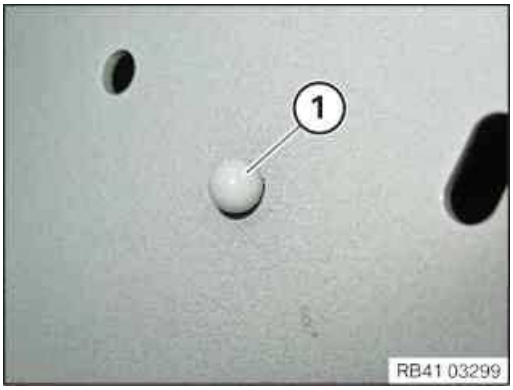
41 00 513 Fix bolts on the new part

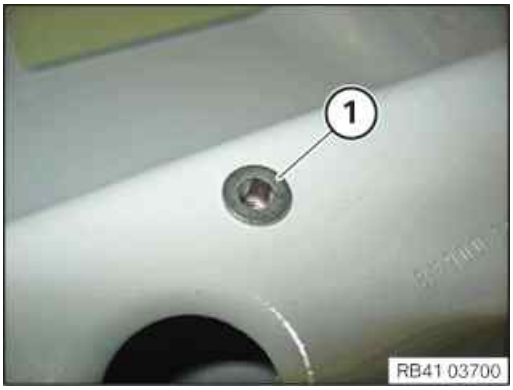
Note: On BMW and MINI bodies, various welded and pushed in bolts are being used.



Single ball/double ball (version 1):

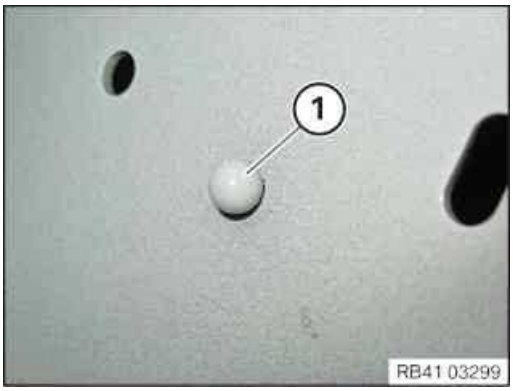
Grind off any residues of the single ball (1), if applicable.

Drill hole with diameter 7 mm.



Set blind rivet nut (1).

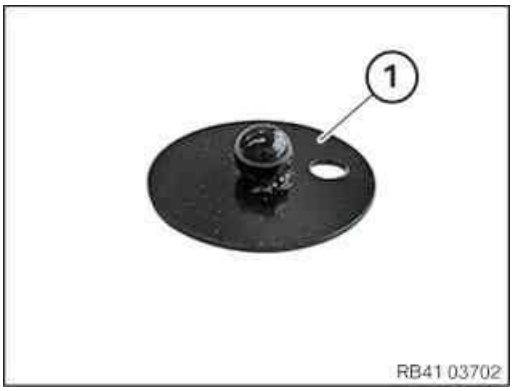
Screw in single ball with thread until a height of 5 mm (double ball 10 mm) is reached.



Single ball/double ball (version 2):

Grind off any residues of the single ball (1), if applicable.

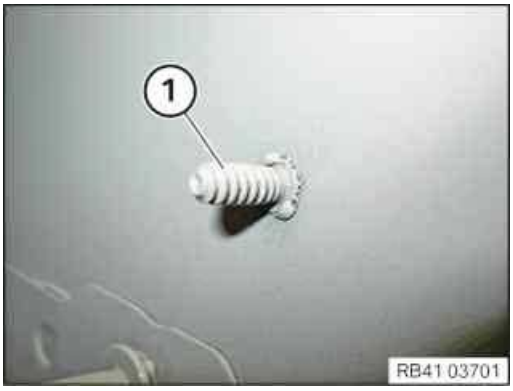
Clean area with solvent cleaner R1.



Clean bonding surface of repair element single ball (1) with solvent cleaner R1.

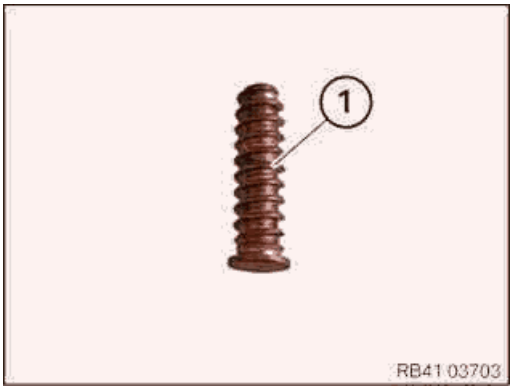
Bond repair element optionally with adhesive K1, K5 or window pane adhesive at the same position.

cardiagn.com

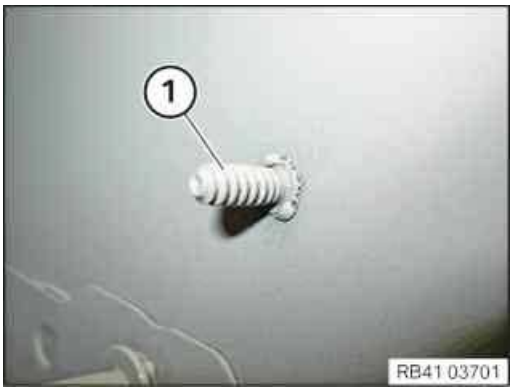


Coarse threaded bolt (version 1):

Grind off any residues of the coarse threaded bolt (1), if applicable.



Spot weld coarse threaded bolt to same position.



Coarse threaded bolt (version 2):

Grind off any residues of the coarse threaded bolt (1), if applicable.

Drill hole with diameter 7 mm.

Set blind rivet coarse threaded bolt using riveting pliers.

cardiagn.com

51 00 ... Notes on component bonding with adhesive tape

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

Follow repair notes for bonded gaskets for rubber seals.

1. General notes

- Bonding at room and object temperature of >+18 °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.

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 adhesive strips on glass or painted surfaces with Sika activator 205.

Note:

Sika activator 205 **apply extremely thinly. It must not be coated beyond the bonding surface**.

Note: air drying 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/cm² (firm thumb pressure reaches approx. 35 N/cm².)

* Liner is the protective film on the adhesive tape.

cardiagn.com

51 00 ... Notes on installation of rubber window seals

1. Work safety when handling lubricant G14*

- Wear safety goggles, protective gloves and if necessary an apron.
- Do not eat, drink or smoke in the area of processing/application
- Ensure rooms are well ventilated.
- Keep away from heat and ignition sources
- 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 the safety data sheet

2. General notes

- Use approved lubricant for installation only
- Application only at room and object temperatures between 18 and 25 °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 to the surface is achieved after approx. 48 h. The rubber window seal must not be exposed to mechanical strain beforehand. (car wash, strength test, etc.).

Attention!

To avoid groaning 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
- LubricantG14*
  (*Sourcing reference: Electronic Parts Catalogue)

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 min:

5. Assembly

- Apply a thin coating of lubricant to the rear side of the rubber window seal only
- Perform fitting within 30 min of applying lubricant
- Lubricant dries after fitting and becomes sticky

cardiagn.com

61 35 ... Overview of additional work for the removal and installation or replacement of electronic components in the body area/windscreen

Component	**Removal and installation** Calibration/Initialisation required **(diagnosis system must be connected)**	**Removal and installation** Use of the Special tool necessary	**Replacement** Programming/encoding Calibration/Initialisation required **(diagnosis system must be connected)**	**Replacement** Use of the Special tool necessary	Remarks
Front section: (including bumper panel)					
Park Distance Control ultrasonic sensor	No	No	No	No	
Parking Manoeuvring Assistant ultrasonic sensor	No	No	No	No	
Active pedestrian protection sensor	No	No	No	No	Must be replaced after the active pedestrian protection has been activated! **Impact absorber** must also be replaced!
Active pedestrian protection actuator	No	No	No	No	Must be replaced after the active pedestrian protection has been activated!
Rear area: (including bumper panel):					
Rear view camera	No	No	Yes	No	
Park Distance Control ultrasonic sensor	No	No	No	No	
Windscreen:					
KAFAS camera	no*	No	no*	No	*Necessary after **replacement of the windscreen**

cardiagn.com

Camera-based driver support systems camera (F60 only)	no*	No	Yes	No	*Necessary after **replacement of the windscreen**
Rain sensor (separate document)					

cardiagn.com

51 00 ... Overview of consumables (Electronic Parts Catalogue)

Designation, repair instructions	Designation, Electronic Parts Catalogue	Part number, Electronic Parts Catalogue	Remarks
Cleaning agent R2	Cleaning agent R2	83 19 0 417 324	500 ml
Lubricants G14	Lubricants G14	83 23 2 360 412	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	
Window glass adhesive	Window glass adhesive, cold, 1 hour	83 19 2 289 286	
Profile rubber adhesive		83 19 2 232 322	
Set of felt pads	Set of felt pads	51 45 2 353 024	

cardiagn.com

41 00 ... Replacing blind rivets

Special tools required:

- 2 348 128
- 72 1 210

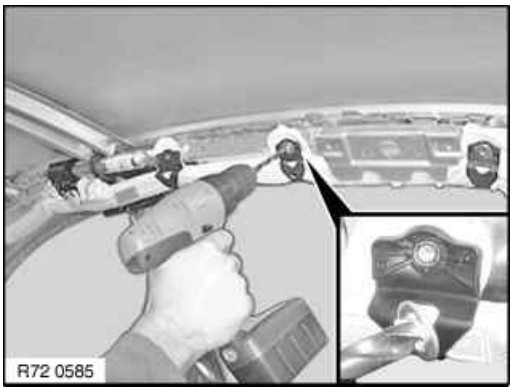


Important!

Lay out protective mats to protect the interior equipment against swarf from the drilled-out rivets and damage.

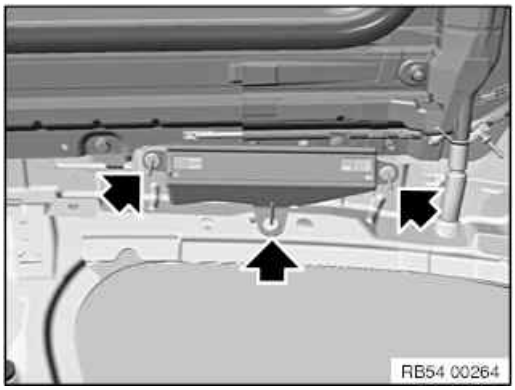
Lay out protective mats in the relevant working area:

- Instrument panel
- Entrance area
- Passenger compartment



Schematic diagram of folding pack holder for head airbag:

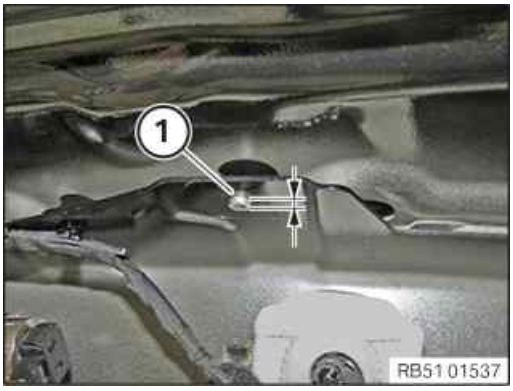
Drill off rivet plate down to rivet shank with a 10 mm twist drill bit.



Described for grab handle holder:

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

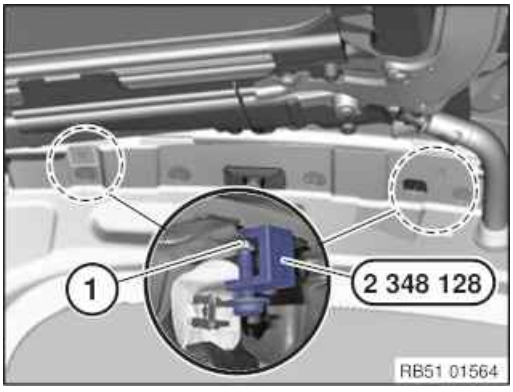
cardiagn.com



Drill out all blind rivet protusions (1) up to the body.

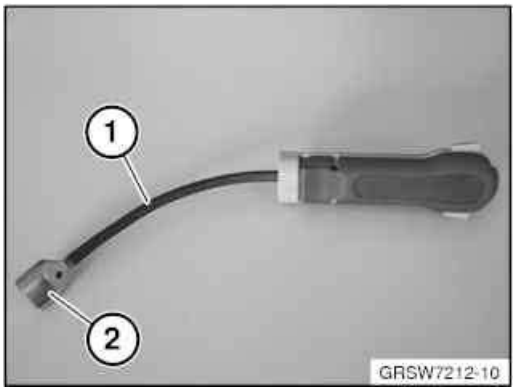
Installation note:
Apply primer to paintwork damages on side frame.
Note:
Depending on accessibility, the rivet heads will have to be removed using special tool 2 348 128 or 72 1 210 .

In areas that cannot be reached using special tools, cavity foam HS3must first be applied around the rivet head before the rivet head is then punched out immediately..



Removal of rivet head with special tool 2 348 128:

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



Removal of rivet head with special tool 72 1 210:

Shank (1) of special tool 72 1 210 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.

cardiagn.com



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.

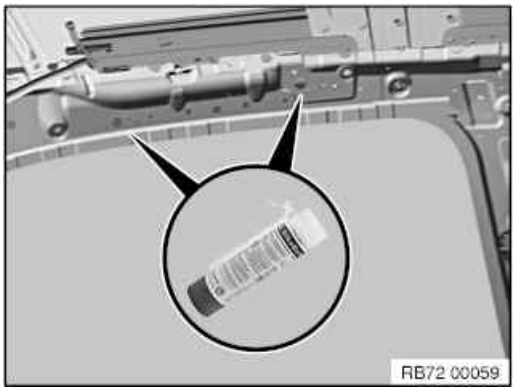
Carefully feed special tool out of body so that rivet head does not fall out of collecting tray.

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 (refer to BMW Group Parts) for foam filling.

Cavity foam (refer to BMW Group Parts) may also be used if required.



Fit tube to foam can.

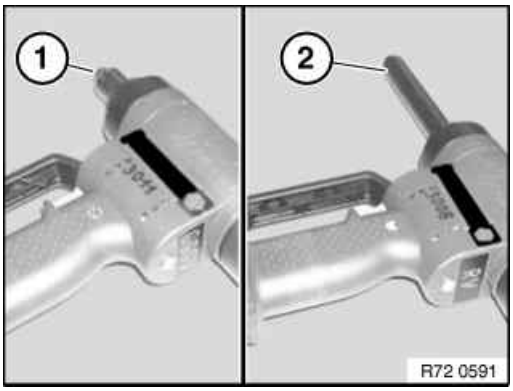
Push the hose in through the pillar holes.

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.



<u>Overview of rivet gun:</u>

Riveting of gas generator housing and holders for folding pack with rivet gun (refer to BMW Workshop Catalogue).

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

cardiagn.com

00 Safety information for working on vehicles with automatic engine start-stop function (MSA)



Warning!

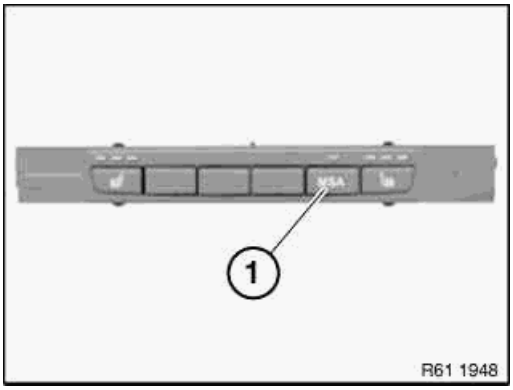
If the engine hood/bonnet contact is pulled upwards (workshop mode), the information "switch closed" is output. The automatic engine start-stop function is active.

An automatic engine start is possible.

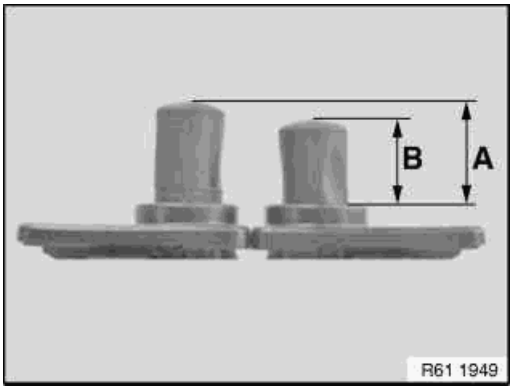
Observe safety precautions when working on MSA vehicles.

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



- 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.



When working with diagnosis tools:

- Observe instructions in diagnosis tool

cardiagn.com

Note:
For further information on automatic engine start-stop function (MSA):

- Refer to the Service Information (bulletin) (for manual transmissions) Service Information (bulletin) 61 01 07 335
- Refer to the Service Information (bulletin) (for automatic transmissions or twin-clutch gearboxes) Service Information (bulletin) 61 01 10 629

cardiagn.com

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.

cardiagn.com

51 00 ... Service position of engine compartment lid

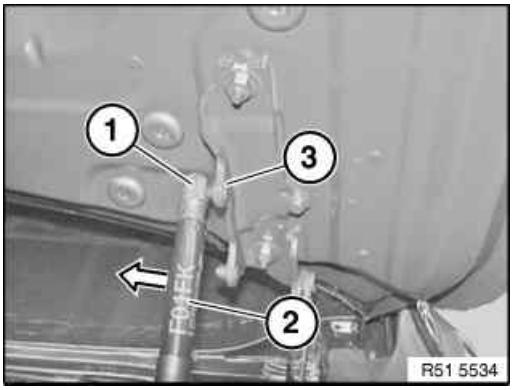
Special tools required:

- 2 353 020

Warning!

Danger of injury and damage!

Engine compartment lid must be held by a second person helping.

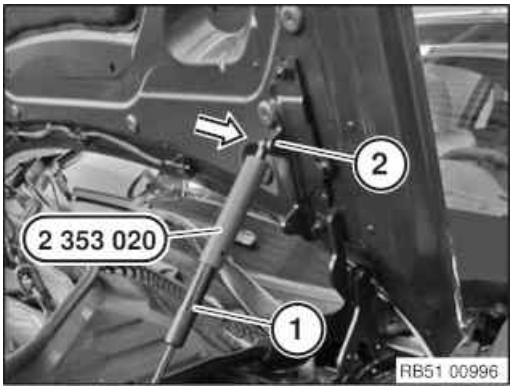


Note:
Graphic shows F01.

If necessary, open engine compartment lid.

Remove ball socket (1).

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



Push special tool 2 353 020 over gas pressure spring (1).

Clip ball socket of special tool 2 353 020 onto ball stud (2).

cardiagn.com

51 71 ... Remove and install/replace left or right lower front brake air duct

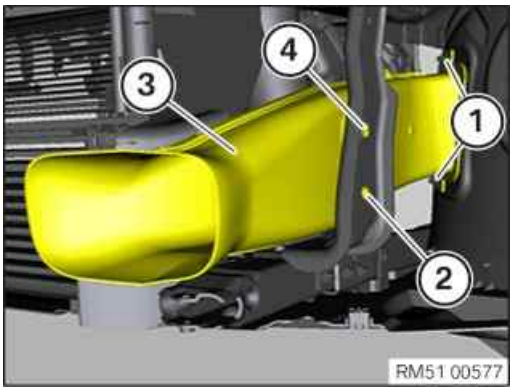
Necessary preliminary tasks:

- Remove front bumper panel

Right side only:

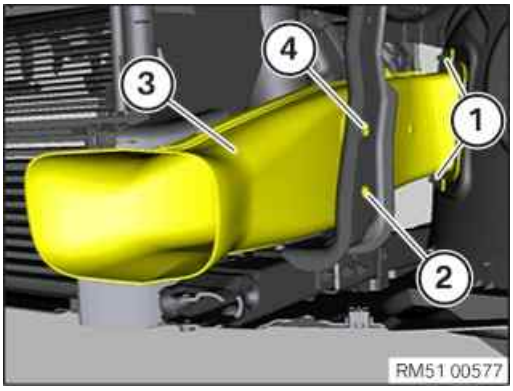
- Release fluid fuel tank for windscreen washer system

Removal:



Undo expander rivet or screws (1).
Release screw (2).
Feed out air duct (3) from guide (4) and remove.

Installation:



Feed in air duct (3) with guide (4) into holder.
Secure air duct (3) with screw (2).
Secure expanding rivet or screws (1).

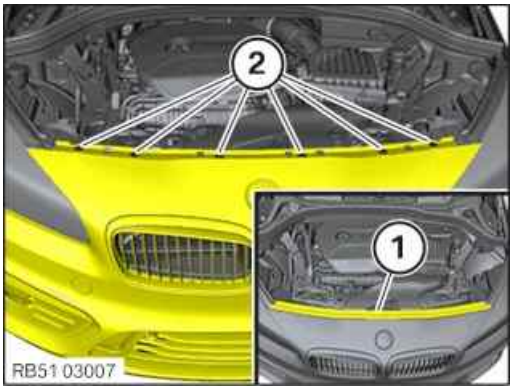
Required follow-up work:

- Secure washer fluid reservoir for window washer system
- Install front bumper panel

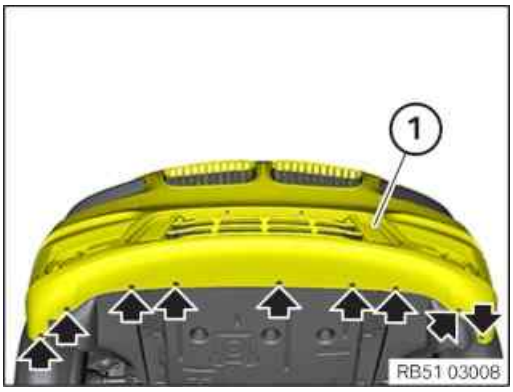
cardiagn.com

51 11 156 Removing and installing (replacing) front bumper panel

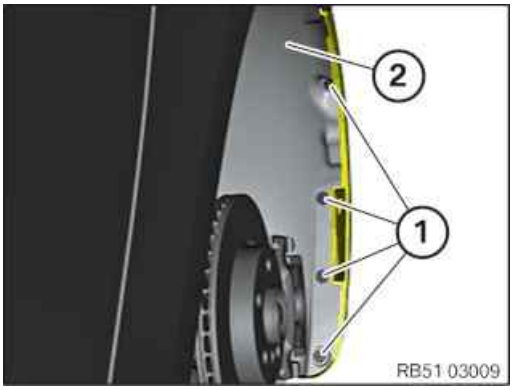
Removal:



Remove gasket (1) upwards.
Unfasten screws (2).



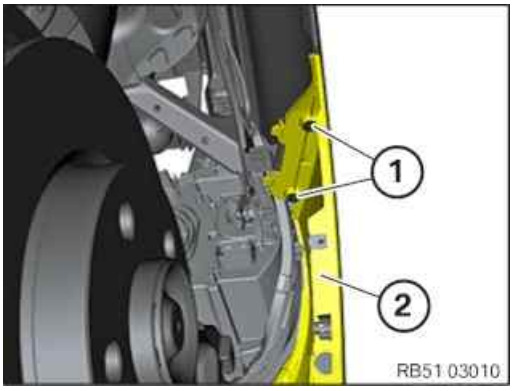
Release screws on bumper panel (1) at bottom.



Note:
Front wheel removed for purposes of clarity.

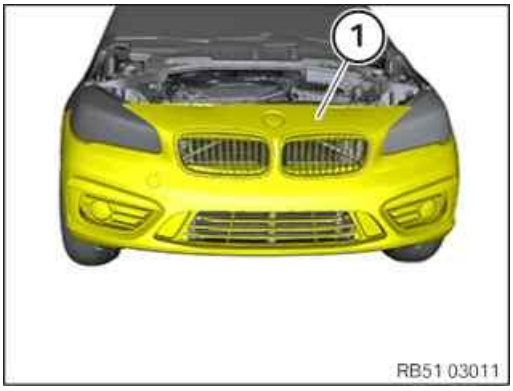
Loosen screws (1) on wheel arch panel (2).
Fold wheel arch cover (2) partially back.

cardiagn.com



Release screws (1) on bumper panel (2).

Detach bumper panel (2) at side.



Note:
The following tasks must be carried out with a second person assisting:

Tilt bumper panel (1) upwards.

Unlock and detach plug connections on the following components depending on the version.

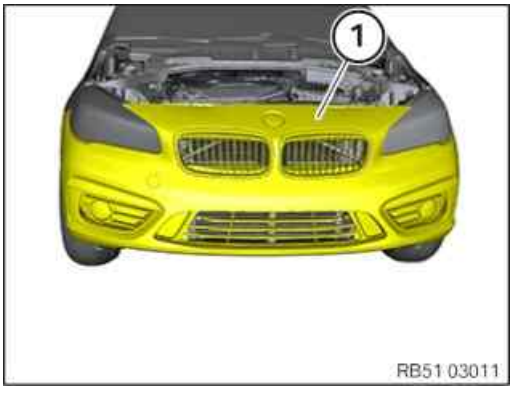
- Ultrasonic sensors PDC
- Ultrasonic sensors for PMA
- Fog lights
- Temperature sensor

Remove bumper panel (1) towards front.

Replacement:

- Remount holder for fog light
- Remount ornamental grille for bumper panel in centre
- Remount fog light
- Remount middle front radiator grille
- Remount the front badge.
- If applicable, remount ultrasonic sensor for PMA
- Remount PDC ultrasonic sensor with wiring harness.as necessary

Installation:



Note:
The following tasks must be carried out with a second person assisting:

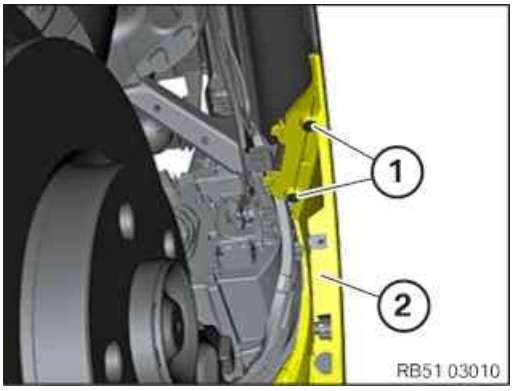
Attach bumper panel (1) to bottom support.

Connect and lock plug connections on the following components depending on version:

- Ultrasonic sensors PDC
- Ultrasonic sensors for PMA
- Fog lights

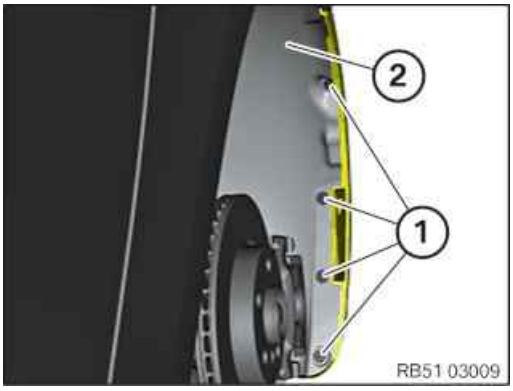
Tilt bumper panel (1) upwards and place in position.

cardiagn.com



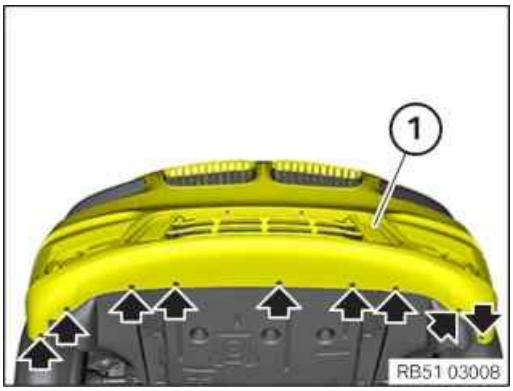
Attach bumper panel (2) at side.

Tighten screws (1) on bumper panel (2).

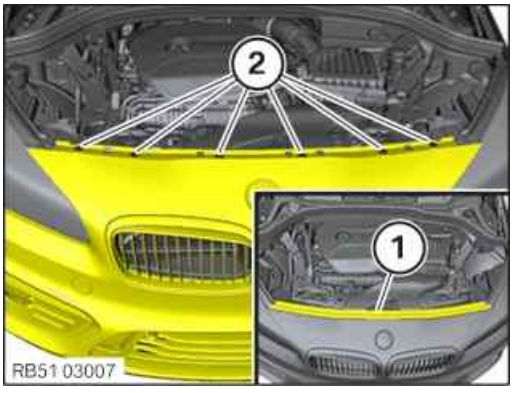


Install wheel arch panel (2).

Tighten screws (1) of wheel arch panel (2).



Tighten bottom screws on bumper panel (1).



Tighten down screws (2).

Tightening torque 51 11 1AZ.

Install gasket (1).

cardiagn.com

51 11 183 Removing and installing (replacing) ornamental grille for bumper panel (side)

Special tools required:

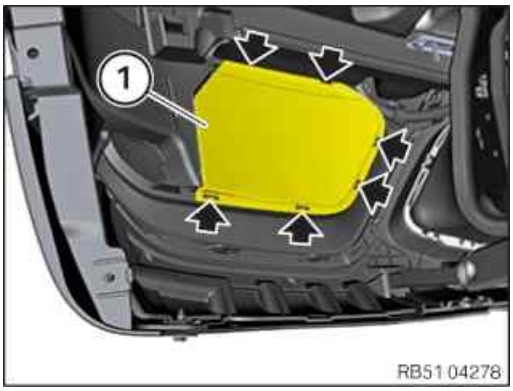
- 00 9 325

Removal:



Release ornamental grille (1) from the latch mechanisms with special tool 00 9 325 along the line and pull off towards the front.

Release plug connection and remove the ornamental grille (1).



Equipment specification with closed front ornamental grille:

Remove the wheel arch cover at the front.

Loosen the trim (1) at the latch mechanisms.

Installation:

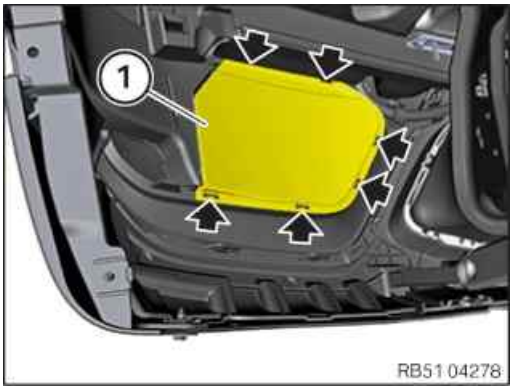
cardiagn.com



Connect plug connection and the feed in ornamental grille (1).

Press ornamental grille (1) into latch mechanisms.

Note:
Latch mechanisms must not be damaged or missing.



Equipment specification with closed front ornamental grille:

Secure the trim (1) to the latch mechanisms.

Secure the wheel arch cover at the front.

cardiagn.com

51 11 156 Removing and installing front bumper panel \PREMIUM

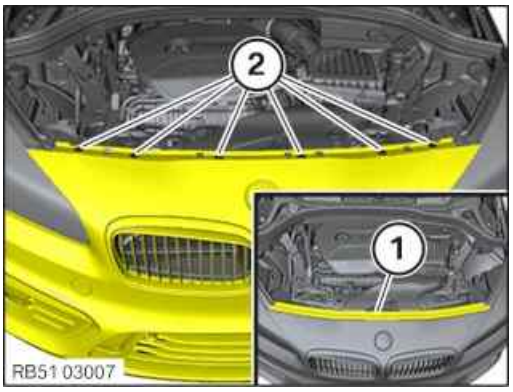
RISK OF DAMAGE

Scratches.

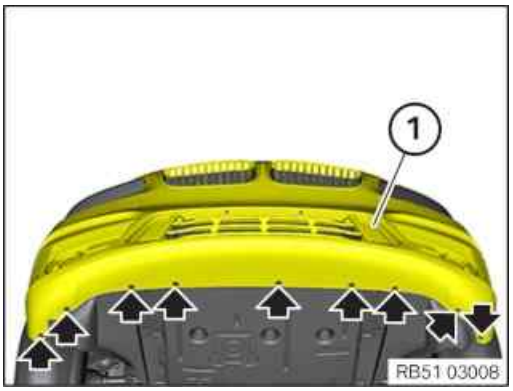
Tools and sharp-edged components can cause scratches.

- Protect working area.
- Handle tools and components carefully.

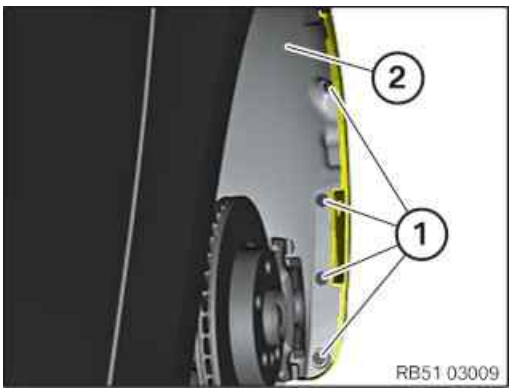
1 – Remove front bumper panel



- Remove seal (1) upwards.
- Loosen screws (2).



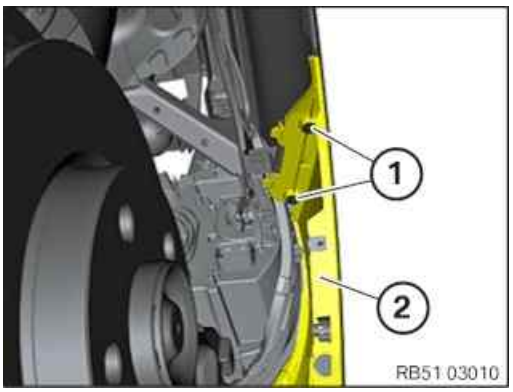
- Loosen the bottom screws on the bumper panel (1).



NOTICE

To provide a better overview: Schematic diagram with partially hidden components.

- Release screws (1) on the wheel arch trim panel (2).
- Partially fold the wheel arch trim panel (2) back.

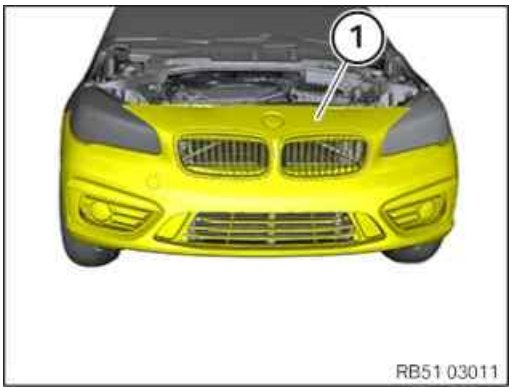


NOTICE

To provide a better overview: Schematic diagram with partially hidden components.

- Release screws (1) on the bumper panel (2).
- Detach the bumper panel (2) on the side.

cardiagn.com



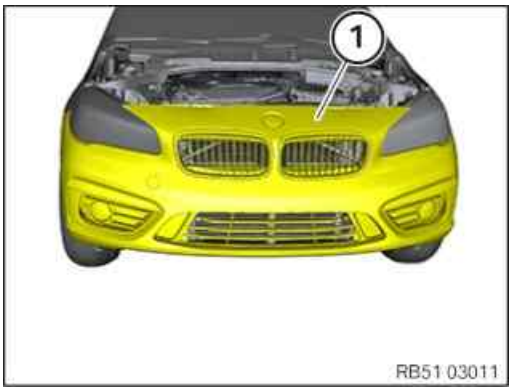
TECHNICAL INFORMATION

Conduct the following operation with the assistance of a second person.

- Tilt top of bumper panel (1) down.

  Unlock all plug connections and disconnect.
- Remove bumper panel (1) towards front.

2 – Install bumper panel, front

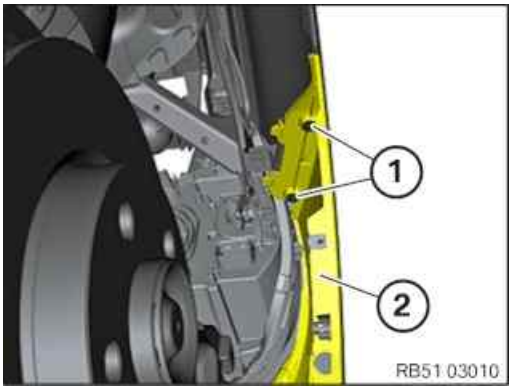


- Attach the bumper panel (1) in the support at the bottom.

TECHNICAL INFORMATION

Conduct the following operation with the assistance of a second person.

- Connect all connectors and lock.
- Tilt bumper panel (1) up and position it.



- Attach bumper panel (2) on the side.

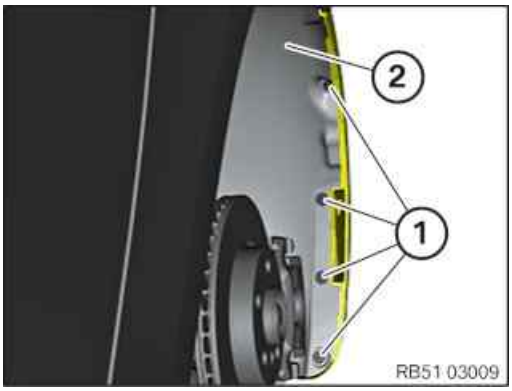
NOTICE

To provide a better overview: Schematic diagram with partially hidden components.

- Tighten screws (1) on the bumper panel (2).

Bumper panel on side wall

Screw		Tightening torque	3 Nm



NOTICE

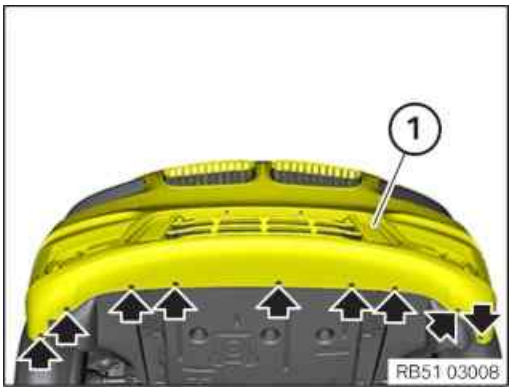
To provide a better overview: Schematic diagram with partially hidden components.

- Correctly position the wheel arch trim panel (2).
- Tighten screws (1) on the wheel arch trim panel (2).

Wheel arch cover

Screw		Tightening torque	3 Nm

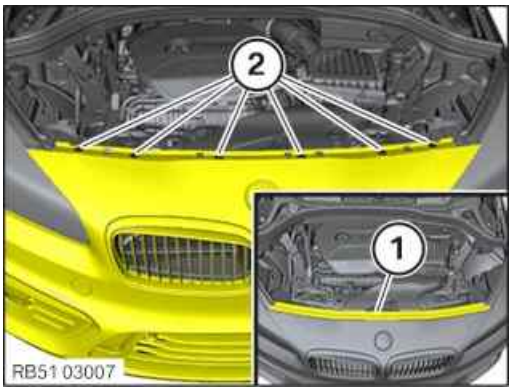
cardiagn.com



- Tighten bottom screws on the bumper panel (1).

Bumper trim, lower

Screw		Tightening torque	2,5 Nm



- Tighten down screws (2).

Bumper panel on air duct, top

Screw		Tightening torque	4,6 Nm

- Install new gasket (1).

Additional Information

Overview of Tightening Torques

Bumper panel on side wall Used in step 2

Screw		Tightening torque	3 Nm

Wheel arch cover Used in step 2

Screw		Tightening torque	3 Nm

Bumper trim, lower Used in step 2

Screw		Tightening torque	2,5 Nm

Bumper panel on air duct, top Used in step 2

Screw		Tightening torque	4,6 Nm

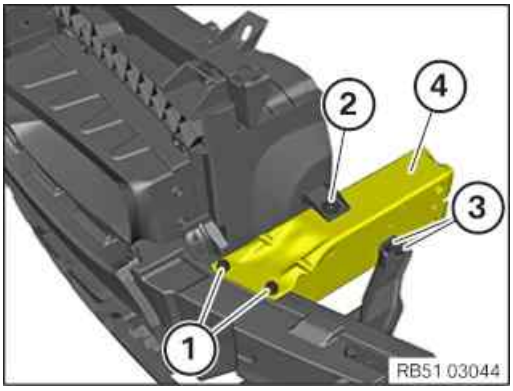
cardiagn.com

51 11 760 Removing and installing/replacing deformation element for bumper, front left (right)

Necessary preliminary tasks:

- Remove radiator air duct

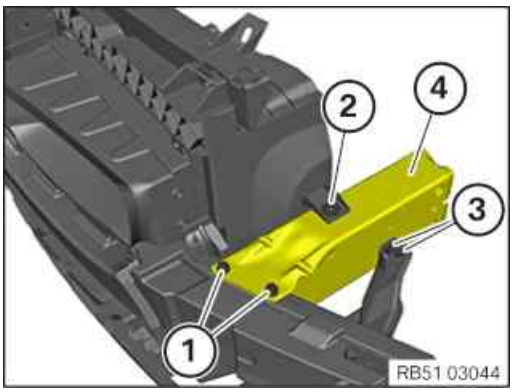
Removal:



Release screws (1 to 3).

Remove deformation element (4).

Installation:



Insert deformation element (4).

Tighten screws (1 to 3).

Screw	Tightening torque
(1)	51 11 4AZ
(2)	51 71 12AZ
(3)	51 11 2AZ

Required follow-up work:

- Install radiator air duct

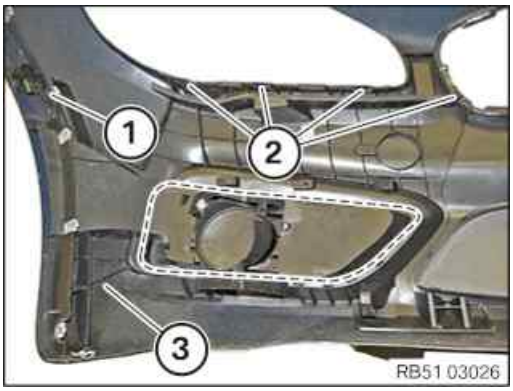
cardiagn.com

51 11 ... Removing and installing/replacing holder for fog light

Necessary preliminary tasks:

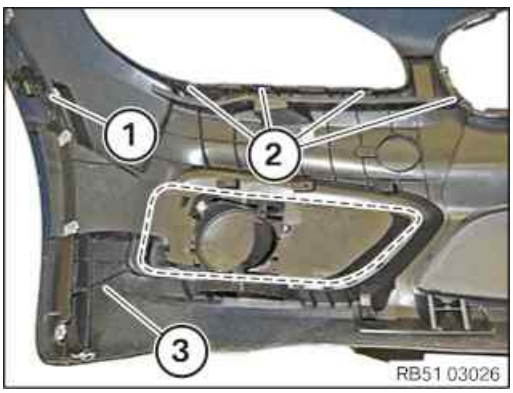
- Remove front bumper panel

Removal:



Release screw (1).
Release catches (2).
Release latch mechanisms along line.
Remove holder for fog light (3).

Installation:



Replacement:

- Remount sheet metal nuts
- Remount temperature sensor (right)

Mount holder for fog light (3).
Engage latch mechanisms (2).
Engage latch mechanisms along line.
Tighten screw (1).

Required follow-up work:

- Install front bumper panel

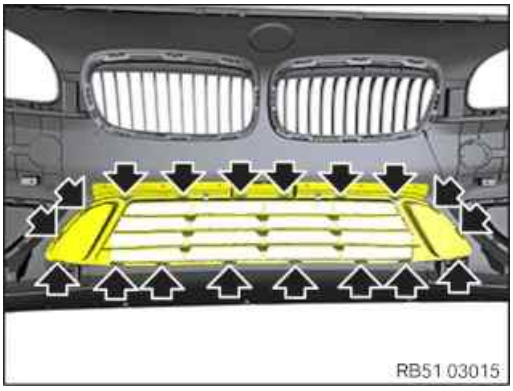
cardiagn.com

51 11 180 Removing and installing/replacing ornamental grille for bumper panel (centre)

Necessary preliminary tasks:

- Remove front bumper panel

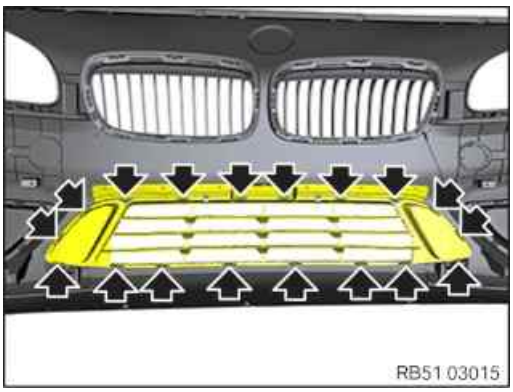
Removal:



Release ornamental grille (1) at latch mechanisms.

Remove the ornamental grille (1).

Installation:



Note:
Latch mechanisms must not be damaged or missing.

Install ornamental grille (1).

Engage ornamental grille (1) at latch mechanisms.

Required follow-up work:

- Install front bumper panel

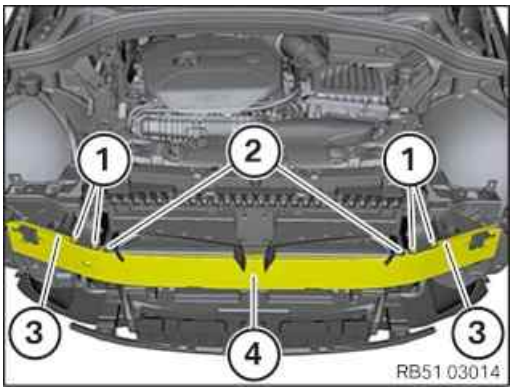
cardiagn.com

51 11 050 Removing and installing/replacing support for front bumper panel

Necessary preliminary tasks:

- Remove front bumper panel
- Remove headlight
- Remove impact absorber from support

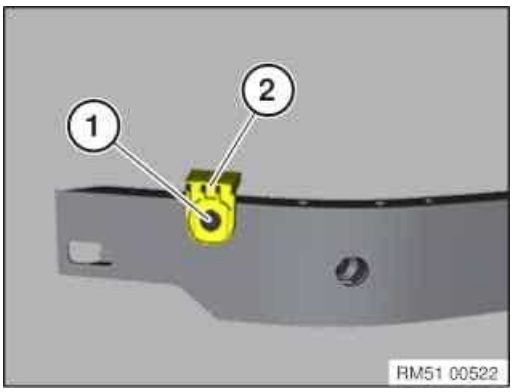
REMOVAL:



Release screws (1) and remove associated holder from below.
Unfasten screws (2).
Release screws (3) from fanfare holder.
Feed out support (4) towards front and remove.

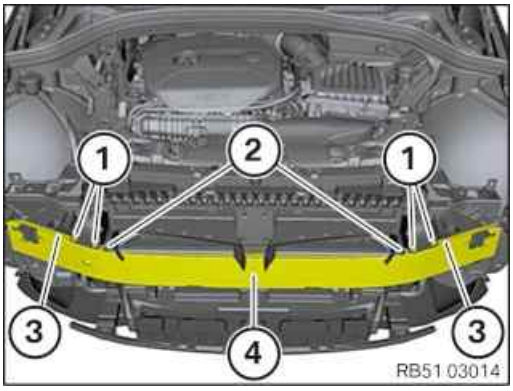
INSTALLATION:

Replacement:



Release screws (1) on left and right.
Remount holder (2).

cardiagn.com



Feed in support (4).

Mount holder from below and tighten screws (1).

Tightening torque: 51 11 4AZ.

Tighten down screws (2).

Tightening torque: 51 71 13AZ.

Tighten screws (3) of fanfare holder.

Required follow-up work:

- Install impact absorber on support
- Install headlight
- Install front bumper panel

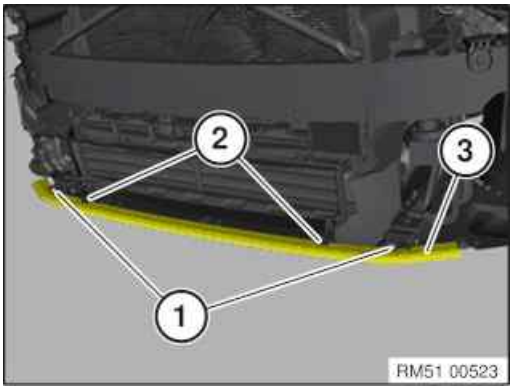
cardiagn.com

51 11 060 Removing and installing/replacing support for front lower bumper panel

Necessary preliminary tasks:

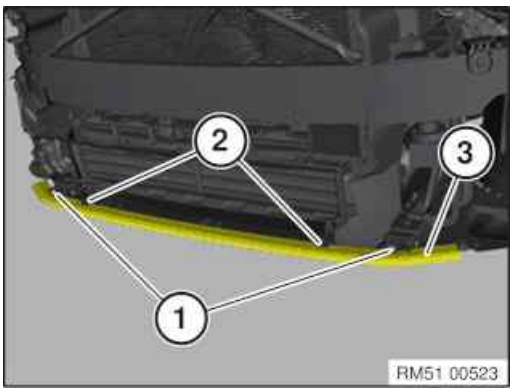
- Remove front bumper panel

Removal:



Release screws (1).
Detach holder of air duct (2) upwards out of support (3).
Remove carrier (3).

Installation:



Insert support (3).
Attach holder of air duct (2) in support (3).
Tighten down screws (1).
Tightening torque 51 11 10AZ.

Required follow-up work:

- Install bumper panel, front

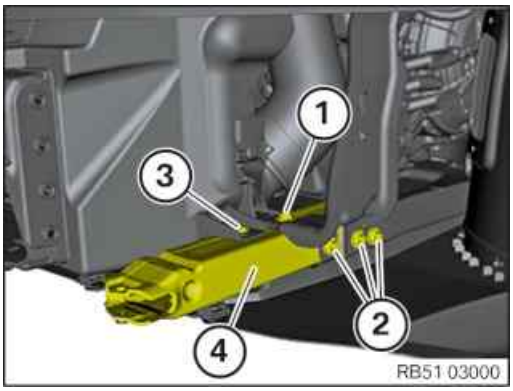
cardiagn.com

51 11 780 Replace the front deformation element on the bottom left

Necessary preliminary tasks:

- Remove support for the front bottom bumper panel

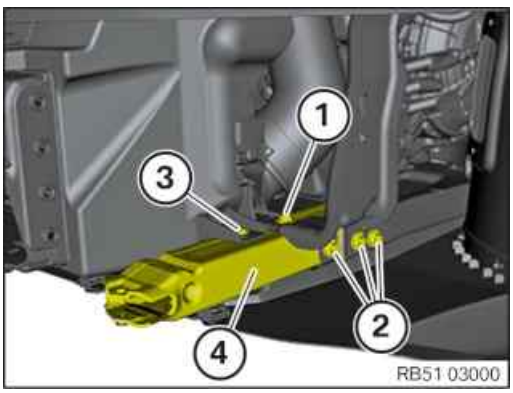
Removal:



Release screws (1 to 3).

Remove deformation element (4).

Installation:



Install deformation element (4).

Tighten screws (1 to 3).

Screw	Tightening torque
(1)	51 11 6AZ
(2)	51 11 6AZ
(3)	51 11 15AZ

Required follow-up work:

- Install front bottom support for bumper panel

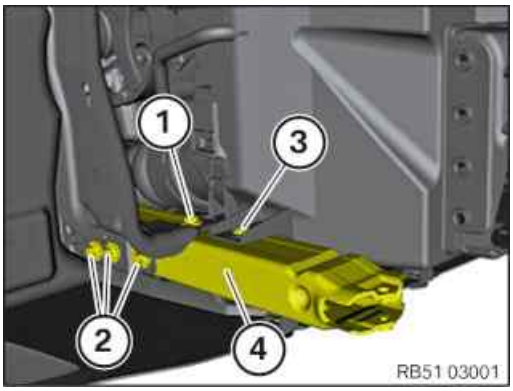
cardiagn.com

51 11 781 Replace the front deformation element on the bottom right

Necessary preliminary tasks:

- Remove support for the front bottom bumper panel

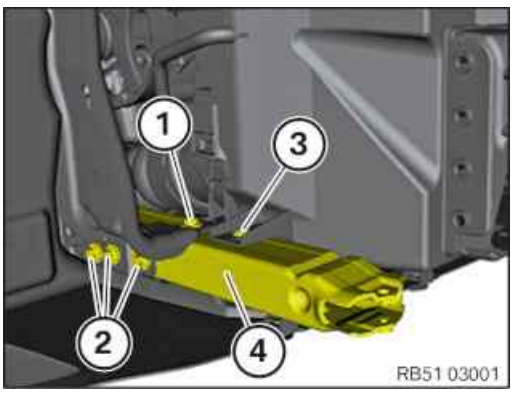
Removal:



Release screws (1 to 3).

Remove deformation element (4).

Installation:



Install deformation element (4).

Tighten screws (1 to 3).

Screw	Tightening torque
(1)	51 11 6AZ
(2)	51 11 6AZ
(3)	51 11 15AZ

Required follow-up work:

- Install front bottom support for bumper panel

cardiagn.com

51 11 158 Replacing base plate for number/license plate

Only use the vehicle-specific number plate baseplate.

The installation of other license plate baseplates is not permissible.

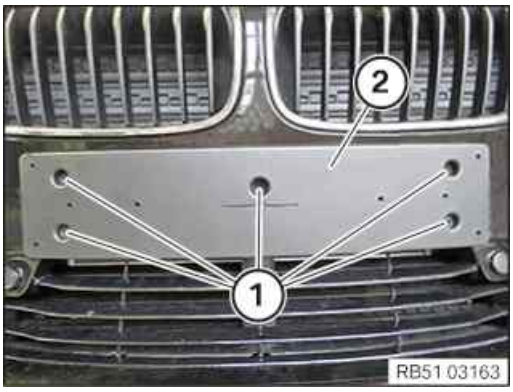
Refer to Service Information Attaching front number plate.

The number plate must be precisely mounted on the number plate baseplate.

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

Incorrect assembly leads to a malfunction of the sensors of the driver assist systems.

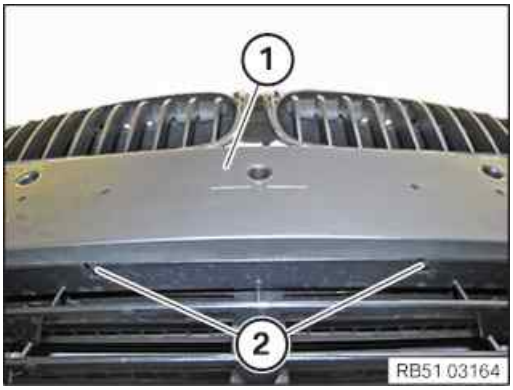
Removal:



Release screws (1).

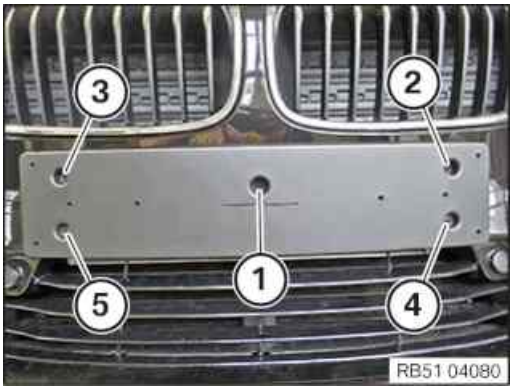
Remove holder (2) towards front.

Installation:



Position support (1) above the guides (2).

cardiagn.com



Note:
Tighten screws by hand, to prevent overtightening.
The permissible torque must not be exceeded!

Tighten screws of support in specified order 1 - 5.
Tightening torque 51 11 8AZ.

cardiagn.com

51 00 ... Overview of consumables (Electronic Parts Catalogue)

Designation, repair instructions	Designation, Electronic Parts Catalogue	Part number, Electronic Parts Catalogue	Remarks
Cleaning agent R2	Cleaning agent R2	83 19 0 417 324	500 ml
Lubricants G14	Lubricants G14	83 23 2 360 412	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	
Window glass adhesive	Window glass adhesive, cold, 1 hour	83 19 2 289 286	
Profile rubber adhesive		83 19 2 232 322	
Set of felt pads	Set of felt pads	51 45 2 353 024	

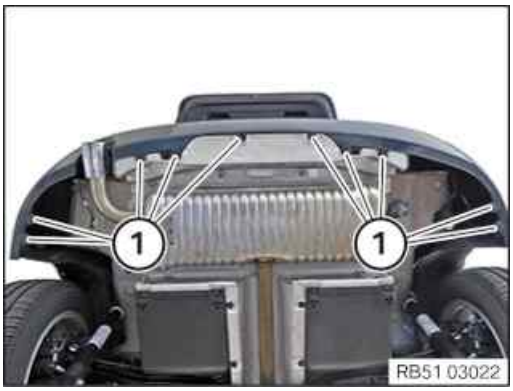
cardiagn.com

51 12 156 Removing and installing rear bumper panel

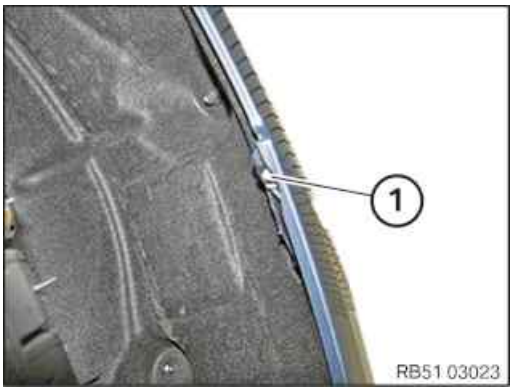
Necessary preliminary tasks:

- Remove both rear lights

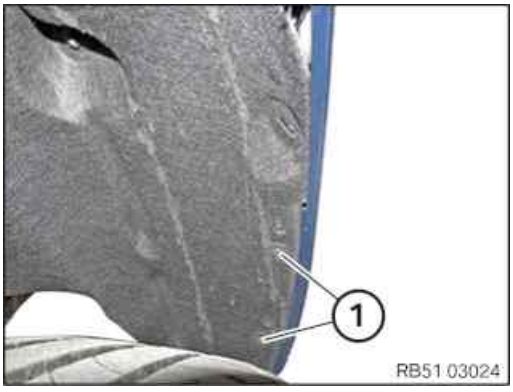
Removal:



Release screws (1).

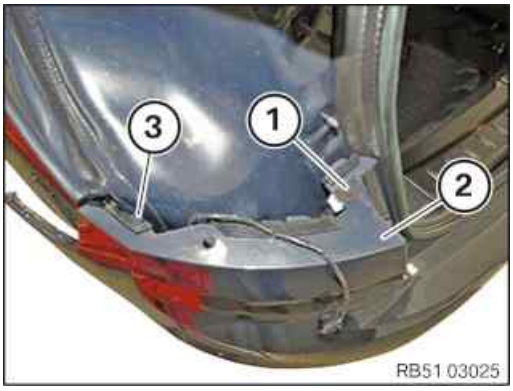


Release screws (1) on left and right.



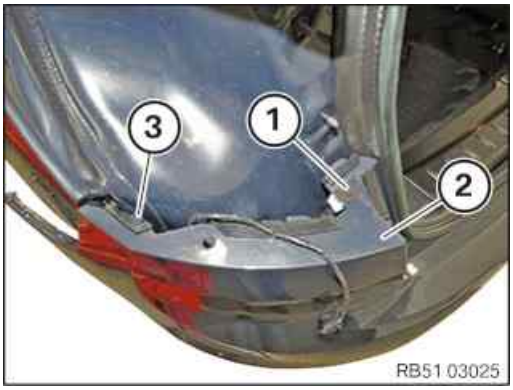
Release left and right screws (1).

cardiagn.com

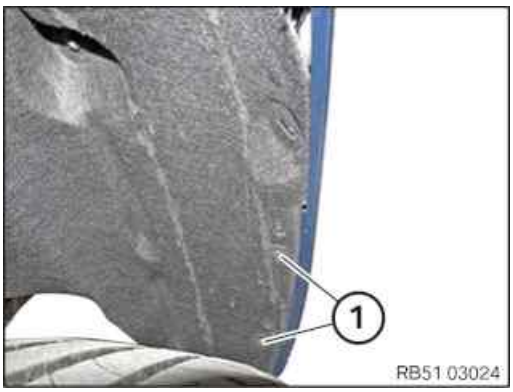


Release screws (1) on bumper panel (2) on left and right.
Release retaining lugs (3) on left and right.
Pull bumper panel (2) straight towards rear with aid of a second person.
Unfasten plug connection.
Remove the bumper panel (1).

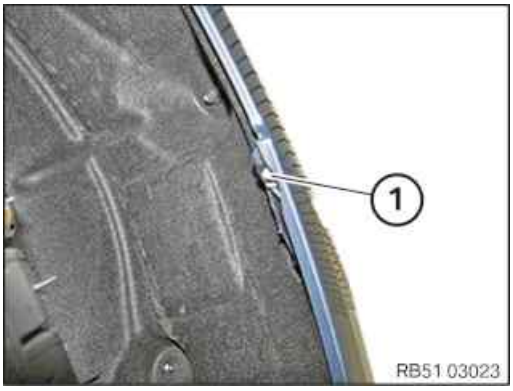
Installation:



Hold bumper panel (2) in position with the aid of a second person.
Connect plug connections.
Attach bumper panel (1).
Engage retaining lugs (3) on left and right.
Tighten screws (1) on bumper panel (2) on left and right.
Tightening torque 51 12 5AZ.

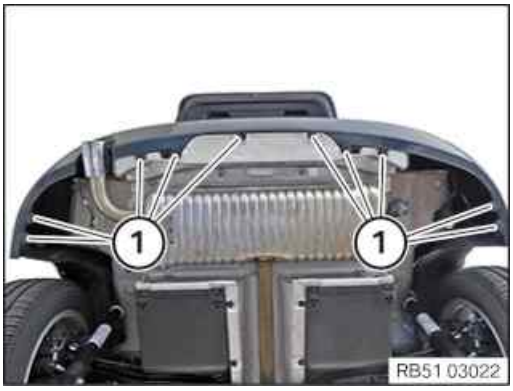


Tighten screws (1) on left and right.
Tightening torque 51 12 4AZ.



Tighten the screws (1) on the left and right.
Tightening torque 51 12 4AZ.

cardiagn.com



Tighten down screws (1).

Tightening torque 51 12 5AZ.

Required follow-up work:

- Install both rear lights

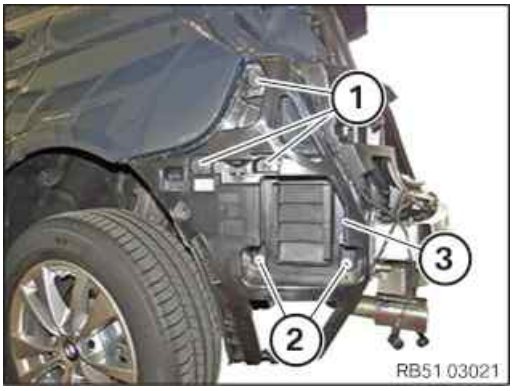
cardiagn.com

51 12 828 Removing and installing/replacing guide for bumper, rear left or right

Necessary preliminary tasks:

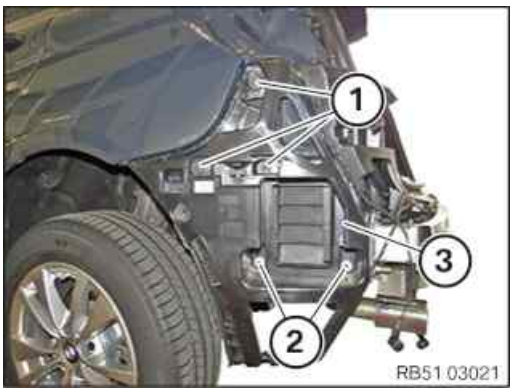
- Remove bumper panel

Removal:



Release screws (1).
Unscrew nuts (2).
Remove guide (3).

Installation:



Install guide (3).
Tighten down screws (1).
Tightening torque 51 12 3AZ.
Tighten down nuts (2).
Tightening torque 51 12 3AZ.

Required follow-up work:

- Mount bumper panel

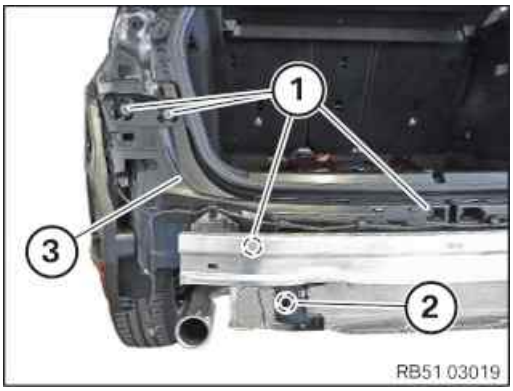
cardiagn.com

51 12 825 Removing and installing/replacing guide for rear centre bumper

Necessary preliminary tasks:

- Remove bumper panel

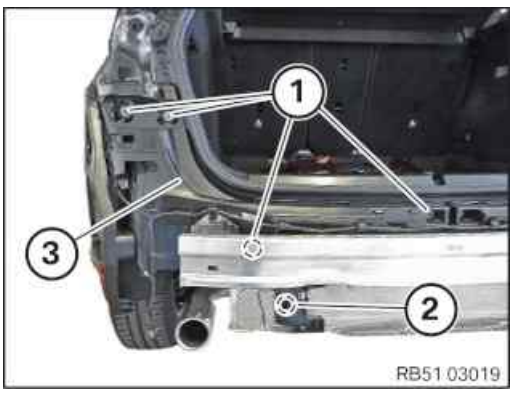
Removal:



Unclip wiring harness from holder.

Release nuts (1) and the screw (2) and feed out guide (3) towards top.

Installation:



Feed in guide (3) and tighten nuts (1).

Tightening torque 51 12 2AZ.

Tighten down screw (2).

Tightening torque 51 12 7AZ.

Clip wiring harness in holder.

Required follow-up work:

- Mount bumper panel

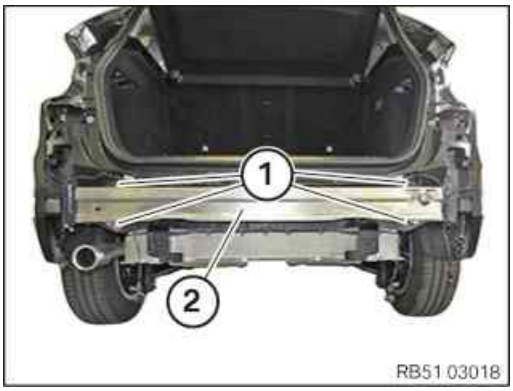
cardiagn.com

51 12 050 Removing and installing/replacing support for rear bumper panel

Necessary preliminary tasks:

- Remove bumper panel

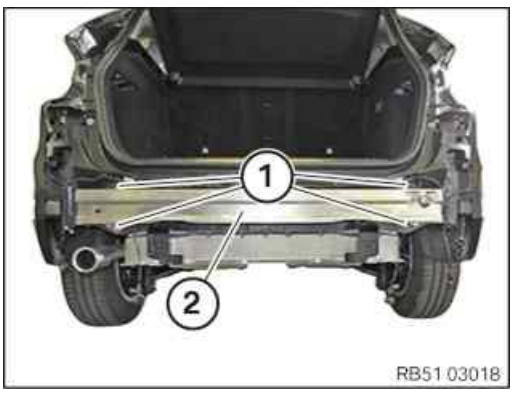
Removal:



Unscrew nuts (1).

Remove support (2).

Installation:



Mount support (2).

Tighten down nuts (1).

Parts: Replace nuts.

Tightening torque 51 12 1AZ.

Required follow-up work:

- Mount bumper panel

cardiagn.com

51 12 460 Replacing rear bumper panel trim strip

Special tools required:

- 00 9 325

Removal:



Release all latch mechanisms of trim strip (1) with special tool 00 9 325 .
Remove trim strip from bumper panel.

Installation:



Mount trim strip on bumper panel.
Engage all latch mechanisms of trim strip (1).

cardiagn.com

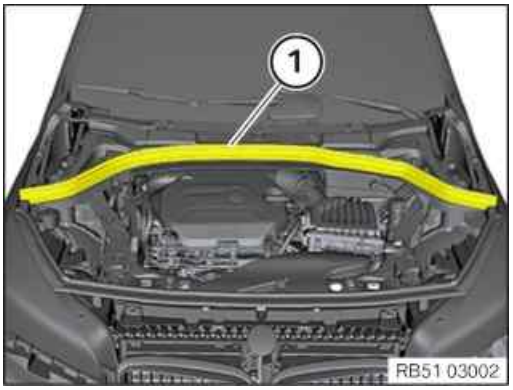
51 13 116 Remove and install the cowl panel cover (rear) \PREMIUM

PRELIMINARY WORK

1 – Remove the seal for the rear bonnet

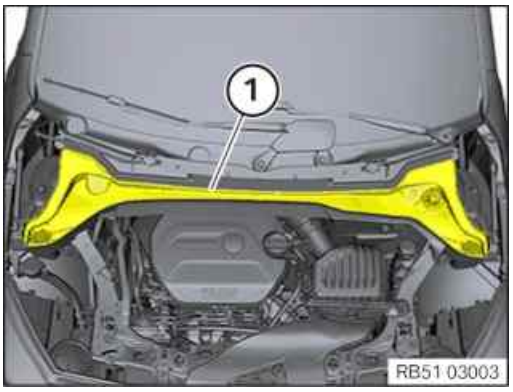
NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



- Pull off rear bonnet seal (1) towards the top and remove.

2 – Removing front cowl panel cover



- Guide the front cowl panel cover (1) out toward the top and remove it.

3 – Remove left and right wiper arm

NOTICE

Description is for left component only. Procedure on the right side is identical.

▸ **Remove the wiper arm**

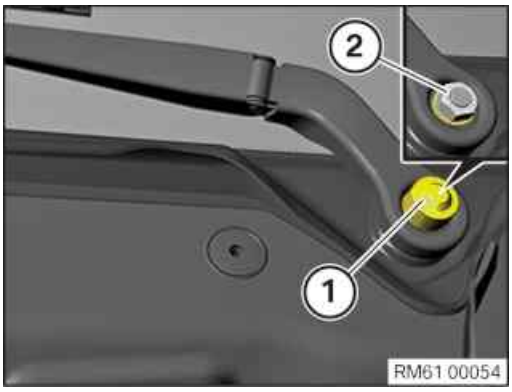
RISK OF DAMAGE

Damage to wiper console

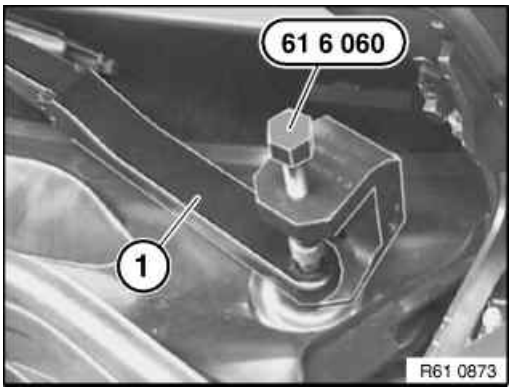
While removing the wiper arms without using special tool, the wiper console can break.

- Removing the wiper arms must be carried out only using the prescribed special tool.
- Do not lift off wiper arm, else the wiper console may break on the predetermined breaking point for the pedestrian protection.

cardiagn.com



- Remove the protective cap (1).
- Loosen nut (2).

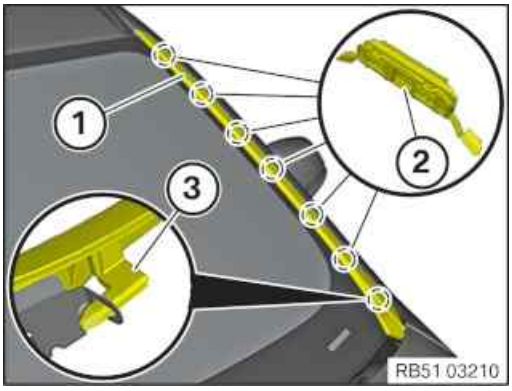


- Pull off the wiper arm (1) using special tool .

4 – Remove the gutter strip on the windscreen on the left and right

NOTICE

Description is for left component only. Procedure on the right side is identical.



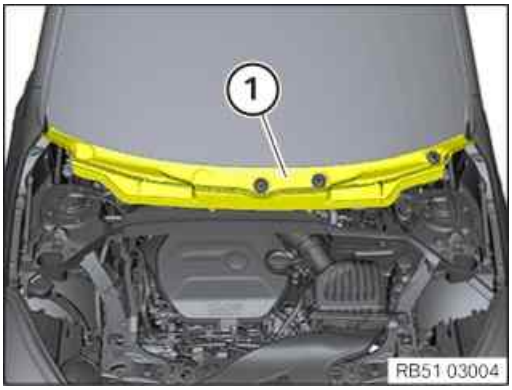
▸ **Remove the gutter strip on the windscreen**

- Unclip the gutter strip (1) from the clips (2) beginning at the roof to the top.
- Feed the gutter strip (1) out of the guide (3).

cardiagn.com

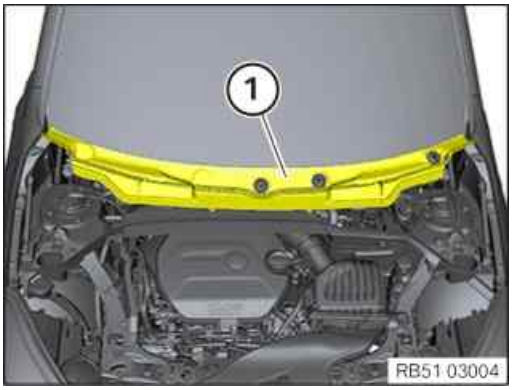
MAIN WORK

5 – Remove the rear cowl panel cover



- Disengage and guide out the rear cowl panel cover (1) towards the top.

6 – Install the rear cowl panel cover



- Feed in and engage the rear cowl panel cover (1).

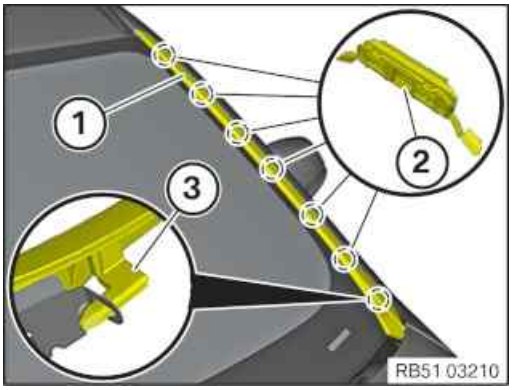
POSTPROCESSES

7 – Install the gutter strip on the windscreen on the left and right

NOTICE

Description is for left component only. Procedure on the right side is identical.

▶ **Install the gutter strip on the windscreen**



- Check the clamps (2) for damage and renew if necessary.
- Insert the gutter strip (1) with the guide (3).
- Align the gutter strip (1) at the roof and clip it in.

8 – Install left and right wiper arm

cardiagn.com

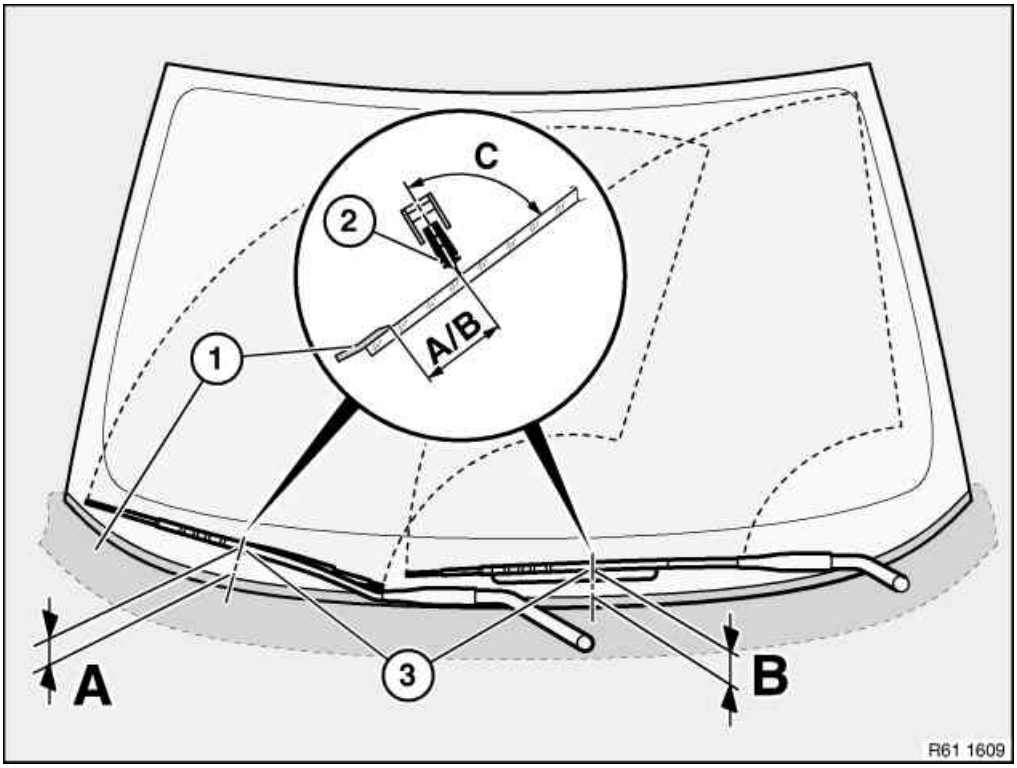
NOTICE

Description is for left component only. Procedure on the right side is identical.

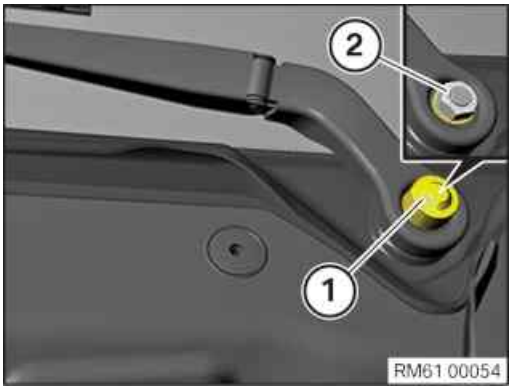
▸ **Install the wiper arm**

TECHNICAL INFORMATION

The wiper system must be in zero position.
After installing the cowl panel cover and before fitting the wiper arm:
Activate the wiper system once to ensure that it has the correct installation position.



- Connect the wiper arm (3).
- Correctly position the wiper arm (2) in relation to the window edge (1).



NOTICE

Description is for left component only. Procedure on the right side is identical.

- Tighten nut (2).

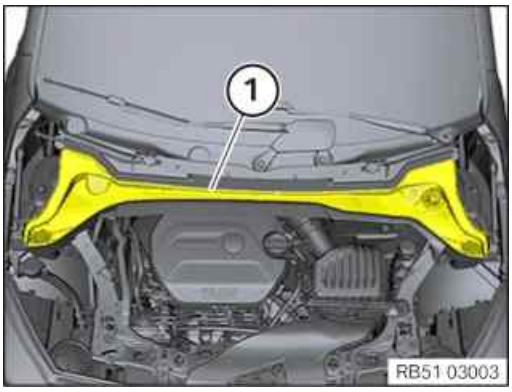
Windscreen wiper arm

Combination hexagon nut		Tightening torque	35 Nm

- Connect the protective cap (1).

9 – Installing front cowl panel cover

cardiagn.com

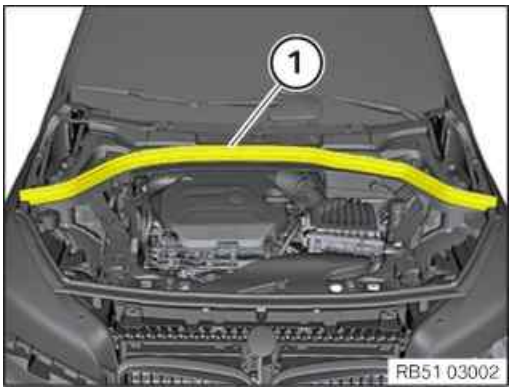


- Insert the cowl panel cover front (1) to the rear and install.
- Check cowl panel cover at front is correctly seated (1).

10 – Install the seal for the bonnet

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



- Install bonnet seal at rear (1).
- Ensure that the rear bonnet seal (1) is fitted correctly.

Additional Information

Overview of Tightening Torques

Windscreen wiper arm Used in step 8

Combination hexagon nut		Tightening torque	35 Nm

Overview of Special Tools

Overview Technical Data

cardiagn.com

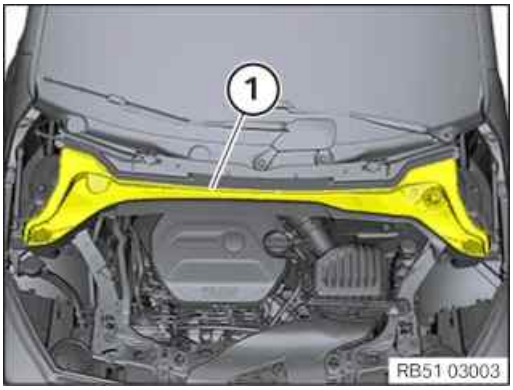
51 13 115 Remove and install/replace the cowl panel cover (front)

Necessary preliminary tasks:

- Remove rear bonnet seal

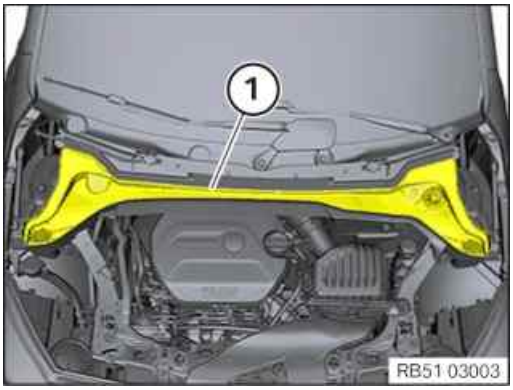
Note:
Bonnet shown removed for purposes of clarity.

Removal:



Lift off cowl panel cover (1).

Installation:



Feed in cowl panel cover (1) towards rear.*Note:*
Check front cover is correctly seated relative to rear cover.

Required follow-up work:

- Install rear bonnet seal

cardiagn.com

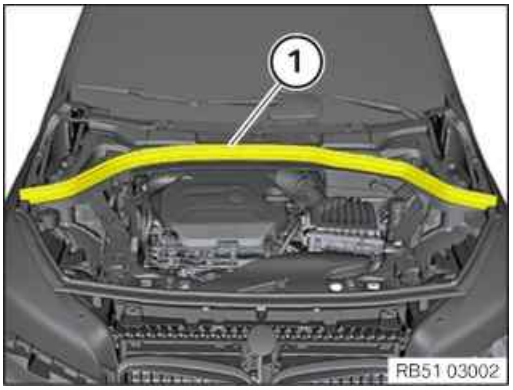
51 13 115 Remove and install/replace the cowl panel cover (front) \PREMIUM

PRELIMINARY WORK

1 – Remove the seal for the rear bonnet

NOTICE

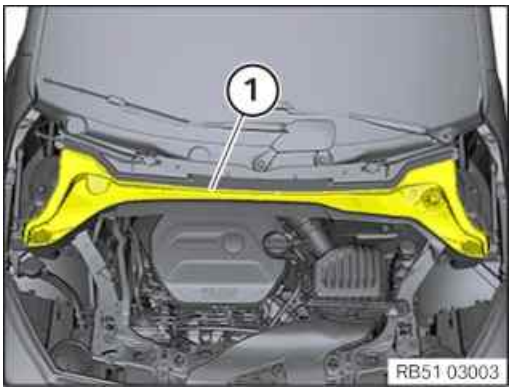
Schematic diagram is for example purposes. Some parts may differ in certain details.



- Pull off rear bonnet seal (1) towards the top and remove.

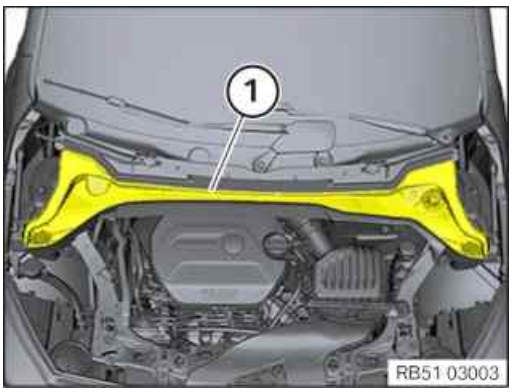
MAIN WORK

2 – Removing front cowl panel cover



- Guide the front cowl panel cover (1) out toward the top and remove it.

3 – Installing front cowl panel cover



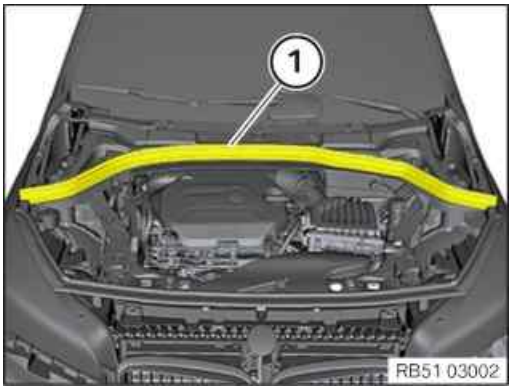
- Insert the cowl panel cover front (1) to the rear and install.
- Check cowl panel cover at front is correctly seated (1).

cardiagn.com

4 – Install the seal for the bonnet

NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.



- Install bonnet seal at rear (1).
- Ensure that the rear bonnet seal (1) is fitted correctly.

cardiagn.com

51 13 305 Removing and installing / replacing left or right roof railing

Necessary preliminary tasks:

F45/48/49:

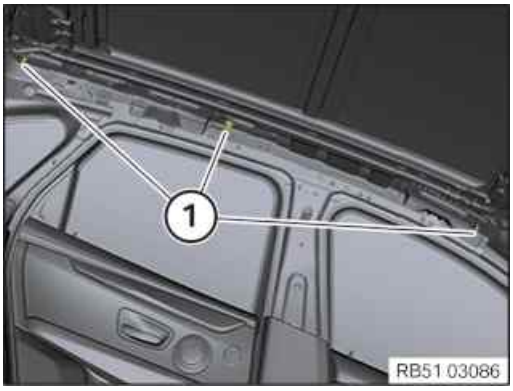
- Remove headlining

F46:

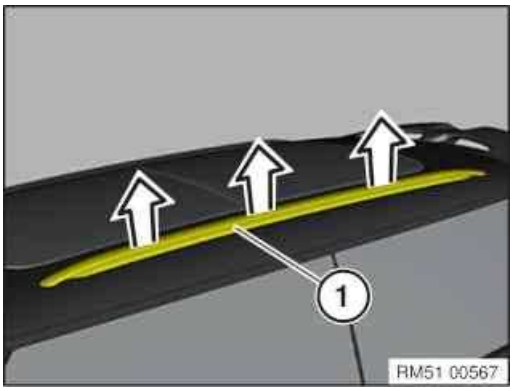
- Lower roofliner

  The right luggage compartment wheel arch trim panel need not be dismantled

Removal:



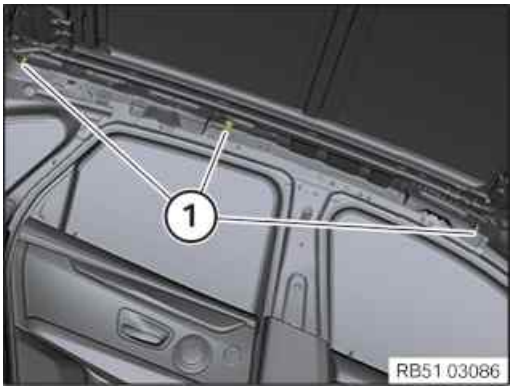
Unscrew nuts (1).



Remove roof rails (1).

Installation:

cardiagn.com



Note:
Gaskets and threaded bolts on the roof rails must not be damaged.

Position roof rails.

Tighten down nuts (1).

Parts: Replace nuts (1).

Tightening torque 51 13 1AZ.

Required reworking:

- Fit the headlining

cardiagn.com

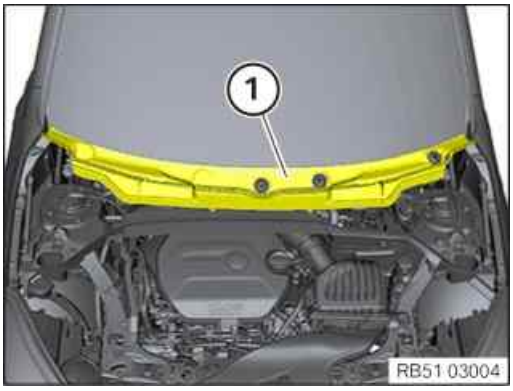
51 13 116 Removing and installing cowl panel cover (rear)

Necessary preliminary tasks:

- Remove front cowl panel cover
- Removing the wiper arm on the left or right
- Removing the gutter strip on the windscreen on the left and right

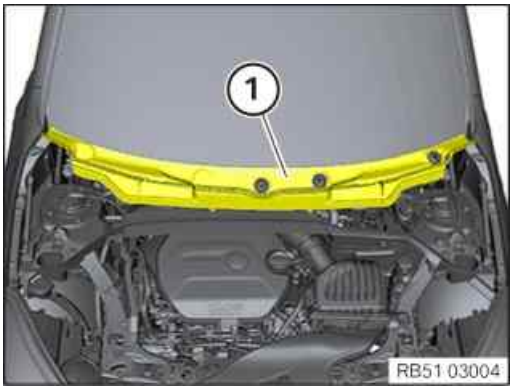
Note:
Bonnet shown removed for purposes of clarity.

Removal:



Disengage coverÂ (1) upwards and feed out.

Installation:



Feed in cover (1) and engage.

cardiagn.com

Required follow-up work:

- Mount left or right wiper arm
- Install front cowl panel cover
- Installing the gutter strip on the windscreen on the left and right

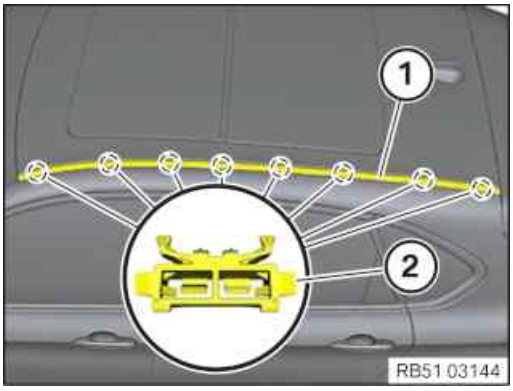
cardiagn.com

51 13 280 Removing and installing/replacing trim strip on roof frame at left or right

Special tools required:

- 00 9 321

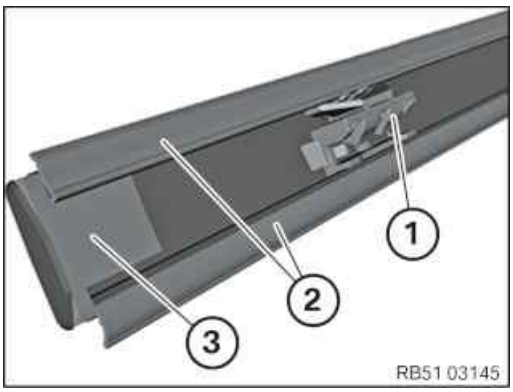
Removal:



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

Unclip trim strip (1) from the clamps (2) towards the top.

Installation:



Note:
Clips (1), gaskets (2) and supports (3) must not be damaged or missing.

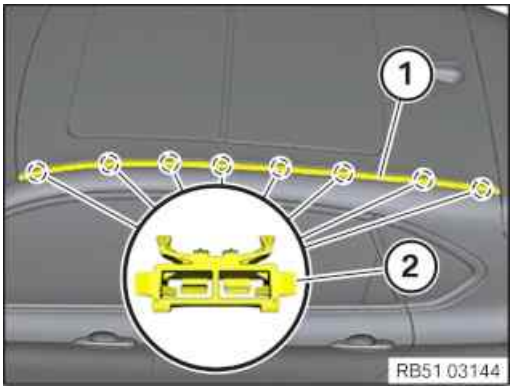
The position of the clips (1) is determined with the tabs on the body.

Place the trim strip onto the roof loosely and check if clips (1) are correctly positioned with the tabs on the roof.

Replacement:

Do not attach clips (1) and supports (3) until the trim strip has been painted.

cardiagn.com



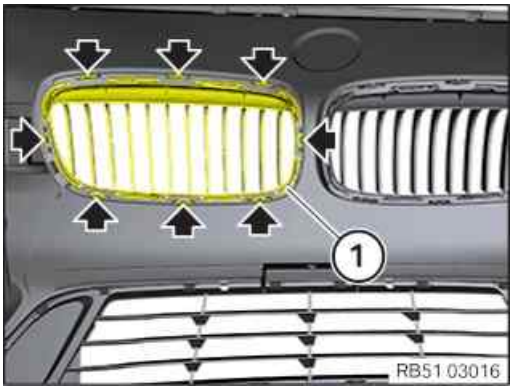
Note:
The front of the trim strip (1) must be flush with the roof outer skin.

Position trim panel (1) and clip into clamps (2).

cardiagn.com

51 13 146 Replacing front radiator grille, middle left or right

Removal:



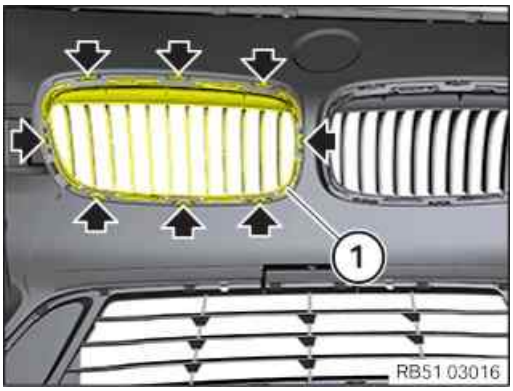
Disconnecting longitudinal bars of the kidney grille (break off).

Release latch mechanisms on front ornamental grille (1) from outside.

Remove front ornamental grille (1) forwards.

Note:
The bumper panel must be disassembled to ensure the removal will not cause any damage.

Installation:



Install front ornamental grille (1).

Engage latch mechanisms on front ornamental grille (1).

cardiagn.com

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.

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.

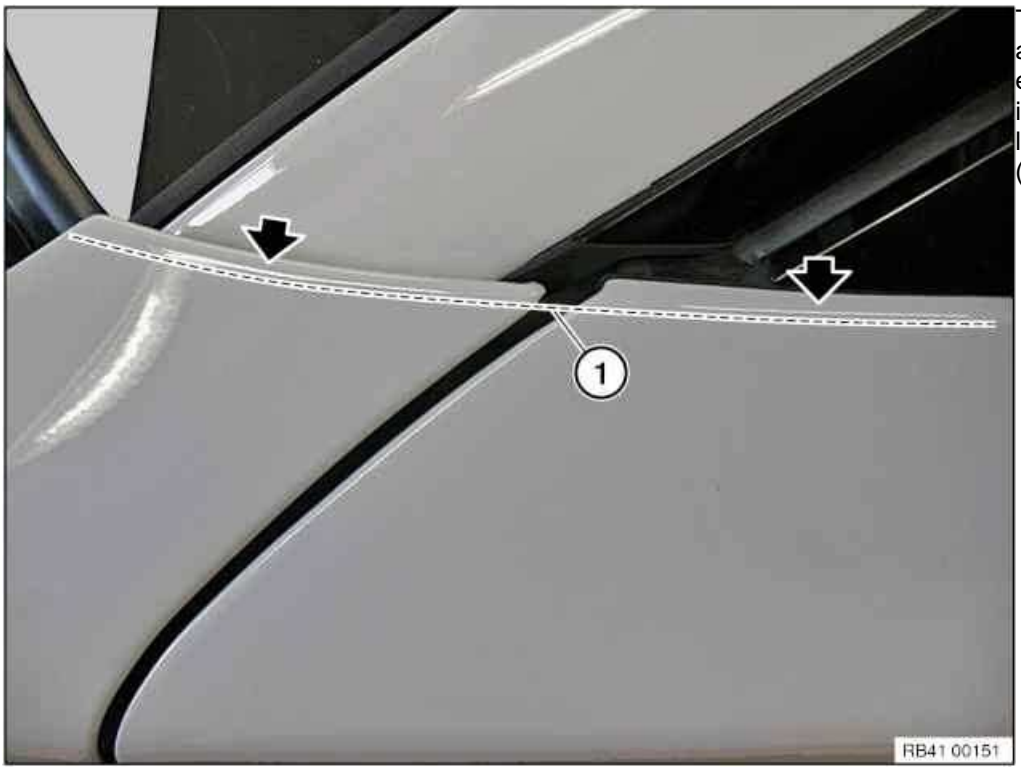
2. Procedure for applying labels:

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.



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.

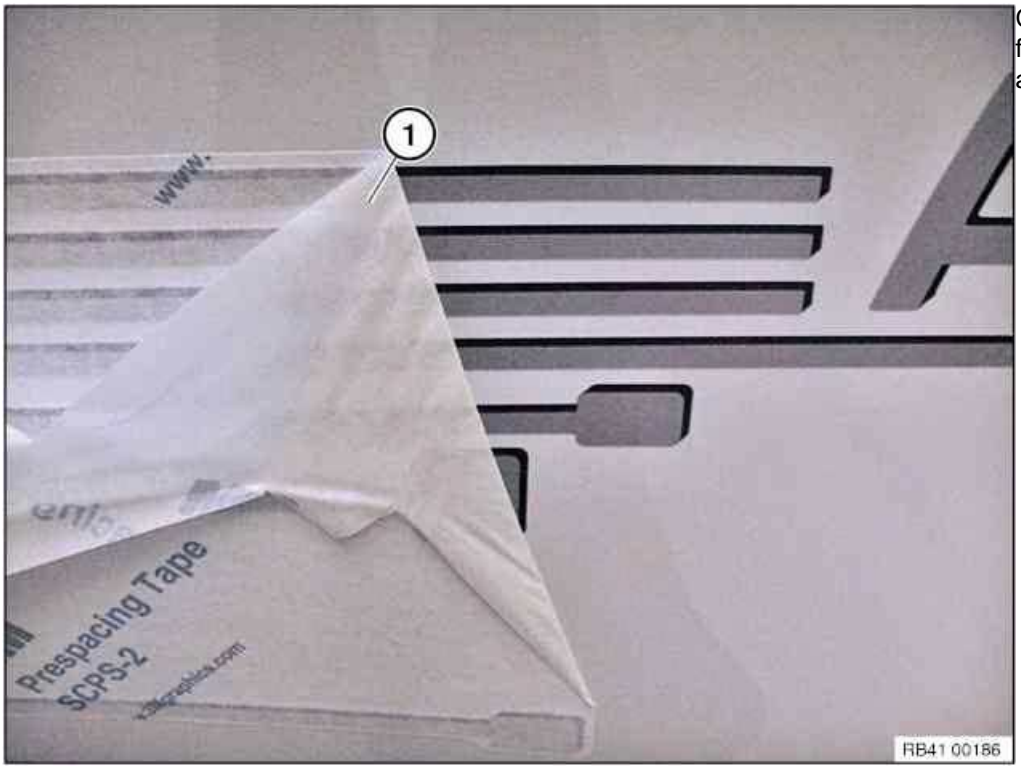
Align and lightly press down the adhesive film. Use only one finger for this and not the entire hand so that air pockets are unable to form under the adhesive film.

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.



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

cardiagn.com

51 14 008 Replacing letter/number combination on front left or right side panel



General procedure is described in:

"Replacing rear model designation"

Use same procedure as for the front side panel.

cardiagn.com

51 14 111 Replacing model name plate, rear

Note:
This document describes a general procedure for replacement and new bonding of model designations/lettering using the 335i (F30) as an example.

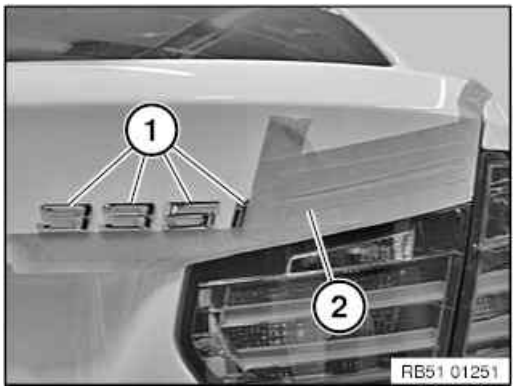
The procedure can be used for all models, positions and installation locations.

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 (new or newly painted tailgate):

Note:
Transfer position of model designation (1) from old tailgate by making an adhesive tape template.

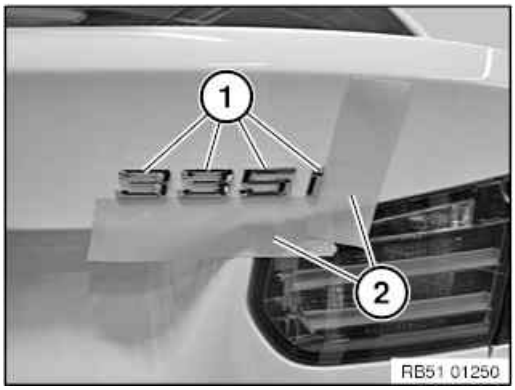
For paintwork, keep adhesive tape template up to installation.

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

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.



Replacing model designation:

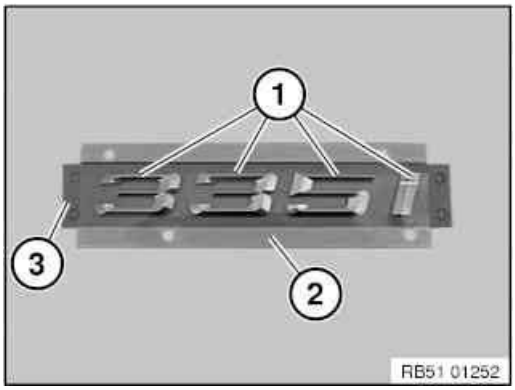
Mark position of model designation (1) with yellow plastic adhesive tape (2).

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



Installation:

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).

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

Place model designation at marked position and press down firmly.

Remove backing film (2) and template.

cardiagn.com

51 14 011 Replacing rear BMW badge

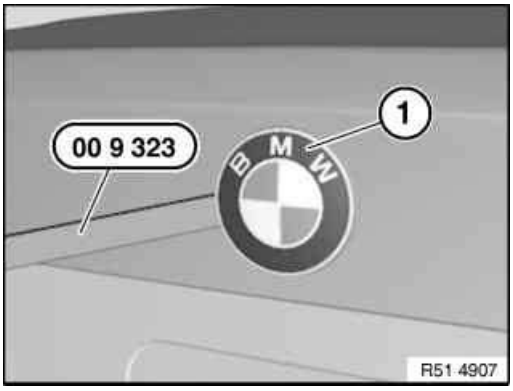
Special tools required:

- 00 9 323

Important!

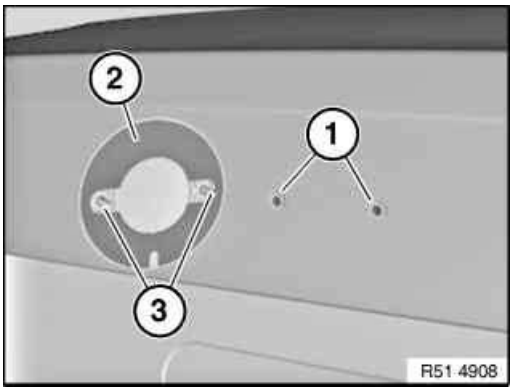
The notes on component bonding with double-sided adhesive tape serve as the basis for this repair instruction and must be observed without fail.

The BMW badge must be replaced after it is removed.



Removing badge:

Heat BMW badge (1) with hot air blower and carefully lever out with special tool 00 9 323 .



Fitting badge:

Installation note:
Grommets (1) must not be damaged.

Pull liner* off adhesive tape (2), position badge over guide pins (3) and press down firmly.

* Liner is the protective film on a new badge.

cardiagn.com

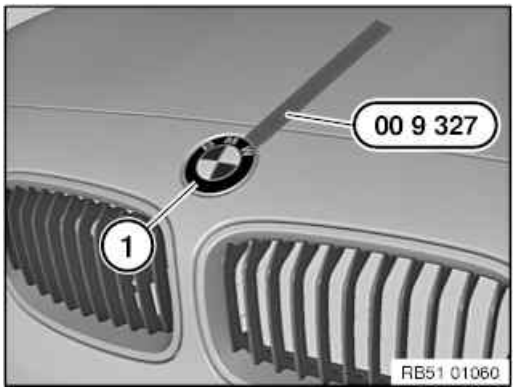
51 14 001 Replacing the front BMW badge

Special tools required:

- 00 9 327

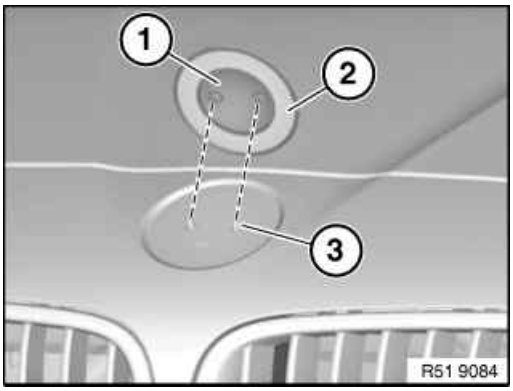
Important!

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



Tape off working area around the BMW badge (1) with adhesive tape.

Carefully warm up the BMW badge (1) with a hot air blower (temperature approx. 40 - 55 °C) and lift it out with the special tool 00 9 327 .



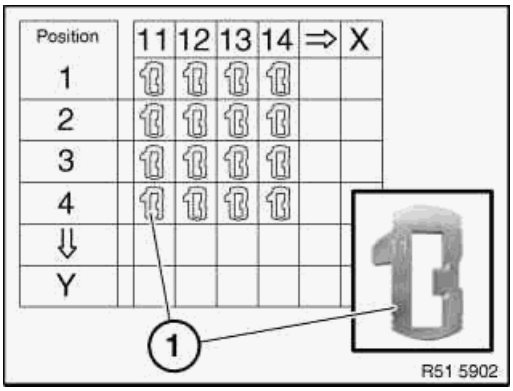
Installation note:
Pull liner* off adhesive tape (2).

Position BMW badge (1) over guides (3) and press down firmly.

* Liner is the protective film on a new plate.

cardiagn.com

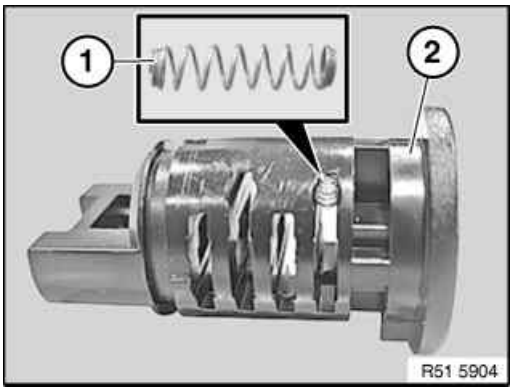
51 16 992 Disassembling and assembling lock barrel (lock barrel removed)



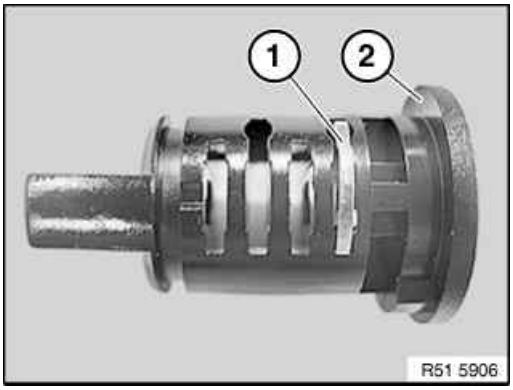
Sort supplied retainers (1) according to graphic.

(X) Embossed number on retainer (1)

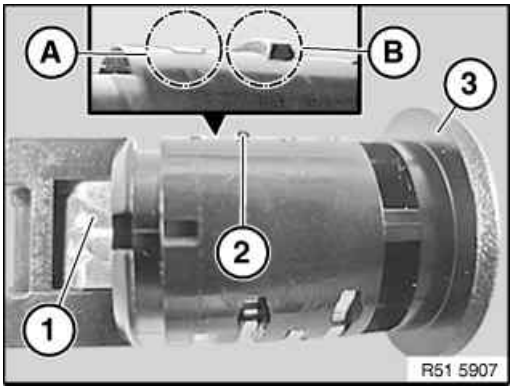
(Y) Installation position in lock barrel



Insert spring (1) into first position of lock barrel (2).*Note:*
Lock barrel version (2) differs according to vehicle.



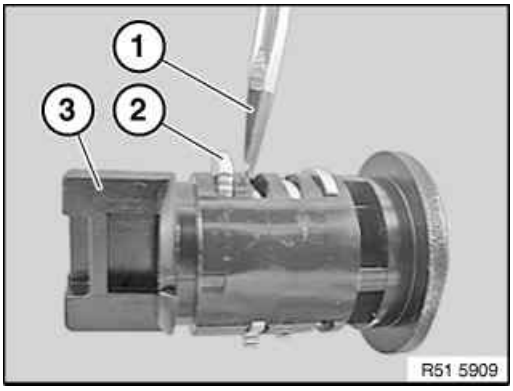
Insert retainer (1) with lowest stamped number (X) in first position (Y) in lock barrel (2) so that it snaps into place audibly.*Note:*
Number of retainers (1) differs according to vehicle.



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

(A)	OK
(B)	not OK

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.

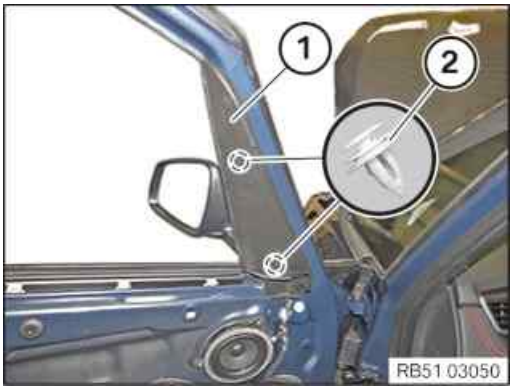
cardiagn.com

51 16 001 Remove and install (replace) exterior mirror at the front door on the left or right

Necessary preliminary work:

- Remove front door trim panel

Removal:

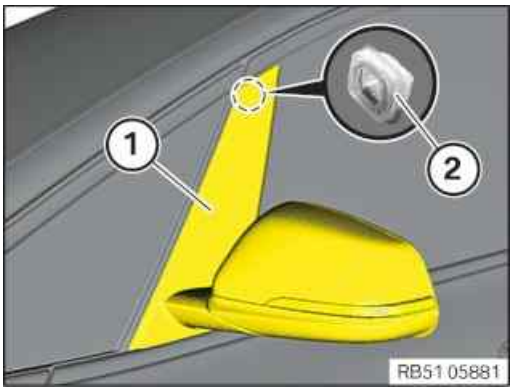


Release window frame cover (1) on clips (2).
If necessary, disconnect related plug connections.
Remove window frame cover (1).



Attention!
Secure exterior mirror against falling out.

Unlock plug connection and disconnect.
Release screws (1).



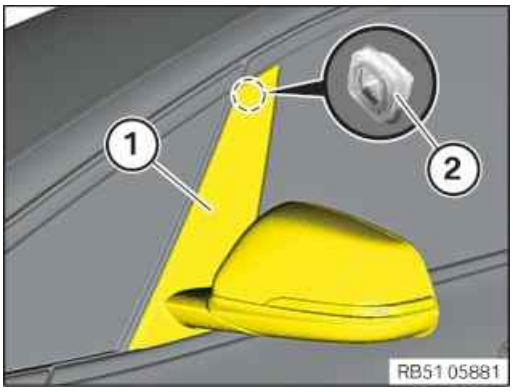
Release and remove the mirror (1) at the clamp (2).

cardiagn.com

Installation:

Replacement

- Remount mirror electronics



Note:
Sound insulation on the mirror base must not be damaged or missing.

Install the mirror (1) and engage at the clamp (2).



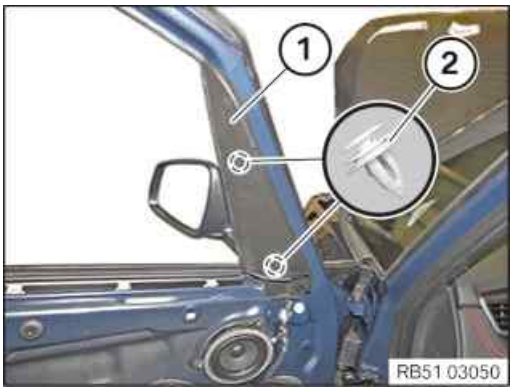
Tighten down screws (1).

Tightening torque 51 16 1AZ.

Note:
Due to self-tapping screws, the tightening torque **in the new condition of exterior mirror** increases by 2 Nm.

Connect and lock plug connection.

Run a function check.



Install window frame cover (1).

If necessary, connect related plug connections.

Clip in the window frame cover (1) at the clips (2).

Required reworking:

- Installing front door trim panel

cardiagn.com

61 31 083 Remove and install (replace) tailgate lock switch

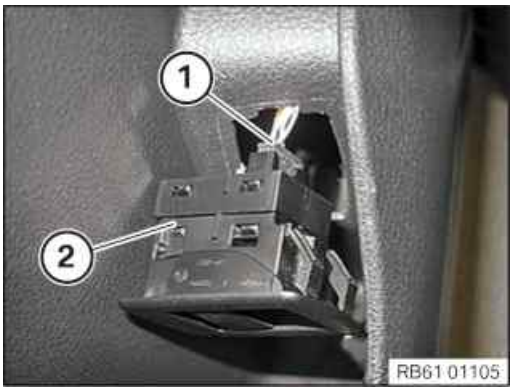
Special tools required:

- 64 1 020

Removal:

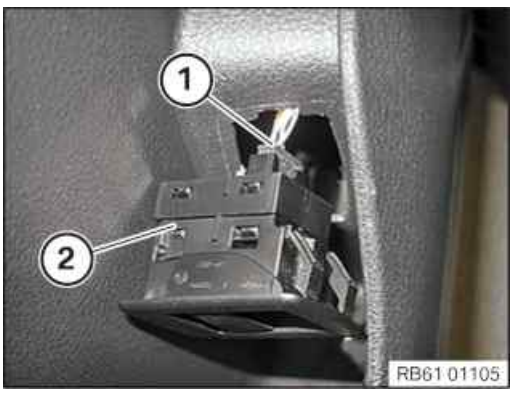


Lever out tailgate lock switch (1) using SWZ 64 1 020 .



Unlock connector (1) to tailgate lock switch (2) and disconnect.

Installation:



Connect the plug (1).*Installation note:*
Locking clamps on the tailgate lock switch (2) may not be damaged or missing.

cardiagn.com



Fit tailgate lock switch (1) in the door trim panel.

cardiagn.com

51 16 150 Removing and installing (replacing) front storage compartment

Special tools required:

- 64 1 020

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

Removal:



Remove storage compartment (1) using special tool 64 1 020 towards the top, lever it out of the clips (2) and remove it towards rear.

Installation:



Install storage compartment (1) and engage it in the clips (2).

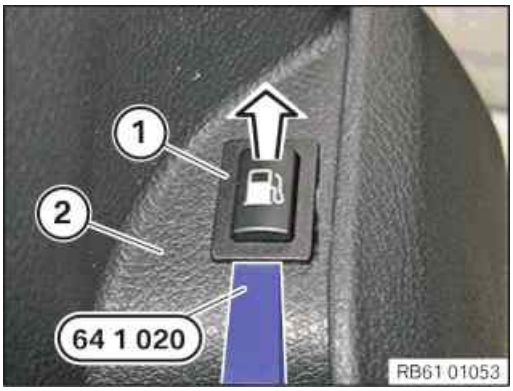
cardiagn.com

61 31 ... Removing and installing (replacing) fuel filler door release switch

Special tools required:

- 64 1 020

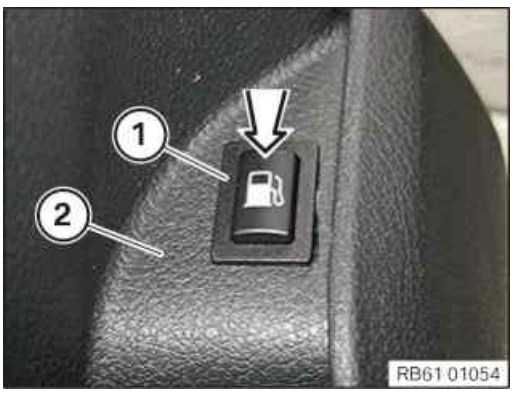
Removal:



Lift out the fuel filler flap release switch (1) from the door trim panel (2) using special tool 64 1 020 .

Unlock and disconnect associated connector.

Installation:



Connect associated connector.

Insert the fuel filler flap release switch (1) into the door trim panel (2).

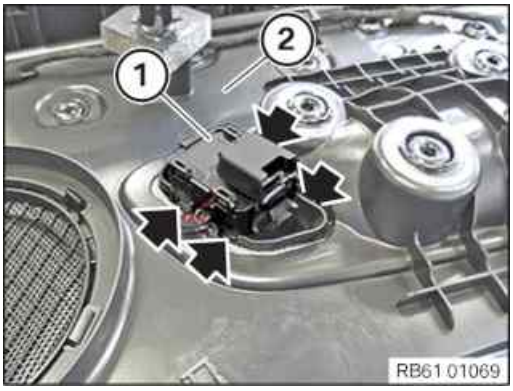
cardiagn.com

61 31 082 Removing and installing (replacing) switch for central locking system

Necessary preliminary tasks:

- Remove front door trim panel

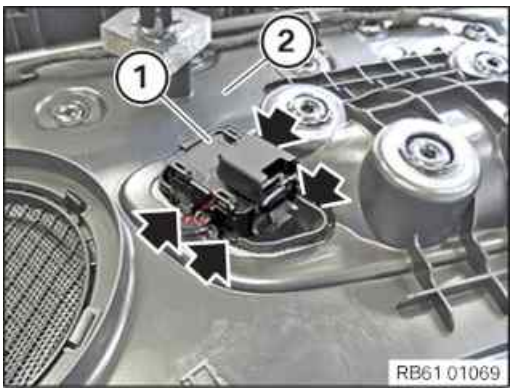
Removal:



Release switch for central locking system (1) at latch mechanisms.

Remove switch for central locking system (1) from the door trim panel (2).

Installation:



Join switch for central locking system (1) in the door trim panel (2).*Note:* Make sure switch for central locking system (1) is correctly engaged in the door trim panel (2).

Required reworking:

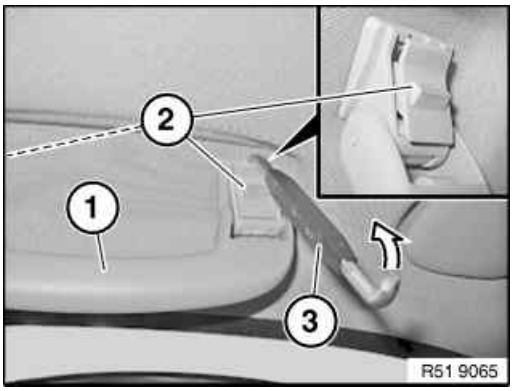
- Install front door trim panel

cardiagn.com

51 16 480 Removing and installing or replacing front grab handle

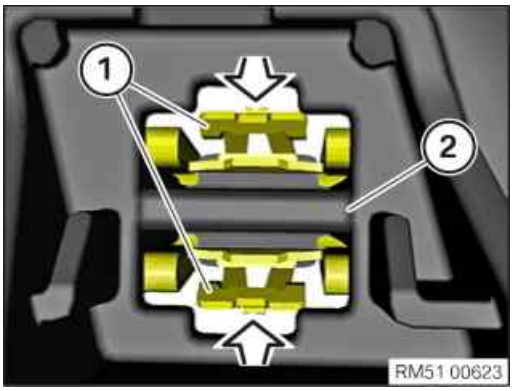
When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Removal:



Fold grab handle (1) downwards.

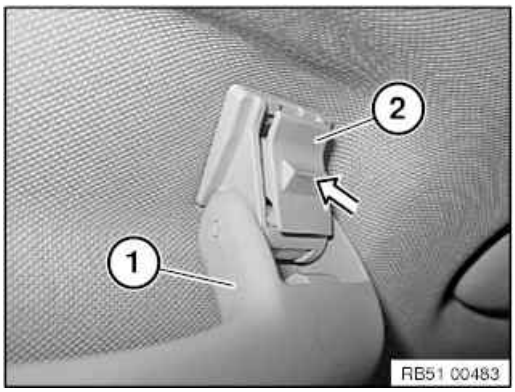
Disengage and remove locking wedges (2) with angle screwdriver (3), as shown.



Release bottom and top release tab (1) with screwdriver.

Remove grab handle (2) and place to side.

Installation:



Insert grab handle (1) into body.

Engage locking wedges (2) on both sides of grab handle (1).

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

cardiagn.com

cardiagn.com

51 16 045 Removing and installing or replacing retaining ring on left or right exterior mirror

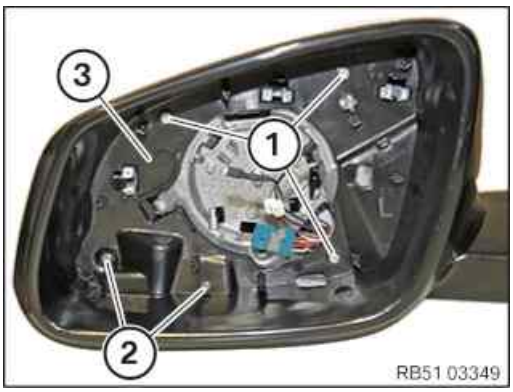
Special tools required:

- 2 405 562

Necessary preliminary tasks:

- Remove protective cap from exterior mirror
- Remove mirror drive

Removal:



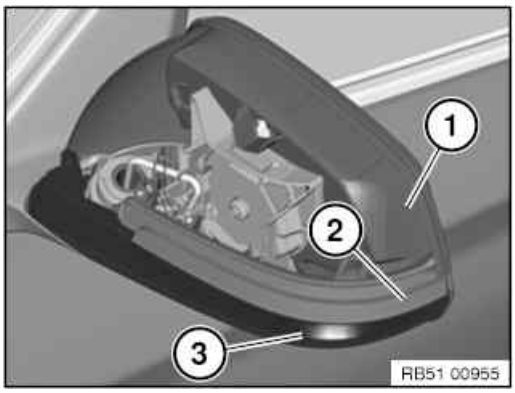
Fold exterior mirror forwards.

Loosen screws (1) from retaining ring (3) with special tool 2 405 562 .

Loosen screws (2) from retaining ring (3).

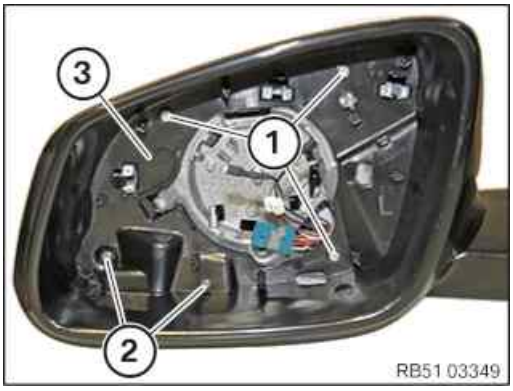
Feed out retaining ring (3).

Installation:



Note:
Make sure retaining ring (1) is correctly mounted on turn indicator (2) and housing (3).

cardiagn.com



Insert retaining ring (3).

Tighten down screws (2).

Tightening torque 51 16 4AZ.

Tighten down screws (1) with special tool 2 405 562 .

Tightening torque 51 16 4AZ.

Fold exterior mirror back.

Required follow-up work:

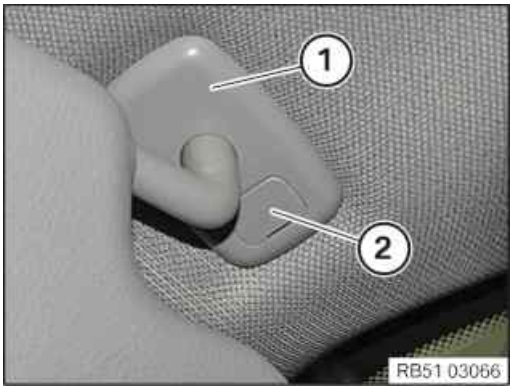
- Install mirror drive
- Install protective cap on exterior mirror

cardiagn.com

51 16 080 Removing and installing or replacing sun visor and left or right counter support

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

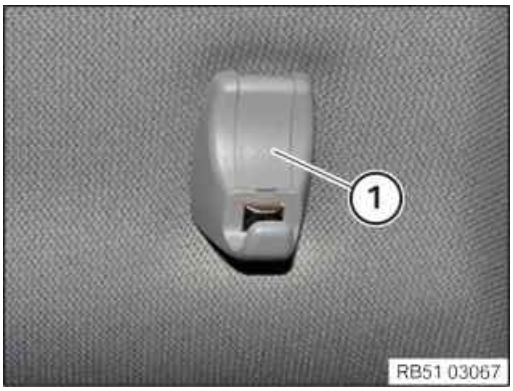
Removal:



Detach sun visor from counter support (1).

Lift off cover (2).

Pull the front sun visor (1) downwards and remove it to the front out of the guide.

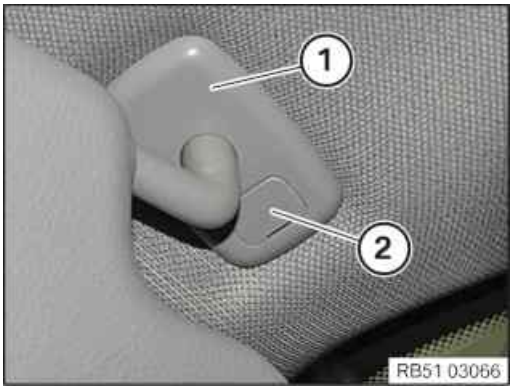


Lever out cover on counter support (1) and release screw underneath.

Remove counter supports (1).

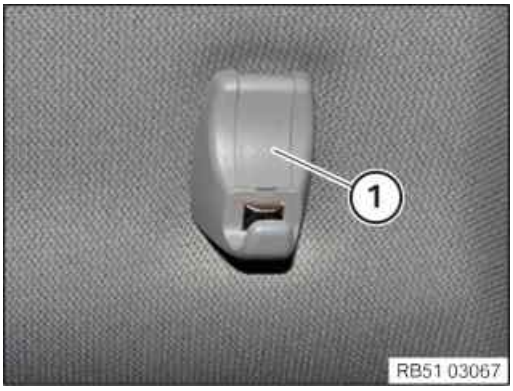
Installation:

cardiagn.com



Feed the sun visor (1) in towards the rear in the guide and engage it upwards.

Install cover (2).



Install the counter support (1) and tighten the screw.

Engage cover.

Attach the sun visor in the counter support.

Note:
If need be, perform function check on lighting.

cardiagn.com

51 16 206 Removing and installing/replacing centre armrest

Necessary preliminary tasks:

- Remove rear centre console trim

Removal:



Release nuts (1) and remove centre armrest upwards.

Installation:



Replacement:

If necessary, remount base plate

Install centre armrest and tighten nuts (1).

Tightening torque 51 16 5AZ.

Required follow-up work:

- Install rear centre console trim

cardiagn.com

51 16 160 Removing and installing/replacing centre console cover

Special tools required:

- 64 1 020

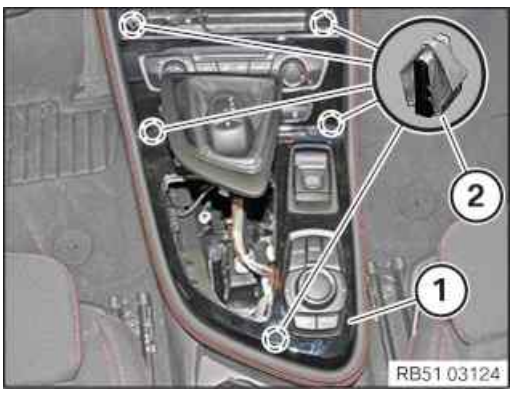
Necessary preliminary tasks:

- Remove cover for selector lever

Removal:



Lever storage compartment (1) upwards out of clips (2) using special tool 64 1 020 and remove to the rear.



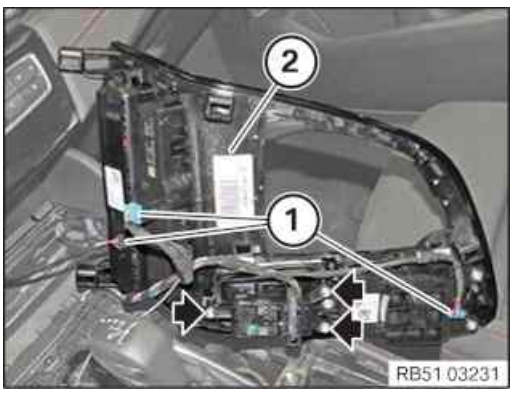
Important!

Risk of damage!

To avoid scratching the centre console cover (1) when removing the selector lever (2), mask the selector lever (2) with yellow plastic adhesive tape.

Note:
Selector lever position D makes removal of the cover (1) easier.

Lever cover (1) out of clamps (2) and feed out upwards past the gearshift lever.



Release screws at marked points.

Disconnect plug connection (1).

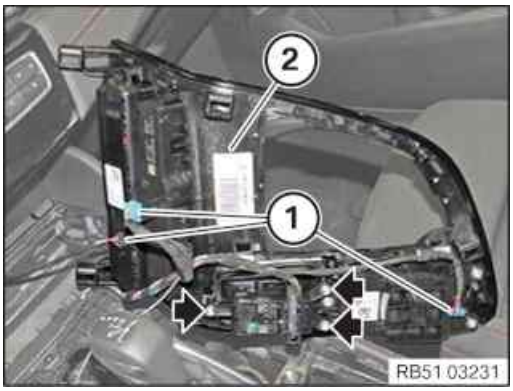
Remove centre console trim (2).

cardiagn.com

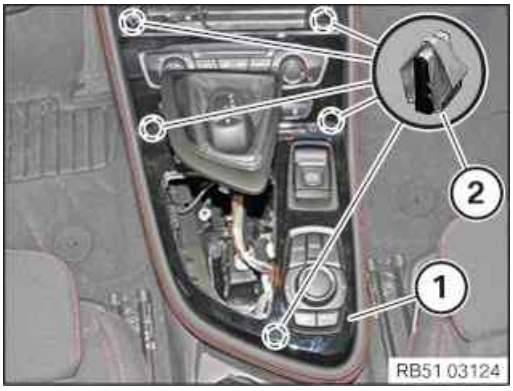
Installation:

Replacement:

- Remount the control panel of the heating and air conditioning system
- Remount controller
- Remount centre console operating unit



Position centre console cover (2) correctly.
Tighten screws at marked points.
Tightening torque 61 31 4AZ.
Connect plug connections (1) at centre console cover (2).



Note:
Selector lever position D makes installation of the cover (1) easier.

Feed in cover (1) past gearshift lever and engage in clamps (2).
Engaging sequence:

1. Centre
2. Rear (Controller area)
3. Front



Feed in storage compartment (1) and engage in clips (2).

Required follow-up work:

- Install cover for selector lever

cardiagn.com

51 16 165 Removing and installing/replacing complete centre console

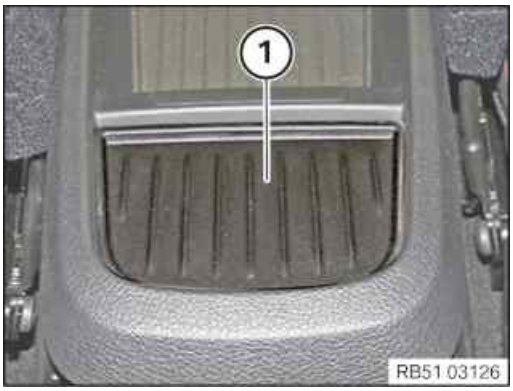
Necessary preliminary tasks:

- Remove centre console cover
- Remove rear centre console cover
- Remove USB audio interface connecting socket

Attention!

Read and comply with notes on handling wiring harnesses and cables.

Removal:

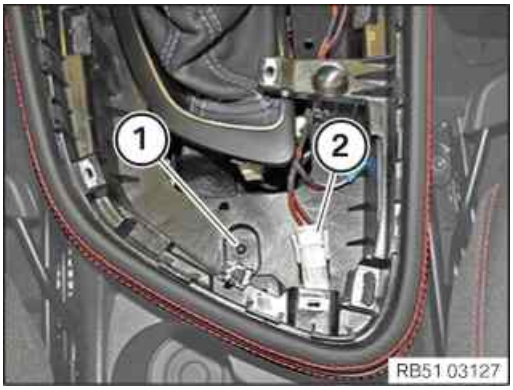


Version without centre armrest:

Lift out cover (1) and release screws underneath.

Version with centre armrest:

Remove the centre armrest.



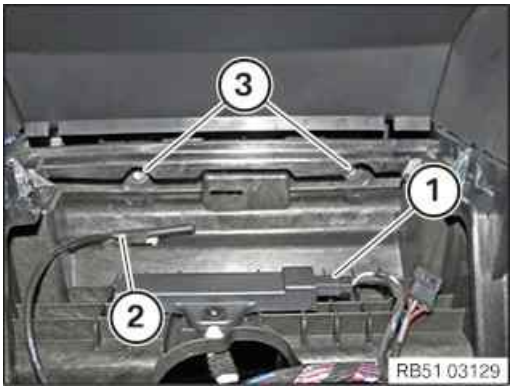
Release screw (1).

Disconnect plug connection (2).

cardiagn.com

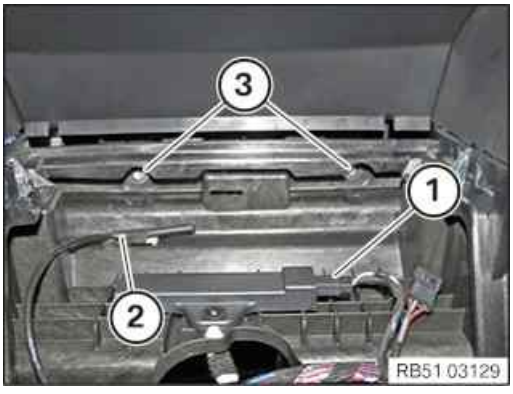


Unclip trim panel (1) as shown from centre console at bottom.



Disconnect plug connection (1).
Release aerial (2).
Loosen screws (3).
Lift up centre console at rear and feed out towards rear.

Installation:

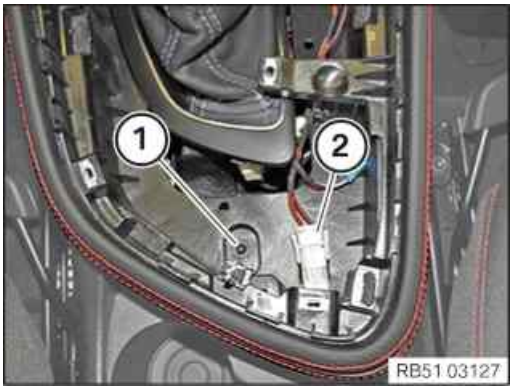


Replacement:
Remount interior aerial for Comfort Access.
Remount 12 V power socket.
Lift up centre console at rear and feed in towards front.
Connect plug connection (1).
Attach aerial (2).
Tighten down screws (3).
Tightening torque 51 16 7AZ.



Clip in trim panel (1) onto centre console at bottom.

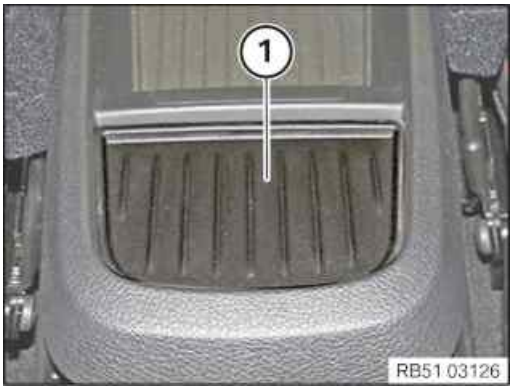
cardiagn.com



Tighten screw (1).

Tightening torque 51 16 7AZ.

Connect plug connection (2).



Version with centre armrest:

Install the centre armrest.

Version without centre armrest:

Tighten screws and install cover (1).

Tightening torque 51 16 7AZ.

Required follow-up work:

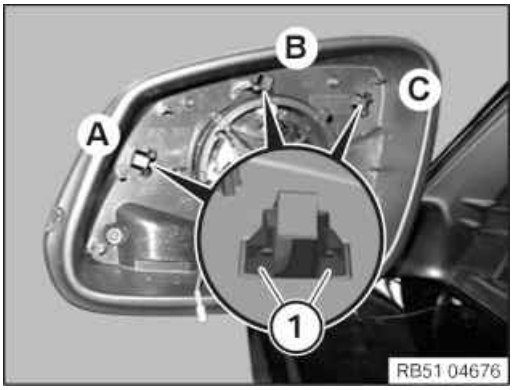
- Fit centre console cover
- Install rear centre console trim
- Install connecting socket for USB audio interface

cardiagn.com

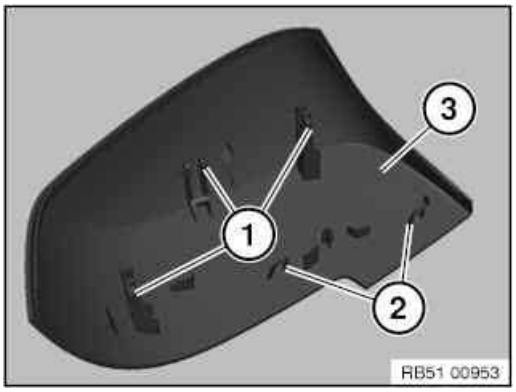
51 16 041 Removing and installing/replacing cover cap on left or right exterior mirror

Necessary preliminary tasks:

- Remove mirror glass



Compress the latch mechanisms (1) in the sequence (A), (B) and (C) and at the same time pull the protective cap outwards.



Installation note:
Latch mechanisms (1) and guides (2) on protective cap (3) must not be damaged or missing.

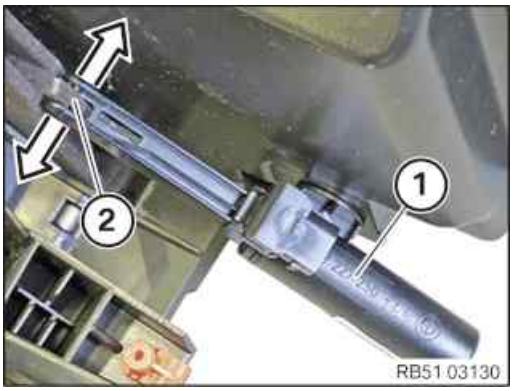
cardiagn.com

51 16 383 Removing and installing/replacing damper for glove box

Necessary preliminary tasks:

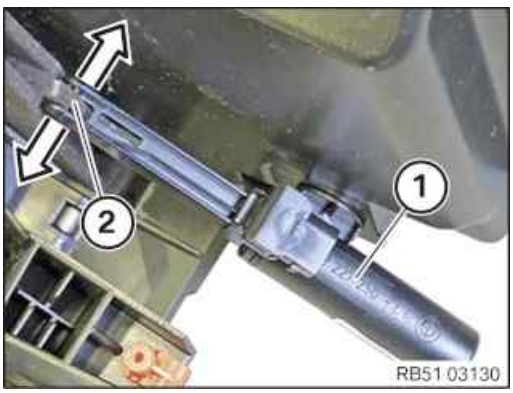
- Remove right glove box with housing

Removal:



Release damper (1) from retaining bracket (2).
Twist judder damper (1) by approx. 90° and remove it.

Installation:



Insert judder damper (1) and twist by approx. 90°.
Engage damper (1) on retaining bracket (2).

Required follow-up work:

- Install right glove box with housing

cardiagn.com

51 16 040 Removing and installing/replacing housing on left or right exterior mirror

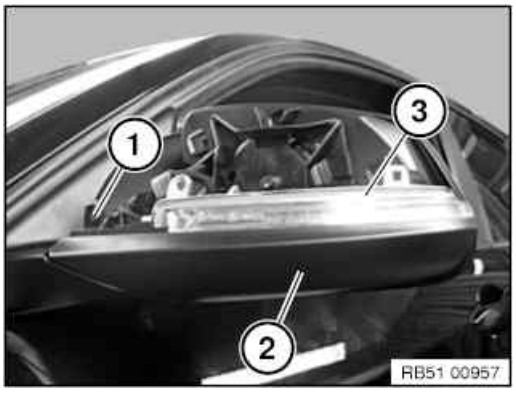
Necessary preliminary tasks:

- Remove protective cap on exterior mirror
- Remove mirror drive

Removal:



Release screws (1).

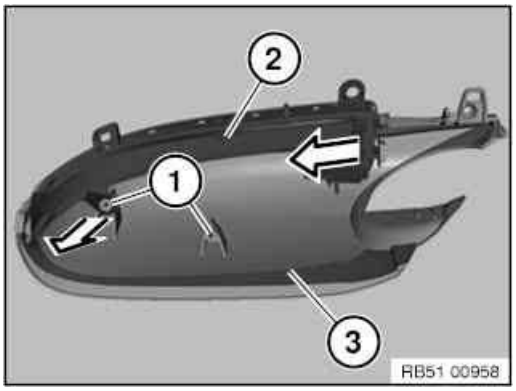


Release screw (1).

Remove housing (2) carefully and disconnect plug connection at side repeater (3).

Installation:

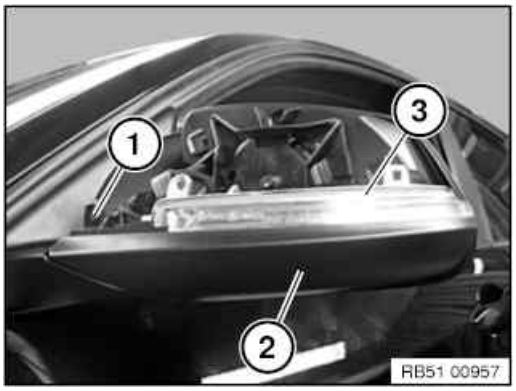
cardiagn.com



Note:
Screw holes (1) must not be damaged.

Replacement:

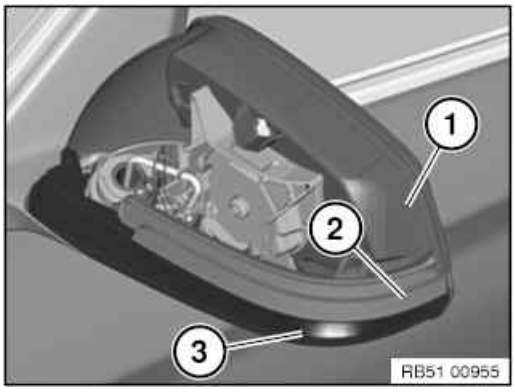
Feed side repeater (2) out of housing (3) in direction of arrow.



Carefully feed in housing (2) and connect plug connection to side repeater (3).

Tighten screw (1).

Tightening torque 51 16 3AZ



Note:
Make sure retaining ring (1) is correctly mounted on side repeater (2) and housing (3).



Tighten down screws (1).

Tightening torque 51 16 3AZ

Required follow-up work:

- Install protective cap on exterior mirror
- Install mirror drive

cardiagn.com

51 16 063 Removing and installing/replacing interior mirror (as of 07/2011)

Important!

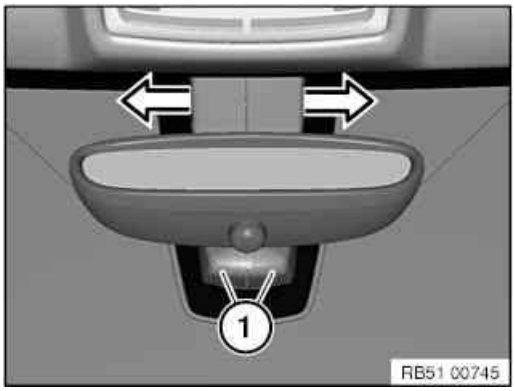
Work may only be carried out at a room/object temperature of 18 ... 28 °C.

If this can not be guaranteed (cold/hot countries), it is necessary to equalise 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).

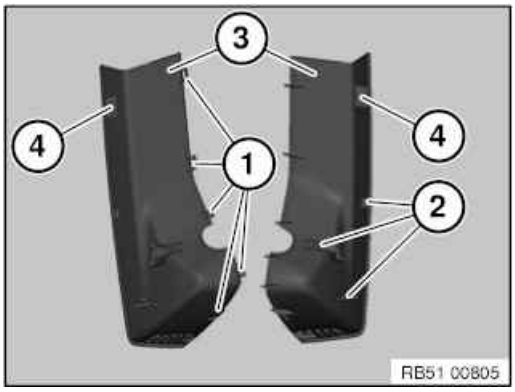
Important!

<u>To avoid windscreen breakage:</u>

When removing mirror base, never turn or disengage towards front or rear.



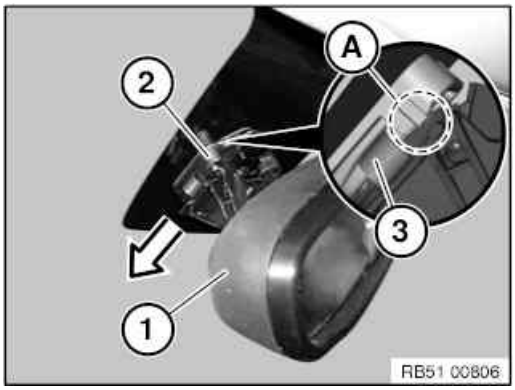
Unclip end caps (1) in direction of arrow using a suitable tool and remove.



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).

cardiagn.com



Important!

Risk of damage!

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).

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).



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):

Normalisation or initialisation 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.

cardiagn.com

51 16 063 Removing and installing/replacing interior mirror (overview)

Important!

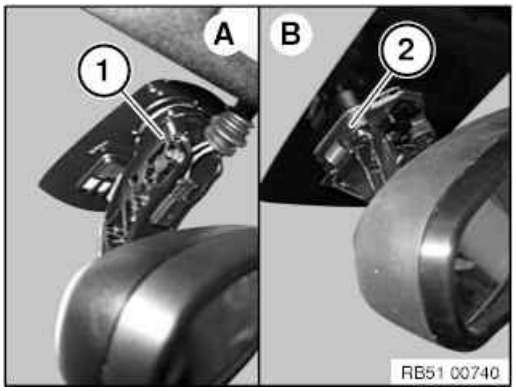
Interior mirrors with modified mirror base will be installed as of series launch F20 and for all subsequent series launches.

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 document 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".

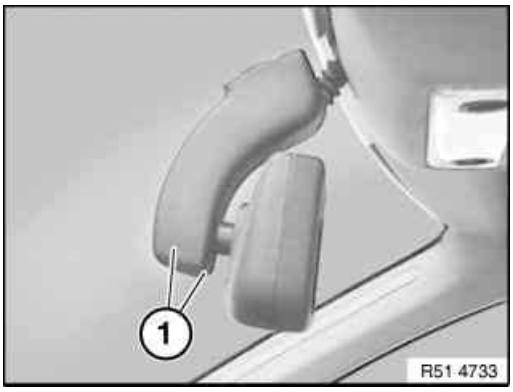


Distinguishing feature:

(A) previous version, small mirror base (1) with round base plate on windscreen.

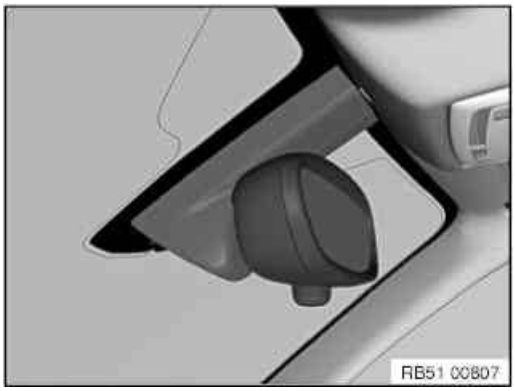
(B) new version, large mirror base (2) with square base plate on windscreen.

Note:
Dismantling of mirror cap is identical on both versions.



Version with mirror arm end cap:

- Previous version.



Version with mirror arm end cap:

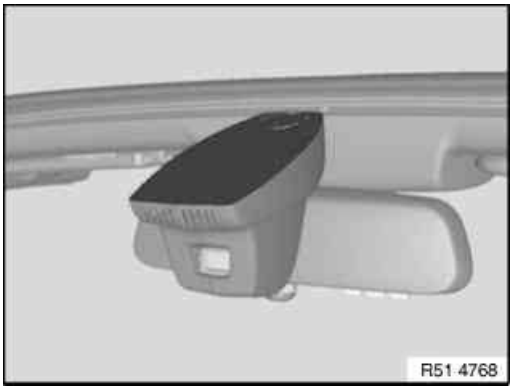
- New version.

cardiagn.com



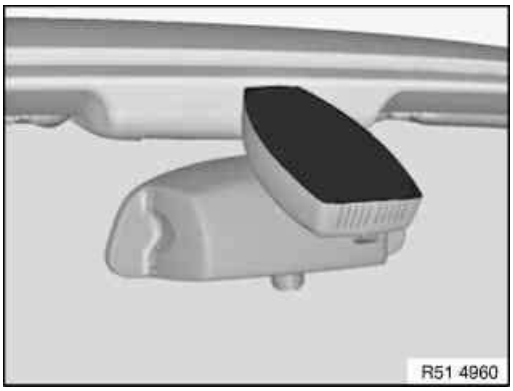
Version with rain sensor:

- Previous version.
- New version.



Version with Autobeam:

- Previous version.
- New version.



Version with Toll interior mirror for Japan:

- Previous version.
- New version.

cardiagn.com

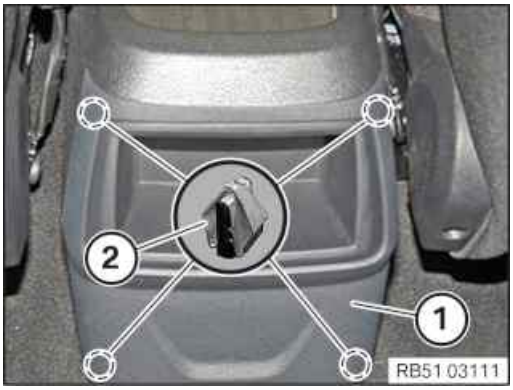
51 16 163 Removing and installing/replacing rear centre console cover

Special tools required:

- 00 9 325

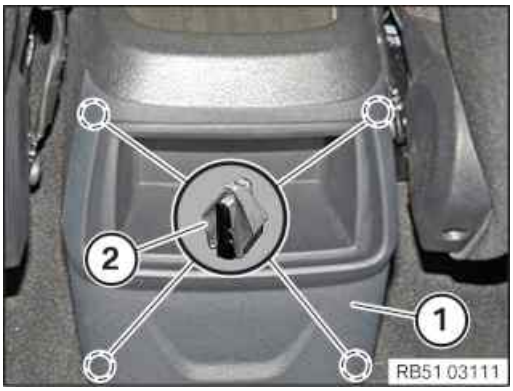
When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Removal:



Lever out and remove trim (1) from the clamps (2) using special tool 00 9 325 .

Installation:



Engage trim (1) in clamps (2).

cardiagn.com

51 16 450 Removing and installing/replacing rear left/right grab handle



Operation is identical to:

Removing and installing/replacing front grab handle.

cardiagn.com

51 16 366 Removing and installing/replacing right glove box with housing

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

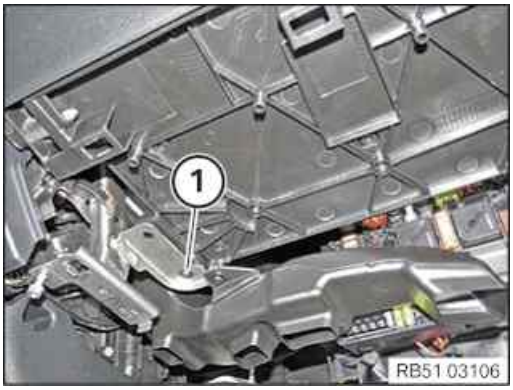
Necessary preliminary tasks:

- Remove side panel on instrument panel on right
- Remove side trim panel from footwell on right A-pillar
- Remove instrument panel trim, bottom left

Removal:



Release screw (1).



Release screw (1).

cardiagn.com



Release screws (1).

Remove glove box (2) inwards and disconnect associated plug connections.

Installation:

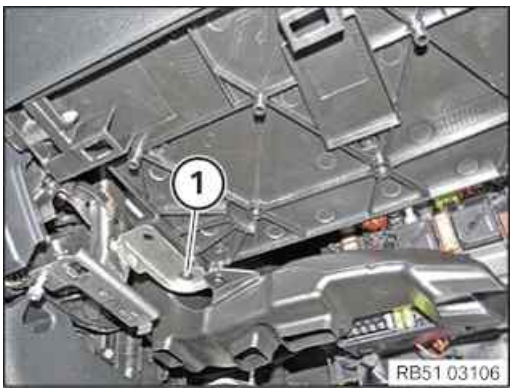
When replacing, swap over the following parts:

- Glove box damper
- Glovebox light



Install glove box (2) and connect the corresponding plug connections.

Tighten down screws (1).



Tighten screw (1).

cardiagn.com



Tighten screw (1).

Required follow-up work:

- Install instrument panel trim, bottom right
- Install side panel on instrument panel, right
- Install footwell side trim panel on right A-pillar

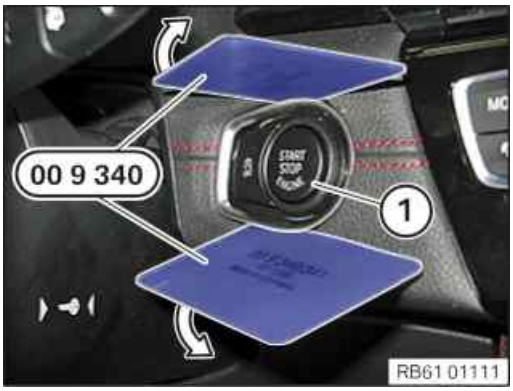
cardiagn.com

61 31 014 Removing and installing/replacing Start/Stop switch

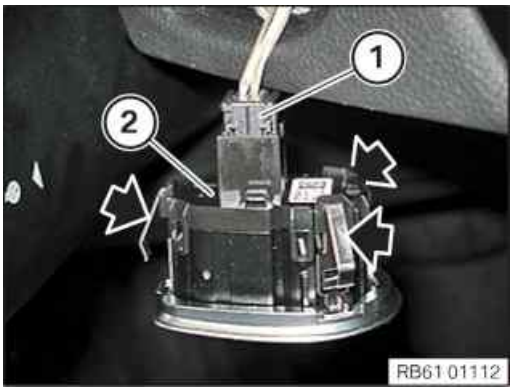
Special tools required:

- 00 9 340

Removal:

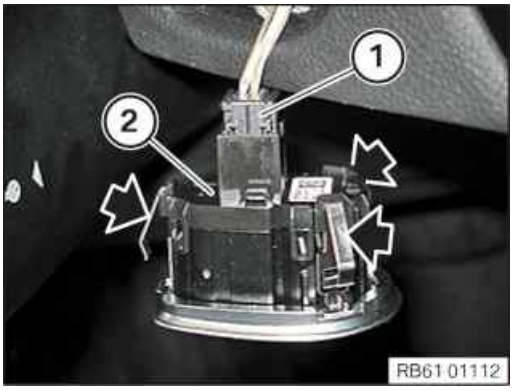


Lift out start/stop button (1) using special tool 00 9 340 .



Unlock and disconnect the connector (1).

Installation:



Note:
The retaining clips on the start/stop button (2) must not be damaged or missing.

Connect the connector (1).

cardiagn.com



Join start/stop button (1) with instrument panel trim.

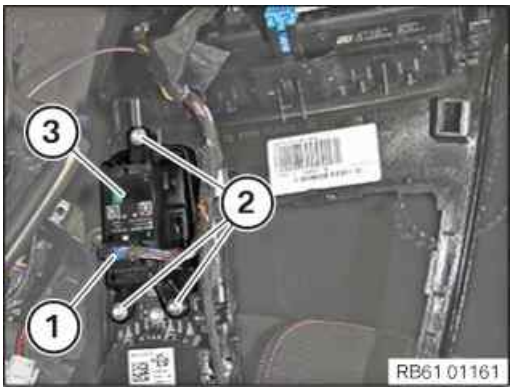
cardiagn.com

61 31 172 Removing and installing/replacing switch for electromechanical parking brake

Necessary preliminary work:

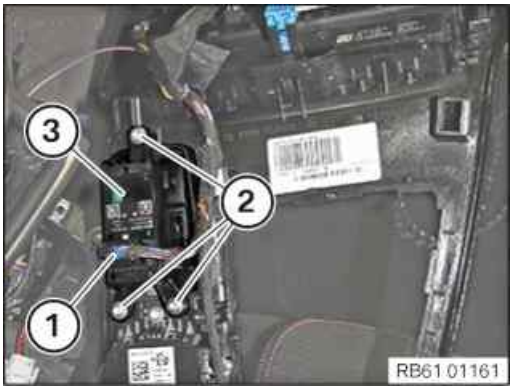
- Disconnect battery earth lead
- Partially remove the centre console trim

Removal:



Unlock connector (1) and disconnect (see next figure).
Release all screws (2).
Remove switch for electromechanical parking brake (3).

Installation:



Join switch for electromechanical parking brake (3).
Tighten all screws (2).
Tightening torque 61 31 4AZ.
Connect the connector (1).

Required reworking:

- Connect battery earth lead
- Install the centre console trim

cardiagn.com

51 16 210 Removing and installing/replacing trim for selector lever

Special tools required:

- 00 9 340

Removal:



Pry out cover (1) using special tool 00 9 340 all around and remove upwards.

Installation:



Position cover (1) and clip in all round.

cardiagn.com

67 13 001 Replacing drive unit for electrically operated left or right exterior mirror

Necessary preliminary tasks:

- Remove mirror glass

Removal:



Release screw (1).

Disconnect connector (2).

Remove the drive (3).

Installation:



Connect connector (2).

Position drive (3) correctly.

Tighten screw (1).

Tightening torque 67 13 1AZ.

Note:
Make sure drive (3) is correctly fitted.

Required reworking:

- Install mirror glass

cardiagn.com

51 16 026 Replacing mirror glass for exterior 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 protective goggles and cut-proof gloves.

Danger of injury by flaking-off glass splinters.

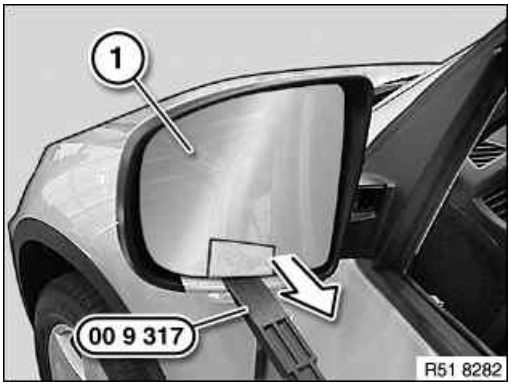
Important!

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.

Removal:



Press mirror glass (1) at top by hand to full extent.

Note:
Secure mirror glass (1) against falling out.

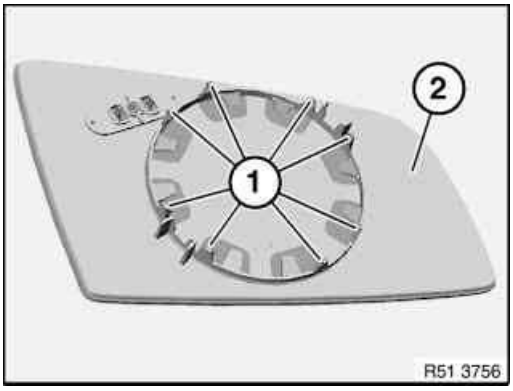
Unclip mirror glass (1) at bottom with special tool 00 9 317 .

Unlock associated plug connections and disconnect.

Remove the mirror glass (1).

Installation:

cardiagn.com



Note:
Retaining lugs (1) must not be damaged.

Fit mirror glass (2) with retaining lugs (1) flush on mirror adjusting drive and clip into place.

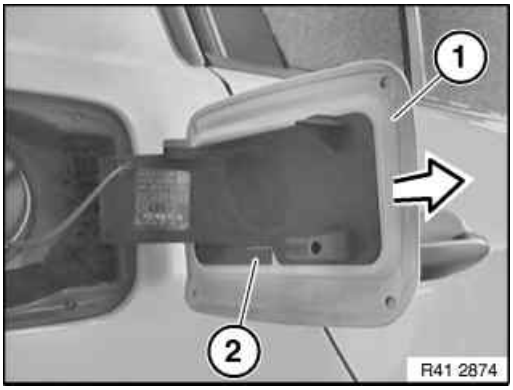
Ensure correct locking.

Make sure mirror adjusting drive functions correctly.

cardiagn.com

41 63 000 Removing and installing the fuel filler flap

Note: The illustration is a schematic diagram and is to be applied to the relevant vehicle type.



Open fuel filler flap.

Lift out the lockÂ (2) and detach the fuel filler flap (1) in direction of arrow.

cardiagn.com

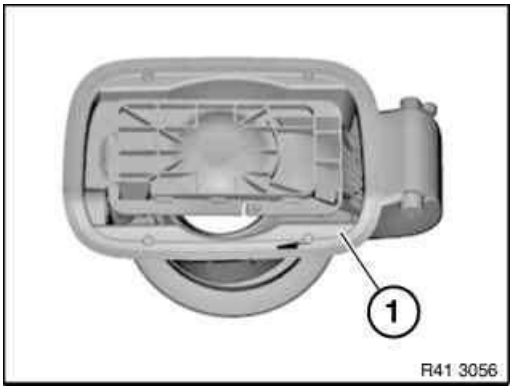
41 63 003 Replace cover bowl

Necessary preliminary tasks:

- Remove right rear wheel
- Remove rear right wheel arch cover
- Remove flap for fuel filler neck

Attention!

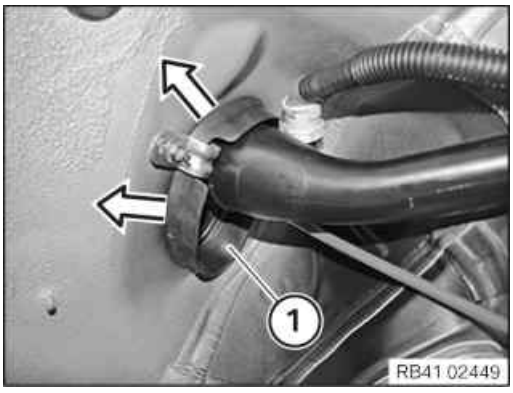
Deformation of the sheet metal flanges in the side panel and the wheel arch results in permanent vehicle leakage. Carry out removal/installation with great care.



Following new body parts are required (see Electronic Parts Catalogue):

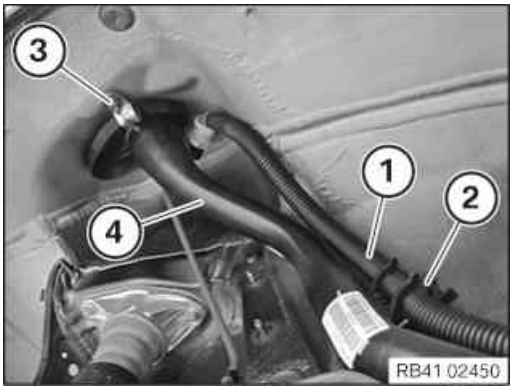
- (1) Cover bowl
- Plastic nut for mounting fuel filler pipe

Removal:



Press sealing cup (1) through to the outside.

cardiagn.com

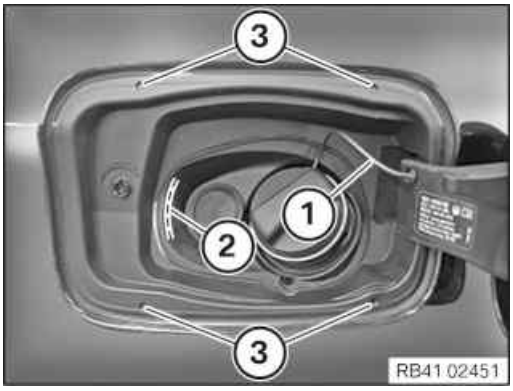


Unclip tank ventilation line (1).

Release nuts (2) and (3).

Slacken the fuel filler pipe (4).

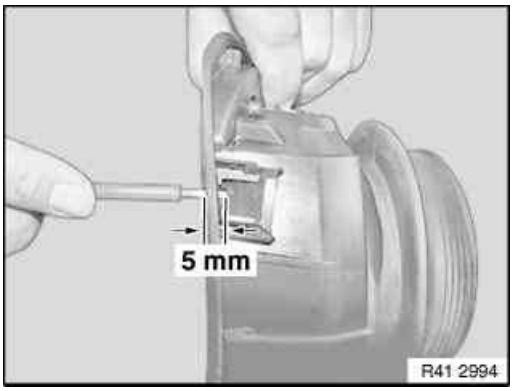
Installation note:
Renew plastic nut.



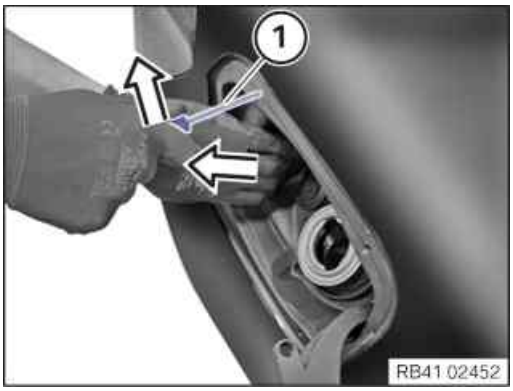
Lift out the retaining strap (1) and remove the lid.

Cut through protective tube in area (2) approx. 50 mm.

Pierce markings (3) with a small screwdriver.



Insert screwdriver to a depth of max. 5 mm to unlock cover bowl latch mechanisms.



Hold cover bowl slightly under tension in removal direction.

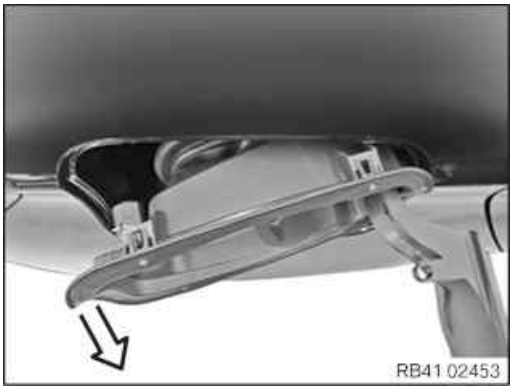
Unlock latch mechanisms individually with screwdriver (1) in direction of arrow.

Unlock catches in following order:

1. Top left
2. Bottom left
3. Top right
4. Bottom right

Move screwdriver in opposite direction at both lower catches.

cardiagn.com

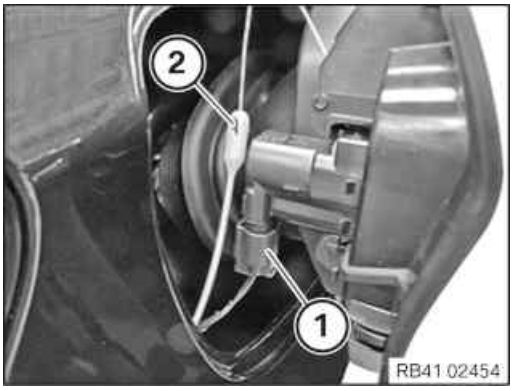


Press fuel filler pipe to rear.

Attention!

Do not damage sheet metal flange of side wall.

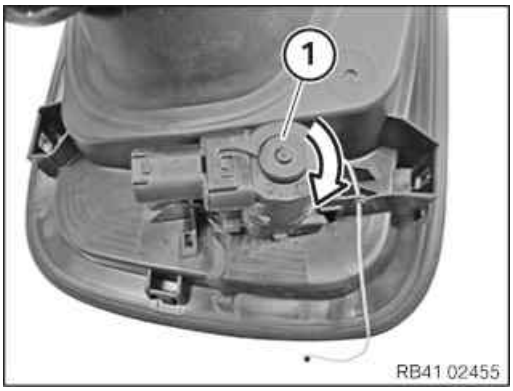
Carefully unscrew the cover bowl in direction of arrow up to the position shown.



Unlock and disconnect plug connection (1) for actuator drive.

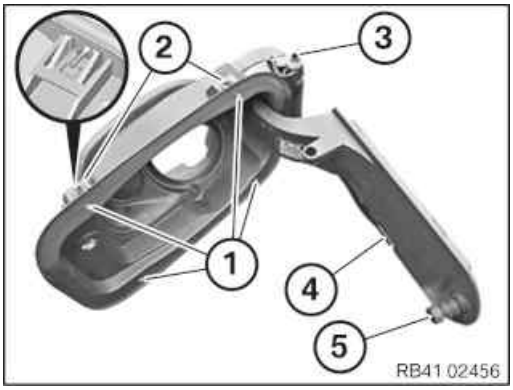
Release pull for emergency release at separation point (2).

Remove cover pot.



Loosen controller drive (1) in the direction of the arrow to remove it.

Installation:



Following parts of cover housing not be damaged or missing:

1 Marks

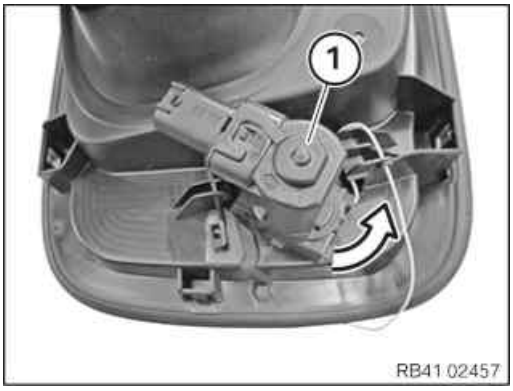
2 Latch mechanisms, top/bottom

3 Spring

4 Catch

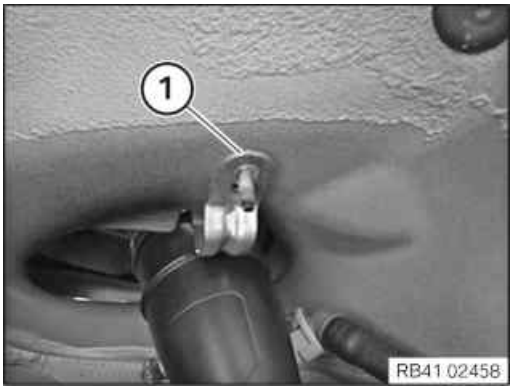
5 Lock

cardiagn.com



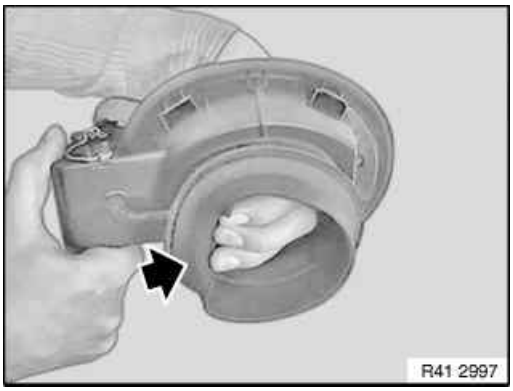
Insert controller drive (1) in the direction of the arrow and lock in place.*Note:* Make sure the servo drive for fuel filler flap is correctly installed!

Check central locking system of the controller drive before installing the cover bowl.



Clean **contact surface** (1) on body and ground connection at fuel filler pipe.

The ground connection must be guaranteed.



Schematic diagram.

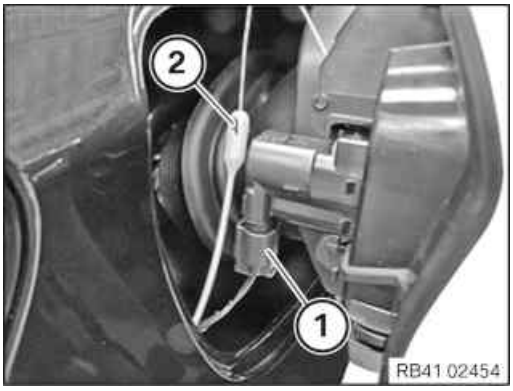
Turn sealing sleeve in area of hinge inwards and hold.



Carefully insert cover bowl up to the position shown and place sealing cup over fuel filler pipe.

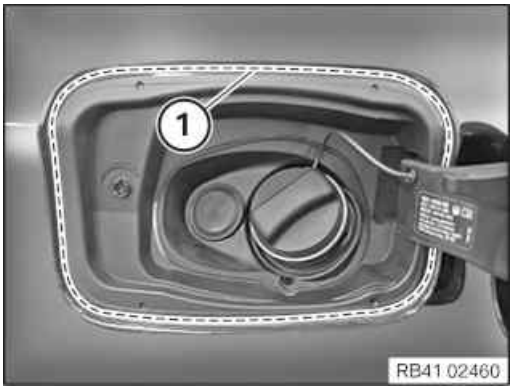
Press fuel filler pipe to rear when doing this.

cardiagn.com



Connect plug connection (1) for the controller drive.

Connect pull for emergency release at separation point (2).

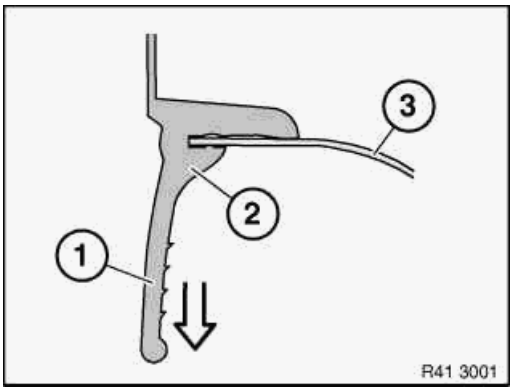


Install cover bowl.**Attention!**

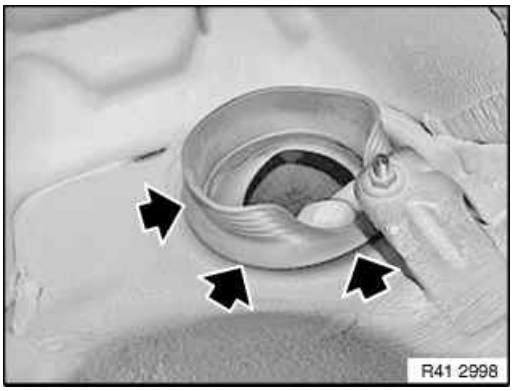
Do not damage sheet metal flange of side wall.

Cover bowl must audibly snap into place 4 times.

There must be no visible gap between sealing lip and side panel in area (1).



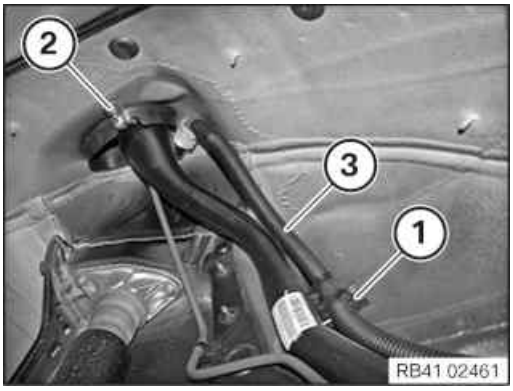
Using fitting aid (1), pull sealing lip (2) over sheet metal flange of wheel arch (3).



Check that sealing lip is correctly seated.*Note:*
Shown without fuel filler pipe for clarity.

Schematic diagram.

cardiagn.com



Check seat of fuel filler pipe for correct installation position and correct if necessary.

Tighten nuts (1) and (2).

Clip tank ventilation line (3) into holder.

Installation note:
Renew plastic nut.

Tightening torque 16 11 1AZ.

Required reworking:

- Install flap for fuel filler neck
- Installing the rear wheel arch cover on the right
- Installing the rear wheel on the right

cardiagn.com

51 21 004 Adjusting front left or right lock striker



Operation is described in:

Adjusting left or right front door.

cardiagn.com

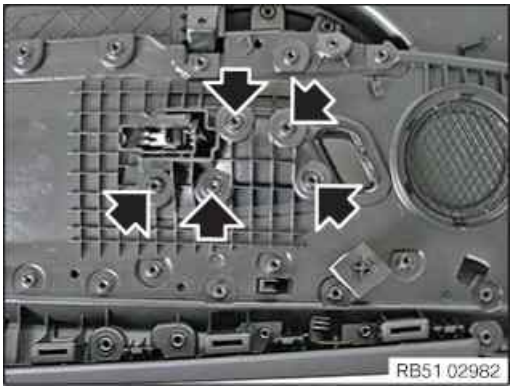
51 21 225 Removing and installing or replacing inside door opener in left or right front door

Necessary preliminary tasks:

- Remove Bowden cable for door opener
- Remove switch for central locking

Note:
Door opener is welded to door trim panel only on initial installation. The door opener is screw-connected on second installation. If applicable, release screws instead of welding spots.

Removal:



Important!

Risk of damage!

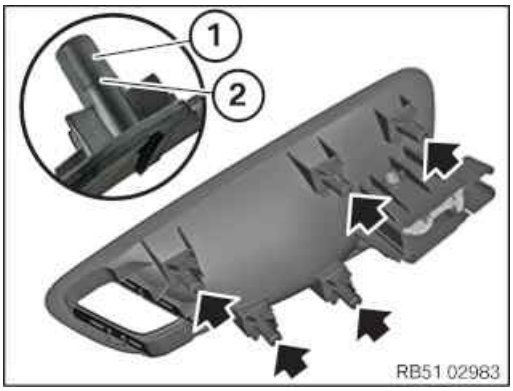
To avoid damaging contact surface, only drill/grind to the main surface of the door trim panel.

Drill out/grind down welding spots.

Remove door opener from outside.

Remove welding remnants on door trim panel with a scalpel.

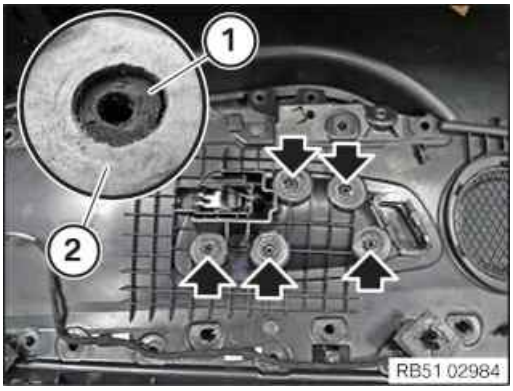
Installation:



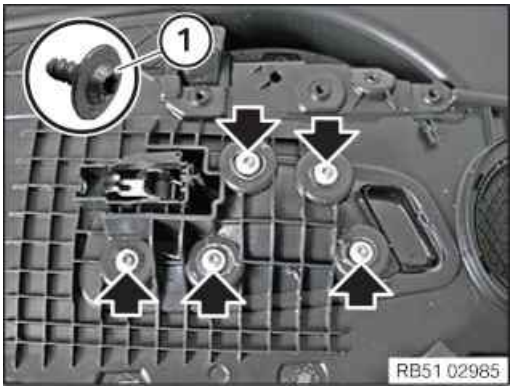
Replacement:

Saw off weld pins (1) along moulding (2).

cardiagn.com



Insert door opener (2) in door trim panel.*Note:*
Welding pins (1) must not protrude over door trim panel (2).



Secure armrest with the repair screws (1).
Tightening torque 51 41 4AZ.

Required follow-up work:

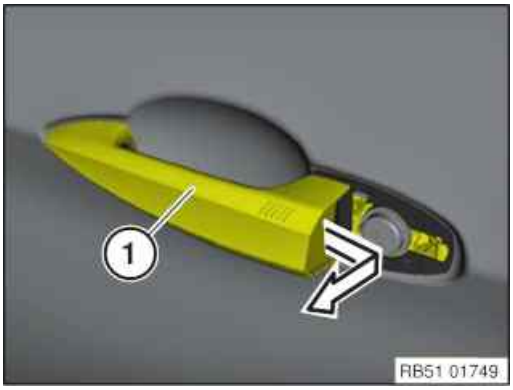
- Install switch for central locking system
- Install Bowden cable for door opener

cardiagn.com

51 21 170 Removing and installing or replacing outer door handle from left or right front door

Necessary preliminary tasks:

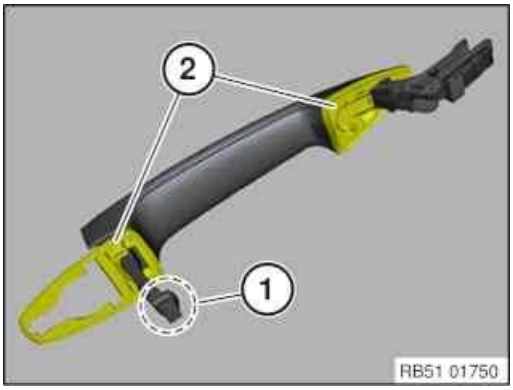
- Remove cover on outside door handle



Pull out outer door handle (1) and feed out in direction of arrow.

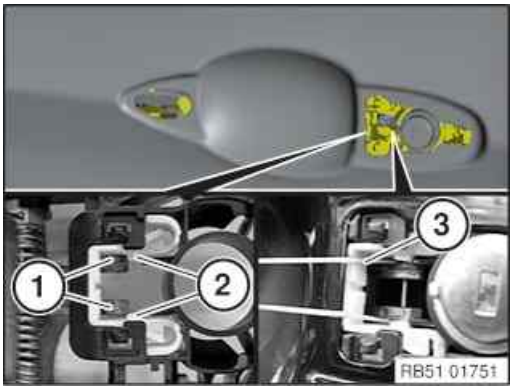
Version with Comfort Access/light package:

Carefully manoeuvre out outer door handle (1) and unplug associated electrical connector.



Installation note:
Locator (1) must not be damaged.

Gaskets (2) must not be damaged.



Installation note:
When outer handle is removed the lock actuator (1) is held in fitting position by retaining springs (2).

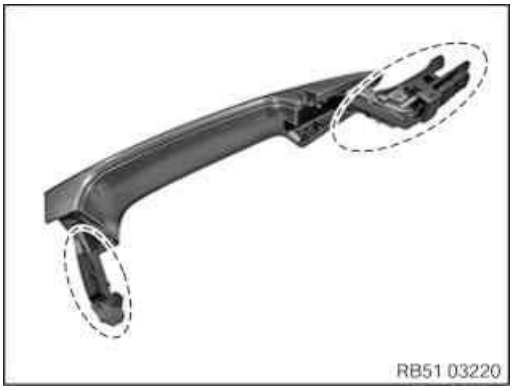
If the lock actuator is not in fitting position:

- Use string (3) to pull lock actuator (1) outwards and hold in position.
- Fit outer handle and insert into lock actuator correctly (1).
- Remove string (3)

Carry out function check only with door open.

Replacement

cardiagn.com



Version with Comfort Access:

Check outer door handle for proper function before painting.

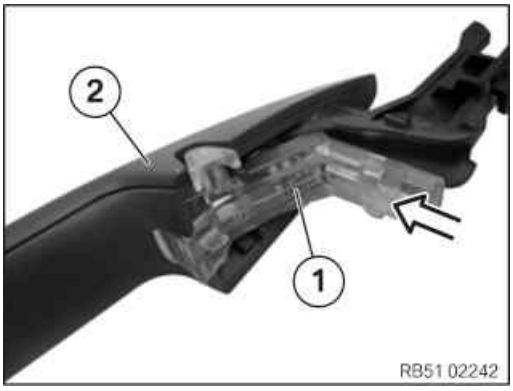
Connect all connectors to outer door handle and wait approx. 10 seconds.

Perform convenient closing/opening.

Paint outer door handle before installation.

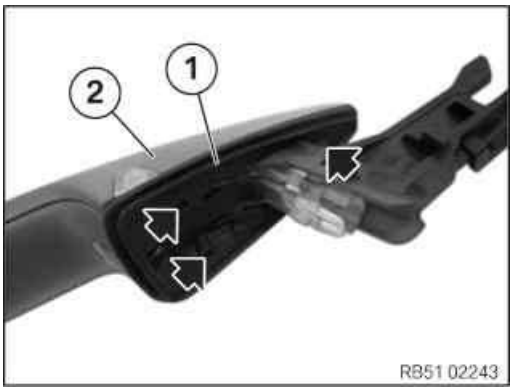
Do not paint the marked area of the outer door handle.

Do not exceed drying temperature of 60 °C.



Version with light package:

Clip lighting unit (1) into outer door handle (2) in direction of arrow.



Attach gasket (1) to outer door handle (2).

Ensure gasket (1) is seated correctly.

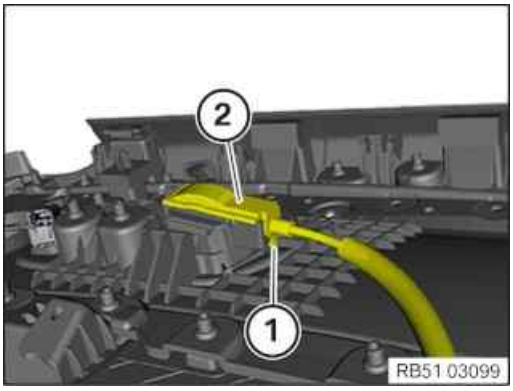
cardiagn.com

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

Removal:



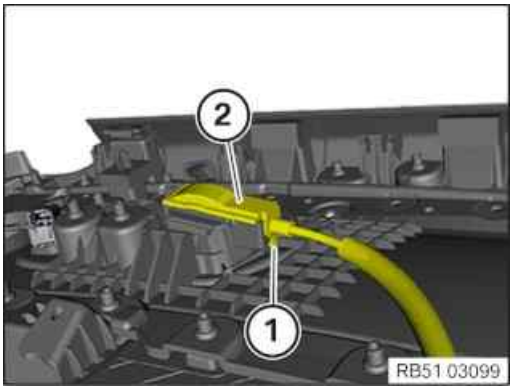
Release lock (1) and remove Bowden cable (2) upwards; the Bowden cable feeds out automatically.

Installation:



To install the Bowden cable, press inner door handleÂ (1) in direction of arrow.

cardiagn.com



Engage Bowden cable (2) in lock (1) towards front/bottom.

Required reworking:

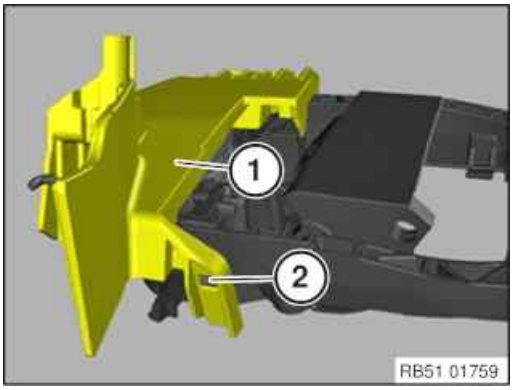
- Install front door trim panel

cardiagn.com

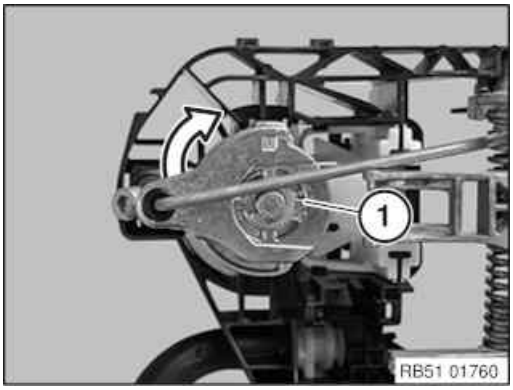
51 21 140 Removing and installing/replacing complete lock barrel in left or right front door

Necessary preliminary tasks:

- Remove carrier for outer door handle



Detach trim (1) at catch (2) and remove.



Twist lock barrel (1) in direction of arrow and remove.

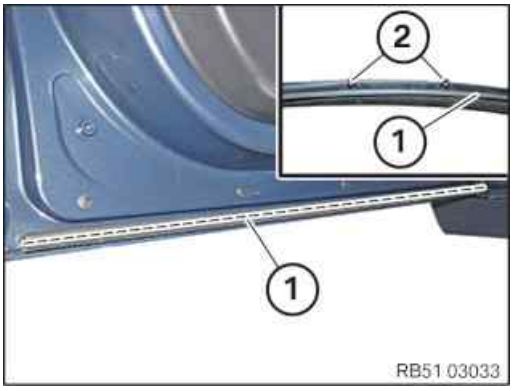
cardiagn.com

51 21 370 Removing and installing/replacing cover at bottom left or right on front door

Special tools required:

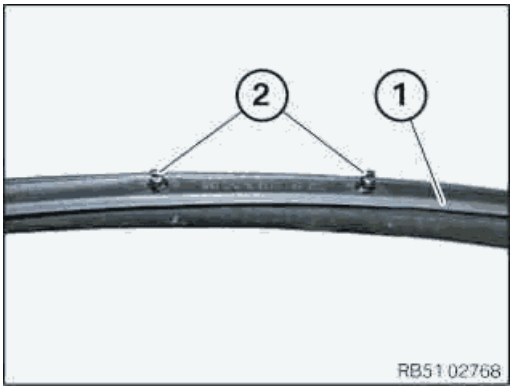
- 2 298 505

Removal:



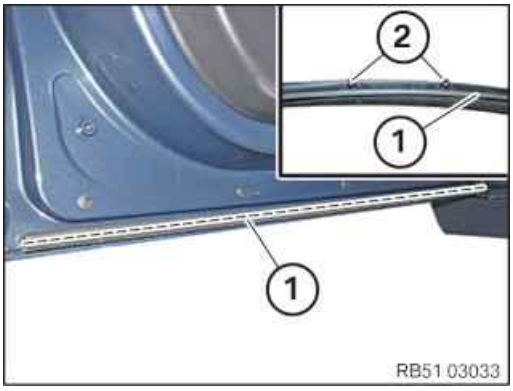
Unclip the clips (2) along the dotted line using special tool 2 298 505 .
Remove cover (1).

Installation:



Note:
The clips (2) of the cover (1) must not be damaged or missing.

cardiagn.com

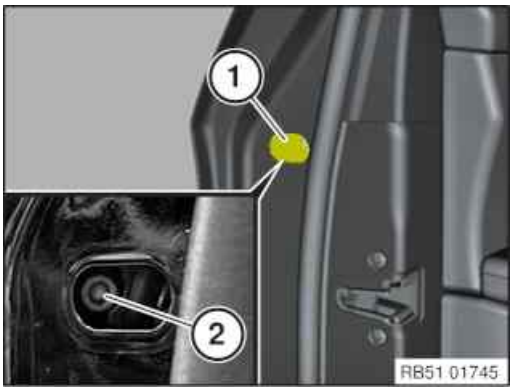


Install the cover (1).

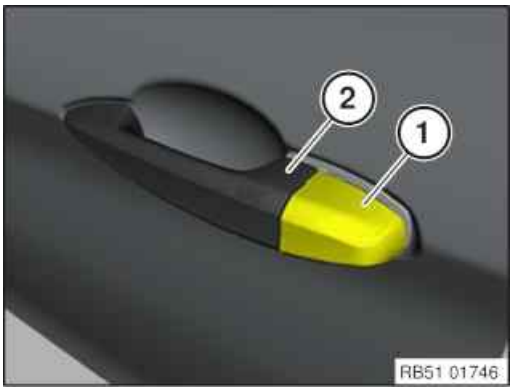
Clip in the clips (2) along the dotted line.

cardiagn.com

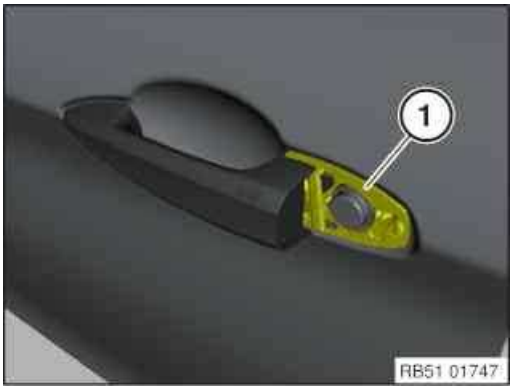
51 21 180 Removing and installing/replacing cover on outside door handle



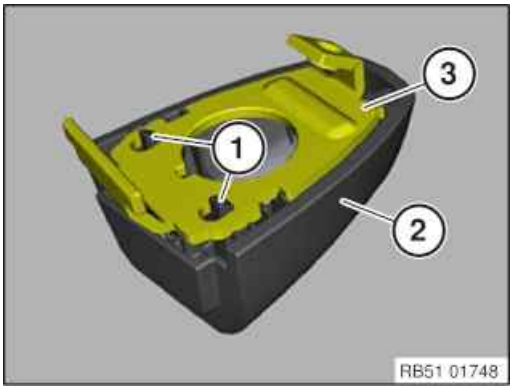
Lever out trim (1) and release screw underneath (2).*Installation note:*
Replace faulty cover (1).



Pull off cover (1) with outer door handle (2) opened slightly.



Installation note:
Ensure gasket (1) is seated correctly.



Installation note:
Latch mechanisms (1) of cover (2) must not be damaged.

Replacement:

Remove cover (2) from retaining plate (3).

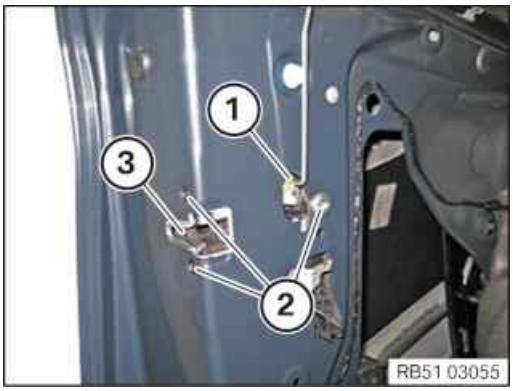
cardiagn.com

51 21 092 Removing and installing/replacing door lock in left or right driver's door (front passenger door)

Necessary preliminary tasks:

- Remove support for outer door handle (only on driver's side)
- Partially remove sound insulation on front door

REMOVAL:



Important!

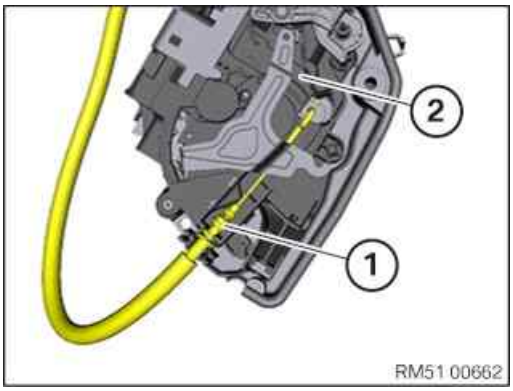
Do not damage door lock seal when removing.

Unclip locking rod (1).

Unfasten screws (2).

Disconnect plug connection on door lock (3).

Feed out door lock (3).

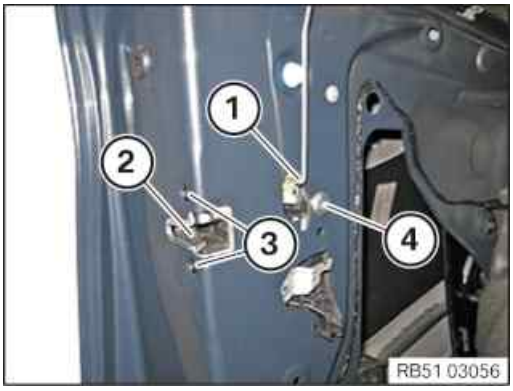


Replacement:

Remount Bowden cable (1).

INSTALLATION:

cardiagn.com



Insert door lock and screw in screws (3 and 4).

First tighten screws (3) and then tighten the screw (4) on the door lock (2).

Tightening torque 51 21 1AZ.

Connect plug connection on door lock (2).

Clip in locking rod (1).

Required reworking:

- Install support for outer door handle (only on driver's side)
- Install sound insulation in front door

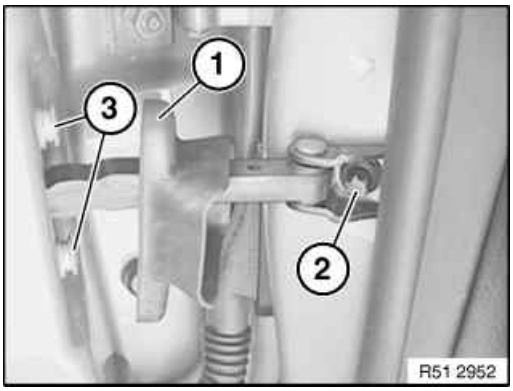
cardiagn.com

51 21 280 Removing and installing/replacing door stop on left or right front door

Necessary preliminary tasks:

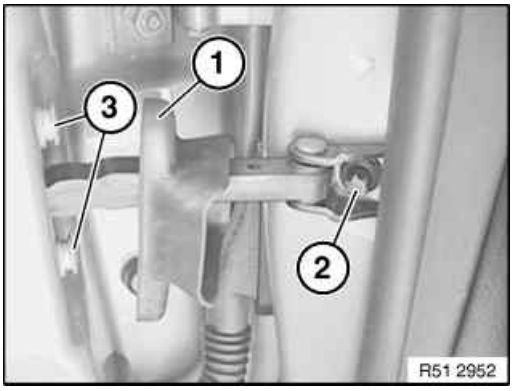
- Remove sound insulation
- Close door window completely

REMOVAL:



Feed out gasket (1) from screws (3).
Release screw (2).
Release screws (3).

INSTALLATION:



Tighten screw (2).
Tightening torque 51 21 3AZ.
Tighten down screws (3).
Tightening torque 51 21 4AZ.
Mount gasket (1).

Required reworking:

- Install sound insulation

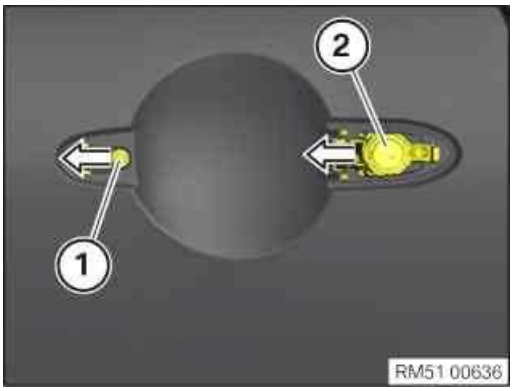
cardiagn.com

51 21 125 Removing and installing/replacing support for left or right outer door handle with lock barrel

Necessary preliminary tasks:

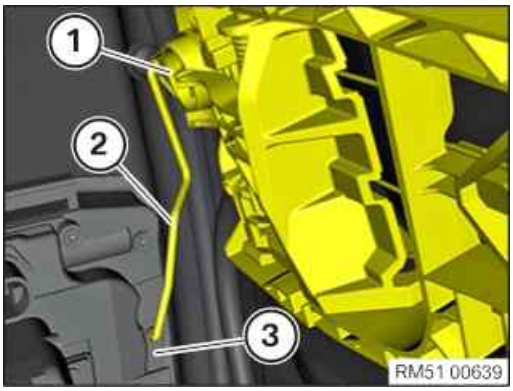
- Remove outer handle
- Partially remove front sound insulation

Removal:



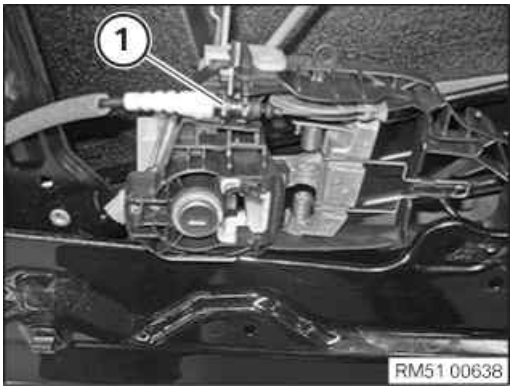
Release screw (1).

Slide support (2) forwards and thread out inwards.



Move support (1) forwards and detach actuator rod (2) from door lock (3).

Thread support (1) out from door.



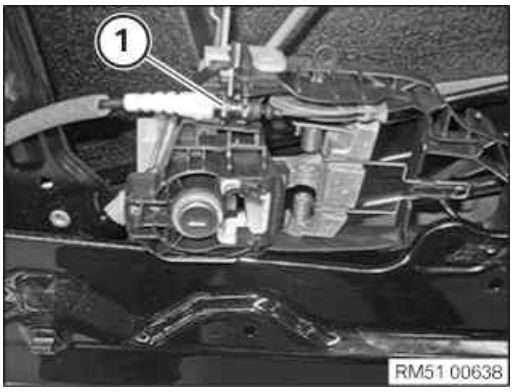
Detach cable (1) and remove support.

cardiagn.com

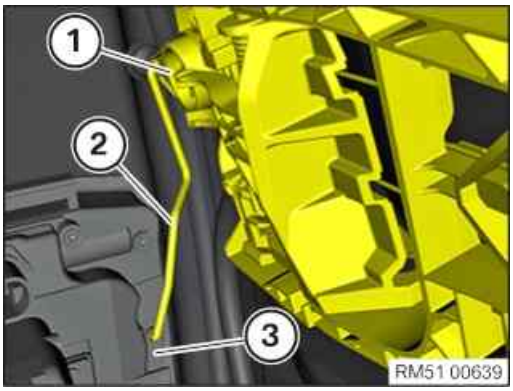
Replacement:

If necessary, swap over lock barrel.

INSTALLATION:

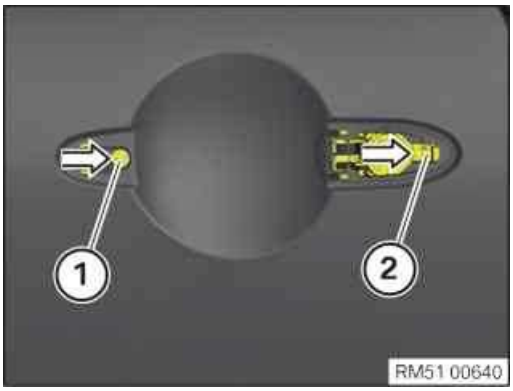


Attach cable (1).



Thread support (1) into door.

Attach actuator rod (2) to door lock (3).



Thread support (2) backwards into mounting.

Tighten down screw (1).

Required reworking:

- Install outer door handle
- Install sound insulation

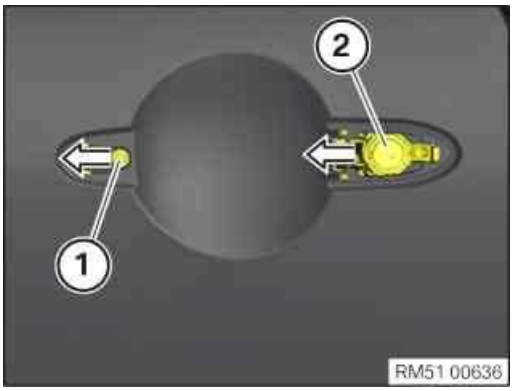
cardiagn.com

51 21 126 Removing and installing/replacing support for left or right outer door handle without lock barrel

Necessary preliminary tasks:

- Remove outer handle
- Remove front sound insulation

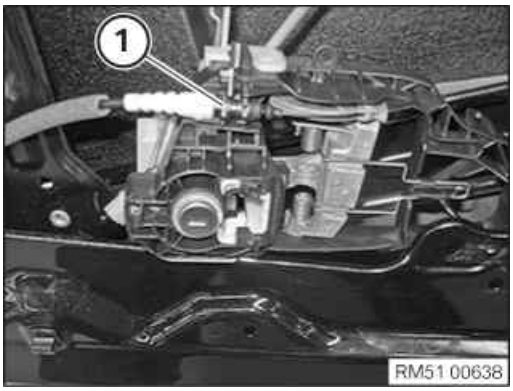
Removal:



Loosen screw (1).

Slide support (2) forwards and thread out inwards.

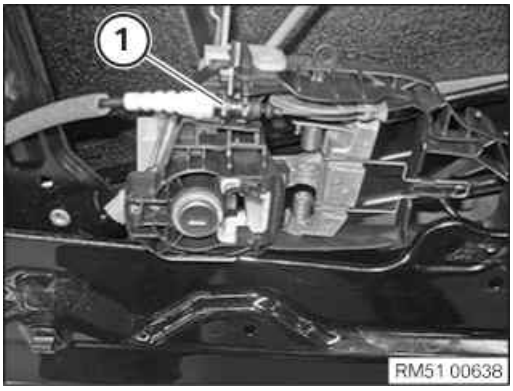
Thread support (2) out from door.



Detach cable (1) and remove support.

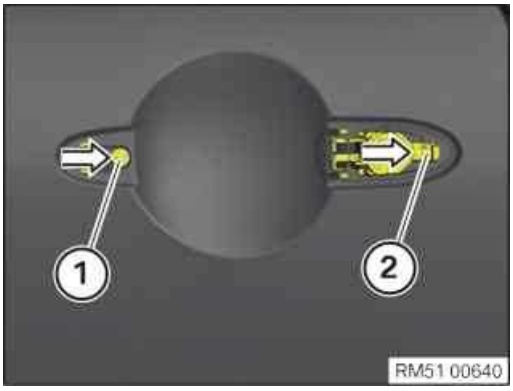
Installation:

cardiagn.com



Attach cable (1).

Thread support (1) into door.



Thread support (2) backwards into mounting.

Tighten down screw (1).

Required reworking:

- Install outer door handle
- Install sound insulation

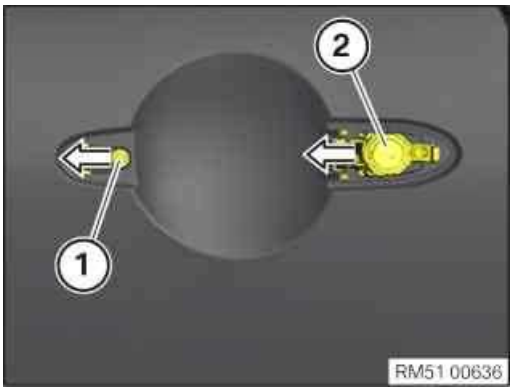
cardiagn.com

51 22 126 Removing and installing/replacing support for outer door handle in left or right rear door

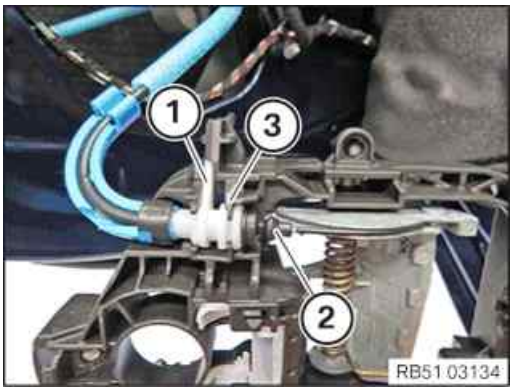
Necessary preliminary tasks:

- Remove outer handle
- Remove the sound insulation on the door

Removal:



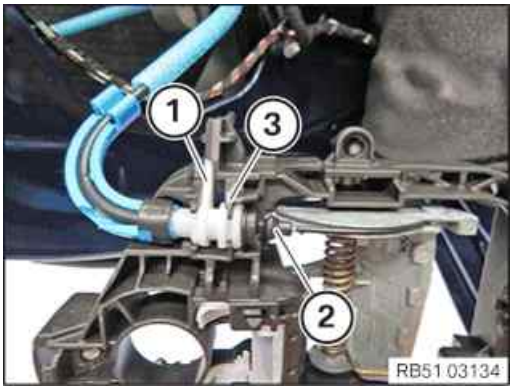
Release screw (1).
Slide support (2) forwards and feed out inwards.
Detach wiring harness from support (2).
Feed out support (1) from door.



Disengage the lever (1) and twist by 90°, then detach cable (2).
Attach it to the counter support (3) first, then to the Bowden cable nipple.

Installation:

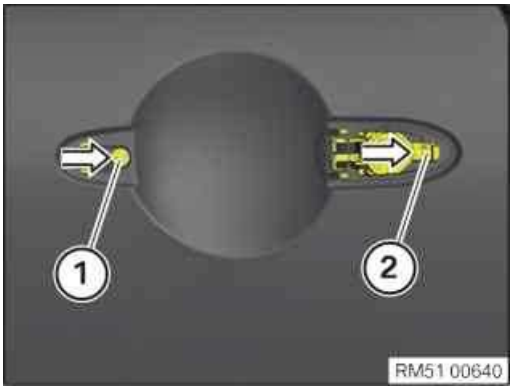
cardiagn.com



Attach cable (2).

Attach it to Bowden cable nipple first, then to counter support (3).

Twist the lever (1) 90° and engage.



Feed in support (2) into door.

Feed in support (2) into mounting towards the rear.

Tighten screw (1).

Tightening torque 51 22 6AZ.

Required reworking:

- Install outer door handle
- Install the sound insulation on the door

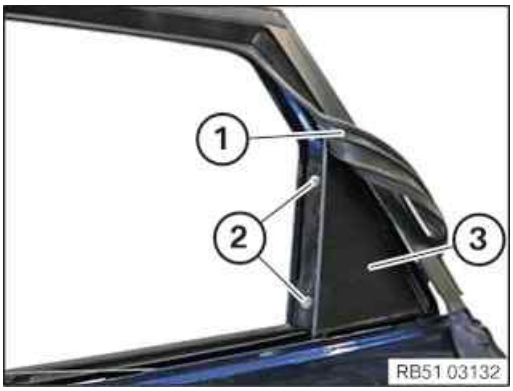
cardiagn.com

51 22 090 Removing and installing/replacing the door lock in the left or right rear door

Necessary preliminary tasks:

- Remove outer window cavity cover strip
- Partially remove sound insulation at rear door

Removal:

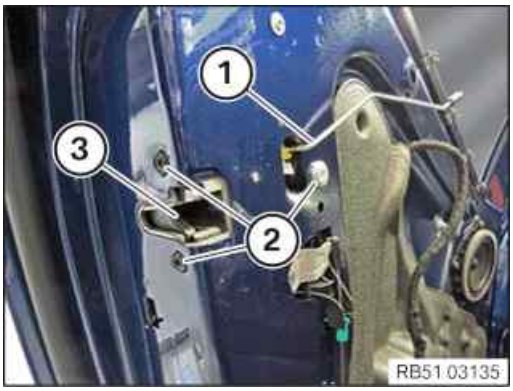


Open side window completely.

Partly release rubber window seal for door window glass (1).

Release screws (2) and carefully feed out the triangular trim (3) upwards and remove it.

Close side window completely.



Important!

Do not damage door lock seal when removing.

Unclip locking rod (1).

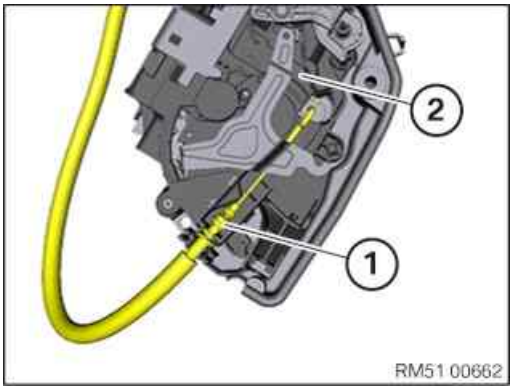
Unfasten screws (2).

Disconnect plug connection on door lock (3).

Feed out door lock (3).

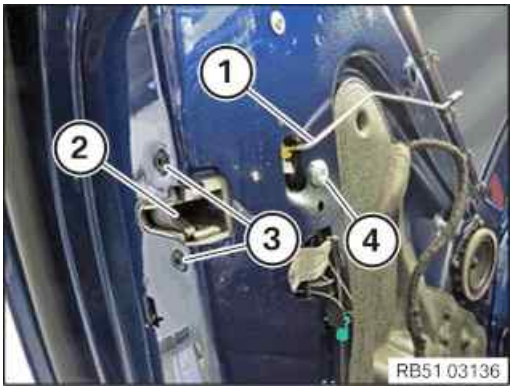
Installation:

cardiagn.com



Replacement:

Remount Bowden cable (1).



Insert door lock and screw in screws (3 and 4).

First tighten screws (3) and then tighten the screw (4) on the door lock (2).

Tightening torque 51 22 1AZ.

Connect plug connection on door lock (2).

Clip in locking rod (1).

Required reworking:

- Install outer weather strip
- Mount sound insulation on rear door

cardiagn.com

51 21 300 Removing and installing/replacing weather strip on outside of front door

Special tools required:

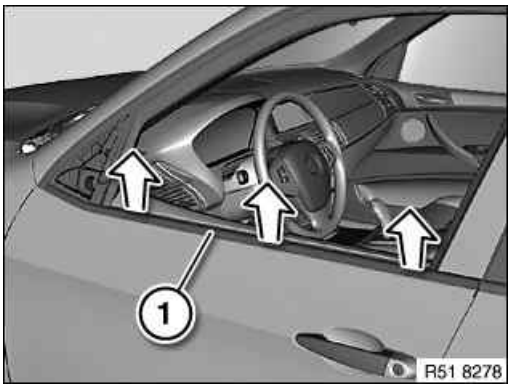
- 00 9 324

Important!

Observe procedure for using special tool 00 9 324 .

Necessary preliminary tasks:

- Remove exterior mirror.



Important!

If reusing the existing window cavity cover strip (1), make sure it is not bent.

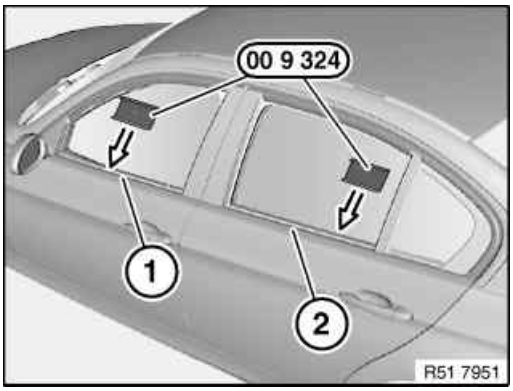
Lever out weather strip (1) using special tool 00 9 324 (starting at B-pillar).

cardiagn.com

51 21 ... Removing weather strip with special tool 00 9 324 at front or rear

Special tools required:

- 00 9 318
- 00 9 324



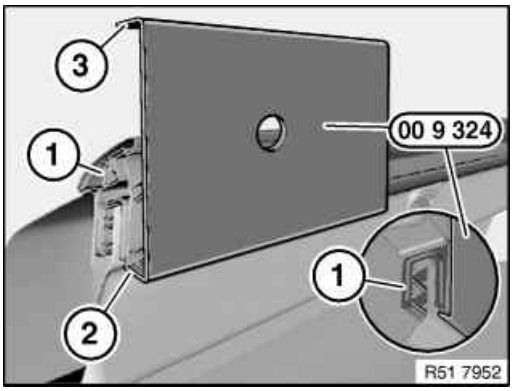
Open side window completely.

Front door:

Insert special tool 00 9 324 at front (at A-pillar) in window cavity (1) (TOP label pointing upwards).

Rear door:

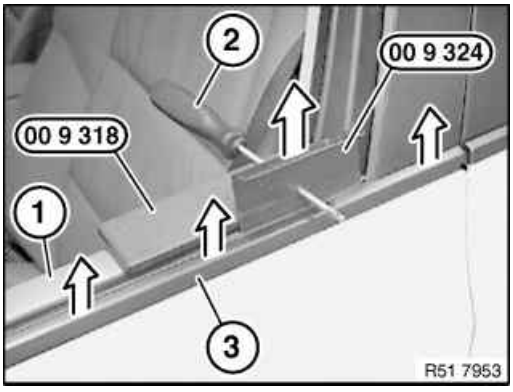
Insert special tool 00 9 324 at rear (at C-pillar) in window cavity (2) (TOP label pointing upwards).



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)



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.

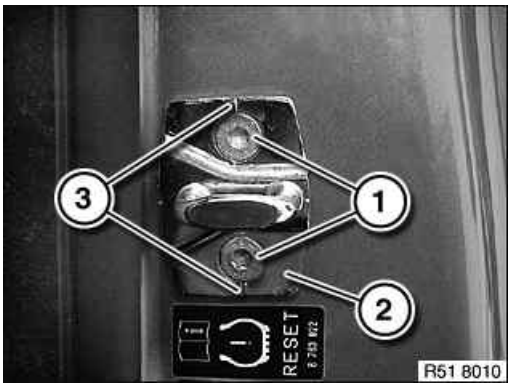
Position special tool 00 9 318 on door trim panel (1).

Push suitable tool (2) into the bore hole of special tool 00 9 324 and thus lever out the weather strip (3) maximum 5 mm in upward direction.

Guide special tools 00 9 324 and 00 9 318 forward or backward step by step until weather strip (3) is fully removed.

cardiagn.com

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.

cardiagn.com

51 21 233 Replacing the Bowden cable for the outside door handle on the left or right front door



Operation is described in:

Remove and install/replace outside door handle supports at left or right.

cardiagn.com

51 22 004 Adjusting rear left or right door lock striker



Operation is described in:

Adjusting left or right rear door.

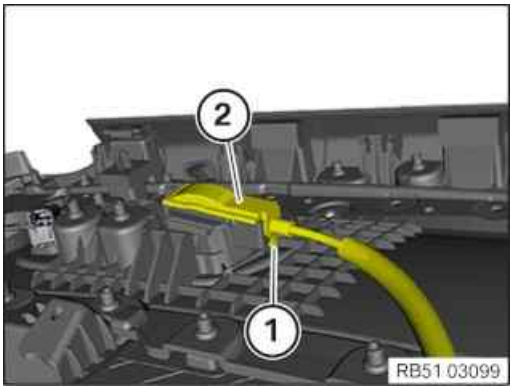
cardiagn.com

51 22 235 Removing and installing/replacing Bowden cable for inside door opener on left or right rear door

Necessary preliminary tasks:

- Remove door trim panel from rear door

Removal:



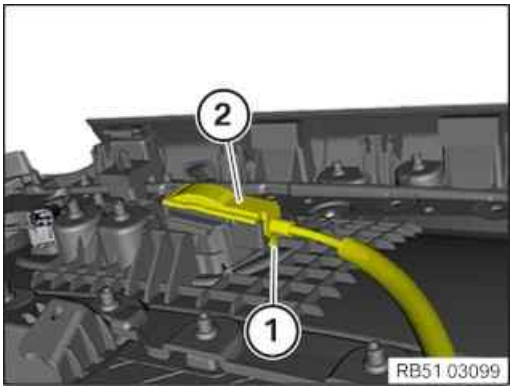
Release lock (1) and remove Bowden cable (2) upwards; the Bowden cable feeds out automatically.

Installation:



To install the Bowden cable, press the inner door handleÂ (1) in direction of arrow.

cardiagn.com



Engage Bowden cable (2) in lock (1) towards front/bottom.

Required follow-up work:

- Install door trim panel at rear door

cardiagn.com

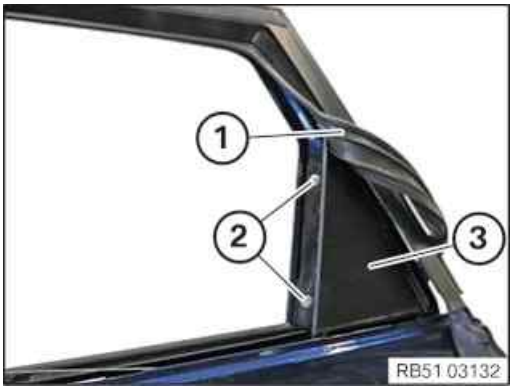
51 22 233 Removing and installing/replacing Bowden cable for outer door handle in left or right rear door

The Instructions on installation of rubber window seals serve as the basis for these repair instructions and must be observed without fail.

Necessary preliminary tasks:

- Remove support for outer door handle on rear door
- Remove window cavity cover strip

Removal:

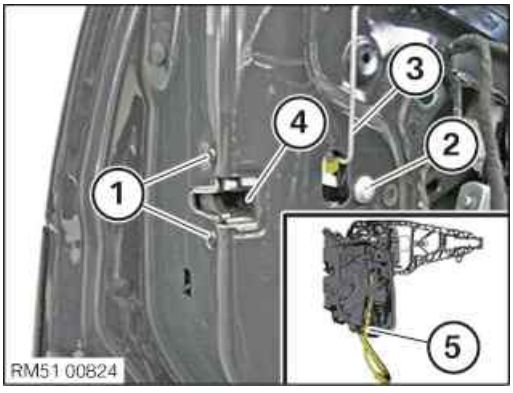


Open side window completely.

Partly release rubber window seal for door window glass (1).

Release screws (2) and carefully feed out the triangular trim (3) upwards and remove it.

Close side window completely.



Release screws (1 and 2).

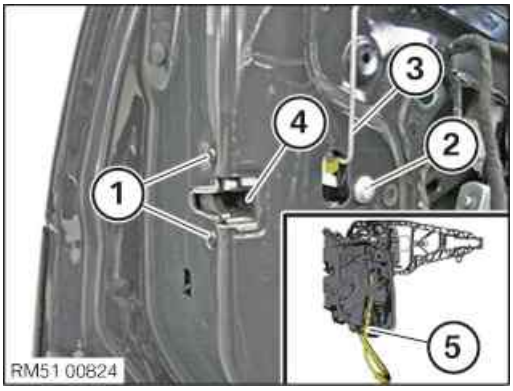
Unclip locking rod (3).

Disconnect plug connection on door lock (4).

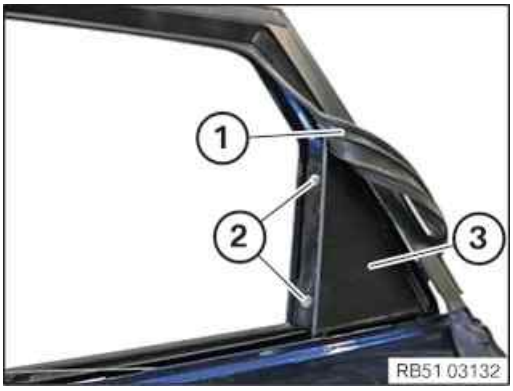
Feed out door lock (4) from the door and detach bowden cable (5) at the same time.

Installation:

cardiagn.com



Attach Bowden cable (5).
Feed in door lock (4) into the door.
Tighten screws (1) first, then tighten screw (2).
Tightening torque 51 22 1AZ.
Clip in locking rod (3).
Connect plug connection on door lock (4).



Open side window completely.
Feed in triangular trim (3) and tighten screws (2).
Carefully mount rubber window seal (1).
Close side window completely.

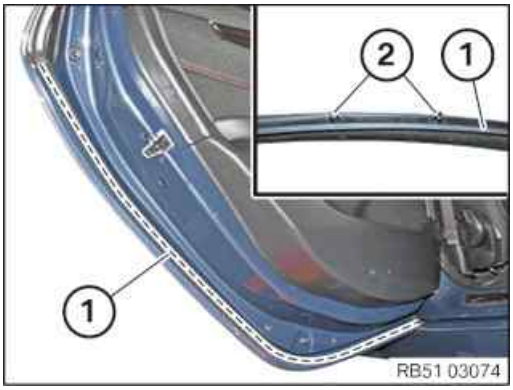
Required follow-up work:

- Install the support for outer door handle on rear door
- Install the weather strip

cardiagn.com

51 22 370 Removing and installing/replacing cover (gasket) on rear door at bottom left or right

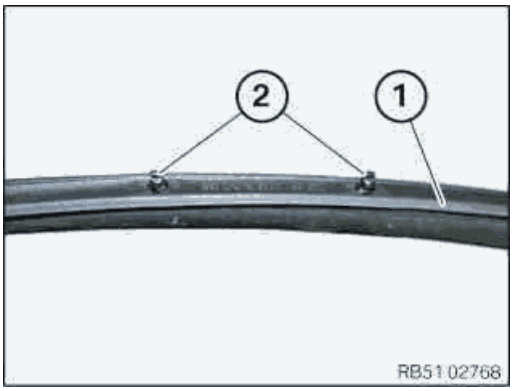
Removal:



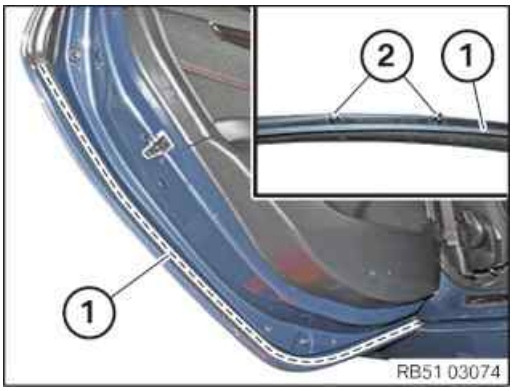
Unclip clips (2) along broken line with special tool 2 298 505.

Remove cover (1).

Installation:



Note:
Clips (2) of cover (1) must not be damaged or missing.

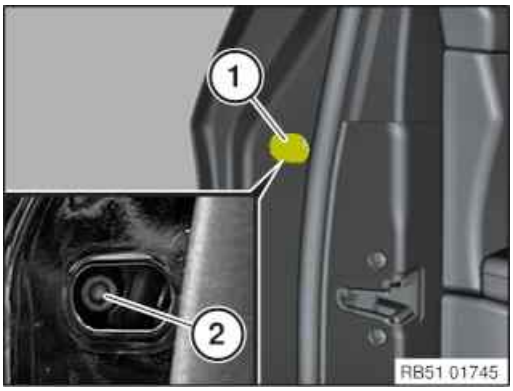


Install cover (1).

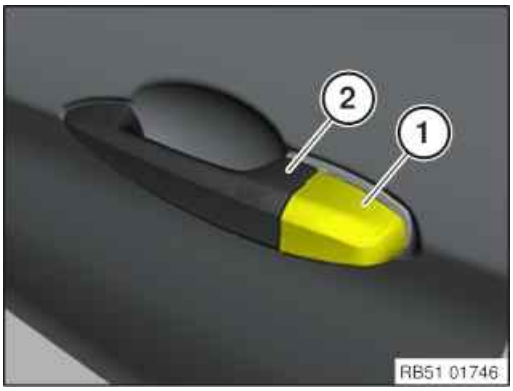
Clip in clips (2) along broken line.

cardiagn.com

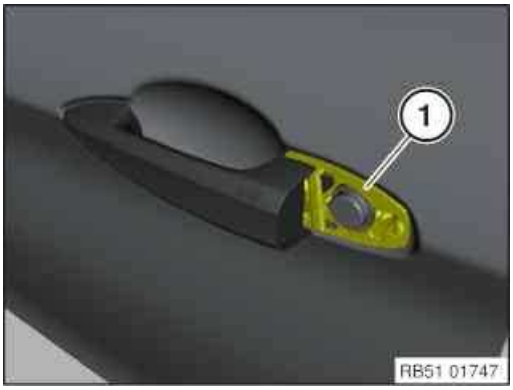
51 22 180 Removing and installing/replacing cover on outside door handle



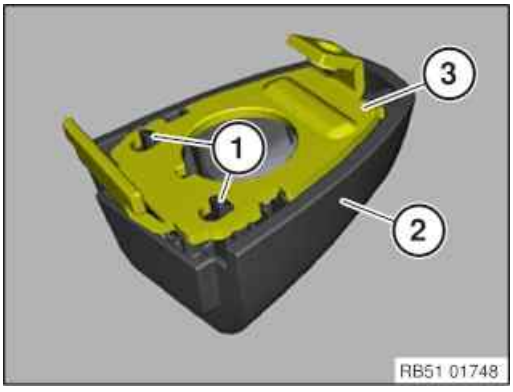
Lever out trim (1) and release screw underneath (2).*Installation note:*
Replace faulty cover (1).



Pull off cover (1) with outer door handle (2) opened slightly.



Installation note:
Ensure gasket (1) is seated correctly.



Installation note:
Latch mechanisms (1) of cover (2) must not be damaged.

Replacement:

Remove cover (2) from retaining plate (3).

cardiagn.com

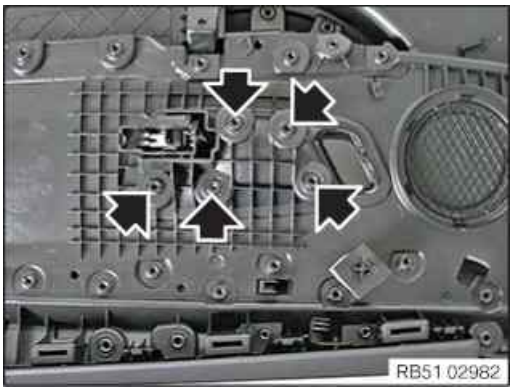
51 22 225 Removing and installing/replacing inside door opener of rear left or right door

Necessary preliminary tasks:

- Remove Bowden cable for door opener

Note:
Door opener is welded to door trim panel only on initial installation. The door opener is screw-connected on second installation. If applicable, release screws instead of welding spots.

Removal:



Important!

Risk of damage!

To avoid damaging contact surface, only drill/grind to base area of door trim panel.

Drill out/grind down welding spots.

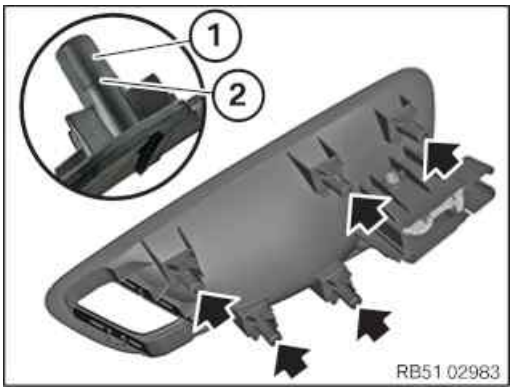
Remove door opener from outside.

Remove welding remnants on door trim panel with a scalpel.

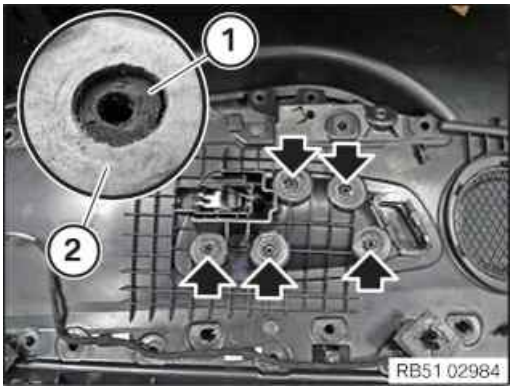
Installation:

Replacement:

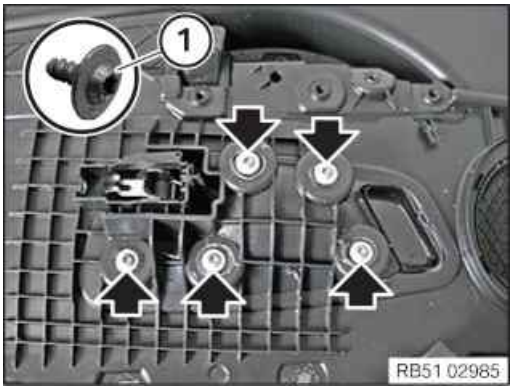
Saw off weld pins (1) along moulding (2).



cardiagn.com



Insert door opener (2) in door trim panel.*Note:*
Welding pins (1) must not protrude over door trim panel (2).



Secure armrest with the repair screws (1).
Tightening torque 51 42 4AZ.

Required follow-up work:

- Install Bowden cable for door opener

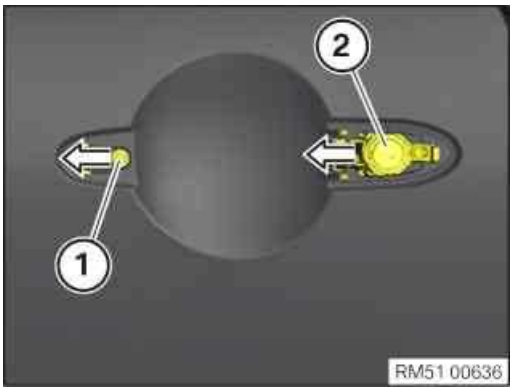
cardiagn.com

51 22 126 Removing and installing/replacing support for outer door handle in left or right rear door

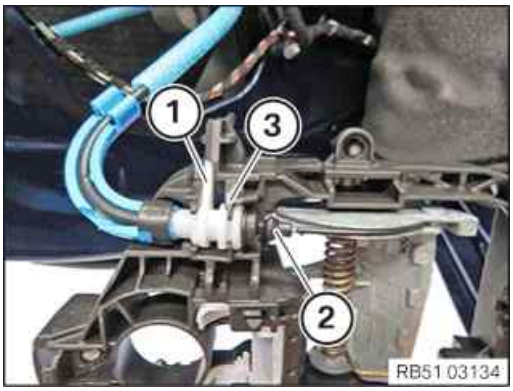
Necessary preliminary tasks:

- Remove outer handle
- Remove the sound insulation on the door

Removal:



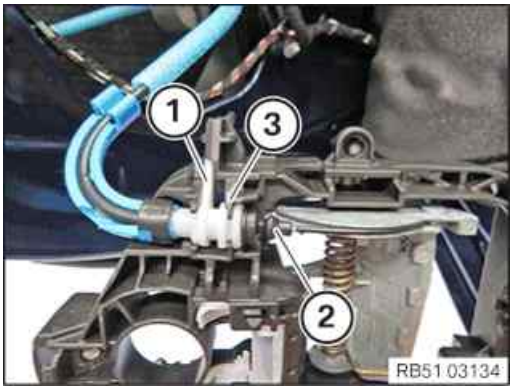
Release screw (1).
Slide support (2) forwards and feed out inwards.
Detach wiring harness from support (2).
Feed out support (1) from door.



Disengage the lever (1) and twist by 90°, then detach cable (2).
Attach it to the counter support (3) first, then to the Bowden cable nipple.

Installation:

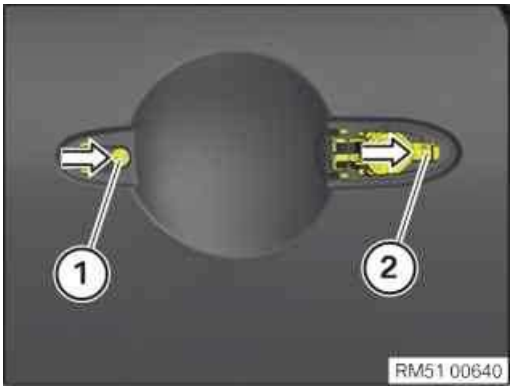
cardiagn.com



Attach cable (2).

Attach it to Bowden cable nipple first, then to counter support (3).

Twist the lever (1) 90° and engage.



Feed in support (2) into door.

Feed in support (2) into mounting towards the rear.

Tighten screw (1).

Tightening torque 51 22 6AZ.

Required reworking:

- Install outer door handle
- Install the sound insulation on the door

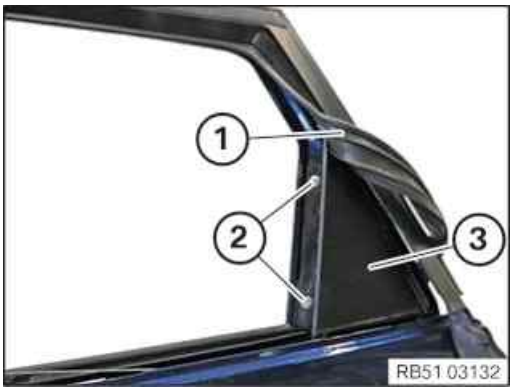
cardiagn.com

51 22 090 Removing and installing/replacing the door lock in the left or right rear door

Necessary preliminary tasks:

- Remove outer window cavity cover strip
- Partially remove sound insulation at rear door

Removal:

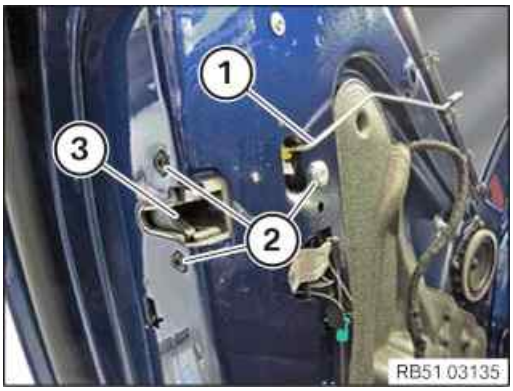


Open side window completely.

Partly release rubber window seal for door window glass (1).

Release screws (2) and carefully feed out the triangular trim (3) upwards and remove it.

Close side window completely.



Important!

Do not damage door lock seal when removing.

Unclip locking rod (1).

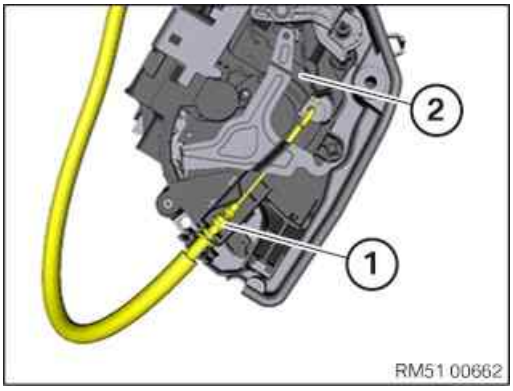
Unfasten screws (2).

Disconnect plug connection on door lock (3).

Feed out door lock (3).

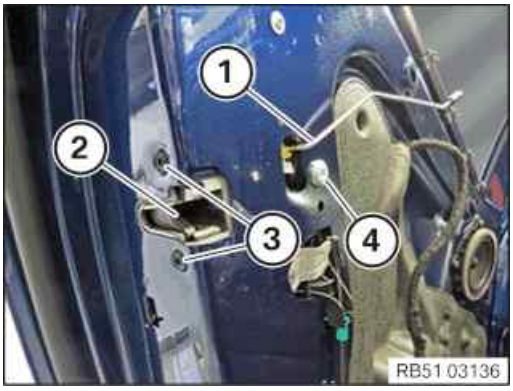
Installation:

cardiagn.com



Replacement:

Remount Bowden cable (1).



Insert door lock and screw in screws (3 and 4).

First tighten screws (3) and then tighten the screw (4) on the door lock (2).

Tightening torque 51 22 1AZ.

Connect plug connection on door lock (2).

Clip in locking rod (1).

Required reworking:

- Install outer weather strip
- Mount sound insulation on rear door

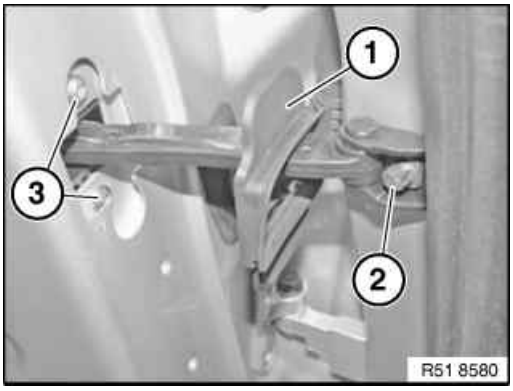
cardiagn.com

51 22 280 Removing and installing/replacing the door stop in the left or right rear door

Necessary preliminary tasks:

- Partly remove sound insulation

Removal:



Attention!

After disengaging door stop, use suitable means of preventing door from opening past its maximum permissible opening angle (risk of damaging paintwork or bodywork).

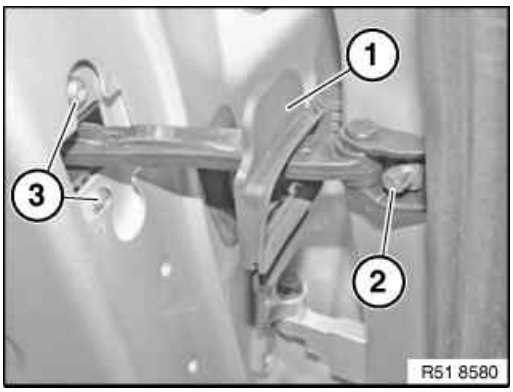
Feed out gasket (1).

Release screw (2).

Loosen screws (3).

Feed out door stop (1) from door and lay it aside.

Installation:



Feed in door stop (1) into the door.

Tighten down screws (3).

Tightening torque 51 22 5AZ.

Tighten screw (2).

Tightening torque 51 22 3AZ.

Install gasket (1).

Required follow-up work:

- Mount sound insulation

cardiagn.com

51 22 330 Removing and installing/replacing the inner weather strip at rear door

The Instructions on installation of rubber window seals serve as the basis for these repair instructions and must be observed without fail.

Necessary preliminary tasks:

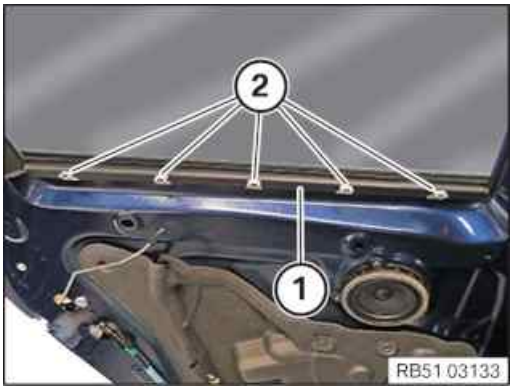
- Remove rear door trim panel

Attention!

Risk of damage!

If weather strip is reused, make sure it is not bent.

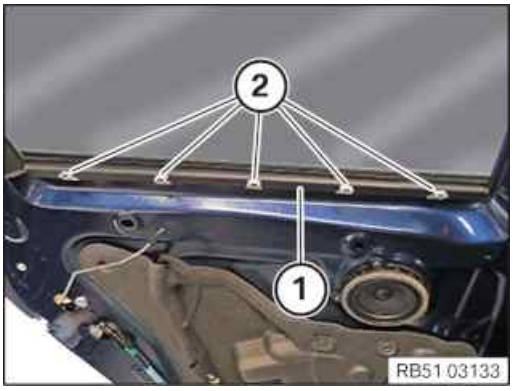
Removal:



Release weather strip (1) from brackets (2) and pull off upwards.

Installation:

cardiagn.com



If necessary, remove clamps (2) from weather strip and attach to door.
Replace faulty clamps.
Connect weather strip (1) to door and engage in brackets (2).

Required follow-up work:

- Install rear door trim

cardiagn.com

51 22 170 Removing and installing/replacing the outer door handle in the left or right rear door



Operation is identical to:

Removing and installing or replacing outer door handle from left or right front door

cardiagn.com

51 22 300 Removing and installing/replacing weather strip on outside of rear door



Operations identical to:

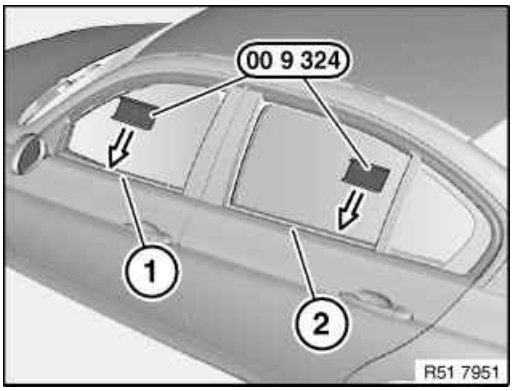
- Removing and installing or replacing weather strip on outside of left or right front door

cardiagn.com

51 21 ... Removing weather strip with special tool 00 9 324 at front or rear

Special tools required:

- 00 9 318
- 00 9 324



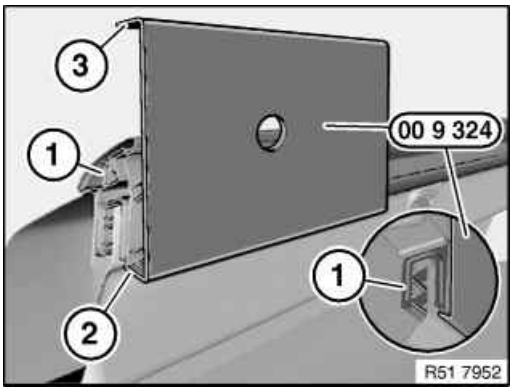
Open side window completely.

Front door:

Insert special tool 00 9 324 at front (at A-pillar) in window cavity (1) (TOP label pointing upwards).

Rear door:

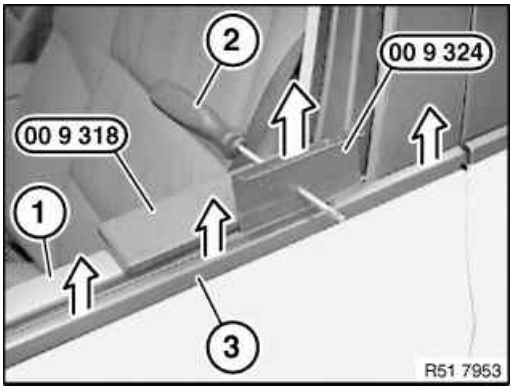
Insert special tool 00 9 324 at rear (at C-pillar) in window cavity (2) (TOP label pointing upwards).



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)



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.

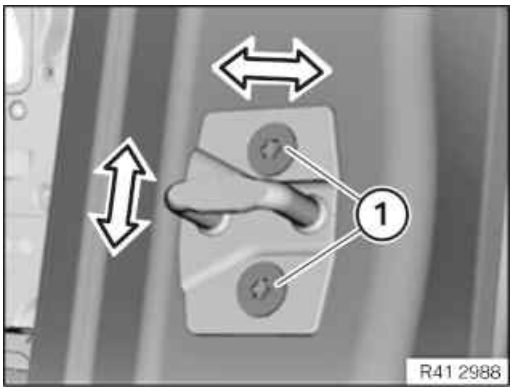
Position special tool 00 9 318 on door trim panel (1).

Push suitable tool (2) into the bore hole of special tool 00 9 324 and thus lever out the weather strip (3) maximum 5 mm in upward direction.

Guide special tools 00 9 324 and 00 9 318 forward or backward step by step until weather strip (3) is fully removed.

cardiagn.com

51 22 001 Replacing door detent (lock striker), rear left or right



Release screws (1).

Remove lock striker.

Tightening torque 51 22 2AZ.

After installation:

Adjust door detent.

cardiagn.com

51 23 004 Adjusting engine compartment lid catch



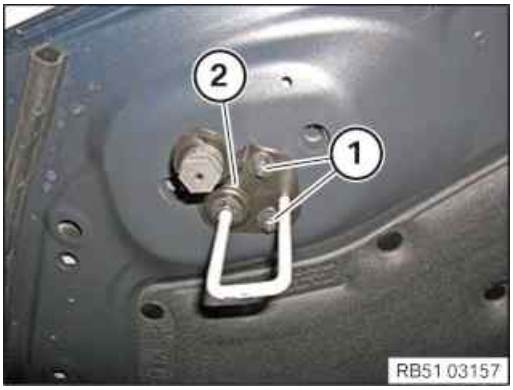
Operation is described in:

Adjusting engine compartment lid.

cardiagn.com

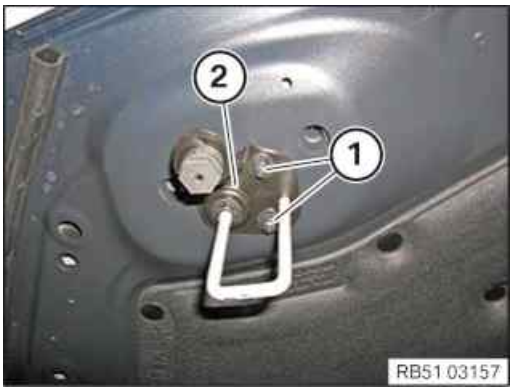
51 23 131 Adjusting left or right striker on engine compartment lid

Removal:



Unscrew nuts (1).
Remove striker (2).

Installation:



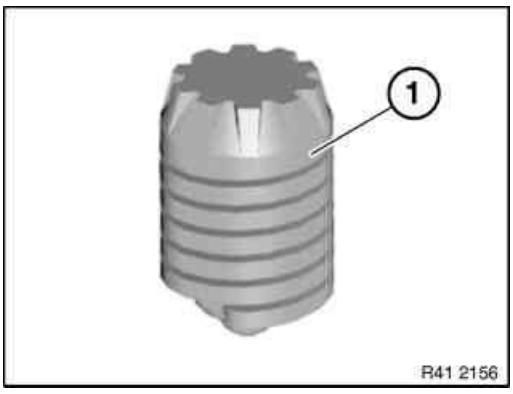
Mount striker (2).
Tighten down nuts (1).
Tightening torque 51 23 1AZ.

Adjusting striker is described in:
Adjusting engine compartment lid

cardiagn.com

51 23 ... Adjusting/replacing bump stops

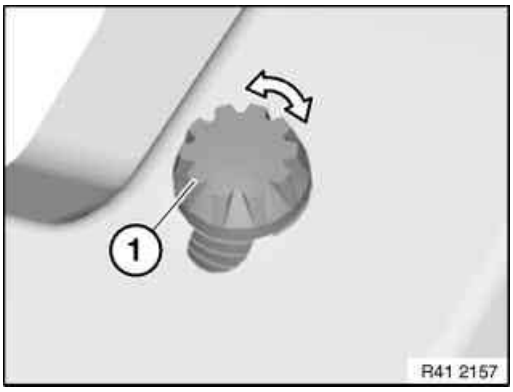
The illustrations are schematic representations and are to be applied to the relevant vehicle type.



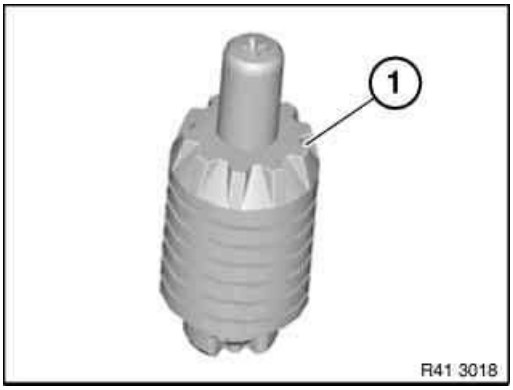
Version 1:

Following parts must not be damaged:

- (1) Bump stop



Adjust bump stop (1) to correct height by turning left or right.

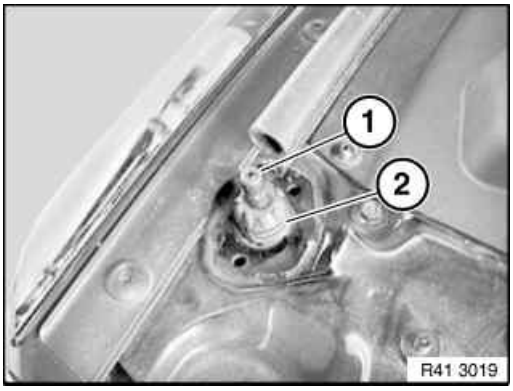


Version 2:

Replace damaged bump stops (refer to EPC):

- (1) Bump stop with ejector

cardiagn.com

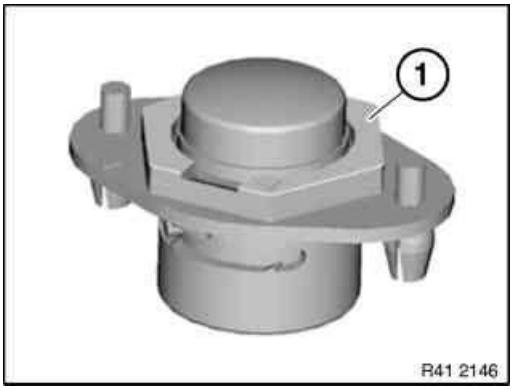


Press ejector (1) into bump stop and, in this position, twist approx. 90° counterclockwise with a Phillips screwdriver.

This locks the ejectors (1) in the bump stops.

Adjust bump stop (2) to correct height by turning left or right.

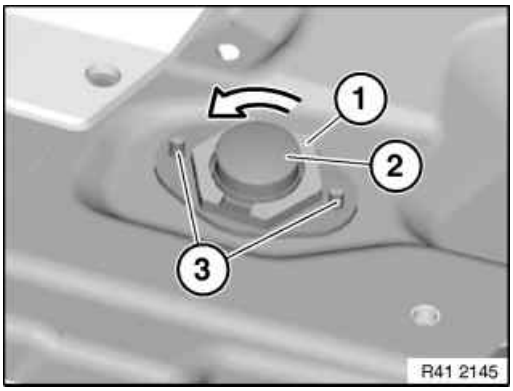
Unlock the ejector (1) again after completing adjustment.



Version 3:

Replace damaged bump stops (refer to EPC):

- (1) Bump stop



Turn lock (1) 45° 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.

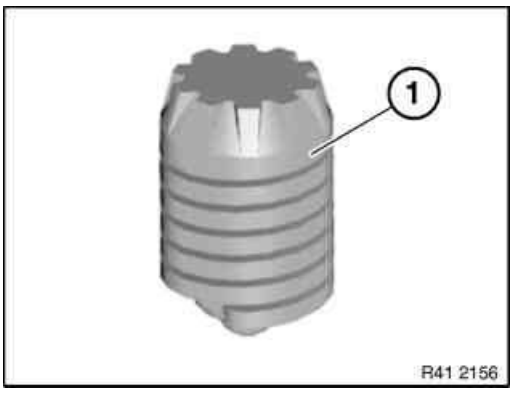
Installation:
Press bump stop into panel and drive in expanding pins (3).

cardiagn.com

51 23 ... Adjusting/replacing bump stops

The graphics are schematic representations and are to be applied to the relevant vehicle type.

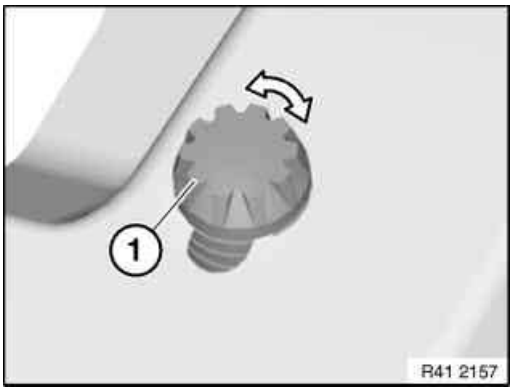
Prerequisite: Lid must be correctly adjusted.



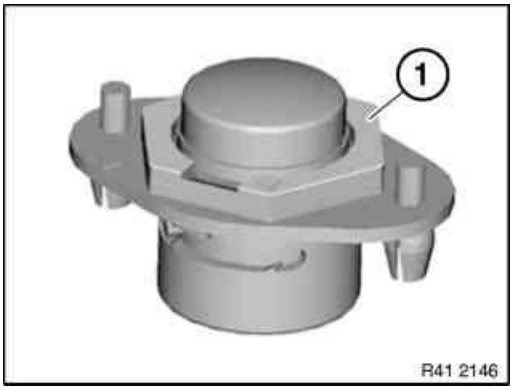
Version 1:

Following parts must not be damaged:

- (1) Bump stop



Adjust stop pad (1) to correct height by turning left or right.

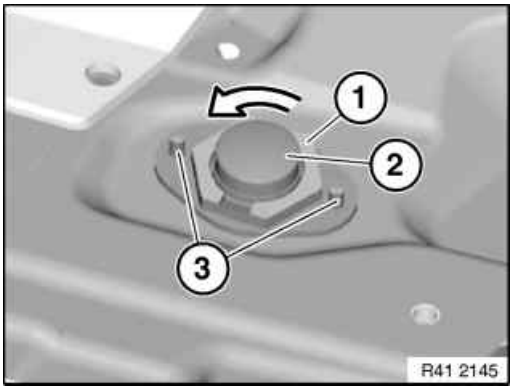


Version 2:

Replace damaged stop pads (refer to EPC):

- (1) Bump stop

cardiagn.com



Adjusting version 2:

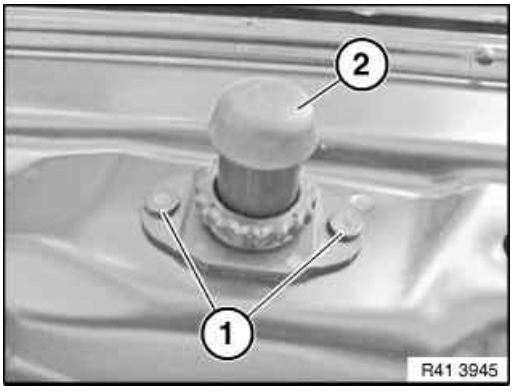
Stop (1) 45° anticlockwise.

Pull stop pad (2) upwards.

Close lid slowly until it is at the same height as the side wall.

Open flap and turn stop (1) clockwise.

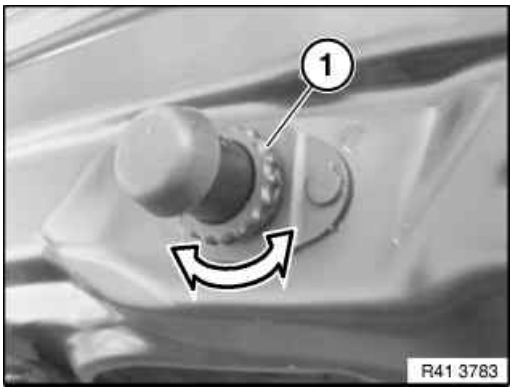
Installation note:
Press stop pad into panel and drive in expanding pins (3).



Version 3:

Lever out expanding rivets (1).

Remove stop pad (2).



Adjusting version 3:

Checking correct adjustment:

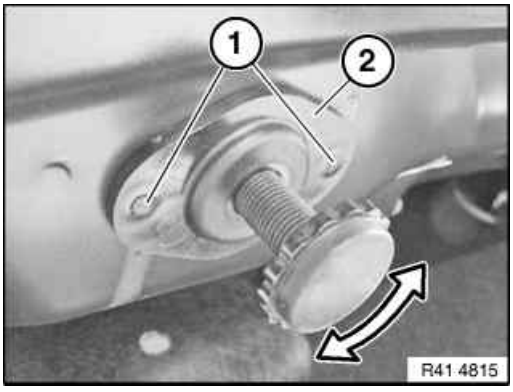
- Insert a strip of paper (normal writing paper) between stop pad and limit position on body.
- Close flap. Make sure that the paper strip remains between stop pad and limit position.
- The stop pad is correctly adjusted when the paper strip can be pulled out ”with slight resistance”.

Adjustment procedures:

Screw in stop pad until the paper strip can be easily pulled out.

Then unscrew stop pad until the paper strip cannot be pulled out any more.

Screw in stop pad until the paper strip can be pulled out with "slight" resistance.



Version 4:

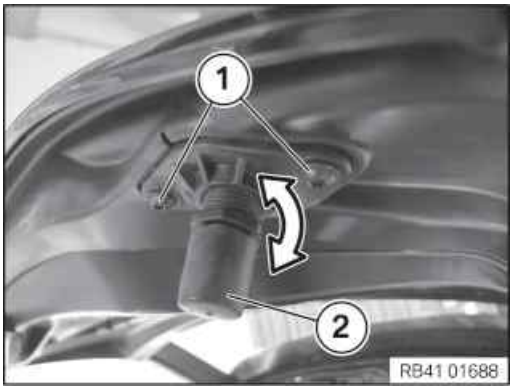
Lever out expanding rivets (1).

Remove stop pad (2).

Adjusting version 4:

Set stop pad to the correct height by turning to the left or right.

cardiagn.com



Version 5:

Release screws (1) and remove stop pad (2).

Adjusting version 5:

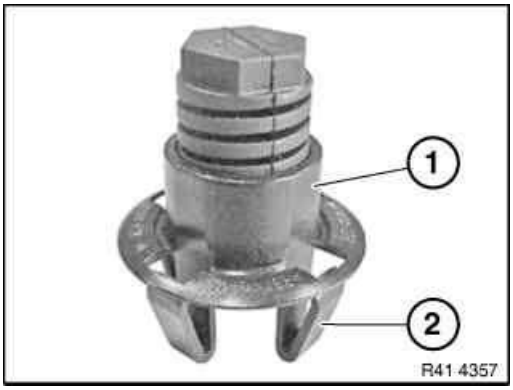
Set stop pad to the correct height by turning to the left or right.

cardiagn.com

51 23 ... Adjusting/replacing bump stops

The graphics are schematic representations and are to be applied to the relevant vehicle type.

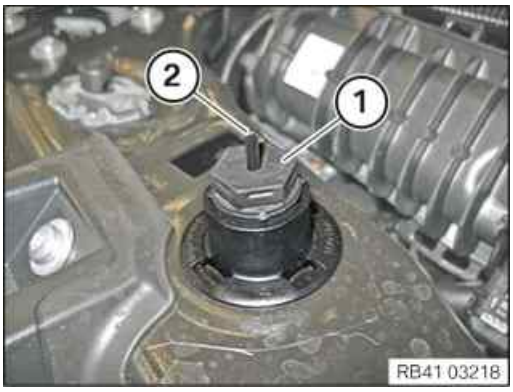
Prerequisite: Lid must be correctly adjusted.



Following parts must not be damaged:

- (1) Bump stop
- (2) Catches

Remove adjusting buffer by pressing latch mechanisms back.



Screw adjusting buffer (1) until the pin (2) can be pulled out.

Slowly pull the pin (2) out approx. 15 mm.

Slowly close engine compartment lid.

The pin (2) is thus pushed into the adjusting buffer (1).



Raise engine compartment lid.

Unscrew the adjusting buffer (1) until it is flush with the upper edge of the pin (2).

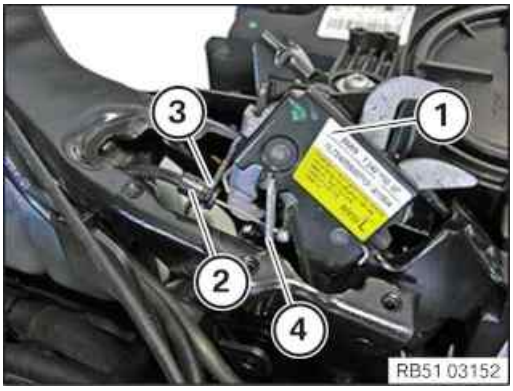
cardiagn.com

51 23 110 Removing and installing/replacing left engine compartment lid lock.

Necessary preliminary tasks:

- Remove cross connection

Removal:



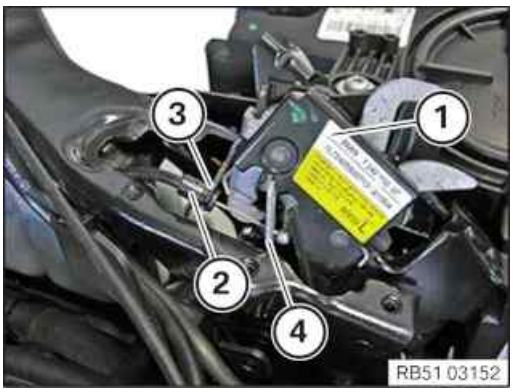
Feed out engine compartment lock (1) upwards.

Detach Bowden cable (2) from the counter support (3) first and then from the lock lever (4).

Unlock associated plug connection and disconnect.

Remove engine compartment lock (1).

Installation:



Position engine compartment lock (1).

Attach Bowden cable (2) to lock lever (4) first and then to counter support (3).

Connect associated connector.

Feed in engine compartment lock (1).

Required follow-up work:

- Install cross connection

cardiagn.com

51 23 400 Removing and installing/replacing left or right actuator (active pedestrian protection)

Warning!

Adhere to the following safety information so as to avoid a danger of injury by the actuator.

The battery negative lead must be clamped off prior to work on the actuator or engine compartment lid!

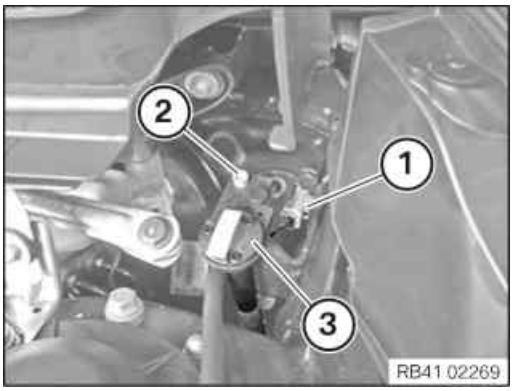
Do not exert any force on the actuator.

Incorrect handling may result in triggering of the actuator and thereby cause serious injury.

Necessary preliminary work

- Disconnect battery earth lead
- Remove cowl panel cover

Removal



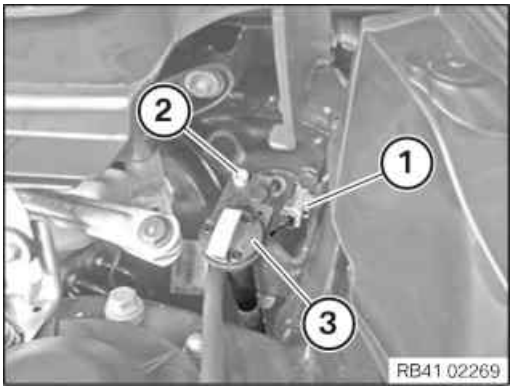
Unfasten plug connection (1) and disconnect.

Release bolt (2) and remove actuator (3).

Comply with notes regarding handling active pedestrian protection.

Installation

cardiagn.com



Install actuator (3) and tighten bolt (2).
Tightening torque 41 61 3AZ.
Connect the connector (1).

Required follow-up work:

- Connect battery earth lead
- Installing cowl panel cover

cardiagn.com

51 23 265 Removing and installing/replacing left or right gas pressure spring for engine compartment lid

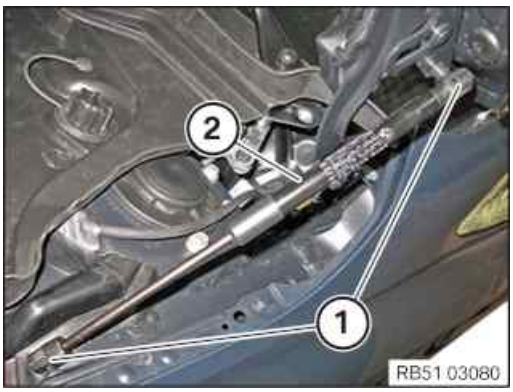
Warning!

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.

Removal:

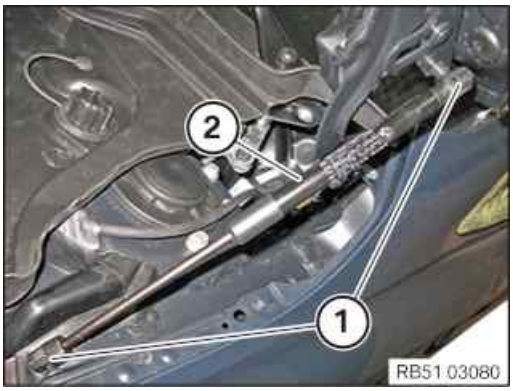


Raise engine compartment lid.

Carry out ball socket removal at both ends (1) of gas pressure spring (2).

Set down gas pressure spring (2).

Installation:



Mount gas pressure spring (2).

Carry out ball socket installation at both ends (1) of the gas pressure spring (2).

Close the engine compartment lid.

cardiagn.com

51 23 211 Removing and installing/replacing pull cable for hood/bonnet locks at front

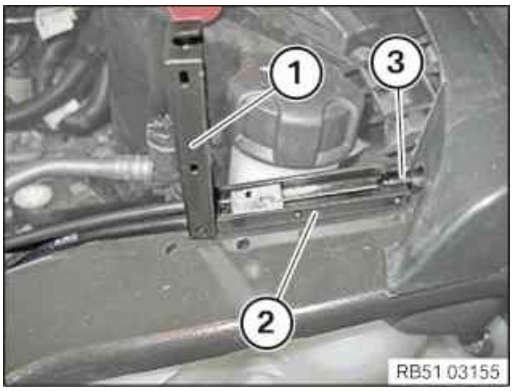
Necessary preliminary tasks:

- Remove left/right engine compartment lock

Removal:



Unclip the clutch housing for the Bowden cable (1) from the body in the highlighted areas.



Fold the cover (1) of the clutch housing for the Bowden cable (2) forwards.

Disconnect Bowden cable (3).



Loosen the clutch housing for the Bowden cable (1) from the body.

Feed out Bowden cable (2).

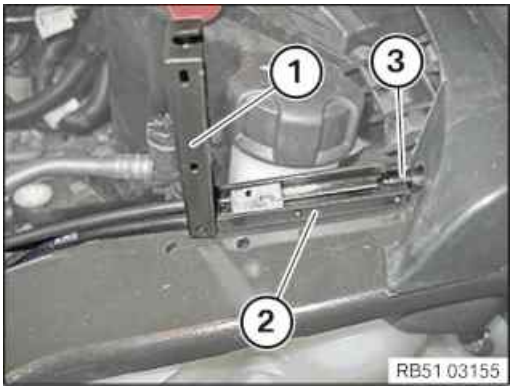
cardiagn.com

Installation:



Insert the Bowden cable (2).

Clip in the clutch housing for the Bowden cable (1) at the body.



Attach Bowden cable (3).

Fold the cover (1) of the clutch housing for the Bowden cable (2) backwards to close it.



Clip in the clutch housing for the Bowden cable (1) at the body in the highlighted areas.

Required follow-up work:

- Install left/right engine compartment lock

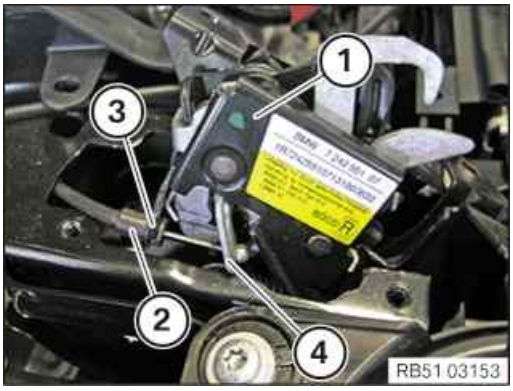
cardiagn.com

51 23 100 Removing and installing/replacing right engine compartment lid lock.

Necessary preliminary tasks:

- Remove cross connection

Removal:

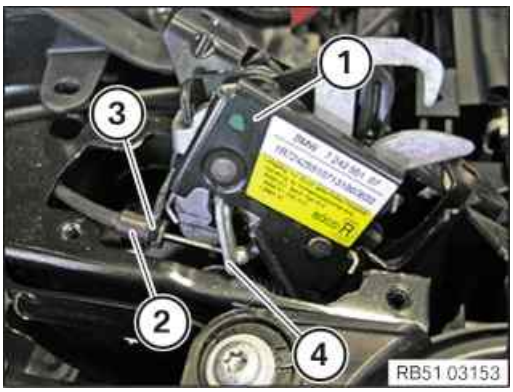


Feed out engine compartment lock (1) upwards.

Unhook engine compartment lid cable (2) from counter support (3) first then from lock lever (4).

Remove engine compartment lock (1).

Installation:



Position engine compartment lock (1).

Hook engine compartment lid cable (2) into lock lever (4) first then into the counter support (3).

Feed in engine compartment lock (1).

Required follow-up work:

- Install cross connection

cardiagn.com

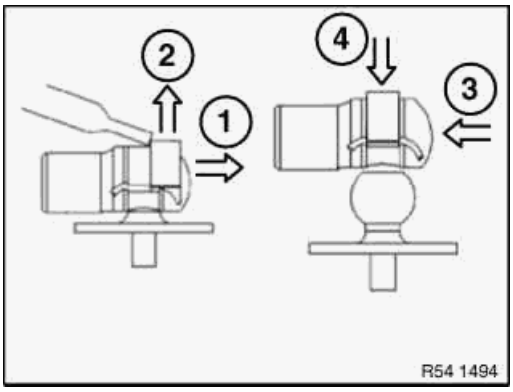
51 23 ... Removing/installing ball sockets with clip

Warning!

Danger of injury! When installed, the gas pressurised shock absorber is under preload. Minimise preload as far as possible before removing.

Important!

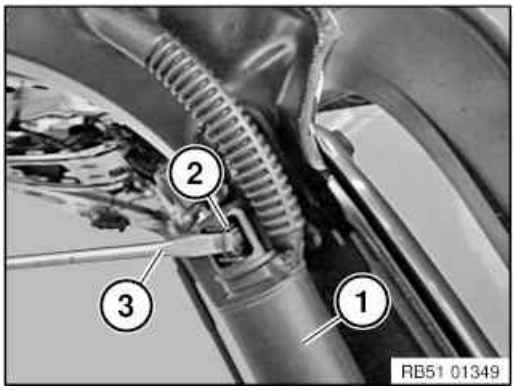
Never lift off ball socket with engaged clamp.



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.



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.

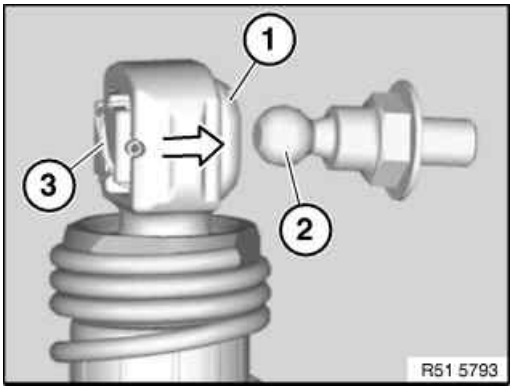
Warning!

Observe warning notices on the damper.

Electrical spindle drive for tailgate is under mechanical spring load!

The component must be secured against falling down.

cardiagn.com

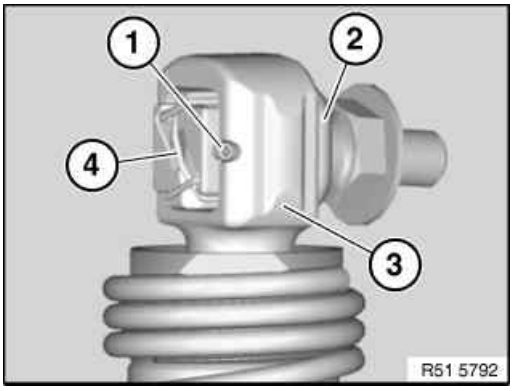


Attention!

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).



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.

cardiagn.com

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.



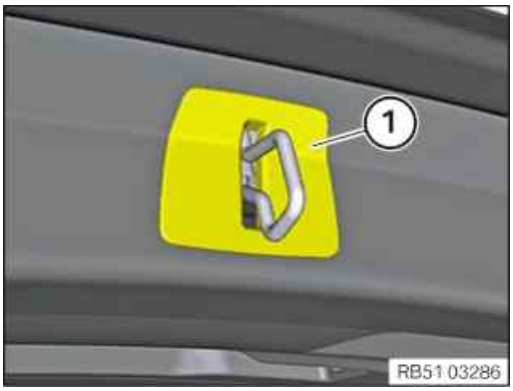
Use the controller to select "Opening Height Power tailgate".

cardiagn.com

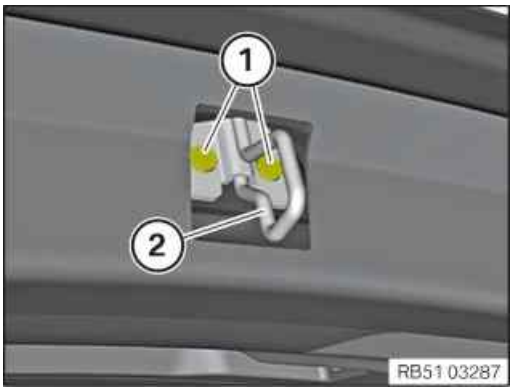
51 24 004 Adjusting rear lid lock

Prerequisite:

Tailgate must be correctly adjusted, refer to body gap dimension.



Unclip cover (1).



Slacken screws (1) until striker (2) can still just be moved and centres itself.

Close tailgate.

Adjust tailgate to nominal dimension.

Tighten down screws (1).

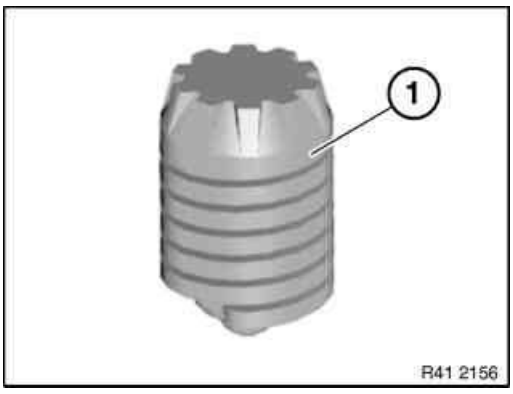
Tightening torque 51 24 2AZ.

Note:
When the tailgate is closed, the striker must not touch or scrape against the rear lid lock. Look out for scratch marks.

cardiagn.com

51 23 ... Adjusting/replacing bump stops

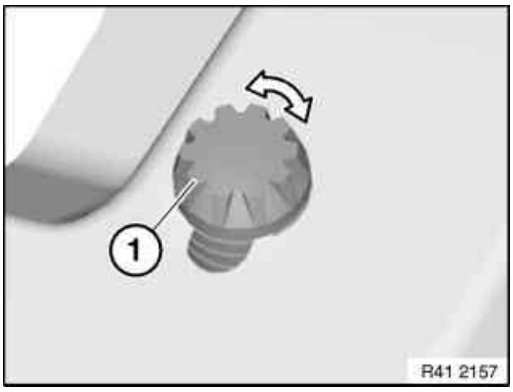
The illustrations are schematic representations and are to be applied to the relevant vehicle type.



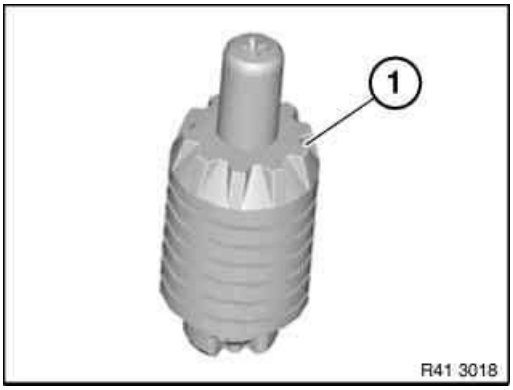
Version 1:

Following parts must not be damaged:

- (1) Bump stop



Adjust bump stop (1) to correct height by turning left or right.

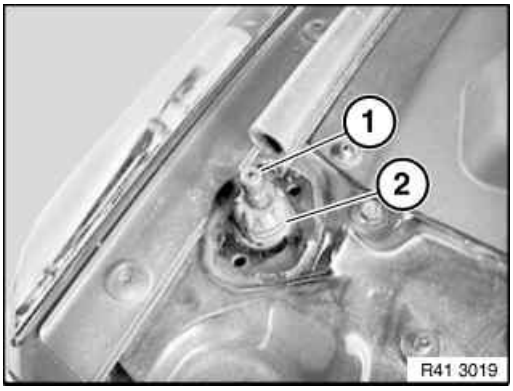


Version 2:

Replace damaged bump stops (refer to EPC):

- (1) Bump stop with ejector

cardiagn.com

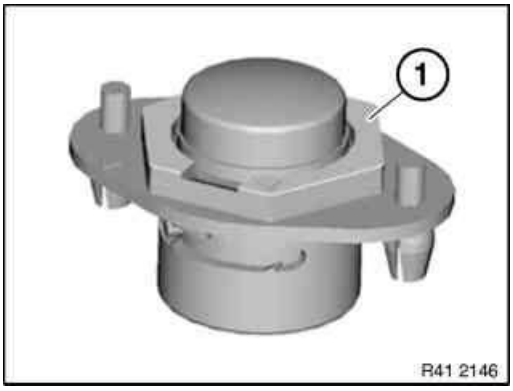


Press ejector (1) into bump stop and, in this position, twist approx. 90° counterclockwise with a Phillips screwdriver.

This locks the ejectors (1) in the bump stops.

Adjust bump stop (2) to correct height by turning left or right.

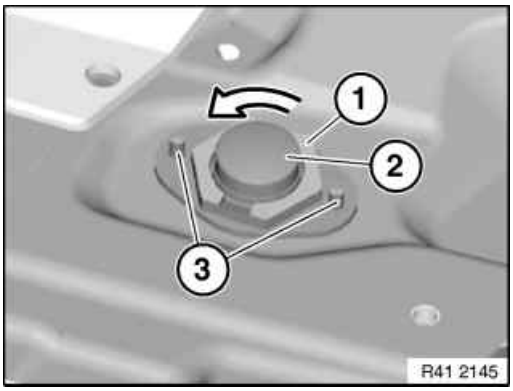
Unlock the ejector (1) again after completing adjustment.



Version 3:

Replace damaged bump stops (refer to EPC):

- (1) Bump stop



Turn lock (1) 45° 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).

cardiagn.com

51 24 351 Remove and install/replace spindle drive at right (automatic tailgate operation)



Work is mirror-identical with:

Removing and installing/replacing left spindle drive

cardiagn.com

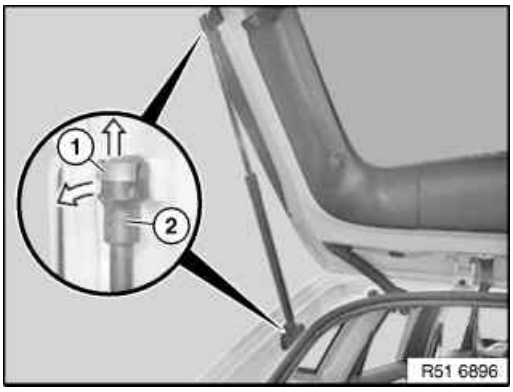
51 24 300 Removing and installing or replacing left or right gas pressure spring for tailgate



Warning!

Danger of injury!

Support tailgate in fully opened position with suitable device.



Make a written record of the alignment of gas strutÂ (2) 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.

cardiagn.com

51 24 350 Removing and installing/replacing left spindle drive (automatic luggage compartment lid actuation)



Warning!

Danger of injury!

Support rear lid 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 rear lid is under mechanical spring bias!

The component must be secured against falling down.



Attention!

Risk of damage to spindle drive!

If the spindle drive has been electrically disabled (e.g. connector unplugged), the tailgate must only be moved slowly by hand.



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

  Set tailgate to the max. opening angle. The spindle drive may only be removed or installed when the tailgate is open to the maximum.



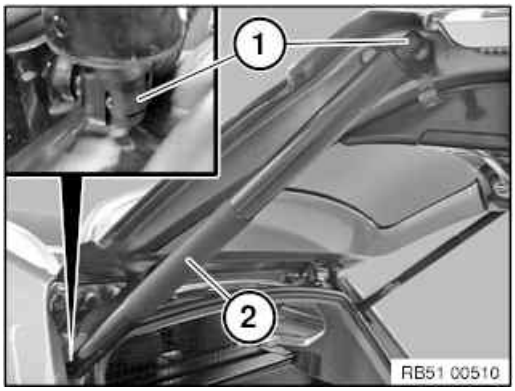
Removal:

cardiagn.com



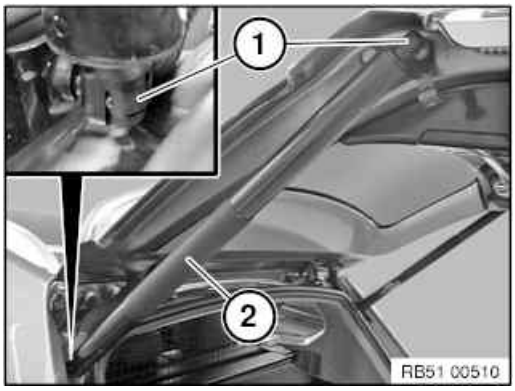
Feed the rubber grommet (1) including wiring harness out.

Disconnect plug connection (2).

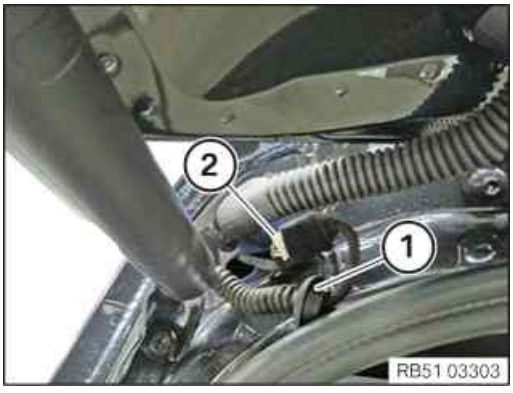


Unclip spindle drive (2) from ball sockets (1) and remove.

Installation:



Engage spindle drive (2) at ball sockets (1).



Connect plug connection (2).

Feed in rubber grommet (1) together with wiring harness.

Note:
The rubber hose with rubber grommet (1) of the spindle drive (2) must not be damaged or missing. Install rubber grommet (1) correctly to prevent water penetration.

cardiagn.com



Concluding tasks:

Initialise automatic operation of tailgate using the service function in the diagnosis system.

Selection via:

- Body
  - Automatic tailgate operation
    - Power tailgate initialisation

Check the opening angle setting of the tailgate and restore the customer setting, if necessary.

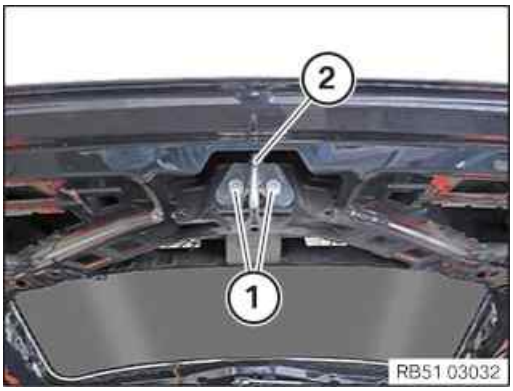
cardiagn.com

51 24 130 Removing and installing/replacing striker for tailgate lock

Necessary preliminary tasks:

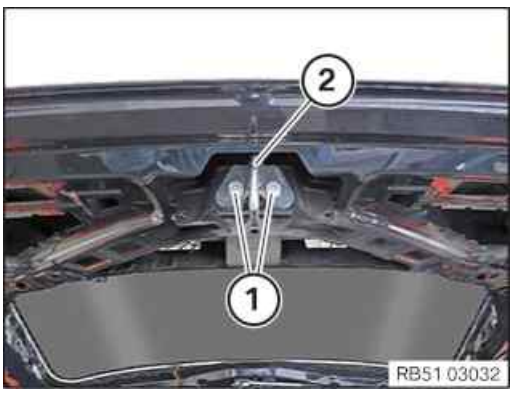
- Remove rear lid trim panel

Removal:



Loosen the screws (1) and remove the striker (2) including the associated mounting plate.

Installation:



Position the striker (2) and the associated mounting plate.

Tighten down screws (1).

Tightening torque 51 24 2AZ.

Required reworking:

- Adjust rear lid lock
- Installing the tailgate trim panel

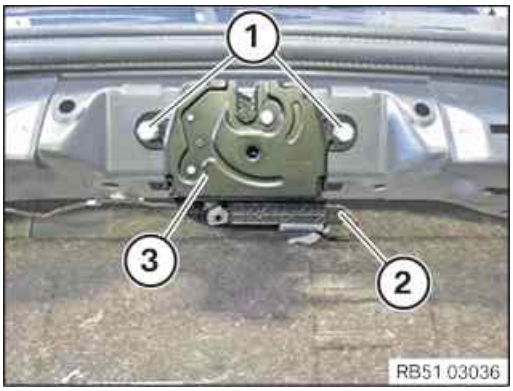
cardiagn.com

51 24 105 Removing and installing/replacing tailgate lock

Necessary preliminary tasks:

- Remove top cover from tail panel

Removal:

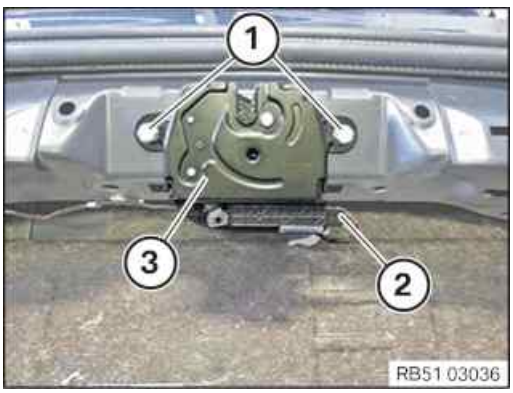


Release screws (1).

Disconnect plug connection (2).

Dismount tailgate lock (3).

Installation:



Mount tailgate lock (3).

Connect plug connection (2).

Tighten down screws (1).

Tightening torque 51 24 1AZ.

Note:
Perform a function check of tailgate lock with the tailgate open.

Required follow-up work:

- Mount top trim on tail panel

cardiagn.com

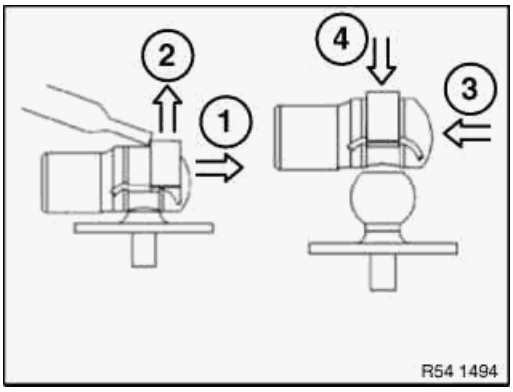
51 23 ... Removing/installing ball sockets with clip

Warning!

Danger of injury! When installed, the gas pressurised shock absorber is under preload. Minimise preload as far as possible before removing.

Important!

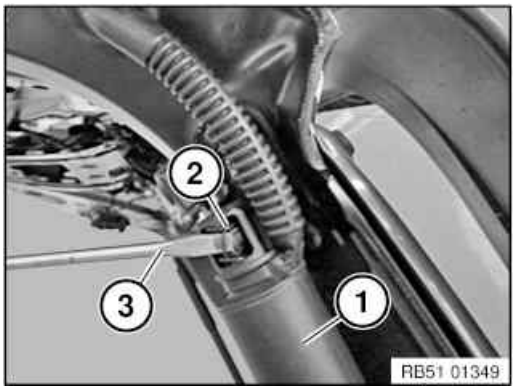
Never lift off ball socket with engaged clamp.



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.



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.

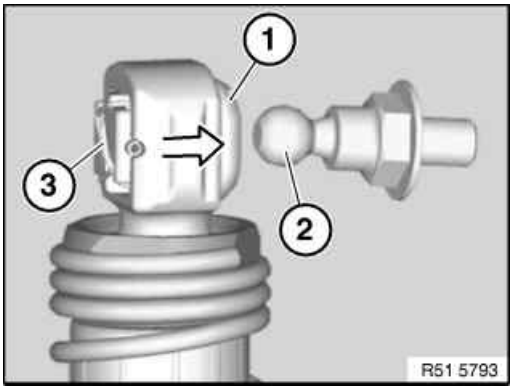
Warning!

Observe warning notices on the damper.

Electrical spindle drive for tailgate is under mechanical spring load!

The component must be secured against falling down.

cardiagn.com

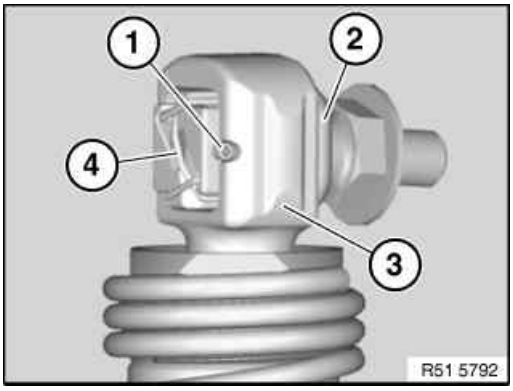


Attention!

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).



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.

cardiagn.com

51 24 147 Replace button for tailgate activation

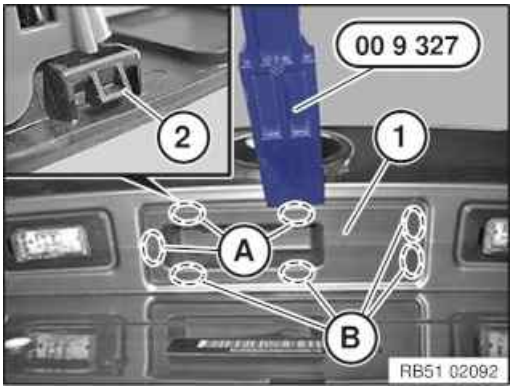
Special tools required:

- 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.

Version with rear view camera:

Remount the rear view camera.

cardiagn.com

51 31 ... General procedure for the disassembly and installation of bonded window glass

1 General information

Follow general instructions on window bonding.

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

2.1 Disassembly in general

The following dismantling methods are applied, according to the version:

- Oscillating knife (not permissible for vehicles with window bonding on carbon body components)
- Cutting wire with wire pull handles
- "Spider" window glass removal system (unsuitable for severely damaged window glass)

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!

2.2 Disassembly of damaged window glass

The disassembly method described in the REP may be unsuitable depending on the degree of damage.

- e.g. suction cups cannot be attached to window glass around cracks
- Damaged window glass may damage and tear the nylon string

Attention! Risk of damage!

Use one of the other disassembly methods at your own discretion in the event of severely damaged window glass.

Make sure adjacent components are adequately protected.

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 top.

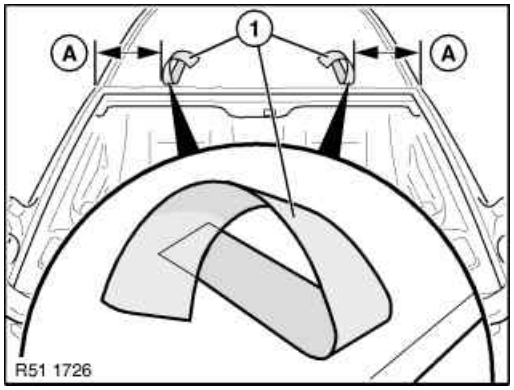
According to its size, fix side and door window glass onto the tool trolley using suction lifters or special tool 51 3 220 and set down on a suitable support.

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.

cardiagn.com



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.

After completing the paint work, the paint must be fully hardened before the plastic adhesive tapes are applied.

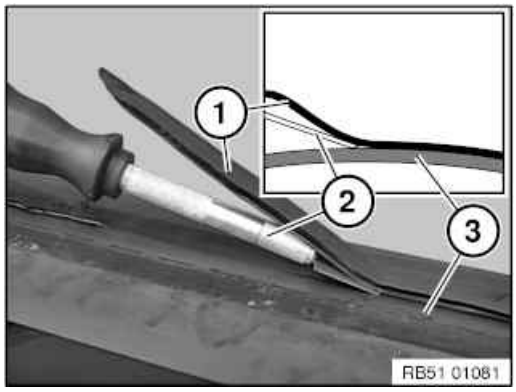
3.2 Pre-treatment of bonding surfaces

- Protect the vehicle interior against contamination, cover the Head-Up Display.
- 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



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!

3.4 Installation of spacer (spacer buffer / dual-lock tapes)

Completely remove all residue of existing spacers before bonding 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)

cardiagn.com

- 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

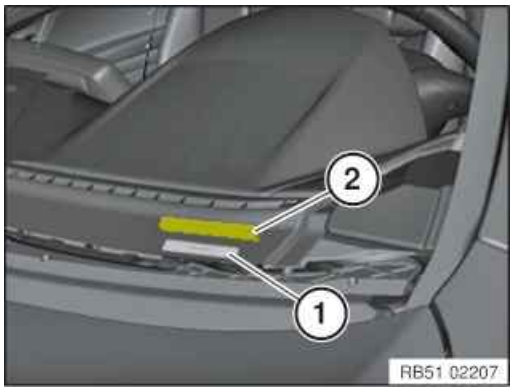
The glass activator is used for adhesion between glass or ceramic glass and the adhesive. Therefore, a thin, homogeneous and continuous line of glass activator must be applied. If the window glass is to be reused with a cut-back adhesive bead, glass activator is not needed.

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



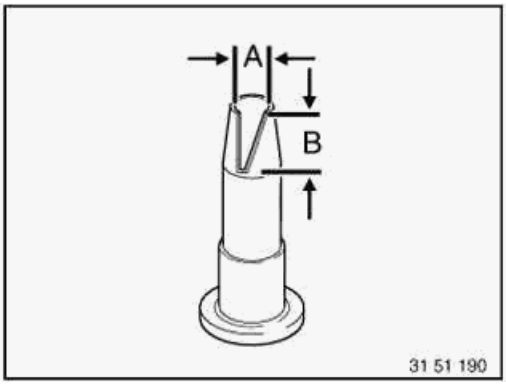
Foam tape (2) must be installed to protect the vehicle identification number (1) against tampering. If necessary, install foam tape 07 14 7 222 909.

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

3.8 Nozzle preparation



Use the standard nozzle C for windscreens, rear windows, and body-specific fixed side window glass.

A	8 ±1 mm
B	12 ±1 mm

Prepare plastic nozzle for fixed door window glass.

A	8 ±1 mm
B	15 ±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.

cardiagn.com

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.

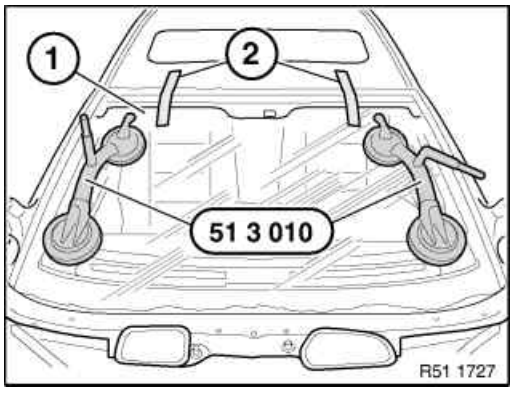
Attention!

> 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:

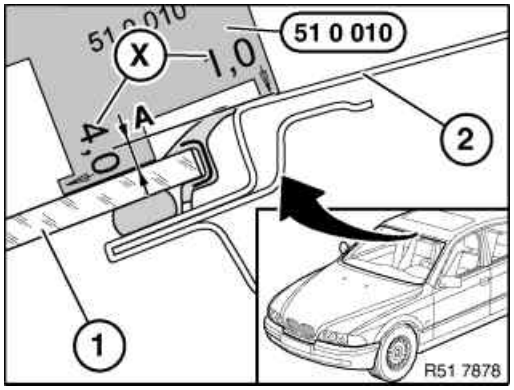
- Open a side window



Mount window glass (1) with suction lifter (51 3 010).

3.11 Adjusting the window glass

cardiagn.com



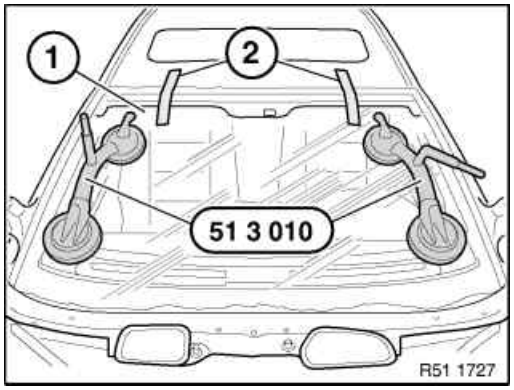
To avoid wind noise, the front and rear windows (1) must be lower than the roof outer skin (2).

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

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.

3.13 Label

Depending on version, apply label.

cardiagn.com

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
Knife set Contains: Knife (U-shape) Knife (L shape) Knife (straight with stop roller)	 24 / 36 / 45 mm 25,4 mm 16 to 43 mm (adjustable) 14 mm (fixed)	81 43 9 428 596
”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		81 43 2 326 501
Cartridge gun		81 49 2 213 059
Pinchweld scraper set		81 62 0 410 436
Siphon		81 64 2 184 377
Single suction cup	Special tool	51 3 220
Universal work table		81 49 0 151 675

2 Consumables:

Naming of Electronic Parts Catalogue	Designation, repair instructions /addition	BMW part number
Window glass repair kit, cold, 1 hour	Small repair kit	83 19 2 289 285 83 19 2 289 180 (US) 83 19 2 180 001 (China)
Window glass repair kit, cold, 1 hour	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 for glass repair	Cutting wire, square	83 19 2 150 267
Nylon string	Nylon string	81 43 2 344 272
Multi-base filler	BMW multibase filler	
Cleaning agent R1	Cleaning agent R1	83 19 2 211 217
Cleaning agent R2	Cleaning agent R2	83 19 0 417 324
Adhesive tape	Plastic adhesive tape, yellow	83 19 9 410 979
Adhesive cleaner 208	Sika remover 208	83 19 9 407 780
Aktivator 205	Sika Activator 205 (e.g. for rubber frame on windscreen)	83 19 0 030 155

cardiagn.com

Bonding base VP 206	Sika bonding base VP 206 (e.g. for inspection glass for vehicle identification number)	83 19 9 407 777

Storage of all consumables

Dry at 15 ° - 25 °C.

cardiagn.com

51 31 ... Notes on window bonding repair kit

	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		
- Plastic nozzle and paper tissue			
Large repair kit (Contains an additional window glass adhesive 300 ml)	83 19 2 360 680	Not available	Not available

Important!

Before working with the consumables, note the following information.

- 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

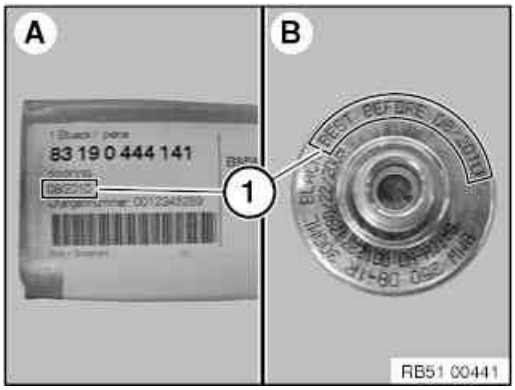
Dry at 15 ° - 25 °C.

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).



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 °C and 50 % relative air humidity (hot countries), the adhesive open time is shortened to approx. 5 minutes (skin formation time).

cardiagn.com

A relative air humidity of < 30% significantly slows hardening.

The adhesive hardening process is interrupted completely at ambient temperatures below 5 °C. In this event, there will be no increase in the strength of the bonded connection.

3.1 Minimum hardening time:

Minimum hardening time is reached beginning at 22 °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.

Manoeuvring 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.

cardiagn.com

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 of additional work for the removal and installation or replacement of electronic components in the body area/windscreen

Component	**Removal and installation** Calibration/Initialisation required **(diagnosis system must be connected)**	**Removal and installation** Use of the Special tool necessary	**Replacement** Programming/encoding Calibration/Initialisation required **(diagnosis system must be connected)**	**Replacement** Use of the Special tool necessary	Remarks
Front section: (including bumper panel)					
Park Distance Control ultrasonic sensor	No	No	No	No	
Parking Manoeuvring Assistant ultrasonic sensor	No	No	No	No	
Active pedestrian protection sensor	No	No	No	No	Must be replaced after the active pedestrian protection has been activated! **Impact absorber** must also be replaced!
Active pedestrian protection actuator	No	No	No	No	Must be replaced after the active pedestrian protection has been activated!
Rear area: (including bumper panel):					
Rear view camera	No	No	Yes	No	
Park Distance Control ultrasonic sensor	No	No	No	No	
Windscreen:					
KAFAS camera	no*	No	no*	No	*Necessary after **replacement of the windscreen**

cardiagn.com

Camera-based driver support systems camera (F60 only)	no*	No	Yes	No	*Necessary after **replacement of the windscreen**
Rain sensor (separate document)					

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
- **Z4:** E89

Sensor type/ Sensor shape	With windscreen replacement replacement sensor required	When replacing the sensor/ Programming/encoding 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 replacement **sensor** required	When replacing **the sensor** Programming/encoding necessary	When replacing **substitute visuals** Programming/encoding 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 ø 50 mm	No (new **substitute visuals** required, refer to Electronic Parts Catalogue)	-	No	Yes	Yes

- **X5:** E70
- **X6**: E7x

cardiagn.com

Sensor type/ Sensor shape	With windscreen replacement replacement **sensor** required	When replacing **the sensor** Programming/encoding necessary	When replacing **substitute visuals** Programming/encoding 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 ø 50 mm	Yes	Yes	-	Yes	Yes
RLS (vehicle **with no HUD**) (Designation is located on the back of the sensor) approximately ø 50 mm	No (new **substitute visuals** required, refer to Electronic Parts Catalogue)	-	No	Yes	Yes
RLSS (vehicle **with HUD**) (Designation is located on the back of the sensor) approximately ø 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 replacement sensor required	When replacing the sensor Programming/encoding 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

cardiagn.com

- **X3:** F25
- **X4:** F26

Sensor type/ Sensor shape	With windscreen replacement replacement **sensor** required	When replacing **the sensor** Programming/encoding necessary	When replacing **substitute visuals** Programming/encoding necessary	When replacing **the sensor/** **substitute visuals** Initialisation required	Connecting the diagnosis system required
all types approximately ø 35 mm	No	No	-	Yes	Yes
all types approximately ø 50 mm	Yes	Yes	-	Yes	Yes
Only for F25 : RLS approximately ø 50 mm	No (new **substitute visuals** required, refer to Electronic Parts Catalogue)	-	No	Yes	Yes

- **X5:** F15, F85
- **X6:** F16, F86

Sensor type/ Sensor shape	With windscreen replacement replacement sensor required	When replacing the sensor Programming/encoding necessary	When replacing the sensor Initialisation required	Connecting the diagnosis system required
all types approximately ø 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 replacement sensor required	When replacing the sensor Programming/encoding 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 ø 35 mm	No	No	Yes	Yes

cardiagn.com

SBS (01) (Designation is located on the back of the sensor) approximately ø 35 mm	No	No	No	No
All **as from 03/2014** approximately ø 35 mm	No	No	No	No

- **2-Series:** F4x

Sensor type/ Sensor shape	With windscreen replacement replacement sensor required	When replacing the sensor Programming/encoding necessary	When replacing the sensor Initialisation required	Connecting the diagnosis system required
all types	No	No	No	No

BMW i:

Sensor type/ Sensor shape	With windscreen replacement replacement sensor required	When replacing the sensor Programming/encoding necessary	When replacing the sensor Initialisation required	Connecting the diagnosis system required
all types approximately ø 35 mm	No	No	No	No

BMW from **G series**

Sensor type/ Sensor shape	With windscreen replacement replacement sensor required	When replacing the sensor Programming/encoding necessary	When replacing the sensor Initialisation required	Connecting the diagnosis system required
all types	No	No	No	No

MINI (all):

Sensor type/ Sensor shape	With windscreen replacement replacement sensor required	When replacing the sensor Programming/encoding 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 ø 35 mm	No	No	No	No

Rolls-Royce:

- RR1
- RR2

cardiagn.com

- RR3
- RR4
- RR5
- RR6

Sensor type/ Sensor shape	With windscreen replacement replacement sensor required	When replacing the sensor Programming/encoding 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 ø 35 mm	No	No	Yes	Yes
all types approximately ø 50 mm	Yes	Yes	Yes	Yes

Rolls-Royce:

- RR11
- RR12

Sensor type/ Sensor shape	With windscreen replacement replacement sensor required	When replacing the sensor Programming/encoding necessary	When replacing the sensor Initialisation required	Connecting the diagnosis system required
all types approximately ø 35 mm	No	No	No	No

cardiagn.com

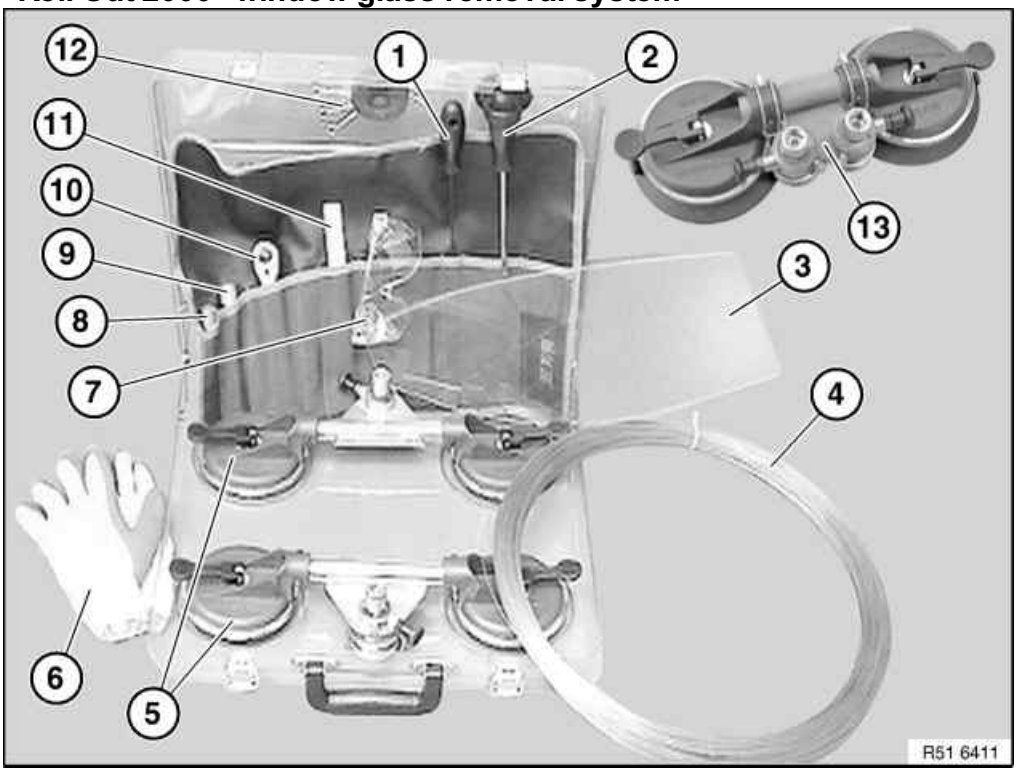
51 31 ... Remove windscreen with "Roll Out 2000"

Special tools required:

- 2 150 267

"Roll Out 2000" has been replaced by the "Spider" removal system."Roll Out 2000" may still be used. The "Spider" removal system is recommended for removing window glass.

"Roll Out 2000" window glass removal system



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		

Note:
Both paint and ergonomic and health-endangering damage is minimised with the "Roll Out 2000" system.

Sourcing reference:

See Aftersales Assistance Portal (ASAP) - Service/Technical - Workshop Equipment (Start BMW) - Shop Workshop Equipment or at www.bmwgroup.com

cardiagn.com

Warning!

Follow safety instructions 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!

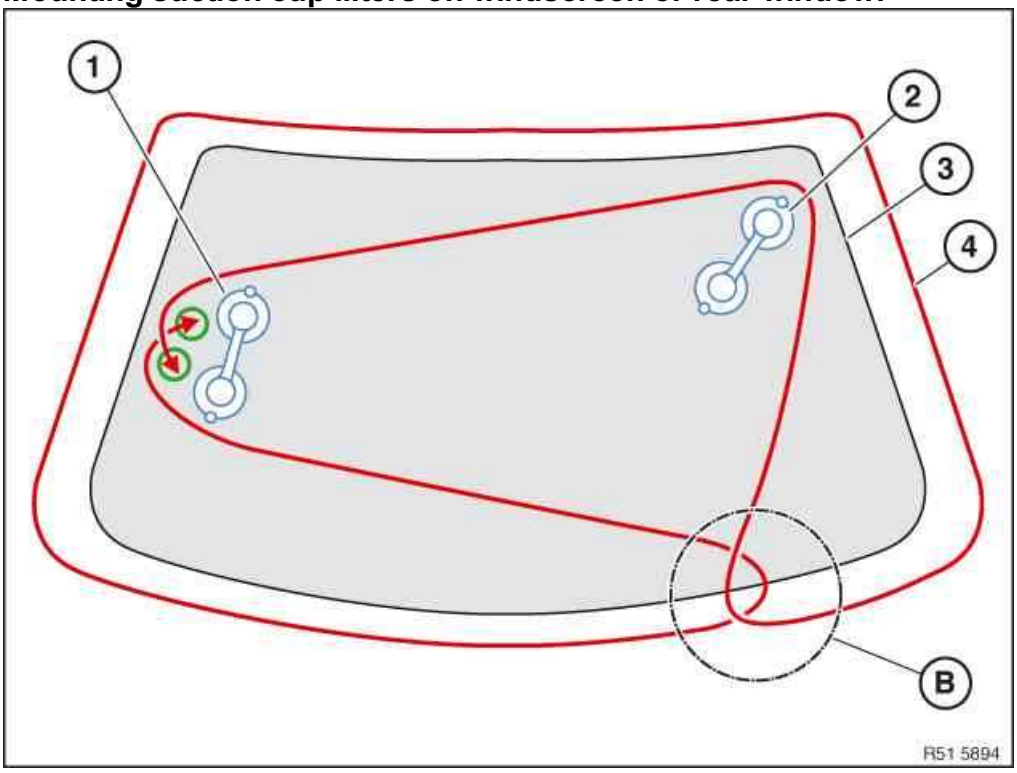
Always keep both suction cups dry and clean to ensure their optimum adhesion on the windscreen.

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:



- 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:

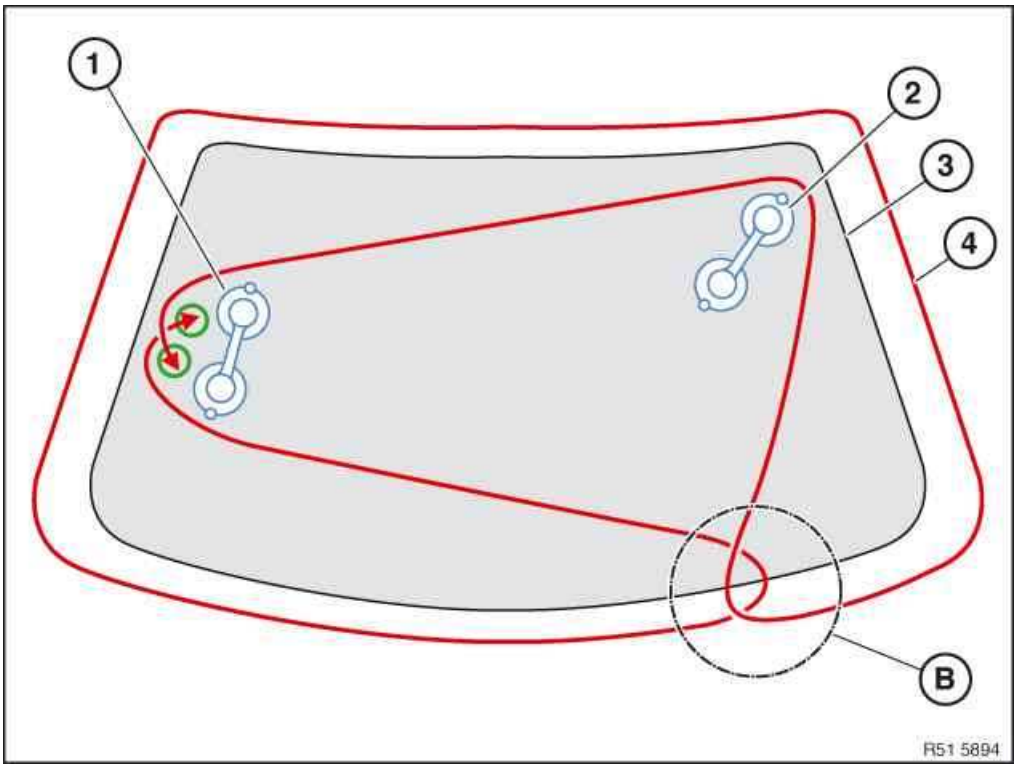
Optimum cutting is guaranteed when the cutting wire is at an acute angle to the adhesive bead. There is a risk of the cutting wire breaking if the angle is too obtuse.

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.

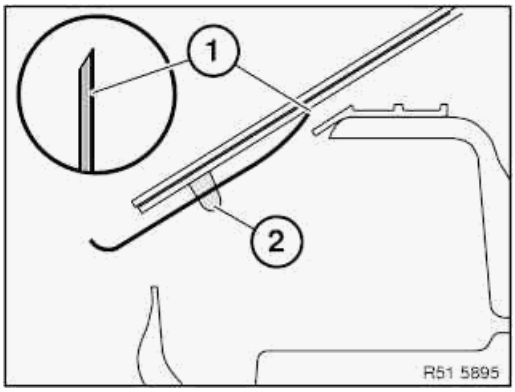
The suction cups without a spool can even be used as the deflection point.

cardiagn.com



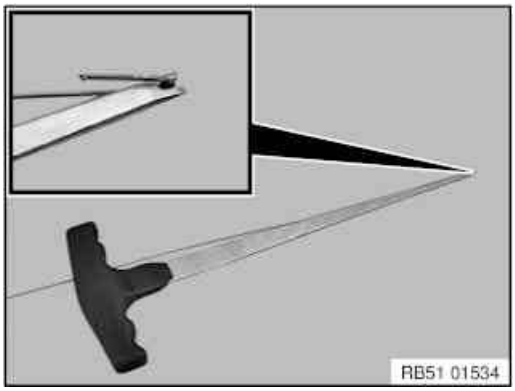
Preparatory work:

- 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

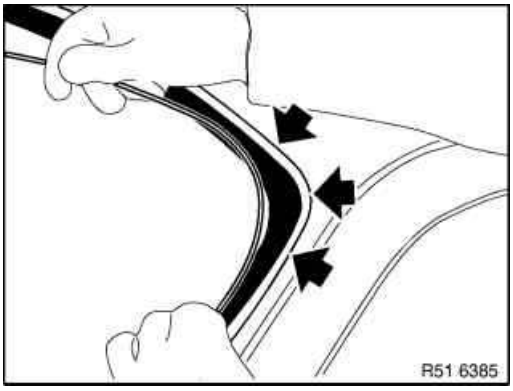


Using wire starter:

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.

cardiagn.com



Laying cutting wire around window glass:

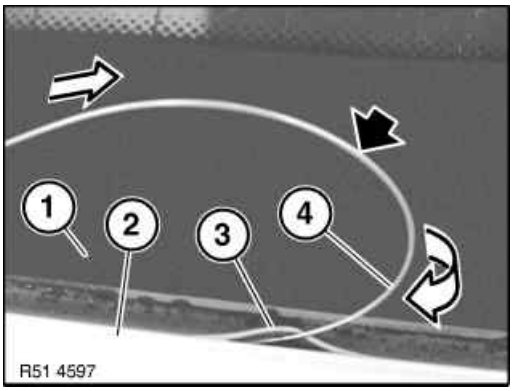
- Starting from pull-in point, lay wire eyelet created on the outside around the window glass
- Pull excess wire into passenger compartment

Important!

Make sure the cutting wire is located at all four corner points below the window glass.

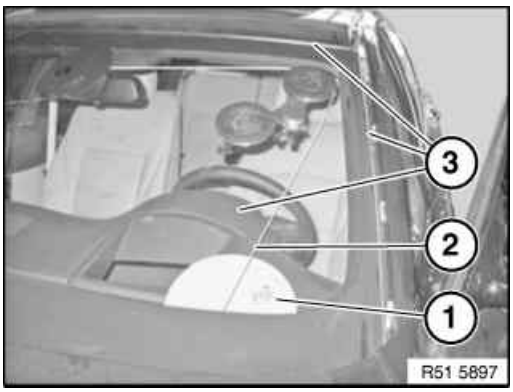
Check that the cutting wire is not caught on clamps or body.

Secure window glass on outside with adhesive tape against sliding.



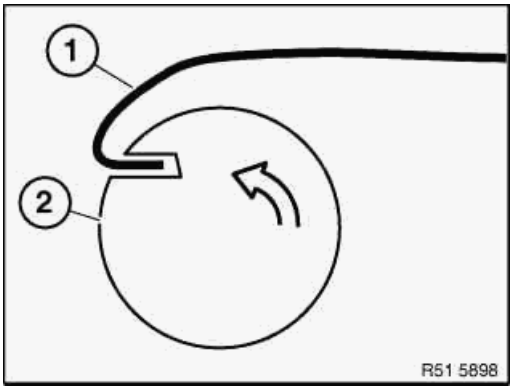
Note:
Window glass (1) with installed seals (3) or moulded-on surrounds:

- 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)



Protect the passenger compartment:

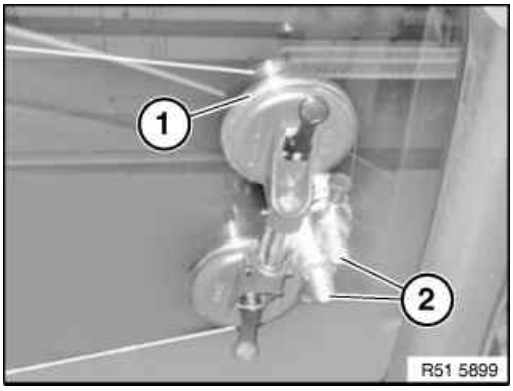
- To avoid damage and possible dirt contamination, protect A-pillars, roof and dashboard trim panel (3) by means of plastic washer (1)
- Always carry plastic washer (1) between respective wire (2) being tightened and trim panels



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



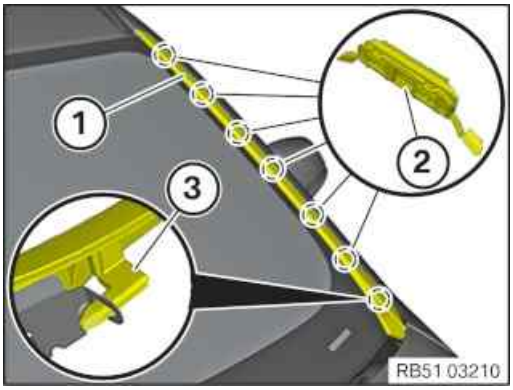
Starting the dismantling: *Note:*
Spools can only be rotated in one direction.

- 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

cardiagn.com

51 31 030 Removing and installing or replacing left or right gutter strip along windscreen

Removal:



Unclip the gutter strip (1) upward from the clips (2) beginning with the roof.

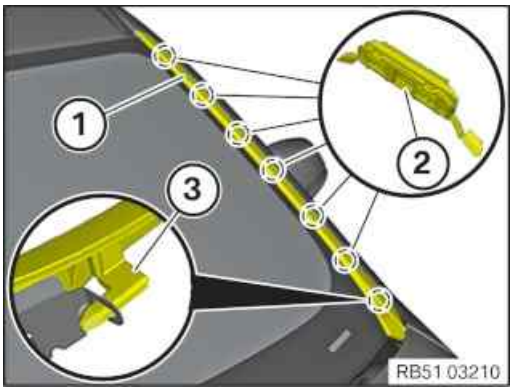
Feed gutter strip (1) out of the guide (3).

Important!

Replace gutter strip (1) after each dismantling.

Exception: New gutter strips (1) may only be removed once for correcting the position.

Installation:



Note:
Replace faulty clamps (2).

Feed in the gutter strip (1) correctly with guide (3).

First, align gutter strip (1) with the roof, then clip it in.

cardiagn.com

51 31 000 Removing and installing windscreen



Up until this point, the work is identical to "Replace windscreen" .

- Rain/light/solar sensor and/or camera remain on the windscreen; only disconnect the plug connections
- Replace the cover / windscreen rubber surround only in the event of damage.
- Replace expanding foam tape only if damaged.

cardiagn.com

51 31 200 Removing and installing/replacing rear window

Attention!

The following notes form the basis for these repair instructions and must be adhered to at all times:

- Notes on window bonding
- 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 carried out with Spider.

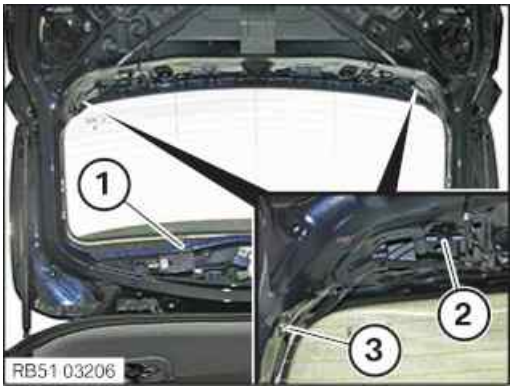
The following new parts / consumables are required (sourcing reference BMW Parts Department).

Material	Quantity
Rear window (with replacement)	1
Spacer buffer 5x5x20 mm	6
Dual Lock/Velcro fastener on rear window	4
Dual Lock/Velcro fastener on tailgate	4
Small repair kit	1

Necessary preliminary tasks:

- Remove wiper arm for rear wiper
- Remove trim for rear lid

Removal:



Unlock the plugs (1 and 2) and disconnect them.

Release screws (3) and fix all cables to the rear window using adhesive tape.

cardiagn.com



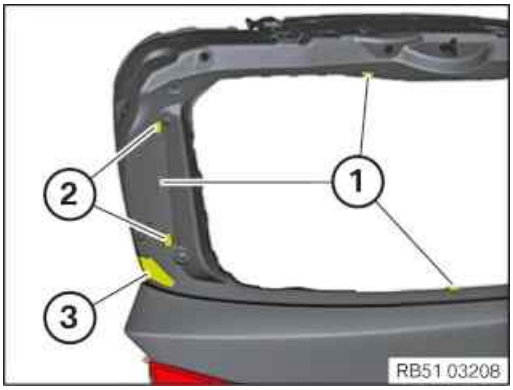
Attention!

Tape off body in area of piercing point with fabric adhesive tape (risk of damage).

Slide string out of Spider at line (1) through the adhesive bead.

Cut out rear window.

Installation:



Installation of spacer buffers/Dual Locks (spacers): Attention!

Spacer buffers and Dual Locks are installed to avoid rear window breakage.

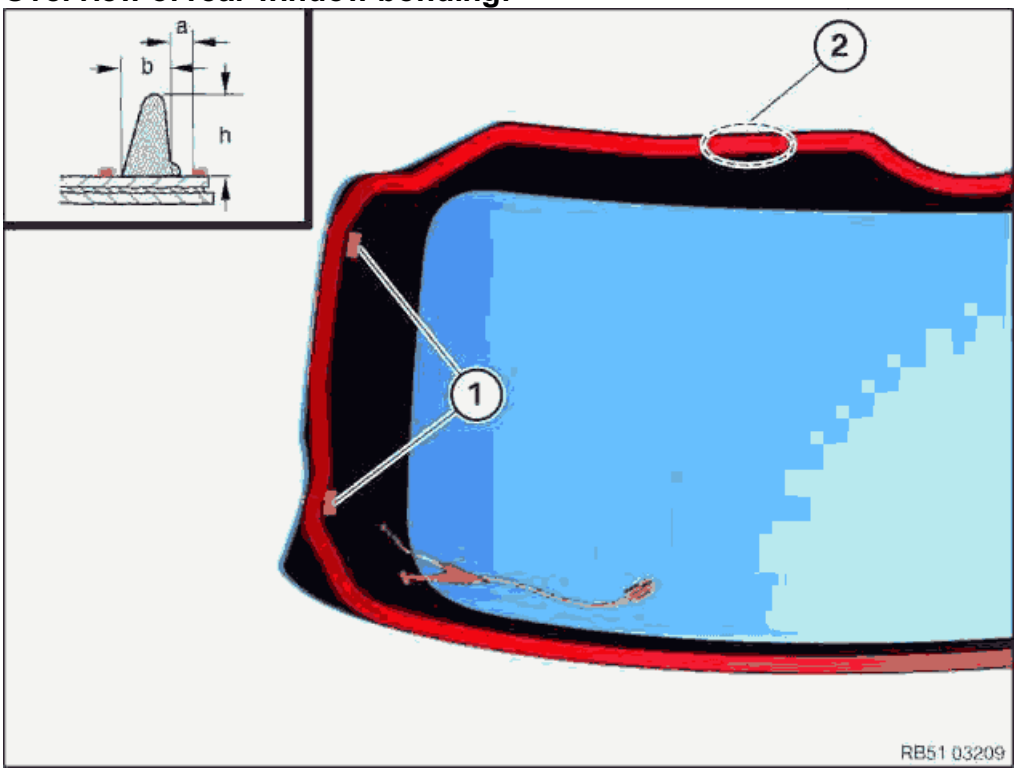
Completely remove remains of faulty spacer buffers (1) and dual locks (2).

Bond new spacer buffer (1) and dual locks (2) within the marks.

Position of new Dual Locks (2) must be matched to position of Dual Locks on rear window.

Check water drain (3) for damage and replace if necessary.

Overview of rear window bonding:



a [mm] = Position adhesive bead	centrally between the tolerance band

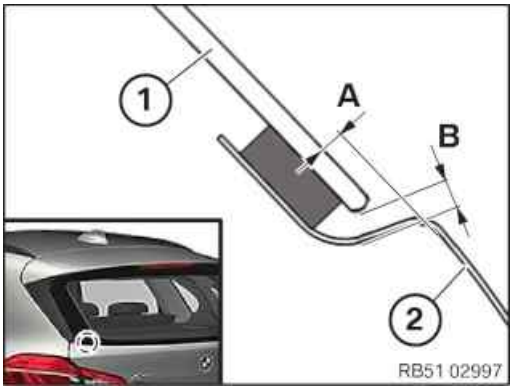
cardiagn.com

b [mm] = Width adhesive bead	7 ±1
h [mm] = Height adhesive bead	12 ±1

Replace faulty dual locks (1).

Apply bead joint in area (2).

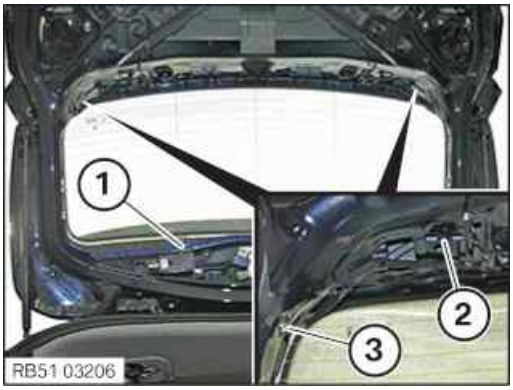
A tolerance band is printed on the ceramic (two dashed lines) that marks the position of the adhesive bead. Place the adhesive bead centrally on the tolerance band.



Installation note:
Carefully working on rear window with siphon:

- install at top
- Align sides evenly
- align bottom left and right to dimension (A and B)

A (short length)	5 ±1.5 mm
B (distance between rear window and tailgate)	3.5 ±1 mm



Connect connectors (1 and 2).

Secure ground cable with screws (3).

Necessary preliminary tasks:

- Remove wiper arm for rear wiper
- Remove trim for rear lid

cardiagn.com

51 31 021 Removing and installing/replacing windscreen rubber surround

Special tools required:

- 51 3 320

Necessary preliminary work:

- Remove windscreen

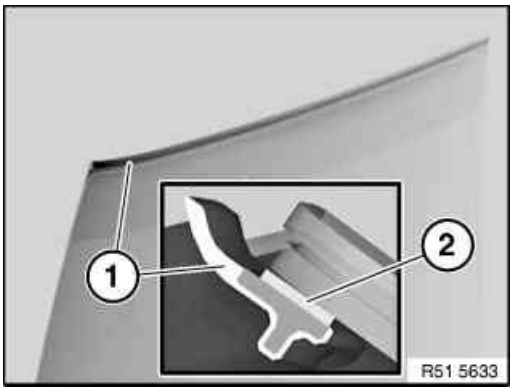
Attention!

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

Attention!

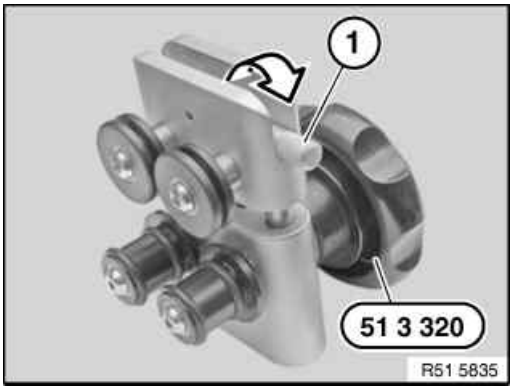
Adhesive area must be dry and free from dust and grease.

Once it has been cleaned, do not touch the adhesive area with bare hands.

Installation note:
Pre-treat adhesive area with Sika-Aktivator205.

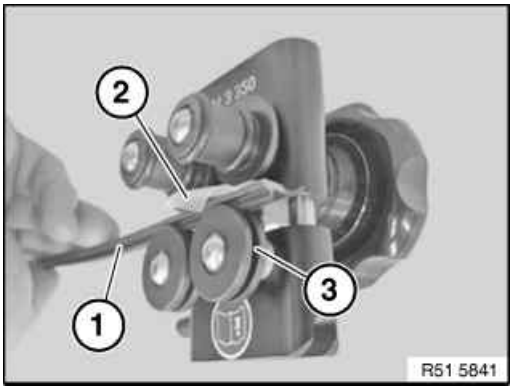
Air drying time: ≥ 1 minute

Sika Activator 205 must not get onto adhesive area of adhesive bead.

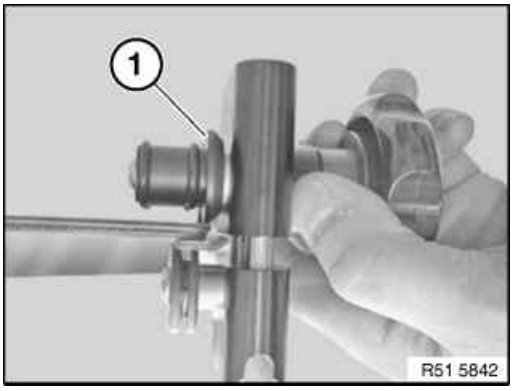


Reposition lever (1) and open special tool 51 3 320 .

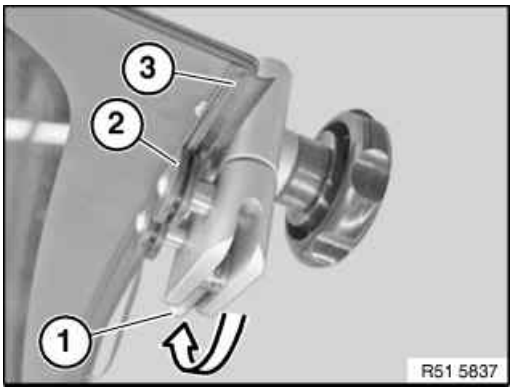
cardiagn.com



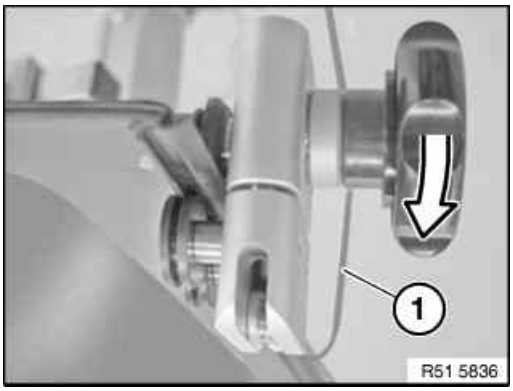
Pull off protective film (2) in stages from adhesive tape.
Insert cover (1) in guide pulleys (3).



Place special tool with contact rollers (1) up against window edge.
Align cover to window outer edge.
Fit cover and visually check for perfect fit.



Reposition lever (1) and close special tool.
Make cover (3) is correctly seated in guide pulleys (2).



Continue to pull off protective film (1) in stages from adhesive tape.
Run special tool with adjuster knob over entire upper window edge.

cardiagn.com

51 31 ... Removing windows with a "Spider"

Windscreen removal system "Spider"



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		

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 minimised with the "Spider" disassembly system.

Sourcing reference:

See Aftersales Assistance Portal (ASAP) - Service/Technical - Workshop Equipment (Start BMW) - Shop Workshop Equipment or at www.bmwgroup.com

Warning!
Follow safety instructions 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).

cardiagn.com

Important!

Always keep both suction cups dry and clean to ensure their optimum adhesion on the windscreen.

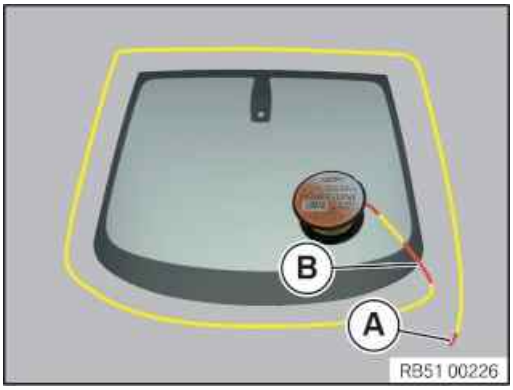
Suction cup may not be applied at the damaged point (crack in window glass).

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.



General

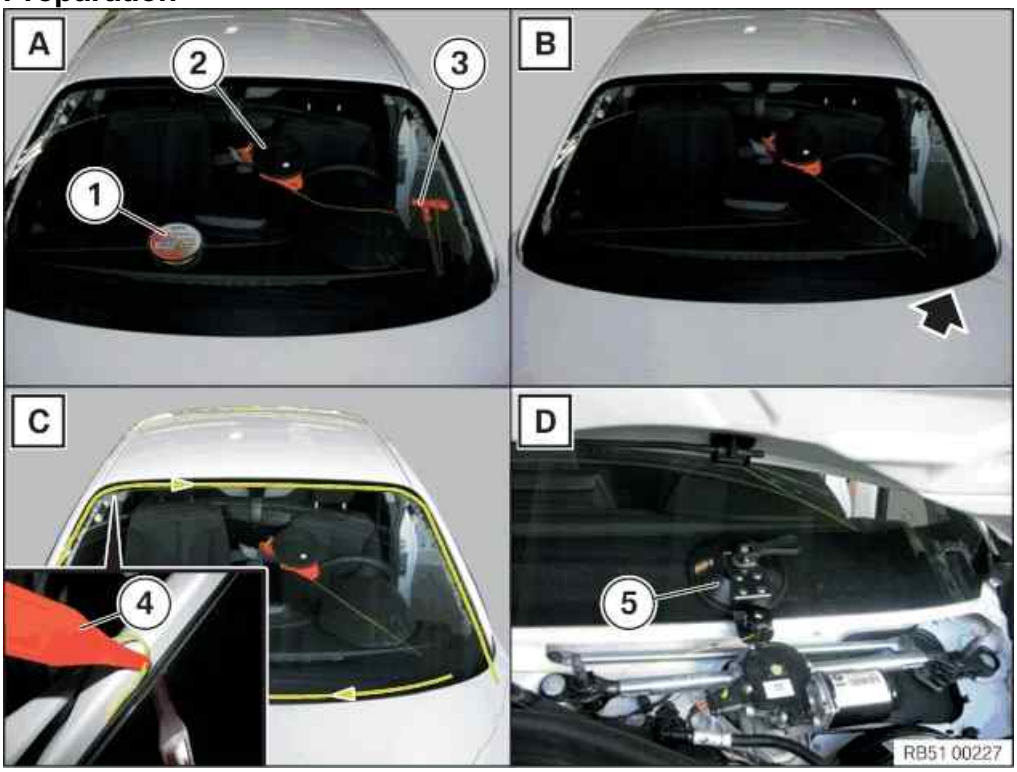
A cord approx. 6.8 m long is used to cut through the adhesive bead.

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.

Preparation



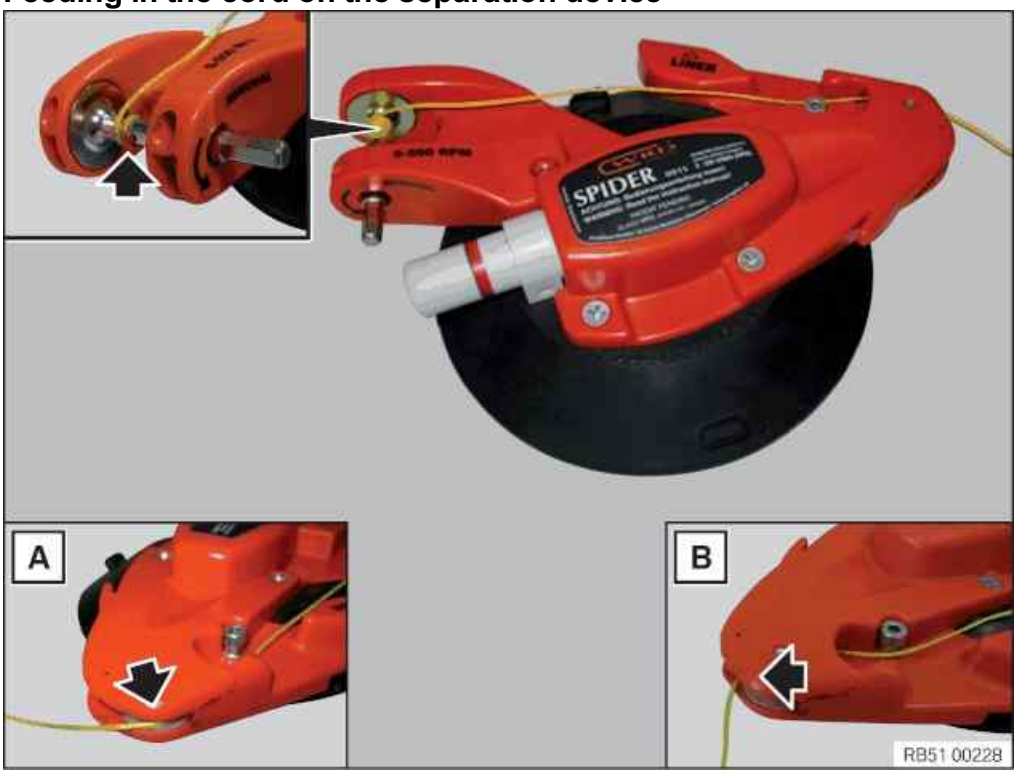
A. Pierce cord from the roller (1) or separation device (2) with cord threader (3) through the adhesive bead from the inside, protect the area from the inside as required.
B. Pull out cord up to the first red mark (approx. 18 cm long).
C. Lay cord around the window glass, use pulling aid (4) if required.
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.

cardiagn.com

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



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.

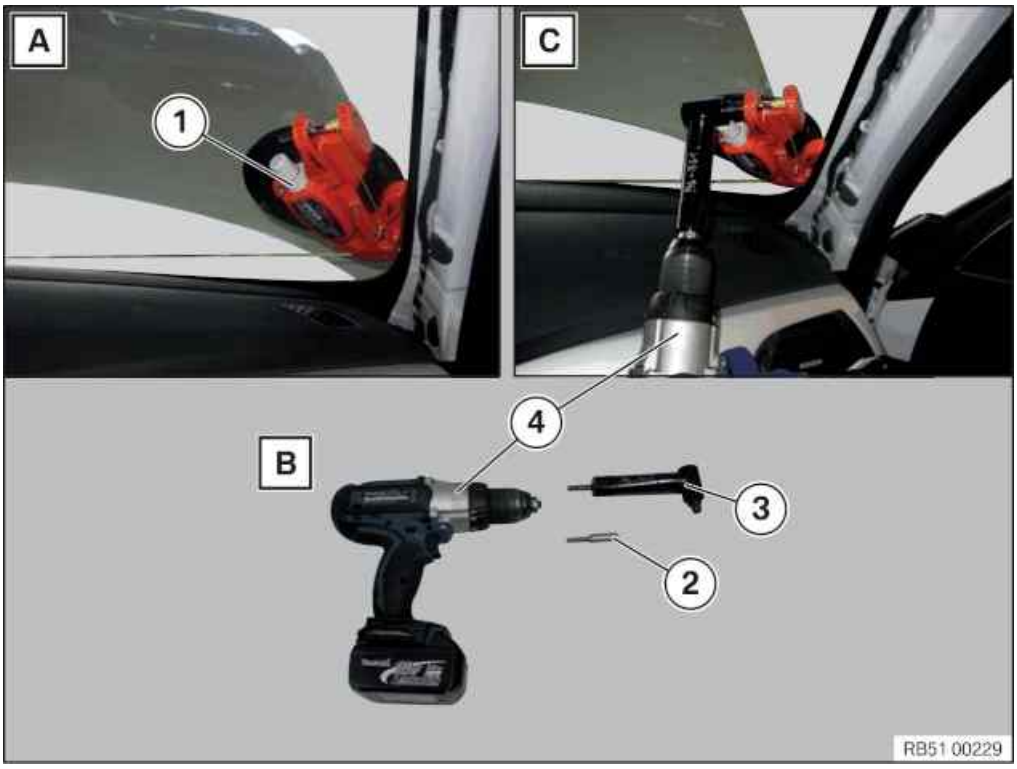
When accessibility is not optimal, the opposite cutting direction may be required (comply with vehicle-specific repair instructions).

- 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



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



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.

cardiagn.com

51 31 ... Removing windows with an oscillating knife



Warning!

Follow safety instructions 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).



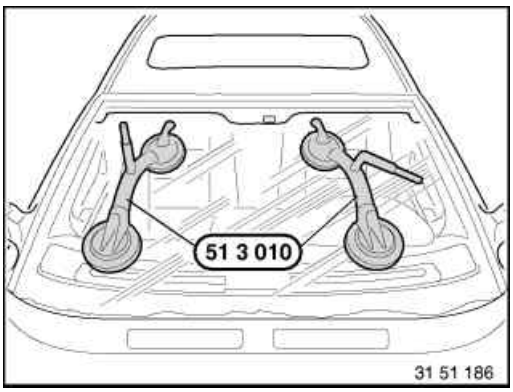
Important!

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.

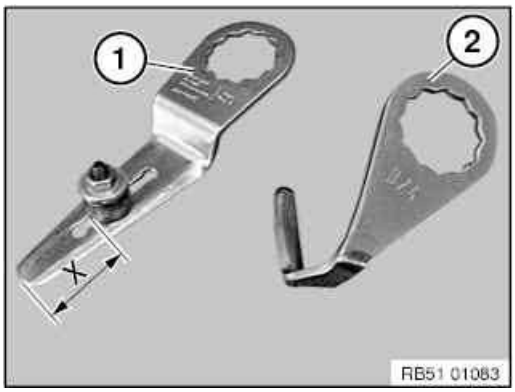
Tape off body with fabric adhesive tape (e.g. Tesa) in areas where the oscillating knife could damage the window glass or the paint.



Use suction cups (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 against falling out.



Depending on the area of application, knife 1 or 2 is used.

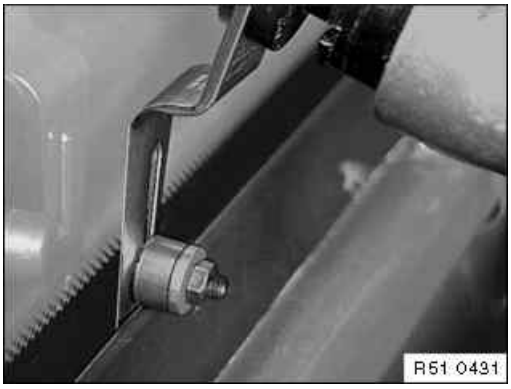
(1) Straight knife with adjustable thrust roller

(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).

cardiagn.com



Removing from the inside:

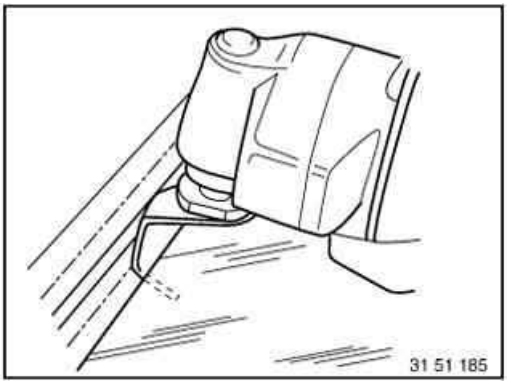
Guide knife carefully between body and window glass.

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.



Removal from outside:

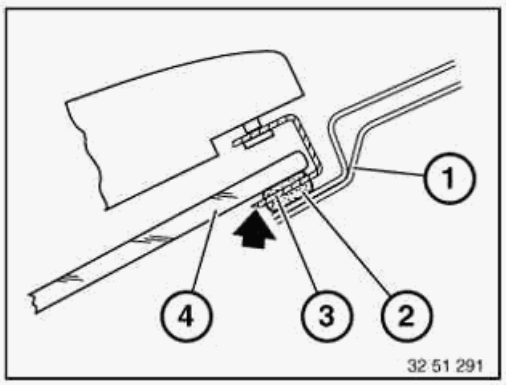
Guide knife carefully between body and window glass.

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.



Cut through adhesive bead as closely as possible to window glass.

(1) Body opening

(2) Adhesive bead

(3) Knife

(4) Window

cardiagn.com

51 31 011 Replace windscreen



Special tools required:

- 51 0 010

Attention!

The following notes form the basis for these repair instructions and must be adhered to at all times:

- Notes on window bonding
- General procedure for dismantling/installing bonded window glass

Removal is carried out with Spider.

The following new parts/consumables are required (sourcing reference BMW Group Parts).

Material	Quantity
Windscreen	1
Cover, windscreen	1
Gutter strip, left and right	1
Spacer buffer 5x5x20 mm	6
Large repair kit	1
Sika Activator 205 (for windscreen cover)	1
Expanding foam tape	1



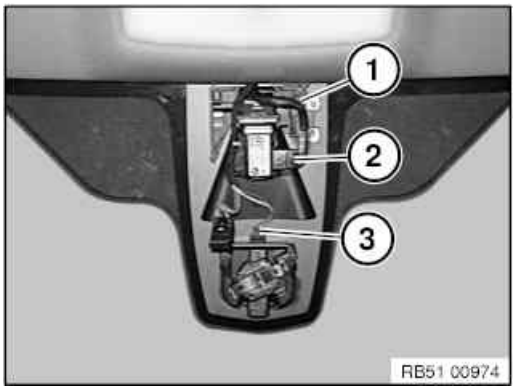
Necessary preliminary tasks:

- Remove left/right gutter strips
- Removing the rear cowl panel cover
- Remove inside mirror
- Remove trim panel for roof pillar (A-pillar) left/right



Removal:

cardiagn.com



Depending on version:

Unplug plug connections (1 to 3).

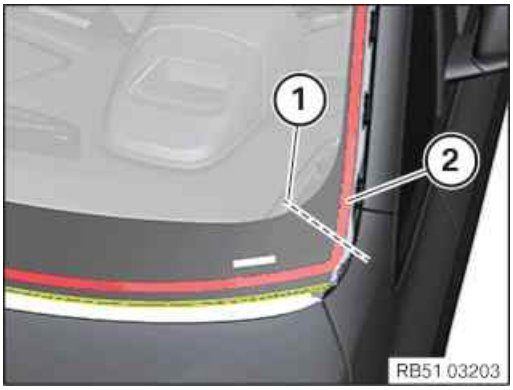
Remount the rain-light-solar and condensation sensor after having disassembled the windscreen.

Remove camera.

Note:
Cables torn from the windscreen must not be soldered back in place. The windscreen must be replaced.

Attention!

Pay attention to cable when cutting in this area.



Attention!

Tape off body in area of piercing point with fabric adhesive tape.

Slide wire along line (1) from the inside through the adhesive bead (2).

Cut out windscreen.

Remove the rain/light/solar and condensation sensor and immediately install on a new windscreen.

Installation:



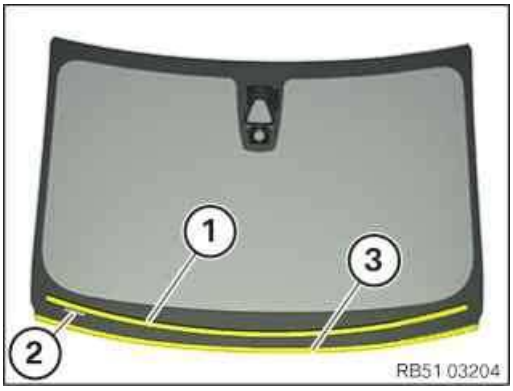
Fitting spacer buffers (spacers): Attention!

Spacer buffers are installed to avoid windscreen breakage and wind noises.

Completely remove remnants of removed spacer buffers and maintain installation location exactly.

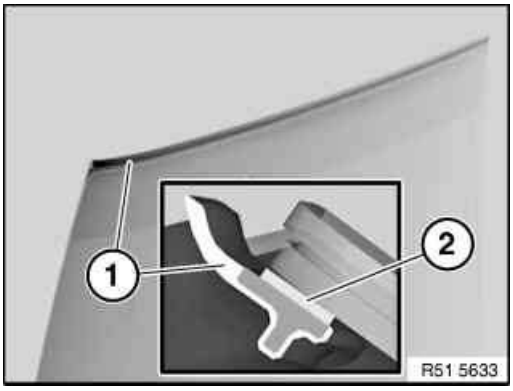
Position new spacer buffer centrally on the embossed marks and bond.

cardiagn.com



Observe notes on component-bonding with adhesive tape!

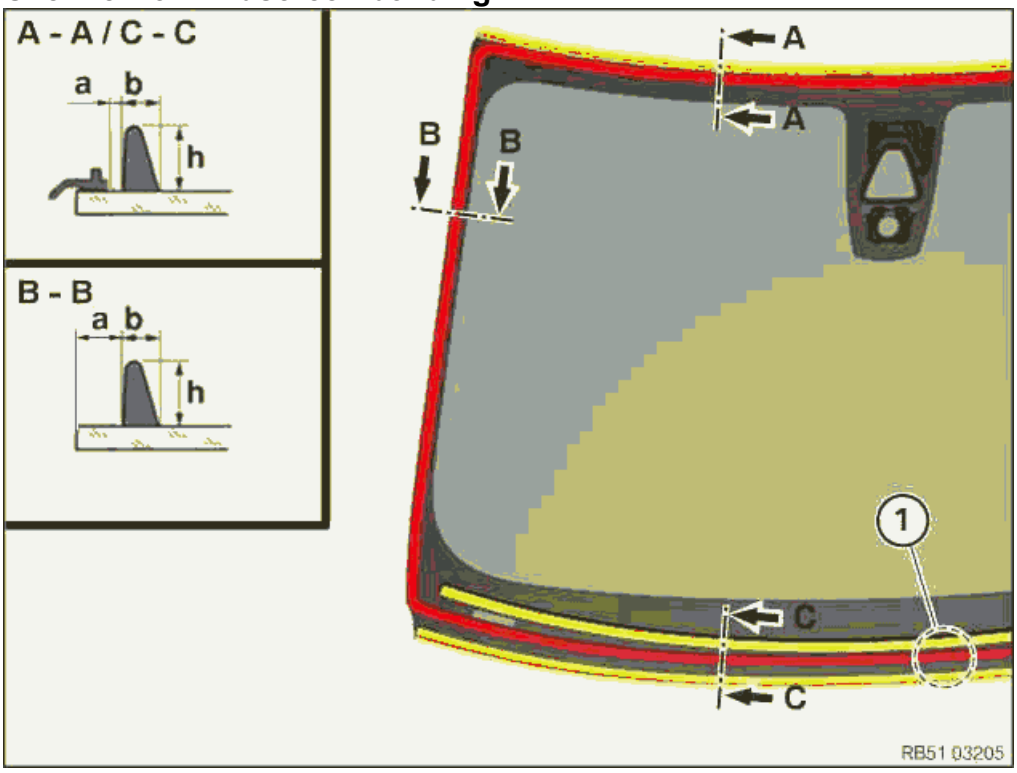
Bond expanding foam tape (1) above the inspection glass for the vehicle identification number (2) parallel to the strip (3) on the windscreen.



Install the cover / rubber frame (1) for the windscreen.

Pre-treat adhesive area with Sika-Aktivator205.

Overview of windscreen bonding:

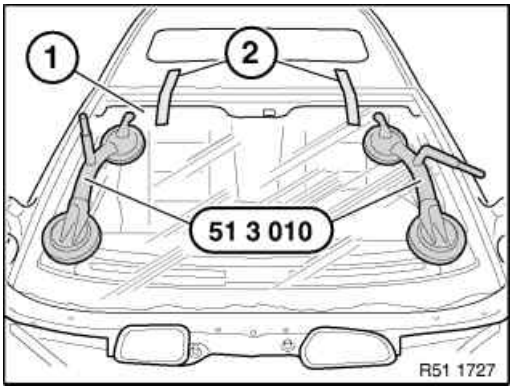


Cut	A - A	B - B	C - C
a [mm] = Position adhesive bead	2 ±2	3 ±1	32 ±2
b [mm] = Width adhesive bead	8 ±1		
h [mm] = Height adhesive bead	12 ±1		

Apply bead joint in area (1).

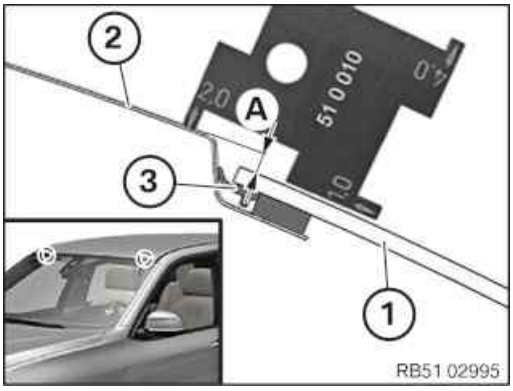
Prepare the body and windscreen.

cardiagn.com



Perform the following steps carefully on the windscreen (1) using suction cup (51 3 010):

- Feed in at bottom of front of engine compartment lid
- Position at top
- Align sides evenly
- press upwards until sealing rests evenly on roof and apply pressure
- secure in terms of height in this position at top with two yellow plastic adhesive tapes (2)



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).

(A) = 3 ± 1 mm

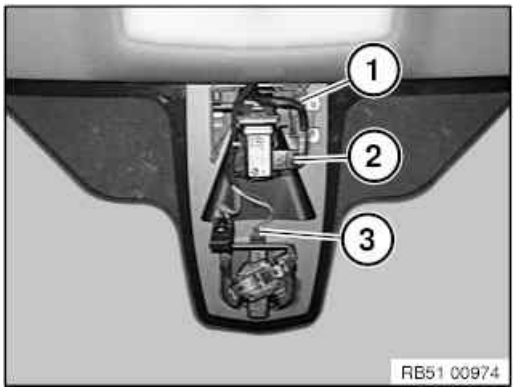


Only with camera-based driver support systems:

Carry out camera calibration via diagnosis system.

Under Service Functions menu:

- Driver assistance
  - Camera-based driver assistance systems
    - Calibration of camera-based driver support systems



Depending on version:

Connect connectors (1 to 3).

Install camera .



Necessary preliminary tasks:

- Install left/right gutter strips
- Installing the rear cowl panel cover
- Install interior mirror
- Install left/right trim panel for roof pillar (A-pillar)

cardiagn.com

51 31 ... Window glass removal with wire pull handle

Special tools required:

- 2 150 267

Warning!

Follow safety instructions 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.

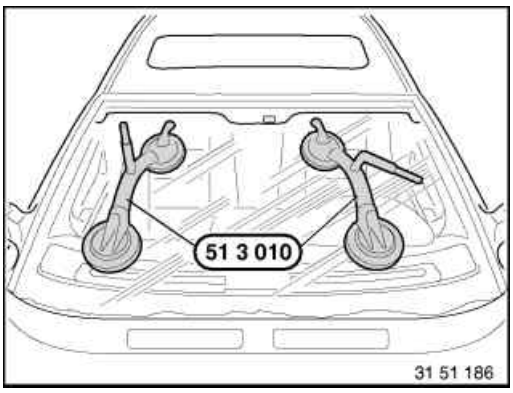
Depending on the area of application, a separating cord can also be used as an alternative to wire.

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 (special tool 2 150 267)

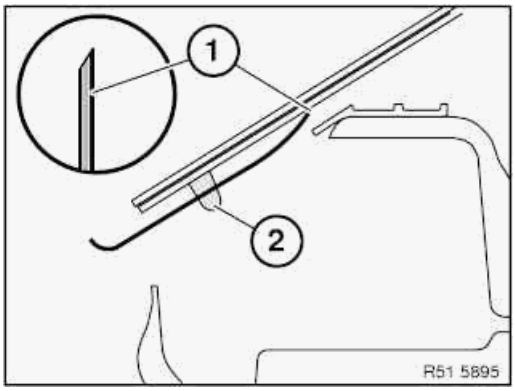


Use suction cups (51 3 010) to lift out the window glass.

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.

cardiagn.com

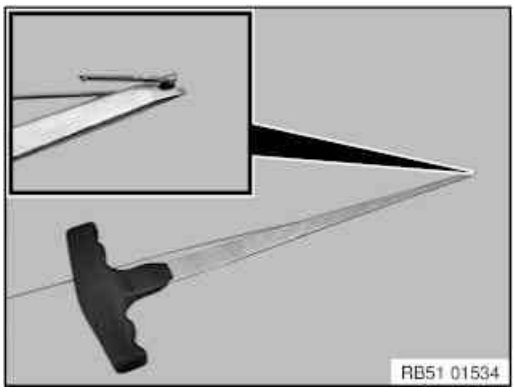


Pulling cutting wire into vehicle:

- 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).
- Pull approximately half of the wire into the passenger compartment

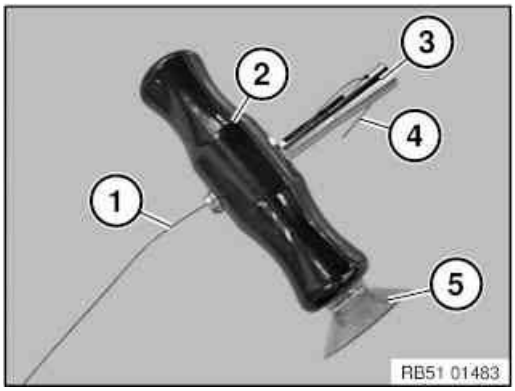
Note:
When using the separating cord, always pull it in using the wire starter 2 150 267 .



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.



Attach wire pull handles:

Feed in cutting wire (1) in cutting handle (2) and clamping element (3) as illustrated.

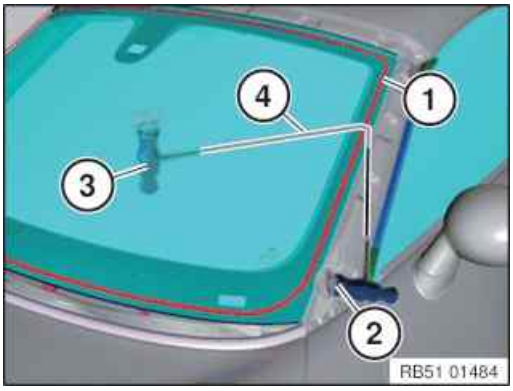
Move back cutting handle (2) over clamping element (3) and trap wire end (4).

Danger of injury!

Wire end (4) must not protrude out of cutting handle (2).

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 (>45°) 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.

cardiagn.com

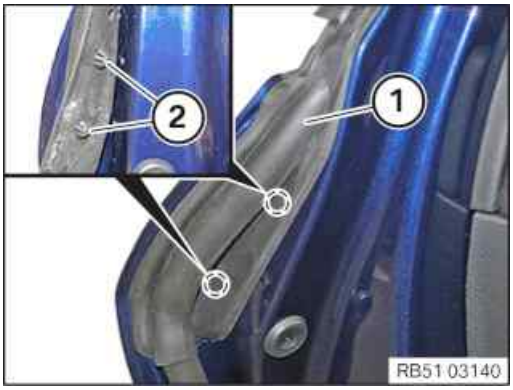
51 34 211 Remove and install/replace rubber window seal for rear left or right door window glass

The Instructions on installation of rubber window seals serve as the basis for these repair instructions and must be observed without fail.

Necessary preliminary tasks:

- Remove outer weather strip at rear door
- Completely lower fixed side window glass

Removal:



Loosen rubber window seal (1) from bracket (2).



Remove rubber window seal (1) sideways from door window frame.

Pull out rubber window seal (1) from window guide rails and remove it.

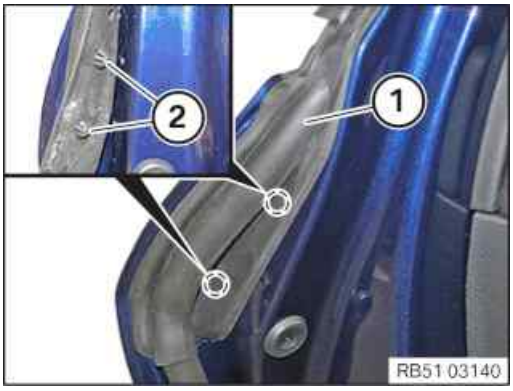
Installation:

cardiagn.com



Insert rubber window seal (1) into the guide rail.

Mount rubber window seal (1) on door window frame.



Engage rubber window seal (1) to bracket (2).*Note:*
Make sure rubber window seals (1) are correctly seated on the door window frame.

Required reworking:

- Install outer weather strip at rear door
- Close side window completely

cardiagn.com

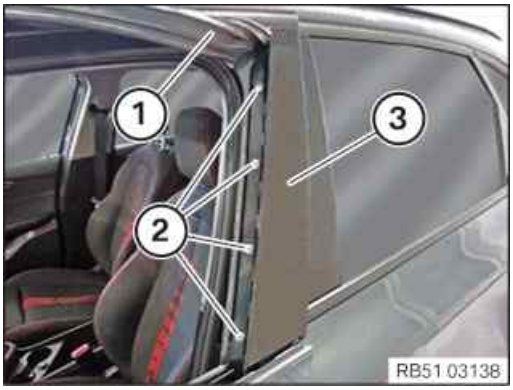
51 32 420 Remove and install/replace trim on window frame of front left or right door

The Instructions on installation of rubber window seals serve as the basis for these repair instructions and must be observed without fail.

Necessary preliminary tasks:

- Open side window
- Detach window shaft cover strip from rear area

Removal:

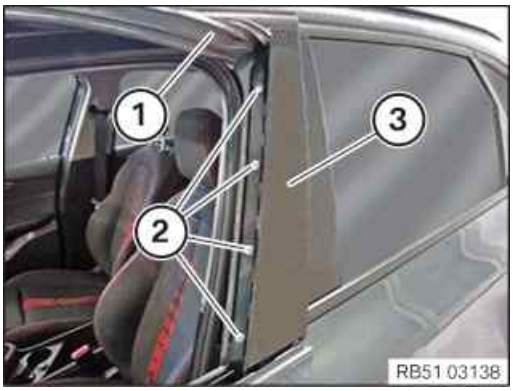


Pull rubber window seal (1) out of rear window guide.

Unfasten screws (2).

Feed out cover (3) in upward direction.

Installation:



Feed in cover (3).

Tighten down screws (2).

Mount rubber window seal (1) into rear window guide.

cardiagn.com



Required follow-up work:

- Close door windows
- Fasten window shaft cover strip in rear area

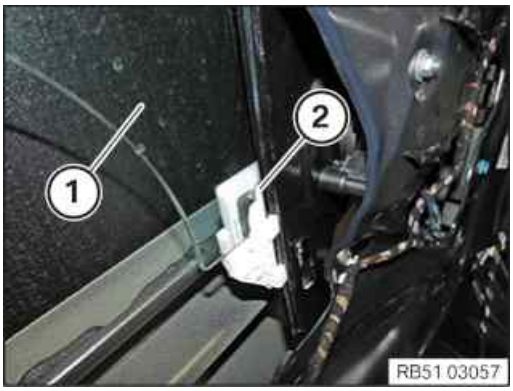
cardiagn.com

51 32 170 Removing and installing/replacing door window glass, front left or right

Necessary preliminary tasks:

- Remove sound insulation in front door
- Remove weather strip on outside of front door

Removal:

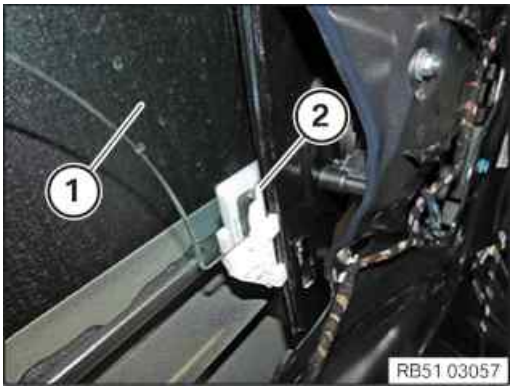


Move door window glass (1) until stop of fixture (2) can be operated.

Push stop of fixture (2) back using a screwdriver and disengage door window glass (1) upwards.

Rotate door window glass slightly and lift out.

Installation:



Rotate door window glass slightly and install.

Engage door window glass (1) in stop of fixture (2).

Note:
Make sure door window (1) is correctly seated on rubber window seal at front and rear.

Required follow-up work:

- Install sound insulation in front door
- Mount weather strip on outside of front door

cardiagn.com

51 32 211 Replace front left or right rubber window seal for left or right side window

Necessary preliminary tasks:

- Remove exterior mirror on front door
- Remove front door window glass

Important!

Instructions for installation of rubber window seal are fundamental to this repair instructions and must absolutely be complied with.

Removal:



Remove sound insulation (1).



Completely pull off rubber window seal (2) from door window frame (3).

Feed out rubber window seal (2) from window guide rail and remove.

Installation:

cardiagn.com



Note:
Coat rubber seal before installation with approved lubricant.

Feed in rubber window seal (2) into window guide rail.

Completely connect rubber window seal (2) to door window frame (3).

Note:
Make sure rubber window seal is correctly seated.



Install sound insulationÂ (1).

Required follow-up work:

- Install exterior mirror on front door
- Install front door window glass

cardiagn.com

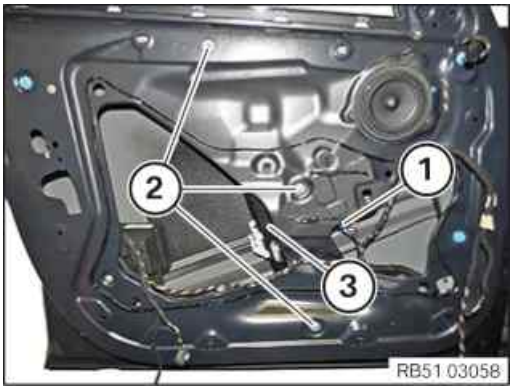
51 33 000 Removing and installing (replacing) power window regulator in left or right front door

Necessary preliminary tasks:

- Remove sound insulation
- Release door window at front

Note:
Disengage (but do not remove) door window glass and secure in door window frame.

Removal:



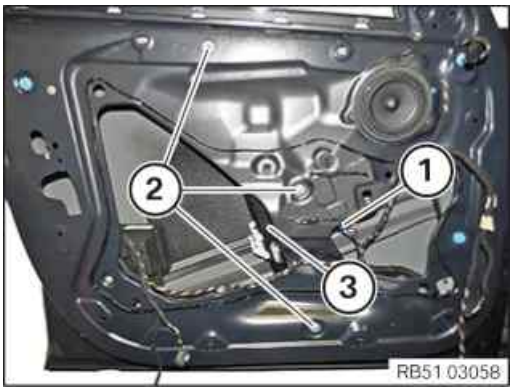
Unfasten plug connection (1) and disconnect.

Release nuts (2) and feed out power window regulator (3).

Installation:

Replacement

Remount flat motor for power window regulator.



Feed in power window regulator (3) and tighten nuts (2).

Tightening torque 51 33 2AZ.

Connect and lock plug connection (1).

Required follow-up work:

- Engage front door window glass
- Install sound insulation

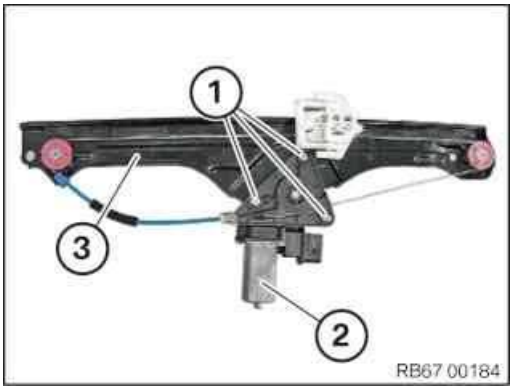
cardiagn.com

67 62 000 Removing and installing or replacing flat motor for front left or right power window regulator

Necessary preliminary tasks:

- Remove front power windows

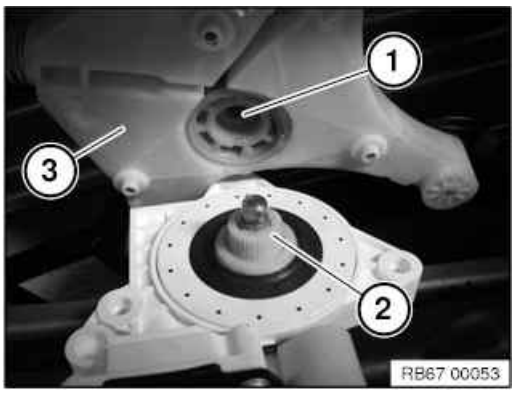
REMOVAL:



Release screws (1).

Detach flat motor (2) from power window regulator (3).

INSTALLATION:

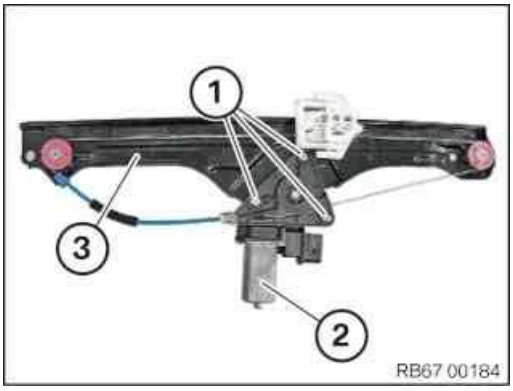


Note:
Diagram similar.

Make sure drive shaft (2) is correctly seated in mounting (1) at power window regulator (3)!

Ensure that the flat motor (2) is assembled without tension.

cardiagn.com



Position flat motor (2) correctly on power window regulator (3).
Tighten down screws (1).
Tightening torque 51 33 4AZ.

Required reworking:

- Install front power window regulator

An initialisation must be carried out in order to activate anti-trap mechanism.
Read and comply with notes on initialisation of power window regulator.

cardiagn.com

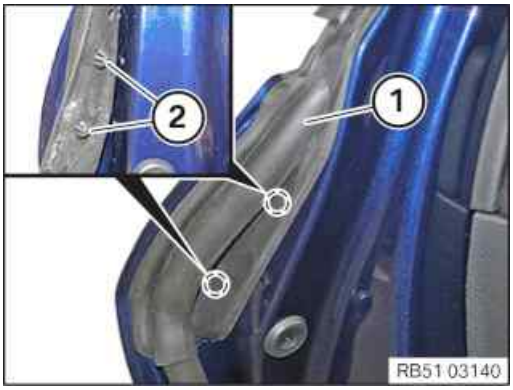
51 34 211 Remove and install/replace rubber window seal for rear left or right door window glass

The Instructions on installation of rubber window seals serve as the basis for these repair instructions and must be observed without fail.

Necessary preliminary tasks:

- Remove outer weather strip at rear door
- Completely lower fixed side window glass

Removal:



Loosen rubber window seal (1) from bracket (2).



Remove rubber window seal (1) sideways from door window frame.

Pull out rubber window seal (1) from window guide rails and remove it.

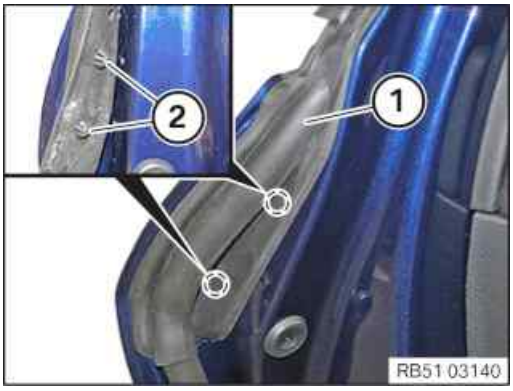
Installation:

cardiagn.com



Insert rubber window seal (1) into the guide rail.

Mount rubber window seal (1) on door window frame.



Engage rubber window seal (1) to bracket (2).*Note:*
Make sure rubber window seals (1) are correctly seated on the door window frame.

Required reworking:

- Install outer weather strip at rear door
- Close side window completely

cardiagn.com

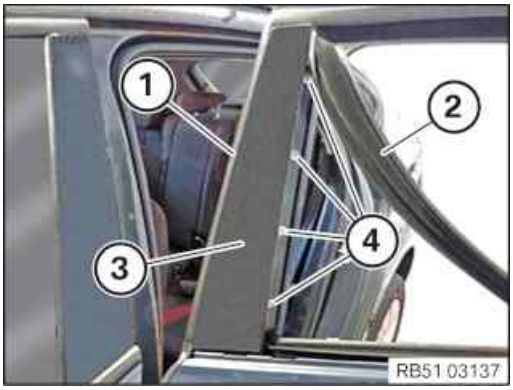
51 34 420 Removing and installing/replacing cover on window frame of rear door (front), left or right

The Instructions on installation of rubber window seals serve as the basis for these repair instructions and must be observed without fail.

Necessary preliminary tasks:

- Open rear side window
- Remove weather strip from rear door

Removal:

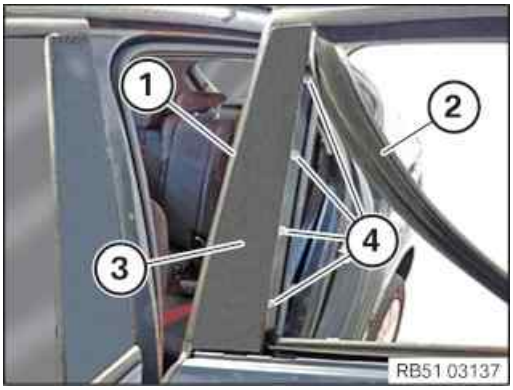


Pull off rubber seal (1) and rubber window seal (2) from trim (3).

Release screws (4).

Feed out trim (3).

Installation:



Feed in cover (3).

Tighten down screws (4).

Fit rubber seal (1) and rubber window seal (2) onto trim (3).

Note:
Make sure rubber window seal (2) is correctly seated on cover (3).

cardiagn.com

Required follow-up work:

- Close rear side window
- Install weather strip onto rear door

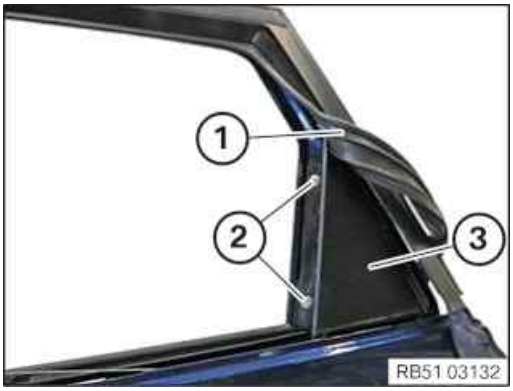
cardiagn.com

51 34 425 Removing and installing/replacing trim on window frame of rear left or right door

Necessary preliminary tasks:

- Remove window cavity weather strip
- Open side window completely.

Removal:



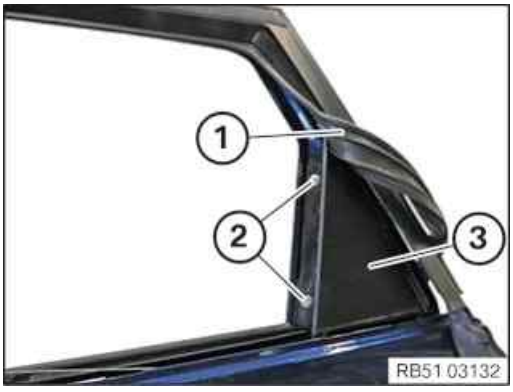
Partly loosen rubber window seal for door window glass (1) and pull out of window guide rail.

Unfasten screws (2).

Move fixed side window glass upwards by approx. 3 centimetres.

Carefully feed out triangular trim (3) towards the top and remove it.

Installation:



Carefully feed in triangular trim (3) and tighten screws (2).

Tightening torque 51 42 5AZ.

Feed in rubber window seal for door window glass (1) at the window guide rail.

Reinstall rubber window seal for door window glass (1) onto door window frame.

Required follow-up work:

- Install the weather strip
- Close side window completely.

cardiagn.com

51 34 171 Replacing rear left or right door window

Warning!

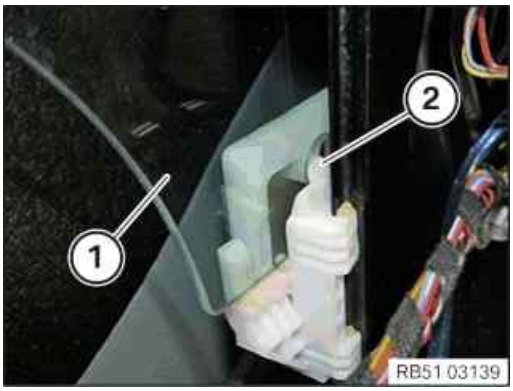
Danger of injury!

Carry out work on the electric power windows only when the power window motor is de-energized (unplug connector).

Necessary preliminary tasks:

- Remove sound insulation on rear door
- Remove window frame trim of the rear door

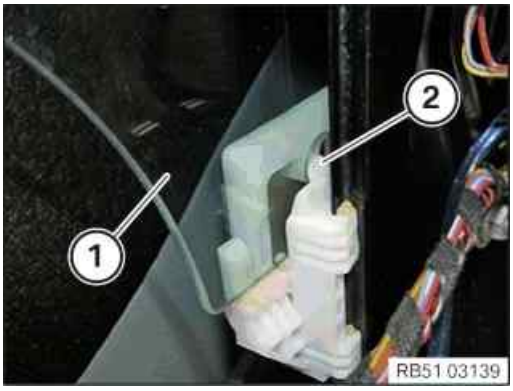
Removal:



Move door window glass (1) until the stop of the fixture (2) can be operated.

Press the stop of the fixture (2) outwards using a screwdriver and feed out the door window glass (1) towards the top.

Installation:



Feed in door window glass (1).

Engage door window glass (1) in the stop of the fixture (2).

Note:
Door window glass (1) must engage properly.

cardiagn.com

Required follow-up work:

- Install window frame trim of the rear door
- Install sound insulation on rear door

cardiagn.com

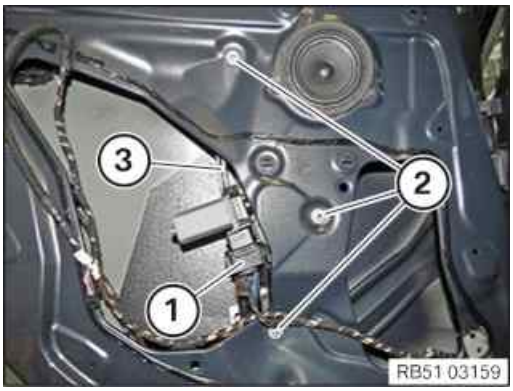
51 37 000 Removing and installing/replacing complete rear left or right power window regulator

Necessary preliminary tasks:

- Loosen door window glass

Note:
Exclusively disengage (but do not remove) door window glass and secure in window frame.

Removal:



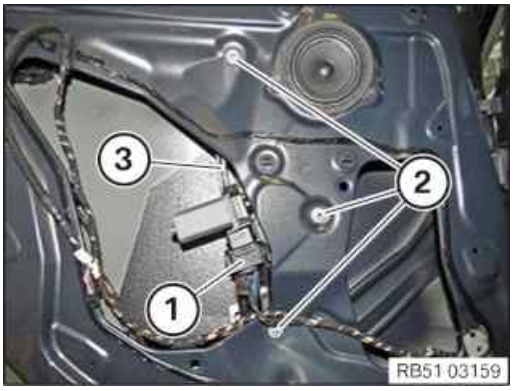
Unfasten plug connection (1) and disconnect.

Loosen nuts (2) and feed out window crank (3) from door.

Installation:

Replacement:

Remount flat motor for power window regulator.



Feed in window crank (3) at the door and tighten nuts (2).

Tightening torque 51 35 2AZ.

Connect the connector (1).

cardiagn.com

Required follow-up work:

- Install door window glass.

cardiagn.com

51 34 171 Replacing rear left or right door window

Warning!

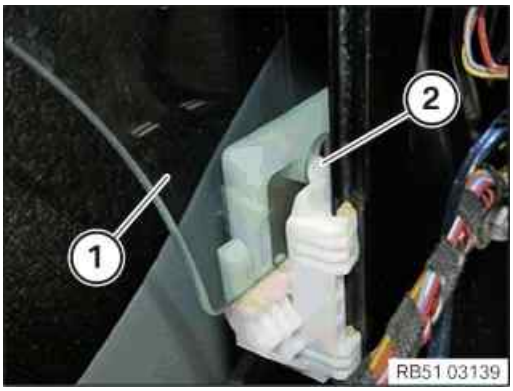
Danger of injury!

Carry out work on the electric power windows only when the power window motor is de-energized (unplug connector).

Necessary preliminary tasks:

- Remove sound insulation on rear door
- Remove window frame trim of the rear door

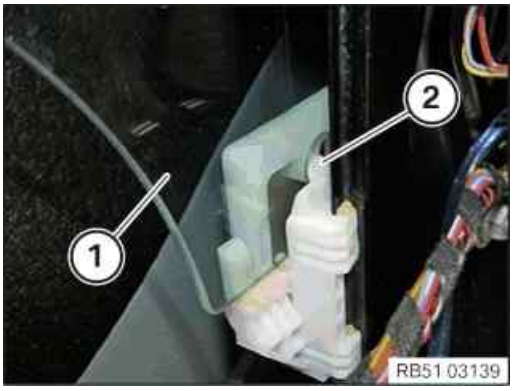
Removal:



Move door window glass (1) until the stop of the fixture (2) can be operated.

Press the stop of the fixture (2) outwards using a screwdriver and feed out the door window glass (1) towards the top.

Installation:



Feed in door window glass (1).

Engage door window glass (1) in the stop of the fixture (2).

Note:
Door window glass (1) must engage properly.

cardiagn.com

Required follow-up work:

- Install window frame trim of the rear door
- Install sound insulation on rear door

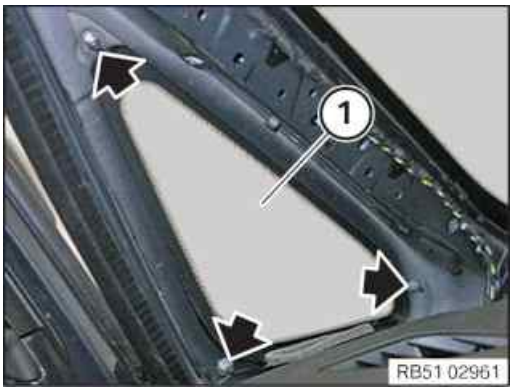
cardiagn.com

51 36 190 Removing and installing (replacing) front left or right side window

Necessary preliminary tasks:

- Remove the triangle window trim

Removal:

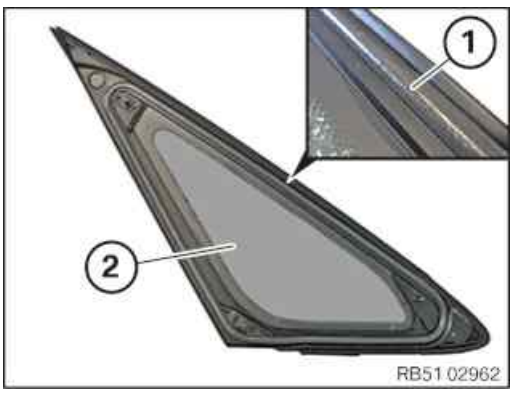


Secure the side window (1) against falling off.

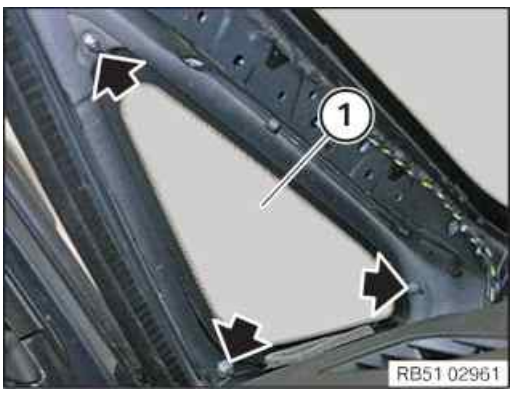
Unscrew nuts.

Remove side window (1).

Installation:



Note:
The circumferential gasket (1) on the side window (2) must not be damaged.



Insert the side window (1) and secure it against falling off.

Tighten nuts.

Tightening torque 51 33 5AZ.

cardiagn.com

Required follow-up work:

- Installing the triangle window trim

cardiagn.com

51 36 070 Removing and installing / replacing left or right rear side window

Attention!

- Notes on window bonding
- General procedure for dismantling/installation of affixed window glass

Removal is carried out with an oscillating knife and wire pull handles.

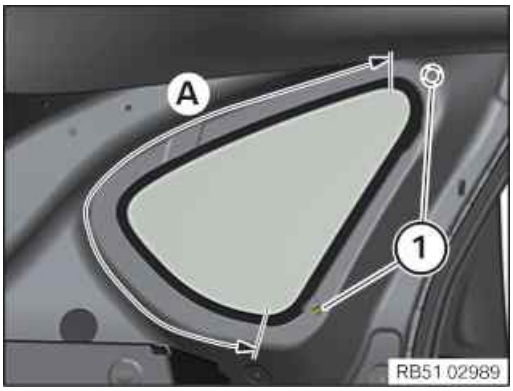
The following new parts / consumables are required (sourcing reference BMW Parts Department).

Material	Quantity
Small repair kit	1
Cutting wire (square)	1
Velcro fastener (Dual Lock tape)	2
Side window (with replacement)	1

Necessary preliminary tasks:

- Remove C/D pillar cover

Removal:

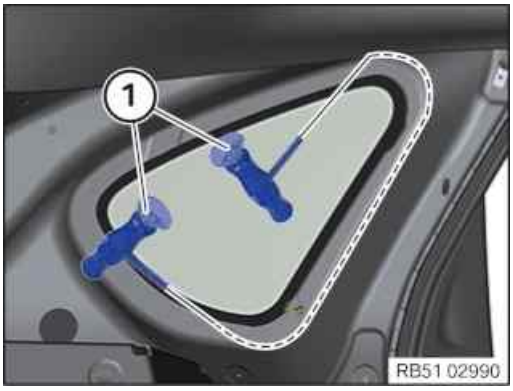


Secure the side window on the body with adhesive tape.

Cut through guide pins (1) with a straight knife without thrust roller.

Cut through adhesive bead in area (B) from inside using an L-shaped knife with blade length 19 mm.

cardiagn.com



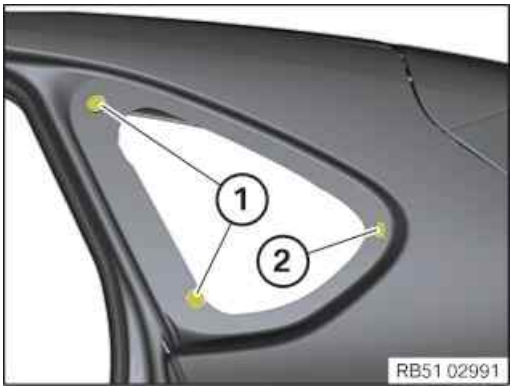
Place wire around the adhesive bead from outside in the area of the C-pillar and feed through to the inside.

Secure wire pull handle (1) on the wire.

Cut through adhesive bead completely and remove side window.

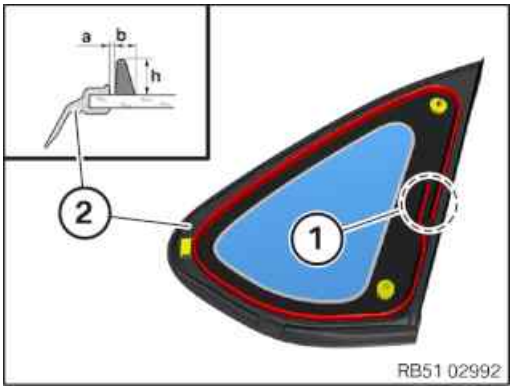
Touch up any paint damage following the side window disassembly.

Installation:



Remove the remaining guide pins (1) and Dual Lock tape (2) and clean the bonding surface.

Apply new Dual Lock tape (2) between the marks on the body area.

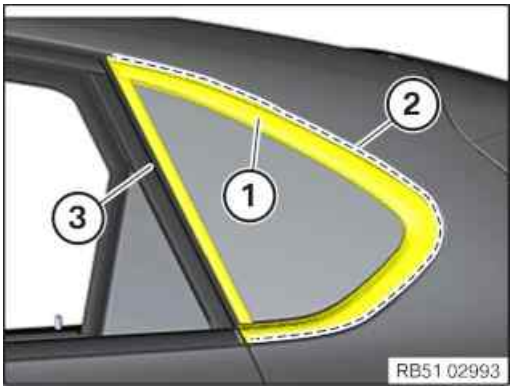


Overview for side window bonding:

a [mm] = Position adhesive bead	2 ±0,5
b [mm] = Width adhesive bead	8 ±1
h [mm] = Height adhesive bead	15 ±1

Apply bead joint in area (1).

Follow the adhesive bead around the circumference of the PVC coating (2).



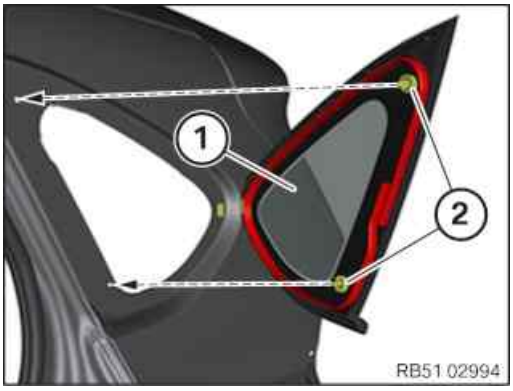
For reusing the side window:

Place side window (1) at side panel.

Align side window (1) at the side panel (2) and rear door (3) and engage in the Dual Lock tape.

Fix side window (1) in position with yellow plastic adhesive tape (sourcing reference: BMW Parts Department).

cardiagn.com



Replacement:

Mount side window (1) on side panel and feed in with guide pins (2).

Align the side window (1) at the side panel and engage in the Dual Lock tape.

Fix side window (1) in position with yellow plastic adhesive tape (sourcing reference: BMW Parts Department).

Required follow-up work:

- Install C/D pillar cover

cardiagn.com

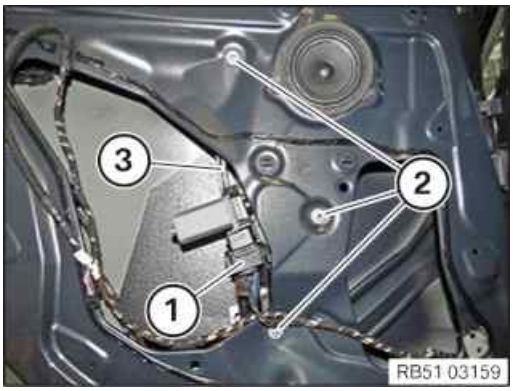
51 37 000 Removing and installing/replacing complete rear left or right power window regulator

Necessary preliminary tasks:

- Loosen door window glass

Note:
Exclusively disengage (but do not remove) door window glass and secure in window frame.

Removal:



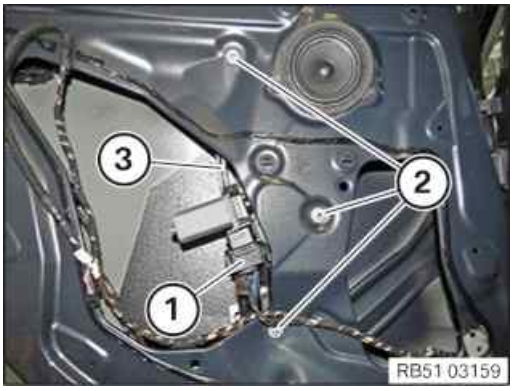
Unfasten plug connection (1) and disconnect.

Loosen nuts (2) and feed out window crank (3) from door.

Installation:

Replacement:

Remount flat motor for power window regulator.



Feed in window crank (3) at the door and tighten nuts (2).

Tightening torque 51 35 2AZ.

Connect the connector (1).

cardiagn.com

Required follow-up work:

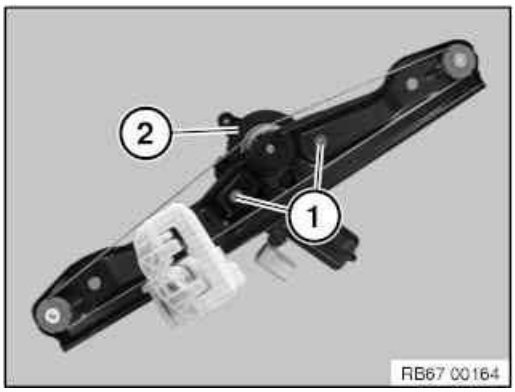
- Install door window glass.

cardiagn.com

67 62 020 Removing and installing/replacing flat motor for rear left or right power window regulator

Necessary preliminary tasks:

- Remove rear power window regulator



Release screw connections (1).

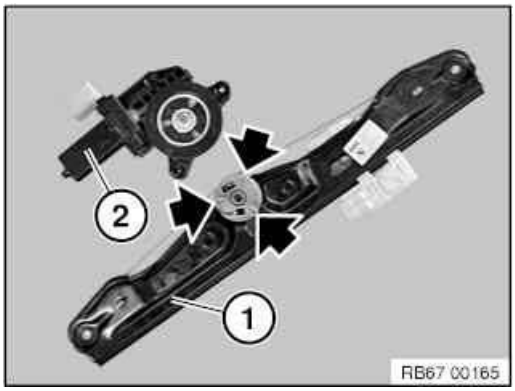
Remove flat motor (2) from power window regulator.

Cable must not come loose from power window.

Installation note:
Simultaneously tighten both screw connections (1).

The shaft of the flat motor (2) must be pulled into the holder of the power window regulator under slight tension.

Tightening torque 51 35 1AZ.



Flat motor (2) must engage exactly at the marked points of the power window regulator (1).**Important!**
Ensure that the flat motor (2) is assembled without tension.

After installation:

An initialisation must be carried out in order to activate anti-trap mechanism.

Read and comply with notes on initialisation of power window regulator.

cardiagn.com

51 48 ... Notes for bonding sound insulation (SI), doors



Special tools required:

- 51 0 300

Attention!

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.

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 ⌀ 4 mm from the roller c. Butyl round profile ⌀ 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	
	• 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 ⌀ 4 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)

cardiagn.com

in the event of damaged sound insulation or leakage	• 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 ⌀ 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).
- 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 90°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).

cardiagn.com

51 41 000 Removing and installing (replacing) front left or right door trim panel

Special tools required:

- 00 9 325

Necessary preliminary tasks:

- Remove power window regulator switch

Removal:

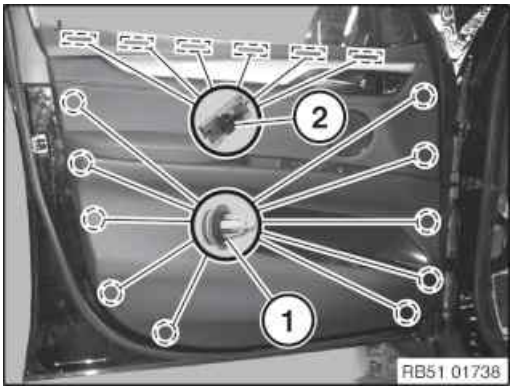


Release screws (1).



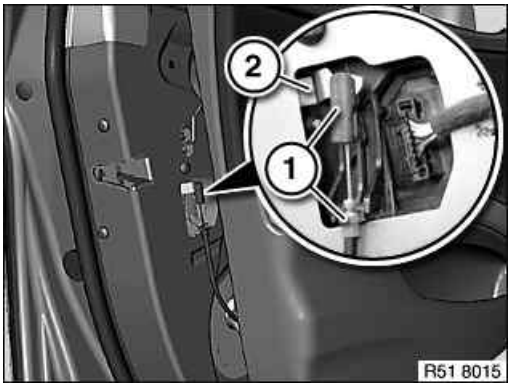
Release screws (1).

cardiagn.com



Unclip door trim panel at clips (1) using special tool 00 9 325 (starting in area of A-pillar).

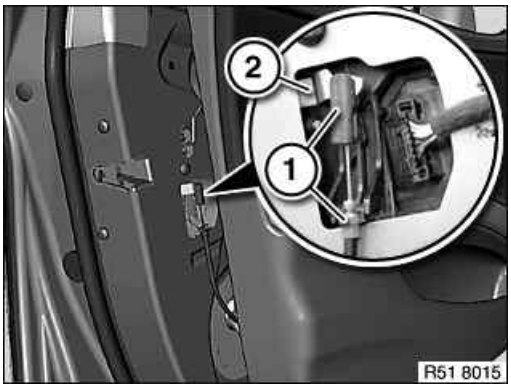
Unclip door trim panel from clips (2) at top.



Disengage Bowden cable (1) from door lock (2).

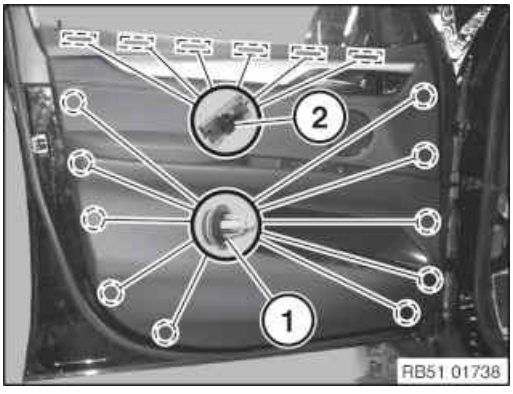
Disconnect all plug connections and remove door trim panel.

Installation:



Hold door trim panel in position and connect all plug connections.

Attach Bowden cable (1) to door lock (2).



Note:
Replace faulty clips (1).

Fit all clips with sealing ring.

Clip door trim panel at top into clamps (2).

Clip door trim panel into clips (1).

cardiagn.com



Tighten down screws (1).

Tightening torque 51 41 1AZ.



Tighten down screws (1).

Tightening torque 51 41 1AZ.

Note:
After assembling the door trim panel proceed as follows:

- Open side window
- Lock with vehicle key
- Check for ease of movement on locking button linkage
- If necessary, align linkage

Required follow-up work:

- Install power window regulator switch

cardiagn.com

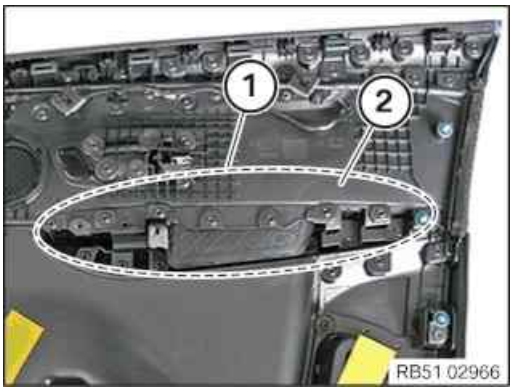
51 41 060 Removing and installing or replacing armrest on door trim panel, front left or right

Necessary preliminary tasks:

- Remove front door trim panel

Note:
Armrest is welded to door trim panel only on initial installation. The armrest is screw-connected on second installation. If necessary, release screws instead of welding spots.

Removal:



Important!

Risk of damage!

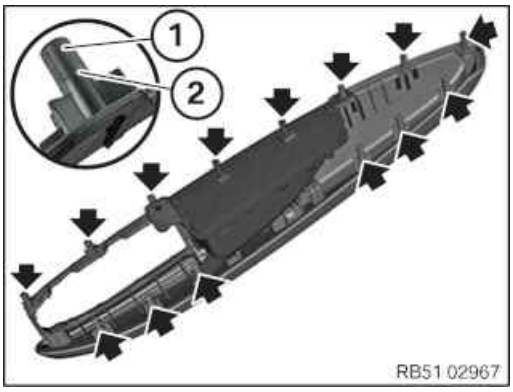
To avoid damaging the contact surface, only drill down to door trim panel area (2)

Drill out/grind all welding spots in the marked area (1) on the door trim panel (2).

Remove armrest from the door trim panel (2).

Remove welding residues on the door trim panel (2) with a scalpel.

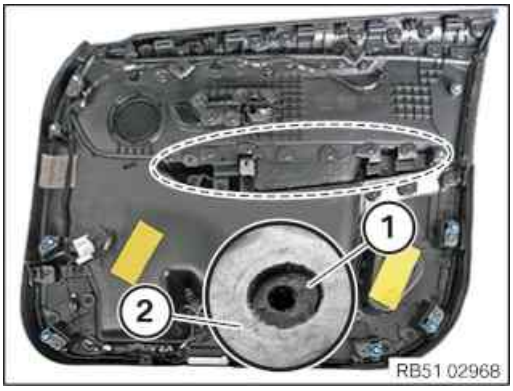
Installation:



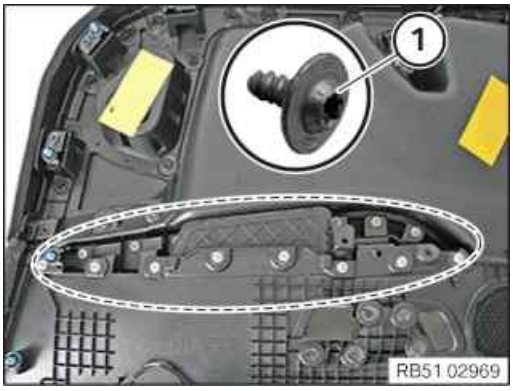
Replacement:

Saw off all welding pins (1) along the moulding (2).

cardiagn.com



Insert armrest in door trim panel.*Note:*
Welding pins (1) must not protrude over door trim panel (2).



Note:
Secure armrest with the repair screws (1).
Tightening torque 51 41 2AZ.

Required follow-up work:

- Mount door trim panel

cardiagn.com

51 41 030 Removing and installing/replacing decorative strip on front left or right door trim panel

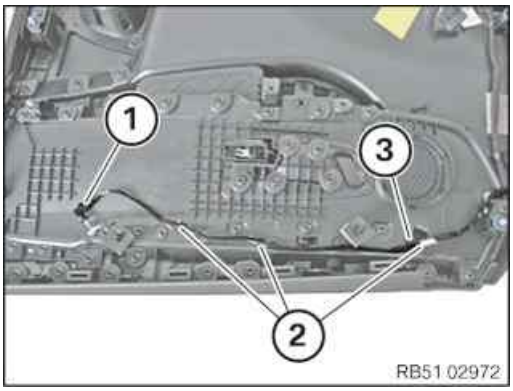
When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary tasks:

- Remove front door trim panel

Note:
The decorative strip is welded to door trim panel only on initial installation. The decorative strip is screw-connected on second installation. If necessary, release screws instead of welding spots.

Removal:

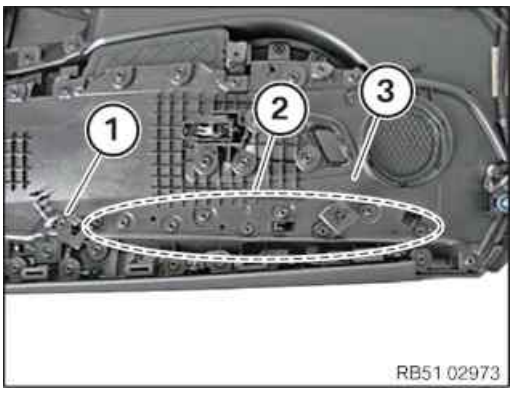


Depending on version:

Remove LED module (1).

Unfasten cable strap (2).

Unfasten plug connection (3) and disconnect.



Release screw (1).

Important!

Risk of damage!

To avoid damaging the contact surface, only drill/grind down to door trim panel area (3).

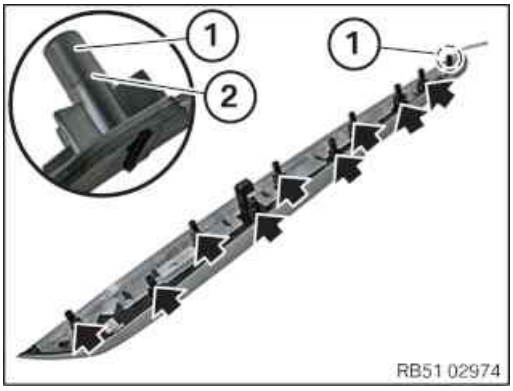
Drill out/grind all welding spots in the marked area (2) at the door trim panel (3).

Feed out decorative strip from the door trim panel (3).

Remove welding residues on the door trim panel (3) with a scalpel.

Installation:

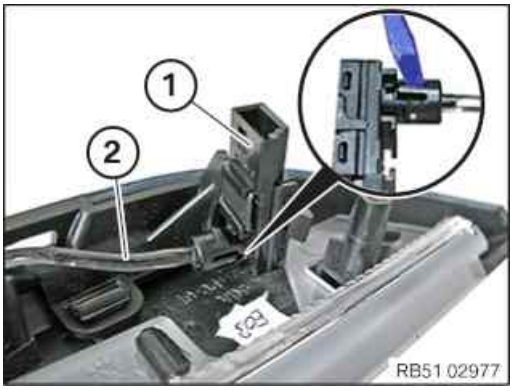
cardiagn.com



Replacement:

Rear welding pin (1) may not be shortened.

Saw off welding pins (1) along the moulding (2).



Equipment specification with two fibre-optic conductors.

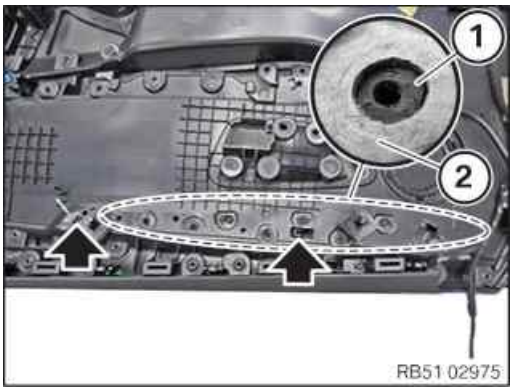
Release LED module (1) from holder.

Release fibre-optic conductor (2) on latch mechanism by using a screwdriver (3 mm blade).

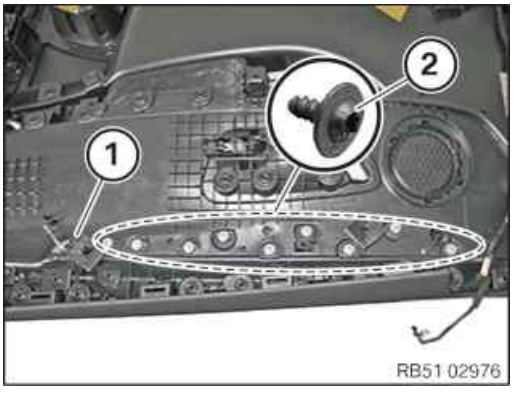
Important!

Do not damage fibre-optic conductor (2).

Install LED module (1) into new decorative strip.



Insert the armrest with fibre-optic conductor and retaining hook in the door trim panel (2).*Note:*
Welding pins (1) must not protrude over door trim panel (2).



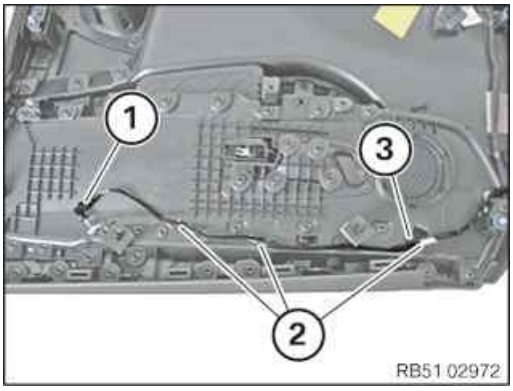
Note:
Insert the screw (1) with a length of 20 mm only at the rear welding pin.

The other welding pins are fixed with repair screws (2) with a length of 10 mm.

Attach the armrest with the screw (1) and the repair screws (2).

Tightening torque 51 41 3AZ.

cardiagn.com



Depending on version:

Install the LED module (1).

Secure cable clip (2).

Connect connector (3).

Required follow-up work:

- Install door trim panel

cardiagn.com

51 48 060 Removing and installing/replacing sound insulation in left or right front door

Necessary preliminary tasks:

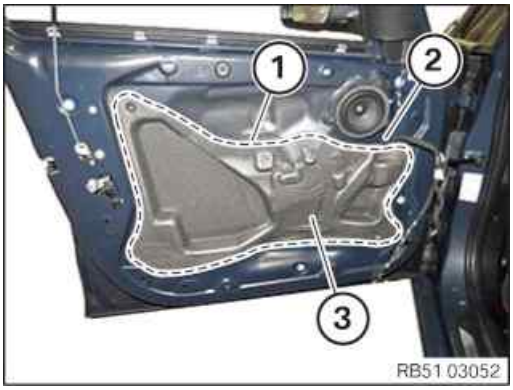
- Remove front door trim panel

Attention!

Instructions for sound insulation are an essential part of these repair instructions and must be followed without fail.

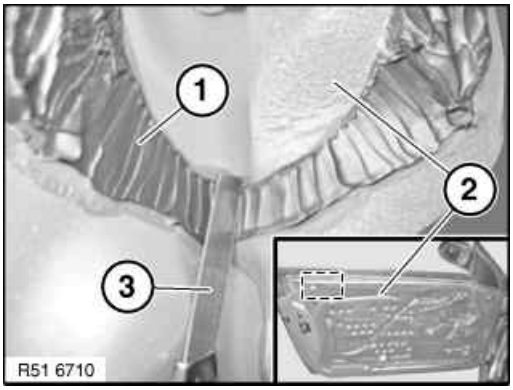
Do not detach sound insulation in jerks (risk of damage).

Ensure watertightness of sound insulation after every repair (water ingress).



Note:
Position of sealing bead (1).

Pay attention to the cable (2) when removing the sound insulation (3).



Attention!

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

When refitting:

Damaged sound insulation must be replaced.

Lay butyl rope with ⌀ 4 mm (sourcing reference: BMW Parts Department) onto the original butyl rope.

Replacement:

Remove residual butyl at the door and clean the adhesive area.

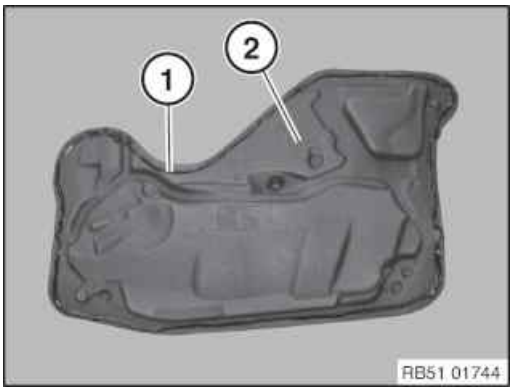
Air drying time: 1 minute

Attention!

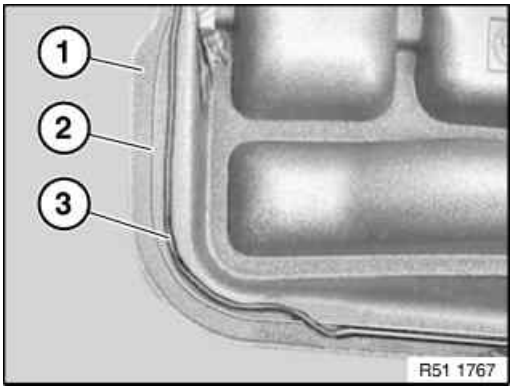
Bonding surfaces must be dry and free of dust and grease.

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.



Note:
Position of butyl rope (1) on sound insulation (2).



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:

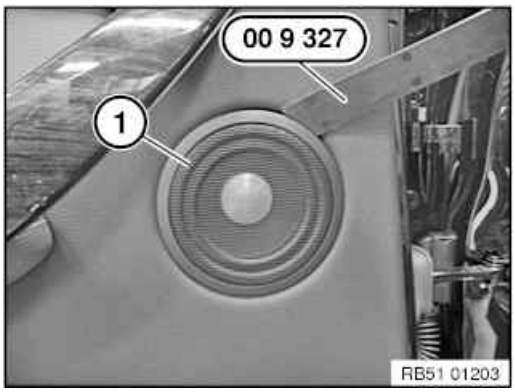
Firm thumb pressure has approx. 30 N/cm^2

cardiagn.com

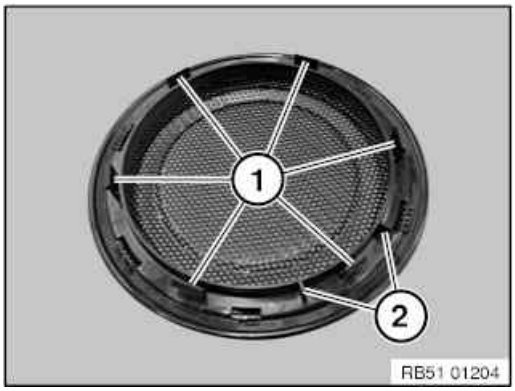
51 41 018 Replacing speaker cover on left or right front door trim panel

Special tools required:

- 00 9 327



Unclip speaker cover (1) from door trim panel with special tool 00 9 327 .



Installation note:
Catches (1) and guides (2) must not be damaged or missing.

Guides (2) are used for correct positioning of speaker cover on door trim panel.

cardiagn.com

51 48 ... Notes for bonding sound insulation (SI), doors



Special tools required:

- 51 0 300

Attention!

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.

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 ⌀ 4 mm from the roller c. Butyl round profile ⌀ 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	
	• 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 ⌀ 4 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)

cardiagn.com

in the event of damaged sound insulation or leakage	• 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 ⌀ 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).
- 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 90°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).

cardiagn.com

51 42 000 Remove and install left or right rear door trim panel

Special tools required:

- 00 9 325

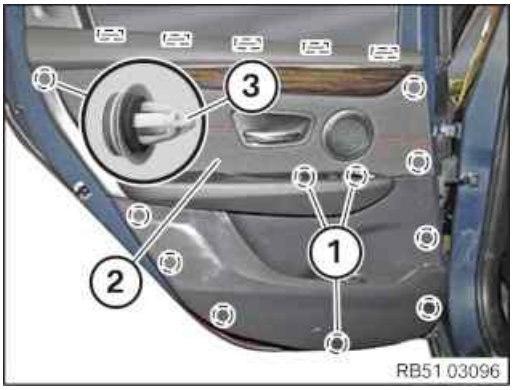
When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary tasks:

- Remove rocker switch for power window regulator

Removal:

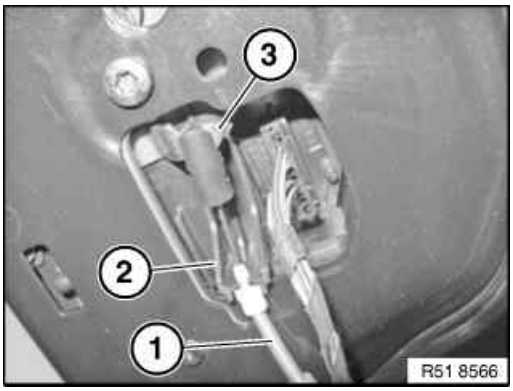
Important!
Do not under any circumstances pull on map pocket.



Release screws (1).

Release door trim panel (2) from clips (3) with special tool 00 9 325 , starting at bottom.

Release door trim panel (2) from clamps at top and remove.



Disengage Bowden cable (1) for release lever first at counter support (2) and then at door lock (3).

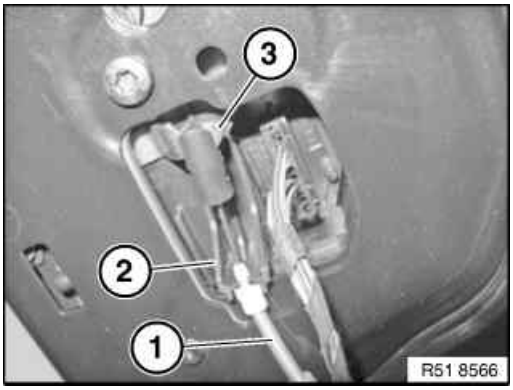
Feed out door wiring harness from all brackets.

Unlock and disconnect all plug connections, then remove door trim panel.

cardiagn.com

Installation: *Note:*
Replace faulty clips.

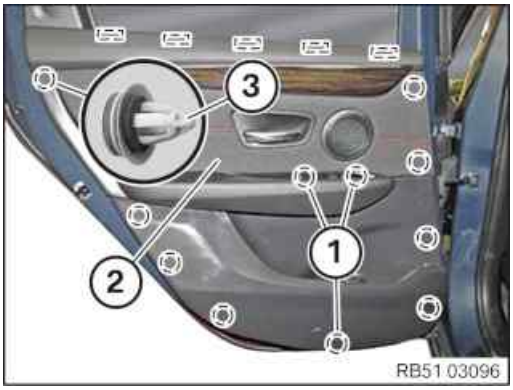
Replace faulty clamps.



Feed in door wiring harness in all mountings.

Connect and lock all plug connections.

Attach bowden cable (1) for release lever first to door lock (3) and then to counter support (2).



Engage door trim panel (2) in clamps at top.

Engage door trim panel (2) into clips (3).

Tighten down screws (1).

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 linkage

Required follow-up work:

- Install rocker switch for power window regulator

cardiagn.com

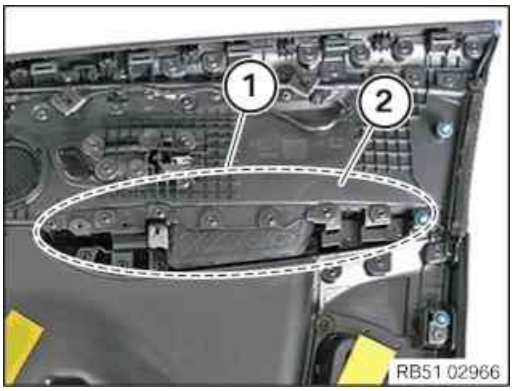
51 42 060 Removing and installing/replacing armrest on left or right rear door trim

Necessary preliminary tasks:

- Remove rear door trim panel

Note:
Armrest is welded to door trim panel only on initial installation. The armrest is screw-connected on second installation. If necessary, release screws instead of welding spots.

Removal:



Important!

Risk of damage!

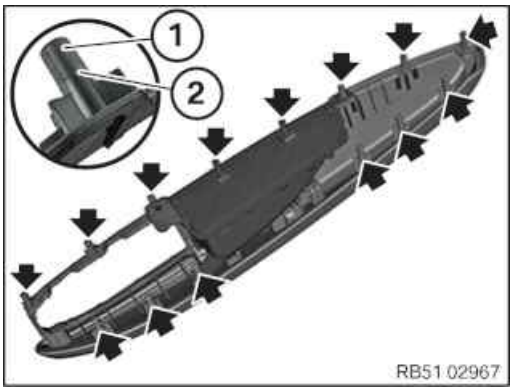
To avoid damaging the contact surface, only drill down to door trim panel area (2)

Drill out/grind all welding spots in the marked area (1) on the door trim panel (2).

Remove armrest from the door trim panel (2).

Remove welding residues on the door trim panel (2) with a scalpel.

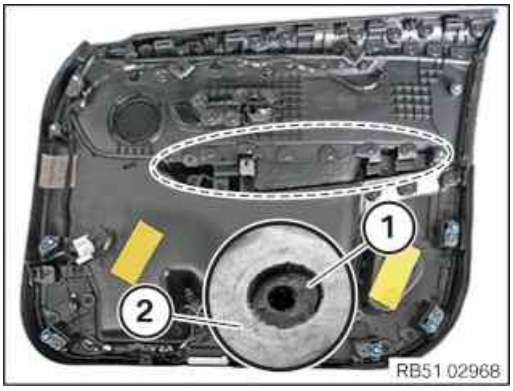
Installation:



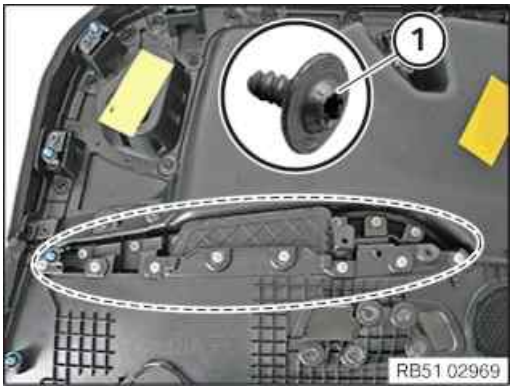
Replacement:

Saw off all welding pins (1) along the moulding (2).

cardiagn.com



Insert armrest in door trim panel.*Note:*
Welding pins (1) must not protrude over door trim panel (2).



Note:
Secure armrest with the repair screws (1).
Tightening torque 51 42 2AZ.

Required follow-up work:

- Install rear door trim

cardiagn.com

51 42 030 Removing and installing/replacing decorative strip on left or right rear door trim panel

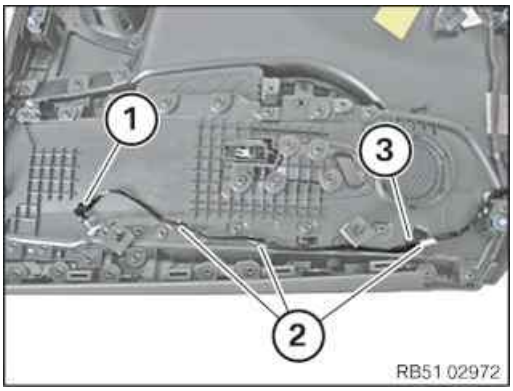
When working on trim panel components, make sure that visible surfaces are not scratched or damaged (e.g. by sharp-edged tools).

Necessary preliminary tasks:

- Remove rear door trim panel

Note:
The decorative strip is welded to door trim panel only on initial installation. The decorative strip is screw-connected on second installation. If necessary, release screws instead of welding spots.

Removal:

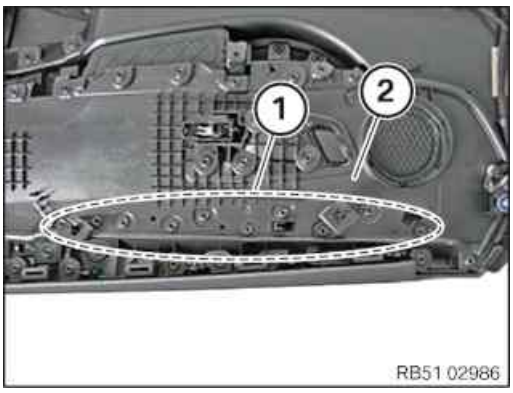


Depending on version:

Remove LED module (1).

Unfasten cable strap (2).

Unfasten plug connection (3) and disconnect.



Important!

Risk of damage!

To avoid damaging the contact surface, only drill/grind down to door trim panel area (2).

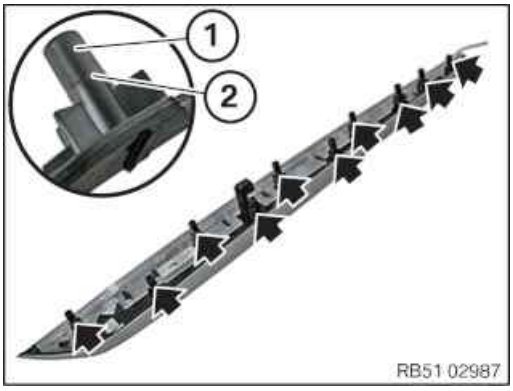
Drill out/grind all welding spots in the marked area (1) on the door trim panel (2).

Feed out decorative strip from the door trim panel (2).

Remove welding residues on the door trim panel (2) with a scalpel.

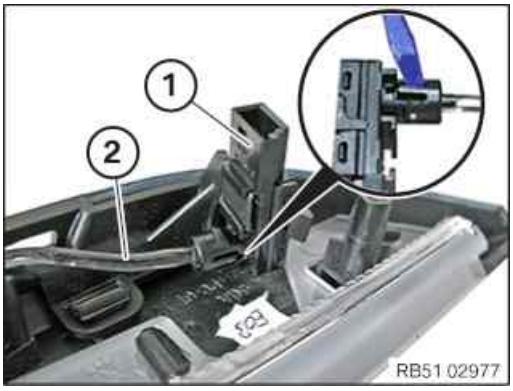
Installation:

cardiagn.com



Replacement:

Saw off weld pins (1) along moulding (2).



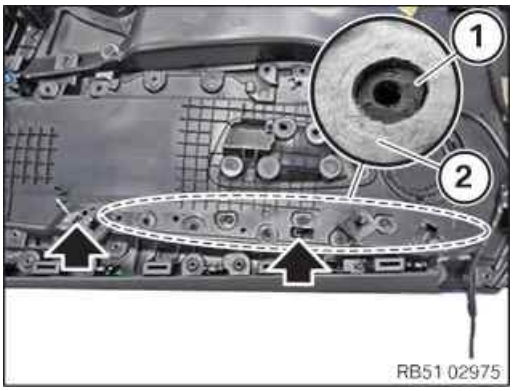
Equipment specification with two fibre-optic conductors.

Release LED module (1) from holder.

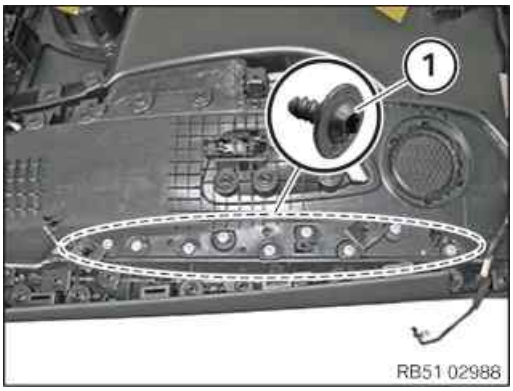
Release fibre-optic conductor (2) on latch mechanism by using a screwdriver (3 mm blade).

Attention, do not damage the fibre-optic conductor (2) when doing this.

Install LED module (1) into new decorative strip.



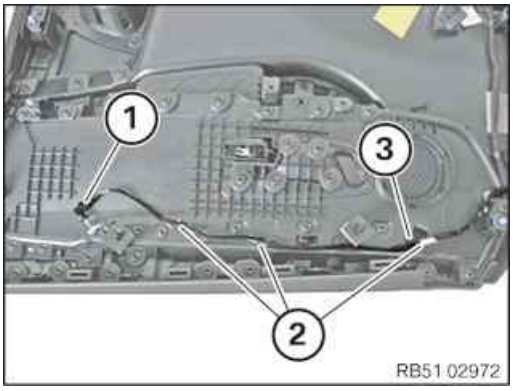
Insert the armrest with fibre-optic conductor and retaining hook in the door trim panel (2).*Note:*
Welding pins (1) must not protrude over door trim panel (2).



Secure armrest with the repair screws (1).

Tightening torque 51 42 3AZ.

cardiagn.com



Depending on version:

Install the LED module (1).

Secure cable clip (2).

Connect connector (3).

Required follow-up work:

- Install rear door trim

cardiagn.com

51 48 070 Removing and installing/replacing sound insulation in left or right rear door

Attention!

Instructions for sound insulation are an essential part of these repair instructions and must be followed without fail.

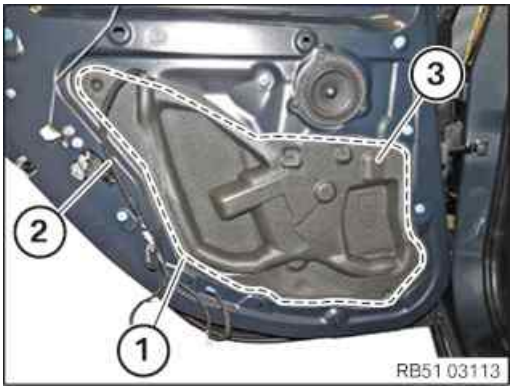
Do not detach sound insulation in jerks (risk of damage).

Ensure watertightness of sound insulation after every repair (water ingress).

Necessary preliminary tasks:

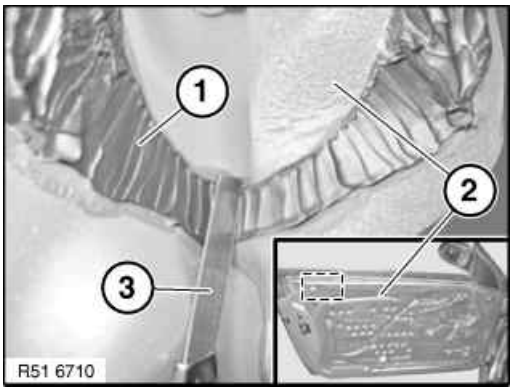
- Remove door trim panel

Removal:



Note:
Position of sealing bead (1).

Feed out line (2) from sound insulation (3).



Attention!

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

When refitting:

Damaged sound insulation must be replaced.

Lay butyl rope with ⌀ 4 mm (sourcing reference: BMW Parts Department) onto the original butyl rope.

Replacement:

Remove residual butyl at the door and clean the adhesive area.

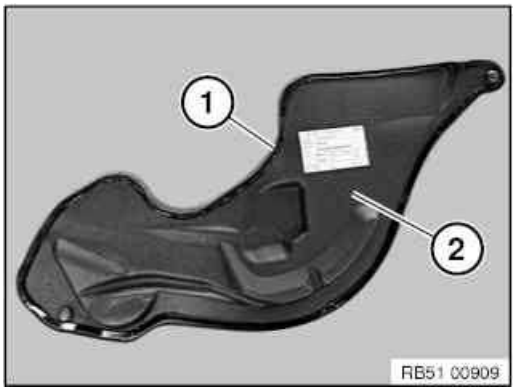
Air drying time: 1 minute

Attention!

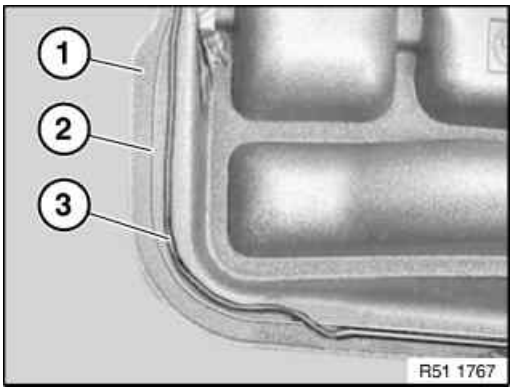
Bonding surfaces must be dry and free of dust and grease.

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.



Note:
Position of butyl rope (1) on sound insulation (2).



Note:
A mark (2) is provided all round on the sound insulation (1).

Butyl rope (3) rests on or inside the marking (2).

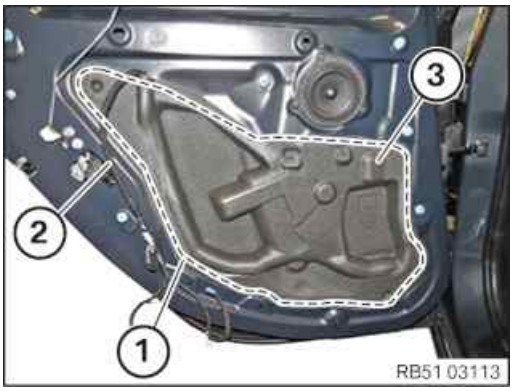
Heat butyl rope (3) (hot air blower) and press sound insulation (1) on firmly all-round.

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



Feed in line (2) at sound insulation (3).

Press sealing bead (1) onto door with your thumb.

cardiagn.com

Required follow-up work:

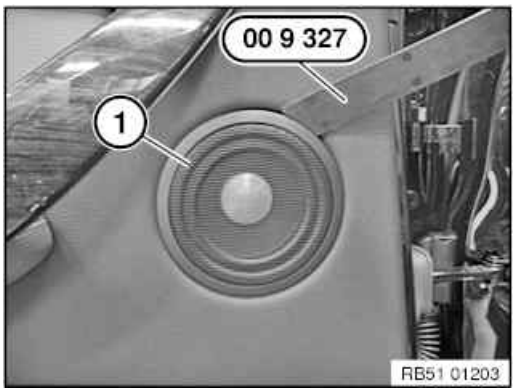
- Mount door trim panel

cardiagn.com

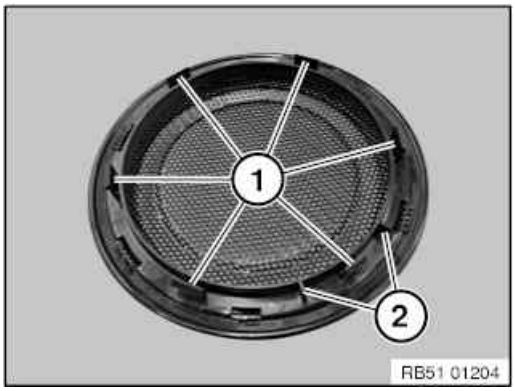
51 42 018 Replacing speaker cover on rear left or right door trim panel

Special tools required:

- 00 9 327



Unclip speaker cover (1) with special tool 00 9 327 from door trim panel.



Installation note:
Catches (1) and guides (2) must not be damaged or missing.

Guides (2) are used for the correct positioning of the speaker cover on the door trim panel.

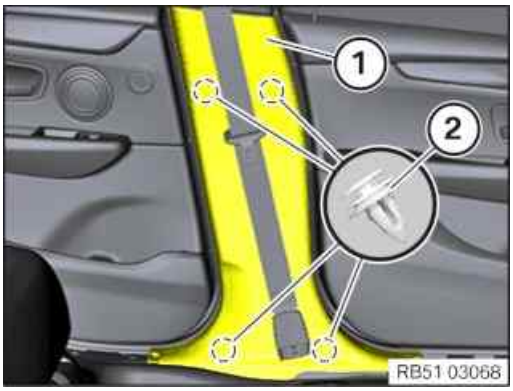
cardiagn.com

51 43 150 Removing and installing or replacing trim for left or right door pillar (bottom)

Necessary preliminary tasks:

- Remove front door sill cover strip
- Remove rear door sill cover strip

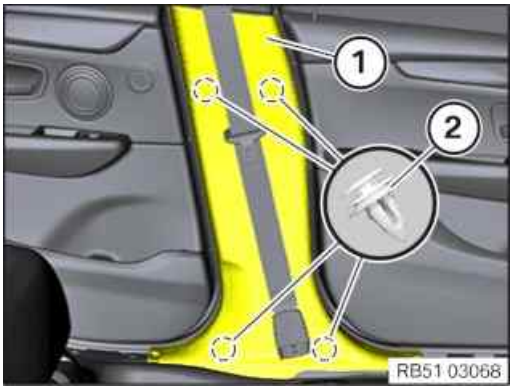
Removal:



Detach trim panel (1) from clips (2).

Feed out trim panel (2) downwards.

Installation:



Feed in trim panel (2) upwards.

Engage trim panel (1) in the clips (2).

Note:
Replace faulty clips (1).

Ensure edge protection is correctly positioned.

Required follow-up work:

- Install front door sill cover strip
- Install rear door sill cover strip

cardiagn.com

51 43 201 Removing and installing or replacing trim panel for roof pillar at front (A-pillar), left or right



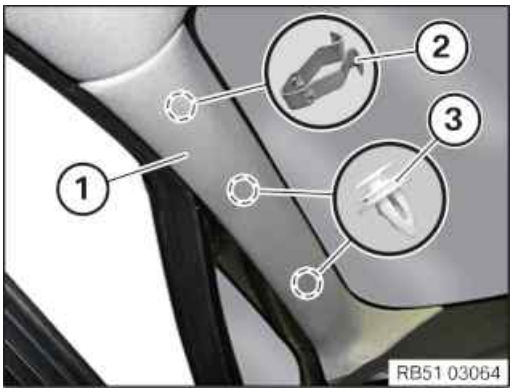
Warning!

Follow safety information for working on vehicles with airbag systems.

Important!

Do not use a sharp-edged removal tool on the trim panel (risk of damage to head airbag).

Removal:

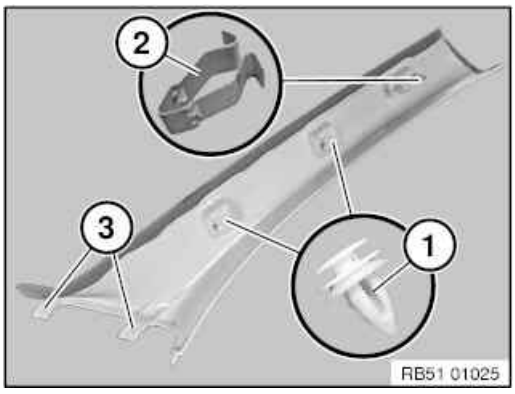


Detach trim panel (1) from the first detent position of the clamp (2) toward the inside.

Loosen the trim panel (1) toward the top and thereby detach it from the clips (3).

Feed out trim panel (1) from dashboard and remove.

Installation:



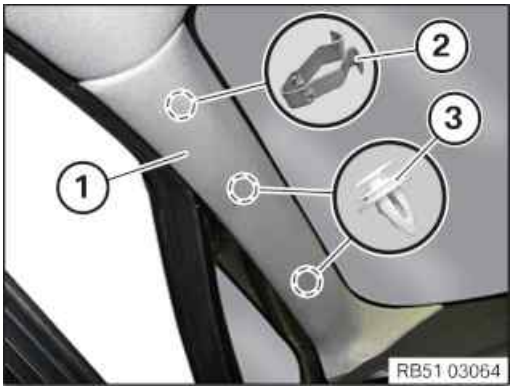
Note:
Always replace clamps (2).

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



Feed trim panel (1) into instrument panel.

Clip trim panel (1) into the clamp (2) and clips (3).

Note:
Make sure edge protection on trim panel (1) fits correctly.

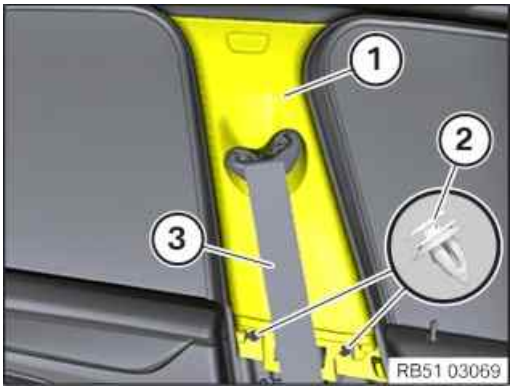
cardiagn.com

51 43 148 Removing and installing or replacing trim panel on left or right door post (top)

Necessary preliminary tasks:

- Remove trim panel for rear door post

Removal:



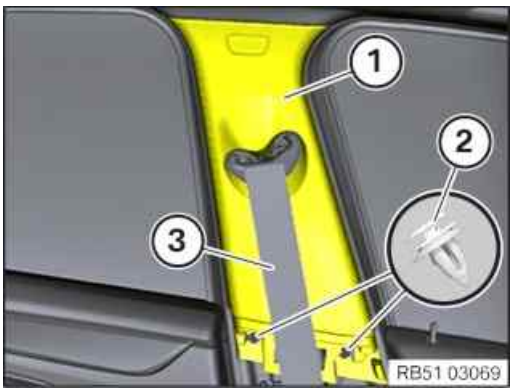
Release trim panel (1) at clips (2) and feed out downwards out of headlining.

Complete removal only:

Remove end fitting from front seat.

Feed out seat belt strap (3) from trim panel (1).

Installation:



Only after complete removal:

Feed seat belt strap (3) into trim panel (1).

Attach end fitting to front seat.

Feed trim panel (1) into headlining and engage with clips (2) at bottom.

Note:

Make sure edge protection on trim panel (1) fits correctly.

Make sure the trim panel is correctly seated on the roofliner.

Clips (2) on the trim panel (1) must not be damaged or missing.

Required follow-up work:

- Install bottom trim panel for door post

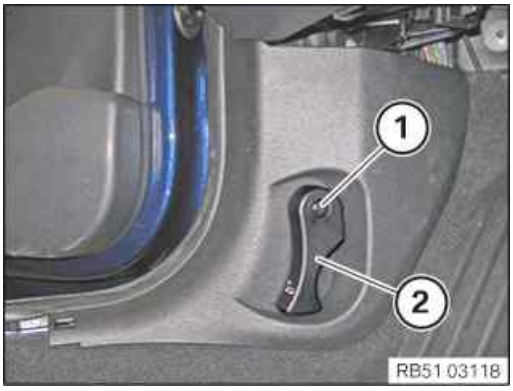
cardiagn.com

51 43 070 Removing and installing/replacing side trim panel, footwell, on A-pillar, left

Necessary preliminary tasks:

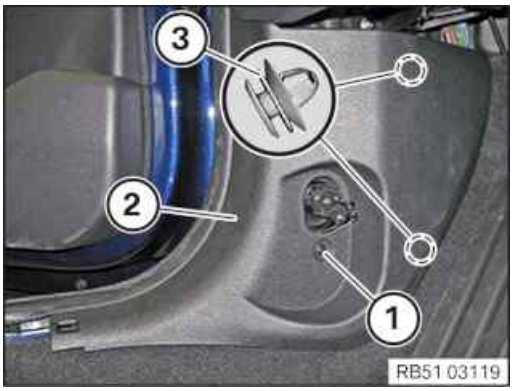
- Remove front door sill cover strip (inside)

Removal:



Release screw (1).

Remove engine compartment lid release lever (2).

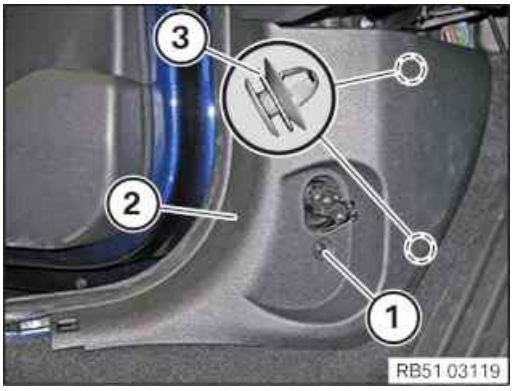


Release screw (1).

Release clips (3) and remove trim panel (2).

Installation:

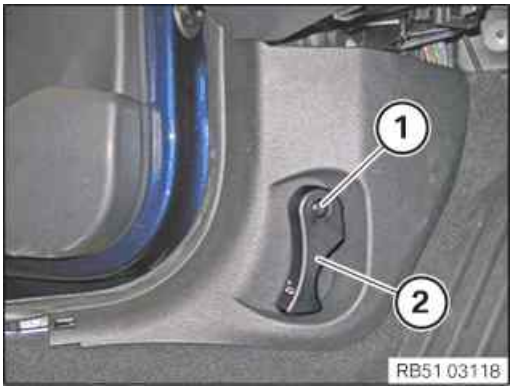
cardiagn.com



Note:
Make sure edge protection on trim panel (2) fits correctly.

Install trim panel (2) and clip into clips (3).

Tighten screw (1).



Install engine compartment lid release lever (2).

Tighten screw (1).

Required follow-up work:

- Install front door sill cover strip (inner)

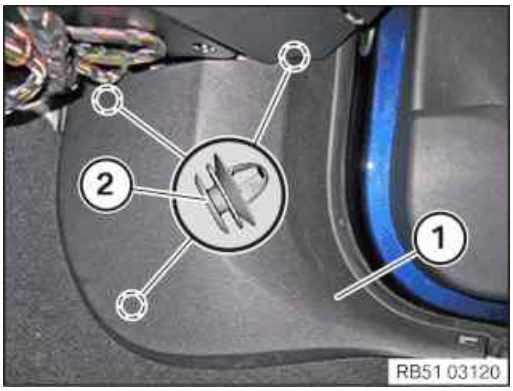
cardiagn.com

51 43 075 Removing and installing/replacing side trim panel, footwell, on A-pillar, right

Necessary preliminary tasks:

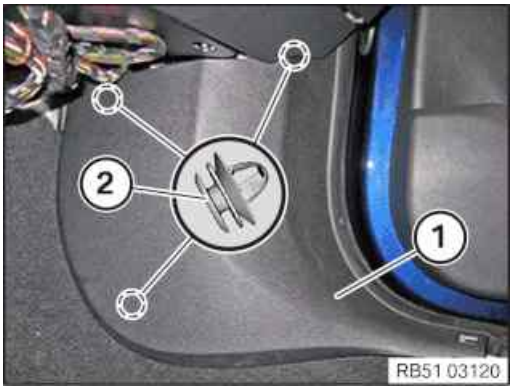
- Remove front door sill cover strip (inner), right
- Remove dashboard trim at bottom right

Removal:



Pull off trim panel (1) from clips (2) and remove.

Installation:



Note:
Clips (2) must not be missing or damaged.

Make sure trim panel (1) is correctly seated against the edge protection.

Install trim panel (1) and engage in clips (2).

Required follow-up work:

- Install right door sill cover strip (interior)
- Install bottom instrument panel trim on the right

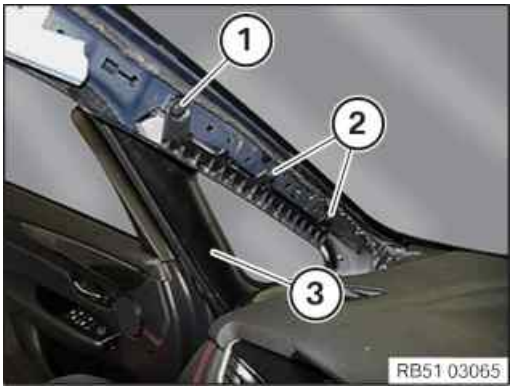
cardiagn.com

51 43 ... Removing and installing/replacing the front triangle window trim (A-pillar), left or right

Necessary preliminary tasks:

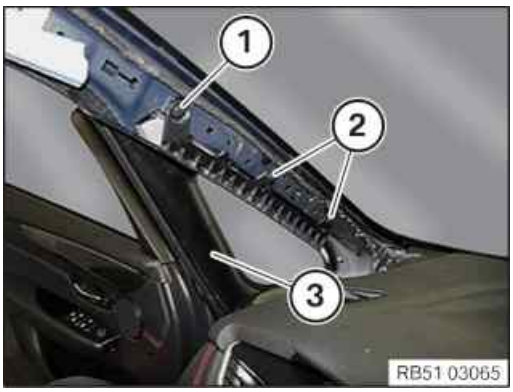
- Remove A-pillar cover

Removal:



Release screw (1).
Release expanding rivet (2).
Feed out trim panel (3) and remove.

Installation:



Feed in trim panel (3).
Mount expanding rivets (2).
Tighten screw (1).

Required follow-up work:

- Install A-pillar trim

cardiagn.com

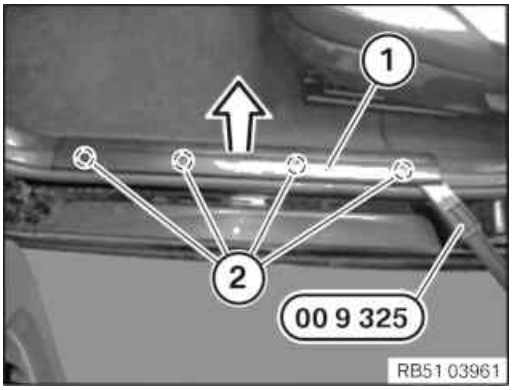
51 43 150 Removing and installing/replacing the trim panel for the left or right door post (bottom) \PREMIUM

PRELIMINARY WORK

1 – Remove front entrance cover strip

NOTICE

Description is for left component only. Procedure on the right side is identical.



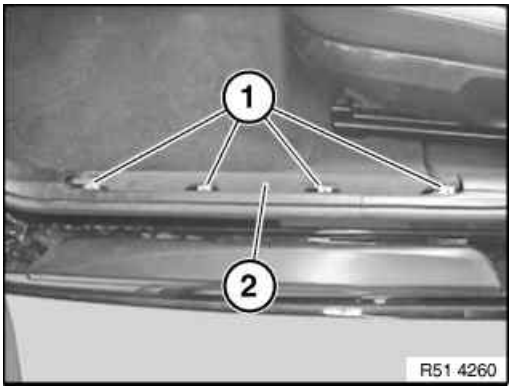
RISK OF DAMAGE

Bending of plastic parts.

Application of too much force can lead to bending of plastic parts.

- Place special tool directly beside the mounting clip.
- Continue unclipping the part without using the tool if possible.

- Unclip the front door sill cover strip (1) at the clips (2) using the special tool **0 496 569 (00 9 325)** in the direction of arrow starting from the rear.



- If applicable, unclip the clips (1) from the floor panel (2).

2 – Remove rear entrance cover strip

RISK OF DAMAGE

Bending of plastic parts.

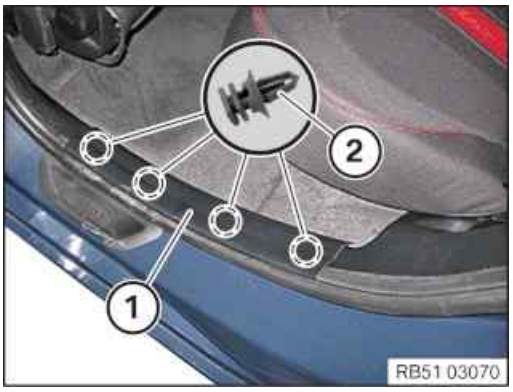
Application of too much force can lead to bending of plastic parts.

- Place special tool directly beside the mounting clip.
- Continue unclipping the part without using the tool if possible.

NOTICE

Description is for left component only. Procedure on the right side is identical.

cardiagn.com



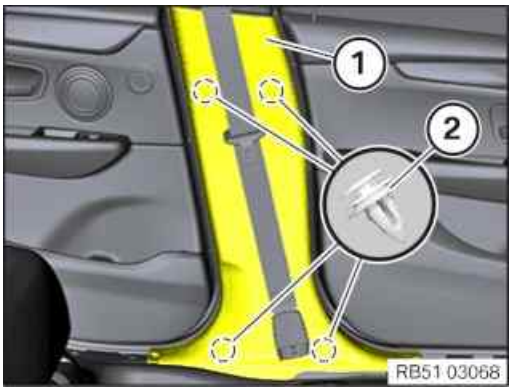
- Lever out and remove the rear door sill cover strip (1) with the special tool **0 496 569 (00 9 325)** from the clips (2).
- If applicable, unclip the clips (2) from the floor panel.

MAIN WORK

3 – Remove the lower B-pillar trim panel

NOTICE

Description is for left component only. Procedure on the right side is identical.

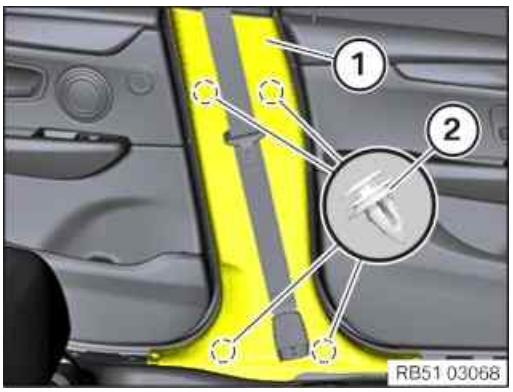


- Release the B-pillar trim panel (1) at bottom starting from the clips (2).
- Feed out and remove the B-pillar trim panel (1) inwards.

4 – Install the lower B-pillar trim panel

NOTICE

Description is for left component only. Procedure on the right side is identical.



- Renew damaged clips (2).

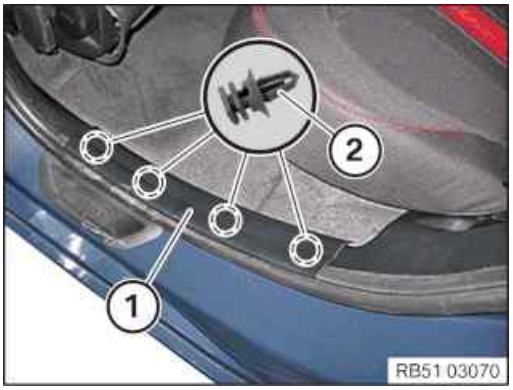
  Parts: Clips
- Feed in the B-pillar trim panel (1) at the top and position correctly.
- Clip in the B-pillar trim panel (1) at the clips (2).
- Make sure the B-pillar trim panel (1) is correctly positioned on the edge protection.

cardiagn.com

5 – Install the rear door sill cover strip

NOTICE

Description is for left component only. Procedure on the right side is identical.



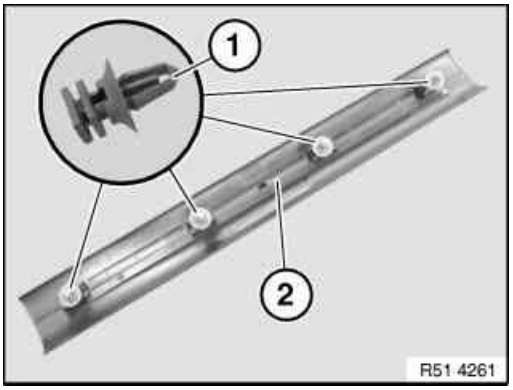
- Renew damaged clips (2).

  Parts: Clips
- Engage the rear door sill cover strip (1) with the clips (2).

6 – Install the front door sill cover strip

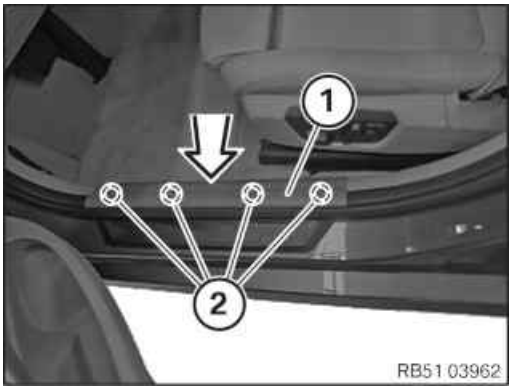
NOTICE

Description is for left component only. Procedure on the right side is identical.



- Renew faulty clips (1) on the front door sill cover strip (2).

  Parts: Clips



- Install and engage the front door sill cover strip (1) with the clips (2) in the direction of the arrow.

Additional Information

Overview of Special Tools

cardiagn.com

0 496 569 (00 9 325) Wedge



Common	Used in step 1 2
Usage	(Panel wedge) From 11/2008 this special tool replaces panel wedge 00 9 317 (different material)
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	41 01 09 (507)

cardiagn.com

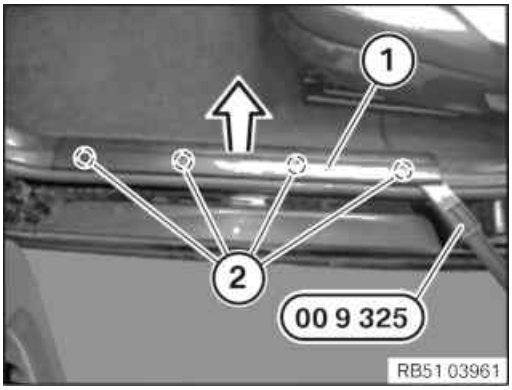
51 43 148 Removing and installing/replacing trim panel on left or right door post (top) \PREMIUM

PRELIMINARY WORK

1 – Remove front entrance cover strip

NOTICE

Description is for left component only. Procedure on the right side is identical.



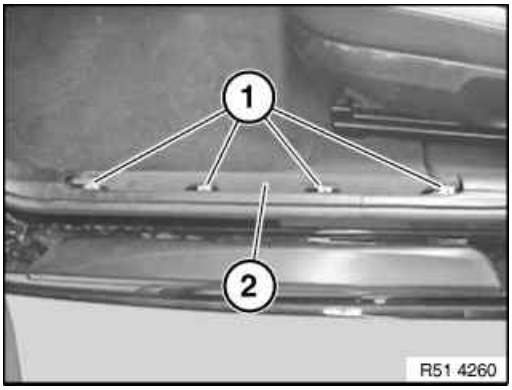
RISK OF DAMAGE

Bending of plastic parts.

Application of too much force can lead to bending of plastic parts.

- Place special tool directly beside the mounting clip.
- Continue unclipping the part without using the tool if possible.

- Unclip the front door sill cover strip (1) at the clips (2) using the special tool **0 496 569 (00 9 325)** in the direction of arrow starting from the rear.



- If applicable, unclip the clips (1) from the floor panel (2).

2 – Remove rear entrance cover strip

RISK OF DAMAGE

Bending of plastic parts.

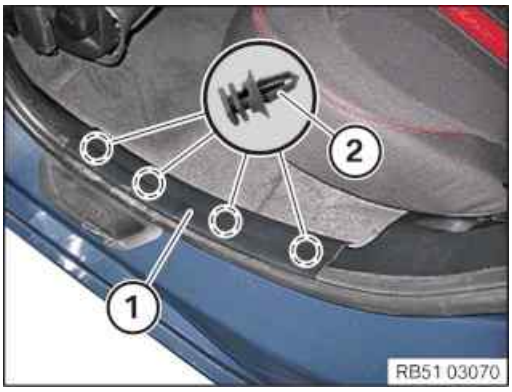
Application of too much force can lead to bending of plastic parts.

- Place special tool directly beside the mounting clip.
- Continue unclipping the part without using the tool if possible.

NOTICE

Description is for left component only. Procedure on the right side is identical.

cardiagn.com

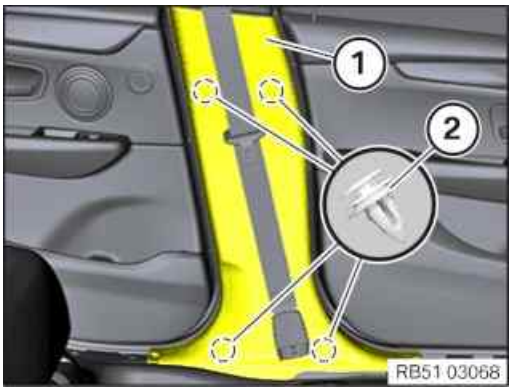


- Lever out and remove the rear door sill cover strip (1) with the special tool **0 496 569 (00 9 325)** from the clips (2).
- If applicable, unclip the clips (2) from the floor panel.

3 – Remove the lower B-pillar trim panel

NOTICE

Description is for left component only. Procedure on the right side is identical.



- Release the B-pillar trim panel (1) at bottom starting from the clips (2).
- Feed out and remove the B-pillar trim panel (1) inwards.

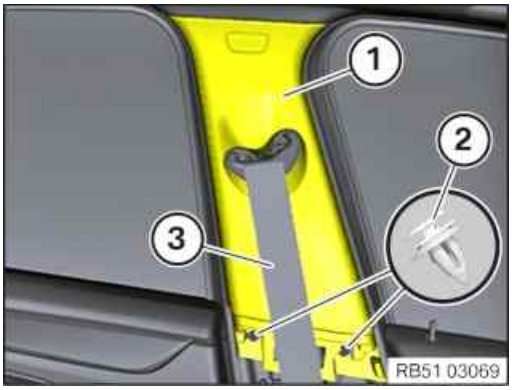
cardiagn.com

MAIN WORK

4 – Remove the upper B-pillar trim panel

NOTICE

Description is for left component only. Procedure on the right side is identical.

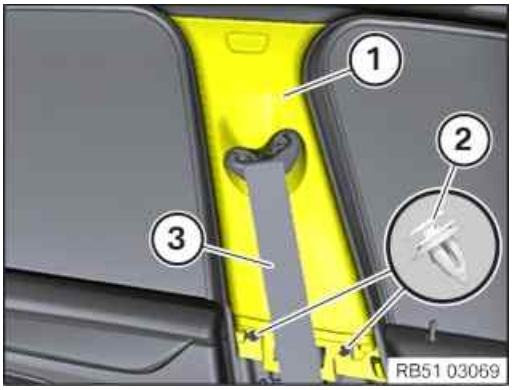


- Release the B-pillar trim panel (1) from the clips (2).
- Guide the B-pillar trim panel (1) out of the headlining inwards towards the bottom and remove.
- **If removing completely:**
  - Remove end fitting from front seat.
  - Guide out the seat belt strap (3) and remove the B-pillar trim panel.

5 – Install upper B-pillar trim panel

NOTICE

Description is for left component only. Procedure on the right side is identical.



- **After complete removal:**
  - Thread seat belt strap (3) into B-pillar trim panel.
  - Install the end fitting on the front seat.
- Renew faulty clips (2).

  Parts: Clips
- Thread B-pillar trim panel (1) upwards into headlining.
- Engage B-pillar trim panel (1) on clips (2).
- Check for correct seating of B-pillar trim panel (1) on edge protection.

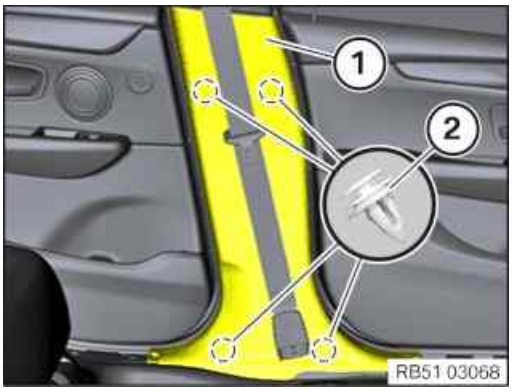
POSTPROCESSES

6 – Install the lower B-pillar trim panel

NOTICE

Description is for left component only. Procedure on the right side is identical.

cardiagn.com



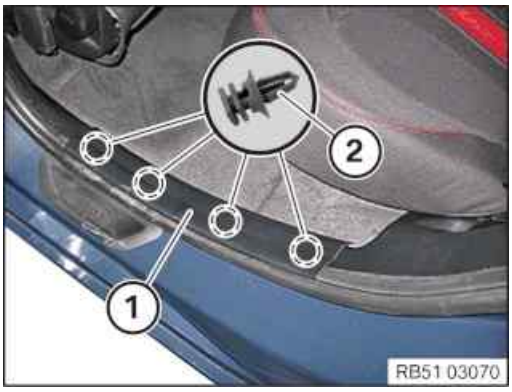
- Renew damaged clips (2).

  Parts: Clips
- Feed in the B-pillar trim panel (1) at the top and position correctly.
- Clip in the B-pillar trim panel (1) at the clips (2).
- Make sure the B-pillar trim panel (1) is correctly positioned on the edge protection.

7 – Install the rear door sill cover strip

NOTICE

Description is for left component only. Procedure on the right side is identical.



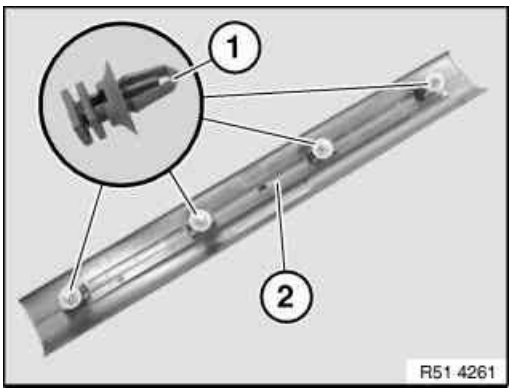
- Renew damaged clips (2).

  Parts: Clips
- Engage the rear door sill cover strip (1) with the clips (2).

8 – Install the front door sill cover strip

NOTICE

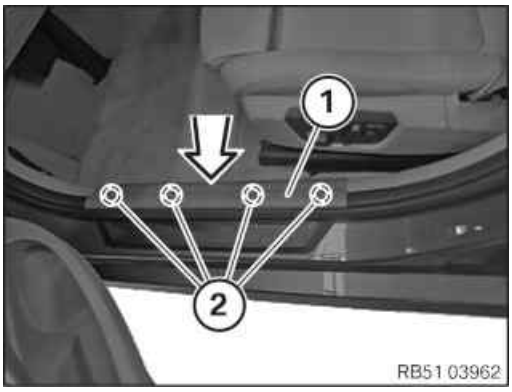
Description is for left component only. Procedure on the right side is identical.



- Renew faulty clips (1) on the front door sill cover strip (2).

  Parts: Clips

cardiagn.com



- Install and engage the front door sill cover strip (1) with the clips (2) in the direction of the arrow.

Additional Information

Overview of Special Tools

0 496 569 (00 9 325) Wedge



Common	Used in step 1 2
Usage	(Panel wedge) From 11/2008 this special tool replaces panel wedge 00 9 317 (different material)
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	41 01 09 (507)

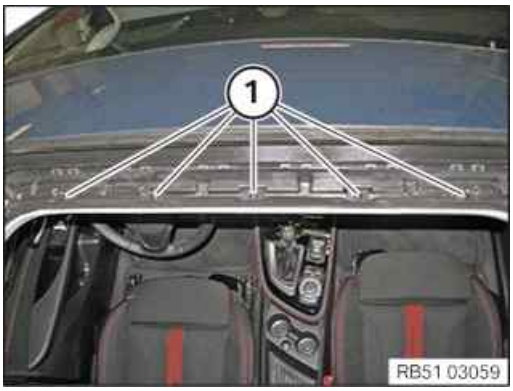
cardiagn.com

51 44 011 Removing and installing/replacing headlining (version with slide/tilt sunroof)

Necessary preliminary tasks:

- Open slide/tilt sunroof panel at front
- Remove both trim panels for roof pillar at front (A-pillar)
- Remove hands-free microphone
- Remove both trim panels for door post at top (B-pillar)
- Remove both trim panels for rear roof pillar (C-pillar)
- Remove interior roof light
- Remove vanity mirror lights
- Remove both sun visors and counter supports
- Remove roof switch cluster
- Remove all grab handles
- Remove front head restraints

Removal:



Release screws (1).



Unclip cover (1) from clip (2) and feed out towards the front.
Feed seat belt out of cover (1).

cardiagn.com

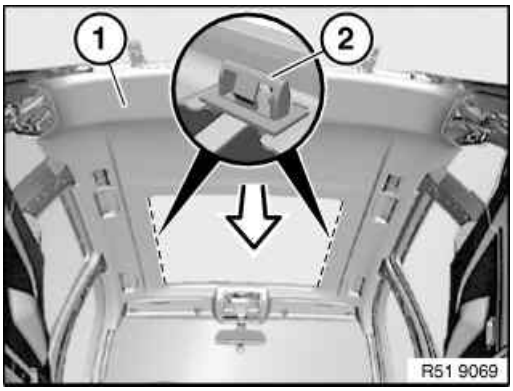


Release clamps (1).

- Move seat back of driver's seat to max. rear position.
- Move seat surface of driver's seat to the lowest position.
- Move seat back of passenger seat to max. rear position.
- Move seat surface of front passenger seat to the lowest position.

Important!

The following tasks must be carried out with a second person assisting:



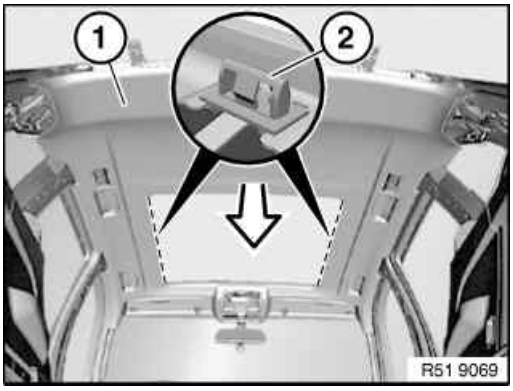
Support headlining (1) at front.

Unclip headlining (1) in marked side area in downward direction (2).

Carefully pull headlining (1) downward until headlining (1) is released from remaining clips (2).

Feed headlining (1) out through tailgate.

Installation:



Feed headlining (1) in through tailgate.

Clip in headlining (1) at front and rear.

Clip in headlining (1) in marked side area (2).

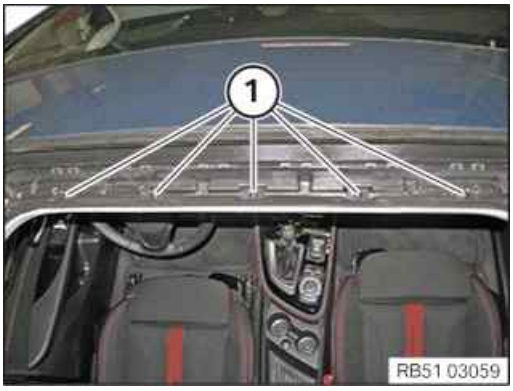
Secure headlining (1) on edge protection at front and rear.

cardiagn.com



Feed belt into cover (1).

Feed in cover (1) and clip into clip (2).



Tighten down screws (1).

Required follow-up work:

- Mount both trim panels for roof pillar at front (A-pillar)
- Install microphone
- Mount both trim panels for door post at top (B-pillar)
- Mount both trim panels for rear roof pillar (C-pillar)
- Install interior roof light
- Install vanity mirror lights.
- Mount both sun visors and counter supports
- Install roof switch cluster
- Mount all grab handles
- Mount front head restraints
- Close glass slide/tilt sunroof cover at front

cardiagn.com

51 44 001 Removing and refitting/replacing roofliner (version without sliding/tilting sunroof)



Except for the steps relating to the slide/tilt sunroof, the work is identical to:

Removing and installing/replacing headlining (version with slide/tilt sunroof).

cardiagn.com

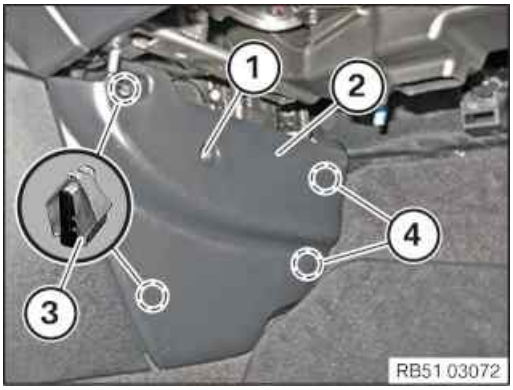
51 45 ... Removing and installing (replacing) side centre console trim panel

Necessary preliminary tasks:

Right side only:

- Remove bottom right dashboard trim panel

Removal:

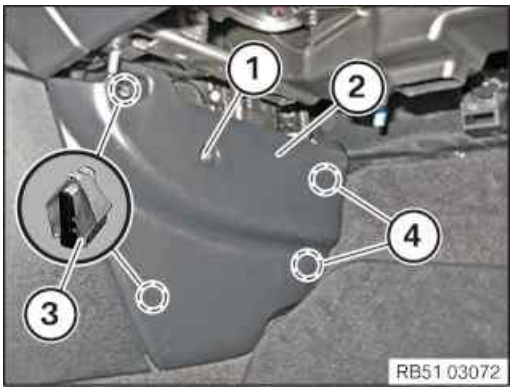


Release screw (1).

Release side centre console trim panel (2) from the retaining clips (3).

Feed out side centre console trim panel (2) from the guides (4) and remove.

Installation:



Feed in trim panel (2) into the guides (4) and lock in the clamps (3).

Tighten screw (1).

Required reworking:

Right side only:

- Install bottom right instrument panel trim panel

cardiagn.com

51 45 475 Removing and installing (replacing) trim for light operating facility



Operation is described in:

Removing and installing/replacing light operating facility

cardiagn.com

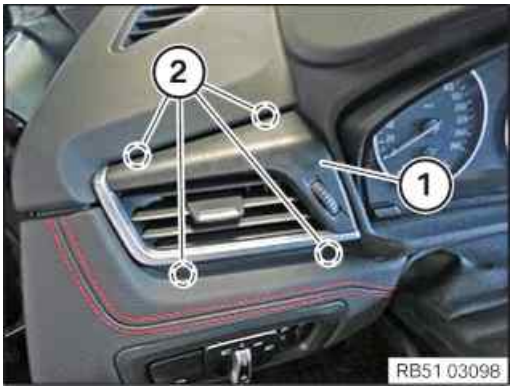
51 45 370 Removing and installing decorative strip on left dashboard

Special tools required:

- 00 9 325

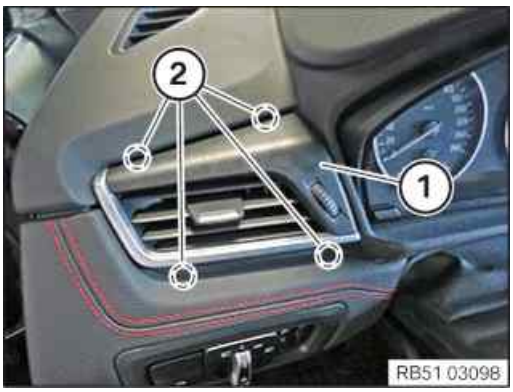
When working on trim panel components, make sure that the sensitive surfaces are not scratched or damaged.

Removal:



Pry out decorative strip (1) at attachment points (2) using special tool 00 9 325 and remove.

Installation:



Engage decorative strip (1) at attachment points (2).

cardiagn.com

51 45 380 Removing and installing decorative strip on right dashboard

Special tools required:

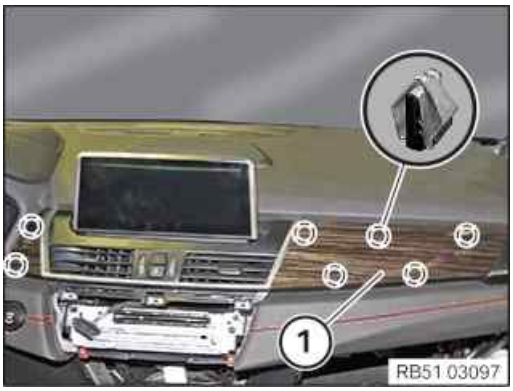
- 00 9 325

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

Necessary preliminary tasks:

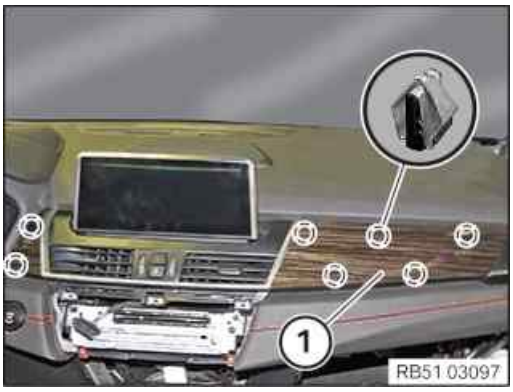
- Remove the audio operating unit

Removal:



Carefully unclip sides of decorative strip (1) with special tool 00 9 325 .
Then carefully unclip middle.
Lift decorative strip (1) and disconnect plug connections located beneath.
Remove decorative strip (1).

Installation:



Replacement:

Remount middle fresh air grille.

Note:
Replace any faulty clamps on back of decorative strip.

Mount decorative strip (1).
Connect plug connections.
Engage decorative strip (1) in clamps.

cardiagn.com

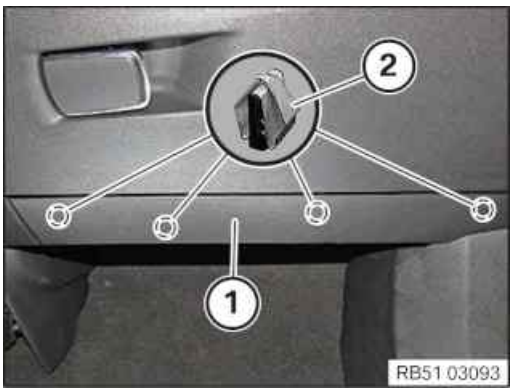
Required follow-up work:

- Install the audio operating unit

cardiagn.com

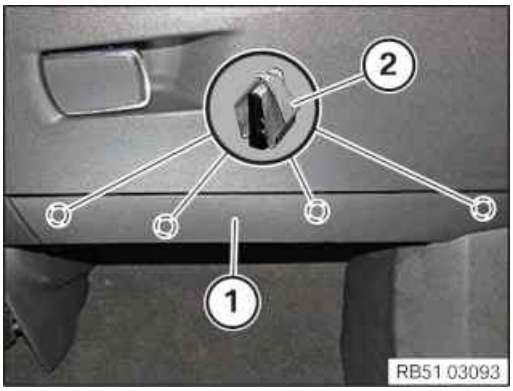
51 45 ... Removing and installing glove box trim panel at bottom right

Removal:



Unclip trim panel (1) from clamps (2) and remove.

Installation:



Clip trim panel (1) into clamps (2).

cardiagn.com

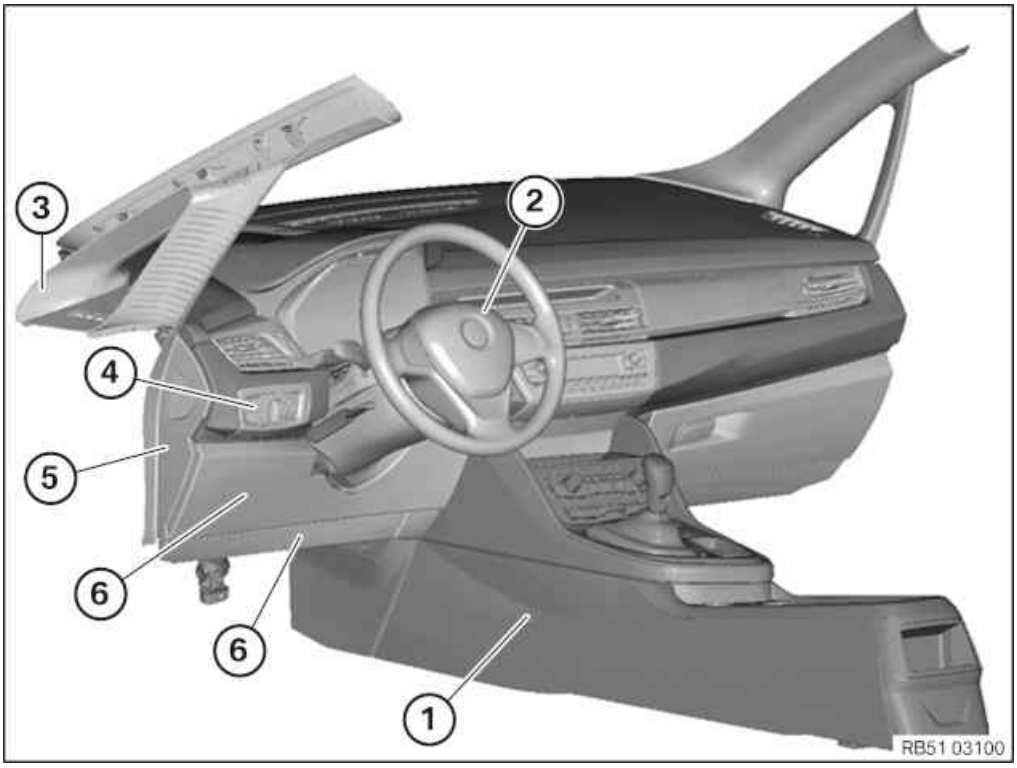
51 45 030 Removing and installing instrument panel trim

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

For version with Head-Up Display, make sure that Head-Up Display is retracted.

Necessary preliminary tasks:

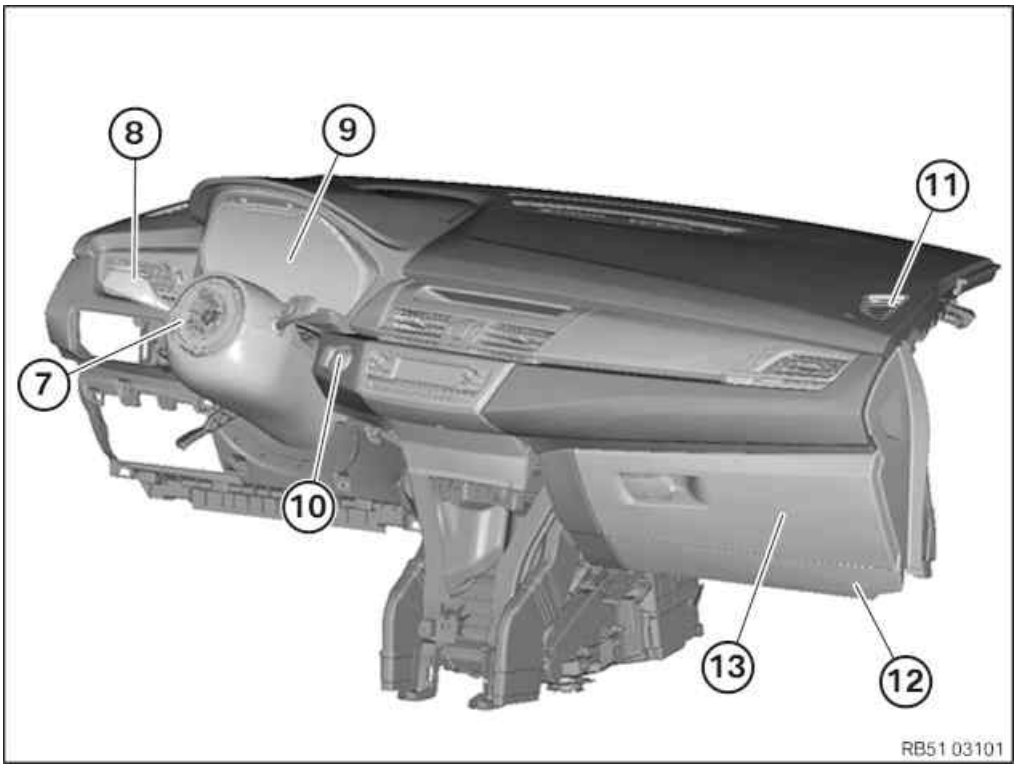
- Remove trim for head-up display
- Remove side trim panel from footwell on A-pillar, left/right
- Remove speaker in instrument panel
- Remove Central Information Display
- Remove Car Information Computer



The following parts must be removed as preliminary work.

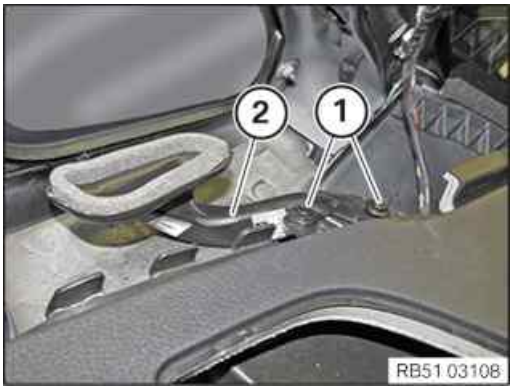
1	Centre console, complete
2	Airbag and steering wheel
3	Triangular window cover at front (A-pillar), left/right
4	Light operating unit
5	Side panel on instrument panel, left/right
6	Footwell trim panel at bottom left

cardiagn.com



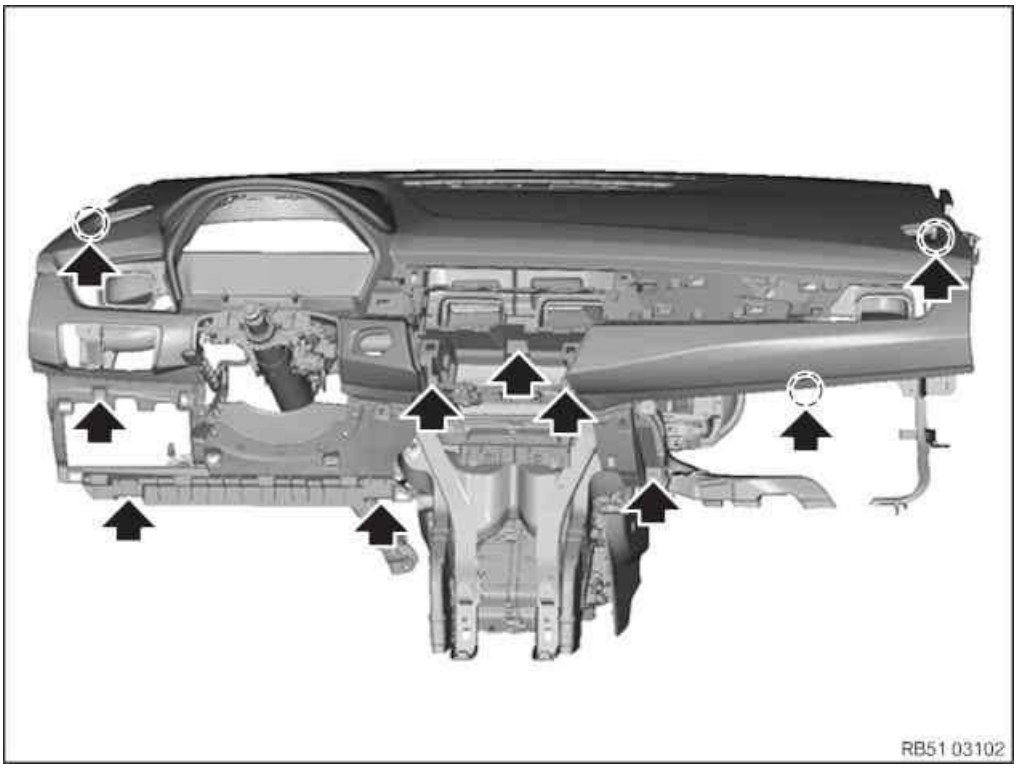
7	Steering column switch cluster
8	Fresh-air grille, left
9	Instrument cluster
10	Start/stop switch
11	Ventilation grille on instrument panel, left/right
12	Trim panel on glove box, bottom
13	Glovebox

Removal:



Release expanding rivets (1) and remove defroster channel (2) on left and right.

cardiagn.com



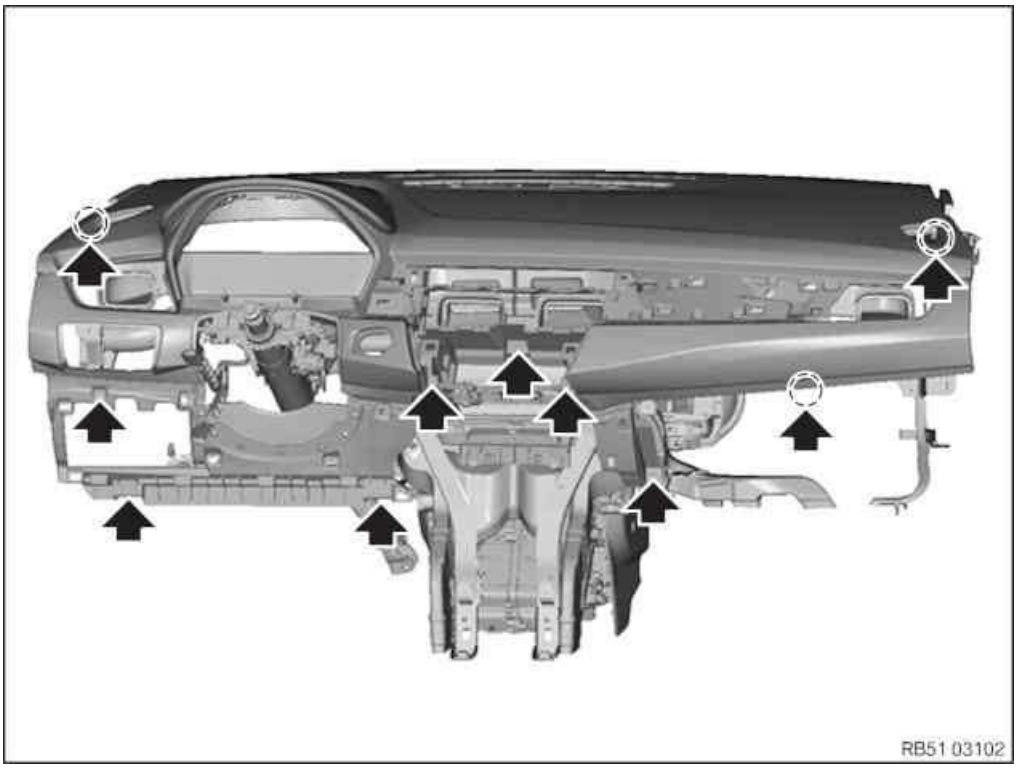
Unscrew all bolts.

Disconnect plug connection from front passenger airbag.

(Observe notes regarding Airbag plug connections).

Remove instrument panel with assistant and feed out all electrical lines.

Installation:



Install instrument panel with assistant and feed in all electrical lines.

Connect plug connection of front passenger airbag.

(Observe notes regarding Airbag plug connections).

cardiagn.com

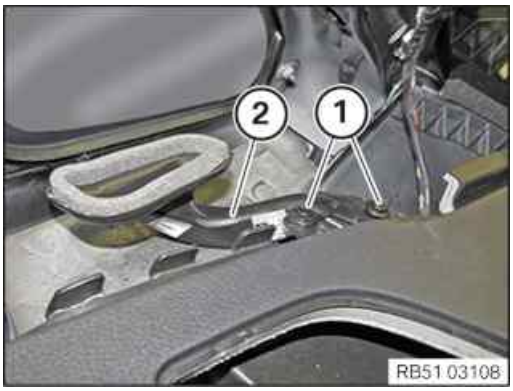
Tighten down all bolts.

Tightening torque 51 45 4AZ.

Note:
Make sure guides on instrument panel are correctly seated in respective mountings of bulkhead.

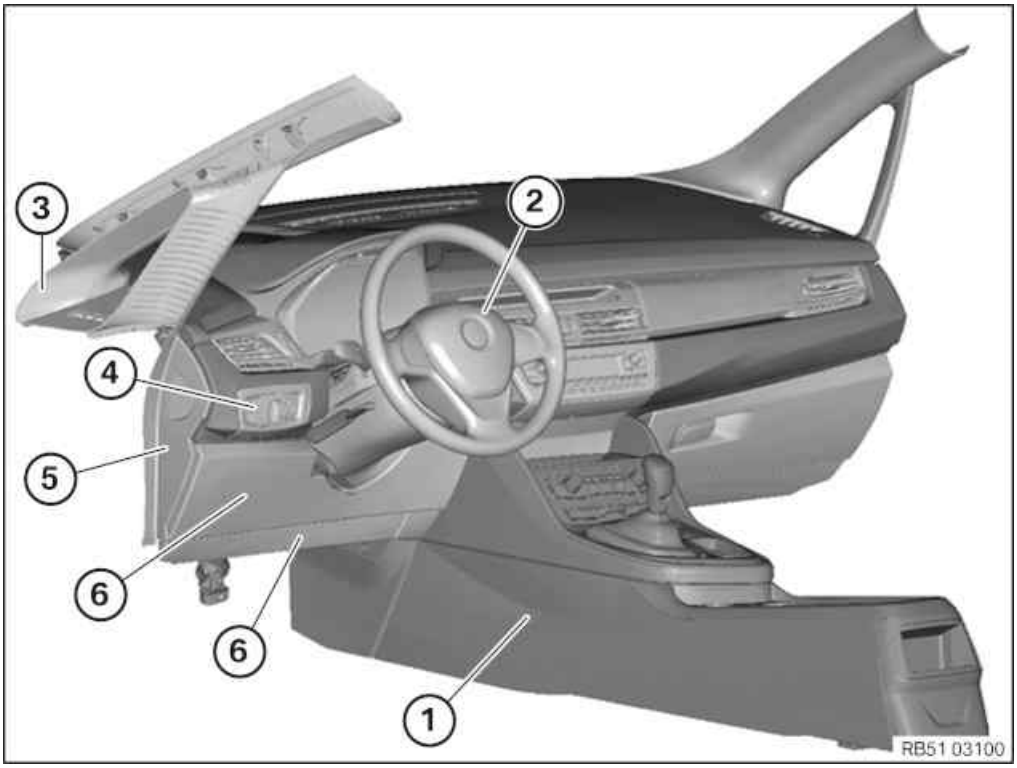
Make sure gaskets are correctly seated on air ducts.

Make sure all electrical lines (2) are correctly routed.



Install defroster channel (2) on left and right and mount expanding rivet (1).

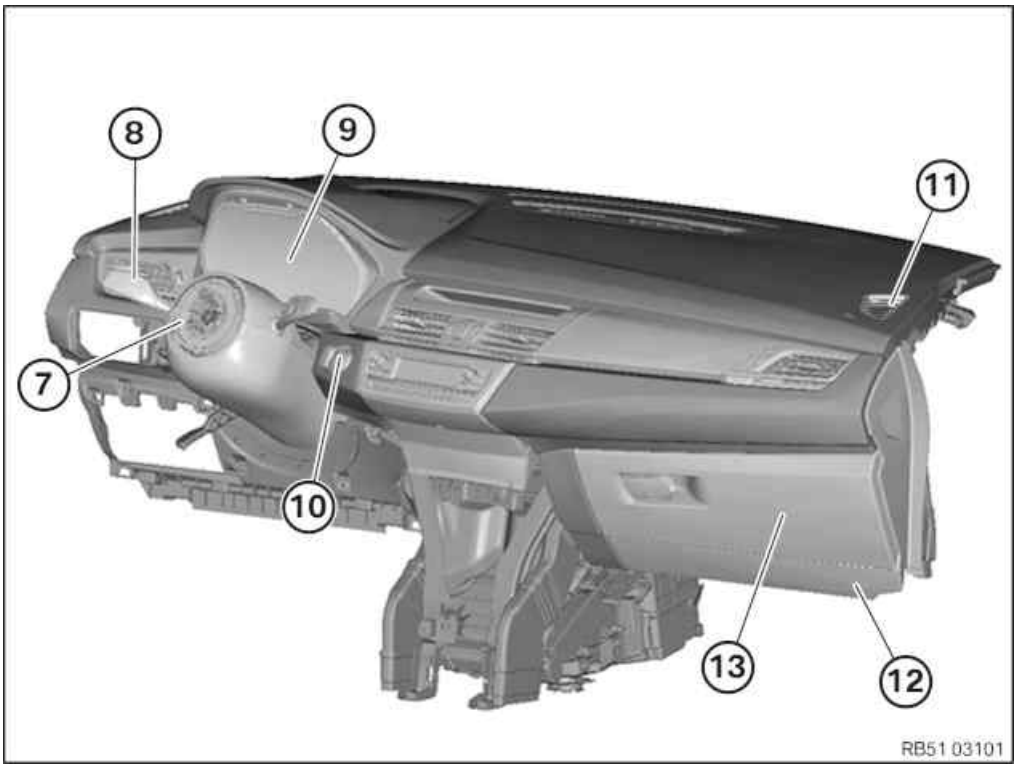
Required follow-up work:



The following parts must be installed as follow-up work.

1	Centre console, complete
2	Airbag and steering wheel
3	Triangular window cover at front (A-pillar), left/right
4	Light operating unit
5	Side panel on instrument panel, left/right
6	Footwell trim panel at bottom left

cardiagn.com



7	Steering column switch cluster
8	Fresh-air grille, left
9	Instrument cluster
10	Start/stop switch
11	Ventilation grille on instrument panel, left/right
12	Trim panel on glove box, bottom
13	Glovebox

- Install Car Information Computer
- Installing the trim for the Head-Up Display
- Install side trim panel in footwell at A-pillar, left/right
- Install speaker in instrument panel
- Install central information display

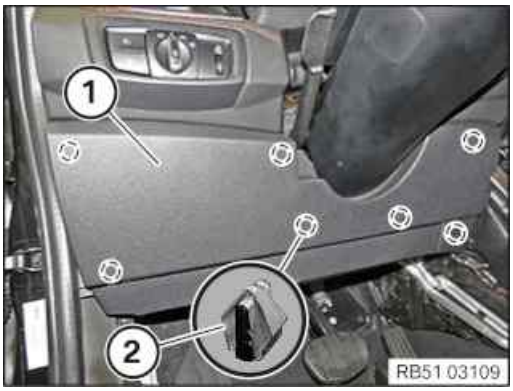
cardiagn.com

51 45 ... Removing and installing trim panel in footwell at bottom left

Necessary preliminary tasks:

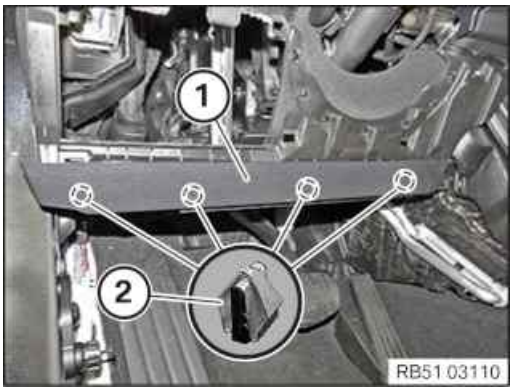
- Release centre console

Removal:



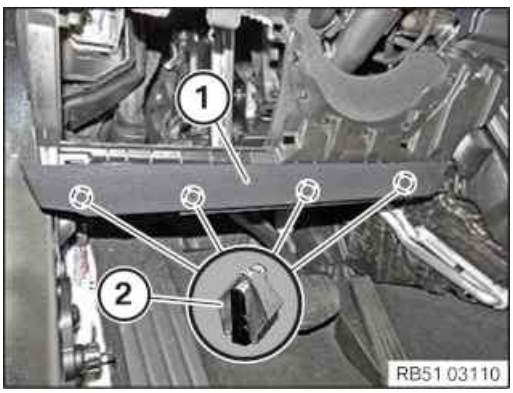
Release trim panel (1) from clamps (2).

Raise centre console at rear until trim panel (1) can be fed out.



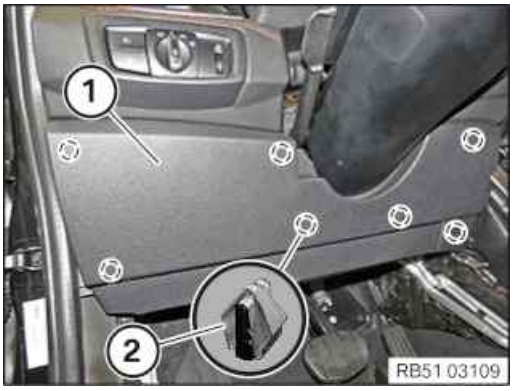
Release trim panel (1) from clamps (2) and remove.

Installation:



Engage trim panel (1) in clamps (2).

cardiagn.com



Raise centre console at rear until trim panel (1) can be fed in.

Engage trim panel (1) in clamps (2).

Required follow-up work:

- Secure centre console

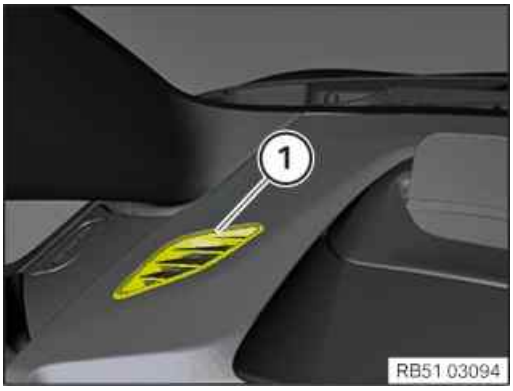
cardiagn.com

51 45 ... Removing and installing ventilation grille of instrument panel, left and right

Special tools required:

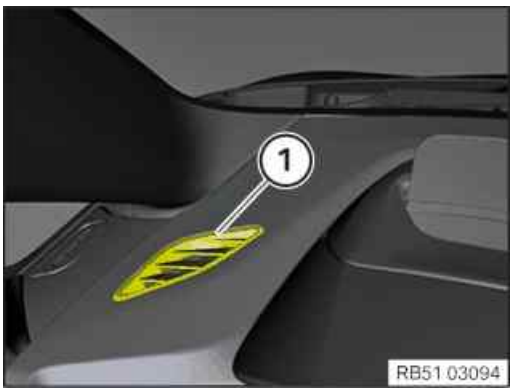
- 64 1 020

Removal:



Pry out ventilation grille (1) with special tool 64 1 020 and remove.

Installation:



Install ventilation grille (1).

cardiagn.com

51 45 075 Removing and installing/replacing carrier for instrument panel

Necessary preliminary tasks:

- Remove instrument panel trim

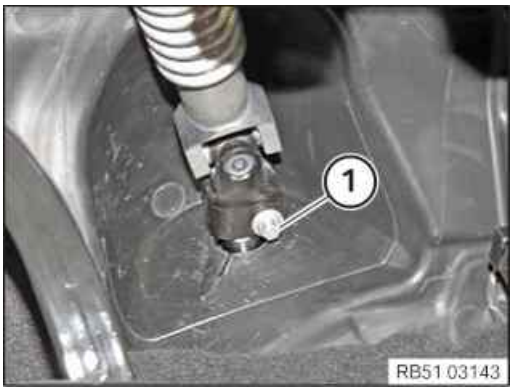
Depending on equipment specification:

- Disconnect plug connection on knee protection airbag module

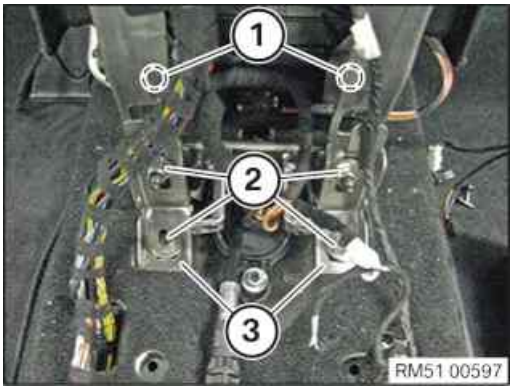
Removal:



Release screw (1) on bulkhead.

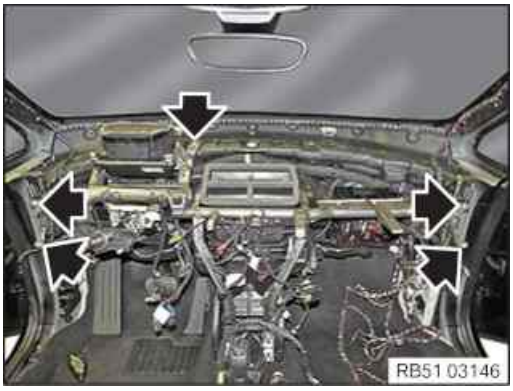


Release clamping bolt (1) of steering shaft at steering column.
Release steering shaft from steering column.

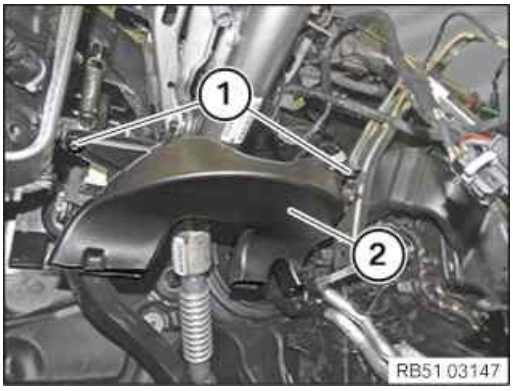


Unfasten screws (1) and nuts (2).
Remove retaining bracket (3).

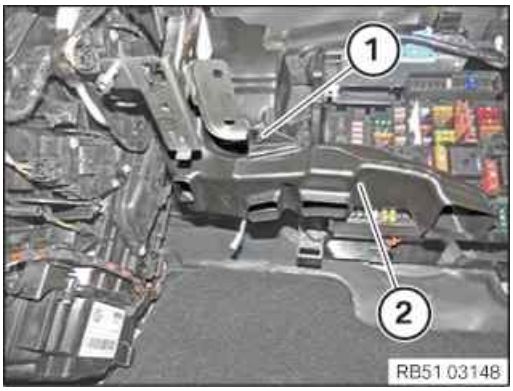
cardiagn.com



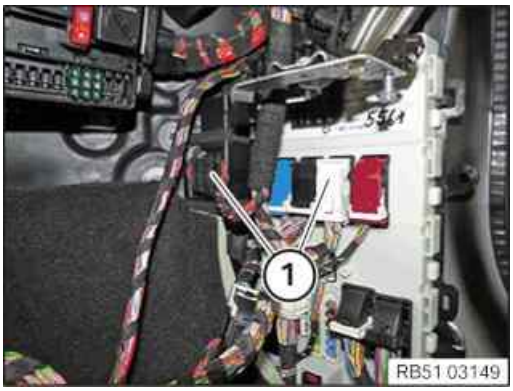
Unscrew marked nuts.



Release screws (1) and remove air duct (2).

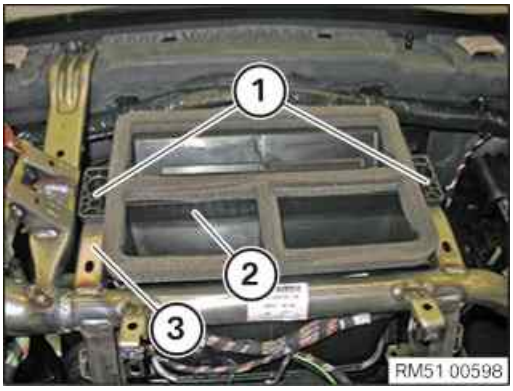


Release screw (1) and remove air duct (2).



Disconnect plug connection (1).

cardiagn.com



Release screws (1).

Raise heating and air-conditioning unit (2) slightly and feed out support (3) towards rear.

If necessary, remove further cables and cable clips and remove support (3).

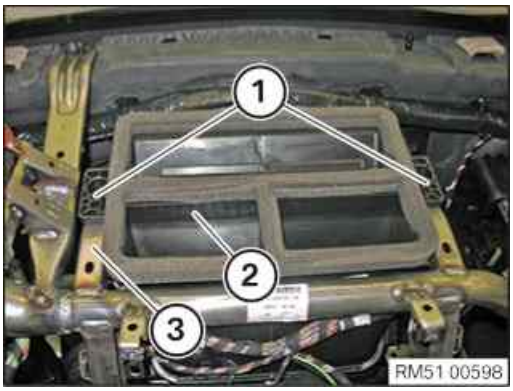
Installation:

Replacement:

- Remount Head-Up Display
- Swap over wiring loom

Depending on equipment specification:

- Remount airbag module for driver- and passenger knee protection



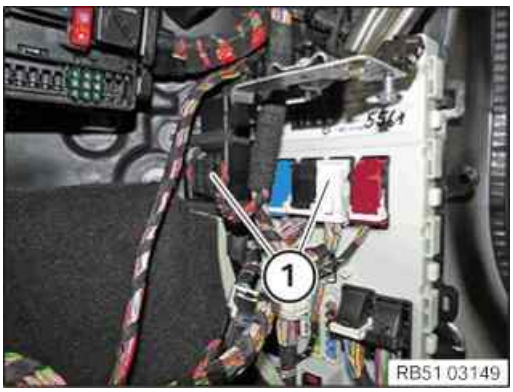
Insert support (3).

Position heating and air-conditioning unit (2) in area of screw connection (1) correctly on support (3).

Tighten down screws (1).

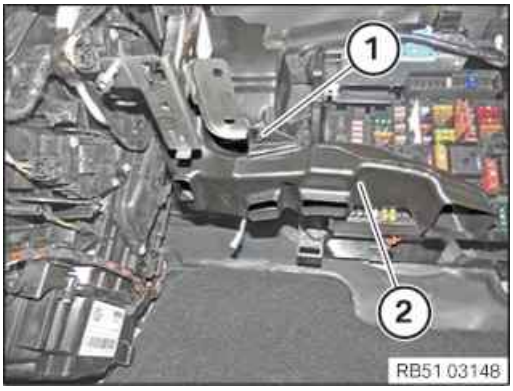
Tightening torque 51 45 5AZ.

Make sure cable routing is correct and clip in cable clip into support.

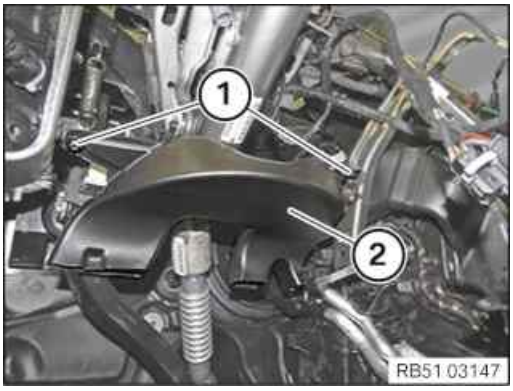


Connect plug connections (1).

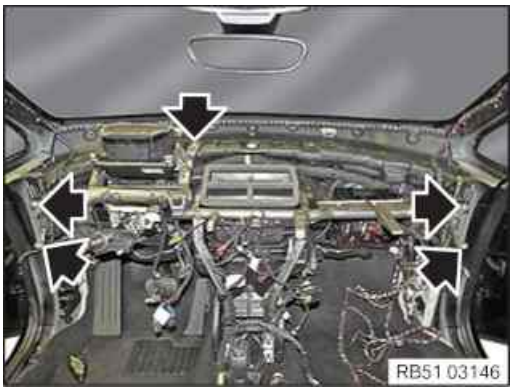
cardiagn.com



Fit air duct (2) and tighten screw (1).

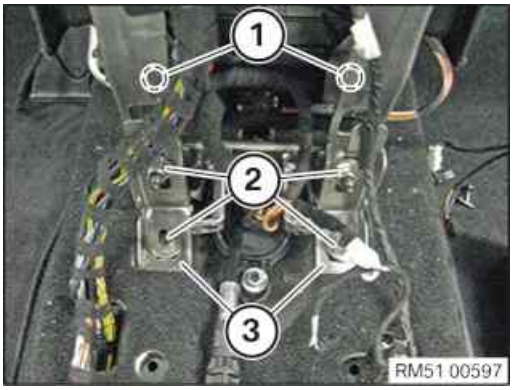


Fit air duct (2) and tighten screws (1).



Tighten marked nuts.

Tightening torque 51 45 1AZ.



Tighten down screws (1).

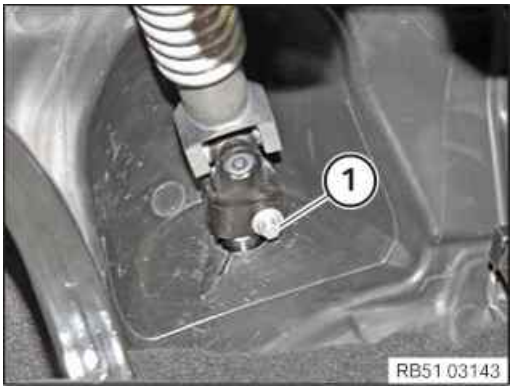
Tightening torque 51 45 2AZ.

Insert retaining bracket (3).

Tighten down nuts (2).

Tightening torque 51 45 2AZ.

cardiagn.com



Install steering shaft.

Tighten clamping bolt (1) of steering shaft.

Tightening torque 32 31 3AZ.



Tighten screw (1) on bulkhead.

Tightening torque 51 45 3AZ.

Required follow-up work:

- Install instrument panel trim

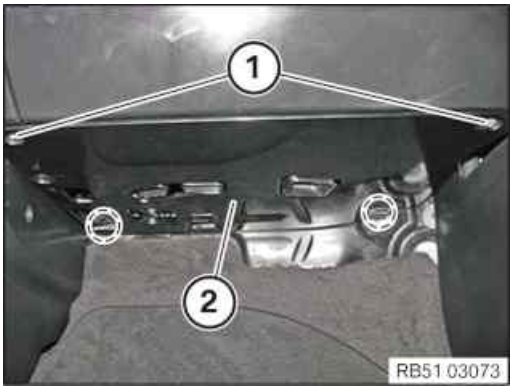
Depending on equipment specification:

- Connect plug connection on knee protection airbag module

cardiagn.com

51 45 195 Removing and installing/replacing instrument panel trim, bottom right

Removal:

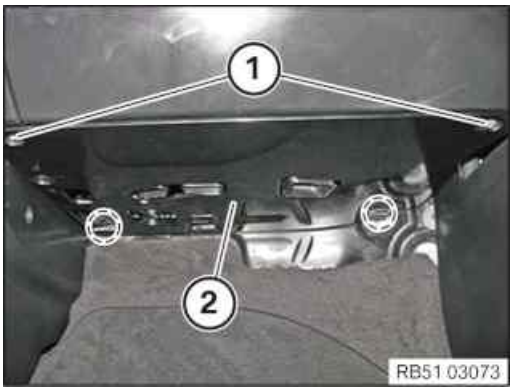


Unscrew nuts (1).

Lower trim panel (2) slightly and disconnect plug connections behind it.

Feed the trim panel (2) out of the guides and remove.

Installation:



Hold on to the trim panel (2) and connect the plug connection.

Feed in the trim panel (2) into the guides at the front.

Note:
Feed the guides of the trim panel (2) correctly into the corresponding holders on the vehicle.

Tighten down nuts (1).

cardiagn.com

51 45 ... Removing and installing/replacing side panel on dashboard on left or right

Special tools required:

- 00 9 327

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

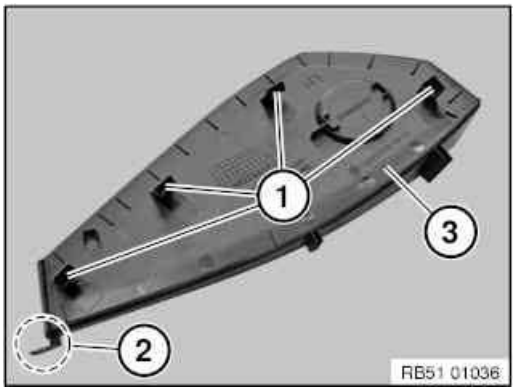
Removal:



Unclip the side panel (1) in the highlighted areas using special tool 00 9 327 and remove it at an angle towards the rear.

If necessary, unlock and disconnect the plug connection on the switch for the front passenger airbag deactivation.

Installation:



Note:
The latch mechanisms (1) and guide tab (2) on the side panel (3) must not be damaged or missing.

cardiagn.com



If necessary, connect the plug connection on the switch for front passenger airbag deactivation.

Insert and clip in the side panel (1) towards the front at an angle.

For replacement on passenger's side:

Remount switch for front passenger airbag deactivation.

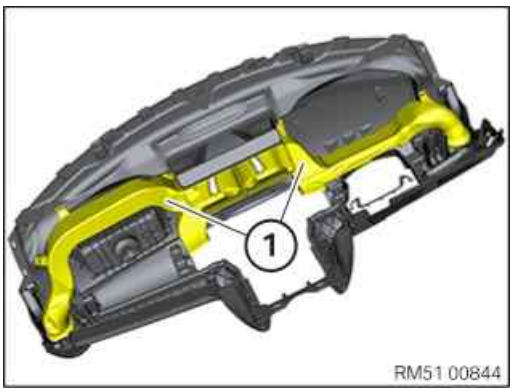
cardiagn.com

51 45 031 Replacing instrument panel trim

Necessary preliminary tasks:

- Remove instrument panel trim
- Remove airbag module on passenger's side
- Remove decorative strip on dashboard on left
- Remove speaker (tweeter)

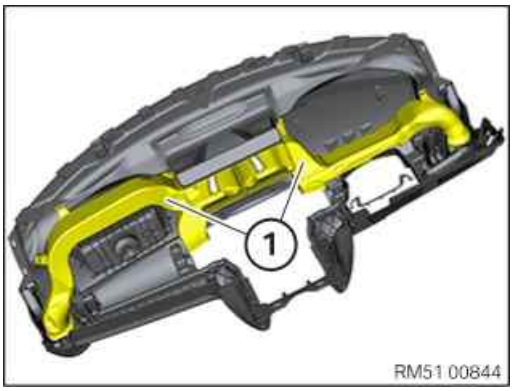
Removal:



Remove air ducts (1).

If necessary, remove other mounting elements that are not included with the new part.

Installation:



Install air ducts (1).

If necessary, install other mounting elements that are not included with the new part.

Required follow-up work:

- Install airbag module on passenger's side
- Install decorative strip on instrument panel, left
- Install speaker (tweeter)
- Install instrument panel trim

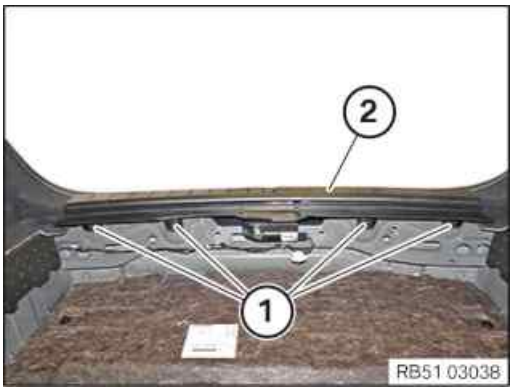
cardiagn.com

51 46 050 Removing and installing/replacing top cover on tail panel

Necessary preliminary tasks:

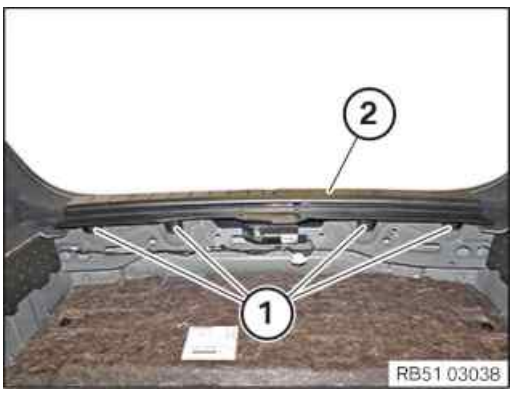
- Removing luggage compartment well

Removal:



Release expanding rivets (1) from tail panel trim (2).
Lift off trim on tail panel (2).

Installation:



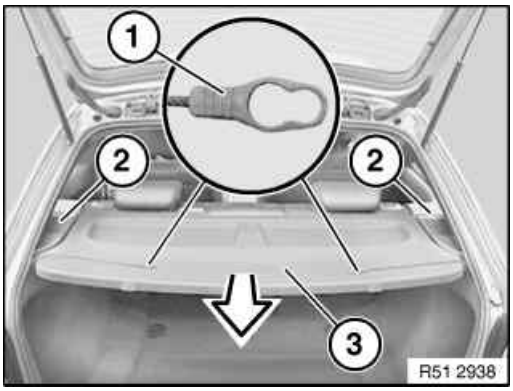
Install trim on tail panel (2).
Mount expanding rivets (1) on tail panel trim (2).

Required follow-up work:

- Install luggage compartment well

cardiagn.com

51 46 003 Removing and installing/replacing trim panel for storage shelf



Open tailgate.

Release holding straps (1) on left and right.

Pull storage shelf (3) out of guides (2).

cardiagn.com

51 47 370 Detaching and attaching/replacing the C/D pillar trim

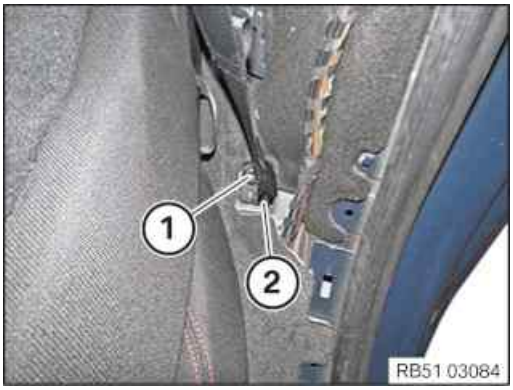
Necessary preliminary tasks:

- Remove luggage compartment wheel arch panel
- Remove C-pillar cover at bottom.

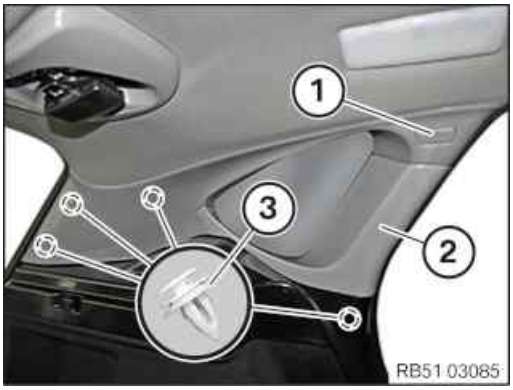
Removal:



Release screws (1).



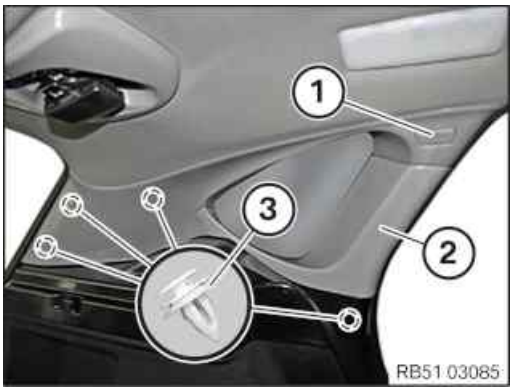
Undo and remove screw (1) from end fitting (2).



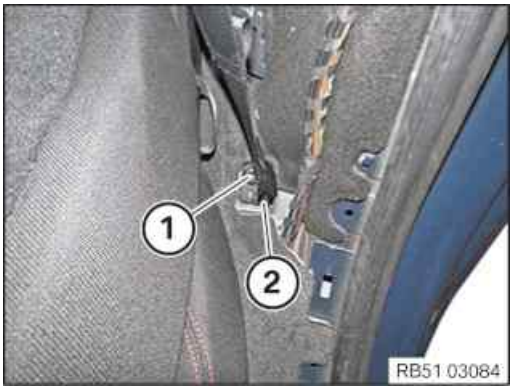
Remove cover (1) and release screw underneath.
Unclip trim (2) out of the clips (3).
Feed seat belt strap out of the trim (2).
Remove cover (2).

cardiagn.com

Installation:



Feed seat belt strap into the trim (2).
Attach trim (2) and clip into clips (3).
Tighten bolt and mount cover (1).
Tightening torque 54 43 1AZ.



Install end fitting (2) and tighten screw (1).
Tightening torque 72 11 21AZ.



Tighten down screws (1).
Tightening torque 51 43 2AZ.

Required follow-up work:

- Install luggage compartment wheel arch panel
- Install trim of bottom C-pillar

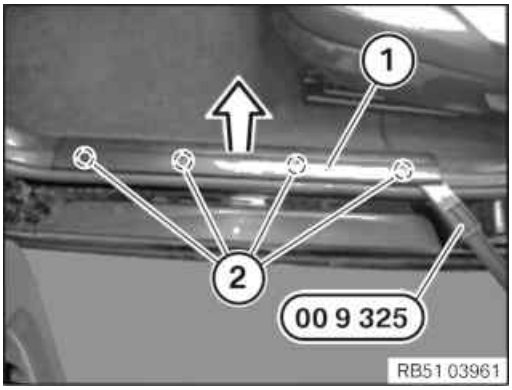
cardiagn.com

51 47 000 Remove and install/replace the front left or right door sill cover strip (inner)

1 – Remove front entrance cover strip

NOTICE

Description is for left component only. Procedure on the right side is identical.



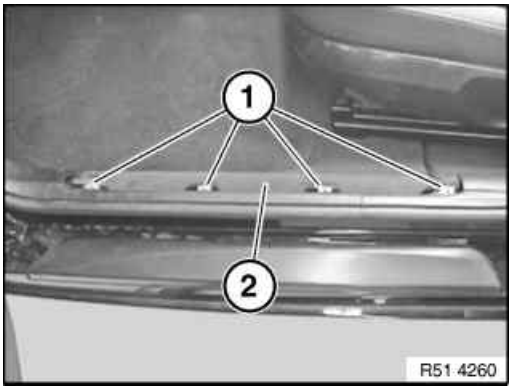
RISK OF DAMAGE

Bending of plastic parts.

Application of too much force can lead to bending of plastic parts.

- Place special tool directly beside the mounting clip.
- Continue unclipping the part without using the tool if possible.

- Unclip the front door sill cover strip (1) at the clips (2) using the special tool **0 496 569 (00 9 325)** in the direction of arrow starting from the rear.

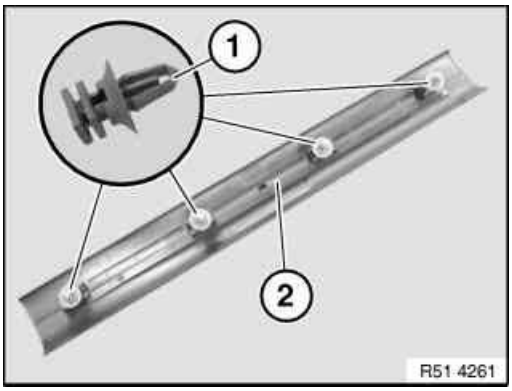


- If applicable, unclip the clips (1) from the floor panel (2).

2 – Install the front door sill cover strip

NOTICE

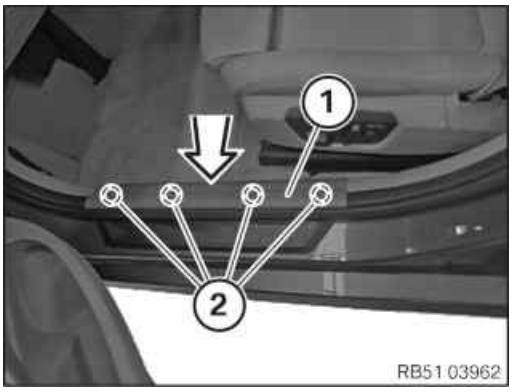
Description is for left component only. Procedure on the right side is identical.



- Renew faulty clips (1) on the front door sill cover strip (2).

  Parts: Clips

cardiagn.com



- Install and engage the front door sill cover strip (1) with the clips (2) in the direction of the arrow.

Additional Information

Overview of Special Tools

0 496 569 (00 9 325) Wedge



Common	Used in step 1
Usage	(Panel wedge) From 11/2008 this special tool replaces panel wedge 00 9 317 (different material)
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	41 01 09 (507)

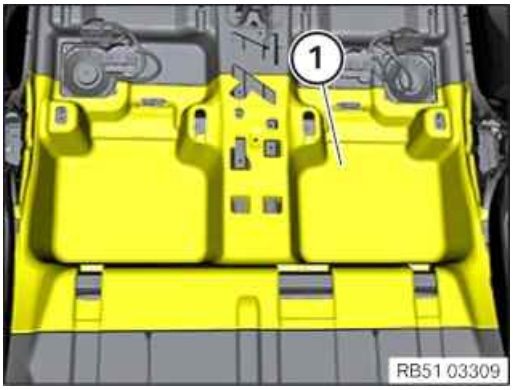
cardiagn.com

51 47 440 Removing and installing or replacing rear carpet on seat pan

Necessary preliminary tasks:

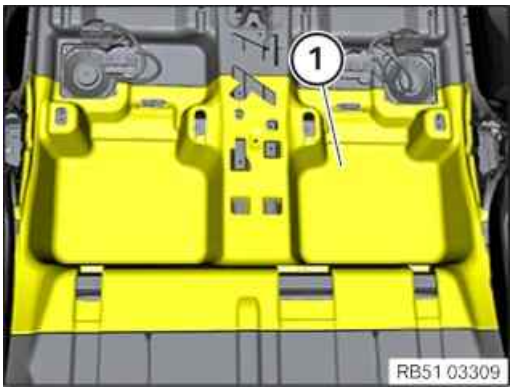
- Remove both front seats
- Remove seat bench
- Remove bottom B-pillar trim panel on the left/right
- Remove complete centre console
- Remove bass speaker cover on the left/right

Removal:



Lift off carpet (1) towards the top and remove it from the vehicle.

Installation:



Replacement:

Lay removed carpet over new one and transfer cuts to new carpet (if necessary).

Install the carpet (1).

Note:
Make sure carpet (1) is correctly positioned compared with adjacent parts.

cardiagn.com

Required follow-up work:

- Install both front seats
- Install rear seat bench
- Install door post trim panel at the bottom on left and right
- Install centre console, complete
- Install bass speaker cover on the left/right

cardiagn.com

51 47 315 Removing and installing/replacing carpet for vehicle interior

Necessary preliminary tasks:

- Disconnect battery earth lead
- Remove centre console.
- Remove footwell side trim panel on A-pillar on front left/right
- Remove complete accelerator pedal module
- Remove left and right cover for bass speaker
- Remove door post trim panel on left and right
- Remove centre console cover on the side on the left/right

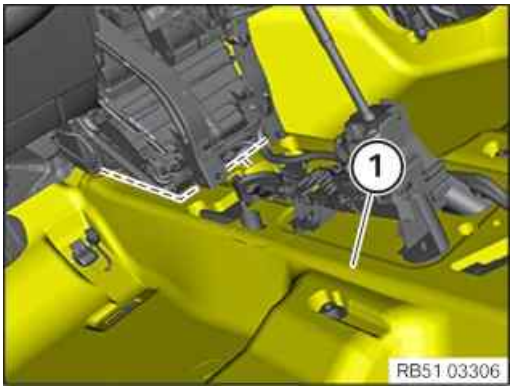
Removal:

Important!

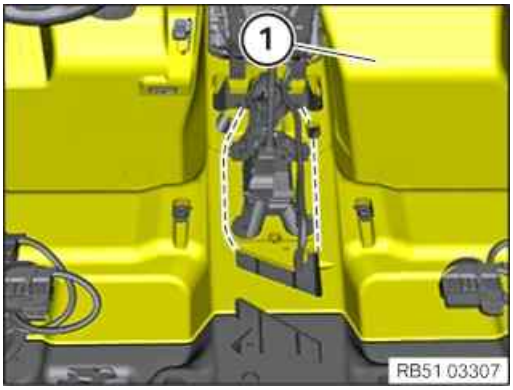
Risk of damage!

Pay attention to cables when cutting.

Start cuts towards centre of vehicle as far as is possible. This guarantees that cutting edges are covered by storage compartment and/or dashboard.



Remove carpet (1) along lines, cut on the right and left.

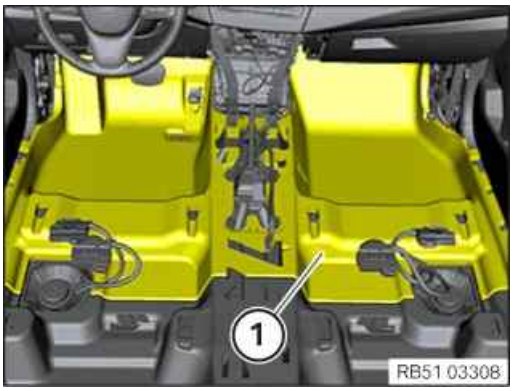


Remove carpet (1) along lines, cut on the right and left.

Remove carpetÂ (1) toward rear/top and if necessary feed out cable.

cardiagn.com

Installation:



Replacement:

Lay removed carpet over new one and transfer cuts to new carpet.

Install the carpet (1).

Note:
Make sure carpet (1) is correctly positioned compared with adjacent parts.

Required follow-up work:

- Connect battery earth lead
- Install centre console
- Install footwell side trim panel on A-pillar on front left/right
- Install complete accelerator pedal module
- Install left and right cover for bass speaker
- Install door post trim panel on left and right
- Install centre console cover on the side on the left/right

cardiagn.com

51 47 072 Removing and installing/replacing finishing strip on rear left or right entrance (outer)

Special tools required:

- 00 9 325

Removal:



Lever out and remove trim (1) from the clips (2) using special tool 00 9 325 .

Installation:



Note:
Clips (2) must not be missing or damaged.

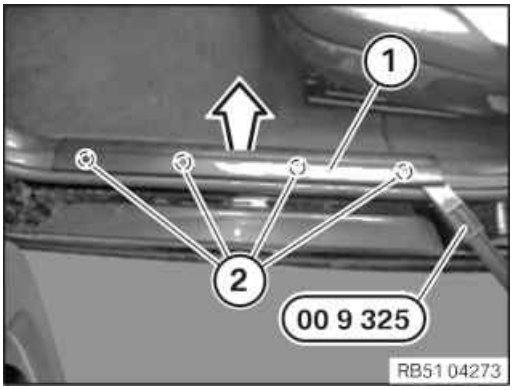
Engage trim (1) in clips (2).

cardiagn.com

51 47 000 Removing and installing/replacing front (inside) left or right door sill cover strip

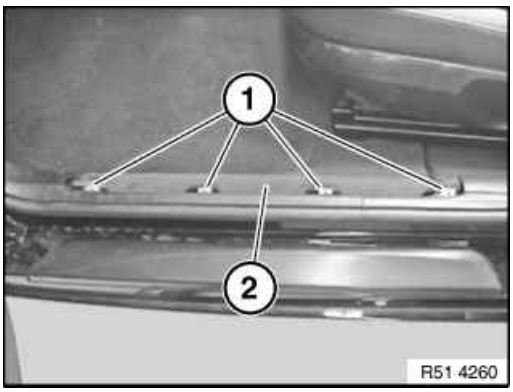
Special tools required:

- 00 9 325

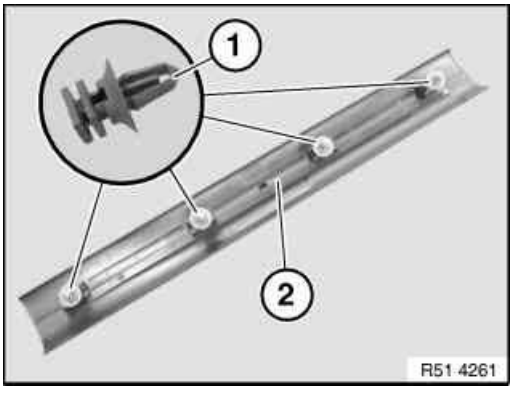


Attention!
Do not raise door sill cover strip (1) over entire length simultaneously.

Unclip rear door sill cover strip (1) from clips (2) starting from the rear with special tool 00 9 325 .



If necessary lift clip (1) from floor panel (2) and clip on door sill cover strip.



Installation note:
Replace defective clips (1) on door sill cover strip (2).

cardiagn.com

51 47 151 Removing and installing/replacing left luggage compartment wheel arch trim

Necessary preliminary tasks:

- Remove cover from tail panel

Removal:



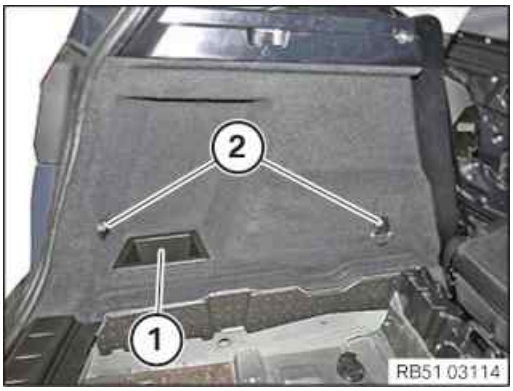
For equipment specification with seat adjustment for rear seat:

Fold the backrest towards the front.

Move rear seat assembly forward.

Press latch mechanism (1) inward and detach holder (2) upwards.

Remove cover (3).



Lift out storage compartment (1) upwards.

Lever out lashing eye covers (2) and release screws underneath.

Remove the lashing eyes.



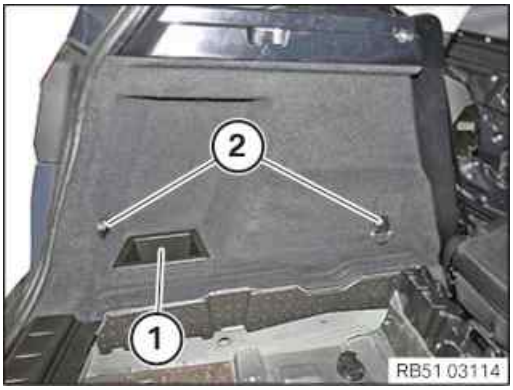
Pull lower trim panel (1) inwards, feed out by lifting up and forwards, and remove.

cardiagn.com

Installation:



Feed in trim panel (1) forwards and upwards, then install by pressing down and outwards.*Note:*
Make sure trim panel (1) is correctly seated against the edge protection.

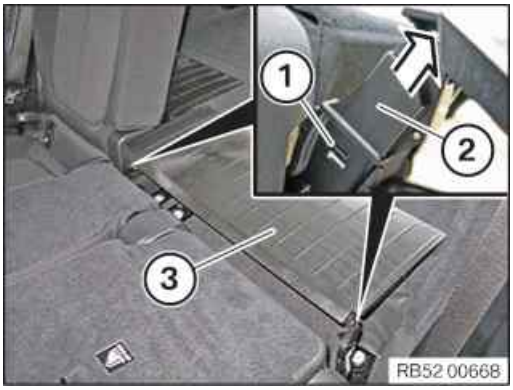


Install lashing eyes and tighten screws.

Tightening torque 51 47 1AZ.

Install lashing eye covers (2).

Install storage compartment (1).



For equipment specification with seat adjustment for rear seat:

Clip in cover (3) from above with holder (2).

Note:
Ensure catches (1) are correctly seated.

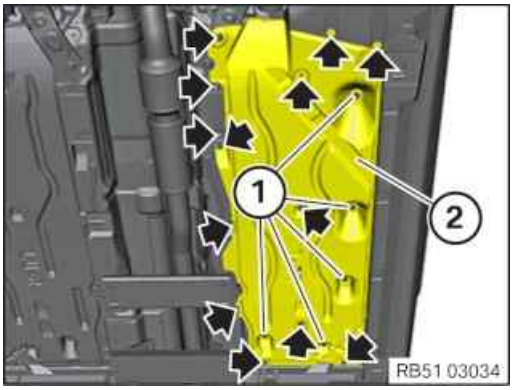
Required follow-up work:

- Install cover on tail panel

cardiagn.com

51 75 001 Removing and installing/replacing left or right underbody cover

Removal:

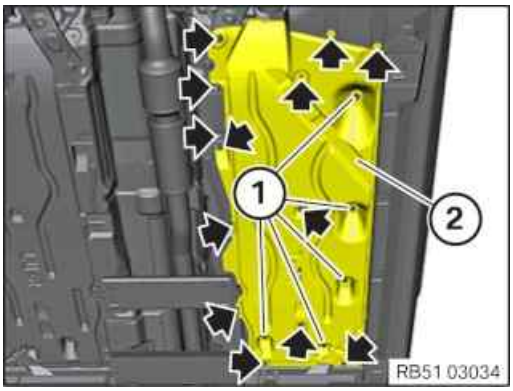


Release plastic nuts (1).

Release screws.

Feed out cover (2).

Installation:



Note:
Ensure cover (2) is correctly seated.

Feed in cover (2).

Tighten plastic nuts (1).

Tighten down screws.

cardiagn.com

51 47 101 Removing and installing/replacing luggage compartment floor trim panel

Removal:



Lift luggage compartment floor trim panel (1) at rear and remove.

Installation:



Attach luggage compartment floor trim panel (1) at front in hooks and lay down at rear.

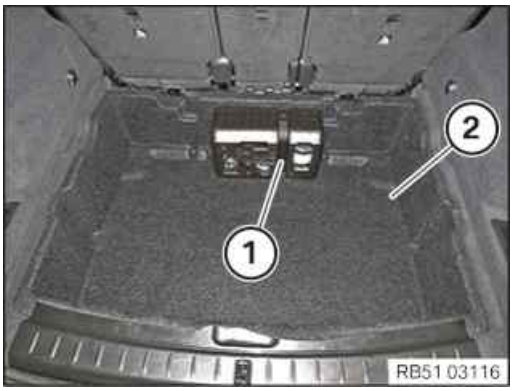
cardiagn.com

51 47 ... Removing and installing/replacing luggage compartment well

Necessary preliminary tasks:

- Remove luggage compartment floor trim panel

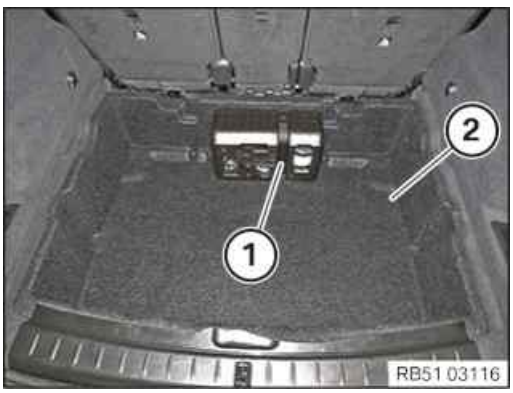
Removal:



Release and remove Mobility Set (1).

Lift up luggage compartment well (2) at front and feed out to rear.

Installation:



Feed in luggage compartment well (2).

Insert Mobility Set (1) and secure.

Required follow-up work:

- Install luggage compartment floor trim panel

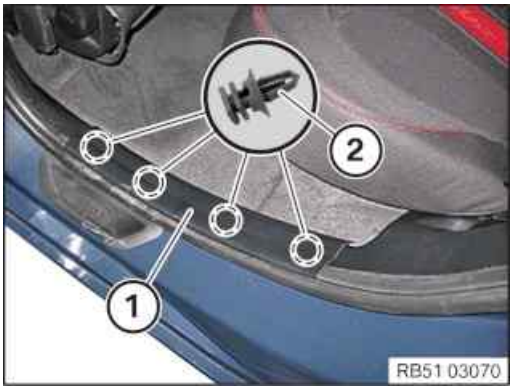
cardiagn.com

51 47 030 Removing and installing/replacing rear left or right door sill cover strip (inside)

Special tools required:

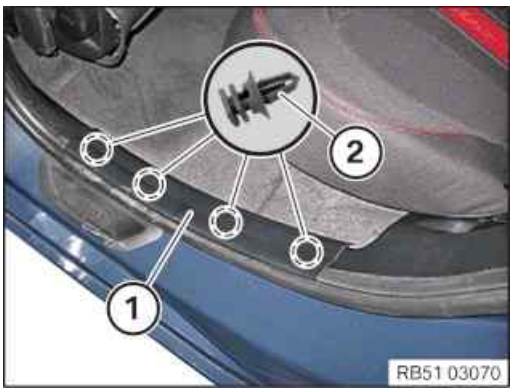
- 00 9 325

Removal:



Lever the rocker panel trim (1) out of the clips (2) using special tool 00 9 325 and remove.

Installation:



Note:
Replace faulty clips (2).

Replacement

Remount clips (2).

Engage rocker panel trim (1) in clips (2).

cardiagn.com

51 47 161 Removing and installing/replacing right luggage compartment wheel arch panel

Necessary preliminary tasks:

- Remove cover from tail panel
- Remove luggage compartment light

Removal:



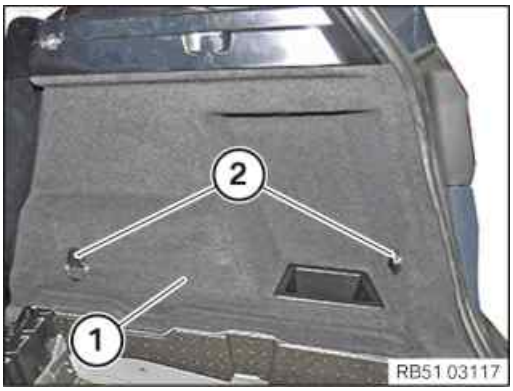
For equipment specification with seat adjustment for rear seat:

Fold the backrest towards the front.

Move rear seat assembly forward.

Press latch mechanism (1) inward and detach holder (2) upwards.

Remove cover (3).



Lift out storage compartment (1) upwards.

Lever out lashing eye covers (2) and loosen screws underneath.

Remove the lashing eyes.



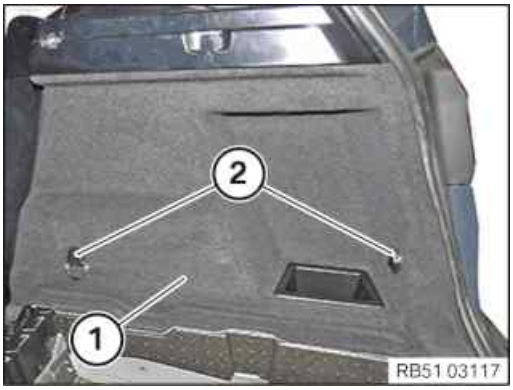
Pull lower trim panel (1) inwards, feed out by lifting up and forwards, and remove.

cardiagn.com

Installation:



Feed in trim panel (1) forwards and upwards, then install by pressing down and outwards.*Note:*
Make sure trim panel (1) is correctly seated against the edge protection.

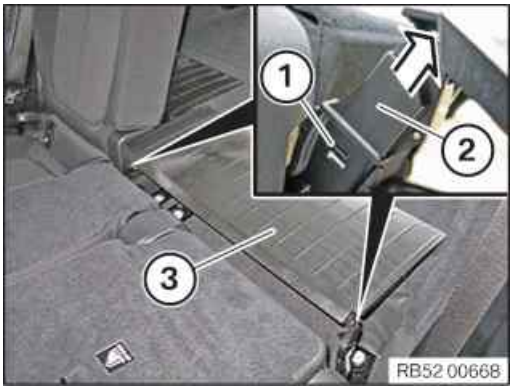


Install lashing eyes and tighten screws.

Tightening torque 51 47 1AZ.

Install lashing eye covers (2).

Install storage compartment (1).



For equipment specification with seat adjustment for rear seat:

Clip in cover (3) from above with holder (2).

Note:
Ensure catches (1) are correctly seated.

Required follow-up work:

- Install cover on tail panel
- Install luggage compartment light

cardiagn.com

51 47 065 Removing and installing/replacing rocker panel trim on front left or right entrance (outer)

Special tools required:

- 00 9 325

Removal:



Pry trim (1) out of clips (2) with special tool 00 9 325 and remove.

Installation:



Note:
Clips (2) must not be missing or damaged.

Engage trim (1) in clips (2).

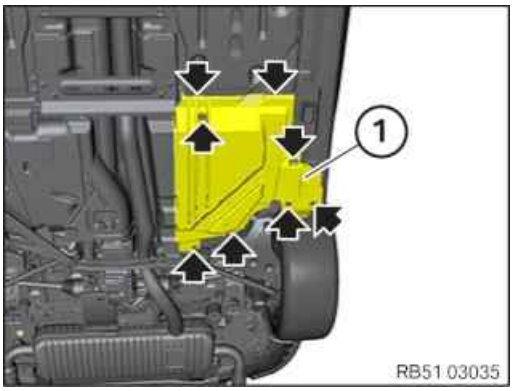
cardiagn.com

51 75 ... Removing and installing/replacing tank cover on left or right

Necessary preliminary work:

- Remove torsion strut

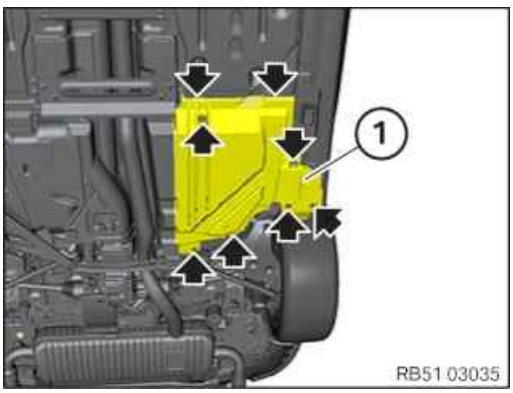
Removal:



Unscrew all bolts.

Remove tank cover (1).

Installation:



Install tank cover (1).

Tighten down all screws.

Tightening torque 51 75 1AZ.

Required follow-up work:

- Install torsion strut

cardiagn.com

51 47 030 Removing and installing/replacing the rear left or right door sill cover strip (inner)

1 – Remove rear entrance cover strip

RISK OF DAMAGE

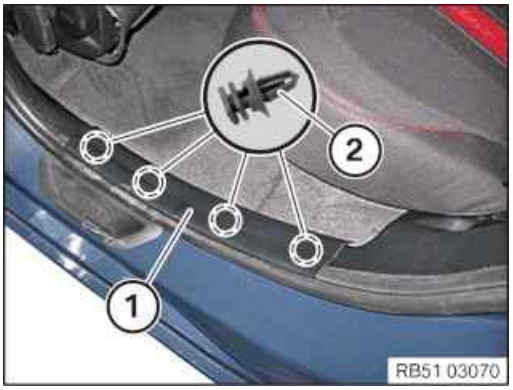
Bending of plastic parts.

Application of too much force can lead to bending of plastic parts.

- Place special tool directly beside the mounting clip.
- Continue unclipping the part without using the tool if possible.

NOTICE

Description is for left component only. Procedure on the right side is identical.

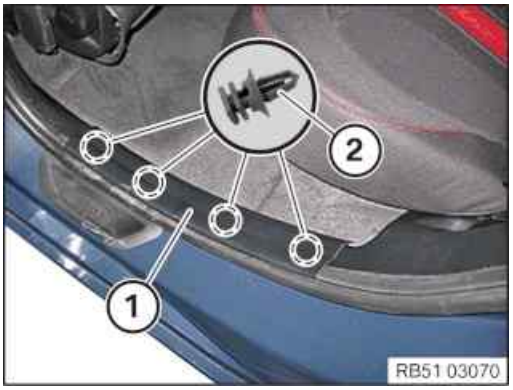


- Lever out and remove the rear door sill cover strip (1) with the special tool **0 496 569 (00 9 325)** from the clips (2).
- If applicable, unclip the clips (2) from the floor panel.

2 – Install the rear door sill cover strip

NOTICE

Description is for left component only. Procedure on the right side is identical.



- Renew damaged clips (2).

  Parts: Clips
- Engage the rear door sill cover strip (1) with the clips (2).

Additional Information

Overview of Special Tools

cardiagn.com

0 496 569 (00 9 325) Wedge



Common	Used in step 1
Usage	(Panel wedge) From 11/2008 this special tool replaces panel wedge 00 9 317 (different material)
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	41 01 09 (507)

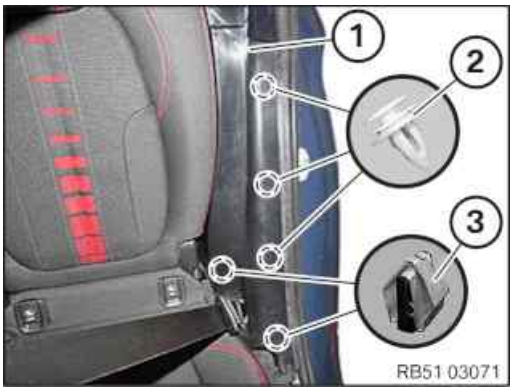
cardiagn.com

51 47 098 Removing and installing/replacing trim on C-pillar at bottom left or right

Necessary preliminary tasks:

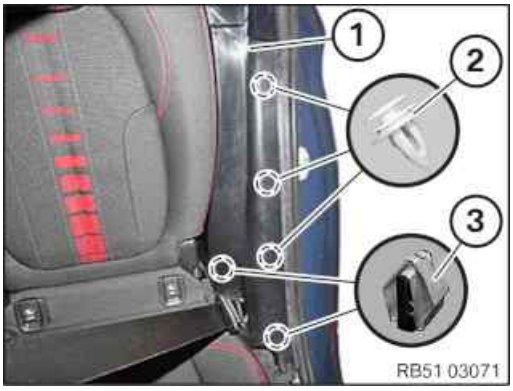
- Remove door sill cover strip at rear
- Release rear end fitting

Removal:



Unclip the trim panel (1) from the clips (2) and the clamps (3).
Feed out seat belt and remove trim panel (1).

Installation:



Feed in seat belt and install trim panel (1).
Clip trim panel (1) in clips (2) and clamps (3).

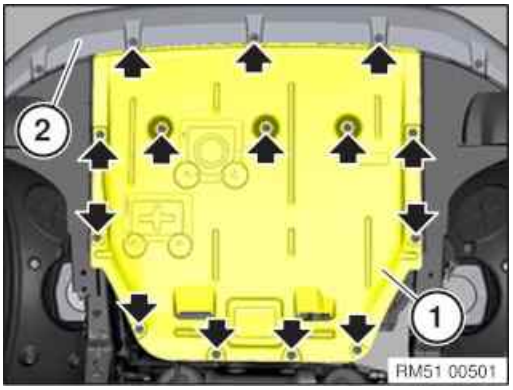
Required follow-up work:

- Install rear door sill cover strip
- Mount rear end fitting

cardiagn.com

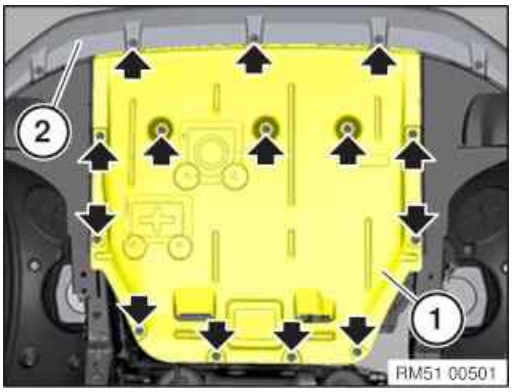
51 47 490 Removing and installing/replacing underbody protection (front)

1 – Removing the front underbody protection



- Remove screws (arrows).
- Pull the front underbody protection (1) from underneath the bumper panel (2).

2 – Installing the front underbody protection



- Position the front underbody protection (1) under the bumper panel (2).
- Tighten screws (arrows).

Underbody protection to body

Screw		Tightening torque	2.5 Nm

Additional Information

Overview of Tightening Torques

Underbody protection to body Used in step 2

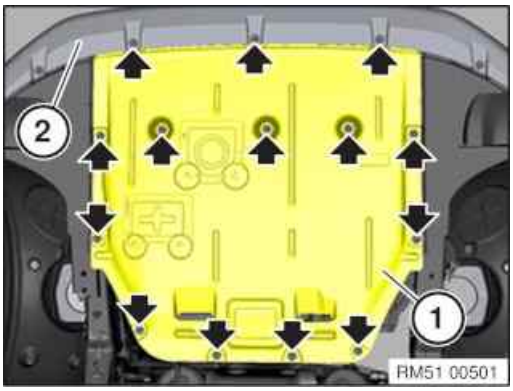
Screw		Tightening torque	2.5 Nm

cardiagn.com

51 47 490 Removing and installing/replacing underbody protection (front)

Note:
Picture for example purposes. There may be differences in detail in the case of other models.

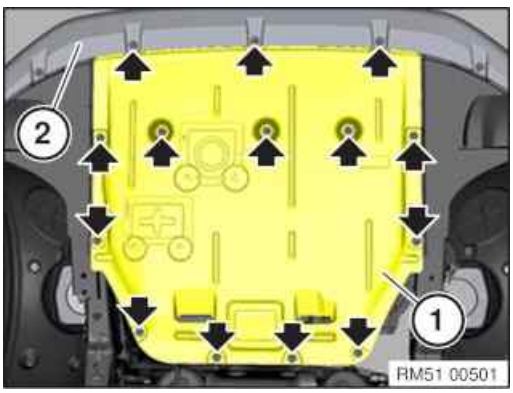
Removal:



Loosen screws.

Pull forward underbody protection (1) below bumper panel (2) and remove.

Installation:



Feed in underbody protection (1) below bumper panel (2) and position at screw points.

Secure underbody protection (1) with bolts.

Tightening torque 51 71 5AZ.

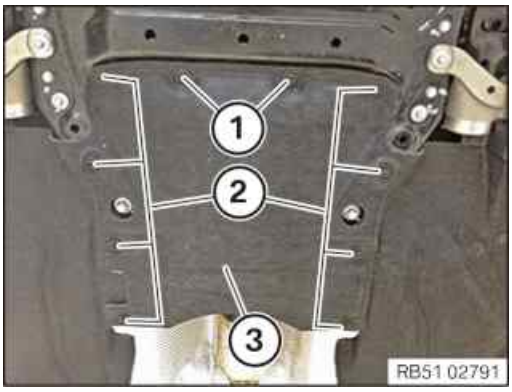
cardiagn.com

51 47 491 Removing refitting/replacing rear engine undercover

NOTICE

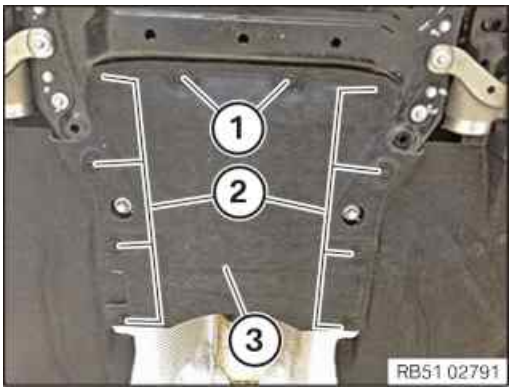
Schematic diagram is for example purposes. Some parts may differ in certain details.

1 – Removing rear underbody protection



- Loosen screws (1) and (2).
- Remove underbody protection (3).

2 – Installing underbody protection at rear



- Install the underbody protection (3).
- Tighten down screws (1) and (2).

Underbody protection to body

Screw		Tightening torque	3 Nm

Additional Information

Overview of Tightening Torques

Underbody protection to body Used in step 2

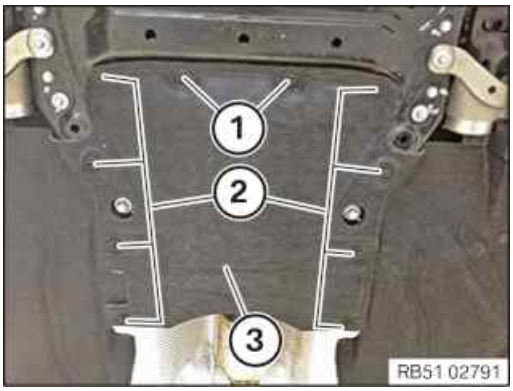
Screw		Tightening torque	3 Nm

cardiagn.com

51 47 491 Removing refitting/replacing rear engine undercover

Note:
Picture for example purposes. Some parts may differ in certain details.

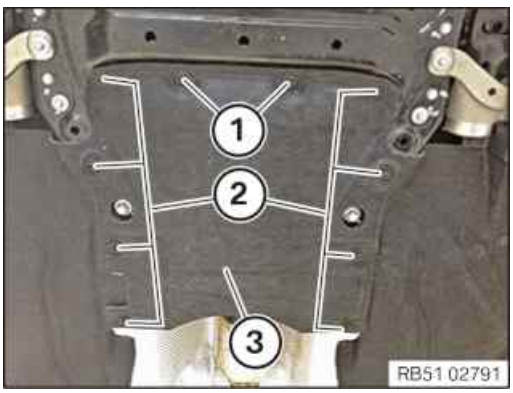
Removal:



Release screws (1 and 2).

Remove underbody protection (3).

Installation:



Install underbody protection (3).

Tighten down screws (1 and 2).

Tightening torque 51 71 5AZ

cardiagn.com

51 48 ... Notes for bonding sound insulation (SI), doors



Special tools required:

- 51 0 300

Attention!

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.

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 ⌀ 4 mm from the roller c. Butyl round profile ⌀ 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	
	• 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 ⌀ 4 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)

cardiagn.com

in the event of damaged sound insulation or leakage	• 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 ⌀ 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).
- 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 90°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).

cardiagn.com

51 48 001 Removing and installing/replacing insulation lining on engine hood/bonnet

Removal:



Remove clips from damping material.

Remove insulation lining.

Installation:



Position damping material and secure with clips.

cardiagn.com

51 48 060 Removing and installing/replacing sound insulation in left or right front door

Necessary preliminary tasks:

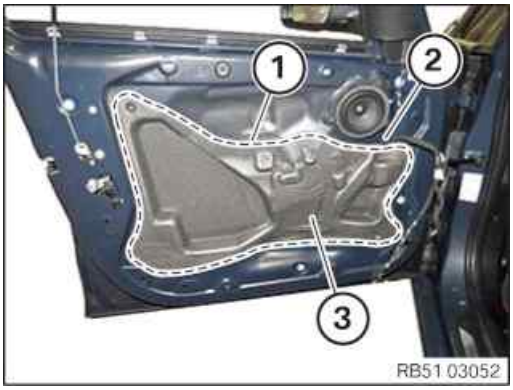
- Remove front door trim panel

Attention!

Instructions for sound insulation are an essential part of these repair instructions and must be followed without fail.

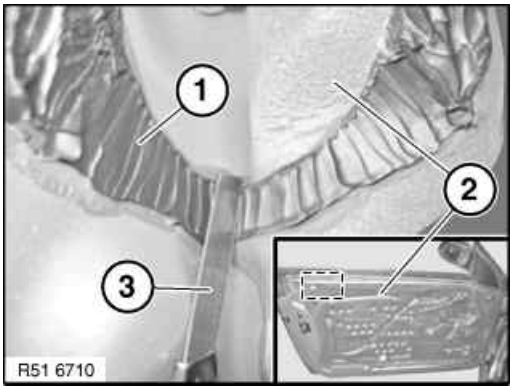
Do not detach sound insulation in jerks (risk of damage).

Ensure watertightness of sound insulation after every repair (water ingress).



Note:
Position of sealing bead (1).

Pay attention to the cable (2) when removing the sound insulation (3).



Attention!

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

When refitting:

Damaged sound insulation must be replaced.

Lay butyl rope with ⌀ 4 mm (sourcing reference: BMW Parts Department) onto the original butyl rope.

Replacement:

Remove residual butyl at the door and clean the adhesive area.

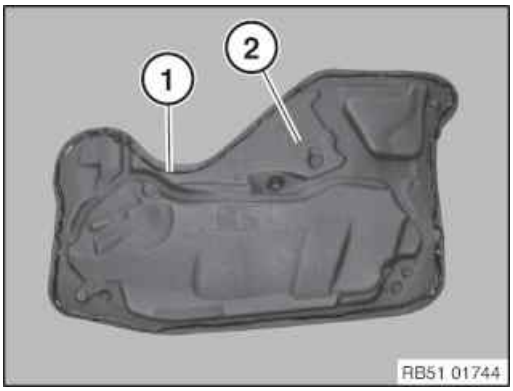
Air drying time: 1 minute

Attention!

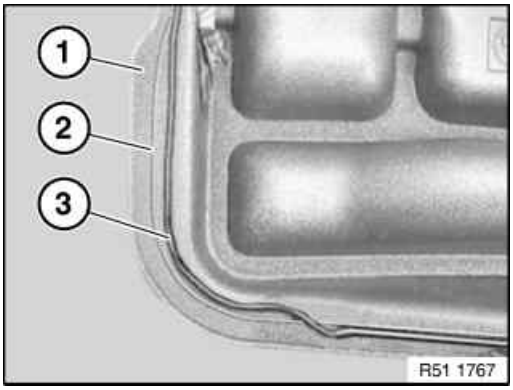
Bonding surfaces must be dry and free of dust and grease.

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.



Note:
Position of butyl rope (1) on sound insulation (2).



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

cardiagn.com

51 48 070 Removing and installing/replacing sound insulation in left or right rear door

Attention!

Instructions for sound insulation are an essential part of these repair instructions and must be followed without fail.

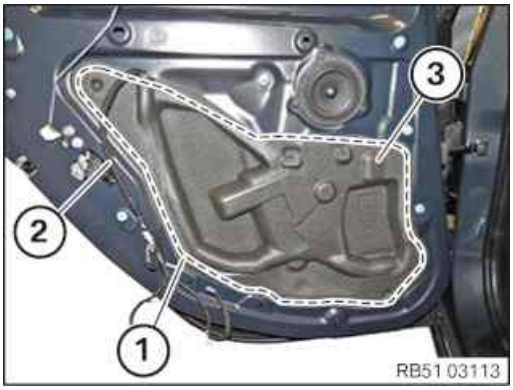
Do not detach sound insulation in jerks (risk of damage).

Ensure watertightness of sound insulation after every repair (water ingress).

Necessary preliminary tasks:

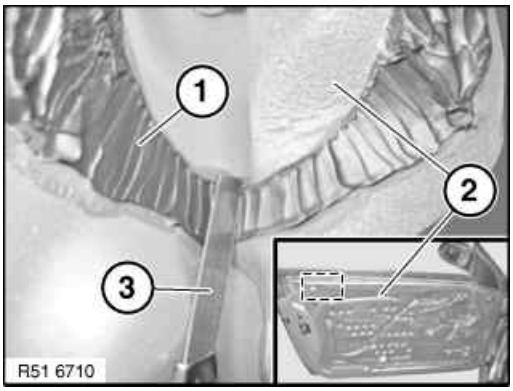
- Remove door trim panel

Removal:



Note:
Position of sealing bead (1).

Feed out line (2) from sound insulation (3).



Attention!

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

When refitting:

Damaged sound insulation must be replaced.

Lay butyl rope with ⌀ 4 mm (sourcing reference: BMW Parts Department) onto the original butyl rope.

Replacement:

Remove residual butyl at the door and clean the adhesive area.

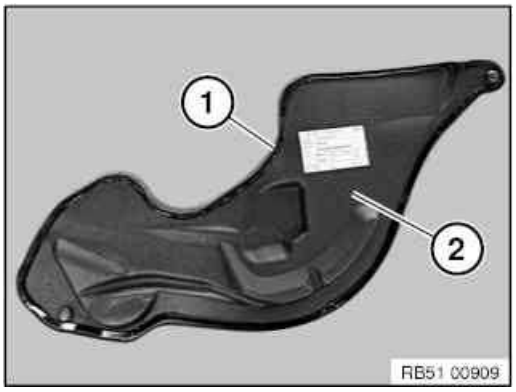
Air drying time: 1 minute

Attention!

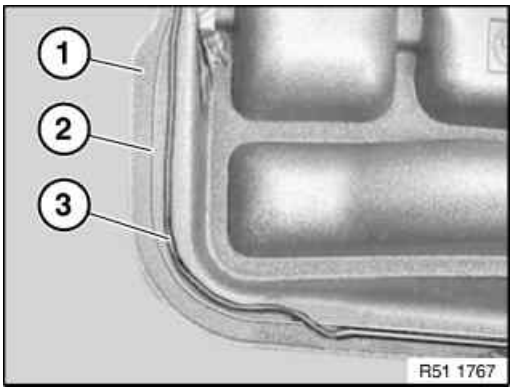
Bonding surfaces must be dry and free of dust and grease.

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.



Note:
Position of butyl rope (1) on sound insulation (2).



Note:
A mark (2) is provided all round on the sound insulation (1).

Butyl rope (3) rests on or inside the marking (2).

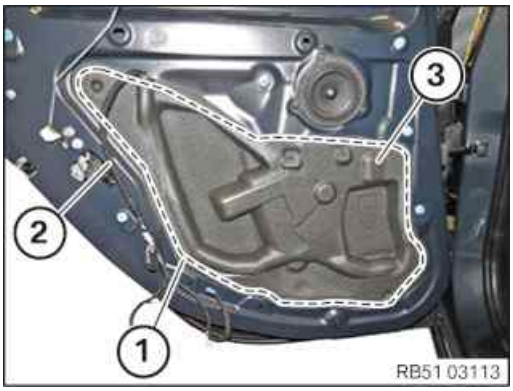
Heat butyl rope (3) (hot air blower) and press sound insulation (1) on firmly all-round.

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



Feed in line (2) at sound insulation (3).

Press sealing bead (1) onto door with your thumb.

cardiagn.com

Required follow-up work:

- Mount door trim panel

cardiagn.com

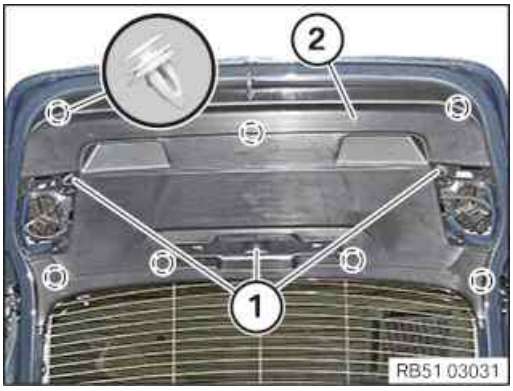
51 49 000 Removing and installing or replacing trim for rear lid

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

Necessary preliminary tasks:

- Remove warning triangle.
- Remove the covers of the rear lights on the side.
- Remove trim panel for storage shelf
- Remove cover for side rear window frame

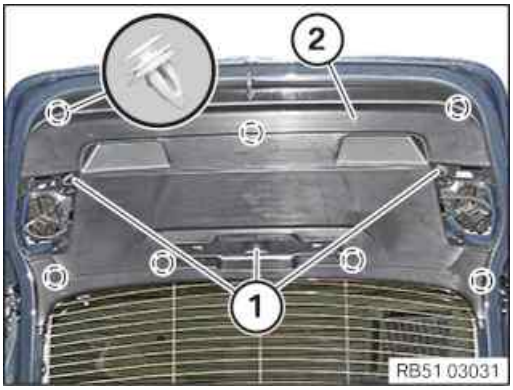
Removal:



Release screwsÂ (1).

Unclip trim panel (2) at the clips and remove downwards.

Installation:



Note:
Clips and guides on the tailgate trim panel must not be damaged or missing.

Replacement:

Remount clips.

Attach trim panel (2) and clip into place at the clips.

Tighten down screws (1).

cardiagn.com

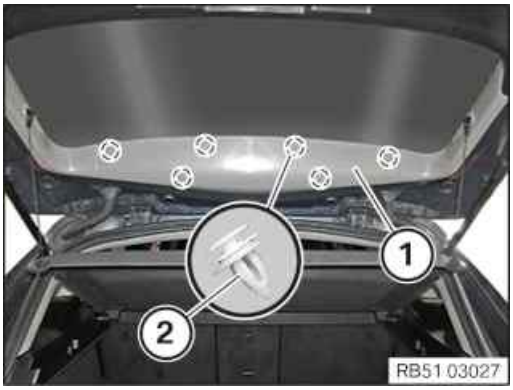
Required follow-up work:

- Install trim for rear window frame on side
- Install trim panel for storage shelf
- Install the covers of the rear lights.
- Install warning triangle.

cardiagn.com

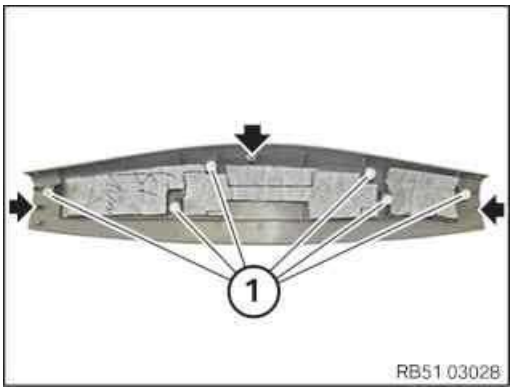
51 49 015 Removing and installing/replacing cover for rear window frame at top

Removal:

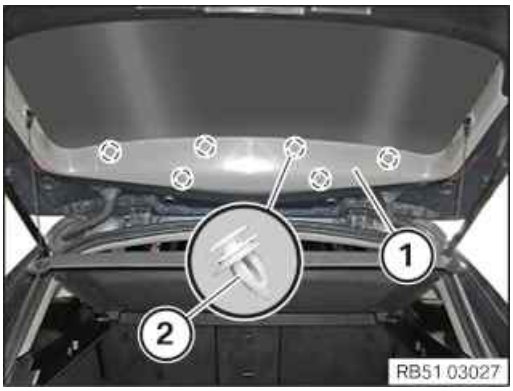


Unclip trim (1) from clips (2) and remove downwards.

Installation:



Note:
The clips (1) and the guides must not be damaged or missing.



Install trim (1) and attach to clips (2).

cardiagn.com

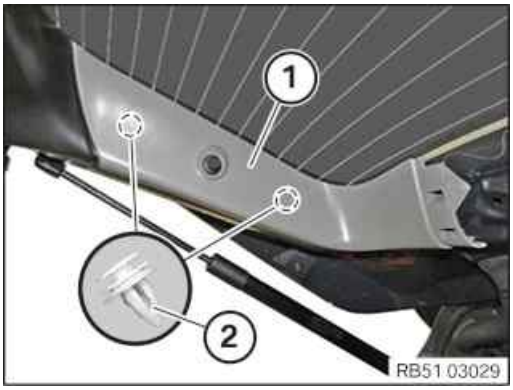
51 49 003 Removing and installing/replacing left or right rear window frame cover

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

Necessary preliminary tasks:

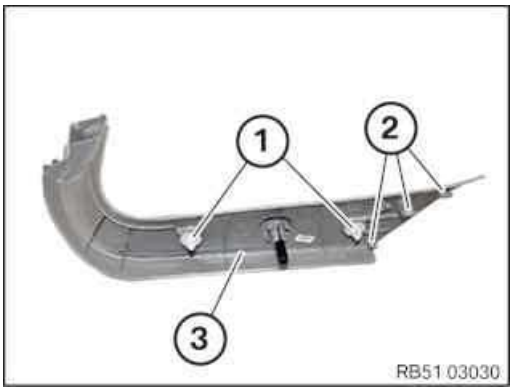
- Remove cover for rear window frame at top.

Removal:



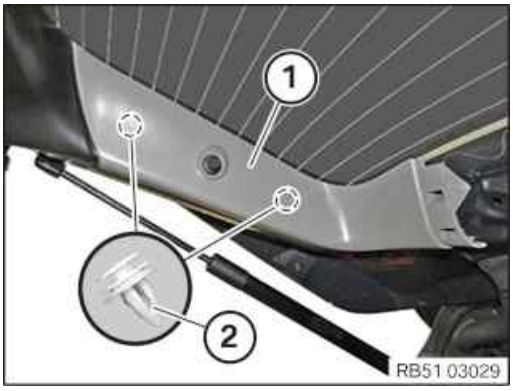
Release cover (1) at clips (2) and remove.

Installation:



Note:
Clips (1) and guides (2) on trim (3) must not be damaged or missing.

cardiagn.com



Attach trim (1) and engage at clips (2).

Required follow-up work:

- Install trim for rear window frame at top.

cardiagn.com

51 71 ... Remove and install/replace left or right lower front brake air duct

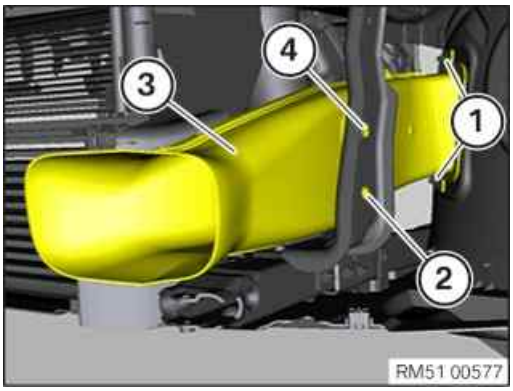
Necessary preliminary tasks:

- Remove front bumper panel

Right side only:

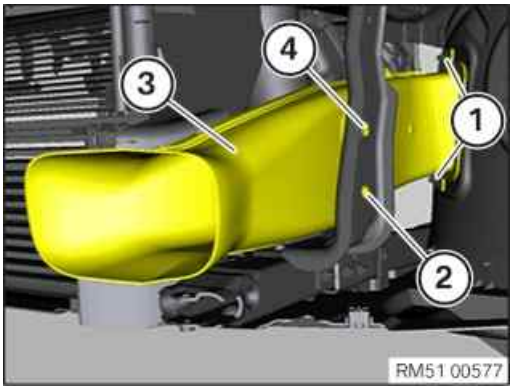
- Release fluid fuel tank for windscreen washer system

Removal:



Undo expander rivet or screws (1).
Release screw (2).
Feed out air duct (3) from guide (4) and remove.

Installation:



Feed in air duct (3) with guide (4) into holder.
Secure air duct (3) with screw (2).
Secure expanding rivet or screws (1).

Required follow-up work:

- Secure washer fluid reservoir for window washer system
- Install front bumper panel

cardiagn.com

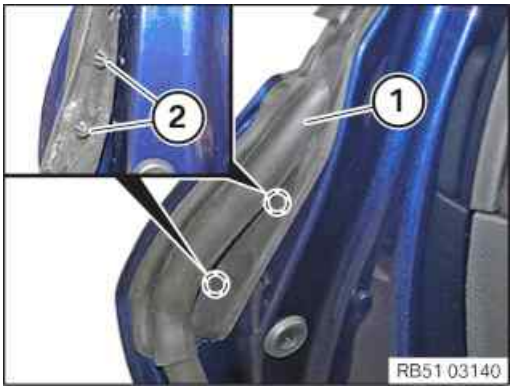
51 34 211 Remove and install/replace rubber window seal for rear left or right door window glass

The Instructions on installation of rubber window seals serve as the basis for these repair instructions and must be observed without fail.

Necessary preliminary tasks:

- Remove outer weather strip at rear door
- Completely lower fixed side window glass

Removal:



Loosen rubber window seal (1) from bracket (2).



Remove rubber window seal (1) sideways from door window frame.

Pull out rubber window seal (1) from window guide rails and remove it.

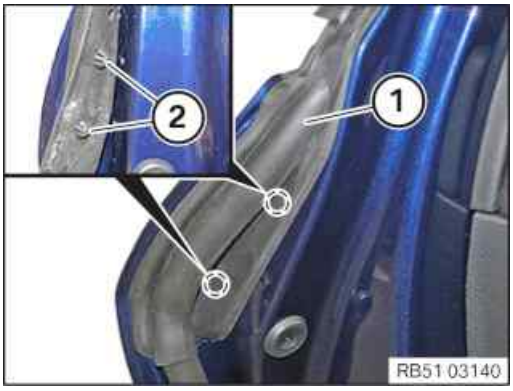
Installation:

cardiagn.com



Insert rubber window seal (1) into the guide rail.

Mount rubber window seal (1) on door window frame.



Engage rubber window seal (1) to bracket (2).*Note:*
Make sure rubber window seals (1) are correctly seated on the door window frame.

Required reworking:

- Install outer weather strip at rear door
- Close side window completely

cardiagn.com

51 71 360 Remove and install/replace sealing for tailgate

Removal:



Detach gasket (1) starting at sealing joint (2), to the rear.

Installation:



Mount gasket (1). Make sure that the sealing joint (2) is at the indicated position.

Make sure that the gasket lies correctly on the adjacent trim panel components.

cardiagn.com

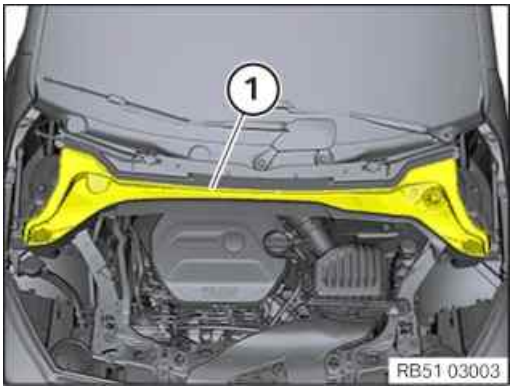
51 13 115 Remove and install/replace the cowl panel cover (front)

Necessary preliminary tasks:

- Remove rear bonnet seal

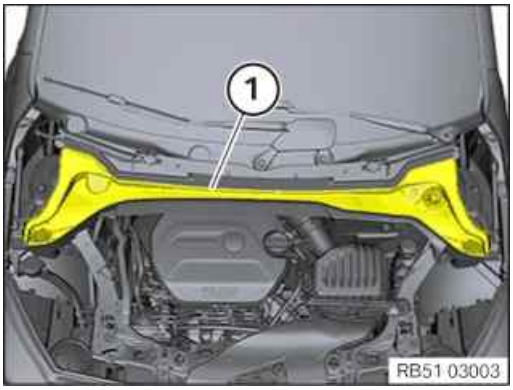
Note:
Bonnet shown removed for purposes of clarity.

Removal:



Lift off cowl panel cover (1).

Installation:



Feed in cowl panel cover (1) towards rear.*Note:*
Check front cover is correctly seated relative to rear cover.

Required follow-up work:

- Install rear bonnet seal

cardiagn.com

51 71 345 Removing and installing / replacing left (rear) suspension cross-brace

Important!

Driving without the strut brace is not permitted! (risk of damage to the body).

Necessary preliminary tasks:

- Remove upper bulkhead cover (front part)

Removal:



Release screw (1).

Slacken nut (2).

Remove suspension cross-brace (3).

Installation:



Install strut brace (3).

Tighten nut (2).

Tightening torque 51 61 2AZ.

Tighten screw (1).

Tightening torque 51 61 3AZ.

Note:

Make sure suspension cross-brace (3) is in correct installation position.

cardiagn.com

Required follow-up work:

- Install cover for bulkhead at top (front section)

cardiagn.com

51 71 346 Removing and installing / replacing right (rear) suspension cross-brace.

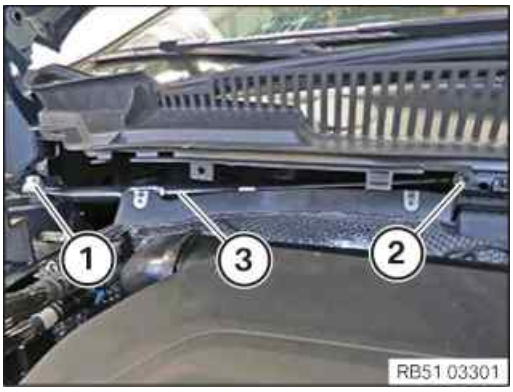
Important!

Driving without the suspension cross-brace is not permitted! (risk of damage to the body).

Necessary preliminary tasks:

- Remove upper bulkhead cover (front part)

Removal:

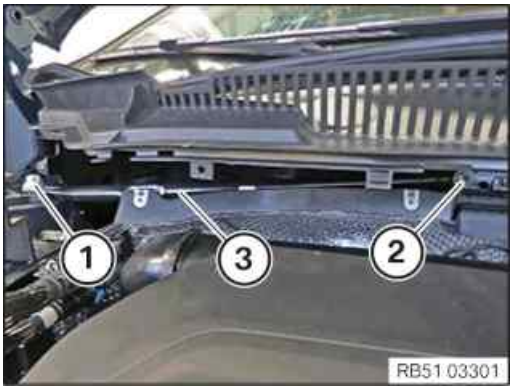


Release screw (1).

Slacken nut (2).

Remove suspension cross-brace (3).

Installation:



Install strut brace (3).

Tighten nut (2).

Tightening torque 51 61 2AZ.

Tighten screw (1).

Tightening torque 51 61 3AZ.

Note:

Make sure suspension cross-brace (3) is in correct installation position.

cardiagn.com

Required follow-up work:

- Install upper bulkhead cover (front part)

cardiagn.com

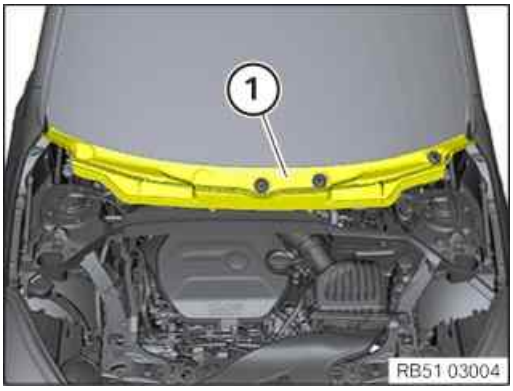
51 13 116 Removing and installing cowl panel cover (rear)

Necessary preliminary tasks:

- Remove front cowl panel cover
- Removing the wiper arm on the left or right
- Removing the gutter strip on the windscreen on the left and right

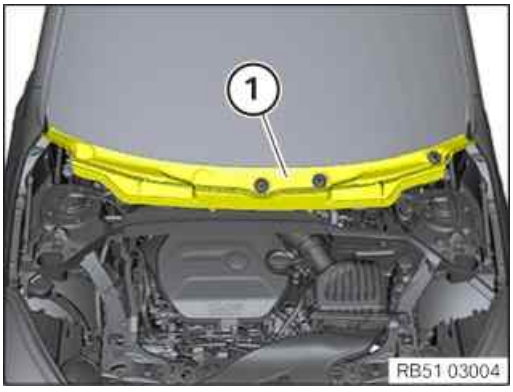
Note:
Bonnet shown removed for purposes of clarity.

Removal:



Disengage coverÂ (1) upwards and feed out.

Installation:



Feed in cover (1) and engage.

cardiagn.com

Required follow-up work:

- Mount left or right wiper arm
- Install front cowl panel cover
- Installing the gutter strip on the windscreen on the left and right

cardiagn.com

51 71 447 Removing and installing left or right side sill trim panel

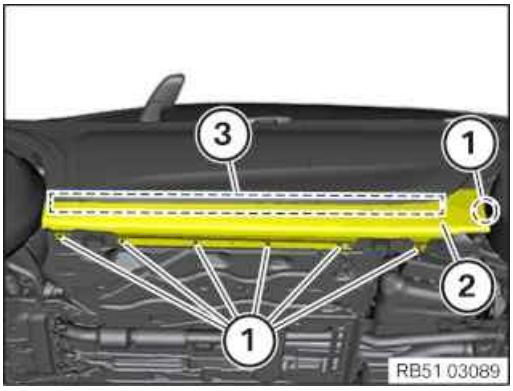
Necessary preliminary tasks:

- Remove rear door
- Remove tank cover

For F48/49 only

- Partially release front wheel arch trim
- Partially loosen the rear wheel arch trim

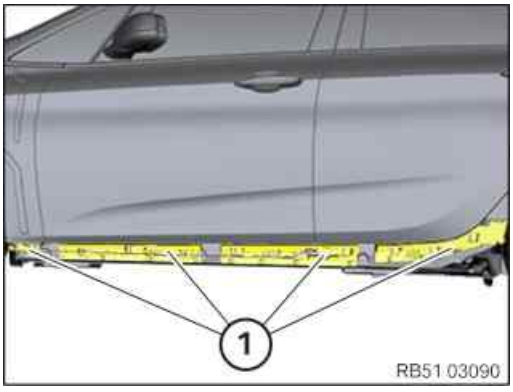
Removal:



Release expanding rivets (1) on bottom of trim panel (2).

Unclip the trim panel (2) along the mark (3) to the outside.

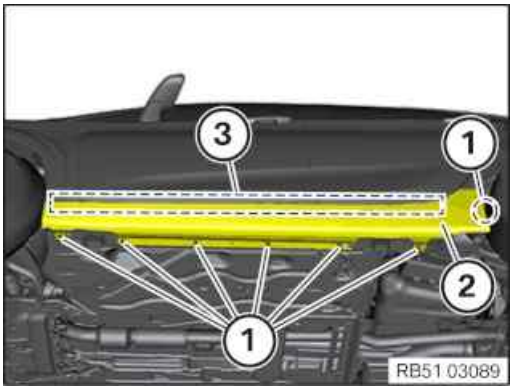
Installation:



Note:
If necessary, replace faulty screws and corresponding mountings (1).

Latch mechanisms on holder (1) and the side sill trim panel must not be damaged.

cardiagn.com



Clip in trim panel (2) along marking (3).

Mount expanding rivets (1) on bottom of trim panel (2).

Required follow-up work:

- Install rear door
- Install tank cover

For F48/49 only

- Install front wheel arch trim

  Mount trim on rear wheel arch

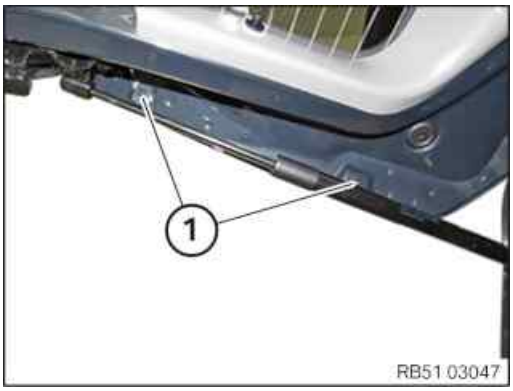
cardiagn.com

51 71 415 Removing and installing rear spoiler

Necessary preliminary tasks:

- Remove rear spoiler

Removal:

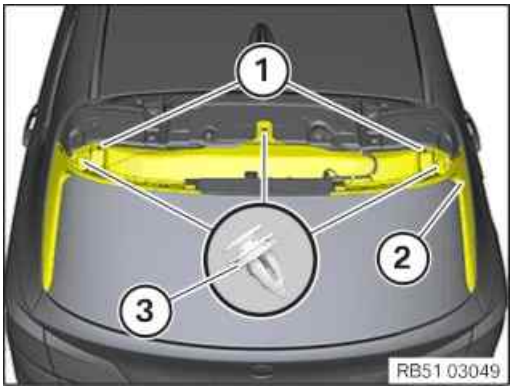


Open tailgate.

Release left and right screws (1).



Release screw (1).



Disconnect plug connection for additional brake light and expose wiring.

Disconnect coolant hose from washer jet and expose.

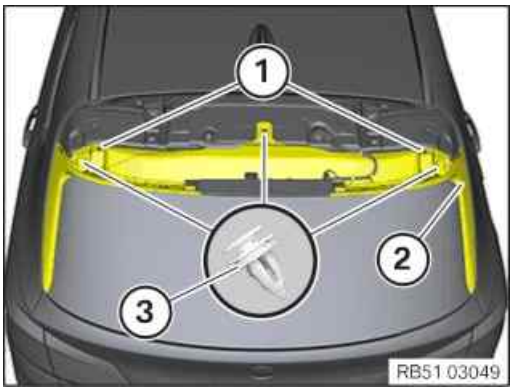
Release screws (1).

Release rear spoiler lower section (2) from clips (3) and remove.

cardiagn.com

Installation: *Note:*
Replacement:

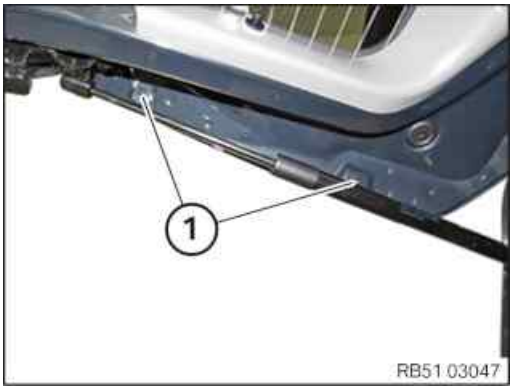
- Remount additional brake light



Mount rear spoiler lower section (2) and engage in clips (3).
Secure coolant hose and connect to washer jet.
Install wiring for additional brake light and connect plug connection.
Tighten down screws (1).
Tightening torque 51 71 15AZ.



Tighten screw (1).
Tightening torque 51 71 15AZ.



Tighten screws (1) on left and right.
Tightening torque 51 71 16AZ.

Required follow-up work:

- Attach rear spoiler

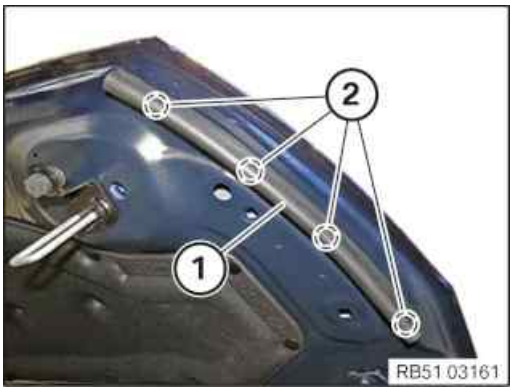
cardiagn.com

51 76 031 Removing and installing/replacing bonnet gasket at the front

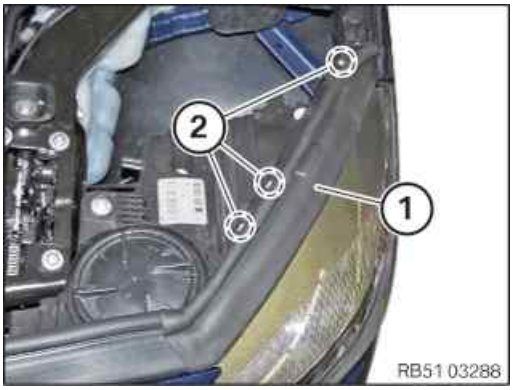
Removal:



Pull off gasket (1) towards the top.



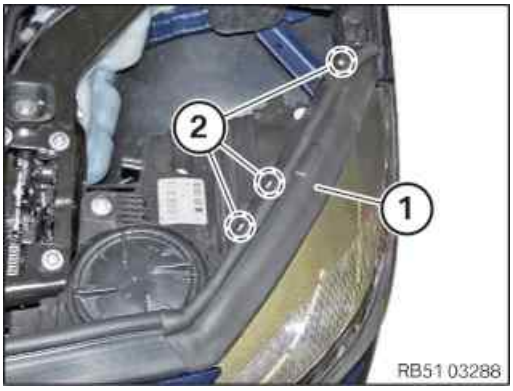
Loosen gasket (1) at clips (2) and remove it.



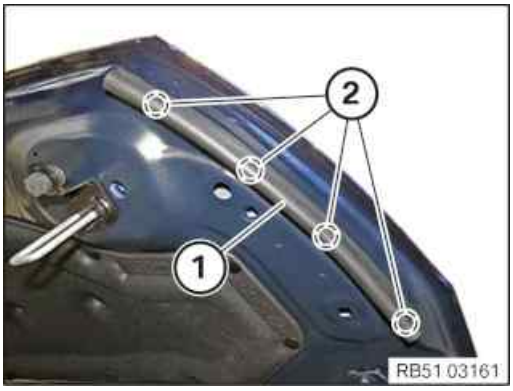
Detach gasket (1) with clamps (2) from the headlight moving inwards.

Installation:

cardiagn.com



Attach gasket (1) with clamps (2) to headlights.



Engage gasket (1) in clips (2).



Press in gasket (1) at groove on the bumper.

cardiagn.com

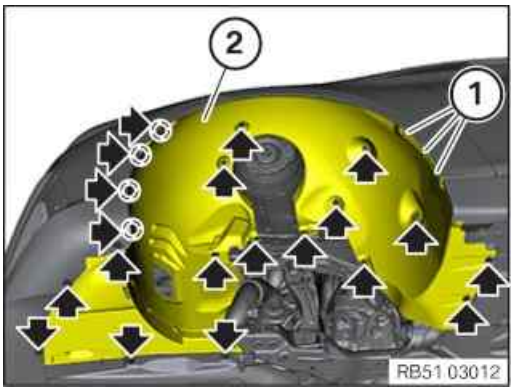
51 71 040 Removing and installing/replacing front left or right wheel arch cover

Necessary preliminary tasks:

- Remove front wheel

Note:
For purposes of clarity, shown with removed front axle.

REMOVAL:

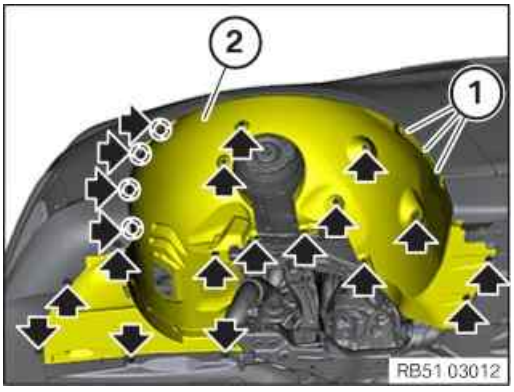


Release expanding rivet (1).

Release all screws and nuts.

Feed out wheel arch cover (2).

INSTALLATION:



Feed in wheel arch cover (2).

Tighten all screws and nuts.

Fasten the expanding rivet (1).

Required follow-up work:

- Install front wheel

cardiagn.com

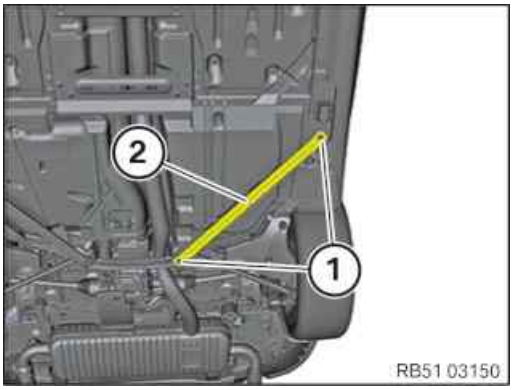
51 71 482 Removing and installing/replacing left or right tension strut

Important!

Observe safety informations for raising the vehicle

Driving without the trailing link is not permitted!

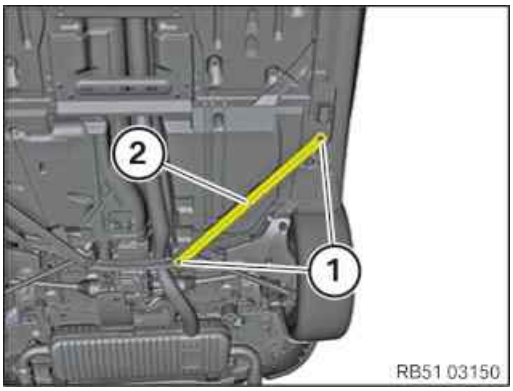
Removal:



Release screws (1).

Remove tension strut (2).

Installation:



Install tension strut (2).

Tighten down screws (1).

Tightening torque 51 61 1AZ.

cardiagn.com

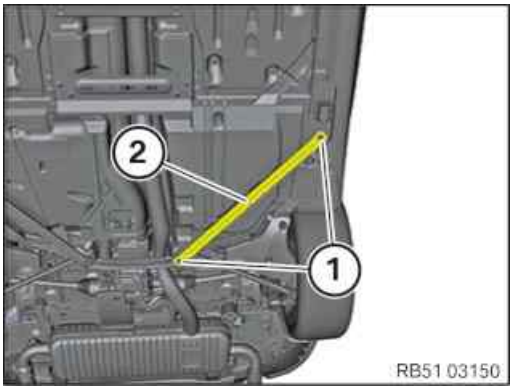
51 71 ... Removing and installing/replacing left or right torsion strut

Important!

Observe safety informations for raising the vehicle

Driving without the trailing link is not permitted!

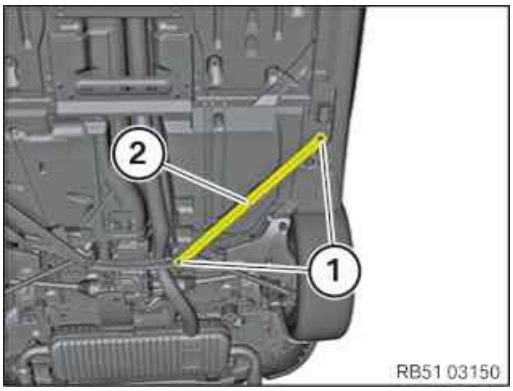
Removal:



Release screws (1).

Remove tension strut (2).

Installation:



Install tension strut (2).

Tighten down screws (1).

Tightening torque 51 61 1AZ.

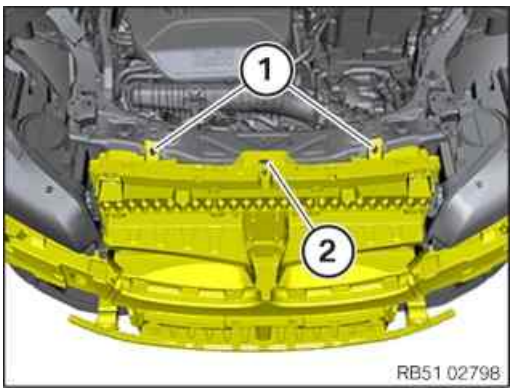
cardiagn.com

51 71 099 Removing and installing/replacing radiator air duct

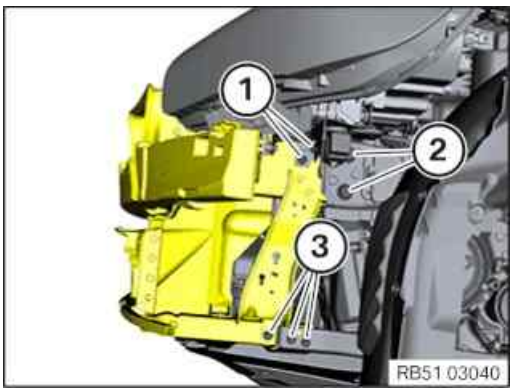
Necessary preliminary tasks:

- Remove front bumper panel
- Remove intake filter housing
- Remove pressure hose from charge air cooler
- Release washer fluid reservoir

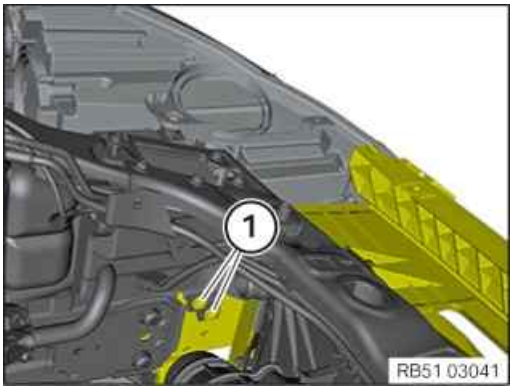
Removal:



Release screws (1 and 2).



Release screws (1 to 3) on left and right.

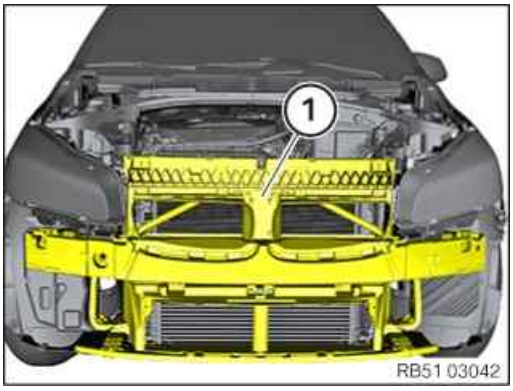


Note:
Some components are not shown for purposes of clarity.

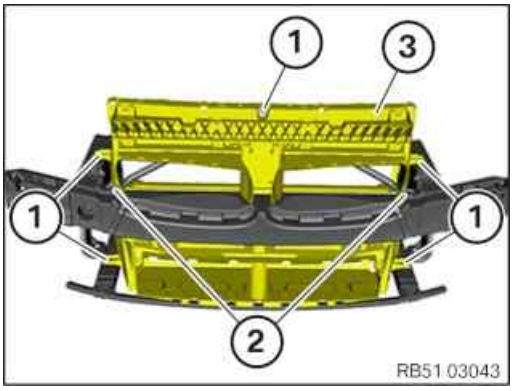
For the removal of the screws (1), use a long extension and a joint if necessary.

Release left and right screws (1).

cardiagn.com



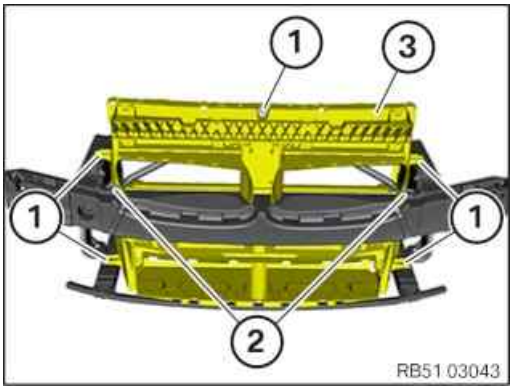
Feed out air duct (1) with holder towards the front, disconnecting the associated plug connections.



Release screws (1 and 2).

Remove air duct (3) from support.

Installation:

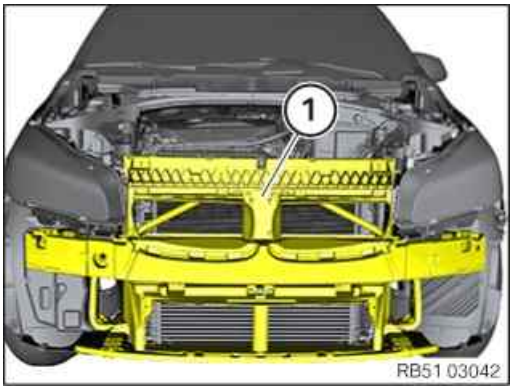


Mount air duct (3) on support.

Tighten down screws (1 and 2).

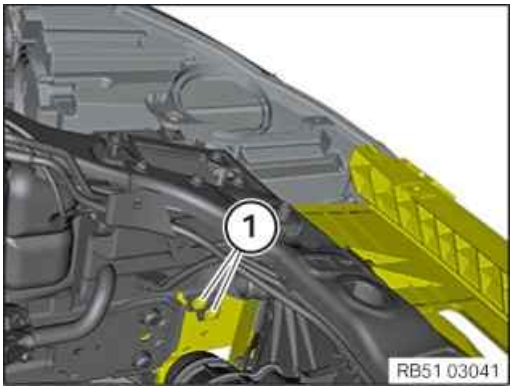
Tightening torque:

Screws (1)	51 71 12AZ
Screws (2)	51 71 13AZ



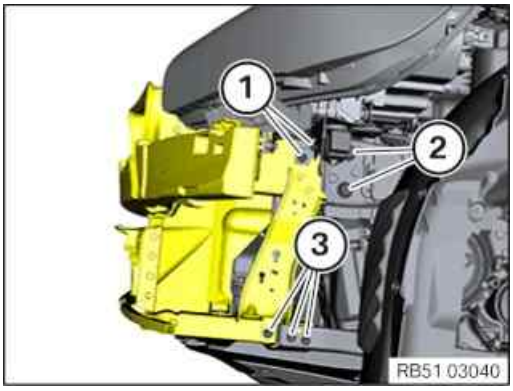
Feed in air duct (1) with holder, connecting the associated plug connections.

cardiagn.com



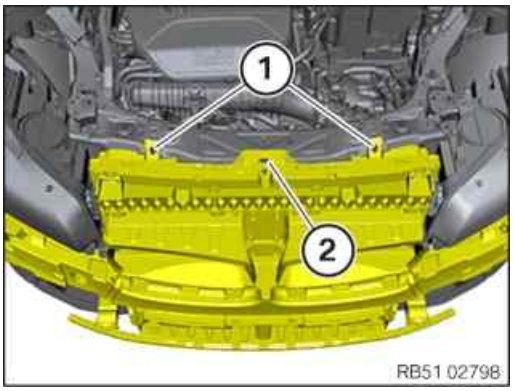
Tighten screws (1) on left and right.

Tightening torque: 51 71 14AZ



Tighten screws (1 to 3) on left and right.

Screws (1)	51 71 14AZ
Screws (2)	51 11 3AZ
Screws (3)	51 11 6AZ



Tighten down screws (1).

Tightening torque: 51 71 12AZ

Tighten down screws (2).

Tightening torque: 51 71 13AZ

Required follow-up work:

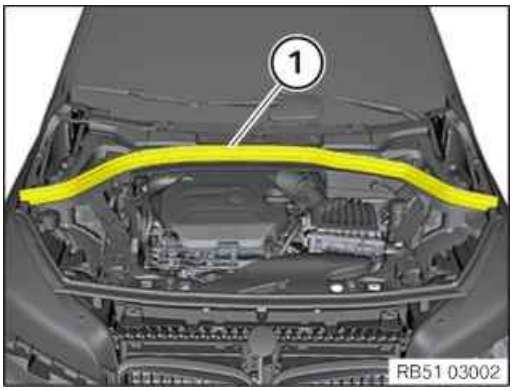
- Install front bumper panel
- Install intake silencer housing
- Install pressure hose of charge air cooler
- Mount washer fluid reservoir

cardiagn.com

51 76 030 Removing and installing/replacing rear engine hood/bonnet seal

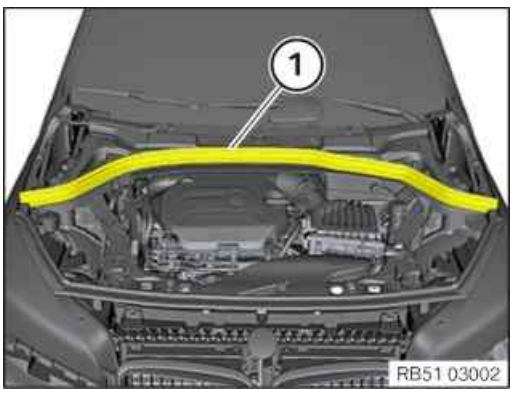
Note:
For purposes of clarity, engine compartment lid shown removed.

Removal:



Pull off gasket (1) towards the top.

Installation:



Press gasket (1) towards the bottom.*Note:*
Ensure gasket (1) is seated correctly.

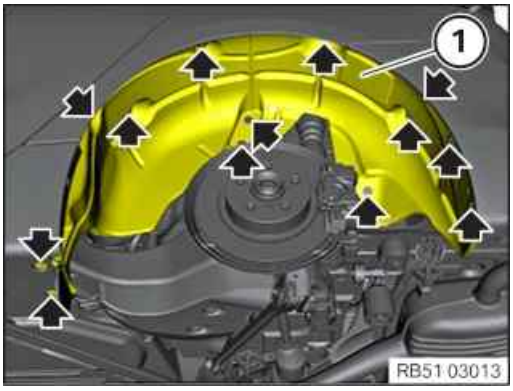
cardiagn.com

51 71 041 Removing and installing/replacing rear left or right wheel arch cover

Necessary preliminary tasks:

- Remove rear wheel

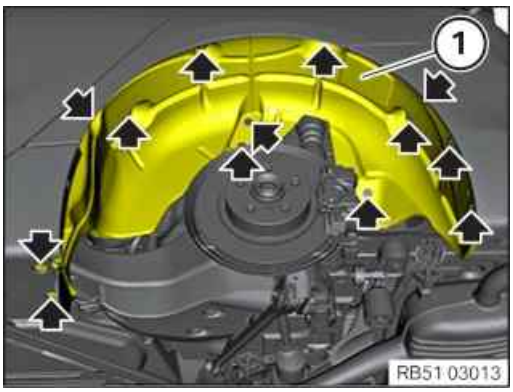
Removal:



Release all screws and nuts.

Carefully feed out wheel arch cover (1) towards bottom.

Installation:



Feed in wheel arch cover (1).

Tighten all screws and nuts.

Note:
Make sure wheel arch cover (1) is correctly seated.

Required follow-up work:

- Install rear wheel

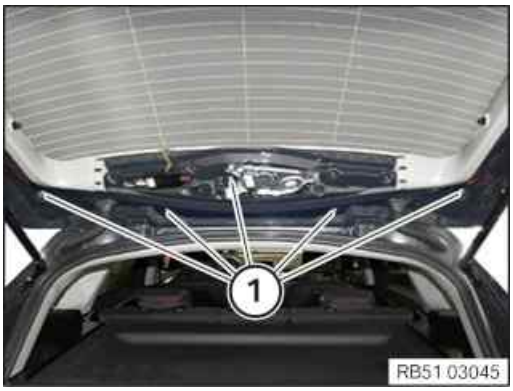
cardiagn.com

51 71 412 Removing and installing/replacing rear spoiler

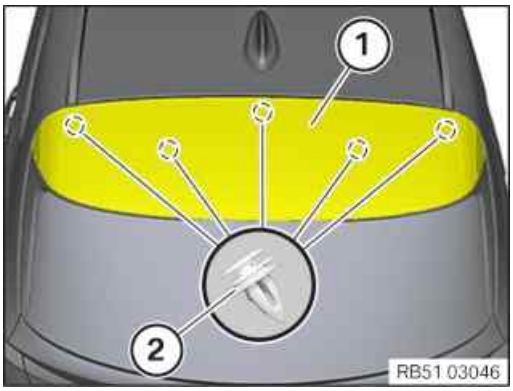
Necessary preliminary tasks:

- Remove trim for rear window frame, top

Removal:

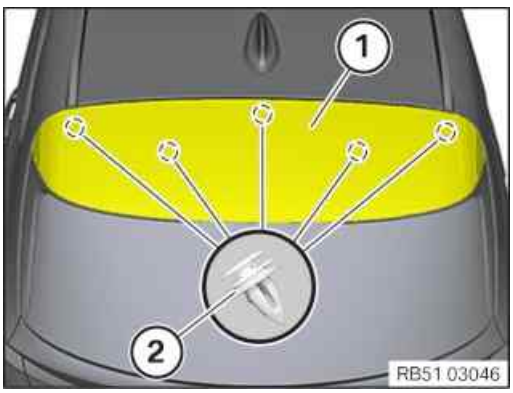


Lift out the sealing cap and loosen screws (1) underneath.



Unclip the trim (1) from the clips (2).
Remove trim (1) towards the front.

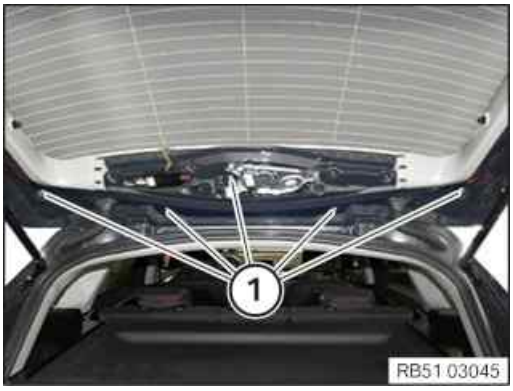
Installation:



Note:
Check sealing rings on clips (2).
If sealing rings are damaged, replace clips (2).

Feed in trim (1) towards the rear.
Clip in the trim (1) into the clips (2).

cardiagn.com



Tighten the screws (1) and install the sealing caps.

Tightening torque 51 71 1AZ.

Required follow-up work:

- Install trim for rear window frame, top

cardiagn.com

51 71 099 Removing and installing/replacing the air duct for the coolant radiator

RISK OF DAMAGE

Scratches.

Tools and sharp-edged components can cause scratches.

- Protect working area.
- Handle tools and components carefully.

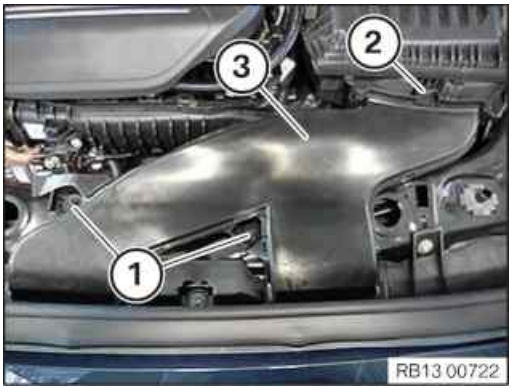
PRELIMINARY WORK

1 – Disconnecting all battery earth leads



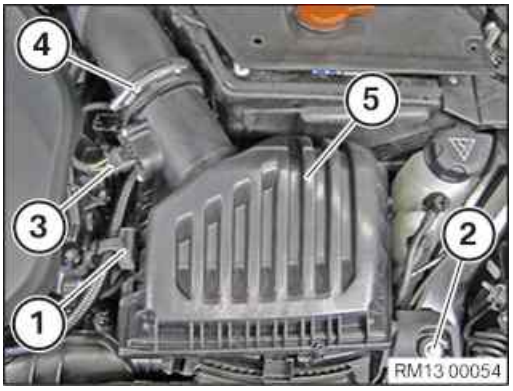
- See additional information.

2 – Remove the intake neck for intake silencer housing



- Loosen nuts (1).
- Loosen the lock (2).
- Guide the intake neck (3) out and remove it.

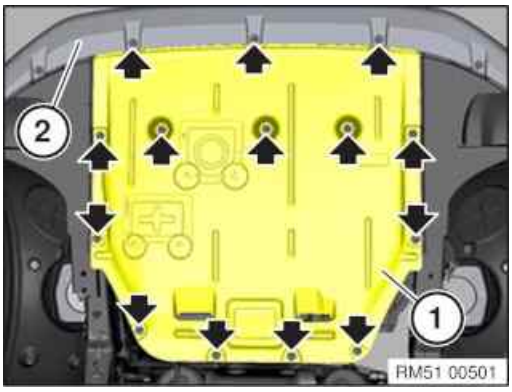
3 – Removing intake silencer housing



- Loosen the holder (1).
- Loosen screw (2).
- Unlock and loosen connector (3).
- Unfasten clamp (4).
- Pull out and remove the intake silencer housing (5) from the rubber mounts towards the top.

4 – Removing the front underbody protection

cardiagn.com



- Remove screws (arrows).
- Pull out and remove front underbody protection (1) under the bumper panel (2).

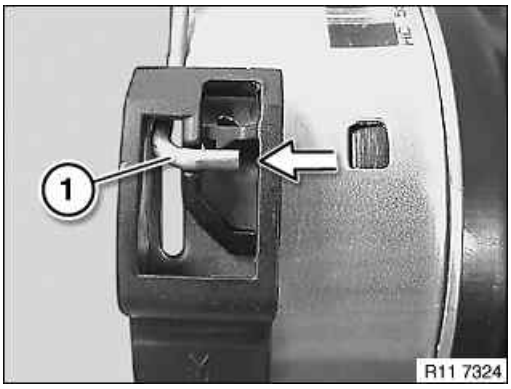
5 – Remove the pressure pipe between the throttle body and the charge air cooler

WARNING

Hot surfaces.

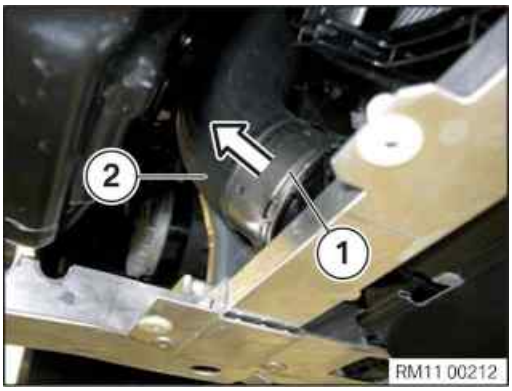
Risk of burning!

- Perform all work only on components that have cooled down.

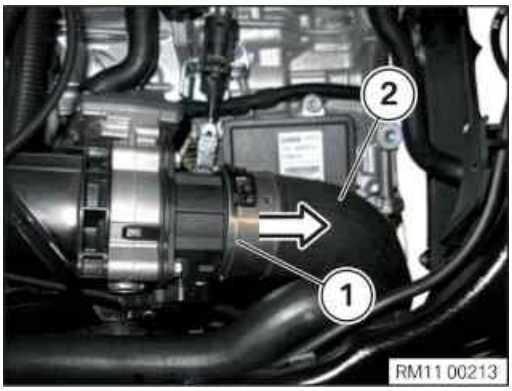


- Unlock the lock (1).

  The lock (1) must engage in the bracket (arrow).



- Unlock and detach the locks (1) on both sides.
- Guide out the pressure pipe (2) in the direction of the arrow and set it aside.



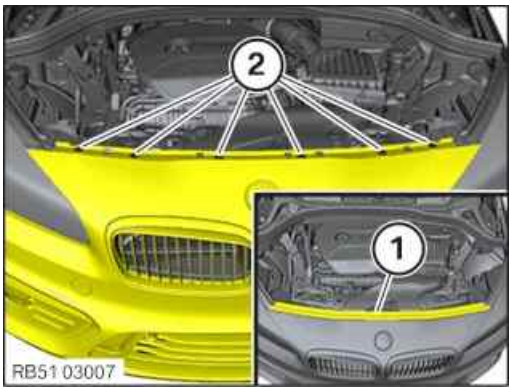
- Unlock and detach the locks (1) on both sides.
- Guide out the pressure pipe (2) in the direction of the arrow and set it aside.

cardiagn.com

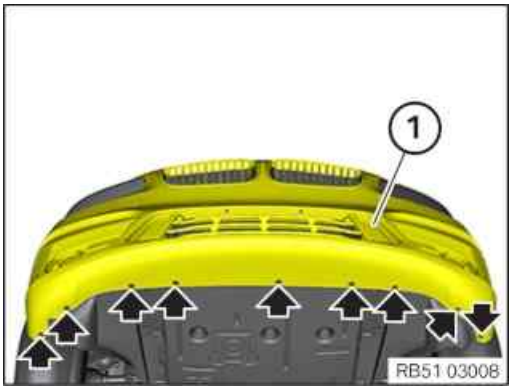


- Remove the pressure pipe (1) in the direction of the arrow.

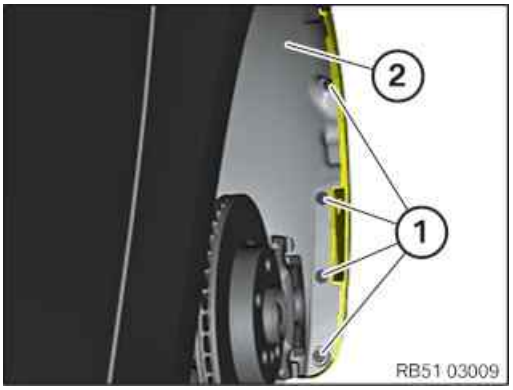
6 – Remove front bumper panel



- Remove seal (1) upwards.
- Loosen screws (2).



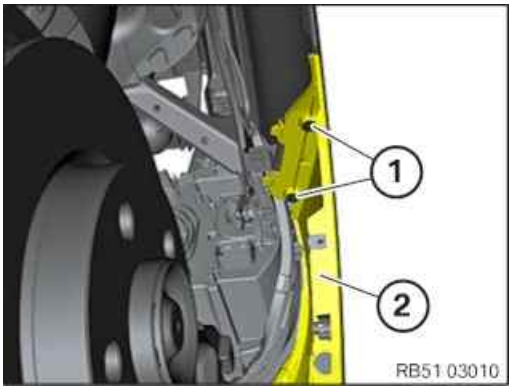
- Loosen the bottom screws on the bumper panel (1).



NOTICE

To provide a better overview: Schematic diagram with partially hidden components.

- Release screws (1) on the wheel arch trim panel (2).
- Partially fold the wheel arch trim panel (2) back.

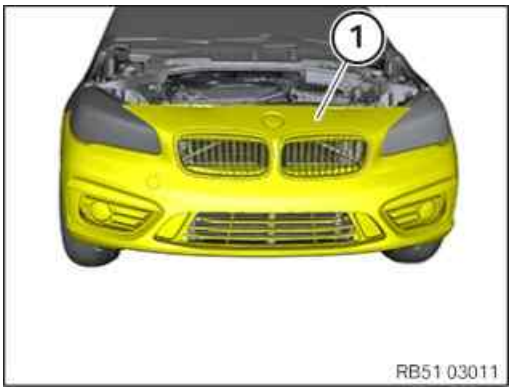


NOTICE

To provide a better overview: Schematic diagram with partially hidden components.

- Release screws (1) on the bumper panel (2).
- Detach the bumper panel (2) on the side.

cardiagn.com

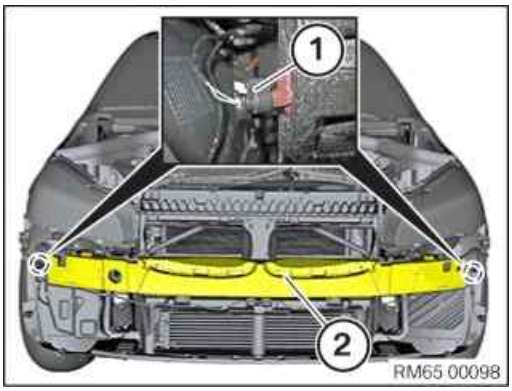


TECHNICAL INFORMATION

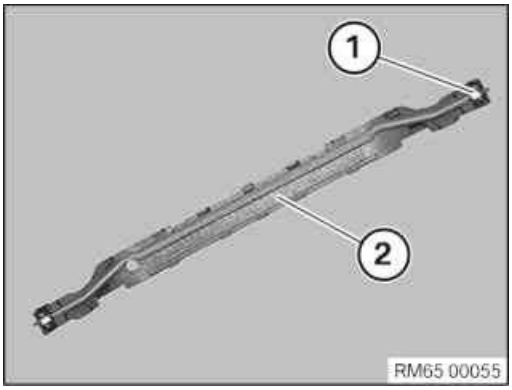
Conduct the following operation with the assistance of a second person.

- Tilt top of bumper panel (1) down.
  Unlock all plug connections and disconnect.
- Remove bumper panel (1) towards front.

7 – Removing the pedestrian protection sensor on the impact absorber

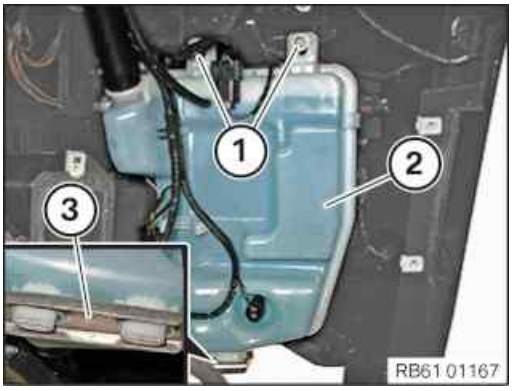


- Unlock and disconnect connector (1).
- Remove the impact absorber (2).



- Remove pedestrian protection sensor (1) from impact absorber (2).
- Dispose of the impact absorber (2).
  Impact absorber (2) must not be reused.

8 – Remove the washer fluid reservoir from the fixture

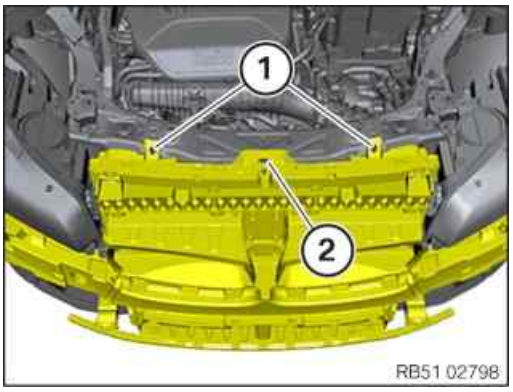


- Loosen screws (1).
- Guide the washer fluid reservoir (2) up and out of the fixture (3) and set it aside.

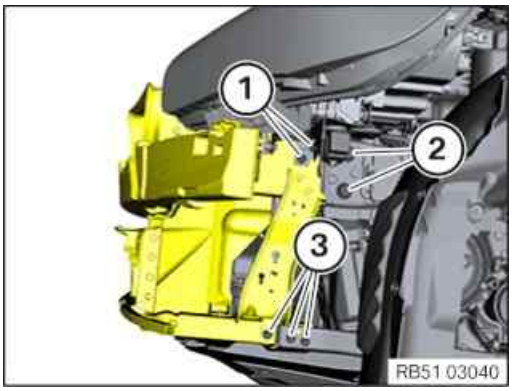
MAIN WORK

9 – Removing air duct for the radiator

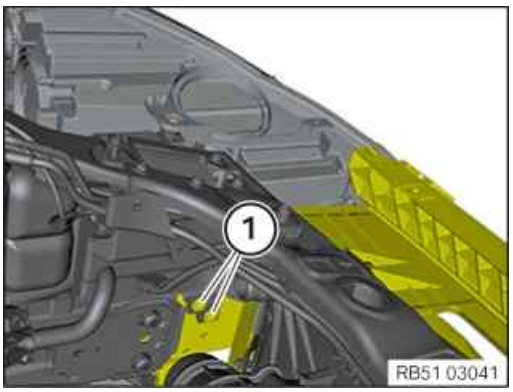
cardiagn.com



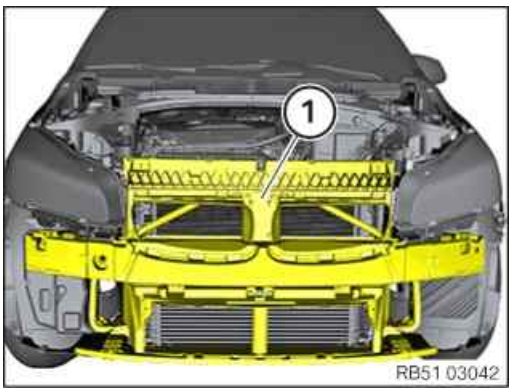
- Loosen screws (1) and (2).



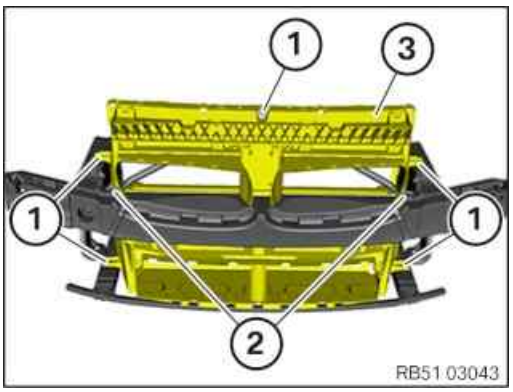
- Loosen screws (1) to (3) on left and right.



- For the removal of the screws (1), use a long extension and a joint if necessary. Loosen screws (1) on left and right.



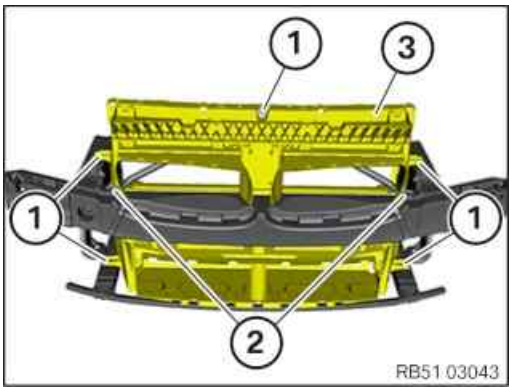
- Feed out air duct (1) completely with the support towards the front, disconnecting the associated plug connections.



- Loosen screws (1) and (2).
- Remove air duct (3) from support.

10 – Installing the air duct for the radiator

cardiagn.com



- Install the air duct (3) on the support.
- Tighten the screws (1).

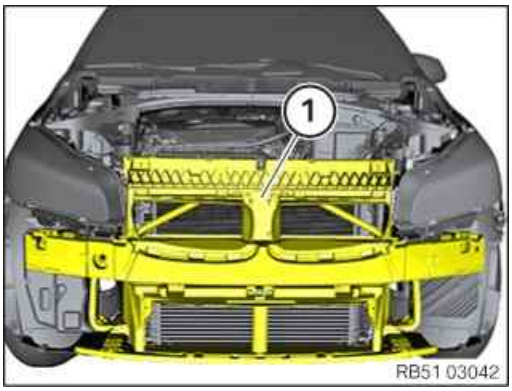
Air duct to deformation element top/bottom

Screw		Tightening torque	6 Nm

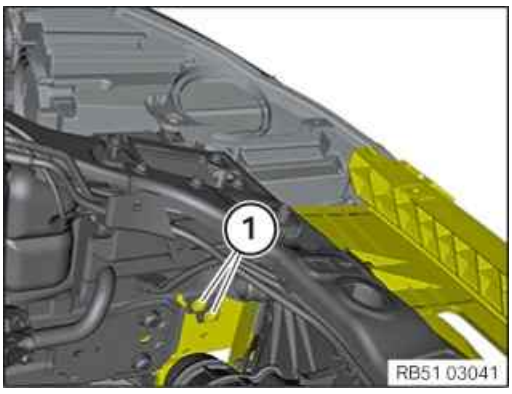
- Tighten down screws (2).

Vertical strut to deformation element/connection at top

Screw		Tightening torque	11,8 Nm



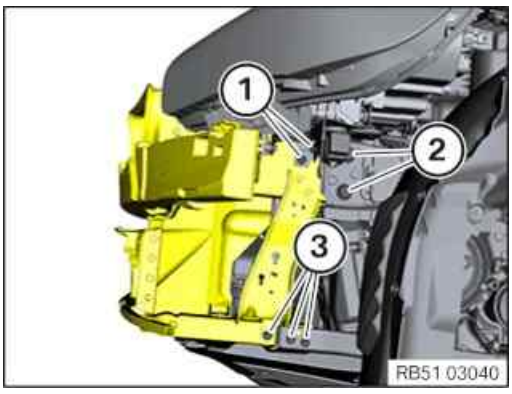
- Guide in the air duct (1) together with the support, connecting and locking the associated connectors in the process.



- Tighten screws (1) on left and right.

Lock support to deformation element

Screw		Tightening torque	11,8 Nm



- Tighten screws (1) on left and right.

Lock support to deformation element

Screw		Tightening torque	11,8 Nm

- Tighten screws (2) on left and right.

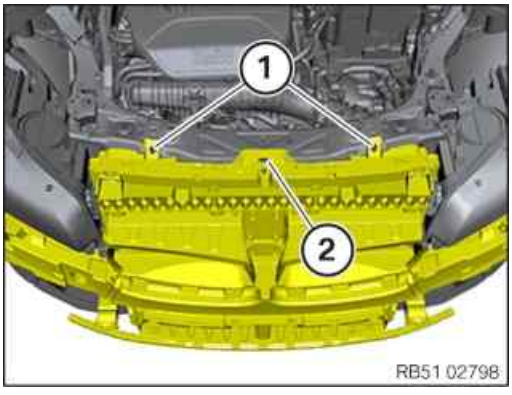
Deformation element, top, to engine carrier

M12 screw	Replace screws	Jointing torque	100 Nm
		Angle of rotation	180 °

- Tighten screws (3) on left and right.

Deformation element, bottom, to adapter plate, front axle carrier

		Tightening torque	11,8 Nm



- Tighten the screws (1).

Air duct on top cross connection

Screw		Tightening torque	6 Nm

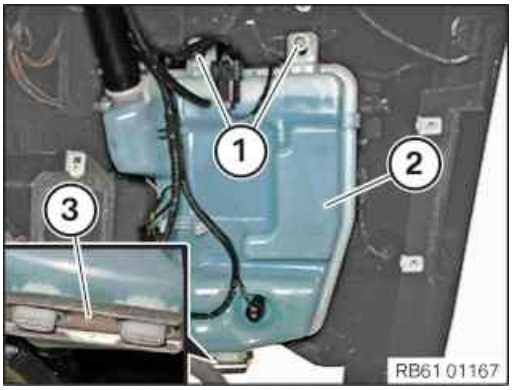
- Tighten down screws (2).

Vertical strut on upper connection

Oval-head screw with positioning tip		Tightening torque	25 Nm

cardiagn.com

11 – Install the washer fluid reservoir in the fixture



- Feed washer fluid reservoir (2) into the mounting (3) and install.
- Tighten the screws (1).

Washer fluid reservoir to body

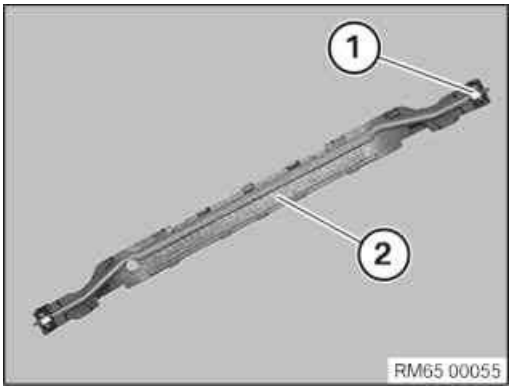
M6x20		Tightening torque	8 Nm

12 – Installing pedestrian protection sensor on the impact absorber

TECHNICAL INFORMATION

Notes on active pedestrian protection are a fundamental requirement for these repair instructions and must be complied with at all times.

For additional information see: 41 00 ... Procedure for vehicles with active pedestrian protection after an accident

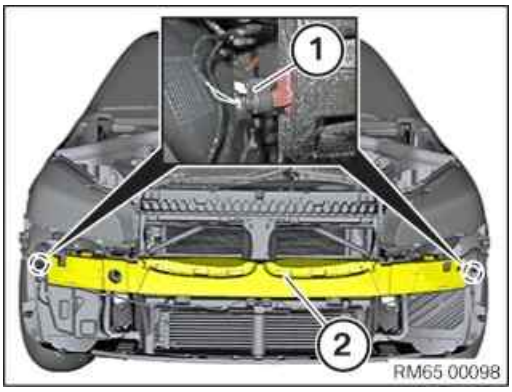


- Renew the impact absorber (2).

  Parts: Impact absorber
- Check the impact absorber (2) for damage to the retaining lugs.
- If necessary, replace pedestrian protection sensor.

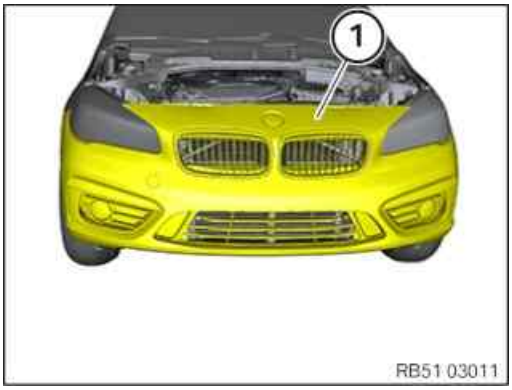
  After an accident, the pedestrian protection sensor (1) **must always be replaced.**
- Insert the pedestrian protection sensor (1) into the impact absorber (2).

  The pedestrian protection sensor must be routed correctly.



- Carefully attach the impact absorber (2) at the bottom and then press it in at the top.
- Connect connectors (1) and lock.

13 – Install bumper panel, front



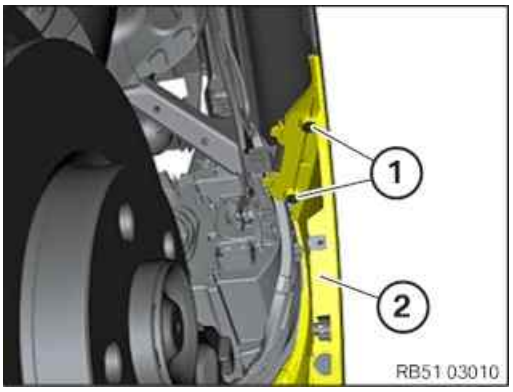
- Attach the bumper panel (1) in the support at the bottom.

TECHNICAL INFORMATION

Conduct the following operation with the assistance of a second person.

- Connect all connectors and lock.
- Tilt bumper panel (1) up and position it.

cardiagn.com



- Attach bumper panel (2) on the side.

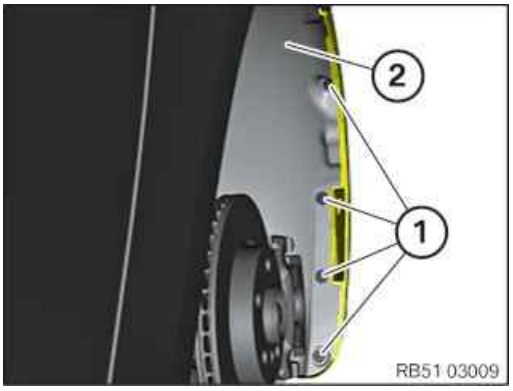
NOTICE

To provide a better overview: Schematic diagram with partially hidden components.

- Tighten screws (1) on the bumper panel (2).

Bumper panel on side wall

Screw		Tightening torque	3 Nm



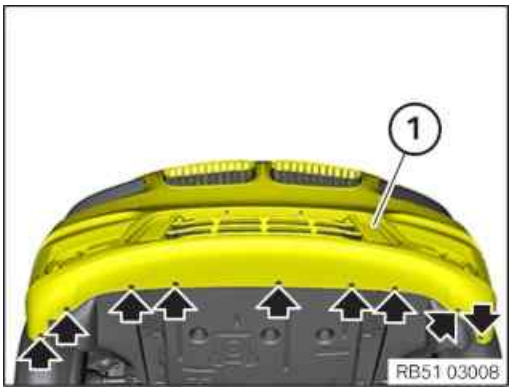
NOTICE

To provide a better overview: Schematic diagram with partially hidden components.

- Correctly position the wheel arch trim panel (2).
- Tighten screws (1) on the wheel arch trim panel (2).

Wheel arch cover

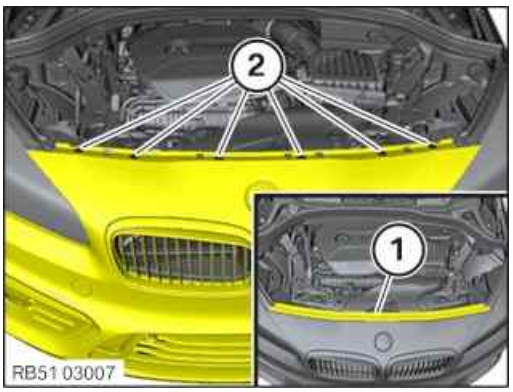
Screw		Tightening torque	3 Nm



- Tighten bottom screws on the bumper panel (1).

Bumper trim, lower

Screw		Tightening torque	2,5 Nm



- Tighten down screws (2).

Bumper panel on air duct, top

Screw		Tightening torque	4,6 Nm

- Install new gasket (1).

14 – Installing pressure pipe between throttle body and charge air cooler

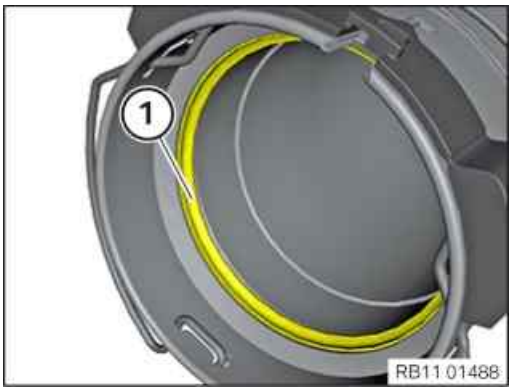
RISK OF DAMAGE

Damage to the exhaust turbocharger.

A leak at the pressure pipe can damage the exhaust turbocharger.

- Replace the gaskets and pressure pipe if necessary.

cardiagn.com



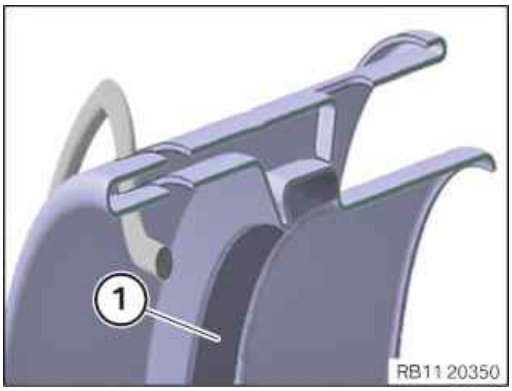
- Check seal (1) for damage and renew seal (1) as needed.

  Parts: Gasket

▶ **Replace damaged gasket**

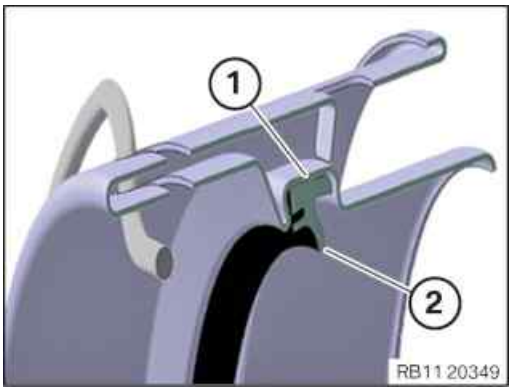
TECHNICAL INFORMATION

Do not use pointed or sharp-edged tools for the installation and/or removal.



- Remove damaged seal.
- Clean gasket groove (1) with a dry towel.

  The gasket groove (1) must be clean.



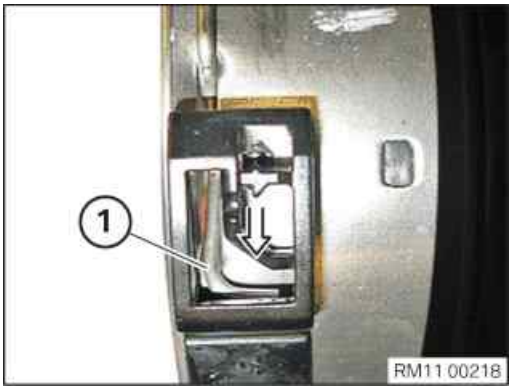
- Renew gasket.

  Parts: Gasket
- Install seal dry without lubricant or mounting agent.

TECHNICAL INFORMATION

Incorrect assembly is possible. Ensure correct installation position.

- Feed in and install the seal.
- Make sure the seal is correctly installed in the gasket groove (1).
- Make sure that the sealing lip (2) is pointing downwards (see figure).

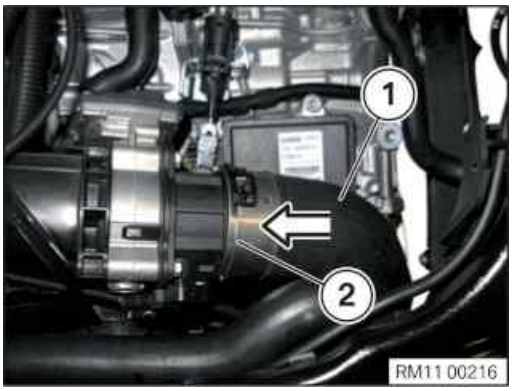


- Detach the locks (1) in the direction of the arrow from the brackets.

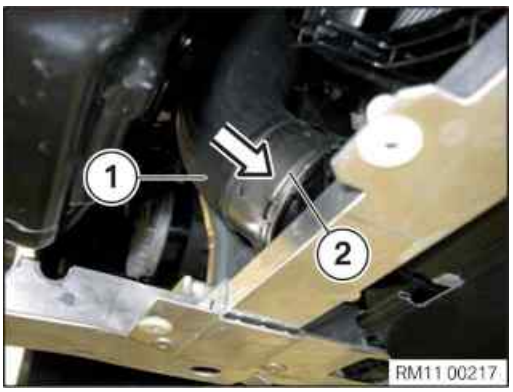
cardiagn.com



- Insert and install the pressure pipe (1) in the direction of the arrow.

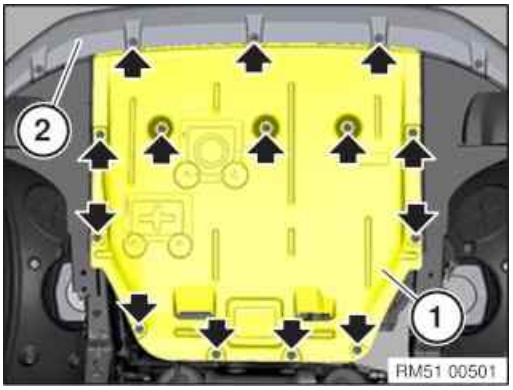


- Insert and install the pressure pipe (1) in the direction of the arrow.
- Ensure that the locks (1) engage audibly.



- Insert and install the pressure pipe (1) in the direction of the arrow.
- Ensure that the locks (2)engage audibly.

15 – Installing the front underbody protection



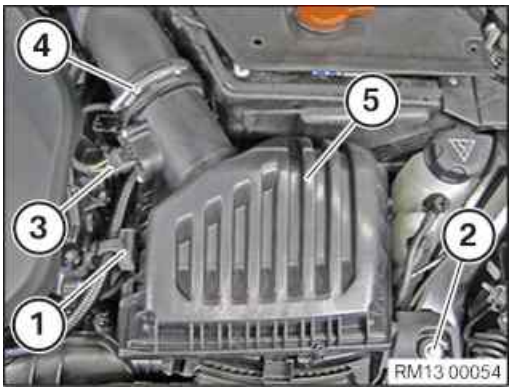
- Guide the front underbody protection (1) in under the bumper panel (2) and position it at the screw points.
- Tighten screws (arrows).

Underbody protection front

			3 Nm

16 – Installing intake silencer housing

cardiagn.com



- Insert the intake silencer housing (5) into the rubber mounts and install it.
  Intake filter housing (5) must engage audibly.
- Tighten down screw (2).

Intake silencer housing to lock bridge

M6X30		Tightening torque	8 Nm

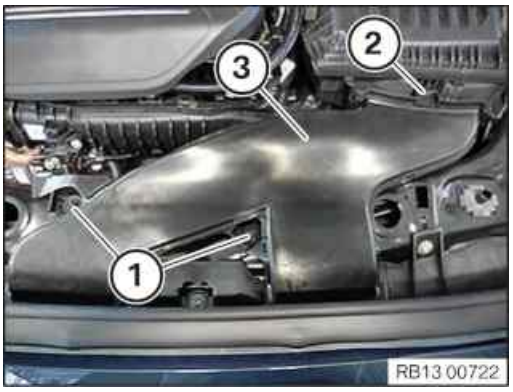
- Tighten clamp (4).

Clean air pipe to intake silencer housing

Clamp		Tightening torque	3 Nm

- Connect and lock the connector (3).
  The connector (3) must engage audibly.
- Insert and install the holder (1).

17 – Install the intake neck for the intake filter housing



- Insert and install the intake neck (3).
  The lock (2) must audibly engage.
- Tighten nuts (1).

Intake neck to cross connection

M6		Tightening torque	8 Nm

18 – Disconnecting all battery earth leads



- See additional information.

Additional Information

Overview of Tightening Torques

Air duct to deformation element top/bottom Used in step 10

Screw		Tightening torque	6 Nm

Vertical strut to deformation element/connection at top Used in step 10

Screw		Tightening torque	11,8 Nm

Lock support to deformation element Used in step 10

Screw		Tightening torque	11,8 Nm

cardiagn.com

Deformation element, top, to engine carrier			Used in step 10
M12 screw	Replace screws	Jointing torque Angle of rotation	100 Nm 180 °

Deformation element, bottom, to adapter plate, front axle carrier			Used in step 10
		Tightening torque	11,8 Nm

Air duct on top cross connection			Used in step 10
Screw		Tightening torque	6 Nm

Vertical strut on upper connection			Used in step 10
Oval-head screw with positioning tip		Tightening torque	25 Nm

Washer fluid reservoir to body			Used in step 11
M6x20		Tightening torque	8 Nm

Bumper panel on side wall			Used in step 13
Screw		Tightening torque	3 Nm

Wheel arch cover			Used in step 13
Screw		Tightening torque	3 Nm

Bumper trim, lower			Used in step 13
Screw		Tightening torque	2,5 Nm

Bumper panel on air duct, top			Used in step 13
Screw		Tightening torque	4,6 Nm

Underbody protection front			Used in step 15
			3 Nm

Intake silencer housing to lock bridge			Used in step 16
M6X30		Tightening torque	8 Nm

Clean air pipe to intake silencer housing			Used in step 16
Clamp		Tightening torque	3 Nm

Intake neck to cross connection			Used in step 17
M6		Tightening torque	8 Nm

Links

General repair instructions	Used in step
72 Safety information and general information	12
41 00 ... Procedure for vehicles with active pedestrian protection after an accident	12

Repair instructions	Used in step
61 20 900 Disconnecting and connecting battery earth lead	1 18
61 20 900 Disconnecting and connecting battery earth lead	1 18
61 20 900 Disconnecting and connecting battery earth lead	1 18

cardiagn.com

61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	1	18
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	1	18
61 20 900 Disconnect and connect battery earth lead (Plug-in Hybrid Electric Vehicle)	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18
61 20 900 Disconnecting and connecting battery earth lead	1	18

cardiagn.com

51 71 071 Removing and installing/replacing upper bulkhead cover

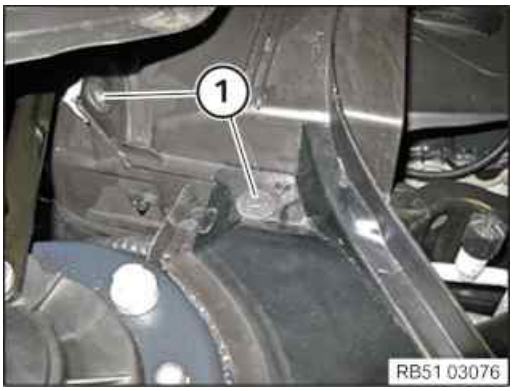
Necessary preliminary tasks:

- Remove cowl panel cover (front section)

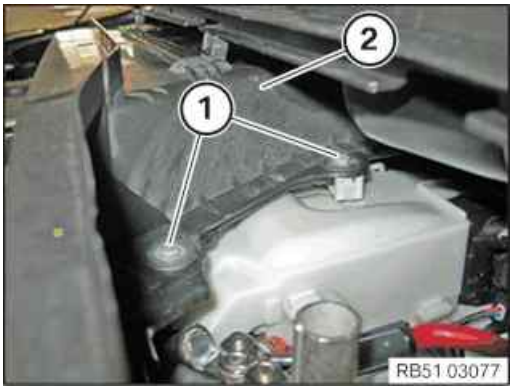
Removal:



Release screws (1).



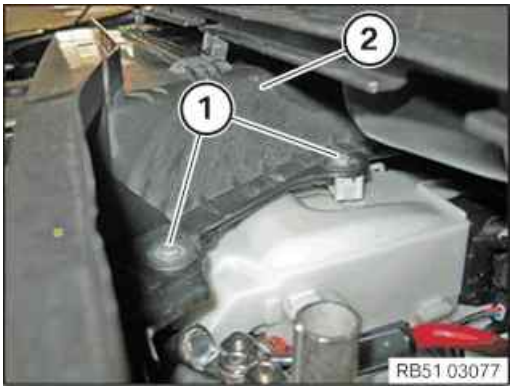
Release screws (1).



Release screws (1).
Feed out cover (2) and remove.

Installation:

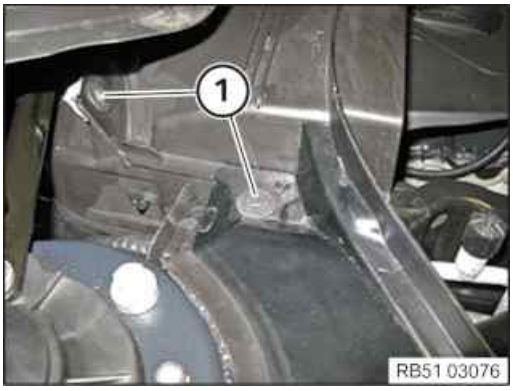
cardiagn.com



Feed in cover (2).

Tighten down screws (1).

Tightening torque 51 71 17AZ.



Tighten down screws (1).

Tightening torque 51 71 17AZ.



Tighten down screws (1).

Tightening torque 51 71 17AZ.

Required follow-up work:

- Install cowl panel cover (front section)

cardiagn.com

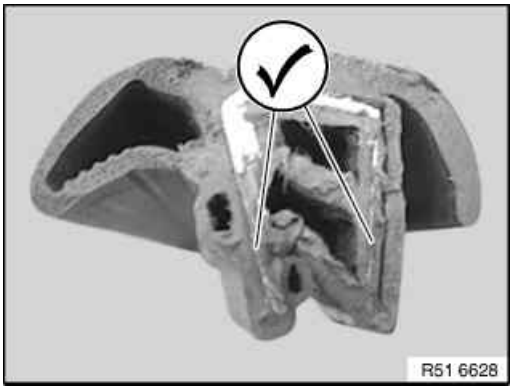
51 72 ... Sealing installation

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.

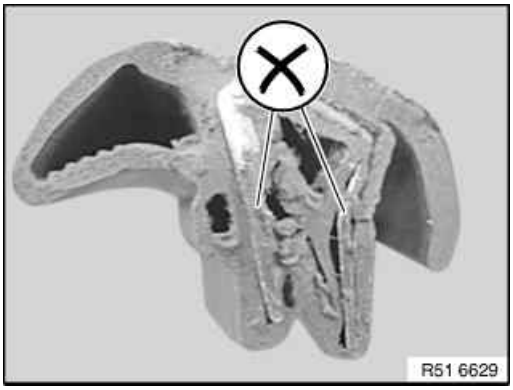
Sealings with sealant must be replaced each time they are disassembled.

Sealing surfaces must be cleaned.

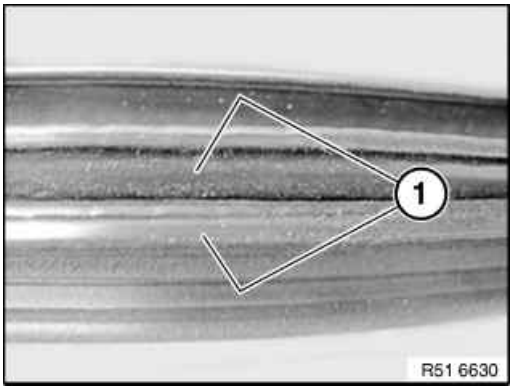


- <u>In general, the following applies:</u>

  Sealings on the side frame can be fitted and removed any number of times.
- Sealings must not be damaged or torn.
- 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.

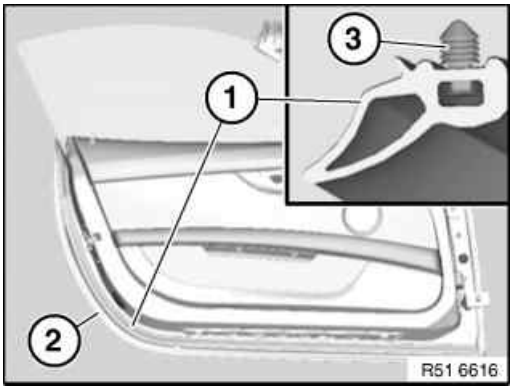


- It is not necessary to use special tools to compress the clamping surface. This can be done carefully by hand.
- The sealings must always be fitted except in the case of blockages. There is no defined contact pressure.
- A new gasket must be fitted if sealings in the tailgate area are repeatedly fitted and removed (water ingress due to cracked sheet metal).
- Sealings must be checked for correct fit after installation. If necessary, sealings should be lifted over the adjacent components using the appropriate tool. Neighbouring 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.

cardiagn.com



- Sealings that are installed with plastic clips fit tightly against the body. If this is not the case, replace the clips or sealings.

cardiagn.com

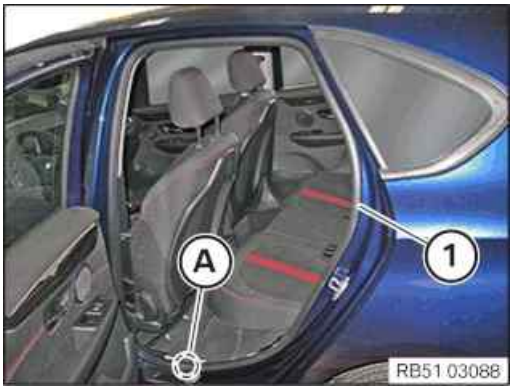
51 72 010 Replace edge protection for left or right rear door

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

Necessary preliminary tasks:

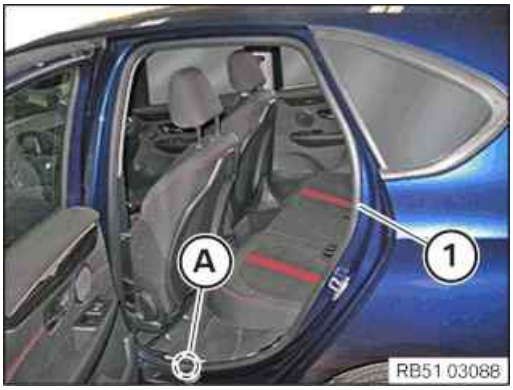
- Remove rear door sill cover strip (inner)

Removal:



Detach edge protection (1).

Installation:



Follow the notes on fitting seals.

Mount edge protection (1) starting at the top left.*Note:*
When installed, the location of edge protection contact point (1) must be in area "A".

Make sure edge protection (1) is correctly fitted on body and all trim panel components.

Required follow-up work:

- Install rear door sill cover strip (inner)

cardiagn.com

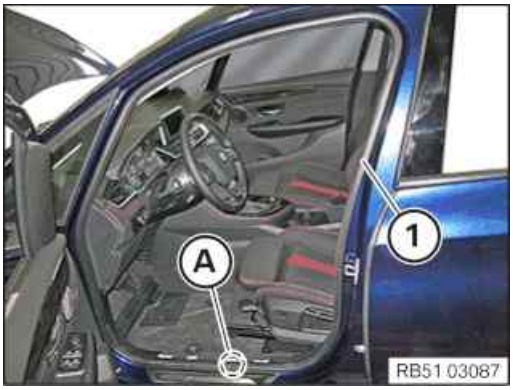
51 72 000 Replacing edge protection for left or right front door

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

Necessary preliminary tasks:

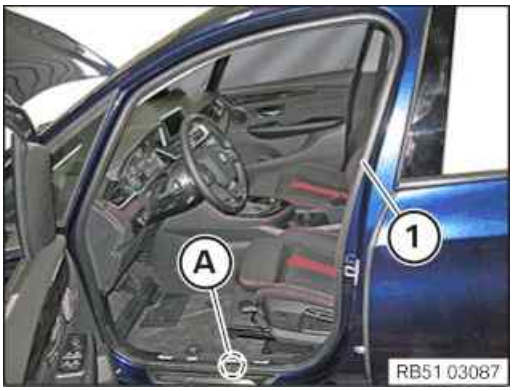
- Remove front door sill cover strip (inner)

Removal:



Detach edge protection (1).

Installation:



Follow the notes on fitting seals.

Mount edge protection (1) starting at the top on the right.*Note:*
When installed, the location of edge protection contact point (1) must be in area "A".

Make sure edge protection (1) is correctly fitted on body and all trim panel components.

Required follow-up work:

- Install front door sill cover strip (interior)

cardiagn.com

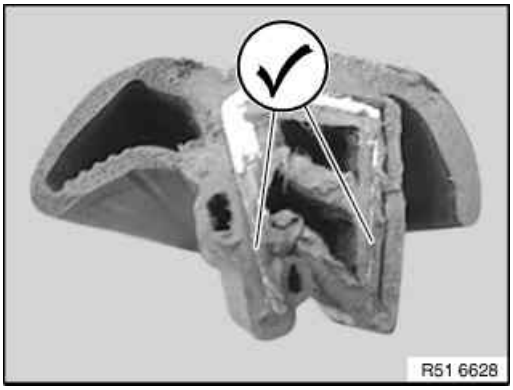
51 72 ... Sealing installation

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.

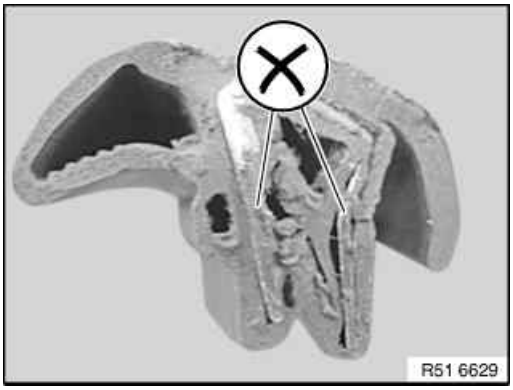
Sealings with sealant must be replaced each time they are disassembled.

Sealing surfaces must be cleaned.

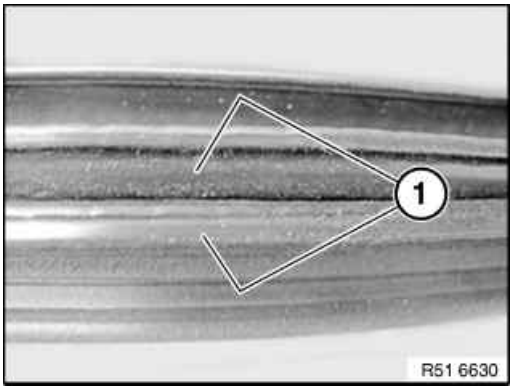


- <u>In general, the following applies:</u>

  Sealings on the side frame can be fitted and removed any number of times.
- Sealings must not be damaged or torn.
- 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.

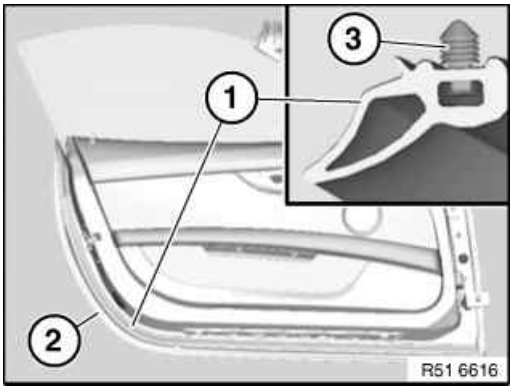


- It is not necessary to use special tools to compress the clamping surface. This can be done carefully by hand.
- The sealings must always be fitted except in the case of blockages. There is no defined contact pressure.
- A new gasket must be fitted if sealings in the tailgate area are repeatedly fitted and removed (water ingress due to cracked sheet metal).
- Sealings must be checked for correct fit after installation. If necessary, sealings should be lifted over the adjacent components using the appropriate tool. Neighbouring 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.

cardiagn.com

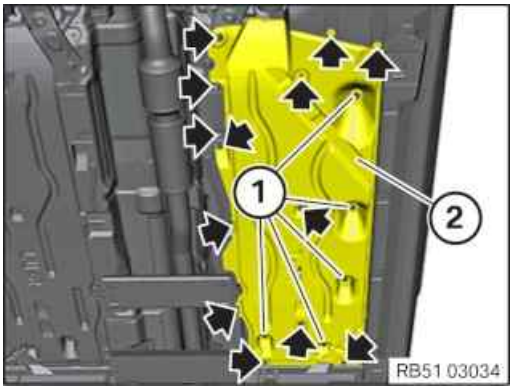


- Sealings that are installed with plastic clips fit tightly against the body. If this is not the case, replace the clips or sealings.

cardiagn.com

51 75 001 Removing and installing/replacing left or right underbody cover

Removal:

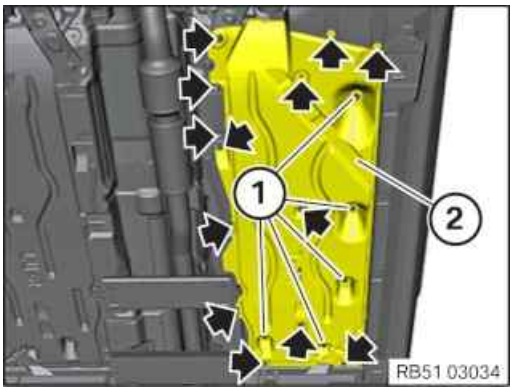


Release plastic nuts (1).

Release screws.

Feed out cover (2).

Installation:



Note:
Ensure cover (2) is correctly seated.

Feed in cover (2).

Tighten plastic nuts (1).

Tighten down screws.

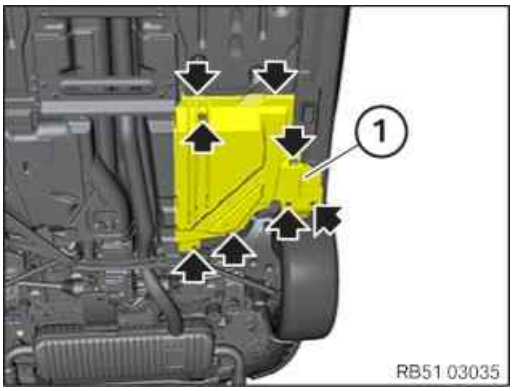
cardiagn.com

51 75 ... Removing and installing/replacing tank cover on left or right

Necessary preliminary work:

- Remove torsion strut

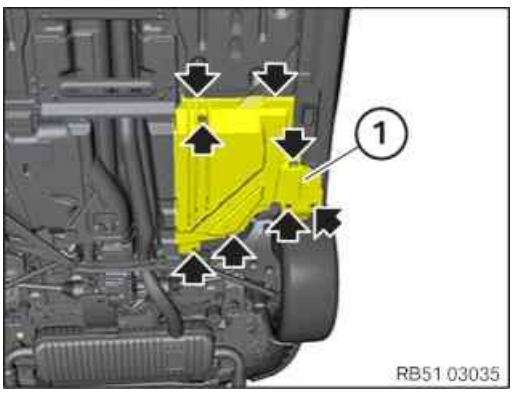
Removal:



Unscrew all bolts.

Remove tank cover (1).

Installation:



Install tank cover (1).

Tighten down all screws.

Tightening torque 51 75 1AZ.

Required follow-up work:

- Install torsion strut

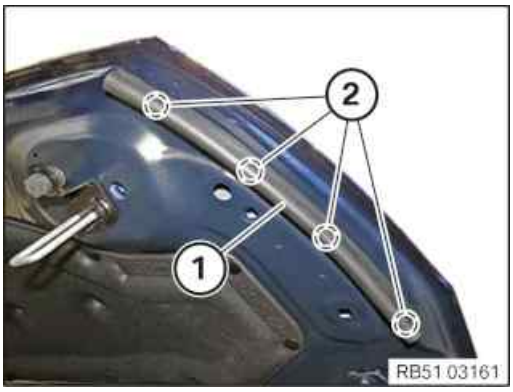
cardiagn.com

51 76 031 Removing and installing/replacing bonnet gasket at the front

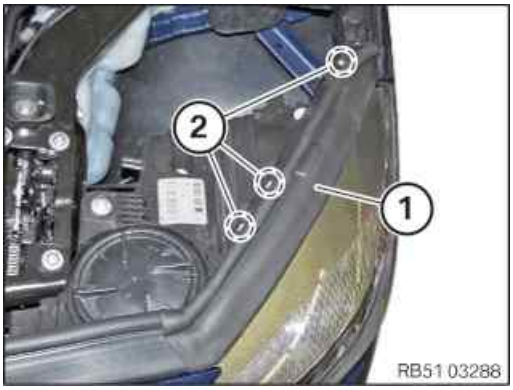
Removal:



Pull off gasket (1) towards the top.



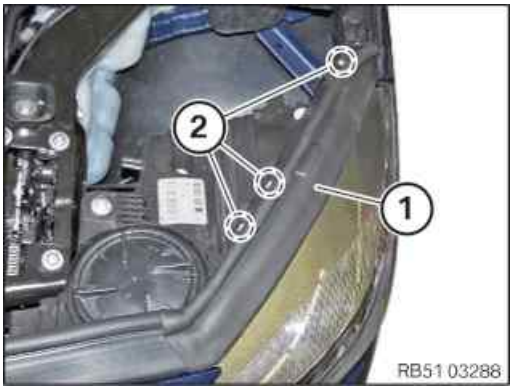
Loosen gasket (1) at clips (2) and remove it.



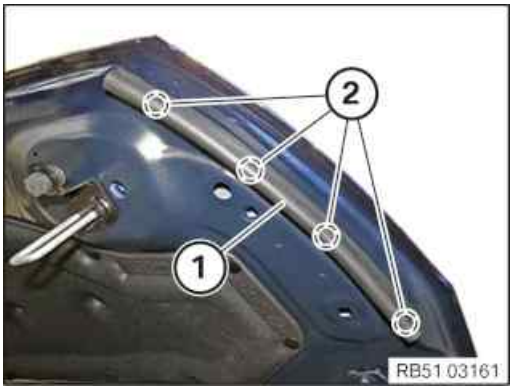
Detach gasket (1) with clamps (2) from the headlight moving inwards.

Installation:

cardiagn.com



Attach gasket (1) with clamps (2) to headlights.



Engage gasket (1) in clips (2).



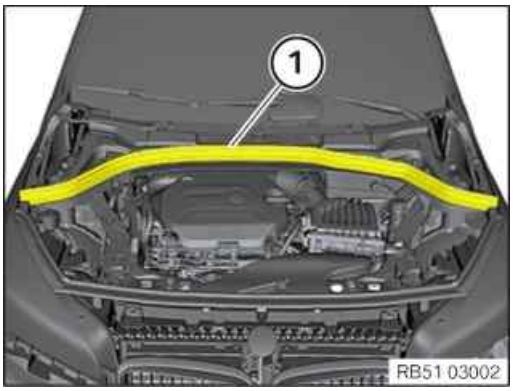
Press in gasket (1) at groove on the bumper.

cardiagn.com

51 76 030 Removing and installing/replacing rear engine hood/bonnet seal

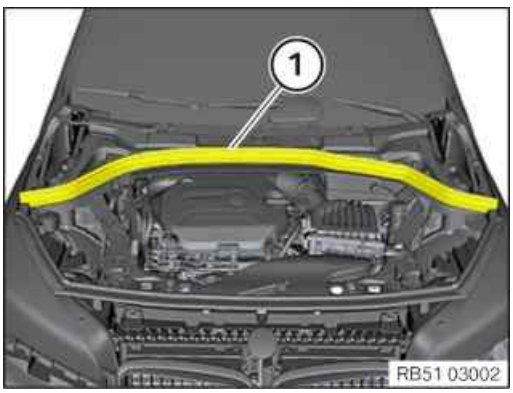
Note:
For purposes of clarity, engine compartment lid shown removed.

Removal:



Pull off gasket (1) towards the top.

Installation:



Press gasket (1) towards the bottom.*Note:*
Ensure gasket (1) is seated correctly.

cardiagn.com