

2007-08 ACCESSORIES AND BODY, CAB**Parts And Accessories - Repair Instructions - X5****00 GENERAL****72 SAFETY PRECAUTIONS AND GENERAL INFORMATION**

Safety instructions --> Safety regulations for handling airbag modules, airbag components and pyrotechnical seat belt tensioners. See **72 00 ... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS**.

--> Deactivation/activation pyrotechnical components . See **72 12 ... DEACTIVATING FRONT PASSENGER AIRBAGS WITH KEY-OPERATED SWITCH**.

Handling electrical and electronic equipment --> Unlocking/locking airbag plug connections . See **72 12 ... UNLOCKING/LOCKING AIRBAG PLUG CONNECTIONS**.

--> Repairing airbag leads . See **61 00 ... REPAIRING AIRBAG CABLES** .

--> Handling optical fibres . See **61 00 ... NOTES ON HANDLING OPTICAL FIBERS** .

Check --> Check seat belt . See **72 11 ... CHECKING AUTOMATIC SAFETY BELT**.

Airbag system --> Functional description and checking, refer to **DIS**

--> Deactivating airbags . See **72 12 ... DEACTIVATING FRONT PASSENGER AIRBAGS WITH KEY-OPERATED SWITCH**.

--> Procedure after airbag triggering. See **72 12 ... PROCEDURE AFTER AIRBAG TRIGGERING AS RESULT OF AN ACCIDENT**.

72 00 ... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS

It is essential to comply with the regulations as specified in the law relating to the use of explosives when working on airbag units and seat belt tensioners.

Airbags, seat belt tensioners etc. are pyrotechnical objects. Pyrotechnical objects are assigned to different danger classes on the basis of the quantity of propellant that they contain. The assignment can be ascertained from the identification marking on the product:

IMPORTANT: Failure to comply with the warning notices and repair instructions for gas generator components can cause accidental deployment and result in injury and vehicle damage!

- Airbag modules (driver's/front passenger airbags, side airbags)
- Buckle/belt tensioner
- Head airbag (ITS, AHPS)
- Active knee protection
- Active head restraint
- Safety battery terminal (SBK)

1. Regulations

The regulations quoted in the following refer to the Federal Republic of Germany.

In all other countries, the relevant legislation and regulations must be observed in each case. Country-specific legal regulations that go beyond this information or court decisions based thereon must be followed in each case or given precedence over these regulations.

The following components used by BMW:

- Pyrotechnical restraint systems are subject to danger class PT1
- Gas generators are pyrotechnical objects belonging to danger class T1.

Handling, transporting and storing non-fired gas generators are subject to the "Explosive Materials Act" (law relating to the use of explosives dated 13/09/1976).

The relevant trade supervisory authority must be notified at least 2 weeks before pyrotechnical objects are handled for the first time. Here the relevant authority must be notified in writing of the person responsible (e.g. dealership owner, holder of general power of attorney or if necessary workshop supervisor). A certificate of qualification, i.e. specific training, is not required for the person responsible.

2. Disassembly and assembly

- Inspection, testing and installation work may only be carried out by expert trained personnel in BMW Service.
- Work on components of the airbag system should only ever be carried out with the battery disconnected, the negative terminal post covered and the plug connection of the cable leading to the gas generator disconnected. If only the battery is disconnected, the following prescribed waiting period must be observed without fail:
 - 30 minutes for vehicles up to 9/93;
 - 1 minute for vehicles from 9/93
- In the event of breaks in work, a component with a gas generator that has been removed must be secured against access by other persons.
- Individual components must never be repaired. Instead, always replace them.
- Do not treat airbag system components with cleaning agents or grease.
- Components of the airbag system must not be exposed to temperatures in excess of 75 °C.
- Airbag system components, including electronic diagnostic components, which have been dropped

from heights in excess of 0.5 m must not be reinstalled in the vehicles.

- Before installing, subject airbag system components (including electronic diagnostic components) to a visual inspection for damage and replace if necessary.
- Airbag system components may only be electrically tested while they are installed and only with the BMW diagnostic system / DIS.
- **Danger of injury:** The airbag module may only be set down with the airbag itself facing upwards. Otherwise the generator will be thrown upwards if it is fired.
- Do not point the firing pellet of a gas generator at other persons.
- Components with gas generators must not be fired while they are removed. They must be disposed of by special disposal companies or returned to BMW in the packaging of the new components.
- When carrying out straightening and welding work with an electric welder:
 - Disconnect battery
 - Cover negative terminal (post)
- Avoid all contact with the skin when removing a fired airbag module - wear gloves. Wash with water after contact with the skin.

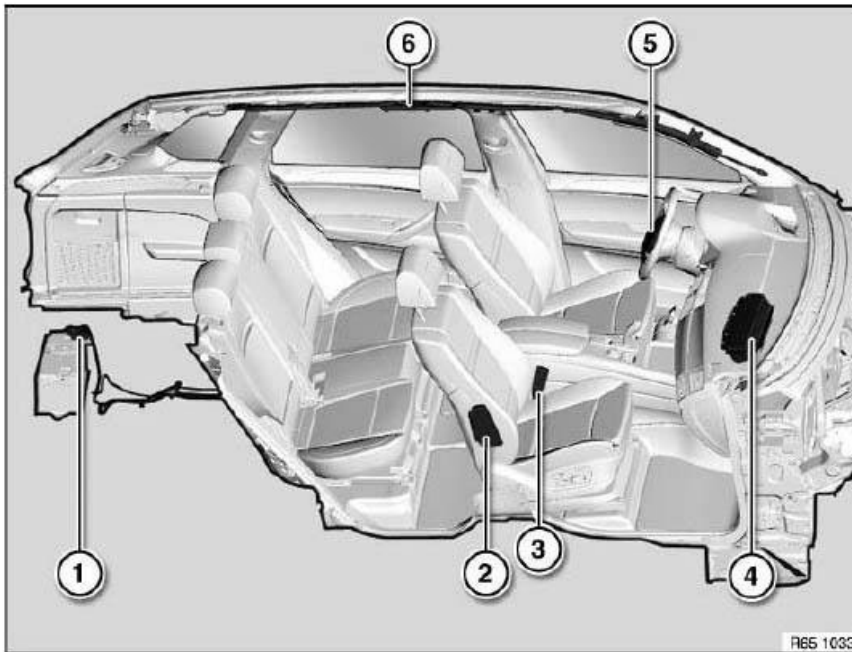
3. Transport

- Components with gas generators must be sent off in the packaging of the new components.

4. Storage

- Observe the regulations of the relevant trade supervisory authority and the applicable national regulations.

72 12 ... OVERVIEW OF AIRBAG MODULES, AIRBAG CONTROL UNIT, BELT TENSIONERS



- | | | | |
|---|--|---|---|
| 1 | <u>Safety battery terminal (*)</u> | 4 | <u>Airbag unit, passenger side (*)</u> |
| 2 | <u>Side airbag, front seat, left/right (*)</u> | 5 | <u>Airbag module, driver's side (*)</u> |
| 3 | <u>Belt tensioner, front left/right (*)</u> | 6 | <u>Head airbag, left/right (*)</u> |
- (*) Components contain pyrotechnical devices

Fig. 1: Location Of Airbag Modules

Courtesy of BMW OF NORTH AMERICA, INC.

11 SEAT BELTS

72 SAFETY PRECAUTIONS AND GENERAL INFORMATION

Safety instructions --> Safety regulations for handling airbag modules, airbag components and pyrotechnical seat belt tensioners. See **72 00 ... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS.**

--> Deactivation/activation pyrotechnical components . See **72 12 ... DEACTIVATING FRONT PASSENGER AIRBAGS WITH KEY-OPERATED SWITCH.**

Handling electrical and electronic equipment --> Unlocking/locking airbag plug connections . See **72 12 ... UNLOCKING/LOCKING AIRBAG PLUG CONNECTIONS.**

--> Repairing airbag leads . See **61 00 ... REPAIRING AIRBAG CABLES .**

--> Handling optical fibres . See **61 00 ... NOTES ON HANDLING OPTICAL FIBERS .**

Check --> Check seat belt . See **72 11 ... CHECKING AUTOMATIC SAFETY BELT.**

Airbag system --> Functional description and checking, refer to **DIS**

--> Deactivating airbags . See **72 12 ... DEACTIVATING FRONT PASSENGER AIRBAGS WITH KEY-OPERATED SWITCH.**

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72 11 ... CHECKING AUTOMATIC SAFETY BELT

General considerations when checking seat belts:

The seat belts must be checked after an accident.

For the check, you should start by trying to get information on which seats in the car involved in the accident were occupied. If this is not possible, check all the seat belts in the car and replace them if necessary.

In the event of deformations on the car, you must subject the components of the restraint system affected in this area such as e.g.

- Seat belt
- Seatbelt height adjustment
- Belt buckle tensioner
- Triggering sensors
- etc.

to a function check and a visual inspection.

If you are in any doubt as to the unimpaired functional capability of restraint system components, these components must be replaced in the interests of safety!

If a seat belt has to be replaced following an accident (e.g. in the event of a frontal and/or side impact with permanently deformed impact dampers/deformation elements or cross-members), the complete seat belt must be replaced! The complete seat belt comprises:

- Top belt
- Lower strap
- Seat belt buckle (buckle tensioner)
- Seatbelt height adjustment
- Retaining screws of all components

The following must also be checked and if necessary replaced.

- Seatbelt mountings on the car body
- Seatbelt mountings on the seat
- seat runners.
- Seat structure (frame, etc.)

Alignment tests on the seat and the seat runners are not permitted!

The following explanations and the checklist for the automatic safety belt can provide help.

An unusable seat belt or a seat belt worn in a serious accident should be destroyed immediately after removal to guarantee that it cannot be used again.

Checking automatic reel and seatbelt strap:

The automatic reel has two independent activation systems for seat-belt locking.

The first activation system locks the automatic reel when driving quickly around curves, driving in tight curves, on extreme inclinations (vehicle rolls over) and during sharp braking or impact.

To check, the seat backrest must be placed in the upright position and both hands held in a supporting position close to the steering wheel. The brakes are then applied fully while driving on a dry surface and at a road speed equal to twice that of walking speed.

The seat belt must lock.

The second activation system provides additional safety and is controlled by inertia mass.

If the reel locks when the strap is pulled out suddenly, this system is also OK.

Automatic reel does not require servicing and must not be opened.

Precondition for complete, problem-free retraction of straps:

- the straps must not be twisted!
- the straps must not be damaged!

When placed to one side, the straps of the front seats must retract fully.

With the straps in the rear seat bench, a small remaining loop is acceptable due to increased friction between the strap and the rear seat bench cover if:

- this remaining loop is fully retracted when the strap is reguided.

Belt straps should only be cleaned with a luke-warm soap solution or a commercial laundry detergent.

Belt straps must never be cleaned chemically or dyed.

The automatic reel and strap must be replaced in the event of:

1. creases
2. unravelling
3. pinches
4. cracks and tears
5. traces of melting
6. traces of wear on casing of seat belt tongue or on reversing clip.

Checking lower strap (belt buckle tensioner):

To fasten a seat belt, the tongue should insert easily and with a loud click in the lock.

When the "Red button" is pressed, the tongue must be ejected from the lock under spring pressure.

If the lock cover is missing or damaged, the lower strap must be replaced.

Replace the triggered belt buckle tensioner including the complete seat belt with seatbelt height adjustment and retaining screws and check the

- Seatbelt mountings on the car body
- Seatbelt mountings on the seat
- seat runners.
- Seat structure.

Criteria for a triggered mechanical belt buckle tensioner:

- very low position of seatbelt buckle (comparisons with new part).

Criteria for a triggered pyrotechnical belt buckle tensioner:

- very low position of seatbelt buckle (comparisons with new part).
- Airbag warning lamp permanently lit: read out airbag system fault memory.

The belt buckle tensioners can be triggered under certain circumstances even when the seat is not occupied. If it is definite that the belt system was not used (seat was not occupied), there is no need to replace the

- upper strap
- attachment parts (belt height adjustment, screws)
- seatbelt mountings on the car body
- Seatbelt mountings on the seat

- seat runners.

after a check.

72 11 030 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT SEAT BELT

Necessary preliminary tasks:

- Remove trim panels for door pillar . See **51 43 148 REMOVING AND INSTALLING OR REPLACING TRIM ON LEFT OR RIGHT DOOR PILLAR (TOP)** or **51 43 150 REMOVING AND INSTALLING OR REPLACING TRIM FOR LEFT OR RIGHT DOOR PILLAR (BOTTOM)** .
- If necessary, remove air vent . See **64 22 ... REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT B-PILLAR AIR VENT** .

Move front seat upwards.

Release screw (1) on front seat.

Installation:

Replace screw.

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

Feed out belt anchor fitting (2).

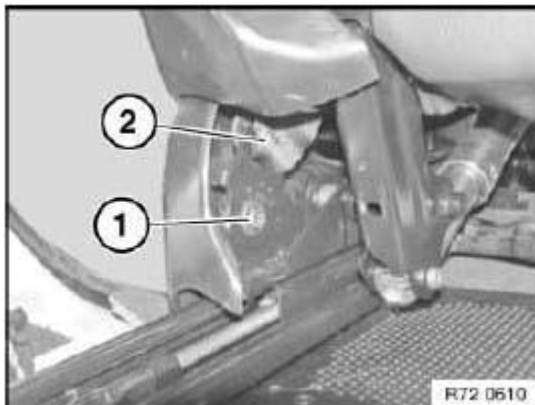


Fig. 2: Identifying Seat Belt Bolts

Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (2).

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

Remove deflector bar.

Release screws (1).

Installation:

Replace screws (1).

Remove belt deflector.

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5**.

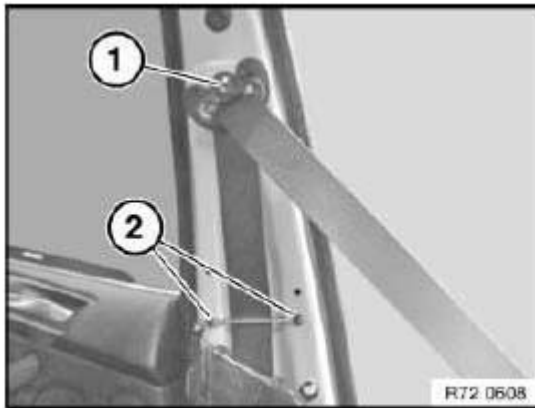


Fig. 3: Identifying Seat Belt Screws

Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Installation:

Replace screw.

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5**.

Unlock inertia reel unit (2) and remove from B-pillar.

Installation:

Inertia reel unit is coded against incorrect installation (3).

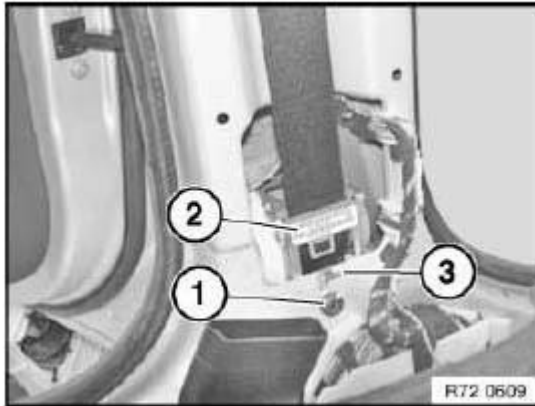


Fig. 4: Identifying Inertia Reel Unit And B-Pillar
Courtesy of BMW OF NORTH AMERICA, INC.

72 11 041 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT LOWER BELT FITTING (SEAT BELT TENSIONER)

Necessary preliminary tasks:

- Remove front seat . See **52 13 010 REMOVING AND INSTALLING/REPLACING BOTH SEAT RAILS ON LEFT OR RIGHT FRONT SEAT (NORMAL/SEMI-ELECTRIC)** .

Unlock plug connections and disconnect. See **72 12 ... UNLOCKING/LOCKING AIRBAG PLUG CONNECTIONS**.

Installation:

Belt tensioner (1) is coded against incorrect installation.

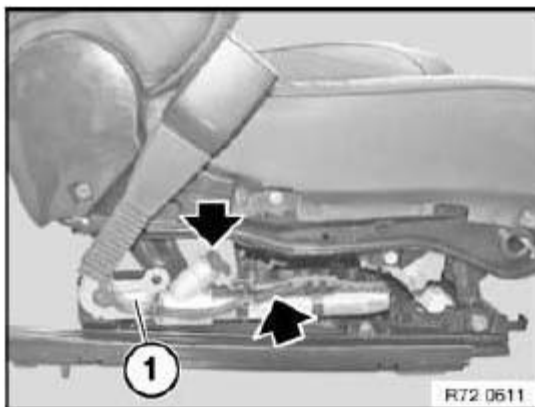


Fig. 5: Locating Belt Tensioner
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Installation:

Replace screw (1).

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5**.

Remove belt tensioner (2).

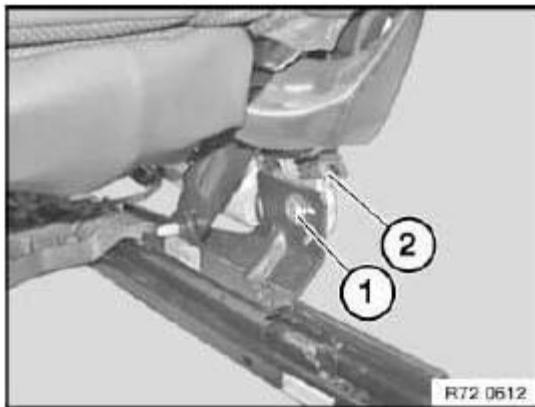


Fig. 6: Identifying Belt Tensioner And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

**72 11 050 REMOVING AND INSTALLING OR REPLACING FRONT BELT ANCHOR FITTING
PRETENSIONER (DRIVER SEAT ONLY)**

WARNING: Read and comply with safety regulations for handling airbag modules and pyrotechnical belt pretensioners. See **72 00 ... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS**. Improper handling can lead to triggering of the pyrotechnical seat belt pretensioner or side airbag, resulting in injuries. See **72 SAFETY PRECAUTIONS AND GENERAL INFORMATION**.

Switch off ignition!

Necessary preliminary tasks:

- Remove upper rail trim.

Disconnect cable straps.

Installation:

Replace faulty cable straps.

Plug connection must not be under tension.

Unfasten plug connection (1) and disconnect.

Release screw (2).

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

Remove anchor fitting tensioner (3).

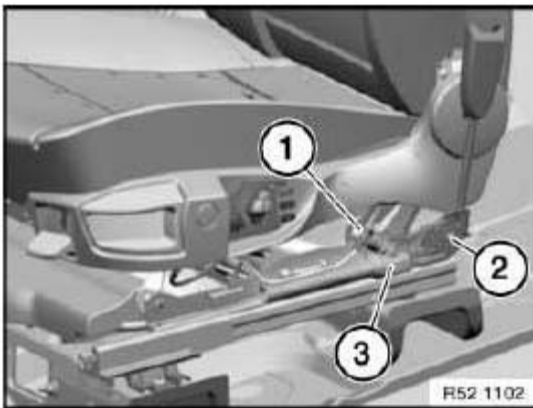


Fig. 7: Identifying Anchor Fitting Tensioner And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Secure plug connection with felt strip against unlocking.

If necessary, detach felt.

Using screwdriver, press pin (1) into recess and release anchor fitting (2).

Installation:

Anchor fitting (2) is coded.

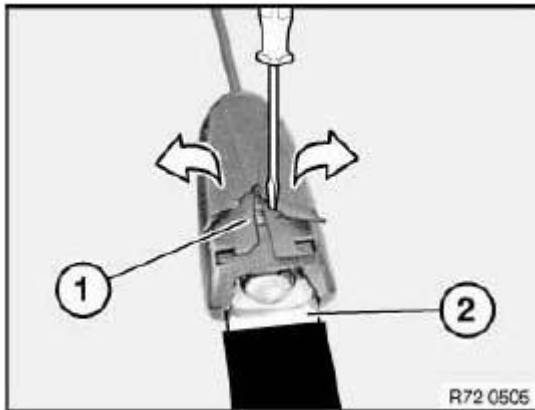


Fig. 8: Pressing Pin Into Recess And Release Anchor Fitting
 Courtesy of BMW OF NORTH AMERICA, INC.

72 11 092 REMOVING AND INSTALLING/REPLACING REAR LEFT OR RIGHT SEAT BELT

Necessary preliminary tasks:

- Remove rear seat . See **52 26 005 REMOVING AND INSTALLING / REPLACING REAR SEAT** .

Version with 3rd seat row only:

- Fold rear seat forwards
- Remove adapter plate . See **52 26 ... REMOVING AND INSTALLING BACKREST LOCK ADAPTER PLATE** .

Release screw (1) on end fitting.

Installation:

Replace screw.

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

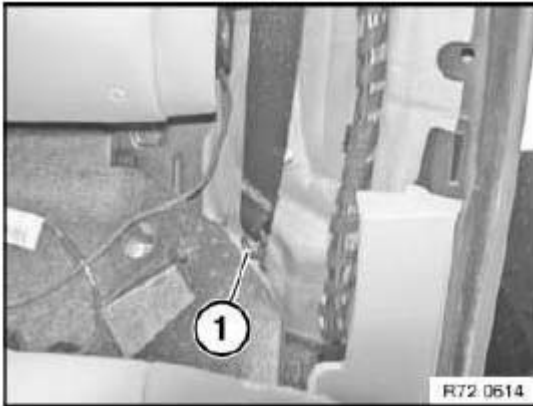


Fig. 9: Identifying Seat Belt Screw

Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Installation:

Replace screws.

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

Remove belt deflector (2).

Release screws (3).

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

Remove deflector bar (4).

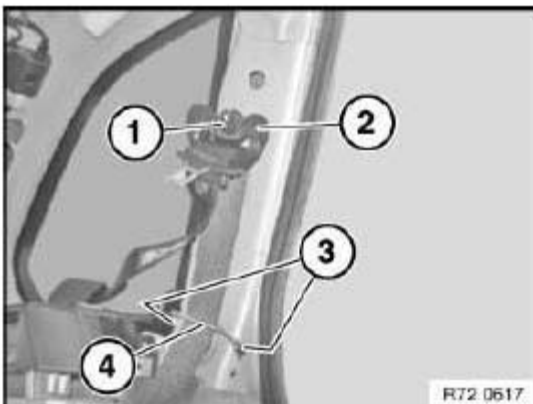


Fig. 10: Identifying Deflector Bar And Belt Deflector

Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

Installation:

Replace screws.

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

Remove automatic reel (2).

Installation:

Inertia reel unit is coded against incorrect installation (2).

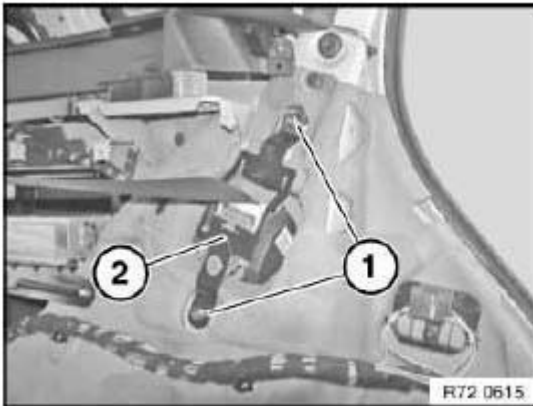


Fig. 11: Identifying Automatic Reel With Screws
Courtesy of BMW OF NORTH AMERICA, INC.

72 11 101 REMOVING AND INSTALLING/REPLACING REAR CENTER SEAT BELT

Necessary preliminary tasks:

- Partially remove backrest cover . See **52 26 411 REPLACING BACKREST COVER FOR REAR SEAT (THROUGH-LOADING SYSTEM) ON LEFT** .
- Remove rear seat . See **52 26 005 REMOVING AND INSTALLING / REPLACING REAR SEAT** .

Unscrew nut (1).

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

Remove inertia reel mechanism (2).

Installation:

Inertia reel mechanism (2) is coded against incorrect installation.

Feed anchor fitting out of backrest cover and backrest frame.

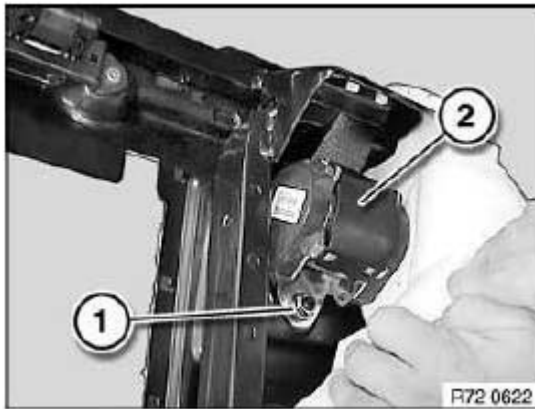
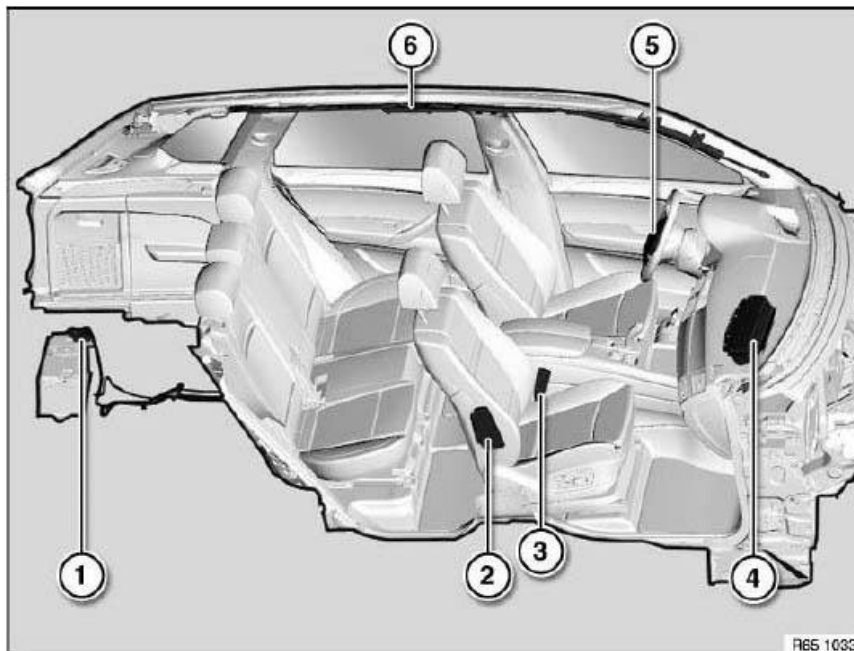


Fig. 12: Identifying Inertia Reel Mechanism And Nut
Courtesy of BMW OF NORTH AMERICA, INC.

72 12 ... OVERVIEW OF AIRBAG MODULES, AIRBAG CONTROL UNIT, BELT TENSIONERS



- | | | | |
|---|--|---|---|
| 1 | <u>Safety battery terminal (*)</u> | 4 | <u>Airbag unit, passenger side (*)</u> |
| 2 | <u>Side airbag, front seat, left/right (*)</u> | 5 | <u>Airbag module, driver's side (*)</u> |
| 3 | <u>Belt tensioner, front left/right (*)</u> | 6 | <u>Head airbag, left/right (*)</u> |
- (*) Components contain pyrotechnical devices

Fig. 13: Identifying Airbag Modules, Airbag Control Unit, Belt Tensioners Components Location
Courtesy of BMW OF NORTH AMERICA, INC.

12 AIRBAG GENERATOR-AIRBAG

61 00 ... REPAIRING AIRBAG CABLES

IMPORTANT: Only repair those cables which show visible signs of damage. In the event of visible damage, make sure there is only one cable repair in effect after the repair work. If no visible damage can be identified, the entire cable must be replaced. When carrying out repairs to the airbag wiring harness, you must use the spare parts offered in the Electronic Parts Catalogue (EPC).

Safety regulations:

Safety regulations for handling components of airbag system. See 72 00 ... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS.

Instructions for disconnecting and connecting battery. See 12 00... INSTRUCTIONS FOR DISCONNECTING AND CONNECTING BATTERY.

Procedure for cable repair

In event of non-visible damage to wiring harness:

Disconnect plug connection on airbag module or on adapter plug. It is absolutely vital to disconnect the contacts in succession as there is a risk of them being mixed up! Cut through one cable after the other at an appropriate position, do not under any circumstances cut through both cables at the same time. Insulate cables remaining in wiring harness with insulating tape. Now disconnect plug connection on airbag control unit. Unpin contacts. Cut through one cable after the other at an appropriate position and insulate with insulating tape, do not under any circumstances cut through both cables at the same time. Pin contacts of repair cable for airbag control unit in control unit plug, assignment of repair cables is relevant. Lay repair cable in car parallel to existing airbag lead. Now pin in contacts for airbag control unit or contacts of adapter plug, assignment of repair cables is relevant. Cut off excess length of repair cable in proximity (visible area) of airbag module or of adapter plug. Twist open cables. With the connectors and shrink-fit hoses in the Electronic Parts Catalogue (EPC), reconnect the cables with the same cable colors. Twist cables again, open length (twist) must not exceed 40 mm. Secure interface (shrink-fit hoses) with insulating tape to prevent cables from twisting open.

Instructions for cutting off, insulating, crimping cables, installing and removing contacts:

Cutting off and insulating cables. See 61 13 CUTTING TO LENGTH AND STRIPPING INSULATION FROM CABLES.

Repairing a plug connection using connectors. See 61 13 BUTT CONNECTOR FOR REPAIRING A PLUG CONNECTION.

Installing and removing contacts. See 61 13 OPENING PLUG HOUSINGS AND REMOVING CONTACTS OF DIFFERENT PLUG SYSTEMS.

In event of visible damage:

Expose cable at damaged areas. Cut through one cable after the other at an appropriate position and insulate cables no longer required in wiring harness with insulating tape, do not under any circumstances cut through both cables at the same time. Now, depending on the scope of work, unpin contacts either on airbag control unit/airbag module or on adapter plug. Cut off unpinned cables. Insulate cables remaining in wiring harness with insulating tape. Now pin in contacts of repair cable, assignment of repair cables is relevant. Lay repair lead in car parallel to existing airbag lead up to cutting point. Cut off excess length of repair lead. Twist open cables. Connect cables with connectors and shrink-fit hoses in Electronic Parts Catalogue (EPC), assignment of repair cables is relevant. Twist cables again, open length (twist) must not exceed 40 mm. Secure interface (shrink-fit hoses) with insulating tape to prevent cables from twisting open.

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72 SAFETY PRECAUTIONS AND GENERAL INFORMATION

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Airbag system --> Functional description and checking, refer to **DIS**

--> Deactivating airbags . See **72 12 ... DEACTIVATING FRONT PASSENGER AIRBAGS WITH KEY-OPERATED SWITCH**.

--> Procedure after airbag triggering. See **72 12 ... PROCEDURE AFTER AIRBAG TRIGGERING AS**

RESULT OF AN ACCIDENT.

72 00 ... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS

It is essential to comply with the regulations as specified in the law relating to the use of explosives when working on airbag units and seat belt tensioners.

Airbags, seat belt tensioners etc. are pyrotechnical objects. Pyrotechnical objects are assigned to different danger classes on the basis of the quantity of propellant that they contain. The assignment can be ascertained from the identification marking on the product:

IMPORTANT: Failure to comply with the warning notices and repair instructions for gas generator components can cause accidental deployment and result in injury and vehicle damage!

This applies in particular to the following components:

- Airbag modules (driver's/front passenger airbags, side airbags)
- Buckle/belt tensioner
- Head airbag (ITS, AHPS)
- Active knee protection
- Active head restraint
- Safety battery terminal (SBK)

1. Regulations

The regulations quoted in the following refer to the Federal Republic of Germany.

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- Inspection, testing and installation work may only be carried out by expert trained personnel in BMW Service.
- Work on components of the airbag system should only ever be carried out with the battery disconnected, the negative terminal post covered and the plug connection of the cable leading to the gas generator disconnected. If only the battery is disconnected, the following prescribed waiting period must be observed without fail:
 - 30 minutes for vehicles up to 9/93;
 - 1 minute for vehicles from 9/93
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- Individual components must never be repaired. Instead, always replace them.
- Do not treat airbag system components with cleaning agents or grease.
- Components of the airbag system must not be exposed to temperatures in excess of 75 °C.
- Airbag system components, including electronic diagnostic components, which have been dropped from heights in excess of 0.5 m must not be reinstalled in the vehicles.
- Before installing, subject airbag system components (including electronic diagnostic components) to a visual inspection for damage and replace if necessary.
- Airbag system components may only be electrically tested while they are installed and only with the BMW diagnostic system / DIS.
- **Danger of injury:** The airbag module may only be set down with the airbag itself facing upwards. Otherwise the generator will be thrown upwards if it is fired.
- Do not point the firing pellet of a gas generator at other persons.
- Components with gas generators must not be fired while they are removed. They must be disposed of by special disposal companies or returned to BMW in the packaging of the new components.
- When carrying out straightening and welding work with an electric welder:
 - Disconnect battery
 - Cover negative terminal (post)
- Avoid all contact with the skin when removing a fired airbag module - wear gloves. Wash with water after contact with the skin.

3. Transport

- Components with gas generators must be sent off in the packaging of the new components.

4. Storage

- Observe the regulations of the relevant trade supervisory authority and the applicable national regulations.

72 12 ... DEACTIVATING FRONT PASSENGER AIRBAGS WITH KEY-OPERATED SWITCH

WARNING: The responsibility for deactivation/activation rests with the customer. Depending on the occupation of the front passenger seat, the front passenger and side airbags must be deactivated in accordance with the

Owner's Handbook.

The passenger airbag can only be deactivated in accordance with the following instructions if the vehicle is equipped with a suitable key-operated switch!

The key-operated switch can be retrofitted if it is missing and has been ordered as an optional extra.

Key-operated switch:

- Optional extra SA 5DA for MINI
- Optional extra SA 470 for BMW

R50/R53 from 04/2004 only:

Deactivation via key-operated switch, see following work steps

The following airbags are deactivated simultaneously with the key-operated switch (1):

- Passenger airbag
- Side airbag (passenger side)
- If necessary, knee airbag in US models (passenger side)

The airbags can only be deactivated/reactivated while the vehicle is stationary and with the door open.

IMPORTANT: The head airbag remains active.

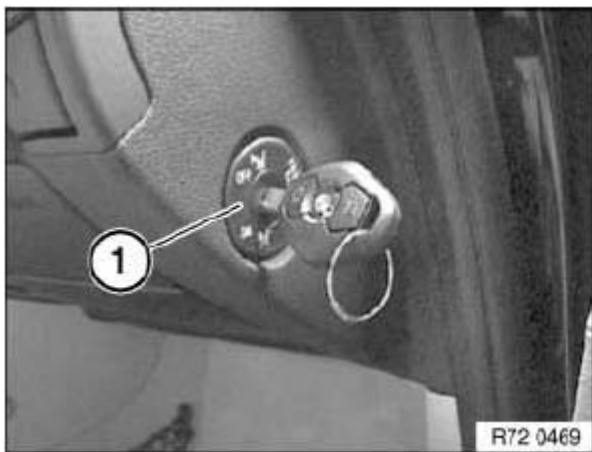


Fig. 14: Identifying Key-Operated Switch
Courtesy of BMW OF NORTH AMERICA, INC.

Deactivation

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1. Turn key-operated switch with ignition key to "OFF" position.

Deactivatable airbags on passenger side out of operation.

Head airbag on passenger side remains active.

All airbags on driver side remain active.

Activation

2. Turn key-operated switch with ignition key to "ON" position.

All the airbags in the vehicle are activated and are triggered in appropriate situations.

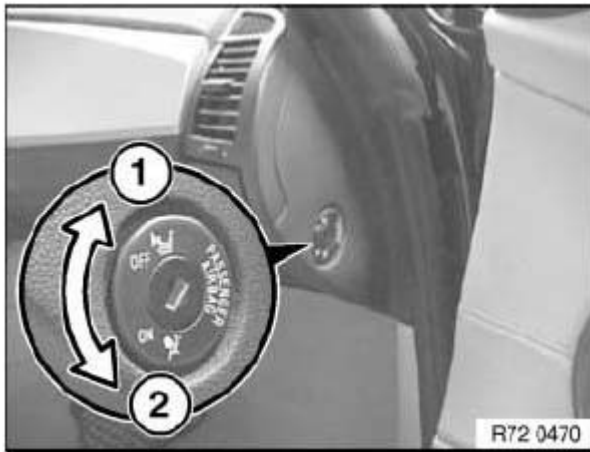


Fig. 15: Turning Key-Operated Switch
Courtesy of BMW OF NORTH AMERICA, INC.

Warning lamp

When the ignition key is turned in the ignition lock, the function of the airbag system is checked and the warning lamp in the center console lights up for several seconds.

1. The warning lamp is permanently lit when the passenger airbags are deactivated
2. The warning lamp goes out after a few seconds when the passenger airbags are activated

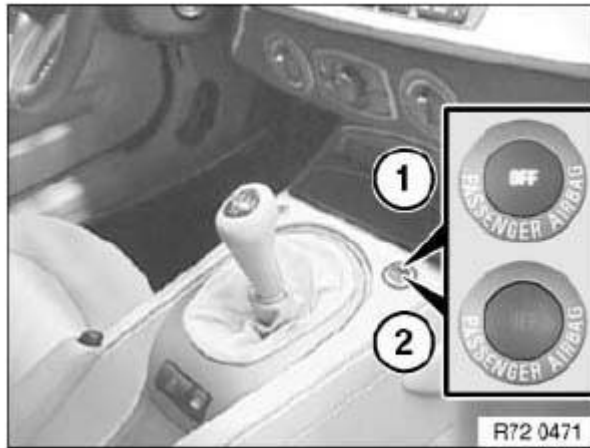
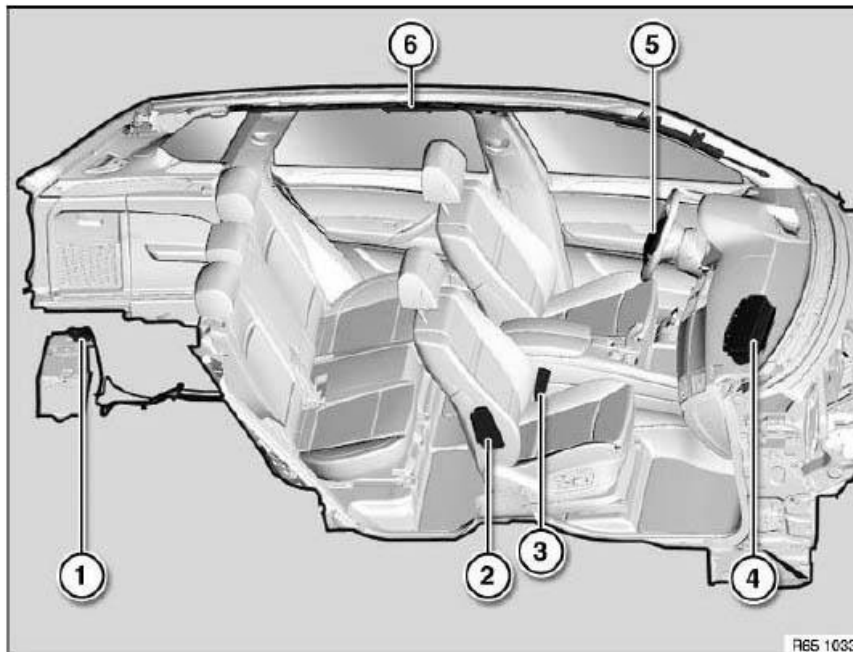


Fig. 16: Identifying Ignition Lock Switch
Courtesy of BMW OF NORTH AMERICA, INC.

72 12 ... OVERVIEW OF AIRBAG MODULES, AIRBAG CONTROL UNIT, BELT TENSIONERS



- | | | | |
|---|--|---|---|
| 1 | <u>Safety battery terminal</u> (*) | 4 | <u>Airbag unit, passenger side</u> (*) |
| 2 | <u>Side airbag, front seat, left/right</u> (*) | 5 | <u>Airbag module, driver's side</u> (*) |
| 3 | <u>Belt tensioner, front left/right</u> (*) | 6 | <u>Head airbag, left/right</u> (*) |
- (*) Components contain pyrotechnical devices

Fig. 17: Identifying Airbag Modules, Airbag Control Unit, Belt Tensioners Components Location
Courtesy of BMW OF NORTH AMERICA, INC.

72 12 ... PROCEDURE AFTER AIRBAG TRIGGERING AS RESULT OF AN ACCIDENT

Check and/or replace following components after airbag triggering:

Satellites (control unit + sensor)

- Components
 - Satellite, A-/B-pillar, left/right
 - Satellite, front door
 - Satellite, rear seat
 - Satellite, driver's/front passenger seat
 - Satellite, vehicle center
- Procedure
 - Read out fault memory
 - Disconnect battery and observe waiting period
 - Rectify faults
 - Reconnect battery and observe waiting period
 - Clear fault memory
 - Turn off ignition and wait at least 2 minutes (no consumers may be switched on during this period such as e.g. inside lights, radio, etc.)
 - Switch ignition on.
 - Clear fault memory and if necessary rectify faults

Cables and plugs

- Components and procedure
 - Check cables and plugs for damage, replace if necessary.

Belt system

- Components
 - Automatic safety belt tensioner
 - Belt buckle tensioner
 - Seatbelt height adjustment
- Procedure
 - Check components, replace if necessary

Seats

- Components
 - Seat

- Airbag module
- Active head restraint
- Procedure
 - Check seats (function check of seat mechanism), replace if necessary
 - Check seat screw/bolt connections
 - Replace gas generator of active head restraint system

If the severity of the impact has not caused any other damage to the seat, only the triggered gas generator needs to be replaced.

External feature: The triggered head restraint is folded forwards and engaged.

The repair work can be carried out in the car with the rear panel removed. The entire system can be pushed back into its original position and the new gas generator installed.

The gas generator can be replaced up to 5 times.

- Replace airbag module and seat cover with padding

Driver's airbag

- Components
 - Airbag module
 - Steering wheel
 - Steering column (if damaged)
- Procedure
 - Check components, replace if necessary
 - Replace steering wheel

Passenger airbag

- Components
 - Airbag module
 - Instrument panel trim
 - Supporting tube (if damaged)
- Procedure
 - Check components, replace if necessary

Side airbag, front/rear

- Components
 - Airbag module

- Door trim panel
- Door in white
- Seat
- Procedure
 - Check components, replace if necessary

Head airbag (AHPS)

- Components
 - Airbag module
 - Trim, A-pillar
 - Roofliner
 - Trim, B-pillar (if damaged)
 - Trim, C-pillar (if damaged)
 - Bodyshell
- Procedure
 - Check components, replace if necessary

Knee airbag

- Components
 - Panel (driver's side)
 - Lower section of glovebox
 - Active knee protector (driver's and passenger sides)
- Procedure
 - Check components, replace if necessary

Passive knee protector

- Components
 - Panel (driver's side)
 - Glovebox incl. knee protector (passenger side)
- Procedure
 - Check components for damage, replace if necessary
 - Check fastening elements

72 12 ... UNLOCKING/LOCKING AIRBAG PLUG CONNECTIONS

WARNING: Read and comply with safety regulations for handling airbag modules and pyrotechnical belt tensioners. See 72 00 ... SAFETY REGULATIONS FOR

HANDLING COMPONENTS WITH GAS GENERATORS.

IMPORTANT: An airbag plug connection must be replaced if it is damaged.
Sourcing reference for airbag repair instructions (with plug connection), refer to BMW Parts Service.

Following versions of plug connections on airbag module/gas generator are possible:

- Airbag plug connection on gas generator/airbag module is offset by 90°
- Airbag plug connection on gas generator/airbag module is straight (3 versions)

Airbag plug connection on gas generator/airbag module offset by 90°:

There are two ways of unlocking this airbag plug connection on the gas generator/airbag module:

Method 1:

Simultaneously pull cover (1) upwards at lugs on left and right (2).

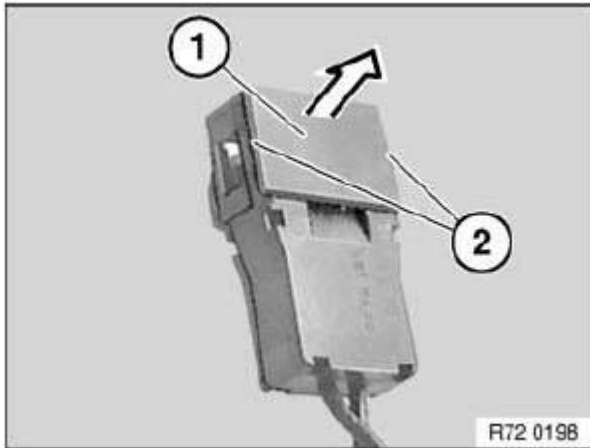


Fig. 18: Pulling Cover Upwards Lugs On Left And Right
Courtesy of BMW OF NORTH AMERICA, INC.

Method 2:

Insert a narrow screwdriver into recess (1) in housing (2).

Carefully pry cover (3) off (4).

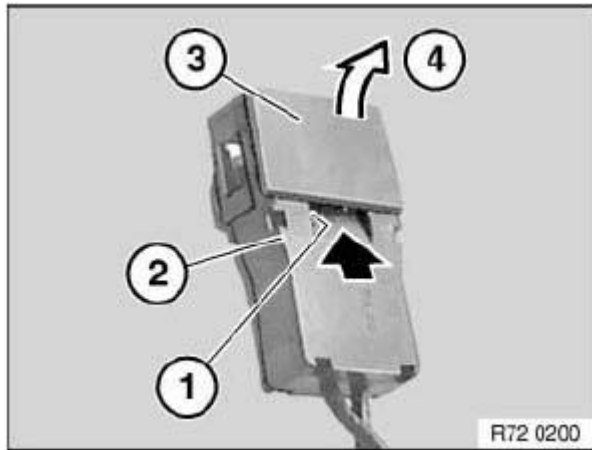


Fig. 19: Prying Off Cover

Courtesy of BMW OF NORTH AMERICA, INC.

Cover (1) is not positioned higher than housing (2).

The airbag plug connection is unlocked and can now be detached from the gas generator/airbag module.

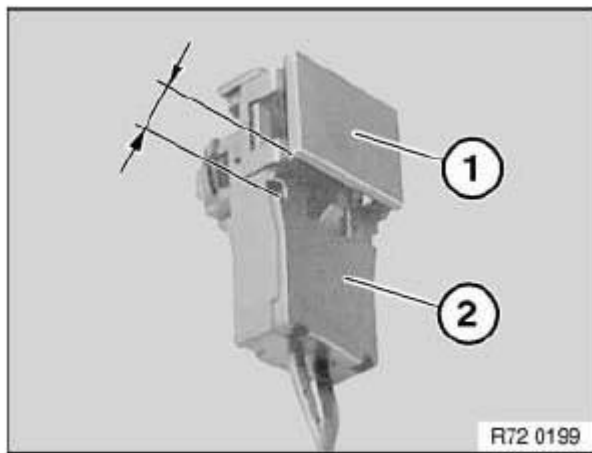


Fig. 20: Identifying Airbag Plug Connection

Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

After attaching airbag plug connection to gas generator/airbag module, press cover (1) downwards until it rests flat on housing.

Check that it catches properly.

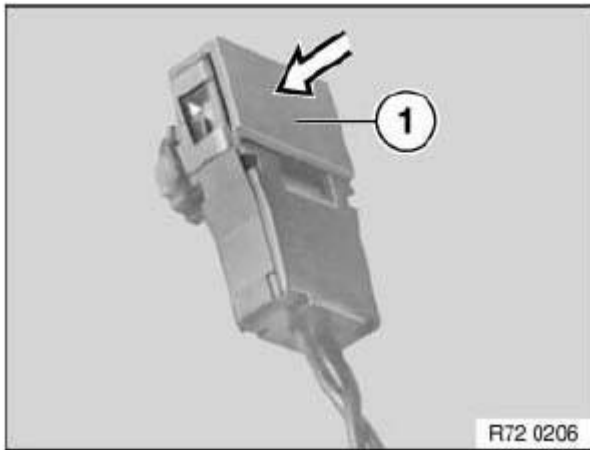


Fig. 21: Attaching Airbag Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Airbag plug connection on gas generator/airbag module is straight (2 versions)

Version 1:

Press locking/unlocking plate (1) at edge (4).

Locking/unlocking plate (1) snaps upwards at opposite edge (3) and releases detent lug (2).

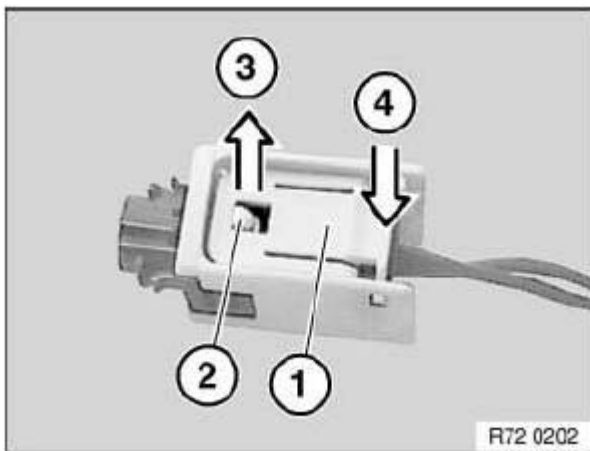


Fig. 22: Pressing Locking/Unlocking Plate
Courtesy of BMW OF NORTH AMERICA, INC.

The airbag plug connection is unlocked and can now be detached from the gas generator/airbag module.



Fig. 23: Identifying Generator/Airbag Module
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

After attaching airbag plug connection to gas generator/airbag module, check whether detent lug (2) is visible in opening of locking/unlocking plate (1).

Only if the detent lug (2) is visible will the airbag plug connection gas generator/airbag module be correctly engaged.

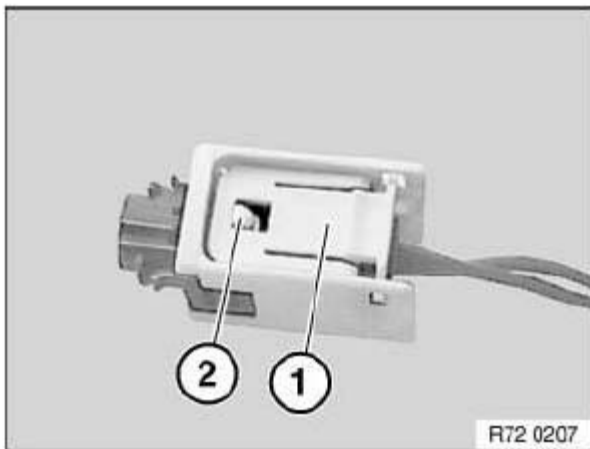


Fig. 24: Identifying Detent Lug And Locking/Unlocking Plate
Courtesy of BMW OF NORTH AMERICA, INC.

Version 2:

Press locking/unlocking plate (1) on edge (3) and pull plug (2) out of plug housing (4).

Installation:

Only if the detent lug is visible in opening (5) will the gas generator/airbag module plug connection be correctly engaged.

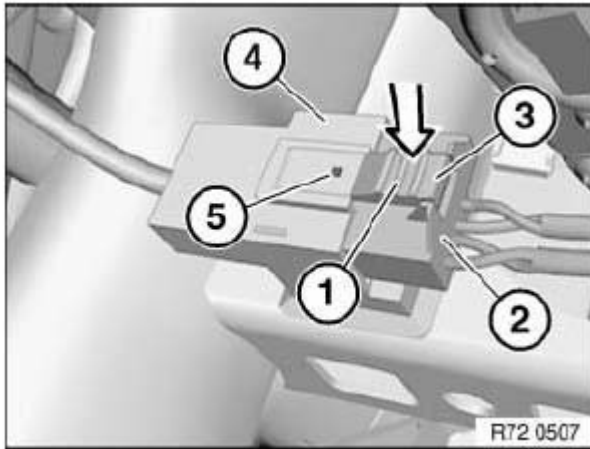


Fig. 25: Pressing Locking/Unlocking Plate
Courtesy of BMW OF NORTH AMERICA, INC.

Version 3:

Press lock button (1) and pull out plug (2) up to initial engagement position.

Detach plug (2) from firing pellet.

Installation:

Insert plug connection in initial engagement position in gas generator/airbag module and engage in final engagement position.

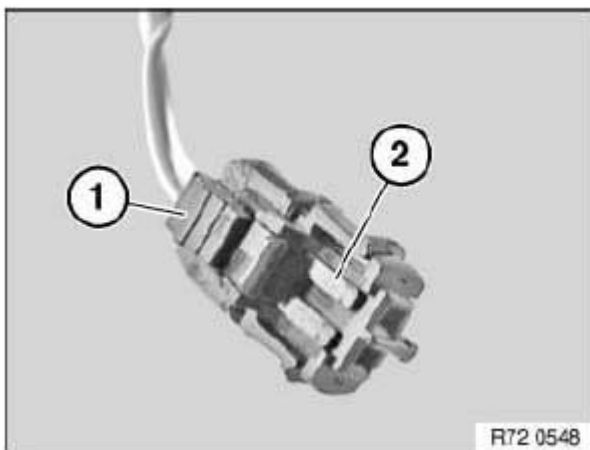


Fig. 26: Pressing Lock Button And Pulling Out Plug
Courtesy of BMW OF NORTH AMERICA, INC.

Illustration of version 3 with gas generator :

- A. Initial engagement position
 - B. Final engagement position
1. Lock button
 2. Gas generator

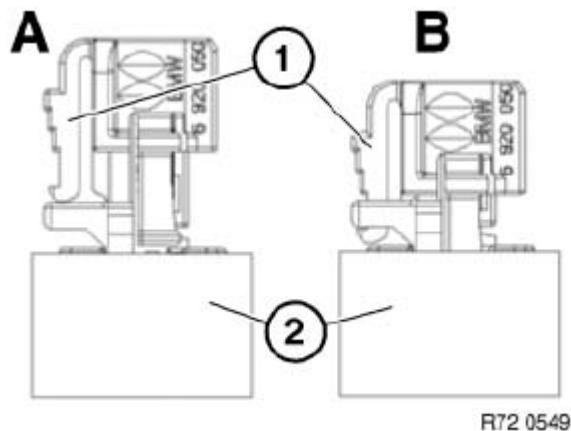


Fig. 27: Identifying Lock Button And Gas Generator
 Courtesy of BMW OF NORTH AMERICA, INC.

Version 4 - Crash-active head restraint:

Press locking clip at edge and disconnect plug (1).

Installation:

Check for correct engagement.

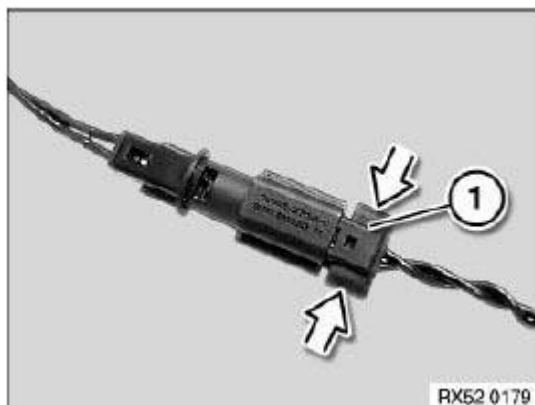


Fig. 28: Pressing Locking Clip
 Courtesy of BMW OF NORTH AMERICA, INC.

72 12 000 REMOVING AND INSTALLING/REPLACING AIRBAG MODULE ON PASSENGER SIDE

WARNING: Read and comply with safety regulations for handling airbag modules and pyrotechnical belt tensioners. See **72 00 ... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS.**
Incorrect handling can activate airbag and cause injury.

Necessary preliminary tasks:

- Disconnect battery negative lead . See **12 00... INSTRUCTIONS FOR DISCONNECTING AND CONNECTING BATTERY** .
- Remove instrument panel trim . See **51 45 030 REMOVING AND INSTALLING INSTRUMENT PANEL TRIM** .

Unclip airbag lead with holders (1) from instrument panel.

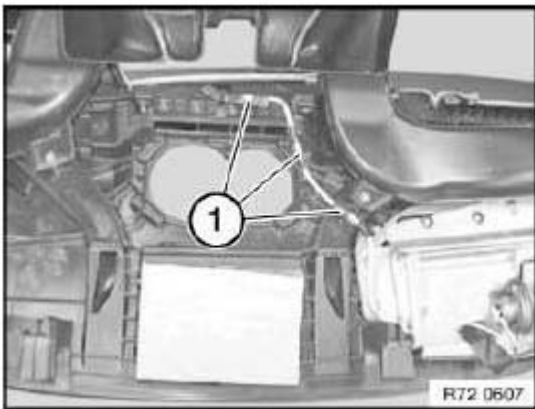


Fig. 29: Identifying Airbag Lead

Courtesy of BMW OF NORTH AMERICA, INC.

Unscrew nuts (1).

Installation:

Replace nuts.

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

Remove airbag module from instrument panel.

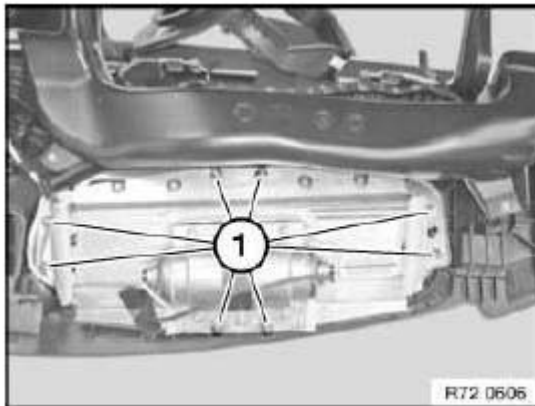


Fig. 30: Identifying Airbag Module Nuts
 Courtesy of BMW OF NORTH AMERICA, INC.

72 12 048 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT HEAD AIRBAG (VERSION WITH SLIDE/TILT SUNROOF)

WARNING: Read and comply with safety regulations for handling airbag modules and pyrotechnical belt tensioners. See 72 00 ... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS.
 Incorrect handling can activate airbag and cause injury.
 A damaged head airbag must be replaced.
 A damaged head airbag exhibits an impaired protective function and in extreme cases loses its protective function altogether.

NOTE: Except for the operations for Removing headliner , see 51 44 013 REMOVING AND INSTALLING/REPLACING ROOFLINER (VERSION WITH PANORAMA SUNROOF) , this task is identical to removing and installing/replacing left or right head airbag (version without slide/tilt sunroof). See 72 12 060 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT HEAD AIRBAG.

72 12 050 REMOVING AND INSTALLING SIDE AIRBAG (FRONT SEAT)

WARNING: Observe safety regulations for handling airbag modules and pyrotechnical seat belt pretensioners. See 72 00 ... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS.
 Incorrect handling can cause airbags to trigger, resulting in serious injuries.

Necessary preliminary tasks:

- Disconnect battery negative lead . See 12 00 ... INSTRUCTIONS FOR DISCONNECTING AND CONNECTING BATTERY .

- Partially detach backrest cover . See **52 13 400 REPLACING SEAT COVER FOR LEFT OR RIGHT FRONT SEAT (NORMAL/SEMI-ELECTRIC)** or **52 13 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (NORMAL/SEMI-ELECTRIC)** .

Remove cover (1).

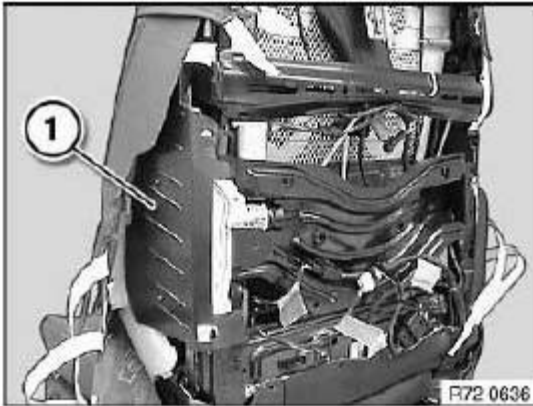


Fig. 31: Identifying Airbag Cover

Courtesy of BMW OF NORTH AMERICA, INC.

Unlock plug connection (1) and disconnect. See **72 12 ... UNLOCKING/LOCKING AIRBAG PLUG CONNECTIONS**.

Release screws.

Installation:

Replace screws.

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

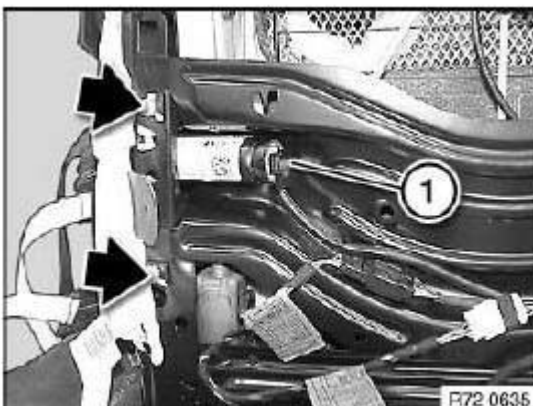


Fig. 32: Identifying Plug Connection

Courtesy of BMW OF NORTH AMERICA, INC.

Remove airbag module (1) from inner bag (2).

Installation:

Pull inner bag (2) fully over airbag module (1) and screw brackets.

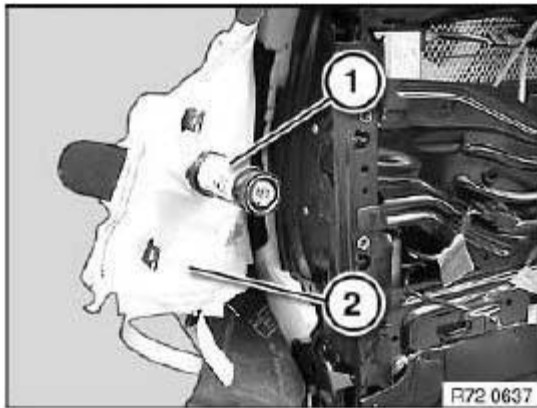


Fig. 33: Identifying Inner Bag And Airbag Module
Courtesy of BMW OF NORTH AMERICA, INC.

72 12 060 REMOVING AND INSTALLING/REPLACING LEFT OR RIGHT HEAD AIRBAG

WARNING: Read and comply with safety regulations for handling airbag modules and pyrotechnical belt tensioners. See 72 00 ... SAFETY REGULATIONS FOR HANDLING COMPONENTS WITH GAS GENERATORS.

Incorrect handling can activate airbag and cause injury.

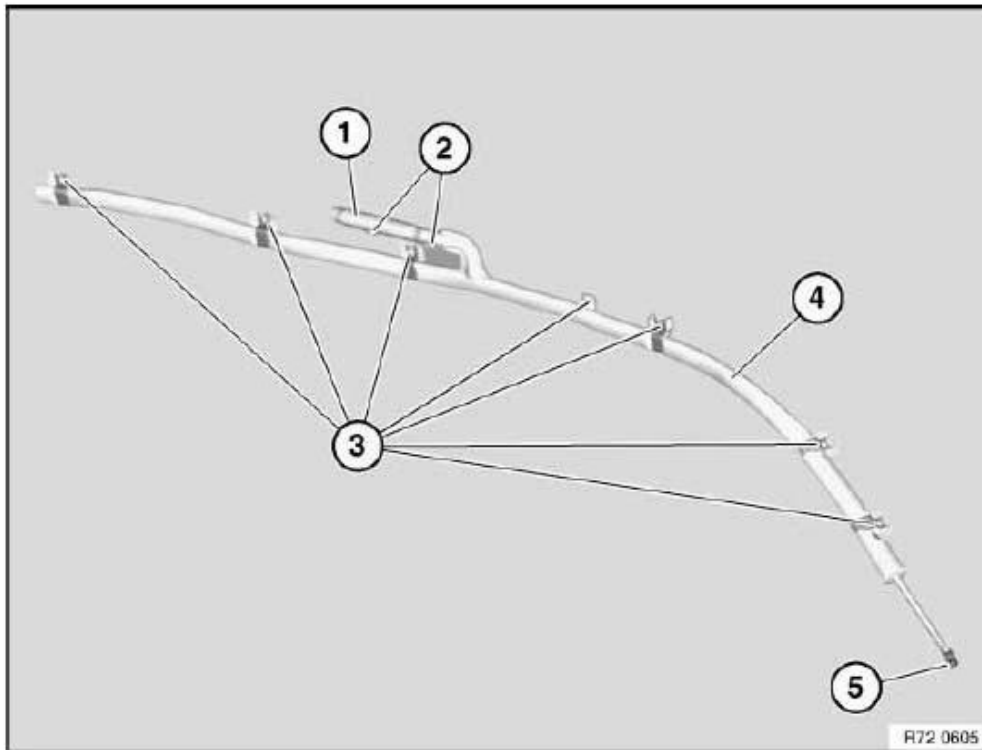
A damaged head airbag must be replaced.

A damaged head airbag exhibits an impaired protective function and in extreme cases loses its protective function altogether.

Necessary preliminary tasks:

- Disconnect battery negative lead . See 12 00... INSTRUCTIONS FOR DISCONNECTING AND CONNECTING BATTERY .
- Remove roofliner . See 51 44 013 REMOVING AND INSTALLING/REPLACING ROOFLINER (VERSION WITH PANORAMA SUNROOF) .
- Follow instructions for unlocking and locking airbag plug connection. See 72 12 ... UNLOCKING/LOCKING AIRBAG PLUG CONNECTIONS.

Installation summary, retaining elements, head airbag:



- | | |
|---|---|
| 1 Gas generator | 4 Folding pack, head airbag |
| 2 Retaining screws, gas generator | 5 Retaining screw, anchor fitting, A-pillar |
| 3 Retaining screws, holder for folding pack | |

Fig. 34: Identifying Gas Generator, Retaining Screws And Head Airbag
 Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: When removing head airbag, do not damage

- Head airbag
- Windscreen
- Retaining clips
- Trim panels

Release screw (1) on A-pillar.

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5**.

Release retaining screws (2).

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5**.

Remove deformation plate (3).

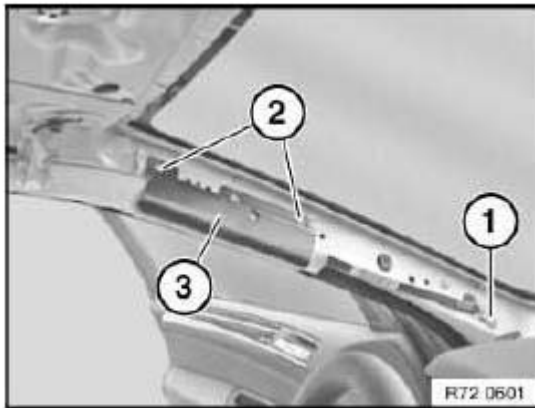


Fig. 35: Identifying Deformation Plate
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

Installation:

Folding pack is under tab washer.

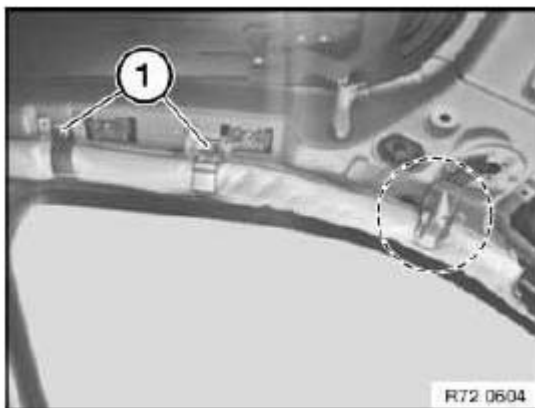


Fig. 36: Identifying Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

Tightening torque. See **PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5** .

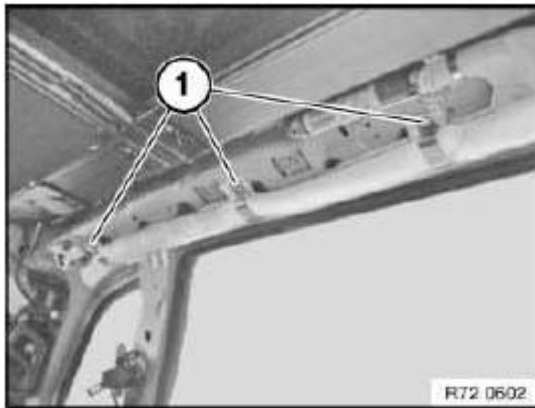


Fig. 37: Identifying Screws

Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect plug (3) for gas generator (2). See 72 12 ... UNLOCKING/LOCKING AIRBAG PLUG CONNECTIONS.

Release screws (1).

Tightening torque. See PARTS AND ACCESSORIES - TIGHTENING TORQUES - X5.

Remove gas generator (2) in direction of arrow.

Installation:

Gas generator is coded against incorrect installation.

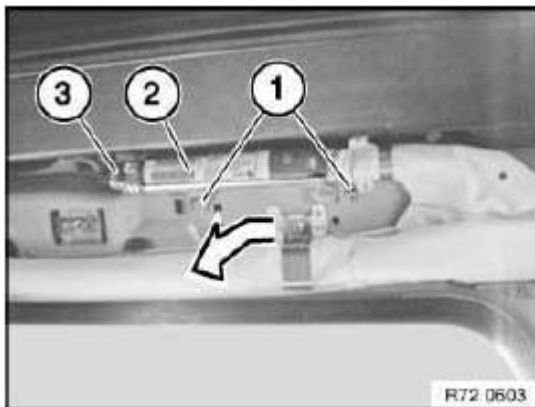


Fig. 38: Removing Gas Generator

Courtesy of BMW OF NORTH AMERICA, INC.