

ACCESSORIES & EQUIPMENT

Restraints & Towing - Repair Instructions - X6

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.
- **Notes on scrapping** vehicles with gas generators, see 72 12 .. Notes on scrapping vehicles with gas generators (airbag system).
- **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.
- **Checklist for seat belt** , see 72 11 .. Inspection list for automatic seat 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!

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.

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.

SEAT BELTS

72 SAFETY PRECAUTIONS AND GENERAL INFORMATION

Safety instructions

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Check

- **Check seat belt** , see 72 11 .. Checking automatic safety belt.
- **Checklist for seat belt** , see 72 11 .. Inspection list for automatic seat belt.

Airbag system

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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
- Anchor fitting tensioner
- 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
- Anchor fitting tensioner
- 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, see 72 11 ..
Inspection list for automatic seat belt.

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.

Checking anchor fitting tensioner:

Replace the triggered anchor fitting tensioner including the complete seat belt with seatbelt height adjustment, lower strap 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 anchor fitting tensioner:

- A triggered anchor fitting tensioner can be recognized from the wrapped belt strap around the shaft.
- Airbag warning lamp permanently lit: read out airbag system fault memory.

72 11 .. INSPECTION LIST FOR AUTOMATIC SEAT BELT

AUTOMATIC SEAT BELT INSPECTION PROCEDURE

Was the automatic seat belt with lower strap replaced after an accident, e.g. frontal and/or oblique impact in which the impact absorbers/deformation elements were permanently deformed?	No	Replace complete automatic seat belt The following must also be checked and replaced, if necessary: seatbelt mountings on the car body seatbelt mountings on the seat seat runners.
Yes		
Does seat belt lock when pulled out suddenly?	No	Replace automatic seat belt (upper strap).
Yes		
Can the strap be pulled out without jamming?	No	Automatic reel is loose - tighten reel. If fault persists: Return spring broken - replace automatic seat belt (upper strap).
Yes		
Does the strap on the front seat belts retract automatically?		Automatic reel is loose - tighten reel.

Does the strap on the rear seat belts retract automatically, a small remaining loop is acceptable if this remaining loop is fully retracted when the strap is readjusted.	No	Excessive friction in belt guides - replace automatic seat belt (upper strap). Return spring broken - replace automatic seat belt (upper strap).
Yes		
Does automatic reel make a squeaking noise when belt is fastened or unfastened?	Yes	Excessive friction in belt guides - replace automatic seat belt (upper strap). Reel is loose - tighten reel. Return spring broken - replace automatic seat belt (upper strap).
No		
Is the plastic casing on the latch free from damage in the area of the belt opening?	No	Replace complete automatic seat belt
Yes		
Is the fully extended strap free from pinches, burn marks, tears and cuts, folding and unravelling?	No	Replace complete automatic seat belt
Yes		
When the seat belt is fitted, is the latch ejected with spring pressure from the buckle when the "Red button" is pressed?	No	Replace complete automatic seat belt
Yes		
Does fastened seat belt lock when stopping vehicle quickly on a dry road at a road speed twice as fast as walking speed?	No	Replace complete automatic seat belt
Yes		
Is fully pulled-out belt free of serious dirt and other marks?	No	If dirt and marks cannot be removed with commercially available mild-action detergent, the automatic seat belt (upper strap) must be replaced.
Yes		
In the case of seat-integrated seat belts, is front tongue of reclining mechanism or seat rail free of deformation?	No	Replace both damaged parts and complete automatic-reel seat belt. The following must also be checked and replaced, if necessary: seatbelt mountings on the car body seatbelt mountings on the seat seat runners.
Yes		
The automatic seat belt is O.K.!		

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)** .

Version with anchor fitting tensioner only:

Necessary preliminary tasks:

- Remove **outer cover** . See **52 17 040 REMOVING AND INSTALLING/REPLACING OUTER COVER ON LEFT OR RIGHT FRONT SEAT**

Release screw (1).

Tightening torque: **72 11 07AZ** , see **72 11 SEAT BELTS** .

Remove lockplate.

Pull strap (2) out of anchor fitting tensioner.

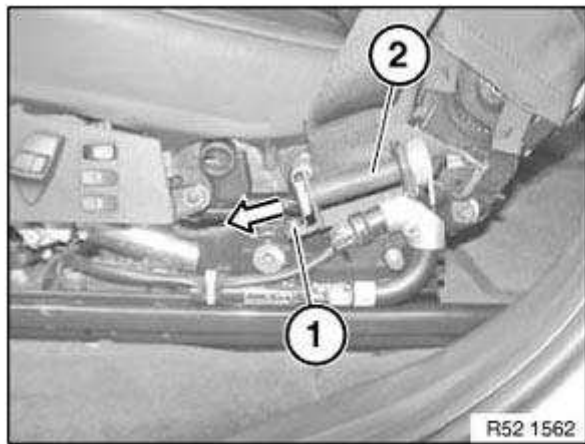


Fig. 1: Pulling Strap Out Of Anchor Fitting Tensioner
Courtesy of BMW OF NORTH AMERICA, INC.

Move front seat upwards.

Release screw (1) on front seat.

Installation:

Replace screw.

Tightening torque: **72 11 02AZ** , see **72 11 SEAT BELTS** .

Feed out belt anchor fitting (2).

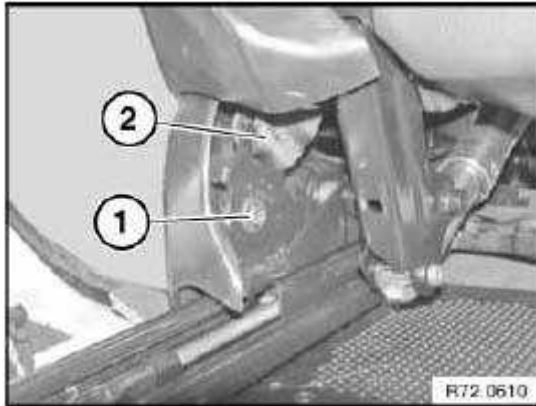


Fig. 2: Identifying Belt Anchor Fitting And Front Seat Screw
Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (2).

Tightening torque: **72 11 04AZ** , see **72 11 SEAT BELTS** .

Remove deflector bar.

Release screws (1).

Installation:

Replace screws (1).

Remove belt deflector.

Tightening torque: **72 11 5AZ** , see **72 11 SEAT BELTS** .

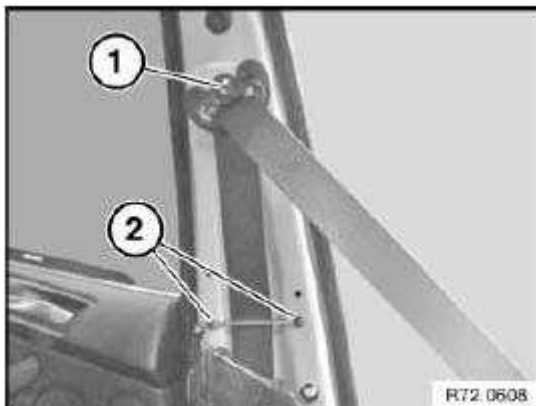


Fig. 3: Identifying Belt Deflector And Deflector Bar Screws

Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Installation:

Replace screw.

Tightening torque: **72 11 01AZ** , see **72 11 SEAT BELTS** .

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

Installation:

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

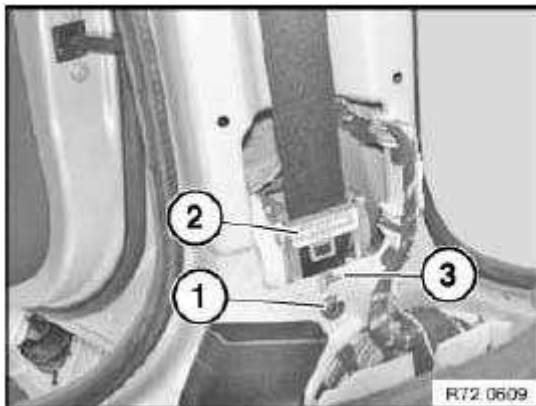


Fig. 4: Identifying Inertia Reel Unit And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

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 14 000 REMOVING AND INSTALLING LEFT OR RIGHT FRONT SEAT** .

Unlock **plug connections** and disconnect.

Installation:

Belt tensioner (1) is coded against incorrect installation.

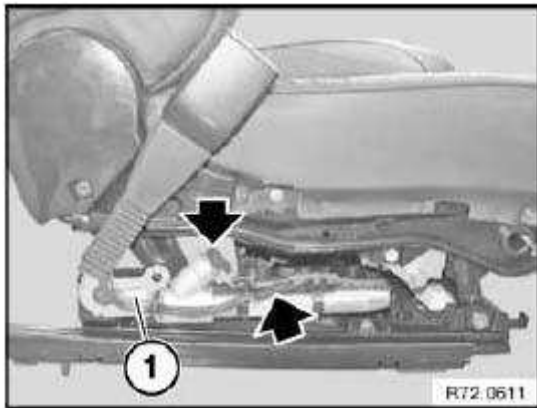


Fig. 5: Identifying Belt Tensioner Position
 Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Installation:

Replace screw (1).

Tightening torque 72 11 03AZ , see 72 11 SEAT BELTS .

Remove belt tensioner (2).

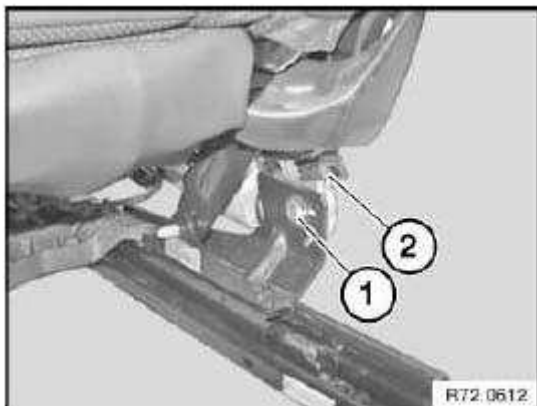


Fig. 6: Identifying Belt Tensioner Screw
 Courtesy of BMW OF NORTH AMERICA, INC.

72 11 050 REMOVING AND INSTALLING/REPLACING FRONT ANCHOR FITTING TENSIONER (DRIVER'S 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.

Switch off ignition!

Necessary preliminary tasks:

- Remove **upper rail trim** , see 52 14 .. REMOVING AND INSTALLING OUTER UPPER RAIL TRIM .

NOTE: **A triggered anchor fitting tensioner can be recognized from the wrapped belt strap around the shaft.**
 If the anchor fitting tensioner has not been triggered, the shaft is visible.

Installation:

- Microencapsulated screws (Loctite) must be replaced and may **not** be reused
- Screw connection must be completed within 20 minutes (start of curing)
- Microencapsulated screws must **not** be retightened
- Clean thread of nut beforehand in event of repeated use

Detach cable tie.

Installation:

Replace faulty cable ties.

Plug connection must not be under tension.

Unlock **plug connection** (1) and disconnect.

Release screw (2).

Installation:

Replace screw (2).

Tightening torque **72 11 06AZ** , see 72 11 SEAT BELTS .

Remove anchor fitting tensioner.

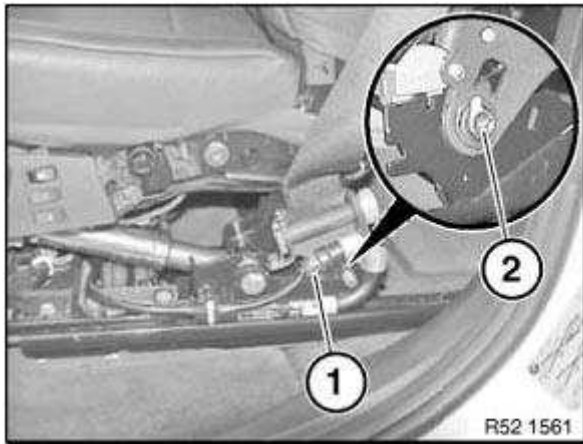


Fig. 7: Identifying Plug Connection And Screw
 Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque **72 11 07AZ** , see **72 11 SEAT BELTS** .

Remove lockplate.

Pull strap (2) out of anchor fitting tensioner.

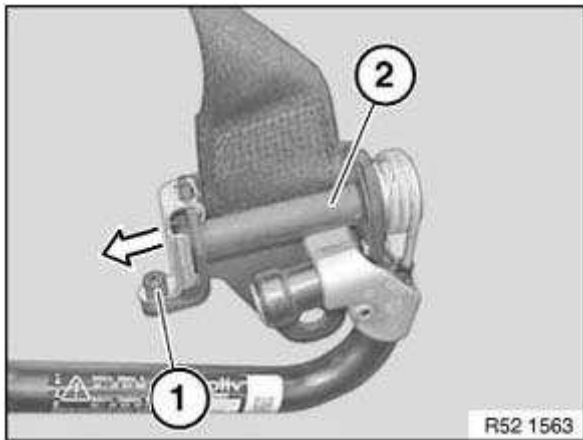


Fig. 8: Pulling Strap Out Of Anchor Fitting Tensioner
 Courtesy of BMW OF NORTH AMERICA, INC.

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

Necessary preliminary tasks:

- Remove **rear seat** , see **52 26 001 REMOVING AND INSTALLING/REPLACING BOTH REAR SEATS** .

- Remove **panel for roof pillar** , see **51 43 259 REMOVING AND INSTALLING/REPLACING TRIM FOR REAR ROOF PILLAR (D-PILLAR), LEFT OR RIGHT** .

Installation:

- Microencapsulated screws (Loctite) must be replaced and may **not** be reused
- Screw connection must be completed within 20 minutes (start of curing)
- Microencapsulated screws must **not** be retightened
- Clean thread of nut beforehand in event of repeated use

Release screw (1) on end fitting.

Installation:

Replace screw.

Tightening torque: **72 11 21AZ** , see **72 11 SEAT BELTS** .

Installation:

End fitting is coded against incorrect assembly.

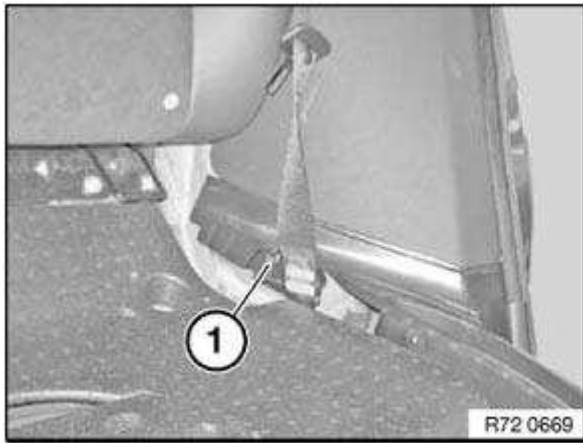


Fig. 9: Identifying Screw On End Fitting
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Installation:

Replace screw.

Tightening torque: **72 11 20AZ** , see **72 11 SEAT BELTS** .

Remove inertial reel mechanism (2).

Installation:

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

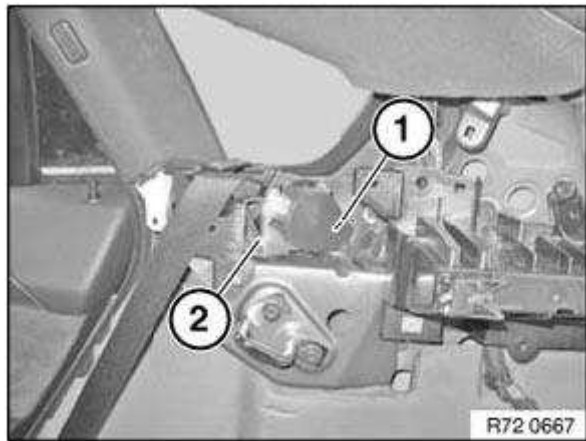


Fig. 10: Identifying Inertia Reel Mechanism And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

72 11 096 REMOVING AND INSTALLING/REPLACING REAR LEFT OR RIGHT LOWER STRAP FITTING

Necessary preliminary tasks:

- Remove **rear seat** , see **52 26 001 REMOVING AND INSTALLING/REPLACING BOTH REAR SEATS** .

Left or right lower strap fitting:

Release screw (1).

Tightening torque: **72 11 22AZ** , see **72 11 SEAT BELTS** .

Remove lower strap fitting (2).

Installation:

Lower strap fitting is coded to prevent incorrect installation.

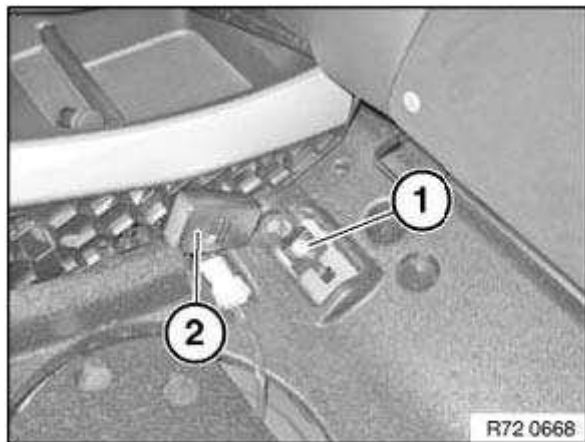


Fig. 11: Identifying Lower Strap Fitting And Screw
 Courtesy of BMW OF NORTH AMERICA, INC.

AIRBAG GENERATOR AIRBAG

52 13 385 REPLACING GAS CARTRIDGE (PYROACTIVATOR) FOR CRASH-ACTIVE HEAD RESTRAINT ON FRONT SEAT

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.
 Incorrect handling may result in triggering of the crash-active head restraint and thereby cause injury.

Switch off ignition!

Necessary preliminary tasks:

- Disconnect **battery negative lead** , see 61 20 900 DISCONNECTING AND CONNECTING BATTERY NEGATIVE LEAD
- Remove **crash-active head restraint** , see 52 14 393 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT CRASH-ACTIVE HEAD RESTRAINT or 52 16 393 REMOVING AND INSTALLING/REPLACING FRONT LEFT OR RIGHT CRASH-ACTIVE HEAD RESTRAINT .

IMPORTANT: The pyrotechnical device may be replaced up to 5 times.
 Triggering frequency is denoted on the sticker on the head restraint carrier.
 Stickers are available as spare parts.

Starting situation:

Head restraint is in the crash position after being triggered.

NOTE: Pyroactivator can only be removed in the triggered state.
The complete crash-active head restraint must be replaced if the event of a head restraint fault signal and an untriggered pyroactivator.



Fig. 12: Identifying Head Restraint
Courtesy of BMW OF NORTH AMERICA, INC.

Removing cover:

Raise cover (1) and pull towards rear.

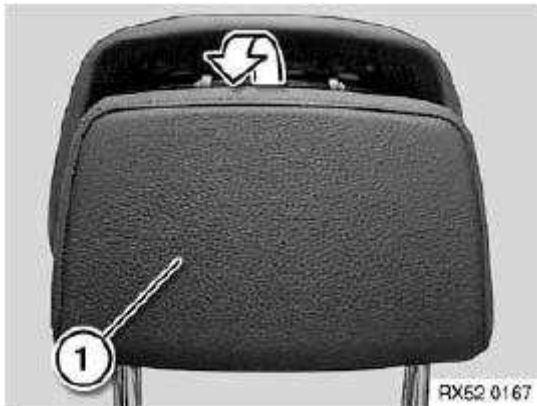


Fig. 13: Pulling Cover Towards Rear
Courtesy of BMW OF NORTH AMERICA, INC.

Removing pyrotechnical device:

Press together retainer (1) for pyrotechnical device at lugs.

Feed out pyrotechnical device.

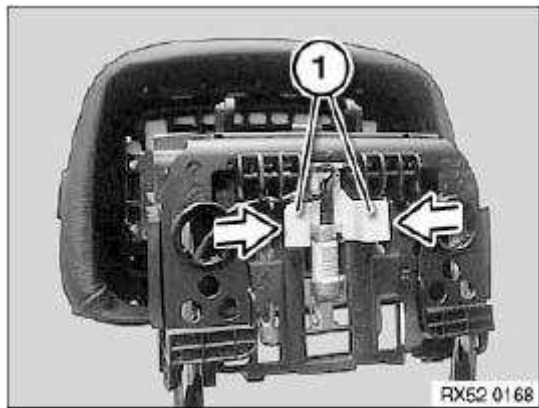


Fig. 14: Pressing Retainer
Courtesy of BMW OF NORTH AMERICA, INC.

Removing pyroactivator:

Pull pyroactivator (2) out of mounting (1) for pyrotechnical device.

Unlock **plug connection** (3) and disconnect.

IMPORTANT: Dispose of plastic element and pyroactivator.

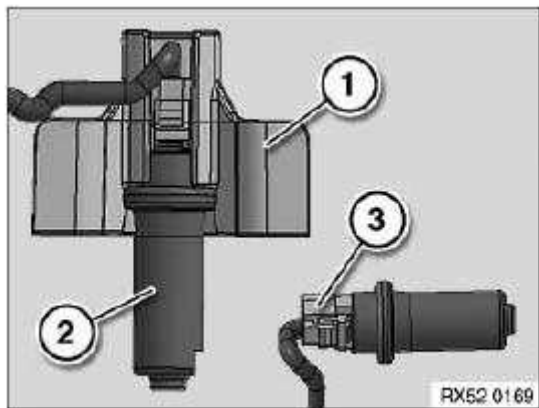


Fig. 15: Identifying Pyroactivator, Mounting And Plug Connection
Courtesy of BMW OF NORTH AMERICA, INC.

Procedure for installing pyrotechnical device:

Bringing head restraint together - version without button (MFS):

Pull spring catches apart and push head restraint together.

Maintain position.

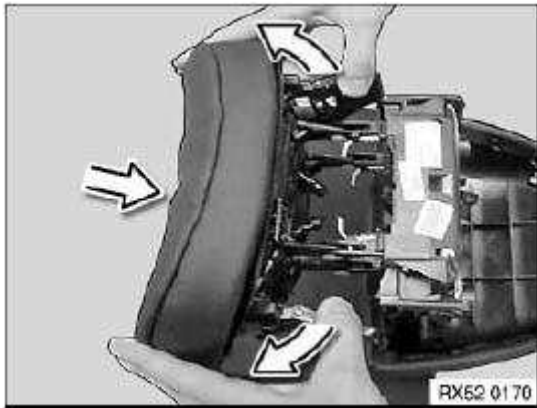


Fig. 16: Pushing Head Restraint
Courtesy of BMW OF NORTH AMERICA, INC.

Bringing head restraint together - version with button (Basic):

Press button (1) and push head restraint together.

Maintain position.

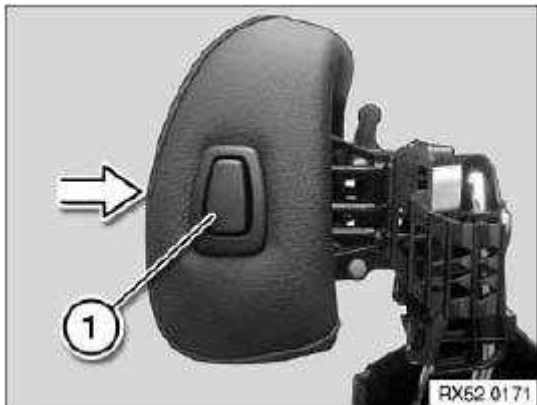


Fig. 17: Pushing Head Restraint
Courtesy of BMW OF NORTH AMERICA, INC.

Locking release plate:

Hold pushed-together head restraint in position and push release plate (1) upwards up to stop.

Release plate (1) must audibly snap into place.

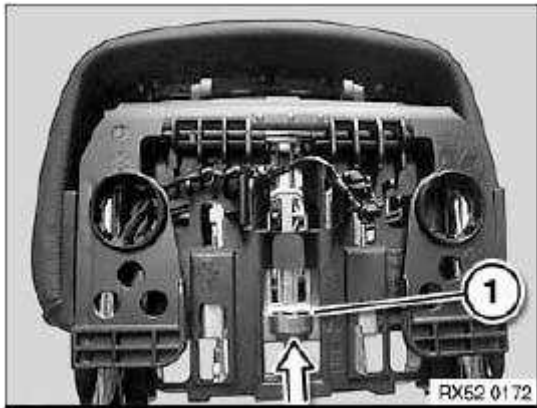


Fig. 18: Pushing Release Plate Upwards
 Courtesy of BMW OF NORTH AMERICA, INC.

Checking head restraint lock:

Check end position of release plate (1).

All four springs must be engaged (snapped into place).

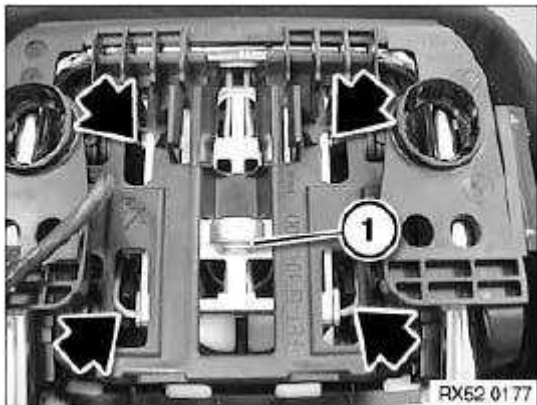


Fig. 19: Identifying Release Plate And Spring Position
 Courtesy of BMW OF NORTH AMERICA, INC.

Replacing pyrotechnical device:

Connect plug (1) to new pyroactivator (2) and **lock** .

Clip pyroactivator (2) into new mounting (3).

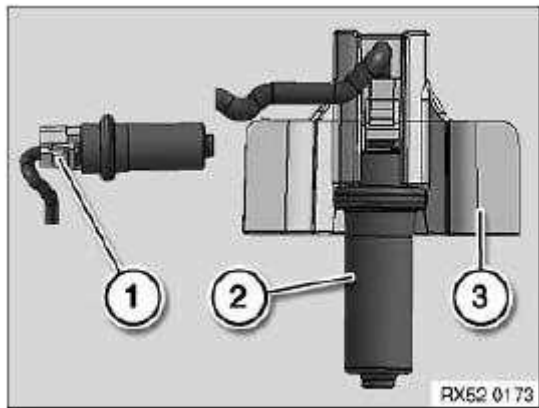


Fig. 20: Identifying Pyroactivator, Plug And Mounting
 Courtesy of BMW OF NORTH AMERICA, INC.

Installing pyrotechnical device:

Press together retainer for pyrotechnical device at lugs.

Insert retainer for pyrotechnical device into release plate and tilt in upward direction.

Retainer for pyrotechnical device must audibly snap into place.

NOTE: Check seating of retaining lugs in retainer.

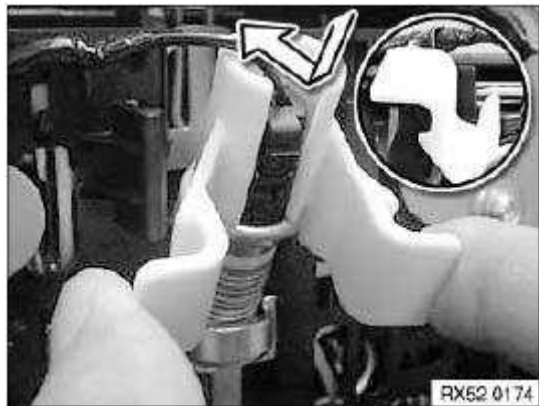


Fig. 21: Tilting Pyrotechnical Device
 Courtesy of BMW OF NORTH AMERICA, INC.

Laying wiring harness:

Secure wiring harness in carrier section with strain relief.

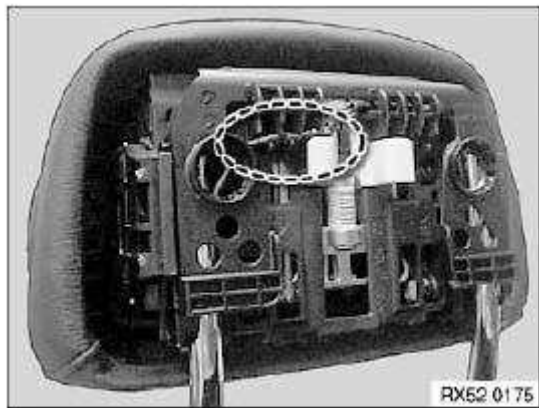


Fig. 22: Identifying Wiring Harness In Carrier Section
 Courtesy of BMW OF NORTH AMERICA, INC.

Mounting cover:

Clip cover onto carrier section.

Cover must audibly snap into place.



Fig. 23: Clipping Cover Onto Carrier Section
 Courtesy of BMW OF NORTH AMERICA, INC.

61 00 .. REPAIRING AIRBAG CABLES

IMPORTANT: Only repair those cables which show visible signs of damage. In the event of visible damage, make sure there is only one cable repair in effect after the repair work. If no visible damage can be identified, the entire cable must be replaced. 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 unpinning 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.

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 .

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.
- **Notes on scrapping** vehicles with gas generators, see 72 12 .. Notes on scrapping vehicles with gas generators (airbag system).
- **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.
- **Checklist for seat belt** , see 72 11 .. Inspection list for automatic seat 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!

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.

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 .. 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 (de-) activated 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

E83 from 09/2004 only:

Deactivation via key-operated switch, see following work steps

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.

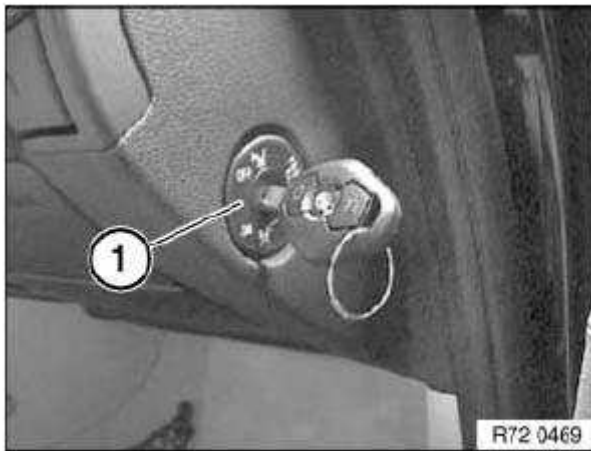


Fig. 24: Identifying Airbag Key-Operated Switch
Courtesy of BMW OF NORTH AMERICA, INC.

Deactivation

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.

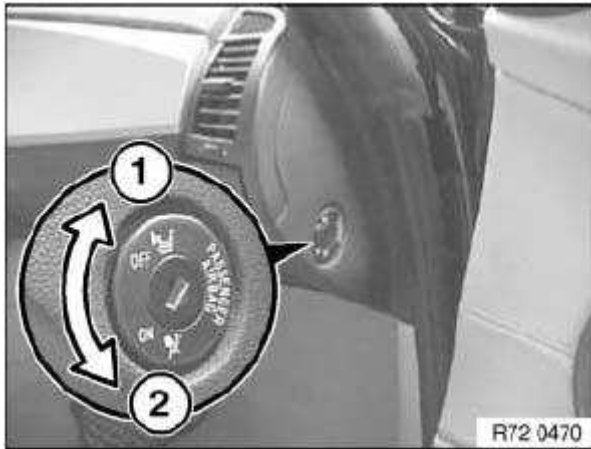


Fig. 25: Activation And Deactivation Of Airbag
Courtesy of BMW OF NORTH AMERICA, INC.

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**

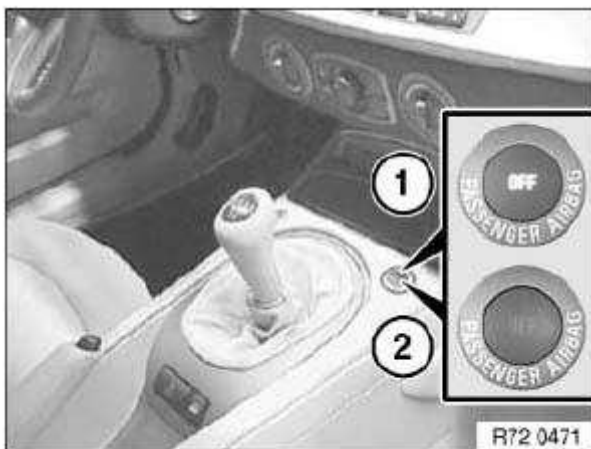


Fig. 26: Identifying Passenger Airbag Activation And Deactivation Warning Lamp
Courtesy of BMW OF NORTH AMERICA, INC.

72 12 .. NOTES ON SCRAPPING VEHICLES WITH GAS GENERATORS (AIRBAG SYSTEM)

The gas generator is a pyrotechnical component and is for the most part permanently mounted on the following components:

- Airbag module
 - Driver's/passenger airbag
 - Side airbag
 - Head airbag (e.g. AHPS2)
 - Knee airbag
- Belt tensioner
- Belt buckle tensioner
- Safety battery terminal
- Active head restraint

In accordance with accident prevention regulations and specific national regulations, gas generators must be rendered unusable before they are scrapped. This is necessary because pyrotechnical objects can cause injury if improperly activated (e.g. scrapping with flame cutters).

With vehicles which are scheduled for scrapping, it is always essential prior to draining and further stripping work to ensure that all the gas generators **in the vehicle** are fired. The fired gas generators can then be scrapped together with the vehicle.

Gas generators that have not fired constitute a hazard (also to the environment)!

Firing failure

If correct firing is not possible, the relevant components must be removed and disposed of by special waste disposal companies!

Comply with **safety regulations for handling airbag system components.** , see **72 00 .. Safety regulations for handling components with gas generators.**

If a firing operation has failed:

- Disconnect the firing device from the battery and
- Only approach the vehicle after a few minutes have elapsed

The components of an airbag system must always be disposed of. Such components must not be sold on as used parts.

Firing

Firing of the gas generators may only be carried out by expert personnel and under the supervision of a responsible person. Other standard accident prevention regulations (safety goggles, ear defenders etc.) must also

be observed.

The gas generators must be fired from the outside in this vehicle which has been earmarked for scrapping. In this process

- the doors must be closed
- the rear lid must be open
- the side windows must be open and
- the sunroof must be open

To **fire** the gas generators, use the firing device with the appropriate cables (follow instructions).

WARNING: Once gas generators have been fired, observe a ventilation period of 10 minutes with the doors opened. Only then is it permitted to continue work inside the vehicle.

Wear protective goggles and protective gloves when handling a fired gas generator!

The burning of solid fuel will heat up the airbag unit - danger of burning hands!

Wash skin with water after contact with fired gas generators!

72 12 .. PROCEDURE AFTER AIRBAG 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 centre
- Procedure
 - Read out fault memory
 - Clamp off 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
 - Retractor mechanism
 - 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, 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

- Procedure
 - Replace faulty components

Passenger airbag

- Components
 - Airbag module
 - Instrument panel trim
 - Supporting tube (if damaged)
- Procedure
 - Replace faulty components

Side airbag, front/rear

- Components
 - Airbag module
 - Door trim panel
 - Door in white
 - Seat
- Procedure
 - Replace faulty components

Head airbag (AHPS)

- Components
 - Airbag module
 - Trim, A-pillar
 - Roofliner
 - Trim, B-pillar (if damaged)
 - Trim, C-pillar (if damaged)
 - Connection/mounting (on side frame)
- Procedure
 - Replace faulty components

Knee airbag

- Components
 - Panel (driver's side)
 - Lower section of glovebox
 - Active knee protector (driver's and passenger sides)
- Procedure

- Replace faulty components

Passive knee protector

- Components
 - Panel (driver's side)
 - Glovebox incl. knee protector (passenger side)
- Procedure
 - Replace faulty components
 - 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).

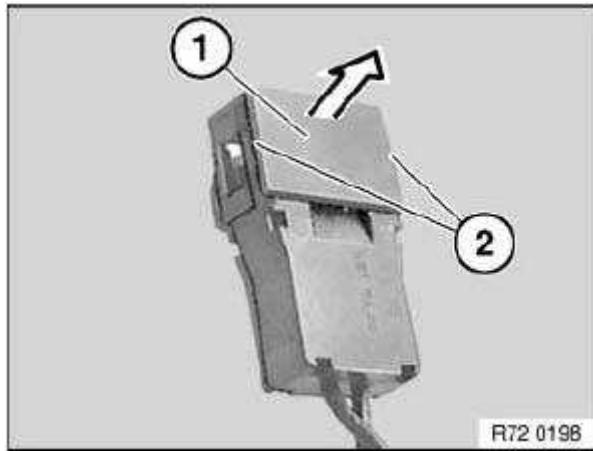


Fig. 27: Unlocking Airbag Plug Connection
 Courtesy of BMW OF NORTH AMERICA, INC.

Method 2:

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

Carefully prise cover (3) off (4).

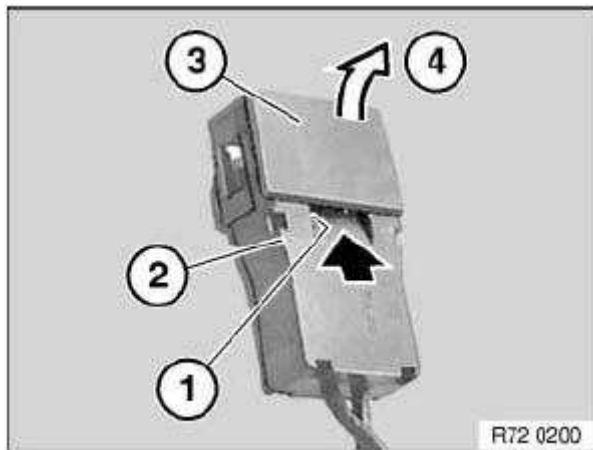


Fig. 28: Unlocking Airbag Plug Connection
 Courtesy of BMW OF NORTH AMERICA, INC.

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.

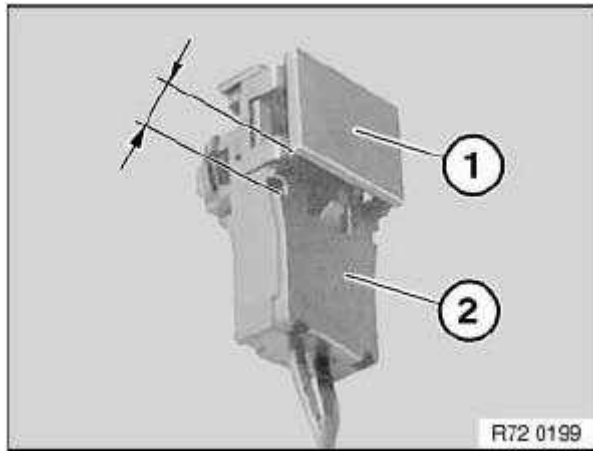


Fig. 29: Identifying Cover And Housing
 Courtesy of BMW OF NORTH AMERICA, INC.

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.

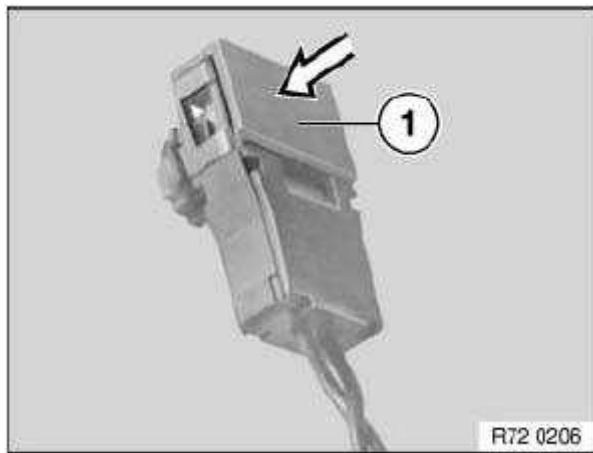


Fig. 30: Pressing Cover Downwards
 Courtesy of BMW OF NORTH AMERICA, INC.

1. Lock button
2. Gas generator

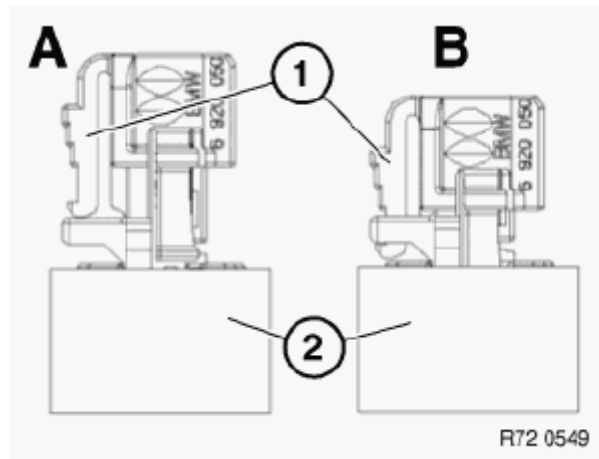


Fig. 31: Identifying Initial And Final Engagement Position
 Courtesy of BMW OF NORTH AMERICA, INC.

Version 4 - Crash-active head restraint:

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

Installation:

Check for correct engagement.

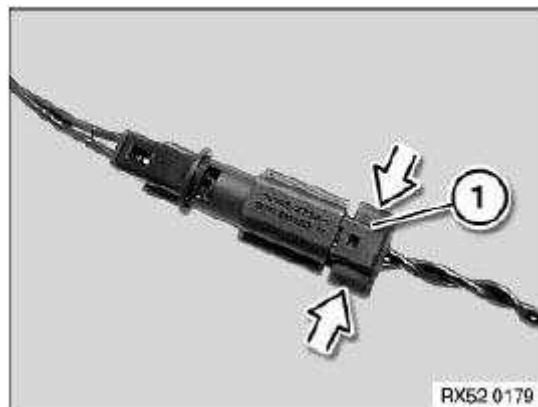


Fig. 32: Pressing Locking Clip At Edge
 Courtesy of BMW OF NORTH AMERICA, INC.

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).

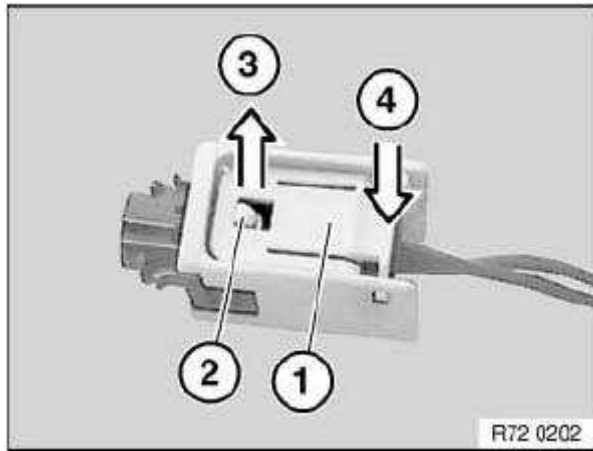


Fig. 33: Pressing Locking/Unlocking Plate At Edge
 Courtesy of BMW OF NORTH AMERICA, INC.

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



Fig. 34: Identifying Airbag Plug Connection
 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.

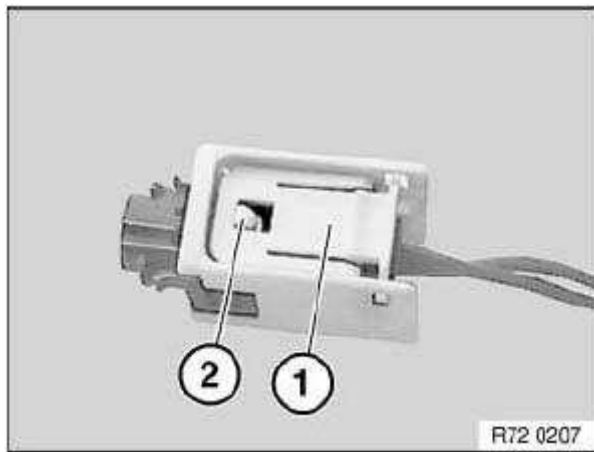


Fig. 35: Identifying Detent Lug And Locking/Unlocking Plate
Courtesy of BMW OF NORTH AMERICA, INC.

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.

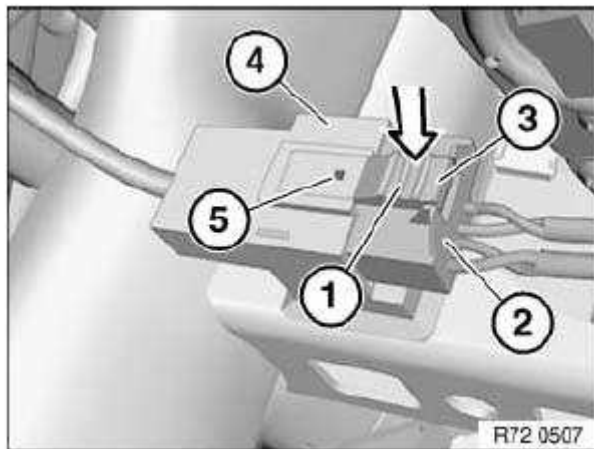


Fig. 36: Pressing Locking/Unlocking Plate On Edge
Courtesy of BMW OF NORTH AMERICA, INC.

Version 3:

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

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.

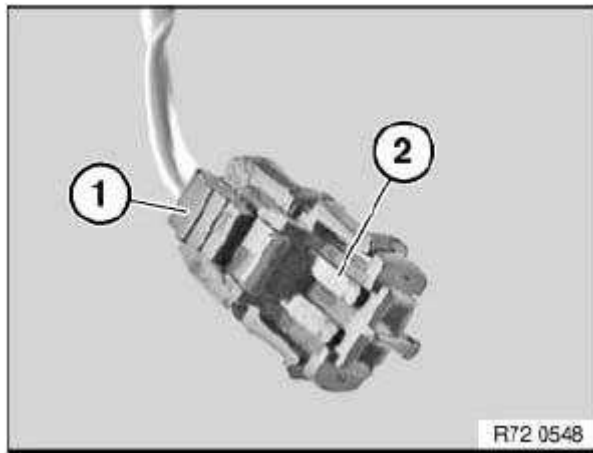


Fig. 37: Identifying Lock Button And Plug
Courtesy of BMW OF NORTH AMERICA, INC.

Illustration of version 3 with gas generator:

- A. Initial engagement position
- B. Final engagement position

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 61 20 900 DISCONNECTING AND CONNECTING BATTERY NEGATIVE LEAD .
- Remove **instrument panel trim** , see 51 45 030 REMOVING AND INSTALLING INSTRUMENT PANEL TRIM .

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

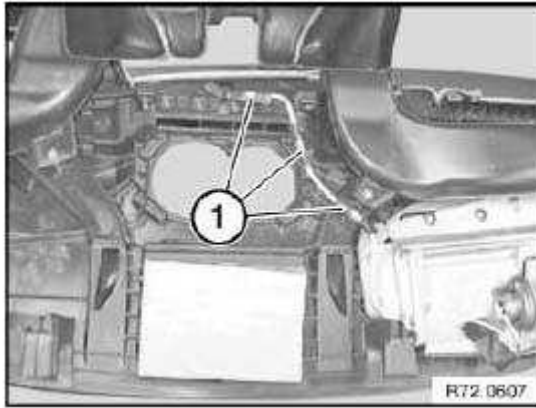


Fig. 38: Identifying Airbag Lead With Holders
 Courtesy of BMW OF NORTH AMERICA, INC.

Unscrew nuts (1).

Installation:

Replace nuts.

Tightening torque 72 12 01AZ , see 72 12 AIRBAG MODULES .

Remove airbag module from instrument panel.

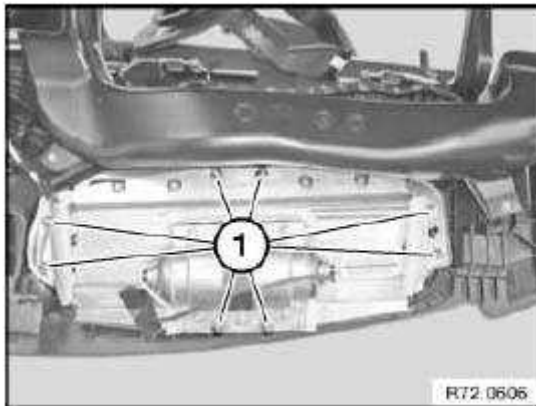


Fig. 39: Identifying Nuts
 Courtesy of BMW OF NORTH AMERICA, INC.

**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 , this task is identical to: , see 51 44 011 REMOVING AND INSTALLING/REPLACING ROOFLINER (VERSION WITH SLIDE/TILT SUNROOF) .

- Removing and installing/replacing left or right head airbag (version without slide/tilt sunroof), see 72 12 060 Removing and installing or 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 61 20 900 DISCONNECTING AND CONNECTING BATTERY NEGATIVE LEAD .
- Partially **detach backrest cover** , see 52 13 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (NORMAL/SEMI-ELECTRIC) or 52 17 405 REPLACING BACKREST COVER FOR LEFT OR RIGHT FRONT SEAT (COMFORT) .

Remove cover (1).

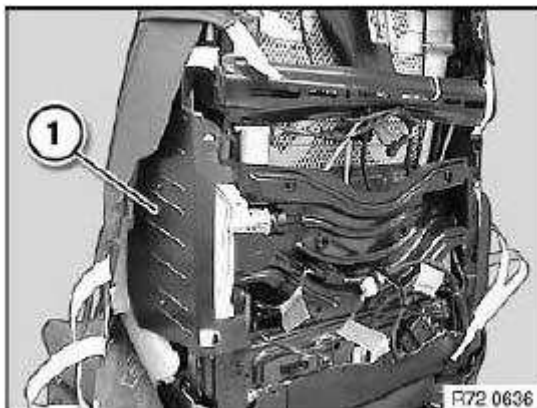


Fig. 40: Identifying Cover

Courtesy of BMW OF NORTH AMERICA, INC.

Unlock **plug connection** (1) and disconnect.

Release screws.

Installation:

Replace screws.

Tightening torques **72 12 06AZ** , see **72 12 AIRBAG MODULES** .

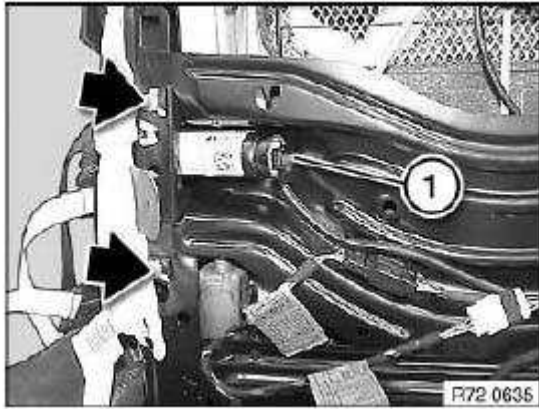


Fig. 41: Identifying Plug Connection

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.

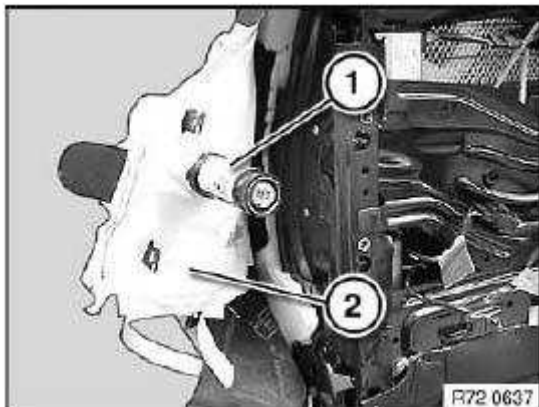


Fig. 42: Identifying Airbag Module And Inner Bag

Courtesy of BMW OF NORTH AMERICA, INC.

72 12 060 REMOVING AND INSTALLING OR 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.

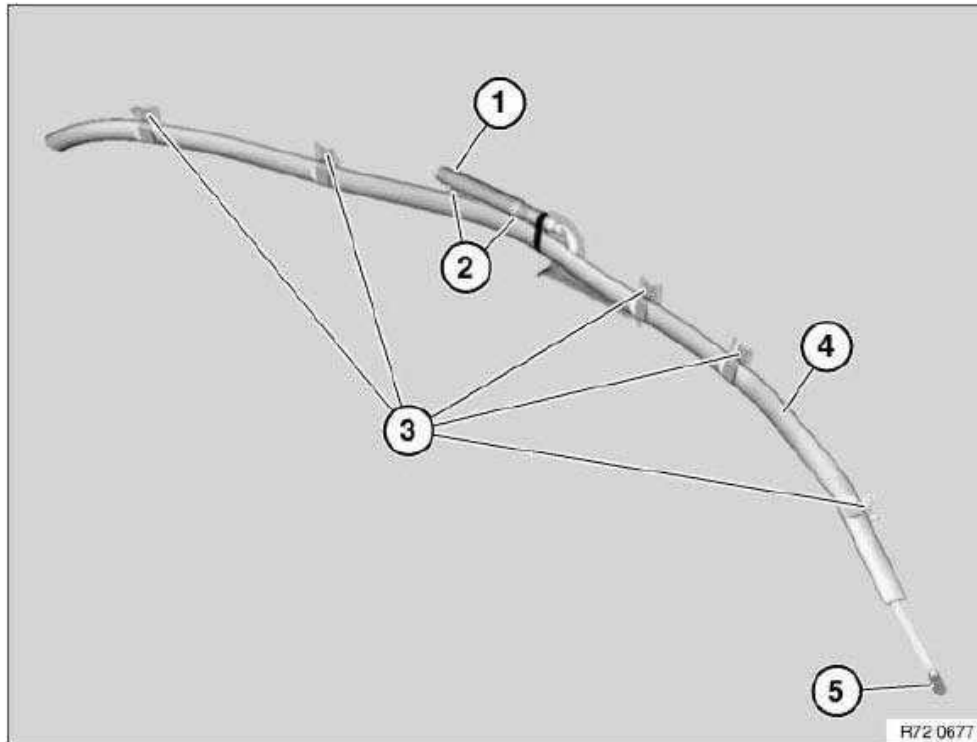
A damaged head airbag must be replaced.

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 61 20 900 DISCONNECTING AND CONNECTING BATTERY NEGATIVE LEAD .
- Remove **roofliner** , see 51 44 011 REMOVING AND INSTALLING/REPLACING ROOFLINER (VERSION WITH SLIDE/TILT 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. 43: Identifying Gas Generator With Air Bag Retaining Screws
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).

Tightening torque: **72 12 02AZ** , see **72 12 AIRBAG MODULES** .



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

Release retaining screws (1).

Tightening torque: **72 12 05AZ** , see **72 12 AIRBAG MODULES** .

Remove deformation plates (2).

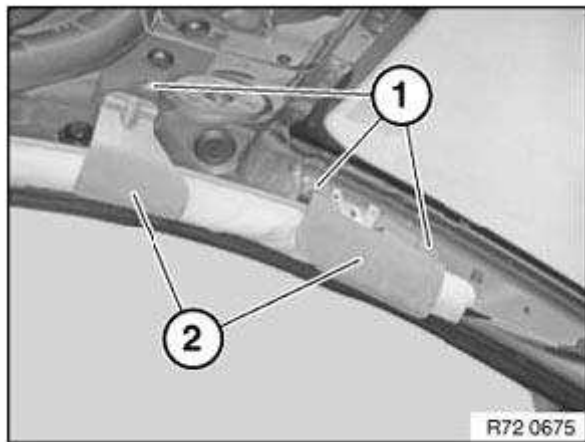


Fig. 45: Identifying Retaining Screws And Deformation Plates
 Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1) on A-pillar.

Tightening torque: 72 12 02AZ , see 72 12 AIRBAG MODULES .

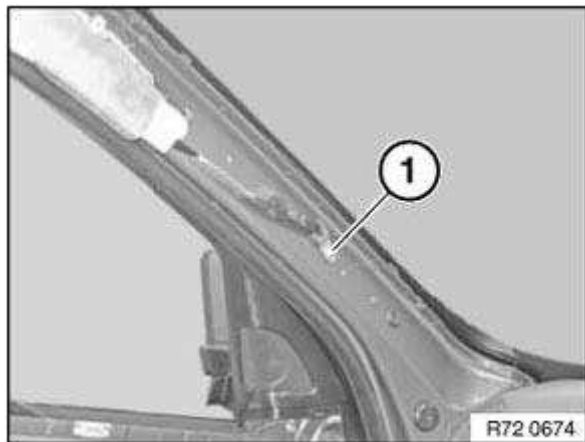


Fig. 46: Identifying A-Pillar Screw
 Courtesy of BMW OF NORTH AMERICA, INC.

Release screws (1).

Tightening torque: 72 12 02AZ , see 72 12 AIRBAG MODULES .

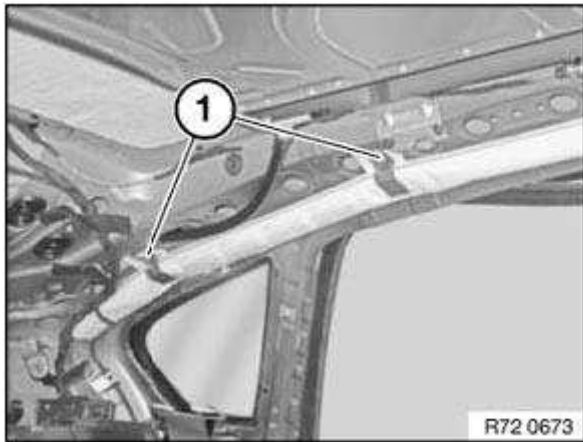


Fig. 47: Identifying Airbag Screws

Courtesy of BMW OF NORTH AMERICA, INC.

Unlock and disconnect plug (1) for gas generator.

Release screws (2).

Tightening torque: **72 12 04AZ** , see **72 12 AIRBAG MODULES** .

Remove gas generator.

Installation:

Gas generator is coded against incorrect installation.

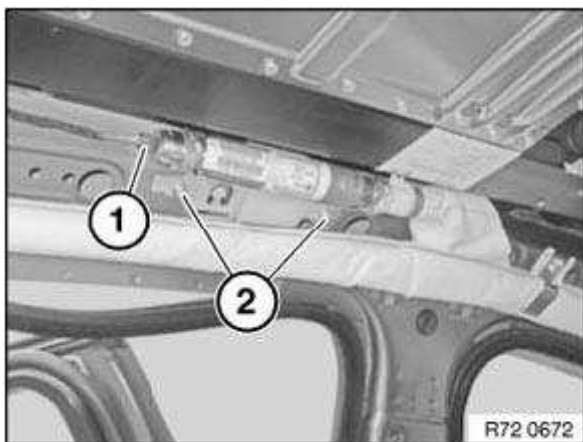


Fig. 48: Identifying Gas Generator Plug And Screws

Courtesy of BMW OF NORTH AMERICA, INC.

ACCESSORIES & EQUIPMENT

Restraints and Towing - Tightening Torques

SEAT BELTS

72 12 AIRBAG MODULES

AIRBAG MODULES-TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
1AZ Airbag module in door, door trim panel or in side frame, holder	E36/E38/E39/E46/E52/E53			8.5 Nm
2AZ Gas generator of ITS head airbag on body	E38/E53	M6 nut		4 Nm
	E83			6.5 Nm
3AZ Bracket of ITS head airbag on body	E38/E39/E46	Metal screw		2.5 Nm
	E83			6.5 Nm
4AZ ITS head airbag to body (end fitting)	E38/E39/E46/E53			11 Nm
	E83			6.5 Nm
5AZ Additional steel bracket for ITS head airbag on body	E38/L7	Self-tapping screw M5		3 Nm
6AZ Gas generator of ITS head airbag on body	E39/E46	M6 nut or oval-head screw, thread tapping		4 Nm
7AZ Passenger airbag module on instrument panel carrier	E36 except Z3/E52	M8		22 Nm
8AZ Passenger airbag module on instrument panel carrier	E36 Z3	M8		24 Nm
9AZ Passenger airbag module on instrument panel carrier	E38/E39	M6 nut		10 Nm
	E83	M6 nut with pressed-on washer		6 Nm
	E85	M6		8 Nm
10AZ Retaining strap for cover, passenger airbag module on instrument panel carrier	E46/E52/E83	M6		9 Nm
11AZ Passenger airbag module on instrument panel carrier	E46/E53	M8 nut		22 Nm
12AZ Head airbag cassette in rear compartment to body	E38/E39	M6		11 Nm

13AZ Gas generator, head airbag in rear compartment, to body	E38	M6 nut		4 Nm
14AZ Bracket of ITS head airbag on body	E46 Coupe/E53	Metal screw		4 Nm
15AZ ITS head airbag gas generator to body for conversion from 1.0 to 1.1	E38	M6		4 Nm
16AZ Gas generator, head airbag, in rear comp. to body (parcel shelf)	E39	M6		4 Nm
17AZ Head airbag cassette in rear compartment to body	E53	Metal screw		3 Nm
18AZ Gas generator, head airbag in rear compartment, to body	E53	M6		4 Nm
19AZ Airbag module for knee protection	E85	M6	Replace screws	8 Nm

72 12 AIRBAG MODULES

AIRBAG MODULES-TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
1AZ Passenger airbag module (instrument panel)	E70/E71	Replace screws		4 ± 0.3 Nm
2AZ Bracket, folding pack for head airbag, to body	E70	Metal screw		5 Nm
	E70/E71	Oval-head screw with collar		4 Nm
3AZ Ramp to body				
- to B-pillar	E70/E71			4 Nm
- to C-pillar	E70			4 Nm
4AZ Gas generator - to side frame	E70/E71			4 Nm
5AZ Deformation plate - to A-pillar	E70/E71			4 Nm
6AZ Airbag module - to seat side frame	E70/E71			6 Nm

72 11 SEAT BELTS

SEAT BELTS-TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
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1AZ Seat belt, Automatic reel, Lower strap, Anchor fitting, Belt tensioner to body	E36/E31/E38/E39/E46/E52/E53/E83		Replace screws	31 Nm
Seat belt on B-pillar	All, except E53		Replace screws	31 Nm
Seat belt/belt tensioner to seat, on Touring also to rear seat backrest	All, except E52/E53		Replace screws	48 Nm
2AZ Screws for seatbelt height adjustment on body	All		Replace screws	22 Nm
3AZ Seat belt to seat Install bolt with bolt cement.	E31		Replace screws	47 Nm
4AZ Seat belt to backrest	E31		Replace screws	24 Nm
5AZ Headrest to backrest	E31			24 Nm
6AZ Seat belt at belt height adjustment (reversing clip)	All		Replace screws	31 Nm
7AZ Tension relief between roller sun blind bracket and backrest lock bracket	E39/2			24 Nm
8AZ Retaining angle, belt tensioner to seat rail	E46/E83		Replace screws	24 Nm
9AZ Slide bar to body	E46		Replace screws	44 Nm
10AZ Counter-support plate to body, B-and C-pillars	E53			39 Nm
11AZ Seat belt to seat (end fitting)	All		Replace screws	45 Nm
12AZ Screw of seatbelt height adjuster to counter-support plate	E53		Replace screws	31 Nm
13AZ Belt tensioner to seat	E83		Replace screws	45 Nm
	E52/E53		Replace screws	31 Nm
14AZ Inertial reel unit to body/B-pillar	E53/E83		Replace screws	31 Nm
15AZ Automatic reel on rear seat backrest	E53		Replace screws	45 Nm
	E83		Replace screws	35 Nm
16AZ Belt guide to front seat (sash guide to head restraint clip)	E46 Convertible		Replace screws	8 Nm
17AZ Automatic reel to front seat backrest	E46 Convertible		Replace screws	39 Nm
18AZ Coupling gearing to centering pin	E46 Convertible			2.5 Nm

19AZ Corner hoop to side panel, inner (B-pillar)	E53/E83			3 ± 0.5 Nm
20AZ Upper belt loop to body	E83		Replace screws	31 Nm
21AZ Automatic reel to body	E83		Replace screws	31 Nm

72 11 SEAT BELTS

SEAT BELTS-TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
Seat belt, front:				
1AZ Automatic reel - to body	E70/E71			36 Nm
2AZ Anchor fitting, belt - to front seat	E70/E71			36 Nm
3AZ Belt tensioner - to front seat	E70/E71	Oval head screw with ISA		31 ± 3 Nm
4AZ Corner hoop - to B-pillar	E70/E71			3 Nm
5AZ Belt deflector - to B-pillar	E70/E71			36 Nm
6AZ Anchor fitting tensioner - to front seat	E70/E71			36 Nm
7AZ Retaining plate - to anchor fitting tensioner	E70/E71			4.4 Nm
Seat belt, rear (basic):				
20AZ Automatic reel for rear seat, through-loading				
middle to backrest	E70			36 Nm
- outer to body	E70/E71			36 Nm
21AZ Anchor fitting, belt				
- outer	E70/E71			36 Nm
- middle	E70			63 Nm
22AZ Seat belt buckle				
- to body	E70/E71			63 Nm
23AZ Corner hoop - to C-pillar	E70			3 ± 0.5 Nm
24AZ Belt deflector - to C-pillar	E70			36 Nm
Seat belt, 2nd seat row (with optional extra - 3rd seat row):				
25AZ Automatic reel for rear seat, through-loading				

- middle to backrest	E70			36 Nm
- outer to body	E70			36 Nm
26AZ Anchor fitting, belt				
- outer	E70			36 Nm
- middle	E70			36 Nm
27AZ Seat belt buckle				
- to body	E70			36 Nm
- to seat backrest frame	E70			36 Nm
28AZ Corner hoop				
- to body	E70			3 ± 0.5 Nm
29AZ Belt deflector				
- to body	E70			36 Nm
Seat belt, 3rd seat row:				
40AZ Automatic reel				
- to body	E70			36 Nm
42AZ Belt deflector				
- to body	E70			27 Nm
43AZ Anchor fitting, belt	E70			36 Nm
44AZ Seat belt buckle				
- to assembly frame	E70			63 Nm
45AZ Dividing lock				
- to assembly frame	E70			36 Nm

AIRBAG GENERATOR

72 12 AIRBAG MODULES

AIRBAG MODULES-TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
1AZ Airbag module in door, door trim panel or in side frame, holder	E36/E38/E39/E46/E52/E53			8.5 Nm
2AZ Gas generator of ITS head airbag on body	E38/E53	M6 nut		4 Nm
	E83			6.5 Nm
3AZ Bracket of ITS head airbag on body	E38/E39/E46	Metal screw		2.5 Nm
	E83			6.5 Nm
4AZ ITS head airbag to body (end fitting)	E38/E39/E46/E53			11 Nm
	E83			6.5 Nm
5AZ Additional steel bracket for	E38/L7	Self-tapping		3 Nm

ITS head airbag on body		screw M5		
6AZ Gas generator of ITS head airbag on body	E39/E46	M6 nut or oval-head screw, thread tapping		4 Nm
7AZ Passenger airbag module on instrument panel carrier	E36 except Z3/E52	M8		22 Nm
8AZ Passenger airbag module on instrument panel carrier	E36 Z3	M8		24 Nm
9AZ Passenger airbag module on instrument panel carrier	E38/E39	M6 nut		10 Nm
	E83	M6 nut with pressed-on washer		6 Nm
	E85	M6		8 Nm
10AZ Retaining strap for cover, passenger airbag module on instrument panel carrier	E46/E52/E83	M6		9 Nm
11AZ Passenger airbag module on instrument panel carrier	E46/E53	M8 nut		22 Nm
12AZ Head airbag cassette in rear compartment to body	E38/E39	M6		11 Nm
13AZ Gas generator, head airbag in rear compartment, to body	E38	M6 nut		4 Nm
14AZ Bracket of ITS head airbag on body	E46 Coupe/E53	Metal screw		4 Nm
15AZ ITS head airbag gas generator to body for conversion from 1.0 to 1.1	E38	M6		4 Nm
16AZ Gas generator, head airbag, in rear comp. to body (parcel shelf)	E39	M6		4 Nm
17AZ Head airbag cassette in rear compartment to body	E53	Metal screw		3 Nm
18AZ Gas generator, head airbag in rear compartment, to body	E53	M6		4 Nm
19AZ Airbag module for knee protection	E85	M6	Replace screws	8 Nm

72 12 AIRBAG MODULES

AIRBAG MODULES-TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
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1AZ Passenger airbag module (instrument panel)	E70/E71		Replace screws	4 ± 0.3 Nm
2AZ Bracket, folding pack for head airbag, to body	E70	Metal screw		5 Nm
	E70/E71	Oval-head screw with collar		4 Nm
3AZ Ramp to body				
- to B-pillar	E70/E71			4 Nm
- to C-pillar	E70			4 Nm
4AZ Gas generator - to side frame	E70/E71			4 Nm
5AZ Deformation plate - to A-pillar	E70/E71			4 Nm
6AZ Airbag module - to seat side frame	E70/E71			6 Nm