493282 Socket housing

NOTE: **(Socket housing, 3- pin) black, with unlocking, encoding 2, quantity per pack: 3 units**

0492893 SUPPLEMENT

0492893 616090 Supplement MP

NOTE: **(Supplementary set Elo/strand sealing) for repair range IV for vehicle electrical system 61 9 020 - supplements for connector sys Electronic contact/ELA=strand sealing**

Storage Location

K 108

SI number

02 01 94 (806)

Fig. 282: Identifying Supplement (0492893)
Courtesy of BMW OF NORTH AMERICA, INC.

Consisting of:

3 = 0495413 Socket housing

NOTE: **(Socket housing, 3-pin, round)**

1 = 0492894 Socket housing

NOTE: **(Socket housing (Elo strand sealing), 2-/3-/4-pin, oval)**

2 = 0492895 Pin housing

NOTE: **(Pin housing (Elo ELA), 3-pin, round)**

0492926 SUPPLEMENT

cardiagn.com

0492926 619070 Supplement MP

NOTE: **(Separate component kit (basic equipment)) content for repair range IV for vehicle electrical system 61 9 020 comprising separat 477**

Storage Location

K 108

SI number

02 04 07 (341)

0492890 SUPPLEMENT

0492890 616080 Supplement MP

NOTE: **(Supplementary set Elo)**

Storage Location

K 108

SI number

02 01 94 (806)

Consisting of:

Fig. 283: Identifying Supplement (0492890)
Courtesy of BMW OF NORTH AMERICA, INC.

1. 0492891 Pin housing

   NOTE: **(Pin housing (Elo), 3/6-pin, single-row)**

2. 0492892 Socket housing

   NOTE: **(Socket housing (Elo), 2-/3-/6-pin, single-row)**

0492899 SUPPLEMENT

0492899 618083 Supplement MP

NOTE: **(Supplements to repair range III)**

Storage Location

K 108

0492898 SUPPLEMENT

0492898 618082 Supplement MP

NOTE: **(Supplements to repair range II)**

Storage Location

K 108

0492731 SUPPLEMENT

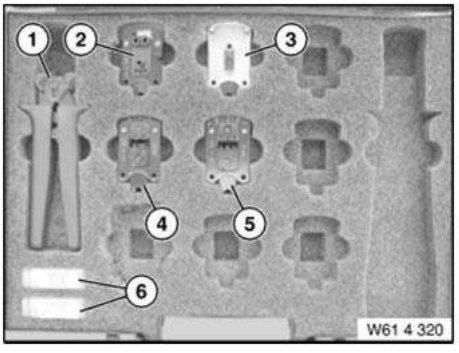
0492731 611170 Supplement MP

NOTE: **(Supplementary set) Only for delivery of supplementary set for the unlocking and pressing-off tool 61 1 150, consists of: Releas off tool 61 1 151, 61 1 152**

0494320 SUPPLEMENT

0494320 614327 Supplement Minimum set: Measuring and testing equipment MP

NOTE: **(Replacement knife) With tool for changing blades in stripping unit. Must be ordered separately, not included in 61 4 320 delivery from 03/2010.**



cardiagn.com

Fig. 284: Identifying Supplement (0494320)
Courtesy of BMW OF NORTH AMERICA, INC.

0492896 SUPPLEMENT

0492896 618080 Supplement MP

NOTE: (Kit I, II, III supplements) For repair ranges I, II and III with operating instructions "Tool for wiring harness repair"

Storage Location

Individual

K 108

Consisting of:

2 = 0492897 Supplement

NOTE: (Supplements to repair range I)

2 = 0492898 Supplement

NOTE: (Supplements to repair range II)

2 = 0492899 Supplement

NOTE: (Supplements to repair range III)

2 = 0492900 Operating instructions

0492823 SWITCH

0492823 613050 Switch MP

NOTE: (Bridge connector) For relay for checking additive pump

Storage Location

L202

SI number

02 04 84 (318)

Fig. 285: Identifying Switch (0492823)
Courtesy of BMW OF NORTH AMERICA, INC.

0492856 SYNCHRONIZING KEY

0492856 616003 Synchronizing key MP

Replaced by: 83300493441

NOTE: Discontinuation and replaced by 61 6 060 (0 493 441)

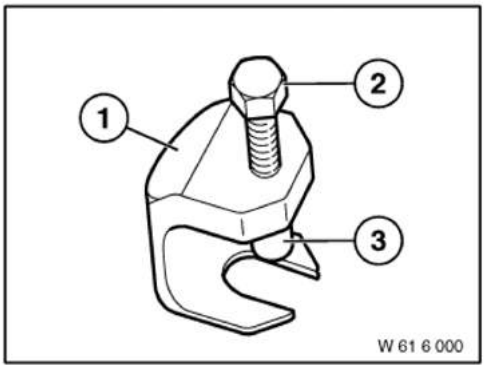


Fig. 286: Identifying Synchronizing Key (0492856)
Courtesy of BMW OF NORTH AMERICA, INC.

2299400 T-PIECE

2299400 T-piece Minimum set: Measuring and testing equipment MP

NOTE: T-piece set available as an addition to the test kit case 83 30 2 299 380

SI number

02 02 12 (793)

Fig. 287: Identifying T-Piece (2299400)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

2299408 TERMINAL

2299408 Terminal Minimum set: Measuring and testing equipment MP

NOTE: **Crocodile clips available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 288: Identifying Terminal (2299408)
Courtesy of BMW OF NORTH AMERICA, INC.

2329116 TEST CABLE

2329116 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 1.50 x 0.60 mm available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 289: Identifying Test Cable (2329116)
Courtesy of BMW OF NORTH AMERICA, INC.

2333694 TEST CABLE

2333694 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 2.50 mm, round, available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 290: Identifying Test Cable (2333694)
Courtesy of BMW OF NORTH AMERICA, INC.

2333615 TEST CABLE

2333615 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 6.30 x 0.80 mm available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 291: Identifying Test Cable (2333615)
Courtesy of BMW OF NORTH AMERICA, INC.

0494734 TEST CABLE

0494734 610070 Test cable MP

NOTE: **(Compressed-air cylinder test cable) For checking internal pressure of pressure cylinder for air supply**

SI number

02 06 03 (002)

Fig. 292: Identifying Test Cable (0494734)
Courtesy of BMW OF NORTH AMERICA, INC.

2333619 TEST CABLE

2333619 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 9.50 x 1.20 mm available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 293: Identifying Test Cable (2333619)
Courtesy of BMW OF NORTH AMERICA, INC.

2329156 TEST CABLE

2329156 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 2.80 x 0.80 mm available as an addition to the test kit case 83 30 2 299 380**

SI number

cardiagn.com

02 02 12 (793)

Fig. 294: Identifying Test Cable (2329156)
Courtesy of BMW OF NORTH AMERICA, INC.

2333623 TEST CABLE

2333623 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 0.80 mm, round, test cable set available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 295: Identifying Test Cable (2333623)
Courtesy of BMW OF NORTH AMERICA, INC.

2328993 TEST CABLE

2328993 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 0.63 x 0.63 mm available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 296: Identifying Test Cable (2328993)
Courtesy of BMW OF NORTH AMERICA, INC.

2333584 TEST CABLE

2333584 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 5.20 x 0.63 mm available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 297: Identifying Test Cable (2333584)
Courtesy of BMW OF NORTH AMERICA, INC.

0492756 TEST CABLE

0492756 611440 Test cable MP

NOTE: **(Test cable for K-Jetronic)**

Fig. 298: Identifying Test Cable (0492756)
Courtesy of BMW OF NORTH AMERICA, INC.

2333580 TEST CABLE

2333580 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 4.80 x 0.80 mm available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 299: Identifying Test Cable (2333580)
Courtesy of BMW OF NORTH AMERICA, INC.

2333696 TEST CABLE

2333696 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 4.0 mm, round, available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 300: Identifying Test Cable (2333696)
Courtesy of BMW OF NORTH AMERICA, INC.

2333695 TEST CABLE

2333695 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 3.50 mm, round, available as an addition to the test kit case 83 30 2 299 380**

cardiagn.com

SI number

02 02 12 (793)

Fig. 301: Identifying Test Cable (2333695)
Courtesy of BMW OF NORTH AMERICA, INC.

2329115 TEST CABLE

2329115 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 1.20 x 0.60 mm available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 302: Identifying Test Cable (2329115)
Courtesy of BMW OF NORTH AMERICA, INC.

0492782 TEST CABLE

0492782 611476 Test cable MP

NOTE: **(Test cable with fuse 12 A (D 2.5)) sale of existing inventories, then discontinued and available as part of set of special tools 61 1 30.11.2011**

Storage Location

G109

2333625 TEST CABLE

2333625 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **Test cable set 1.50 mm, round, available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 303: Identifying Test Cable (2333625)
Courtesy of BMW OF NORTH AMERICA, INC.

2299407 TEST PROBE

2299407 Test probe Minimum set: Measuring and testing equipment MP

NOTE: **Test probes available as an addition to the test kit case 83 30 2 299 380**

SI number

02 02 12 (793)

Fig. 304: Identifying Test Probe (2299407)
Courtesy of BMW OF NORTH AMERICA, INC.

2299380 TEST SET

2299380 Test set Minimum set: Measuring and testing equipment MP

NOTE: **Auxiliary materials set for general troubleshooting in the vehicle's electrical system**

SI number

02 02 12 (793)

Consisting of:

5 = **2299394** Gauge

NOTE: **Gauge to determine which test cable should be used; available as an addition to the test kit case 83 30 2 299 380**

Fig. 305: Identifying Test Set (2299380)
Courtesy of BMW OF NORTH AMERICA, INC.

6 = **2299399** Measuring cable

NOTE: **Measuring cable available as an addition to the test kit case 83 30 2 299 380**

7 = **2299400** T-piece

NOTE: **T-piece set available as an addition to the test kit case 83 30 2 299 380**

8 = **2299404** Adapter

cardiagn.com

NOTE: **Flat-bladed fuse adapter kit available as an addition to the test kit case 83 30 2 299 380**

9 = 2299407 Test probe

NOTE: **Test probes available as an addition to the test kit case 83 30 2 299 380**

10 = 2299408 Terminal

NOTE: **Crocodile clips available as an addition to the test kit case 83 30 2 299 380**

12 = 2328993 Test cable

NOTE: **Test cable set 0.63 x 0.63 mm available as an addition to the test kit case 83 30 2 299 380**

13 = 2329115 Test cable

NOTE: **Test cable set 1.20 x 0.60 mm available as an addition to the test kit case 83 30 2 299 380**

14 = 2329116 Test cable

NOTE: **Test cable set 1.50 x 0.60 mm available as an addition to the test kit case 83 30 2 299 380**

15 = 2329156 Test cable

NOTE: **Test cable set 2.80 x 0.80 mm available as an addition to the test kit case 83 30 2 299 380**

16 = 2333580 Test cable

NOTE: **Test cable set 4.80 x 0.80 mm available as an addition to the test kit case 83 30 2 299 380**

17 = 2333584 Test cable

NOTE: **Test cable set 5.20 x 0.63 mm available as an addition to the test kit case 83 30 2 299 380**

18 = 2333615 Test cable

NOTE: **Test cable set 6.30 x 0.80 mm available as an addition to the test kit case 83 30 2 299 380**

19 = 2333619 Test cable

NOTE: **Test cable set 9.50 x 1.20 mm available as an addition to the test kit case 83 30 2 299 380**

20 = 2333623 Test cable

NOTE: **Test cable set 0.80 mm, round, test cable set available as an addition to the test kit case 83 30 2 299 380**

21 = 2333625 Test cable

NOTE: **Test cable set 1.50 mm, round, available as an addition to the test kit case 83 30 2 299 380**

22 = 2333694 Test cable

NOTE: **Test cable set 2.50 mm, round, available as an addition to the test kit case 83 30 2 299 380**

23 = 2333695 Test cable

NOTE: **Test cable set 3.50 mm, round, available as an addition to the test kit case 83 30 2 299 380**

24 = 2333696 Test cable

NOTE: **Test cable set 4.0 mm, round, available as an addition to the test kit case 83 30 2 299 380**

25 = 2333697 Accessories

NOTE: **Test cable labelling available as an addition to the test kit case 83 30 2 299 380**

0492812 TESTER

0492812 613011 Tester MP

NOTE: **(Tester for relay functions)**

Fig. 306: Identifying Tester (0492812)
Courtesy of BMW OF NORTH AMERICA, INC.

2353250 TESTER

2353250 Tester Minimum set: Measuring and testing equipment MP

NOTE: **Applies to: BMW i Aftersales High Voltage test for HV safety of the HV battery includes: 83 30 2 353 361 wiring harness 83 30 2 3 360 vacuum bell I8 83 30 2 353 362 adapter**

SI number

02 09 13 (931)

cardiagn.com

Fig. 307: Identifying Tester (2353250)
Courtesy of BMW OF NORTH AMERICA, INC.

0492811 TESTER

0492811 613010 Tester MP

NOTE: **(Tester and connector adapter set (8 pieces)) For relay for checking relay functions**

SI number

02 08 90 (257)

Consisting of:

9 = 0492812 Tester

NOTE: **(Tester for relay functions)**

9 = 0492813 Use

NOTE: **(Connector insert (crash sensor))**

9 = 0492814 Use

NOTE: **(Connector insert (hazard warning lights system))**

Fig. 308: Identifying Tester (0492811)
Courtesy of BMW OF NORTH AMERICA, INC.

9 = 0492815 Use

NOTE: **(Connector insert (hazard warning lights system C 2))**

9 = 0492816 Use

NOTE: **(Connector insert (ABS))**

9 = 0492817 Use

NOTE: **(Connector insert (changeover relay))**

9 = 0492818 Use

NOTE: **(Connector insert (closing relay))**

9 = 0492819 Use

NOTE: **(Connector insert (heated rear window))**

9 = 0492820 Use

NOTE: **(Connector insert (heated windscreen))**

9 = 0492821 Operating instructions

2337974 TOOL

2337974 Tool Minimum set: Measuring and testing equipment MP

NOTE: **Cable shears. To professionally cut through cables with a cross-section of 10 mm^2 - 70 mm^2 .**

Storage Location

A34

SI number

02 07 12 (859)

Fig. 309: Identifying Tool (2337974)
Courtesy of BMW OF NORTH AMERICA, INC.

0490509 TOOL

0490509 009200 Tool Minimum set: Mechanical tools AM

NOTE: **(Adjustment tool) For adjusting the washer jets on the windscreen washer system**

Consisting of:

1. 0490510 Gauge tip

NOTE: **(Needle)**

cardiagn.com

Fig. 310: Identifying Tool (0490509)
Courtesy of BMW OF NORTH AMERICA, INC.

0492739 TOOL

0492739 611350 Tool MP

NOTE: **(Mounting tool set) Device for pressing out and sliding in the socket in the transmission connector on the automatic transmissi**

Consisting of:

1. 0492740 Outpusher
2. 0492741 Mandrel

NOTE: **(Inserting drift)**

Fig. 311: Identifying Tool (0492739)
Courtesy of BMW OF NORTH AMERICA, INC.

0493832 TOOL

0493832 611148 Tool MP

Replaced by: 83300496333

NOTE: **(Pressing-off tool for SLK) SLK = sensor disc contacts, replaced by special tool 61 0 319 from 09/2005. Replaced by 61 0 333 (0 4**

0492704 TOOL

0492704 611120 Tool MP

NOTE: **(Pressing-off tool for tab connector 1.6 mm)**

0492817 USE

0492817 613017 Use MP

NOTE: **(Connector insert (changeover relay))**

Fig. 312: Identifying Use (0492817)
Courtesy of BMW OF NORTH AMERICA, INC.

0492816 USE

0492816 613016 Use MP

NOTE: **(Connector insert (ABS))**

Fig. 313: Identifying Use (0492816)
Courtesy of BMW OF NORTH AMERICA, INC.

0492815 USE

0492815 613015 Use MP

NOTE: **(Connector insert (hazard warning lights system C 2))**

Fig. 314: Identifying Use (0492815)
Courtesy of BMW OF NORTH AMERICA, INC.

0492813 USE

0492813 613013 Use MP

NOTE: **(Connector insert (crash sensor))**

Fig. 315: Identifying Use (0492813)
Courtesy of BMW OF NORTH AMERICA, INC.

0492818 USE

0492818 613018 Use MP

NOTE: **(Connector insert (closing relay))**

Fig. 316: Identifying Use (0492818)
Courtesy of BMW OF NORTH AMERICA, INC.

0492819 USE

0492819 613019 Use MP

NOTE: **(Connector insert (heated rear window))**

cardiagn.com

Fig. 317: Identifying Use (0492819)
Courtesy of BMW OF NORTH AMERICA, INC.

0492814 USE

0492814 613014 Use MP

NOTE: **(Connector insert (hazard warning lights system))**

Fig. 318: Identifying Use (0492814)
Courtesy of BMW OF NORTH AMERICA, INC.

0492820 USE

0492820 613021 Use MP

NOTE: **(Connector insert (heated windscreen))**

Fig. 319: Identifying Use (0492820)
Courtesy of BMW OF NORTH AMERICA, INC.

0492734 WRENCH

0492734 611240 Wrench MP

NOTE: **For removing and installing the retaining ring of the popup jet (cleaning jet) on the tailgate (E34tou)**

Storage Location

X4

SI number

01 02 92 (484)

Fig. 320: Identifying Wrench (0492734)
Courtesy of BMW OF NORTH AMERICA, INC.

0492797 CONNECTOR

0492797 612020 connector MP

NOTE: **(Bridge connector) For frequency simulator - speed signal**

Storage Location

Y2

SI number

02 03 89 (038)

Fig. 321: Identifying Connector (0492797)
Courtesy of BMW OF NORTH AMERICA, INC.

0492906 ODDMENTS TRAY

0492906 619032 oddments tray MP

NOTE: **(Storage tray for tools)**

Storage Location

K 108

Fig. 322: Identifying Oddments Tray (0492906)
Courtesy of BMW OF NORTH AMERICA, INC.

2296511 ODDMENTS TRAY

2296511 oddments tray AM

NOTE: **For placing down the HVS after removing it from the vehicle (connection area at the bottom is very sensitive)**

SI number

01 26 11 (763)

Fig. 323: Identifying Oddments Tray (2296511)
Courtesy of BMW OF NORTH AMERICA, INC.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702134

cardiagn.com

BATTERY WITH TERMINAL

61 21 BATTERY WITH TERMINAL

TIGHTENING TORQUE SPECIFICATION - BATTERY WITH TERMINAL

Â	Type	Thread	Tightening specifications	Dimension
1AZ Battery cable positive terminal, battery cable negative terminal, safety battery terminal, IBS (Screw connection from top)	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F15/F16/F18/F20/F25/F26/F85/F86/F10h/F15PHEV/F18PHEV	M6	Â	5 Nm
2AZ Power distribution box to battery	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26/F10h/F15PHEV/F18PHEV	M8	Â	15 Nm
3AZ Power distribution box to battery	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26/F10h/F15PHEV/F18PHEV	M6	Â	8 Nm
Power distribution box to battery holder	F15/F16/F85/F86	Plastic nut	Â	2, 6 Nm
4AZ Battery cable positive terminal on power distribution box safety battery terminal Positive battery cable to transfer point, luggage compartment floor	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26/F10h/F15PHEV/F18PHEV	M8	Â	15 Nm
5AZ Mounting, battery holder	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26/F10h	M6	Â	10 Nm
	F15/F16/F15PHEV/F18PHEV	M8	Â	8 Nm
6AZ Negative battery cable to body	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26/F10h/F15PHEV/F18PHEV	M8	Â	15 Nm
7AZ Auxiliary battery: Battery cable, positive terminal, battery cable, negative terminal	F06/F10/F11/F12/F13/F18/F10h/F15PHEV/F18PHEV	M6	Â	6 Nm
8AZ Auxiliary battery: Retaining bracket	F06/F10/F11/F12/F13/F18	M6	Â	6 Nm
	F10h/F15PHEV/F18PHEV	M6	Â	8 Nm
9AZ Auxiliary battery: Holder	F10/F11/F18	Â	Â	6 Nm
	F10h/F15PHEV/F18PHEV	M8	Â	10 Nm

DISTRIBUTION BOX, CURRENT TERMINALS L6

61 14 DISTRIBUTION BOX, CURRENT TERMINALS L6

TIGHTENING TORQUE SPECIFICATION - DISTRIBUTION BOX, CURRENT TERMINAL

Â	Type	Thread	Tightening specifications	Dimension
1AZ Power distribution box, front to holder, bottom	L6	TS5x12	Â	2, 0 Nm
2AZ Junction box (JBBFE) to power distribution box, front	L6	TS4x12	Â	2, 0 Nm

cardiagn.com

REAR WIPER

61 62 REAR WIPER

TIGHTENING TORQUE SPECIFICATION - REAR WIPER

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Wiper console to tailgate	F15/F25/F85	Screw	Â	7, 6 Nm
2AZ	Windscreen wiper arm	F15/F85	nut M6	Â	8, 0 Nm
		F25	nut M8	Â	13, 5 Nm

SWITCH

61 31 SWITCH

TIGHTENING TORQUE SPECIFICATION - SWITCH

Â	Type	Thread	Tightening specifications	Dimension
1AZ Gear lever switch	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F15/F16/F18/F25/F26/F85/F86	M5	Â	3, 3 Nm
2AZ Controller	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F15/F16/F18/F25/F26/F85/F86	Â	Â	2, 5 Nm
3AZ Steering column switch cluster	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	5.6 Nm to 7.6 Nm
	F15/F16/F25/F26/F85/F86	Â	Â	2, 6 Nm
4AZ Carrier for grip trim	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26	Â	Â	0, 4 Nm
5AZ Carrier for grip trim	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26	Â	Â	0, 5 Nm
6AZ Holder for microswitch on power window	F03	Â	Â	2 Nm
7AZ Parking brake button mounting	F15/F16/F85/F86	Â	Â	0, 5 Nm
8AZ Start/Stop button to instrument panel	F15/F16/F85/F86	Â	Â	1, 4 Nm

WINDSCREEN WIPERS

61 61 WINDSCREEN WIPERS

TIGHTENING TORQUE SPECIFICATION - WINDSCREEN WIPERS

Â	Type	Thread	Tightening specifications	Dimension
1AZ Wiper bracket	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Â	Â	12 Nm
2AZ Wiper arm	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26	Â	Â	35 Nm
3AZ Decoupling buffer, wiper bracket	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25/F26	Â	Â	10 Nm

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702185

cardiagn.com

KOMBI

62 11 280 REMOVING AND INSTALLING/REPLACING INSTRUMENT PANEL

Special tools required:

- 64 1 030

IMPORTANT: Comply with notes on protection against electrostatic damage (**ESD PROTECTION**).

Necessary preliminary work:

- Disconnect battery earth lead
- Disconnect both negative battery leads on **F03**
- Move steering column completely rearwards
- If necessary, tape over trim and instrument panel to protect against damage
- **Only F25 with optional equipment sports steering wheel:** Remove **SPORTS STEERING WHEEL**

Insert special tool 64 1 030 in each case in second slot, on left and right, of instrument cluster (2).

Feed special tool 64 1 030 into clamp (1) and pull downward.

Feed out instrument cluster (2) in direction of arrow.

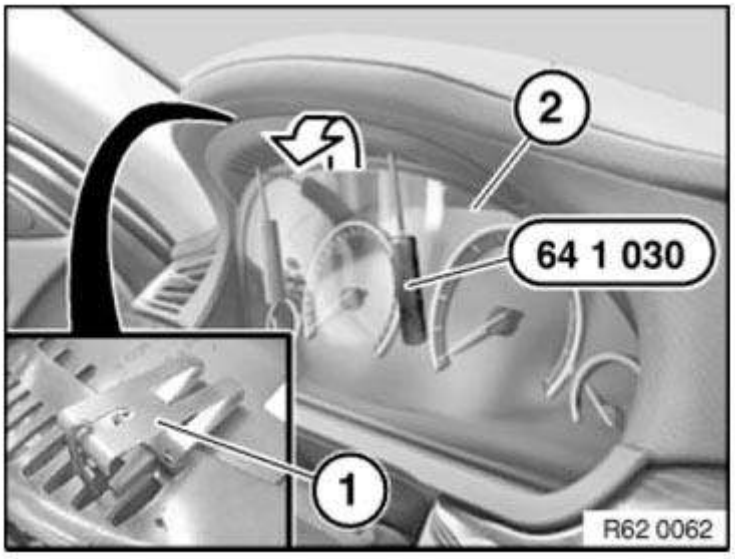


Fig. 1: Pulling Instrument Cluster Using Special Tool (64 1 030)
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connections (1) and remove instrument cluster (2).

cardiagn.com

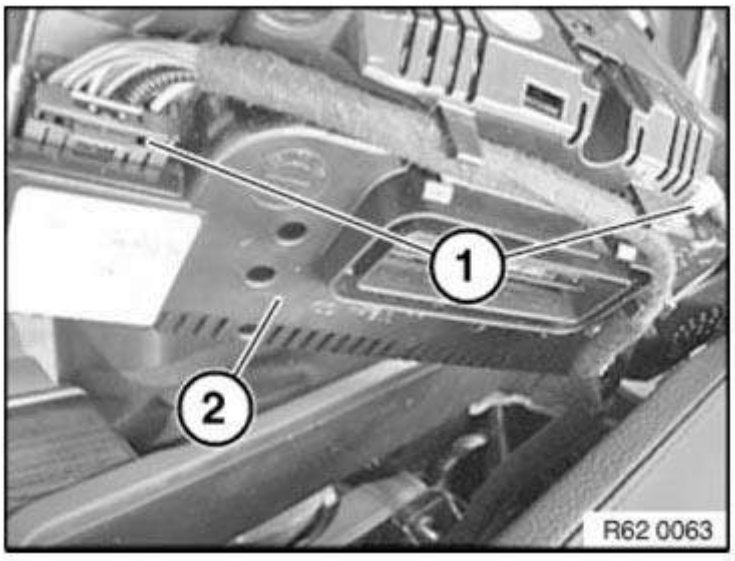


Fig. 2: Identifying Instrument Cluster And Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining tabs (1) of dashboard (2) must be exactly seated in mountings of dashboard.

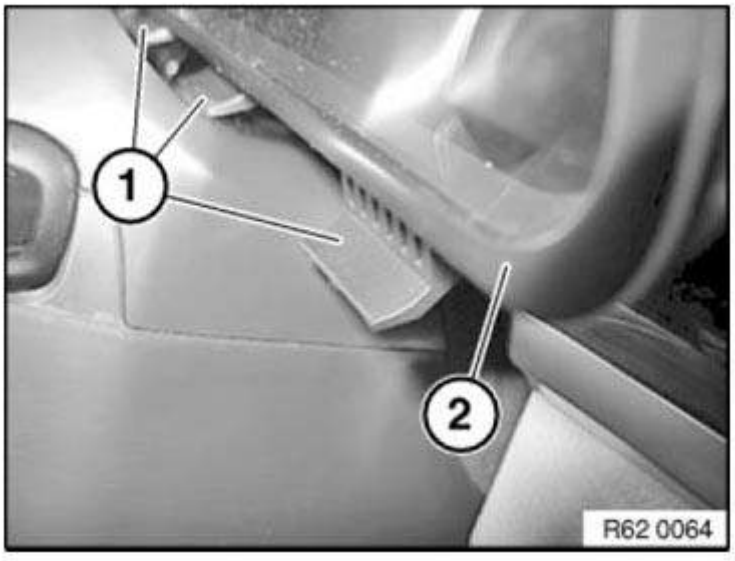


Fig. 3: Identifying Retaining Tabs Of Dashboard
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING** .

Check values for Condition Based Service **(CBS)** and correct if necessary.

If necessary, adjust **HEAD-UP DISPLAY**.

HEAD-UP DISPLAY

62 30 517 ADJUSTING HEAD-UP DISPLAY

NOTE: **Vehicles with head-up displays are fitted with special windscreens.**

cardiagn.com

These windscreens are marked with the letters "HUD" on the outside at the bottom right below the seal (1).

Prior to adjustment, fold seal (1) back, if necessary remove cowl panel cover on right, and make sure that a correct windscreen is fitted.

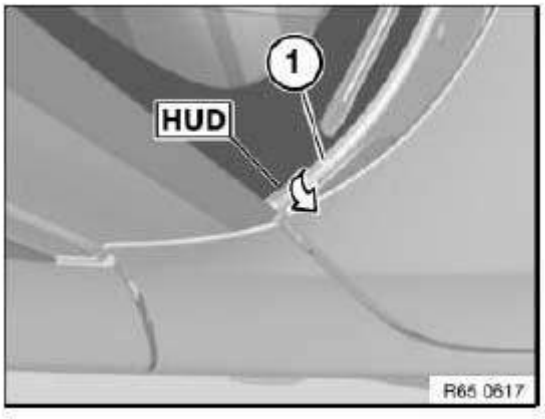


Fig. 4: Adjusting Head-Up Display
Courtesy of BMW OF NORTH AMERICA, INC.

Connect vehicle to BMW diagnosis system.

Select service function under following path:

- Service function
- Body
- Head-Up Display
- Adjusting head-up display

NOTE: The geometric representation of the Head-Up Display can be adjusted with the service function.

62 30... GENERAL NOTES ON THE HEAD-UP DISPLAY

NOTE: A special windscreen must be fitted to ensure that the Head-Up Display image can be projected correctly.
This windscreen comprises three sections. An outer and an inner glass pane are connected by a wedge-shaped plastic film.
The wedge shape prevents double projection of the Head-Up Display.
When the windscreen is replaced, the vehicle identification number and parts catalogue must be consulted to ascertain whether the windscreen in question is suitable for Head-Up Display.

Example of the display with a conventional windscreen:

With a conventional windscreen, the projected image is reflected on the inner and outer glass pane, producing a double image.

cardiagn.com



Fig. 5: Example Of Conventional Windscreen
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Windscreens for Head-Up Display are marked with the letters "HUD" on the outside at the bottom right below the seal (1) .**

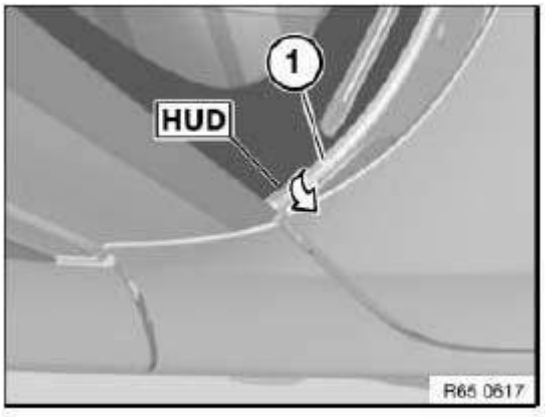


Fig. 6: Adjusting Head-Up Display
Courtesy of BMW OF NORTH AMERICA, INC.

62 30 010 REMOVING AND INSTALLING/RENEWING HEAD-UP DISPLAY

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)** .

IMPORTANT: Comply with notes and notes on **HANDLING OPTICAL FIBRES** .
Risk of damage!
Do not scratch lens of head-up display.

Necessary preliminary work:

- Remove **INSTRUMENT PANEL TRIM**

Release screw (1) on carrier housing (2) at bottom.

Tightening torque **62 30 1AZ** .

cardiagn.com

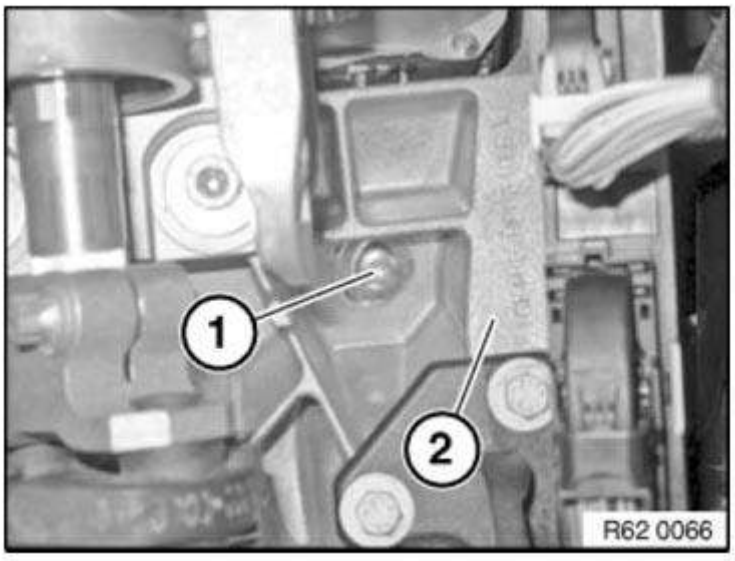


Fig. 7: Identifying Carrier Housing And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Remove sound insulation (1) from head-up display (4).

Disconnect plug connections (2).

Release screws (3).

Tightening torque **62 30 1AZ** .

Carefully feed out head-up display (4) in upward direction.

Installation note:

Clean lens of head-up display.

Adjust **HEAD-UP DISPLAY**.

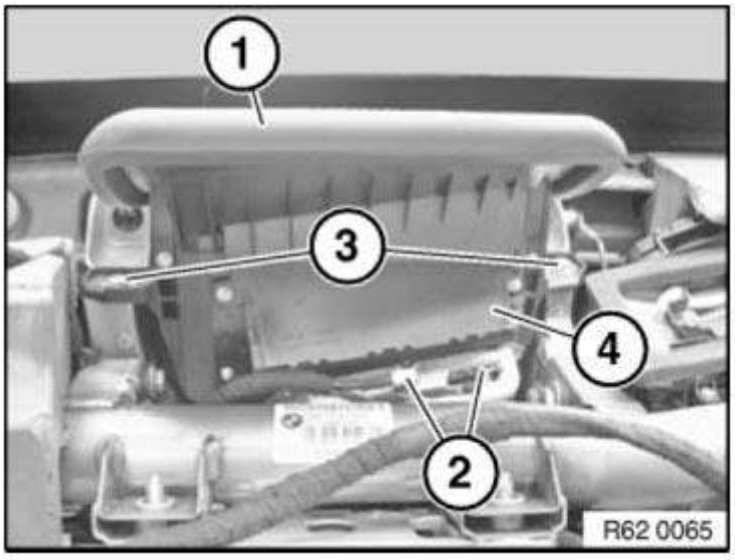


Fig. 8: Identifying Sound Insulation, Head-Up Display, Plug Connections And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/ENCODING** .

cardiagn.com

62 30 005 REMOVING AND INSTALLING/REPLACING TRIM FOR HEAD-UP DISPLAY

Special tools required:

- 00 9 317

Lever out trim for Head-Up Display (1) with special tool 00 9 317 at mounting points (2).

Feed cover for head-up display (1) in direction of arrow out of instrument panel trim (3) and remove.

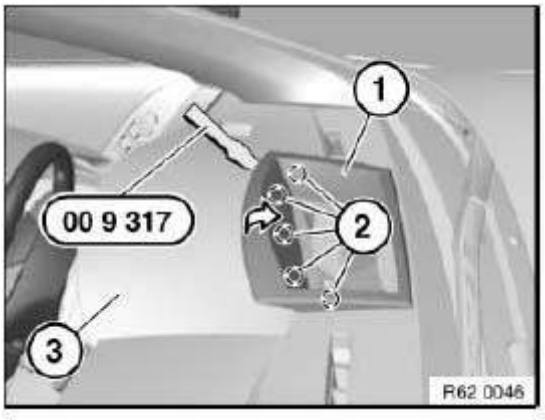


Fig. 9: Removing Trim For Head-Up Display With Special Tool (00 9 317)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure retaining lugs (1) and (2) and sleeve (3) of cover for Head-Up Display (4) are correctly seated.

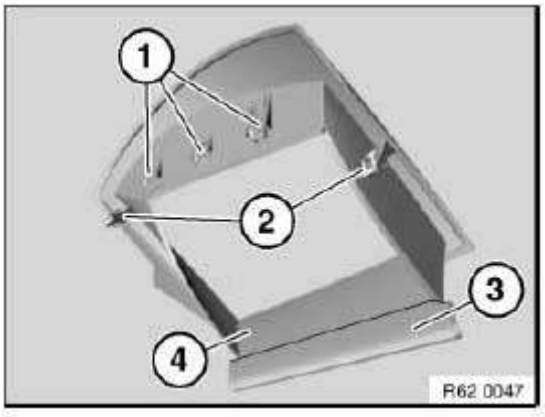


Fig. 10: Identifying Retaining Lugs And Sleeve
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Only on F06, F12, F13:

Installation note:

Make sure retaining lugs (1) and (2) are correctly seated on cover for Head-Up Display (3).

cardiagn.com

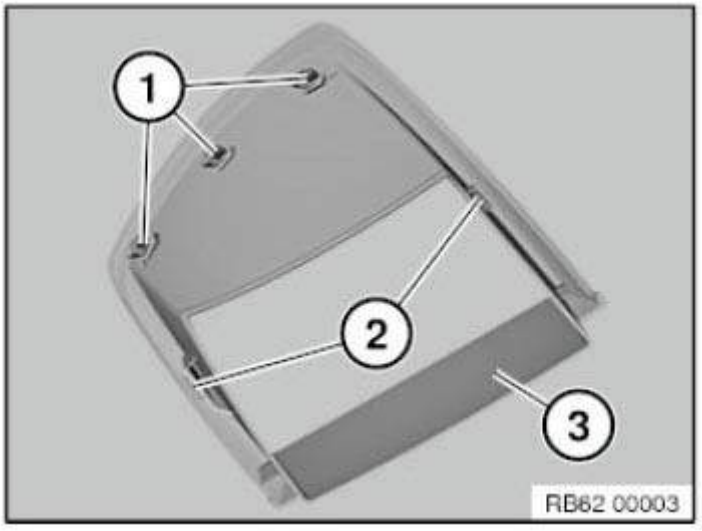


Fig. 11: Identifying Retaining Lugs On Cover For Head-Up Display
Courtesy of BMW OF NORTH AMERICA, INC.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702222

cardiagn.com

INSTRUMENTS

0493028 ADAPTER

0493028 621190 Adapter Mechanical tool

NOTE: (Adapter 15/20-pin) For oil service only

Storage Location

I 106

0493042 ADAPTER

0493042 621300 Adapter Mechanical tool

NOTE: For instrument panel

Storage Location

Y2

SI number

02 03 89 (038)

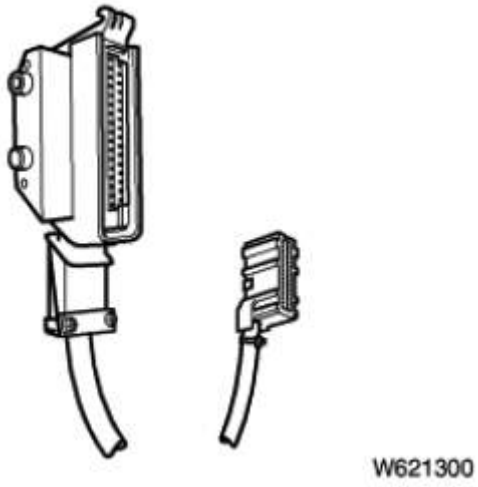


Fig. 1: Identifying Adapter (0493042)
Courtesy of BMW OF NORTH AMERICA, INC.

0493027 ADAPTER

0493027 621160 Adapter Mechanical tool

NOTE: (Adapter 15/20-pin) For vehicles with 15-pin diagnostic socket

0493025 ADAPTER

0493025 621154 Adapter AM

NOTE: (Test adapter for display element)

cardiagn.com

0493020 ADAPTER

0493020 621140 Adapter Mechanical tool

NOTE: **(Adapter 20/15-pin) Only for oil change for vehicles with 15-pin diagnostic socket**

Storage Location

I 105

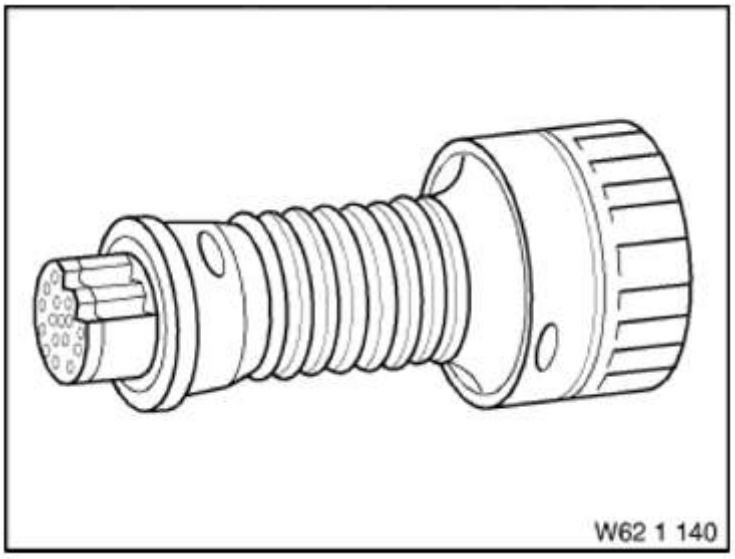


Fig. 2: Identifying Adapter (0493020)
Courtesy of BMW OF NORTH AMERICA, INC.

0494620 ADAPTER CABLE

0494620 621370 Adapter cable Mechanical tool

NOTE: **(Airbag igniter adapter cable) For igniting all gas generators (all airbags, seat belt lock tensioners, safety battery terminal)**

Storage Location

U 207

SI number

02 04 03 (993)

cardiagn.com

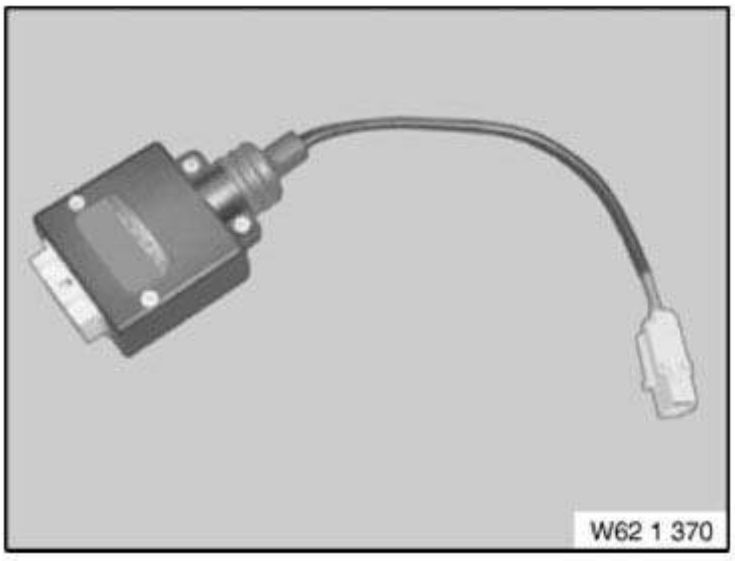


Fig. 3: Identifying Adapter Cable (0494620)
Courtesy of BMW OF NORTH AMERICA, INC.

0493033 ADAPTER CABLE

0493033 621233 Adapter cable AM

NOTE: **For igniter - driver's airbag up to model year 94 - available as part of set of special tools 62 1 230 = 83 30 0 493 030 only - as of 30.11.2011**

Storage Location

O 203

0493031 ADAPTER CABLE

0493031 621231 Adapter cable AM

NOTE: **(V adapter cable) for clock spring and airbag unit; for Rolls-Royce this cable only; available as part of set of special tools 62 1 230 = 83 30 0 493 030 only - as of 30.11.2011**

Storage Location

O 201

0493035 ADAPTER CABLE

0493035 621240 Adapter cable Mechanical tool

NOTE: **For European version airbag (driver's airbag with indicator light integrated in steering wheel) - To check airbag unit**

Storage Location

O 204

SI number

01 11 93 (694)

cardiagn.com

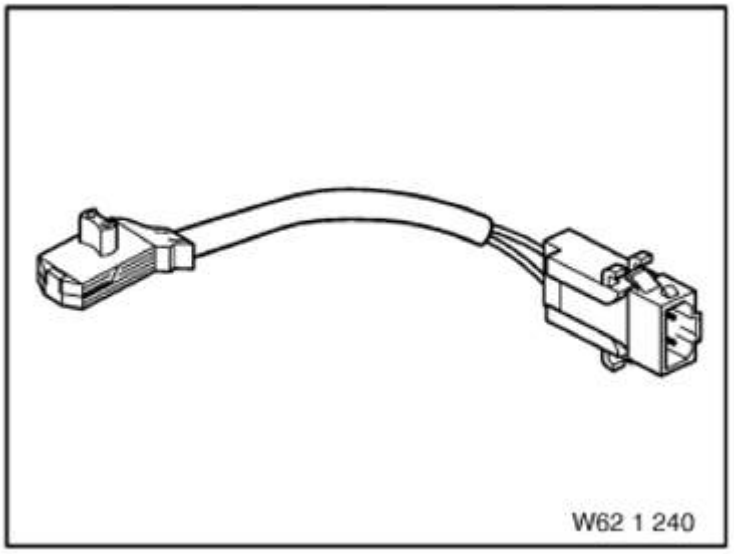


Fig. 4: Identifying Adapter Cable (0493035)
Courtesy of BMW OF NORTH AMERICA, INC.

0493026 ADAPTER CABLE

0493026 621155 Adapter cable AM

NOTE: (Connecting line (power supply))

0493013 BULB

0493013 621102 Bulb AM

NOTE: (bulb, yellow) For replacement part order only

0493012 BULB

0493012 621101 Bulb AM

NOTE: (bulb, green) For replacement part order only

0493014 BULB

0493014 621103 Bulb AM

NOTE: (bulb, red) For replacement part order only

0493036 DIAGNOSTIC CONNECTOR

0493036 621250 Diagnostic connector Mechanical tool

NOTE: (Airbag diagnostic connector) For 20-pin diagnostic socket - bridges pins 1 and 6

Storage Location

T 201

cardiagn.com

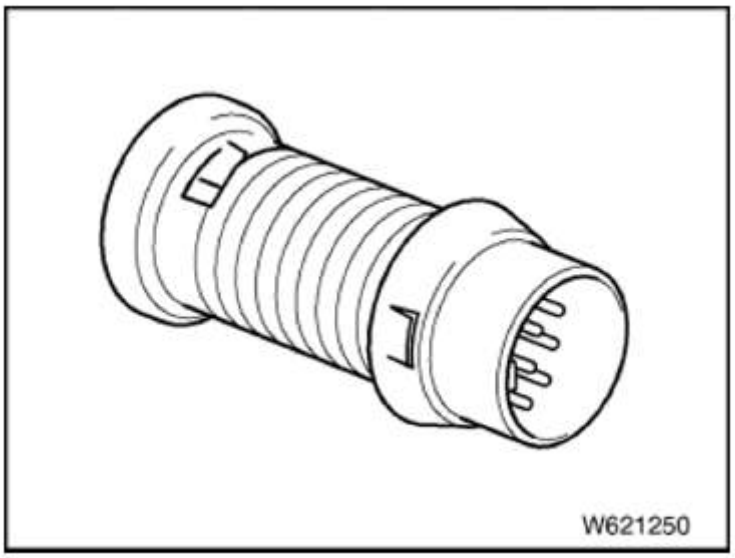


Fig. 5: Identifying Diagnostic Connector (0493036)
Courtesy of BMW OF NORTH AMERICA, INC.

0493017 DRILL BIT

0493017 621131 Drill bit AM

NOTE: **(Special drill)**

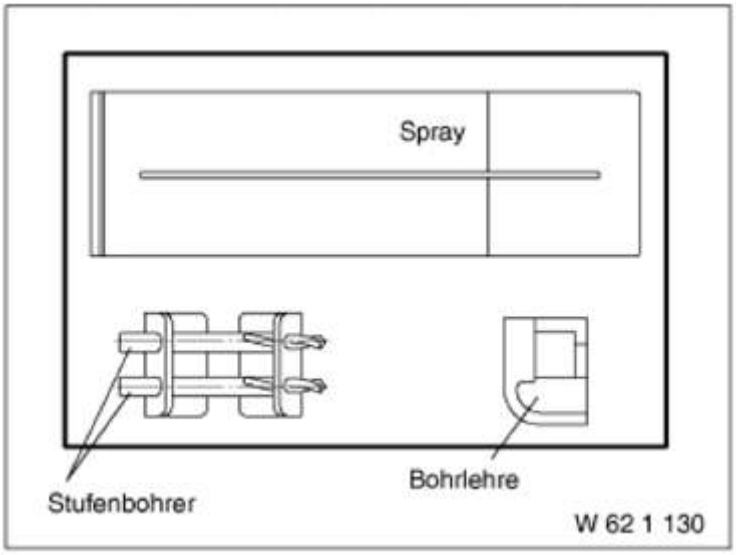


Fig. 6: Identifying Drill Bit (0493017)
Courtesy of BMW OF NORTH AMERICA, INC.

0493019 GAUGE

0493019 621133 Gauge AM

NOTE: **(Drilling template)**

cardiagn.com

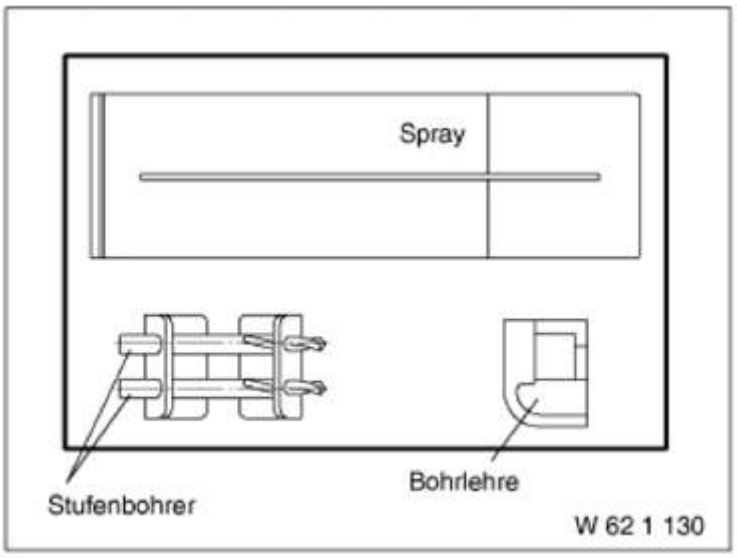


Fig. 7: Identifying Gauge (0493019)
Courtesy of BMW OF NORTH AMERICA, INC.

0493018 LUBRICANT

0493018 621132 Lubricant AM

NOTE: **(Spray can)**

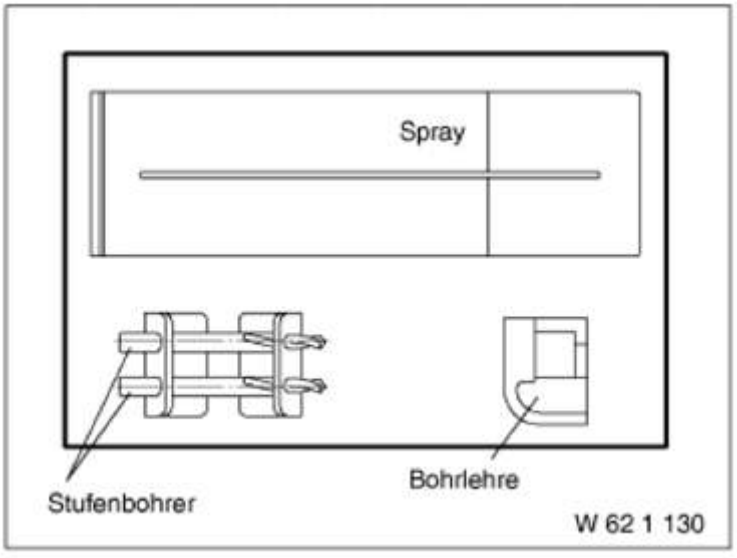


Fig. 8: Identifying Lubricant (0493018)
Courtesy of BMW OF NORTH AMERICA, INC.

0493034 OPERATING INSTRUCTIONS

0493034 621239 Operating instructions AM

cardiagn.com

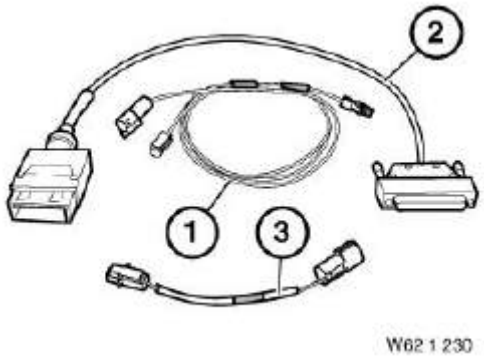


Fig. 9: Identifying Operating Instructions (0493034)
Courtesy of BMW OF NORTH AMERICA, INC.

0493041 OPERATING INSTRUCTIONS

0493041 621299 Operating instructions AM

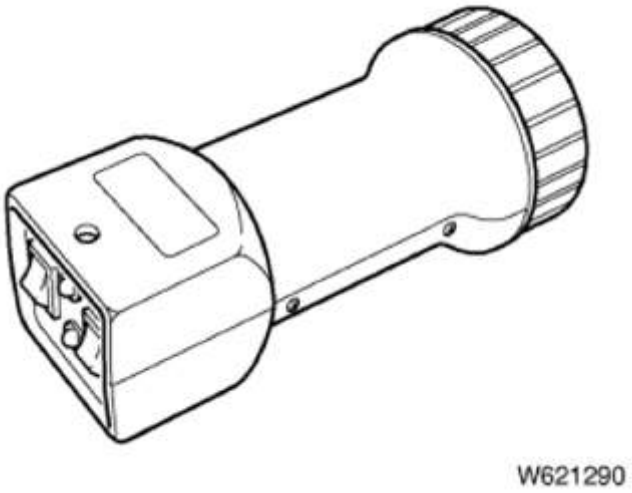


Fig. 10: Identifying Operating Instructions (0493041)
Courtesy of BMW OF NORTH AMERICA, INC.

0493016 REPAIR KIT

0493016 621130 Repair kit AM

NOTE: **(Repair set) For acoustics relay - deletion since 4/96, for campaign only**

Storage Location

U 204

Consisting of:

1. 0493017 Drill bit

NOTE: **(Special drill)**

cardiagn.com

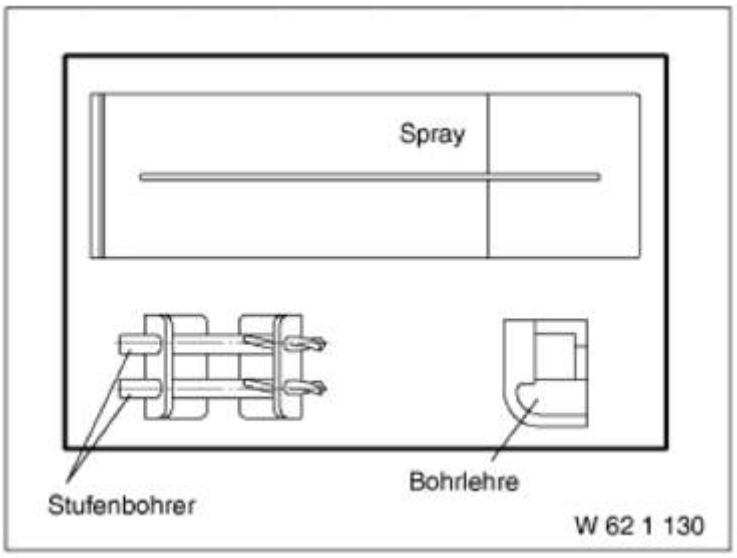


Fig. 11: Identifying Repair Kit (0493016)
Courtesy of BMW OF NORTH AMERICA, INC.

2. **0493018** Lubricant

NOTE: **(Spray can)**

3. **0493019** Gauge

NOTE: **(Drilling template)**

2338099 RESET

2338099 Reset Mechanical tool

NOTE: **Oil and service resetter As replacement for 62 1 110.**



Fig. 12: Identifying Reset (2338099)
Courtesy of BMW OF NORTH AMERICA, INC.

0493015 RESET

0493015 621110 Reset MP

NOTE: **(Service Interval Reset (SIR)) 2nd Generation, 20- pin. Sale and then to be**

cardiagn.com

ordered under new part number 83 30 2 338 099 - as at July 2012.

Storage Location

H 105

SI number

02 07 89 (113)

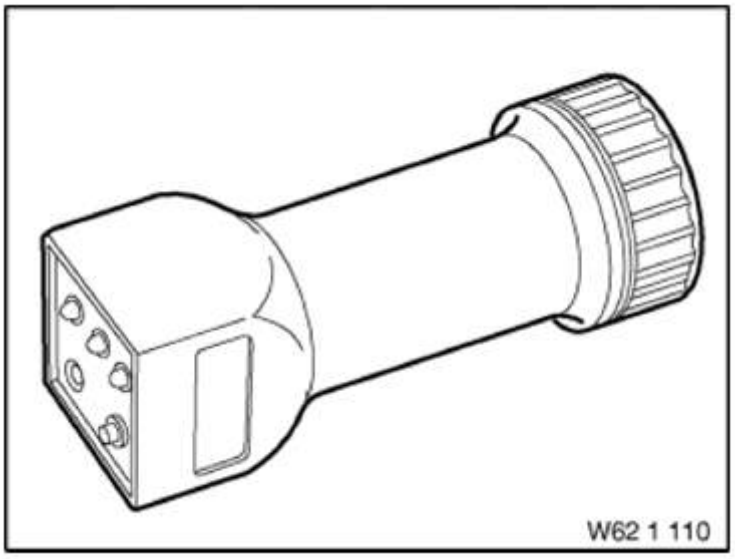


Fig. 13: Identifying Reset (0493015)
Courtesy of BMW OF NORTH AMERICA, INC.

0493040 RESET

0493040 621290 Reset AM

NOTE: **(Airbag reset) With operating instructions for reading out and resetting fault memory/Model year: Up to approx. 9/91**

Storage Location

T 207

Consisting of:

9 = **0493041** Operating instructions

cardiagn.com

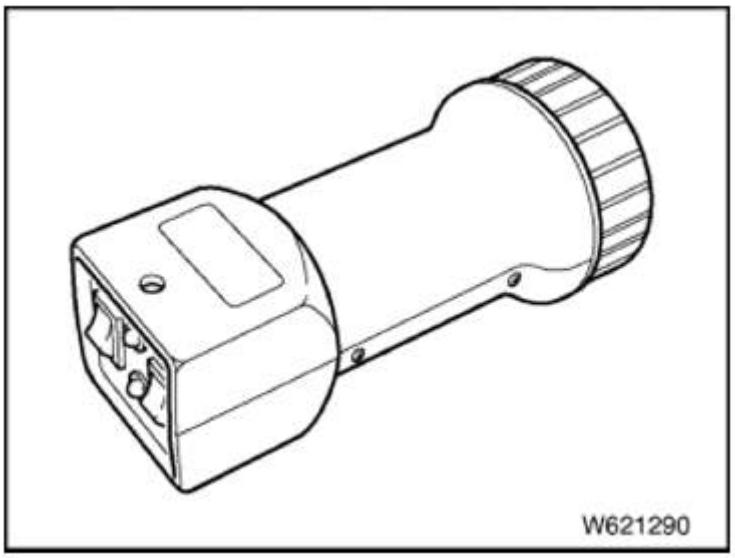


Fig. 14: Identifying Reset (0493040)
Courtesy of BMW OF NORTH AMERICA, INC.

0493011 RESET

0493011 621100 Reset AM

Replaced by: 83300493015

NOTE: **(Service interval resetter (SIR)) 1st generation, 15-pin - Replaced by 62 1 110, sub-numbers remain the same for replacement part orders Replaced by 62 1 110 (0 493 015)**

Consisting of:

1. 0493012 Bulb

   NOTE: **(bulb, green) For replacement part order only**

2. 0493013 Bulb

   NOTE: **(bulb, yellow) For replacement part order only**

3. 0493014 Bulb

   NOTE: **(bulb, red) For replacement part order only**

0493022 SIMULATOR

0493022 621151 Simulator AM

0493021 SIMULATOR

0493021 621150 Simulator AM

Consisting of:

1. 0493022 Simulator
2. 0493023 Wiring harness

   NOTE: **(Wiring harness) Series: E30, E36**

cardiagn.com

3. 0493024 Wiring harness

NOTE: **(Wiring harness) Series: E12, E23, E24, E28, E34, E32**

4. 0493025 Adapter

NOTE: **(Test adapter for display element)**

5. 0493026 Adapter cable

NOTE: **(Connecting line (power supply))**

0494321 TEST CABLE

0494321 621340 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **(Test cable set for airbag)**

SI number

02 03 02 (824)

Consisting of:

1. 0494322 Test cable

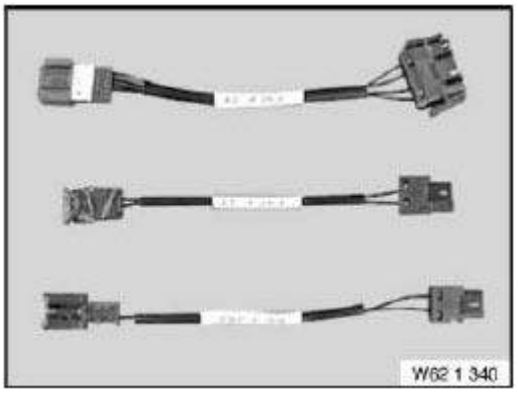


Fig. 15: Identifying Test Cable (0494321)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **For side airbag, head airbag and rear belt tensioner sale of existing inventory and then available as part of set of tools 62 1 340 = 83 30 0 494 321 only - as of 09.12.2011**

2. 0494323 Test cable

NOTE: **For front belt tensioner and safety battery terminal Liquidation of existing inventory and then available only via complete tool set 62 1 340 = 83 30 0 494 321 - status 09.12.2011**

3. 0494324 Test cable

NOTE: **For driver's side and front passenger airbag sale of existing inventory and then available as part of set of tools 62 1 340 = 83 30 0 494 321 only - as of 09.12.2011**

cardiagn.com

0493030 TEST CABLE

0493030 621230 Test cable AM

NOTE: **(Test cable set) For airbag for checking, troubleshooting and ignition - model year: up to 94**

SI number

02 02 94 (807)

Consisting of:

1 = 0493031 Adapter cable

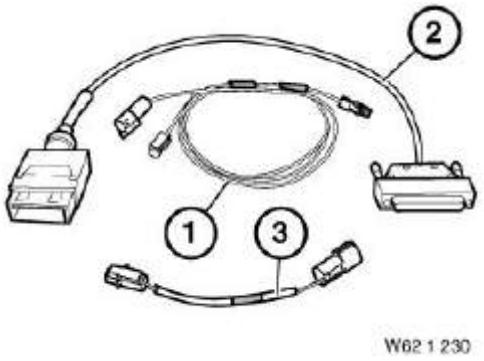


Fig. 16: Identifying Test Cable (0493030)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **(V adapter cable) for clock spring and airbag unit; for Rolls-Royce this cable only; available as part of set of special tools 62 1 230 = 83 30 0 493 030 only - as of 30.11.2011**

2 = 0493032 Test cable

NOTE: **For MRS/airbag control unit - basic gas generator/central gas generator available as part of set of special tools 62 1 230 = 83 30 0 493 030 only - as of 30.11.2011**

3 = 0493033 Adapter cable

NOTE: **For igniter - driver's airbag up to model year 94 - available as part of set of special tools 62 1 230 = 83 30 0 493 030 only - as of 30.11.2011**

9 = 0493034 Operating instructions

0493032 TEST CABLE

0493032 621232 Test cable AM

NOTE: **For MRS/airbag control unit - basic gas generator/central gas generator available as part of set of special tools 62 1 230 = 83 30 0 493 030 only - as of 30.11.2011**

Storage Location

O 202

cardiagn.com

0494323 TEST CABLE

0494323 621342 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **For front belt tensioner and safety battery terminal Liquidation of existing inventory and then available only via complete tool set 62 1 340 = 83 30 0 494 321 - status 09.12.2011**

Storage Location

O 217

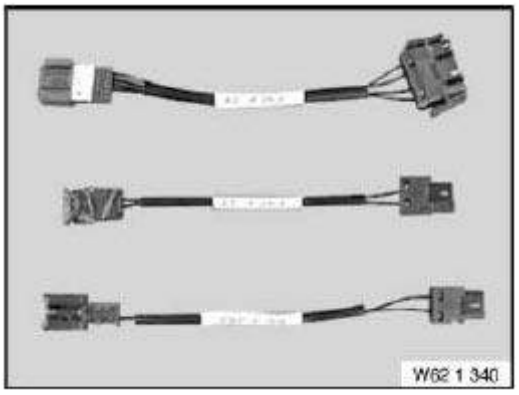


Fig. 17: Identifying Test Cable (0494323)
Courtesy of BMW OF NORTH AMERICA, INC.

0494324 TEST CABLE

0494324 621343 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **For driver's side and front passenger airbag sale of existing inventory and then available as part of set of tools 62 1 340 = 83 30 0 494 321 only - as of 09.12.2011**

Storage Location

O 218

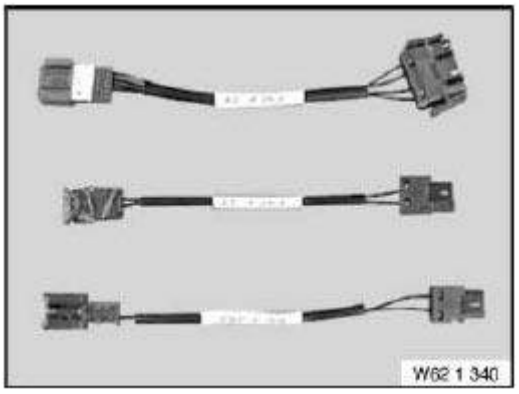


Fig. 18: Identifying Test Cable (0494324)
Courtesy of BMW OF NORTH AMERICA, INC.

0494322 TEST CABLE

0494322 621341 Test cable Minimum set: Measuring and testing equipment MP

NOTE: **For side airbag, head airbag and rear belt tensioner sale of existing inventory**

cardiagn.com

and then available as part of set of tools 62 1 340 = 83 30 0 494 321 only - as of 09.12.2011

Storage Location

O 216

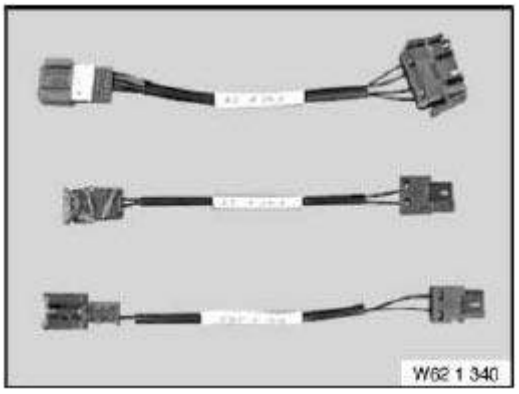


Fig. 19: Identifying Test Cable (0494322)
Courtesy of BMW OF NORTH AMERICA, INC.

0493037 TEST CABLE

0493037 621260 Test cable Mechanical tool

NOTE: **(Airbag test cable) For checking airbag periphery**

Storage Location

O 205

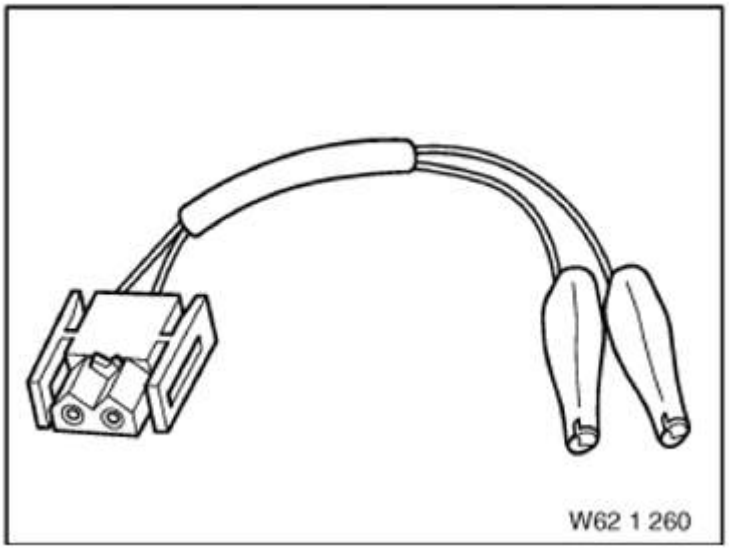


Fig. 20: Identifying Test Cable (0493037)
Courtesy of BMW OF NORTH AMERICA, INC.

0493024 WIRING HARNESS

0493024 621153 Wiring harness AM

NOTE: **(Wiring harness) Series: E12, E23, E24, E28, E34, E32**

0493023 WIRING HARNESS

cardiagn.com

NOTE: **(Wiring harness) Series: E30, E36**

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702135

cardiagn.com

HEAD-UP DISPLAY

62 30 HEAD-UP DISPLAY

TIGHTENING TORQUE SPECIFICATION - HEAD-UP DISPLAY

Â	Type	Thread	Tightening specifications	Dimension
Head-Up 1AZ Display to support	F01/F02/F04	Combination oval-head machine screw	Â	7.10 Nm
	F06/F07/F10/F11/F12/F13/F18/F25/F26	Combination oval-head machine screw	Â	7.60 Nm
	F30/F31/F32/F33/F34/F35/F36/F80/F82/F83	Combination oval-head machine screw	Â	8.00 Nm
	F15/F16/F85/F86	M6GFx25	Reuse = Yes	13.00 Nm

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702186

cardiagn.com

HEADLIGHT ADJUSTMENT

63 10... ADJUST THE FOG LIGHTS (WITH ELECTRONIC HEADLIGHT ADJUSTMENT DEVICE MAHA LITE 3)

COMPLY WITH TEST PREREQUISITES FOR HEADLIGHT ADJUSTMENT!

Refer to the operating instructions for the headlight adjustment device!

Switch on the headlight adjustment device by pressing any button.

Press **F2** button. The shown display screen appears.

Perform the following settings:

1. The passenger car must be selected.
2. Enter the setting dimension for the headlight with buttons **F1/F2: - 2, 0 %**
3. The right/left-hand traffic must be selected according to the country.

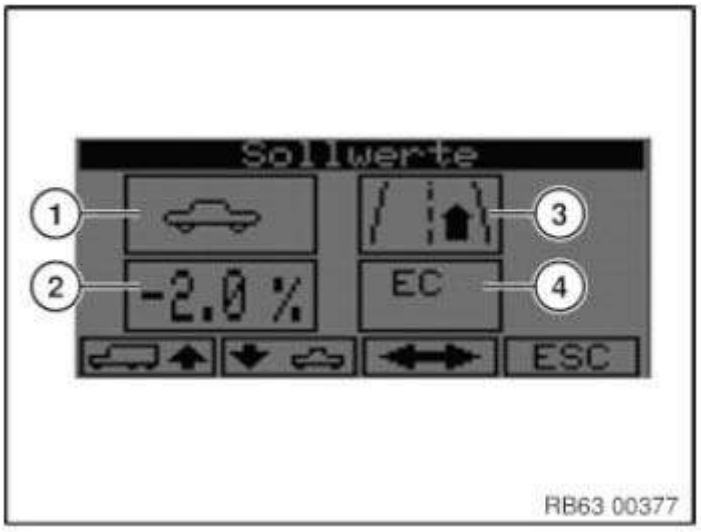


Fig. 1: Display - Fog Light Adjustment Menu Screen
Courtesy of BMW OF NORTH AMERICA, INC.

4. Select the fog light type with the **F3** button:
   - **EC:** for halogen fog lights
   - **EC LED:** for LED fog lights

The adjusted values are adopted for future measurements.

Press briefly the button for the applicable side of the vehicle (1) until symbol (2) appears.

The following symbols appear in the display:

- O.K. (4): Adjustment is optimal.
- O.K. (3): Adjustment is within the legal tolerance range. ADJUST FOG LIGHT until O. K. (4) is displayed.
- Arrows (5): Adjustment is incorrect. ADJUST FOG LIGHT using arrows (5) until O. K. (4) is displayed.

cardiagn.com

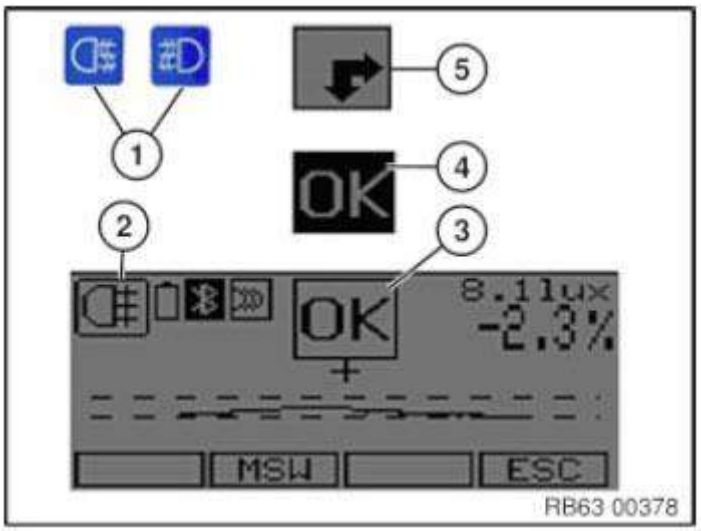


Fig. 2: Display - Fog Light Adjustment OK Button Screen
Courtesy of BMW OF NORTH AMERICA, INC.

63 10... ADJUST THE HIGH-BEAM HEADLIGHT (WITH ELECTRONIC HEADLIGHT ADJUSTMENT DEVICE MAHA LITE 3)

IMPORTANT:

The high-beam headlight can only be adjusted in the following cases:

- The low-beam headlight and high-beam headlight are located in separate housings and each has a separate range of adjustment (e.g. E52, BMW i 01).
- Low-beam headlight and high-beam headlight are located in one housing with one separate range of adjustment each.
- With separately mounted additional headlights (e.g. MINI).

On vehicles from 1995, separate adjustment of the high-beam headlight is not possible.

(Exception E52, BMW i 01, additional headlight MINI)

COMPLY with test prerequisites for headlight adjustment.

Refer to the operating instructions for the headlight adjustment device!

Necessary preliminary work:

ADJUST THE LOW-BEAM HEADLIGHT

Switch on the headlight adjustment device by pressing any button.

Press **F2** button. The shown display screen appears.

Perform the following settings:

1. The passenger car must be selected.
2. Enter the setting dimension of the headlight via the buttons **F1/F2: - 1.0 % to - 1.1 %**

   (see "light/dark boundary of the headlight in the headlight adjustment device" in the information **OBSERVE THE TEST PREREQUISITES FOR THE HEADLIGHT ADJUSTMENT**).

cardiagn.com

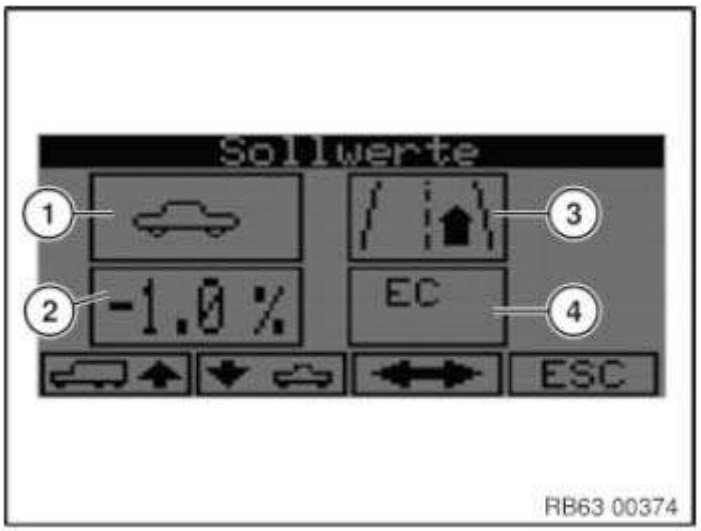


Fig. 3: Display - Head Light Setting Button Screen
Courtesy of BMW OF NORTH AMERICA, INC.

3. The right/left-hand traffic must be selected according to the country.
4. Select the headlight type via the button **F3:**
   - **EC:** for halogen and xenon headlights
   - **EC LED:** for LED headlight

The adjusted values are adopted for future measurements.

Press briefly the button for the applicable side of the vehicle (1) until symbol (2) appears.

The following symbols appear in the display:

- O.K. (5): Adjustment is optimal.
- O.K. (4): Adjustment is within the legal tolerance range. Adjust high-beam headlight until O. K. (5) is displayed.
- Arrows (3): Adjustment is incorrect. Adjust high-beam headlight using arrows (3) until O. K. (5) is displayed.

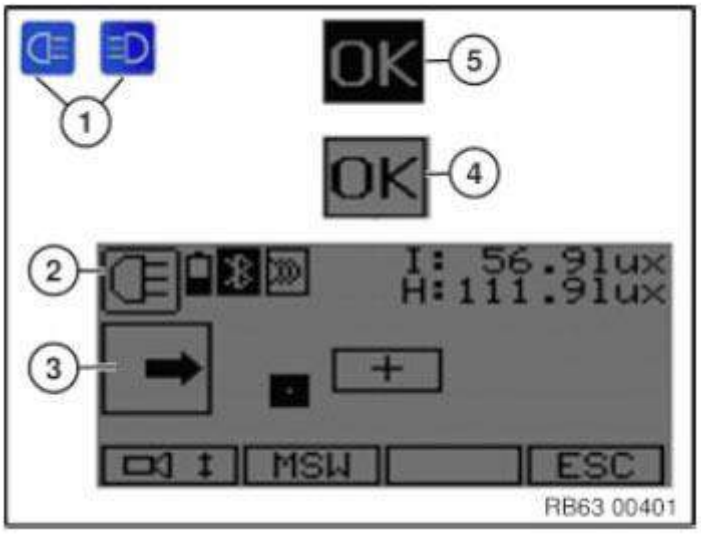


Fig. 4: Display - Head Light Dimension Setting OK Button Screen
Courtesy of BMW OF NORTH AMERICA, INC.

63 10... ADJUST THE LOW-BEAM HEADLIGHT (WITH ELECTRONIC HEADLIGHT

cardiagn.com

ADJUSTMENT DEVICE MAHA LITE 3)

COMPLY WITH TEST PREREQUISITES FOR HEADLIGHT ADJUSTMENT!

Refer to the operating instructions for the headlight adjustment device!

NOTE: **On vehicles with anti-glare high-beam headlight it is sufficient to adjust the low-beam headlight.**
Only in the event of a customer complaint regarding dazzle/glare
Adjust anti-glare high-beam headlight separately.

Switch on the headlight adjustment device by pressing any button.

Press **F2** button. The shown display screen appears.

Perform the following settings:

1. Passenger car must be selected
2. Enter the setting dimension of the headlight via the buttons **F1/F2: - 1, 0 % to - 1, 1 %**

   (see "light/dark boundary of the headlight in the headlight adjustment device" in the information **OBSERVE THE TEST PREREQUISITES FOR THE HEADLIGHT ADJUSTMENT**).

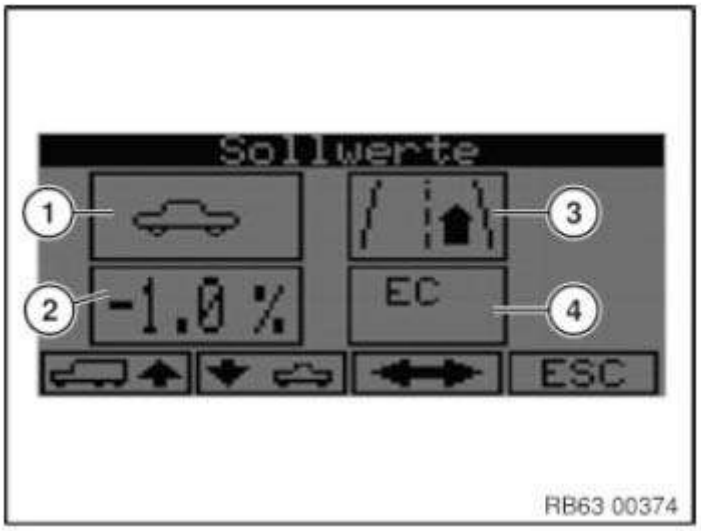


Fig. 5: Display - Head Light Setting Button Screen
Courtesy of BMW OF NORTH AMERICA, INC.

3. The right/left-hand traffic must be selected according to the country.
4. Select the headlight type via the button **F3:**
   - **EC:** for halogen and xenon headlights
   - **EC LED:** for LED headlight

The adjusted values are adopted for future measurements.

cardiagn.com

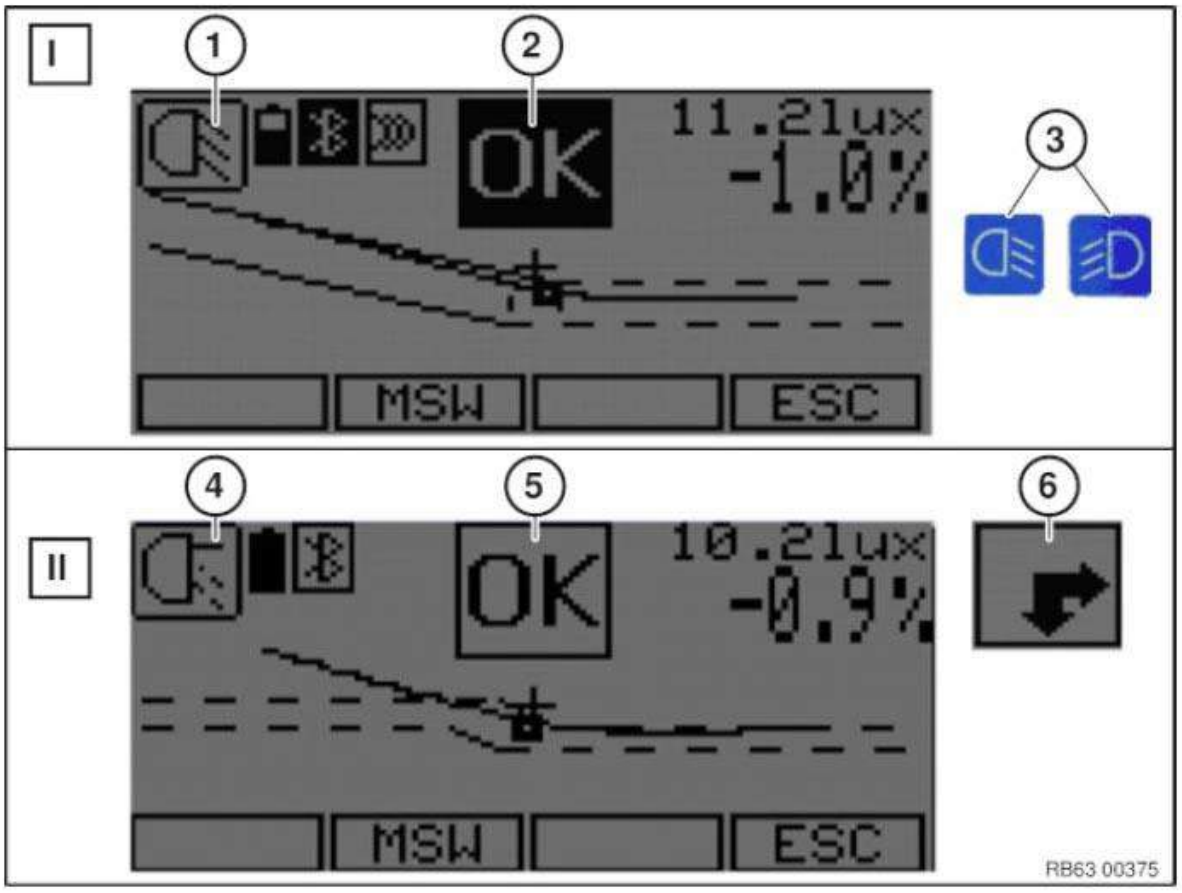


Fig. 6: Display -- Headlight Adjusted Measuring Values
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Before measuring/adjusting the low-beam headlight, it is absolutely necessary to determine the **TRANSPARENT SCREEN OF THE HEADLIGHT**!
An incorrect selection leads to an incorrect setting!

Transparent screen **Type I:**

Press briefly the button for the applicable side of the vehicle (3) until symbol (1) appears.

Transparent screen **Type II:**

Press longer the button for the applicable side of the vehicle (3) until symbol (4) appears.

The following symbols appear in the display:

- O.K. (2): Adjustment is optimal.
- O.K. (5): Adjustment is within the legal tolerance range. **ADJUST HEADLIGHT** until O. K. (2) is displayed.
- Arrows (6): Adjustment is incorrect. **ADJUST HEADLIGHT** using arrows (6) until O. K. (2) is displayed.

63 10 014 ADJUSTING FOG LIGHTS

Comply with **TEST PRECONDITIONS FOR HEADLIGHT ADJUSTMENT**.

IMPORTANT: Do not damage adjusting screw when adjusting fog light.

Adjust fog light (1) at adjusting screw (2).

cardiagn.com

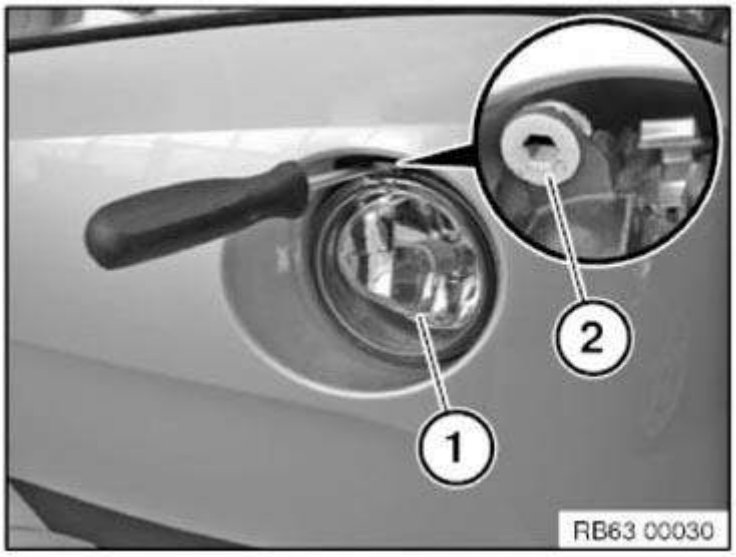


Fig. 7: Adjusting Fog Light
Courtesy of BMW OF NORTH AMERICA, INC.

63 10 004 ADJUSTING HEADLIGHTS

COMPLY with test prerequisites for headlight adjustment.

IMPORTANT: Do not damage adjusting screws when adjusting headlights.

Carry out headlight adjustment at adjusting screws (1) and (2).

1. Adjusting screw primarily for vertical adjustment
2. Adjusting screw primarily for lateral adjustment

After headlight adjustment:

Perform reference run. For this purpose, switch off and on the headlights. Check again headlight adjustment.

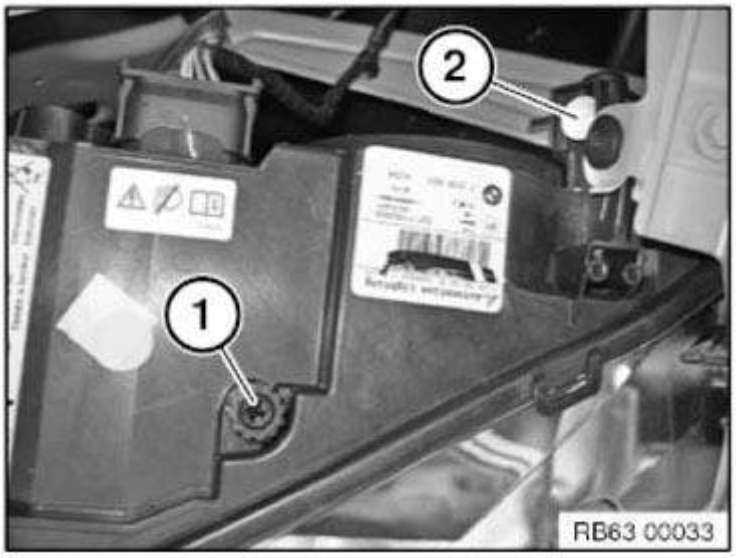


Fig. 8: Identifying Headlight Adjustment Screws
Courtesy of BMW OF NORTH AMERICA, INC.

63 10... LIGHT PATTERNS FROM DIFFERENT LOW-BEAM HEADLIGHT TYPES

The following equipment-specific and model-specific headlight types are used in BMW Group vehicles:

cardiagn.com

- Halogen headlights (low-beam and high-beam headlights)
- Xenon headlights (low-beam and high-beam headlights)
- LED headlights (low-beam and high-beam headlights)
- Laser headlights (high-beam headlight booster, low-beam and high-beam headlights are lit by LEDs)

Every headlight type has its specific transparent screen for the low-beam headlight. In spite of these differences, all headlight types meet statutory specifications.

The images below show transparent screens from the left headlight in the low-beam headlight switch position projected onto a wall (**no automatic setting!**).

The transparent screens from the right headlight are the same.

The transparent screens correspond with those in an accumulator box of a headlight adjusting device.

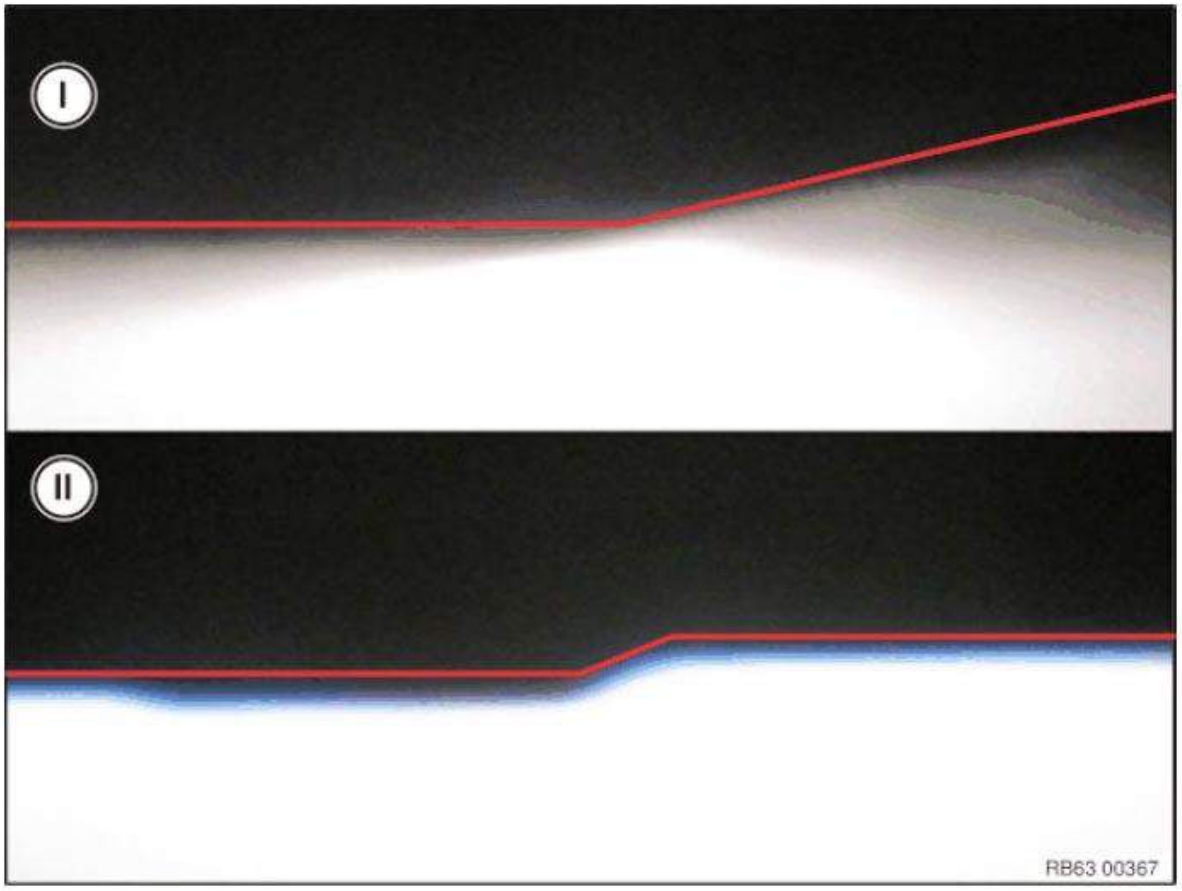


Fig. 9: Identifying Transparent Screens (Type I And Type II)
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: For headlight adjustments with electronic headlight adjustment devices, e.g. MAHA Lite 3, it is absolutely required to determine the type of transparent screen!

Type I: Light pattern shows a continuous increase in the light/dark boundary.

Type II: Light pattern screen shows a short increase in the light/dark boundary.

1. Halogen headlight

   Type I

cardiagn.com

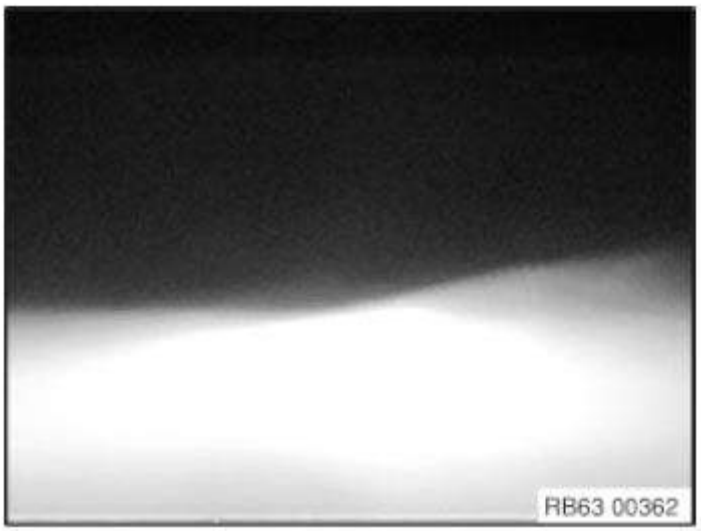


Fig. 10: Identifying Halogen Headlight (Type I)
Courtesy of BMW OF NORTH AMERICA, INC.

2. Halogen headlight **US version R60 only**

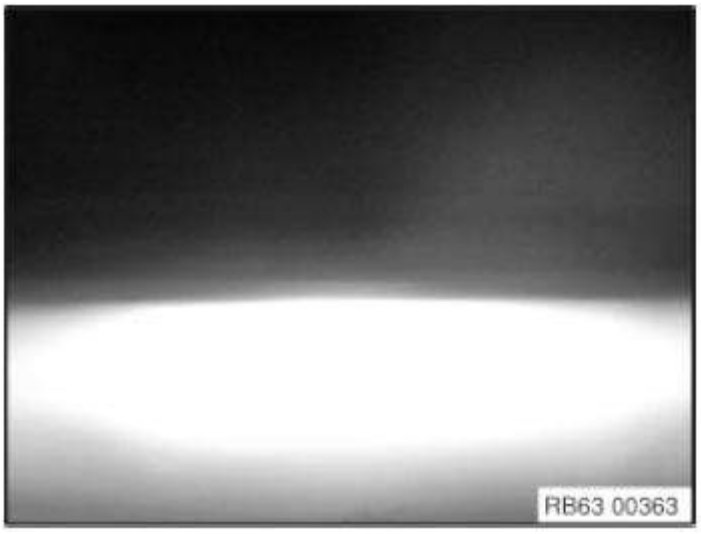


Fig. 11: Identifying Halogen Headlight (US Version R60 Only)
Courtesy of BMW OF NORTH AMERICA, INC.

3. Xenon headlights

Type II

cardiagn.com

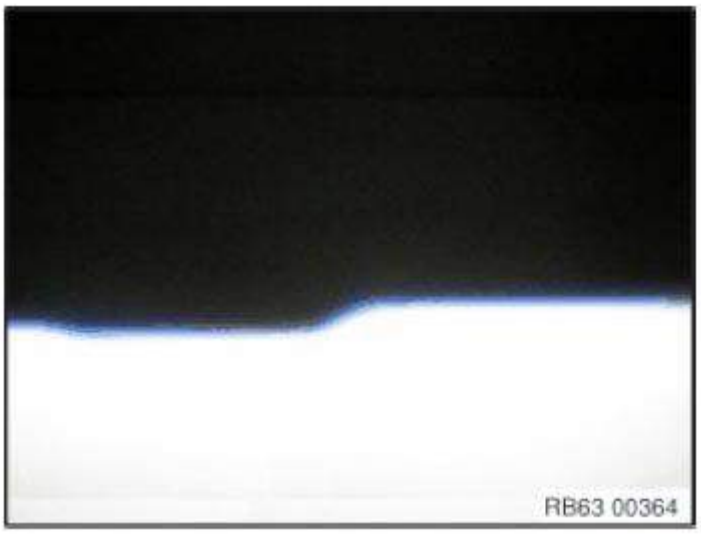


Fig. 12: Identifying Xenon Headlights (Type II)
Courtesy of BMW OF NORTH AMERICA, INC.

4. LED headlight e.g. F01, F02, F03

   Type II

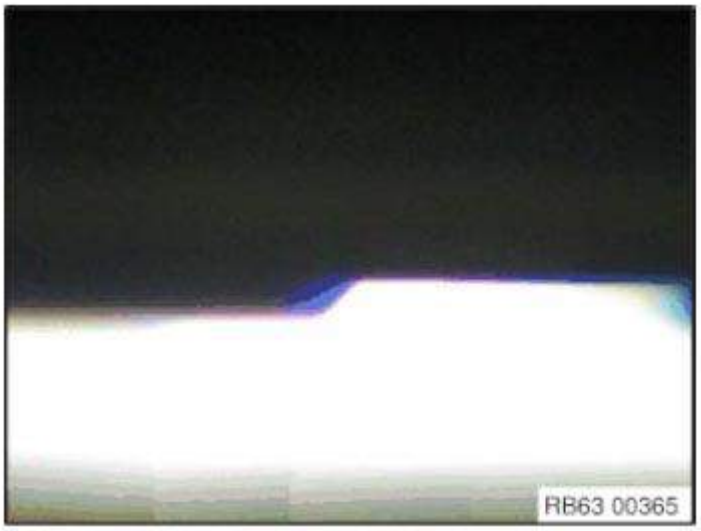


Fig. 13: Identifying LED Headlight F01, F02, F03 (Type II)
Courtesy of BMW OF NORTH AMERICA, INC.

5. LED headlight e.g. F06, F12, F13, E71

   Type I

cardiagn.com

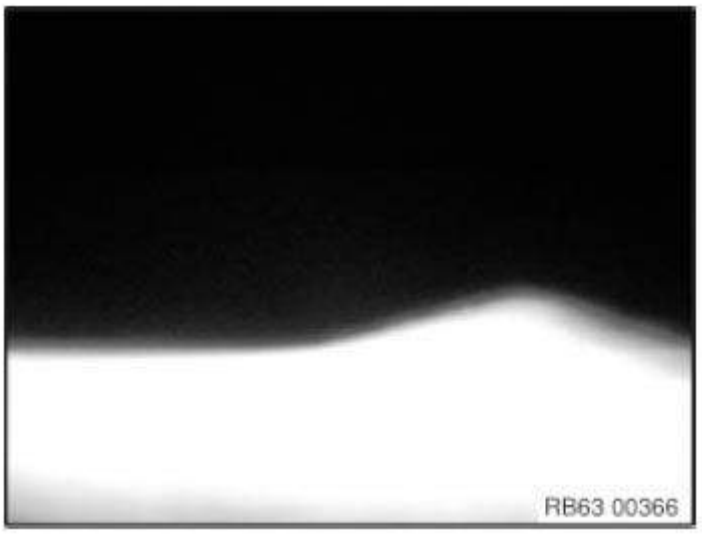


Fig. 14: Identifying LED Headlight F06, F12, F13, E71 (Type I)
Courtesy of BMW OF NORTH AMERICA, INC.

63 10... TEST REQUIREMENTS FOR HEADLIGHTS VERTICAL AIM ADJUSTMENT

IMPORTANT: Do not perform headlight adjustment immediately after lowering the vehicle on the vehicle hoist. In this case, move the vehicle for approx. 15 m on its own wheels before headlight adjustment.

IMPORTANT: Refer to the operating instructions for the headlight adjustment device!

- Park vehicle on flat and even surface.
- Replace faulty glass and mirrors and blackened light bulbs.
- Check correct adjustment of headlights in relation to engine compartment lid (gap dimensions).
- Check tire pressure and correct if necessary.

Only halogen headlight, fog light and headlight for Dynamic Light Spot:

- Apply load equivalent to one person on driver's seat (approx. 75 kg).
- Vehicle with full fuel tank or appropriate additional weight in luggage compartment.
- Switch the ignition on.
- Manual headlight beam throw adjustment: Move handwheel to neutral position (1).
- **Light switch must be in "low beam/driving light" position (3).**
- **Do not carry out the headlight adjustment in the "automatic driving lights control" light switch position (2).**
- **Version with Xenon or LED (automatic headlight beam throw adjustment)** : Wait 80 s after switching on lights. During this time, do not move the vehicle and avoid vibrations.

cardiagn.com

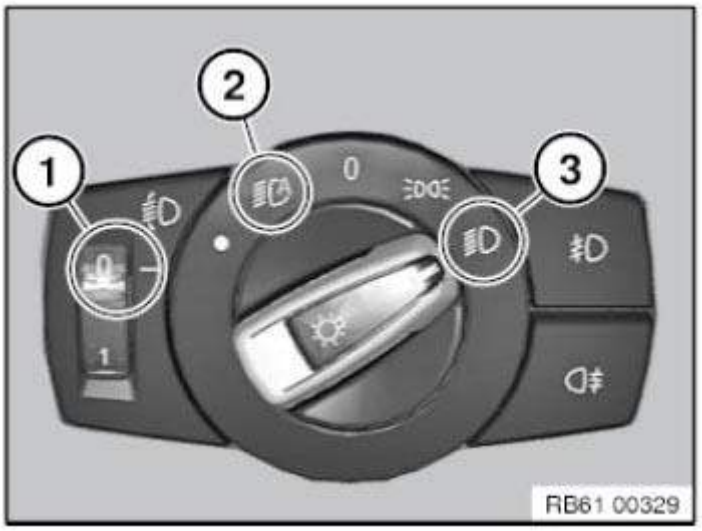


Fig. 15: Identifying Low Beam/Driving Light Position
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not move the vehicle and steering wheel during the measuring and adjustment procedures! Wheels must be in the straight-ahead position!

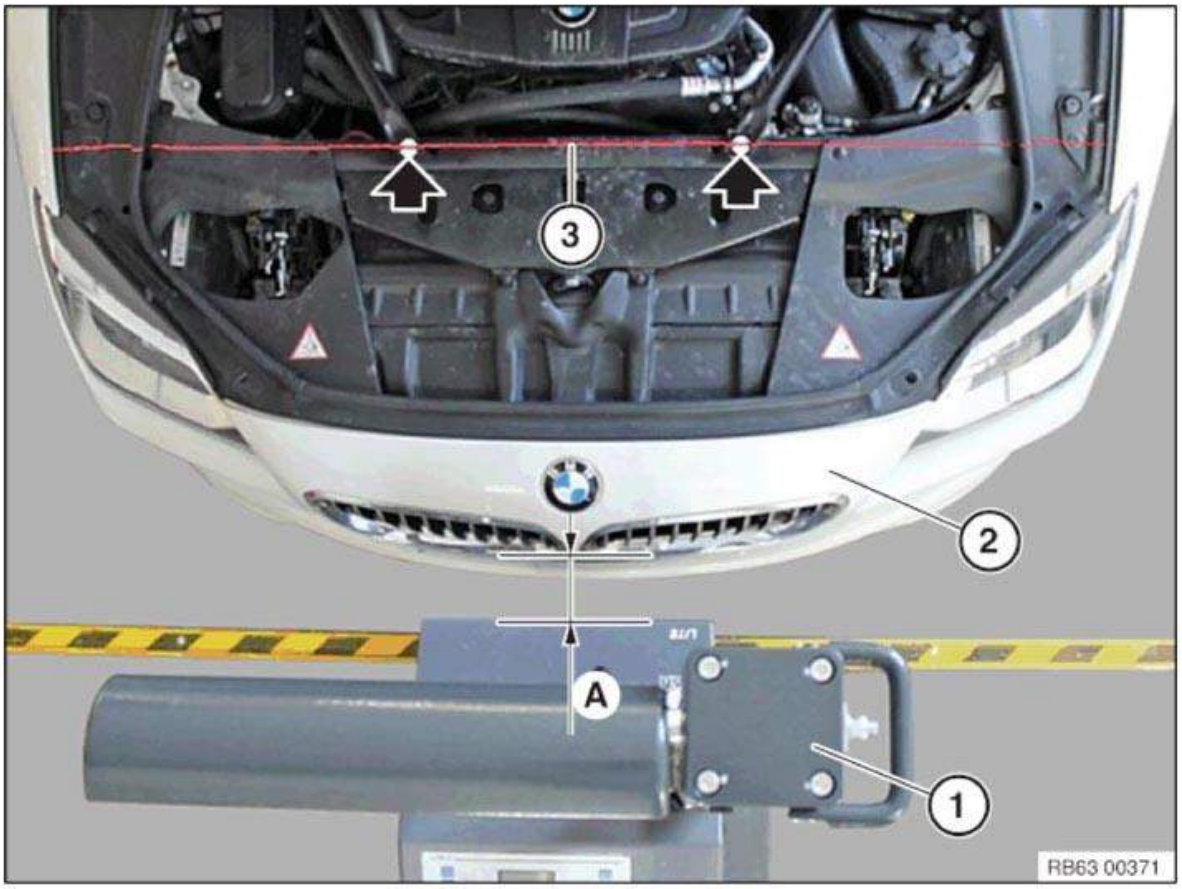


Fig. 16: Positioning Headlight Adjustment Device
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: A correct measurement/adjustment requires exact positioning of the headlight adjustment device (1)!
Headlight adjustment device (1) must stand vertically to the vehicle longitudinal axis! This applies to all headlights!

Position headlight adjustment device (1) centrally in front of vehicle (2) at distance (A) = **10 cm.**

cardiagn.com

Align headlight adjustment device (1) by laser beam (3). Laser beam (3) must hit two suitable points, e.g. marked by arrows.

Points must be vehicle proof!
IMPORTANT: Points must be separated as wide as possible!
Trim panels are not suitable!

If the headlight adjustment device (1) does not have a laser beam (3), complete the alignment analogous with the line in the mirror.

IMPORTANT: Always perform positioning of the headlight adjustment device (1) at the outer headlight (2).

The center of the collecting lens (1) must match the center of headlight (2) horizontally.

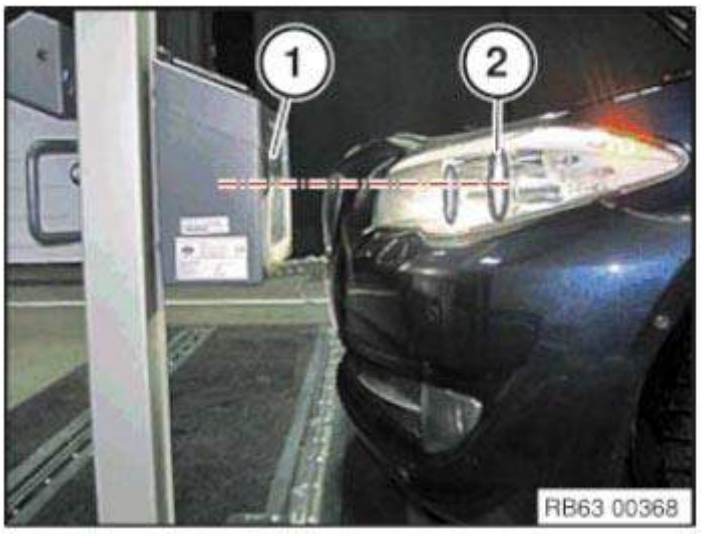


Fig. 17: Aligning Center Of Collecting Lens Horizontally With Center Of Headlight
Courtesy of BMW OF NORTH AMERICA, INC.

Corrections are made by raising or lowering the headlight adjustment device.

cardiagn.com

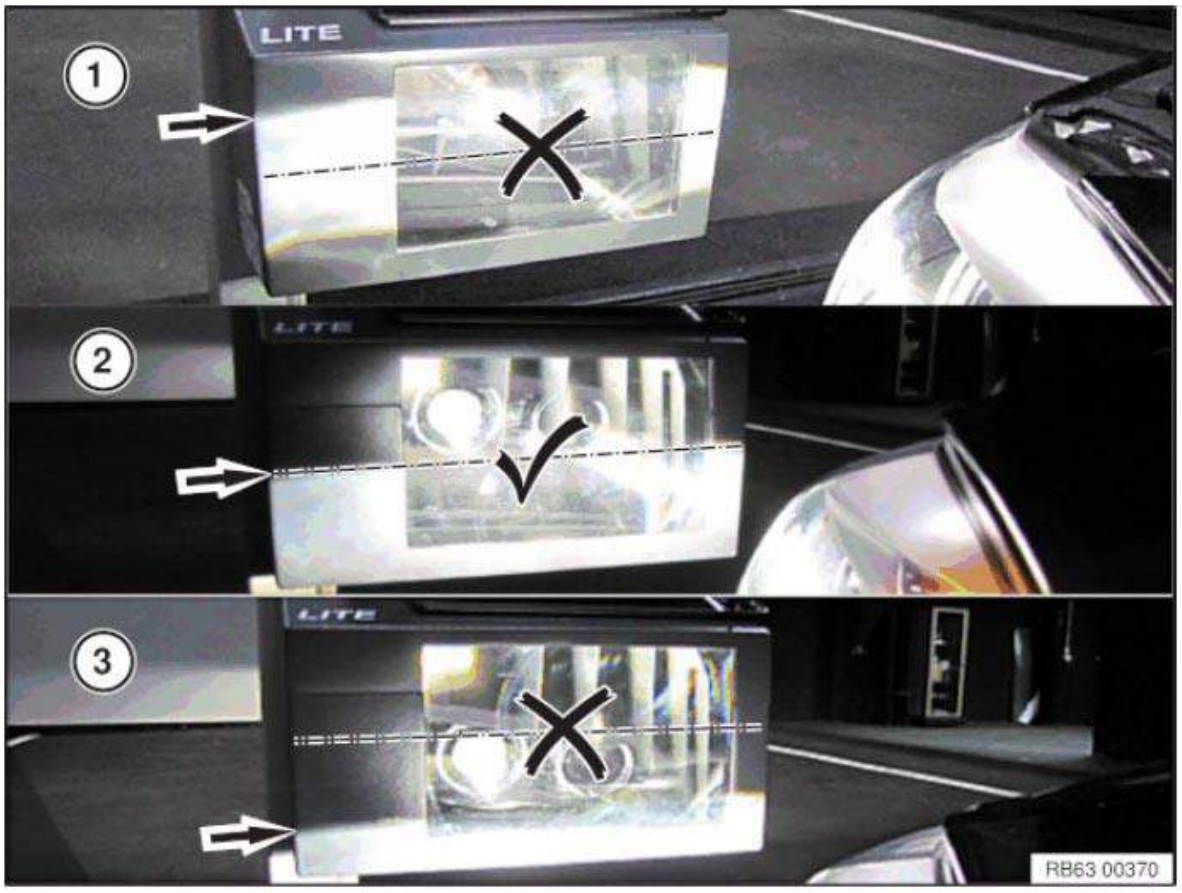


Fig. 18: Display - Headlight Beam Adjustment Screen
Courtesy of BMW OF NORTH AMERICA, INC.

When positioned correctly, the light/dark boundary of the headlight (marked with arrow) must hit the collecting lens of the adjusting device in the center:

1. The headlight adjusting device is too low.
2. The headlight adjusting device is positioned correctly.
3. The headlight adjusting device is too high.

The center of the collecting lens (1) must match the center of headlight (2) vertically.

Corrections are made by sliding the side of the headlight adjusting device to the left or right.

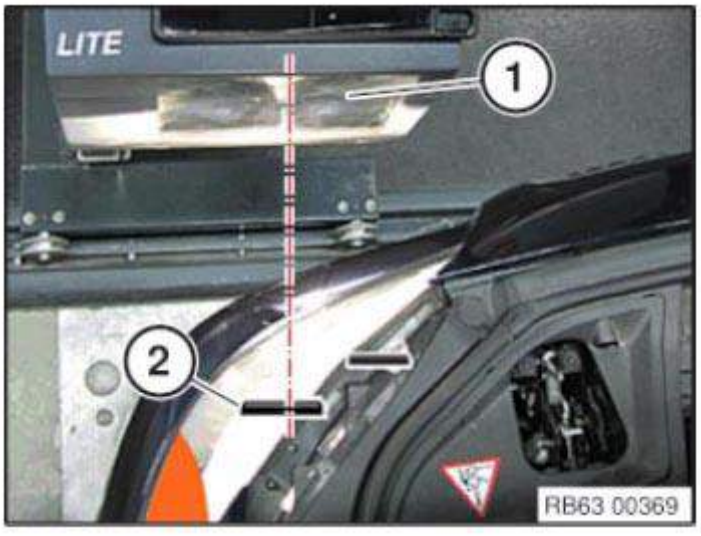


Fig. 19: Aligning Center Of Collecting Lens Vertically With Center Of Headlight

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

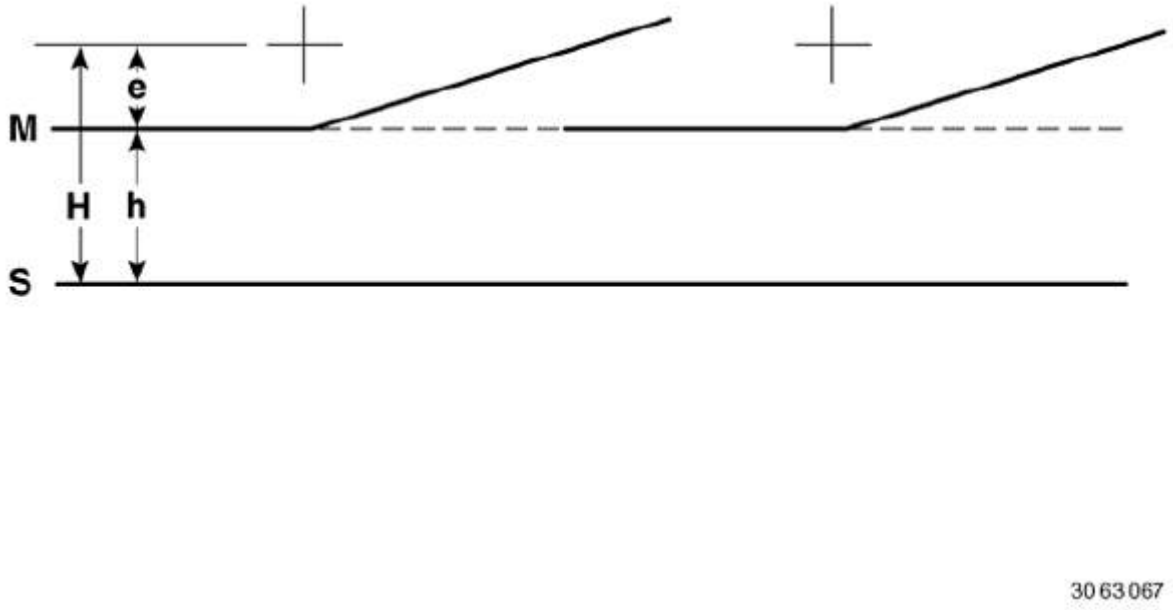


Fig. 20: Identifying Marking Line On Aimer To Distance
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **The figure shows an example for the transparent screen of halogen headlights. OVERVIEW OF TRANSPARENT SCREENS OF DIFFERENT HEADLIGHT TYPES.**

Set marker line {M} on aimer to {e}. Scale graduations on the headlight adjustment device are equal to a gradient in cm at a distance of 10 meters.

Light/dark boundary of headlights in the headlight adjustment device

{e} **Setting dimension, headlights:**

- Value is indicated on the **headlight housing** and on vehicles with production date up to 2011 on the **type plate** in %.

  (e.g.: **1.0 %** = -10 cm/10 m = **- 1.0 %** on the headlight adjusting device)

- Value **1.0 %** (adjustment value **- 1.0 %**) applies to all BMW Group vehicles.
- Exception: E53, E70, E71, E72, E83, F15, F16, F25, F26, R60, R61. For these vehicles, value **1.1%** (adjustment value **- 1.1%**) applies.

Setting dimension, fog lights:

- Value **2.0 %** = -20 cm/10 m = **- 2.0 %** on the headlight adjusting device applies to all BMW Group vehicles.

Setting dimension, dynamic light spot headlight:

- Value **0.0 %** = 0 cm/10 m = **0 %** on the headlight adjusting device applies to all BMW Group vehicles.

{H} Height of headlight center above parking surface

{h} {H} - {e} = height of marking line above parking surface

+ Central mark = center point of high beam headlight.

{M} Marker line of the headlight adjustment device

cardiagn.com

{S} Standing surface of the vehicle and headlight adjustment device

Adjustment dimension {e} is only valid for EUR. Observe differing national regulations.

FRONT LIGHTS

63 11 570 REMOVING AND INSTALLING/REPLACING LEFT HEADLIGHT DRIVER MODULE (LED HEADLIGHT)

IMPORTANT: Read and comply with **INFORMATION ON PROTECTION AGAINST ELECTROSTATIC DISCHARGE** !

NOTE: **Removal and installation of headlight driver module is carried out from engine compartment.**

Removal:

Release all screws (1).

Pull the headlight driver module (2) out of the headlight.

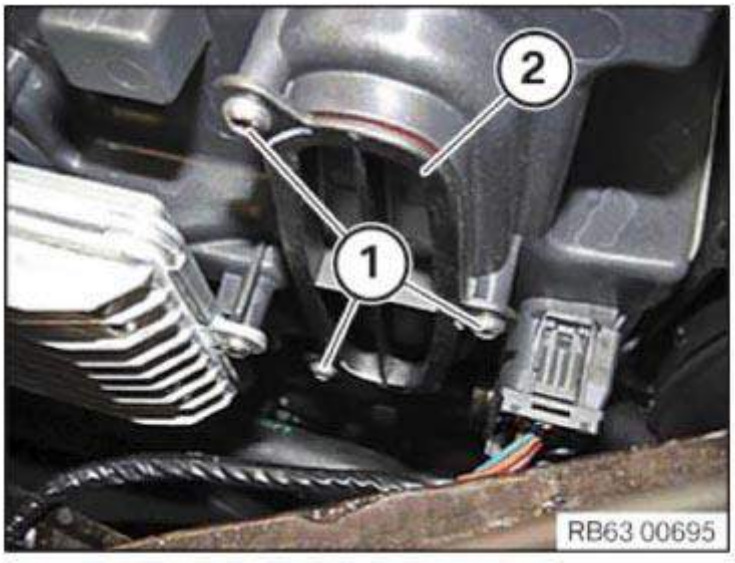


Fig. 21: Identifying Headlight Driver Module With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Installation note:

The gasket (1) on headlight driver module (2) must not be damaged and must be installed free of grease.

cardiagn.com

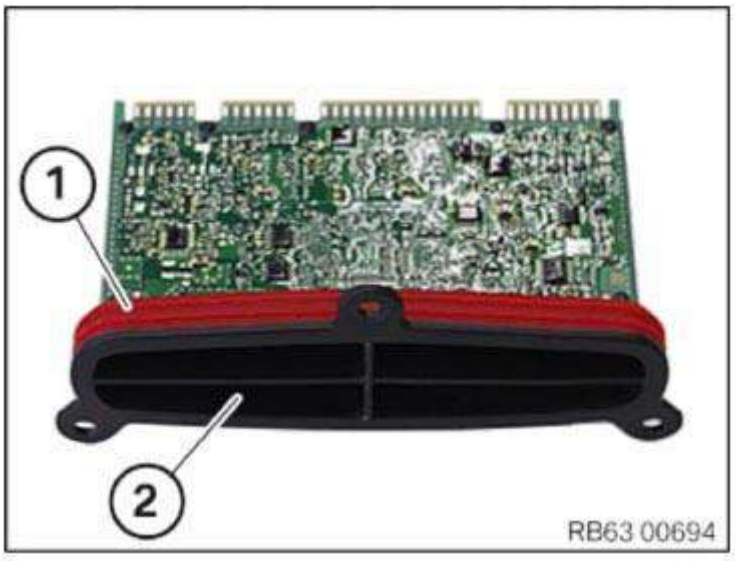


Fig. 22: Identifying Gasket On Headlight Driver Module
Courtesy of BMW OF NORTH AMERICA, INC.

Insert the headlight driver module (2) into the headlight.

Tighten down screws (1).

Tightening torque **63 12 2AZ** .

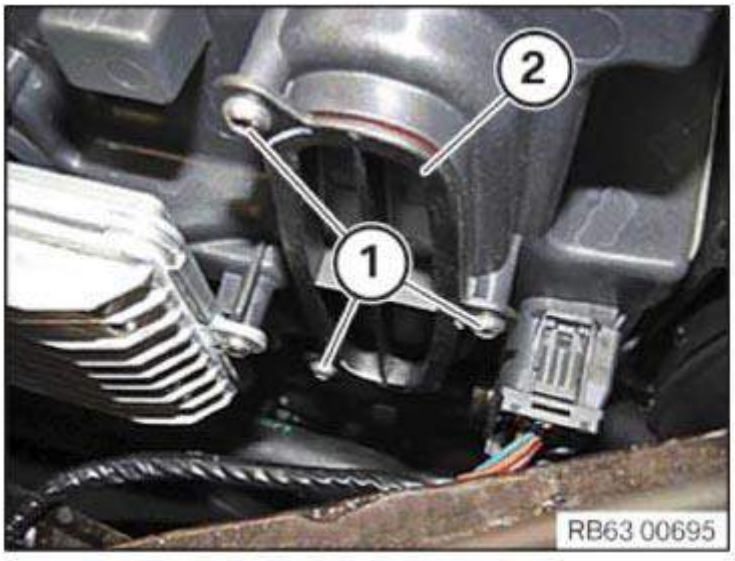


Fig. 23: Identifying Headlight Driver Module With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Teach in headlight driver module (1) via vehicle diagnosis.

- Service functions
- Body
- Lights
- Initialize the headlight driver module and teach in LEDs in headlight
- If applicable, carry out encoding

63 11 553 REMOVING AND INSTALLING/REPLACING RIGHT HEADLIGHT DRIVER MODULE

cardiagn.com

Operation is described in:

Remove **LEFT HEADLIGHT DRIVER MODULE**.

63 11 571 REMOVING AND INSTALLING/REPLACING RIGHT HEADLIGHT DRIVER MODULE (LED HEADLIGHT)

IMPORTANT: Read and comply with **INFORMATION ON PROTECTION AGAINST ELECTROSTATIC DISCHARGE** !

NOTE: **Removal and installation of headlight driver module is carried out from engine compartment.**

Removal:

Release filler channel (1) at the latch mechanism (2).

Pull filler channel (1) upwards.

Turn filler channel (1) away to side.

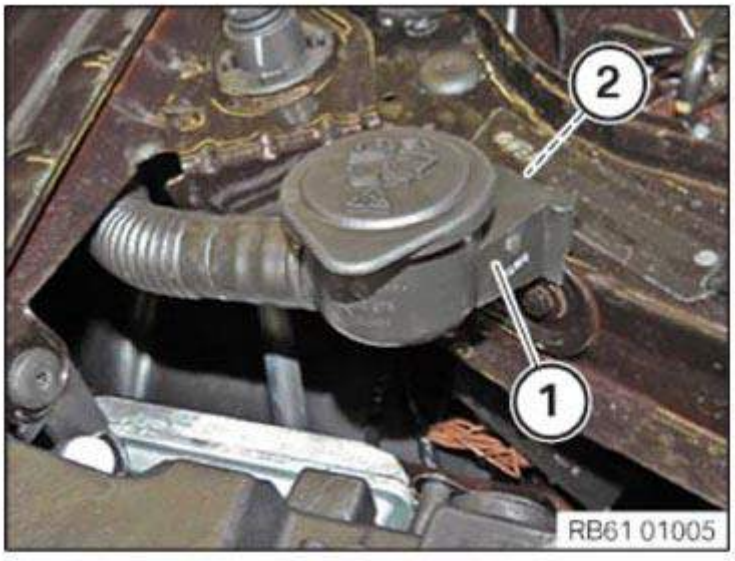


Fig. 24: Identifying Filler Channel And Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Release all screws (1).

Feed headlight driver module (2) out of the headlight.

cardiagn.com

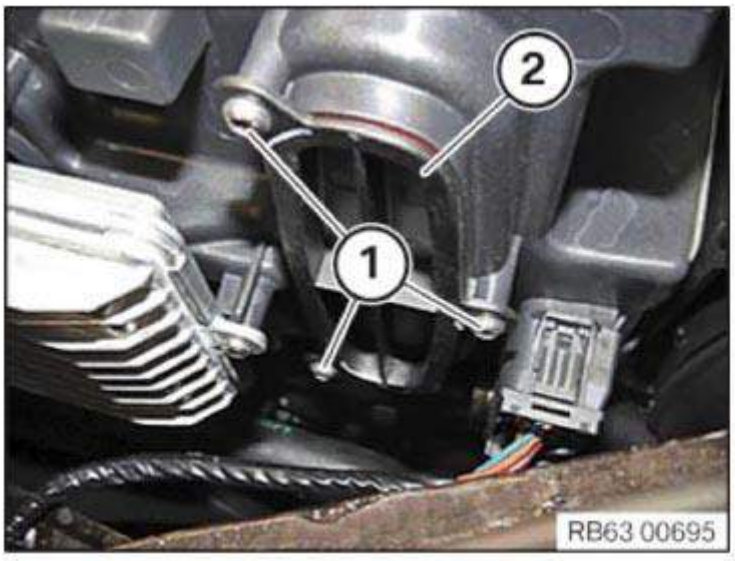


Fig. 25: Identifying Headlight Driver Module With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Installation note:

Gasket (1) on headlight driver module (2) must not be damaged and must be installed free of grease.

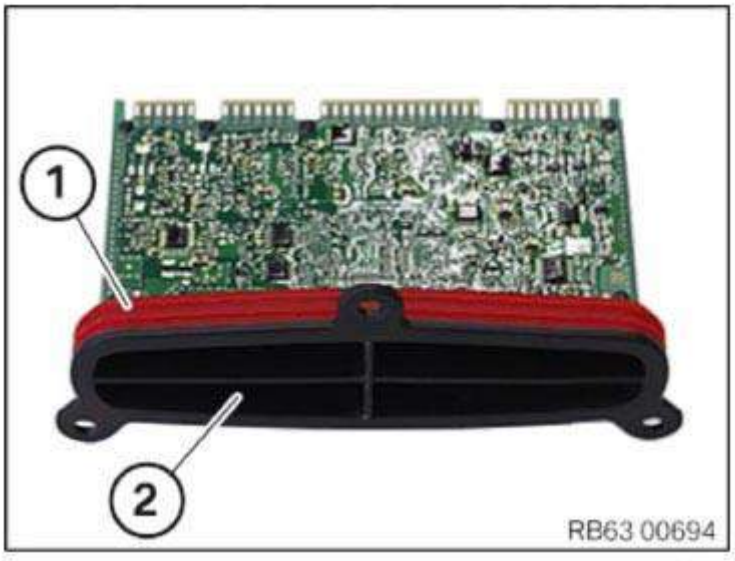


Fig. 26: Identifying Gasket On Headlight Driver Module
Courtesy of BMW OF NORTH AMERICA, INC.

Assemble headlight driver module (2) in the headlight.

Tighten down screws (1).

Tightening torque **63 12 2AZ** .

cardiagn.com

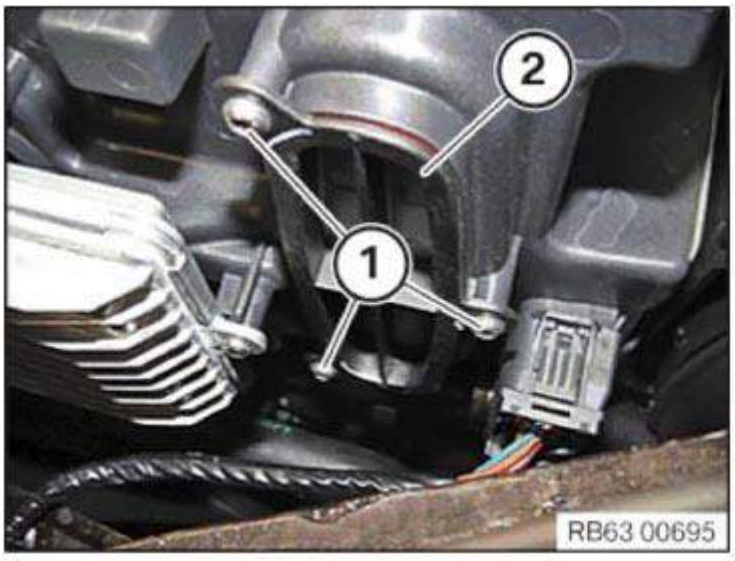


Fig. 27: Identifying Headlight Driver Module With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Insert filler channel (1) into holder.

NOTE: **Make sure filler channel (1) is correctly fitted and engaged (2).**

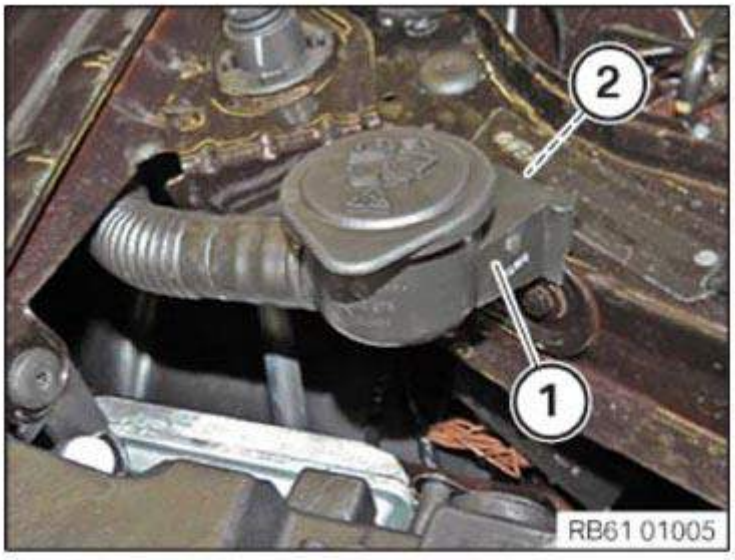


Fig. 28: Identifying Filler Channel And Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Teach in headlight driver module (1) via vehicle diagnosis.

- Service functions
- Body
- Lights
- Initialize the headlight driver module and teach in LEDs in headlight
- Perform encoding, if necessary

63 11 550 REMOVING AND INSTALLING/REPLACING THE HEADLIGHT DRIVER MODULE

WARNING: **Version with xenon lighting system: Danger to life due to high voltage!**

cardiagn.com

Disconnect all components from voltage supply before removal.
Work on the entire xenon lighting system (ignition device, control unit and bulb) may only be carried out by qualified personnel.

IMPORTANT: Observe **NOTES ON PROTECTION FROM ELECTROSTATIC DISCHARGE** .

NOTE: **Headlight shown removed for purposes of clarity.**

Release screws (1).

Pull headlight driver module (2) out of the headlight.

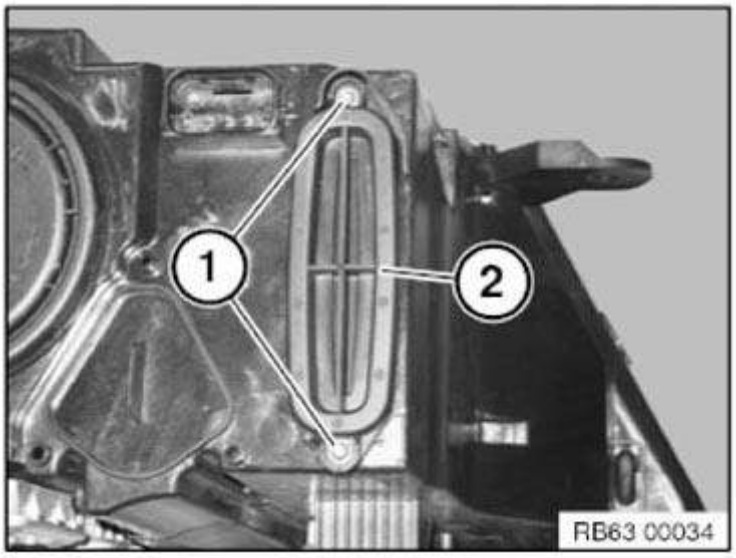


Fig. 29: Identifying Headlight Driver Module And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect connector (1).

Remove headlight driver module (2).

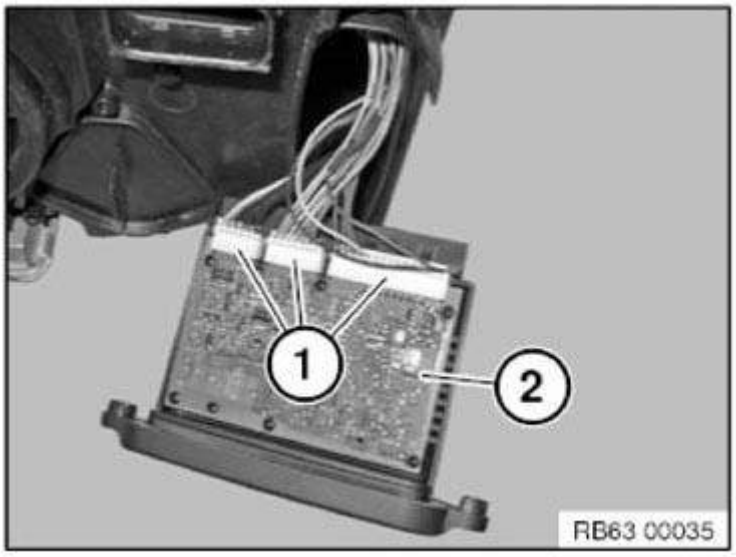


Fig. 30: Identifying Headlight Driver Module And Connectors
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

cardiagn.com

Ensure gasket (1) is fitted correctly during installation.

Gasket (1) must not be damaged and must be installed free from grease.

Guides must not be damaged or missing.

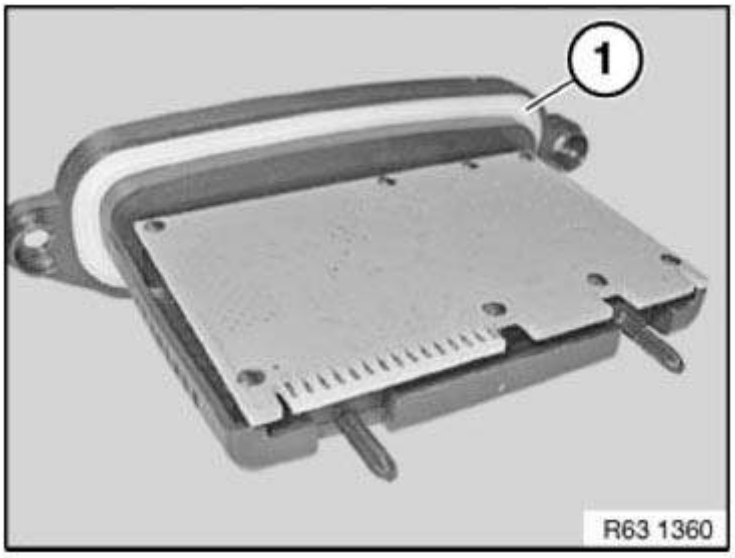


Fig. 31: Identifying Headlight Driver Module Gasket
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Teach in headlight driver module (1) via vehicle diagnosis.

- Service functions
- Body
- Lights
- Initialize the headlight driver module and teach in LEDs in headlight
- If applicable, carry out encoding

63 12... REPAIRING HEADLIGHTS

Refer to **63 12... REPAIRING HEADLIGHTS**.

63 11 731 REPLACING LED MODULE FOR LEFT DAYTIME DRIVING LIGHTS

WARNING: **Follow instructions for HANDLING LIGHT BULBS (EXTERIOR LIGHTS).**

Necessary preliminary tasks:

- Remove **BUMPER PANEL**

NOTE: **Headlight shown removed for purposes of clarity.**

Release screws (1).

Lift out LED module (2).

cardiagn.com

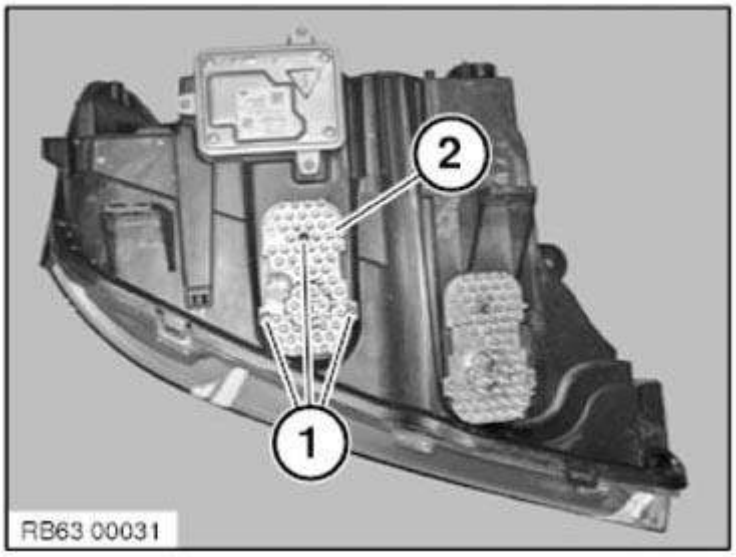


Fig. 32: Identifying LED Module And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1).

Remove LED module (2).

Installation note:

Always replace LED modules (2) as a pair.

Replace seal (3) for LED module (2).

Make sure LED module (2) is correctly seated.

Note **BULB TYPE** .

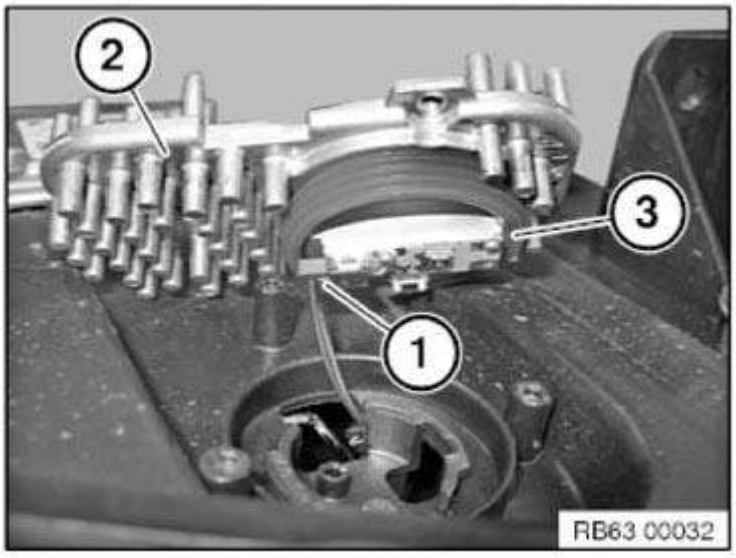


Fig. 33: Identifying LED Module, Plug Connection And Seal
Courtesy of BMW OF NORTH AMERICA, INC.

63 11 735 REPLACING LED MODULE FOR RIGHT DAYTIME LIGHT

Operation is described in:

Replacing **LED MODULE FOR LEFT DAYTIME LIGHT**.

cardiagn.com

63 11 845 REPLACING LEFT LED FAN (INNER)

Necessary preliminary tasks:

- Remove **HEADLIGHT - LED TECHNOLOGY**.

Removal:

Cut headlight (1) along the cutting line (2) with a suitable tool.

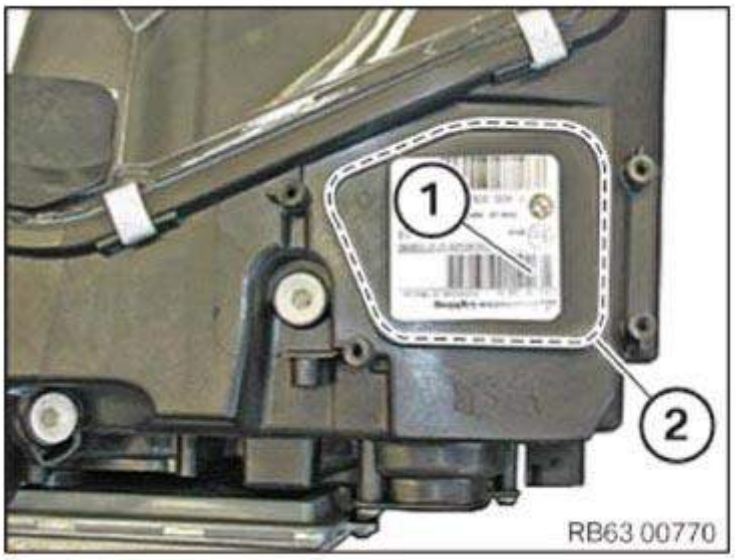


Fig. 34: Identifying Headlight Cutting Line
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect the connector (1).

Open wire spring clip (2) in direction of the headlight driver module.

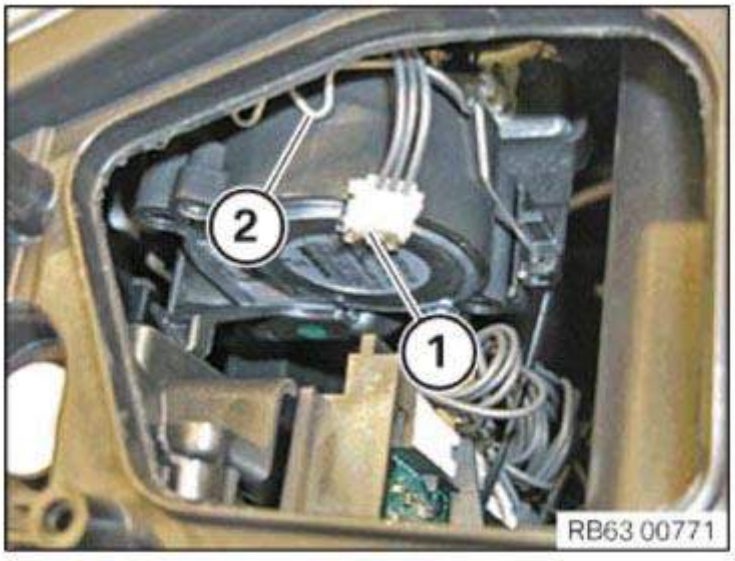


Fig. 35: Identifying Connector And Wire Spring Clip
Courtesy of BMW OF NORTH AMERICA, INC.

Remove fan (1) towards the top.

cardiagn.com

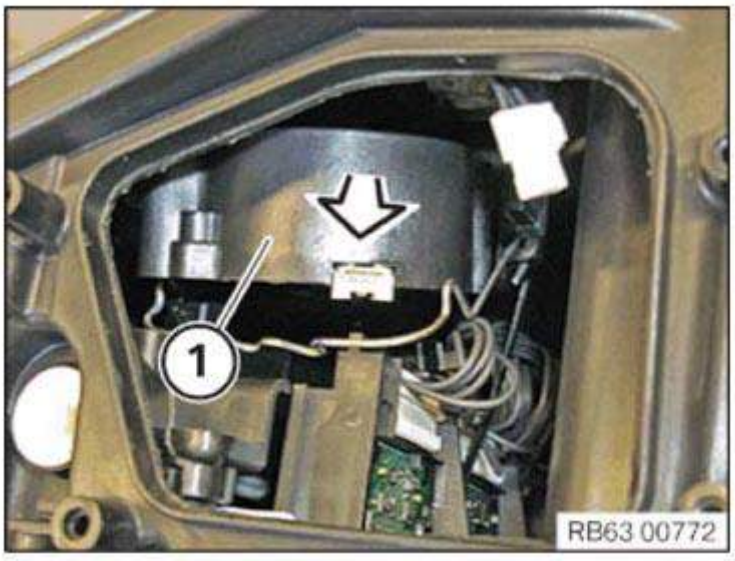


Fig. 36: Removing Fan
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Engage fan (1) in headlight.

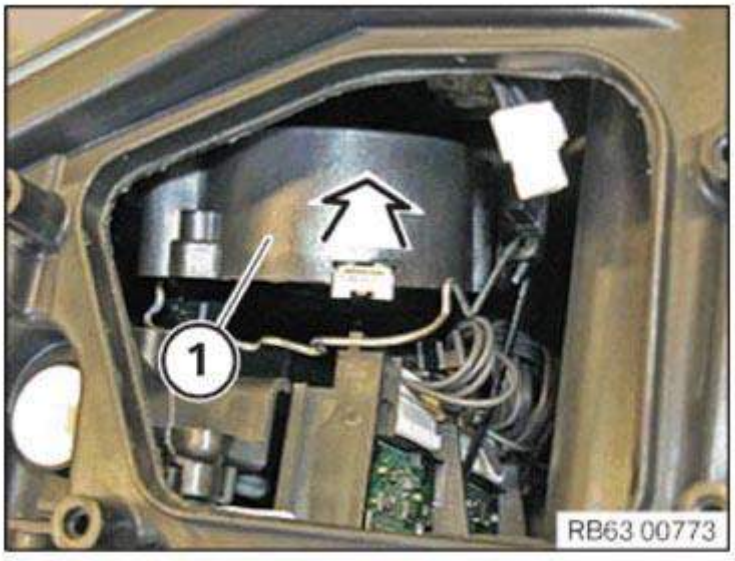


Fig. 37: Engaging Fan In Headlight
Courtesy of BMW OF NORTH AMERICA, INC.

Close wire spring clip (2) in direction of the fan.

Connect the plug (1).

cardiagn.com

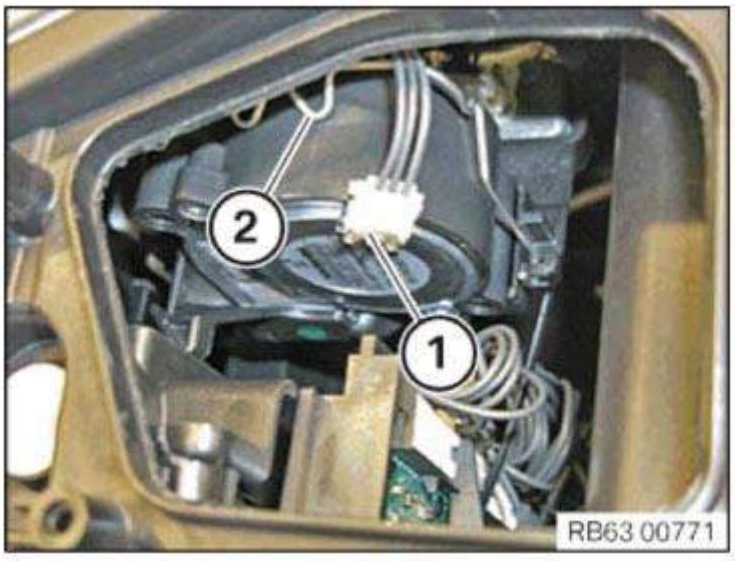


Fig. 38: Identifying Connector And Wire Spring Clip
Courtesy of BMW OF NORTH AMERICA, INC.

Secure repair lid to the headlight using 4 screws.

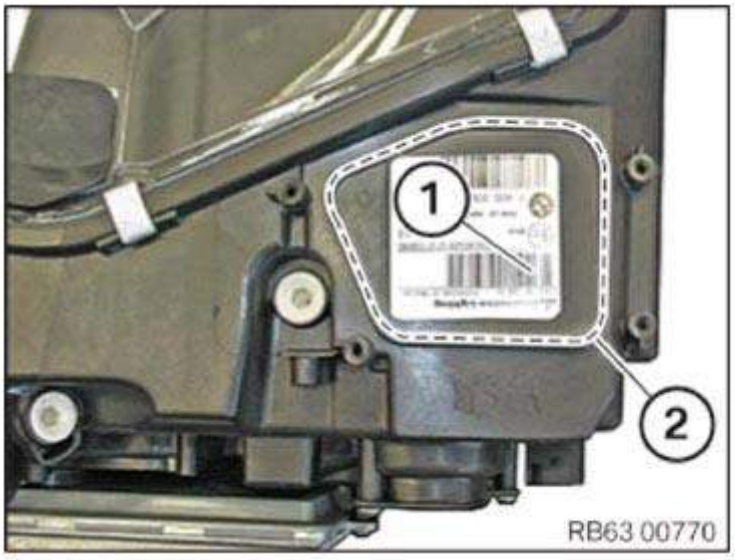


Fig. 39: Identifying Headlight Cutting Line
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **HEADLIGHT - LED TECHNOLOGY**

63 11 840 REPLACING LEFT LED FAN (OUTER)

Necessary preliminary tasks:

- Remove **HEADLIGHT - LED TECHNOLOGY**

Removal:

Loosen screws (2) at the main light module (1).

Pull main light module (1) from the headlight.

cardiagn.com

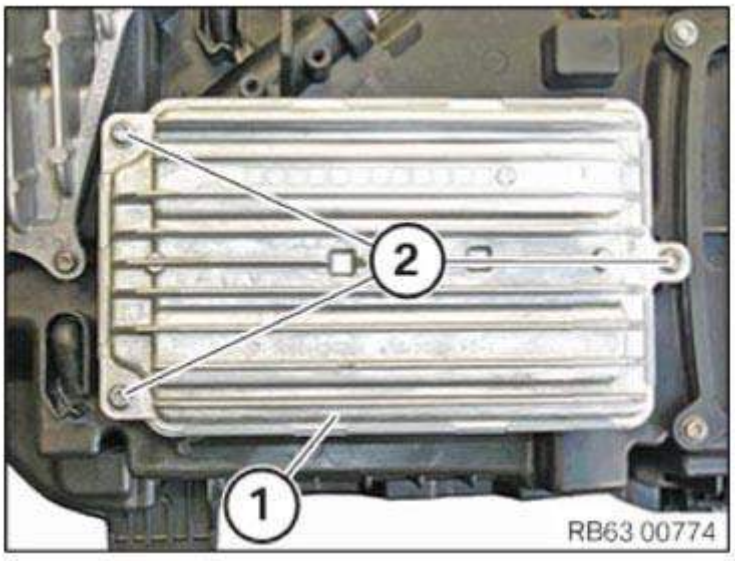


Fig. 40: Identifying Main Light Module Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Loosen connector (1) at the lock (2).

Press connector (1) into the headlight.

Cut headlight along the cutting line (3) with a suitable tool.

IMPORTANT: Risk of damage to the cables underneath, maximum cutting depth 5 mm!

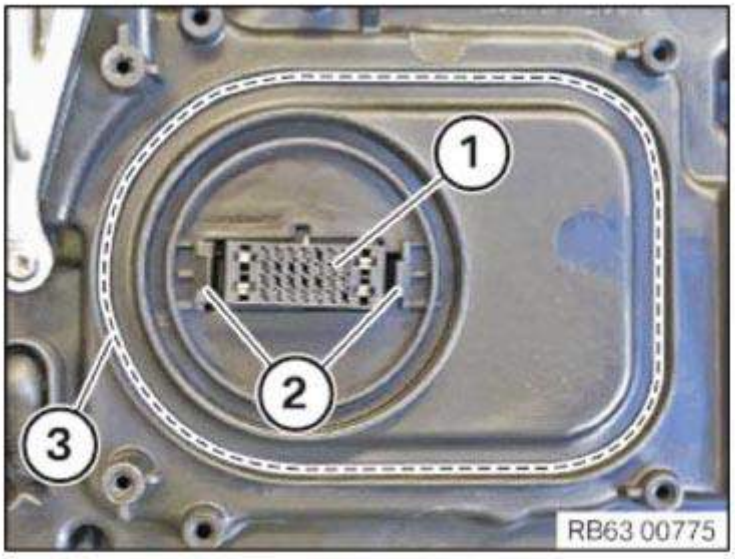


Fig. 41: Identifying Connector At Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Place the connector (1) to one side and affix.

cardiagn.com

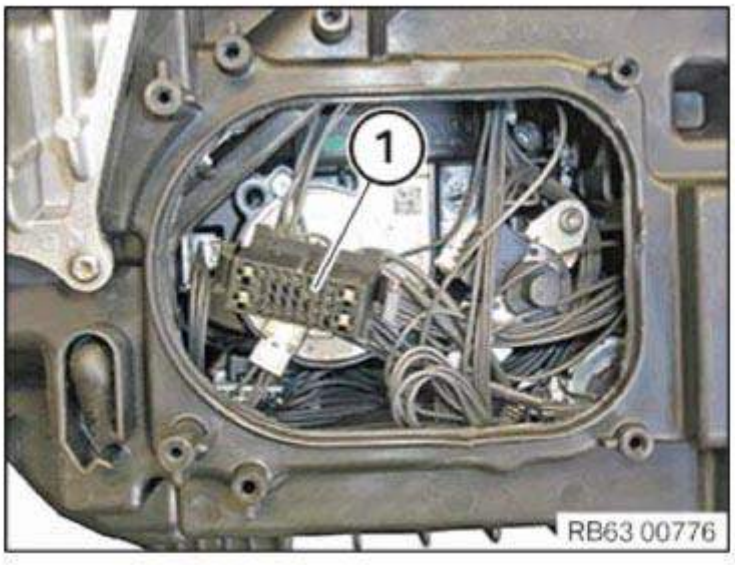


Fig. 42: Identifying Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect the connector (1) from the fan (3).

Release screw (2).

Remove fan (3).

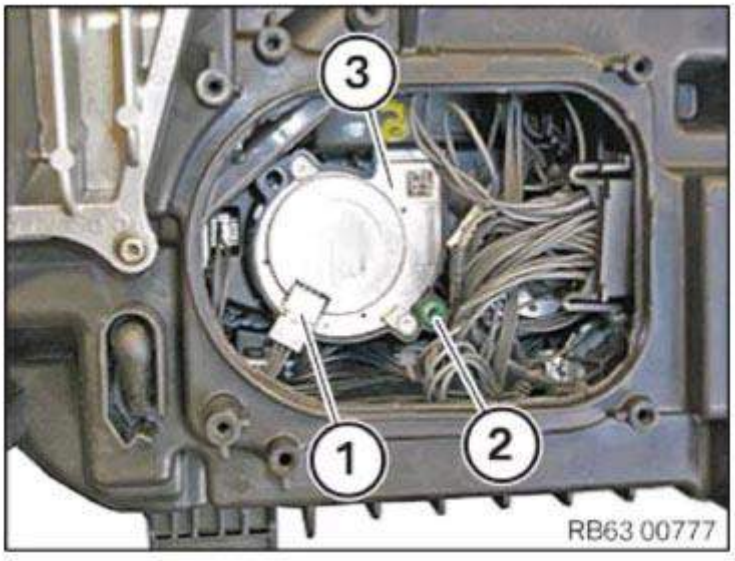


Fig. 43: Identifying Fan Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Engage fan (3) in headlight.

Tighten screw (2).

Connect the plug (1).

cardiagn.com

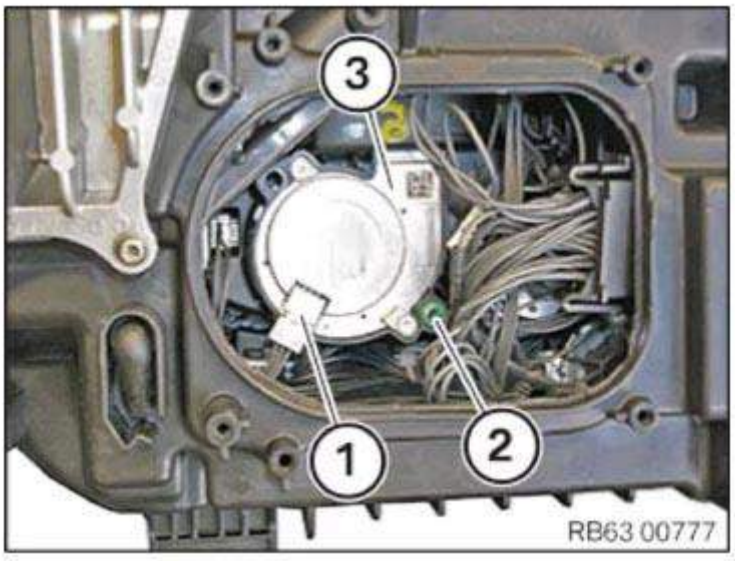


Fig. 44: Identifying Fan, Screw And Plug
Courtesy of BMW OF NORTH AMERICA, INC.

Engage connector (1) in repair lid and lock (2).

Secure repair lid to the headlight using 4 screws.

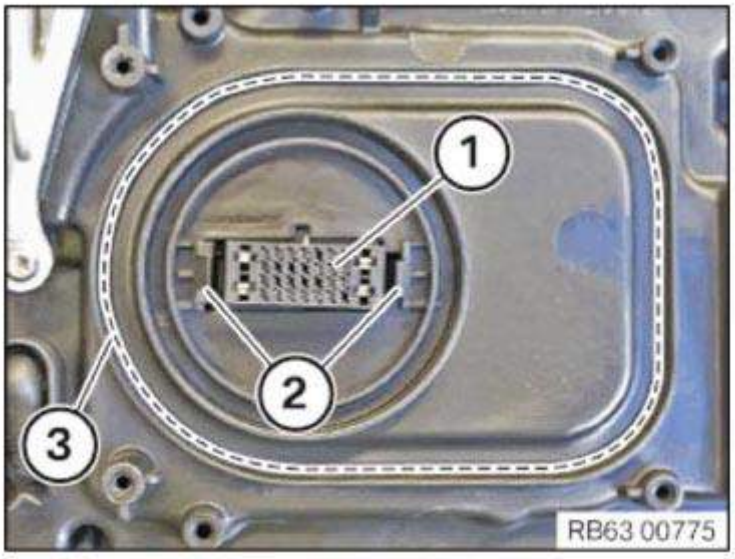


Fig. 45: Engaging Connector In Repair Lid And Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Engage main light module (1).

Tighten down screws (2).

cardiagn.com

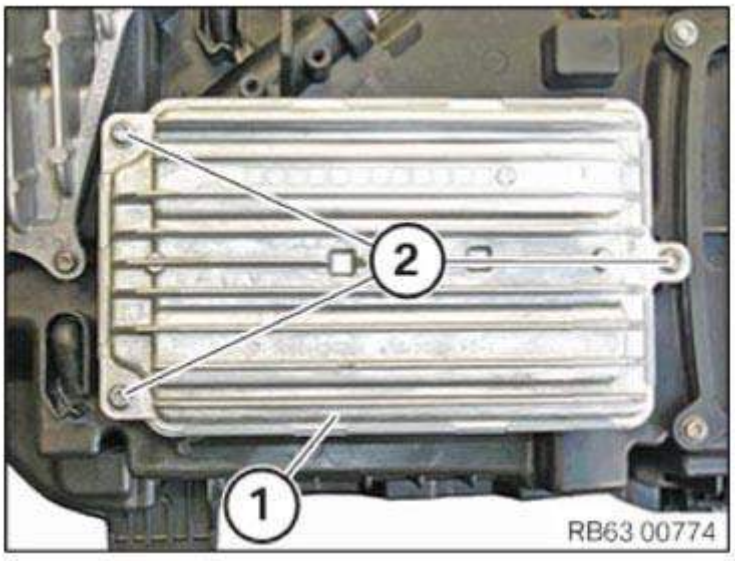


Fig. 46: Identifying Main Light Module Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **HEADLIGHT - LED TECHNOLOGY -**

63 11 800 REPLACING LEFT LED MAIN LIGHT MODULE LEFT

Attention!

Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)** .

NOTE: **Removal and installation of LED main light module is carried out from engine compartment.**

Removal:

Release all screws (1) and pull LED main light module (2) out of headlight.

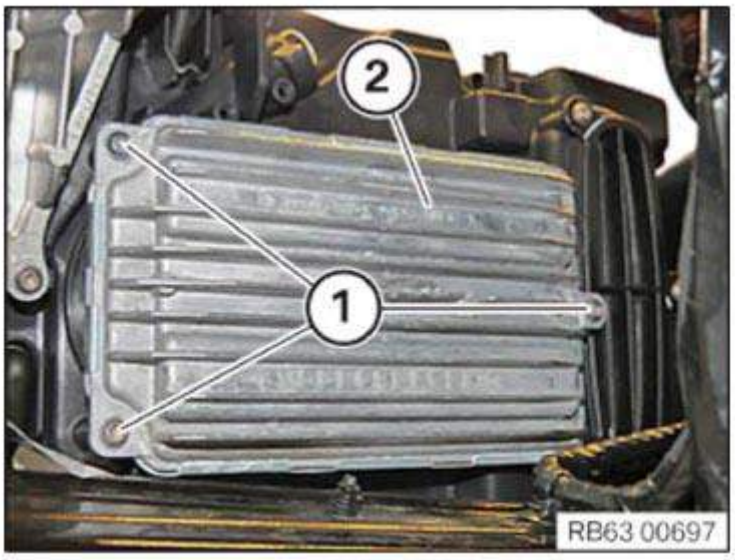


Fig. 47: Identifying LED Main Light Module And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

cardiagn.com

Installation note:

Plug-in contacts (1) on LED main light module (3) must not be damaged.

Gasket (2) on LED main light module (3) must not be damaged and must be installed free of grease.



Fig. 48: Identifying Gasket On LED Main Light Module
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure connector (1) is correctly fitted on headlight (2).

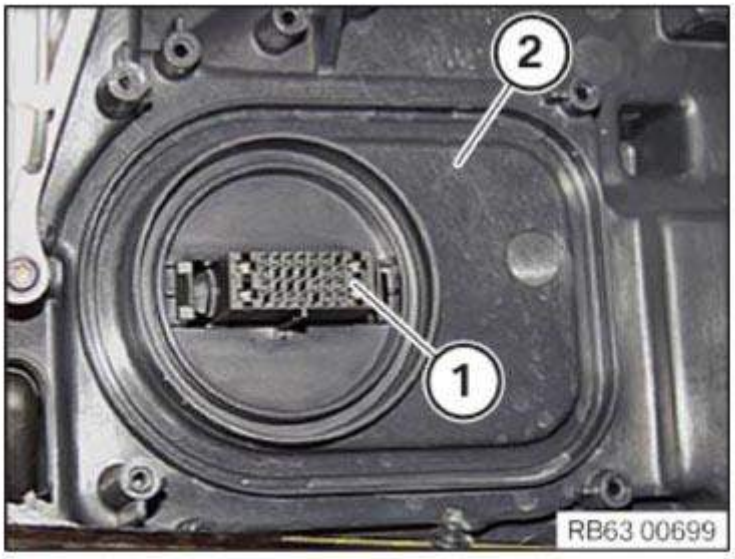


Fig. 49: Identifying Headlight Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Insert LED main light module (2) into headlight and tighten with screws (1).

Tightening torque **63 11 1AZ** .

cardiagn.com

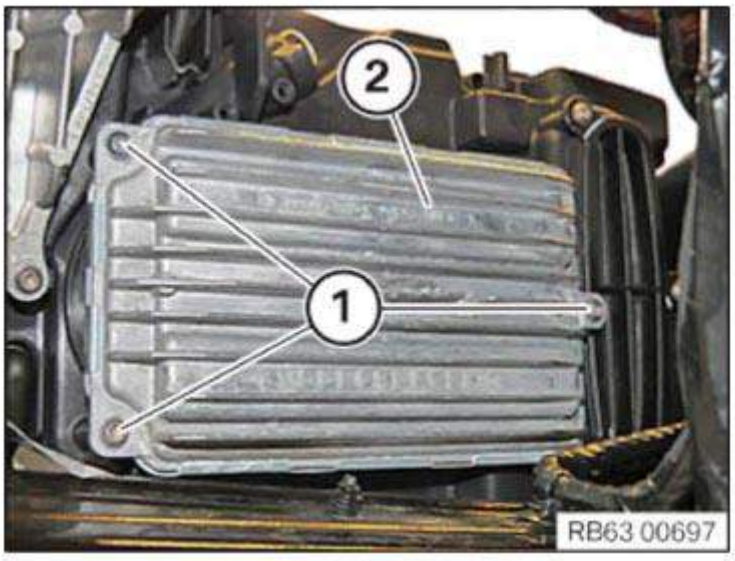


Fig. 50: Identifying LED Main Light Module And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/CODING** .

63 11... REPLACING RIGHT LED MAIN LIGHT MODULE

Attention!

Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)** .

NOTE: **Removal and installation of LED main light module is carried out from engine compartment.**

Removal:

Release filler channel (1) at latch mechanism (2) and pull upwards.

Turn filler channel (1) away to side.

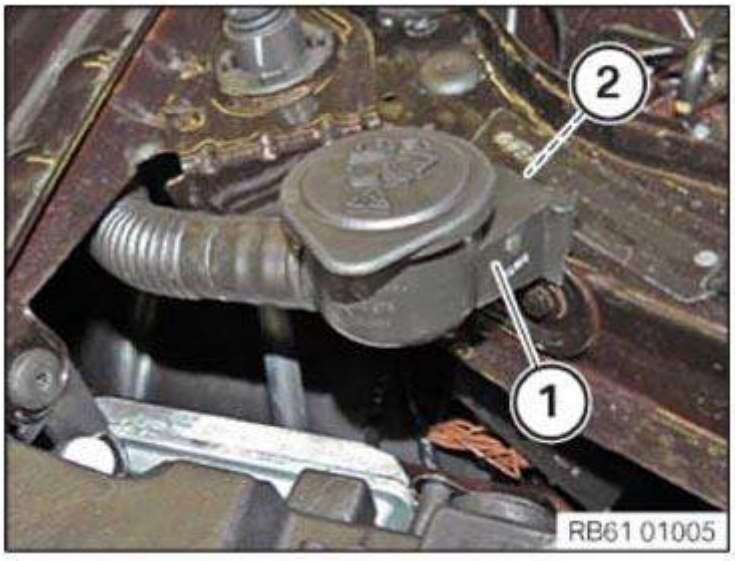


Fig. 51: Identifying Filler Channel And Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Release all screws (1) and pull LED main light module (2) out of headlight.

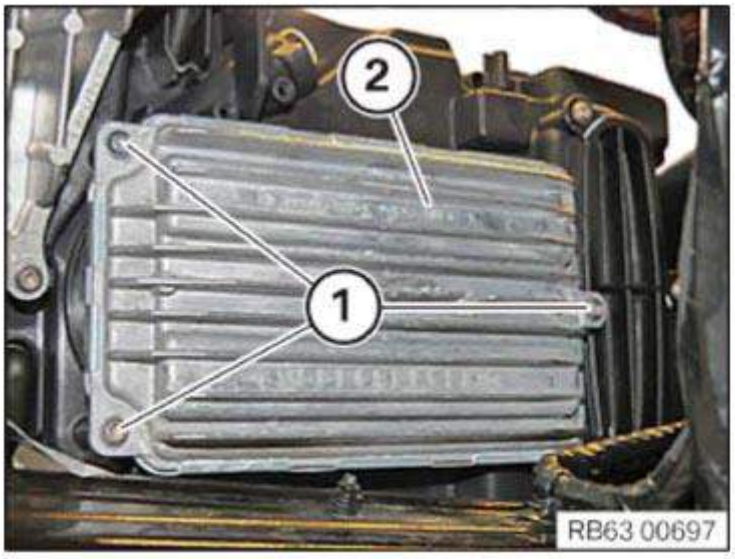


Fig. 52: Identifying LED Main Light Module And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Installation note:

Plug-in contacts (1) on LED main light module (3) must not be damaged.

Gasket (2) on LED main light module (3) must not be damaged and must be installed free of grease.



Fig. 53: Identifying Gasket On LED Main Light Module
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure connector (1) **IS CORRECTLY FITTED ON HEADLIGHT (2)** .

cardiagn.com

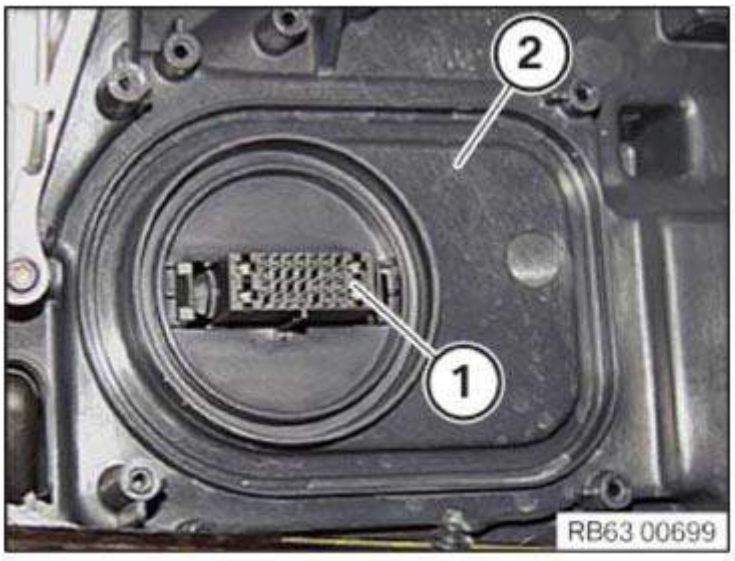


Fig. 54: Identifying Headlight Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Insert LED main light module (2) into headlight and tighten with screws (1).

Tightening torque **63 11 1AZ** .

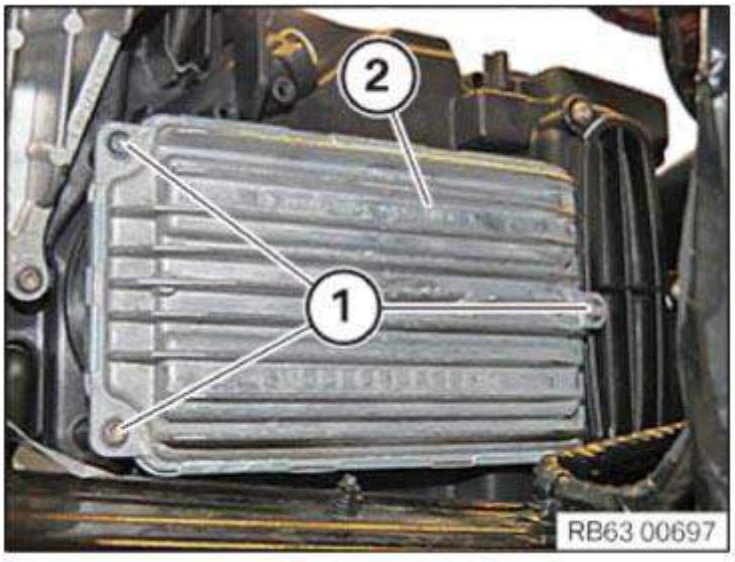


Fig. 55: Identifying LED Main Light Module And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Insert filler channel (1) into holder.

NOTE: **Make sure filler channel (1) is correctly fitted and engaged (2).**

cardiagn.com

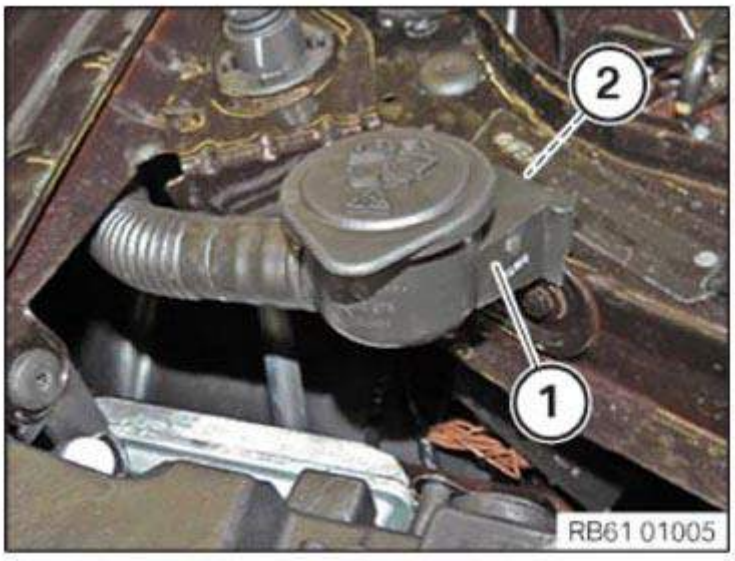


Fig. 56: Identifying Filler Channel And Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Carry out **VEHICLE PROGRAMMING/CODING** .

HEADLIGHTS

63 12... HEADLIGHT FOGGING FAULT PATTERN

NOTE: **Certain weather conditions can lead to fogging on the inside of the headlight lens.**

This is not necessarily a fault that requires replacement of the headlight.



cardiagn.com

Fig. 57: Headlight Fogging (Permissible And Impermissible)
Courtesy of BMW OF NORTH AMERICA, INC.

A. Permissible fogging. Headlight does not need to be replaced.
B. Impermissible fogging. Replace the headlight.

63 99... NOTES FOR REPLACING THE PROTECTIVE CAP OF THE HEADLIGHT

Refer to **63 99... NOTES FOR REPLACING THE PROTECTIVE CAP OF THE HEADLIGHT**.

63 12 140 REMOVING AND INSTALLING (REPLACING) LEFT HEADLIGHT - LED TECHNOLOGY -

IMPORTANT: Follow instructions for **HANDLING LIGHT BULBS (EXTERIOR LIGHTS)**.

Necessary preliminary tasks:

- Remove **FRONT BUMPER PANEL** .

Release screws (1).

Tightening torque **63 12 1AZ** .

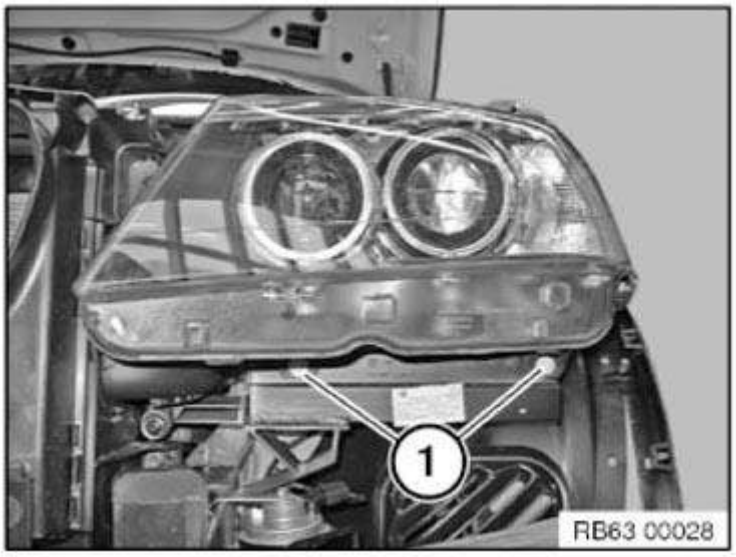


Fig. 58: Identifying Front Bumper Panel Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Release screw (2).

Tightening torque **63 12 1AZ** .

Release screw (3).

Tightening torque **63 12 1AZ** .

Carefully remove headlight (4) in direction of arrow.

Installation note:

ADJUST headlight.

cardiagn.com

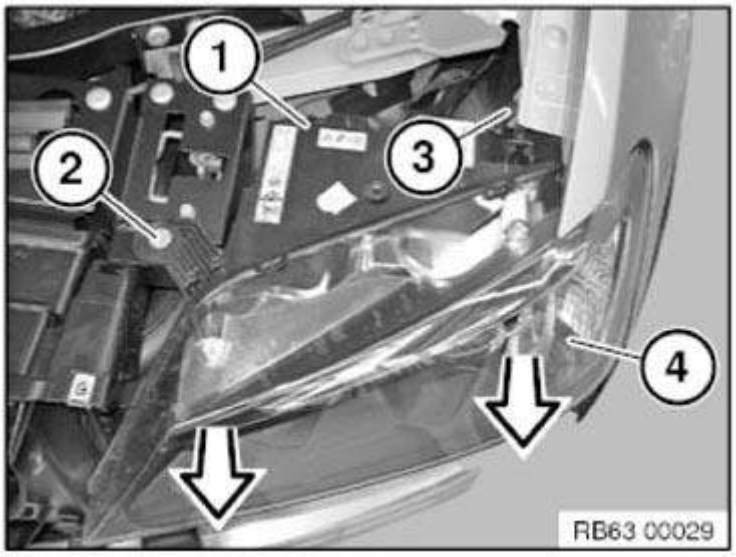


Fig. 59: Identifying Headlight Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement only:

- Remount **TURN INDICATOR INSERT**.
- Remount **LED MAIN LIGHT MODULE**.
- Remount **HEADLIGHT DRIVER MODULE**.

63 12 144 REMOVING AND INSTALLING (REPLACING) RIGHT HEADLIGHT - LED TECHNOLOGY

Operation is described in:

REMOVING AND INSTALLING LEFT HEADLIGHT.

Close

63 12 010 REMOVING AND INSTALLING OR REPLACING LEFT HEADLIGHT (XENON HEADLIGHT)

WARNING: **Version with xenon lighting system:**
Danger to life due to high voltage! Therefore disconnect all components from voltage supply before removal.
Work on the entire xenon lighting system (ignition device, control unit and bulb) may only be carried out by qualified personnel.

Necessary preliminary tasks:

- Remove **FRONT BUMPER PANEL** .

Release screws (1).

Tightening torque **63 12 1AZ** .

cardiagn.com

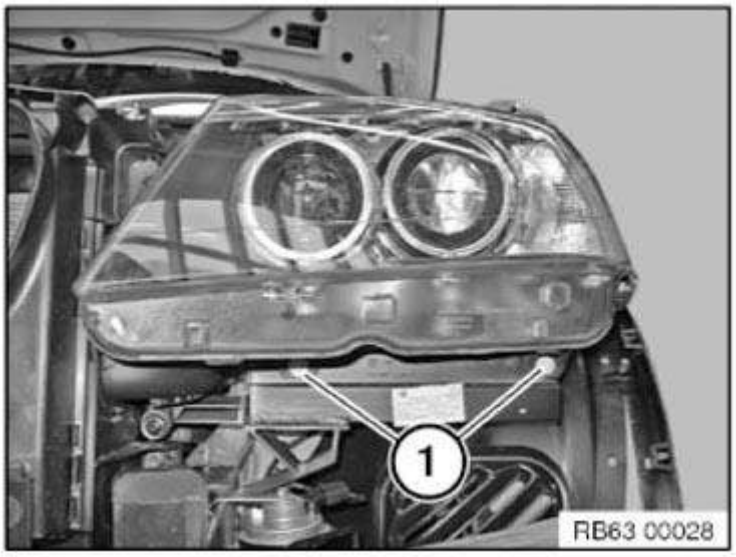


Fig. 60: Identifying Front Bumper Panel Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Release screw (2).

Tightening torque **63 12 1AZ** .

Release screw (3).

Tightening torque **63 12 1AZ** .

Carefully remove headlight (4) in direction of arrow.

Installation note:

ADJUST headlight.

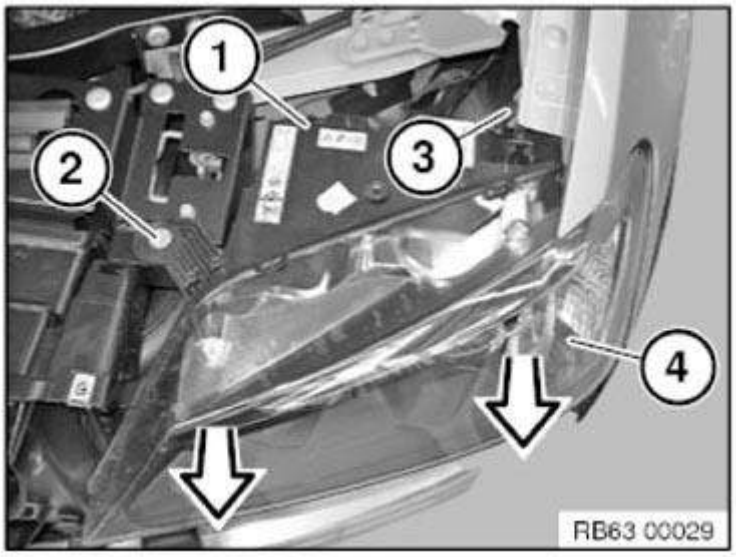


Fig. 61: Identifying Headlight Screws
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Follow instructions for **HANDLING LIGHT BULBS (EXTERIOR LIGHTS)**.

cardiagn.com

Replacement:

- If necessary, remove bulbs

Note **BULB TYPE** .

Replacement only:

- Remount **IGNITION UNIT FOR XENON HEADLIGHT**.
- Remount **CONTROL UNIT FOR XENON HEADLIGHTS**.
- Remount **HEADLIGHT DRIVER MODULE**.

63 12 012 REMOVING AND INSTALLING RIGHT HEADLIGHT (XENON HEADLIGHT)

Operation is described in:

REMOVING AND INSTALLING LEFT HEADLIGHT.

63 12 015 REMOVING AND INSTALLING/REPLACING LEFT HEADLIGHT (ADAPTIVE HEADLIGHT)

Operation is described in:

REMOVING AND INSTALLING LEFT HEADLIGHT.

63 12 017 REMOVING AND INSTALLING/REPLACING RIGHT HEADLIGHT (ADAPTIVE HEADLIGHT)

Operation is described in:

REMOVING AND INSTALLING LEFT HEADLIGHT.

67 16 016 REMOVING AND INSTALLING/REPLACING RIGHT HEADLIGHT BEAM THROW ADJUSTER

Operation is described in:

Removing and installing left headlight beam throw adjuster . See **67 16 011 REMOVING AND INSTALLING/REPLACING LEFT HEADLIGHT VERTICAL AIM ADJUSTER (XENON HEADLIGHT)** or **67 16 010 REMOVING AND INSTALLING/REPLACING LEFT HEADLIGHT VERTICAL AIM ADJUSTER (HALOGEN HEADLIGHT)** .

63 11 553 REMOVING AND INSTALLING/REPLACING RIGHT HEADLIGHT DRIVER MODULE

Refer to **63 11 553 REMOVING AND INSTALLING/REPLACING RIGHT HEADLIGHT DRIVER MODULE**.

63 11 550 REMOVING AND INSTALLING/REPLACING THE HEADLIGHT DRIVER MODULE

Refer to **63 11 550 REMOVING AND INSTALLING/REPLACING THE HEADLIGHT DRIVER MODULE**.

63 12... REPAIRING HEADLIGHTS

It is possible to repair the following damage:

- Deformed or broken holders can be replaced using the available repair kits.

  Replacement of headlight is **not required!**

cardiagn.com

For reasons of pedestrian safety it is **not permitted** to use adhesive or reinforcements to repair broken holders!

NOTE: **Headlight repair kits are not available for every vehicles. Follow the vehicle-specific repair instructions.**

It is not possible to repair the following damage:

- Deformed or broken headlight housing.
- Scratched or damaged headlight lenses

The standard coating of headlight lens cannot be restored. Commercially available repair systems are unable to provide sufficient protection from ultraviolet radiation and external influences (stone chipping).

63 11 735 REPLACING LED MODULE FOR RIGHT DAYTIME LIGHT

Refer to 63 11 735 REPLACING LED MODULE FOR RIGHT DAYTIME LIGHT.

63 99 076 REPLACING BULB FOR LEFT XENON HEADLIGHT (WITH IGNITION UNIT)

Refer to 63 99 076 REPLACING BULB FOR LEFT XENON HEADLIGHT (WITH IGNITION UNIT).

63 99 077 REPLACING BULB FOR RIGHT XENON HEADLIGHT (WITH IGNITION UNIT)

Refer to 63 99 077 REPLACING BULB FOR RIGHT XENON HEADLIGHT (WITH IGNITION UNIT).

63 99 132 REPLACING BULB FOR SIDE LIGHTS, FRONT LEFT

Refer to 63 99 132 REPLACING BULB FOR SIDE LIGHTS, FRONT LEFT.

63 99 133 REPLACING BULB FOR SIDE LIGHTS, FRONT RIGHT

Refer to 63 99 133 REPLACING BULB FOR SIDE LIGHTS, FRONT RIGHT.

63 12 860 REPLACING CONTROL UNIT FOR LEFT XENON HEADLIGHT

WARNING: **Version with xenon lighting system: Danger to life due to high voltage!**
Disconnect all components from voltage supply before removal.
Work on the entire xenon lighting system (ignition device, control unit and bulb) may only be carried out by qualified personnel.
Comply with notes and notes on handling EXTERIOR LIGHTS.

IMPORTANT: Read and comply with INFORMATION ON PROTECTION AGAINST ELECTROSTATIC DISCHARGE !

Necessary preliminary tasks:

- REMOVE front left wheel arch cover.

NOTE: **Headlight shown removed for purposes of clarity.**

Release screws (1).

Remove control unit for xenon headlight (2) from headlight (3).

cardiagn.com

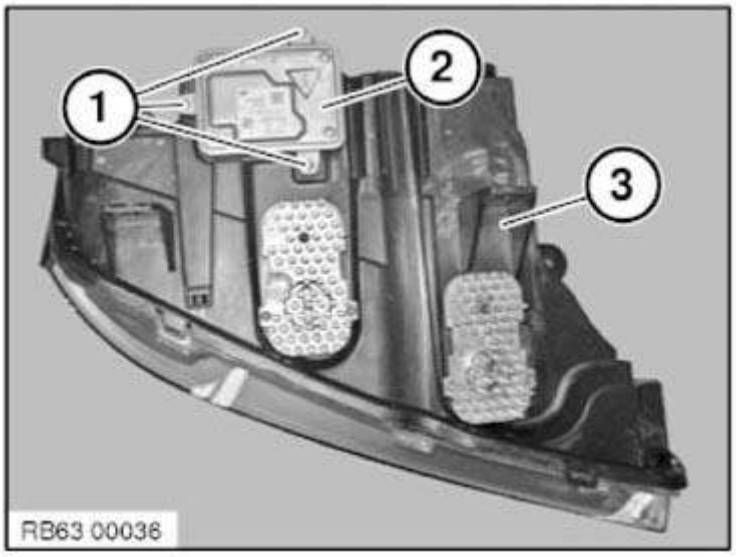


Fig. 62: Identifying Control Unit For Xenon Headlight And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

When installing control unit for xenon headlight (1), make sure sealing cup (2) is correctly seated.

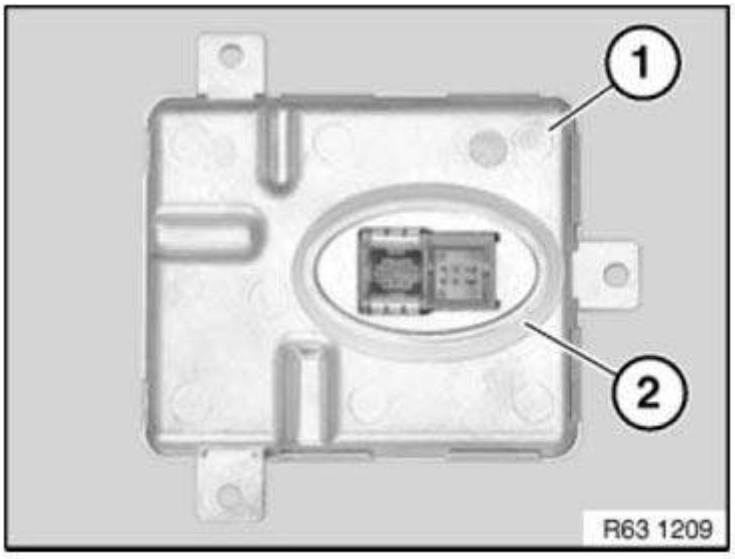


Fig. 63: Identifying Control Unit For Xenon Headlight And Sealing Cup
Courtesy of BMW OF NORTH AMERICA, INC.

63 12 861 REPLACING CONTROL UNIT FOR RIGHT XENON HEADLIGHT

Operation is described in:

Replacing **CONTROL UNIT FOR LEFT XENON HEADLIGHT**.

63 12 870 REPLACING IGNITION UNIT FOR LEFT XENON HEADLIGHT

WARNING: **Version with xenon headlights: Danger to life due to high voltage! Therefore disconnect all components from voltage supply before removal.**
Work on the entire xenon lighting system (ignition device, control unit and bulb) may only be carried out by qualified personnel.
Follow instructions for HANDLING LIGHT BULBS (EXTERIOR LIGHTS).

cardiagn.com

Release screws (1).

Remove lid (2) in direction of arrow.

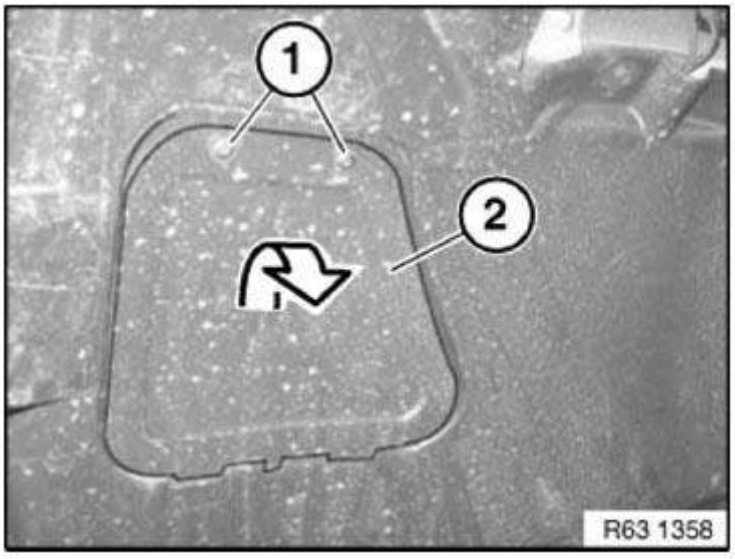


Fig. 64: Removing Lid
Courtesy of BMW OF NORTH AMERICA, INC.

Turn protective cap (1) counterclockwise and remove.

IMPORTANT: Risk of damage due to moisture penetration!

Installation note:

Check seal. Replace protective cap (1) if necessary.

Comply with **INSTRUCTIONS FOR REPLACING THE PROTECTIVE CAP**.

Protective cap (1) must lock correctly!

Turn the protective cap (1) clockwise to end stop (A)!

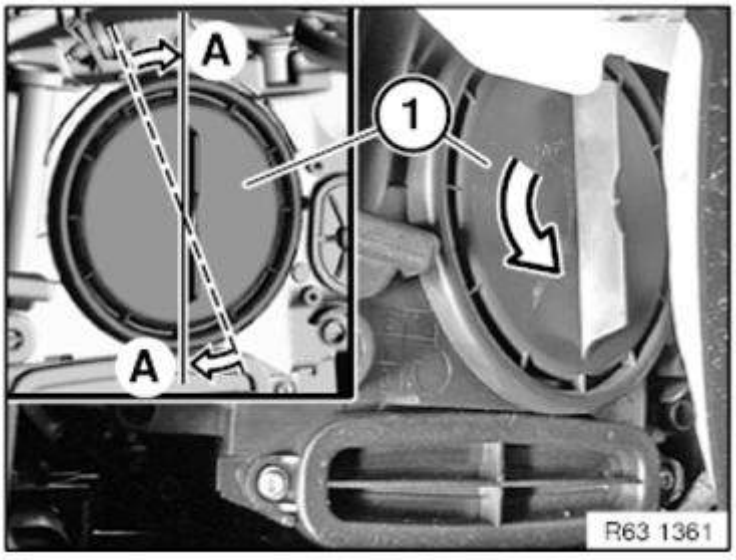


Fig. 65: Turning Protective Cap Counterclockwise
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Disconnect plug connection (1).

Turn ignition unit for xenon headlight (2) approx. 30Â° counterclockwise and detach from headlight (3).

Installation note:

Make sure inner ring is correctly positioned in ignition unit for xenon headlight (2).

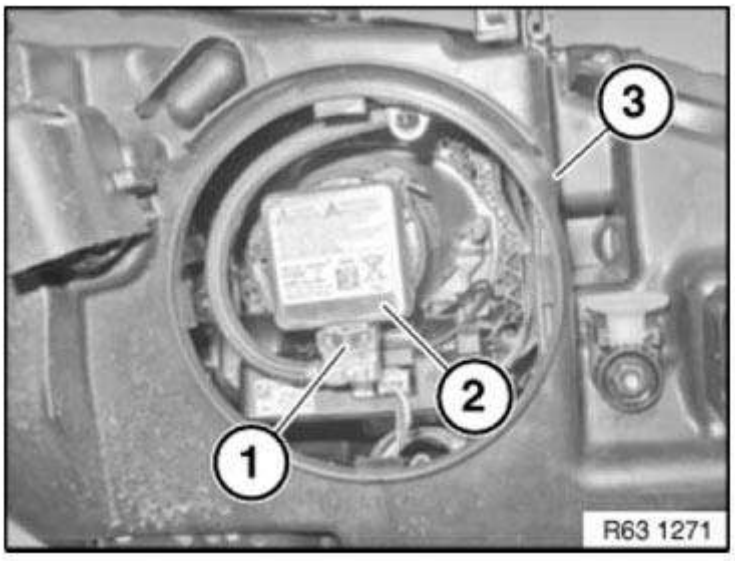


Fig. 66: Identifying Xenon Headlight Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Recommendation:

Check **HEADLIGHT ADJUSTMENT**, correct if necessary.

63 11 845 REPLACING LEFT LED FAN (INNER)

Refer to **63 11 845 REPLACING LEFT LED FAN (INNER)**.

63 11 840 REPLACING LEFT LED FAN (OUTER)

Refer to **63 11 840 REPLACING LEFT LED FAN (OUTER)**.

63 12 871 REPLACING RIGHT IGNITION UNIT FOR RIGHT XENON HEADLIGHT

Operation is described in:

REPLACING IGNITION UNIT FOR LEFT XENON HEADLIGHT

TURN SIGNAL INDICATOR LIGHTS

63 13 250 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT SIDE REPEATER MIRROR

Necessary preliminary work:

- **REMOVE HOUSING ON EXTERIOR MIRROR** .

Removal:

If applicable, unlock and disconnect the connector (1).

cardiagn.com

Release the screw (2) and remove the side repeater (3) from the housing of the exterior mirror (4).

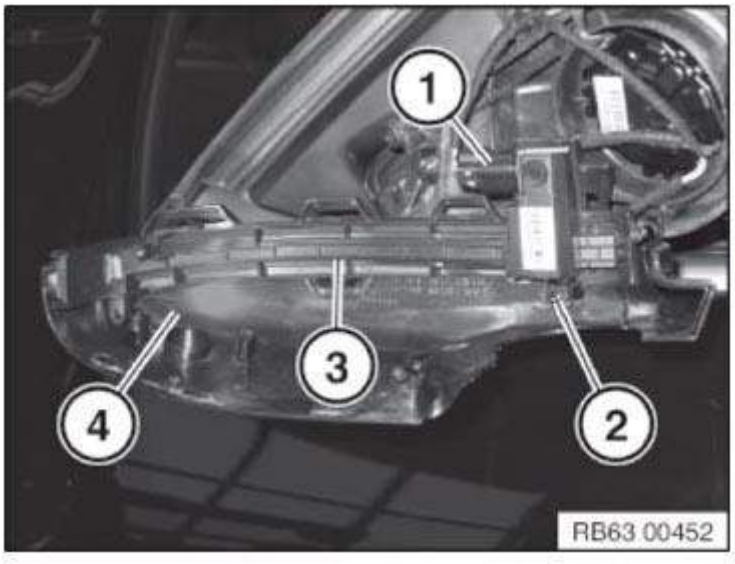


Fig. 67: Identifying Exterior Mirror Screw, Side Repeater And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Attach the side repeater (3) to the housing of the exterior mirror (4).

Tighten down screw (2).

If applicable, connect the connector (1).

Installation note:

Make sure the side repeater (3) is correctly fitted on the exterior mirror housing (4).

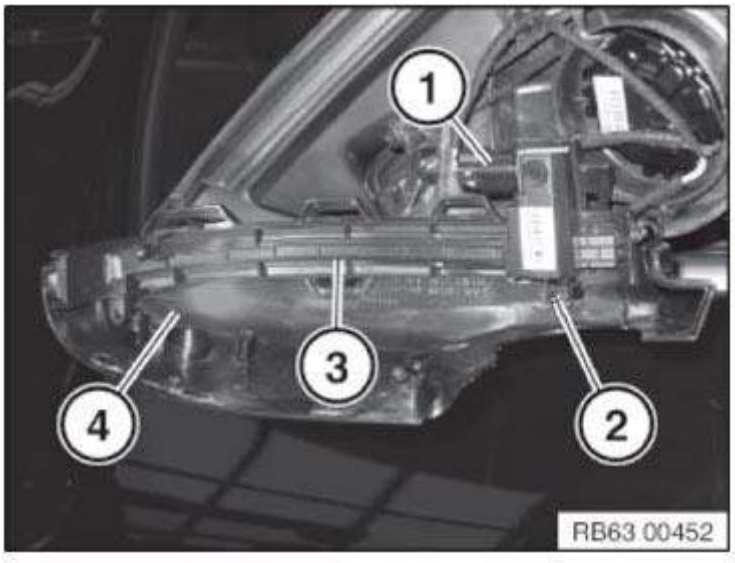


Fig. 68: Identifying Exterior Mirror Screw, Side Repeater And Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- **REMOVE HOUSING ON EXTERIOR MIRROR** .

cardiagn.com

REPEATERS

Special tools required:

- 00 9 340

WARNING: **Follow instructions for handling light bulbs (EXTERIOR LIGHTS).**

NOTE: **Side repeater (1) is secured in side wall with a retaining spring.**

Fold out side repeater (1) using special tool 00 9 340 in direction of arrow, releasing the retaining spring.

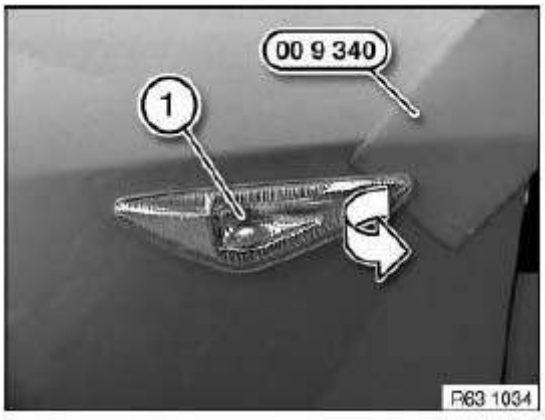


Fig. 69: Folding Out Repeater
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1).

Remove side repeater (2).

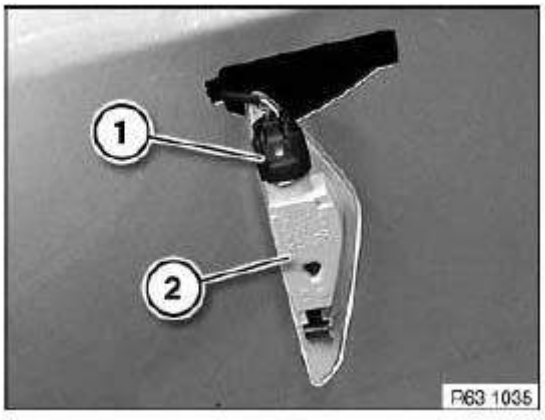


Fig. 70: Identifying Side Repeater Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

63 13 080 REMOVING AND INSTALLING/REPLACING LEFT TURN INDICATOR INSERT

Attention!

Read and comply with notes on protection against electrostatic damage (ESD PROTECTION) .

Necessary preliminary work:

- Partially detach FRONT WHEEL ARCH COVER (front section).

cardiagn.com

Removal:

Release all screws (1).

Pull turn indicator insert (2) out of headlight.

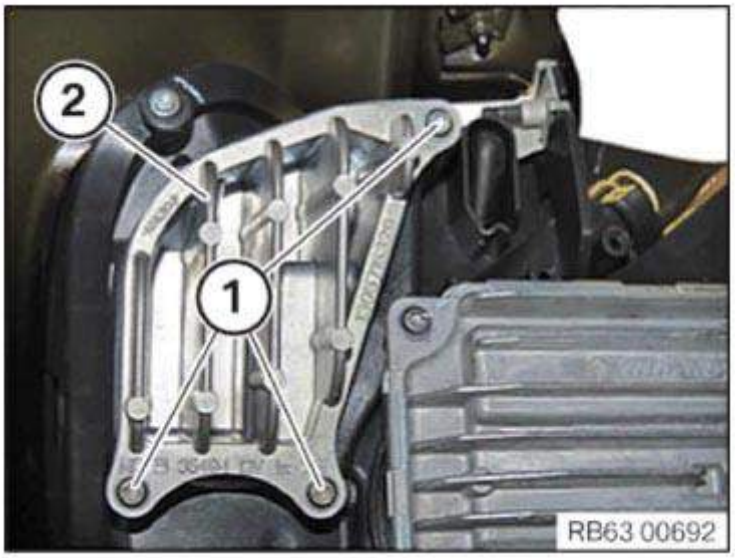


Fig. 71: Identifying Indicator Insert Out Of Headlight And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock connector (1) on turn indicator insert (2) and disconnect.

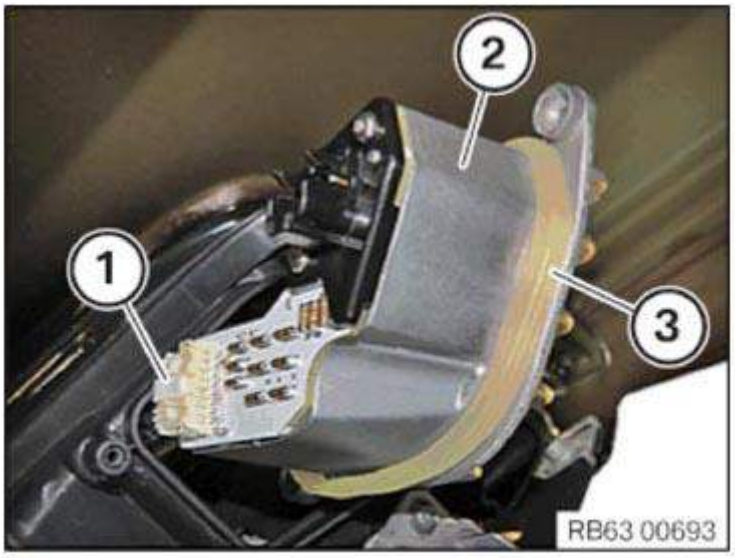


Fig. 72: Identifying Connector On Turn Indicator Insert
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Installation note:

Gasket (3) must not be damaged or missing.

Ensure gasket (3) is fitted correctly.

Connect connector (1) to turn indicator insert (2).

cardiagn.com

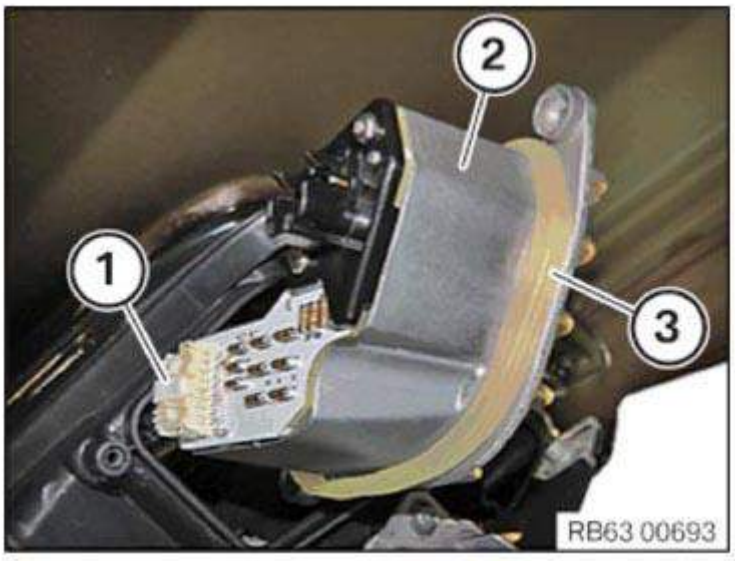


Fig. 73: Identifying Connector On Turn Indicator Insert
Courtesy of BMW OF NORTH AMERICA, INC.

Insert turn indicator insert (2) into headlight.

Tighten all screws (1).

Tightening torque **63 11 1AZ** .

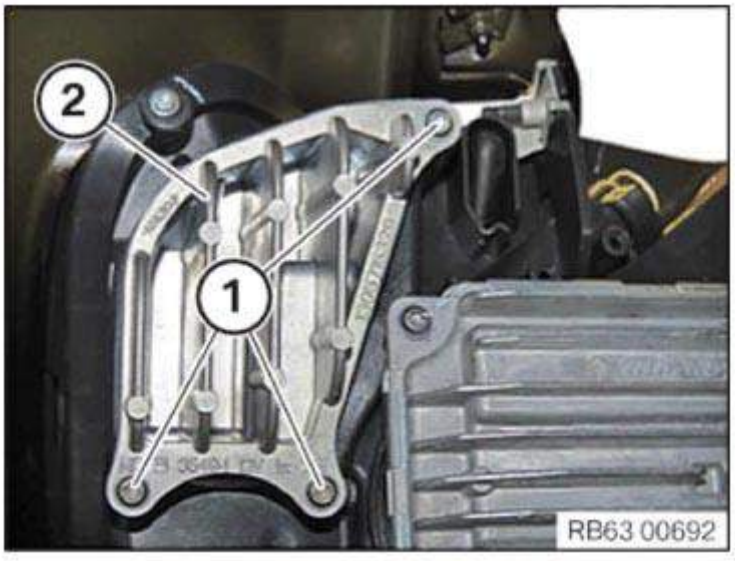


Fig. 74: Identifying Indicator Insert Out Of Headlight And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Teach in turn indicator insert with vehicle diagnosis.

- Service functions
- Body
- Lights
- Initialize the headlight driver module and teach in LEDs in headlight

CLEARANCE AND SIDE MARKER LAMPS

cardiagn.com

63 14 120 REMOVING AND INSTALLING OR REPLACING REAR REFLECTOR

Special tools required:

- 64 1 020

Carefully release rear reflector (1) from latch mechanism (2) using special tool 64 1 020 as shown.

Remove rear reflector (1) from the bumper panel (3) in direction of arrow.

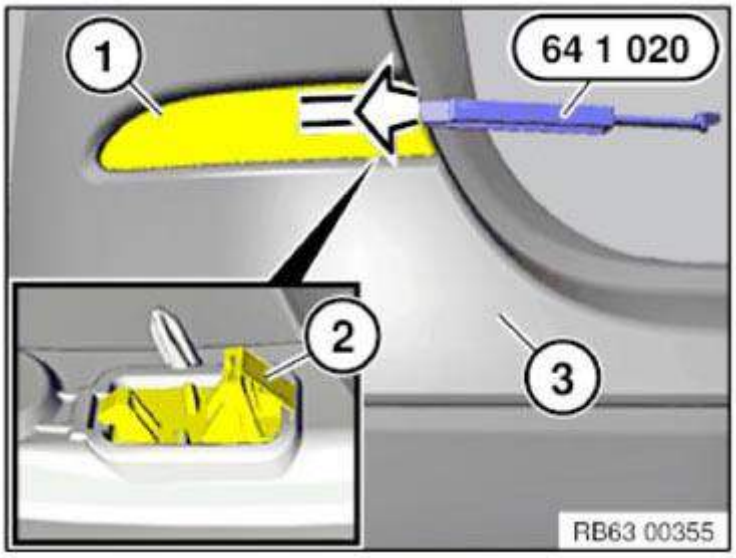


Fig. 75: Removing Rear Reflector From Bumper Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Guide (1) and latch mechanisms (2) must be neither damaged or missing.

Make sure rear reflector (3) is correctly seated.

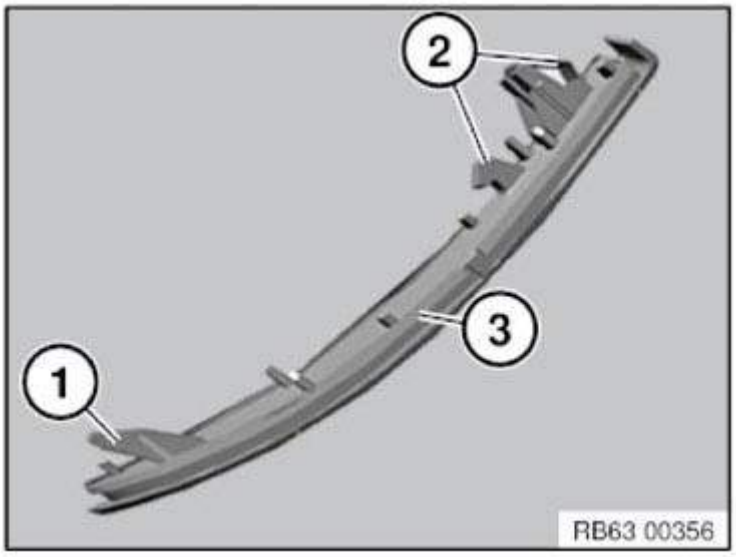


Fig. 76: Identifying Rear Reflector, Guide And Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

FOG LIGHTS, AUXILIARY LIGHTS

cardiagn.com

63 17 070 REMOVING AND INSTALLING/REPLACING LEFT FOG LIGHT

IMPORTANT: Follow notes for **HANDLING LIGHT BULBS (EXTERIOR LIGHTS)**.

NOTE: **The time value of this job item does not include adjustment of the FOG LIGHTS!**

Unlock fog light (1) at clamp (2) using suitable tool.

Remove fog light (1) in direction of travel.

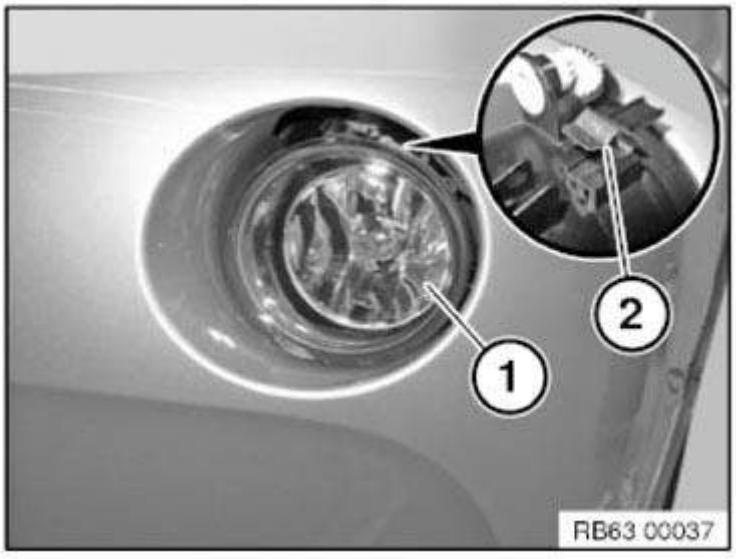


Fig. 77: Removing Fog Light Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Remove fog light (2).

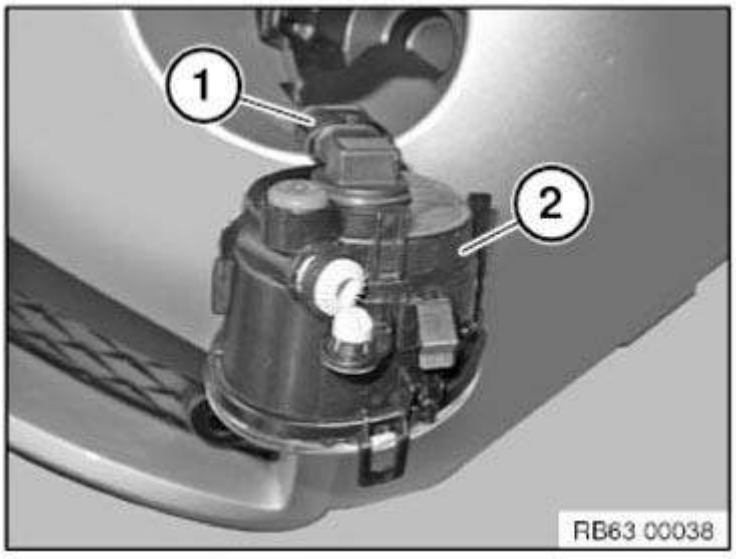


Fig. 78: Identifying Fog Light Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

On replacement of fog light or bumper panel at front:

- If necessary, remount **BULB**, check **bulb type** . See **FRONT FOG LAMPS, ADDITIONAL LAMPS (BUILT UNTIL 04/14)** or **FRONT FOG LAMPS, ADDITIONAL LAMPS (AS OF 04/14)** .

cardiagn.com

- ADJUST FOG LIGHTS

63 17 255 REMOVING AND INSTALLING/REPLACING RIGHT FOG LIGHT (LED TECHNOLOGY)

IMPORTANT: Follow notes for HANDLING BULBS/LIGHT SOURCES (EXTERIOR LIGHTS).

NOTE: **The time value of this job item does not include adjustment of the fog lights!**

Necessary preliminary work:

- REMOVE FRONT BUMPER PANEL

Removal:

Slacken both screws (1).

Remove fog light (2) in direction of arrow from bumper panel (3).

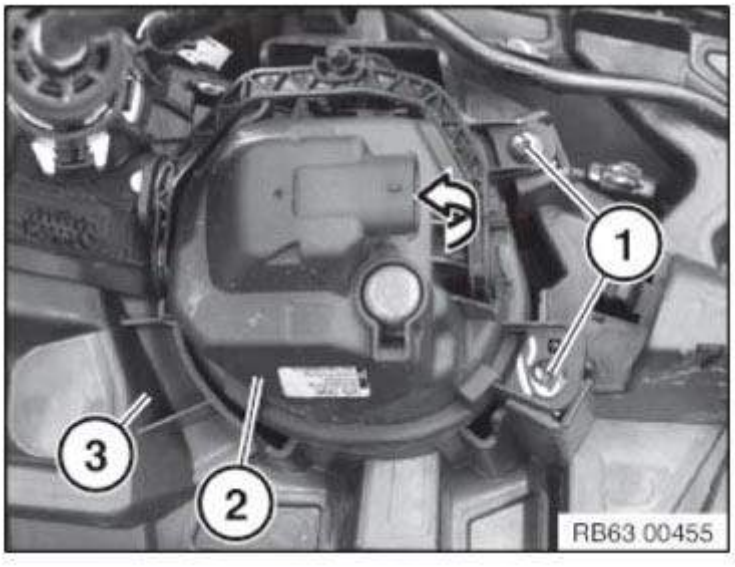


Fig. 79: Identifying Fog Light, Front Bumper Panel And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Insert fog light (2) in direction of arrow into bumper panel (3).

Tighten both screws (1).

Tightening torque 63 17 1AZ .

cardiagn.com

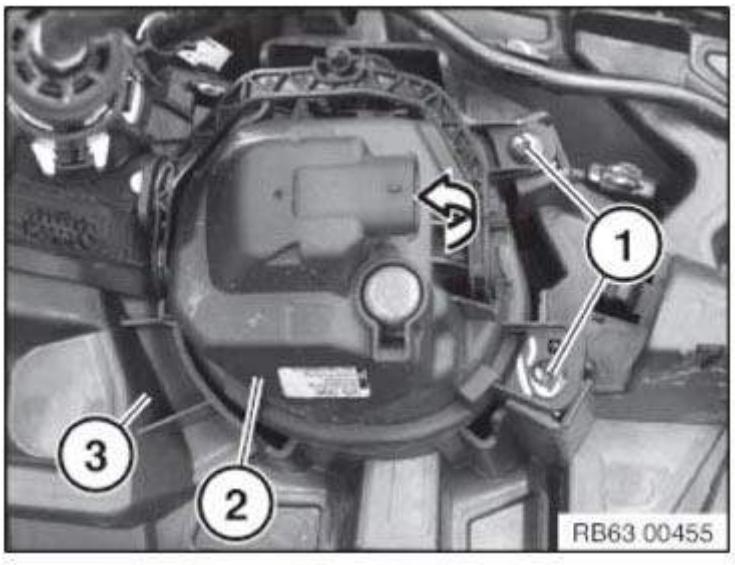


Fig. 80: Identifying Fog Light, Front Bumper Panel And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

On replacement of fog light or bumper panel at front:

- **ADJUST FOG LIGHTS**

Required follow-up work:

- **INSTALL FRONT BUMPER PANEL**

63 17 075 REMOVING AND INSTALLING/REPLACING RIGHT FRONT FOG LIGHT

IMPORTANT: Follow instructions for **HANDLING LIGHT BULBS (EXTERIOR LIGHTS)**

Operation is described in:

Removing and installing/replacing **LEFT FOG LIGHT**.

63 17 250 REMOVING AND REFITTING (REPLACING) LEFT FRONT FOG LIGHT (LED TYPE)

IMPORTANT: Follow notes for **HANDLING BULBS/LIGHT SOURCES (EXTERIOR LIGHTS)**.

NOTE: **The time value of this job item does not include adjustment of the fog lights!**

Necessary preliminary work:

- **REMOVE FRONT BUMPER PANEL** .

Removal:

Slacken both screws (1).

Remove fog light (2) in direction of arrow from bumper panel (3).

cardiagn.com

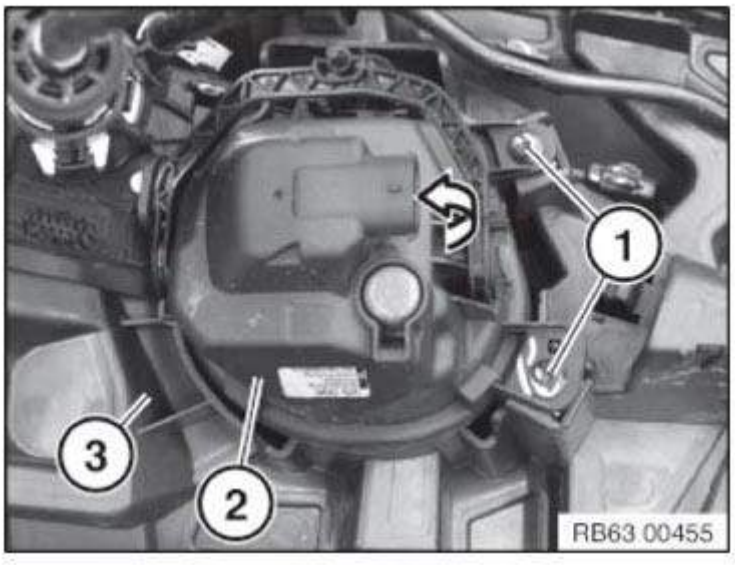


Fig. 81: Identifying Fog Light, Front Bumper Panel And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Insert fog light (2) in direction of arrow into bumper panel (3).

Tighten both screws (1).

Tightening torque **63 17 1AZ** .

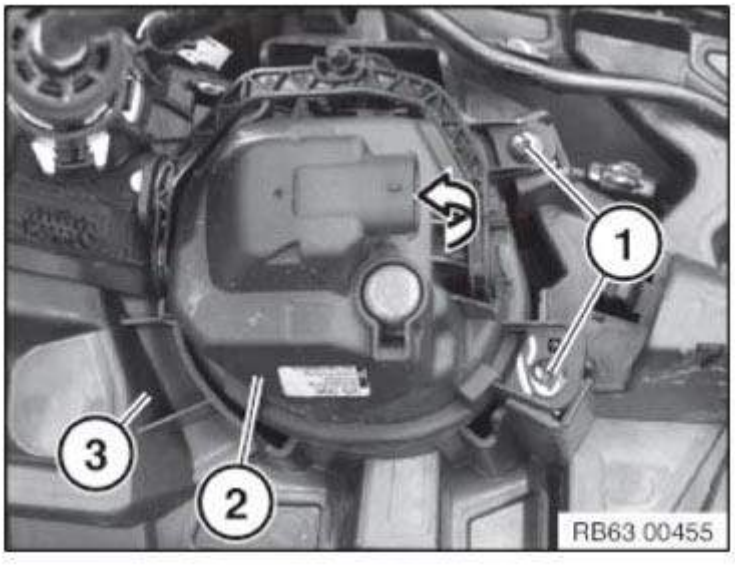


Fig. 82: Identifying Fog Light, Front Bumper Panel And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

On replacement of fog light or bumper panel at front:

- **ADJUST FOG LIGHTS**

Required follow-up work:

- **INSTALL FRONT BUMPER PANEL** .

cardiagn.com

REAR LIGHT CLUSTER

63 21 170 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT REAR LIGHT (IN SIDE WALL)

IMPORTANT: Read and comply with notes on protection against electrostatic damage **(ESD PROTECTION)** .

Carefully remove trim cover (1).

Installation note:

Make sure cover (1) is correctly seated.

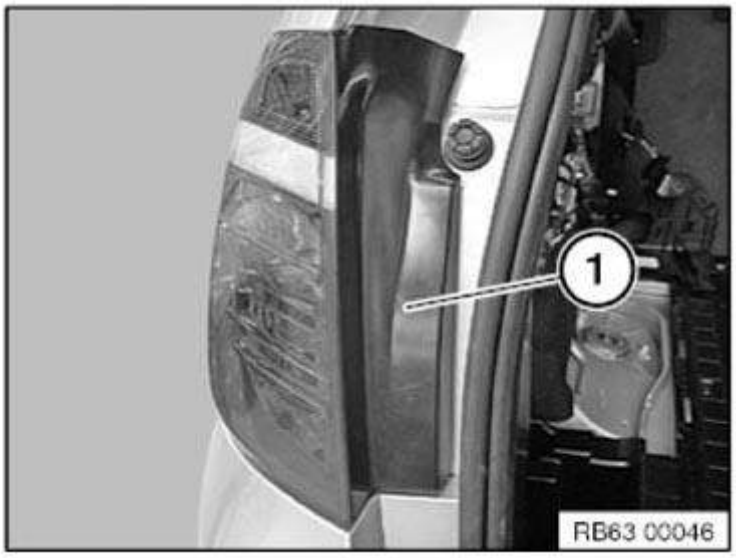


Fig. 83: Identifying Trim Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Unscrew nuts (1).

Tightening torque **63 21 5AZ** .

Remove rear light (2) towards rear.

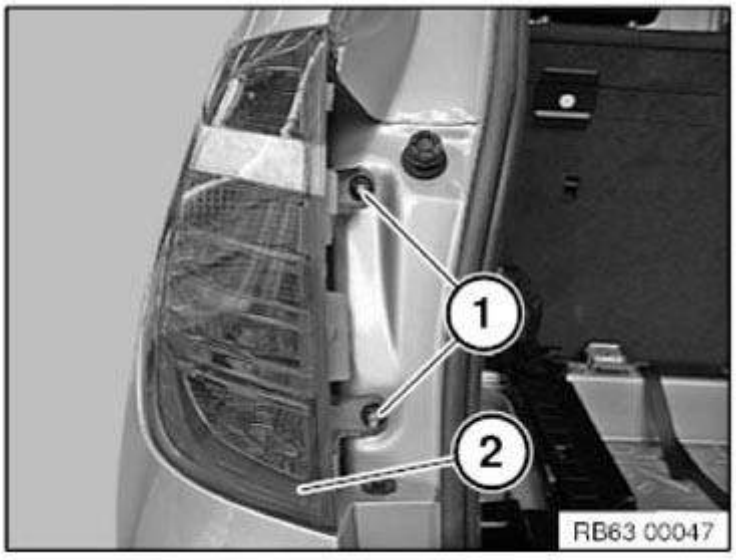


Fig. 84: Identifying Rear Light Nuts

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Remove rear light (2).

Installation note:

Make sure rear light (2) is correctly seated.

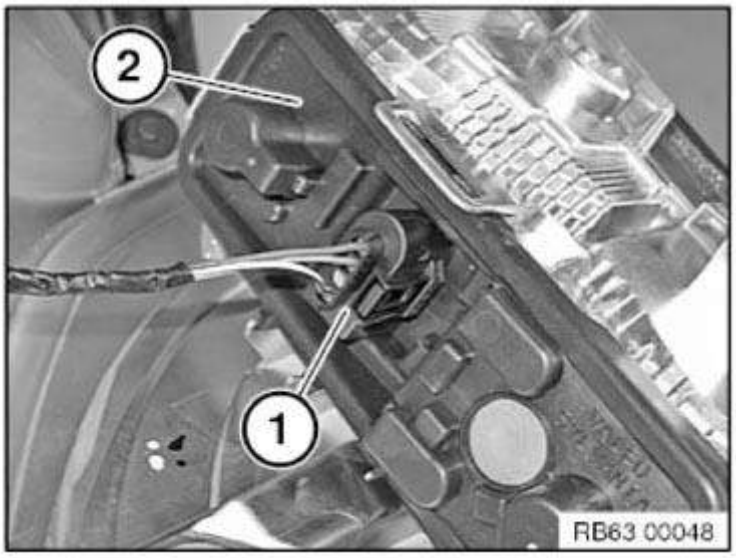


Fig. 85: Identifying Rear Light Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

63 21 181 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT REAR LIGHT (ON TAILGATE)

Remove cover (1) from rear lid (2).

Installation note:

Make sure cover (1) is correctly seated.

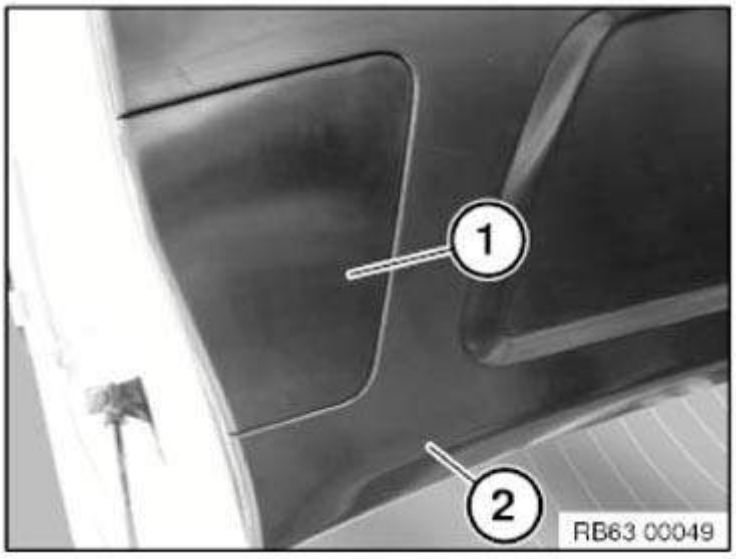


Fig. 86: Identifying Cover From Rear Lid
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Unfasten plug connection (1) and disconnect.

Slacken nut (2).

Remove retaining brackets (3).

Installation note:

Make sure retaining bracket (3) is fitted correctly.

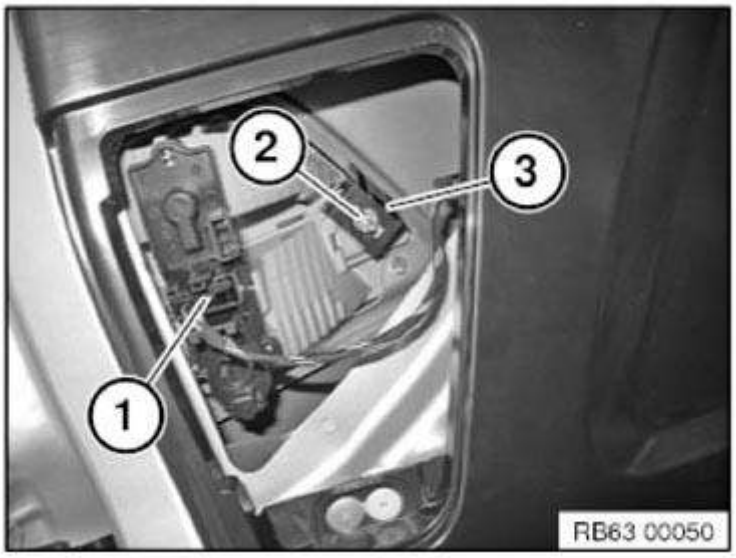


Fig. 87: Identifying Retaining Brackets Plug Connection And Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully lift rear light (1) and detach towards rear in direction of arrow.

Installation note:

Make sure rear light (1) is correctly seated.

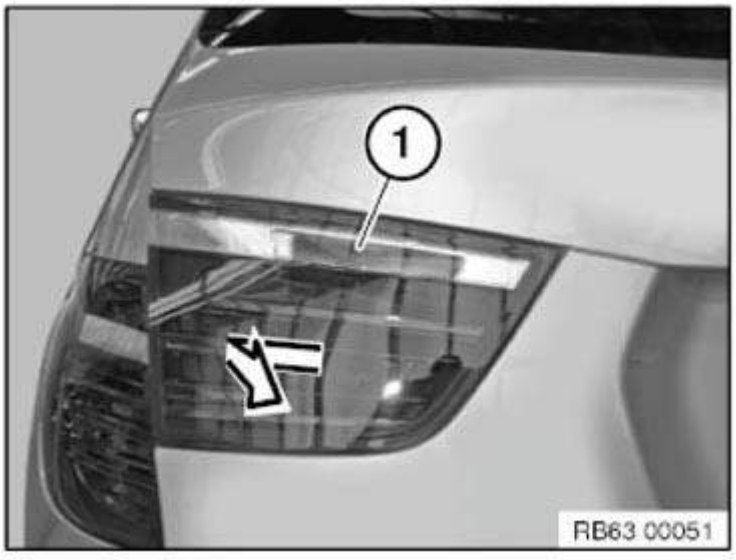


Fig. 88: Lifting Rear Light
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining tabs (1) of rear light (2) must not be damaged.

cardiagn.com

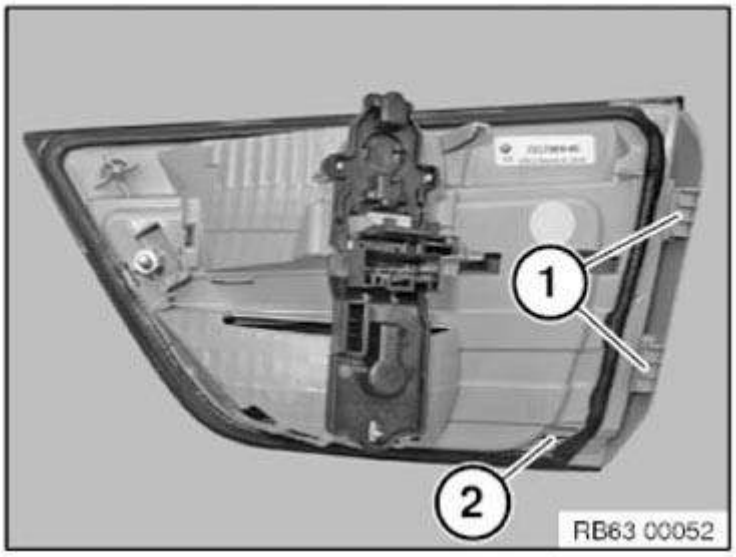


Fig. 89: Identifying Rear Light Retaining Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Note **BULB TYPE** .

63 21 055 REPLACING A SOCKET HOUSING FOR LEFT OR RIGHT REAR LIGHT (ON SIDE WALL)

WARNING: **Follow instructions for handling light bulbs (EXTERIOR LIGHTS).**

Necessary preliminary work:

- Remove **LEFT OR RIGHT REAR LIGHT**

Release socket (1) in area (2) and detach from rear light (3).

Installation note:

Make sure rear light (3) is correctly seated.

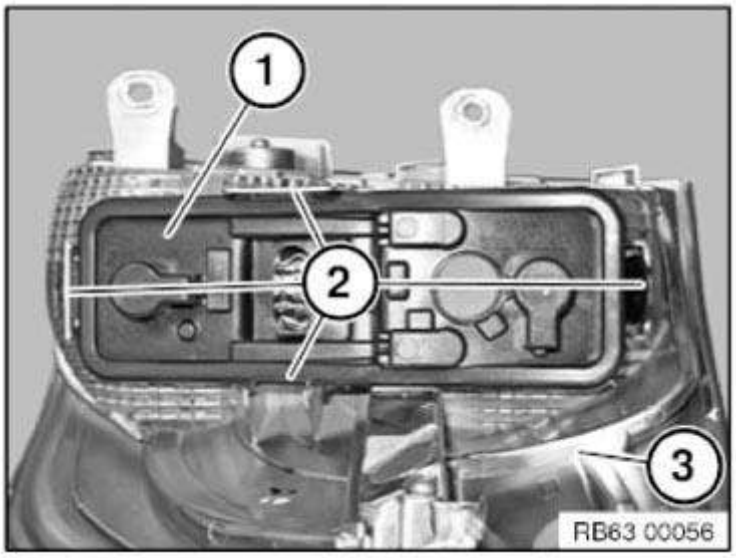


Fig. 90: Identifying Rear Light Socket
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Replacement:

Carefully press down bulb (1/2), turn in direction of arrow and remove from socket (3).

Note **BULB TYPE** .

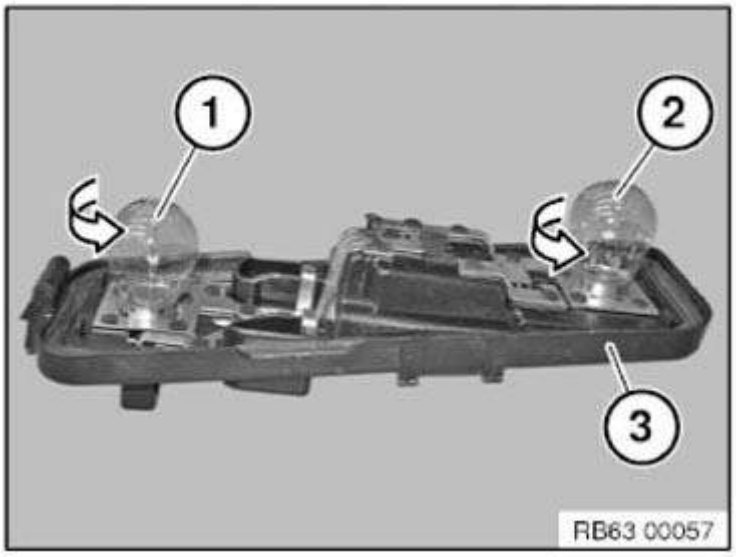


Fig. 91: Removing Bulb From Socket
Courtesy of BMW OF NORTH AMERICA, INC.

63 21 057 REPLACING A SOCKET HOUSING FOR LEFT OR RIGHT REAR LIGHT (ON TAILGATE)

WARNING: **Follow instructions for handling light bulbs (EXTERIOR LIGHTS).**

Remove cover (1) from rear lid (2).

Installation note:

Make sure cover (1) is correctly seated.

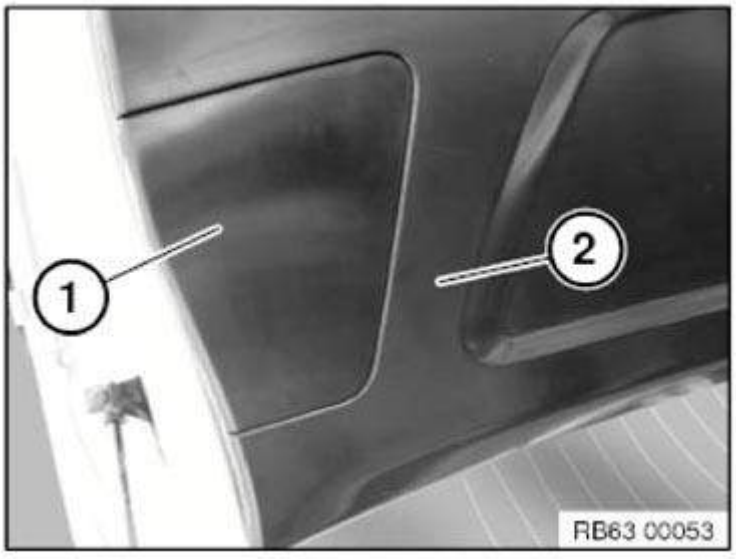


Fig. 92: Identifying Cover From Rear Lid
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

cardiagn.com

Release and detach socket housing for rear light (2).

Installation note:

- Make sure rear light socket housing (2) is correctly seated.

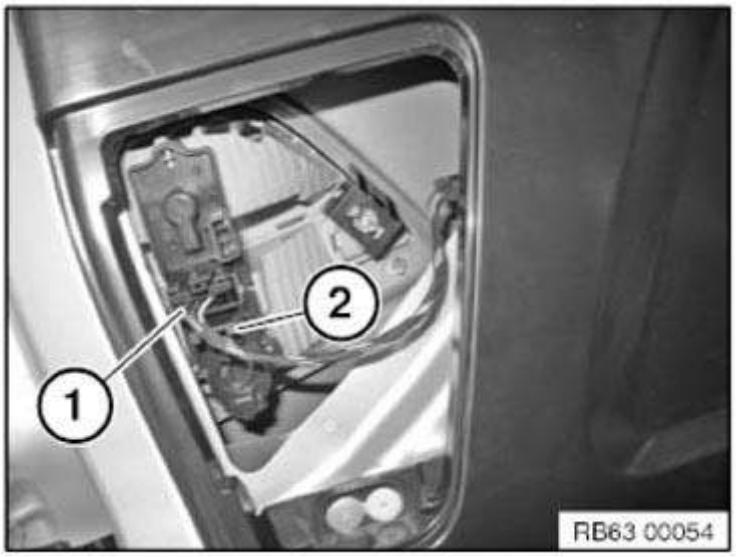


Fig. 93: Identifying Rear Light Socket Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Convert **BULBS**, replace if necessary.

BRAKE LIGHTS

63 25 003 REMOVING AND INSTALLING/REPLACING ADDITIONAL BRAKE LIGHT

Special tools required:

- **00 9 340**

IMPORTANT: If the additional brake light is not installed there is a danger of water ingress and further subsequent damage!
Additional brake light is fitted with double-sided adhesive gasket and cannot be reused!

Necessary preliminary work:

- **REMOVE AERIAL AMPLIFIER**

Removal:

Unlock and disconnect hose connection (1).

Unfasten plug connection (2) and disconnect.

Push lock (3) to open metal clamps (4) in direction of washer jet (1).

If necessary, use suitable tool to press metal clamps (4) towards the top to relieve strain on them.

cardiagn.com

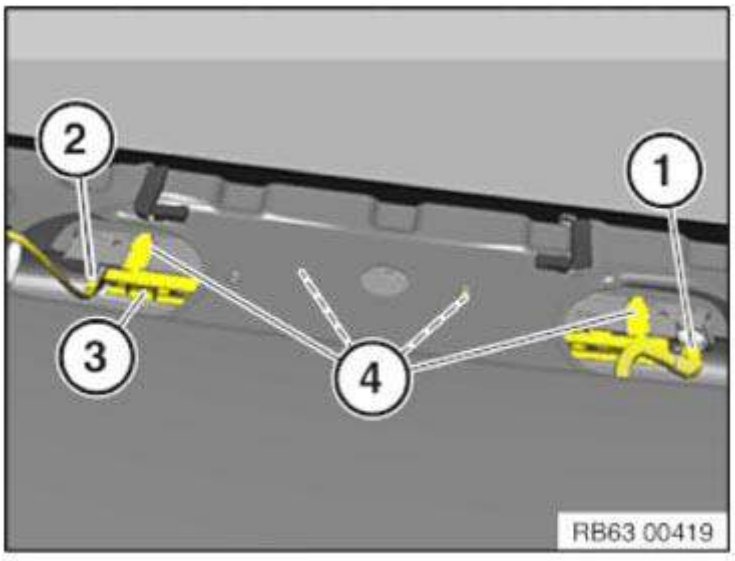


Fig. 94: Identifying Lock, Metal Clamps And Washer Jet
Courtesy of BMW OF NORTH AMERICA, INC.

Removal:

Press additional brake light (1) out of tailgate (2) in direction of arrow.

If necessary, use special tool **00 9 340** to release or cut through double-sided adhesive gasket.

Installation note:

Remove gasket remnants from tailgate (2) and thoroughly clean bonding surface.

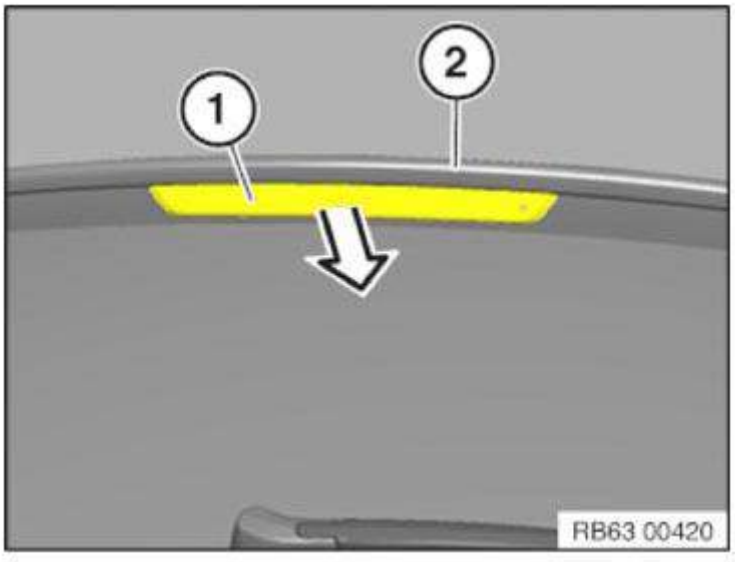


Fig. 95: Removing Gasket Remnants From Tailgate
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Unfasten catch (1) before fitting brake light.

Make sure that metal clips (2) are in contact with catch (1) before fitting brake light.

If necessary maneuver metal clips (2) into correct position.

cardiagn.com

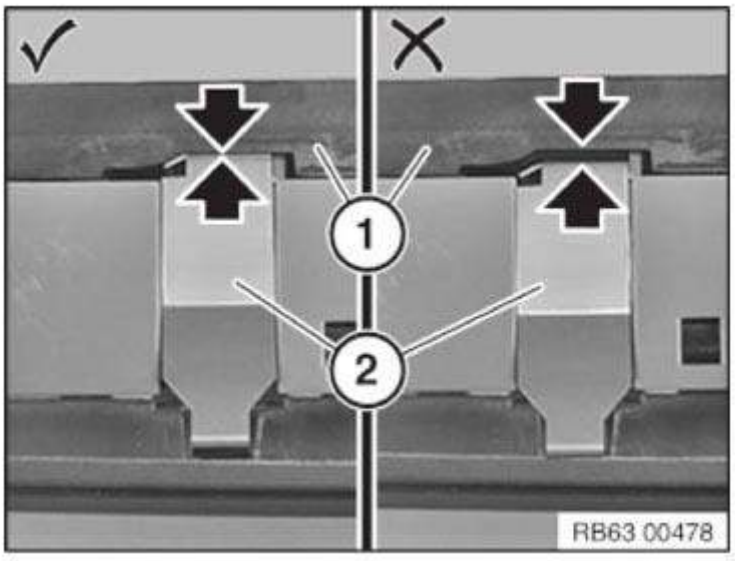


Fig. 96: Identifying Metal Clips Position
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Remove protective film (1) from gasket on brake light (2).

Gasket on new part is not to have any creasing!

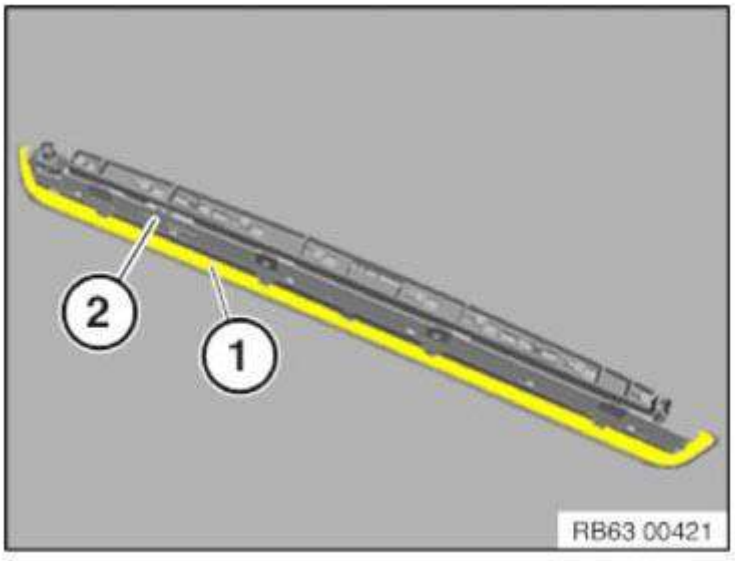


Fig. 97: Identifying Protective Film From Gasket On Brake Light
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Insert new brake light and press on it firmly to ensure connection of gasket to tailgate.

Slide lock (3) in direction of plug connection (2) to lock metal clamps (4) correctly pretensioned.

Connect and lock hose connection (1) to washer jet, check tightness of hose connection!

Connect plug connection (2) to brake light.

cardiagn.com

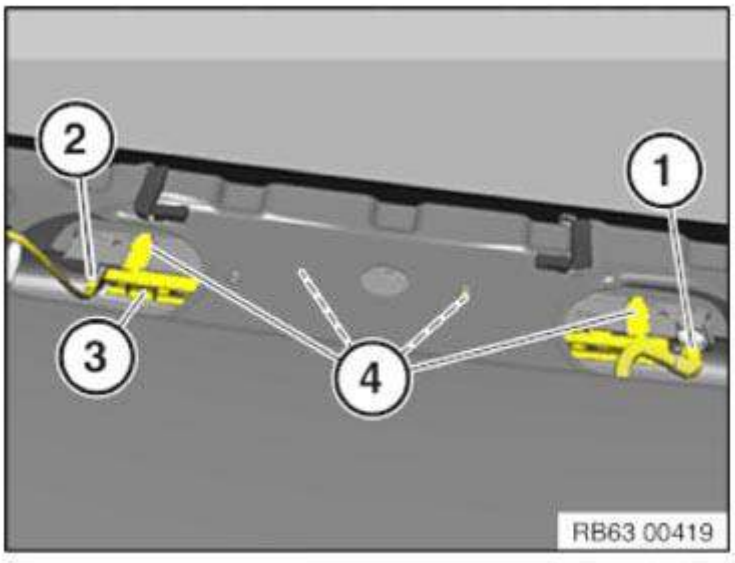


Fig. 98: Identifying Lock, Metal Clamps And Washer Jet
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Before installation aerial amplifier and tailgate trim panel, ensure tightness of brake light (if necessary, leakage test)!

LICENCE PLATE LIGHTS

63 26 000 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT NUMBER/LICENSE PLATE LIGHT

Special tools required:

- 64 1 020

WARNING: **Follow instructions for handling light bulbs (EXTERIOR LIGHTS).**

Lever number plate light (1) 64 1 020 with special tool in direction of arrow out of tailgate.

Disconnect associated plug connection.

Remove number plate light (1).

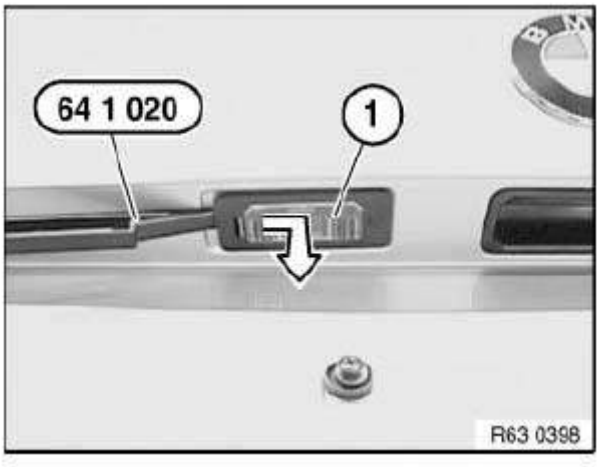


Fig. 99: Removing Number Plate Light
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Replacement:

- Note **BULB TYPE** .

INTERIOR LIGHTING

63 31 020 REMOVING AND INSTALLING/RENEWING FOOTWELL LIGHT

IMPORTANT: Follow instructions for **HANDLING LIGHT BULBS (INTERIOR LIGHTING)**.

Footwell, left/right:

Lever footwell light (1) in direction of arrow out of trim panel (2).

Disconnect plug connection behind and remove footwell light (1).

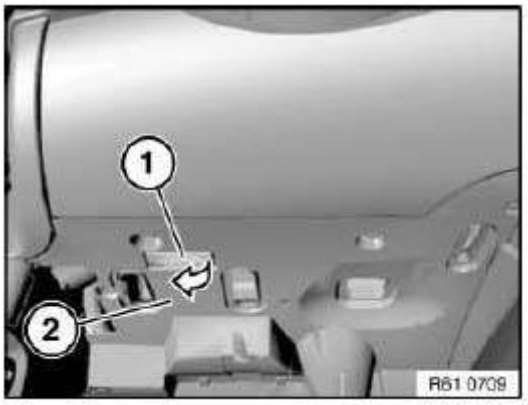


Fig. 100: Removing Footwell Light
Courtesy of BMW OF NORTH AMERICA, INC.

Door, left/right:

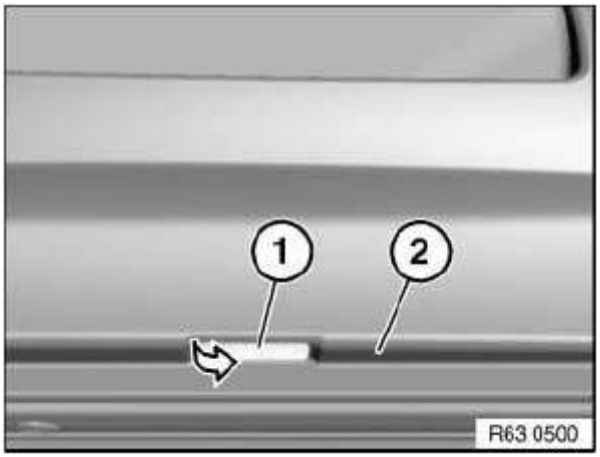
Lever footwell light (1) in direction of arrow out of door trim panel (2).

Disconnect plug connection behind and remove footwell light (1).

Replacement:

- If necessary, remove bulb, note **BULB TYPE** .

The footwell light in LED technology must be completely replaced!



cardiagn.com

Fig. 101: Removing Footwell Light
Courtesy of BMW OF NORTH AMERICA, INC.

Turn bulb holder (1) in direction of arrow and pull out of footwell light (2).

Installation note:

Make sure bulb holder (1) is correctly seated and latched on footwell light (2).

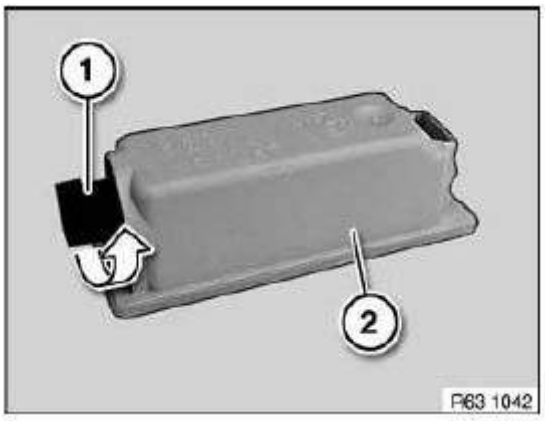


Fig. 102: Turning Bulb Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Pull bulb (1) in direction of arrow out of bulb holder (2).

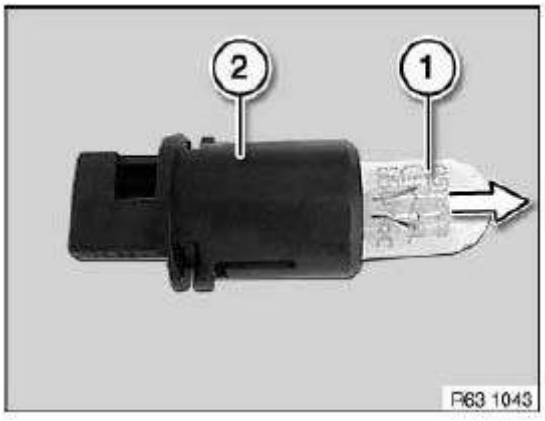


Fig. 103: Pulling Bulb Out Of Bulb Holder
Courtesy of BMW OF NORTH AMERICA, INC.

63 31 080 REMOVING AND INSTALLING/RENEWING LUGGAGE COMPARTMENT LIGHT

NOTE: Open luggage compartment lid.

Lever out luggage compartment light (1) in direction of arrow.

Disconnect plug connection underneath and remove luggage compartment lamp (1).

cardiagn.com

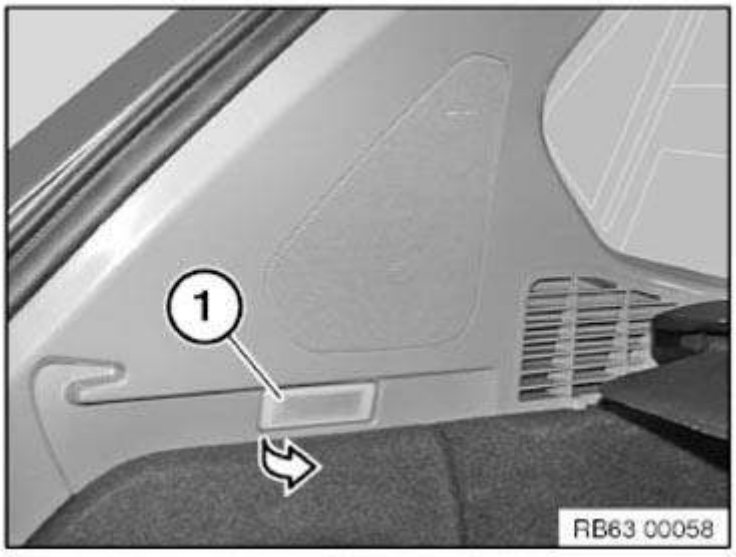


Fig. 104: Removing Luggage Compartment Lamp
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Follow instructions for **HANDLING LIGHT BULBS (INTERIOR LIGHTS)**.

Replacement:

- If necessary, remove bulb.

  Note **BULB TYPE** .

63 31 150 REMOVING AND INSTALLING/REPLACING GLOVEBOX LIGHT

IMPORTANT: Follow notes for **HANDLING LIGHT BULBS (INTERIOR LIGHTS)**.

NOTE: **Similar to graphic.**

Lever out glove box light (1) in direction of arrow.

Unfasten plug connection and disconnect.

Remove glove box light (1).

Replacement:

- If necessary, **REMOUNT BULB**, check **BULB TYPE** .

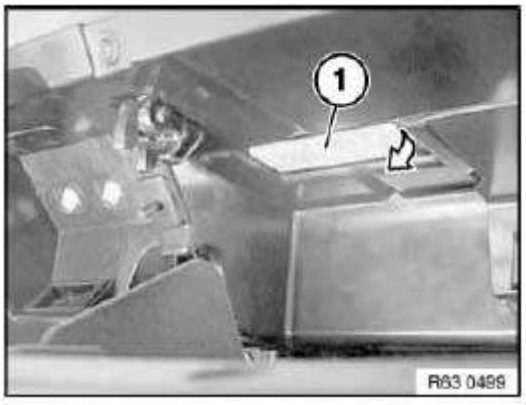


Fig. 105: Removing Glove Box Light

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

63 31 015 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT INTERIOR LIGHT (SIDE HEADLINER)

Special tools required:

- 00 9 325

IMPORTANT: Follow instructions for **HANDLING LIGHT BULBS (INTERIOR LIGHTS)**.

Carefully lever out interior light (1) with special tool **00 9 325** .

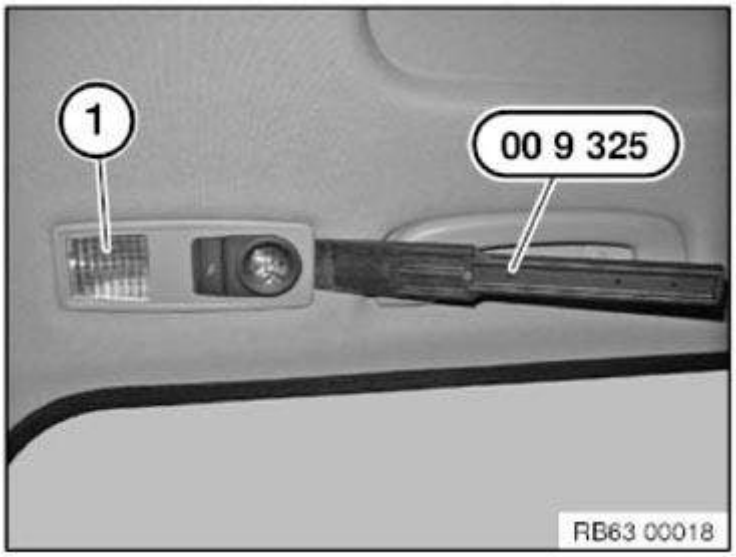


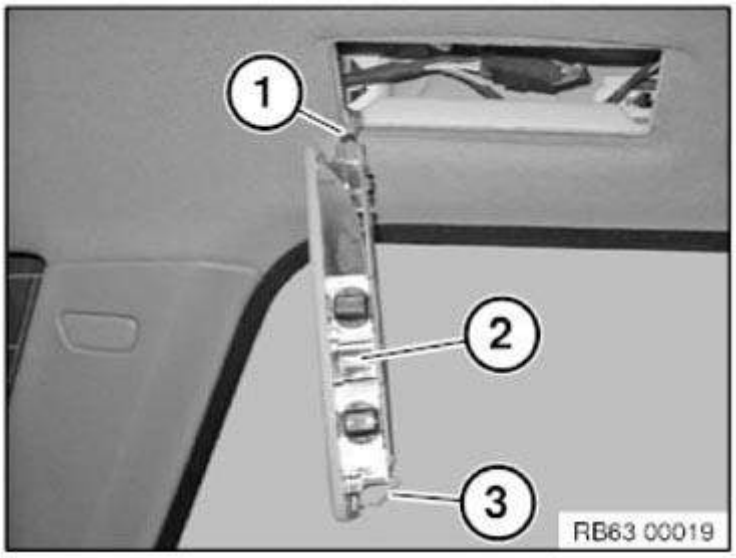
Fig. 106: Removing Interior Light Using Special Tool 00 9 325
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Remove interior light (2).

Installation note:

Clamp (3) must not be damaged.



cardiagn.com

Fig. 107: Identifying Interior Light Plug Connection And Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

- Remove **BULBS**.
- Note **BULB TYPE** .

63 31 050 REMOVING/INSTALLING AND REPLACING THE VANITY MIRROR LIGHT

Special tools required:

- **00 9 340**

IMPORTANT: Observe **SAFETY INFORMATION ON HANDLING BULBS (INTERIOR LIGHTING)**.

Using special tool **00 9 340** , lever out vanity mirror light (1) from the rear in direction of arrow.

Disconnect plug connection underneath and remove vanity mirror light (1).

Replacement:

- If necessary, remount bulb, check **BULB TYPE** .

NOTE: LED technology lights can only be replaced completely.

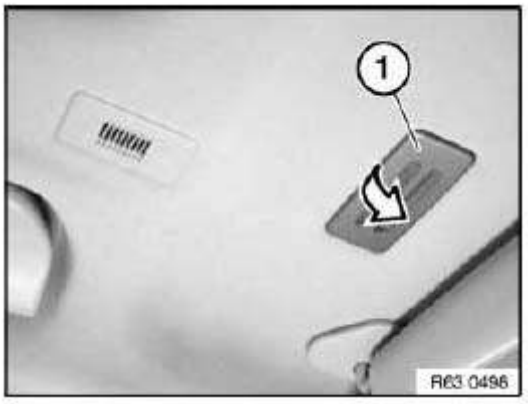


Fig. 108: Removing Vanity Mirror Light
Courtesy of BMW OF NORTH AMERICA, INC.

LIGHT BULBS

63 99... NOTES FOR REPLACING THE PROTECTIVE CAP OF THE HEADLIGHT

Risk of damage!
IMPORTANT: Damaged seals on the protective caps will lead to moisture penetration into the headlight. This will in turn cause porous cable insulations and malfunctioning of the headlight.

When working on the headlight system, check the protective cap seals.

Replace the protective cap in the event of damage!

Example: screwed protective cap

Seal (1) on protective cap (2).

cardiagn.com

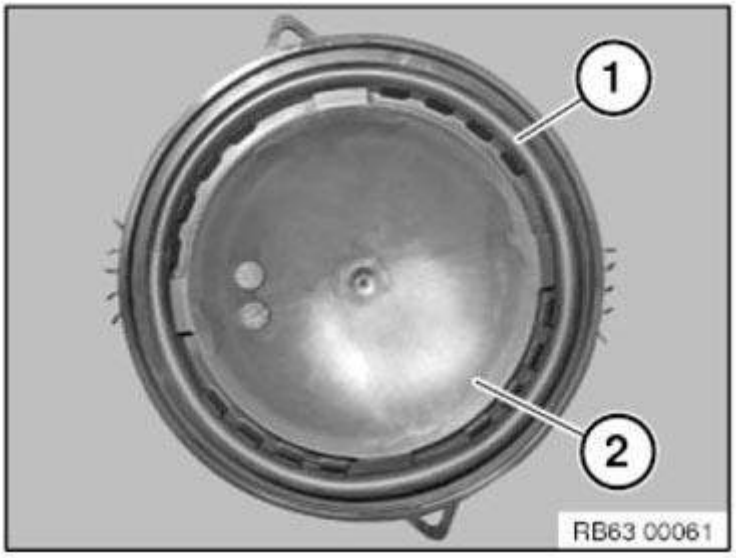


Fig. 109: Identifying Protective Cap Seal On Protective Cap
Courtesy of BMW OF NORTH AMERICA, INC.

Example: latchable protective cap

Seal (1) on protective cap (2).

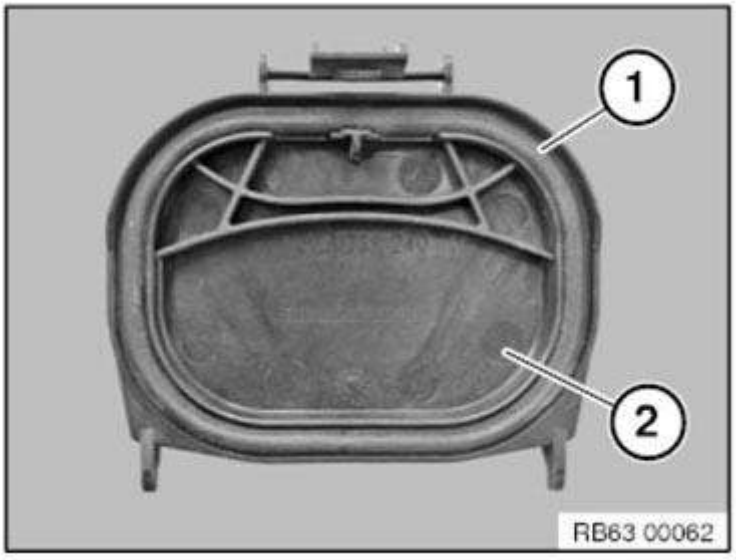


Fig. 110: Identifying Latchable Protective Cap Seal On Protective Cap
Courtesy of BMW OF NORTH AMERICA, INC.

63 13 080 REMOVING AND INSTALLING/REPLACING LEFT TURN INDICATOR INSERT

Refer to **63 13 080 REMOVING AND INSTALLING/REPLACING LEFT TURN INDICATOR INSERT**.

63 11 731 REPLACING LED MODULE FOR LEFT DAYTIME DRIVING LIGHTS

Refer to **63 11 731 REPLACING LED MODULE FOR LEFT DAYTIME DRIVING LIGHTS**.

63 11 735 REPLACING LED MODULE FOR RIGHT DAYTIME LIGHT

Refer to **63 11 735 REPLACING LED MODULE FOR RIGHT DAYTIME LIGHT**.

63 99 295 REPLACING BULB FOR AUXILIARY DIRECTION INDICATOR, FRONT LEFT OR RIGHT

cardiagn.com

WARNING: **Follow instructions for HANDLING LIGHT BULBS (EXTERIOR LIGHTS).**

Necessary preliminary work:

- Remove **FRONT AUXILIARY TURN SIGNAL LIGHT**.

Turn bulb holder (1) approx. 45Â° and remove from front auxiliary turn signal light (2).

Pull bulb out of holder (1).

Installation note:

NOTE TYPE OF BULB .

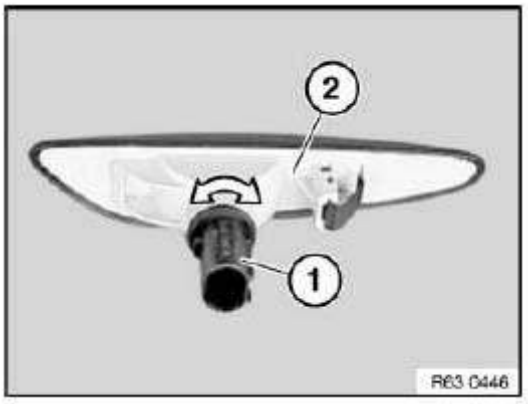


Fig. 111: Pulling Bulb Out Of Holder
Courtesy of BMW OF NORTH AMERICA, INC.

63 99 431 REPLACING BULB FOR FRONT CEILING LIGHT

WARNING: **Follow instructions for HANDLING LIGHT BULBS (INTERIOR LIGHTS).**

Necessary preliminary work:

- Remove **ROOF SWITCH CLUSTER** .

Turn bulb in direction of arrow and remove.

Installation note:

Note **BULB TYPE** .

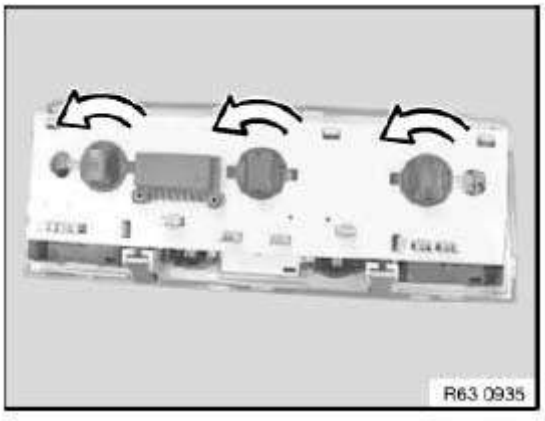


Fig. 112: Turning Bulb
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

63 99 461 REPLACING BULB FOR GLOVE BOX LIGHT

WARNING: Follow instructions for handling light bulbs (INTERIOR LIGHTS).

Necessary preliminary tasks:

- Remove **GLOVEBOX LIGHT**.

Turn bulb holder (1) in direction of arrow and pull out of light (2).

Installation note:

Make sure bulb holder (1) is correctly seated and engaged in light (2).

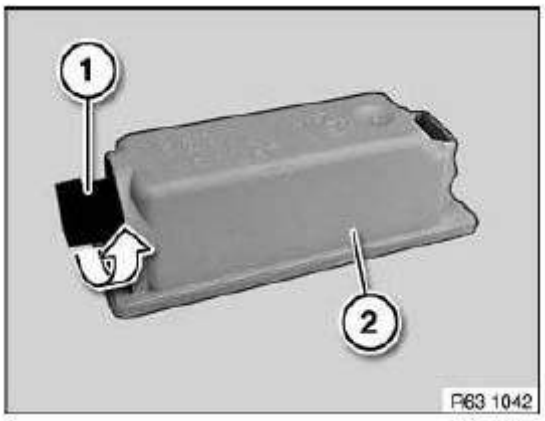


Fig. 113: Turning Bulb Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Remove bulb (1) from bulb holder (2) in direction of arrow.

Installation note:

Note **BULB TYPE** .

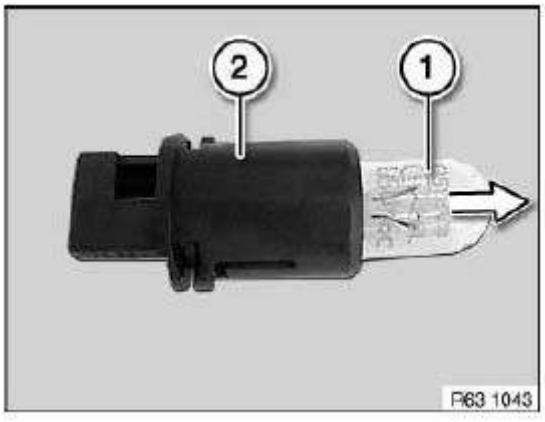


Fig. 114: Pulling Bulb Out Of Bulb Holder
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: LED technology lights can only be replaced completely!

63 99 076 REPLACING BULB FOR LEFT XENON HEADLIGHT (WITH IGNITION UNIT)

Operation is described in:

cardiagn.com

Replacing **IGNITION UNIT FOR LEFT XENON HEADLIGHT**.

63 99 077 REPLACING BULB FOR RIGHT XENON HEADLIGHT (WITH IGNITION UNIT)

Operation is described in:

Replace **IGNITION UNIT FOR LEFT XENON HEADLIGHT**.

63 99 132 REPLACING BULB FOR SIDE LIGHTS, FRONT LEFT

WARNING: **Follow instructions for handling light bulbs (exterior lights).**

Unlock cover (1) and remove.

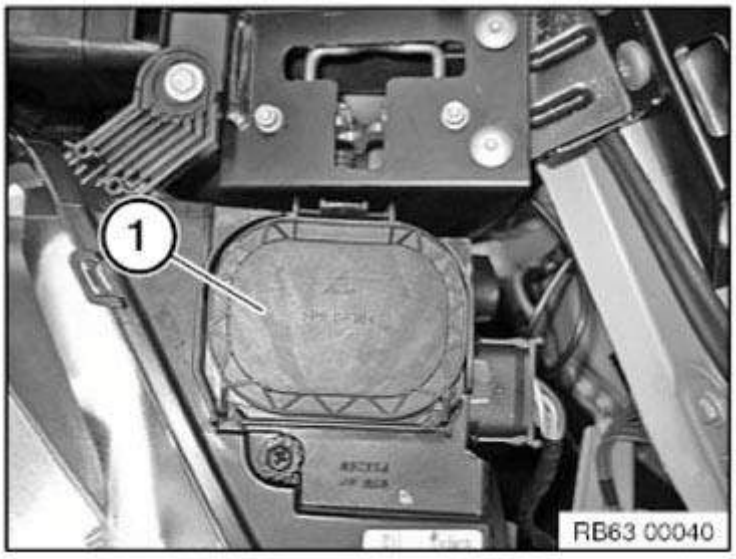


Fig. 115: Identifying Side Lights Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Pull back bulb socket (1) out of headlight (2) in direction of arrow.

Installation note:

Make sure bulb holder (1) is exactly seated in headlight (2).

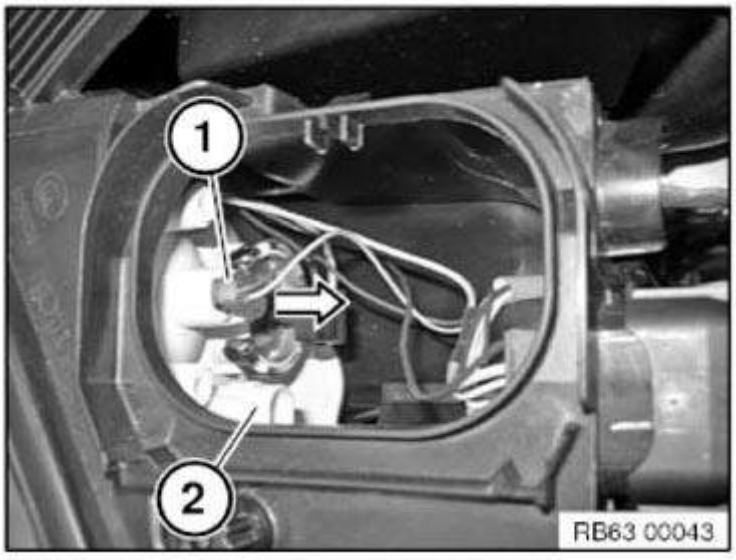


Fig. 116: Pulling Back Bulb Socket Out Of Headlight

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Pull bulb for side light (1) out of bulb socket (2).

Installation note:

Note **BULB TYPE** .

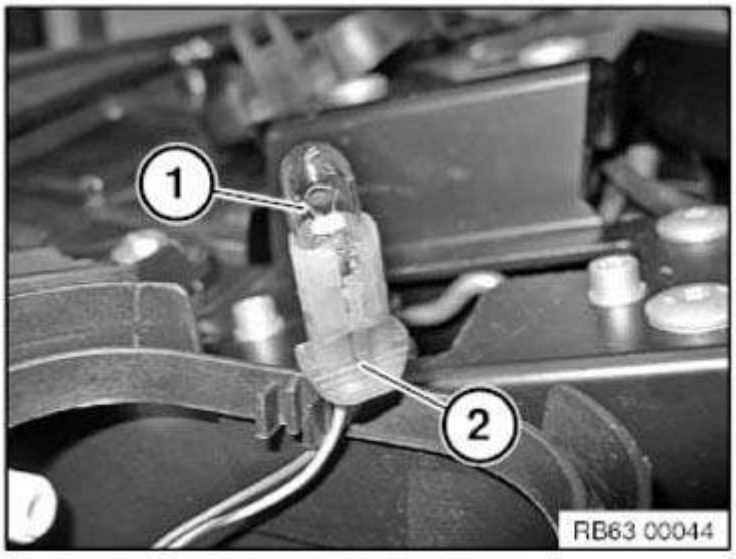


Fig. 117: Identifying Side Light Bulb
Courtesy of BMW OF NORTH AMERICA, INC.

63 99 133 REPLACING BULB FOR SIDE LIGHTS, FRONT RIGHT

Operation is described in:

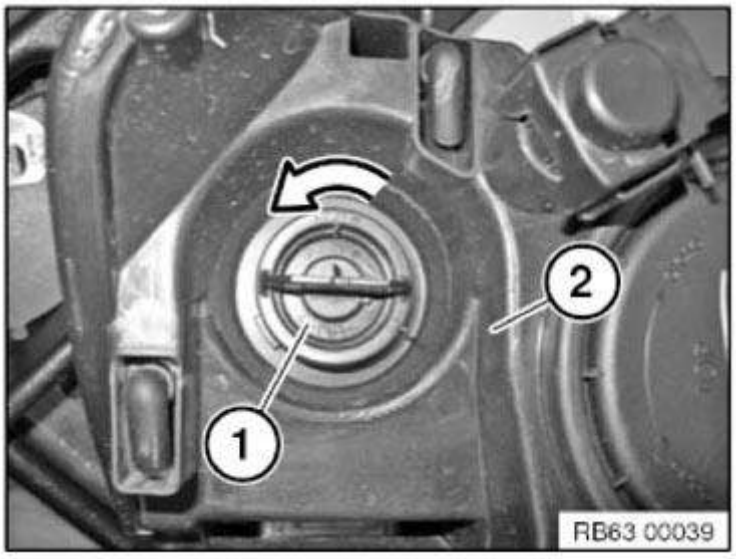
Replace **BULB FOR FRONT RIGHT SIDE LIGHTS**.

63 99 273 REPLACING BULB FOR TURN INDICATOR, FRONT LEFT

IMPORTANT: Follow instructions for handling light bulbs **(EXTERIOR LIGHTS)**.

NOTE: **For purposes of clarity, illustrations shows headlight removed:**

Turn bulb holder (1) approx. 30Â° anticlockwise and remove from headlight (2).



cardiagn.com

Fig. 118: Turning Bulb Holder
Courtesy of BMW OF NORTH AMERICA, INC.

Turn bulb (1) in direction of arrow out and remove from bulb holder (2) in upward direction.

Installation note:

Note **BULB TYPE** .

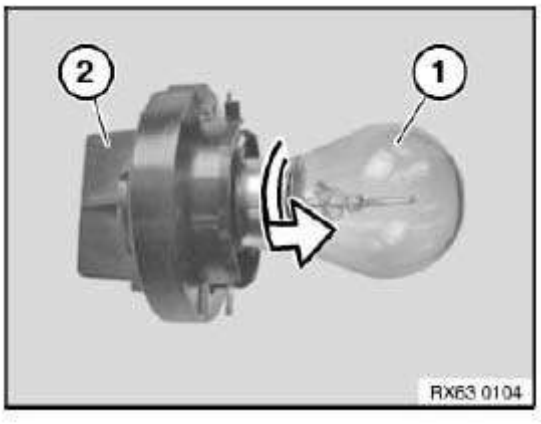


Fig. 119: Removing Bulb From Bulb Holder
Courtesy of BMW OF NORTH AMERICA, INC.

63 99 275 REPLACING BULB FOR TURN INDICATOR, FRONT RIGHT

- Partially remove filler channel

Operation is described in:

Replacing **BULB FOR FRONT LEFT TURN INDICATOR**.

63 99 435 REPLACING BULB OF INTERIOR LIGHT ON THE LEFT AND RIGHT (IN VERSION WITH PANORAMA GLASS ROOF)

IMPORTANT: Follow instructions for **HANDLING LIGHT BULBS (INTERIOR LIGHTS)**.

Necessary preliminary work:

- Remove **INTERIOR LIGHT ON LEFT AND RIGHT**

Turn bulb holder for bulb (1) in direction of arrow and pull off of interior roof light (2).

cardiagn.com

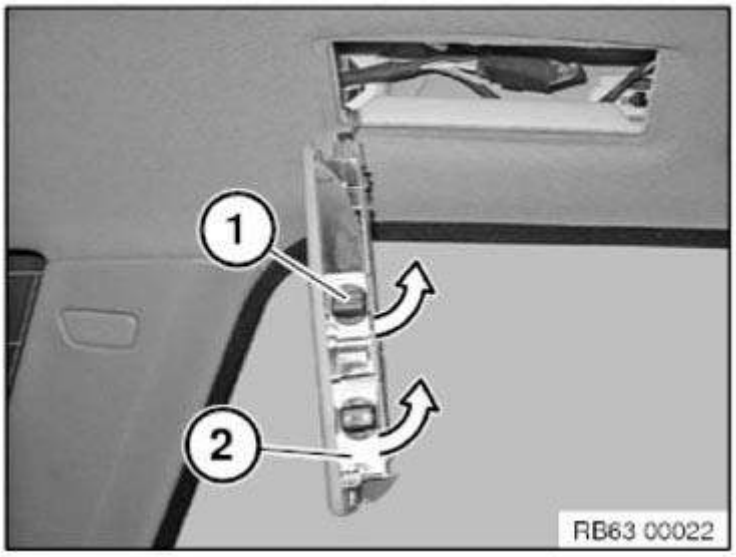


Fig. 120: Pulling Off Interior Roof Light
Courtesy of BMW OF NORTH AMERICA, INC.

Pull bulb (1) out of bulb holder (2) in direction of arrow.

Installation note:

Note **BULB TYPE** .

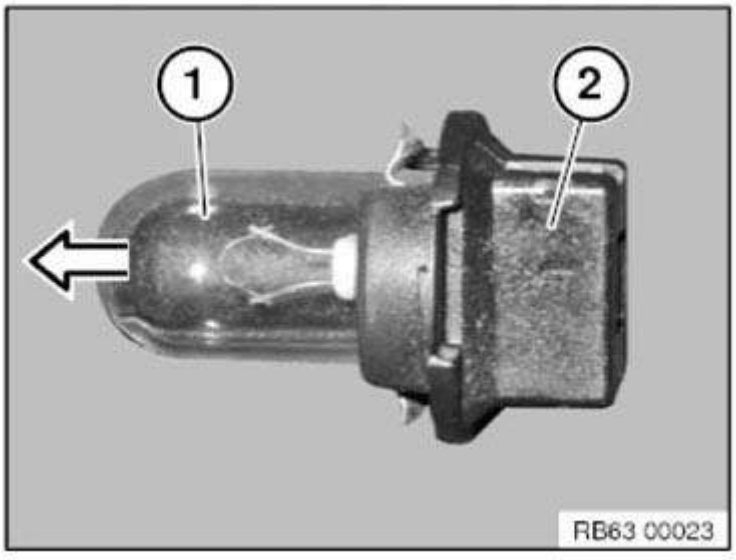


Fig. 121: Pulling Bulb Out Of Bulb Holder
Courtesy of BMW OF NORTH AMERICA, INC.

63 99 315 REPLACING BULB(S) FOR LEFT OR RIGHT REAR LIGHT (ON SIDE WALL)

WARNING: **Follow instructions for handling light bulbs (EXTERIOR LIGHTS).**

Necessary preliminary work:

Remove **SOCKET HOUSING FOR REAR LIGHT**

Carefully press down bulb (1/2), turn in direction of arrow and remove from socket (3).

Note **BULB TYPE** .

cardiagn.com

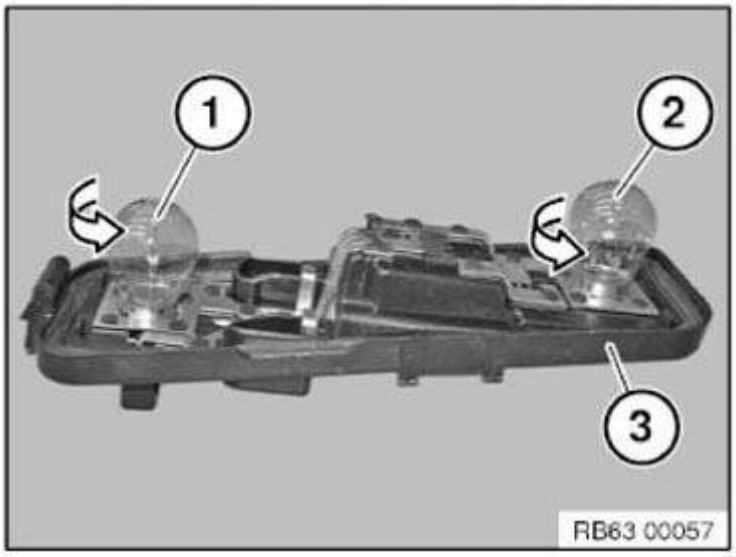


Fig. 122: Removing Bulb From Socket
Courtesy of BMW OF NORTH AMERICA, INC.

63 99 312 REPLACING BULB(S) FOR LEFT OR RIGHT REAR LIGHT (REAR LID)

WARNING: **Follow instructions for handling light bulbs (EXTERIOR LIGHTS).**

Necessary preliminary work:

- Remove SOCKET HOUSING FOR REAR LIGHT.

Pull bulb (1) out of bulb holder (3) in direction of arrow.

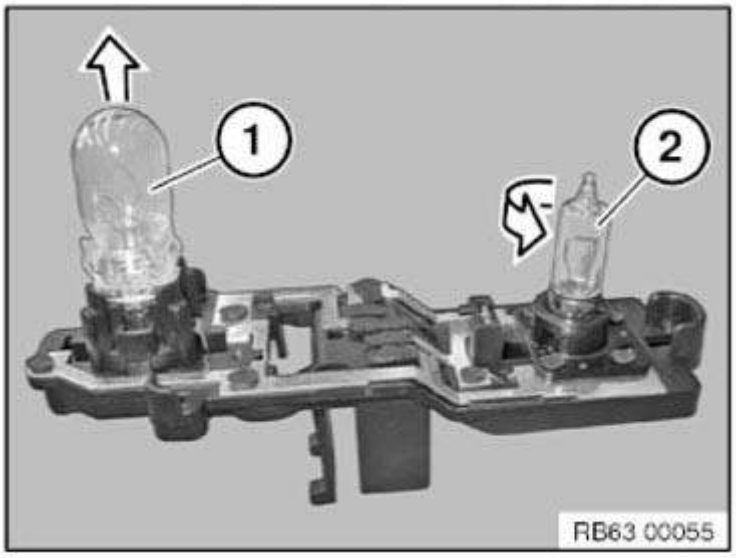
Turn bulb (2) in direction of arrow and remove from socket housing (3).

NOTE:

1. **Bulb, backup light**
2. **Bulb, rear fog light**

Installation note:

NOTE BULB TYPE .



cardiagn.com

Fig. 123: Pulling Bulb Out Of Bulb Holder
Courtesy of BMW OF NORTH AMERICA, INC.

63 99 002 REPLACING HALOGEN BULB FOR HIGH BEAM HEADLIGHT ON LEFT

WARNING: **Follow instructions for HANDLING LIGHT BULBS (EXTERIOR LIGHTS).**

Unlock protective cap (1) and remove.

Installation note:

Protective cap (1) must be correctly engaged.

Check seal.

Replace protective cap (1) if necessary.

Comply with **INSTRUCTIONS FOR REPLACING THE PROTECTIVE CAP**.

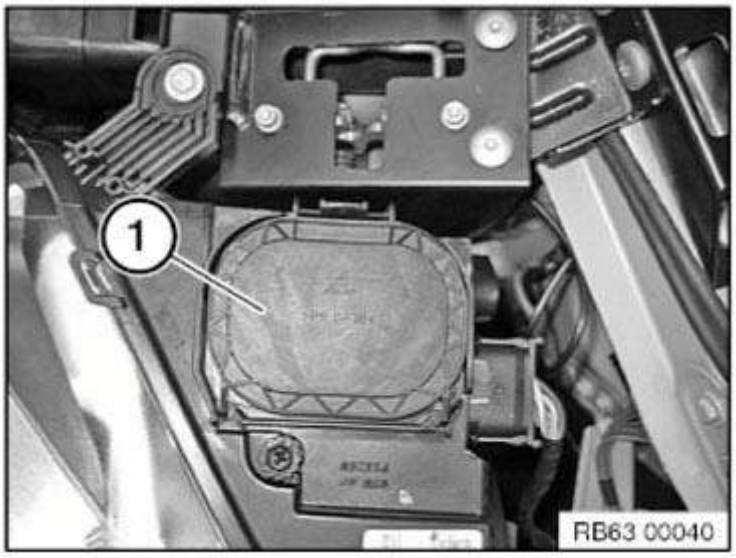
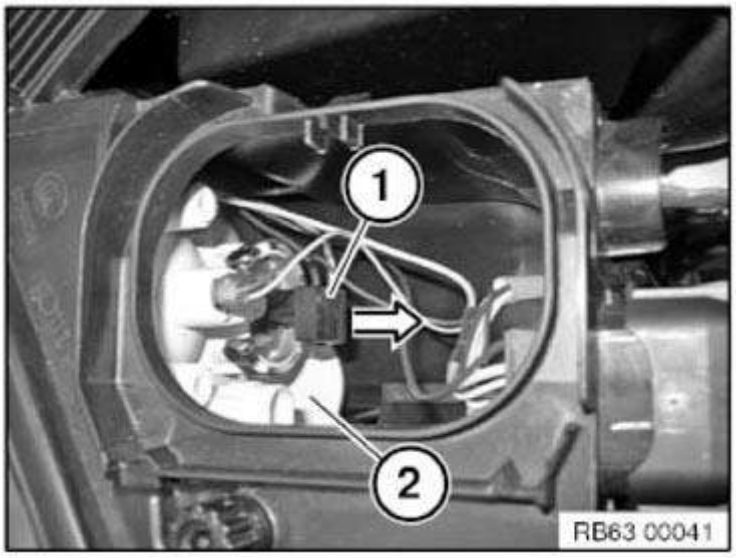


Fig. 124: Identifying Side Lights Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Pull back bulb socket (1) in direction of arrow to remove from headlight (2).



cardiagn.com

Fig. 125: Pulling Back Bulb Socket
Courtesy of BMW OF NORTH AMERICA, INC.

Detach plug connection (1) from bulb (2).

Installation note:

Make sure bulb holder (2) is seated correctly.

Note **BULB TYPE** .

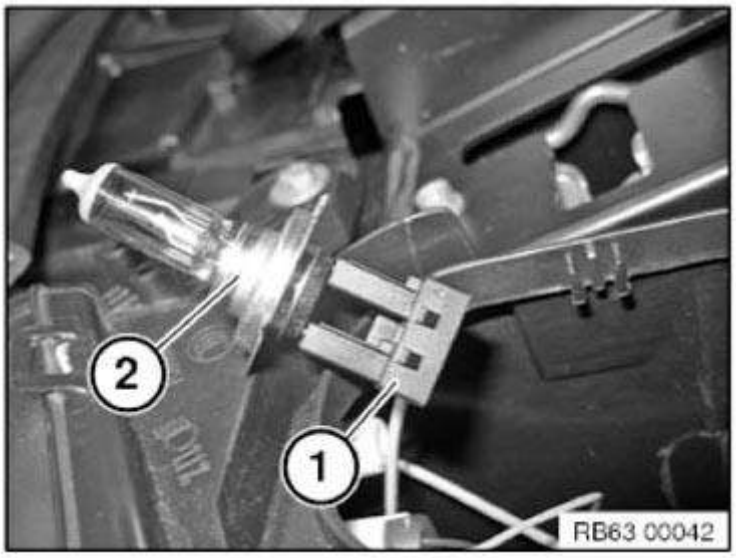


Fig. 126: Identifying Plug Connection From Bulb
Courtesy of BMW OF NORTH AMERICA, INC.

63 99 003 REPLACING HALOGEN BULB FOR HIGH BEAM HEADLIGHT ON RIGHT

Operation is described in:

Replace **HALOGEN BULB FOR HIGH BEAM HEADLIGHT ON LEFT**.

63 99 201 REPLACING HALOGEN BULB FOR LEFT OR RIGHT FOG LIGHT

WARNING: **Follow instructions for HANDLING LIGHT BULBS (EXTERIOR LIGHTS).**

Necessary preliminary work:

- Remove **FOG LIGHT**.

Turn bulb holder (1) in direction of arrow and remove from fog light (2).

Installation note:

Note **bulb type** . See **FRONT FOG LAMPS, ADDITIONAL LAMPS (BUILT UNTIL 04/14)** or **FRONT FOG LAMPS, ADDITIONAL LAMPS (AS OF 04/14)** .

cardiagn.com

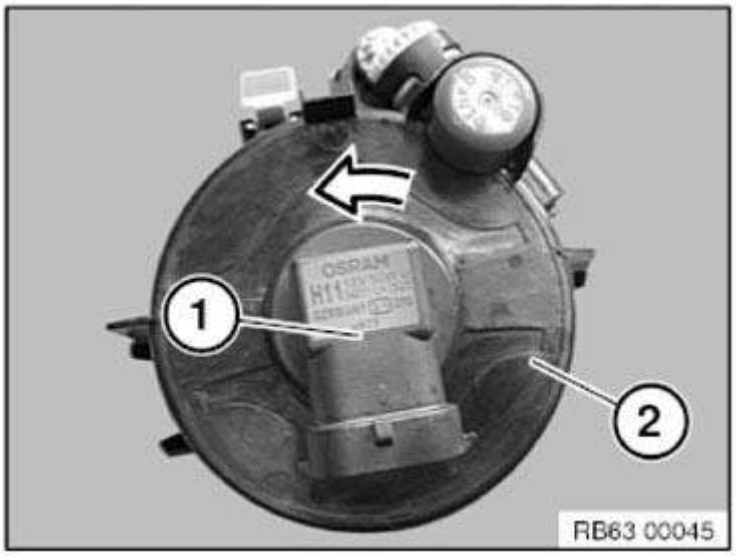


Fig. 127: Turning Bulb Holder
Courtesy of BMW OF NORTH AMERICA, INC.

63 12 870 REPLACING IGNITION UNIT FOR LEFT XENON HEADLIGHT

63 12 870 REPLACING IGNITION UNIT FOR LEFT XENON HEADLIGHT.

63 12 871 REPLACING RIGHT IGNITION UNIT FOR RIGHT XENON HEADLIGHT

63 12 871 REPLACING RIGHT IGNITION UNIT FOR RIGHT XENON HEADLIGHT.

63 99... SAFETY INFORMATION FOR EXCHANGING BULBS (INTERIOR LIGHTING)

IMPORTANT: To avoid short circuits, disconnect bulbs from the power supply before replacing them (lighting system and ignition off).

Do not touch the glass bulbs in new lights bulbs as even the slightest contamination will burn in and reduce bulb service life.

Only touch light bulbs with clean gloves or a clean cloth.

Do not expose light bulbs to mechanical vibrations.

Use only recommended light bulbs.

Follow the light bulb manufacturer's notes without fail.

63 99... SAFETY INFORMATION FOR HANDLING BULBS/LIGHT SOURCES (EXTERIOR LIGHTS)

WARNING: **All headlight types, regardless of the type of light sources used, can be dangerous due to their dazzling effect!**
Do not look directly and for long periods of time into the light.

WARNING: **Laser, LED and Xenon headlights in particular can be very dangerous due to their dazzling effect:**
Do not look directly and unprotected into the light.

WARNING: **Xenon headlight: Danger to life due to high voltage!**
Disconnect all components from voltage supply before removal.
Work on the entire xenon lighting system (ignition device, control unit and

cardiagn.com

xenon bulb) may only be carried out by qualified personnel.

WARNING: **Halogen bulbs are under pressure:**
To avoid injury, wear protective goggles and gloves.

To avoid short circuits:
IMPORTANT: Disconnect bulbs/light sources from the voltage supply before changing them (lighting system and ignition off).

Do not touch glass bulbs with bare hands, as even the smallest amount of contamination will burn in and reduce bulb service life.

Only touch light bulbs with clean gloves or a clean cloth.

Do not expose light bulbs to mechanical vibrations.

Use only recommended light bulbs.

Follow the light bulb manufacturer's notes without fail.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702215

cardiagn.com

LIGHTS

0493059 ADAPTER

0493059 630400 Adapter Mechanical tool

Replaced by: 83300493854

NOTE: **(Adapter for LMC) For function check of the light check module/Replaced by 63 0 410 (0 493 854)**



Fig. 1: Identifying Adapter (0493059)
Courtesy of BMW OF NORTH AMERICA, INC.

0493060 ADAPTER

0493060 631000 Adapter Mechanical tool

NOTE: **(Measuring adapter) For xenon headlights for troubleshooting in headlight assembly**

Storage Location

I 107

SI number

02 03 96 (048)

cardiagn.com

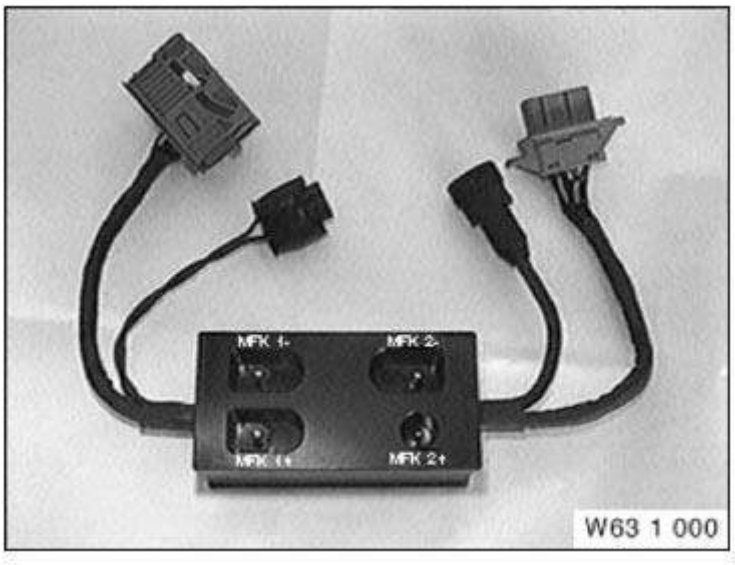


Fig. 2: Identifying Adapter (0493060)
Courtesy of BMW OF NORTH AMERICA, INC.

0493952 ADAPTER CABLE

0493952 631030 Adapter cable MP

NOTE: **(V adapter cable 16-pin) For troubleshooting for trailer module**

Storage Location

P 211

SI number

02 06 01 (763)

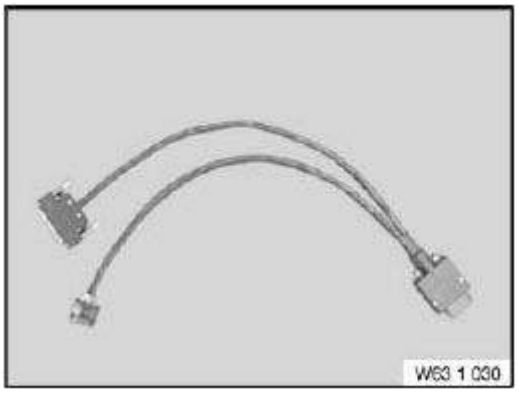


Fig. 3: Identifying Adapter Cable (0493952)
Courtesy of BMW OF NORTH AMERICA, INC.

0493058 BOX SPANNER

0493058 630113 Box spanner AM

NOTE: **(Tubular socket spanner SW 17) model year: from 12/90**

cardiagn.com

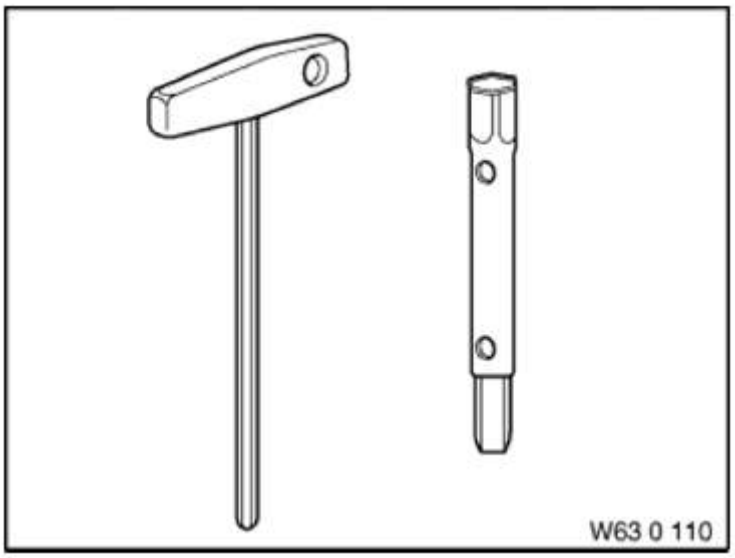


Fig. 4: Identifying Box Spanner (0493058)
Courtesy of BMW OF NORTH AMERICA, INC.

0493056 BOX SPANNER

0493056 630111 Box spanner AM

NOTE: **(Tubular socket spanner AF 16 (visual distance)) Replaced by 63 0 113**

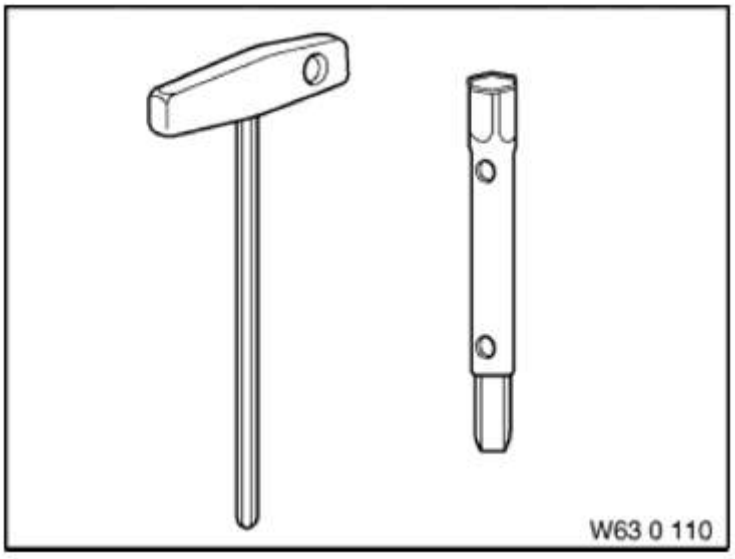


Fig. 5: Identifying Box Spanner (0493056)
Courtesy of BMW OF NORTH AMERICA, INC.

0493055 BOX SPANNER

0493055 630110 Box spanner AM

NOTE: **(Tubular socket spanner with hexagon socket wrench) for loosening and tightening the headlight mounting bolts and for adjusting the headlights with regard to the engine compartment lid**

Storage Location

X3

Y3

cardiagn.com

SI number

01 05 90 (207)

Consisting of:

2 = 0493056 Box spanner

NOTE: (Tubular socket spanner AF 16 (visual distance)) Replaced by 63 0 113

2 = 0493057 Hexagon socket

NOTE: (Hexagon socket wrench AF 7) Series: E36

2 = 0493058 Box spanner

NOTE: (Tubular socket spanner SW 17) model year: from 12/90

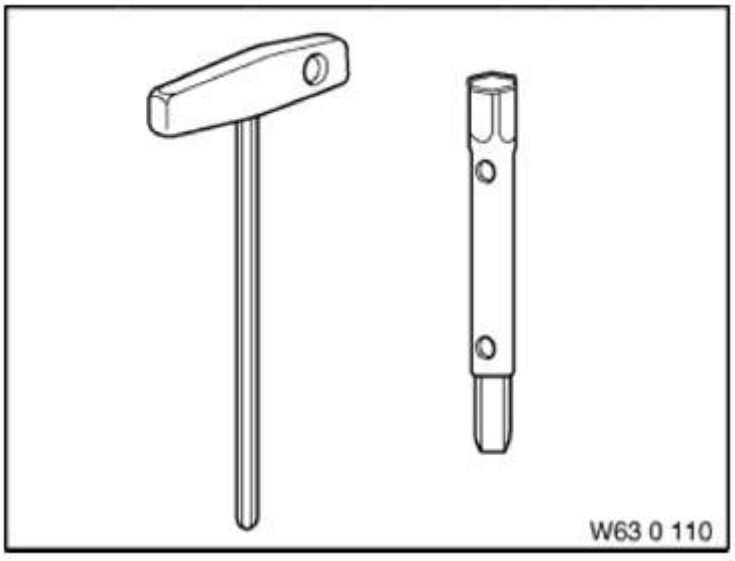


Fig. 6: Identifying Box Spanner (0493055)
Courtesy of BMW OF NORTH AMERICA, INC.

0493051 GAUGE

0493051 630030 Gauge Mechanical tool

NOTE: (Adjusting gauge) For adjusting the linkage on the headlight servomotor

Storage Location

X3

SI number

01 07 91 (406)

cardiagn.com

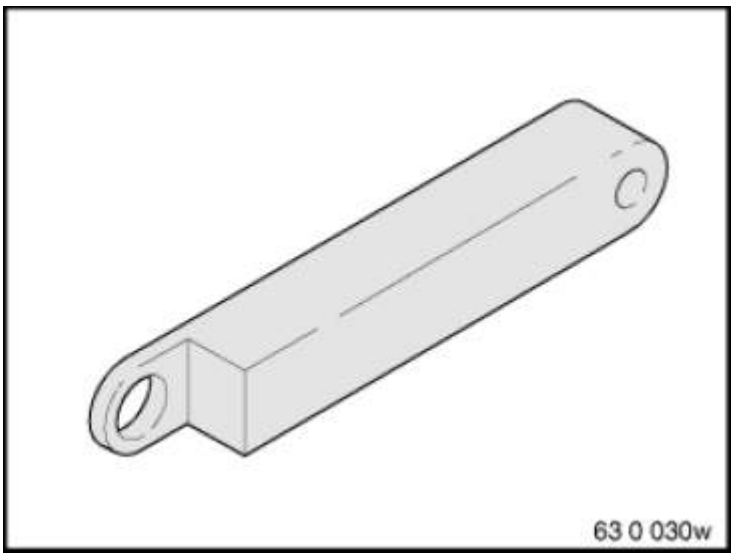


Fig. 7: Identifying Gauge (0493051)
Courtesy of BMW OF NORTH AMERICA, INC.

0493057 HEXAGON SOCKET

0493057 630112 Hexagon socket AM

NOTE: **(Hexagon socket wrench AF 7) Series: E36**

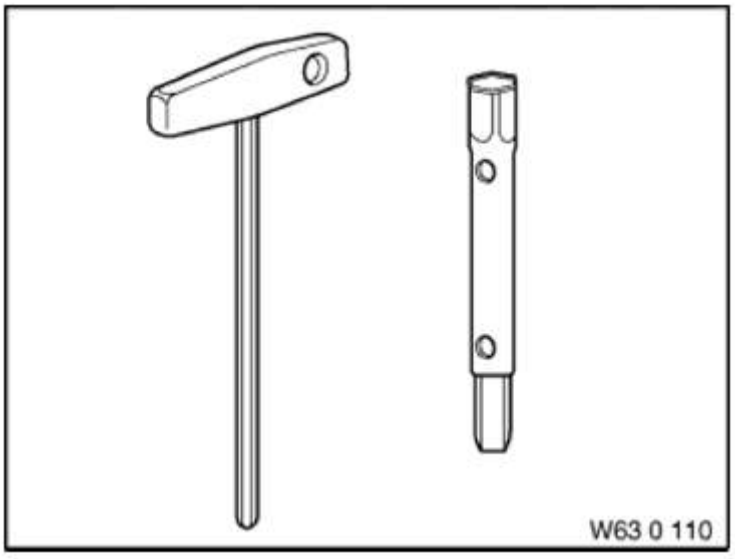


Fig. 8: Identifying Hexagon Socket (0493057)
Courtesy of BMW OF NORTH AMERICA, INC.

0493053 LID

0493053 630041 Lid AM

NOTE: **(Shaped cover, right)**

cardiagn.com

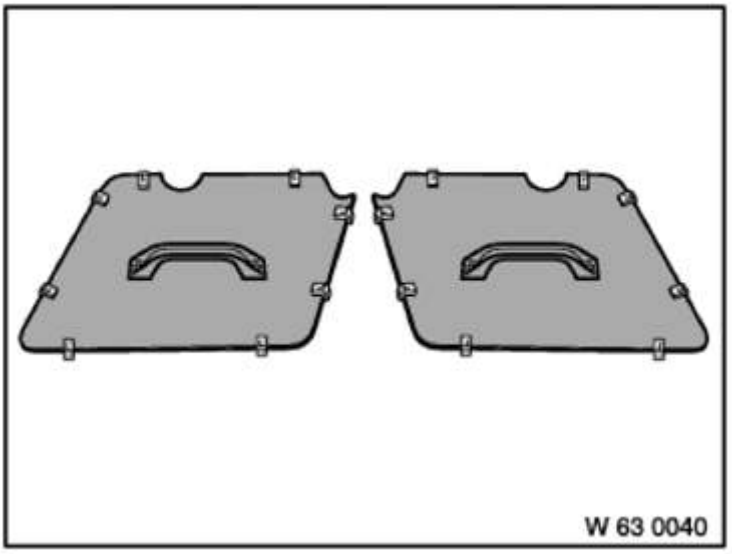


Fig. 9: Identifying Lid (0493053)
Courtesy of BMW OF NORTH AMERICA, INC.

0493052 LID

0493052 630040 Lid AM

NOTE: **(Shaped cover (2 x)) For adjustment of headlights in the engine compartment lid/model year: from Sept. 92**

SI number

01 15 93 (746)

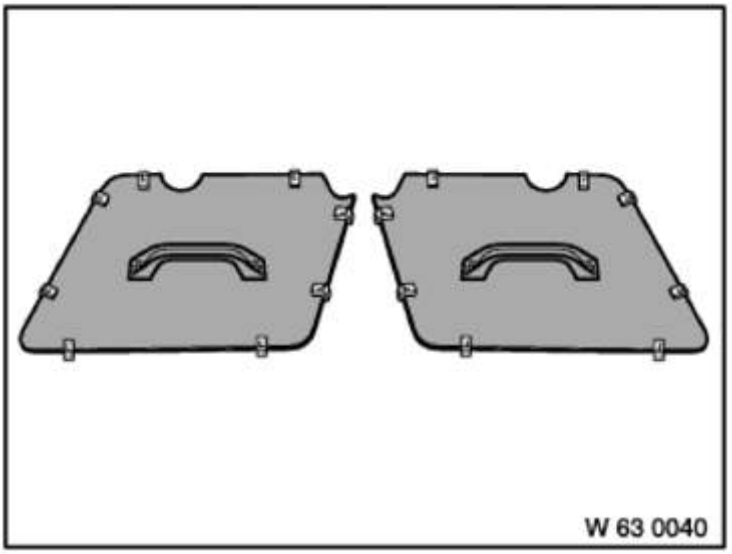
Consisting of:

1. 0493053 Lid

   NOTE: **(Shaped cover, right)**

2. 0493054 Lid

   NOTE: **(Shaped cover, left)**



cardiagn.com

Fig. 10: Identifying Lid (0493052)
Courtesy of BMW OF NORTH AMERICA, INC.

0493047 LID

0493047 630001 Lid AM

NOTE: **(Shaped cover, right)**

0493048 LID

0493048 630002 Lid AM

NOTE: **(Shaped cover, left)**

0493046 LID

0493046 630000 Lid AM

Replaced by: 83300493015

NOTE: **(Shaped cover (2 pieces)) For fitting the headlights in the bonnet/Replaced by 63 0 040**

Consisting of:

1. 0493047 Lid

   NOTE: **(Shaped cover, right)**

2. 0493048 Lid

   NOTE: **(Shaped cover, left)**

0493054 LID

0493054 630042 Lid AM

NOTE: **(Shaped cover, left)**

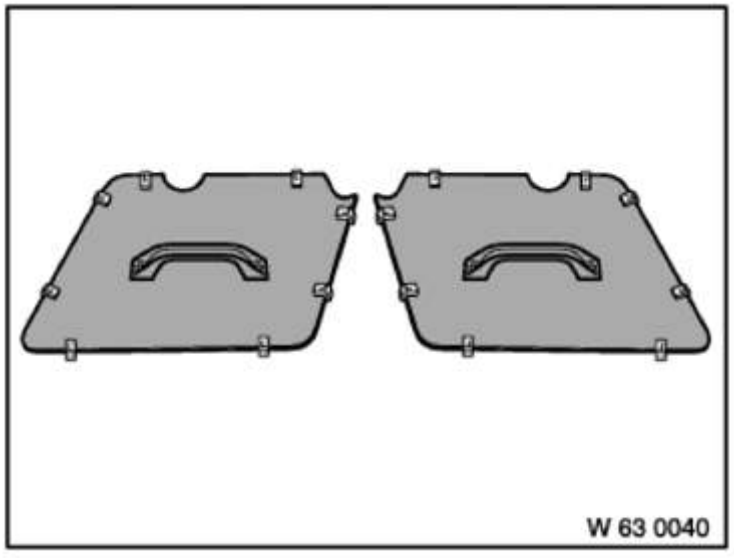


Fig. 11: Identifying Lid (0493054)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

2296872 MAGNET

2296872 Magnet Minimum set: Mechanical tools Mechanical tool

NOTE: **For magnetizing and demagnetizing metal tools.**

SI number

01 31 11 (769)



Fig. 12: Identifying Magnet (2296872)
Courtesy of BMW OF NORTH AMERICA, INC.

0493049 OPEN-END WRENCH

0493049 630010 Open-end wrench Mechanical tool

NOTE: **(Open-jawed spanner WAF 14/15) For bracing the ball joint bolt when removing and installing the headlight**

Storage Location

X3

SI number

01 05 90 (207)

cardiagn.com

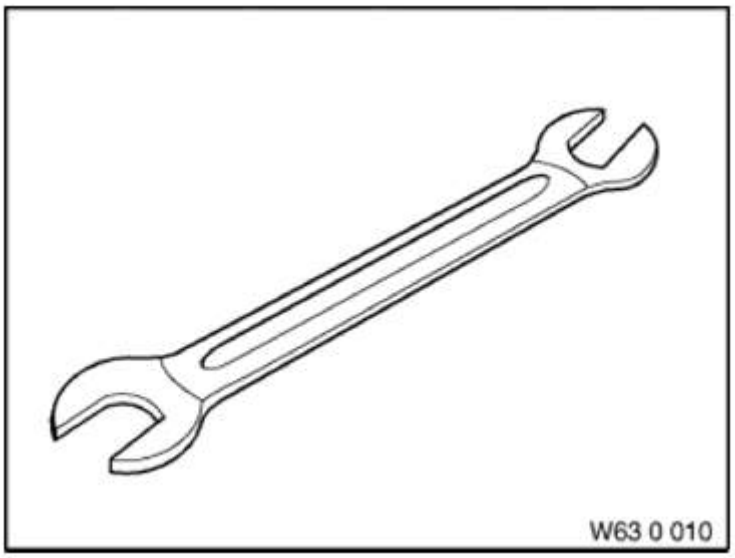


Fig. 13: Identifying Open-End Wrench (0493049)
Courtesy of BMW OF NORTH AMERICA, INC.

2334974 TESTER

2334974 Tester MP

NOTE: **Tester for trailer socket. For the diagnosis of the trailer module an electrical consumer is required on the trailer socket.**

Storage Location

universal

SI number

02 04 13 (981)



Fig. 14: Identifying Tester (2334974)
Courtesy of BMW OF NORTH AMERICA, INC.

0000001 TOOL

0000001 Tool AM

cardiagn.com

NOTE: **For holding the rivet shank**

0493050 WRENCH

0493050 630020 Wrench Mechanical tool

NOTE: **For actuating the adjusting screw on the headlight housing**

Storage Location

X3

SI number

01 05 90 (207)

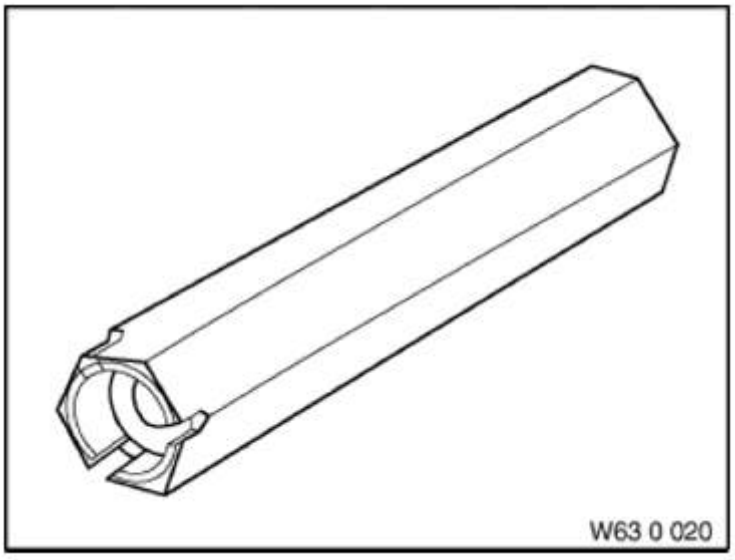


Fig. 15: Identifying Wrench (0493050)
Courtesy of BMW OF NORTH AMERICA, INC.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702136

cardiagn.com

FRONT FOG LAMPS, ADDITIONAL LAMPS (BUILT UNTIL 04/14)

63 17 FRONT FOG LAMPS, ADDITIONAL LAMPS (BUILT UNTIL 04/14)

FRONT FOG LAMPS, ADDITIONAL LAMPS SPECIFICATION

Bulb, basic fog light	Type	H8 12V 35W
Bulb, fog light with cornering light	Type	H11 12V 55W Longlife

FRONT FOG LAMPS, ADDITIONAL LAMPS (AS OF 04/14)

63 17 FRONT FOG LAMPS, ADDITIONAL LAMPS (AS OF 04/14)

FRONT FOG LAMPS, ADDITIONAL LAMPS SPECIFICATION

Bulb, basic fog light	Type	H8 12V 35W
Fog light (LED technology)	Type	LED

HEADLIGHT

63 12 HEADLIGHT

HEADLIGHT SPECIFICATION

Bulb - low-beam headlight, xenon headlight	Type	Xenon bulb with ignition unit, D1 12V 35W
Bulb - low-beam headlight, halogen headlight	Type	H7/55W, Longlife 12V 55WH7
Light bulb - high beam (halogen headlight)	Type	H7/55W, Longlife 12V 55WH7
Light bulb - side lights	Type	5W
Bulb - cornering lights S524A	Type	12V 55W H7
Daytime driving lights	Type	LED module

INTERIOR LIGHTING

63 31 INTERIOR LIGHTING

INTERIOR LIGHTING SPECIFICATION

Interior light, front	Type	W6 W 12 V 6 W xenon
Interior reading light, front	Type	W6 W 12 V 6 W xenon
Interior light, rear	Type	W6 W 12 V 6 W xenon
Interior reading light, rear	Type	W6 W 12 V 6 W xenon
Interior light, side	Type	12 V 5 W
Mirror light	Type	T5 12 V 2.3 W
Luggage compartment light	Type	12 V 10 W festoon W8W 12 V 8 W
Cargo light	Type	12 V 10 W festoon
Glove box	Type	W5 W 12 V 5 W
Footwell, front	Type	W5 W 12 V 5 W
Footwell, rear	Type	W5 W 12 V 5 W
Door entry	Type	W5 W 12 V 5 W
Rear vanity mirror	Type	12 V 10 W festoon

NUMBER PLATE LIGHT

cardiagn.com

63 26 NUMBER PLATE LIGHT

NUMBER PLATE LIGHT SPECIFICATION

LED number plate light	Type	LED

REAR LIGHT CLUSTER

63 21 REAR LIGHT CLUSTER

REAR LIGHT CLUSTER SPECIFICATION

Light bulb - brake light	Type	12V 21W
Light bulb - rear fog light	Type	12V 21W
Light bulb - reversing light	Type	12V 16W
Light bulb - turn indicator	Type	12V 21W
Light bulb - 3rd brake light	Type	LED

TURN INDICATORS

63 13 TURN INDICATORS

TURN INDICATORS SPECIFICATION

Light bulb - turn signal, front EUR	Type	PY21WSV 12V 21W
Light bulb - turn signal, front US	Type	PY21WSV 12V 21W
Light bulb - auxiliary turn indicator	Type	W5W 12V 5W

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702154

cardiagn.com

FOG LIGHT, ADDITIONAL LIGHTS

63 17 FOG LIGHT, ADDITIONAL LIGHTS

TIGHTENING TORQUE SPECIFICATION - FOG LIGHT, ADDITIONAL LIGHTS

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Fog light (halogen) Fog light (LED technology) Headlight, targeted illumination	F15/F16/F85/F86	Screw	Â	2, 0 Nm
		F25/F26	Screw	Â	2, 0 Nm

HEADLIGHT

63 12 HEADLIGHT

TIGHTENING TORQUE SPECIFICATION - HEADLIGHT

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Headlight to body (lock support)	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Oval-head screw with spring washer (3x)	Replace screws	8, 0 Nm
		F07/F10/F11/F18	Oval-head screw with spring washer (3x)	Replace screws	6, 0 Nm
		F25/F26	Screw M6 (3x)	Â	6, 0 Nm
	Headlight on body (Defo element)	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18	Oval-head screw with journal (1x)	Replace screw	4, 0 Nm
		F25/F26	Oval-head screw with journal (1x)	Â	6, 0 Nm
2AZ	Fog lights Headlight, targeted illumination	F01/F02/F03/F04/	Â	Â	2, 0 Nm
3AZ	Electronics box, adaptive	F01/F02/F03/F04/F06./F07/F10/F11/F18/F12/F13	Â	Â	1.65 Nm

cardiagn.com

	headlight, to headlight				
4AZ	Cover cap to headlight	F01/F02/F03/F04/F07/F10/F11/F18	Â	Â	1.65 Nm
5AZ	Control unit to xenon headlight	F01/F02/F03/F04/F06/F12/F13/F07/F10/F11/F18	Â	Â	1.65 Nm
6AZ	Direction indicator insert	F01/F02/F03/F04/F07/F10/F11/F18	Â	Â	1.65 Nm
7AZ	Fog lights	F01/F02/F03/F04/F06/F07/F10/F11/F18/F12/F13	Â	Â	2.50 Nm

INDIVIDUAL HEADLIGHT PARTS

63 11 INDIVIDUAL HEADLIGHT PARTS

TIGHTENING TORQUE SPECIFICATION - INDIVIDUAL HEADLIGHT PARTS

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Control unit to headlight Main light module to headlight	F25/F26/F15/F16/F85/F86	Â	Â	1, 65 Nm
2AZ	Headlight driver module to headlight	F25/F26/F15/F16/F85/F86	Â	Â	1, 65 Nm
3AZ	LED cornering light module to headlight	F15/F16/F85/F86	Â	Â	1, 65 Nm
4AZ	LED daytime driving lights module to headlight	F15/F16/F85/F86	Â	Â	1, 65 Nm
5AZ	LED fan to headlight	F25/F26/F15/F16/F85/F86	Â	Â	1, 5 Nm
6AZ	Cover to headlight	F25/F26/F15/F16/F85/F86	Â	Â	1, 5 Nm

TAIL LIGHTS

63 21 TAIL LIGHTS

TIGHTENING TORQUE SPECIFICATION - TAIL LIGHTS

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Rear lights (side panel)	F01/F02/F03/F06/F10/F11/F12/F13/F15/F16/F18/F85/F86	Â	Â	2.5 Nm
2AZ	Rear lights (tailgate)	F01/F02/F03/F06/F10/F11/F12/F13/F15/F16/F18/F85/F86	Â	Â	2.5 Nm
3AZ	Rear lights (side panel)	F07	Â	Â	2.6 Nm
4AZ	Rear light (tailgate)	F07	Â	Â	2.6 Nm
5AZ	Rear light (side wall)	F25	Â	Â	4.5 Nm

cardiagn.com

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702187

cardiagn.com

ACCESSORIES AND BODY, CAB

Parts & Accessories (Body) - Tightening Torques - F25

AIRBAG MODULES

72 12 AIRBAG MODULES

TIGHTENING TORQUE SPECIFICATION - AIRBAG MODULES

Â	Type	Thread	Tightening specifications	Dimension
1AZ Passenger airbag module (instrument panel)	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F25	Â	Â	2 Nm
2AZ Head airbag to body	F01/F02/F03/F04/F06/F07/F10/F11/F13/F18	Oval-head screw with collar	Â	4 Nm
3AZ Knee airbag module incl. footwell trim - to support tube	F01/F02/F04/F06/F07/F10/F11/F12/F13/F18/F25	Â	Â	8 Nm
4AZ Knee airbag module, prelocating	F01/F02/F04/F07/F10/F11/F18/F25	Â	Â	2, 2 Nm
	F06/F12/F13	Â	Â	1, 8 Nm
5AZ Gas generator - to body, side frame	F01/F02/F03/F04/F07/F10/F11/F18	Â	Â	4 Nm
6AZ Airbag module - to backrest	F01/F02/F03/F04/F06/F07/F10/F11/F12/F13/F18/F33	Â	Replace microencapsulated screws.	8 Nm
	F25	Â	Replace microencapsulated screws.	6 Nm

SEAT BELTS

72 11 SEAT BELTS

TIGHTENING TORQUE SPECIFICATION - SEAT BELTS

Â	Type	Thread	Tightening specifications	Dimension
Seat belt, front:	Â	Â	Â	Â
1AZ Automatic reel (inertia reel) - to body	F01/F02/F03/F04/F07/F10/F11/F18	M10	Replace screws.	36 Nm
	F26/F26	M10	Replace	38 Nm

cardiagn.com

			screws.	
Second attachment point EMA/REMA - Adapter plate to body	F01/F02/F03/F04/F10/F11/F18	M8 x 16	Â	20 Nm
	F07	M8 x 16	Â	16 Nm
2AZ End fitting - to front seat	F01/F02/F03/F04/F07/F25/F26	Â	Replace screws.	44 Nm
	F10/F11/F18	M10	Replace screws.	36 Nm
3AZ Belt tensioner (buckle retractor) - to front seat	F01/F02/F03/F04/F07/F10/F11/F18	M10	Replace oval-head screws with ISA.	36 Nm
	F25/F26	M10	Replace oval-head screws with ISA.	41 Nm
4AZ Corner hoop - to B-pillar	F01/F02/F03/F04/F07/F10/F11/F18	Â	Â	5 Nm
	F25/F26	Â	Â	3, 5 Nm
5AZ Belt deflector - to B-pillar	F01/F02/F03/F04/F07/F10/F11/F18	Â	Replace screws.	36 Nm
6AZ Anchor fitting tensioner - to front seat	F01/F02/F03/F04/F10/F11/F18	Â	Replace screws.	36 Nm
7AZ Retaining plate - to anchor fitting tensioner	F01/F02/F03/F04/F10/F11/F18	Â	Â	4, 4 Nm
Rear seat belt (basic version):	Â	Â	Â	Â
20AZ Automatic reel for rear seat	Â	Â	Replace screws.	Â
• middle to backrest	F07/F11	Â	Â	36 Nm
Â	F25	Â	Replace nut.	46 Nm
• middle to body	F01/F02/F04/F10/F18	Â	Â	36 Nm
• outer to body	F01/F02/F03/F04/F07/F10/F11/F18	Â	Â	36 Nm
Â	F25/F26	Â	Â	38 Nm
21AZ End fitting	Â	Â	Replace screws.	Â
• middle	F01/F02/F04/F10/F11/F18	Â	Â	36 Nm
Â	F25/F25	Â	Â	38 Nm
• middle to seat frame	F07	Â	Â	40 Nm
• outer	F01/F02/F03/F04/F07/F10/F11/F18	Â	Â	36 Nm
Â	F25/F26	Â	Â	38 Nm
22AZ Seat belt buckle	Â	Â	Replace screws.	Â
• to body	F01/F02/F03/F04/F10/F11/F18	Â	Â	36 Nm

cardiagn.com

Â	F25/F26	Â	Â	38 Nm
• to seat frame	F07	Â	Â	36 Nm
23AZ Belt buckle	Â	Â	Replace screws.	Â
• to seat frame	F07	Â	Â	40 Nm
24AZ Belt deflector - to C-pillar	F07	Â	Replace screws.	36 Nm
	Â	Â	Â	Â
Seat belt, rear (comfort)	Â	Â	Â	Â
25AZ Automatic reel for rear seat	Â	Â	Replace screws.	Â
• outer to body	F02/F03	Â	Â	36 Nm
26AZ End fitting	Â	Â	Â	Â
• outer	F02/F03	Â	Â	36 Nm
27AZ Seat belt buckle	Â	Â	Replace screws.	Â
• to body	F02/F03	Â	Â	36 Nm

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702192

cardiagn.com

GENERAL

72 11... CHECKLIST FOR FRONT SEAT

<table>
<tr><th colspan="2">Event</th><th>Check</th><th>Action</th></tr>
<tr><td rowspan="3">Has at least one belt tensioner and/or one side airbag been activated?</td><td rowspan="2">Yes</td><td>Check 1 (when installed):
Check all seat adjustment options of both front seats.
There must be no stiff movement, sticking or other functional problems or noises across the entire adjustment range of all the seat adjustment options.
Check head restraints for damage.
Check crash-active headrest for activation.
Only 2-door model:
Check backrest lock. Backrest must unlock and lock easily without any great physical effort.</td><td rowspan="2">If components are OK with regard to checks 1 and 2, only replace activated belt tensioner or side airbag. Otherwise, replace faulty parts on the seat/body. Replace belt tensioner, seat belt and, if necessary, side airbag.</td></tr>
<tr><td>Check 2 (when dismounted):
Check for deformation/damage on the following components:
1. All seat cross members on the body
2. Threaded support sleeves in the seat cross members
3. End fittings on the seat mechanism.

Check for visible damage or deformation.</td></tr>
<tr><td>No</td><td>Check all adjustment options of the head restraints.
Check crash-active headrest for activation.</td><td>Replace faulty parts.</td></tr>
<tr><td colspan="4">Only seat with integrated seat belt:</td></tr>
<tr><td rowspan="2">Does the backrest indicator light turn on when the backrest is locked and also when the backrest is shaken?</td><td>Yes</td><td>Check microswitch of backrest lock and renew if necessary. Check electrical lines and repair if necessary.</td><td>If there is still a fault, replace the entire seat</td></tr>
<tr><td>No</td><td>No further action necessary.</td><td>Â</td></tr>
</table>

41 00... REPLACING BLIND RIVETS

Special tools required:

- 2 348 128
- 72 1 210

Lay out protective mats to protect the interior against swarf from the drilled-out rivets and damage.

cardiagn.com

Lay out protective mats in the relevant working area:

IMPORTANT:

- Dashboard
- Entrance area
- Passenger compartment



Fig. 1: Identifying Protective Mats
Courtesy of BMW OF NORTH AMERICA, INC.

Schematic diagram of folding pack holder for head airbag:

Drill off rivet plate down to rivet shank with a 10 mm twist drill bit.

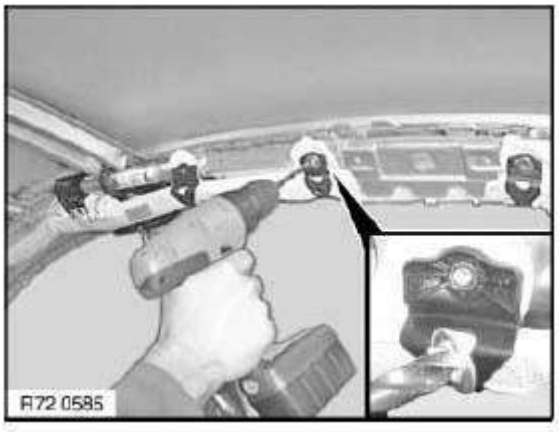


Fig. 2: Drilling Rivet Plate
Courtesy of BMW OF NORTH AMERICA, INC.

Described for grab handle holder:

Drill off rivet plate down to rivet shank with a 10 mm twist drill bit.

cardiagn.com

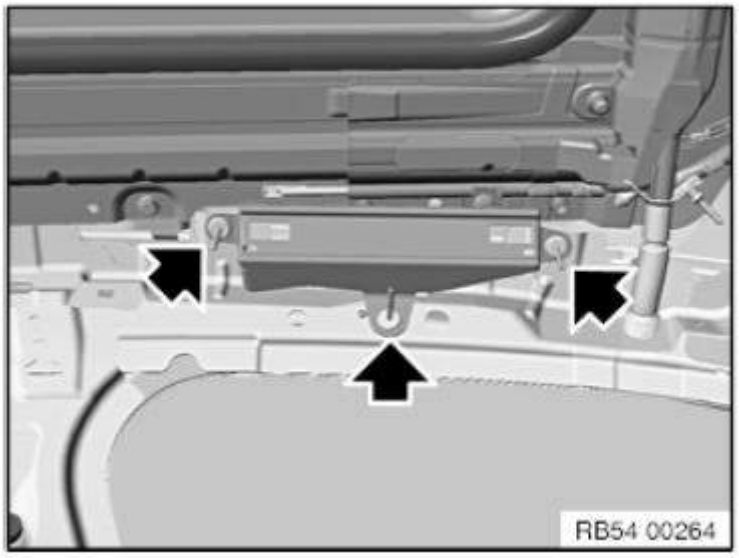


Fig. 3: Locating Handle Holder Pins
Courtesy of BMW OF NORTH AMERICA, INC.

Cut off blind rivet shanks down to sheet metal as level as possible.

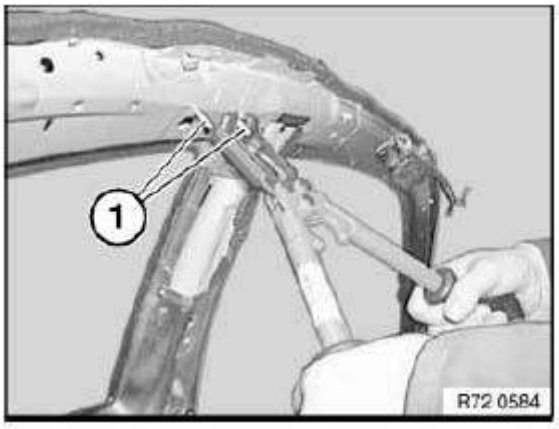


Fig. 4: Cutting Blind Rivet Shanks
Courtesy of BMW OF NORTH AMERICA, INC.

Deburr remaining rivets with nipper pliers.

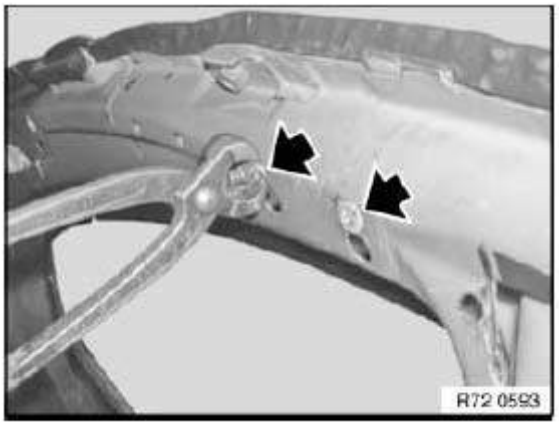


Fig. 5: Removing Rivets Using Nipper Pliers
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

cardiagn.com

Apply primer to paintwork damages on side frame.

NOTE: Depending on accessibility, the rivet heads will have to be removed using special tool 2 348 128 or 72 1 210 .

Press off rivet heads (1) using special tool 2 348 128 and remove.

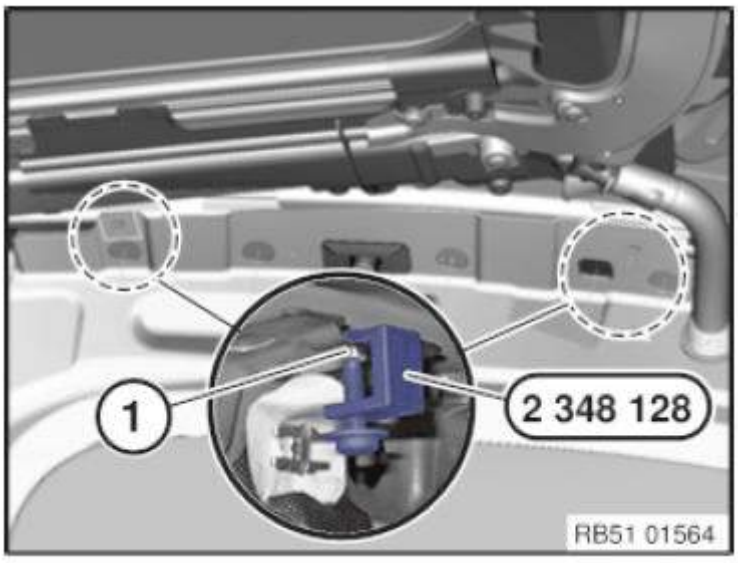


Fig. 6: Pressing Rivet Heads Using Special Tool (2 348 128)
Courtesy of BMW OF NORTH AMERICA, INC.

Special tool 72 1 210 for collecting rivet heads.

Shank (1) of special tool is flexible and can be adapted to the relevant body contours.

NOTE: Insert butyl in the collecting tray (2) to secure rivet heads and prevent them from falling out.

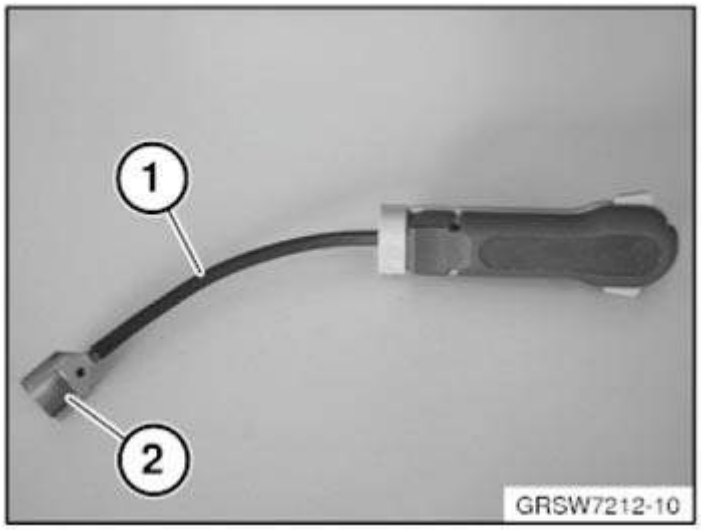


Fig. 7: Identifying Shank And Collecting Tray
Courtesy of BMW OF NORTH AMERICA, INC.

Insert special tool 72 1 210 through bore hole in body next to attachment points.

Position special tool from rear on rivet head in cavity.

cardiagn.com

NOTE: **A second person will be needed to help hold the special tool on the rivet head during the driving-out operation.**

Make sure collecting tray is correctly fitted on rivet head.



Fig. 8: Identifying Special Tool On Rivet Head
Courtesy of BMW OF NORTH AMERICA, INC.

Drive out stem with hammer and 6 mm punch.

Carefully feed special tool out of body so that rivet head does not fall out of collecting tray.

NOTE: **If the rivet falls out of the collecting tray into the side frame when the special tool is fed out, this area must be generously filled with foam.**

For details of procedure for filling cavities with foam, see further operations.

Use cavity preservation for foam filling.

Cavity foam can also be used if necessary.

Fit tube to foam can.

Push the hose in through the pillar holes.

Fill cavity with a filling material.

WARNING: **Empty foam can completely onto cardboard and after hardening dispose of foam and can in residual waste.**
Can may burst if not completely emptied.

cardiagn.com

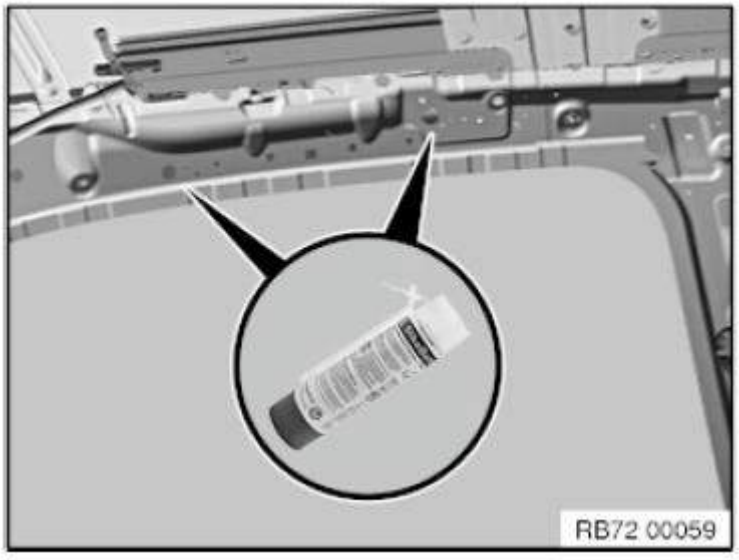


Fig. 9: Identifying Cavity Filling Material Tube
Courtesy of BMW OF NORTH AMERICA, INC.

Overview of rivet gun:

Riveting of gas generator housing and holders for folding pack with rivet gun.

The interchangeable head is changed for the different work operations.

Riveting of gas generator housing with:

1. 17/36 nosepiece and short shank

   Riveting of holders for folding pack:

2. 17/40 nosepiece and long shank

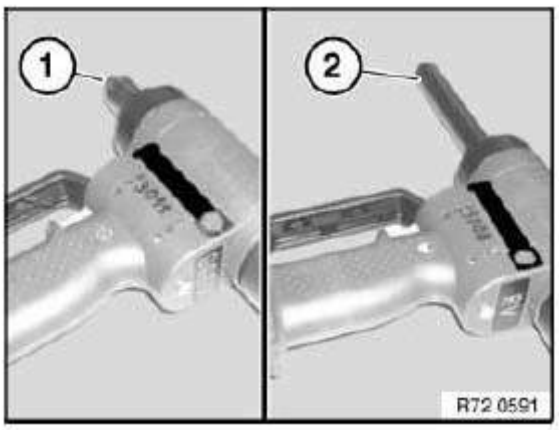


Fig. 10: Identifying Rivet Gun
Courtesy of BMW OF NORTH AMERICA, INC.

72 SAFETY PRECAUTIONS AND GENERAL INFORMATION

Notes on safety

> SAFETY REGULATIONS for handling airbag modules, airbag components and pyrotechnical seat belt tensioners

> NOTES ON SCRAPPING vehicles with gas generators

cardiagn.com

> **DEACTIVATION/ACTIVATION PYROTECHNICAL COMPONENTS**

Handling electrical system and electronics

> **UNLOCKING/LOCKING AIRBAG PLUG CONNECTIONS**

> **REPAIRING AIRBAG LINES**

> **HANDLING OPTICAL FIBRES**

Check

> **CHECK SEAT BELT**

> **CHECKLIST FOR SEAT BELT**

Airbag system

> Functional description and checking, refer to Diagnosis system

> **DEACTIVATING AIRBAGS**

> **PROCEDURE AFTER AIRBAG DEPLOYMENT** .

Active pedestrian protection \n(AFGS)

> Procedure after actuator triggering

72 00... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS

It is essential to comply with the regulations as specified in the law relating to the use of explosives when working on airbag units and seat belt tensioners.

Airbags, seat belt tensioners etc. are pyrotechnical objects. Pyrotechnical objects are assigned to different danger classes on the basis of the quantity of propellant that they contain. The assignment can be ascertained from the identification marking on the product:

IMPORTANT: Failure to comply with the warning notices and repair instructions for gas generator components can cause accidental deployment and result in injury and vehicle damage!

This applies in particular to the following components:

- Airbag modules (driver's/front passenger airbags, side airbags)
- Buckle/belt tensioner
- Head airbag
- Active knee protection
- Active head restraint
- Safety battery terminal

1. **Regulations**

   The regulations quoted in the following refer to the Federal Republic of Germany.

   In all other countries, the relevant legislation and regulations must be observed in each case. Country-specific legal regulations that go beyond this information or court decisions based thereon must be followed in each case or given precedence over these regulations.

   The following components used by BMW:

cardiagn.com

- Pyrotechnical restraint systems are subject to danger class PT1
- Gas generators are pyrotechnical objects belonging to danger class T1

Handling, transporting and storing non-fired gas generators are subject to the "Explosive Materials Act" (law relating to the use of explosives dated 13/09/1976).

The relevant trade supervisory authority must be notified at least 2 weeks before pyrotechnical objects are handled for the first time. Here the relevant authority must be notified in writing of the person responsible (e.g. dealership owner, holder of general power of attorney or if necessary workshop supervisor). A certificate of qualification, i.e. specific training, is not required for the person responsible.

2. **Dismantling and installation**
   - Inspection, testing and installation work may only be carried out by expert trained personnel in BMW Service.
   - Work on components of the airbag system should only ever be carried out with the battery disconnected, the negative terminal post covered and the plug connection of the cable leading to the gas generator disconnected. If only the battery is disconnected, the following prescribed waiting period must be observed without fail:
     - 30 min. for vehicles up to 9/93
     - 1 min. for vehicles from 9/93 onward
   - In the event of breaks in work, a component with a gas generator that has been removed must be secured against access by other persons.
   - Individual components must never be repaired. Instead, always replace them.
   - Do not treat airbag system components with cleaning agents or grease.
   - Components of the airbag system must not be exposed to temperatures in excess of 75 Â°C.
   - Airbag system components, including electronic diagnostic components, which have been dropped from heights in excess of 0.5 m must not be reinstalled in the vehicles.
   - Do not remove components of the airbag system from the original packaging until immediately before they are to be installed in the vehicle.
   - Before installing, subject components such as housing, connector pins, etc. of the airbag system (including diagnosis electronics) to a visual inspection for damage and replace if necessary.
   - Airbag system components may only be electrically tested while they are installed and only with the BMW ISTA.
   - **Danger of injury:** The airbag module may only be set down with the airbag itself facing *upwards* . Otherwise the alternator will be thrown upwards if it is ignited.
   - Do not point the ignition squib of a gas generator at other persons.
   - Components with gas generators must not be fired while they are removed. They must be disposed of by special disposal companies or returned to BMW in the packaging of the new components.
   - When carrying out straightening and welding work with an electric welder:
     - Disconnect battery
     - Cover negative terminal (post)
   - Avoid all contact with the skin when removing a fired airbag module - wear gloves.

     Wash with water after contact with the skin.

3. **Transport**
   - Components with gas generators must be sent off in the packaging of the new components.
4. **Storage**
   - Observe the regulations of the relevant trade supervisory authority and the applicable national regulations.

SEAT BELTS

cardiagn.com

72 11... CHECK LIST FOR AUTOMATIC SEAT BELT

Was the automatic seat belt with lower strap replaced after an accident, e.g. frontal and/or oblique collision in which the impact absorbers/deformation elements were permanently deformed? (only while seat belt was fastened)	**No**	**Replace complete automatic seat belt The following must also be checked and replaced, if necessary: seatbelt mounts on the vehicle body seatbelt mounts on the seat rails.**
Yes	Â	Â
Does seat belt lock when pulled out suddenly?	No	Replace automatic seat belt (upper seat belt).
Does the automatic reel eliminate the belt slack?	No	Replace automatic seat belt (upper seat belt).
Yes	Â	Â
Yes	Â	Â
Can the seat belt strap be pulled out without jamming?	No	Automatic reel is loose - tighten reel. If fault persists: Return spring broken - replace automatic seat belt (upper seat belt).
Yes	Â	Â
Does the strap on the front seat belts retract automatically? Does the strap on the rear seat belts retract automatically, a small remaining loop is acceptable if this remaining loop is fully retracted when the seat belt strap is readjusted.	No	Automatic reel is loose - tighten reel. Excessive friction in belt guides - replace automatic seat belt (upper strap). Return spring broken - replace automatic seat belt (upper seat belt).
Yes	Â	Â
Does automatic reel make a squeaking noise when belt is fastened or unfastened?	Yes	Excessive friction in belt guides - replace automatic seat belt (upper strap). Automatic reel is loose - tighten reel. Return spring broken - replace automatic seat belt (upper seat belt).
No	Â	Â

Is the plastic casing on the belt tongue free from damage in the area of the belt opening?	**No**	**Replace complete automatic seat belt**
Yes	Â	Â
Is the fully extended seat belt strap free from pinches, burn marks, tears and cuts, creasing and unraveling?	No	Replace complete automatic seat belt
Yes	Â	Â
When the seat belt is fastened, is the belt tongue ejected by spring pressure from the buckle when the "red button" is pressed?	No	Replace complete automatic seat belt
Yes	Â	Â
Does fastened seat belt lock during emergency braking on a dry roadway at double walking speed?	No	Replace complete automatic seat belt
Yes	Â	Â
Is fully pulled-out seat belt strap free of serious dirt and other marks?	No	If dirt and marks cannot be removed with commercially available mild detergent, the automatic seat belt (upper seat belt) must be replaced.
Yes	Â	Â

cardiagn.com

In the case of seat-integrated seat belts, is front tongue of reclining mechanism or seat rail free of deformation?	No	Replace both damaged parts and complete automatic-reel seat belt. The following must also be checked and replaced, if necessary: seatbelt mounts on the vehicle body seatbelt mounts on the seat rails.
Yes	Â	Â
The automatic seat belt is OK!	Â	Â

72 11... CHECKING AUTOMATIC SEAT BELT

General considerations when checking seat belts:

The seat belts must be checked after an accident.

For the check, you should start by trying to get information on which seats in the vehicle involved in the accident were occupied. If this is not possible, check all the seat belts in the vehicle and replace them if necessary.

In the event of deformations on the vehicle, you must subject the components of the restraint system affected in this area such as e.g.

- Seat Belts
- Anchor fitting tensioner
- Seat belt height adjustment
- Belt buckle tensioner
- Triggering sensors
- etc.

to a function check and a visual inspection.

If you are in any doubt as to the unimpaired operability of restraint system components, these components must be replaced in the interests of safety!

If a seat belt has to be replaced following an accident (e.g. in the event of a frontal and/or oblique collision with permanently deformed impact absorbers/deformation elements or cross-members), the complete seat belt must be replaced! The complete seat belt comprises:

- Upper seat belt
- Lower strap
- Anchor fitting tensioner
- Seat belt buckle (buckle tensioner)
- Seat belt height adjustment
- Mounting bolts of all components

The following must also be checked and if necessary replaced:

- seatbelt mounts on the vehicle body
- Seatbelt mounts on the seat
- seat rails.
- Seat structure (frame, etc.)

Alignment tests on the seat and the seat rails are not permitted!

The following explanations and the checklist for the automatic seat belt can provide help.

cardiagn.com

An unusable seat belt or a seat belt worn in a serious accident should be destroyed immediately after removal to guarantee that it can not be used again.

Checking automatic reel and seat belt strap:

The automatic reel has two independent activation systems for seat-belt locking.

The first activation system locks the automatic reel when driving quickly around curves, driving in tight curves, on extreme inclinations (vehicle rolls over) and during sharp braking or crash.

To check, the seat backrest must be placed in the upright position and both hands held in a supporting position close to the steering wheel. The brakes are then operated with full intensity while driving on a dry roadway and at double walking speed.

The seat belt must lock.

The second activation system provides additional safety and is controlled by inertia mass.

If the reel locks when the seat belt strap is pulled out suddenly, this system is also OK.

In addition, the automatic electric reel (EMA) must eliminate belt slack.

Check whether an attempt was made to eliminate belt slack:

- Enter, close doors and latch seat belt buckle contact, left
- EMA eliminates belt slack

If belt slack was not eliminated, the procedure described below must be followed:

- Allow vehicle to assume complete sleep mode and repeat the functional check.
- All doors must be closed!
- EMA, left, must be installed and connected correctly.
- Work through all fault entries before the functional check is carried out again.

Replace defective or actuated automatic electric reels.

Automatic reel does not require servicing and must not be opened.

Precondition for complete, problem-free retraction of seat belt straps:

- the straps must not be twisted!
- the straps must not be damaged!

When placed to one side, the seat belt straps of the front seats must retract fully.

With the seat belt straps in the rear seat bench, a small remaining loop is acceptable due to increased friction between the strap and the rear seat bench cover if:

- this remaining loop is fully retracted when the seat belt strap is reguided.

Seat belt strap should only be cleaned with a lukewarm soap solution or a commercial mild detergent.

Seat belt strap must never be cleaned chemically or dyed.

The automatic reel and seat belt strap must be replaced in the event of:

1. creasing
2. unraveling

cardiagn.com

3. pinches
4. cracks and tears
5. traces of melting
6. traces of wear on coating of buckle tongue or on seat belt guide loop.

Checking lower strap (belt buckle tensioner):

To fasten a seat belt, the buckle tongue should insert easily and with a loud click in the lock.

When the "Red button" is pressed, the buckle tongue must be ejected from the lock under spring pressure.

If the seat belt buckle cover is missing or damaged, the lower strap must be replaced.

Replace the triggered belt buckle tensioner including the complete seat belt with seat belt height adjustment and mounting bolts and check the

- seatbelt mounts on the vehicle body
- Seatbelt mounts on the seat
- seat rails.
- Seat structure

Criteria for a triggered mechanical belt buckle tensioner:

- very low position of seat belt buckle (comparisons with new part).

Criteria for a triggered pyrotechnical belt buckle tensioner:

- very low position of seat belt buckle (comparisons with new part).
- Airbag indicator light permanently lit: read out airbag system fault memory.

The belt buckle tensioners can be triggered under certain circumstances even when the seat is not occupied. If it is definite that the seat belt system was not used (seat was not occupied), there is no need to replace the

- upper strap
- Add-on parts (seat belt height adjustment, screws)
- seatbelt mounts on the vehicle body
- Seatbelt mounts on the seat
- seat rails.

after a check.

Checking end fitting pretensioner:

Replace the triggered end fitting pretensioner including the complete seat belt with seat belt height adjustment, lower strap and mounting bolts and check the

- seatbelt mounts on the vehicle body
- Seatbelt mounts on the seat
- Seat rails.
- Seat structure

Criteria for a triggered end fitting pretensioner:

- A triggered end fitting pretensioner can be recognized from the wrapped seat belt strap around the shaft.
- Airbag indicator light permanently lit: read out airbag system fault memory.

cardiagn.com

72 11... CHECKLIST FOR FRONT SEAT

<table>
<tr><th colspan="2">Event</th><th>Check</th><th>Action</th></tr>
<tr><td rowspan="3">Has at least one belt tensioner and/or one side airbag been activated?</td><td rowspan="2">Yes</td><td>Check 1 (when installed):
Check all seat adjustment options of both front seats.
There must be no stiff movement, sticking or other functional problems or noises across the entire adjustment range of all the seat adjustment options.
Check head restraints for damage.
Check crash-active headrest for activation.
Only 2-door model:
Check backrest lock. Backrest must unlock and lock easily without any great physical effort.</td><td rowspan="2">If components are OK with regard to checks 1 and 2, only replace activated belt tensioner or side airbag. Otherwise, replace faulty parts on the seat/body. Replace belt tensioner, seat belt and, if necessary, side airbag.</td></tr>
<tr><td>Check 2 (when dismounted):
Check for deformation/damage on the following components:
1. All seat cross members on the body
2. Threaded support sleeves in the seat cross members
3. End fittings on the seat mechanism.

Check for visible damage or deformation.</td></tr>
<tr><td>No</td><td>Check all adjustment options of the head restraints.
Check crash-active headrest for activation.</td><td>Replace faulty parts.</td></tr>
<tr><td colspan="4">Only seat with integrated seat belt:</td></tr>
<tr><td rowspan="2">Does the backrest indicator light turn on when the backrest is locked and also when the backrest is shaken?</td><td>Yes</td><td>Check microswitch of backrest lock and renew if necessary. Check electrical lines and repair if necessary.</td><td>If there is still a fault, replace the entire seat</td></tr>
<tr><td>No</td><td>No further action necessary.</td><td>Â</td></tr>
</table>

72 11 092 REMOVING AND INSTALLING OR REPLACING REAR LEFT OR RIGHT SEAT BELTS

Necessary preliminary work:

- Remove left or right **REAR SEAT**
- Remove **CAPPING IN LUGGAGE COMPARTMENT**

Removing left or right inertia reel mechanism:

Release screw (1) on retractor mechanism (2).

Remove inertia reel mechanism (2).

Installation note:

Replace screw (1).

cardiagn.com

Tightening torque 72 11 20AZ .

Automatic reel (2) is encoded against incorrect assembly.

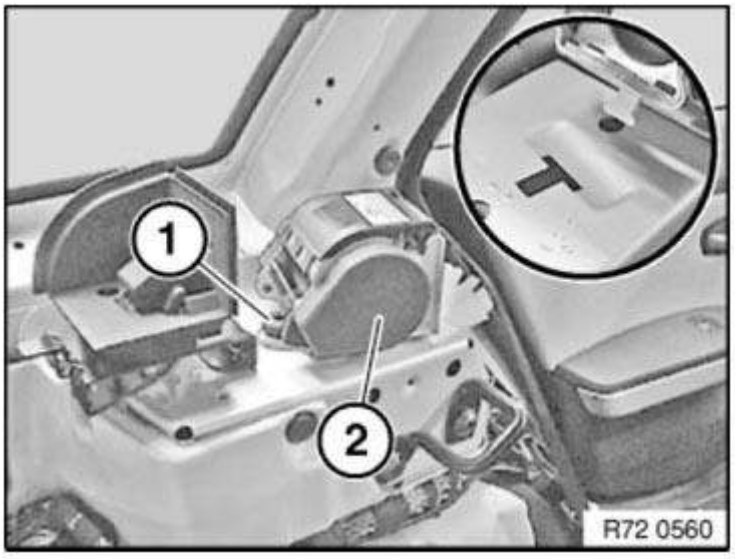


Fig. 11: Identifying Inertia Reel And Retractor Mechanisms Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Remove seat belt.

Installation note:

Replace screw (1).

Tightening torque 72 11 21AZ .

End fitting is encoded to prevent incorrect assembly.

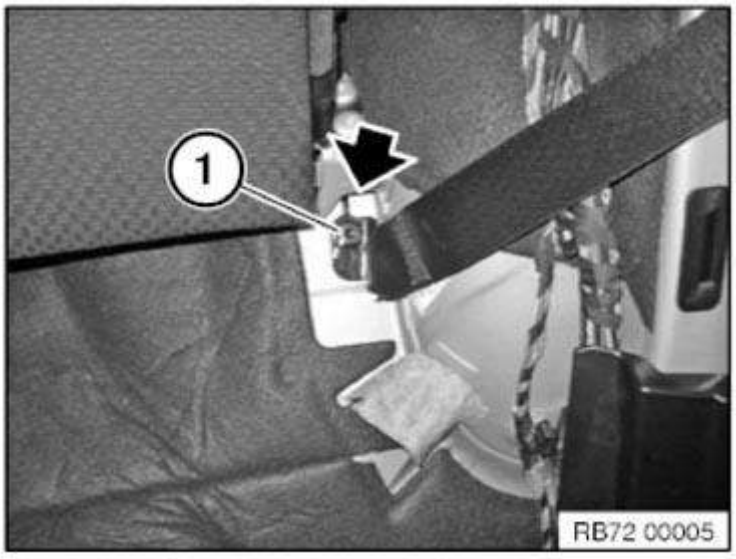


Fig. 12: Locating Seat Belt Screw
Courtesy of BMW OF NORTH AMERICA, INC.

72 11 041 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT LOWER STRAP

Necessary preliminary work:

cardiagn.com

- Remove **FRONT SEAT**

WARNING: **Read and comply with SAFETY REGULATIONS for handling airbag modules and pyrotechnical belt tensioners.**
Improper handling can lead to triggering of the pyrotechnical seat belt tensioner or side airbag, resulting in injuries.

Switch off the ignition!

Cut open cable strap (1).

Unlock connector (2) in marked area and pull out of connector housing (3).

Installation note:

Replace cable straps (1).

Make sure connector (2) is correctly locked in connector housing (3).

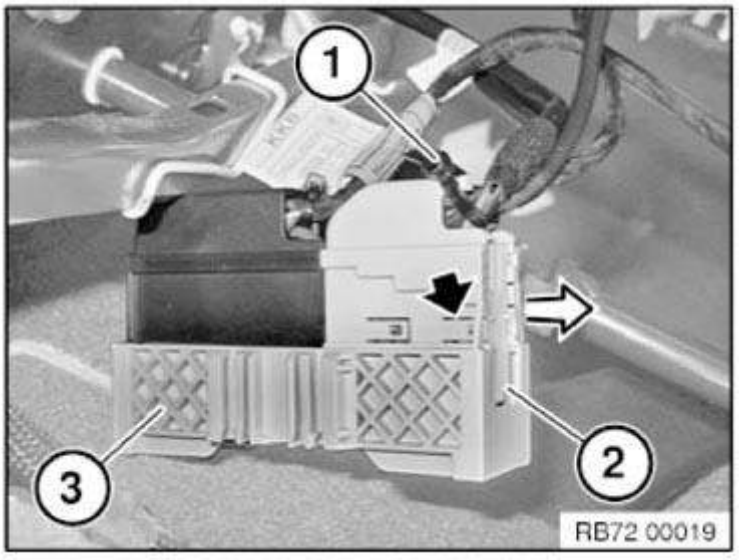


Fig. 13: Pulling Connector Out Of Connector Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect cable strap (1) at metal clamp.

Installation note:

Replace defective cable strap.

cardiagn.com

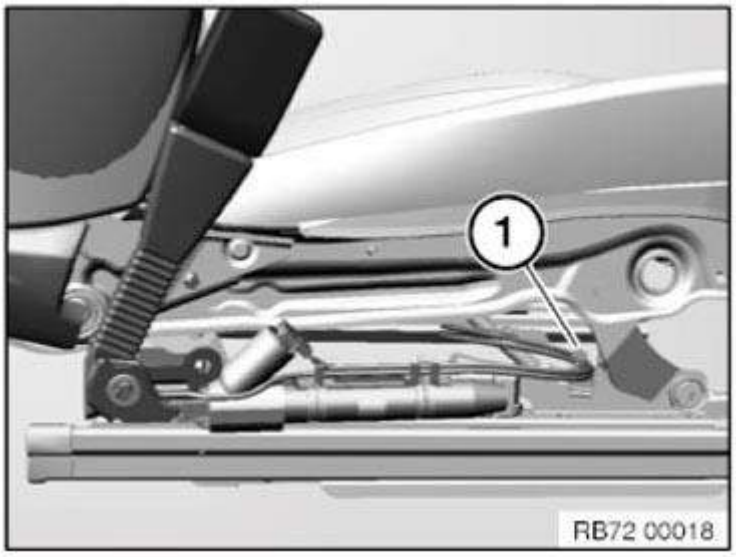


Fig. 14: Identifying Cable Strap At Metal Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Installation note:

Replace screw (1).

Tightening torque **72 11 03AZ** .

Remove seat belt tensioner.

Installation note:

Belt tensioner is coded against incorrect assembly.

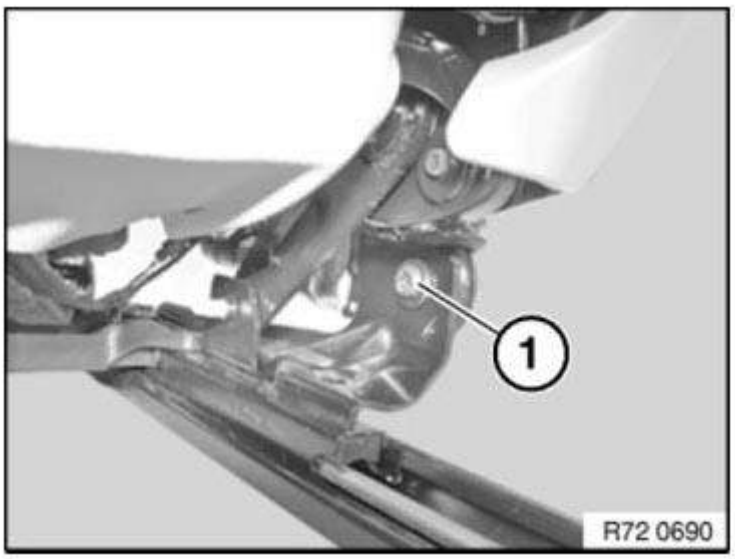


Fig. 15: Identifying Seat Belt Tensioner Screw
Courtesy of BMW OF NORTH AMERICA, INC.

72 11 033 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT SEAT BELT

Necessary preliminary tasks:

- Remove **PANEL FOR DOOR POST**

cardiagn.com

Move backrest to full rearward position.

Unclip release tab (2) for belt end fitting trim (1) with plastic wedge.

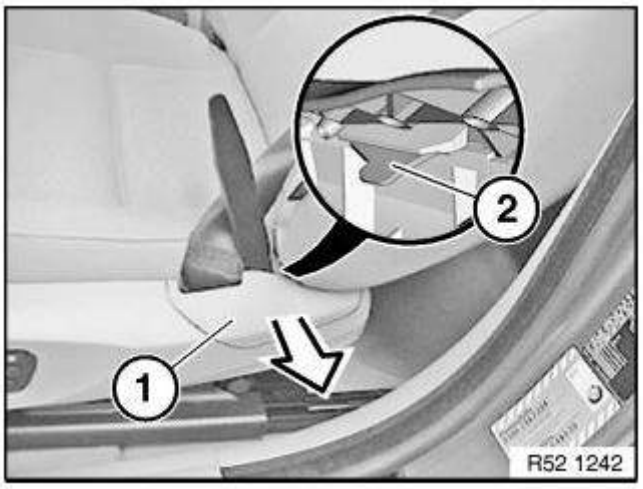


Fig. 16: Removing Tab For Belt End Fitting Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque: **72 11 2AZ** .

Disconnect end fitting (2).

Installation note:

Make sure end fitting is correctly seated on seat mechanism pin.

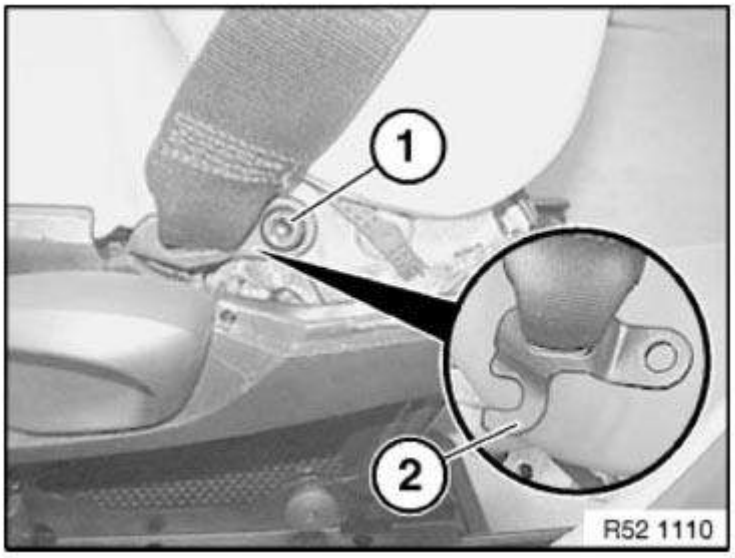


Fig. 17: Identifying End Fitting With Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

Tightening torque: **72 11 4AZ** .

Remove deflector bar (2).

cardiagn.com

Release screw (3).

Tightening torque: **72 11 5AZ** .

Set down belt deflector with seat belt (4).

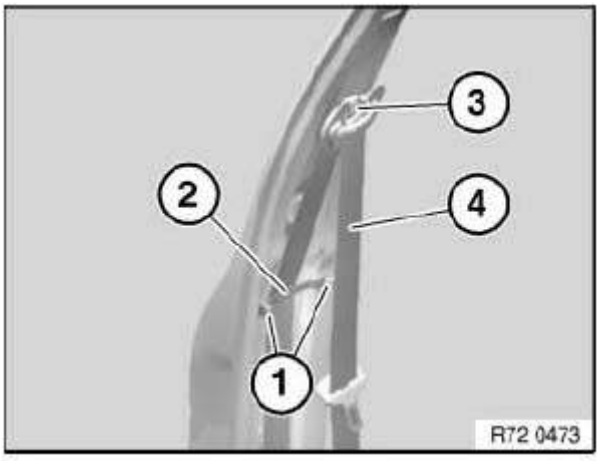


Fig. 18: Identifying Screws, Belt Guide, Bolt And Belt
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque: **72 11 1AZ** .

Unlock **PLUG CONNECTION** (4) and disconnect.

Remove inertia reel unit (3).

Installation note:

Encoding (2) of inertia reel must be seated in body recess.

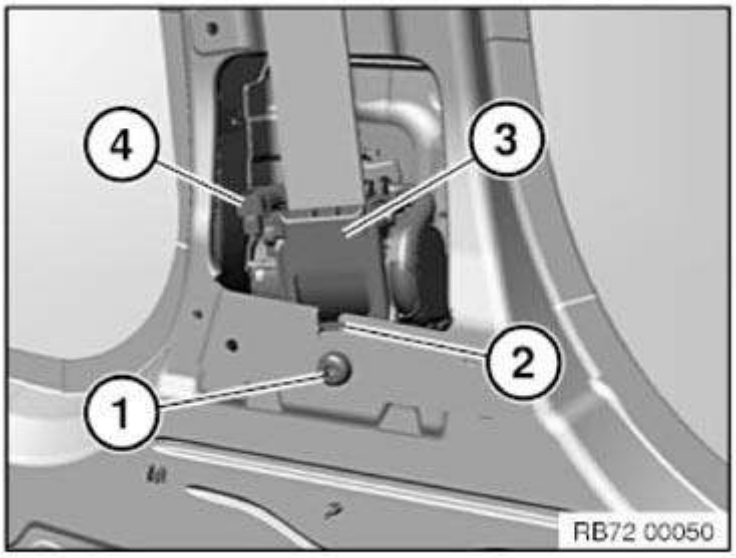


Fig. 19: Identifying Inertia Reel Unit With Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Free spaces of (A) and (B) from the seat belt strap to the guide funnel must be of the same size.

cardiagn.com

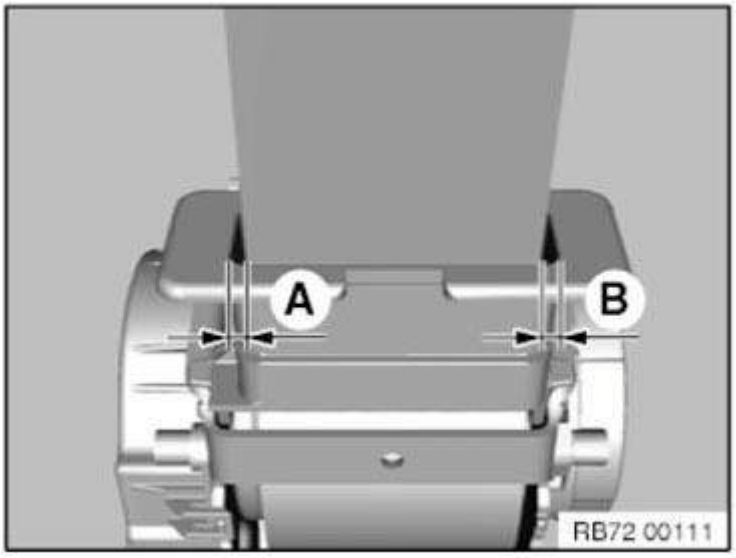


Fig. 20: Identifying Free Spaces From Seat Belt Strap To Guide Funnel
Courtesy of BMW OF NORTH AMERICA, INC.

72 11 097 REMOVING AND INSTALLING/REPLACING REAR CENTER LOWER STRAP

Necessary preliminary work:

- Remove **REAR SEAT**

Release screw (1).

Tightening torque **72 11 22AZ** .

Remove lower strap.

Installation note:

Lower belt fitting is coded against incorrect installation.

Replace screw (1).

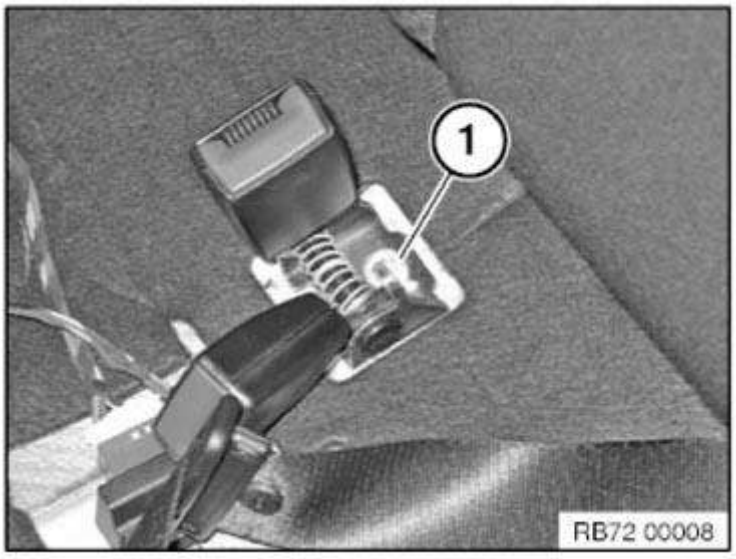


Fig. 21: Locating Belt Fitting Screw
Courtesy of BMW OF NORTH AMERICA, INC.

72 11 101 REMOVING AND INSTALLING/REPLACING REAR CENTER SEAT BELT

cardiagn.com

Necessary preliminary work:

- Remove **REAR SEAT**
- **PARTIALLY REMOVE LEFT BACKREST COVER**

Release screw (1).

Tightening torque **72 11 21AZ** .

Installation note:

Parts: Replace screw (1).

End fitting is coded against incorrect assembly.

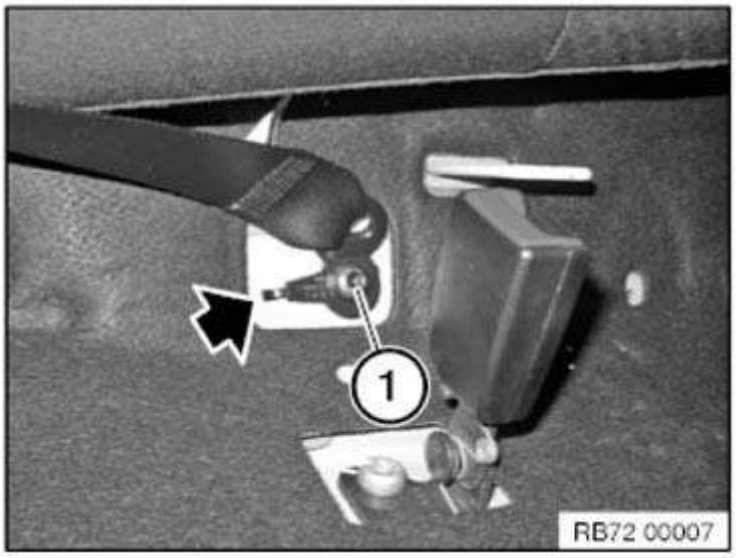


Fig. 22: Locating Rear Center Seat Belt Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Slacken nut (1).

Tightening torque **72 11 20AZ** .

Remove inertia reel mechanism (2) with seat belt anchor fitting.

Installation note:

Retractor mechanism is encoded against incorrect assembly.

Replace nut (1) and fit with Loctite.

cardiagn.com

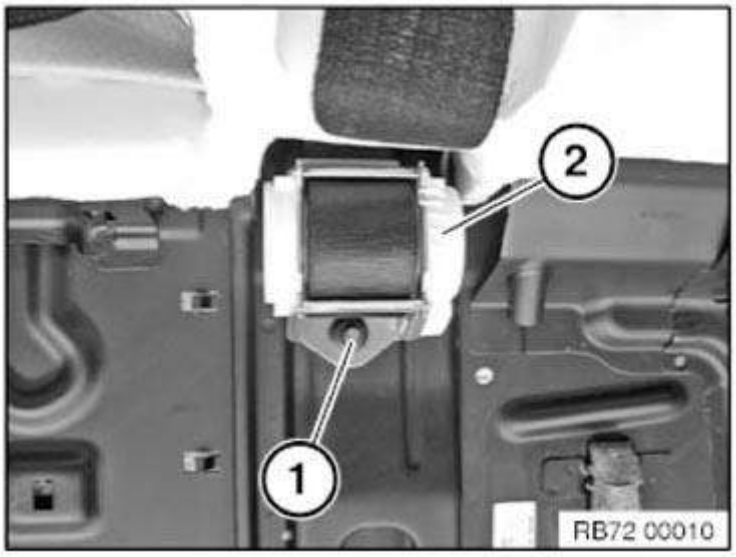


Fig. 23: Identifying Inertia Reel Mechanism With Seat Belt Anchor Fitting
Courtesy of BMW OF NORTH AMERICA, INC.

72 11 096 REMOVING AND INSTALLING/REPLACING REAR LEFT OR RIGHT LOWER STRAP

Necessary preliminary work:

- Remove **REAR SEAT**

Lower strap, left:

Release screw (1).

Tightening torque **72 11 22AZ** .

Remove lower strap.

Installation note:

Lower strap is coded against incorrect assembly.

Replace screw (1).

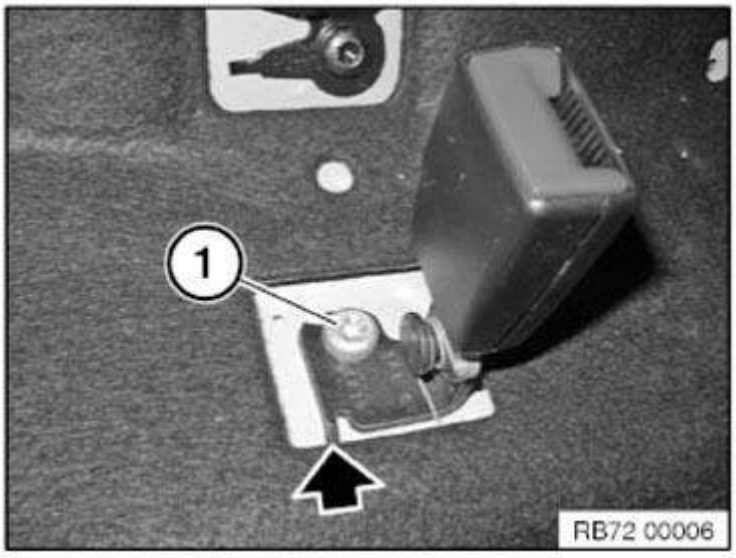


Fig. 24: Locating Lower Strap Screw, Left
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Lower strap fitting, right:

Release screw (1).

Tightening torque **72 11 22AZ** .

Remove lower strap.

Installation note:

Lower strap is coded against incorrect assembly.

Replace screw (1).

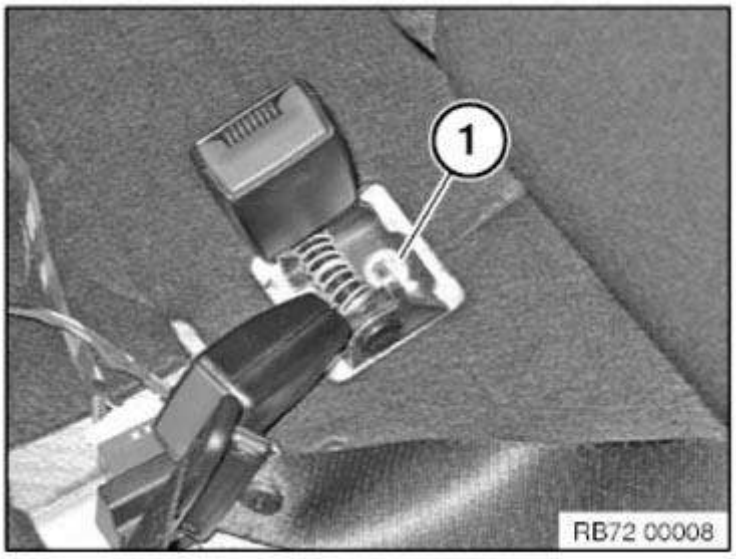


Fig. 25: Locating Belt Fitting Screw
Courtesy of BMW OF NORTH AMERICA, INC.

72 SAFETY PRECAUTIONS AND GENERAL INFORMATION

Notes on safety

> **SAFETY REGULATIONS** for handling airbag modules, airbag components and pyrotechnical seat belt tensioners

> **NOTES ON SCRAPPING** vehicles with gas generators

> **DEACTIVATION/ACTIVATION PYROTECHNICAL COMPONENTS**

Handling electrical system and electronics

> **UNLOCKING/LOCKING AIRBAG PLUG CONNECTIONS**

> **REPAIRING AIRBAG LINES**

> **HANDLING OPTICAL FIBRES**

Check

> **CHECK SEAT BELT**

> **CHECKLIST FOR SEAT BELT**

Airbag system

cardiagn.com

> Functional description and checking, refer to Diagnosis system

> DEACTIVATING AIRBAGS

> PROCEDURE AFTER AIRBAG DEPLOYMENT .

Active pedestrian protection \n(AFGS)

> Procedure after actuator triggering

GAS GENERATORS, AIRBAG MODULES (WITH STEERING WHEEL AIRBAG 3234)

72 12... DEACTIVATING FRONT PASSENGER AIRBAGS WITH KEY SWITCH

WARNING: **The responsibility for deactivation/activation rests with the customer. When a child restraint system is used on the front passenger seat, the front passenger airbags must be deactivated, otherwise there is an increased risk of injury for the child in the event of airbag deployment even with a child restraint system.**

The front passenger airbag can only be deactivated in accordance with the following instructions if the vehicle is equipped with a suitable key switch!

The key switch for the F series can not be retrofitted if it is missing and it has not been ordered as optional equipment!

key switch:

- SA 5DA

The following airbags are deactivated simultaneously with the key switch (1):

- Front passenger airbag
- Side airbag (passenger's side)
- If necessary, knee airbag in US version (passenger's side)

The airbags can only be deactivated/reactivated while the vehicle is stationary and with the door open.



Fig. 26: Identifying Front Passenger Airbag With Key Switch
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

IMPORTANT: The head airbag remains active.

Deactivation

A Turn key switch with integrated key (1) from the remote key to the "OFF" position.

Deactivatable airbags on passenger's side out of operation.

Head airbag on passenger's side remains active.

All airbags on driver's side remain active.

Activate

B Turn key switch with integrated key (1) from the remote key to the "ON" position.

All the airbags in the vehicle are activated and are triggered in appropriate situations.



Fig. 27: Turning Key Switch With Integrated Key From Remote
Courtesy of BMW OF NORTH AMERICA, INC.

Indicator light

When the ignition key is turned in the ignition lock, the function of the airbag system is checked and the indicator light lights up for several seconds.

A The indicator light is continuously ON when the front passenger airbags are **deactivated**

B The indicator light goes out after a few seconds when the front passenger airbags are **activated**

cardiagn.com



Fig. 28: Identifying Front Passenger Airbags Indicator Light
Courtesy of BMW OF NORTH AMERICA, INC.

72 12... NOTES ON SCRAPPING VEHICLES WITH GAS GENERATORS (AIRBAG SYSTEM)

The gas generator is a pyrotechnical component and is for the most part permanently mounted on the following components:

- Airbag module
  - Driver's/passenger airbag
  - Side airbag
  - Head airbag
  - Knee airbag
- Automatic electric reel
- Belt end fitting tensioner
- Belt buckle tensioner
- Safety battery terminal
- Active head restraint

In accordance with accident prevention regulations and specific national regulations, gas generators must be rendered unusable before they are scrapped. This is necessary because pyrotechnical objects can cause injury if improperly activated (e.g. scrapping with flame cutters).

With vehicles which are scheduled for scrapping, it is always essential prior to draining and further stripping work to ensure that all the gas generators **in the vehicle** are fired. The fired gas generators can then be scrapped together with the vehicle.

Gas generators that have not fired constitute a hazard (also to the environment)!

Firing failure:

If correct firing is not possible, the relevant components must be removed and disposed of by special waste disposal companies!

Comply with **SAFETY REGULATIONS** **for handling airbag system components.**

If a triggering operation has failed:

- Disconnect the triggering device from the battery and

cardiagn.com

- Wait a few minutes before approaching the vehicle

The components of an airbag system must always be disposed of. Such components must not be sold on as used parts.

Firing:

Triggering of the gas generators may only be carried out by expert personnel and under the supervision of a responsible person. Other standard accident prevention regulations (safety goggles, ear defenders etc.) must also be observed.

The gas generators must be fired from the outside in this vehicle which has been earmarked for scrapping. In this process

- the doors must be closed
- the rear lid must be open
- the side windows must be open and
- the sunroof must be open

.

To fire the gas generators, use the firing device with the appropriate cables (follow instructions).

WARNING: **Once gas generators have been fired, observe a ventilation period of 10 minutes with the doors opened. Only then is it permitted to continue work inside the vehicle.**
Wear protective goggles and protective gloves when handling a fired gas generator!
The burning of solid fuel will heat up the airbag unit - danger of burning hands!
Wash skin with water after contact with fired gas generators!

72 12... PROCEDURE AFTER AIRBAG DEPLOYMENT AS RESULT OF AN ACCIDENT

Check and/or replace following components after airbag deployment:

Satellites (control unit + sensor)

- Components
  - Satellite, A-/B-pillar, left/right
  - Satellite, front door
  - Satellite, rear seat
  - Satellite, driver's/passenger's side
  - Satellite, vehicle center
- Procedure
  - Inspect visually for mechanical damage
  - Read fault memory
  - Disconnect battery and observe waiting period
  - Rectify faults
  - Connect battery and observe waiting period (at least 10 seconds)
  - Delete fault memory
  - Switch off ignition and wait at least 2 minutes (no consumers may be switched on during this period such as interior light, radio, etc.)
  - Switch on ignition (wait at least 10 seconds)
  - Clear fault memory and if necessary rectify faults

cardiagn.com

Cables and connectors

- Components and procedure
  - Check cables and connectors for damage, replace if necessary.

    (e. g. corrosion, correct engagement, bent pin)

Seat belt system

- Components
  - Automatic reel
  - Belt buckle tensioner
  - Seat belt height adjustment
  - Anchor fitting tensioner
- Procedure
  - Check components, replace if necessary

Seats

- Components
  - Seat
  - Airbag module
  - Active head restraint
- Procedure
  - Check seats (function check of seat mechanism), replace if necessary
  - Check seat screw/bolt connections
  - Replace gas generator of active head restraint

    If the severity of the crash has not caused any other damage to the seat, only the triggered gas generator needs to be replaced.

    External feature: The triggered head restraint is folded forwards and engaged.

    The repair work can be carried out in the vehicle with the rear panel removed. The entire system can be pushed back into its original position and the new gas generator installed.

    The gas generator can be replaced up to 5 times.

  - Replace airbag module and seat cover with upholstery
- **Only I01:** If one of the following criteria is fulfilled, the backrest frame must be replaced!

  (Part number of backrest frame: 52 10 7 388 646)

  - Activated belt tensioner
  - Activated end fitting pretensioner
  - Outer cover unclipped by a side collision
  - Outer cover ripped off by a side collision
  - Faulty clip connection on outer cover caused by a side collision

Driver's airbag

- Components
  - Airbag module

cardiagn.com

    - Steering Wheel
    - Steering column (if damaged)
- Procedure
    - Check components, replace if necessary
    - Replace steering wheel

Front-passenger airbag

- Components
    - Airbag module
    - Dashboard trim panel (must be replaced!)
    - Supporting tube (if damaged)
- Procedure
    - Check components, replace if necessary

Side airbag, front/rear

- Components
    - Airbag module
    - Door trim panel
    - Door in white
    - Seat
- Procedure
    - Check components; replace if necessary

Head airbag

- Components
    - Airbag module
    - Cover, A-pillar
    - Roofliner
    - Cover, B-pillar (if damaged)
    - Cover, C-pillar (if damaged)
    - Connection/mount (on side frame)
- Procedure
    - Check components, replace if necessary

Knee airbag

- Components
    - Trim panel (driver's side)
    - Lower section of glove box
    - Knee protection (driver's and passenger's sides)
- Procedure
    - Check components, replace if necessary

Passive knee protection

- Components
    - Trim panel (driver's side)

cardiagn.com

    - Glove box incl. knee protection (passenger's side)
- Procedure
    - Check components for damage, replace if necessary
    - Check retaining element

72 12 000 REMOVING AND INSTALLING OR REPLACING AIRBAG MODULE ON FRONT PASSENGER SIDE

WARNING: **Read and comply with SAFETY INSTRUCTIONS for handling airbag modules and pyrotechnical belt tensioners.**
Incorrect handling can activate airbag and cause injury.

Necessary preliminary tasks:

- Disconnect NEGATIVE BATTERY CABLE
- Remove GLOVE BOX

Release screws (1).

Remove dashboard holder (1).

Unlock PLUG CONNECTION (3) and disconnect.

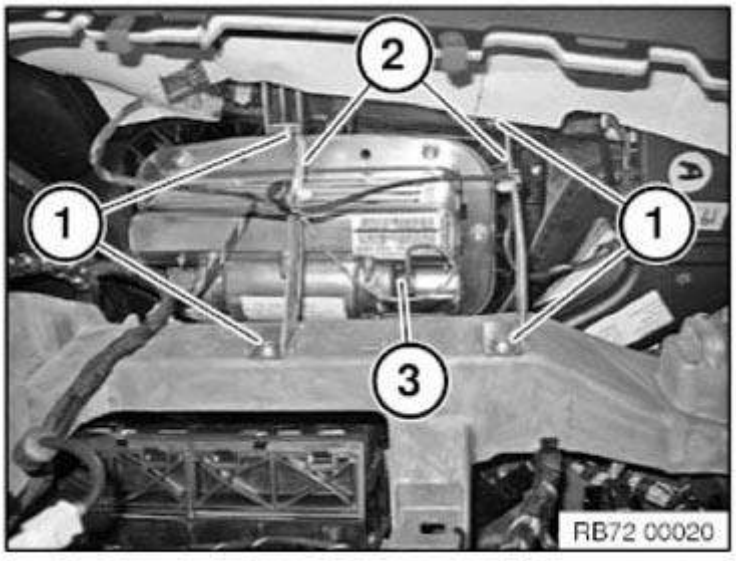


Fig. 29: Identifying Dashboard Holder Plug Connection And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Shown here with the dashboard removed for the sake of clarity.**

Release screws.

Tightening torque 72 12 01AZ .

Remove airbag module from dashboard and feed out through instrument holder.

cardiagn.com

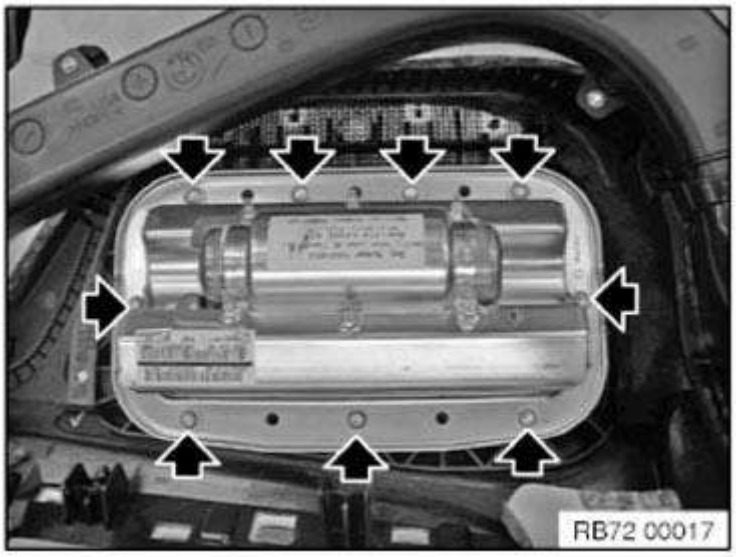


Fig. 30: Locating Airbag Module From Dashboard Screws
Courtesy of BMW OF NORTH AMERICA, INC.

72 12 060 REMOVING AND INSTALLING OR REPLACING LEFT OR RIGHT HEAD AIRBAG

Special tools required:

- 72 0 020
- 72 1 200

WARNING: **Observe SAFETY REGULATIONS when handling airbag modules. Incorrect handling can activate airbag and cause injury.**

Switch off the ignition!

Necessary preliminary tasks:

- Remove HEADLINING
- Disconnect BATTERY EARTH LEAD

Lay out protective mats to protect the interior against swarf from the drilled-out rivets and damage.
Lay out protective mats in the relevant working area:

- Dashboard
- Entrance area
- Passenger compartment

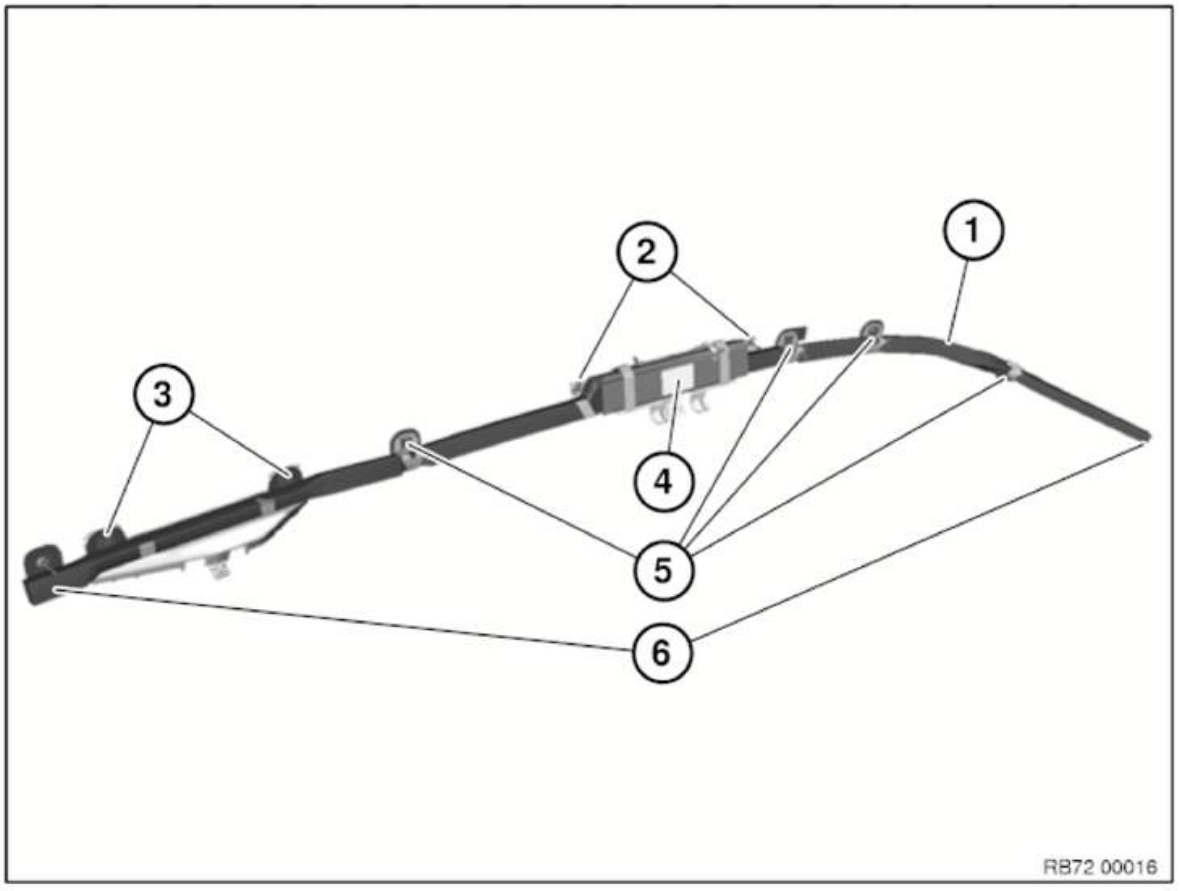
IMPORTANT:

cardiagn.com



Fig. 31: Identifying Protective Mats
Courtesy of BMW OF NORTH AMERICA, INC.

Overview of head airbag:



1	Folding pack, head airbag	4	Gas generator
2	Ramp, B-pillar	5	Holders, folding pack
3	Ramp, C-pillar	6	Anchor fitting (eye), A-pillar

Fig. 32: Overview Of Head Airbag
Courtesy of BMW OF NORTH AMERICA, INC.

To detach the clamps, use special tool **72 0 020** .

Push the left and right tabs together and pull clamp out.

cardiagn.com

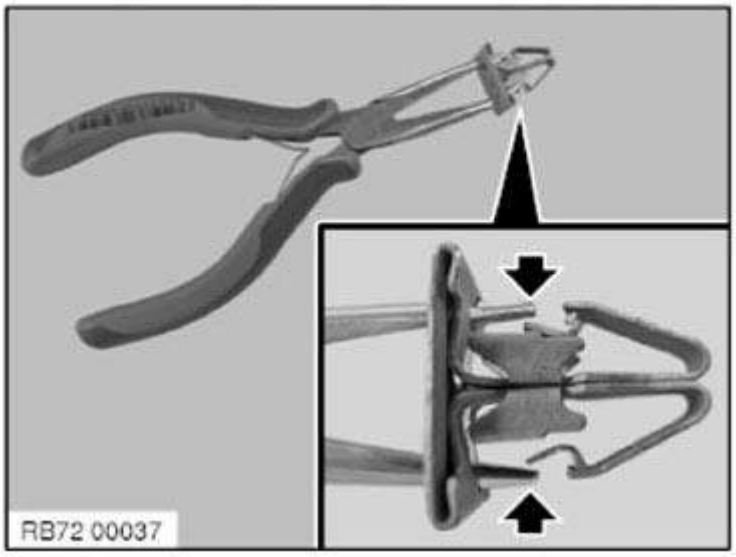


Fig. 33: Detaching Clamps Using Special Tool (72 0 020)
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and remove clamps (1) with flat-nose pliers.

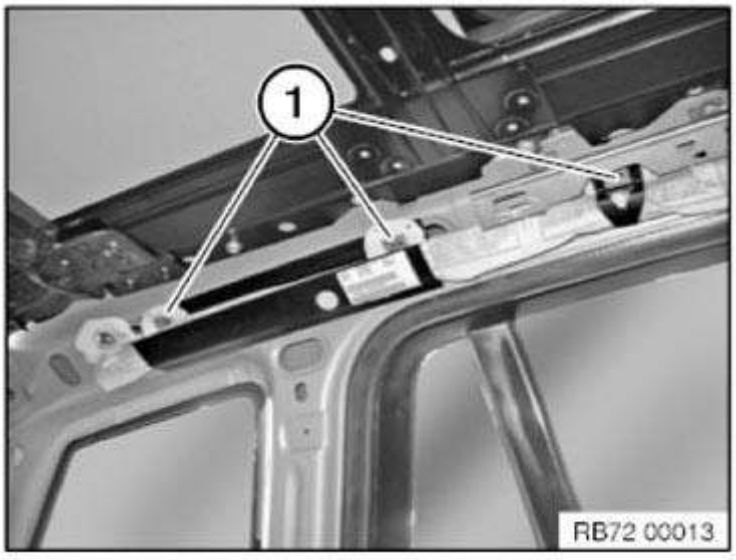


Fig. 34: Locating Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and remove clamps (1) with flat-nose pliers.

cardiagn.com

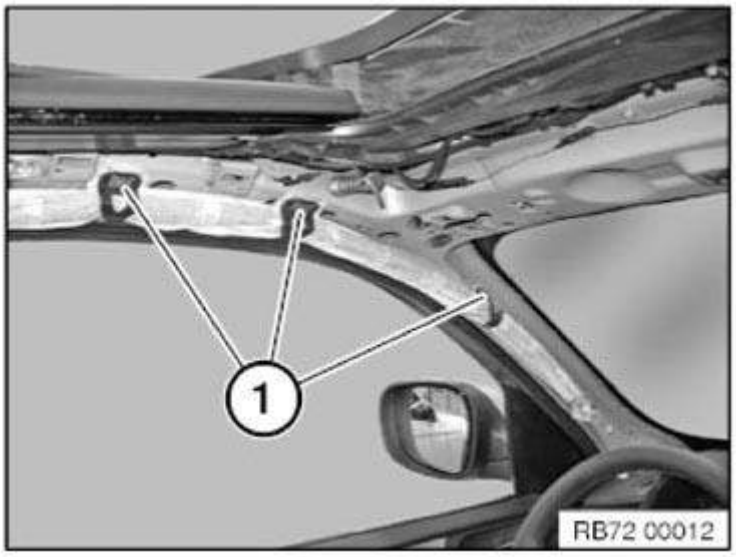


Fig. 35: Locating Clamps
Courtesy of BMW OF NORTH AMERICA, INC.

Drill following off rivet plate down to rivet shank with a 10 mm twist drill bit.

IMPORTANT: Observe following sequence:



Fig. 36: Drilling Rivet Plate
Courtesy of BMW OF NORTH AMERICA, INC.

Drill open front rivet plate.

cardiagn.com

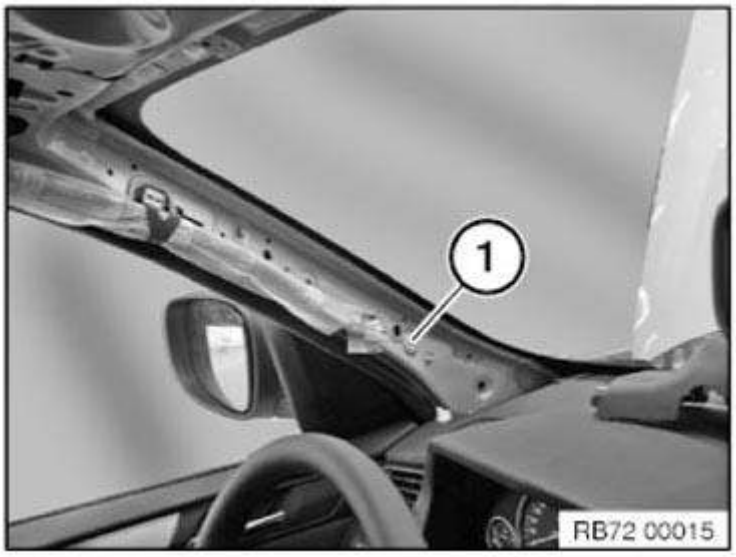


Fig. 37: Identifying Front Rivet Plate
Courtesy of BMW OF NORTH AMERICA, INC.

Drill out rear rivet plate (1).

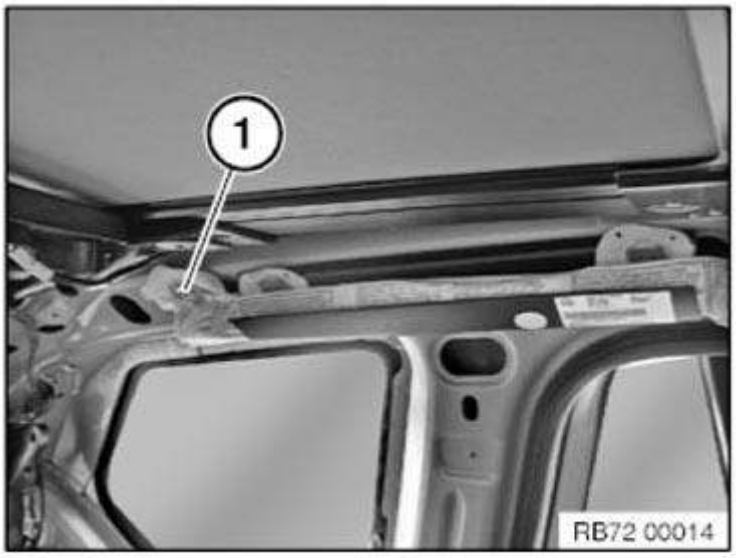


Fig. 38: Identifying Rear Rivet Plate
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Drill out rivets (2).

Installation note:

Gas generator is coded against incorrect assembly.

cardiagn.com

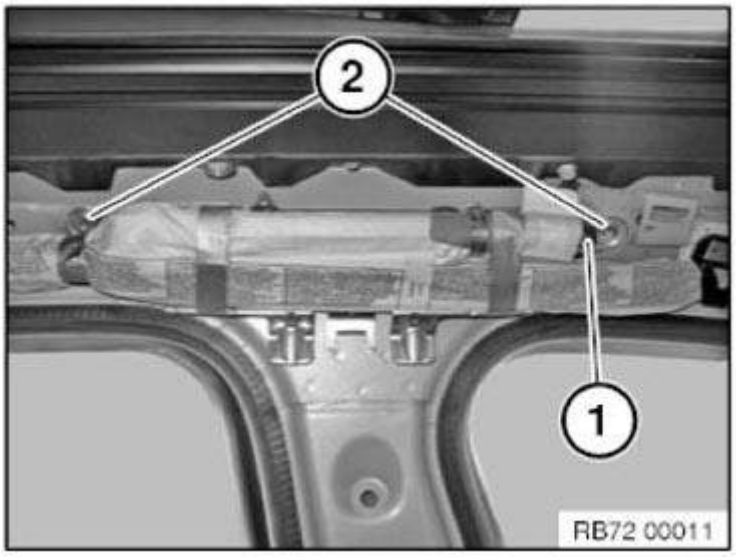


Fig. 39: Identifying Rivets And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Risk of damage to holders and folding pack.

Carefully lever out holders for folding pack with plastic wedge from body.

Remove gas generator with B-pillar ramp.



Fig. 40: Removing Gas Generator With B-Pillar Ramp
Courtesy of BMW OF NORTH AMERICA, INC.

- In the event of a bent or faulty pin or apparent riveting when the gas generator is removed, it will be necessary to replace the complete head airbag

NOTE: It is permitted to replace individual rivets without replacing the complete head airbag.

Cut off blind rivet shanks down to sheet metal as level as possible.

cardiagn.com

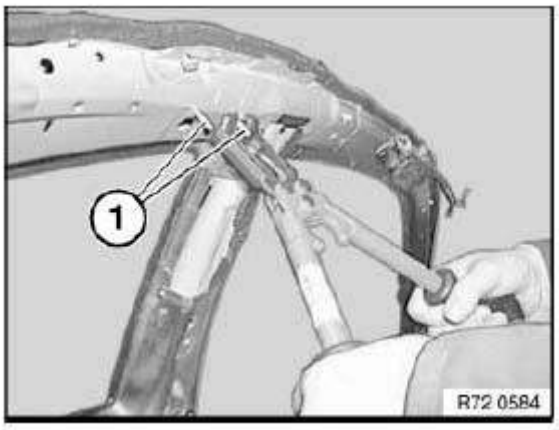


Fig. 41: Cutting Blind Rivet Shanks
Courtesy of BMW OF NORTH AMERICA, INC.

Deburr remaining rivets with nipper pliers.

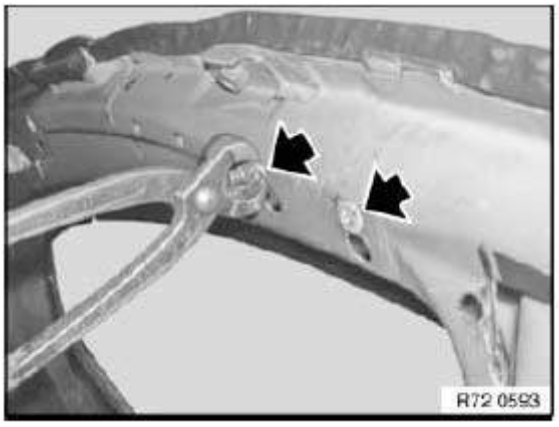


Fig. 42: Removing Rivets Using Nipper Pliers
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Apply primer to damaged paintwork on side frame.

Remove all rivet residues.

Removing rivet heads:

Special tool 72 1 200 for collecting rivet remnants.

Shank of special tool is flexible and can be adapted to the relevant body contours.

NOTE: Insert butyl in collecting tray to secure rivet remnants against falling out.

cardiagn.com

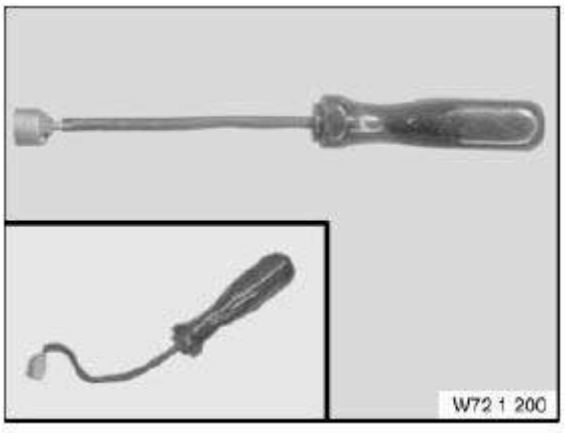


Fig. 43: Identifying Holder (72 1 200)
Courtesy of BMW OF NORTH AMERICA, INC.

Insert special tool 72 1 200 through bore hole in body below attachment point.

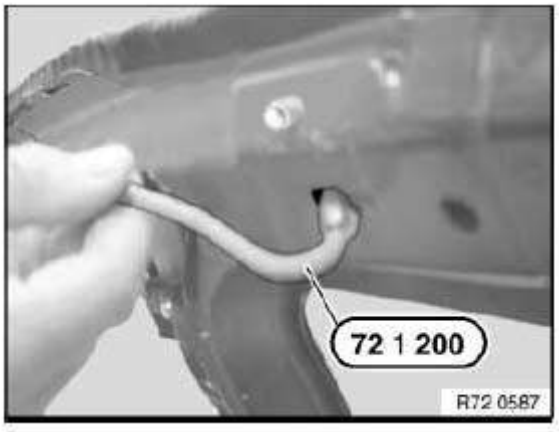


Fig. 44: Inserting Special Tool (72 1 200) Through Bore Hole In Body
Courtesy of BMW OF NORTH AMERICA, INC.

Position special tool from rear on rivet head in cavity.

NOTE: Make sure collecting tray is correctly fitted on rivet head.

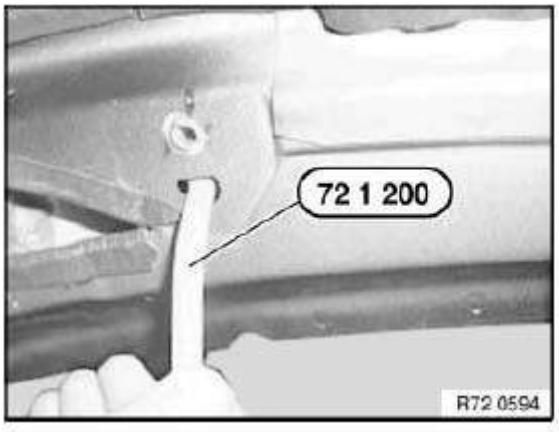


Fig. 45: Positioning Special Tool From Rear On Rivet Head In Cavity
Courtesy of BMW OF NORTH AMERICA, INC.

A second person will be needed to help hold the special tool on the rivet head during the driving-out operation.

Drive out stem with hammer and 6 mm punch.

cardiagn.com

Carefully feed special tool out of body so that rivet head does not fall out of collecting tray.



Fig. 46: Identifying Special Tool On Rivet Head
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **If the rivet falls out of the collecting tray into the side frame when the special tool is fed out, this area must be generously filled with foam.**
For details of procedure for filling cavities with foam, see further operations.
Use cavity preservation for foam filling.
Cavity foam can also be used if necessary.

Preparing tube for foam can:

Slide hose (1) at least 6 cm into hose (2).

Cut end of hose (1) at an angle.

Apply marking (3) 15 cm from end of hose.

Fit hose to foam can.

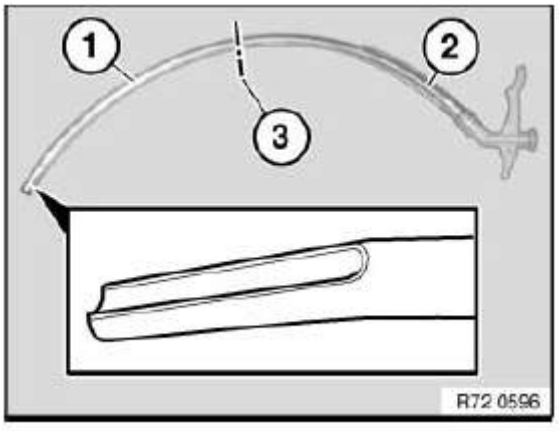


Fig. 47: Identifying Hose And Tube For Foam Can
Courtesy of BMW OF NORTH AMERICA, INC.

Foaming of rivet head:

Slide in hose through A-pillar hole up to marking from the top down.

Fill cavity in an operation lasting 0, 5 seconds.

WARNING: **Empty foam can completely onto cardboard and after hardening dispose of foam and can in residual waste.**

cardiagn.com

Can may burst if not completely emptied.

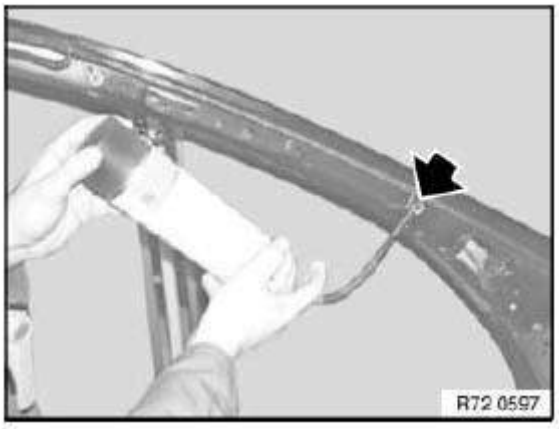


Fig. 48: Filling A-Pillar Hole Cavity
Courtesy of BMW OF NORTH AMERICA, INC.

Drive out rivet head with a 6 mm punch.

Rivet remnants drop into foam nest (1) in A -pillar cavity and remain there.

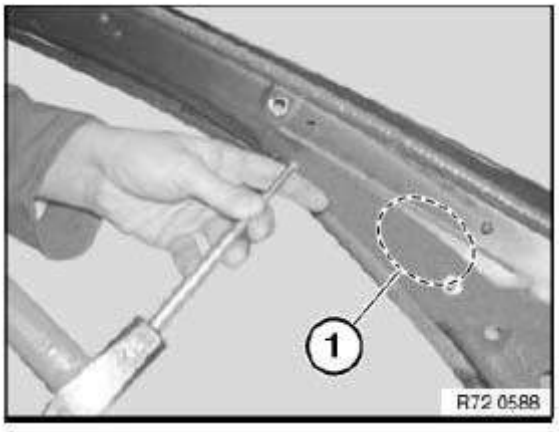


Fig. 49: Removing Rivet Head
Courtesy of BMW OF NORTH AMERICA, INC.

Overview of rivet gun:

Riveting of gas generator housing and holders for folding pack with rivet gun.

The interchangeable head is changed for the different work operations.

Riveting of holders for folding pack:

2.) 17/40 nosepiece and long shank

cardiagn.com

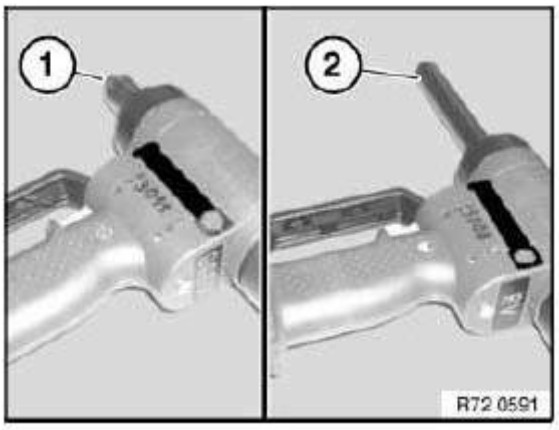


Fig. 50: Identifying Rivet Gun
Courtesy of BMW OF NORTH AMERICA, INC.

Head airbag riveted four times with blind rivet dia. 6 mm.

Installation note:

Avoid rivet inclination.



Fig. 51: Installing Head Airbag Rivet
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Make sure that folding pack cannot be installed twisted.
Folding pack must not be damaged.
Clamps of folding pack must not be damaged.

72 12 050 REMOVING AND INSTALLING SIDE AIRBAG (BASIC SEAT)

WARNING: **Observe SAFETY REGULATIONS for handling airbag modules and pyrotechnical seat belt tensioners.**
Incorrect handling can cause airbags to trigger, resulting in serious injuries.

IMPORTANT: Operations on pyrotechnical devices may only be carried out by authorized experts.
Improper, unauthorized operations may result in serious dangers.
Unauthorized persons are strictly prohibited from performing any operations on this system.

Necessary preliminary tasks:

- Disconnect NEGATIVE BATTERY CABLE
- Remove FRONT SEAT

cardiagn.com

- Partially detach backrest cover. Refer to **52 13 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)** or **52 15 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)** .

IMPORTANT: Make sure airbag wiring harness is exactly routed when installed.

Detach cable strap.

Release airbag wiring harness (2) from cable clips on seat mechanism.

Raise release clip (3) and pull connector (4) out of connector housing (1).

NOTE: **If necessary, release yellow connector housing (1) from holder on seat mechanism.**

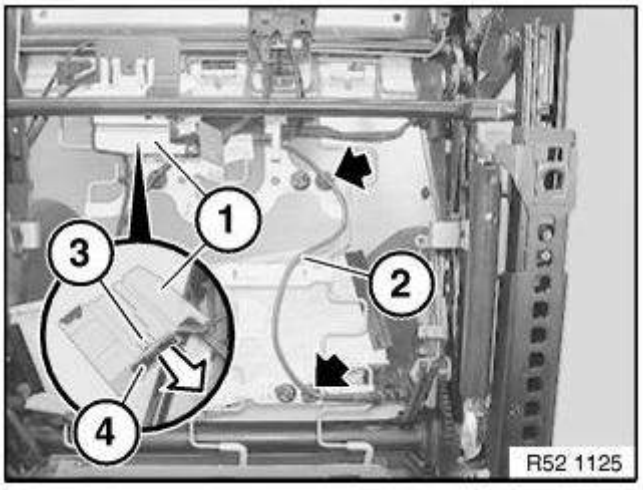


Fig. 52: Releasing Airbag Wiring Harness From Cable Clips On Seat Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip the omega cable clip (1) from seat mechanism (2).

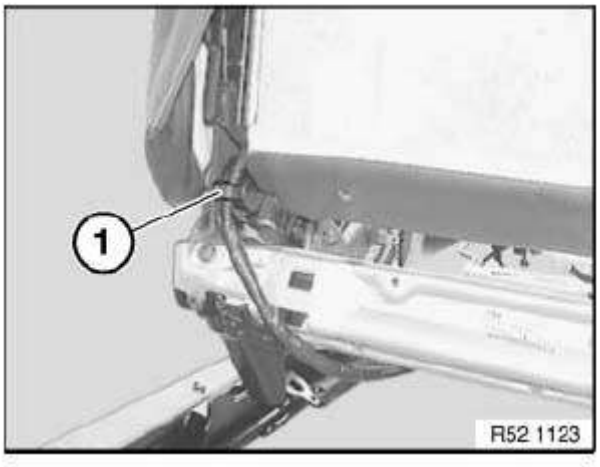


Fig. 53: Identifying Omega Cable Clip From Seat Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Unscrew nuts (1).

Installation note:

Replace nuts (1).

cardiagn.com

Tightening torques **72 12 06AZ** .

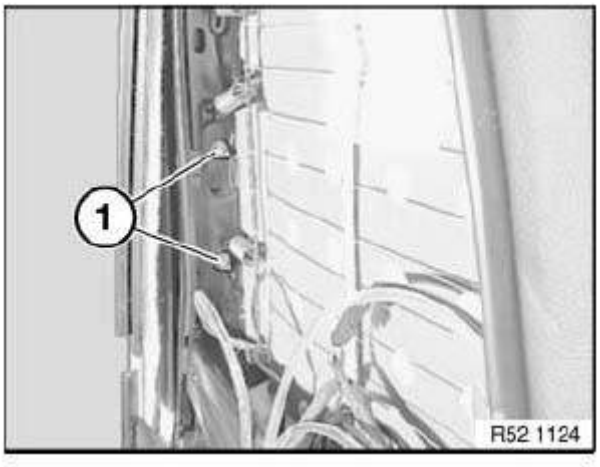


Fig. 54: Identifying Side Air Bag Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Feed the wiring harness carefully through the seat and backrest mechanism as the edges of the frame can be sharp.

Pull airbag module (2) with threaded bolts out of backrest frame.

Feed out airbag module (2) between padding (1) and inner bag (3).

Installation note:

Pull inner bag (3) fully over airbag module (2) and threaded bolts.

Insert threaded bolts into backrest frame and secure with new nuts.

No inner bag material is permitted to project through the bore hole in the inner frame.

Install nuts and tighten down.

Tightening torques **72 12 06AZ** .

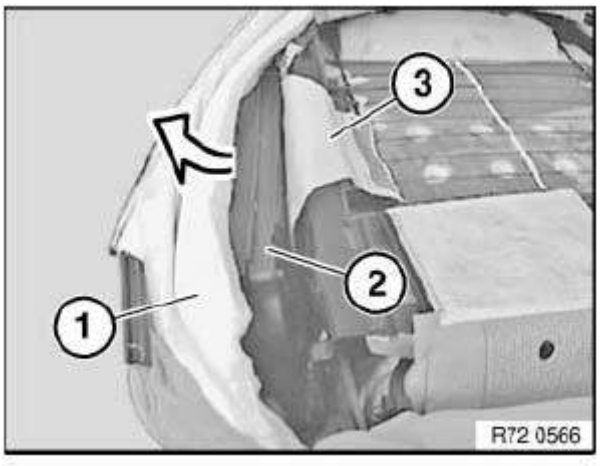


Fig. 55: Pulling Inner Bag Over Airbag Module
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Feed out wiring harness (2) of airbag module (1) through seat and backrest mechanism (3) carefully on account of sharp edges.

cardiagn.com

Installation note:

Make sure wiring harness is correctly laid.

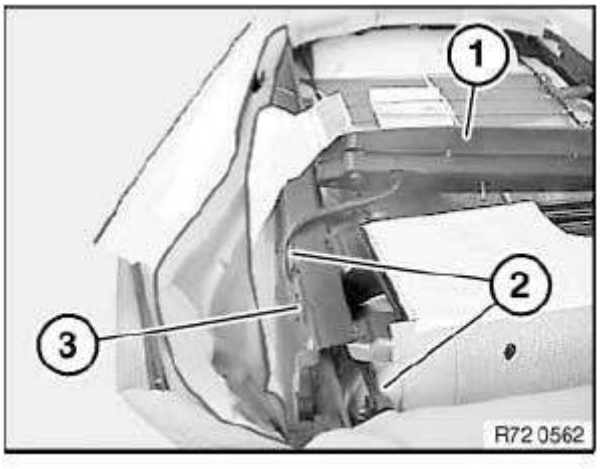


Fig. 56: Identifying Wiring Harness Of Airbag Module
Courtesy of BMW OF NORTH AMERICA, INC.

72 12 055 REMOVING AND INSTALLING SIDE AIRBAG (SPORTS SEAT)

WARNING: **Observe SAFETY REGULATIONS for handling airbag modules and pyrotechnical seat belt tensioners.**
Incorrect handling can cause airbags to trigger, resulting in serious injuries.

IMPORTANT: Operations on pyrotechnical devices may only be carried out by authorized experts. Improper, unauthorized operations may result in serious dangers.
Unauthorized persons are strictly prohibited from performing any operations on this system.

Necessary preliminary tasks:

- Disconnect NEGATIVE BATTERY CABLE
- Remove REAR PANEL ON FRONT SEAT
- Remove FRONT SEAT

IMPORTANT: Make sure airbag wiring harness is exactly routed when installed.

Detach cable strap.

Release airbag wiring harness (2) from cable clips on seat mechanism.

Raise release clip (3) and pull connector (4) out of connector housing (1).

NOTE: **If necessary, release yellow connector housing (1) from holder on seat mechanism.**

cardiagn.com

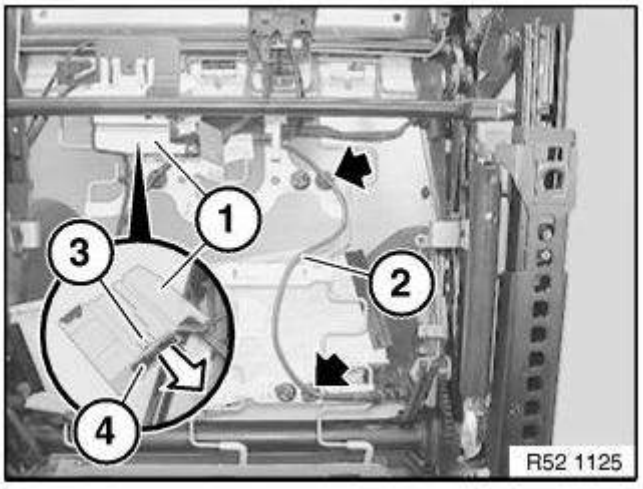


Fig. 57: Releasing Airbag Wiring Harness From Cable Clips On Seat Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip cable clip (1) from seat mechanism (2).

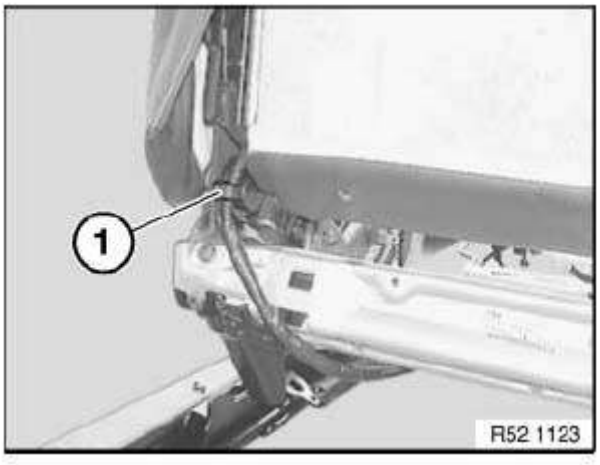


Fig. 58: Identifying Omega Cable Clip From Seat Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

Unscrew nuts (1).

Installation note:

Replace nuts.

Tightening torques **72 12 06AZ** .

cardiagn.com

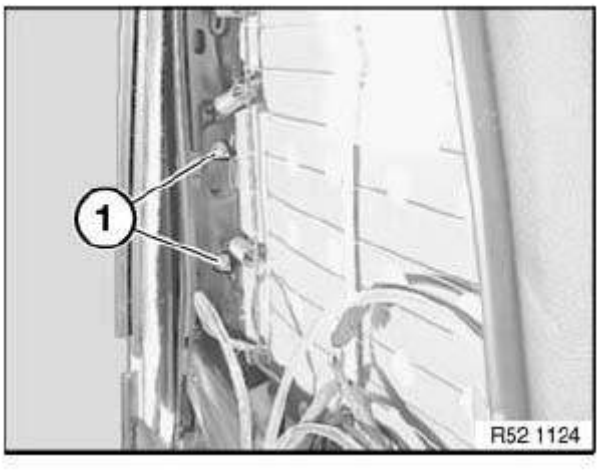


Fig. 59: Identifying Side Air Bag Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Feed the wiring harness carefully through the seat and backrest mechanism as the edges of the frame can be sharp.

Installation note:

Make sure wiring harness is correctly laid.

72 12 004 REMOVING AND INSTALLING/REPLACING AIRBAG MODULE FOR DRIVER'S KNEE PROTECTION

WARNING: **Read and comply with SAFETY REGULATIONS for handling airbag modules and pyrotechnical belt tensioners.**
Incorrect handling can activate airbag and cause injury.

IMPORTANT: Operations on pyrotechnical devices may only be carried out by authorized experts.
Improper, unauthorized operations may result in serious dangers.
Unauthorized persons are strictly prohibited from performing any operations on this system.

Necessary preliminary tasks:

- Remove **TRIM PANEL FOR PEDAL MECHANISM**

Release screws (1).

Tightening torque **72 12 03AZ** .

Feed airbag module (2) in direction of arrow out of instrument panel trim and remove.

Unlock and disconnect **PLUG CONNECTION BEHIND**.

cardiagn.com

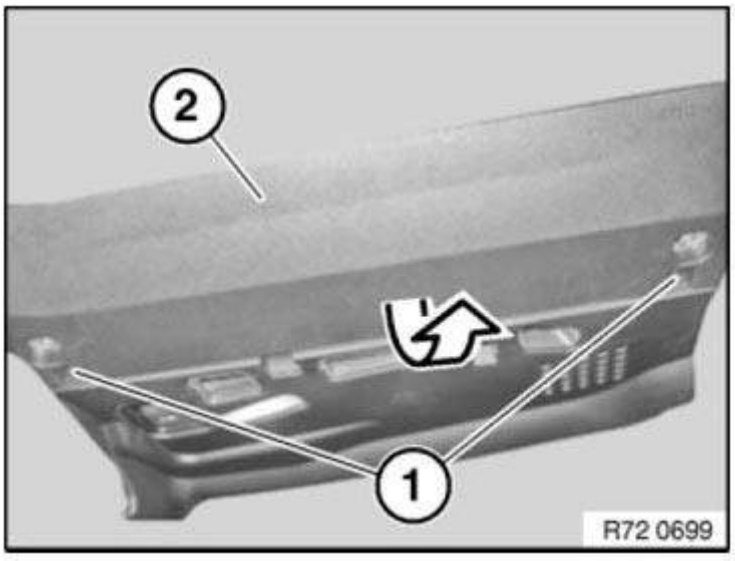


Fig. 60: Removing Airbag Module
Courtesy of BMW OF NORTH AMERICA, INC.

61 00... REPAIRING AIRBAG CABLES

IMPORTANT: Only repair those cables which show visible signs of damage. In the event of visible damage, make sure there is only one cable repair in effect after the repair work. If no visible damage can be identified, the entire cable must be replaced.

Safety regulations for **HANDLING COMPONENTS OF AIRBAG SYSTEM**.

INSTRUCTIONS FOR DISCONNECTING AND CONNECTING BATTERY .

In event of non-visible damage to wiring harness:

Disconnect plug connection on airbag module or on adapter plug. It is absolutely vital to disconnect the contacts in succession as there is a risk of mixing up (similar parts)! Cut through one cable after the other at an appropriate position, do not under any circumstances cut through both cables at the same time. Insulate cables remaining in wiring harness with insulating tape. Now disconnect plug connection on airbag control unit. Unpin contacts. Cut through one cable after the other at an appropriate position and insulate with insulating tape, do not under any circumstances cut through both cables at the same time. Pin contacts of repair cable for airbag control unit in control unit plug, assignment of repair cables is relevant. Lay repair cable in vehicle parallel to existing airbag lead. Now pin in contacts for airbag control unit or contacts of adapter plug, assignment of repair cables is relevant. Cut off excess length of repair cable in proximity (visible area) of airbag module or of adapter plug. Twist open cables. With the butt connectors and heat-shrink tubings, reconnect the cables with the same cable colors. Twist cables again, open length (twist) must not exceed 40 mm. Secure interface (heat-shrink tubing) with insulating tape to prevent cables from twisting open.

Instructions for cutting off, insulating, crimping cables, installing and removing contacts:

CUTTING OFF AND INSULATING CABLES .

REPAIRING A PLUG CONNECTION USING BUTT CONNECTORS .

INSTALLING AND REMOVING CONTACTS .

In event of visible damage:

Expose cable at damaged areas. Cut through one cable after the other at an appropriate position and insulate cables no longer required in wiring harness with insulating tape, do not under any circumstances cut through both cables at the same time. Now, depending on the scope of work, unpin contacts either on airbag control unit/airbag module or on adapter plug. Cut off unpinned cables. Insulate cables remaining in wiring harness

cardiagn.com

with insulating tape. Now pin in contacts of repair cable, assignment of repair cables is relevant. Lay repair cable in vehicle parallel to existing airbag lead up to separation point. Cut off excess length of repair cable. Twist open cables. Connect cables with butt connectors and heat-shrink tubings, assignment of repair cables is relevant. Twist cables again, open length (twist) must not exceed 40 mm. Secure interface (heat-shrink tubing) with insulating tape to prevent cables from twisting open.

Instructions for cutting off, insulating, crimping cables, installing and removing contacts:

CUTTING OFF AND INSULATING CABLES .

REPAIRING A PLUG CONNECTION USING CONNECTORS .

INSTALLING AND REMOVING CONTACTS .

52 14 888 REPLACING BOTH GAS CARTRIDGES FOR CRASH-ACTIVE HEADREST

NOTE: **This operation is described in section on:**

- **Replacing GAS CARTRIDGE FOR CRASH-ACTIVE HEADREST on left or right**

52 14 886 REPLACING GAS CARTRIDGE FOR CRASH-ACTIVE HEADREST ON LEFT OR RIGHT

WARNING: **Read and comply with SAFETY REGULATIONS for handling airbag modules and pyrotechnical belt pretensioners.**
Incorrect handling may result in triggering of the crash-active headrest and thereby cause injury.

Switch off the ignition!

Necessary preliminary work:

- Disconnect **NEGATIVE BATTERY LEAD**

IMPORTANT: Renewal of firing unit may be carried out up to 4 times.
Triggering frequency is denoted on the sticker on the head restraint carrier.
Labels are available as spare parts.

Starting situation:

Head restraint is in the crash position after activation.

NOTE: **Firing unit can only be removed in the triggered state.**

The complete head restraint must be exchanged in the event of a crash-active headrest fault message and non-activated ignition squib.

Lever out cover welt in marked area.

Remove cover with padding from head restraint.

cardiagn.com

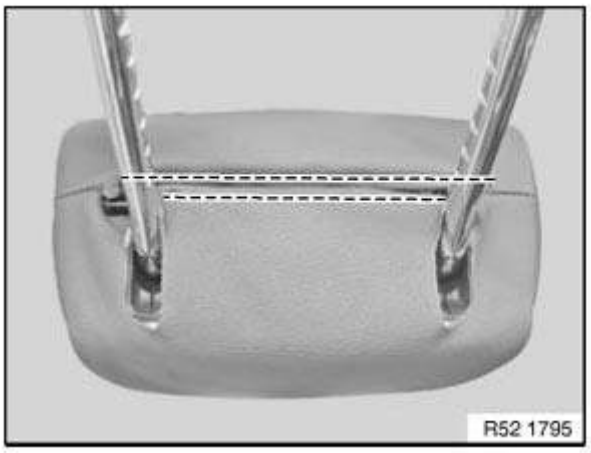


Fig. 61: Identifying Cover Removing Areas
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip service flap.

Move firing unit (1) forwards and remove towards front.

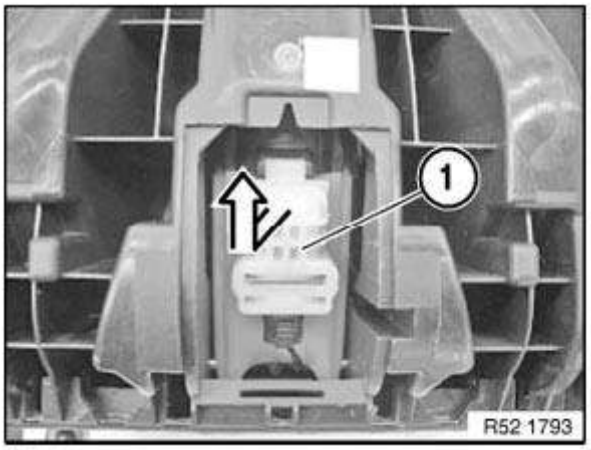


Fig. 62: Moving Firing Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Replace firing unit.

Installation note:

Plug connection (1) must audibly snap into place.

Check firm engagement of plug connection (1) by gently pulling on connector.

Lay cable in side guide.

cardiagn.com

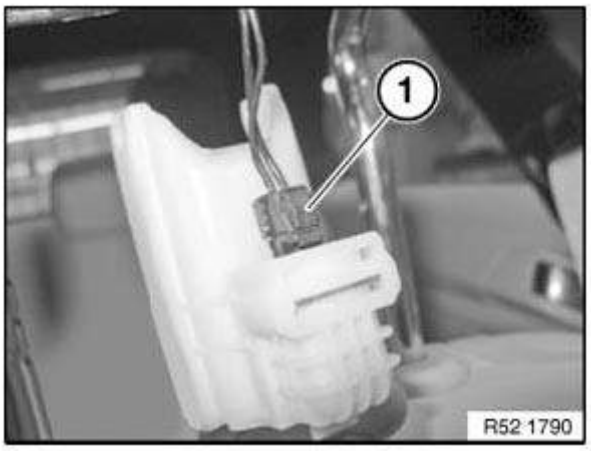


Fig. 63: Identifying Firing Unit Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Press locking spring (1) on left and right through opening and secure with cylindrical pins (or similar).

Head restraint is unlocked.

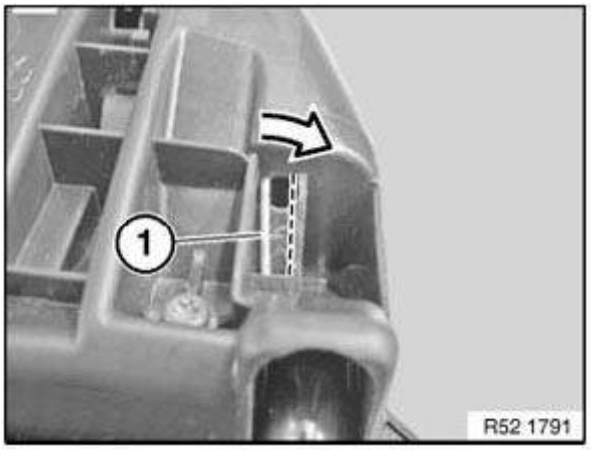
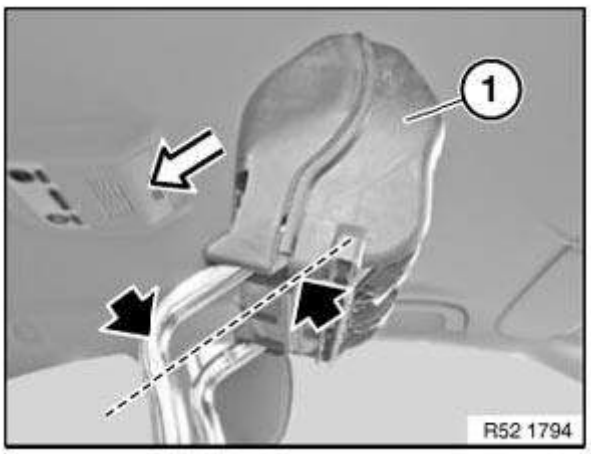


Fig. 64: Pressing Locking Spring
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Carry out this repair work with a second person, as extra effort is necessary.

Pull head restraint (1) at an angle downwards until it is completely in lowest position and rests on linkage.

Hold head restraint (1) in this position for the following tasks.



cardiagn.com

Fig. 65: Pulling Head Restraint
Courtesy of BMW OF NORTH AMERICA, INC.

Clip firing unit (1) onto linkage (2).

Installation note:

Check that firing unit (1) is firmly seated on linkage.

Press firing unit (1) forwards and clip into place.

IMPORTANT: Firing unit (1) must audibly snap into place.

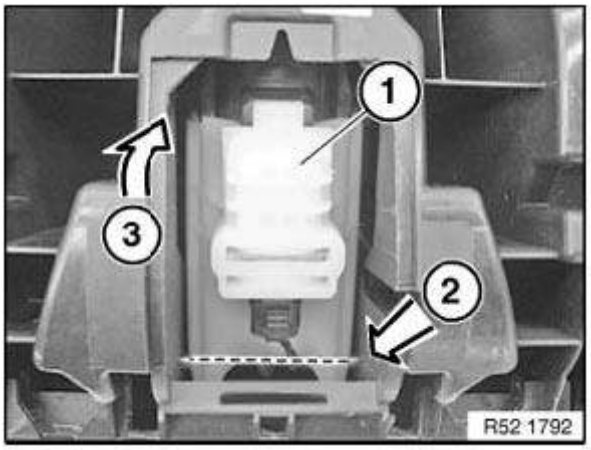


Fig. 66: Pressing Firing Unit Forwards
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Visually check that firing unit is correctly seated.

Attach label for identification after replacement.

Clip service flap into place.

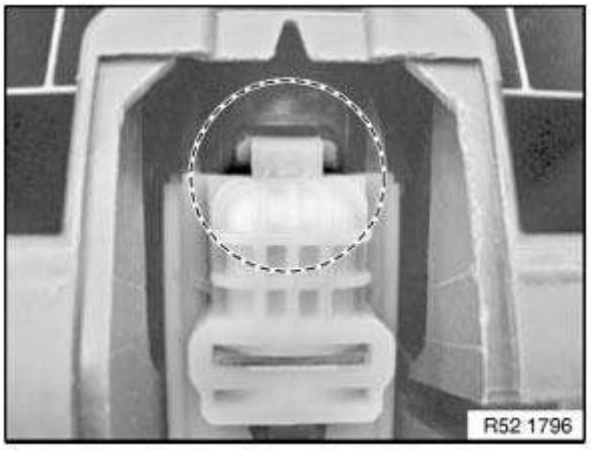


Fig. 67: Identifying Firing Unit
Courtesy of BMW OF NORTH AMERICA, INC.

72 SAFETY PRECAUTIONS AND GENERAL INFORMATION

Notes on safety

cardiagn.com

> **SAFETY REGULATIONS** for handling airbag modules, airbag components and pyrotechnical seat belt tensioners

> **NOTES ON SCRAPPING** vehicles with gas generators

> **DEACTIVATION/ACTIVATION PYROTECHNICAL COMPONENTS**

Handling electrical system and electronics

> **UNLOCKING/LOCKING AIRBAG PLUG CONNECTIONS**

> **REPAIRING AIRBAG LINES**

> **HANDLING OPTICAL FIBRES**

Check

> **CHECK SEAT BELT**

> **CHECKLIST FOR SEAT BELT**

Airbag system

> Functional description and checking, refer to Diagnosis system

> **DEACTIVATING AIRBAGS**

> **PROCEDURE AFTER AIRBAG DEPLOYMENT** .

Active pedestrian protection \n(AFGS)

> Procedure after actuator triggering

72 00... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS

It is essential to comply with the regulations as specified in the law relating to the use of explosives when working on airbag units and seat belt tensioners.

Airbags, seat belt tensioners etc. are pyrotechnical objects. Pyrotechnical objects are assigned to different danger classes on the basis of the quantity of propellant that they contain. The assignment can be ascertained from the identification marking on the product:

IMPORTANT: Failure to comply with the warning notices and repair instructions for gas generator components can cause accidental deployment and result in injury and vehicle damage!

This applies in particular to the following components:

- Airbag modules (driver's/front passenger airbags, side airbags)
- Buckle/belt tensioner
- Head airbag
- Active knee protection
- Active head restraint
- Safety battery terminal

1. **Regulations**

   The regulations quoted in the following refer to the Federal Republic of Germany.

   In all other countries, the relevant legislation and regulations must be observed in each case. Country-

cardiagn.com

specific legal regulations that go beyond this information or court decisions based thereon must be followed in each case or given precedence over these regulations.

The following components used by BMW:

- Pyrotechnical restraint systems are subject to danger class PT1
- Gas generators are pyrotechnical objects belonging to danger class T1

Handling, transporting and storing non-fired gas generators are subject to the "Explosive Materials Act" (law relating to the use of explosives dated 13/09/1976).

The relevant trade supervisory authority must be notified at least 2 weeks before pyrotechnical objects are handled for the first time. Here the relevant authority must be notified in writing of the person responsible (e.g. dealership owner, holder of general power of attorney or if necessary workshop supervisor). A certificate of qualification, i.e. specific training, is not required for the person responsible.

2. **Dismantling and installation**
   - Inspection, testing and installation work may only be carried out by expert trained personnel in BMW Service.
   - Work on components of the airbag system should only ever be carried out with the battery disconnected, the negative terminal post covered and the plug connection of the cable leading to the gas generator disconnected. If only the battery is disconnected, the following prescribed waiting period must be observed without fail:
     - 30 min. for vehicles up to 9/93
     - 1 min. for vehicles from 9/93 onward
   - In the event of breaks in work, a component with a gas generator that has been removed must be secured against access by other persons.
   - Individual components must never be repaired. Instead, always replace them.
   - Do not treat airbag system components with cleaning agents or grease.
   - Components of the airbag system must not be exposed to temperatures in excess of 75 Â°C.
   - Airbag system components, including electronic diagnostic components, which have been dropped from heights in excess of 0.5 m must not be reinstalled in the vehicles.
   - Do not remove components of the airbag system from the original packaging until immediately before they are to be installed in the vehicle.
   - Before installing, subject components such as housing, connector pins, etc. of the airbag system (including diagnosis electronics) to a visual inspection for damage and replace if necessary.
   - Airbag system components may only be electrically tested while they are installed and only with the BMW ISTA.
   - **Danger of injury:** The airbag module may only be set down with the airbag itself facing *upwards* . Otherwise the alternator will be thrown upwards if it is ignited.
   - Do not point the ignition squib of a gas generator at other persons.
   - Components with gas generators must not be fired while they are removed. They must be disposed of by special disposal companies or returned to BMW in the packaging of the new components.
   - When carrying out straightening and welding work with an electric welder:
     - Disconnect battery
     - Cover negative terminal (post)
   - Avoid all contact with the skin when removing a fired airbag module - wear gloves.

     Wash with water after contact with the skin.

3. **Transport**
   - Components with gas generators must be sent off in the packaging of the new components.

cardiagn.com

4. **Storage**
    - Observe the regulations of the relevant trade supervisory authority and the applicable national regulations.

72 12... UNLOCKING/LOCKING AIRBAG PLUG CONNECTIONS

WARNING: **READ AND COMPLY WITH safety regulations for handling airbag modules and pyrotechnical belt tensioners.**

IMPORTANT: An airbag plug connection must be replaced if it is damaged.
Sourcing reference for airbag repair instructions (with plug connection).

Following versions of plug connections on airbag module/gas generator are possible:

- Airbag plug connection on gas generator/airbag module is offset by 90Â°
- Airbag plug connection on gas generator/airbag module is straight (3 versions)

Airbag plug connection on gas generator/airbag module offset by 90Â°:

There are two ways of unlocking this airbag plug connection on the gas generator/airbag module:

Method 1:

Simultaneously pull cover (1) upwards at lugs on left and right (2).

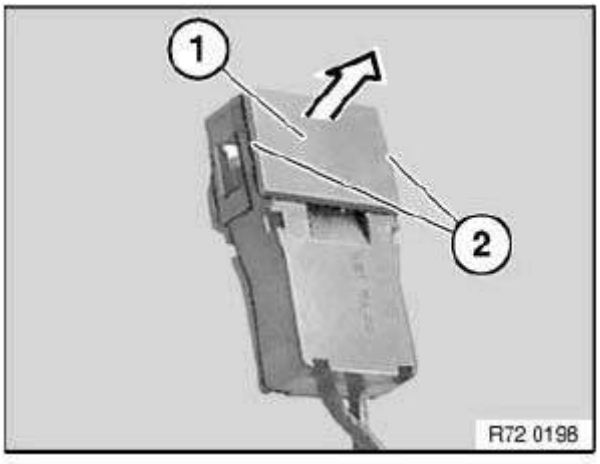


Fig. 68: Pulling Cover Upwards At Lugs On Left And Right
Courtesy of BMW OF NORTH AMERICA, INC.

Method 2:

Insert a narrow screwdriver into recess (1) in housing (2).

Carefully pry cover (3) off (4).

cardiagn.com

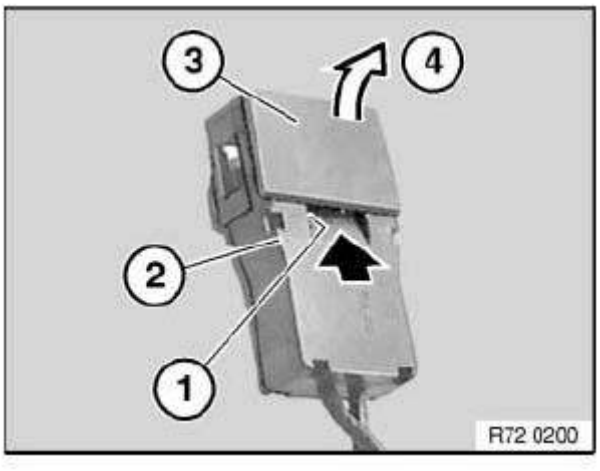


Fig. 69: Inserting Screwdriver Into Recess In Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Cover (1) is not positioned higher than housing (2).

The airbag plug connection is unlocked and can now be detached from the gas generator/airbag module.

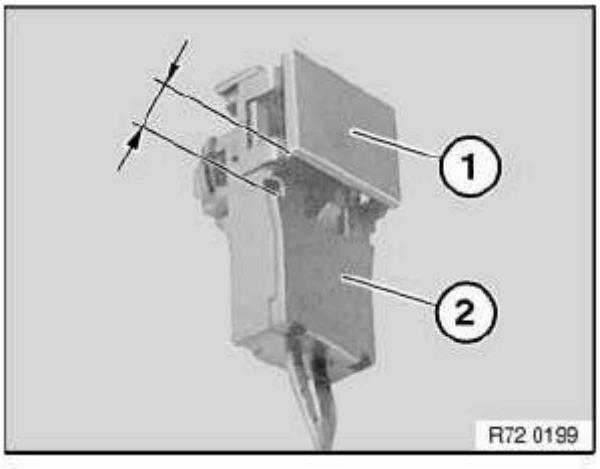


Fig. 70: Identifying Cover And Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

After attaching airbag plug connection to gas generator/airbag module, press cover (1) downwards until it rests flat on housing.

Check that it catches properly.

cardiagn.com

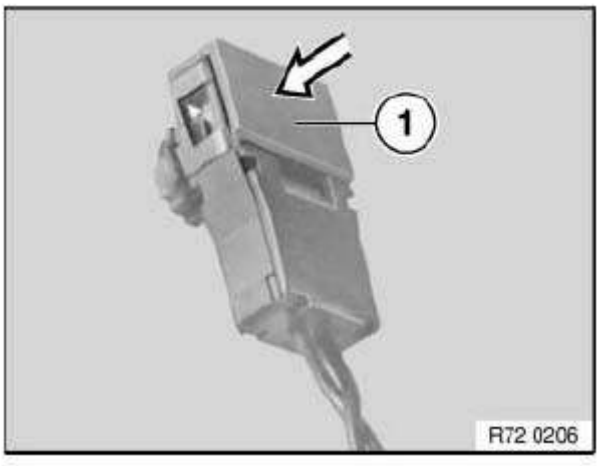


Fig. 71: Pressing Airbag Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Airbag plug connection on gas generator/airbag module is straight (2 versions)

Version 1:

Press locking/unlocking plate (1) at edge (4).

Locking/unlocking plate (1) snaps upwards at opposite edge (3) and releases detent lug (2).

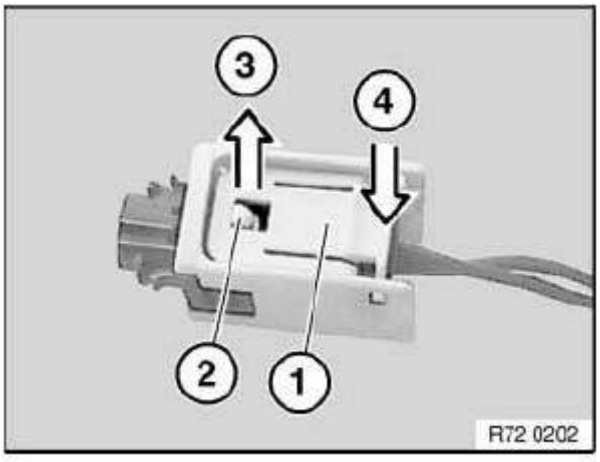


Fig. 72: Pressing Locking/Unlocking Plate At Edge
Courtesy of BMW OF NORTH AMERICA, INC.

The airbag plug connection is unlocked and can now be detached from the gas generator/airbag module.



cardiagn.com

Fig. 73: Identifying Airbag Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

After attaching airbag plug connection to gas generator/airbag module, check whether detent lug (2) is visible in opening of locking/unlocking plate (1).

Only if the detent lug (2) is visible will the airbag plug connection gas generator/airbag module be correctly engaged.

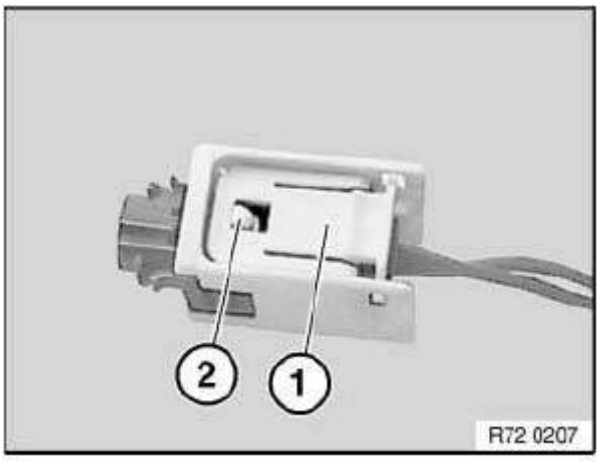


Fig. 74: Identifying Opening Of Locking/Unlocking Plate And Detent Lug
Courtesy of BMW OF NORTH AMERICA, INC.

Version 2:

Press locking/unlocking plate (1) on edge (3) and pull plug (2) out of plug housing (4).

Installation note:

Only if the detent lug is visible in opening (5) will the gas generator/airbag module plug connection be correctly engaged.

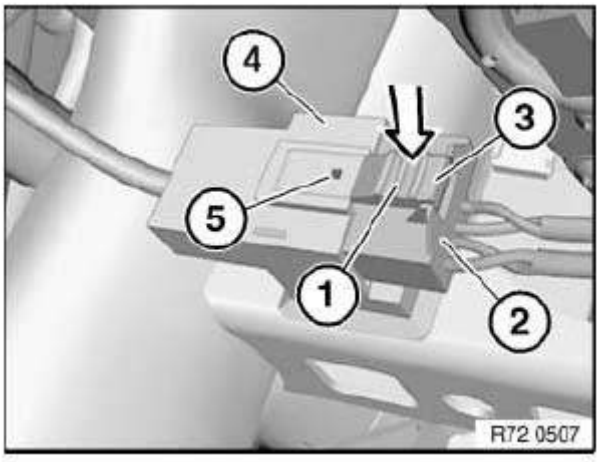


Fig. 75: Pressing Locking/Unlocking Plate On Edge
Courtesy of BMW OF NORTH AMERICA, INC.

Version 3:

Press lock button (1) and pull out plug (2) up to initial engagement position.

cardiagn.com

Detach connector (2) from firing pellet.

Installation note:

Insert plug connection in initial engagement position in gas generator/airbag module and engage in final engagement position.

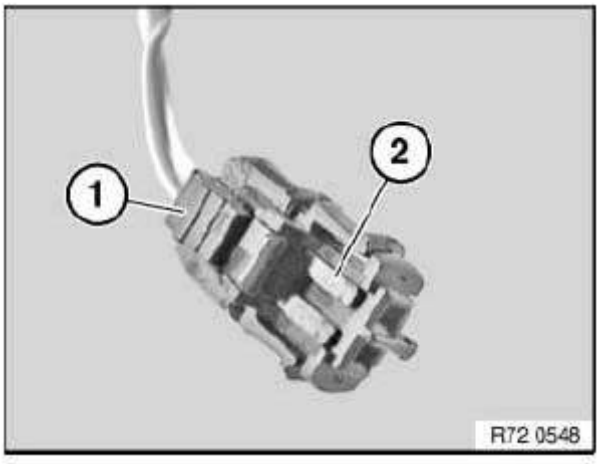


Fig. 76: Identifying Connector Lock Button
Courtesy of BMW OF NORTH AMERICA, INC.

Illustration of version 3 with gas generator:

A. Initial engagement position
B. Final engagement position

1. Lock button
2. Gas generator

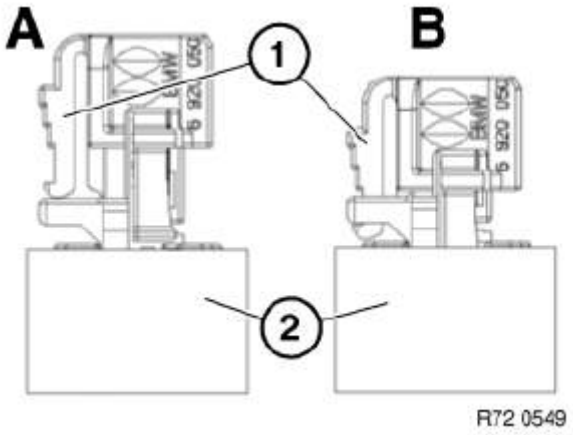


Fig. 77: Identifying Lock Button And Gas Generator
Courtesy of BMW OF NORTH AMERICA, INC.

Version 4 - crash-active headrest:

Press locking clip at edge and disconnect plug (1).

Installation note:

Check for correct engagement.

cardiagn.com

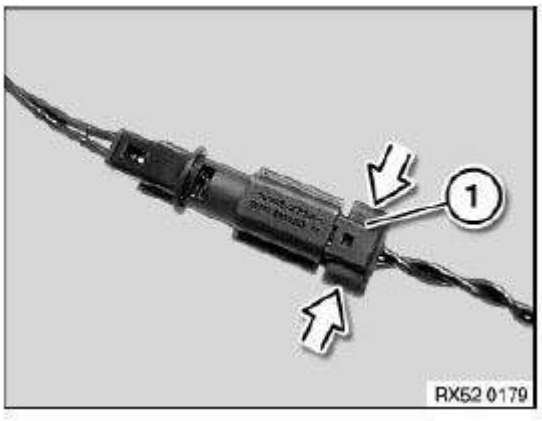


Fig. 78: Pressing Lock Clip
Courtesy of BMW OF NORTH AMERICA, INC.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702219

cardiagn.com

DRIVE, SLIDE/TILT SUNROOF/CONVERTIBLE TOP

67 61 505 REPLACING ELECTRIC MOTOR WITH GEARBOX (FRONT) FOR OPERATION OF SLIDE/TILT SUNROOF

Necessary preliminary work:

- Remove **ROOF SWITCH CLUSTER**

NOTE: **Secure electric motor with gearbox (2) from falling out.**

Release screws (1).

Tightening torque **54 13 01AZ** .

NOTE: **Screws (1) are microencapsulated and must be replaced.**

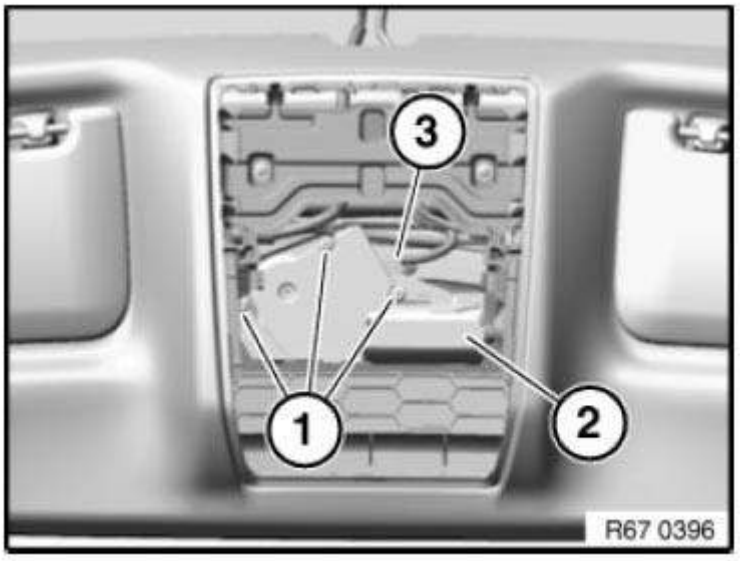


Fig. 1: Identifying Plug Connection, Gearbox And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Remove electric motor with gearbox (2).

Unfasten plug connection (3) and disconnect.

Installation note:

Insert gear (1) of electric motor with gearbox for operation of slide/tilt sunroof (2) exactly in gearing (3).

cardiagn.com

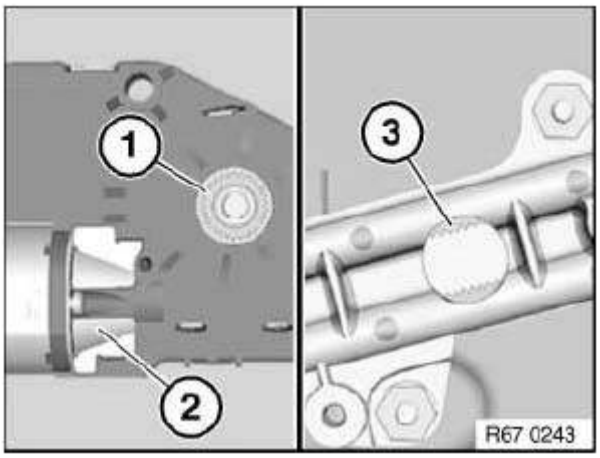


Fig. 2: Identifying Gear Wheel Of Electric Motor
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

- Initialize **SLIDE/TILT SUNROOF** .

67 61 517 REPLACING ELECTRIC MOTOR WITH GEARBOX (REAR) TO OPERATE THE SLIDE/TILT SUNROOF

Necessary preliminary tasks:

- **LOWER ROOFLINER** (do not feed out)

Release screws at marked points.

Tightening torque **54 13 01AZ** .

NOTE: **Screws are microencapsulated and must be replaced.**

Remove electric motor with transmission (1).

Unfasten plug connection (2) and disconnect.

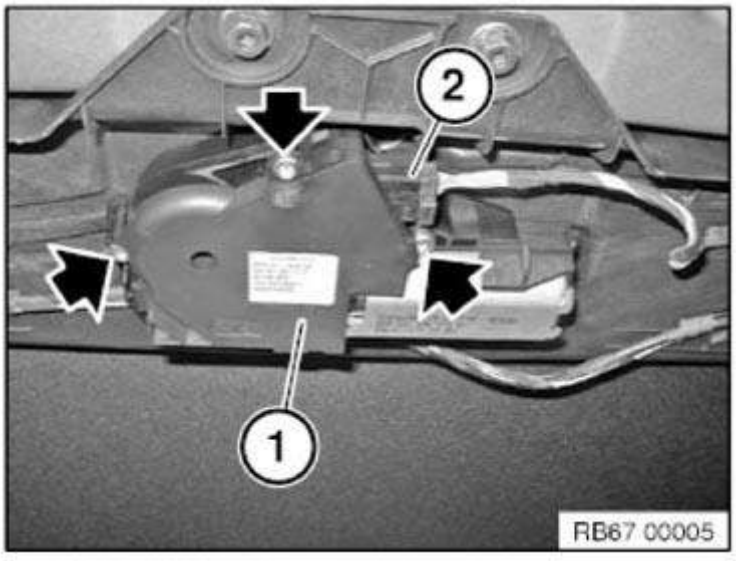


Fig. 3: Locating Electric Motor Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

Insert gear wheel (1) of electric motor with gearbox (2) exactly in gearing (3).

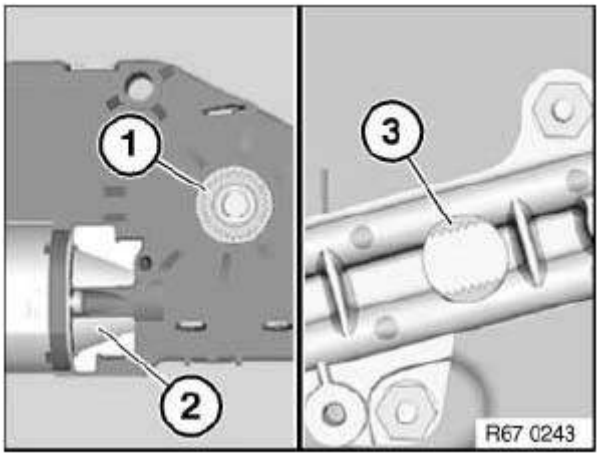


Fig. 4: Identifying Gear Wheel Of Electric Motor
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

- Initialize **SLIDE/TILT SUNROOF** .

VARIOUS ACCESSORIES

71 60 051 REMOVING AND INSTALLING/REPLACING COMPLETE TRAILER TOW HITCH

Necessary preliminary work:

- Remove **REAR BUMPER TRIM**
- Remove the center **GUIDE FOR REAR BUMPER**

IMPORTANT: Screws (1) must not be released!

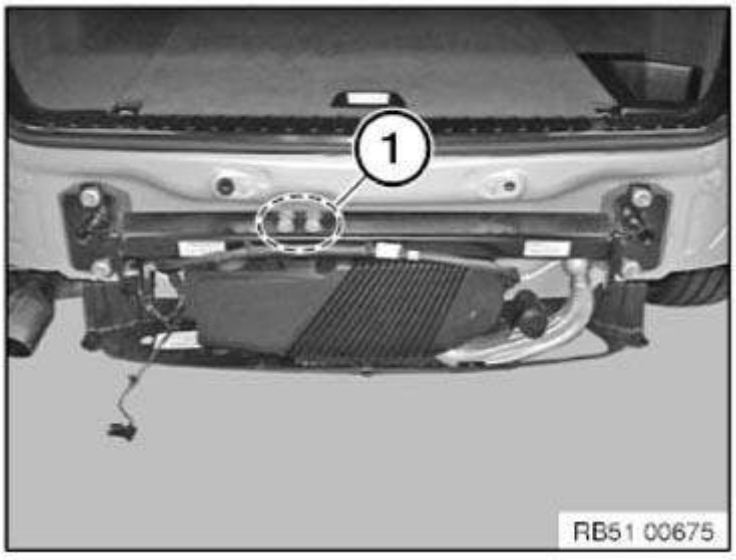


Fig. 5: Identifying Guide For Rear Bumper Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock plug connections (1) and disconnect.

cardiagn.com



Fig. 6: Identifying Rear Bumper Trim Plug Connections
Courtesy of BMW OF NORTH AMERICA, INC.

Unscrew nuts (1).

Tightening torque **71 60 1AZ** .

Remove trailer tow hitch (2) support member.

Installation note:

Replace nuts (1).

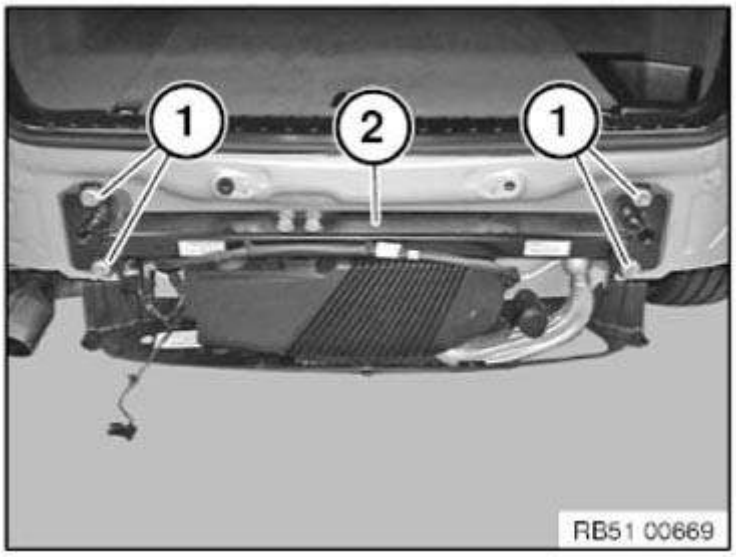


Fig. 7: Identifying Trailer Tow Hitch Support Member And Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

With the fully automatic trailer tow hitch up to 07/2013 the **CONTROL UNIT MUST BE REPLACED** .

Perform an initialization in the procedure or manual initialization via the button in the luggage compartment (see Operating Instructions). The manual initialization is described in the procedure.

71 60 100 REMOVING AND INSTALLING/REPLACING CONTROL UNIT FOR TRAILER

cardiagn.com

COUPLING RELEASE

IMPORTANT: Read and comply with notes on protection against electrostatic discharge **(ESD PROTECTION)** .

Necessary preliminary tasks:

- Open luggage compartment floor trim panel

Release clips (1) and fold up storage shelf (2).

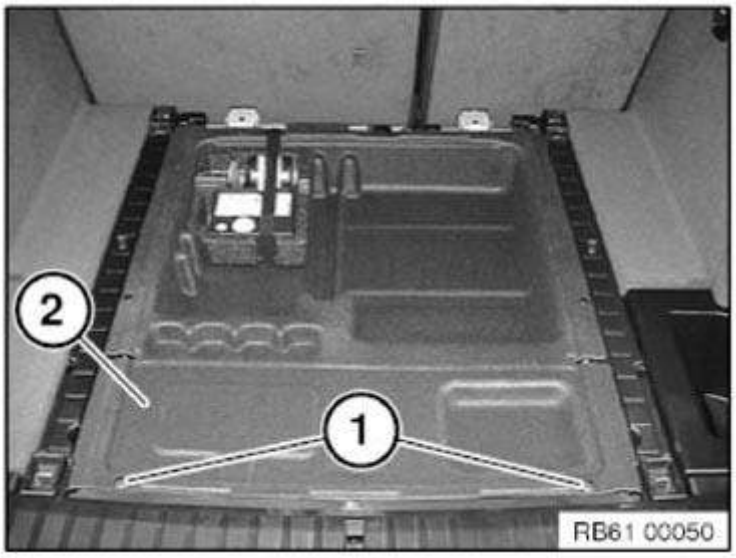


Fig. 8: Identifying Storage Shelf And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

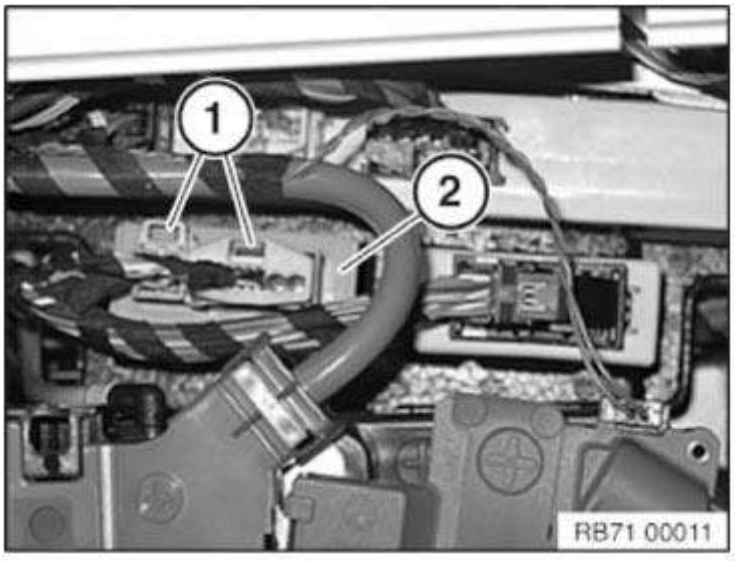
Unfasten plug connection (1) and disconnect.

Release retaining lug (2).

Pull out control unit for trailer coupling release (3) towards the top in direction of arrow.

Installation note:

Make sure control unit for trailer coupling release (3) if fitted correctly.



cardiagn.com

Fig. 9: Identifying Retaining Lug And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

Perform an initialization in the procedure or manual initialization via the button in the luggage compartment (see Operating Instructions). The manual initialization is described in the procedure.

71 60 700 REMOVING AND INSTALLING/REPLACING TRAILER TOW HITCH CONTROL UNIT

IMPORTANT: Read and comply with notes on protection against electrostatic discharge **(ESD PROTECTION)** .

Necessary preliminary tasks:

- Remove **LUGGAGE COMPARTMENT FLOOR TRIM PANEL**

Removal:

Release clip (1) and fold up storage shelf (2).

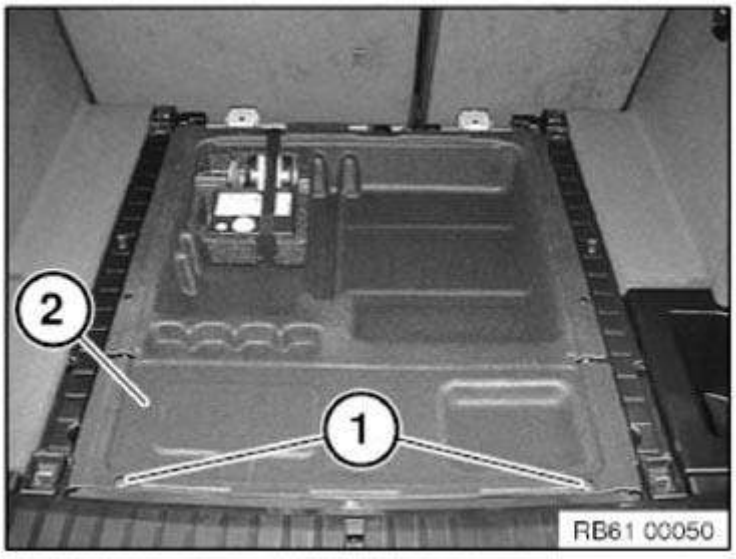


Fig. 10: Identifying Storage Shelf And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect all connectors (1).

Remove trailer tow hitch control unit (2) from holder.

cardiagn.com

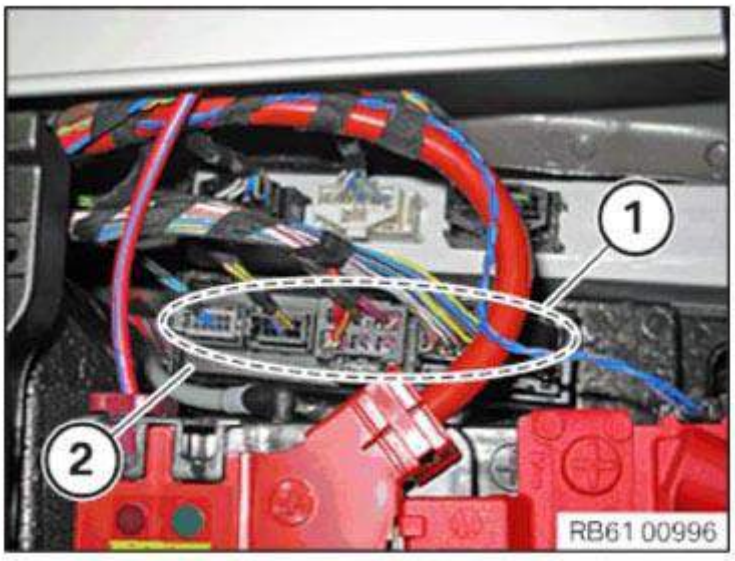


Fig. 11: Identifying Trailer Tow Hitch Control Unit And Connectors
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Join the trailer tow hitch control unit (3) into the holder.

Connect all connectors (1).

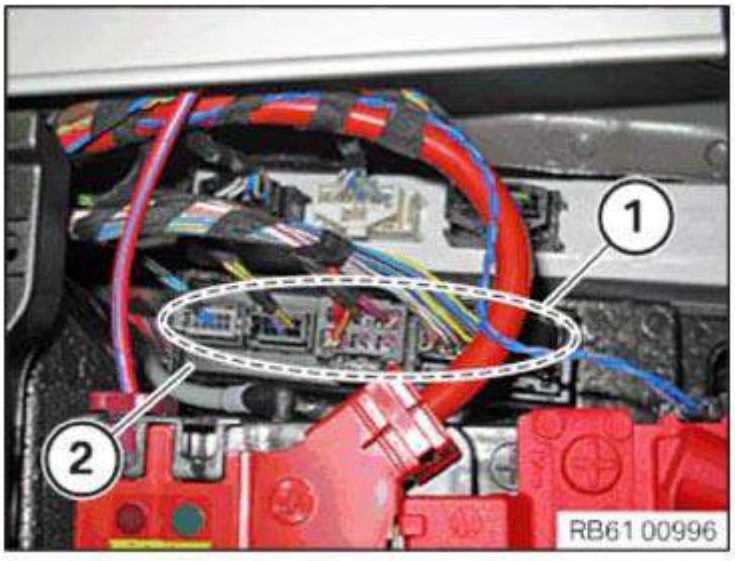


Fig. 12: Identifying Trailer Tow Hitch Control Unit And Connectors
Courtesy of BMW OF NORTH AMERICA, INC.

Close storage shelf (2) and fasten with clip (1).

cardiagn.com

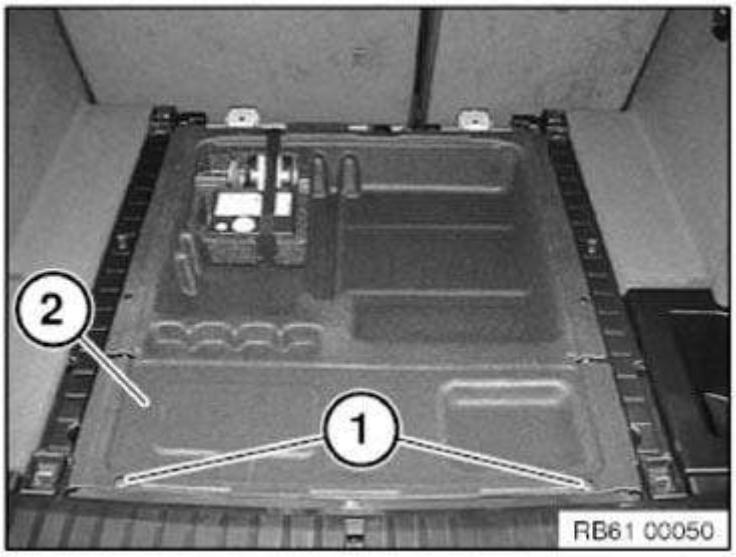


Fig. 13: Identifying Storage Shelf And Clips
Courtesy of BMW OF NORTH AMERICA, INC.

Required follow-up work:

- Install **LUGGAGE COMPARTMENT FLOOR TRIM PANEL**

71 60 080 REPLACE GAITER OF SELF-SWIVELING TRAILER TOW HITCH

Special tools required:

- **00 9 317**

Necessary preliminary tasks:

- Remove rear **BUMPER PANEL**

Unclip cable clip (1).

Use special tool **00 9 317** to lever out gaiter (2) and slide in direction of arrow.

Swing out self-swinging-out trailer tow hitch.

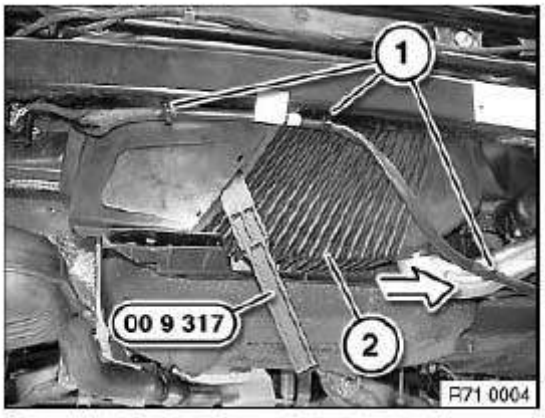


Fig. 14: Identifying Cable Holder And Gaiter
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) and remove charging socket (2).

Tightening torque **71 60 2AZ** .

cardiagn.com

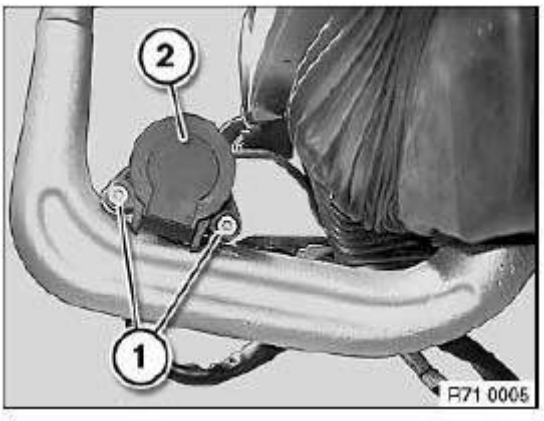


Fig. 15: Identifying Charging Socket And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Pull off gaiter (1) in direction of arrow from ball hitch.

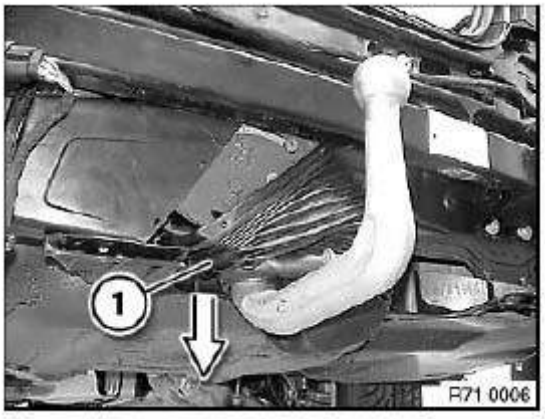


Fig. 16: Pulling Off Gaiter From Ball Hitch
Courtesy of BMW OF NORTH AMERICA, INC.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702224

cardiagn.com

FRONT SEATS

65 77 602 REPLACING SENSOR MAT FOR FRONT PASSENGER SEAT OCCUPANCY DETECTOR

Necessary preliminary tasks:

- Remove **FRONT PASSENGER SEAT**

IMPORTANT:
Risk of damage on sharp-edged seat mechanism.
Guide all cables carefully through seat and backrest mechanism.
Make sure cable is routed without kinks and tension.
Make sure plug connections are correctly locked.
Make sure connectors are correctly seated in latch mechanisms.

Remove the central plug from the mounting.

Cut open cable strap (1).

Installation note:

Replace cable tie (1) at central plug.

Raise the tab and pull connector (2) out through the side of the connector housing (3).

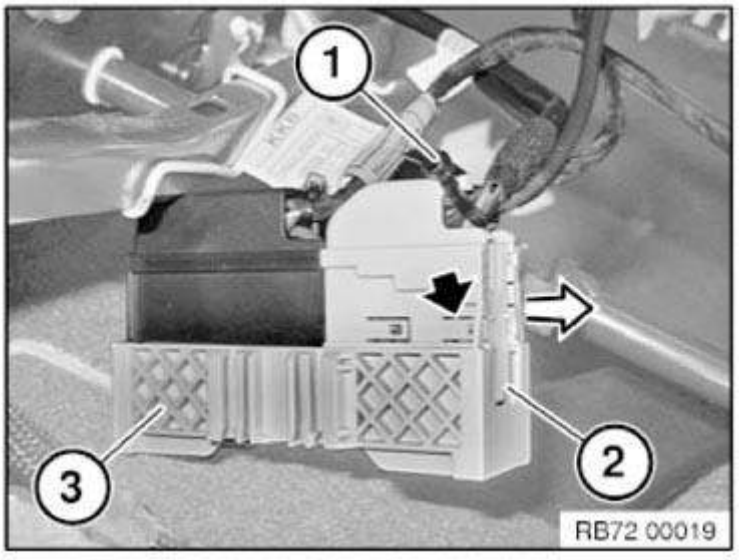


Fig. 1: Pulling Seat Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Detach cable for seat occupancy detection (1) from cable clip.

cardiagn.com

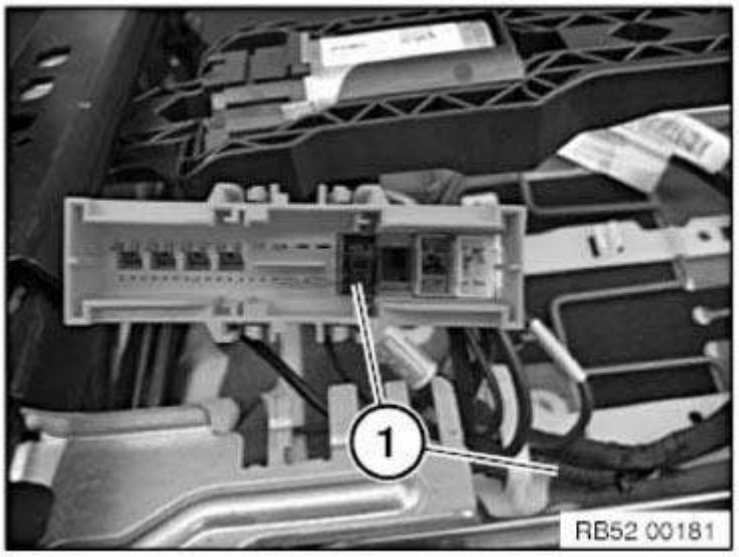


Fig. 2: Identifying Seat Occupancy Detection Cable
Courtesy of BMW OF NORTH AMERICA, INC.

Lift the front seat cover with upholstery (1) and unclip the mounting (2) for the seat occupancy detection (3).

Remove the seat occupancy detection (3) from upholstery front passenger seat (1) and feed out connector with cable.

Installation note:

Plug connections are coded against incorrect assembly.

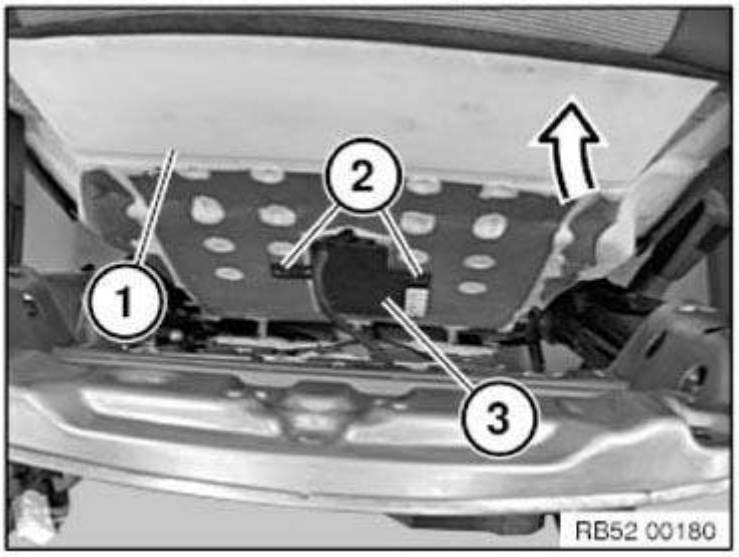


Fig. 3: Lifting Front Seat Cover With Upholstery
Courtesy of BMW OF NORTH AMERICA, INC.

- To avoid malfunctions, make sure seat occupancy mat (3) is cleanly laid:
  - Insert the seat occupancy detection (3) in the provided recess and clip in mounting.
  - Install the cables and connectors for the seat occupancy detection clean and without kinks.
  - Slide and lock connector in central connector housing.

FRONT SEAT, NORMAL, MANUAL

52 13 021 REMOVING AND INSTALLING/REPLACING FLEXMAT ON LEFT OR RIGHT FRONT

cardiagn.com

SEAT

Necessary preliminary tasks:

- Remove padding for front seat

Cut all cable ties and disengage wiring harnesses from flexmat.

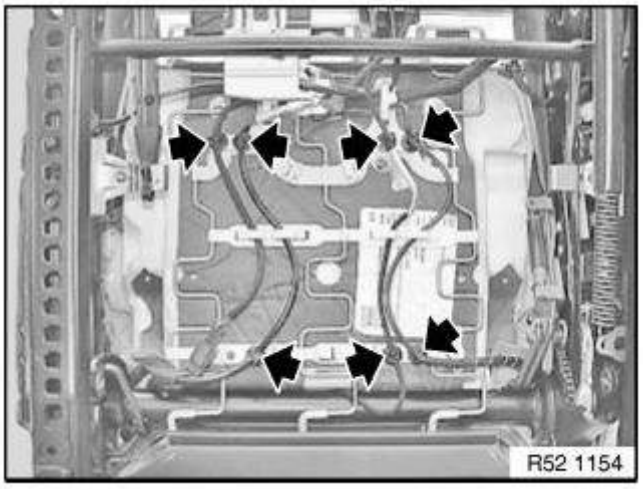


Fig. 4: Locating Cable Ties
Courtesy of BMW OF NORTH AMERICA, INC.

Disengage flexmat (1) at front.

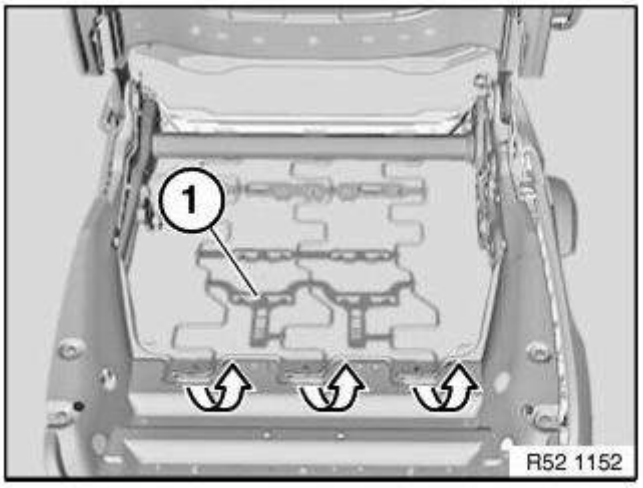


Fig. 5: Disengaging Flexmat (Front)
Courtesy of BMW OF NORTH AMERICA, INC.

Swing flexmat (1) down and disengage from seat frame.

cardiagn.com

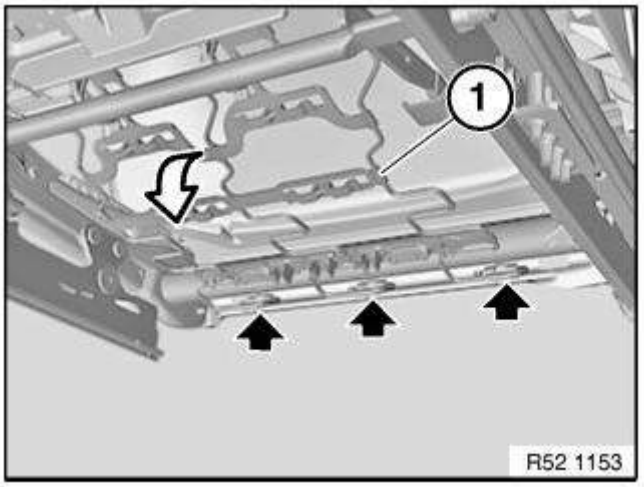


Fig. 6: Disengaging Flexmat From Seat Frame
Courtesy of BMW OF NORTH AMERICA, INC.

52 13 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Necessary preliminary work:

- Disconnect **BATTERY EARTH LEAD**
- Remove **HEAD RESTRAINT**
- **Only E90/E91 from version 09/08 and F25/F26:**

Remove **CRASH-ACTIVE HEADREST**

IMPORTANT: An airbag module and a pyrotechnical seat belt tensioner are installed in the front seat. Improper handling can lead to triggering of the pyrotechnical seat belt tensioner or side airbag, resulting in injuries.

Installation note:

- Powerlok screws must be replaced and must **not** be reused
- Powerlok screws are mechanical screw locks with trilobular threads

Move seat to upper back position.

Release and dispose of screws (1).

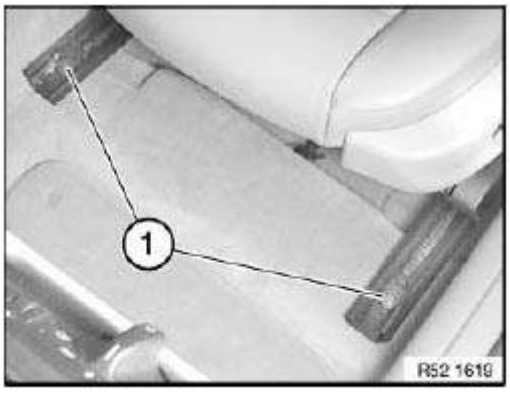


Fig. 7: Identifying Seat Rails Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Move seat forwards and position flush with seat rails.

cardiagn.com

Unclip release tab (2) for belt end fitting trim (1) with plastic wedge.

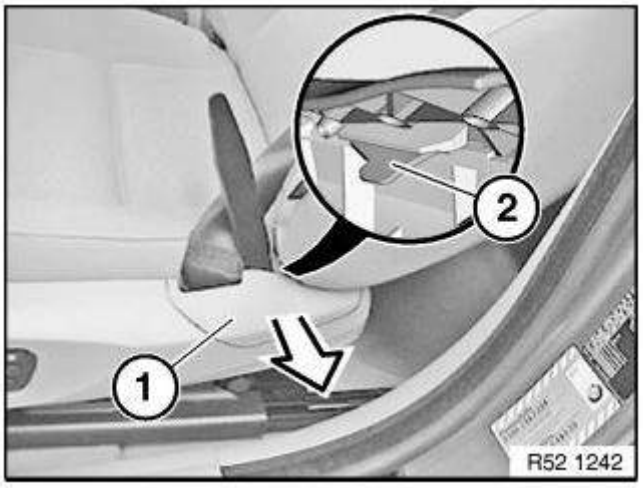


Fig. 8: Removing Seat Belt Tab
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque **72 11 2AZ** . See **SEAT BELTS** .

Disconnect end fitting (2).

Installation note:

Make sure end fitting (2) is correctly seated on seat mechanism pin.

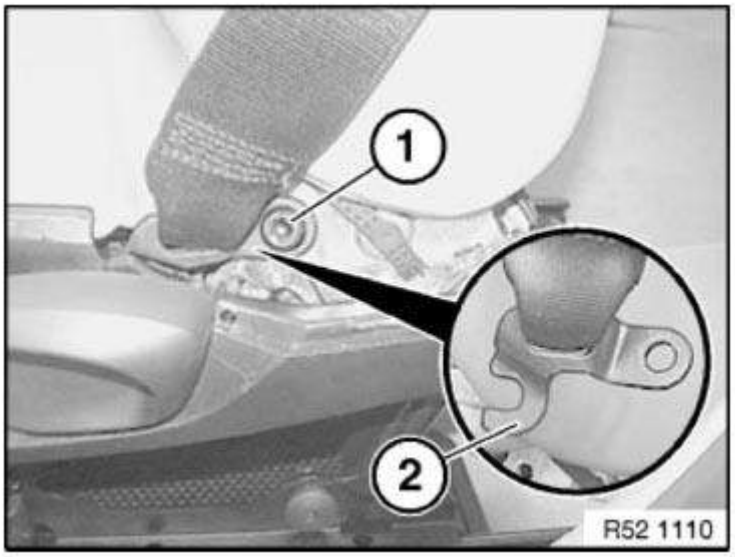


Fig. 9: Identifying Anchor Fitting And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Release and dispose of screws (1).

cardiagn.com

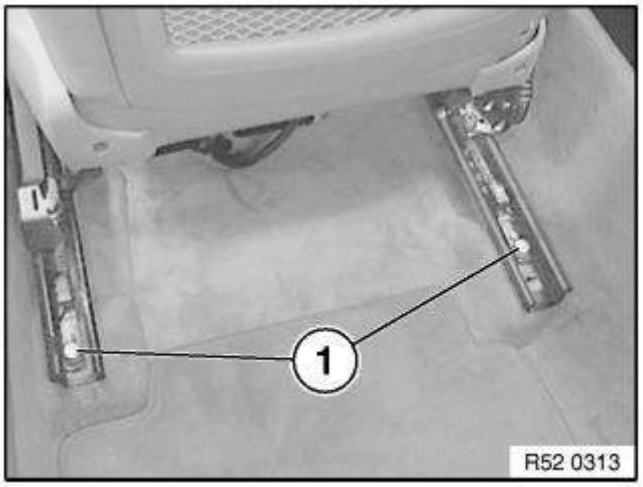


Fig. 10: Identifying Seat Rail Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug connection (1).

IMPORTANT: Cover door sill with protective covers (risk of damage).

Lift out front seat.

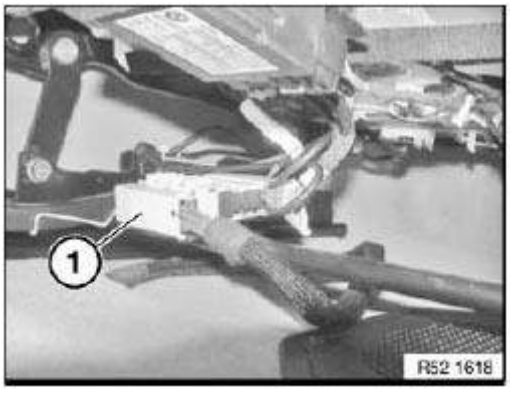


Fig. 11: Identifying Seat Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

- Carpet must not get between seat rails and floor panel in area of attachment points (groaning noises)
- Replace microencapsulated screws
- Insert all screws loose to avoid twisting
- Tighten down all screws to specified torque

Tightening torque **52 10 1AZ** .

WARNING: **When carrying out further work on the front seat, it is absolutely imperative to observe the SAFETY REGULATIONS on handling airbag modules and pyrotechnical seat belt tensioners**
Improper handling can lead to triggering of the pyrotechnical seat belt tensioner or side airbag, resulting in injuries.

52 13 198 REMOVING AND INSTALLING OR REPLACING REAR PANEL ON LEFT OR RIGHT FRONT SEAT BACKREST

cardiagn.com

Release clips (1) with diagonal cutting pliers.

Remove rear panel (2) downwards with a rotational movement.

NOTE: Remove remnants of clips.

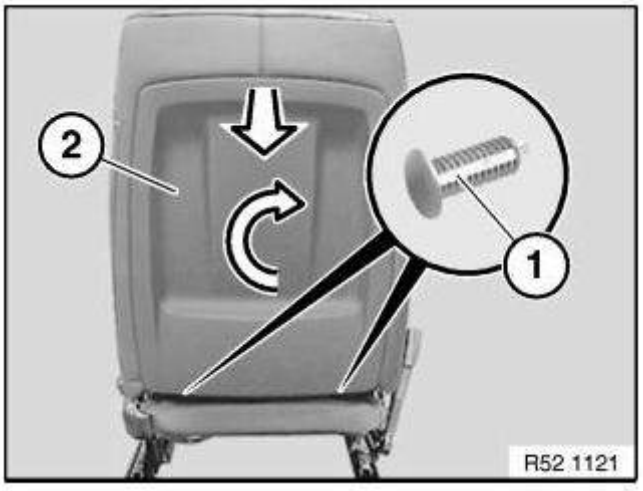


Fig. 12: Removing Rear Panel
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining hooks (1) and bore holes (2) on rear panel (3) must not be damaged.

Replace faulty clips.

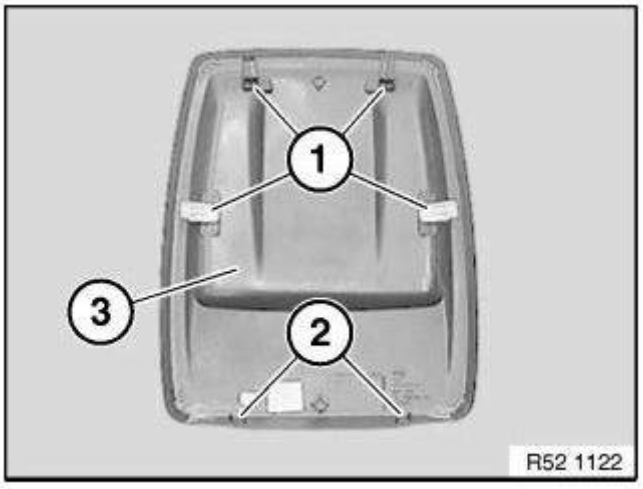


Fig. 13: Identifying Hooks And Bore Holes On Rear Panel
Courtesy of BMW OF NORTH AMERICA, INC.

52 13 030 REMOVING AND INSTALLING/REPLACING BACKREST FRAME ON LEFT OR RIGHT FRONT SEAT

Necessary preliminary tasks:

- Remove **FRONT SEAT**
- Remove **REAR PANEL** on front seat backrest

Unclip cable (2).

cardiagn.com

Release airbag wiring harness (2) from cable holders on seat mechanism.

Cut through cable ties.

Raise release clip (3) and pull plug (4) out of plug housing (1).

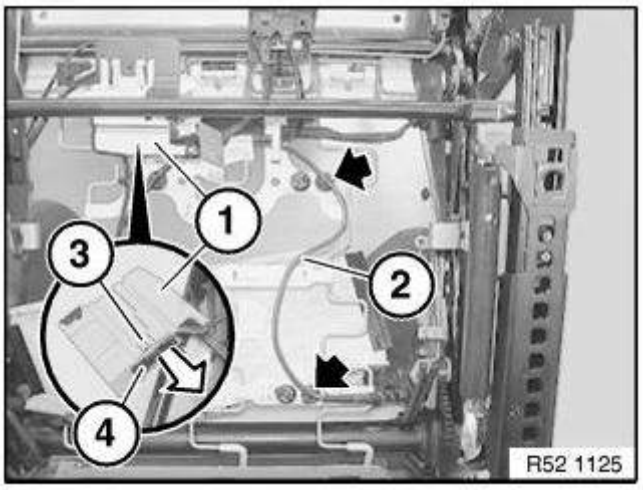


Fig. 14: Pulling Seat Mechanism Plug Of Housing
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Always feed in cable tie (1) at narrow end of plug housing in direction of arrow.

Cables must be secured with insulation under cable tie.

Firmly tighten cable tie (1) to relieve strain. It must not be possible to move the cable.

Make sure plug (2) is correctly locked in plug housing (3).

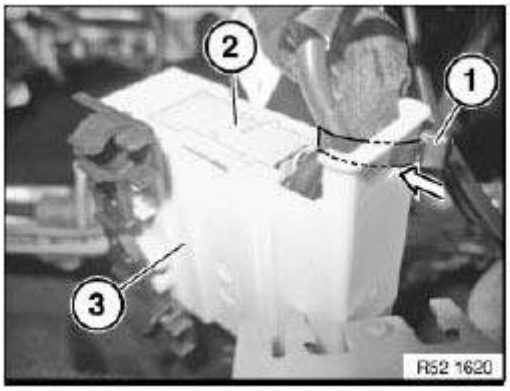


Fig. 15: Tightening Cable Tie
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Unclip cable.

Release wiring harness (3) from cable holders on seat mechanism.

Unfasten plug connection (2) and disconnect.

IMPORTANT: Feed all wiring harnesses carefully through the seat and backrest mechanism as the edges of the

cardiagn.com

frame can be sharp.

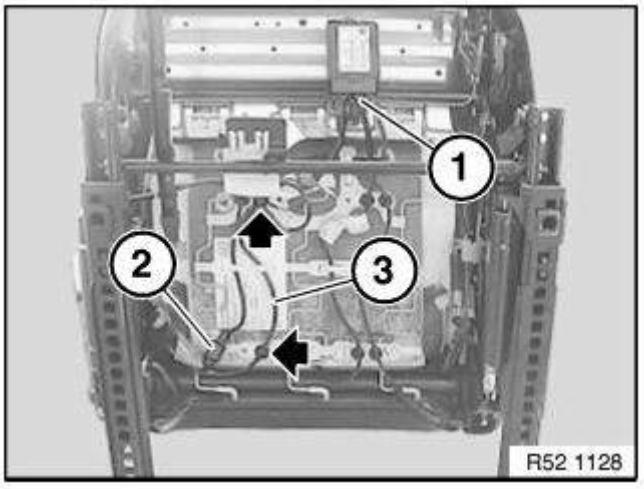


Fig. 16: Locating Wiring Harness Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

E81, E82, E88, E92 only:

Unhook seat covers on left and right.

Unclip ball socket (1) from ball head on left and right.

Installation:

Ball socket (1) must snap audibly into place.

Ball socket (1) must be able to move freely on ball head.

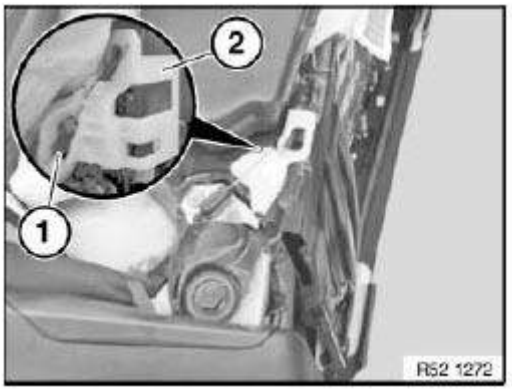


Fig. 17: Identifying Seat Ball Socket
Courtesy of BMW OF NORTH AMERICA, INC.

Actuate rear catch and remove guide for Bowden cable (2) towards rear with a turning motion.

Unhook backrest cover (1) on left and right.

Release screws (2) on left and right.

Tightening torque **52 10 02AZ** .

Remove backrest frame (3) completely towards top.

cardiagn.com

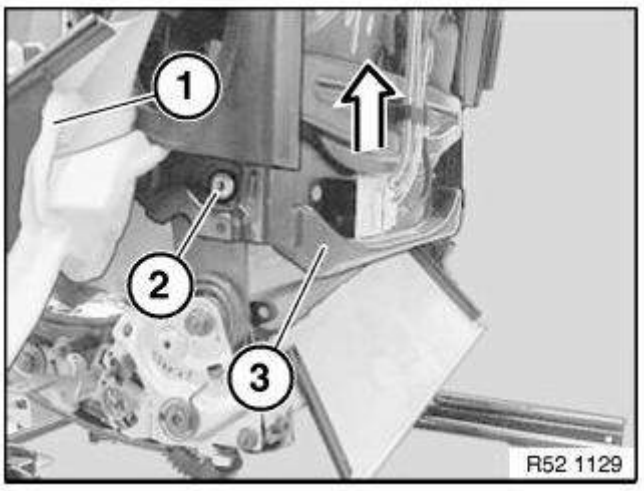


Fig. 18: Removing Backrest Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

- Remove backrest cover with padding. Refer to **52 15 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)** or **52 13 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)**.

52 14 392 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT CRASH-ACTIVE HEAD RESTRAINT (FROM 09/08)

Refer to **52 14 392 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT CRASH-ACTIVE HEAD RESTRAINT (FROM 09/08)**.

52 13 025 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT SEAT MECHANISM (NORMAL/MANUAL)

Necessary preliminary tasks:

- Remove seat cover for front seat
- Remove **BACKREST FRAME** on front seat
- Remove seat belt tensioner
- Remove control unit for seat heating

Disconnect all cable ties.

Unlock plug housing (1) from flexmat and disconnect.

Release seat wiring harness (2) from cable holders on seat mechanism.

cardiagn.com

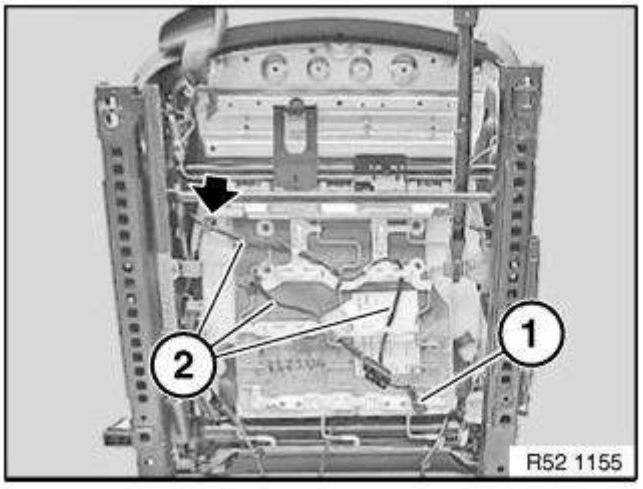


Fig. 19: Locating Plug Housing And Seat Wearing Harness
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement only:

The seat mechanism is supplied complete with corresponding drive units.

52 13 040 REMOVING AND INSTALLING/REPLACING OUTER COVER ON LEFT OR RIGHT FRONT SEAT BACKREST (NORMAL/MANUAL)

Special tools required:

- 00 9 317

Necessary preliminary tasks:

- Remove FRONT SEAT

NOTE: **Picture shows installed seat by way of example.**

Raise lock (3) and lever out handle

1. for backrest angle adjustment and
2. for seat height adjustment with special tool 00 9 317 .

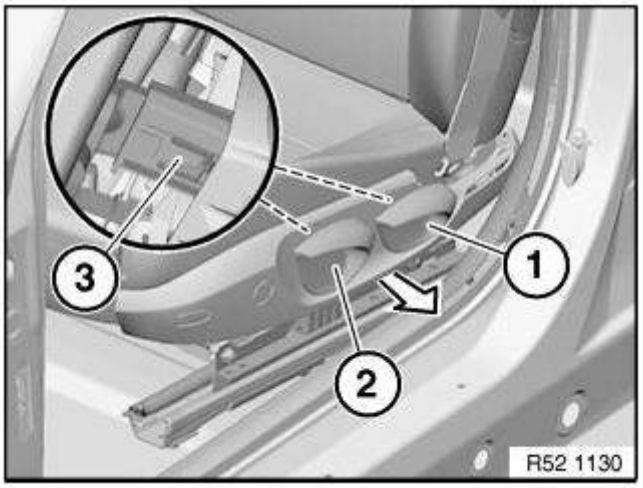


Fig. 20: Removing Handle Lock
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Release screw (1).

Tightening torque **52 10 06AZ** .

NOTE: Trim (2) is engaged in marked area.

Press lock (3) and pull trim (2) off seat mechanism.

If necessary, lever out carefully with special tool **00 9 317** .

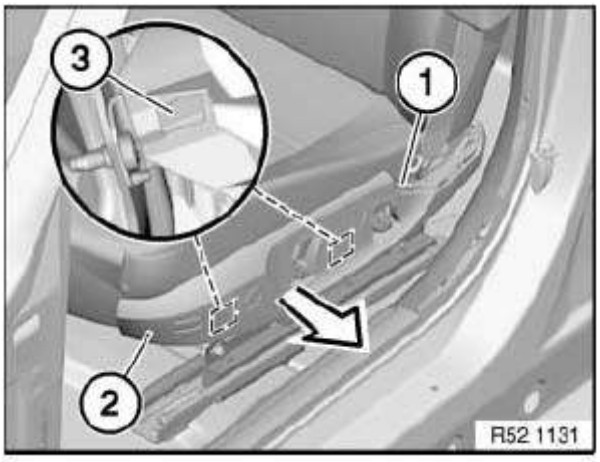


Fig. 21: Pulling Seat Mechanism Trim
Courtesy of BMW OF NORTH AMERICA, INC.

If necessary, unlock plug connection (1) for backrest width adjustment and disconnect.

If necessary, unlock plug connection (2) for lumbar support and disconnect.

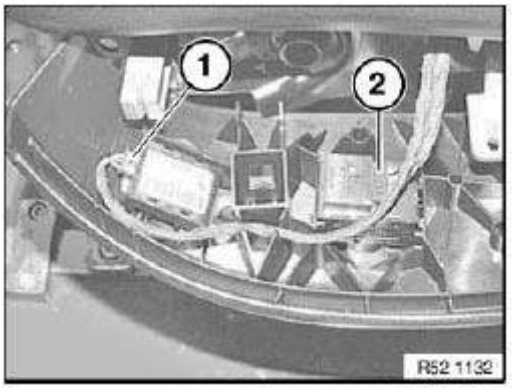


Fig. 22: Identifying Plug Connection For Lumbar Support
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement:

If necessary, remove backrest width adjustment switch and lumbar support switch.

Installation:

Make sure backrest width adjustment and lumbar support switches are correctly engaged.

52 13 041 REMOVING AND INSTALLING/REPLACING THE INNER COVER ON THE LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Necessary preliminary tasks:

cardiagn.com

- Remove **FRONT SEAT**

Release screw (1).

Remove cover (2) from inside of seat.

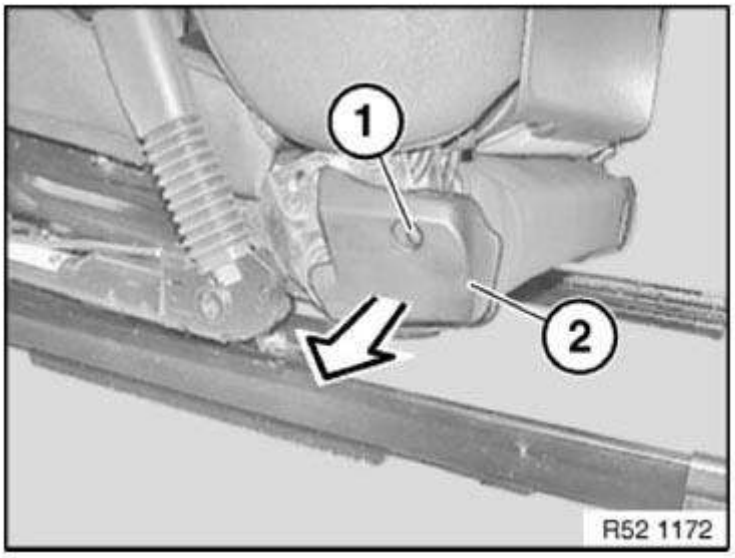


Fig. 23: Removing Cover From Inside Of Seat
Courtesy of BMW OF NORTH AMERICA, INC.

52 13 455 REPLACE HEATING ELEMENTS FOR FRONT SEAT (BASIC VERSION) ON THE LEFT OR RIGHT

Necessary preliminary tasks:

- Remove **SEAT COVER**

NOTE: **Heating element is bonded to the foam section and cannot be separated from each other without incurring damage.**
Foam section and heating mat must be replaced.

Check new foam part:

- No obvious damage or material defects
- All trim wires present in foam
- No bubbles in foam part
- No dirt contamination on foam or residual foam
- Pay attention to foam part on left and right

Check new heating mat:

- No obvious damage or material defects
- All tear-off film pieces present
- Note variant by examining label on cable

Guide cable for backrest heating through foam hole.

Stick on main section (1):

- Pull adhesive film pieces off main section (1) and stick to upper edge of main section foam until flush

cardiagn.com

Stick on bead section (2):

- Pull adhesive film pieces off bead section (2) and stick on heating mat along bead section edge.
- Press down evenly in outwards direction

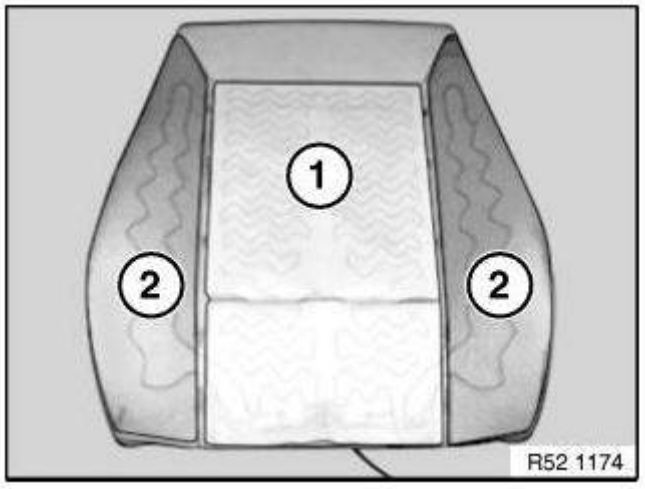


Fig. 24: Identifying Seat Main And Bead Section
Courtesy of BMW OF NORTH AMERICA, INC.

Guide cable for seat heating through foam hole.

Stick on main section (1):

- Pull adhesive film pieces off main section (1) and stick to upper edge of main section foam until flush

Stick on bead section (2):

- Pull adhesive film pieces off bead section (2) and stick on heating mat along bead section edge.

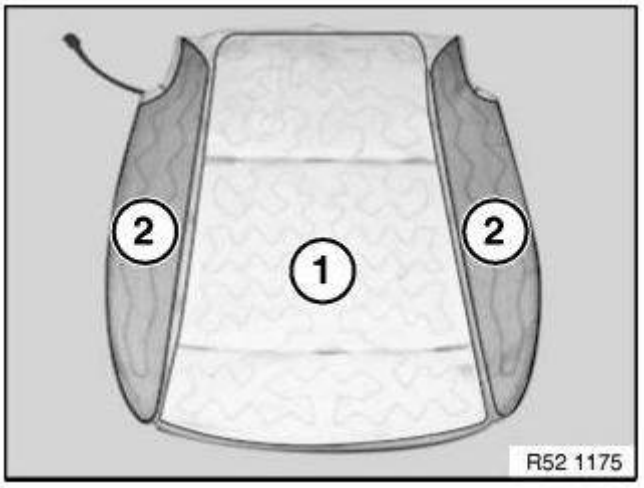


Fig. 25: Identifying Seat Main And Bead Section
Courtesy of BMW OF NORTH AMERICA, INC.

- Press down evenly in outwards direction

Check laying of heating mats:

- Heating mats laid without folds
- Heating mats correctly positioned

cardiagn.com

- All bonding surfaces stuck on

NOTE: **Carry out FUNCTION CHECK.**

52 13 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Special tools required:

- 52 0 050

Necessary preliminary tasks:

- Remove FRONT SEAT
- Remove side airbag in front seat
- Remove GUIDE SLEEVES

Version with seat heating only:

Unfasten plug connection (1) and disconnect.

Disconnect cable straps.

Release wiring harness (2) from cable holders on seat mechanism.

IMPORTANT: Feed the wiring harness carefully through the seat and backrest mechanism as the edges of the frame can be sharp.

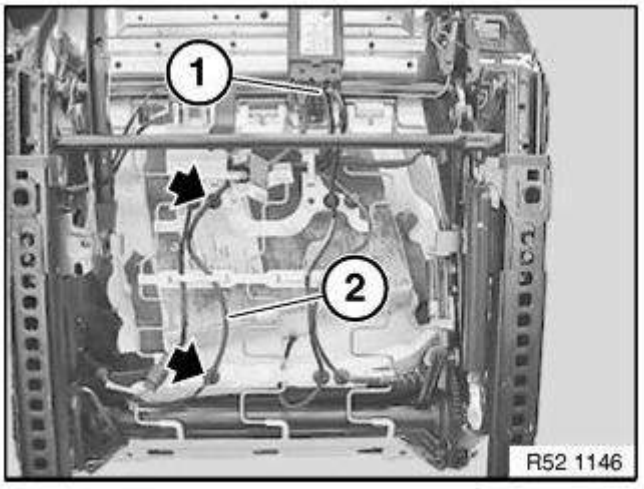


Fig. 26: Locating Plug Connection And Wiring Harness
Courtesy of BMW OF NORTH AMERICA, INC.

Detach backrest cover (1) from backrest frame.

cardiagn.com

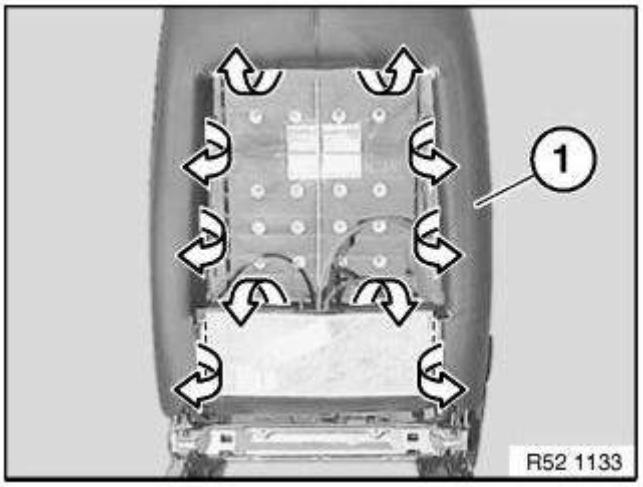


Fig. 27: Detaching Backrest Cover From Backrest Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Pull backrest cover (1) off Velcro-type fastener on backrest frame.

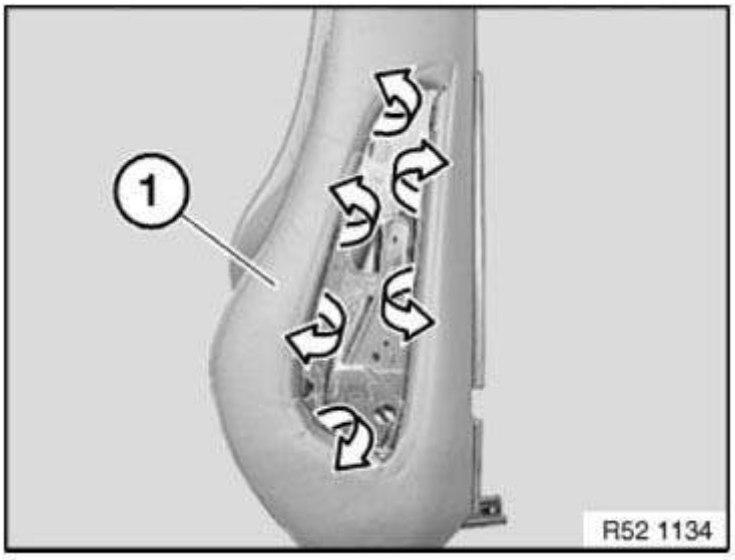
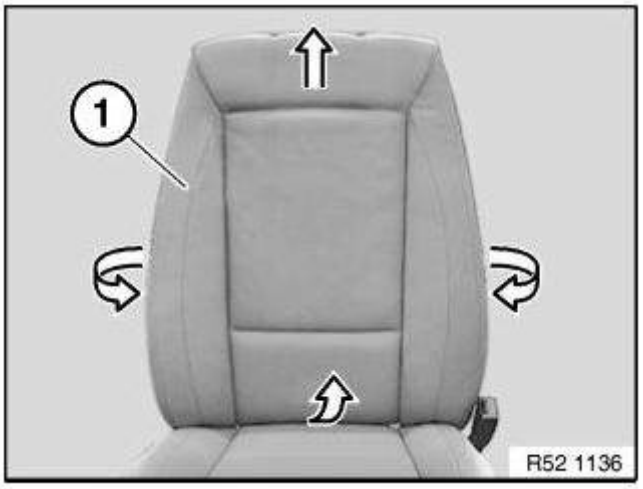


Fig. 28: Pulling Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Pull off backrest cover (1) with padding sideways and towards top from backrest frame.



cardiagn.com

Fig. 29: Pulling Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Release all retainers in marked area.

Remove backrest cover from padding.

NOTE: Remove all remnants of retainers from backrest cover and padding.

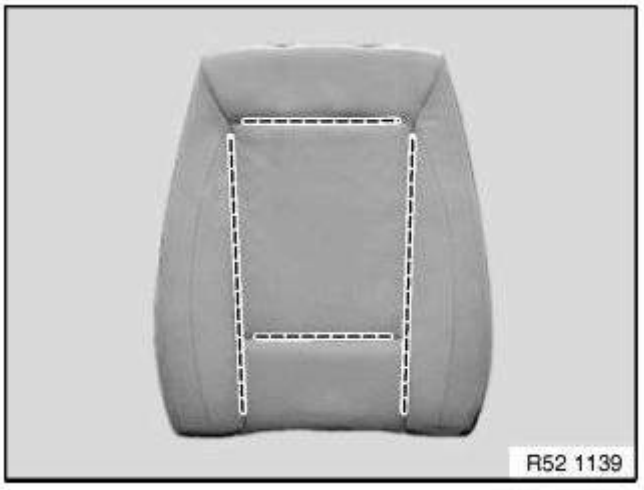


Fig. 30: Identifying Seat Retainers Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Bend new retainer (2) with special tool 52 0 050 .

1. Support
2. Retainer
3. Trim thread in support
4. Trim wire in backrest cover
5. Back-rest cover

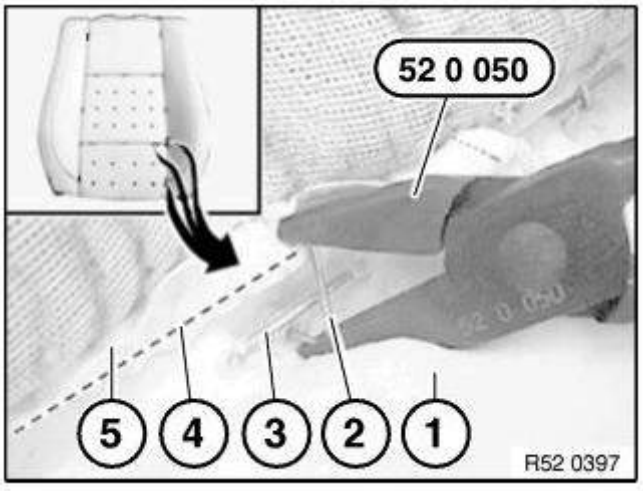


Fig. 31: Pressing Retainer Using Special Tool (52 0 050)
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement of backrest cover:

cardiagn.com

Pull trim threads out of backrest cover.

Cut new backrest cover to size and insert trim threads.

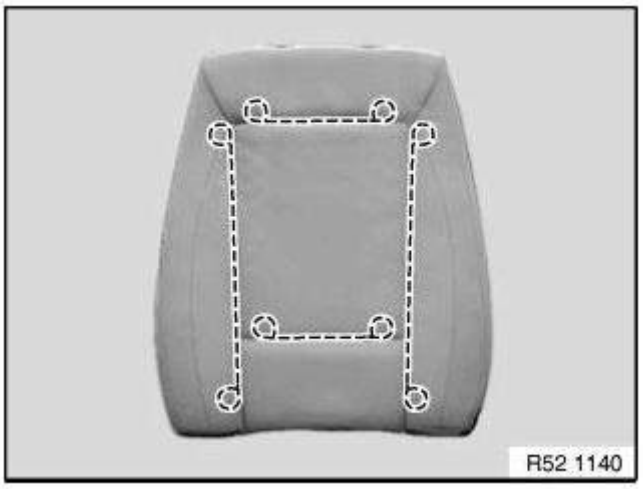


Fig. 32: Identifying Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

52 14 888 REPLACING BOTH GAS CARTRIDGES FOR CRASH-ACTIVE HEADREST

Refer to **52 14 888 REPLACING BOTH GAS CARTRIDGES FOR CRASH-ACTIVE HEADREST**.

52 14 886 REPLACING GAS CARTRIDGE FOR CRASH-ACTIVE HEADREST ON LEFT OR RIGHT

Refer to **52 14 886 REPLACING GAS CARTRIDGE FOR CRASH-ACTIVE HEADREST ON LEFT OR RIGHT**.

52 13... REPLACING GUIDE SLEEVES FOR FRONT LEFT OR RIGHT HEAD RESTRAINT

Special tools required:

- **52 0 070**

Necessary preliminary work:

- Remove **FRONT HEAD RESTRAINT**

NOTE: **Guide sleeves cannot be removed without being damaged. Guide sleeves with pushbuttons have two retaining lugs.**

Insert special tool **52 0 070** into guide hole of sleeve (2) up to upper area of retaining lug.

Feed release tongue of special tool into gap on retaining lug (1).

cardiagn.com

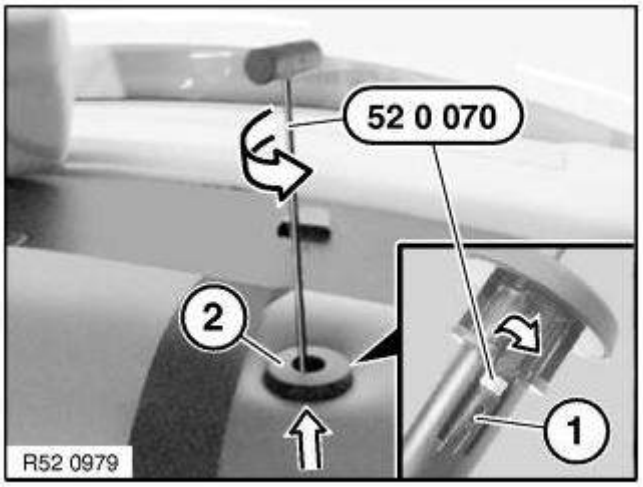


Fig. 33: Releasing Head Restraint Sleeve
Courtesy of BMW OF NORTH AMERICA, INC.

Turn special tool to release sleeve (2) and pull out towards top.

If necessary, on guide sleeves with pushbuttons, unlock the second retaining lug with a screwdriver.

Installation note:

Replace guide sleeves and install as follows:

1. Guide sleeve with pushbutton (3) and two retaining lugs, left
2. Guide sleeve without pushbutton and one retaining lug, right

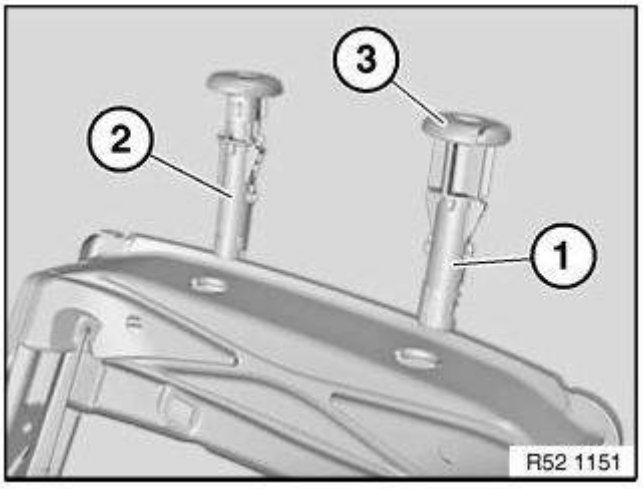


Fig. 34: Identifying Retaining Lugs And Release Sleeve
Courtesy of BMW OF NORTH AMERICA, INC.

52 13 420 REPLACING LEFT OR RIGHT SUPPORT FOR FRONT SEAT BACKREST (NORMAL/MANUAL)

Operation is described in:

Replacing backrest cover for left or right front seat. Refer to **52 15 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)** or **52 13 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)**.

52 13 415 REPLACING LEFT OR RIGHT UPHOLSTERY FOR FRONT SEAT (NORMAL/MANUAL)

cardiagn.com

Operation is described in:

- Replacing **SEAT COVER ON LEFT OR RIGHT FRONT SEAT**.

52 13 400 REPLACING SEAT COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Special tools required:

- **52 0 050**

Necessary preliminary tasks:

- Remove **FRONT SEAT**
- Remove **outer cover** . See **52 13 040 REMOVING AND INSTALLING/REPLACING OUTER COVER ON LEFT OR RIGHT FRONT SEAT BACKREST (NORMAL/MANUAL)** or **52 14 040 REMOVING AND INSTALLING/REPLACING OUTER COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/ELECTRIC)** on front seat

WARNING: **Only US and Canadian version of front passenger seat (with CIS mat):**
The CIS mat is bonded to the entire surface of the facing and can only be removed in conjunction with the padding from the seat cover.
If CIS mat or padding is defective, both parts may only be replaced together.
Full functional capability can only be guaranteed with original BMW spare parts.
After installation, the CIS mat must be enabled with the BMW PROGRAMMING SYSTEM .

WARNING: **US/CDN front passenger seat (with CIS mat) only:**
To avoid damaging the CIS mat, it is essential to carry out the following operations with extra care.

Risk of damage on sharp-edged seat mechanism.
Guide all cables carefully through seat and backrest mechanism.
IMPORTANT: Make sure cable is routed without kinks and tension.
Make sure plug connections are correctly locked.
Make sure connectors are correctly seated in latch mechanisms.

Version with seat occupancy detection (CIS mat) only:

Cut open cable strap (1).

Raise the tab and pull connector (2) out through the side of the connector housing (3).

Installation note:

Replace cable tie (1).

Connector (2) is encoded against incorrect assembly.

cardiagn.com

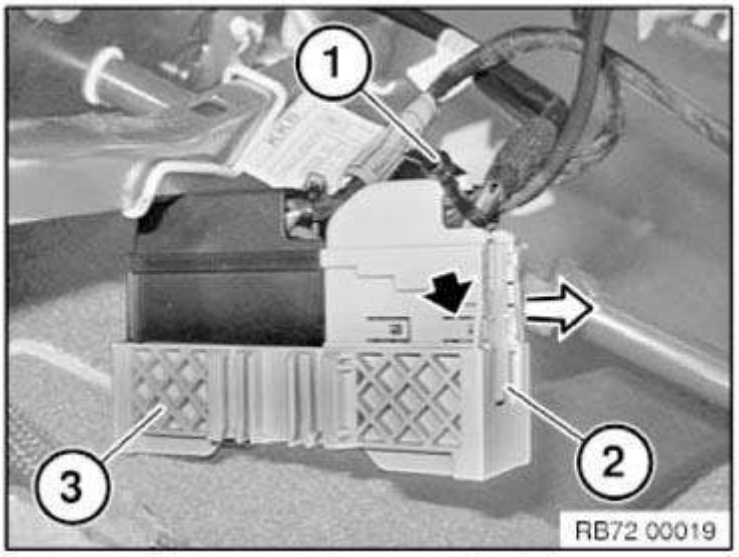


Fig. 35: Pulling Seat Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Version with seat heating only:

Unlock plug connection (1) for seat heating and disconnect.

Unfasten cable strap.

Disengage wiring harness from cable clips (flexmat).

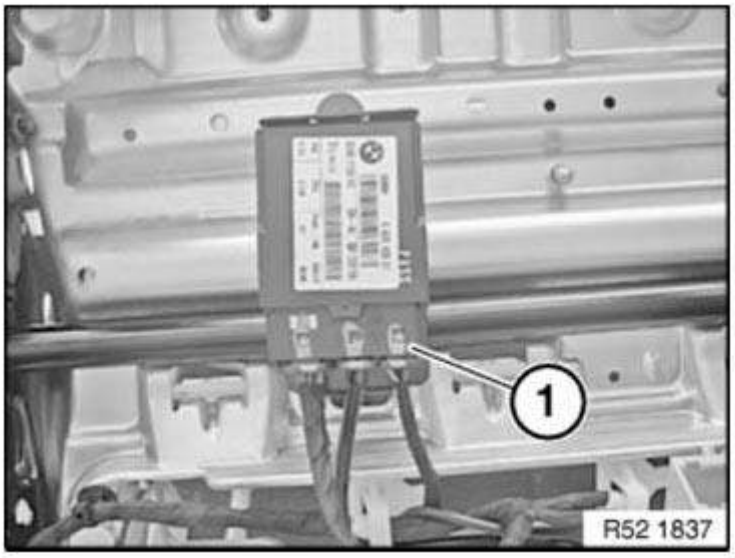


Fig. 36: Identifying Seat Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Version with seat occupancy detector without seat heating (CIS mat) only:

Seat heating is integrated in the CIS mat and is stuck to the upholstery over the full surface.

Lay cable for seat heating as shown to flexmat and secure with cable strap.

Secure connector with cable strap to cable.

cardiagn.com

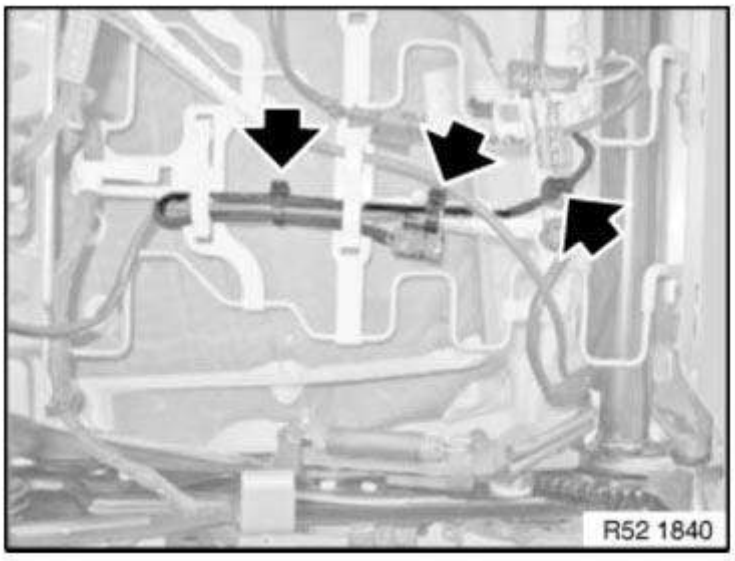


Fig. 37: Locating Seat Heating Cable Strap
Courtesy of BMW OF NORTH AMERICA, INC.

Vehicle exterior:

Lever clamp (1) out of seat cover.

Installation note:

If necessary, replace faulty clip.

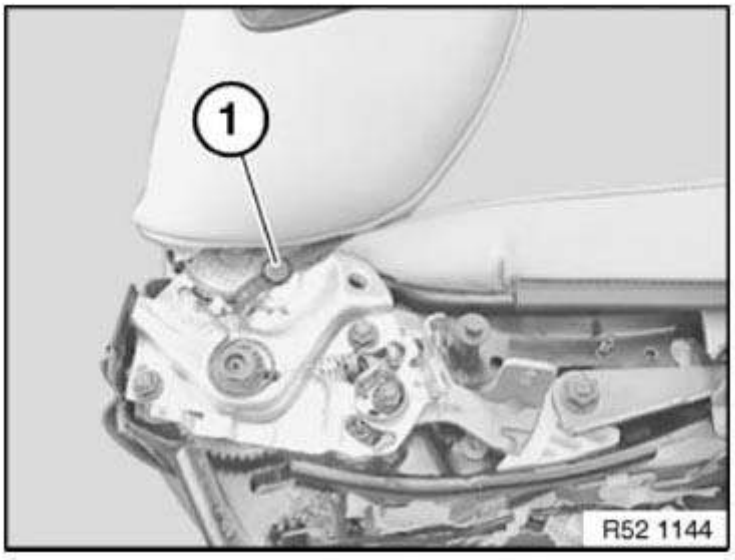


Fig. 38: Identifying Seat Cover Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Tunnel side:

Disengage cover fastener (1) from belt deflector trim.

cardiagn.com

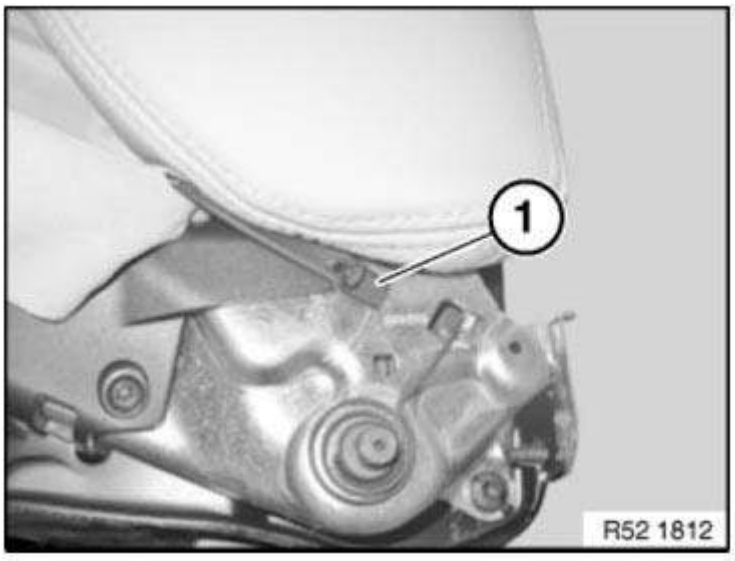


Fig. 39: Identifying Cover Fastener Of Belt Deflector Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Detach seat cover (1) from seat frame.

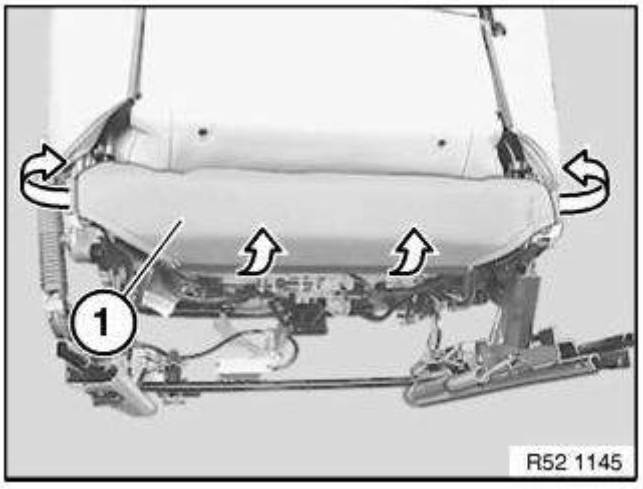


Fig. 40: Detaching Seat Cover From Seat Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Pull out cover welt (1) completely from seat frame (2).

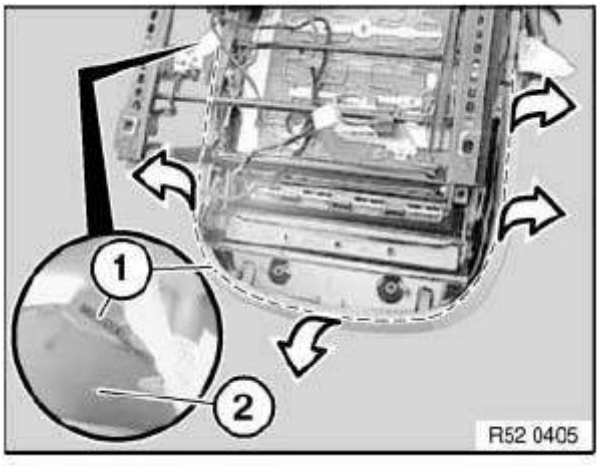


Fig. 41: Pulling Cover Welt From Seat Frame

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Remove seat cover (1) with padding towards front/top.

IMPORTANT: Carefully slide bracing cloth with foam through backrest gap and seat structure.

Installation note:

Slide foam completely through backrest gap and seat structure. Make sure foam and bracing cloth are correctly fitted.

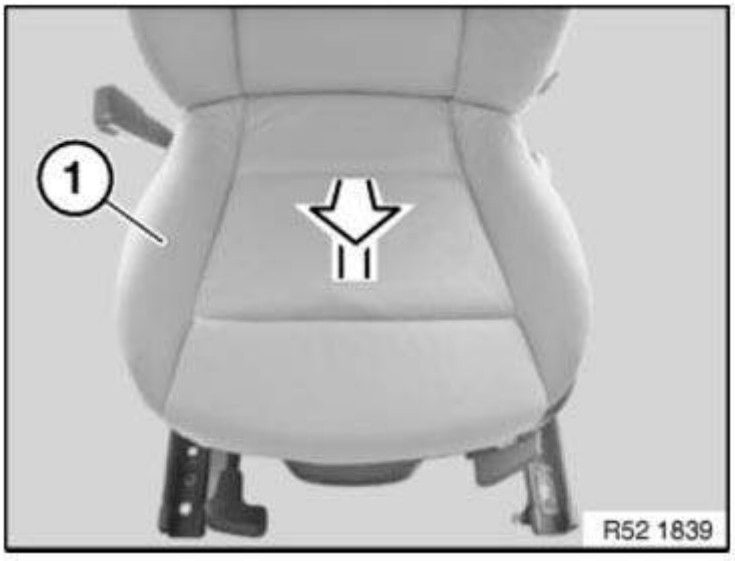


Fig. 42: Removing Seat Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Version with seat heating and/or with seat occupancy detection (CIS mat):

Pull seat cover (1) with padding forward a little and feed wiring harnesses (2) out.

Remove seat cover (1) with padding towards front/top.

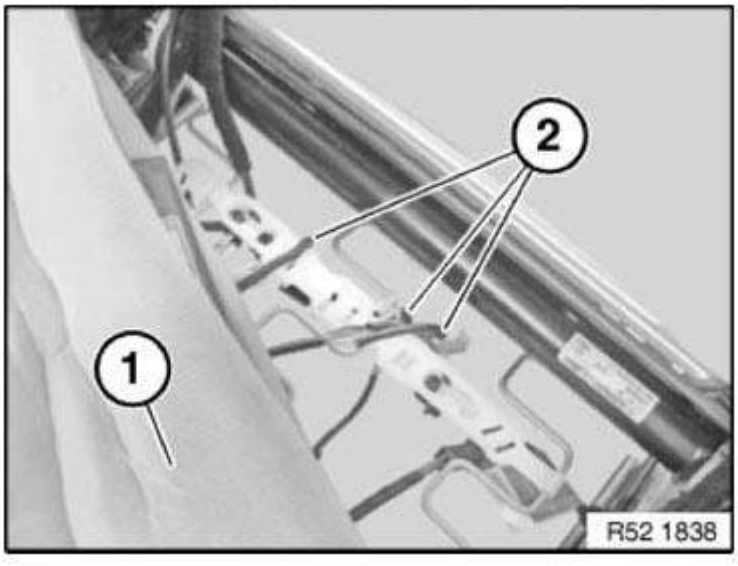


Fig. 43: Identifying Seat Cover And Wiring Harnesses
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully detach all retainers in side area from OKE strips (1).

cardiagn.com

Carefully turn seat cover over and release clamps from OKE strips (2).

Remove seat cover from upholstery.

IMPORTANT: Remove all remnants of clips from seat cover and upholstery (CIS mat).

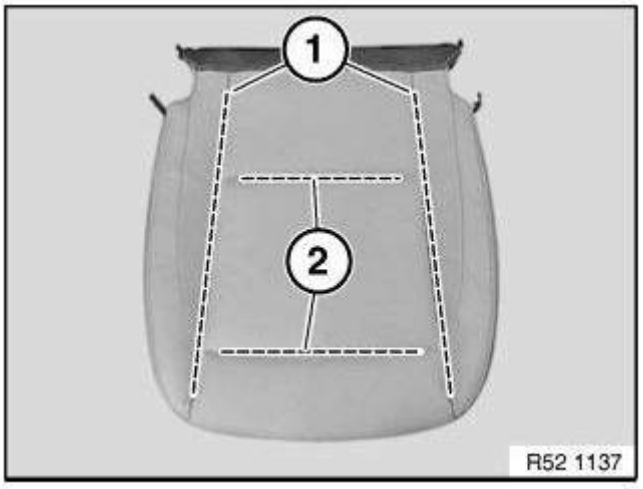


Fig. 44: Identifying Seat OKE Strips
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Bend new clamps (2) with special tool **52 0 050** .

1. Upholstery
2. Clamp
3. Trim wire in upholstery
4. OKE strip in cover
5. Seat cover

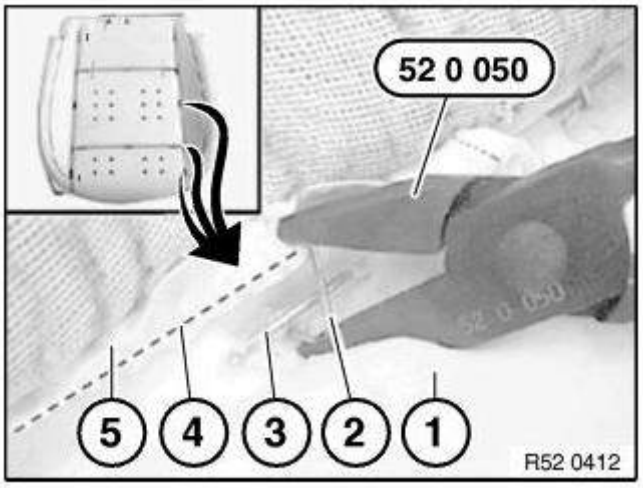


Fig. 45: Identifying Special Tool (52 0 050)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Enabling seat occupancy detector (CIS mat):

cardiagn.com

- Connect **BMW PROGRAMMING SYSTEM**
- Encode airbag control unit
- Delete fault memory if necessary

65 77 604 REPLACING SENSOR MAT (CIS MAT) FOR FRONT PASSENGER SEAT OCCUPANCY DETECTOR

WARNING: **Note AIRBAG SAFETY REGULATIONS !**
Incorrect handling can activate airbag and cause injury.

WARNING: **Only US and Canadian version of front passenger seat (with CIS mat):**
The CIS mat is bonded to the entire surface of the facing and can only be removed in conjunction with the padding from the seat cover.
If CIS mat or padding is defective, both parts may only be replaced together.
Full functional capability can only be guaranteed with original BMW spare parts.
After installation, the CIS mat must be enabled with the BMW PROGRAMMING SYSTEM .

Procedure for replacing the CIS mat together with the upholstery is described in:

- Replacing **upholstery for front seat** . See **52 13 400 REPLACING SEAT COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)** or **52 15 400 REPLACING SEAT COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)**

The work scope with CIS mat is different for the following work steps:

Cut open cable strap (1).

Lift locking tab and pull the connector out of the side of the connector housing.

Installation note:

Replace cable tie (1).

Connector is encoded against incorrect assembly.

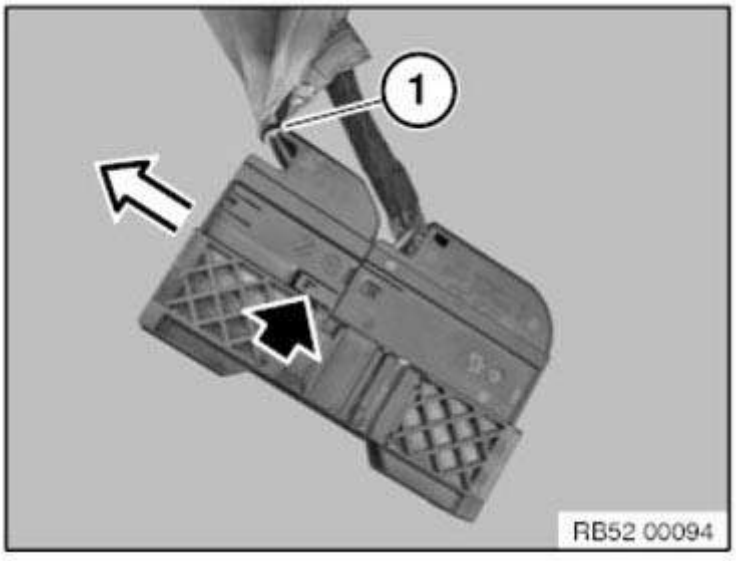


Fig. 46: Pulling Seat Occupancy Detector Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

cardiagn.com

Enabling seat occupancy detector (CIS mat):

- Connect **BMW PROGRAMMING SYSTEM**
- Encode airbag control unit
- Delete fault memory if necessary

FRONT SEAT, NORMAL, ELECTRIC

52 14... ADDITIONAL WORK IN EVENT OF FAULTY DRIVE/GEARING FOR LONGITUDINAL ADJUSTMENT

Release screws (1) of rockers for seat height adjustment.

Installation:

Carefully bend side section back and feed rocker out of top rail.

Tilt front seat back.

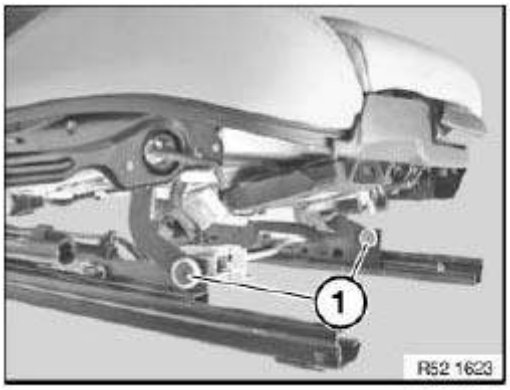


Fig. 47: Identifying Seat Height Adjustment Rockers Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

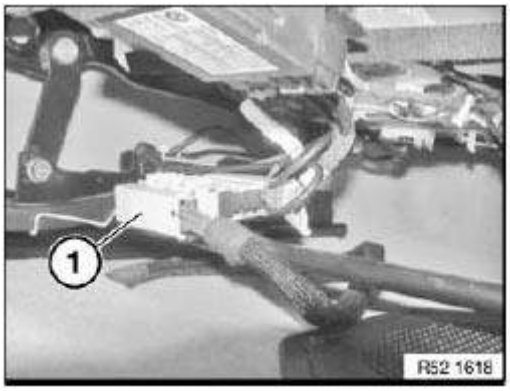


Fig. 48: Identifying Seat Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip central connector (2) from seat mechanism.

Unclip control units (1).

cardiagn.com

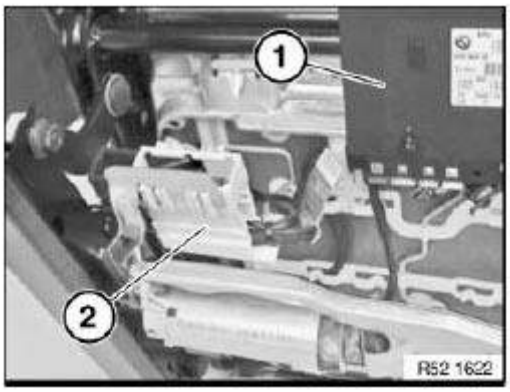


Fig. 49: Identifying Control Unit And Central Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

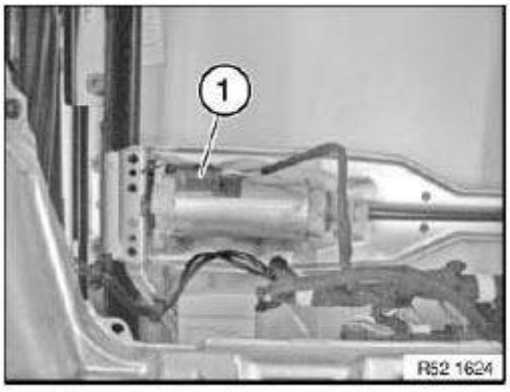


Fig. 50: Identifying Control Unit Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Bend metal tab (1) open.

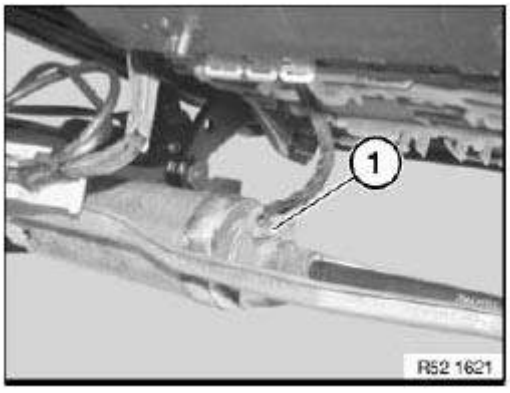


Fig. 51: Identifying Control Unit Metal Tab
Courtesy of BMW OF NORTH AMERICA, INC.

Lift drive (1) and flex shaft (2) out of guide (4) in direction of arrow.

Detach drive (1) from rubber mounts (3).

Detach flex shaft (3) from drive (1).

cardiagn.com

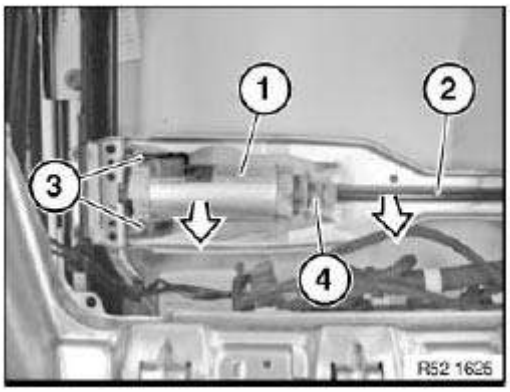


Fig. 52: Detaching Drive And Flex Shaft Out Of Guide
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) at front.

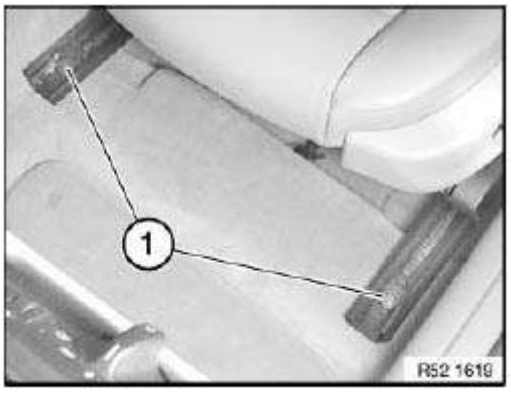


Fig. 53: Identifying Seat Rails Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Install new drive for longitudinal seat adjustment.

Move front seat forwards.

Release screws (1) at rear.

IMPORTANT: Cover door sill with protective covers (risk of damage).

Lift out front seat and assemble.

cardiagn.com

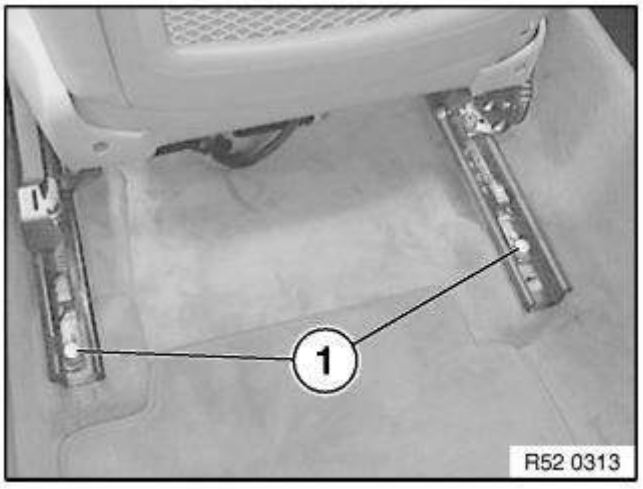


Fig. 54: Identifying Seat Rail Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

- Make sure flex shaft is correctly fitted on drive
- Carpet must not get between seat rails and floor panel in area of attachment points (squeaking noises)
- Powerlok screws must be replaced and must **not** be reused
- Powerlok screws are mechanical screw locks with trilobular threads
- Insert all screws loose to avoid twisting
- Tighten down all screws to specified torque

  Tightening torque **52 10 1AZ** .

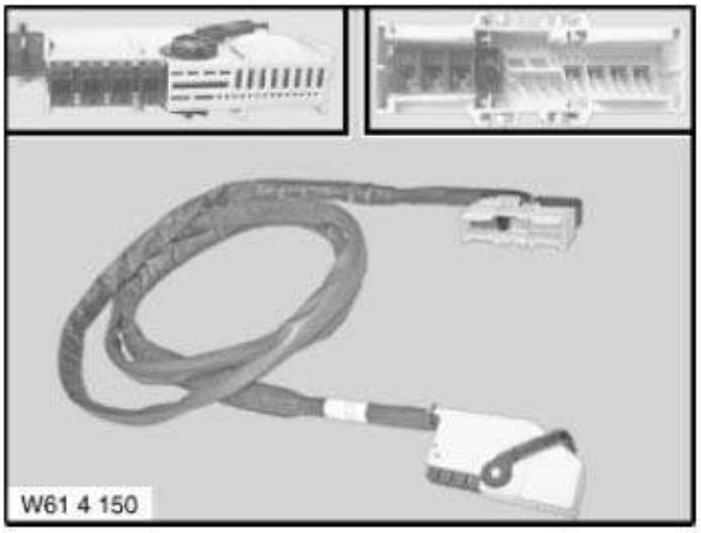
52 14... PERFORMING FUNCTION CHECK WITH ADAPTER CABLE (FOR SEAT REPAIRS)

Special tools required:

- 61 4 140
- **61 4 150**

Seat function check:

NOTE: **The function check on a repaired driver's or front passenger seat can be performed outside the vehicle by using adapter cable 61 4 150 .**



cardiagn.com

Fig. 55: Identifying Adapter Cable (61 4 150)
Courtesy of BMW OF NORTH AMERICA, INC.

Application:

Adapter cable is connected to vehicle wiring harness and removed seat **61 4 150** .

RSE (rear passenger compartment monitor) function check

NOTE: **The function check of the RSE (rear passenger compartment monitor) on a repaired driver's or front passenger seat can be performed outside the vehicle by using adapter cable 61 4 140.**

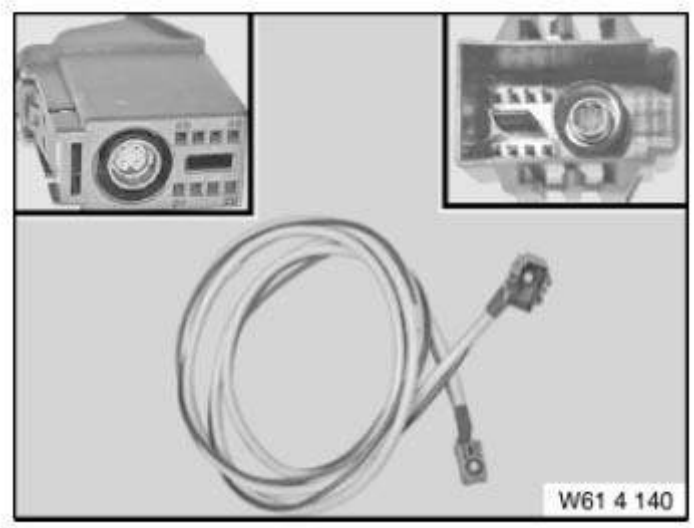


Fig. 56: Identifying Adapter Cable (61 4 150)
Courtesy of BMW OF NORTH AMERICA, INC.

Application:

Adapter cable is connected to vehicle wiring harness and removed seat 61 4 140.

52 13 021 REMOVING AND INSTALLING/REPLACING FLEXMAT ON LEFT OR RIGHT FRONT SEAT

Refer to **52 13 021 REMOVING AND INSTALLING/REPLACING FLEXMAT ON LEFT OR RIGHT FRONT SEAT**.

52 14... REMOVING AND INSTALLING CARRIER FOR OUTER COVER ON LEFT OR RIGHT FRONT SEAT (ELECTRIC)

Necessary preliminary tasks:

- Remove **OUTER COVER**

Detach cable strap (1).

Unlock and disconnect plug connections (2) on servodrive.

Unscrew bolt (3).

Tightening torque **52 10 04AZ** .

Unclip carrier in marked area and remove.

cardiagn.com

Installation:

Replace cable strap.

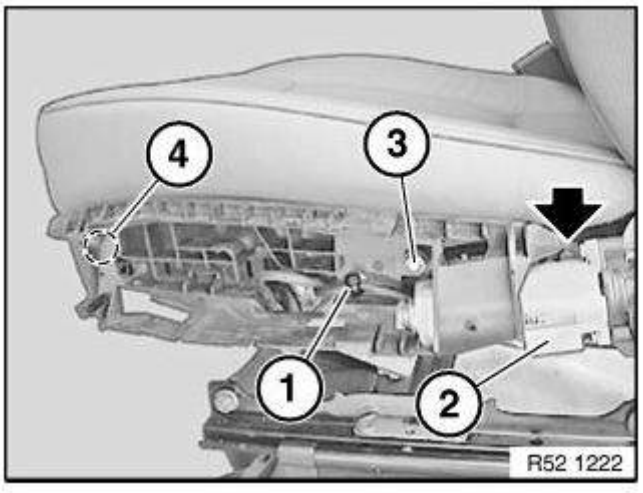


Fig. 57: Locating Servodrive Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Make sure carrier is correctly seated on seat mechanism.

52 13 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Refer to **52 13 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)**.

52 14 050 REMOVING AND INSTALLING OR REPLACING LUMBAR CUSHION ON FRONT SEAT

Necessary preliminary tasks:

- Remove **REAR PANEL ON FRONT SEAT**

Detach backrest cover (1) from backrest frame.

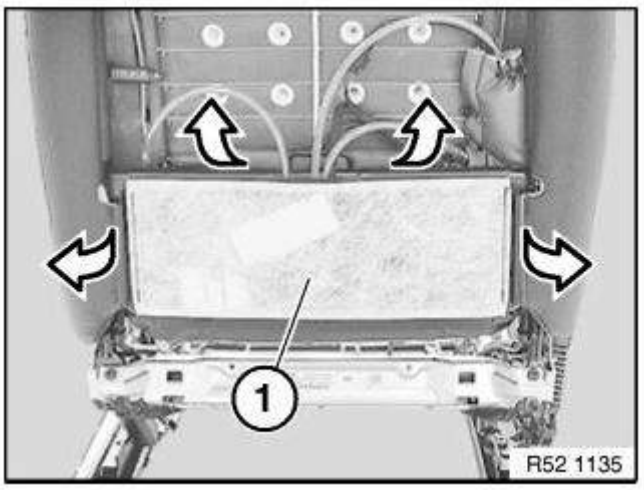


Fig. 58: Detaching Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock quick connectors and detach air hoses (1 and 2) from valve body (3).

NOTE: Connections are coded against incorrect assembly.

cardiagn.com

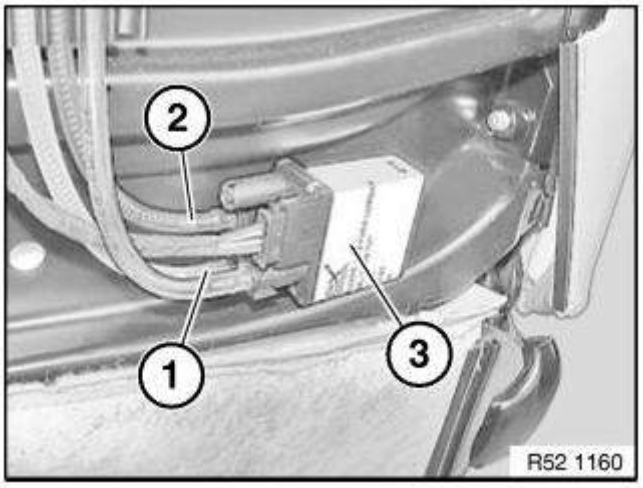


Fig. 59: Identifying Valve Housing And Air Hoses
Courtesy of BMW OF NORTH AMERICA, INC.

Detach lumbar support (1) from spring wire (2).

Installation note:

Attach lumbar support (1) at third and fifth wire from below.

Unclip air hoses (3) and (4) from holder.

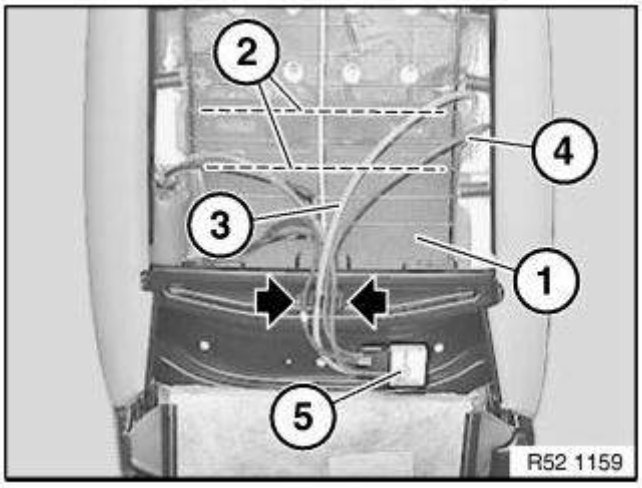


Fig. 60: Locating Lumbar Supports And Air Hoses
Courtesy of BMW OF NORTH AMERICA, INC.

Press back padding (1) a little.

Pull out lumbar cushion (2) towards top.

Feed air hoses out of backrest frame and spring wire.

cardiagn.com

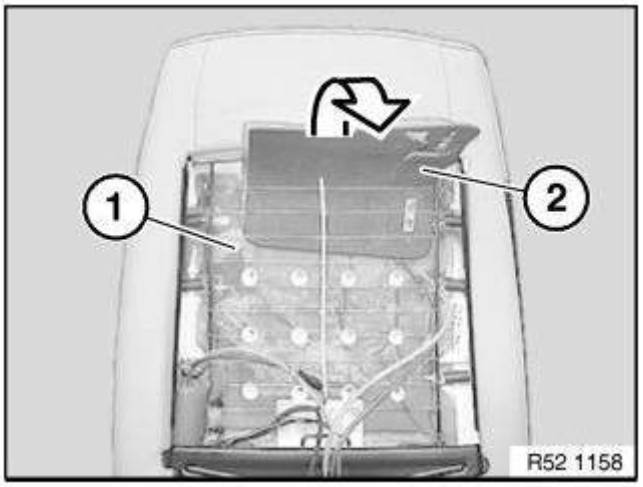


Fig. 61: Pulling Out Lumbar Cushion
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Check lumbar support at top (1) and bottom (2) for damage.

Air hoses (3) must not be kinked.

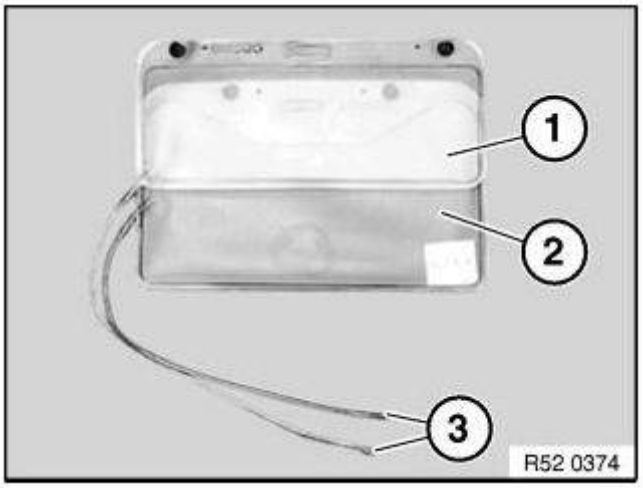


Fig. 62: Identifying Lumbar Cushion And Air Hoses
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Carry out **FUNCTION CHECK**.

52 13 198 REMOVING AND INSTALLING OR REPLACING REAR PANEL ON LEFT OR RIGHT FRONT SEAT BACKREST

Refer to **52 13 198 REMOVING AND INSTALLING OR REPLACING REAR PANEL ON LEFT OR RIGHT FRONT SEAT BACKREST**.

52 14 060 REMOVING AND INSTALLING OR REPLACING VALVE HOUSING FOR LUMBAR CUSHION

Necessary preliminary tasks:

- Remove the **REAR PANEL FROM THE FRONT SEAT**

cardiagn.com

Detach backrest cover (1) from backrest frame.

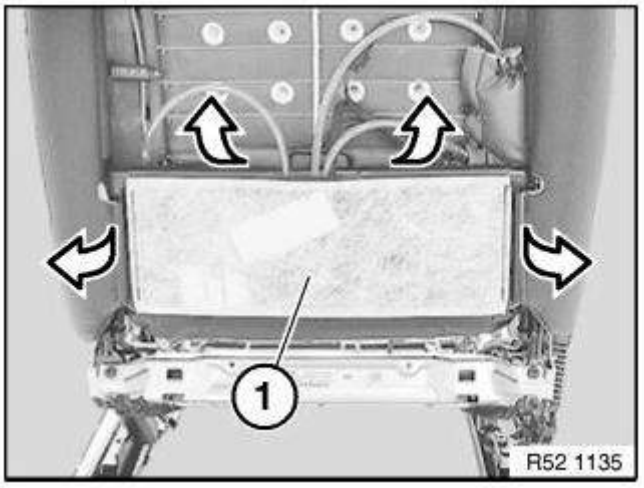


Fig. 63: Detaching Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Remove valve body (2) for lumbar support from backrest frame in direction of arrow.

Installation note:

Check that the valve body is correctly seated in the backrest frame.

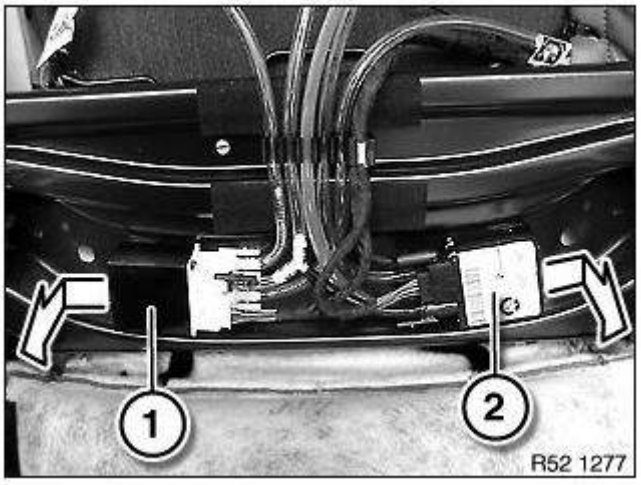


Fig. 64: Removing Lumbar Support Valve Body
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Unlock quick connectors and detach air hoses (3) and (4 and 5) from valve body (2).

Valve unit for lumbar support:

(3) Hose (clear), lumbar support drive
(4) Hose (blue), upper lumbar support
(5) Hose (red), lower lumbar support

cardiagn.com

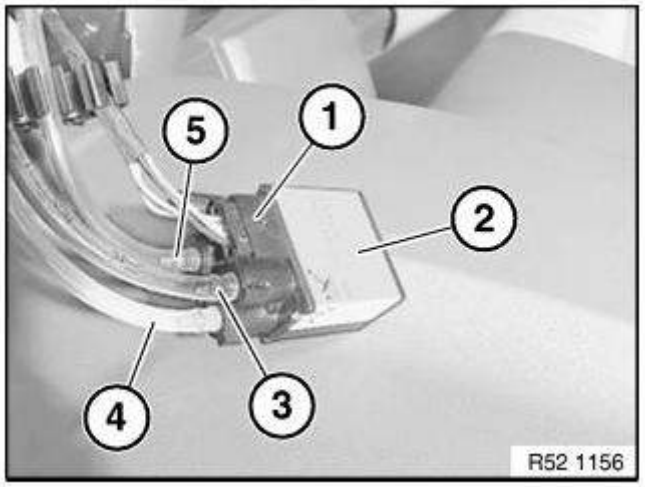


Fig. 65: Identifying Plug Connection, Air Hoses And Valve Body
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Connections are coded against incorrect assembly.**

NOTE: **Carry out FUNCTIONAL CHECK**

52 13 030 REMOVING AND INSTALLING/REPLACING BACKREST FRAME ON LEFT OR RIGHT FRONT SEAT

Refer to 52 13 030 REMOVING AND INSTALLING/REPLACING BACKREST FRAME ON LEFT OR RIGHT FRONT SEAT.

52 14 392 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT CRASH-ACTIVE HEAD RESTRAINT (FROM 09/08)

WARNING: **Observe SAFETY REGULATIONS when handling airbag modules. Incorrect handling may result in triggering of the crash-active headrest and thereby cause injury.**

Switch off the ignition!

Necessary preliminary tasks:

- Disconnect NEGATIVE BATTERY CABLE
- Remove REAR PANEL

Starting situation:

Head restraint is in the crash position after being triggered.

A triggered head restraint can be recognized by the padded section which has moved upwards.

cardiagn.com

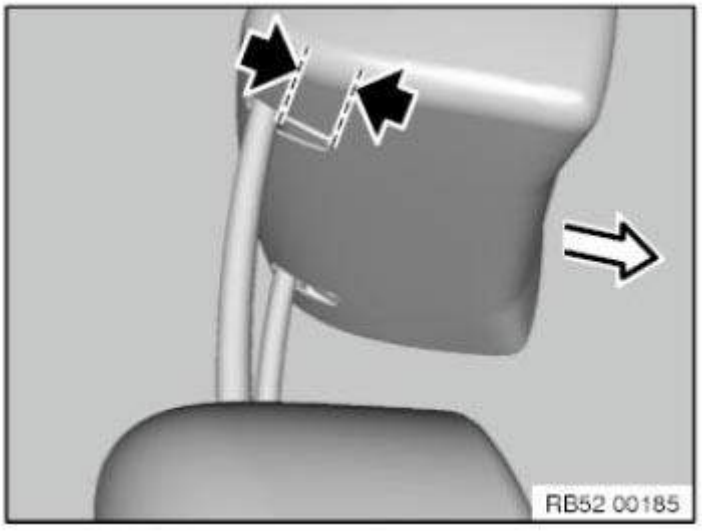


Fig. 66: Identifying Activated Head Restraint
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip **PLUG CONNECTION** (1) for crash-active headrest from holder.

Unfasten plug connection (1) and disconnect.

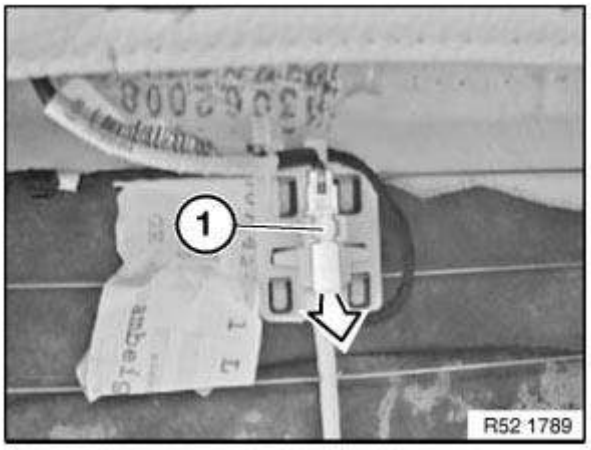


Fig. 67: Disconnect Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out sealing cap (1).

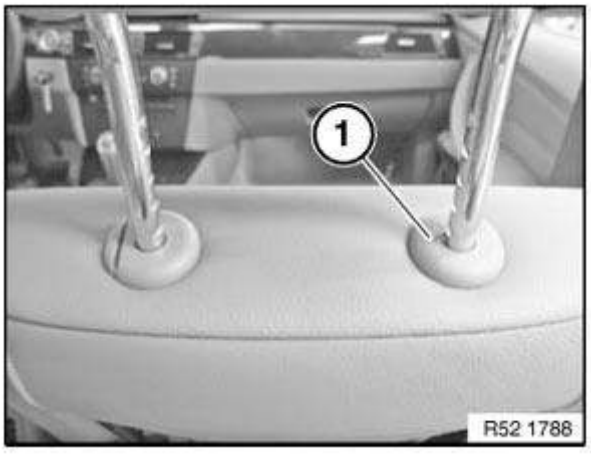


Fig. 68: Identifying Protective Cap
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Detach omega clip (1).

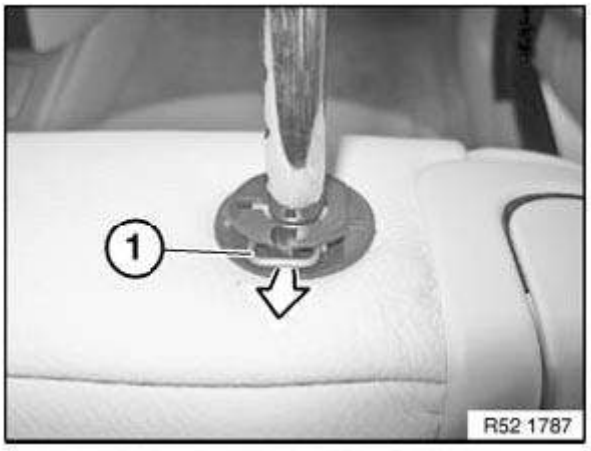


Fig. 69: Detaching Omega Clip
Courtesy of BMW OF NORTH AMERICA, INC.

Press latch mechanism (1) and lift out head restraint (2).

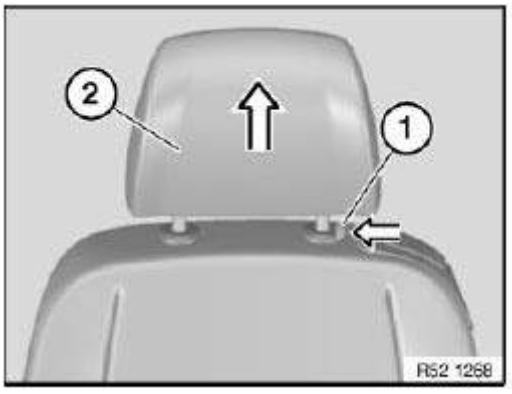


Fig. 70: Lifting Out Head Restraint
Courtesy of BMW OF NORTH AMERICA, INC.

52 13 025 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT SEAT MECHANISM (NORMAL/MANUAL)

Refer to **52 13 025 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT SEAT MECHANISM (NORMAL/MANUAL)**.

52 14 040 REMOVING AND INSTALLING/REPLACING OUTER COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/ELECTRIC)

Necessary preliminary tasks:

Remove **FRONT SEAT**.

NOTE: Image shows on installed seat by way of example.

Move backrest to full rearward position.

Unclip release tab (2) for belt end fitting trim (1) with plastic wedge.

cardiagn.com

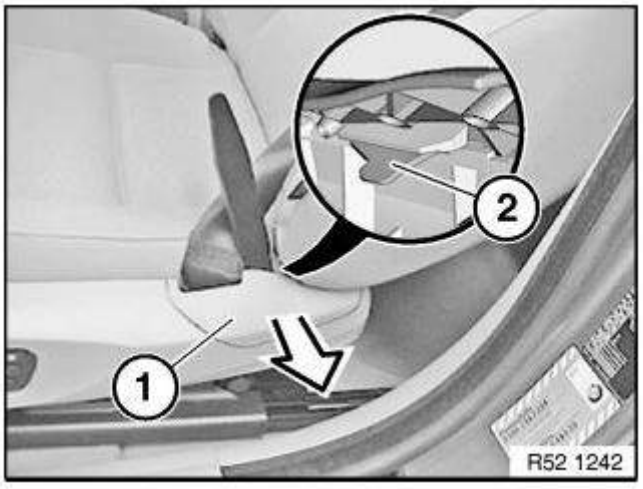


Fig. 71: Removing Seat Belt Tab
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw or latch mechanism (3).

Lever tabs (1) out of holders (2).

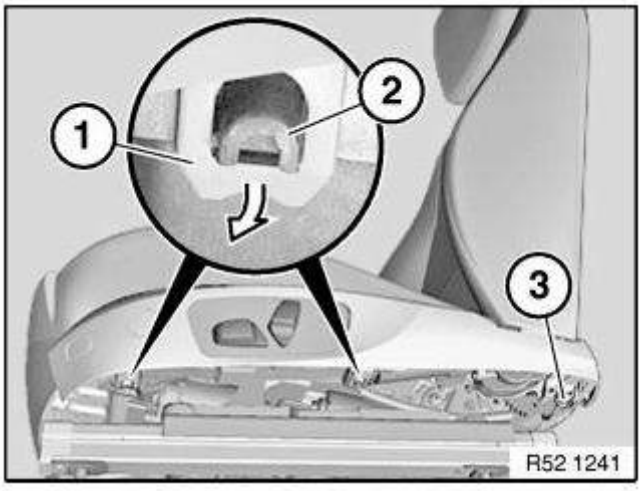


Fig. 72: Releasing Latch Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Cover (1) with support section (2) could come free of the seat mechanism in the front area.

Carefully pull cover (1) with support section (2) off the seat mechanism in the front area.

Press release tab (3) with a screwdriver and disconnect the cover from the support section.

cardiagn.com

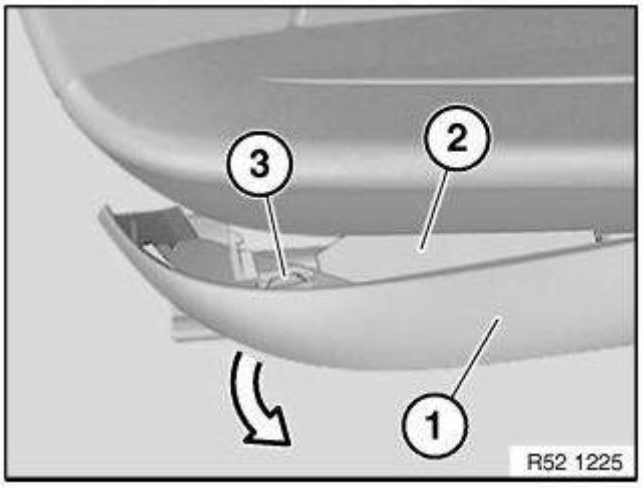


Fig. 73: Pulling Cover With Support Section
Courtesy of BMW OF NORTH AMERICA, INC.

Lift and unlock tab (1).

Reach between seat cushion and cover (2) and pull cover off the support section.

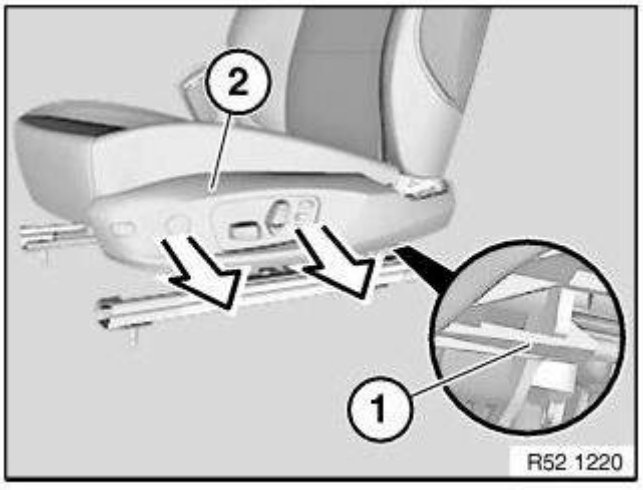


Fig. 74: Pulling Seat Cushion And Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect plug connections:

1. Operating unit
2. Lumbar support
3. Seat backrest width adjustment

cardiagn.com

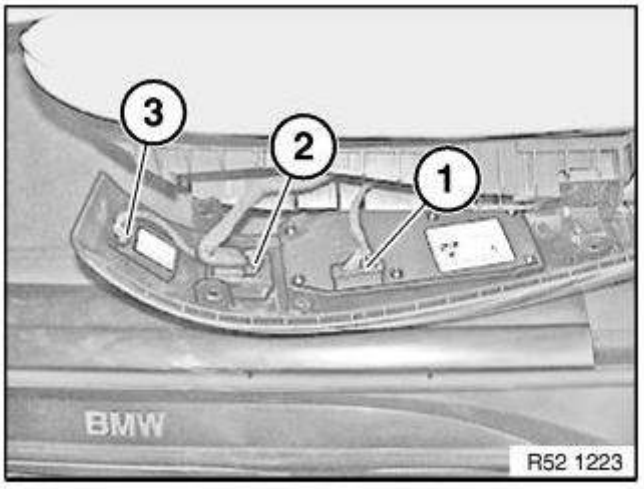


Fig. 75: Identifying Lumbar Support And Seat Backrest Width Adjustment
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining clips and tabs of the cover must not be damaged.

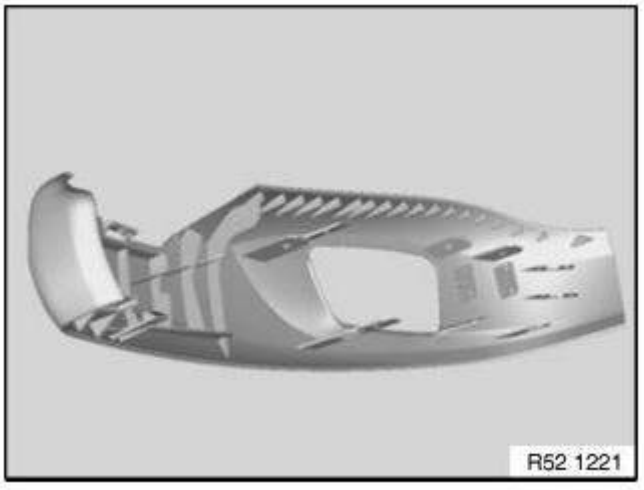


Fig. 76: Identifying Retaining Clips And Cover Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement only:

Unlock latch mechanisms of the switch housings and remove switch from cover.

If necessary, cut out missing apertures for lumbar support using a suitable tool.

cardiagn.com

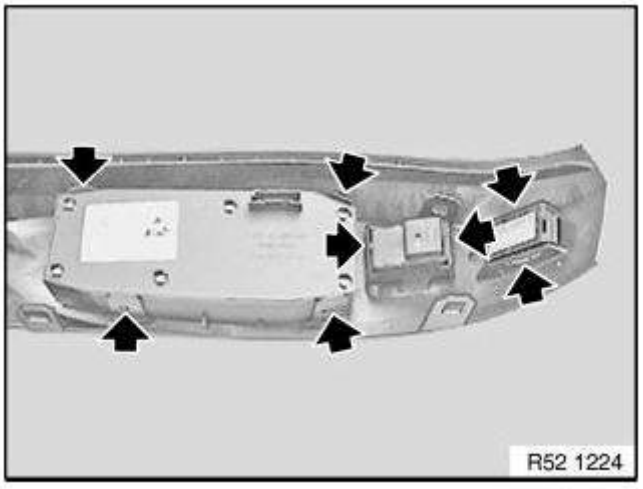


Fig. 77: Locating Latch Mechanisms
Courtesy of BMW OF NORTH AMERICA, INC.

52 13 041 REMOVING AND INSTALLING/REPLACING THE INNER COVER ON THE LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Refer to **52 13 041 REMOVING AND INSTALLING/REPLACING THE INNER COVER ON THE LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)**.

52 13 455 REPLACE HEATING ELEMENTS FOR FRONT SEAT (BASIC VERSION) ON THE LEFT OR RIGHT

Refer to **52 13 455 REPLACE HEATING ELEMENTS FOR FRONT SEAT (BASIC VERSION) ON THE LEFT OR RIGHT**.

52 13 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Refer to **52 13 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)**.

52 14 888 REPLACING BOTH GAS CARTRIDGES FOR CRASH-ACTIVE HEADREST

NOTE: **This operation is described in section on:**

- **Replacing GAS CARTRIDGE FOR CRASH-ACTIVE HEADREST on left or right**

52 14 886 REPLACING GAS CARTRIDGE FOR CRASH-ACTIVE HEADREST ON LEFT OR RIGHT

WARNING: **Read and comply with SAFETY REGULATIONS for handling airbag modules and pyrotechnical belt pretensioners.**
Incorrect handling may result in triggering of the crash-active headrest and thereby cause injury.

Switch off the ignition!

Necessary preliminary work:

- Disconnect **NEGATIVE BATTERY LEAD**

cardiagn.com

IMPORTANT: Renewal of firing unit may be carried out up to 4 times.
Triggering frequency is denoted on the sticker on the head restraint carrier.
Labels are available as spare parts.

Starting situation:

Head restraint is in the crash position after activation.

NOTE: **Firing unit can only be removed in the triggered state.**
The complete head restraint must be exchanged in the event of a crash-active headrest fault message and non-activated ignition squib.

Lever out cover welt in marked area.

Remove cover with padding from head restraint.

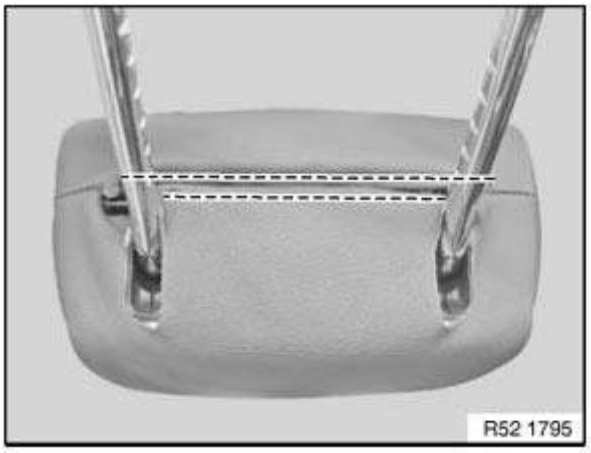


Fig. 78: Removing Cover From Head Restraint
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip service flap.

Move firing unit (1) forwards and remove towards front.

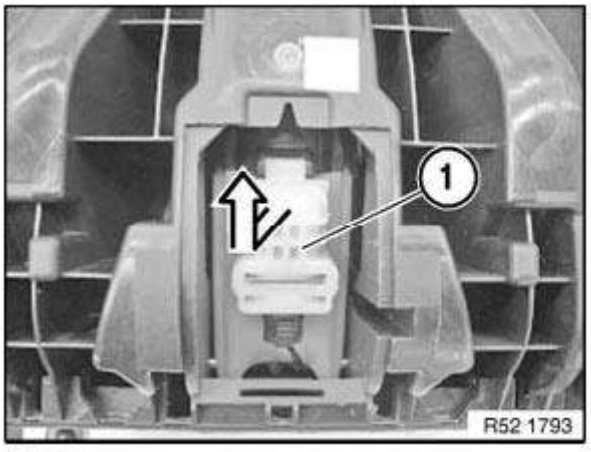


Fig. 79: Moving Firing Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Replace firing unit.

cardiagn.com

Installation note:

Plug connection (1) must audibly snap into place.

Check firm engagement of plug connection (1) by gently pulling on connector.

Lay cable in side guide.

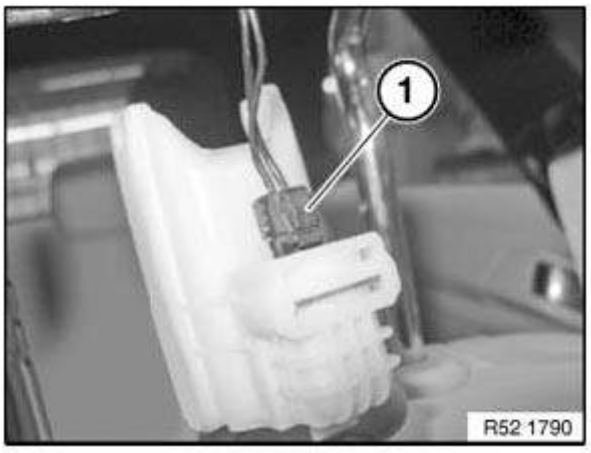


Fig. 80: Identifying Firing Unit Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Press locking spring (1) on left and right through opening and secure with cylindrical pins (or similar).

Head restraint is unlocked.

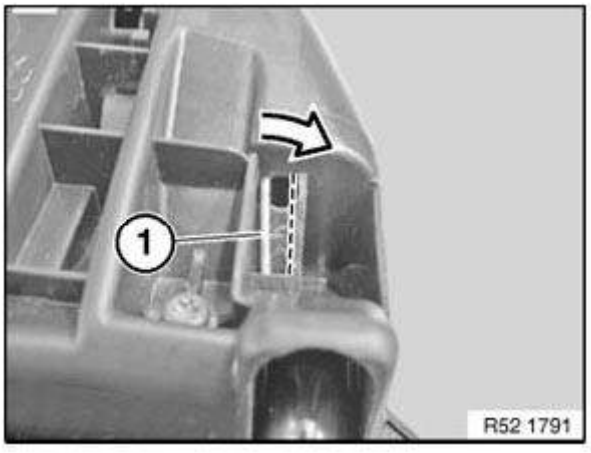


Fig. 81: Pressing Lock Spring
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Carry out this repair work with a second person, as extra effort is necessary.

Pull head restraint (1) at an angle downwards until it is completely in lowest position and rests on linkage.

Hold head restraint (1) in this position for the following tasks.

cardiagn.com

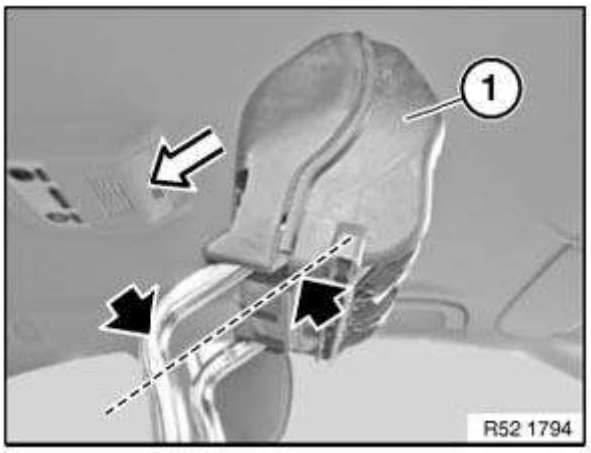


Fig. 82: Pulling Head Restraint
Courtesy of BMW OF NORTH AMERICA, INC.

Clip firing unit (1) onto linkage (2).

Installation note:

Check that firing unit (1) is firmly seated on linkage.

Press firing unit (1) forwards and clip into place.

IMPORTANT: Firing unit (1) must audibly snap into place.

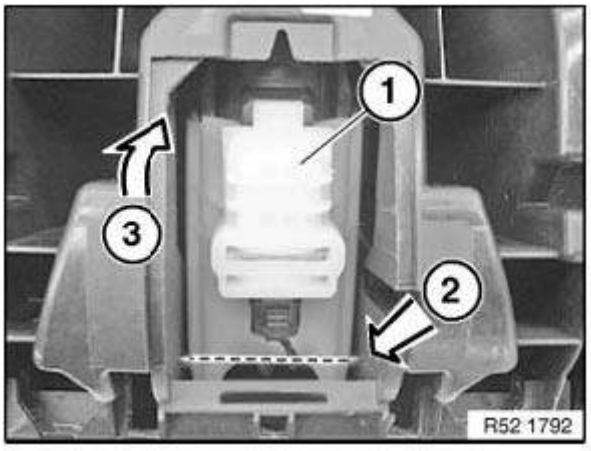


Fig. 83: Pressing Firing Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Visually check that firing unit is correctly seated.

Attach label for identification after replacement.

Clip service flap into place.

cardiagn.com

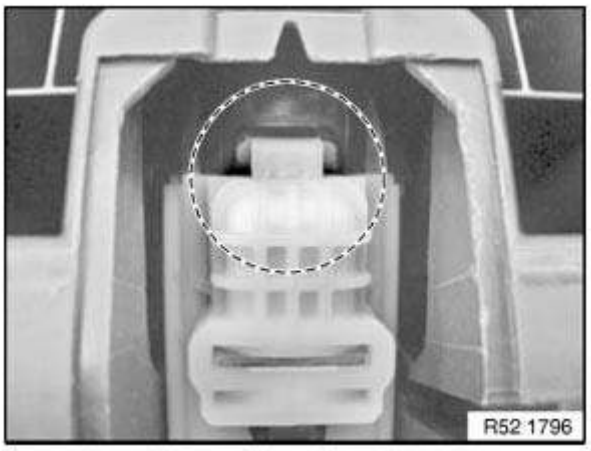


Fig. 84: Identifying Service Flap Position
Courtesy of BMW OF NORTH AMERICA, INC.

52 13... REPLACING GUIDE SLEEVES FOR FRONT LEFT OR RIGHT HEAD RESTRAINT

Refer to **52 13... REPLACING GUIDE SLEEVES FOR FRONT LEFT OR RIGHT HEAD RESTRAINT**.

52 13 420 REPLACING LEFT OR RIGHT SUPPORT FOR FRONT SEAT BACKREST (NORMAL/MANUAL)

Refer to **52 13 420 REPLACING LEFT OR RIGHT SUPPORT FOR FRONT SEAT BACKREST (NORMAL/MANUAL)**.

52 13 415 REPLACING LEFT OR RIGHT UPHOLSTERY FOR FRONT SEAT (NORMAL/MANUAL)

Refer to **52 13 415 REPLACING LEFT OR RIGHT UPHOLSTERY FOR FRONT SEAT (NORMAL/MANUAL)**.

52 13 400 REPLACING SEAT COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Refer to **52 13 400 REPLACING SEAT COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)**.

65 77 604 REPLACING SENSOR MAT (CIS MAT) FOR FRONT PASSENGER SEAT OCCUPANCY DETECTOR

WARNING: **Note AIRBAG SAFETY REGULATIONS !**
Incorrect handling can activate airbag and cause injury.

WARNING: **Only US and Canadian version of front passenger seat (with CIS mat):**
The CIS mat is bonded to the entire surface of the facing and can only be removed in conjunction with the padding from the seat cover.
If CIS mat or padding is defective, both parts may only be replaced together.
Full functional capability can only be guaranteed with original BMW spare parts.
After installation, the CIS mat must be enabled with the BMW PROGRAMMING SYSTEM .

Procedure for replacing the CIS mat together with the upholstery is described in:

- Replacing **upholstery for front seat** . See **52 13 400 REPLACING SEAT COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)** or **52 15 400 REPLACING SEAT COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)**

cardiagn.com

The work scope with CIS mat is different for the following work steps:

Cut open cable strap (1).

Lift locking tab and pull the connector out of the side of the connector housing.

Installation note:

Replace cable tie (1).

Connector is encoded against incorrect assembly.

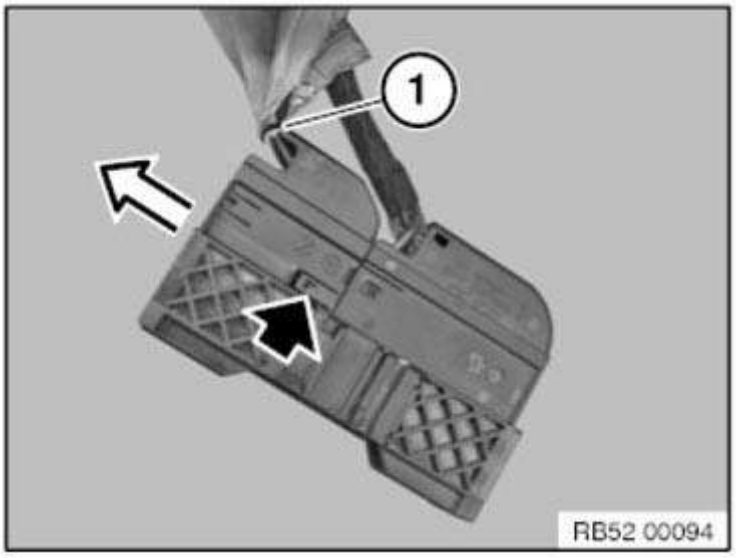


Fig. 85: Pulling Seat Occupancy Detector Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Enabling seat occupancy detector (CIS mat):

- Connect **BMW PROGRAMMING SYSTEM**
- Encode airbag control unit
- Delete fault memory if necessary

FRONT SEAT, SPORTS, MANUAL

52 15 050 REMOVE OR INSTALL LEFT OR RIGHT THIGH SUPPORT FROM/ON THE FRONT SEAT (SPORT/MANUAL)

Unlock and move thigh support (1) as far forward as possible.

Lever out the welt (3) from the seat cover (2) from the thigh support (1).

cardiagn.com

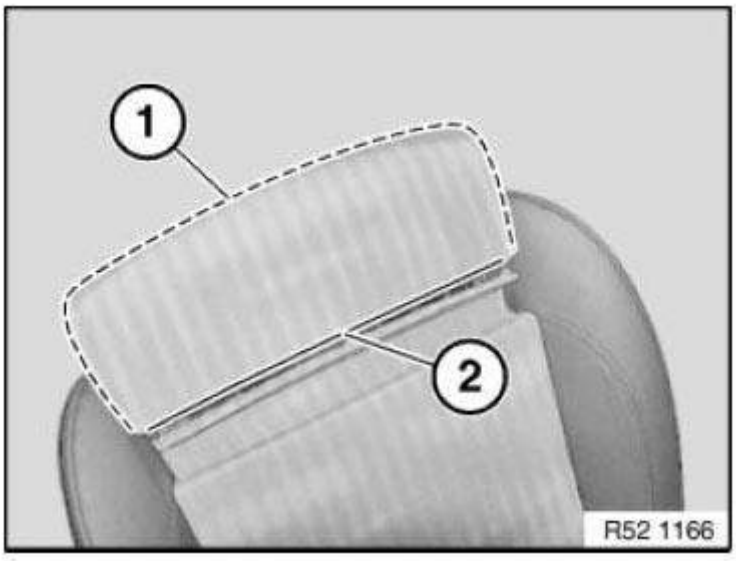


Fig. 86: Removing Thigh Support
Courtesy of BMW OF NORTH AMERICA, INC.

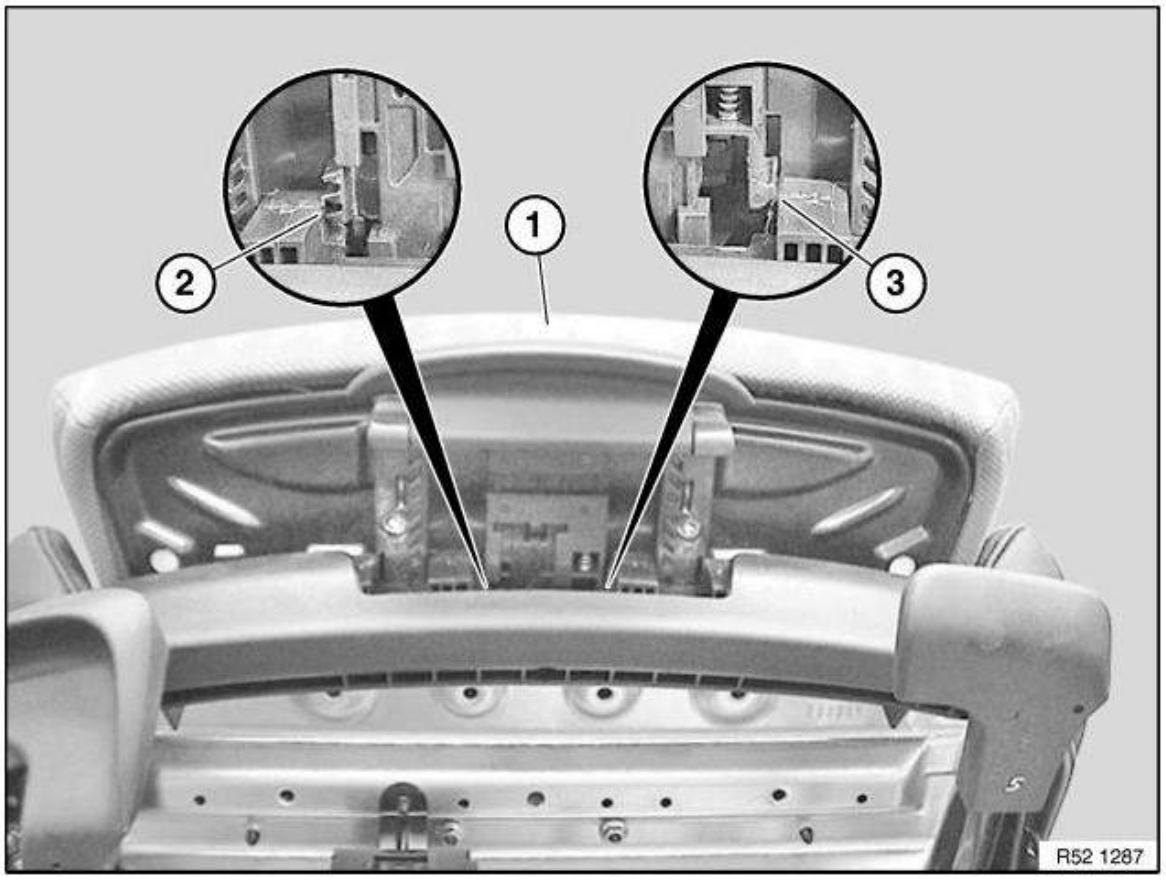


Fig. 87: Identifying Thigh Support Actuation And Centering
Courtesy of BMW OF NORTH AMERICA, INC.

Do not completely extend the thigh support to the end stop.

Keep Actuation (1) pressed to unlock the centering (2).

Carefully raise the end stop (3) for the thigh support with a screwdriver and pull the thigh support toward the front out of the guide rails at the same time.

View of thigh support mechanism:

cardiagn.com

1. End stop for thigh support
2. Locking mechanism for the thigh support

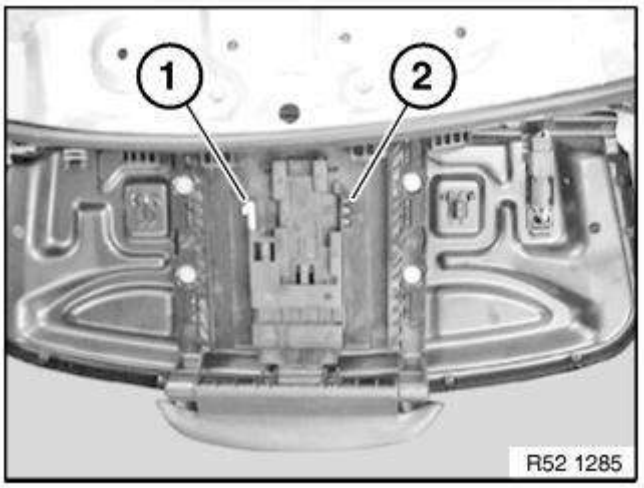


Fig. 88: Identifying Thigh Support And Locking Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

View of seat frame mechanism:

3. Guide rail on seat with depth retainer
4. Guide rail on seat with end stop

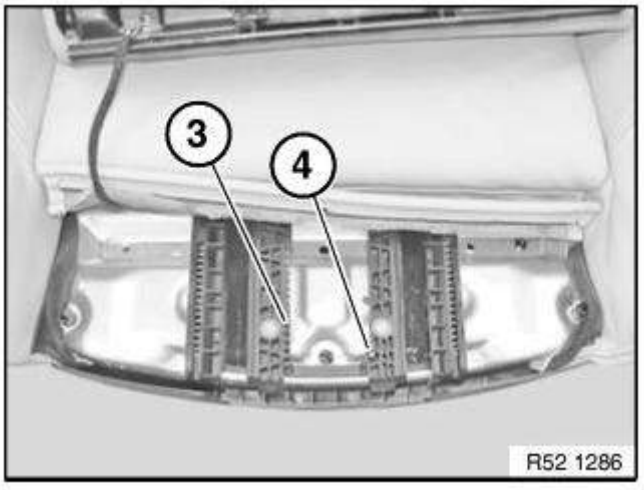


Fig. 89: Identifying Seat Frame Mechanism And Guide Rail
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

NOTE: **Check guide rails (2) and adjusting mechanism (3) for damage.**

cardiagn.com

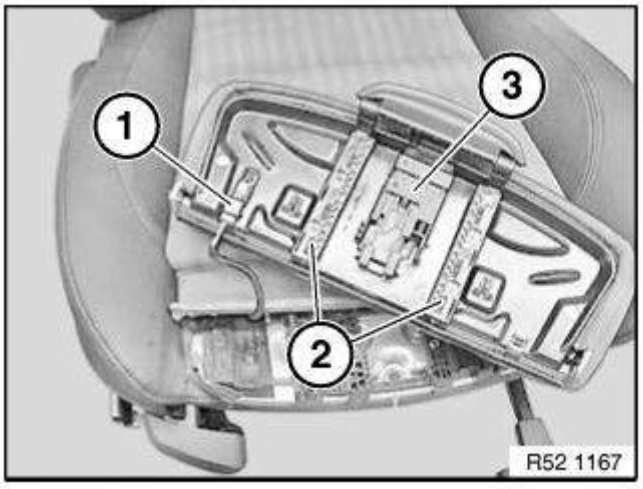


Fig. 90: Identifying Front Seat Guide Rails, Adjusting Mechanism And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

52 13 021 REMOVING AND INSTALLING/REPLACING FLEXMAT ON LEFT OR RIGHT FRONT SEAT

Refer to **52 13 021 REMOVING AND INSTALLING/REPLACING FLEXMAT ON LEFT OR RIGHT FRONT SEAT**.

52 13 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Refer to **52 13 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)**.

52 15 055 REMOVING AND INSTALLING OR REPLACING LUMBAR CUSHION ON FRONT SEAT

Necessary preliminary tasks:

- Remove **REAR PANEL ON FRONT SEAT**

Detach backrest cover (1) from backrest frame.

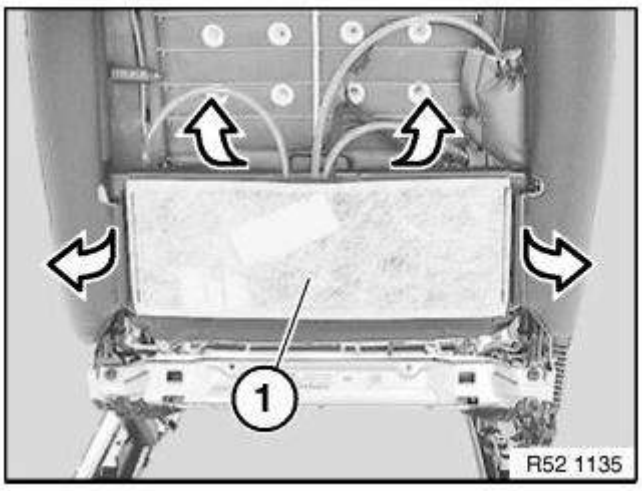


Fig. 91: Detaching Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock quick connectors and detach air hoses (1 and 2) from valve body (3).

NOTE: **Connections are coded against incorrect assembly.**

cardiagn.com

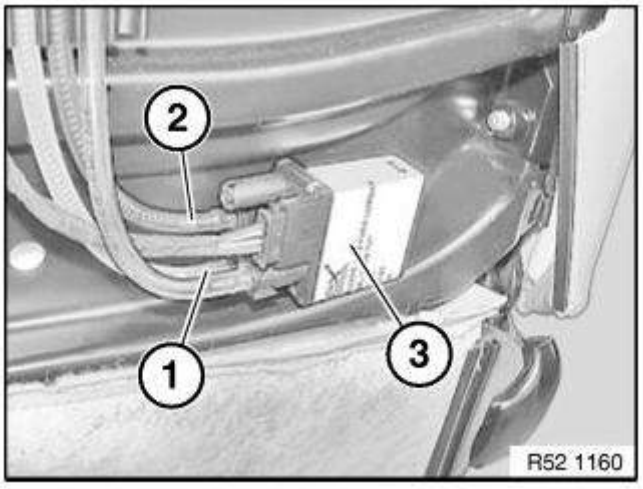


Fig. 92: Identifying Valve Housing And Air Hoses
Courtesy of BMW OF NORTH AMERICA, INC.

Detach lumbar support (1) from spring wire (2).

Installation note:

Attach lumbar support (1) at third and fifth wire from below.

Unclip air hoses (3) and (4) from holder.

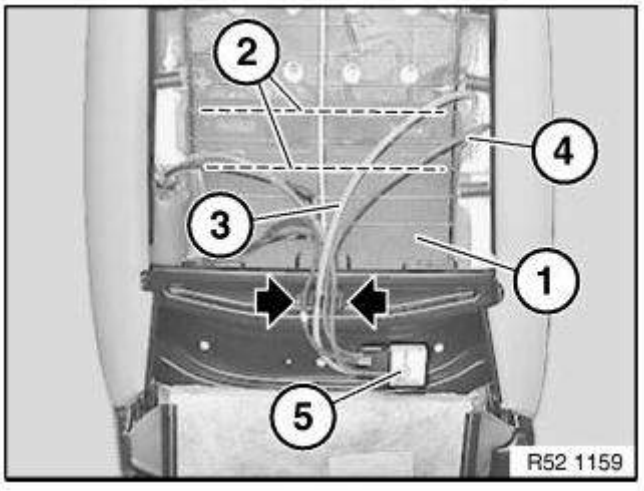


Fig. 93: Locating Lumbar Supports And Air Hoses
Courtesy of BMW OF NORTH AMERICA, INC.

Press back padding (1) a little.

Pull out lumbar cushion (2) towards top.

Feed air hoses out of backrest frame and spring wire.

cardiagn.com

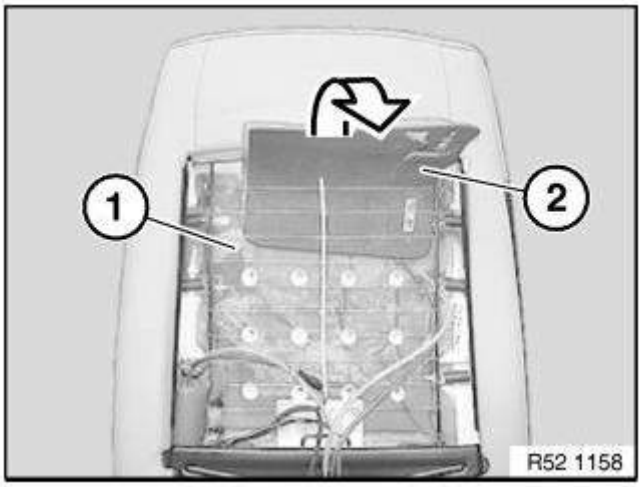


Fig. 94: Pulling Out Lumbar Cushion
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Check lumbar support at top (1) and bottom (2) for damage.

Air hoses (3) must not be kinked.

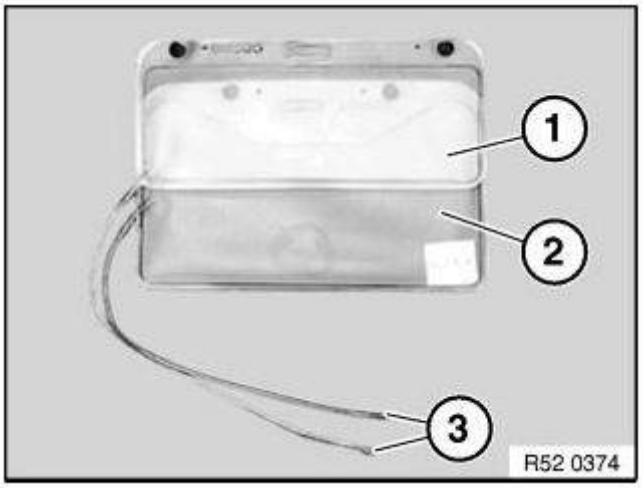


Fig. 95: Identifying Lumbar Cushion And Air Hoses
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Carry out **FUNCTION CHECK**.

52 13 198 REMOVING AND INSTALLING OR REPLACING REAR PANEL ON LEFT OR RIGHT FRONT SEAT BACKREST

Refer to **52 13 198 REMOVING AND INSTALLING OR REPLACING REAR PANEL ON LEFT OR RIGHT FRONT SEAT BACKREST**.

52 15 057 REMOVING AND INSTALLING OR REPLACING VALVE BODY FOR LUMBAR SUPPORT/BACKREST WIDTH ADJUSTMENT

Necessary preliminary tasks:

- Remove the **REAR PANEL FROM THE FRONT SEAT**

cardiagn.com

Detach backrest cover (1) from backrest frame.

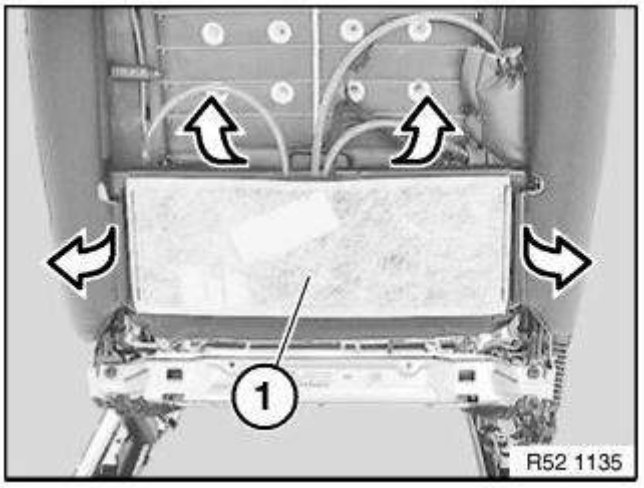


Fig. 96: Detaching Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Remove valve body in direction of arrow from backrest frame.

1. Valve body for backrest width adjustment
2. Valve body for lumbar support

Installation note:

Check that the valve body is correctly seated in the backrest frame.

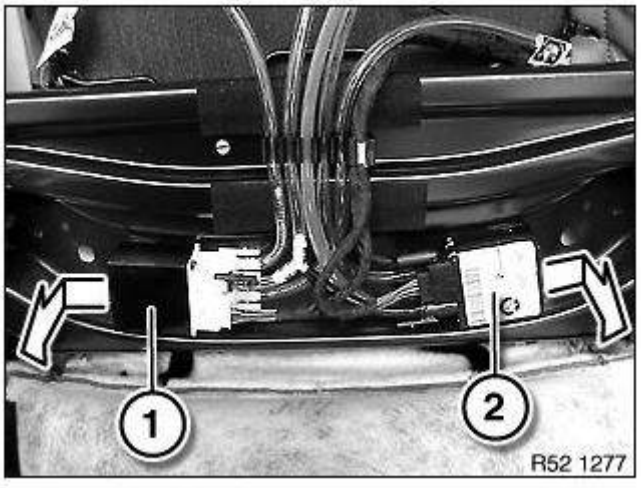


Fig. 97: Removing Lumbar Support Valve Body
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Unlock quick connectors and detach air hoses (3) and (4 and 5) from valve body (2).

Valve unit for lumbar support:

(3) Hose (black), lumbar support drive
(4) Hose (blue) in the upper lumbar support
(5) Hose (red) in the lower lumbar support

cardiagn.com

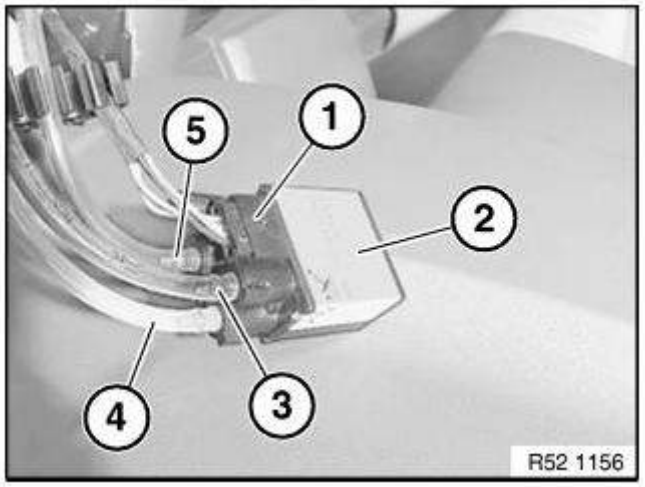


Fig. 98: Identifying Plug Connection, Air Hoses And Valve Body
Courtesy of BMW OF NORTH AMERICA, INC.

Valve unit for backrest width adjustment:

(3) Hose (clear), lumbar support drive
(4) Hose (transparent), lumbar support, left
(5) Hose (transparent) lumbar support, right

NOTE: **Connections are coded against incorrect assembly.**

NOTE: **Carry out FUNCTION CHECK.**

52 13 030 REMOVING AND INSTALLING/REPLACING BACKREST FRAME ON LEFT OR RIGHT FRONT SEAT

Refer to **52 13 030 REMOVING AND INSTALLING/REPLACING BACKREST FRAME ON LEFT OR RIGHT FRONT SEAT**.

52 14 392 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT CRASH-ACTIVE HEAD RESTRAINT (FROM 09/08)

Refer to **52 14 392 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT CRASH-ACTIVE HEAD RESTRAINT (FROM 09/08)**.

52 13 025 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT SEAT MECHANISM (NORMAL/MANUAL)

Refer to **52 13 025 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT SEAT MECHANISM (NORMAL/MANUAL)**.

52 13 040 REMOVING AND INSTALLING/REPLACING OUTER COVER ON LEFT OR RIGHT FRONT SEAT BACKREST (NORMAL/MANUAL)

Refer to **52 13 040 REMOVING AND INSTALLING/REPLACING OUTER COVER ON LEFT OR RIGHT FRONT SEAT BACKREST (NORMAL/MANUAL)**.

52 13 041 REMOVING AND INSTALLING/REPLACING THE INNER COVER ON THE LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Refer to **52 13 041 REMOVING AND INSTALLING/REPLACING THE INNER COVER ON THE LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)**.

cardiagn.com

52 15 403 REMOVING AND INSTALLING/REPLACING THIGH SUPPORT COVER ON FRONT SEAT (SPORT/MANUAL)

Release thigh support (1) and move forward.

Lever welt of seat cover (2) out of thigh support.

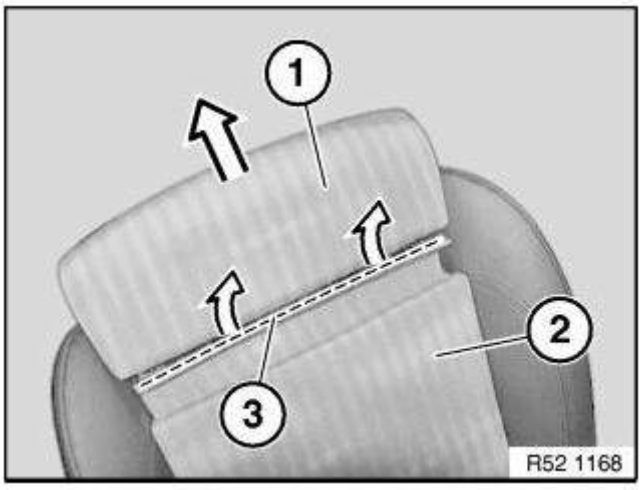


Fig. 99: Removing Thigh Support
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out cover welt in marked area (1).

Disengage trim thread in marked area (2) from thigh support.

Remove cover with padding.

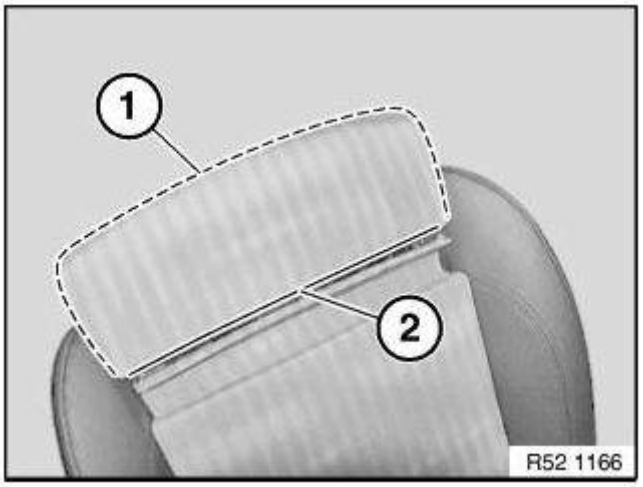


Fig. 100: Identifying Trim Thread And Cover Welt In Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Pull cover (1) off padding (2).

cardiagn.com

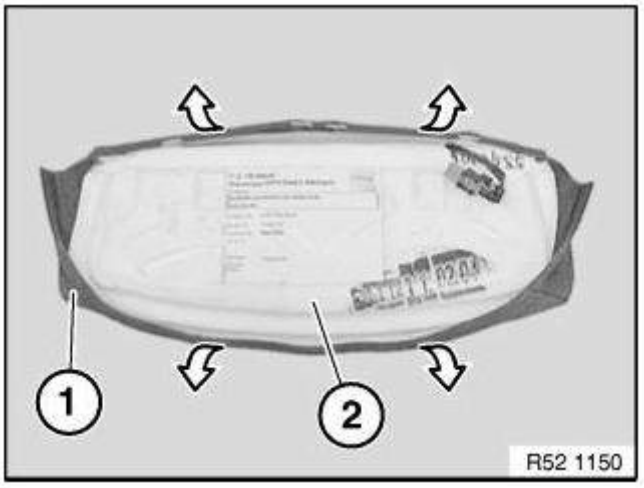


Fig. 101: Pulling Cover Off Padding
Courtesy of BMW OF NORTH AMERICA, INC.

52 15 455 REPLACE HEATING ELEMENTS FOR FRONT SEAT (SPORT/MANUAL) LEFT OR RIGHT

Necessary preliminary tasks:

- Remove **SEAT COVER**
- Remove **BACKREST COVER**
- Remove **THIGH SUPPORT COVER**

NOTE: **Heating elements are bonded with the foam part and cannot be separated from each other without causing damage.**
Foam part and heating elements must be replaced.

Check new foam part:

- No obvious damage or material defects
- All trim wires present in foam
- No bubbles in foam part
- No dirt contamination on foam or residual foam
- Pay attention to foam part on left and right

Check new heating mat:

- No obvious damage or material defects
- All tear-off film pieces present
- Note variant by examining label on cable

Guide cable for backrest heating through foam hole.

Stick on main section (1):

- Pull adhesive film pieces off main section (1) and stick to upper edge of main section foam until flush

Stick on bead section (2):

- Pull adhesive film pieces off bead section (2) and stick on heating mat along bead section edge.
- Press down evenly in outwards direction

cardiagn.com

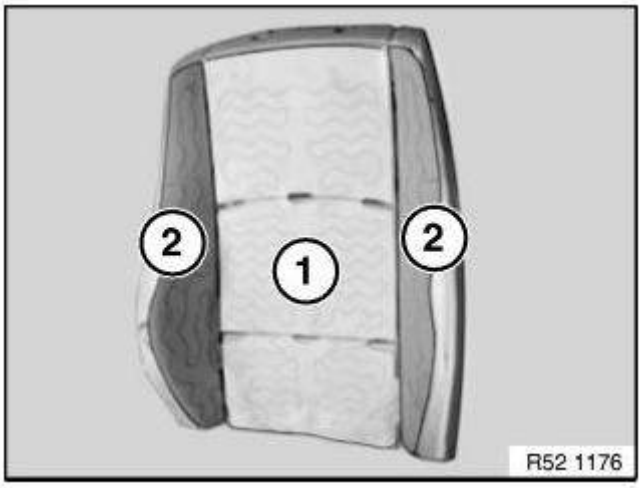


Fig. 102: Identifying Seat Adhesive Film Main Section And Bead Section
Courtesy of BMW OF NORTH AMERICA, INC.

Guide cable for seat heating through foam hole.

Bond the STV heating mat (1):

- Pull off the adhesive film and bond flush with the rear foam edge

Stick on bead section (2):

- Pull adhesive film pieces off bead section (2) and stick on heating mat along bead section edge.

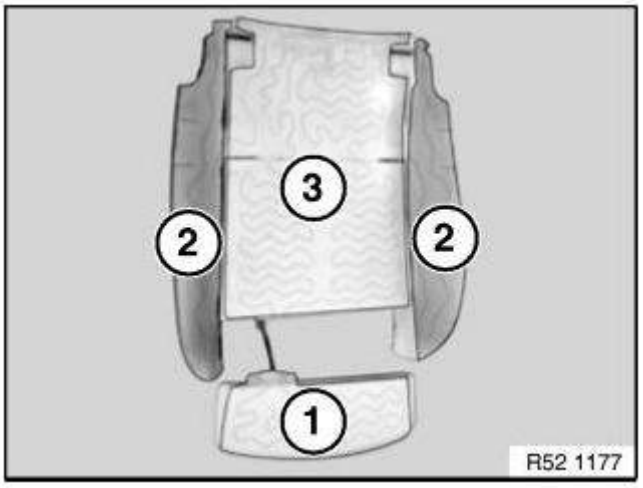


Fig. 103: Identifying STV Heating Mat And Bead Section
Courtesy of BMW OF NORTH AMERICA, INC.

- Press down evenly in outwards direction

Stick on main section (3):

- Pull adhesive film pieces off main section (3) and stick to upper edge of main section foam until flush

Check laying of heating mats:

- Heating mats laid without folds
- Heating mats correctly positioned
- All bonding surfaces stuck on

cardiagn.com

NOTE: **Carry out FUNCTION CHECK**

52 15 060 REPLACING AN AIR CUSHION FOR BACKREST WIDTH ADJUSTMENT LEFT OR RIGHT

Necessary preliminary tasks:

- Remove the **REAR PANEL FROM THE FRONT SEAT**

Detach backrest cover (1) from backrest frame.

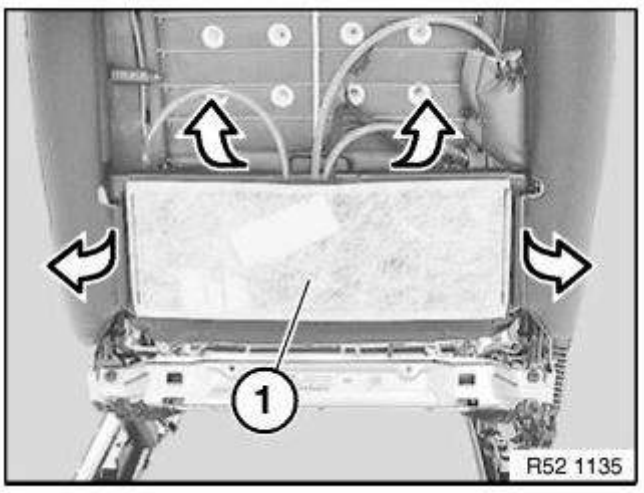


Fig. 104: Detaching Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Removal operation is shown on left side, right analogous to that. The air cushion must be deflated completely.**

Disconnect spring (1).

Lift out clips with plastic wedge.

Feed out air cushion (2) between spring wire and backrest frame.

Installation note:

Insert the air cushion without kinks.

Check air cushion for damage.

cardiagn.com

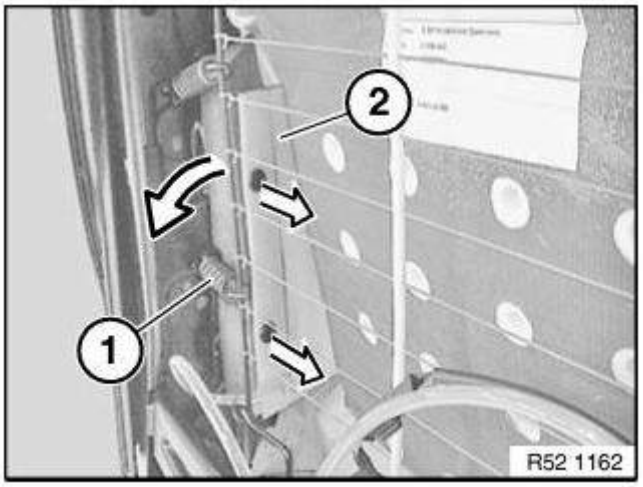


Fig. 105: Checking Air Cushion For Damage
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock quick connectors and detach air hoses (1 and 2) from valve body (3).

If necessary, remove **VALVE HOUSING**.

Installation note:

Connections are coded against incorrect assembly.

Air hoses must not be kinked.

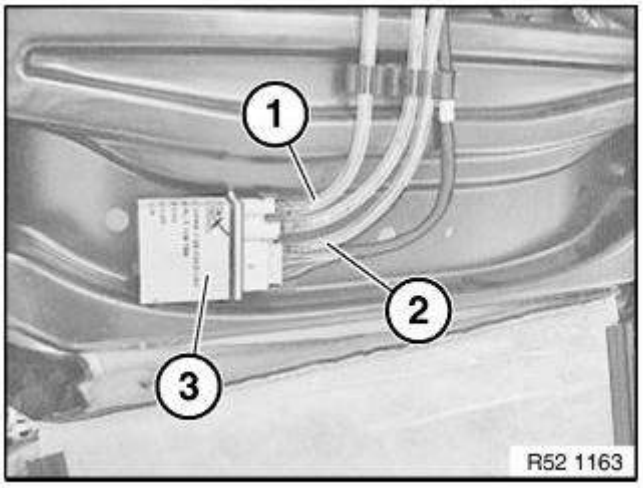


Fig. 106: Identifying Air Hoses And Valve Body
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Carry out FUNCTION CHECK**

52 15 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)

Special tools required:

- **52 0 050**

Necessary preliminary tasks:

- Remove **FRONT SEAT**

cardiagn.com

- Remove side airbag in front seat
- Remove **GUIDE SLEEVES**

Version with seat heating only:

Unfasten plug connection (1) and disconnect.

Disconnect cable straps.

Release wiring harness (3) from cable holders on seat mechanism.

IMPORTANT: Feed the wiring harness carefully through the seat and backrest mechanism as the edges of the frame can be sharp.

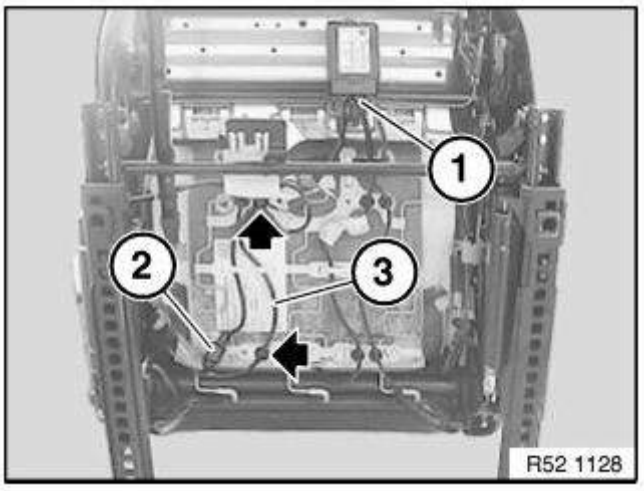


Fig. 107: Locating Wiring Harness Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Detach backrest cover (1) from backrest frame.

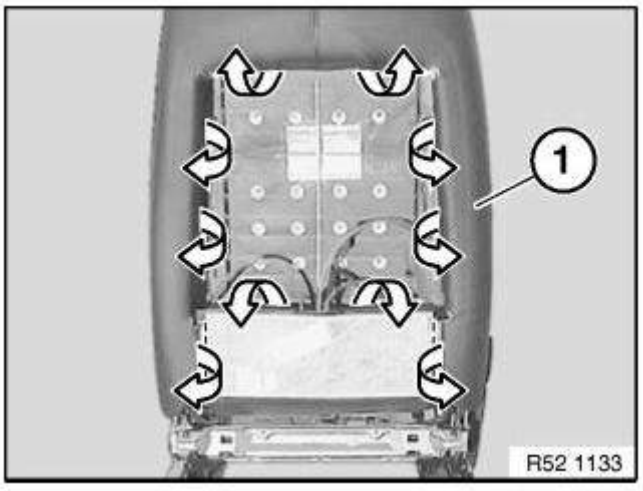


Fig. 108: Detaching Backrest Cover From Backrest Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Pull backrest cover (1) off Velcro-type fastener on backrest frame.

cardiagn.com

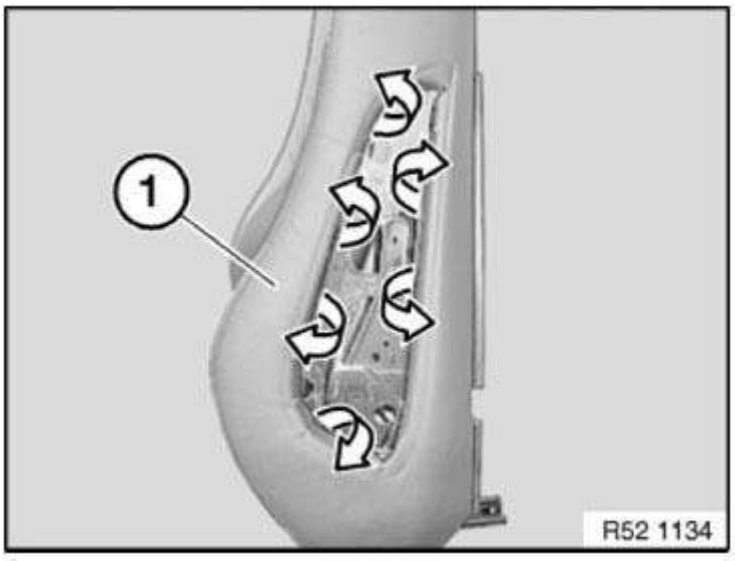


Fig. 109: Pulling Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Pull off backrest cover (1) with padding sideways and towards top from backrest frame.

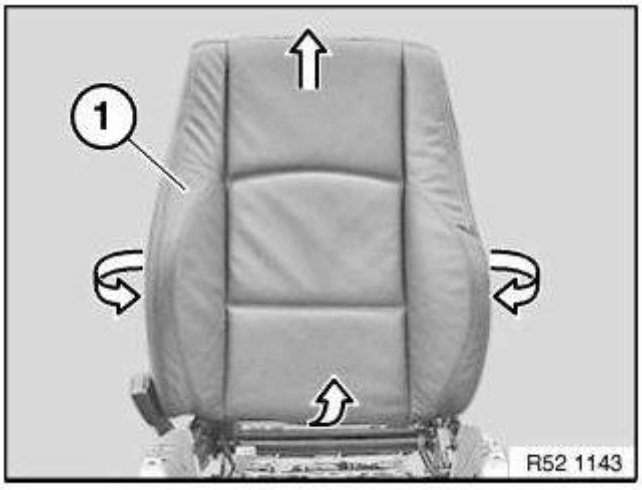


Fig. 110: Pulling Off Backrest Cover With Padding Sideways
Courtesy of BMW OF NORTH AMERICA, INC.

Release all retainers in marked area.

Remove backrest cover from padding.

NOTE: Remove all remnants of retainers from backrest cover and padding.

cardiagn.com

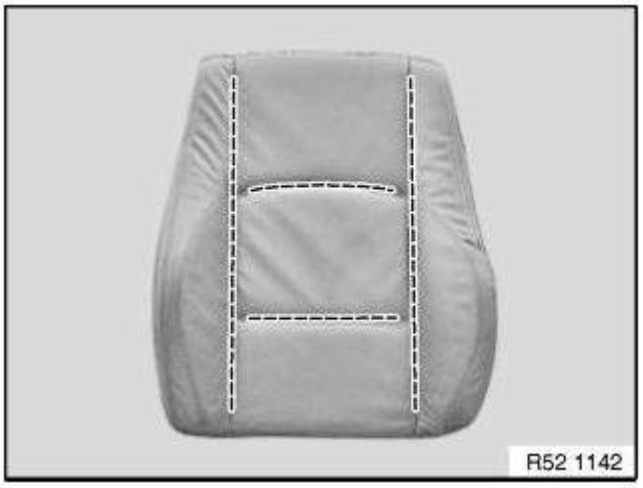


Fig. 111: Identifying Backrest Cover From Padding
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Bend new retainer (2) with special tool **52 0 050** .

1. Padding
2. Retainer
3. Trim thread in support
4. Trim wire in backrest cover
5. Back-rest cover

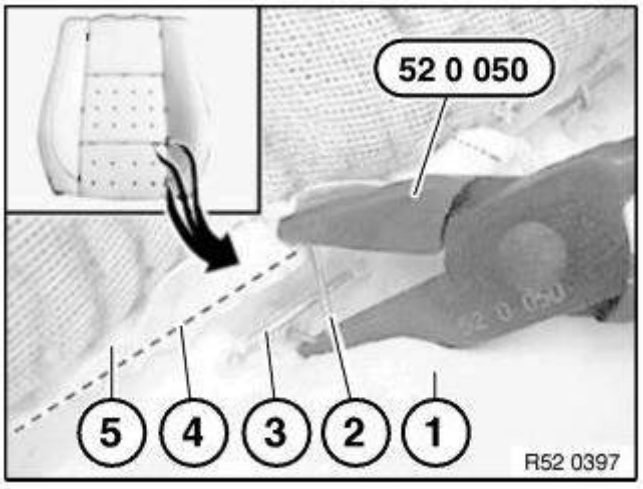


Fig. 112: Pressing Retainer Using Special Tool (52 0 050)
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement of backrest cover:

Pull trim threads out of backrest cover.

Cut new backrest cover to size and insert trim threads.

cardiagn.com

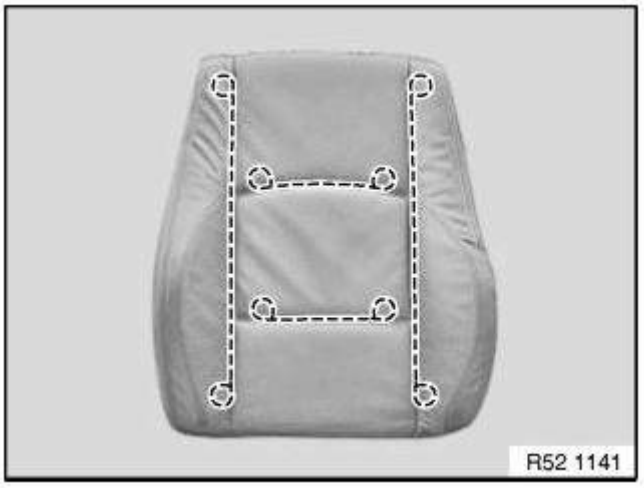


Fig. 113: Identifying Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

52 15 451 REPLACING BACKREST HEATING ELEMENT FOR LEFT OR RIGHT SPORTS SEAT

Operation is described in:

- Replacing **HEATING ELEMENTS FOR LEFT OR RIGHT FRONT SEAT**

52 14 888 REPLACING BOTH GAS CARTRIDGES FOR CRASH-ACTIVE HEADREST

Refer to **52 14 888 REPLACING BOTH GAS CARTRIDGES FOR CRASH-ACTIVE HEADREST**.

52 15 450 REPLACING CUSHION HEATING ELEMENT FOR LEFT OR RIGHT FRONT SEAT

Operation is described in:

- Replacing **HEATING ELEMENTS FOR LEFT OR RIGHT FRONT SEAT**

52 14 886 REPLACING GAS CARTRIDGE FOR CRASH-ACTIVE HEADREST ON LEFT OR RIGHT

Refer to **52 14 886 REPLACING GAS CARTRIDGE FOR CRASH-ACTIVE HEADREST ON LEFT OR RIGHT**.

52 13... REPLACING GUIDE SLEEVES FOR FRONT LEFT OR RIGHT HEAD RESTRAINT

Refer to **52 13... REPLACING GUIDE SLEEVES FOR FRONT LEFT OR RIGHT HEAD RESTRAINT**.

52 15 452 REPLACING HEATING ELEMENT FOR LEFT OR RIGHT FRONT SEAT (THIGH SUPPORT)

Operation is described in:

- Replacing **HEATING ELEMENTS FOR LEFT OR RIGHT FRONT SEAT**

52 15 420 REPLACING PADDING FOR LEFT OR RIGHT FRONT SEAT BACKREST (SPORT/MANUAL)

Operation is described in:

Replacing **BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT**.

52 15 417 REPLACING PADDING FOR LEFT OR RIGHT THIGH SUPPORT (SPORT/MANUAL)

cardiagn.com

This operation is described in section on:

Replacing **THIGH SUPPORT COVER ON LEFT OR RIGHT FRONT SEAT**.

52 15 400 REPLACING SEAT COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)

Special tools required:

- **52 0 050**

Necessary preliminary tasks:

- Remove **FRONT SEAT**
- Remove **THIGH SUPPORT**
- **Manual version:**

  Remove **OUTER COVER**

- **Electric version:**

  Remove **SUPPORT FOR COVER**

WARNING: **Only US and Canadian version of front passenger seat (with CIS mat):**
The CIS mat is bonded to the entire surface of the facing and can only be removed in conjunction with the padding from the seat cover.
If CIS mat or padding is defective, both parts may only be replaced together.
Full functional capability can only be guaranteed with original BMW spare parts.
After installation, the CIS mat must be enabled with the BMW PROGRAMMING SYSTEM .

WARNING: **US/CDN front passenger seat (with CIS mat) only:**
To avoid damaging the CIS mat, it is essential to carry out the following operations with extra care.

IMPORTANT: Risk of damage on sharp-edged seat mechanism.
Guide all cables carefully through seat and backrest mechanism.
Make sure cable is routed without kinks and tension.
Make sure plug connections are correctly locked.
Make sure connectors are correctly seated in latch mechanisms.

Version with seat occupancy detection (CIS mat) only:

Cut open cable strap (1).

Raise the tab and pull connector (2) out through the side of the connector housing (3).

Installation note:

Replace cable tie (1).

Connector (2) is encoded against incorrect assembly.

cardiagn.com

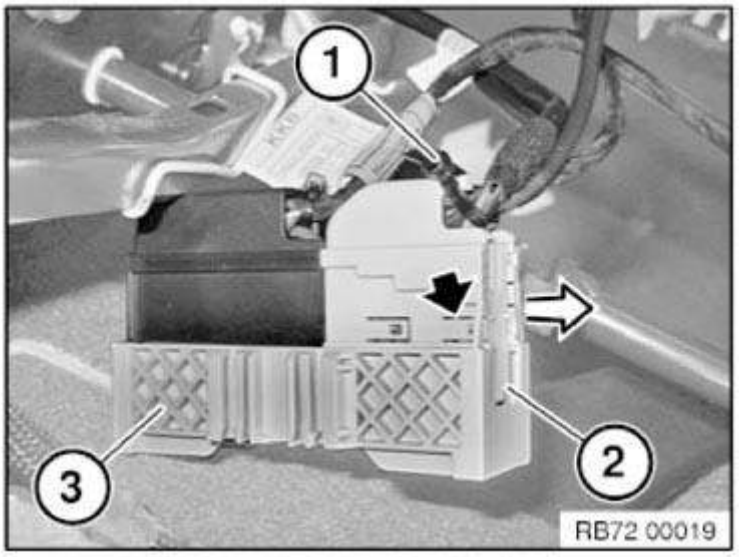


Fig. 114: Pulling Seat Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Version with seat heating only:

Unlock plug connection (1) for seat heating and disconnect.

Unfasten cable strap.

Disengage wiring harness from cable clips (flexmat).

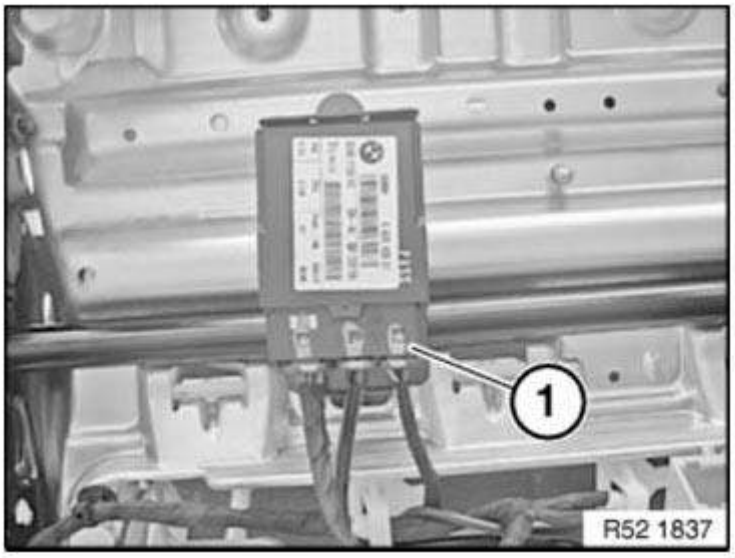


Fig. 115: Identifying Seat Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Version with seat occupancy detection (CIS mat) without seat heating only:

Cable for seat heating, seat cushion:

Seat heating is integrated in the CIS mat and is stuck to the upholstery over the full surface.

Lay cable for seat heating as shown to flexmat and secure with cable strap.

Secure connector with cable strap to cable.

cardiagn.com

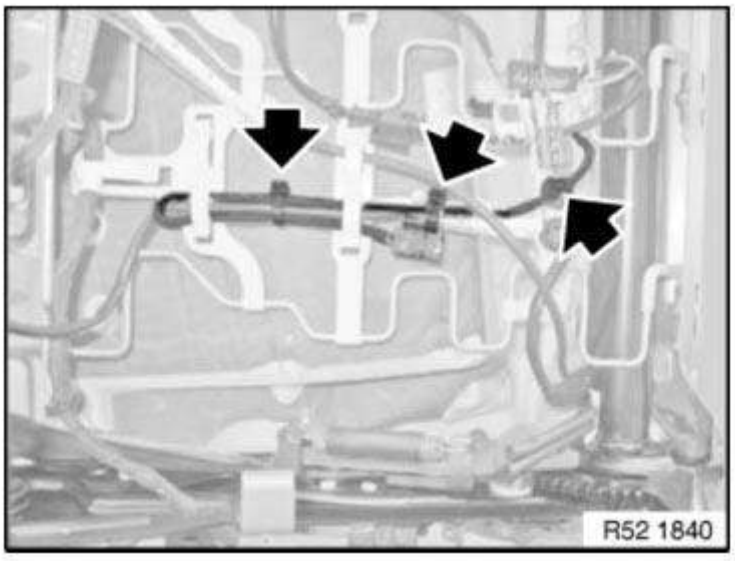


Fig. 116: Locating Seat Heating Cable Strap
Courtesy of BMW OF NORTH AMERICA, INC.

Cable for seat heating, thigh support:

Cramp cable (1) to welt strip with clamps (2).

Installation note:

Bend clamps (2) with special tool **52 0 050** .

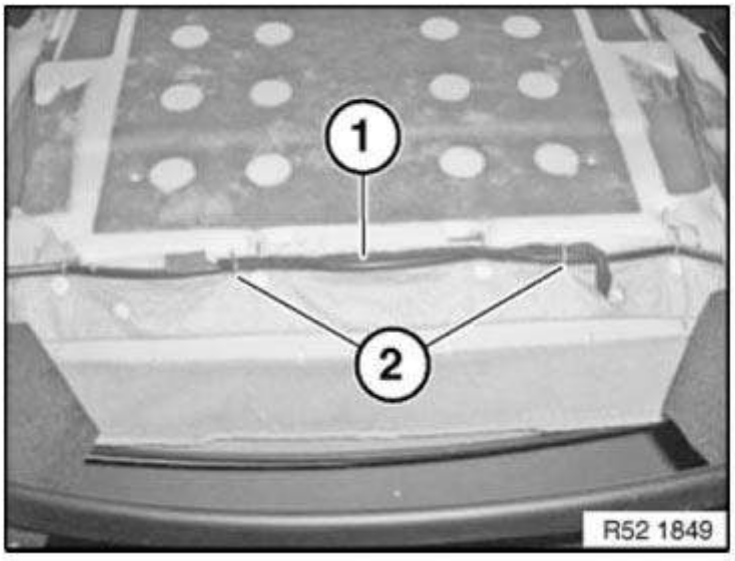


Fig. 117: Identifying Cable And Retainers
Courtesy of BMW OF NORTH AMERICA, INC.

Clamp connector (1) behind welt strip (2).

cardiagn.com

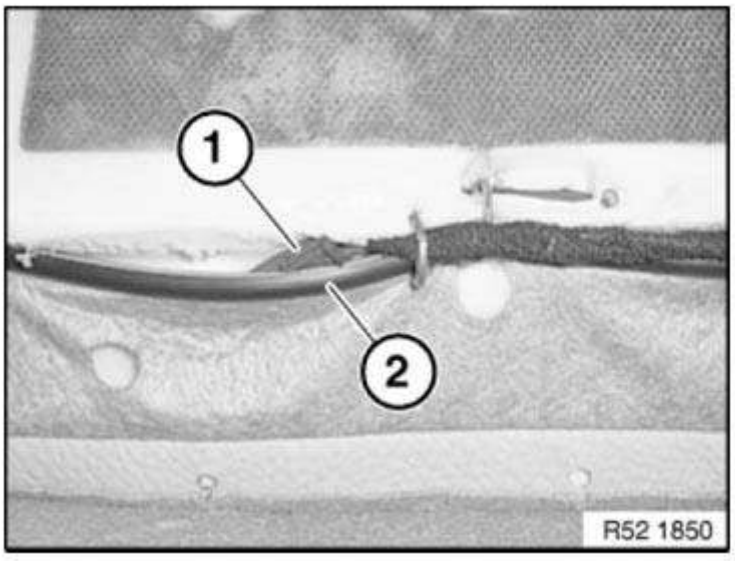


Fig. 118: Identifying Connector Behind Welt Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock retaining lugs (1).

Remove seat trim (2) downwards.

Installation note:

Seat trim (2) must not be damaged.

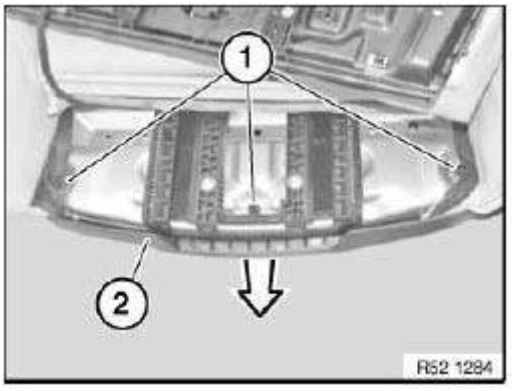


Fig. 119: Removing Seat Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Lever clip (1) out of seat cover on left and right.

Installation note:

If necessary, replace faulty clip.

cardiagn.com

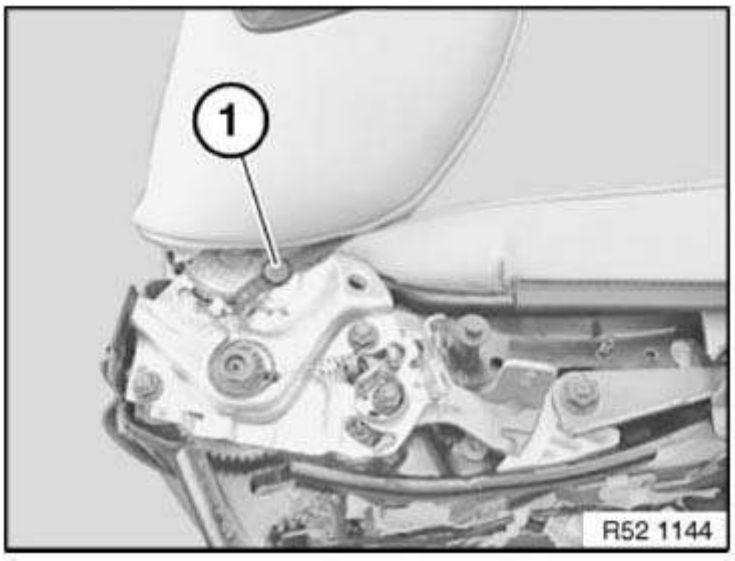


Fig. 120: Identifying Seat Cover Clamp
Courtesy of BMW OF NORTH AMERICA, INC.

Tunnel side:

Disengage cover fastener (1) from belt deflector trim.

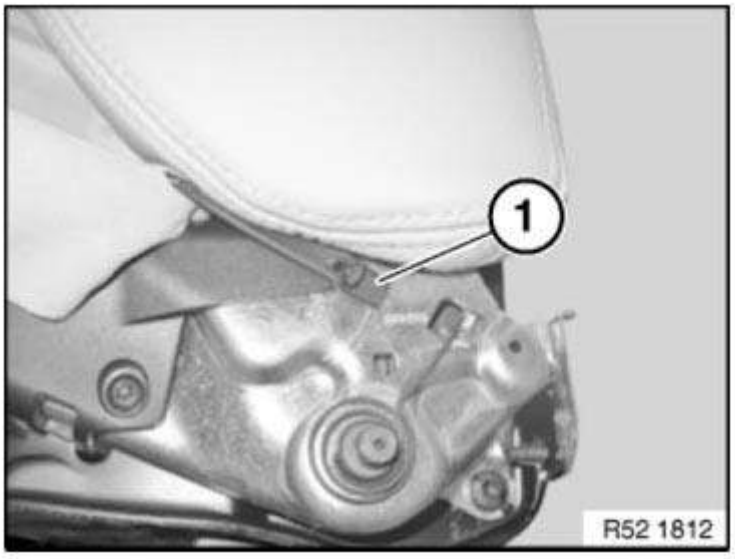


Fig. 121: Identifying Cover Fastener Of Belt Deflector Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Detach seat cover (1) from seat frame.

cardiagn.com

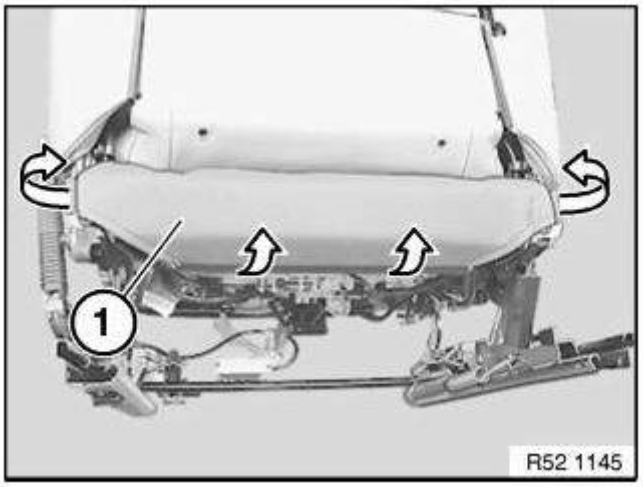


Fig. 122: Detaching Seat Cover From Seat Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Pull out cover welt (1) completely from seat frame (2).

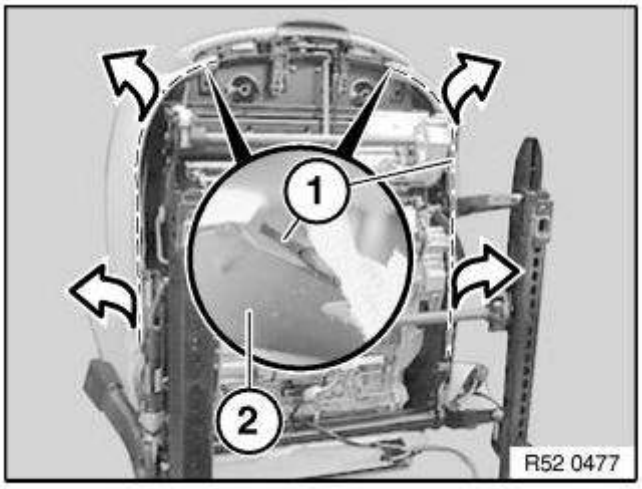


Fig. 123: Pulling Cover Welt From Seat Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Remove seat cover (1) with padding towards front/top.

IMPORTANT: Carefully slide bracing cloth with foam through backrest gap and seat structure.

Installation note:

Slide foam completely through backrest gap and seat structure. Make sure foam and bracing cloth are correctly fitted.

cardiagn.com

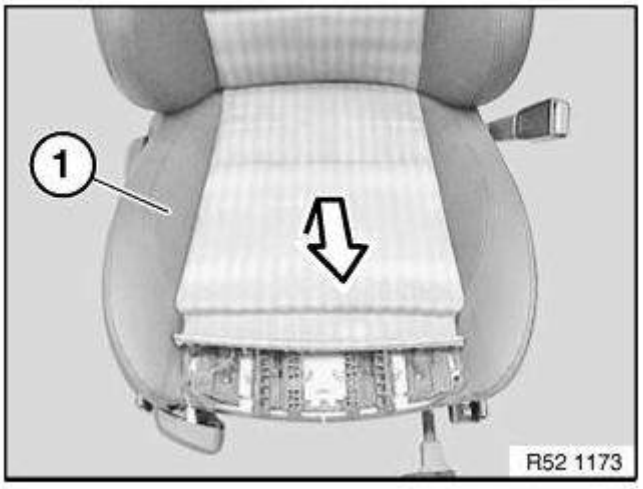


Fig. 124: Removing Seat Cover With Padding
Courtesy of BMW OF NORTH AMERICA, INC.

Version with seat heating and/or seat occupancy detection (CIS mat):

Release the corresponding plug connections depending on the version and disconnect.

Pull seat cover (1) with upholstery forward a little and feed wiring harness (2) out.

Remove seat cover (1) with padding towards front/top.

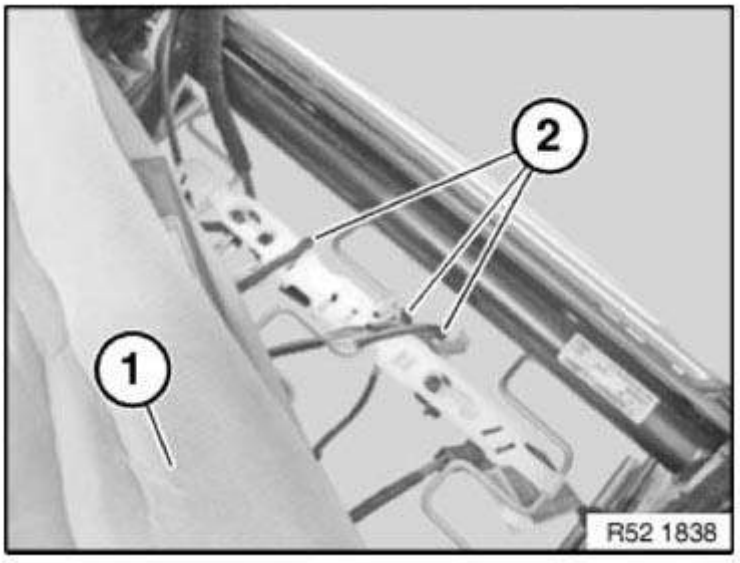


Fig. 125: Identifying Seat Cover And Wiring Harnesses
Courtesy of BMW OF NORTH AMERICA, INC.

Release all clamps in marked area.

cardiagn.com

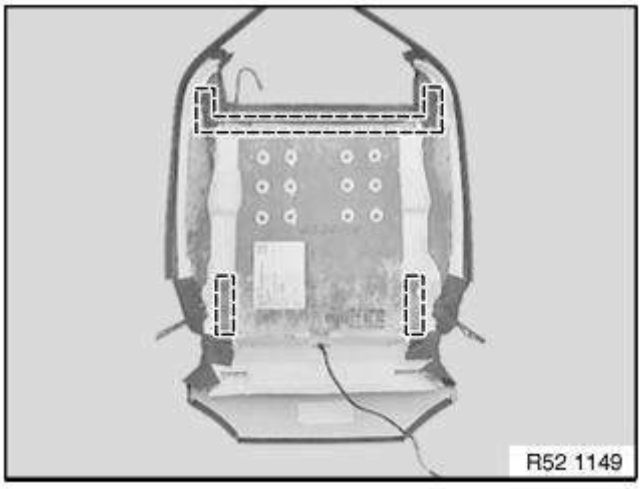


Fig. 126: Identifying Seat Cover Clamps Area
Courtesy of BMW OF NORTH AMERICA, INC.

Detach all clamps in side area from OKE strips.

Carefully fold back seat cover and release clamps from OKE strips.

Remove seat cover from upholstery.

IMPORTANT: Remove all remnants of clips from seat cover and upholstery (CIS mat).

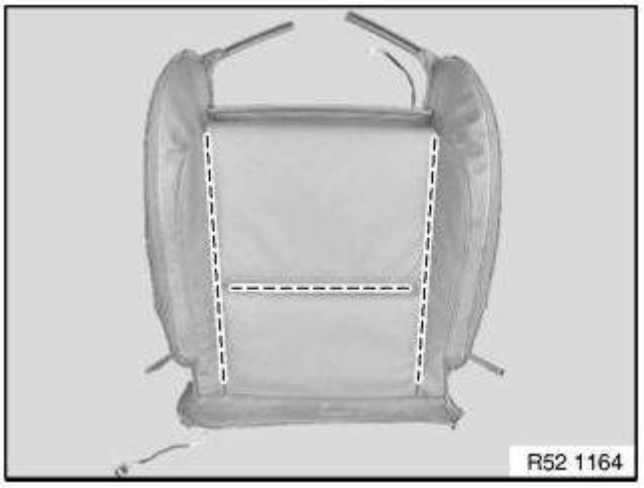


Fig. 127: Identifying Seat Cover And Upholstery
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Bend new clamps (2) with special tool **52 0 050** .

1. Upholstery
2. Clamp
3. Trim wire in upholstery
4. OKE strip in cover
5. Seat cover

Fig. 128: Installing Retainers Using Special Tool (52 0 050)

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Enabling seat occupancy detector (CIS mat):

- Connect **BMW PROGRAMMING SYSTEM**
- Encode airbag control unit
- Delete fault memory if necessary

65 77 604 REPLACING SENSOR MAT (CIS MAT) FOR FRONT PASSENGER SEAT OCCUPANCY DETECTOR

WARNING: **Note AIRBAG SAFETY REGULATIONS !**
Incorrect handling can activate airbag and cause injury.

WARNING: **Only US and Canadian version of front passenger seat (with CIS mat):**
The CIS mat is bonded to the entire surface of the facing and can only be removed in conjunction with the padding from the seat cover.
If CIS mat or padding is defective, both parts may only be replaced together.
Full functional capability can only be guaranteed with original BMW spare parts.
After installation, the CIS mat must be enabled with the BMW PROGRAMMING SYSTEM .

Procedure for replacing the CIS mat together with the upholstery is described in:

- Replacing **upholstery for front seat** . See 52 13 400 REPLACING SEAT COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL) or 52 15 400 REPLACING SEAT COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)

The work scope with CIS mat is different for the following work steps:

Cut open cable strap (1).

Lift locking tab and pull the connector out of the side of the connector housing.

Installation note:

Replace cable tie (1).

Connector is encoded against incorrect assembly.

cardiagn.com

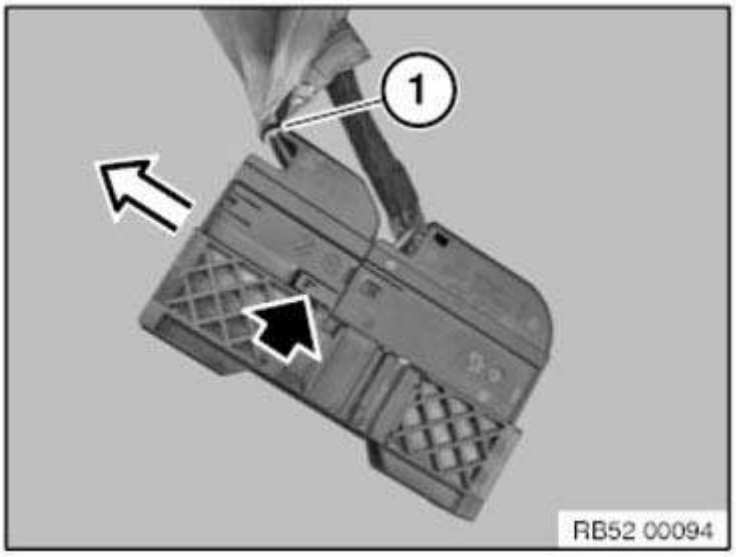


Fig. 129: Pulling Seat Occupancy Detector Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Enabling seat occupancy detector (CIS mat):

- Connect **BMW PROGRAMMING SYSTEM**
- Encode airbag control unit
- Delete fault memory if necessary

52 15 415 REPLACING UPHOLSTERY FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)

Operation is described in:

Replacing **SEAT COVER ON LEFT OR RIGHT FRONT SEAT**.

FRONT SEAT, SPORTS, ELECTRIC

52 14... ADDITIONAL WORK IN EVENT OF FAULTY DRIVE/GEARING FOR LONGITUDINAL ADJUSTMENT

Refer to **52 14... ADDITIONAL WORK IN EVENT OF FAULTY DRIVE/GEARING FOR LONGITUDINAL ADJUSTMENT**.

52 14... PERFORMING FUNCTION CHECK WITH ADAPTER CABLE (FOR SEAT REPAIRS)

Refer to **52 14... PERFORMING FUNCTION CHECK WITH ADAPTER CABLE (FOR SEAT REPAIRS)**.

52 16 048 REMOVE OR INSTALL THIGH SUPPORT AT THE FRONT SEAT (SPORT/ELECTRIC) ON THE LEFT OR RIGHT

Unlock and move thigh support (1) as far forward as possible.

Lever out the welt (3) from the seat cover (2) from the thigh support (1).

cardiagn.com

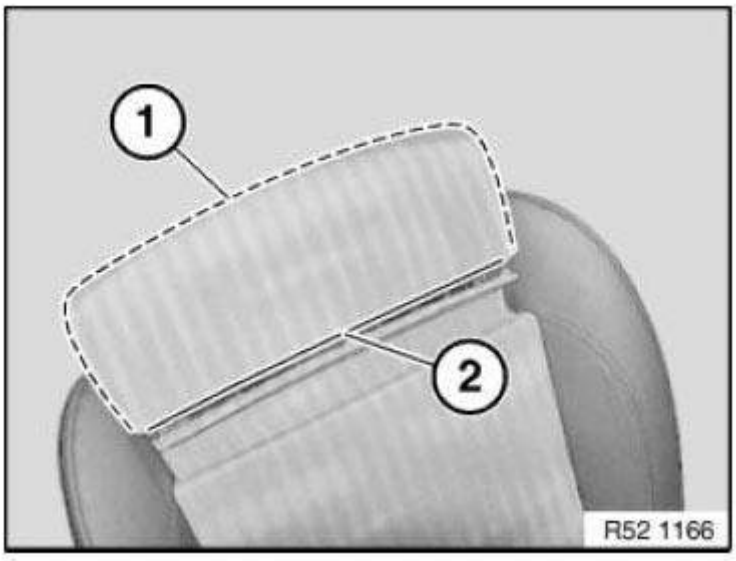


Fig. 130: Removing Thigh Support
Courtesy of BMW OF NORTH AMERICA, INC.

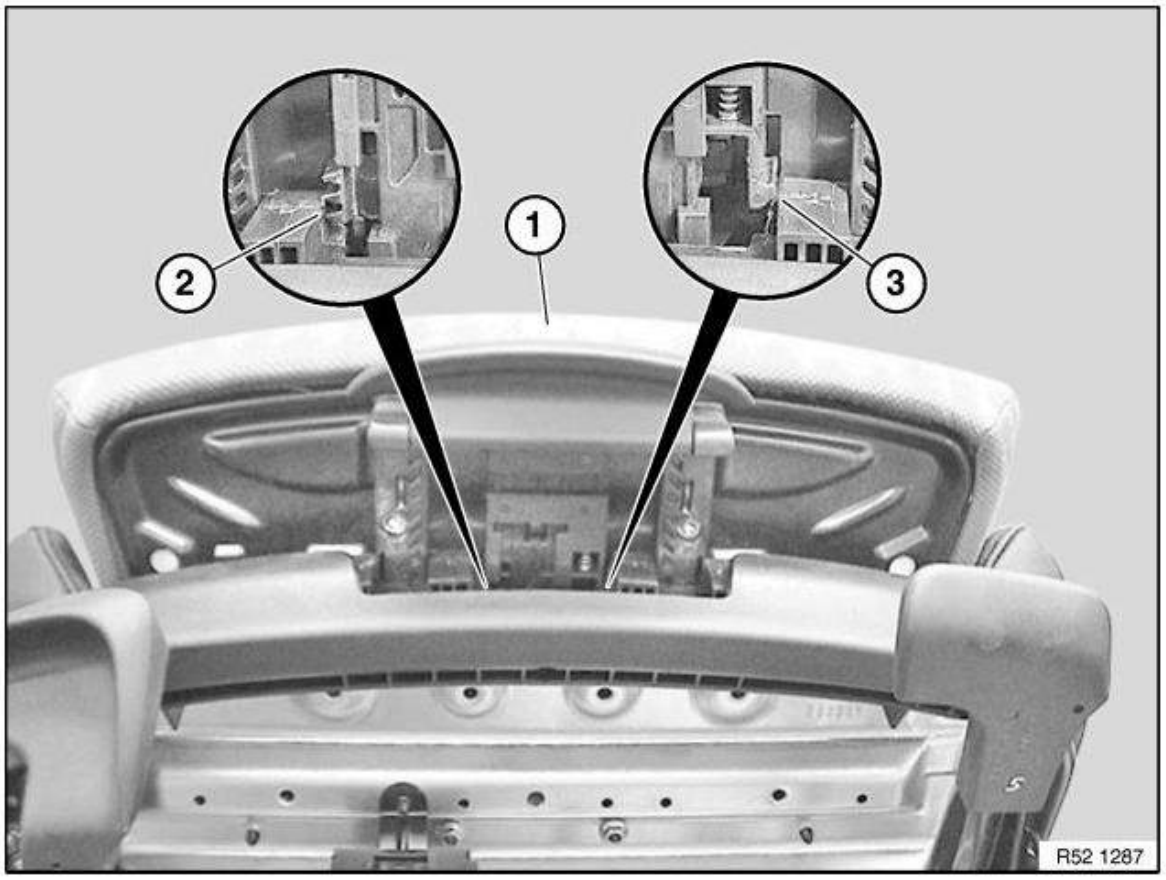


Fig. 131: Identifying Thigh Support Actuation And Centering
Courtesy of BMW OF NORTH AMERICA, INC.

Do not completely extend the thigh support to the end stop.

Keep Actuation (1) pressed to unlock the centering (2).

Carefully raise the end stop (3) for the thigh support with a screwdriver and pull the thigh support toward the front out of the guide rails at the same time.

View of thigh support mechanism:

cardiagn.com

1. End stop for thigh support
2. Locking mechanism for the thigh support

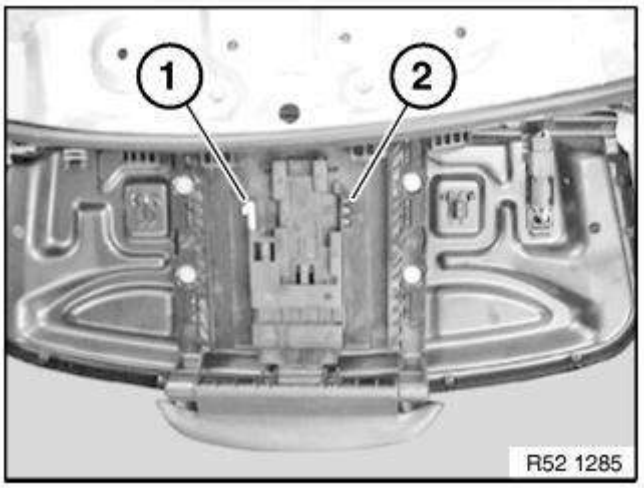


Fig. 132: Identifying Thigh Support And Locking Mechanism
Courtesy of BMW OF NORTH AMERICA, INC.

View seat mechanism:

3. Guide rail on seat with depth retainer
4. Guide rail on seat with end stop

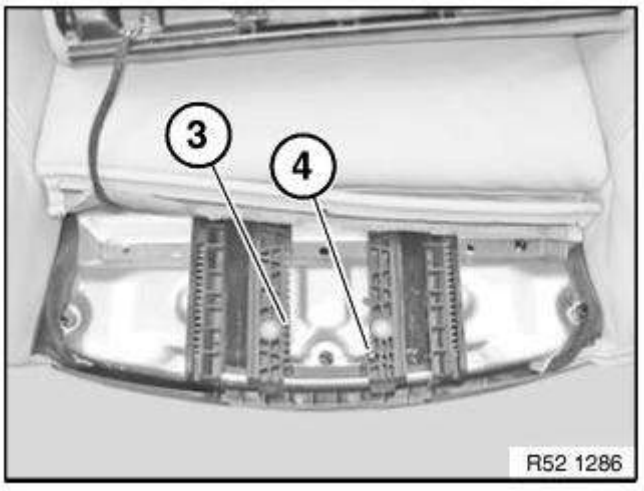


Fig. 133: Identifying Seat Frame Mechanism And Guide Rail
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

NOTE: Check guide rails (2) and adjusting mechanism (3) for damage.

cardiagn.com

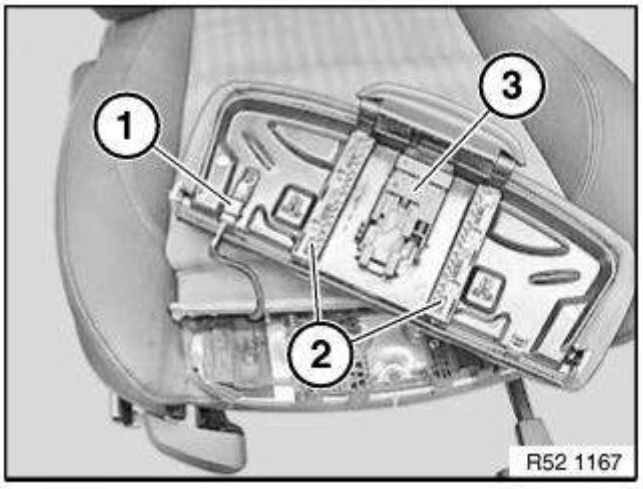


Fig. 134: Identifying Front Seat Guide Rails, Adjusting Mechanism And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

52 13 021 REMOVING AND INSTALLING/REPLACING FLEXMAT ON LEFT OR RIGHT FRONT SEAT

Refer to **52 13 021 REMOVING AND INSTALLING/REPLACING FLEXMAT ON LEFT OR RIGHT FRONT SEAT**.

52 14... REMOVING AND INSTALLING CARRIER FOR OUTER COVER ON LEFT OR RIGHT FRONT SEAT (ELECTRIC)

Refer to **52 14... REMOVING AND INSTALLING CARRIER FOR OUTER COVER ON LEFT OR RIGHT FRONT SEAT (ELECTRIC)**.

52 13 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Refer to **52 13 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)**.

52 14 050 REMOVING AND INSTALLING OR REPLACING LUMBAR CUSHION ON FRONT SEAT

Refer to **52 14 050 REMOVING AND INSTALLING OR REPLACING LUMBAR CUSHION ON FRONT SEAT**.

52 13 198 REMOVING AND INSTALLING OR REPLACING REAR PANEL ON LEFT OR RIGHT FRONT SEAT BACKREST

Refer to **52 13 198 REMOVING AND INSTALLING OR REPLACING REAR PANEL ON LEFT OR RIGHT FRONT SEAT BACKREST**.

52 15 057 REMOVING AND INSTALLING OR REPLACING VALVE BODY FOR LUMBAR SUPPORT/BACKREST WIDTH ADJUSTMENT

Refer to **52 15 057 REMOVING AND INSTALLING OR REPLACING VALVE BODY FOR LUMBAR SUPPORT/BACKREST WIDTH ADJUSTMENT**.

52 16 058 REMOVING AND INSTALLING OR REPLACING VALVE HOUSING FOR LUMBAR CUSHION

Necessary preliminary tasks:

- Remove the **REAR PANEL FROM THE FRONT SEAT**

cardiagn.com

Detach backrest cover (1) from backrest frame.

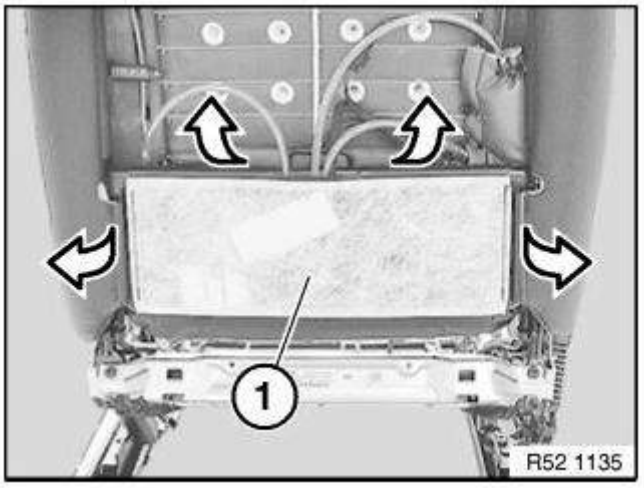


Fig. 135: Detaching Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Remove valve body (2) for lumbar support from backrest frame in direction of arrow.

Installation note:

Check that the valve body is correctly seated in the backrest frame.

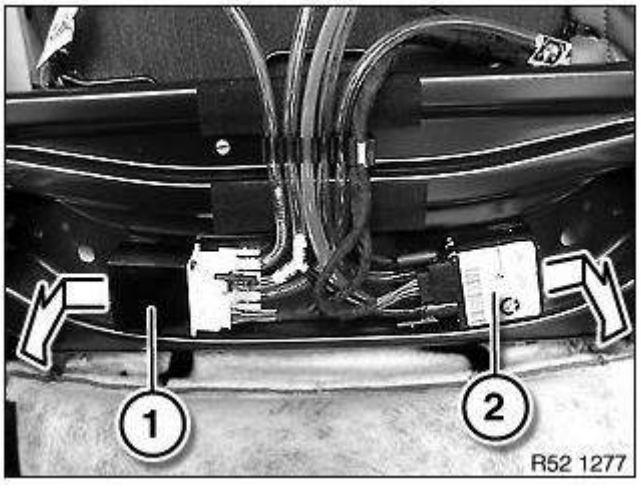


Fig. 136: Removing Lumbar Support Valve Body
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten plug connection (1) and disconnect.

Unlock quick connectors and detach air hoses (3) and (4 and 5) from valve body (2).

Valve unit for lumbar support:

(3) Hose (clear), lumbar support drive
(4) Hose (blue), upper lumbar support
(5) Hose (red), lower lumbar support

cardiagn.com

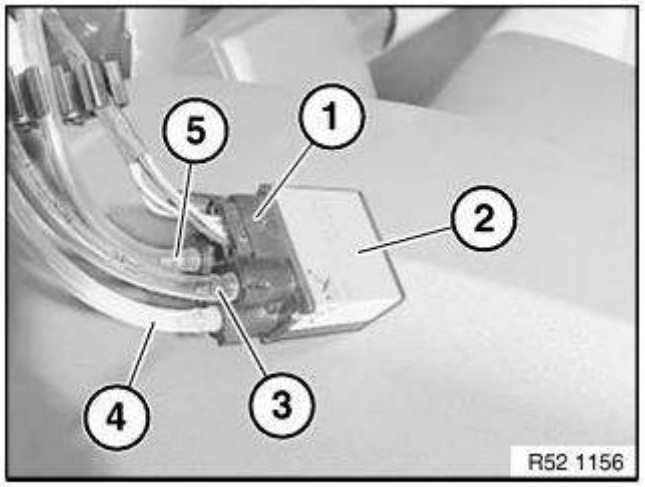


Fig. 137: Identifying Plug Connection, Air Hoses And Valve Body
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Connections are coded against incorrect assembly.

NOTE: Carry out FUNCTIONAL CHECK

52 13 030 REMOVING AND INSTALLING/REPLACING BACKREST FRAME ON LEFT OR RIGHT FRONT SEAT

Refer to **52 13 030 REMOVING AND INSTALLING/REPLACING BACKREST FRAME ON LEFT OR RIGHT FRONT SEAT**.

52 14 392 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT CRASH-ACTIVE HEAD RESTRAINT (FROM 09/08)

Refer to **52 14 392 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT CRASH-ACTIVE HEAD RESTRAINT (FROM 09/08)**.

52 13 025 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT SEAT MECHANISM (NORMAL/MANUAL)

Refer to **52 13 025 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT SEAT MECHANISM (NORMAL/MANUAL)**.

52 14 040 REMOVING AND INSTALLING/REPLACING OUTER COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/ELECTRIC)

Refer to **52 14 040 REMOVING AND INSTALLING/REPLACING OUTER COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/ELECTRIC)**.

52 13 041 REMOVING AND INSTALLING/REPLACING THE INNER COVER ON THE LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)

Refer to **52 13 041 REMOVING AND INSTALLING/REPLACING THE INNER COVER ON THE LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL)**.

52 15 403 REMOVING AND INSTALLING/REPLACING THIGH SUPPORT COVER ON FRONT SEAT (SPORT/MANUAL)

Refer to **52 15 403 REMOVING AND INSTALLING/REPLACING THIGH SUPPORT COVER ON FRONT SEAT (SPORT/MANUAL)**.

cardiagn.com

52 15 455 REPLACE HEATING ELEMENTS FOR FRONT SEAT (SPORT/MANUAL) LEFT OR RIGHT

Refer to **52 15 455 REPLACE HEATING ELEMENTS FOR FRONT SEAT (SPORT/MANUAL) LEFT OR RIGHT**.

52 16 055 REPLACING AN AIR CUSHION FOR BACKREST WIDTH ADJUSTMENT LEFT OR RIGHT

Necessary preliminary tasks:

- Remove the **REAR PANEL FROM THE FRONT SEAT**

Detach backrest cover (1) from backrest frame.

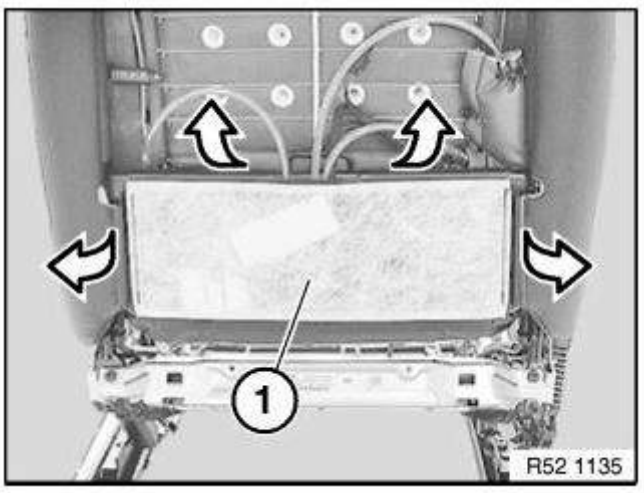


Fig. 138: Detaching Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Removal operation is shown on left side, right analogous to that. The air cushion must be deflated completely.**

Disconnect spring (1).

Lift out clips with plastic wedge.

Feed out air cushion (2) between spring wire and backrest frame.

Installation note:

Insert the air cushion without kinks.

Check air cushion for damage.

cardiagn.com

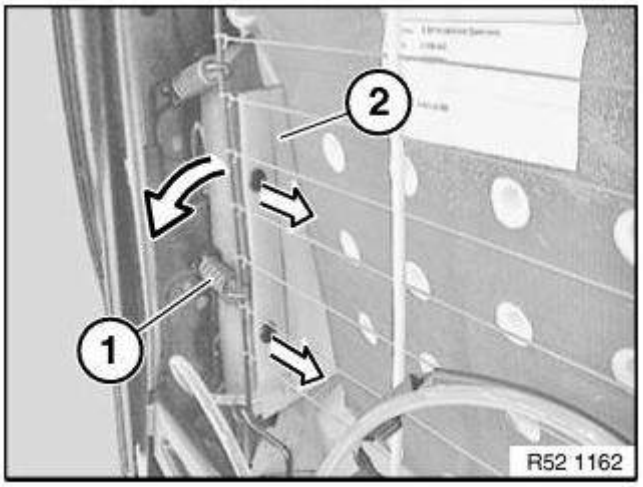


Fig. 139: Checking Air Cushion For Damage
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock quick connectors and detach air hoses (1 and 2) from valve body (3).

If necessary, remove **VALVE HOUSING**.

Installation note:

Connections are coded against incorrect assembly.

Air hoses must not be kinked.

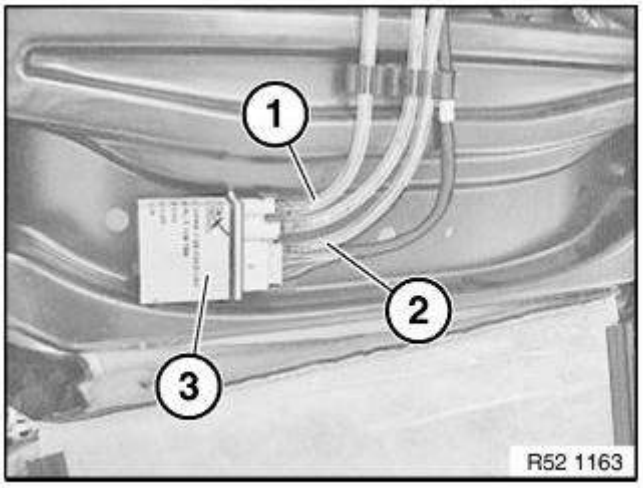


Fig. 140: Identifying Air Hoses And Valve Body
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **Carry out FUNCTION CHECK**

52 15 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)

Refer to **52 15 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)**.

52 15 451 REPLACING BACKREST HEATING ELEMENT FOR LEFT OR RIGHT SPORTS SEAT

Refer to **52 15 451 REPLACING BACKREST HEATING ELEMENT FOR LEFT OR RIGHT SPORTS SEAT**.

cardiagn.com

52 14 888 REPLACING BOTH GAS CARTRIDGES FOR CRASH-ACTIVE HEADREST

Refer to **52 14 888 REPLACING BOTH GAS CARTRIDGES FOR CRASH-ACTIVE HEADREST**.

52 15 450 REPLACING CUSHION HEATING ELEMENT FOR LEFT OR RIGHT FRONT SEAT

Refer to **52 15 450 REPLACING CUSHION HEATING ELEMENT FOR LEFT OR RIGHT FRONT SEAT**.

52 14 886 REPLACING GAS CARTRIDGE FOR CRASH-ACTIVE HEADREST ON LEFT OR RIGHT

Refer to **52 14 886 REPLACING GAS CARTRIDGE FOR CRASH-ACTIVE HEADREST ON LEFT OR RIGHT**.

52 13... REPLACING GUIDE SLEEVES FOR FRONT LEFT OR RIGHT HEAD RESTRAINT

Refer to **52 13... REPLACING GUIDE SLEEVES FOR FRONT LEFT OR RIGHT HEAD RESTRAINT**.

52 15 452 REPLACING HEATING ELEMENT FOR LEFT OR RIGHT FRONT SEAT (THIGH SUPPORT)

Refer to **52 15 452 REPLACING HEATING ELEMENT FOR LEFT OR RIGHT FRONT SEAT (THIGH SUPPORT)**.

52 15 420 REPLACING PADDING FOR LEFT OR RIGHT FRONT SEAT BACKREST (SPORT/MANUAL)

Refer to **52 15 420 REPLACING PADDING FOR LEFT OR RIGHT FRONT SEAT BACKREST (SPORT/MANUAL)**.

52 15 417 REPLACING PADDING FOR LEFT OR RIGHT THIGH SUPPORT (SPORT/MANUAL)

Refer to **52 15 417 REPLACING PADDING FOR LEFT OR RIGHT THIGH SUPPORT (SPORT/MANUAL)**.

52 15 400 REPLACING SEAT COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)

Refer to **52 15 400 REPLACING SEAT COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)**.

65 77 604 REPLACING SENSOR MAT (CIS MAT) FOR FRONT PASSENGER SEAT OCCUPANCY DETECTOR

WARNING: **Note AIRBAG SAFETY REGULATIONS !**
Incorrect handling can activate airbag and cause injury.

WARNING: **Only US and Canadian version of front passenger seat (with CIS mat):**
The CIS mat is bonded to the entire surface of the facing and can only be removed in conjunction with the padding from the seat cover.
If CIS mat or padding is defective, both parts may only be replaced together.
Full functional capability can only be guaranteed with original BMW spare parts.
After installation, the CIS mat must be enabled with the BMW PROGRAMMING SYSTEM .

Procedure for replacing the CIS mat together with the upholstery is described in:

- Replacing **upholstery for front seat** . See **52 13 400 REPLACING SEAT COVER ON LEFT OR**

cardiagn.com

RIGHT FRONT SEAT (NORMAL/MANUAL) or 52 15 400 REPLACING SEAT COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)

The work scope with CIS mat is different for the following work steps:

Cut open cable strap (1).

Lift locking tab and pull the connector out of the side of the connector housing.

Installation note:

Replace cable tie (1).

Connector is encoded against incorrect assembly.

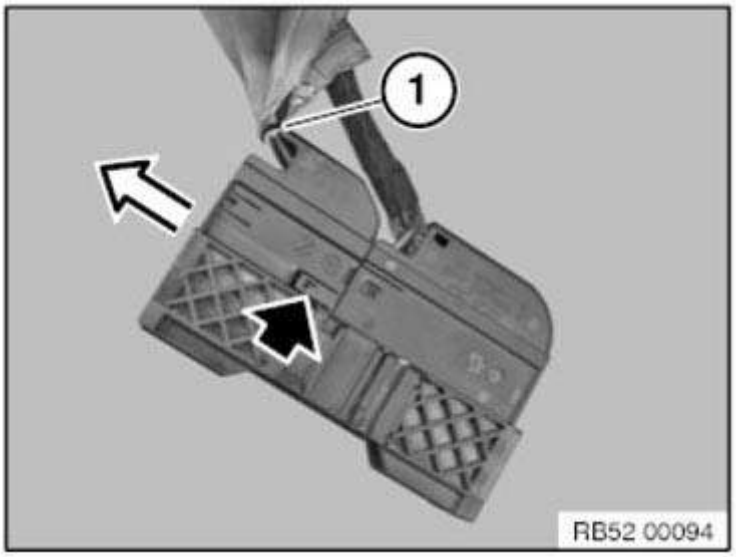


Fig. 141: Pulling Seat Occupancy Detector Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Enabling seat occupancy detector (CIS mat):

- Connect BMW PROGRAMMING SYSTEM
- Encode airbag control unit
- Delete fault memory if necessary

52 15 415 REPLACING UPHOLSTERY FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)

Refer to 52 15 415 REPLACING UPHOLSTERY FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL).

FRONT SEAT, COMFORT

52 14... ADDITIONAL WORK IN EVENT OF FAULTY DRIVE/GEARING FOR LONGITUDINAL ADJUSTMENT

Refer to 52 14... ADDITIONAL WORK IN EVENT OF FAULTY DRIVE/GEARING FOR LONGITUDINAL ADJUSTMENT.

52 14... PERFORMING FUNCTION CHECK WITH ADAPTER CABLE (FOR SEAT REPAIRS)

cardiagn.com

Refer to 52 14... PERFORMING FUNCTION CHECK WITH ADAPTER CABLE (FOR SEAT REPAIRS).

65 77 604 REPLACING SENSOR MAT (CIS MAT) FOR FRONT PASSENGER SEAT OCCUPANCY DETECTOR

WARNING: **Note AIRBAG SAFETY REGULATIONS !**
Incorrect handling can activate airbag and cause injury.

WARNING: **Only US and Canadian version of front passenger seat (with CIS mat):**
The CIS mat is bonded to the entire surface of the facing and can only be removed in conjunction with the padding from the seat cover.
If CIS mat or padding is defective, both parts may only be replaced together.
Full functional capability can only be guaranteed with original BMW spare parts.
After installation, the CIS mat must be enabled with the BMW PROGRAMMING SYSTEM .

Procedure for replacing the CIS mat together with the upholstery is described in:

- Replacing **upholstery for front seat** . See 52 13 400 REPLACING SEAT COVER ON LEFT OR RIGHT FRONT SEAT (NORMAL/MANUAL) or 52 15 400 REPLACING SEAT COVER FOR LEFT OR RIGHT FRONT SEAT (SPORT/MANUAL)

The work scope with CIS mat is different for the following work steps:

Cut open cable strap (1).

Lift locking tab and pull the connector out of the side of the connector housing.

Installation note:

Replace cable tie (1).

Connector is encoded against incorrect assembly.

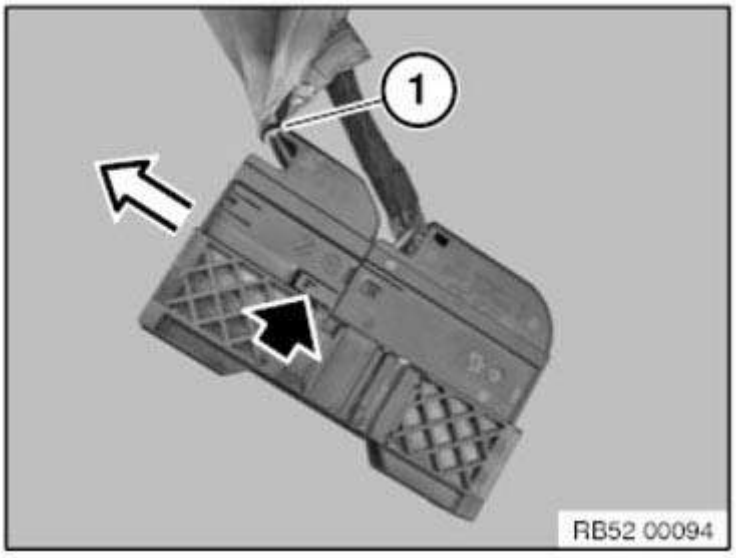


Fig. 142: Pulling Seat Occupancy Detector Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

cardiagn.com

Enabling seat occupancy detector (CIS mat):

- Connect **BMW PROGRAMMING SYSTEM**
- Encode airbag control unit
- Delete fault memory if necessary

REAR SEAT, THROUGH-LOADING

52 26 005 REMOVING AND INSTALLING/REPLACING REAR SEAT

Unclip rear seat on left and right towards top.

Lift out rear seat.

Installation note:

Feed seat belt buckles (1) into recesses in rear seat.

Fig. 143: Removing Belt Buckles Into Recesses
Courtesy of BMW OF NORTH AMERICA, INC.

52 26... REMOVING AND INSTALLING ALL GUIDE SLEEVES FOR REAR HEAD RESTRAINTS

Necessary preliminary work:

- Remove **head restraint** . See **52 26 210 REMOVING AND INSTALLING/REPLACING HEADREST FOR LEFT OR RIGHT REAR SEAT** or **52 26 388 REMOVING AND INSTALLING/REPLACING REAR MIDDLE HEAD RESTRAINT** from rear seat

Press backrest cover with padding next to guide downwards to expose retaining lugs.

Unlock retaining lugs on left and right with screwdriver and lift up to remove guide.

Guide sleeves **with** locks have two retaining lugs.

Guide sleeves **with no** latches have one retaining lug.

Fig. 144: Pressing Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not damage backrest cover.

Installation note:

Replace guide sleeves and install as follows:

1. Short guide sleeves center right
2. Short guide sleeve with center left lock
3. Long guide sleeve, outer right
4. Long guide sleeve with outer left lock

Fig. 145: Identifying Guide Sleeves
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 011 REMOVING AND INSTALLING/REPLACING BACKREST FOR LEFT REAR SEAT

cardiagn.com

Necessary preliminary work:

- Remove **ARMREST SIDE SECTION**
- Remove **REAR SEAT**

Release screw (1).

Tightening torque **72 11 21AZ** .

Installation note:

End fitting is coded against incorrect assembly.

Replace screw (1).

Fig. 146: Locating Rear Center Seat Belt Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Lift out pin and remove expanding rivet (1).

Unfasten screws (2).

Tightening torque **52 26 01AZ** .

Fig. 147: Locating Expanding Rivet And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

1. Tilt backrest slightly forwards.
2. Pull backrest forwards and outwards out of center mount

Fig. 148: Tilting Backrest
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure plastic bush (1) is fitted correctly in the center mount.

The plastic bush (1) must be retained in the center mount with a lug.

Fig. 149: Locating Plastic Bush
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure plastic bush (1) is fitted correctly in the right backrest frame.

The plastic bush (1) may slide during removal of the left backrest.

The plastic bush (1) must be retained in the backrest frame with a lug.

If applicable, **PARTIALLY REMOVE THE BACKREST COVER** and clip the plastic bush (1) in from the outside in.

Fig. 150: Identifying Plastic Bush
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

52 26 012 REMOVING AND INSTALLING/REPLACING BACKREST FOR RIGHT REAR SEAT

Necessary preliminary work:

- Remove **ARMREST SIDE SECTION**

Lift out pin and remove expanding rivet (1).

Unfasten screws (2).

Tightening torque **52 26 01AZ** .

Fig. 151: Locating Expanding Rivet And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

1. Tilt backrest slightly forwards.
2. Pull backrest forwards and outwards out of center mount

Fig. 152: Pulling Backrest Outwards Out Of Center Mount
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure plastic bush (1) is fitted correctly in the center mount.

The plastic bush (1) must be retained in the center mount with a lug.

Fig. 153: Locating Plastic Bush
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure plastic bush (1) is fitted correctly in the backrest frame.

The plastic bush (1) must be retained in the backrest frame with a lug.

If applicable, **PARTIALLY REMOVE THE BACKREST COVER** and clip the plastic bush (1) in from the outside in.

Fig. 154: Identifying Plastic Bush
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 081 REMOVING AND INSTALLING/REPLACING BACKREST FRAME FOR CENTER REAR SEAT

Necessary preliminary work:

- Remove middle **BACKREST COVER**

Replacement only:

- Removing **REAR PANEL ON REAR SEAT BACKREST**
- Remove middle **REAR SEAT BACKREST SEAT BELT BUCKLE**

Release screws (1).

cardiagn.com

Remove the actuating unit (2).

Fig. 155: Identifying Actuating Unit With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure unlocking rod (1) is correctly seated in the operating unit.

Fig. 156: Identifying Operating Unit Rod
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 080 REMOVING AND INSTALLING/REPLACING BACKREST FRAME FOR LEFT REAR SEAT

Necessary preliminary work:

- Remove **LEFT BACKREST COVER**

Replacement only:

- Remove **REAR PANEL ON LEFT REAR SEAT**
- Remove **RETRACTOR MECHANISM, CENTER**
- Removing lock for rear seat backrest

52 26 087 REMOVING AND INSTALLING/REPLACING BACKREST FRAME FOR LEFT REAR SEAT WITH THROUGH-LOADING SYSTEM

Necessary preliminary work:

- Remove **BACKREST COVER FOR REAR SEAT** with left through-loading system

Replacement only:

- Remove **REAR PANEL ON LEFT REAR SEAT BACKREST** with through loading system
- Remove **RETRACTOR MECHANISM, CENTER**
- Removing lock for rear seat backrest

52 26 085 REMOVING AND INSTALLING/REPLACING BACKREST FRAME FOR RIGHT REAR SEAT

Necessary preliminary work:

- Remove **BACKREST COVER** on right

Replacement only:

- Remove right **REAR PANEL ON BACKREST**
- Remove right lock for rear seat backrest

52 26 020 REMOVING AND INSTALLING/REPLACING BOTH BACKRESTS

Necessary preliminary work:

- Remove **BACKREST SIDE SECTION**
- Remove **REAR SEAT**

cardiagn.com

Release screw (1).

Tightening torque **72 11 21AZ** .

Installation note:

End fitting is coded against incorrect installation.

Replace screw (1).

Fig. 157: Locating Rear Center Seat Belt Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out pin and remove expanding rivet (1) on left and right.

Release left and right screws (2).

Tightening torque **52 26 01AZ** .

Fig. 158: Locating Expanding Rivet And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

1. Tilt backrest slightly forwards.
2. Pull backrest forwards and outwards out of center mount

Fig. 159: Tilting Backrest
Courtesy of BMW OF NORTH AMERICA, INC.

1. Tilt backrest slightly forwards.
2. Pull backrest forwards and outwards out of center mount

Fig. 160: Pulling Backrest Outwards Out Of Center Mount
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure plastic bush (1) is fitted correctly.

Lock plastic bush (1) with lug in center mount.

Fig. 161: Locating Plastic Bush
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 032 REMOVING AND INSTALLING/REPLACING CUP HOLDERS IN CENTER ARMREST

Unclip trim (1) with plastic wedge.

Installation note:

Replace trim (1) if retaining lugs are faulty.

Fig. 162: Removing Trim With Plastic Wedge
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Lever cup holders on left and right out of center armrest with plastic wedge.

Fig. 163: Locating Center Armrest With Plastic Wedge
Courtesy of BMW OF NORTH AMERICA, INC.

Remove cup holders from center armrest.

Fig. 164: Removing Cup Holders From Center Armrest
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 210 REMOVING AND INSTALLING/REPLACING HEADREST FOR LEFT OR RIGHT REAR SEAT

Press lock (2) and move head restraint upwards to maximum extent.

Pull out head restraint (1) firmly.

Fig. 165: Pulling Out Head Restraint
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 309 REMOVING AND INSTALLING/REPLACING LOCK FOR LEFT REAR SEAT BACKREST

Gently slide lock finisher (1) on side edge of backrest downwards and unclip to one side.

Gently slide lock finisher on rear side towards middle.

Unclip and remove lock finisher.

Fig. 166: Removing Lock Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs on cover must not be damaged.

Fig. 167: Locating Retaining Lugs On Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Risk of damage!
Insert plastic wedge from outside between cover (1) and lock.
IMPORTANT: Carefully lever outer side of cover (1) with plastic wedge upwards out of catch.
Lever inner side of cover (1) with plastic wedge out of catch.
Remove cover upwards.

Fig. 168: Inserting Plastic Wedge Between Cover And Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out backrest cover (1) in working area.

Fig. 169: Removing Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Release screws and feed door lock (1) out of rear seat backrest.

Tightening torque **52 26 11AZ** .

Fig. 170: Locating Door Lock Backrest Screws
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 310 REMOVING AND INSTALLING/REPLACING LOCK FOR RIGHT REAR SEAT BACKREST

Gently slide lock finisher (1) on side edge of backrest downwards and unclip to one side.

Gently slide lock finisher on rear side towards middle.

Unclip and remove lock finisher.

Fig. 171: Removing Lock Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs on cover must not be damaged.

Fig. 172: Locating Retaining Lugs On Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Risk of damage!
Insert plastic wedge from outside between cover (1) and lock.
IMPORTANT: Carefully lever outer side of cover (1) with plastic wedge upwards out of catch.
Lever inner side of cover (1) with plastic wedge out of catch.
Remove cover upwards.

Fig. 173: Inserting Plastic Wedge Between Cover And Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out backrest cover (1) in working area.

Fig. 174: Removing Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws and feed door lock (1) out of rear seat backrest.

Tightening torque **52 26 11AZ** .

Fig. 175: Locating Door Lock Backrest Screws
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 388 REMOVING AND INSTALLING/REPLACING REAR MIDDLE HEAD RESTRAINT

Move head restraint (1) upwards to maximum extent.

Press lock (2) and pull out head restraint.

cardiagn.com

Fig. 176: Pulling Out Head Restraint
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 202 REMOVING AND INSTALLING/REPLACING REAR PANEL ON CENTER REAR SEAT BACKREST

Unclip trim cover for lock with a plastic wedge.

Move trim cover for lock a little towards the middle.

Detach trim cover for lock by pulling towards rear.

Fig. 177: Removing Trim Cover Using Plastic Wedge
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs on the trim cover for the lock must not be damaged.

Replace defective trim cover for lock.

Fig. 178: Identifying Cover Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully unclip strip (1) for channel cover along the marking on left and right.

Fig. 179: Removing Channel Cover Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms must not be damaged

Replace defective strip for channel cover.

Fig. 180: Identifying Defective Strip For Channel Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out welt in marked area.

Fig. 181: Identifying Welt Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out welt in marked area.

Detach rear panel.

Fig. 182: Identifying Welt Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 199 REMOVING AND INSTALLING/REPLACING REAR PANEL ON LEFT REAR SEAT BACKREST

Special tools required:

cardiagn.com

- 00 9 317

Depending on equipment specification:

Ohne SA 413: Unclip cover (1) for combined roller cover mount.

Mit SA 413: Unclip trim cover for combined roller cover mount.

Fig. 183: Identifying Cover For Combined Roller Cover Mount
Courtesy of BMW OF NORTH AMERICA, INC.

With option SA 413:

Release screws (1).

Tightening torque 52 26 9AZ .

Remove mount for combined roller cover.

Fig. 184: Identifying Combined Roller Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Gently slide lock finisher (1) on side edge of backrest downwards and unclip to one side.

Gently slide lock finisher on rear side towards middle.

Unclip and remove lock finisher.

Fig. 185: Removing Lock Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs on cover must not be damaged.

If necessary, replace faulty cover.

Fig. 186: Identifying Cover Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully unclip channel cover strip (1) along the markings.

Fig. 187: Removing Channel Cover Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms must not be damaged

Replace defective strip for channel cover.

Fig. 188: Identifying Defective Strip For Channel Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out welt in marked area from backrest frame.

cardiagn.com

Remove rear panel from backrest frame.

Fig. 189: Removing Rear Panel From Backrest Frame
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 206 REMOVING AND INSTALLING/REPLACING REAR PANEL ON LEFT REAR SEAT BACKREST WITH THROUGH-LOADING SYSTEM

Special tools required:

- 00 9 317

Depending on equipment specification:

Ohne SA 413: Unclip cover (1) for combined roller cover mount.

Mit SA 413: Unclip trim cover for combined roller cover mount.

Fig. 190: Identifying Cover For Combined Roller Cover Mount
Courtesy of BMW OF NORTH AMERICA, INC.

With option SA 413:

Release screws (1).

Tightening torque 52 26 9AZ .

Remove mount for combined roller cover.

Fig. 191: Identifying Combined Roller Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Gently slide lock finisher (1) on side edge of backrest downwards and unclip to one side.

Gently slide lock finisher on rear side towards middle.

Unclip and remove lock finisher.

Fig. 192: Removing Lock Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs on cover must not be damaged.

If necessary, replace faulty cover.

Fig. 193: Locating Retaining Lugs On Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out welt in marked area from backrest frame.

Remove rear panel from backrest frame.

Fig. 194: Removing Rear Panel From Backrest Frame

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

52 26 200 REMOVING AND INSTALLING/REPLACING REAR PANEL ON RIGHT REAR SEAT BACKREST

Special tools required:

- 00 9 317

Depending on equipment specification:

Ohne SA 413: Unclip cover (1) for combined roller cover mount.

Mit SA 413: Unclip trim cover for combined roller cover mount.

Fig. 195: Identifying Cover For Combined Roller Cover Mount
Courtesy of BMW OF NORTH AMERICA, INC.

With option SA 413:

Release screws (1).

Tightening torque 52 26 09AZ .

Remove mount for combined roller cover.

Fig. 196: Identifying Combined Roller Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Gently slide lock trim (1) on side edge of backrest downwards and unclip to one side.

Gently slide lock trim on rear side towards middle.

Unclip and remove lock trim.

Fig. 197: Removing Lock Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs on trim must not be damaged.

If necessary, replace faulty cover.

Fig. 198: Locating Retaining Lugs On Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out welt in marked area from backrest frame.

Remove rear panel from backrest frame.

Fig. 199: Removing Rear Panel From Backrest Frame
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 037 REMOVING AND INSTALLING/REPLACING SEAT FRAME

cardiagn.com

Operation is described in:

- Removing **SEAT COVER WITH UPHOLSTERY**.

52 26 008 REMOVING AND INSTALLING/REPLACING SIDE SECTION OF REAR SEAT BACKREST (THROUGH-LOADING FACILITY) ON LEFT OR RIGHT

Tilt rear seat backrest forwards.

Detach cover (1) upwards.

Remove seat belt strap (2) from capping (1).

Fig. 200: Removing Seat Belt Strap From Capping
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms (1) of cover (2) must not be damaged.

Fig. 201: Identifying Latch Mechanisms Of Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Pop out cover (1) for seat backrest bracket.

Installation note:

Insert cover (1) at bottom and pop in at top left and right in succession.

Fig. 202: Removing Cover For Seat Backrest Bracket
Courtesy of BMW OF NORTH AMERICA, INC.

Unlock latch (1) with a screwdriver through side wall.

Pull backrest side section (2) forwards and lift out.

Fig. 203: Pulling Backrest Side Section Forwards
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

- First thread in guides on the backrest side section (1) in the supports on the body.
- Then press down side section of backrest (1) so that the guides fit properly in the supports.
- Clip backrest side section at top into place.

Fig. 204: Identifying Guides On Backrest Side Section
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 315 REMOVING AND REFITTING/REPLACING LOCK FOR CENTER REAR SEAT BACKREST

Unclip trim cover for lock with a plastic wedge.

Move trim cover for lock a little towards the middle.

cardiagn.com

Detach trim cover for lock by pulling towards rear.

Fig. 205: Removing Trim Cover Using Plastic Wedge
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs on the trim cover for the lock must not be damaged.

Replace defective trim cover for lock.

Fig. 206: Identifying Cover Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1) and feed lock (2) out of rear seat backrest.

Tightening torque **52 26 11AZ** .

Fig. 207: Identifying Rear Seat Backrest Lock With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure operating rod (1) is correctly seated in the lock.

Run a function check.

Fig. 208: Identifying Operating Rod
Courtesy of BMW OF NORTH AMERICA, INC.

51 23... REMOVING/INSTALLING BALL SOCKETS WITH CLIP

WARNING: **Danger of injury! When installed, the gas pressurized shock absorber is under preload. Minimize preload as far as possible before removing.**

IMPORTANT: Never lift off ball socket with engaged clamp.

Version A:

1. Push on clamp in direction of groove with screwdriver
2. Lift off ball socket from ball pin
3. Slide clamp back
4. Fit ball socket on ball stud and snap into place with force

Installation note:

Pack grease into two opposite positions in socket. The grease spreads after installation on the ball pin all round in the ball socket.

Fig. 209: Pushing Clamp In Groove Using Screwdriver
Courtesy of BMW OF NORTH AMERICA, INC.

Version B:

cardiagn.com

IMPORTANT: Risk of damage!
If you are not careful, retaining spring (2) may be bent to such an extent that the entire drive spindle will have to be replaced.

Press drive spindle (1) against ball pin in order to relieve strain on retaining spring (2) at ball pin.

Fig. 210: Pressing Drive Spindle
Courtesy of BMW OF NORTH AMERICA, INC.

Pull out retaining spring (2) approx. 2-3 mm with screwdriver (3).

Pull off spindle foot.

WARNING: **Observe warning notices on the damper.**
Electrical spindle drive for tailgate is under mechanical spring load!
The component must be secured against falling down.

Attention!

Risk of damage!

Do not press on spindle drive at an angle or twisted.

Installation note:

Press ball socket (1) onto ball pin (2) until retaining spring (3) engages correctly (clicking sound).

Fig. 211: Pressing Ball Socket On Ball Pin
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: If retaining spring (4) is damaged!
Release pin (1).
Remove spindle drive (3).
Remove ball socket (2).
Remove retaining spring (4) and replace if necessary.

Fig. 212: Identifying Ball Socket, Spindle Drive And Retaining Pin
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 411 REPLACING BACKREST COVER FOR LEFT REAR SEAT

Special tools required:

- 52 0 050

Necessary preliminary work:

- Remove REAR SEAT BACKREST, left
- Remove GUIDE SLEEVES

Depending on equipment specification:

Ohne SA 413: Unclip cover (1) for combined roller cover mount.

Mit SA 413: Unclip trim cover for combined roller cover mount.

cardiagn.com

Fig. 213: Identifying Cover For Combined Roller Cover Mount
Courtesy of BMW OF NORTH AMERICA, INC.

With option SA 413:

Release screws (1).

Tightening torque **52 26 09AZ** .

Remove mount for combined roller cover.

Fig. 214: Identifying Combined Roller Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Gently slide lock finisher (1) on side edge of backrest downwards and unclip to one side.

Gently slide lock finisher on rear side towards middle.

Unclip and remove lock finisher.

Fig. 215: Removing Lock Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs on the trim cover for the lock must not be damaged.

Replace defective trim cover for lock.

Fig. 216: Identifying Cover Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Risk of damage!

Insert plastic wedge from outside between cover (1) and lock.

Carefully lever outer side of cover (1) with plastic wedge upwards out of catch.

Lever inner side of cover (1) with plastic wedge out of catch.

Remove cover upwards.

Fig. 217: Inserting Plastic Wedge Between Cover And Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws.

Tightening torque **52 26 06AZ** .

Lift out trim.

Fig. 218: Locating Trim Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Feed belt strap out of trim.

cardiagn.com

Fig. 219: Folding Belt Strap Out Of Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully unclip strip (1) for channel cover along the marking on left and right.

Fig. 220: Removing Channel Cover Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms must not be damaged

Replace defective strip for channel cover.

Fig. 221: Identifying Defective Strip For Channel Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Use plastic wedge to unclip front center armrest trim cover (1).

Fig. 222: Removing Front Center Armrest Trim Cover
Courtesy of BMW OF NORTH AMERICA, INC.

None of the retaining lugs on trim must be damaged.

Replace defective center armrest cover.

Fig. 223: Identifying Defective Center Armrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Disengage welt in marked area from metal clamps.

NOTE: If necessary, carefully bend up the metal clamps.

Fig. 224: Identifying Metal Clamps Welt Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque **52 26 02AZ** .

Remove outer mount (2).

Fig. 225: Identifying Outer Mount With Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out welt in marked area from backrest frame.

Remove backrest cover with padding from backrest frame.

Fig. 226: Removing Backrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Detaching cover and upholstery:

cardiagn.com

- Release all clamps in marked area
- Remove cover from upholstery
- Remove all remnants of retainers from cover and padding

Fig. 227: Identifying Clamps In Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Insert new clamp (2) with special tool **52 0 050** and bend closed.

1. Upholstery
2. Clamp
3. Trim wire in upholstery
4. Trim wire in backrest cover
5. Backrest cover

Fig. 228: Inserting Clamp With Special Tool (52 0 050)
Courtesy of BMW OF NORTH AMERICA, INC.

Replacing cover:

- Pull all trim wires out of cover
- If necessary, cut pockets in new cover for trim wires
- Push trim wires into cover pockets

Fig. 229: Identifying Cover Trim Wires
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 420 REPLACING BACKREST COVER FOR REAR SEAT INCLUDING THROUGH-LOADING SYSTEM ON LEFT

Special tools required:

- **52 0 050**

Necessary preliminary tasks:

- Remove **REAR SEAT BACKREST**, left
- Remove **GUIDE SLEEVES**

Remove center rear seat backrest from support of left-hand backrest in direction of arrow.

Fig. 230: Removing Center Rear Seat Backrest From Support Of Left-Hand Backrest
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Plastic bush (1) may slide when removing the center backrest.

Make sure plastic bush (1) is fitted correctly in the backrest frame.

The plastic bush (1) must be retained in the backrest frame with a lug.

cardiagn.com

If applicable, **PARTIALLY REMOVE THE BACKREST COVER** and plastic bush (1) from the inside out.

Fig. 231: Identifying Backrest Frame Plastic Bush
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Plastic bush (1) may slide when removing the center backrest.

Make sure plastic bush (1) is fitted correctly in the backrest frame.

The plastic bush (1) must be retained in the backrest frame with a lug.

If applicable, **PARTIALLY REMOVE THE BACKREST COVER** and clip the plastic bush (1) in from the outside in.

Fig. 232: Identifying Center Backrest Plastic Bush
Courtesy of BMW OF NORTH AMERICA, INC.

Depending on equipment specification:

Ohne SA 413: Unclip cover (1) for combined roller cover mount.

Mit SA 413: Unclip trim cover for combined roller cover mount.

Fig. 233: Identifying Cover For Combined Roller Cover Mount
Courtesy of BMW OF NORTH AMERICA, INC.

With option SA 413:

Release screws (1).

Tightening torque **52 26 09AZ** .

Remove mount for combined roller cover.

Fig. 234: Identifying Combined Roller Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Gently slide lock trim (1) on side edge of backrest downwards and unclip to one side.

Gently slide lock trim on rear side towards middle.

Unclip and remove lock trim.

Fig. 235: Removing Lock Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs on trim must not be damaged.

If necessary, replace faulty trim.

Fig. 236: Locating Retaining Lugs On Cover

cardiagn.com

Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Risk of damage!

Insert plastic wedge from outside between trim (1) and lock.

Carefully lever outer side of trim (1) with plastic wedge upwards out of catch.

Lever inner side of trim (1) with plastic wedge out of catch.

Remove trim upwards.

Fig. 237: Inserting Plastic Wedge Between Cover And Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws.

Tightening torque **52 26 06AZ** .

Lift out trim.

Fig. 238: Locating Trim Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Feed seat belt strap out of cover.

Fig. 239: Folding Belt Strap Out Of Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque **52 26 02AZ** .

Remove outer mount (2).

Fig. 240: Identifying Outer Mount With Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out welt in marked area from backrest frame.

Remove backrest cover with padding from backrest frame.

Fig. 241: Removing Rear Panel From Backrest Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Detaching cover and upholstery:

- Release all clamps in marked area
- Remove cover from upholstery
- Remove all remnants of retainers from cover and padding

Fig. 242: Identifying Clamps In Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

Insert new clamp (2) with special tool **52 0 050** and bend closed.

1. Upholstery
2. Clamp
3. Trim wire in upholstery
4. Trim wire in backrest cover
5. Backrest cover

Fig. 243: Inserting Clamp With Special Tool (52 0 050)
Courtesy of BMW OF NORTH AMERICA, INC.

Replacing cover:

- Pull all trim wires out of cover
- If necessary, cut pockets in new cover for trim wires
- Push trim wires into cover pockets

Fig. 244: Identifying Trim Wires Into Cover Pockets
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 414 REPLACING BACKREST COVER FOR REAR SEAT, CENTER

Necessary preliminary tasks:

- Remove **LEFT BACKREST FOR REAR SEAT**
- Remove armrest

Remove center rear seat backrest from support of left-hand backrest in direction of arrow.

Fig. 245: Removing Center Rear Seat Backrest From Support Of Left-Hand Backrest
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Plastic bush (1) may slide when removing the center backrest.

Make sure plastic bush (1) is fitted correctly in the backrest frame.

The plastic bush (1) must be retained in the backrest frame with a lug.

Plastic bush (1) is clipped in from inside outwards.

Fig. 246: Identifying Backrest Frame Plastic Bush
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Plastic bush (1) may slide when removing the center backrest.

Make sure plastic bush (1) is fitted correctly in the backrest frame.

The plastic bush (1) must be retained in the backrest frame with a lug.

cardiagn.com

Plastic bush (1) is clipped from outside inward.

Fig. 247: Identifying Center Backrest Plastic Bush
Courtesy of BMW OF NORTH AMERICA, INC.

Unclip trim cover for lock with a plastic wedge.

Move trim cover for lock a little towards the middle.

Detach trim cover for lock by pulling towards rear.

Fig. 248: Removing Trim Cover Using Plastic Wedge
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs on the trim cover for the lock must not be damaged.

Replace defective trim cover for lock.

Fig. 249: Identifying Cover Retaining Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully unclip strip (1) for channel cover along the marking on left and right.

Fig. 250: Removing Channel Cover Strip
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Latch mechanisms must not be damaged

Replace defective strip for channel cover.

Fig. 251: Identifying Defective Strip For Channel Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Use plastic wedge to unclip front center armrest trim cover (1).

Fig. 252: Removing Front Center Armrest Trim Cover
Courtesy of BMW OF NORTH AMERICA, INC.

None of the retaining lugs on trim must be damaged.

Replace defective center armrest cover.

Fig. 253: Identifying Defective Center Armrest Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

In marked area (1), fit center armrest trim cover (1) in welt of lower seat cover.

cardiagn.com

Fig. 254: Identifying Center Armrest Trim Cover Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Risk of damage!

Insert plastic wedge from outside between trim (1) and lock.

Carefully lever outer side of trim (1) with plastic wedge upwards out of catch.

Lever inner side of trim (1) with plastic wedge out of catch.

Remove trim upwards.

Fig. 255: Locating Outer Side Of Trim With Plastic Wedge
Courtesy of BMW OF NORTH AMERICA, INC.

Press backrest cover with padding next to guide downwards to expose retaining lugs.

Unlock retaining lugs on left and right with screwdriver and lift up to remove guide.

Guide sleeves **with** locks have two retaining lugs.

Guide sleeves **with no** latches have one retaining lug.

Fig. 256: Identifying Short Guide Sleeves
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not damage backrest cover.

Installation note:

Replace guide sleeves and install as follows:

1. Short guide sleeves center right
2. Short guide sleeve with center left lock

Lever out welt in marked area.

Fig. 257: Identifying Welt Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Detach trim wire from claw studs.

Fig. 258: Identifying Trim Wire From Claw Studs
Courtesy of BMW OF NORTH AMERICA, INC.

Detach cover from plastic tabs.

Fig. 259: Locating Cover Plastic Tabs
Courtesy of BMW OF NORTH AMERICA, INC.

Pull cover forward to remove from operating unit.

Detach cover from plastic tabs.

cardiagn.com

Fig. 260: Identifying Operating Unit
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out welt in marked area.

Remove lower seat cover.

Fig. 261: Identifying Welt Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 412 REPLACING BACKREST COVER FOR RIGHT REAR SEAT

Special tools required:

- 52 0 050

Necessary preliminary work:

- Remove BACKREST FOR REAR SEAT
- Remove GUIDE SLEEVES

Depending on equipment specification:

Without OE 413: Unclip cover (1) for combined roller cover mount.

With option SA 413: Unclip trim cover for combined roller cover mount.

Fig. 262: Identifying Cover For Combined Roller Cover Mount
Courtesy of BMW OF NORTH AMERICA, INC.

With option SA 413:

Release screws (1).

Tightening torque 52 26 09AZ .

Remove mount for combined roller cover.

Fig. 263: Identifying Combined Roller Cover Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Gently slide lock trim (1) on side edge of backrest downwards and unclip to one side.

Gently slide lock trim on rear side towards middle.

Unclip and remove lock trim.

Fig. 264: Removing Lock Trim
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Retaining lugs on trim must not be damaged.

If necessary, replace faulty trim.

cardiagn.com

Fig. 265: Locating Retaining Lugs On Cover
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Risk of damage!

Insert plastic wedge from outside between trim (1) and lock.

Carefully lever outer side of trim (1) with plastic wedge upwards out of catch.

Lever inner side of trim (1) with plastic wedge out of catch.

Remove trim upwards.

Fig. 266: Inserting Plastic Wedge Between Cover And Lock
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque **52 26 02AZ** .

Remove outer mount (2).

Fig. 267: Identifying Outer Mount With Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Lever out welt in marked area from backrest frame.

Remove backrest cover with padding from backrest frame.

Fig. 268: Removing Rear Panel From Backrest Frame
Courtesy of BMW OF NORTH AMERICA, INC.

Detaching cover and upholstery:

- Release all retainers in marked area
- Remove cover from upholstery
- Remove all remnants of retainers from cover and padding

Fig. 269: Identifying Clamps In Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Insert new clamp (2) with special tool **52 0 050** and bend closed.

1. Upholstery
2. Clamp
3. Trim wire in upholstery
4. Trim wire in backrest cover
5. Backrest cover

Fig. 270: Inserting Clamp With Special Tool (52 0 050)
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Replacing cover:

- Pull all trim wires out of cover
- If necessary, cut pockets in new cover for trim wires
- Push trim wires into cover pockets

Fig. 271: Identifying Trim Wires Into Cover Pockets
Courtesy of BMW OF NORTH AMERICA, INC.

Installation note:

Make sure plastic bush (1) is fitted correctly in the backrest frame.

The plastic bush (1) must be retained in the backrest frame with a lug.

Plastic bush (1) is clipped from outside inward.

Fig. 272: Identifying Plastic Bush
Courtesy of BMW OF NORTH AMERICA, INC.

52 26 450 REPLACING PADDING FOR REAR SEAT

This operation is described in section on:

- **REPLACING SEAT COVER FOR REAR SEAT**

52 26 400 REPLACING SEAT COVER FOR REAR SEAT

Special tools required:

- **52 0 050**

Necessary preliminary work:

- Remove **REAR SEAT**

Lever out welt in area (1) with plastic wedge.

Unhook seat cover in area (2).

Installation note:

Welt catches audibly in seat frame.

Fig. 273: Identifying Welt Area With Plastic Wedge
Courtesy of BMW OF NORTH AMERICA, INC.

Detaching cover and upholstery:

- Release all clamps in marked area.
- Remove seat cover from padding
- Remove remaining clamps from cover and upholstery

Fig. 274: Identifying Clamps Marked Area
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com

Installation note:

Insert new clamps with special tool **52 0 050** .

1. Upholstery
2. Clamp
3. Trim wire in upholstery
4. Trim wire in seat cover
5. Seat cover

Fig. 275: Inserting Clamp With Special Tool (52 0 050)
Courtesy of BMW OF NORTH AMERICA, INC.

Replacement only:

- Push trim wires into new seat cover
- If necessary, cut in mounting for trim wires of new cover

Fig. 276: Identifying Trim Wires Into Seat Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702209

cardiagn.com

SEATS

0496537 ADAPTER CABLE

0496537 520000 Adapter cable Mechanical tool

NOTE: (Adapter cable OC3) OC3 floor mat in conjunction with ISTA --> action USA and Canada only



Fig. 1: Identifying Adapter Cable (0496537)
Courtesy of BMW OF NORTH AMERICA, INC.

0495318 ADAPTER CABLE

0495318 521010 Adapter cable Mechanical tool

NOTE: (Adapter cable for software update OC-3 mat) Campaign on US motor vehicles (USA/Canada) only

0492675 BEARING

0492675 521204 Bearing AM

NOTE: (Grooved ball bearing)

cardiagn.com

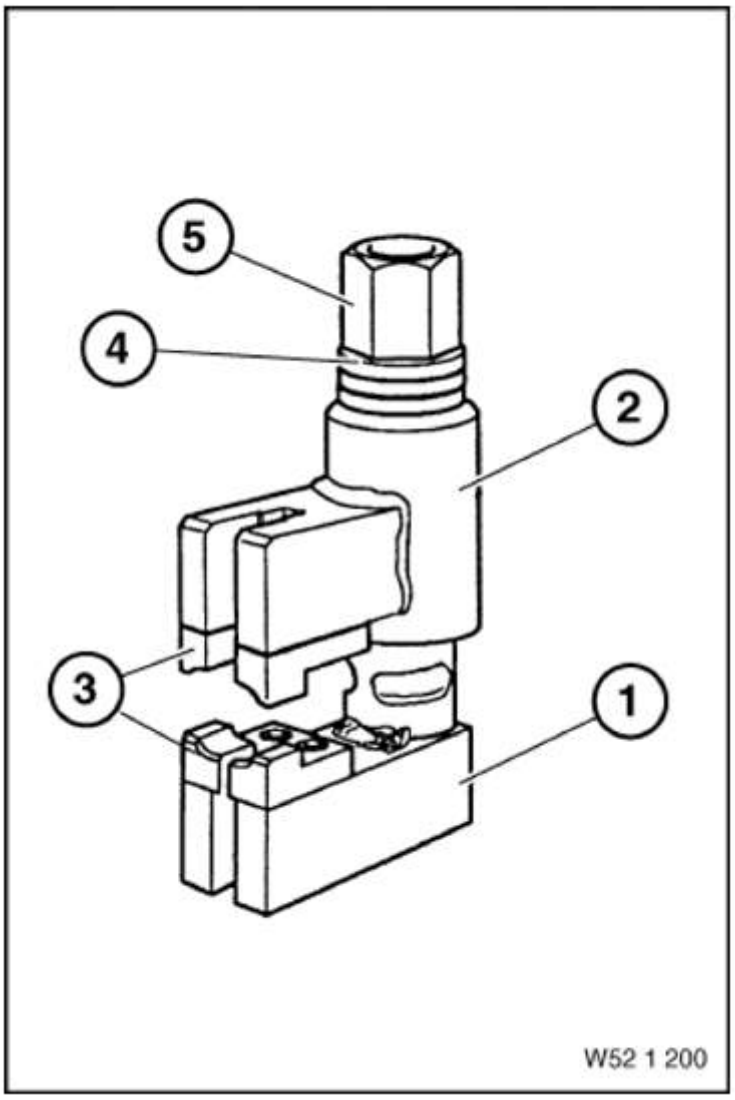


Fig. 2: Identifying Bearing (0492675)
Courtesy of BMW OF NORTH AMERICA, INC.

0492673 BUSH

0492673 521202 Bush AM

NOTE: **(Guide bush with crimp arm)**

cardiagn.com

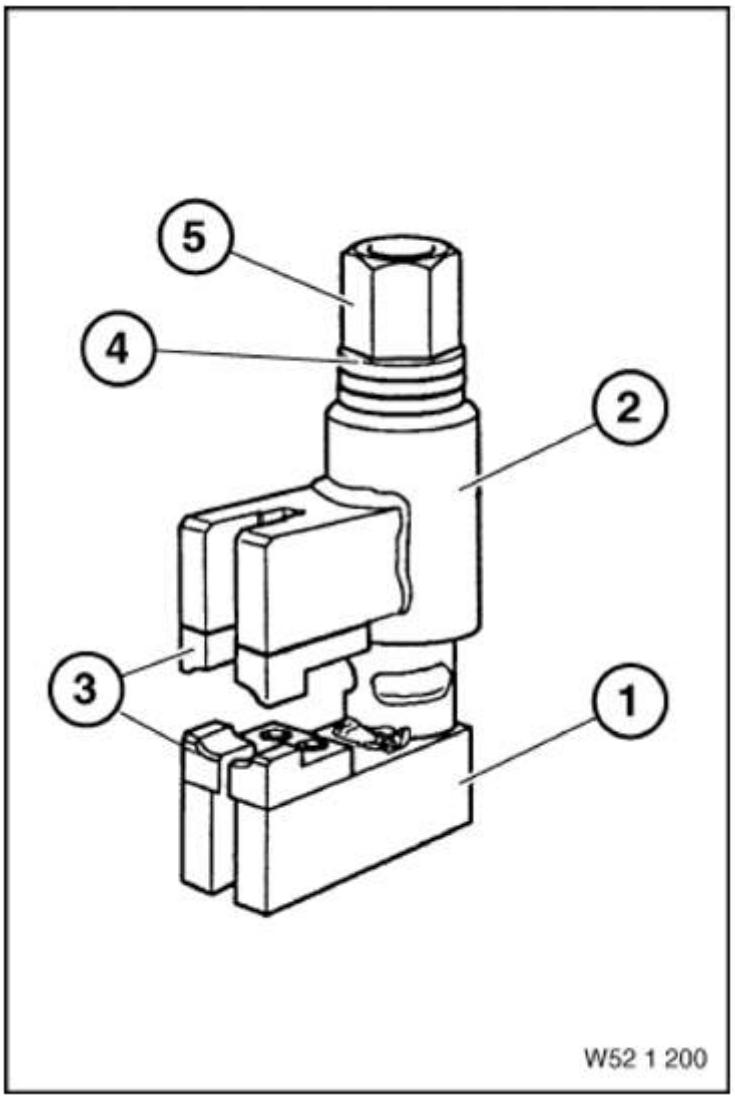


Fig. 3: Identifying Bush (0492673)
Courtesy of BMW OF NORTH AMERICA, INC.

0492671 DEVICE

0492671 521200 Device AM

NOTE: **For securing the seat height adjustment**

Storage Location

Y8

SI number

01 11 91 (458)

Consisting of:

1 = 0492672 Shaft

NOTE: **(Guide shaft with crimp arm)**

2 = 0492673 Bush

NOTE: **(Guide bush with crimp arm)**

cardiagn.com

3 = 0492674 Synchronizing key

NOTE: **(Thrust piece with cheese head screw (2 pieces))**

4 = 0492675 Bearing

NOTE: **(Grooved ball bearing)**

5 = 0492676 Nut
5 = 0492677 Lubricant

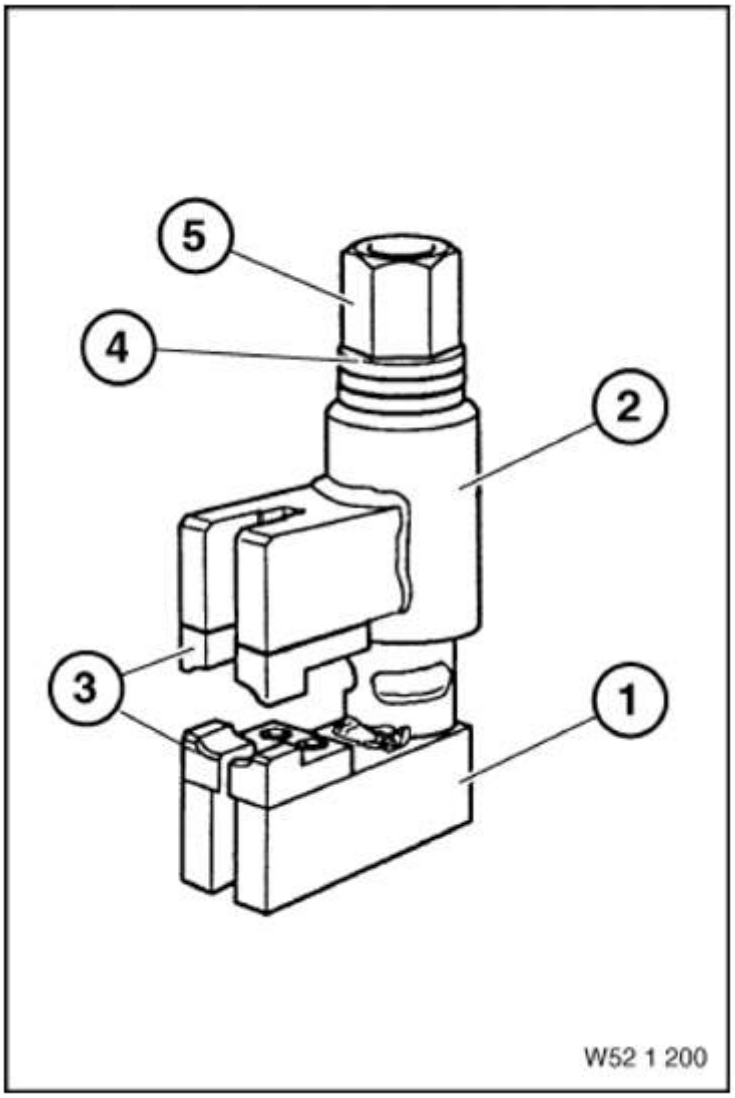


Fig. 4: Identifying Device (0492671)
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: **(Isoflex grease) is replaced by 81 22 9 407 174 (BMW Parts Department)**

2154711 FITTING AID

2154711 Fitting aid AM

In conjunction with: ENGINE ASSEMBLY STAND WITH SWZ NUMBER 00 2 300 = 0495187

NOTE: **This universal seat fixture is intended for professional repairs of vehicle seats. Universal seat fixture to be used only in conjunction with engine assembly stand with SWZ number 00 2 300.**

cardiagn.com

SI number

08 18 08 (495)



Fig. 5: Identifying Fitting Aid (2154711)
Courtesy of BMW OF NORTH AMERICA, INC.

0494627 HOOK

0494627 520070 Hook Mechanical tool

NOTE: **(Release hook) For removing the head restraint guides**

Storage Location

A47

B47

SI number

01 08 03 (988)

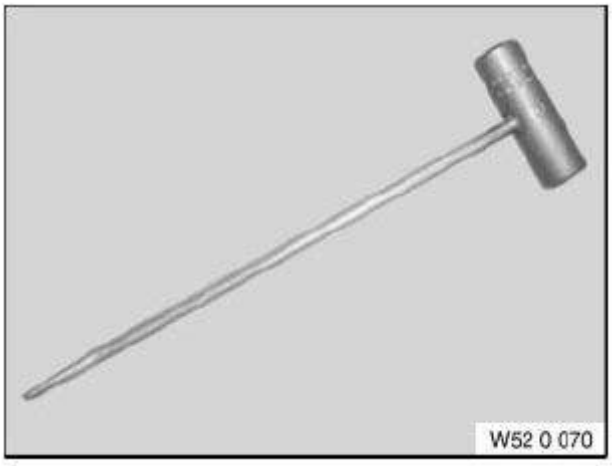


Fig. 6: Identifying Hook (0494627)
Courtesy of BMW OF NORTH AMERICA, INC.

0492677 LUBRICANT

cardiagn.com

0492677 521206 Lubricant AM

NOTE: (Isoflex grease) is replaced by 81 22 9 407 174 (BMW Parts Department)

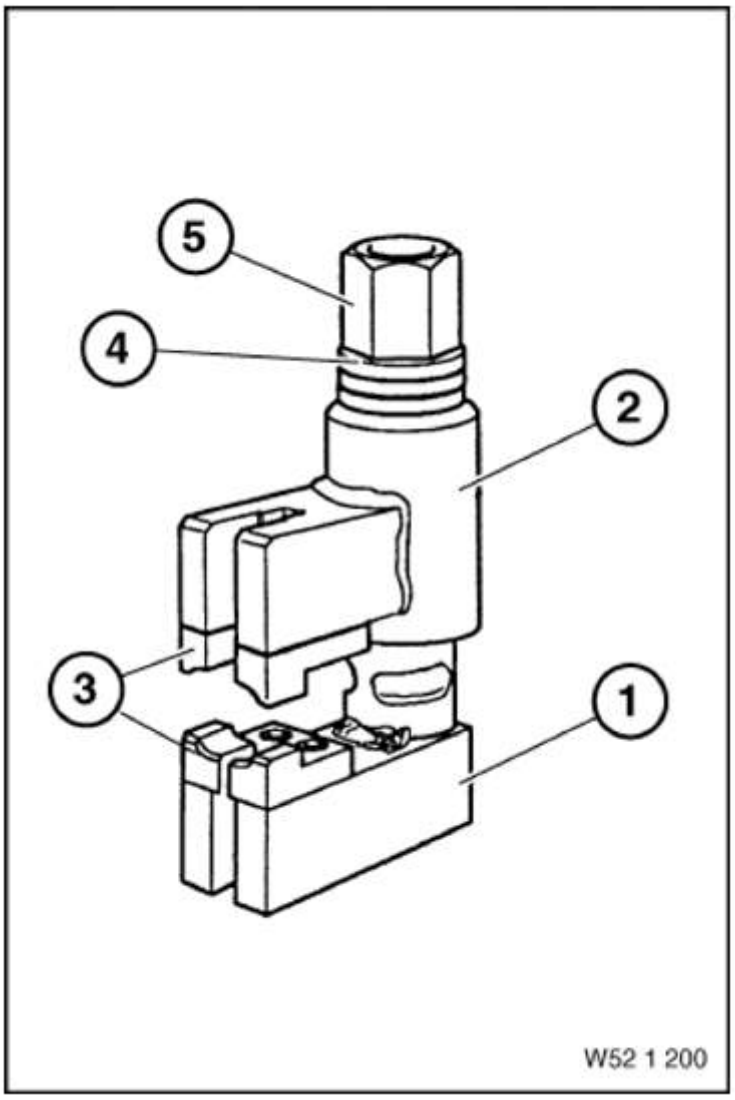


Fig. 7: Identifying Lubricant (0492677)
Courtesy of BMW OF NORTH AMERICA, INC.

0492670 MANDREL

0492670 521100 Mandrel Mechanical tool

NOTE: (Fitting mandrel) For driving in the Saxonia seat stud

Storage Location

Z4

cardiagn.com

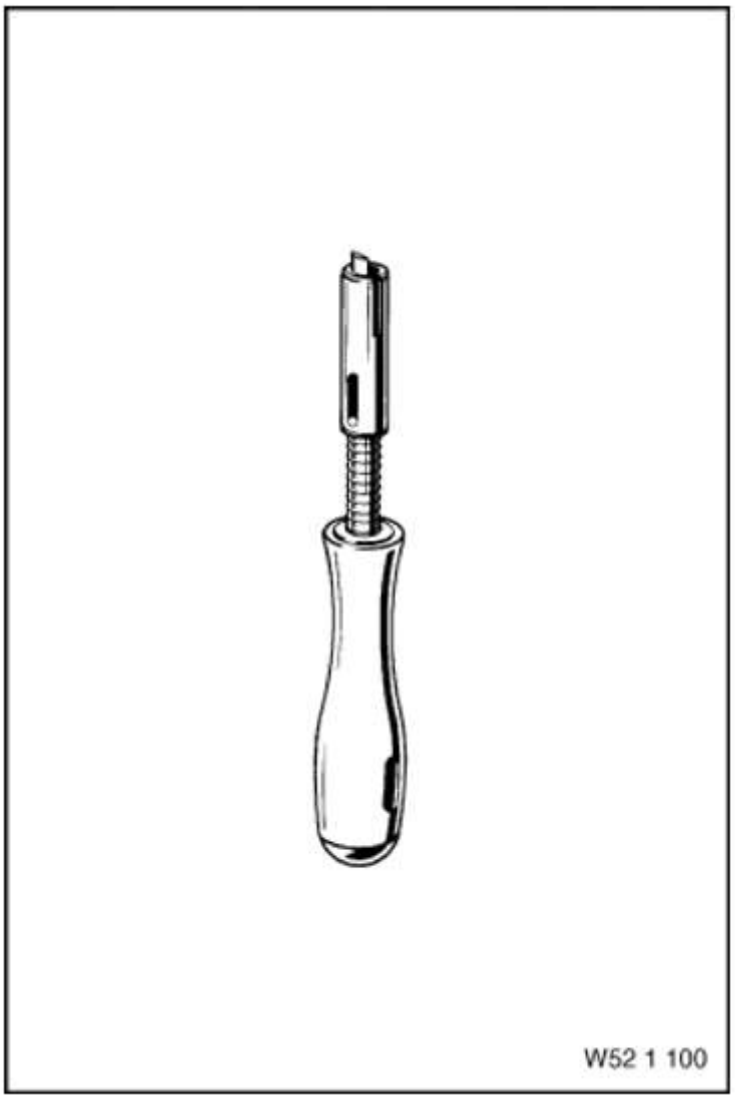


Fig. 8: Identifying Mandrel (0492670)
Courtesy of BMW OF NORTH AMERICA, INC.

0492676 NUT

0492676 521205 Nut AM

cardiagn.com

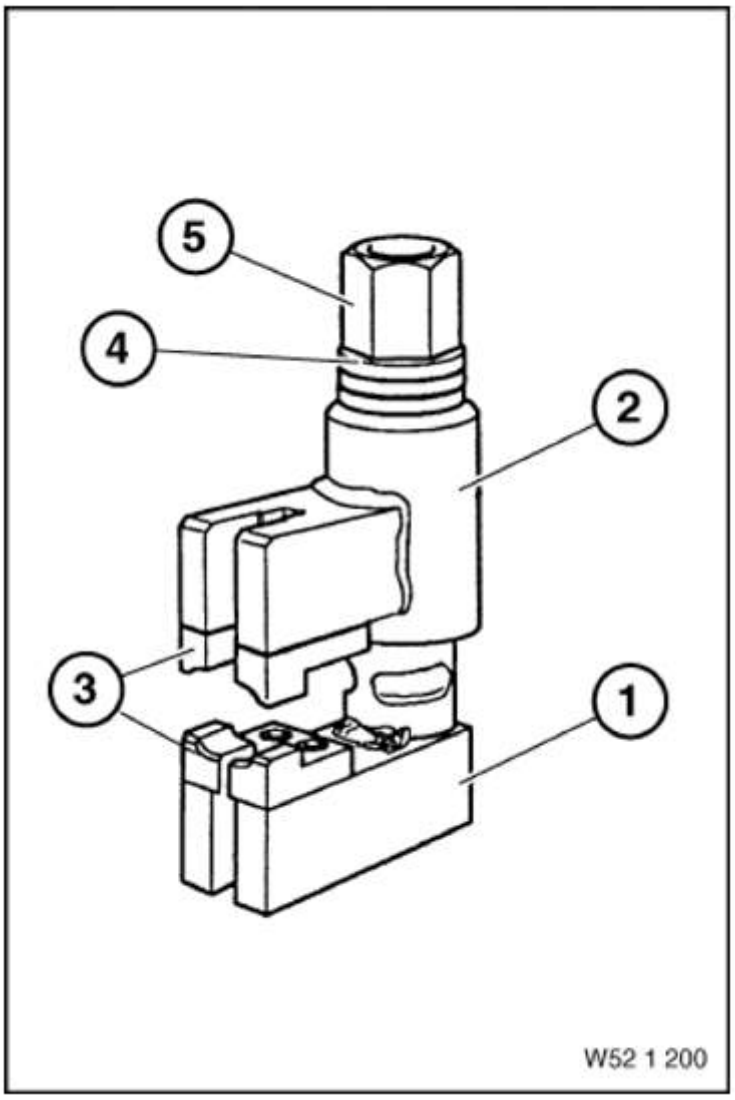


Fig. 9: Identifying Nut (0492676)
Courtesy of BMW OF NORTH AMERICA, INC.

0492669 PIN WRENCH

0492669 521000 Pin wrench Mechanical tool

NOTE: **(Pin wrench for center armrest)**

Storage Location

X3

cardiagn.com

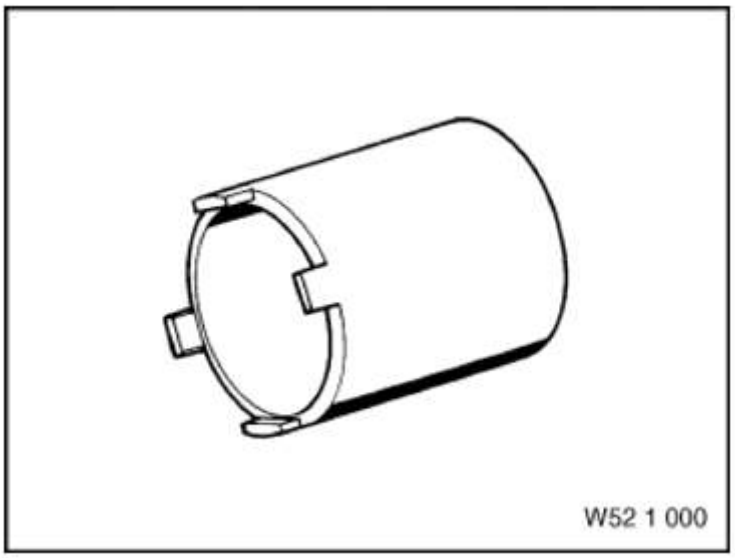


Fig. 10: Identifying Pin Wrench (0492669)
Courtesy of BMW OF NORTH AMERICA, INC.

0495212 PLIERS

0495212 520100 Pliers MP

NOTE: **Crimping pliers for wire end ferrules - for crimping wire end ferrules measuring 0.08 to 10 mm^2 and from 16 mm^2 .**

SI number

01 15 12 (830)

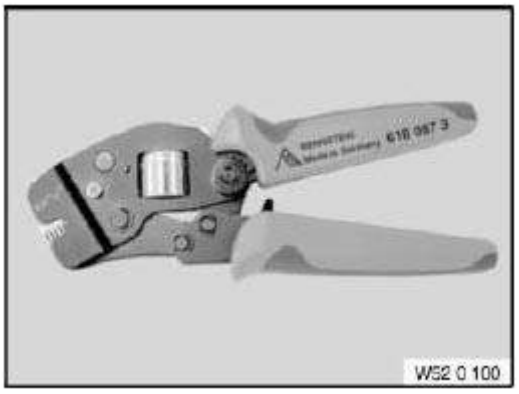


Fig. 11: Identifying Pliers (0495212)
Courtesy of BMW OF NORTH AMERICA, INC.

0492668 PLIERS

0492668 520050 Pliers Mechanical tool

NOTE: **For securing clamps on seat cover**

Storage Location

A13

SI number

cardiagn.com



W52 0 050

Fig. 12: Identifying Pliers (0492668)
Courtesy of BMW OF NORTH AMERICA, INC.

0492672 SHAFT

0492672 521201 Shaft AM

NOTE: **(Guide shaft with crimp arm)**

cardiagn.com

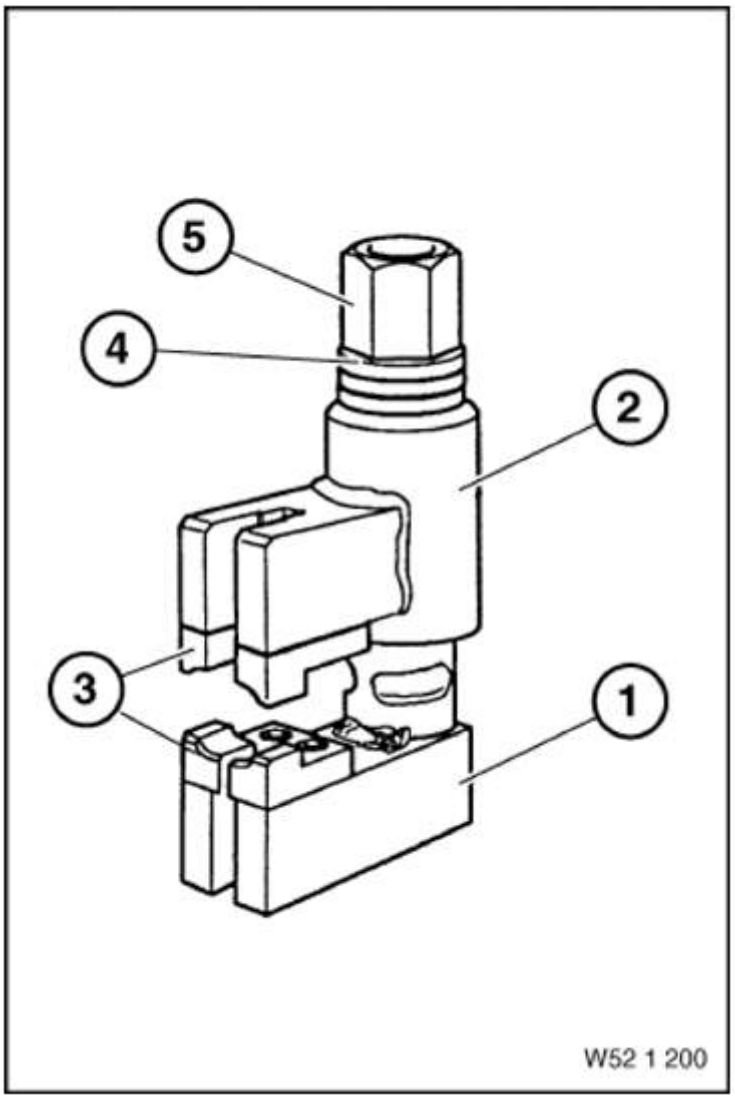


Fig. 13: Identifying Shaft (0492672)
Courtesy of BMW OF NORTH AMERICA, INC.

0492674 SYNCHRONIZING KEY

0492674 521203 Synchronizing key AM

NOTE: **(Thrust piece with cheese head screw (2 pieces))**

cardiagn.com

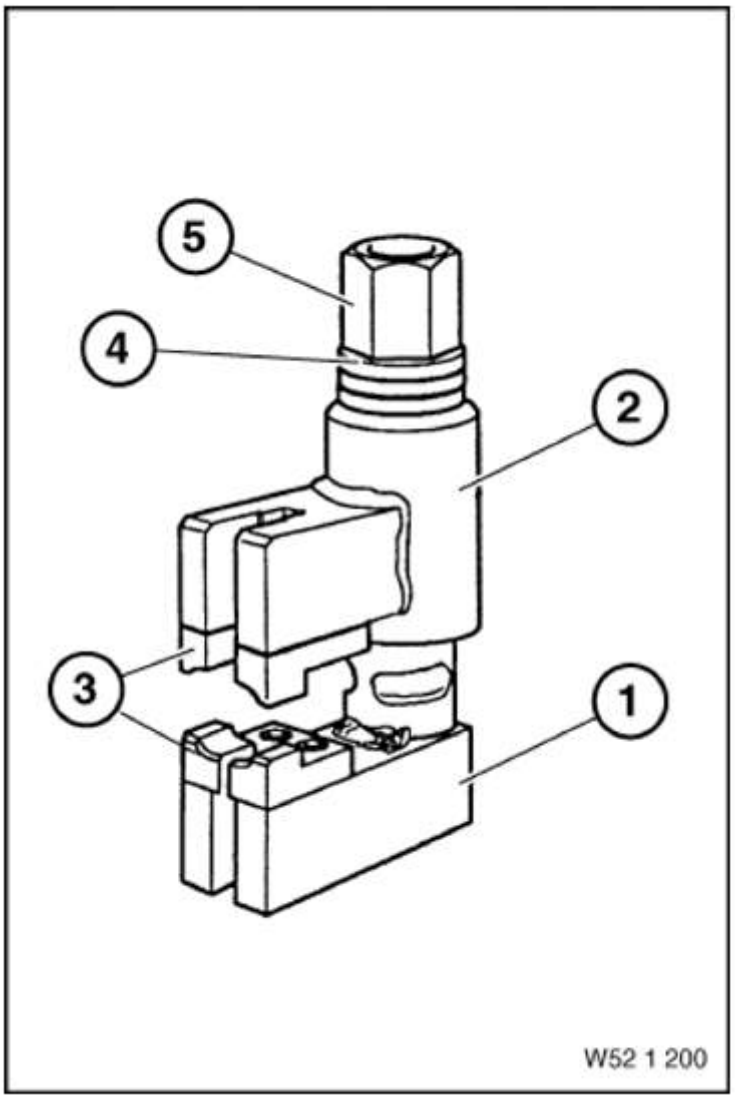


Fig. 14: Identifying Synchronizing Key (0492674)
Courtesy of BMW OF NORTH AMERICA, INC.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702132

cardiagn.com

FRONT SEATS

52 10 FRONT SEATS

TIGHTENING TORQUE SPECIFICATION - FRONT SEATS

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Seat to floor panel	E81/E82/E84/E87/E88/E90/E91/E92/E93	M10 (trilobular)	Replace Powerlock screw	42 Nm
		F25/F26	M 10 (trilobular)	Replace Powerlock screw (self-locking)	44 Nm
2AZ	Backrest frame to seat frame	E81/E82/E84/E87/E88/E90/E91/E92/F25/F26	(trilobular)	Replace Powerlock screw	32 Nm
3AZ	Holder, control unit to seat mechanism	E81/E82/E84/E87/E88/E90/E91/E92/F25/F26	Â	Â	2 Nm
4AZ	Carrier section for electric operating unit	E81/E82/E84/E87/E88/E90/E91/E92/F25/F26	Â	Â	9 Nm
5AZ	Mounting, ISOFIX bracket to backrest frame	E81/E82/E87/E88/E90/E91/E92/F25/F26	M6	Â	10 Nm
		E81/E82/E87/E88/E90/E91/E92/F25/F26	M5	Â	3 Nm
6AZ	Cover to seat, outside	E81/E82/E87/E88/E90/E91/E92/F25/F26	Â	Â	1 Nm
7AZ	Backrest frame to seat frame • Screw	E93	Â	Replace screw.	24 +4 Nm
8AZ	Backrest frame to seat frame • Pin with knurling and lock nut	E93	Â	Replace screw.	40 +5 Nm
9AZ	Kinematics to backrest frame	E93	Â	Â	3 +2 Nm
10AZ	Seat depth adjustment to seat mechanism	E81/E82/E87/E88/E90/E91/E92/F25/F26	Â	Â	2, 6 Nm
	Microswitch				

cardiagn.com

11AZ	to front seat	E93	Â	Â	2 Â±1 Nm
12AZ	Mounting, seat belt buckle deflector	E84	Â	Â	4 Nm

REAR SEAT (THROUGH-LOADING SYSTEM)

52 26 REAR SEAT (THROUGH-LOADING SYSTEM)

TIGHTENING TORQUE SPECIFICATION - REAR SEAT (THROUGH-LOADING SYSTEM)

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Outer mount (backrest) to body	F10/F11	Â	Â	36 Nm
Â		F25/F26	Â	Â	18, 5 Nm
2AZ	Outer mount to backrest	F10/F11	Â	Â	36 Nm
Â		F25/F26	Â	Â	71 Nm
3AZ	Center mount to body	F06/F10/F11/F25	Â	Â	18, 5 Nm
4AZ	Screw connection, center armrest	F06/F10/F11	Â	Â	8 Nm
		F25/F26	Â	Â	12 Nm
5AZ	Cover C module to frame ski bag	F06/F10/F11	Â	Â	4 Nm
6AZ	Screw connection, cover, belt feed	F10/F11/F25	Â	Â	1, 5 Nm
7AZ	Backrest lock (attachment hook, bracket) to body	F06/F10/F11/F25/F26	Â	Â	18, 5 Nm
8AZ	Screw connection, Isofix bars	F10/F11	Â	Â	4 Nm
9AZ	Load area net mounting	F10/F11	Â	Â	10 Nm
		F25	Â	Â	12 Nm
10AZ	Cargo adjuster to bodyshell	F11	Â	Â	36 Nm
11AZ	Lock to backrest	F11/F25/F26	Â	Â	22, 5 Nm
12AZ	Backrest bearing plate to bodyshell	F06	Â	Â	36 Nm
13AZ	Metal plate, armrest to armrest	F06	Â	Â	38 Nm

cardiagn.com

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702183

ELECTRICAL

Combox - Overview

INTRODUCTION

Starting in 09/2010, ULF-SBX-High (option 6FL) and the TCU (option 639) will be gradually replaced by the Combox in all BMW models. The Combox provides the customer many new functions which are described in the following training material.

Some of these functions include:

- Connection of audio players via Bluetooth
- Simultaneous connection of cell phones and audio players via Bluetooth
- Contacts with images
- Direct Bluetooth profile software update by customer (via BMW website download to USB stick as of 04/2011)
- Connection of certain iPods using the original USB cable
- Album cover display (for iPod, MTP players, MP3 via USB)
- Office SMS, calendar and notes from cell phone (not available with all phones)
- Office with email from cell phone (not available with all phones)

SYSTEM WIRING DIAGRAMS

L2 (E8X/E9X) AND L4 (E7X) VEHICLES

Combox with telematics

cardiagn.com

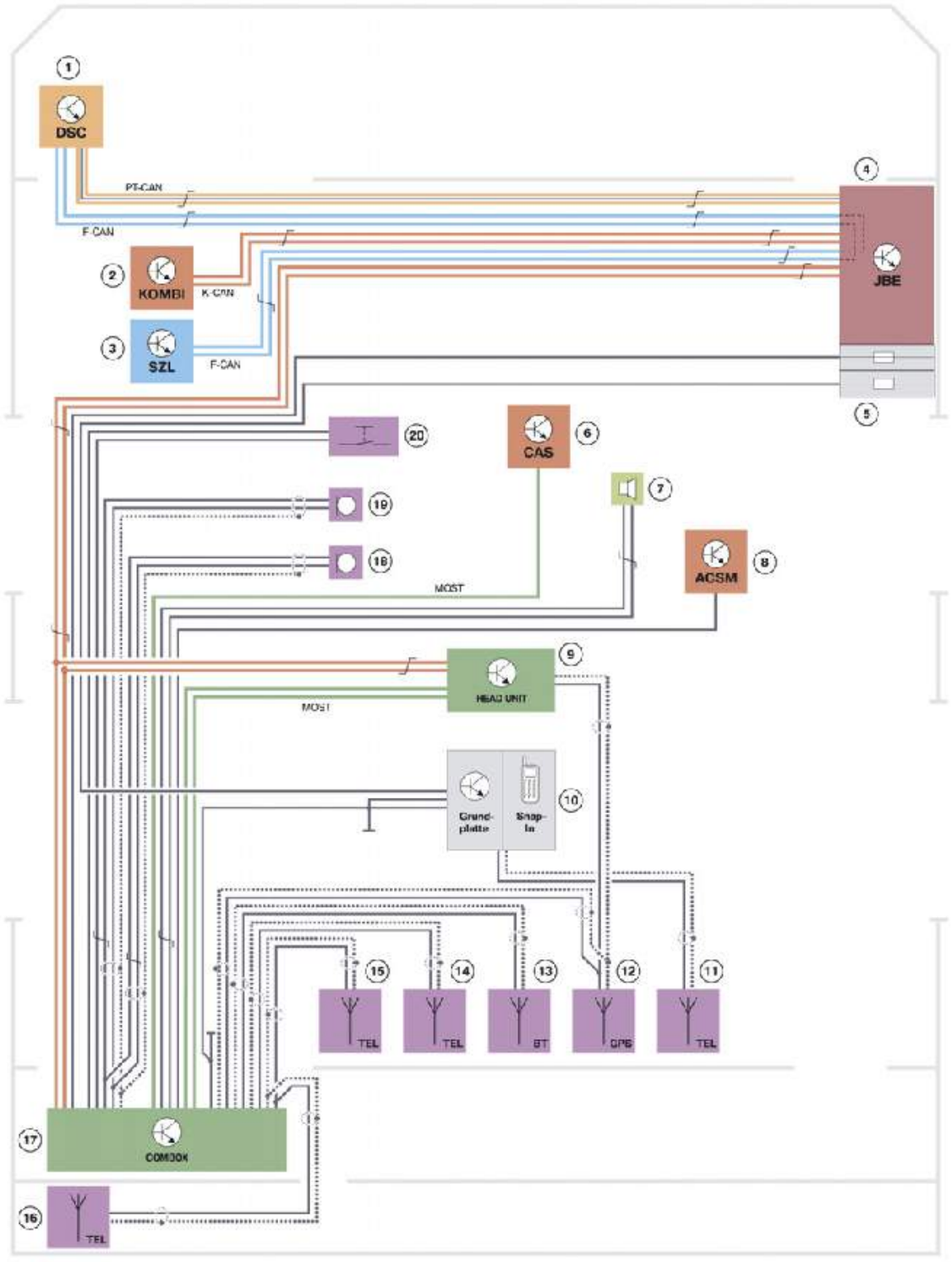


Fig. 1: Combox With Telematics System Wiring Diagram - L2 (E8x/E9x) And L4 (E7X) Vehicles
Courtesy of BMW OF NORTH AMERICA, INC.

INDEX EXPLANATION REFERENCE CHART

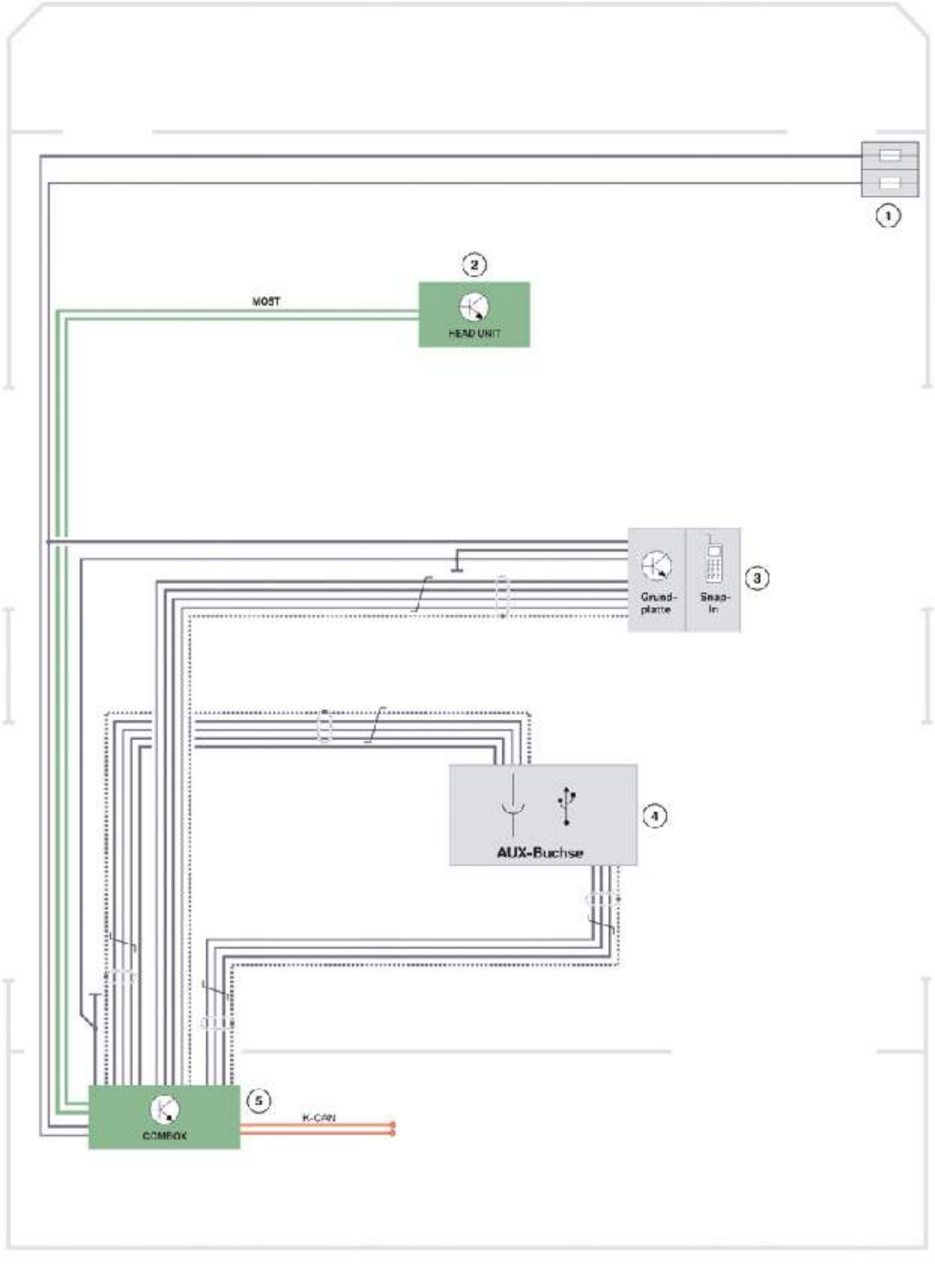
Index	Explanation
1	Dynamic Stability Control (DSC)
2	Instrument cluster (KOMBI)
3	Steering column switch cluster (SZL)
4	Junction box electronics (JBE)
5	Front right power distribution box
6	Car Access System (CAS)
7	SOS speaker
8	Crash safety module (ACSM)

cardiagn.com

9	Head unit
10	Base plate in the center console and snap-in adapter
11	Telephone antenna 1
12	GPS antenna (connection to Combox only for vehicles without option 609)
13	Bluetooth antenna
14	Telephone antenna backup
15	Telephone antenna 2 (except E88 and E93)
16	Telephone antenna 2 (only for E88 and E93)
17	Combox
18	Microphone on steering column trim panel (only for E88 and E93)
19	Microphone in roof function center (except E88 and E93)
20	Emergency call button

Combox audio interface (options 6FL and 6NF)

cardiagn.com



cardiagn.com

Fig. 2: Combox Audio Interface System Wiring Diagram (Options 6FI And 6NF) - L2 (E8x/E9x) And L4 (E7X) Vehicles

Courtesy of BMW OF NORTH AMERICA, INC.

INDEX EXPLANATION REFERENCE CHART

Index	Explanation
1	Front right power distribution box
2	Head unit
3	Base plate in the center console and snap-in adapter
4	AUX In connector and USB audio interface
5	Combox

L6 (F0X) VEHICLES

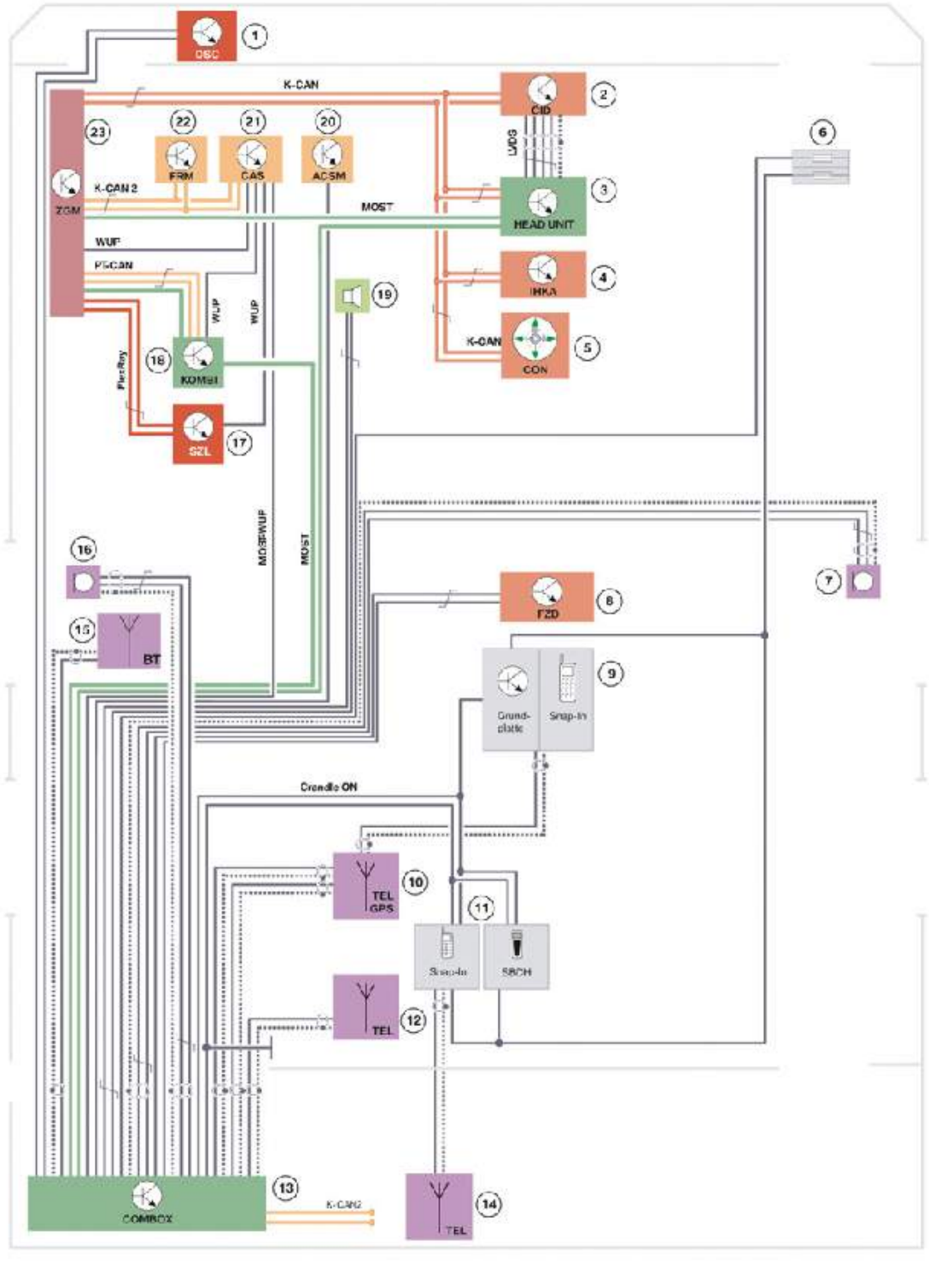


Fig. 3: Combox With Telematics System Wiring Diagram - L6 (F0X) Vehicles
Courtesy of BMW OF NORTH AMERICA, INC.

INDEX EXPLANATION REFERENCE CHART

Index	Explanation
1	Dynamic Stability Control (DSC)
2	Central Information Display (CID)
3	Head unit
4	Integrated automatic heating and air conditioning (IHKA)
5	Controller (CON)
6	Front right power distribution box

cardiagn.com

7	Microphone 2
8	Roof functions center (FZD)
9	Base plate in the center console and snap-in adapter
10	Roof telephone antenna (telephone 1 and 2, GPS)
11	Snap-in adapter and rear handset (Not US)
12	Telephone antenna backup
13	Combox
14	Telephone antenna, bumper (Not US)
15	Telephone antenna, Bluetooth
16	Microphone 1
17	Steering column switch cluster SZL)
18	Instrument cluster (KOMBI)
19	SOS speaker
20	Crash safety module (ACSM)
21	Car Access System (CAS)
22	Footwell module (FRM)
23	Central Gateway Module (ZGM)

Combox audio interface (options 6FL and 6NF)

cardiagn.com

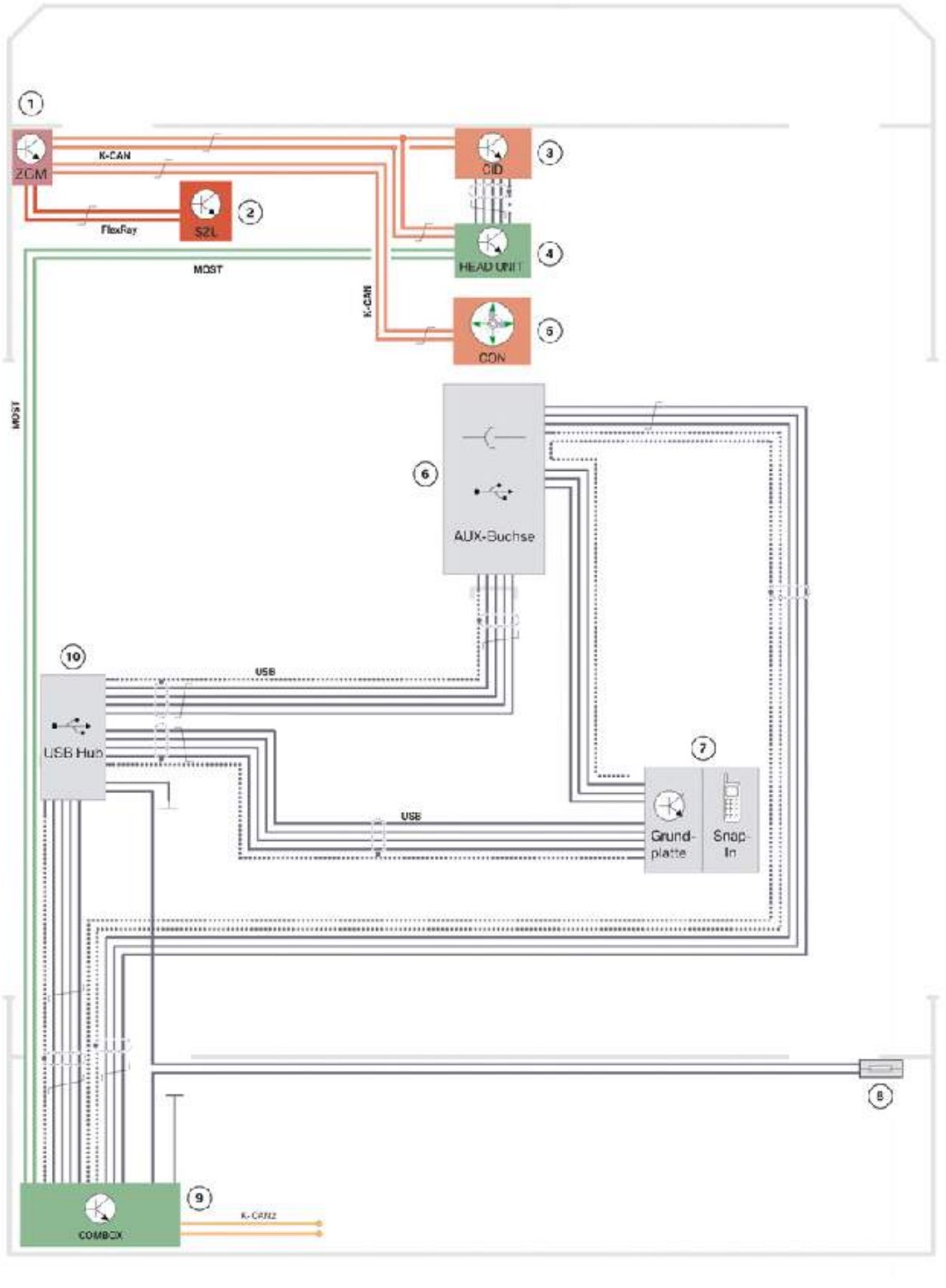


Fig. 4: Combox Audio Interface System Wiring Diagram (Options 6FI And 6NF) - L6 (F0X) Vehicles
Courtesy of BMW OF NORTH AMERICA, INC.

INDEX EXPLANATION REFERENCE CHART

Index	Explanation
1	Central Gateway Module (ZGM)
2	Steering column switch cluster (SZL)
3	Central Information Display (CID)
4	Head unit
5	Controller (CON)
6	AUX In connector and USB audio interface
7	Base plate in the center console and snap-in adapter
8	Rear right power distribution box

cardiagn.com

9	Combox
10	USB hub (F0x only)

For vehicles without USB hub (all except F0x), both the USB audio interface and the base plate are connected directly to the Combox. If a USB hub is installed, only one USB connection (USB 1) of the Combox is used.

SYSTEM COMPONENTS

COMBOX

The Combox control unit is located in a housing that has been designed for installation without a holder. Thus in certain vehicles, the Combox is installed without an additional sheet metal holder.

In the event of a collision, however, the impact energy is transmitted directly to the control unit when there is no sheet metal holder. Therefore the Combox control unit must be checked for external damage after the vehicle has been in a collision.



Fig. 5: Identifying Combox
Courtesy of BMW OF NORTH AMERICA, INC.

Versions

Although the Combox is only available in combination with the BMW Assist (option 639), different versions of the control unit are used depending on the vehicle's electrical system and optional equipment.

Therefore, there are currently four versions of the Combox:

Vehicle electrical system BN2000 (L2 [E8x, E9x] and L4 [E7x] as of 09/2010)

- Combox with telematics (With BMW Assist)
- Combox with telematics and GPS receiver (With BMW Assist and Navigation)

Vehicle electrical system BN2020 (L6 [F0x] as of 09/2010)

- Combox with telematics (With BMW Assist)
- Combox with telematics and GPS receiver (With BMW Assist and Navigation)

Interfaces and components

To make it easier to tell them apart, the system connector is white for the vehicle electrical system BN2020 and black for the vehicle electrical system BN2000. The Combox is connected in the L2 and L4 to the K-CAN and in the L6 to the K-CAN2. Because the K-CAN and K-CAN2 have different speeds, the color-coding was implemented to prevent them from being mixed up.

cardiagn.com



Fig. 6: Identifying Pin Assignment
Courtesy of BMW OF NORTH AMERICA, INC.

INDEX EXPLANATION REFERENCE CHART

Index	Explanation
1	GSM antenna and GSM backup antenna
2	GPS antenna
3	USB 2 (option 6NF for vehicles with USB hub connection of option 6NF via USB hub)
4	USB 1 (option 6FL or USB hub for vehicles with USB hub)
5	Bluetooth antenna
6	MOST
7	System connector

Use of the Combox in L2 vehicles as of 09/2010

The following optional equipment is available in conjunction with the Combox in the L2 vehicles:

- Radio Professional (option 663)
- BMW Assist with Bluetooth (option 639)
- iPod and USB adapter (option 6FL)
- Smartphone Integration (option 6NF)
- Navigation system (option 609)

As of 09/2010, the ULF-SBX High and TCU control units will be replaced by the Combox.

Currently, to get Bluetooth and USB audio interface functions we must order BMW Assist with Bluetooth (option 639), which includes the Combox controller. (See the table below)

NOTE: **BMW Assist (SA639) is currently standard equipment only on the X5 M, X6 M, 5, 6 & 7 Series. It is part of the Premium Package on all other models as of 9/2010.**

The following table provides an overview of which options are combined with the Combox:

COMBOX REFERENCE CHART

Optional extra	Combox installed
Option 663	No
Option 663 + option 639	Yes
Option 663 + option 639 + option 6NF	Yes
Option 663 + option 639 + option 6NF + option 6FL	Yes

Use in L4 and L6

cardiagn.com

A Combox is installed in L4 and L6 vehicles in combination with one of the following optional equipment packages:

- BMW Assist w/Bluetooth option 639)
- USB audio interface (option 6FL)

BLUETOOTH DEVICES

Cell phones and audio players can be connected to the Combox via Bluetooth. To provide the customer with a simpler, easy-to-understand overview of the currently "tested" devices, the website at http://www.bmwusa.com/bluetooth is being constantly updated. Customers are able to use the website to determine which devices and functions work and which do not with their specific BMW model.

The following information is available:

- The tested phones are organized based on BMW model and wireless carrier.
- Detailed information regarding individual functions is organized based on phone manufacture and on which functions the specific phone can perform
- Information about how to improve cell phone to vehicle compatibility (by means of a downloadable Bluetooth profile software updates will be available 04/2011)

At first, only phones will be included in the device database, they will be followed by audio players and other devices that can be connected with the Combox via Bluetooth.

FUNCTIONS

AUDIO PLAYER VIA BLUETOOTH

The Combox makes it possible to stream audio signals wirelessly via Bluetooth from a corresponding source. To do so, the source must support the A2DP (Advanced Audio Distribution Profile). A source can be a cell phone or MP3 player, for example. The A2DP profile is used to transmit the audio signal only.

The AVRCP (Audio Video Remote Control Profile) is used for remote control of the source. The range of functions of the remote control depends on the version of AVRCP supported in the source. Initially the Combox will support Version 1.0 and 1.3 of AVRCP. As of 03/2011 version 1.4 of AVRCP will be implemented.

NOTE: **For optimum functionality of the audio player via Bluetooth, use only BMW recommended devices. For a list of these devices, please visit http://www.bmwusa.com/bluetooth**



Fig. 7: Display - Coupling Of Audio Player Or Mobile Phone
Courtesy of BMW OF NORTH AMERICA, INC.

cardiagn.com



Fig. 8: Display - Playback Of Music Track Via Bluetooth
Courtesy of BMW OF NORTH AMERICA, INC.

MULTIPLE BLUETOOTH COUPLING

With the introduction of the Combox, multiple devices can be coupled via Bluetooth simultaneously. Thus the audio player of one device and the telephone function of another device can be used at the same time.

Another benefit of having two phones paired at the same time is that one will have full functionality through the iDrive while the additional one is used just for incoming calls.

The respective function used appears in the form of a symbol behind the device name in the "Add new device" display.



Fig. 9: Display - Coupling Of Audio Player Or Mobile Phone
Courtesy of BMW OF NORTH AMERICA, INC.

CONTACTS WITH IMAGES

With the introduction of the Combox images can now be stored in contacts. These are transmitted from a supported mobile phone via Bluetooth and stored temporarily on the Combox.

NOTE: **This feature is not currently supported by all phones. For a detailed list of BMW tested phones and their features, please visit http://www.bmwusa.com/bluetooth.**

The contacts from the mobile phone are displayed only if the mobile phone supports this function. Contacts can be created and edited using the Drive.

The addresses can be taken over as a destination for the Navigation system and the phone numbers can be dialled.

When calling someone from the address book, his or her image appears in the central information display.

cardiagn.com



Fig. 10: Display - Calling Person From Address Book With Image
Courtesy of BMW OF NORTH AMERICA, INC.

If another party joins a call, a list of participants with image is shown in the central information display.



Fig. 11: Display - Multiple Callers From Address Book With Image
Courtesy of BMW OF NORTH AMERICA, INC.

OFFICE

The Combox enables customers to access the SMS messages, calendar, notes, email, tasks and reminders stored on a supported cell phone. The "Office" menu item replaces the "Contacts" item in the central information display.

Although access to the cell phone is always read-only and the Combox does not modify existing data on the phone, once you open a new email via the iDrive, the status of the email on the phone will change to "read".

The "Current Office" menu item informs the user about the number of new messages, active tasks and upcoming appointments.



Fig. 12: Display - Current Office
Courtesy of BMW OF NORTH AMERICA, INC.

Appointments of the last 30 and the next 90 days can be shown in the calendar.

If an appointment includes phone numbers or email addresses, they can be used directly or stored in the contacts.

cardiagn.com



Fig. 13: Display - Appointment View
Courtesy of BMW OF NORTH AMERICA, INC.

Emails, SMS messages, calendar appointments, tasks and notes can be read aloud with the text to speech function available in combination with Voice Command (option 620).

NOTE: This feature is not currently supported by all phones. For a detailed list of BMW tested phones and their features, please visit http://www.bmwusa.com/bluetooth.

USB AUDIO INTERFACE

With the Combox, an iPhone or iPod can now be connected using the customer's "original" white USB cable. This feature still requires the optional equipment iPod and USB adapter (option 6FL). In this case all data and other information, including the audio data, are transmitted via the USB cable. Because the device is now also charged via this cable the familiar Y cable is no longer needed.

NOTE: Non-compatible iPods (e.g. first-generation iPod Nanos) still have to be connected using the familiar Y cable.

ALBUM COVERS

For MP3 players, USB sticks, MTP players, iPhones and iPods, album covers are displayed if the MP3 file contains the album cover. For iPhones and iPods, the album cover is not displayed if the connection is made via the Y cable. The album covers are displayed for a connection via USB (option 6FL) and the "original" white USB cable only.



Fig. 14: Display - Album Covers
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: When iPods are connected via the familiar Y cable the display of the album cover function is not supported.

SOFTWARE UPDATES

The Combox will enable the customer for the first time to update the software of a system component. To update the Combox, the Bluetooth profile software update must be downloaded from the BMW website http://www.bmw.com/bluetooth and stored on a USB stick. For this purpose, any conventional USB stick with sufficient storage capacity can be used. The software is then transferred from the USB stick to the Combox via the USB audio interface (option 6FL) in the center console.

cardiagn.com

NOTE: **This function is still under development and is expected by 4/2011. Please check the http://www.bmw.com/bluetooth website for availability.**



Fig. 15: Display - Software Update By Customer
Courtesy of BMW OF NORTH AMERICA, INC.

The Service Advisor/parts salesperson will be able to use a USB stick to carry out a one-off software update for the customer. The customer can then carry out additional updates on his or her own via USB stick.

TELEMATICS

With the introduction of the Combox the Telematic Control Unit (TCU) is no longer needed nor installed.

All BMW vehicle telematics functions are enabled by the Combox with no additional control units required.

EMERGENCY CALL

In BMW vehicles with Combox, the emergency call is carried out using NGTP (Next Generation Telematics Protocol). The customer will not notice any difference from the existing emergency call system. With the Combox, the emergency call is always placed via the backup speaker.

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00381967

cardiagn.com

AUXILIARY HEATING

64 12 AUXILIARY HEATING

TIGHTENING TORQUE SPECIFICATION - AUXILIARY HEATING

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Auxiliary heater to body	F25/F26	Â	Â	8, 0 Nm
2AZ	Changeover valve holder to auxiliary heater	F25/F26	Â	Â	8, 0 Nm
3AZ	Rubber mount to independent heater	F25/F26	Â	Â	8, 0 Nm

TRAILER TOW HITCH

71 60 TRAILER TOW HITCH

TIGHTENING TORQUE SPECIFICATION - TRAILER TOW HITCH

Â		Type	Thread	Tightening specifications	Dimension
1AZ	Trailer tow hitch on body	F01/F02/F04/F07/F10/F11/F15/F16/F20/F21/F22./F23/F25/F26/F30/F31/F32/F33/F34/F35/F36/F45/F46/F85/F86	M12	Replace nuts	108 Nm
2AZ	Charging socket on ball head	F01/F02/F04/F07/F10/F11/F20/F21/F22/F23/F25/F26	Â	Â	5 Nm
3AZ	Power socket on trailer tow hitch	F45/F46	Â	Â	4 Nm

Copyright 2016 Mitchell Repair Information Company, LLC. All Rights Reserved.

Article GUID: A00702191

cardiagn.com