41 00 ... Notes on the water drain hose of the slide/tilt sunroof

The water drain hoses for the slide/tilt sunroof are partially permanently integrated in the body and cannot be replaced individually.

These water drain hoses can only be completely replaced with extensive body repair work (e. g. after an accident).

Component	Vehicle	Individually replaceable
Water drain hose, front	All BMW All MINI	No
Rear water drain hose	E60, F34	No
	All other BMWs	Yes
	All MINI	Yes

An individual solution is required for damage that was not caused by an accident.

Contact national hotline.

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54 10 ... Repair instructions for bonded seals



Special tools required:

- 00 9 327

1 General remarks on handling rubber seal profiles:

- If seals reveal partly detached protective film on delivery, they must not be bonded.
- Store seals at 5 °C to 40 °C.
- If, during the handling, the protective film has come off before bonding, it can still be bonded.
- Bonding at room and object temperature 25° ±5° C. Temperatures between 40 and 50 °C significantly increase initial adhesion.
- Seals, which are subjected to temperatures above 80 °C after bonding, will be very difficult to remove.
- Maximum storage time for replacement: see identification of the expiry date on packaging

2 Damage pattern, repair and replacement

A partially released bonding (rubber part adhesive tape or adhesive tape paint) up to 120 mm may be finished. Continue with Point 2.1.

A partially released bonding (rubber part adhesive tape or adhesive tape paint) above 120 mm may **not** be finished. Gasket must be replaced. Continue with Point 2.2.

2.1 Repair of partially released bonding (adhesive tape rubber part or adhesive tape paint

2.1.1 Clean faulty areas

- Release adhesive area of paint side from recesses and degrease with cleaning agent R2. Stick to air drying time > of 1 minute. Never use paint thinner!
- This will usually partially destroy intact edge adhesive areas.
- When removing, it is important to wipe off the adhesive area of the adhesive tape with a lint-free disposable cloth. (e.g. blue Kimtex)
- Carefully wipe off the adhesive areas.

Note:

Use necessary cotton- or fluff-free paper towel once only.

Do not touch the adhesive area after cleaning.

2.1.2 Apply adhesive

- Apply profile rubber adhesive evenly as a thin layer first on the gasket and then on the painted surface.
- Stick to air drying time of 2 to 3 minutes.

Attention:

Avoid contact with skin!

Do not apply adhesive to visible painted surfaces.

2.1.3 Press in rubber seal

- Press down gasket using contact pressure (forced pressure not necessary) for > 1 minute.

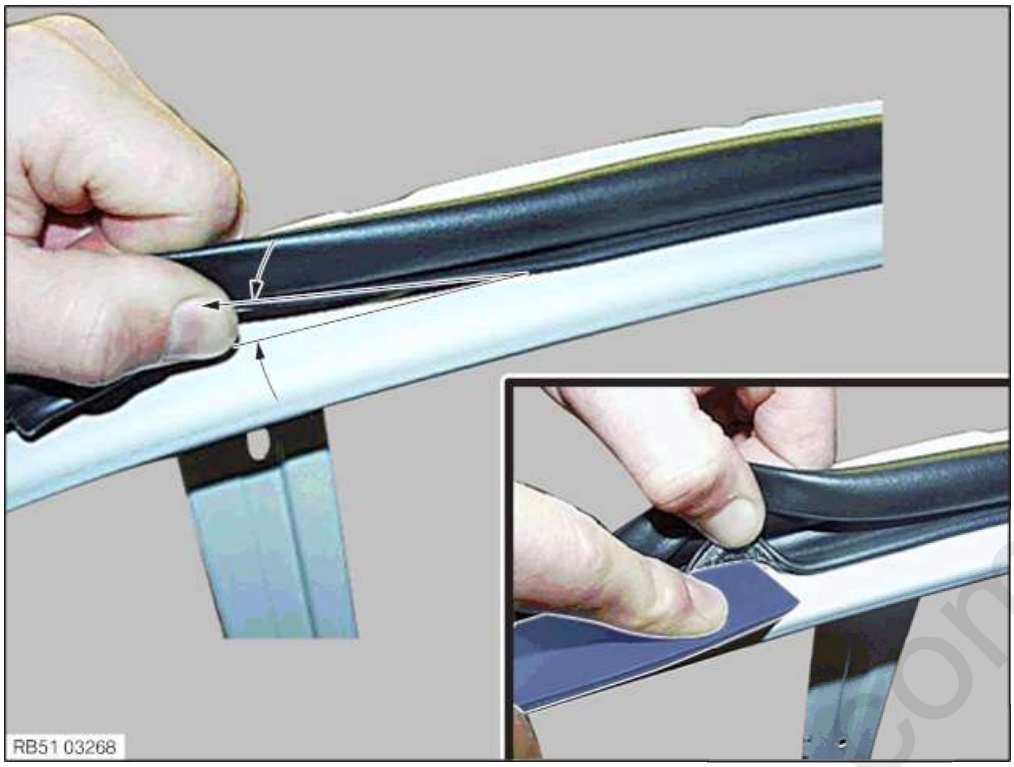
Attention:

Load can be applied to the bonding only after a period of 2 minutes. This waiting time is absolutely essential.

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2.2 Replacement

2.2.1 Peeling off the faulty rubber seal



- Remove bonded connection with fingers or cleaning agent liner 00 9 327.
- Overstretch gasket below an angle of maximum 20° very slowly under even tensile stress.
  If the gasket is pulled off too quickly, the adhesive tape can tear off and remain on the painted surface.
  The adhesive tape remaining on the painted surface must be removed with high cleaning costs.

Note:

When the adhesive tape separates from the gasket, the adhesive tape remaining on the paint must be fully separated at one location by approx. 10 mm until it is easy to grip.

Pull off the adhesive tape by pulling strongly at an angle of approx. 20°.

When existing gaskets are being peeled off with a hot air blower: Do not damage paintwork.

2.2.2 Clean bonding surface

- if required, remove adhesive remains with eraser disk or cleaning agent R2. do not damage paint. Stick to air drying time > of 1 minute.
- Before a new bond, treat the entire adhesive area with Sika Aktivator 205. Stick to air drying time > of 1 minute.

Note:

Use necessary cotton- or fluff-free paper towel once only.

Do not touch the adhesive area after cleaning.

2.2.3 Pull off protective film of the bonding surface

- Pull off the protective film off of the new gasket by approx. 15 cm using the tab.

Attention:

Once the protective film has been removed, do not under any circumstances touch the exposed bonding

surface.

2.2.4 Apply rubber seal

- Press on the gasket by hand continuously while pulling off the liner slightly at the same time.

Note:

If positioned incorrectly, the gasket can still be pulled off, repositioned and pressed on again.

Always ensure that you do not touch the bonding surface with your fingers or contaminate it in any way.

- Press gasket while moving in a straight line without compression or over-stretching.
- Compress the gasket the corners; never stretch it. (critical area)

2.2.5 Establish sealing joint

- Where the beginning and end meet, a mark is created from pressing the loose end onto the beginning of the gasket.
  Cut off the gasket vertically along the marked line (use sharp knife or special scissors) and press in place.
- Visually check the pre-bonded gasket.

Note:

Small areas of gasket can remain stuck to adhesive tape of loose end.

2.2.6 Press gasket

- Always press gasket vertically to the bonding surface
- Press gasket by hand or hand roller
- Adhesive tape width up to 5 mm, contact pressure > 5 N/cm^2
- Adhesive tape width up to 10 mm, contact pressure > 10 N/cm^2

Note:

Firm thumb pressure has approx. 35 N/cm^2

3 Checking the rubber seal

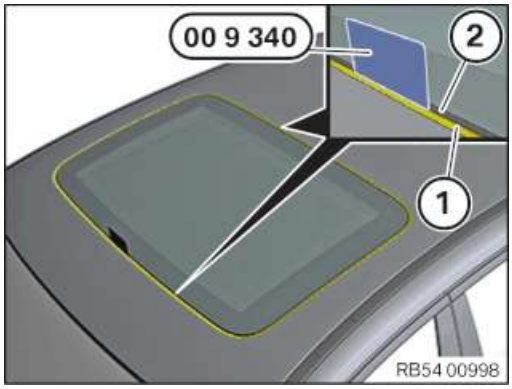
- Check the bonded gaskets for correct positioning and perfect adhesion. The bonding can be checked by pressing back the sealing lip.
- The peel strength of the gasket must be greater than 10 N/cm^2 for about 15 min after bonding.

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54 12 003 Adjusting glass slide/tilt sunroof panel

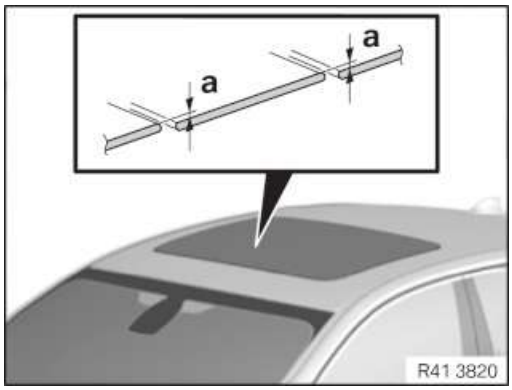
PRELIMINARY WORK

1 – Check the setting of the glass slide/tilt sunroof panel



- Check whether the distance of the glass slide/tilt roof panel to the front roof and at the rear is the same and correct if necessary.
- Slide the special tool 0 493 687 (00 9 340) between the gasket (1) and the glass slide/tilt sunroof panel (2).

  The resistance when moving the special tool must be the same at the front and rear.

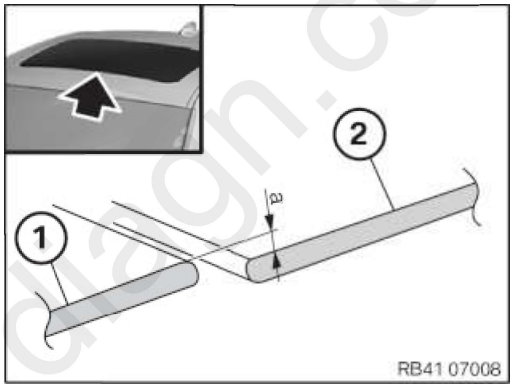


- Make sure that the glass slide/tilt roof panel at the front lies flush with the roof outer skin and is lower by a maximum of the dimension (a).

Gap dimension roof outer skin to glass slide/tilt sunroof panel

1 roof outer skin; 2 glass slide/tilt sunroof panel

a	0,7 (-0,05 - 1,45) mm

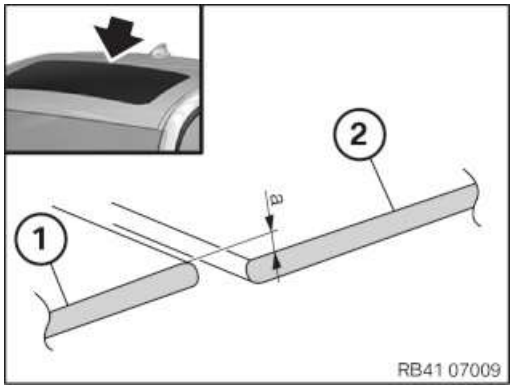


- Make sure that the glass slide/tilt roof panel at the rear lies flush with the roof outer skin and higher by a maximum of the dimension (a).

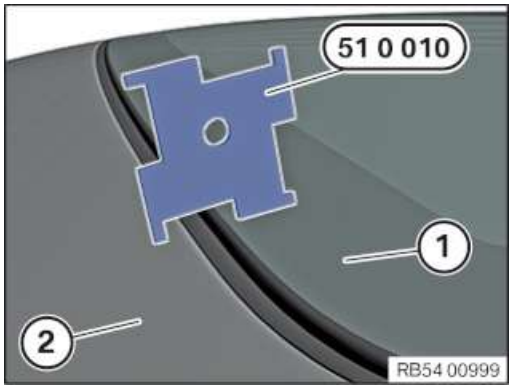
Gap dimension glass slide/tilt sunroof panel to roof outer skin

1 glass slide/tilt sunroof panel; 2 roof outer skin

a	0,7 (-0,05 - 1,45) mm

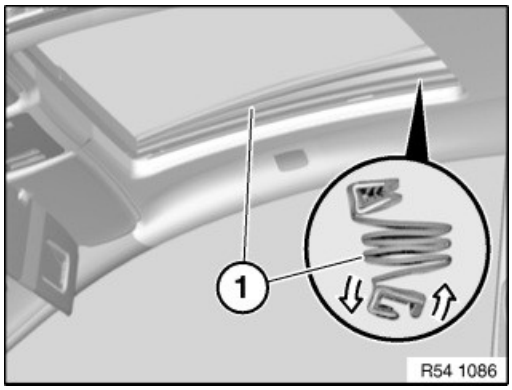


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- Measure the position of the glass slide/tilt roof panel (1) to roof (2) with special tool 0 495 259 (51 0 010).

2 – Remove the gaiter for the glass slide/tilt sunroof



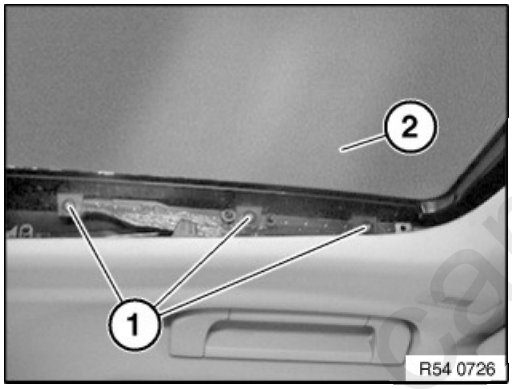
NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully pull off the gaiter (1) from the top guide.
- Carefully twist out the gaiter (1) from the bottom guide.

MAIN WORK

3 – Adjusting glass slide/tilt sunroof panel



- Close glass slide/tilt sunroof lid (2).
- Slacken screws (1) at the left and right such that the glass slide/tilt roof panel (2) can just be moved.
- Move the glass slide/tilt roof panel (2) until the right position is reached.
- Tighten the screws (1).

Panorama glass roof lid to mechanics

M5	Replace screws.	4,5 Nm

POSTPROCESSES

4 – Initialising glass slide/tilt sunroof

▸ **Prerequisites for initialising the slide/tilt sunroof/panoramic glass sunroof**

- The following prerequisites must be met for a trouble-free initialisation:

Interior temperature of the vehicle	15 °C - 30 °C
Vehicle voltage	12 V - 15 V
Vehicle condition	- The vehicle is standing on its own wheels
	- The vehicle is horizontal
	- Speed 0 km/h (the vehicle must not roll)
	- The radio-operated key is in the vehicle
	- Terminal 15 is switched on or the vehicle is in the Residing PFW state
Operating point	- FZD button
	- Diagnostic function: “Initialise slide/tilt sunroof”
Miscellaneous	No other work may be carried out on the vehicle during initialisation in order to avoid impacts or vibrations.



TECHNICAL INFORMATION

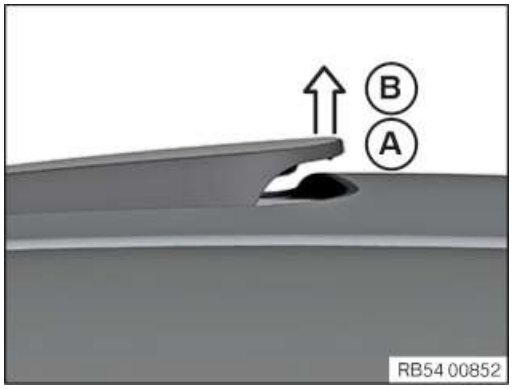
The following prerequisites are the basis for a correct initialisation and must be strictly observed.

For additional information see: 54 12 ... General prerequisites for initialising the slide/tilt sunroof or panoramic sunroof

- Press and hold the switch in the "Vent Position" direction.

  The glass slide/tilt sunroof moves to vent position.
- In the event of a delayed start or sudden stop of the glass slide/tilt sunroof, continue holding the switch in the "Vent position" direction.

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- Continue to keep the switch pressed during the entire test module.
- Continue to operate the switch further after reaching the vent position (A) for approx. 30 s.

  Initialisation begins:

  - The glass slide/tilt sunroof moves from vent position (A) toward position (B).
  - Screen (sliding headliner) fully closes.
  - Screen (sliding headliner) fully opens.
  - Glass slide/tilt sunroof moves to "closed" position.
  - The glass slide/tilt sunroof moves to the "Open" position and immediately returns to the "Closed" position.
  - After a brief pause, the screen fully closes.

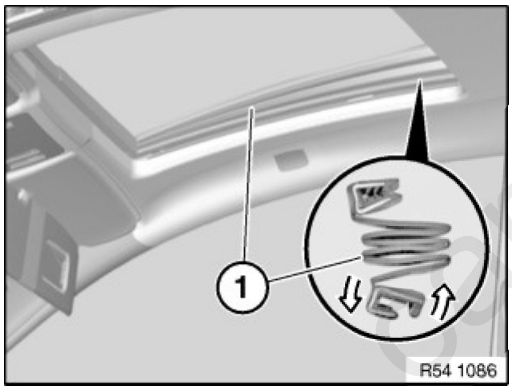
  The initialisation is completed once the glass slide/tilt sunroof and the screen have completely closed.
- Release the switch.

TECHNICAL INFORMATION

If the switch is released in the meantime, the initialisation must be repeated. Following successful initialisation, the corresponding messages in the Check Control and on the control display go out.

- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

5 – Install the gaiter for the glass slide/tilt sunroof



NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully screw in the gaiter (1) into the bottom guide.
- Carefully screw the gaiter (1) into the top guide.
- Check the gaiter (1) is seated securely.

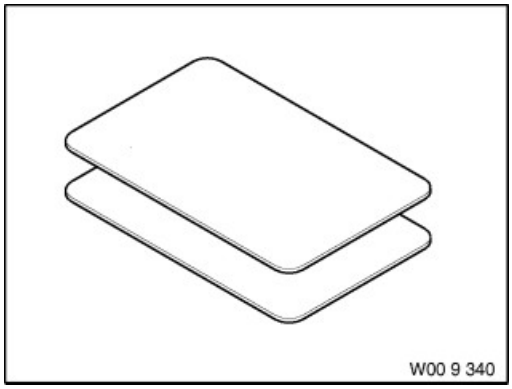
Additional Information

Overview of Tightening Torques

Panorama glass roof lid to mechanics		Used in step 3
M5	Replace screws.	4,5 Nm

Overview of Special Tools

0 493 687 (00 9 340) Removal aid

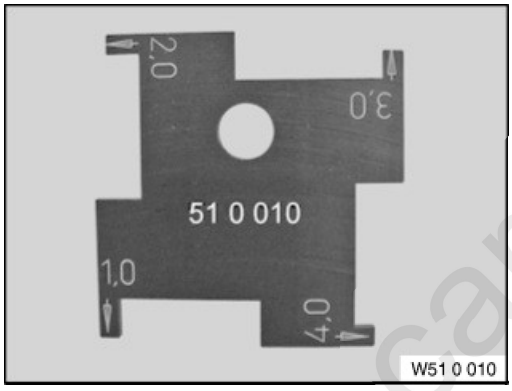


Common		Used in step 1
Usage	(Dismantling aid (2 pieces))	
Included in the tool or work		
Storage location	C2	
Replaced by		
In connection with		
SI-Number	01 15 99 (483)	

Consisting of

Pos	BMW Order number	Replaced by	Designation	In Connection with
1	0 496 289 (00 9 341)		**Removal aid** Only available as a set (2 tools) under 00 9 340 (= 83 30 0 493 687).	

0 495 259 (51 0 010) Gauge



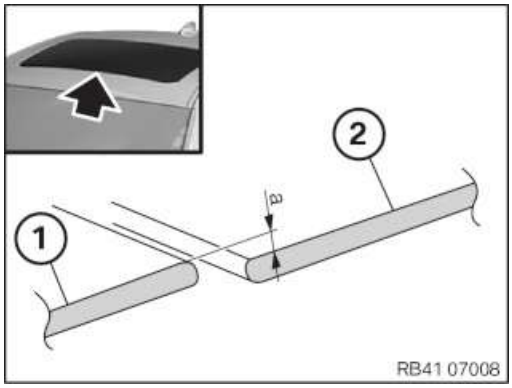
Common		Used in step 1
Usage	(test gauge for installing windscreen and rear window) (replaces special tool 51 3 210 from 06/2005)	
Included in the tool or work		
Storage location	B2	
Replaced by		
In connection with		
SI-Number	01 10 05 (189)	

Overview Technical Data

Gap dimension roof outer skin to glass slide/tilt sunroof panel Used in step 1

1 roof outer skin; 2 glass slide/tilt sunroof panel

a	0,7 (-0,05 - 1,45) mm

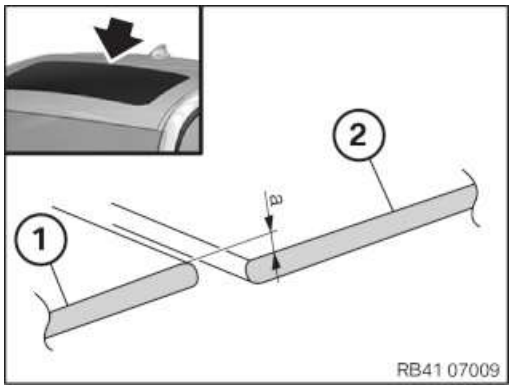


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Gap dimension glass slide/tilt sunroof panel to roof outer skin Used in step 1

1 glass slide/tilt sunroof panel; 2 roof outer skin

a	0,7 (-0,05 - 1,45) mm



Links

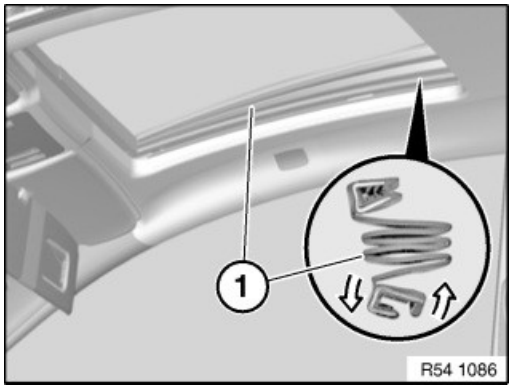
Repair instructions (PRE)	Used in step
Prerequisites for initialisation of the slide/panoramic sunroof	4

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54 12 211 Removing and installing complete glass slide/tilt sunroof

PRELIMINARY WORK

1 – Remove the gaiter for the glass slide/tilt sunroof

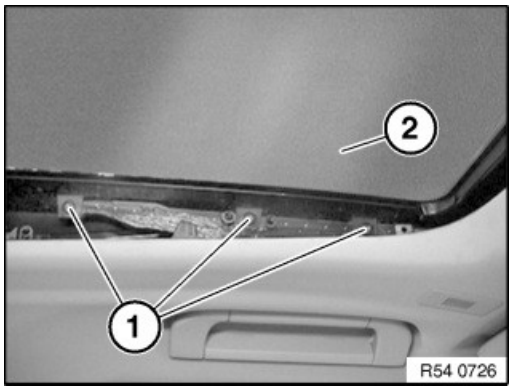


NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully pull off the gaiter (1) from the top guide.
- Carefully twist out the gaiter (1) from the bottom guide.

2 – Remove glass slide/tilt sunroof panel



- Loosen screws (1) on left and right.
- Remove the glass slide/tilt sunroof panel (2) towards the top.

3 – Remove left and right A-pillar trim panel

NOTICE

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

▸ **Remove the A-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

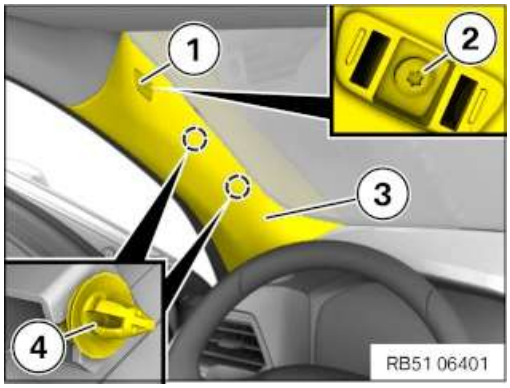
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RISK OF DAMAGE

Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



- Unclip cover (1) with a suitable special tool from the special tool kit 0 493 752 (00 9 329).
- Loosen screw (2).
- Unclip A-pillar trim panel (3) with clips (4) and feed it out to the top.

4 – Removing the sun visors and the end support on the left and right

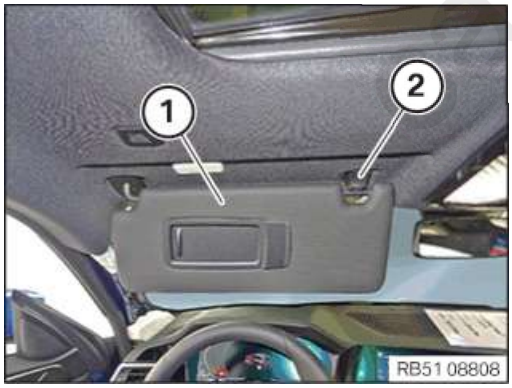
NOTICE

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

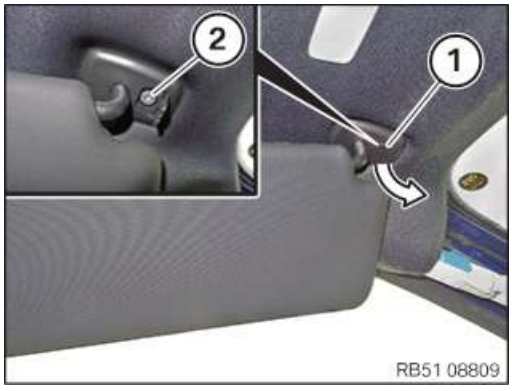
▸ **Remove the sun visor and the counter support**

NOTICE

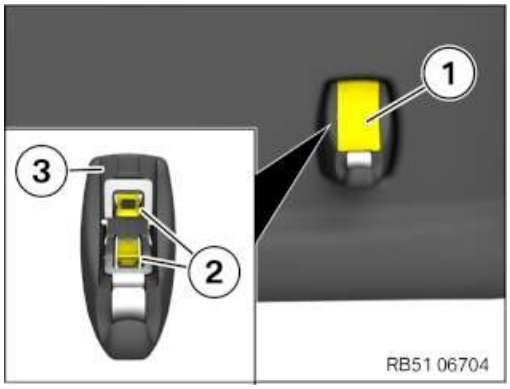
Schematic diagram is for example purposes. Some parts may differ in certain details.



- Detach sun visors (1) from end support (2) and swivel to the side.



- Fold open cover (1).
- Loosen screw (2).
- Remove sun visors and unlock and disconnect the associated plug connection.



- Unclip cover (1) using a suitable tool.
- Push the clamps (2) together and pull the counter support (3) out of the headlining.

5 – Removing the roof function centre (FZD)



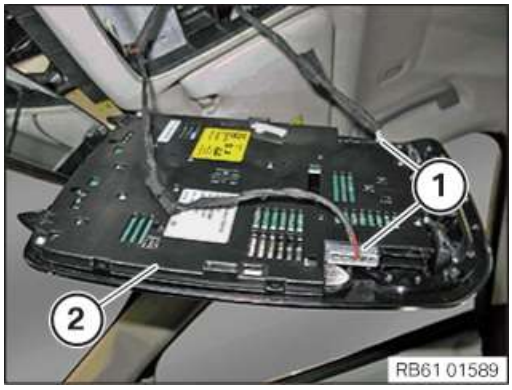
- Unclip the cover (1).



- Loosen screws (1).



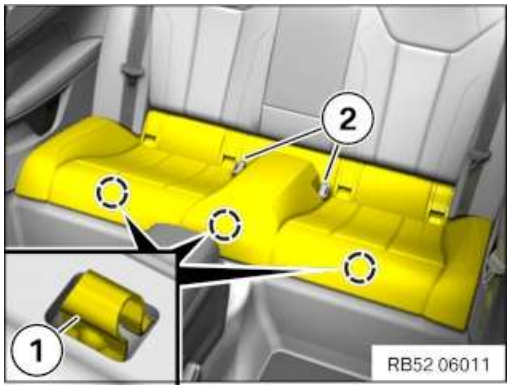
- Unclip the roof function centre (FZD) (1) from the clamps (2).
- Thread the roof function centre (FZD) (1) out of the guides (3).



- Unlock and disconnect plug connections (1).
- Unclip the cable clip from roof function centre (FZD) (2) and remove the roof function centre (FZD) (2).

6 – Remove rear seat bench

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- Unclip the rear seat bench upwards from clamps (1) and guide out seat belt buckles (2).
- Remove the rear seat bench.

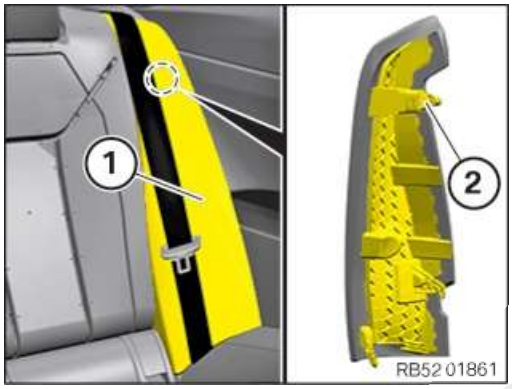
7 – Remove backrest side section on left and right

NOTICE

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

▸ **Remove armrest side section**

▹ **Remove armrest side section**



- Reach behind the backrest side section (1) from the top and unclip the backrest side section (1) from the mounting element (2) to the front.
- Remove backrest side section (1) in the upward direction from the guide.

◃

8 – Removing the C-pillar trim panel on the left and right

NOTICE

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

▸ **Remove C-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

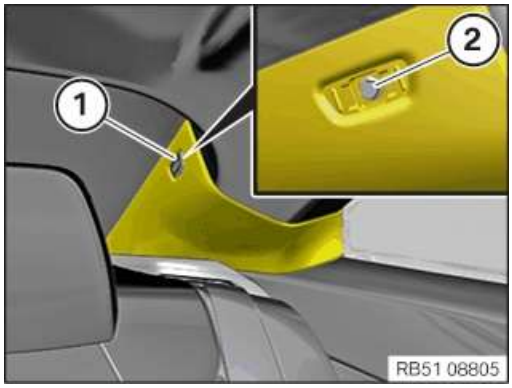
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RISK OF DAMAGE

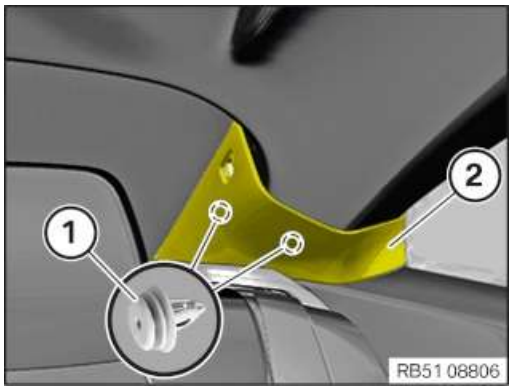
Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



- Unclip cover (1) of the C-pillar trim panel.
- Release the screw (2).



- Unclip C-pillar trim panel (2) from clips (1) and guide it out.

9 – Removing the inner door sill cover strip on the left and right

NOTICE

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

▸ **Removing the inner door sill cover strip**

RISK OF DAMAGE

Bending of plastic parts.

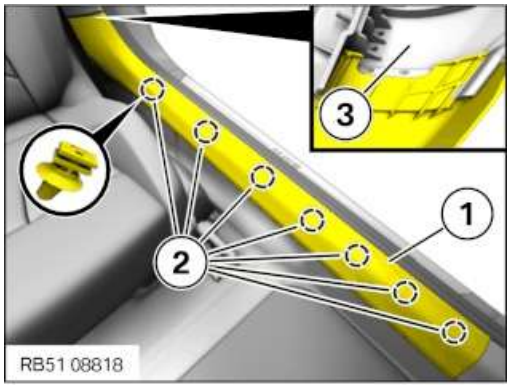
Application of too much force can lead to bending of plastic parts.

- Place special tool directly beside the mounting clip.
- Continue unclipping the part without using the tool if possible.

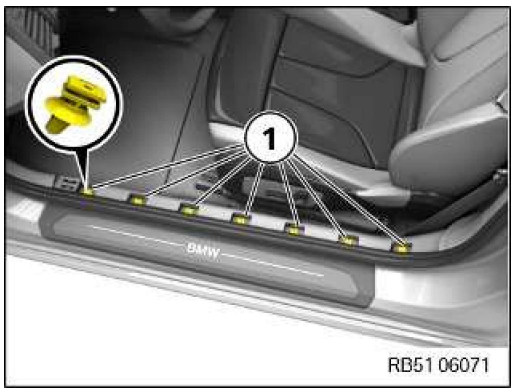
NOTICE

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

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- Release door sill cover strip (1) with clips (2) starting from the front using a suitable special tool from the set of special tools 0 493 752 (00 9 329).
- Guide out and remove door sill cover strip (1) under the rear side trim panel (3) .



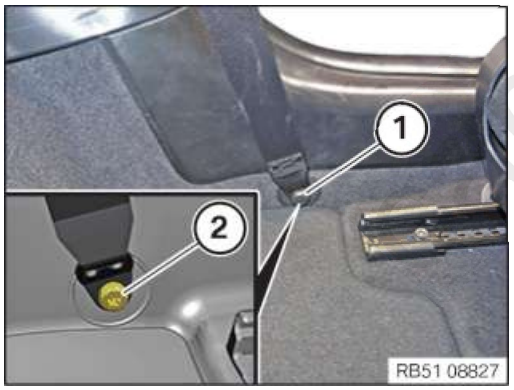
- If necessary, remove clips (1) and connect them to the door sill cover strip.

10 – Remove side trim panel, rear left and right

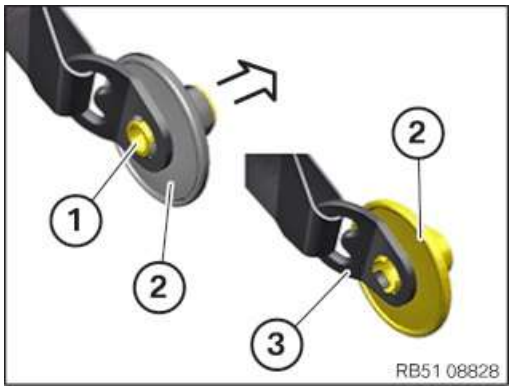
NOTICE

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

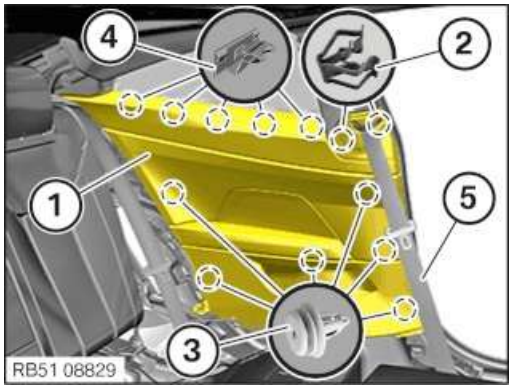
▸ **Remove rear side trim panel**



- Unclip the cover cap (1).
- Release the screw (2).



- Pull out the sleeve (1) from the cover (2) of the end fitting (3).
- Unclip the cover (2) of the end fitting (3) from the end fitting (3).



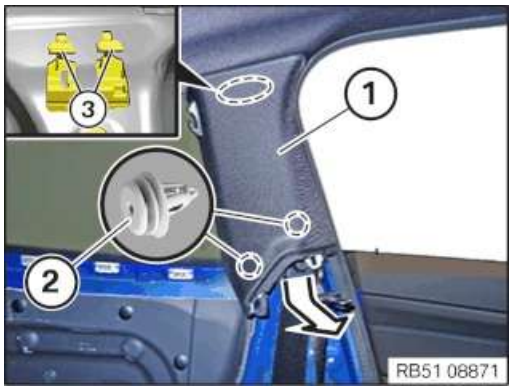
- Unclip the rear side trim panel (1) with a suitable tool at the clamps (2).
- Unclip the rear side trim panel (1) with a suitable tool at the clips (3).
- Release the rear side trim panel (1) at the clamps (4) and feed out at the edge protection.
- Unlock and disconnect all the plug connections at the rear side trim panel (1) of the wiring harness.
- Feed out the upper seat belt (5).

11 – Removing left and right B-pillar trim panel

NOTICE

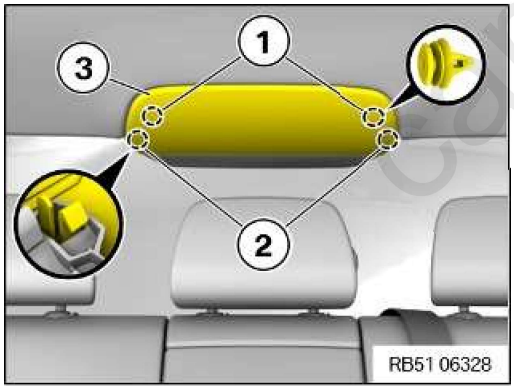
Description is for left component only. Procedure on the right side is identical.

▸ **Remove the B-pillar trim panel**



- Unclip the B-pillar trim panel (1) at the clips (2).
- Remove the B-pillar trim panel (1) from the lip of the edge protection and the guides (3) in the direction of the arrow.

12 – Removing the trim of the additional brake light



- Loosen the clips (1).
- Release the latch mechanisms (2) and remove the trim of the additional brake light (3).

13 – Lower the headlining (with SHD)

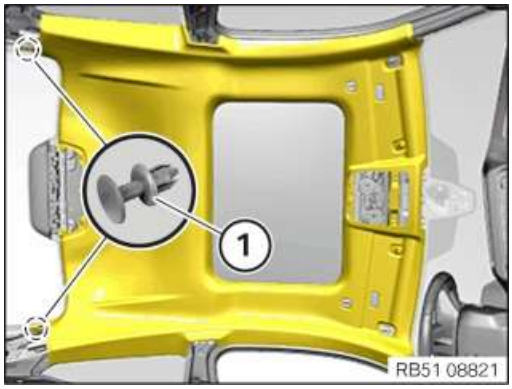
Prerequisite

The front seats have been fully adjusted towards the bottom.

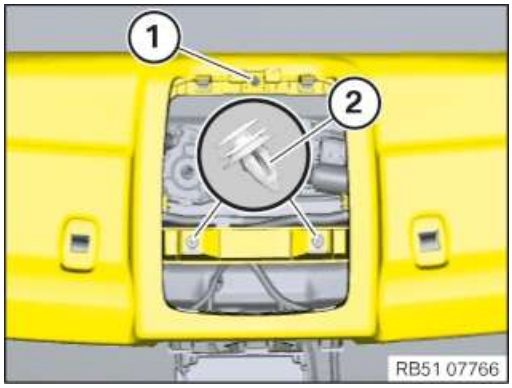
The front seat backrests have been fully adjusted towards the rear.

The rear seat backrest is folded down toward the front.

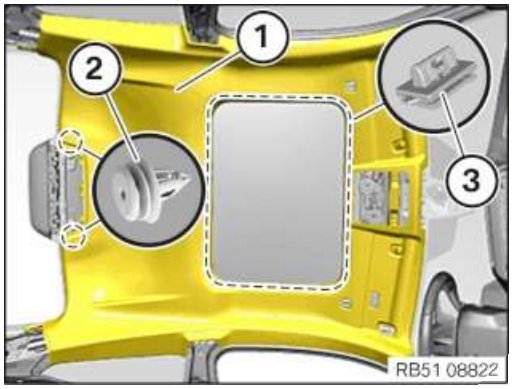
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- Loosen the expanding rivet (1).



- Loosen screw (1).
- Unclip the headlining on the clips (2) downwards.



- Unclip headlining (1) downwards from clips (2).
- Carefully unclip headlining (1) from the slide/tilt sunroof unit and clamps and the clamps (3) in the area of the dotted line.



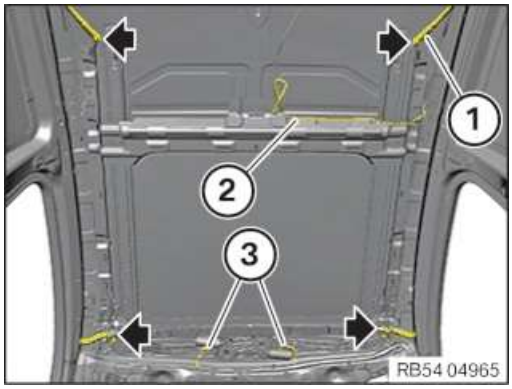
NOTICE

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

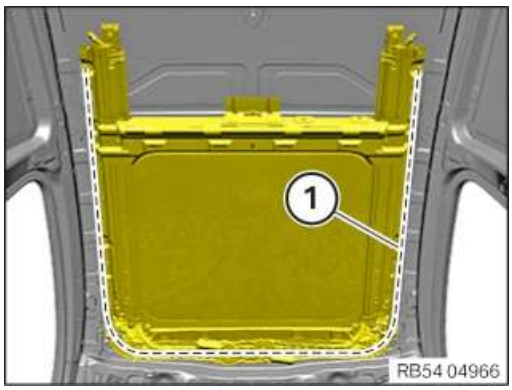
- Feed out headlining (1) from the respective lips of edge protection with the assistance of a second person.
- Place the headlining (1) in the vehicle with an auxiliary person.

MAIN WORK

14 – Remove slide/tilt sunroof completely



- Pull off all 4 water drain hoses (1) (arrows).
- Unclip wiring harness (2) on the holders.
- Disconnect the plug connections (3) of engines and unclip the corresponding cable.



RISK OF DAMAGE

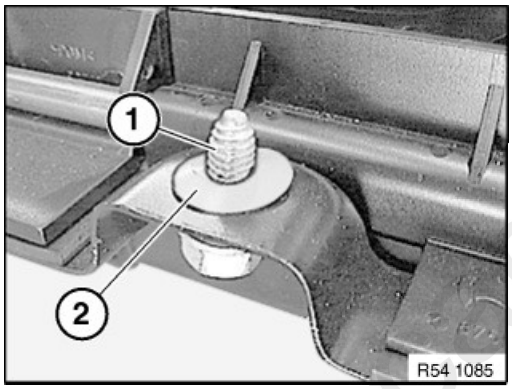
Heavy component.

Heavy components can lead to injury or damage.

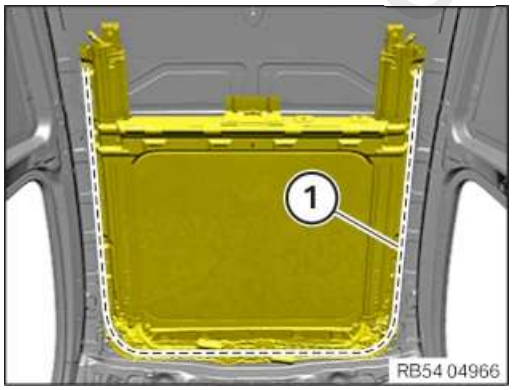
- Remove and install heavy components with the aid of another person/other persons.

- Secure slide/tilt sunroof from falling with the help of an auxiliary person.
- Release all the screws along the line (1).
- Lower the slide/tilt sunroof with the assistance of an auxiliary person and remove from the vehicle through the front passenger door.

15 – Completely installing the slide/tilt sunroof



- Before installing, secure all the screws (1) with plastic washers (2), to avoid a groaning noise.



RISK OF DAMAGE

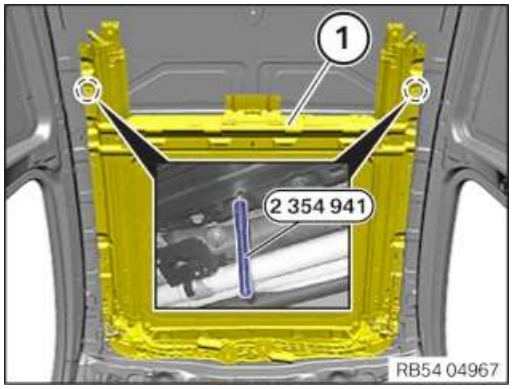
Heavy component.

Heavy components can lead to injury or damage.

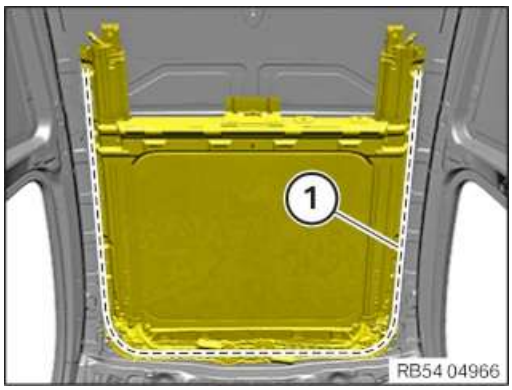
- Remove and install heavy components with the aid of another person/other persons.

- Insert the slide/tilt sunroof through the front passenger door into the vehicle with the help of an auxiliary person and position it.
- When installing it, ensure that no cables are clamped.
- Screw in all screws along the line (1) by several turns.

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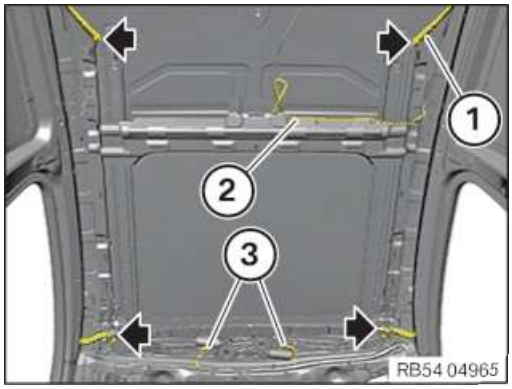
- Insert the special tool and align the panoramic glass sunroof (1) with the roof.



- Tighten all screws along the marked areas (1) .

Slide/tilt sunroof frame to body

M6		5,4 Nm



- Connect all 4 water drain hoses (1) (arrows).
- Clip in wiring harness (2) on the clips.
- Connect the connector (3) of the engines and clip in the corresponding cable.

POSTPROCESSES

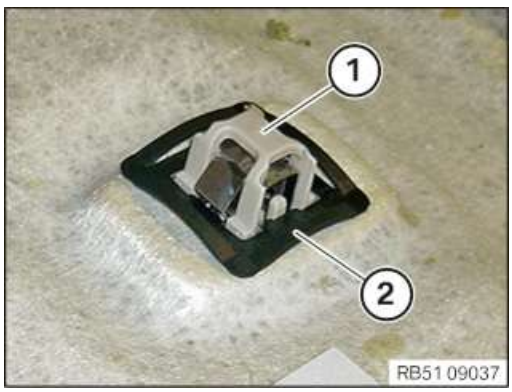
16 – Install the headlining (with slide/tilt sunroof) (lowered)

Prerequisite

The front seats have been fully adjusted towards the bottom.

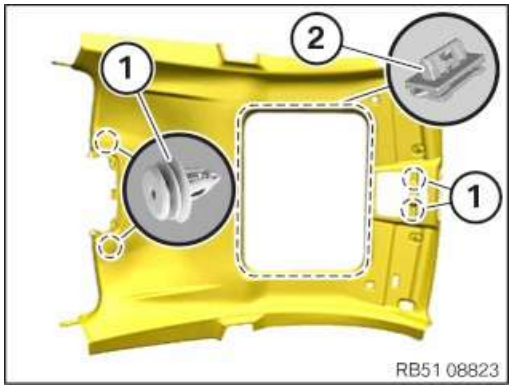
The front seat backrests have been fully adjusted towards the rear.

The rear seat backrest is folded down toward the front.



- Install the end support of the sun visors (1) in the headlining and mount it with clamps (2).

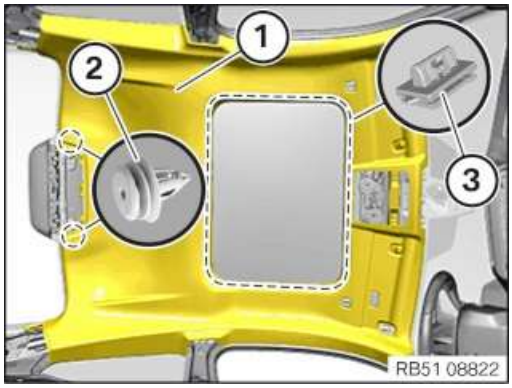
cardiagn.com



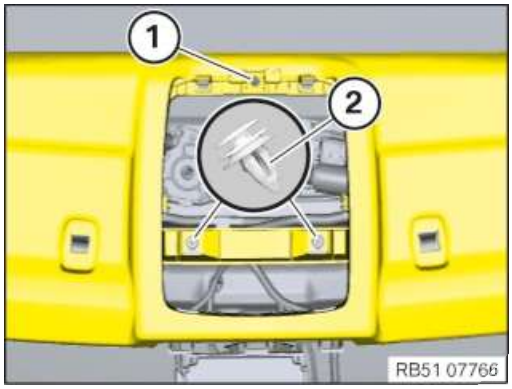
- Check the clips (1) on the headlining for damage.

  Defective or missing clips (1) must be renewed.
- Check the clamps (2) along the dotted line for damage.

  Defective or missing clamps (2) need to be renewed.



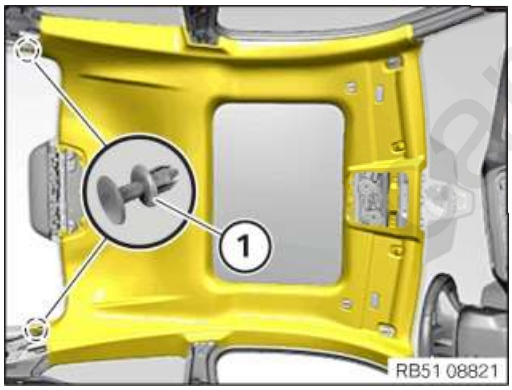
- Insert the headlining (1) with the help of an auxiliary person onto the respective edge protection.
- Clip in headlining (1) on the clips (2).
- Clip the headlining (1) in the area of the dotted line at the slide/tilt sunroof unit and the clamps (3).



- Clip headlining to the clips (2).
- Tighten down screw (1).

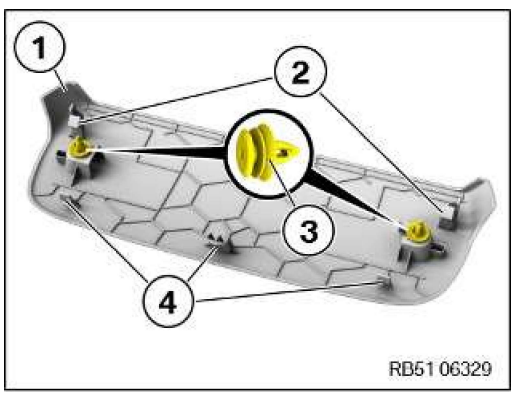
Headlining to frame

Oval-head screw		Tightening torque	1,5 Nm



- Secure expanding rivet (1).

17 – Installing trim for additional brake light



Check

- Check the clips (3) for damage and renew if necessary.
- Check latch mechanisms (2) and guides (4) for damage.

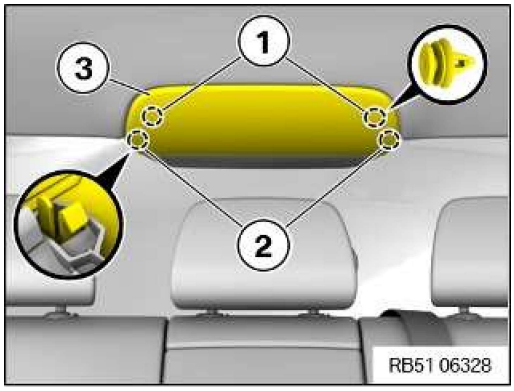
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Result

» The latch mechanism or the guide is damaged.

Measure

- Renew the trim for the additional brake light.



- Position trim for additional brake light (1) from the bottom and clip it in with latch mechanisms (2).
- Clip in clips (1).

18 – Installing the left and right B-pillar trim panel

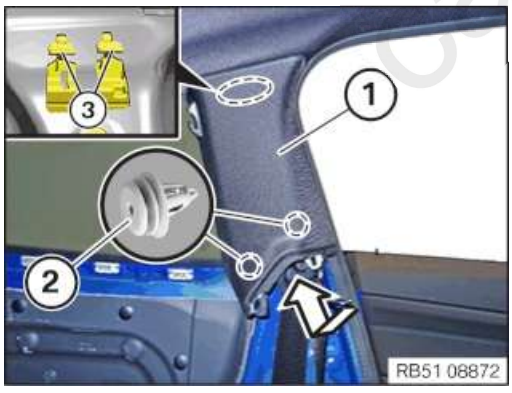
NOTICE

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

▸ **Install the B-pillar trim panel**



- Check clips (1) for damage and renew if necessary.



- Insert B-pillar trim panel (1) in direction of arrow into the guides (3) and under the lip of edge protection.
- Clip in the B-pillar trim panel (1) at the clips (2).

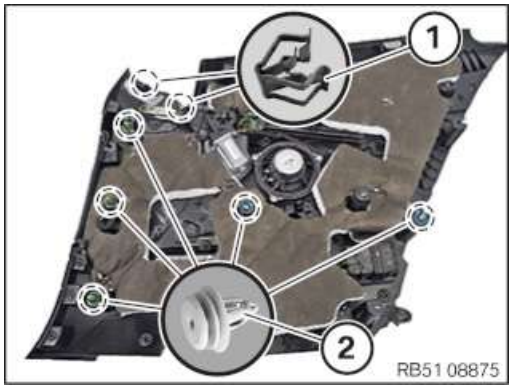
19 – Install side trim panel, rear left and right

NOTICE

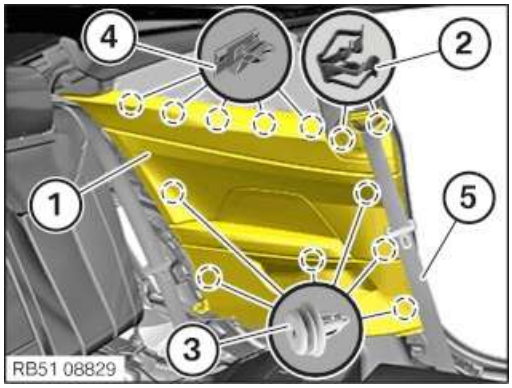
Description is for left component only. Procedure on the right side is identical.

▸ **Install rear side trim panel**

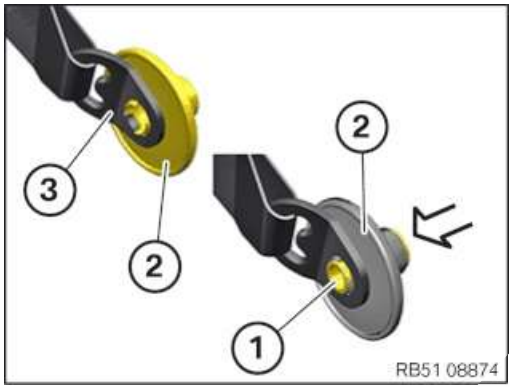
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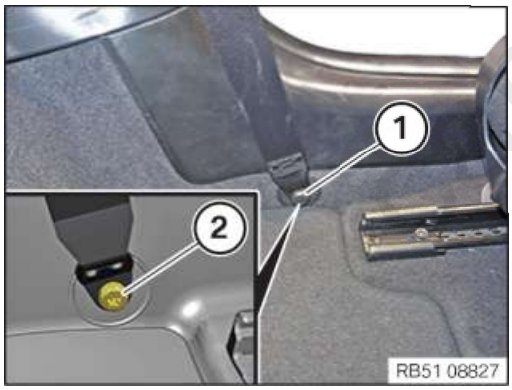
- Check clamps (1) for damage; renew them if necessary.
- Check clips (2) for damage, replace if necessary.



- Connect all the connectors to rear side trim panel (1) of the wiring harness and lock and disconnect them.
- Guide in upper seat belt (5).
- Position rear side trim panel (1) and clip it into clamps (4).
- Clip rear side trim panel (1) into clips (3).
- Clip rear side trim panel (1) into clamps (2).



- Clip cover (2) of end fitting (3) into end fitting (3).
- Slide sleeve (1) into cover (2) of end fitting (3).



- Correctly position the seat belt end fitting.
- Tighten down screw (2).

End fitting to body

M10		Tightening torque	42 Nm

- Clip in cover cap (1).

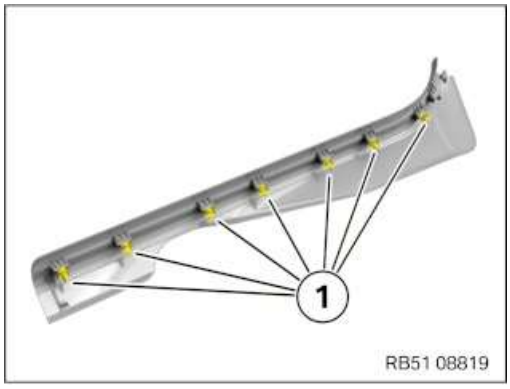
20 – Installing the inner door sill cover strip on the left and right

NOTICE

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

▸ **Installing the inner door sill cover strip**

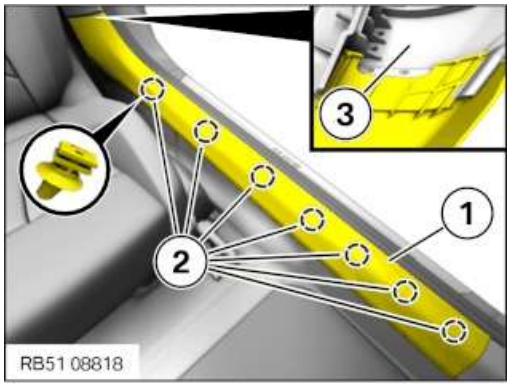
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NOTICE

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

- Check the clips (1) for damage and renew if necessary.



- Insert the door sill cover strip (1) below the rear side trim panel (3).
- Clip the door sill cover strip (1) in with the clips (2).

21 – Installing the C-pillar trim panel on the left and right

NOTICE

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

▸ **Installing C-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

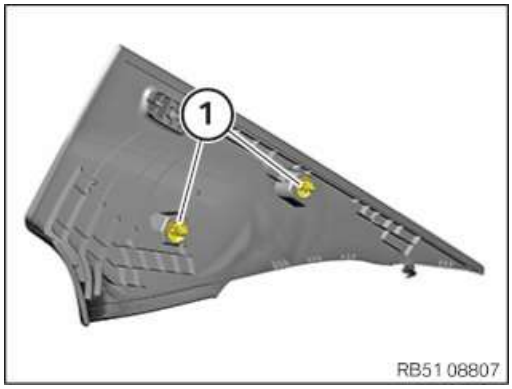
RISK OF DAMAGE

Damage to the head airbag.

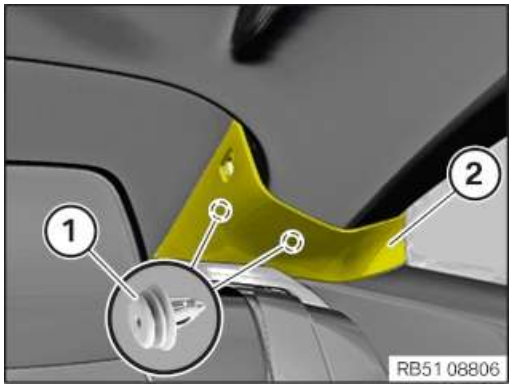
Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.

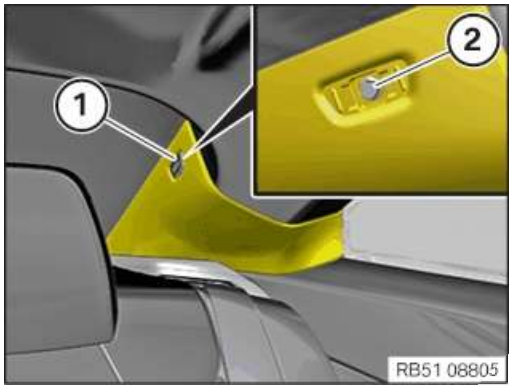
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- Check clips (1) for damage and, if necessary, renew them.



- Position C-pillar trim panel (2) and clip it onto clips (1).



- Tighten down screw (2).

C-pillar trim panel to body

Screw		Tightening torque	2,6 Nm

- Clip in cover (1) of the C-pillar trim panel.

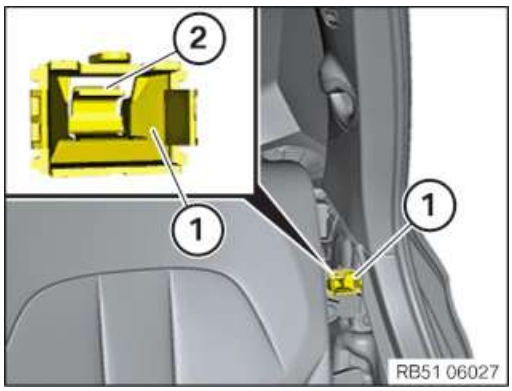
22 – Install the backrest side section on the left and right

NOTICE

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

▸ **Installing backrest side section**

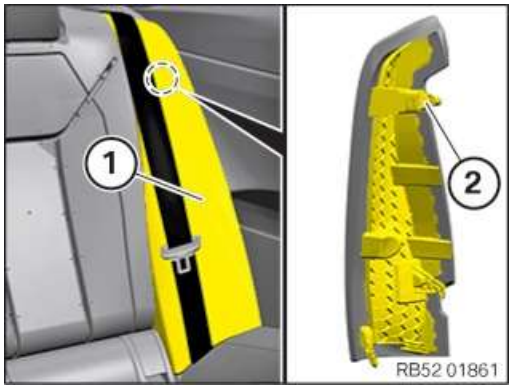
▹ **Installing backrest side section**



- Release mounting element (1) from latch mechanism (2) and remove it from the body.
- Check the mounting element (1) for damage, renew if necessary.

  The mounting element (1) must not be damaged or missing.
- Fit mounting element (1) on the backrest side section.

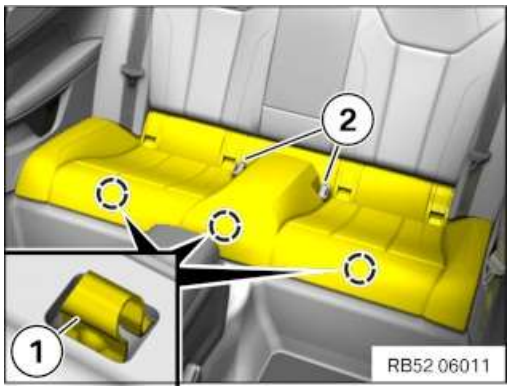
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- Insert lower backrest side section (1) into the guide and position it correctly.
- Clip in backrest side section (1) to mounting element (2).

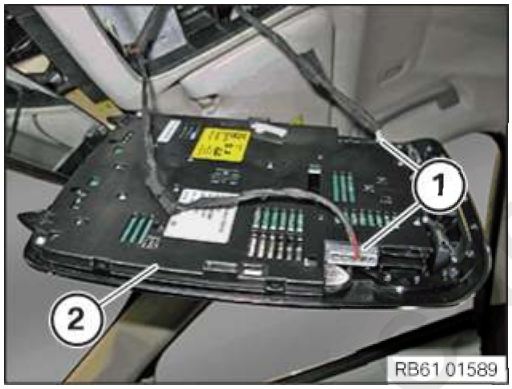
◁

23 – Installing the rear seat bench

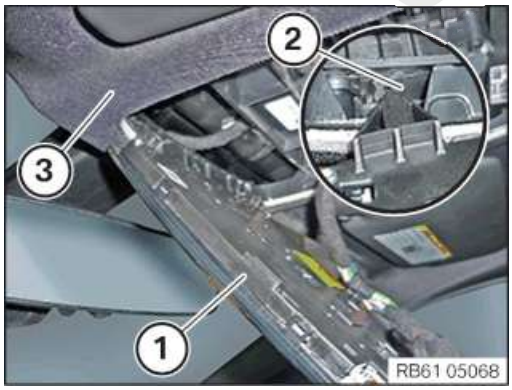


- Feed in the seat belt buckles (2).
- Position the rear seat bench and clip into the clamps (1).

24 – Installing roof function centre (FZD)



- Connect connectors (1) and lock.
- Clip in the cable for the roof function centre (FZD) (2) in the cable clip.



- Insert the roof function centre (FZD) (1) as shown at a steep angle in the two guides (2) on the headlining (3).
- Make sure the headlining is not deformed during this operation.

.com



- Clip the roof function centre (FZD) (1) upwards into the clamps (2).



- Slide the special tool 2 298 505 in the direction of arrow between the FZD frame and the headlining along the dotted line to adjust the headlining correctly.



- Tighten the screws (1).

Roof function centre (FZD)

	Tightening torque	1.2 Nm



- Clip in the cover (1).

25 – Installing the sun visors and the end support on the left and right

NOTICE

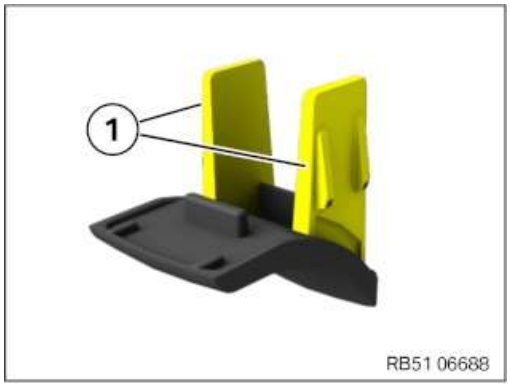
Description is for left component only. Procedure on the right side is identical.

▸ **Install the sun visor and the counter support**

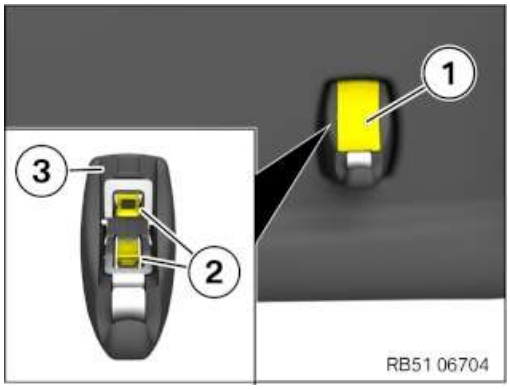
cardiagn.com

NOTICE

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



- Check the guides (1) on the cover of the end support for damage, renew if necessary.



- Clip in the counter support (3) to the headlining.
- Make sure the clamps (2) are engaged correctly.
- Clip in the cover (1).



- Connect and lock corresponding connectors.
- Install the sun visors.
- Tighten down screw (2).

Sun visor to body

Screw		Tightening torque	3.3 Nm

- Close the cover (1).



- Hook the sun visors (1) to the end support (2).

26 – Install the A-pillar trim panel on the left and right

NOTICE

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

▸ **Installing the A-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

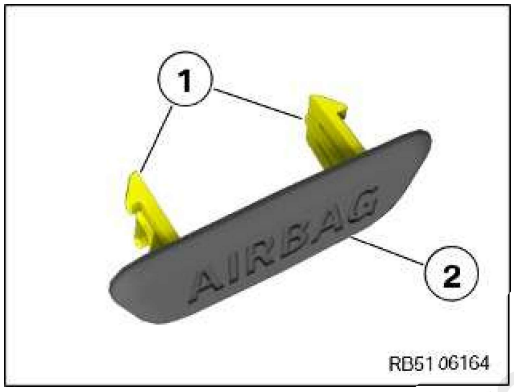
- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

RISK OF DAMAGE

Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



Check

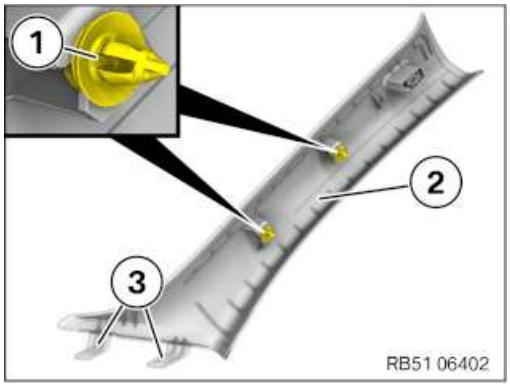
- Check retaining lugs (1) of cover (2) for damage.

Result

» Retaining lug is damaged.

Measure

- Renew the cover.



Check

- Check the clips (1) for damage and renew if necessary.
- Check the guides (3) for damage.

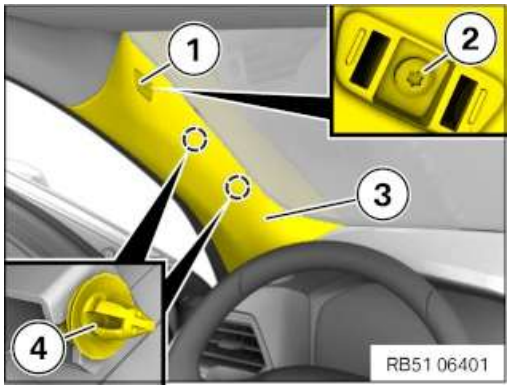
Result

» Guide is damaged.

Measure

- Renew the A-pillar trim panel.

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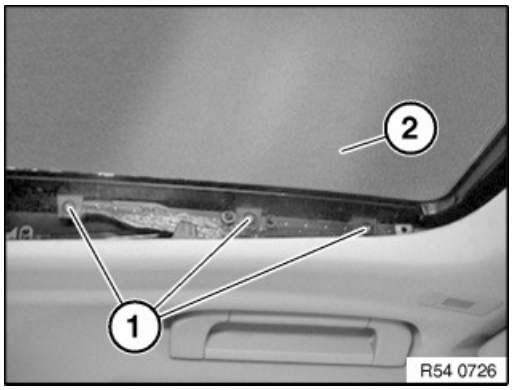
- Guide in A-pillar trim panel (3) downwards and clip it in with clips (4).
- Tighten down screw (2).

A-pillar trim panel to body

Sheet metal screw 4,8x38		Tightening torque	2,6 Nm

- Clip in the cover (1).

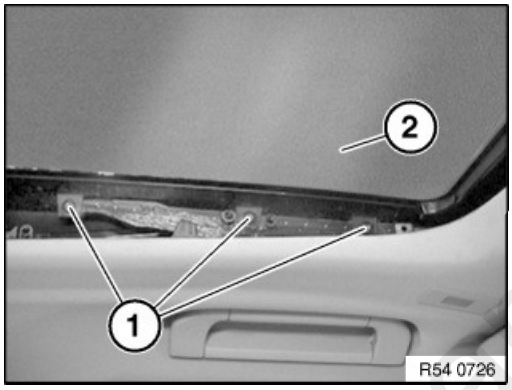
27 – Install glass slide/tilt sunroof panel



- Insert the glass slide/tilt sunroof panel (2) from the top.
- Renew screws (1).

  Parts: Bolts
- Screw in the bolts (1) on the left and right, do not tighten.

28 – Adjusting glass slide/tilt sunroof panel

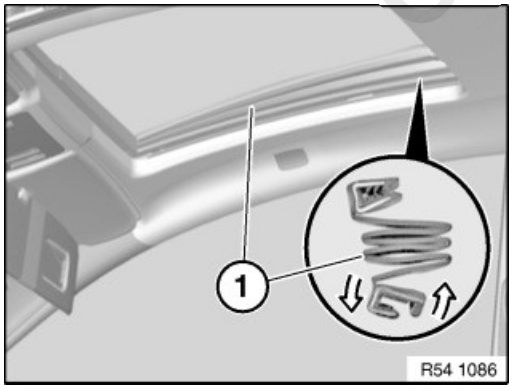


- Close glass slide/tilt sunroof lid (2).
- Slacken screws (1) at the left and right such that the glass slide/tilt roof panel (2) can just be moved.
- Move the glass slide/tilt roof panel (2) until the right position is reached.
- Tighten the screws (1).

Panorama glass roof lid to mechanics

M5	Replace screws.	4,5 Nm

29 – Install the gaiter for the glass slide/tilt sunroof



NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully screw in the gaiter (1) into the bottom guide.
- Carefully screw the gaiter (1) into the top guide.
- Check the gaiter (1) is seated securely.

30 – Initialising glass slide/tilt sunroof

▸ **Prerequisites for initialising the slide/tilt sunroof/panoramic glass sunroof**

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- The following prerequisites must be met for a trouble-free initialisation:

Interior temperature of the vehicle	15 °C - 30 °C
Vehicle voltage	12 V - 15 V
Vehicle condition	- The vehicle is standing on its own wheels
	- The vehicle is horizontal
	- Speed 0 km/h (the vehicle must not roll)
	- The radio-operated key is in the vehicle
	- Terminal 15 is switched on or the vehicle is in the Residing PFW state
Operating point	- FZD button
	- Diagnostic function: “Initialise slide/tilt sunroof”
Miscellaneous	No other work may be carried out on the vehicle during initialisation in order to avoid impacts or vibrations.



TECHNICAL INFORMATION

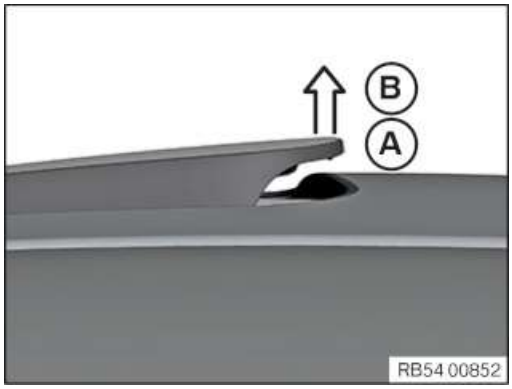
The following prerequisites are the basis for a correct initialisation and must be strictly observed.

For additional information see: 54 12 ... General prerequisites for initialising the slide/tilt sunroof or panoramic sunroof

- Press and hold the switch in the "Vent Position" direction.

  The glass slide/tilt sunroof moves to vent position.
- In the event of a delayed start or sudden stop of the glass slide/tilt sunroof, continue holding the switch in the "Vent position" direction.

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- Continue to keep the switch pressed during the entire test module.
- Continue to operate the switch further after reaching the vent position (A) for approx. 30 s.

  Initialisation begins:

  - The glass slide/tilt sunroof moves from vent position (A) toward position (B).
  - Screen (sliding headliner) fully closes.
  - Screen (sliding headliner) fully opens.
  - Glass slide/tilt sunroof moves to "closed" position.
  - The glass slide/tilt sunroof moves to the "Open" position and immediately returns to the "Closed" position.
  - After a brief pause, the screen fully closes.

  The initialisation is completed once the glass slide/tilt sunroof and the screen have completely closed.
- Release the switch.

TECHNICAL INFORMATION

If the switch is released in the meantime, the initialisation must be repeated. Following successful initialisation, the corresponding messages in the Check Control and on the control display go out.

- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

Additional Information

Overview of Tightening Torques

Slide/tilt sunroof frame to body			Used in step 15
M6			5,4 Nm

Headlining to frame			Used in step 16
Oval-head screw		Tightening torque	1,5 Nm

End fitting to body			Used in step 19
M10		Tightening torque	42 Nm

C-pillar trim panel to body			Used in step 21
Screw		Tightening torque	2,6 Nm

Roof function centre (FZD)			Used in step 24
		Tightening torque	1.2 Nm

Sun visor to body			Used in step 25
Screw		Tightening torque	3.3 Nm

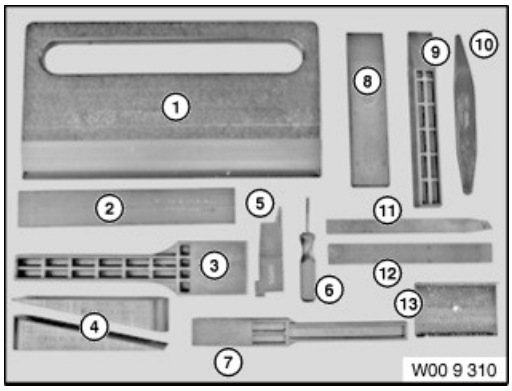
A-pillar trim panel to body			Used in step 26
Sheet metal screw 4,8x38		Tightening torque	2,6 Nm

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Panorama glass roof lid to mechanics		Used in step 28
M5	Replace screws.	4,5 Nm

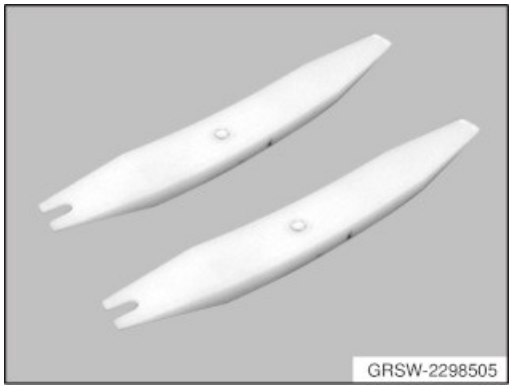
Overview of Special Tools

0 493 752 (00 9 329) Case



Common		Used in step 39
Usage	(Case) with insert without mounting wedges, delivery while stocks last - as of 02/2019.	
Included in the tool or work	0 490 527	
Storage location	Individual	
Replaced by		
In connection with		
SI-Number	01 07 09 (530)	

2 298 505 Wedge



Common		Used in step 24
Usage	Set (delivery of 2 pieces)	
Included in the tool or work		
Storage location	C34	
Replaced by		
In connection with		
SI-Number	01 03 12 (792)	

Links

Repair instructions (PRE)	Used in step
Notes on 48-V battery	722
Prerequisites for initialisation of the slide/panoramic sunroof	30

General repair instructions	Used in step
72 00 ... Safety regulations for handling components with gas generators	3722
72 00 ... Safety regulations for handling components with gas generators	3

Repair instructions	Used in step
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	722
61 20 900 Disconnecting and connecting battery earth lead	722
61 20 900 Disconnecting and connecting battery earth lead	722
61 20 900 Disconnecting and connecting battery earth lead	722
61 20 900 Disconnecting and connecting battery earth lead	722
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61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	722
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	722
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	722

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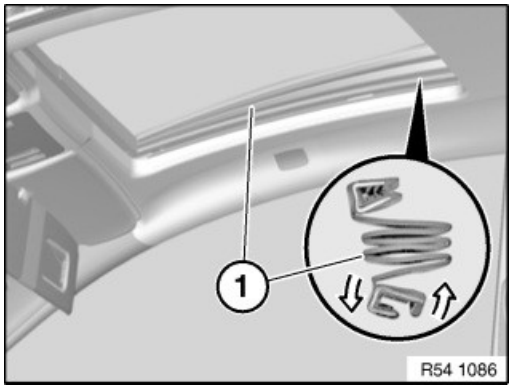
61 20 900 Disconnecting and connecting battery earth lead	722
61 20 900 Disconnecting and connecting battery earth lead	722
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	722
61 20 900 Disconnecting and connecting battery earth lead	722
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61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	722
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	722
61 20 900 Disconnecting and connecting battery earth lead	722
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	722
61 20 900 Disconnecting and connecting battery earth lead (Plug-in Hybrid Electric Vehicle)	722
61 20 900 Disconnecting and connecting battery earth lead	722
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61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	722
61 20 900 Disconnecting and connecting battery earth lead	722
61 20 900 Disconnecting and connecting battery earth lead	722
61 20 900 Disconnecting and connecting battery earth lead	722

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54 12 115 Removing and installing glass slide/tilt sunroof panel

PRELIMINARY WORK

1 – Remove the gaiter for the glass slide/tilt sunroof



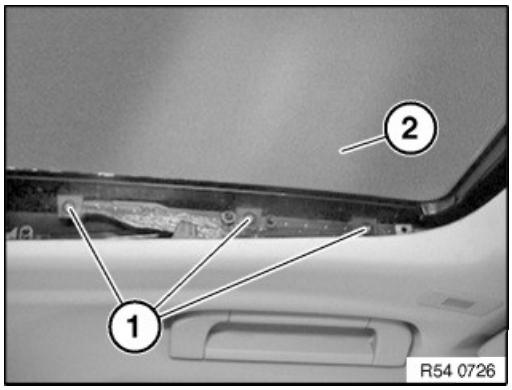
NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully pull off the gaiter (1) from the top guide.
- Carefully twist out the gaiter (1) from the bottom guide.

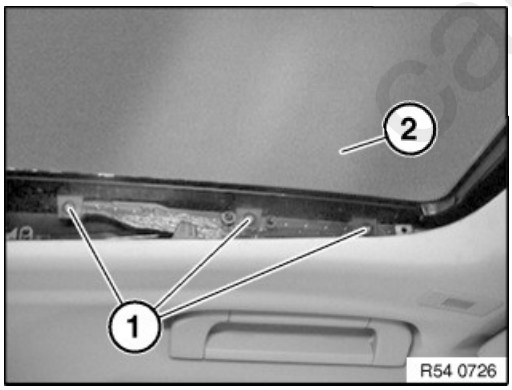
MAIN WORK

2 – Remove glass slide/tilt sunroof panel



- Loosen screws (1) on left and right.
- Remove the glass slide/tilt sunroof panel (2) towards the top.

3 – Install glass slide/tilt sunroof panel



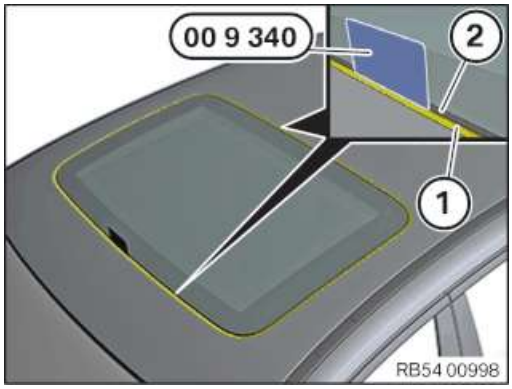
- Insert the glass slide/tilt sunroof panel (2) from the top.
- Renew screws (1).

  Parts: Bolts
- Screw in the bolts (1) on the left and right, do not tighten.

POSTPROCESSES

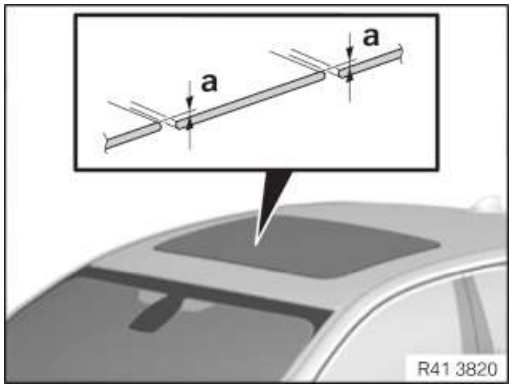
4 – Check the setting of the glass slide/tilt sunroof panel

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- Check whether the distance of the glass slide/tilt roof panel to the front roof and at the rear is the same and correct if necessary.
- Slide the special tool 0 493 687 (00 9 340) between the gasket (1) and the glass slide/tilt sunroof panel (2).

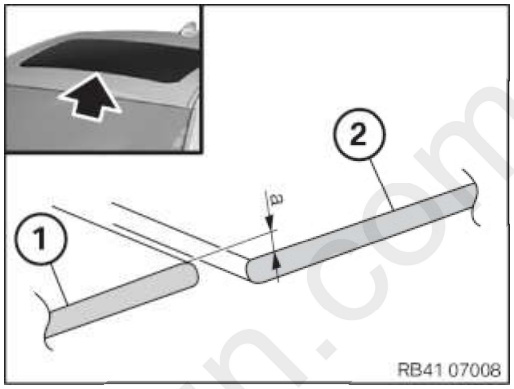
  The resistance when moving the special tool must be the same at the front and rear.



- Make sure that the glass slide/tilt roof panel at the front lies flush with the roof outer skin and is lower by a maximum of the dimension (a).

Gap dimension roof outer skin to glass slide/tilt sunroof panel

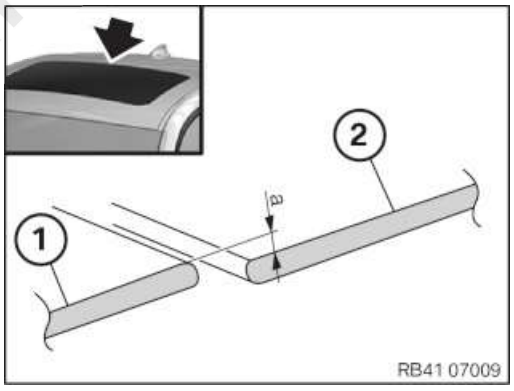
1 roof outer skin; 2 glass slide/tilt sunroof panel	
a	0,7 (-0,05 - 1,45) mm

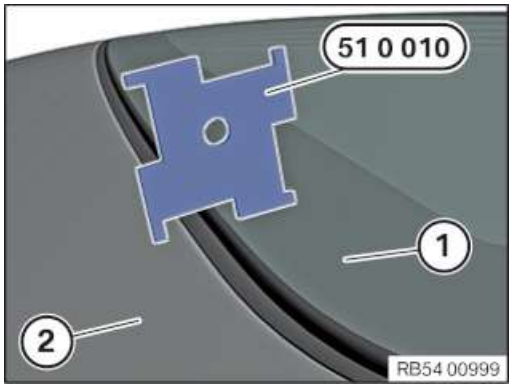


- Make sure that the glass slide/tilt roof panel at the rear lies flush with the roof outer skin and higher by a maximum of the dimension (a).

Gap dimension glass slide/tilt sunroof panel to roof outer skin

1 glass slide/tilt sunroof panel; 2 roof outer skin	
a	0,7 (-0,05 - 1,45) mm

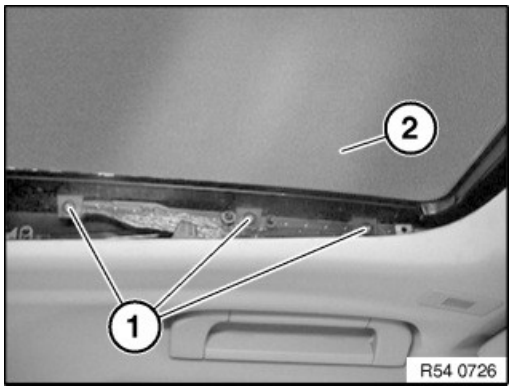




- Measure the position of the glass slide/tilt roof panel (1) to roof (2) with special tool 0 495 259 (51 0 010).

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5 – Adjusting glass slide/tilt sunroof panel



- Close glass slide/tilt sunroof lid (2).
- Slacken screws (1) at the left and right such that the glass slide/tilt roof panel (2) can just be moved.
- Move the glass slide/tilt roof panel (2) until the right position is reached.
- Tighten the screws (1).

Panorama glass roof lid to mechanics

M5	Replace screws.	4,5 Nm

6 – Initialising glass slide/tilt sunroof

▸ Prerequisites for initialising the slide/tilt sunroof/panoramic glass sunroof

- The following prerequisites must be met for a trouble-free initialisation:

Interior temperature of the vehicle	15 °C - 30 °C
Vehicle voltage	12 V - 15 V
Vehicle condition	- The vehicle is standing on its own wheels
	- The vehicle is horizontal
	- Speed 0 km/h (the vehicle must not roll)
	- The radio-operated key is in the vehicle
	- Terminal 15 is switched on or the vehicle is in the Residing PFW state
Operating point	- FZD button
	- Diagnostic function: “Initialise slide/tilt sunroof”
Miscellaneous	No other work may be carried out on the vehicle during initialisation in order to avoid impacts or vibrations.



TECHNICAL INFORMATION

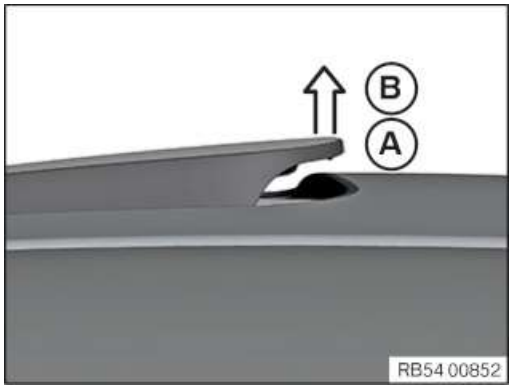
The following prerequisites are the basis for a correct initialisation and must be strictly observed.

For additional information see: 54 12 ... General prerequisites for initialising the slide/tilt sunroof or panoramic sunroof

- Press and hold the switch in the "Vent Position" direction.

  The glass slide/tilt sunroof moves to vent position.
- In the event of a delayed start or sudden stop of the glass slide/tilt sunroof, continue holding the switch in the "Vent position" direction.

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- Continue to keep the switch pressed during the entire test module.
- Continue to operate the switch further after reaching the vent position (A) for approx. 30 s.

  Initialisation begins:

  - The glass slide/tilt sunroof moves from vent position (A) toward position (B).
  - Screen (sliding headliner) fully closes.
  - Screen (sliding headliner) fully opens.
  - Glass slide/tilt sunroof moves to "closed" position.
  - The glass slide/tilt sunroof moves to the "Open" position and immediately returns to the "Closed" position.
  - After a brief pause, the screen fully closes.

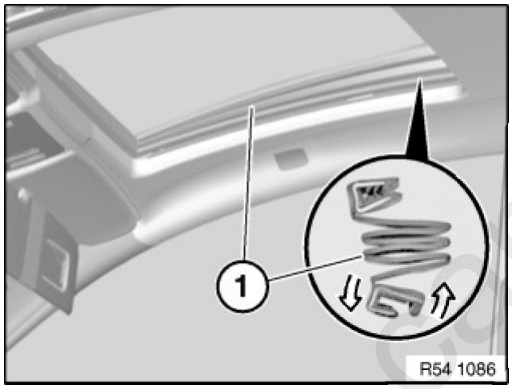
  The initialisation is completed once the glass slide/tilt sunroof and the screen have completely closed.
- Release the switch.

TECHNICAL INFORMATION

If the switch is released in the meantime, the initialisation must be repeated. Following successful initialisation, the corresponding messages in the Check Control and on the control display go out.

- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

7 – Install the gaiter for the glass slide/tilt sunroof



NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully screw in the gaiter (1) into the bottom guide.
- Carefully screw the gaiter (1) into the top guide.
- Check the gaiter (1) is seated securely.

Additional Information

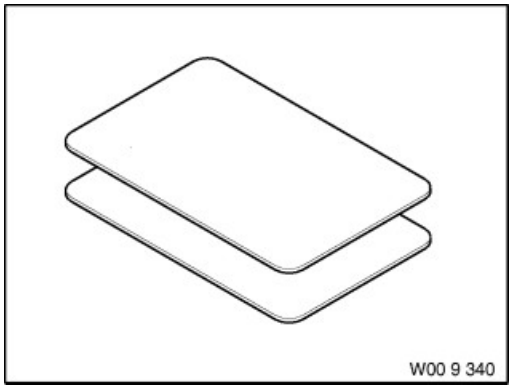
Overview of Tightening Torques

Panorama glass roof lid to mechanics — Used in step 5

M5	Replace screws.	4,5 Nm

Overview of Special Tools

0 493 687 (00 9 340) Removal aid



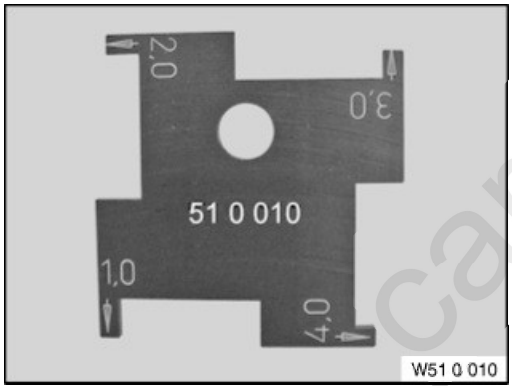
Common Used in step 4

Usage	(Dismantling aid (2 pieces))
Included in the tool or work	
Storage location	C2
Replaced by	
In connection with	
SI-Number	01 15 99 (483)

Consisting of

Pos	BMW Order number	Replaced by	Designation	In Connection with
1	0 496 289 (00 9 341)		**Removal aid** Only available as a set (2 tools) under 00 9 340 (= 83 30 0 493 687).	

0 495 259 (51 0 010) Gauge



Common Used in step 4

Usage	(test gauge for installing windscreen and rear window) (replaces special tool 51 3 210 from 06/2005)
Included in the tool or work	
Storage location	B2
Replaced by	
In connection with	
SI-Number	01 10 05 (189)

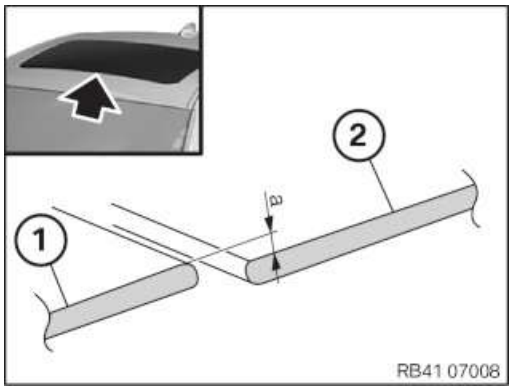
Overview Technical Data

Gap dimension roof outer skin to glass slide/tilt sunroof panel Used in step 4

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1 roof outer skin; 2 glass slide/tilt sunroof panel

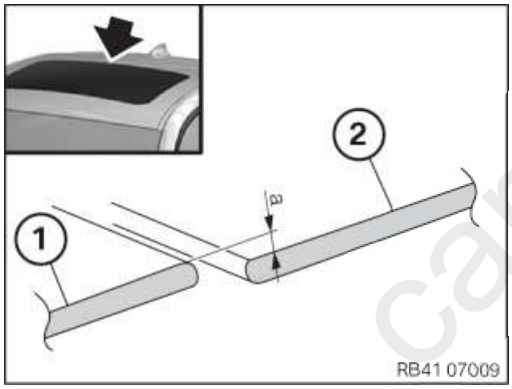
a	0,7 (-0,05 - 1,45) mm



Gap dimension glass slide/tilt sunroof panel to roof outer skin Used in step 4

1 glass slide/tilt sunroof panel; 2 roof outer skin

a	0,7 (-0,05 - 1,45) mm



Links

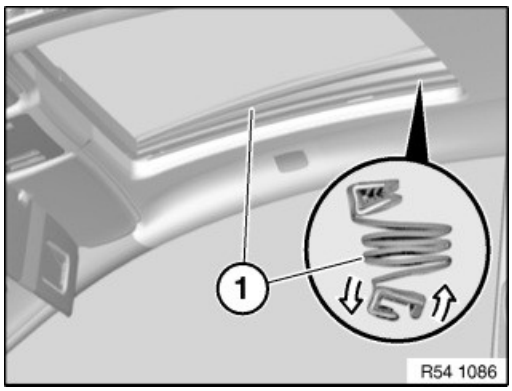
Repair instructions (PRE)	Used in step
Prerequisites for initialisation of the slide/panoramic sunroof	6

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54 12 138 Removing and installing/renewing water channel for glass slide/tilt sunroof

PRELIMINARY WORK

1 – Remove the gaiter for the glass slide/tilt sunroof

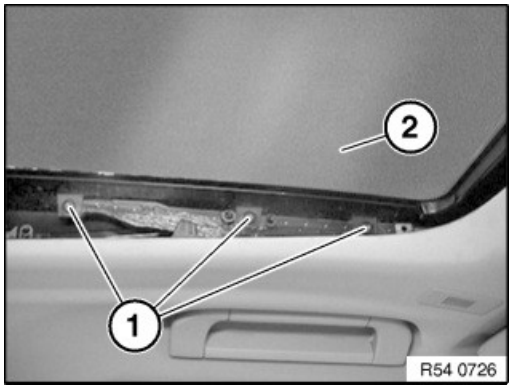


NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully pull off the gaiter (1) from the top guide.
- Carefully twist out the gaiter (1) from the bottom guide.

2 – Remove glass slide/tilt sunroof panel

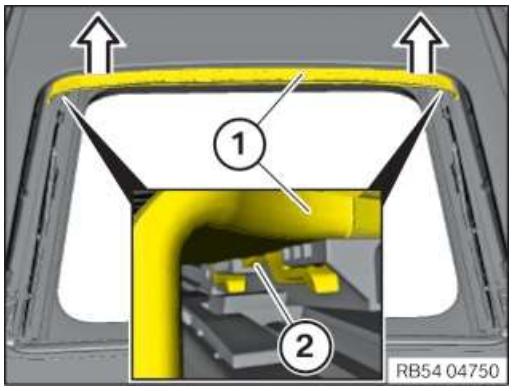


- Loosen screws (1) on left and right.
- Remove the glass slide/tilt sunroof panel (2) towards the top.

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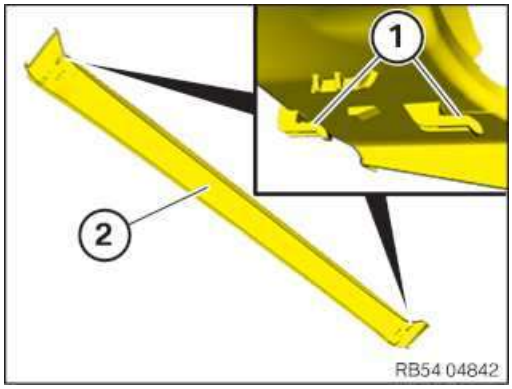
MAIN WORK

3 – Remove water channel

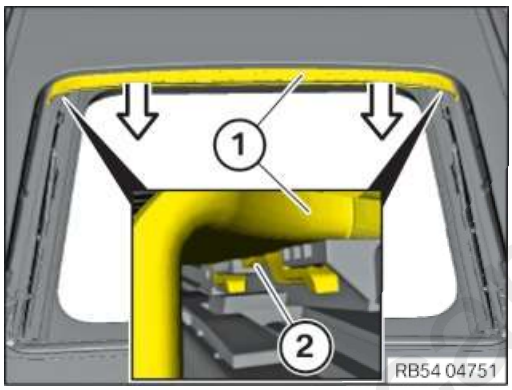


- Using a suitable tool, unlock the retaining lugs (2).
- Move the water channel (1) backwards and feed out.

4 – Install water channel



- Check retaining lugs (1) of the water channel (2) for damage and renew, if necessary.

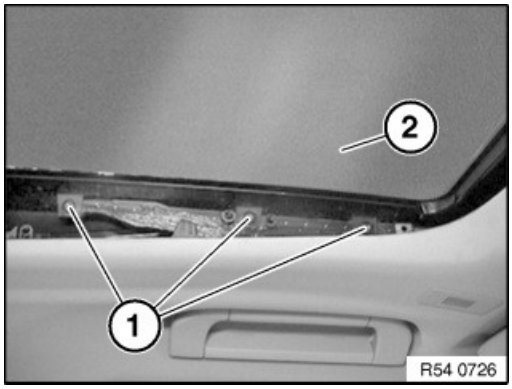


- Feed in the water channel (1) from rear and move towards front until the retaining lugs (2) engage.

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POSTPROCESSES

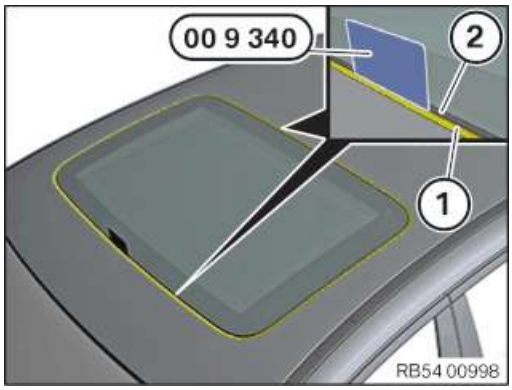
5 – Install glass slide/tilt sunroof panel



- Insert the glass slide/tilt sunroof panel (2) from the top.
- Renew screws (1).

  Parts: Bolts
- Screw in the bolts (1) on the left and right, do not tighten.

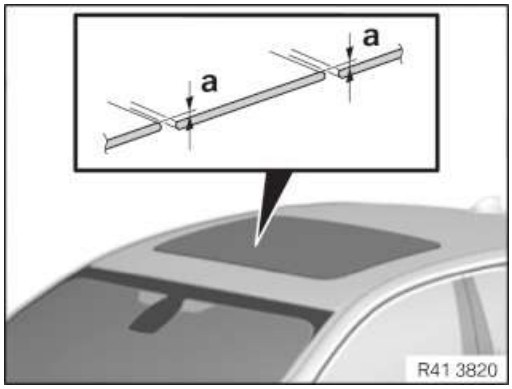
6 – Check the setting of the glass slide/tilt sunroof panel



- Check whether the distance of the glass slide/tilt roof panel to the front roof and at the rear is the same and correct if necessary.
- Slide the special tool 0 493 687 (00 9 340) between the gasket (1) and the glass slide/tilt sunroof panel (2).

  The resistance when moving the special tool must be the same at the front and rear.

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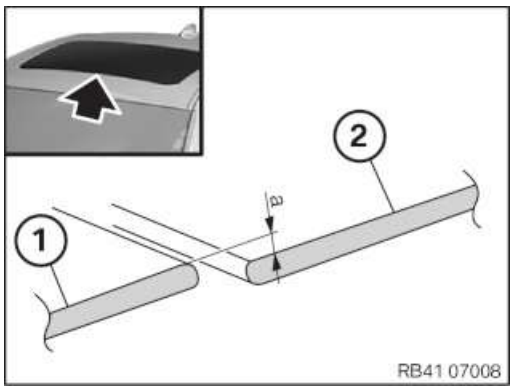


- Make sure that the glass slide/tilt roof panel at the front lies flush with the roof outer skin and is lower by a maximum of the dimension (a).

Gap dimension roof outer skin to glass slide/tilt sunroof panel

1 roof outer skin; 2 glass slide/tilt sunroof panel

a	0,7 (-0,05 - 1,45) mm

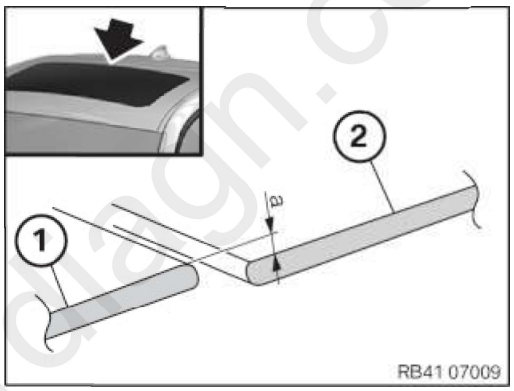


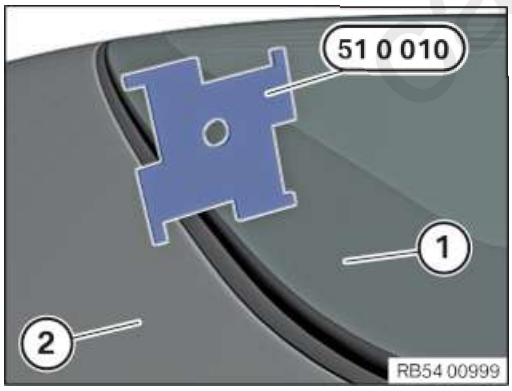
- Make sure that the glass slide/tilt roof panel at the rear lies flush with the roof outer skin and higher by a maximum of the dimension (a).

Gap dimension glass slide/tilt sunroof panel to roof outer skin

1 glass slide/tilt sunroof panel; 2 roof outer skin

a	0,7 (-0,05 - 1,45) mm

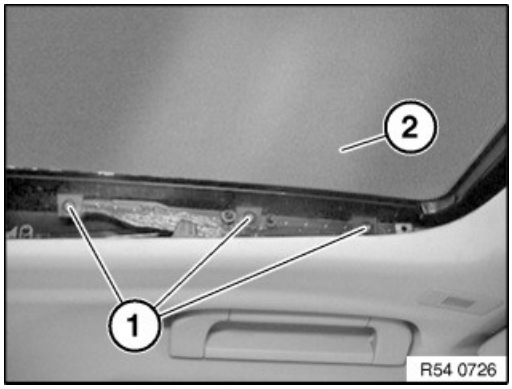




- Measure the position of the glass slide/tilt roof panel (1) to roof (2) with special tool 0 495 259 (51 0 010).

7 – Adjusting glass slide/tilt sunroof panel

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8 – Initialising glass slide/tilt sunroof

- Close glass slide/tilt sunroof lid (2).
- Slacken screws (1) at the left and right such that the glass slide/tilt roof panel (2) can just be moved.
- Move the glass slide/tilt roof panel (2) until the right position is reached.
- Tighten the screws (1).

Panorama glass roof lid to mechanics

M5	Replace screws.	4,5 Nm

▸ Prerequisites for initialising the slide/tilt sunroof/panoramic glass sunroof

- The following prerequisites must be met for a trouble-free initialisation:

Interior temperature of the vehicle	15 °C - 30 °C
Vehicle voltage	12 V - 15 V
Vehicle condition	- The vehicle is standing on its own wheels
	- The vehicle is horizontal
	- Speed 0 km/h (the vehicle must not roll)
	- The radio-operated key is in the vehicle
	- Terminal 15 is switched on or the vehicle is in the Residing PFW state
Operating point	- FZD button
	- Diagnostic function: “Initialise slide/tilt sunroof”
Miscellaneous	No other work may be carried out on the vehicle during initialisation in order to avoid impacts or vibrations.



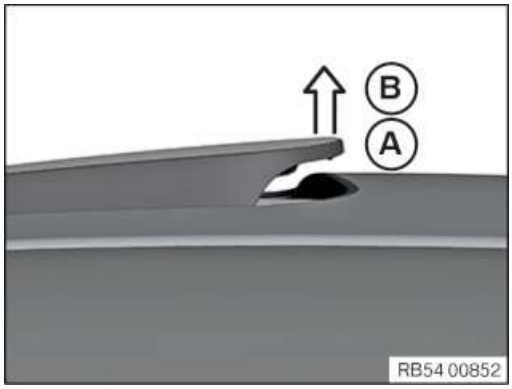
TECHNICAL INFORMATION

The following prerequisites are the basis for a correct initialisation and must be strictly observed.

For additional information see: 54 12 ... General prerequisites for initialising the slide/tilt sunroof or panoramic sunroof

- Press and hold the switch in the "Vent Position" direction.

  The glass slide/tilt sunroof moves to vent position.
- In the event of a delayed start or sudden stop of the glass slide/tilt sunroof, continue holding the switch in the "Vent position" direction.



- Continue to keep the switch pressed during the entire test module.
- Continue to operate the switch further after reaching the vent position (A) for approx. 30 s.

  Initialisation begins:

  - The glass slide/tilt sunroof moves from vent position (A) toward position (B).
  - Screen (sliding headliner) fully closes.
  - Screen (sliding headliner) fully opens.
  - Glass slide/tilt sunroof moves to "closed" position.
  - The glass slide/tilt sunroof moves to the "Open" position and immediately returns to the "Closed" position.
  - After a brief pause, the screen fully closes.

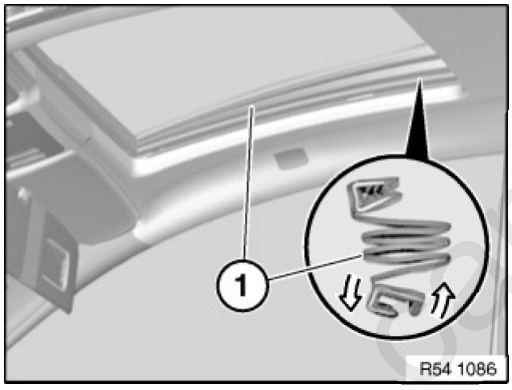
  The initialisation is completed once the glass slide/tilt sunroof and the screen have completely closed.
- Release the switch.

TECHNICAL INFORMATION

If the switch is released in the meantime, the initialisation must be repeated. Following successful initialisation, the corresponding messages in the Check Control and on the control display go out.

- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

9 – Install the gaiter for the glass slide/tilt sunroof



NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully screw in the gaiter (1) into the bottom guide.
- Carefully screw the gaiter (1) into the top guide.
- Check the gaiter (1) is seated securely.

Additional Information

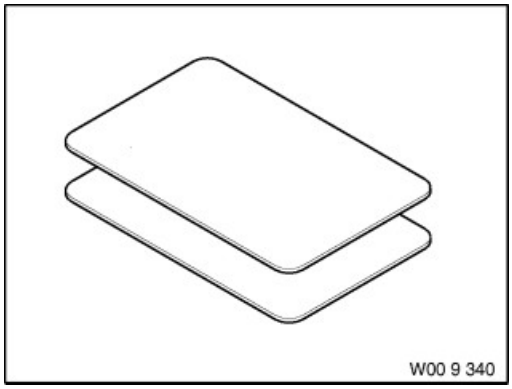
Overview of Tightening Torques

Panorama glass roof lid to mechanics — Used in step 7

M5	Replace screws.	4,5 Nm

Overview of Special Tools

0 493 687 (00 9 340) Removal aid



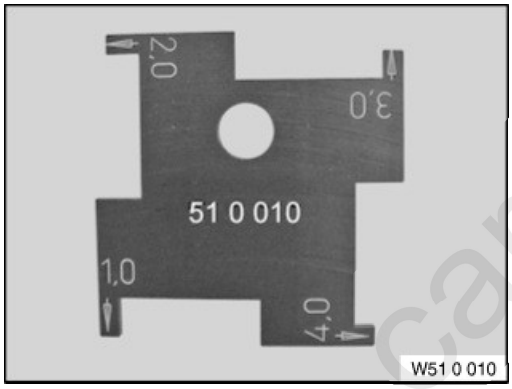
Common Used in step 6

Usage	(Dismantling aid (2 pieces))
Included in the tool or work	
Storage location	C2
Replaced by	
In connection with	
SI-Number	01 15 99 (483)

Consisting of

Pos	BMW Order number	Replaced by	Designation	In Connection with
1	0 496 289 (00 9 341)		**Removal aid** Only available as a set (2 tools) under 00 9 340 (= 83 30 0 493 687).	

0 495 259 (51 0 010) Gauge



Common Used in step 6

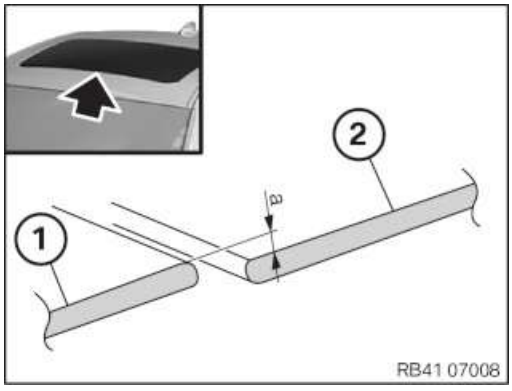
Usage	(test gauge for installing windscreen and rear window) (replaces special tool 51 3 210 from 06/2005)
Included in the tool or work	
Storage location	B2
Replaced by	
In connection with	
SI-Number	01 10 05 (189)

Overview Technical Data

Gap dimension roof outer skin to glass slide/tilt sunroof panel Used in step 6

1 roof outer skin; 2 glass slide/tilt sunroof panel

a	0,7 (-0,05 - 1,45) mm

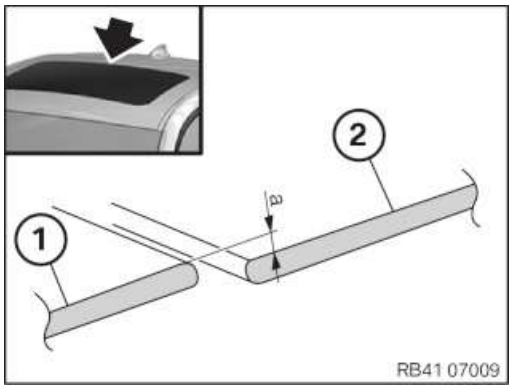


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Gap dimension glass slide/tilt sunroof panel to roof outer skin Used in step 6

1 glass slide/tilt sunroof panel; 2 roof outer skin

a	0,7 (-0,05 - 1,45) mm



Links

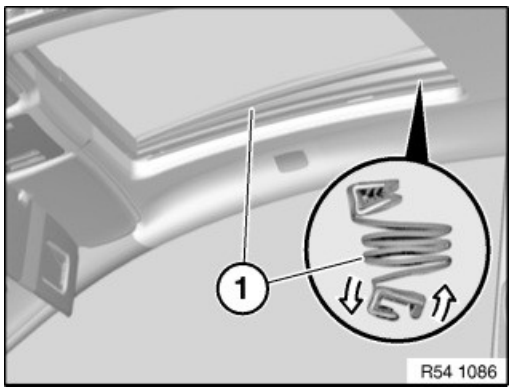
Repair instructions (PRE)	Used in step
Prerequisites for initialisation of the slide/panoramic sunroof	8

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54 12 336 Removing and installing/replacing mechanics for glass slide/tilt sunroof panel

PRELIMINARY WORK

1 – Remove the gaiter for the glass slide/tilt sunroof

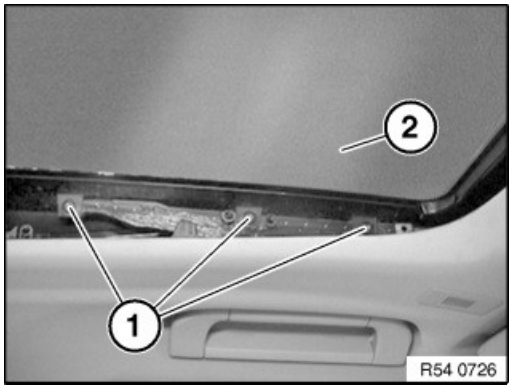


NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully pull off the gaiter (1) from the top guide.
- Carefully twist out the gaiter (1) from the bottom guide.

2 – Remove glass slide/tilt sunroof panel



- Loosen screws (1) on left and right.
- Remove the glass slide/tilt sunroof panel (2) towards the top.

3 – Remove left and right A-pillar trim panel

NOTICE

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

▸ **Remove the A-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

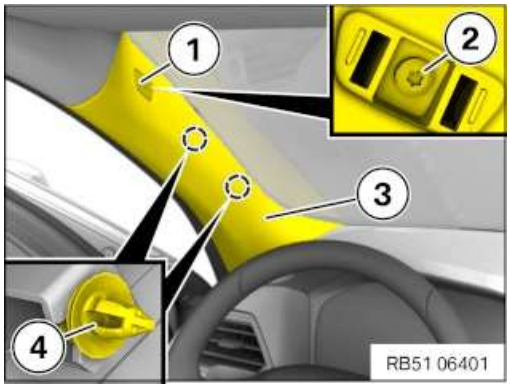
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RISK OF DAMAGE

Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



- Unclip cover (1) with a suitable special tool from the special tool kit 0 493 752 (00 9 329).
- Loosen screw (2).
- Unclip A-pillar trim panel (3) with clips (4) and feed it out to the top.

4 – Removing the sun visors and the end support on the left and right

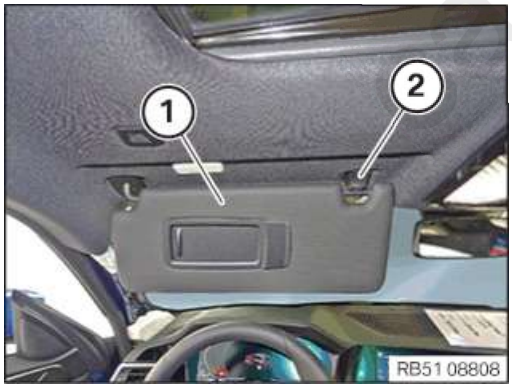
NOTICE

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

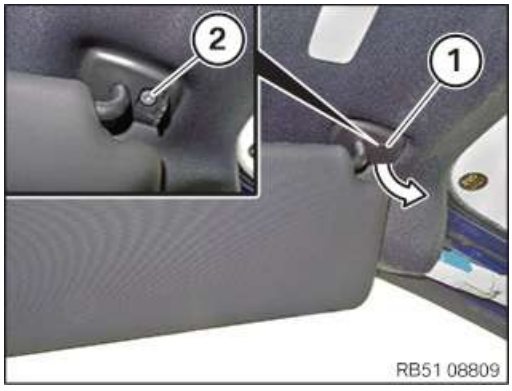
▸ **Remove the sun visor and the counter support**

NOTICE

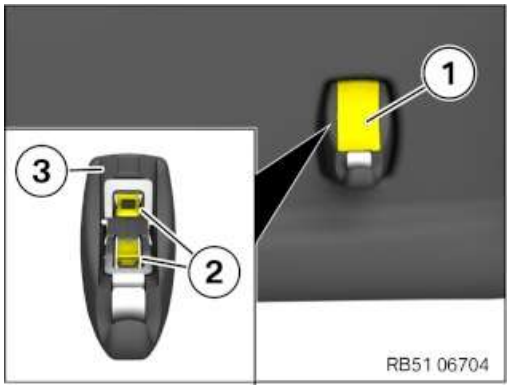
Schematic diagram is for example purposes. Some parts may differ in certain details.



- Detach sun visors (1) from end support (2) and swivel to the side.



- Fold open cover (1).
- Loosen screw (2).
- Remove sun visors and unlock and disconnect the associated plug connection.



- Unclip cover (1) using a suitable tool.
- Push the clamps (2) together and pull the counter support (3) out of the headlining.

5 – Removing the roof function centre (FZD)



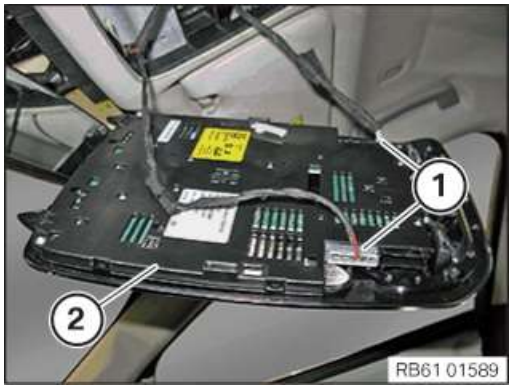
- Unclip the cover (1).



- Loosen screws (1).



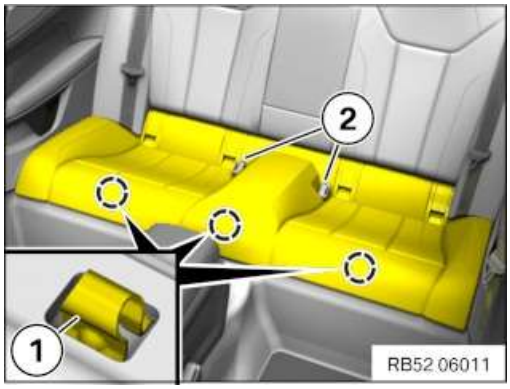
- Unclip the roof function centre (FZD) (1) from the clamps (2).
- Thread the roof function centre (FZD) (1) out of the guides (3).



- Unlock and disconnect plug connections (1).
- Unclip the cable clip from roof function centre (FZD) (2) and remove the roof function centre (FZD) (2).

6 – Remove rear seat bench

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- Unclip the rear seat bench upwards from clamps (1) and guide out seat belt buckles (2).
- Remove the rear seat bench.

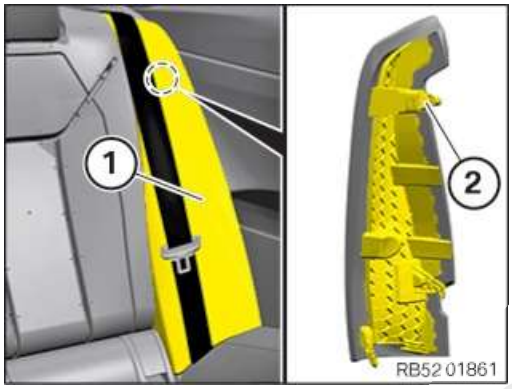
7 – Remove backrest side section on left and right

NOTICE

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

▸ **Remove armrest side section**

▹ **Remove armrest side section**



- Reach behind the backrest side section (1) from the top and unclip the backrest side section (1) from the mounting element (2) to the front.
- Remove backrest side section (1) in the upward direction from the guide.

◃

8 – Removing the C-pillar trim panel on the left and right

NOTICE

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

▸ **Remove C-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

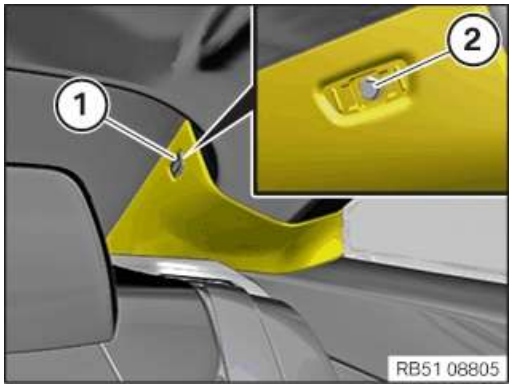
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RISK OF DAMAGE

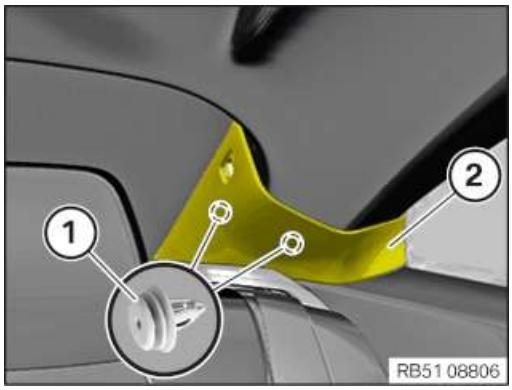
Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



- Unclip cover (1) of the C-pillar trim panel.
- Release the screw (2).



- Unclip C-pillar trim panel (2) from clips (1) and guide it out.

9 – Removing the inner door sill cover strip on the left and right

NOTICE

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

▸ **Removing the inner door sill cover strip**

RISK OF DAMAGE

Bending of plastic parts.

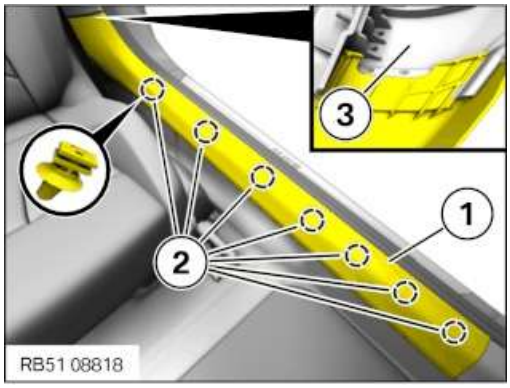
Application of too much force can lead to bending of plastic parts.

- Place special tool directly beside the mounting clip.
- Continue unclipping the part without using the tool if possible.

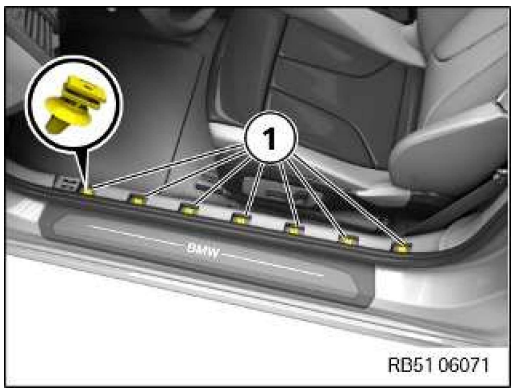
NOTICE

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

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- Release door sill cover strip (1) with clips (2) starting from the front using a suitable special tool from the set of special tools 0 493 752 (00 9 329).
- Guide out and remove door sill cover strip (1) under the rear side trim panel (3) .



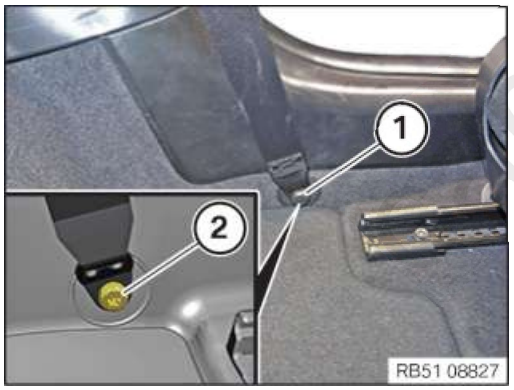
- If necessary, remove clips (1) and connect them to the door sill cover strip.

10 – Remove side trim panel, rear left and right

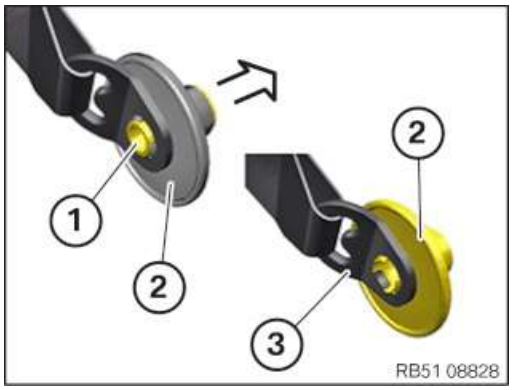
NOTICE

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

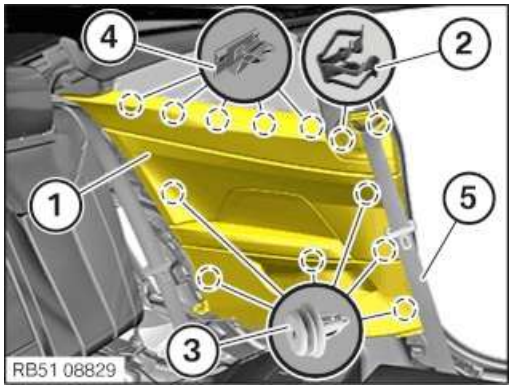
▸ **Remove rear side trim panel**



- Unclip the cover cap (1).
- Release the screw (2).



- Pull out the sleeve (1) from the cover (2) of the end fitting (3).
- Unclip the cover (2) of the end fitting (3) from the end fitting (3).



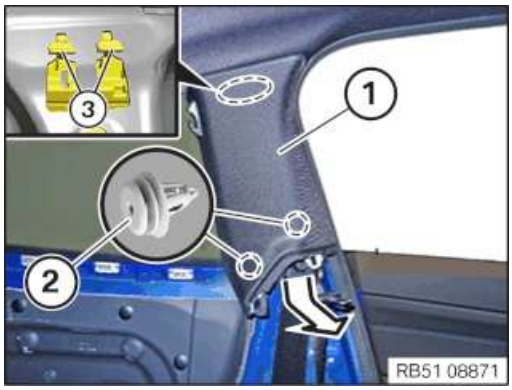
- Unclip the rear side trim panel (1) with a suitable tool at the clamps (2).
- Unclip the rear side trim panel (1) with a suitable tool at the clips (3).
- Release the rear side trim panel (1) at the clamps (4) and feed out at the edge protection.
- Unlock and disconnect all the plug connections at the rear side trim panel (1) of the wiring harness.
- Feed out the upper seat belt (5).

11 – Removing left and right B-pillar trim panel

NOTICE

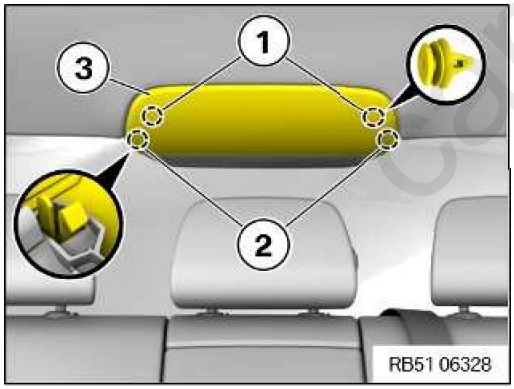
Description is for left component only. Procedure on the right side is identical.

▸ **Remove the B-pillar trim panel**



- Unclip the B-pillar trim panel (1) at the clips (2).
- Remove the B-pillar trim panel (1) from the lip of the edge protection and the guides (3) in the direction of the arrow.

12 – Removing the trim of the additional brake light



- Loosen the clips (1).
- Release the latch mechanisms (2) and remove the trim of the additional brake light (3).

13 – Lower the headlining (with SHD)

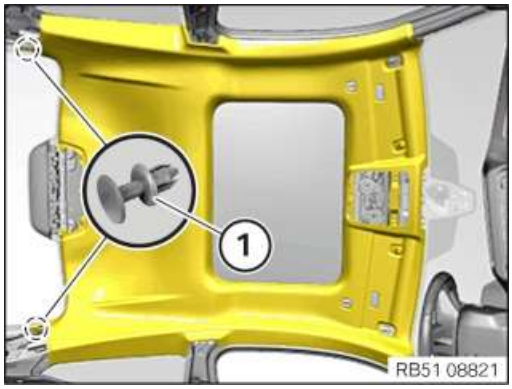
Prerequisite

The front seats have been fully adjusted towards the bottom.

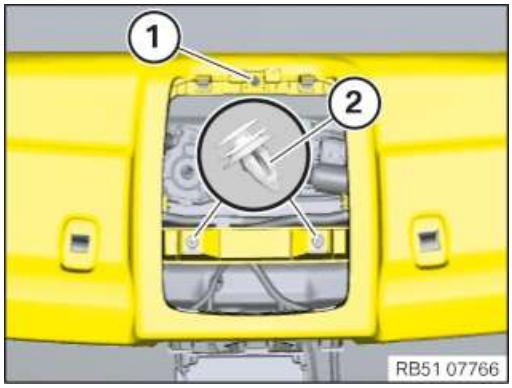
The front seat backrests have been fully adjusted towards the rear.

The rear seat backrest is folded down toward the front.

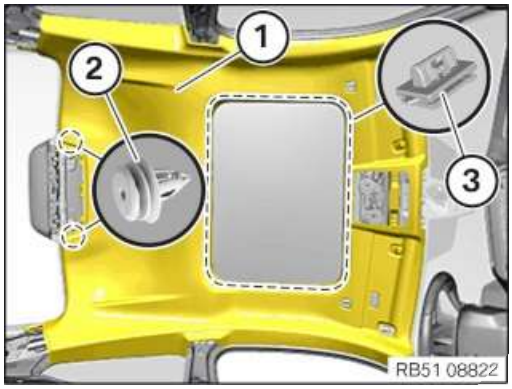
cardiagn.com



- Loosen the expanding rivet (1).



- Loosen screw (1).
- Unclip the headlining on the clips (2) downwards.



- Unclip headlining (1) downwards from clips (2).
- Carefully unclip headlining (1) from the slide/tilt sunroof unit and clamps and the clamps (3) in the area of the dotted line.

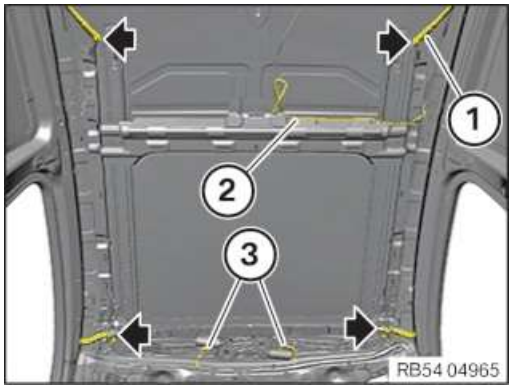


NOTICE

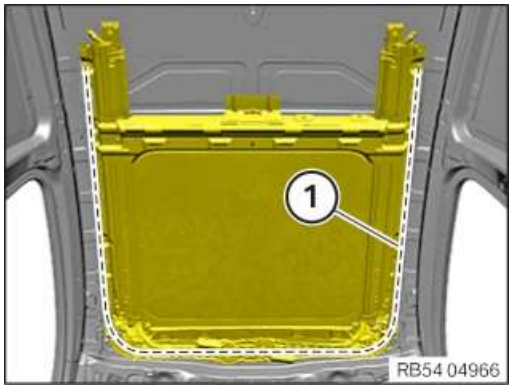
Schematic diagram is for example purposes. Some parts may differ in certain details.

- Feed out headlining (1) from the respective lips of edge protection with the assistance of a second person.
- Place the headlining (1) in the vehicle with an auxiliary person.

14 – Remove slide/tilt sunroof completely



- Pull off all 4 water drain hoses (1) (arrows).
- Unclip wiring harness (2) on the holders.
- Disconnect the plug connections (3) of engines and unclip the corresponding cable.



RISK OF DAMAGE

Heavy component.

Heavy components can lead to injury or damage.

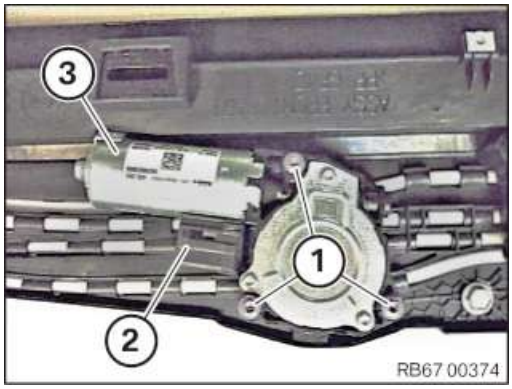
- Remove and install heavy components with the aid of another person/other persons.

- Secure slide/tilt sunroof from falling with the help of an auxiliary person.
- Release all the screws along the line (1).
- Lower the slide/tilt sunroof with the assistance of an auxiliary person and remove from the vehicle through the front passenger door.

15 – Remove the drive for the glass slide/tilt sunroof panel

Prerequisite

Glass slide/tilt sunroof panel is closed.



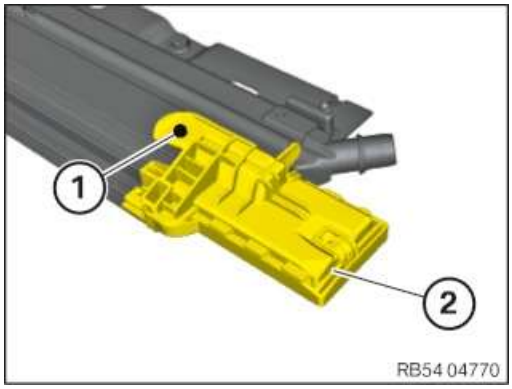
- Loosen screws (1).
- Unlock and disconnect available plug connection (2).
- Feed out the drive (3) for the glass slide/tilt sunroof panel.

MAIN WORK

16 – Removing the end cap of the slide/tilt sunroof frame

NOTICE

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



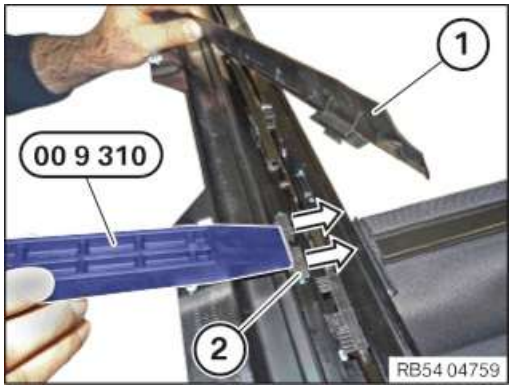
- Drill out the blind rivet (1).
- Feed end cap (2) out and remove it.

17 – Remove the mechanism of the panorama glass roof

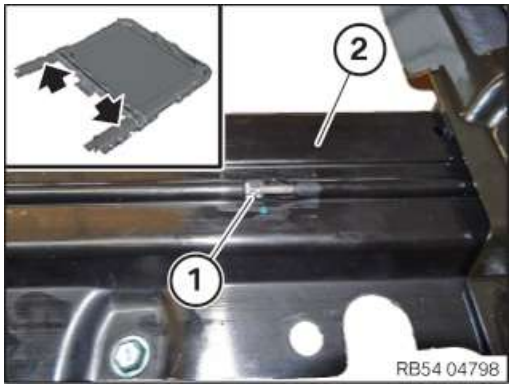
NOTICE

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

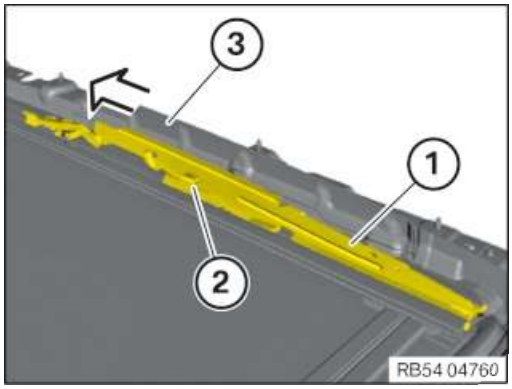
cardiagn.com



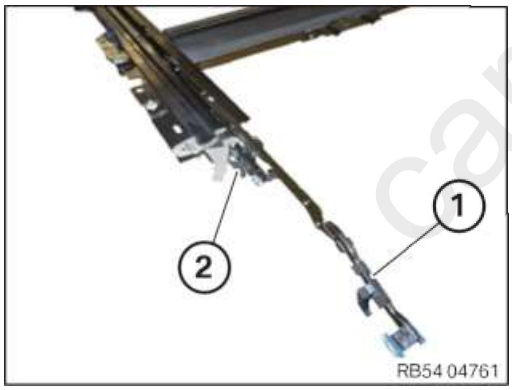
- Unclip sealing lip (1) and push slightly to a side.
- Unclip and feed out the limit position of mechanics (2) with the special tool 0 490 527 (00 9 310) and a slight hit inwards.



- Guide out the stopper of the mechanics (1) from the slide/tilt sunroof frame (2).

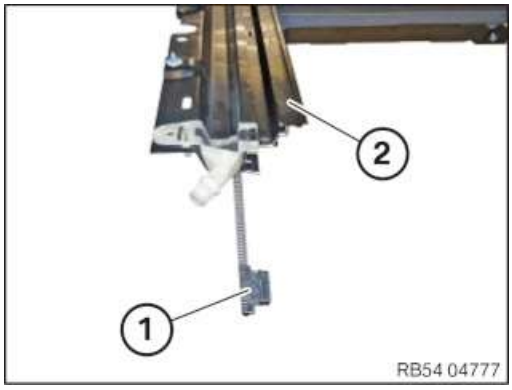


- Slide the mechanics (1) onto the slider (2) towards rear from the slide/tilt sunroof frame (3) in the direction of arrow.



- Slide the mechanics (1) to the rear and out of the slide/tilt sunroof frame.
- Feed the mechanics (1) out of the slide/tilt sunroof frame and detach the driver (2).

18 – Remove the drive cable for the mechanics



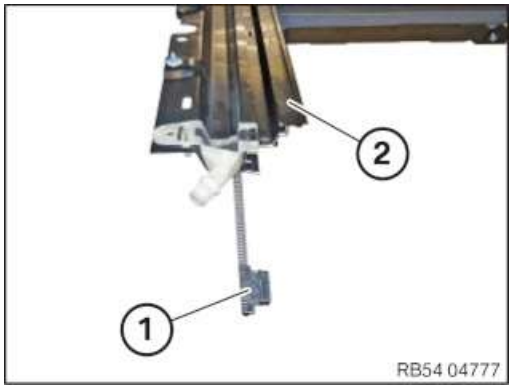
NOTICE

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

- Guide the drive cable (1) out of the slide/tilt sunroof frame (2).

19 – Install the drive cable for the mechanics

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NOTICE

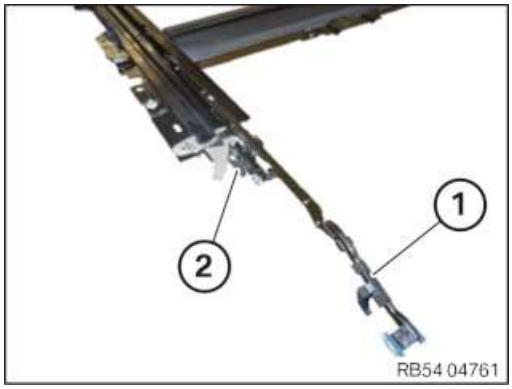
Description is for left component only. Procedure on the right side is identical.

- Guide the drive cable (1) into the slide/tilt sunroof frame (2).

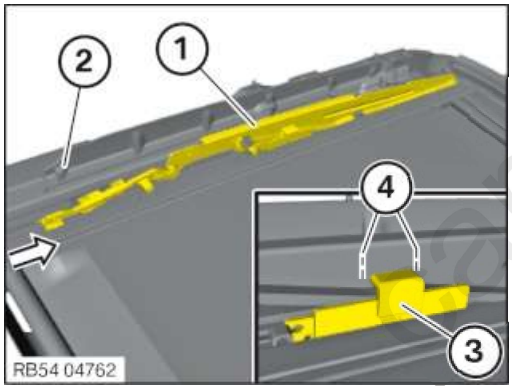
20 – Install the mechanics of the panorama glass roof

NOTICE

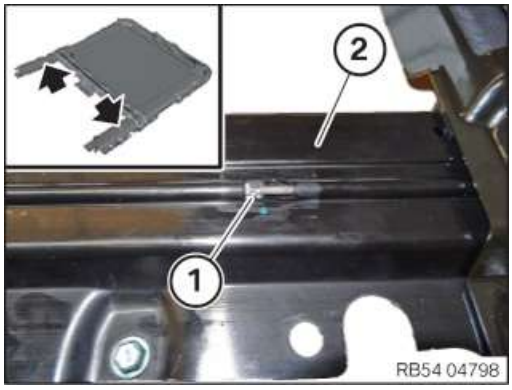
Description is for left component only. Procedure on the right side is identical.



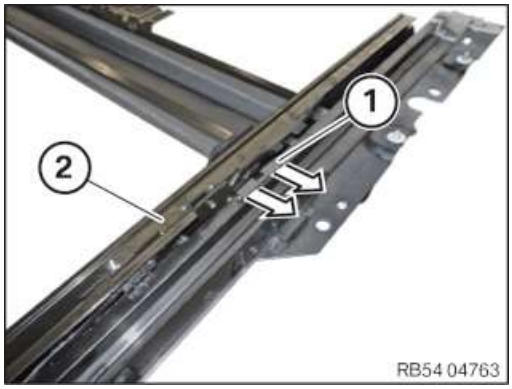
- Feed mechanics (1) into the slide/tilt sunroof frame and attach the driver (2).
- Push the mechanics (1) further forwards into the slide/tilt sunroof frame.



- Push the mechanics (1) into the slide/tilt sunroof frame (2) up to the limit position.
- Push the slider (3) further forward until they are found between the marks (4) on the mechanics.



- Guide the stopper of the mechanics (1) into the slide/tilt sunroof frame (2) and position.

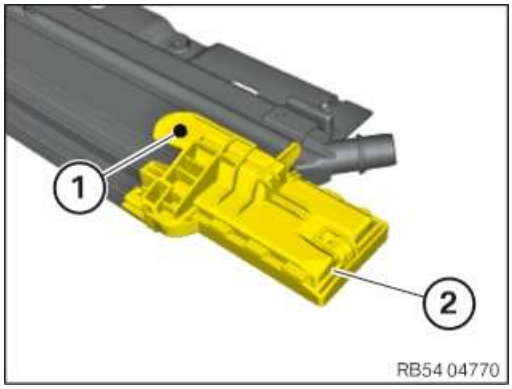


- Feed the limit position of the mechanics (1) into the recess on the slide/tilt sunroof frame and move in the direction of arrow until the retaining lug (2) engages.

21 – Install end cap of the slide/tilt sunroof frame

NOTICE

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



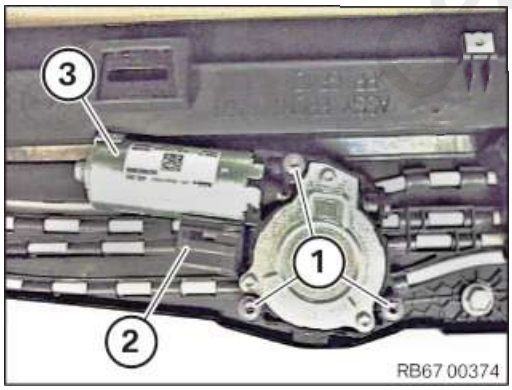
- Position the end cap (2).
- Attach blind rivet (1).

POSTPROCESSES

22 – Installing the drive for the glass slide/tilt sunroof panel

Prerequisite

Glass slide/tilt sunroof panel is closed.

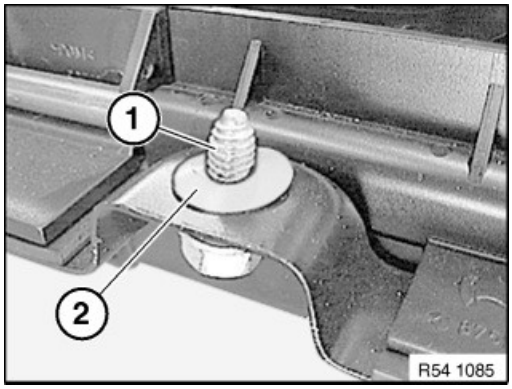


- Feed in the drive (3) for the glass slide/tilt sunroof panel and position it correctly.
- Connect and lock existing connectors (2).
- Tighten the screws (1).

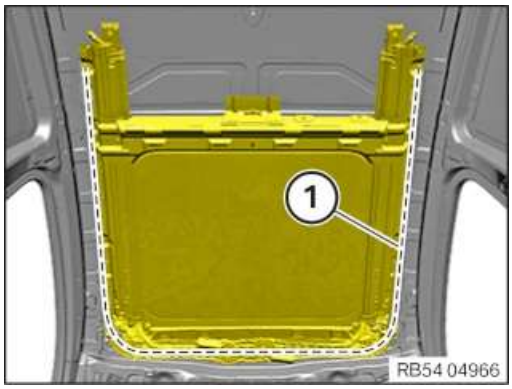
Drive for panorama sunroof to body

Screw		Tightening torque	5,5 Nm

23 – Completely installing the slide/tilt sunroof



- Before installing, secure all the screws (1) with plastic washers (2), to avoid a groaning noise.



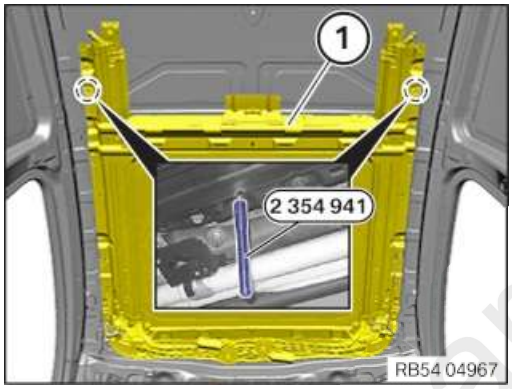
RISK OF DAMAGE

Heavy component.

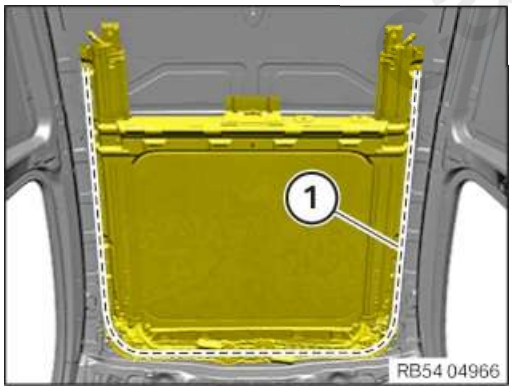
Heavy components can lead to injury or damage.

- Remove and install heavy components with the aid of another person/other persons.

- Insert the slide/tilt sunroof through the front passenger door into the vehicle with the help of an auxiliary person and position it.
- When installing it, ensure that no cables are clamped.
- Screw in all screws along the line (1) by several turns.



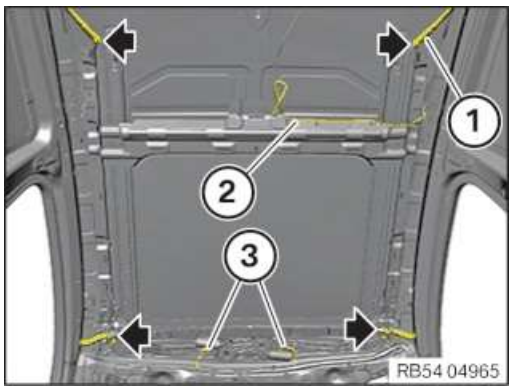
- Insert the special tool and align the panoramic glass sunroof (1) with the roof.



- Tighten all screws along the marked areas (1) .

Slide/tilt sunroof frame to body

M6		5,4 Nm



- Connect all 4 water drain hoses (1) (arrows).
- Clip in wiring harness (2) on the clips.
- Connect the connector (3) of the engines and clip in the corresponding cable.

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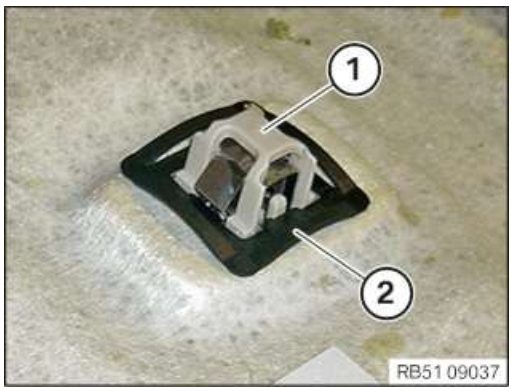
24 – Install the headlining (with slide/tilt sunroof) (lowered)

Prerequisite

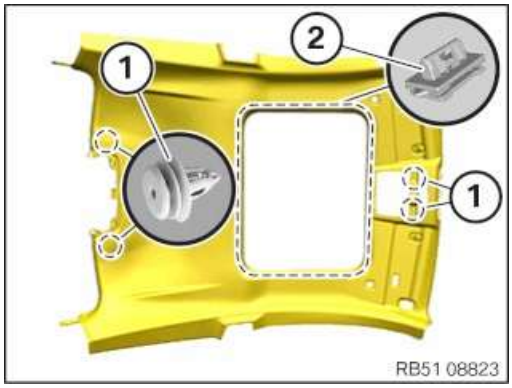
The front seats have been fully adjusted towards the bottom.

The front seat backrests have been fully adjusted towards the rear.

The rear seat backrest is folded down toward the front.



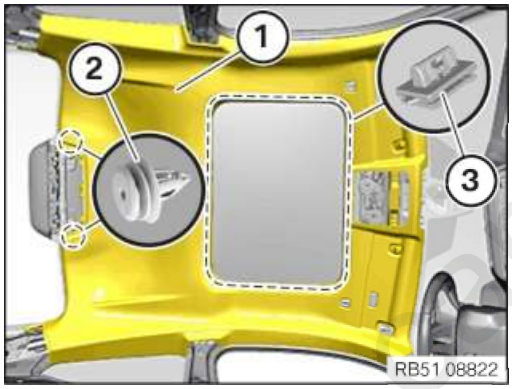
- Install the end support of the sun visors (1) in the headlining and mount it with clamps (2).



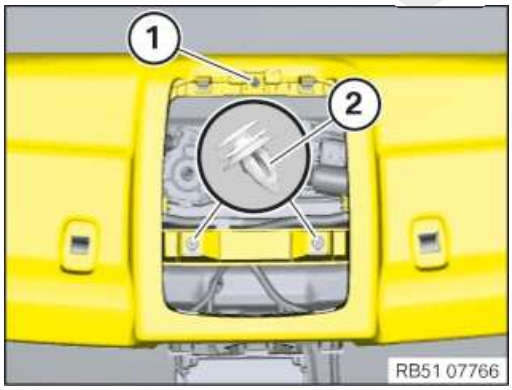
- Check the clips (1) on the headlining for damage.

  Defective or missing clips (1) must be renewed.
- Check the clamps (2) along the dotted line for damage.

  Defective or missing clamps (2) need to be renewed.



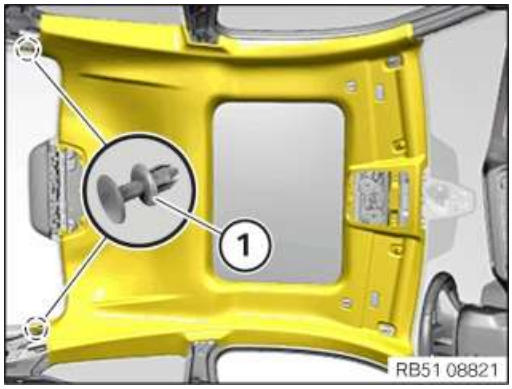
- Insert the headlining (1) with the help of an auxiliary person onto the respective edge protection.
- Clip in headlining (1) on the clips (2).
- Clip the headlining (1) in the area of the dotted line at the slide/tilt sunroof unit and the clamps (3).



- Clip headlining to the clips (2).
- Tighten down screw (1).

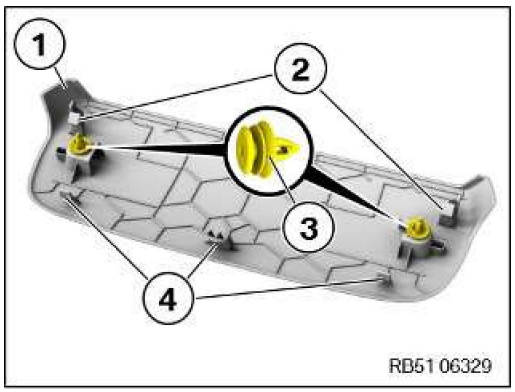
Headlining to frame

Oval-head screw		Tightening torque	1,5 Nm



- Secure expanding rivet (1).

25 – Installing trim for additional brake light



Check

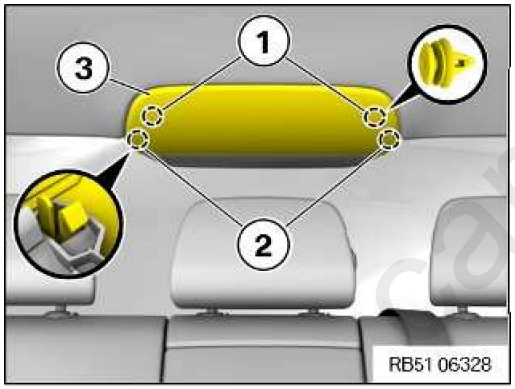
- Check the clips (3) for damage and renew if necessary.
- Check latch mechanisms (2) and guides (4) for damage.

Result

» The latch mechanism or the guide is damaged.

Measure

- Renew the trim for the additional brake light.



- Position trim for additional brake light (1) from the bottom and clip it in with latch mechanisms (2).
- Clip in clips (1).

26 – Installing the left and right B-pillar trim panel

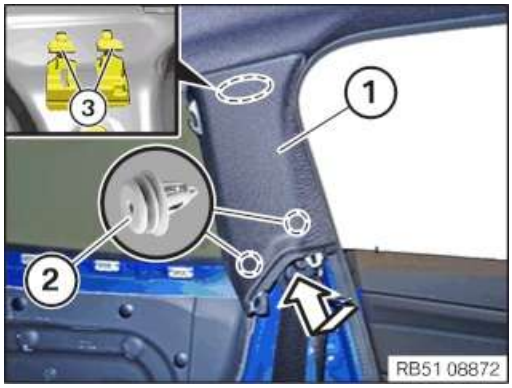
NOTICE

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

▸ **Install the B-pillar trim panel**



- Check clips (1) for damage and renew if necessary.



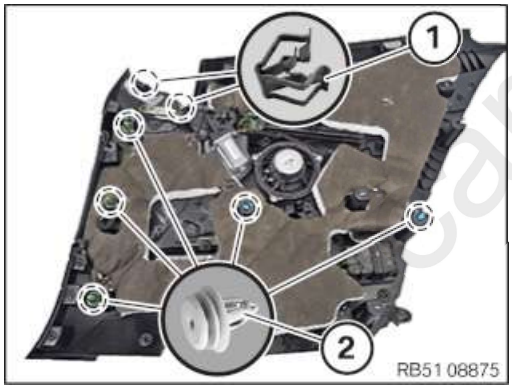
- Insert B-pillar trim panel (1) in direction of arrow into the guides (3) and under the lip of edge protection.
- Clip in the B-pillar trim panel (1) at the clips (2).

27 – Install side trim panel, rear left and right

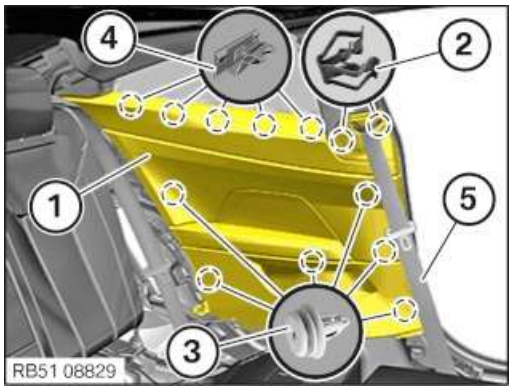
NOTICE

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

▸ **Install rear side trim panel**

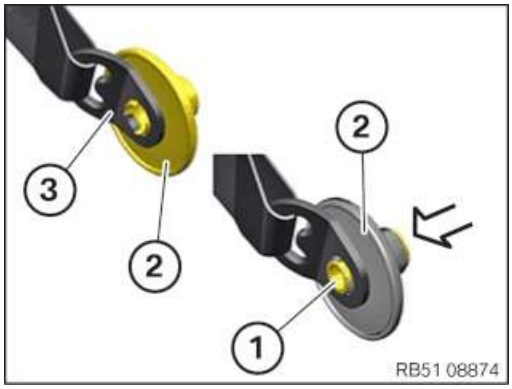


- Check clamps (1) for damage; renew them if necessary.
- Check clips (2) for damage, replace if necessary.

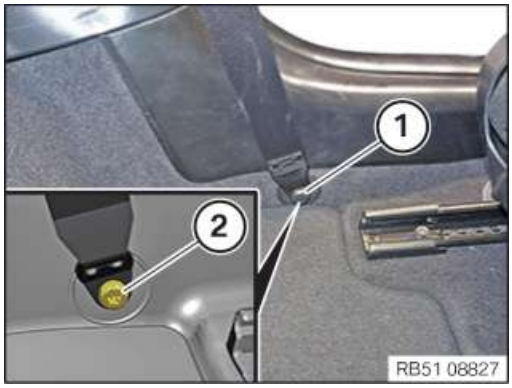


- Connect all the connectors to rear side trim panel (1) of the wiring harness and lock and disconnect them.
- Guide in upper seat belt (5).
- Position rear side trim panel (1) and clip it into clamps (4).
- Clip rear side trim panel (1) into clips (3).
- Clip rear side trim panel (1) into clamps (2).

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- Clip cover (2) of end fitting (3) into end fitting (3).
- Slide sleeve (1) into cover (2) of end fitting (3).



- Correctly position the seat belt end fitting.
- Tighten down screw (2).

End fitting to body

M10		Tightening torque	42 Nm

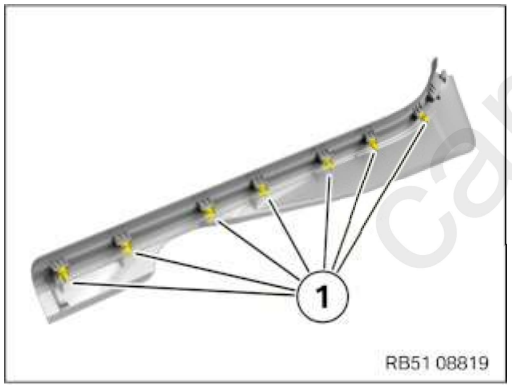
- Clip in cover cap (1).

28 – Installing the inner door sill cover strip on the left and right

NOTICE

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

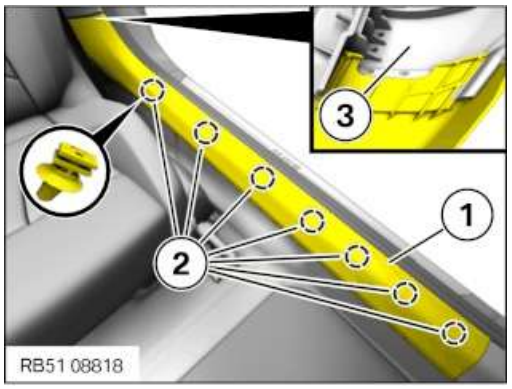
▸ **Installing the inner door sill cover strip**



NOTICE

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

- Check the clips (1) for damage and renew if necessary.



- Insert the door sill cover strip (1) below the rear side trim panel (3).
- Clip the door sill cover strip (1) in with the clips (2).

29 – Installing the C-pillar trim panel on the left and right

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NOTICE

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

▸ **Installing C-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

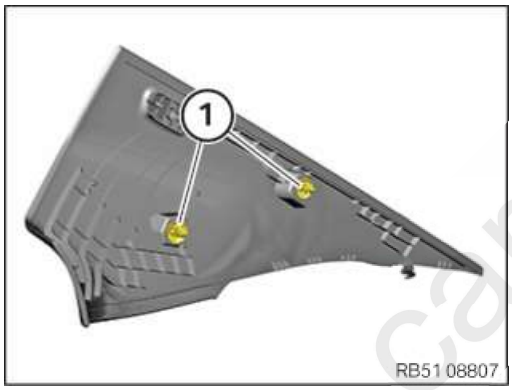
- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

RISK OF DAMAGE

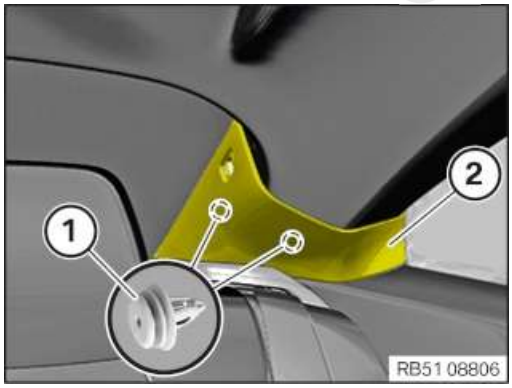
Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.

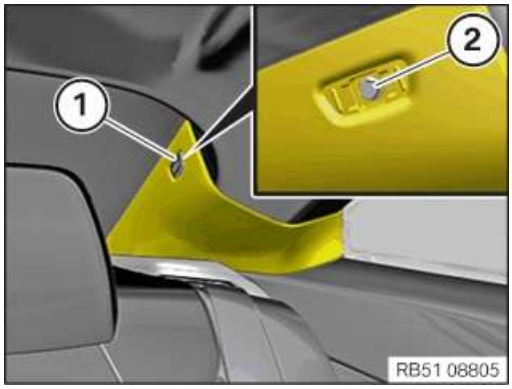


- Check clips (1) for damage and, if necessary, renew them.



- Position C-pillar trim panel (2) and clip it onto clips (1).

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- Tighten down screw (2).

C-pillar trim panel to body

Screw		Tightening torque	2,6 Nm

- Clip in cover (1) of the C-pillar trim panel.

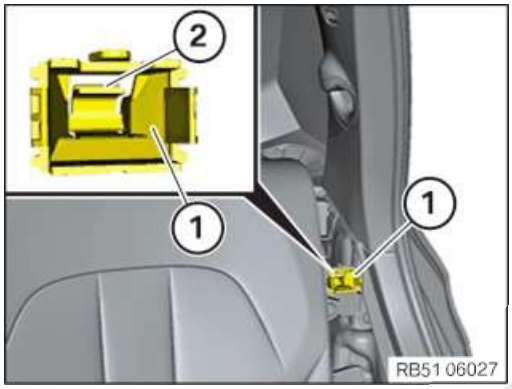
30 – Install the backrest side section on the left and right

NOTICE

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

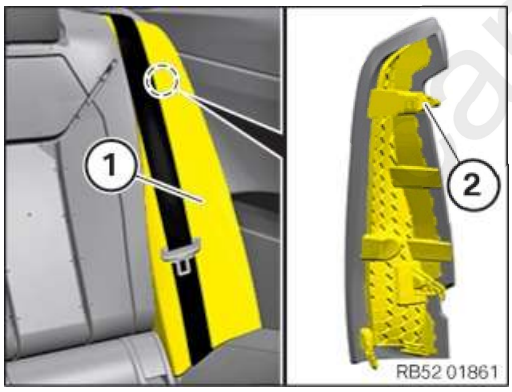
▶ **Installing backrest side section**

▷ **Installing backrest side section**



- Release mounting element (1) from latch mechanism (2) and remove it from the body.
- Check the mounting element (1) for damage, renew if necessary.

  The mounting element (1) must not be damaged or missing.
- Fit mounting element (1) on the backrest side section.

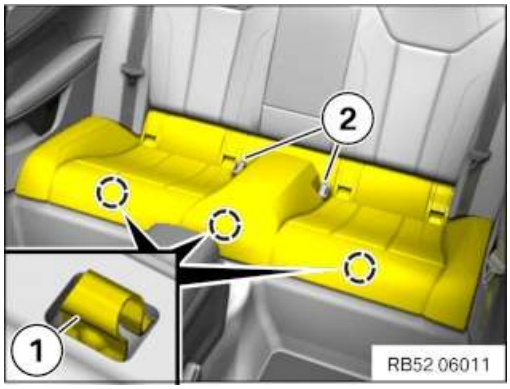


- Insert lower backrest side section (1) into the guide and position it correctly.
- Clip in backrest side section (1) to mounting element (2).

◁

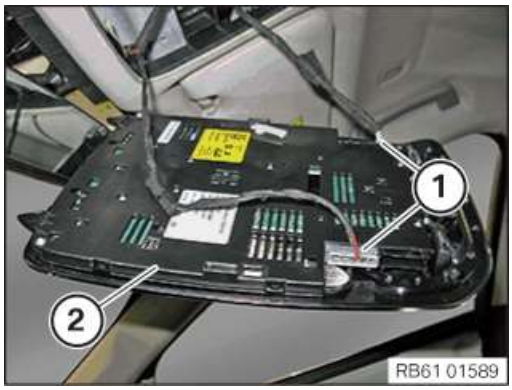
31 – Installing the rear seat bench

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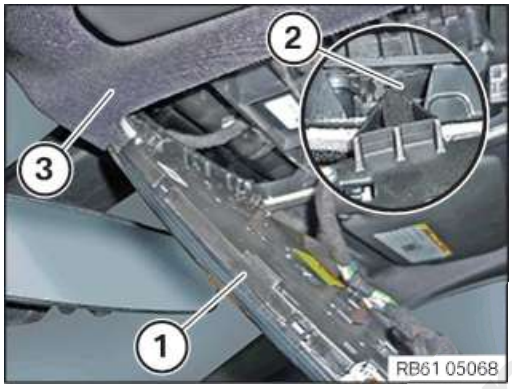


- Feed in the seat belt buckles (2).
- Position the rear seat bench and clip into the clamps (1).

32 – Installing roof function centre (FZD)



- Connect connectors (1) and lock.
- Clip in the cable for the roof function centre (FZD) (2) in the cable clip.



- Insert the roof function centre (FZD) (1) as shown at a steep angle in the two guides (2) on the headlining (3).
- Make sure the headlining is not deformed during this operation.



- Clip the roof function centre (FZD) (1) upwards into the clamps (2).



- Slide the special tool 2 298 505 in the direction of arrow between the FZD frame and the headlining along the dotted line to adjust the headlining correctly.



- Tighten the screws (1).

Roof function centre (FZD)

	Tightening torque	1.2 Nm



- Clip in the cover (1).

33 – Installing the sun visors and the end support on the left and right

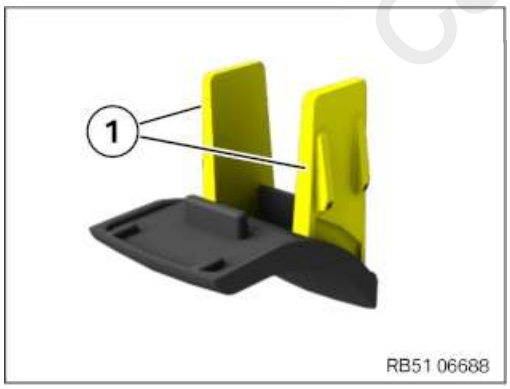
NOTICE

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

▸ **Install the sun visor and the counter support**

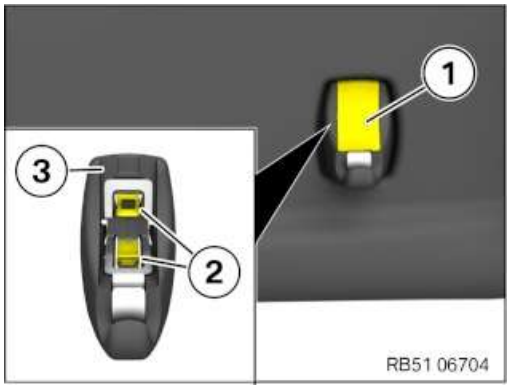
NOTICE

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

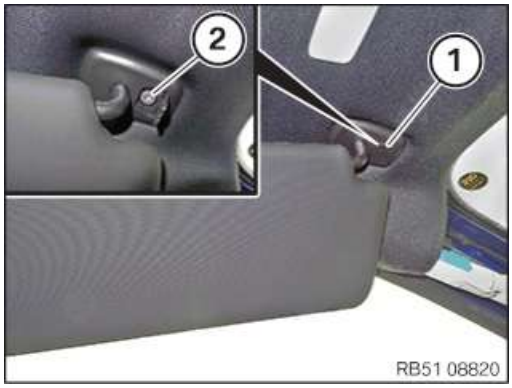


- Check the guides (1) on the cover of the end support for damage, renew if necessary.

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- Clip in the counter support (3) to the headlining.
- Make sure the clamps (2) are engaged correctly.
- Clip in the cover (1).



- Connect and lock corresponding connectors.
- Install the sun visors.
- Tighten down screw (2).

Sun visor to body

Screw		Tightening torque	3.3 Nm

- Close the cover (1).



- Hook the sun visors (1) to the end support (2).

34 – Install the A-pillar trim panel on the left and right

NOTICE

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

▸ **Installing the A-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

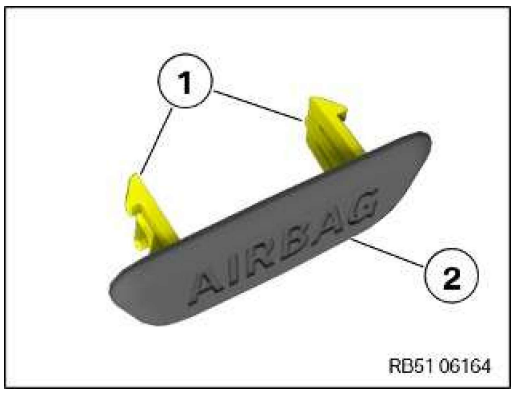
cardiagn.com

RISK OF DAMAGE

Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



Check

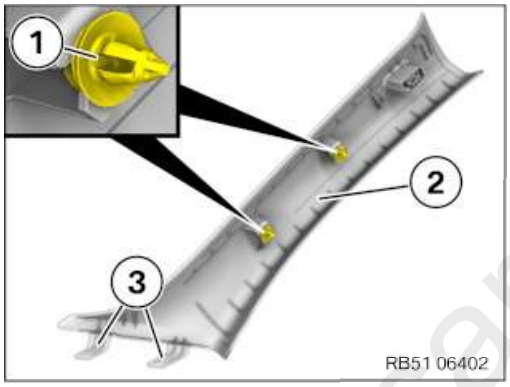
- Check retaining lugs (1) of cover (2) for damage.

Result

» Retaining lug is damaged.

Measure

- Renew the cover.



Check

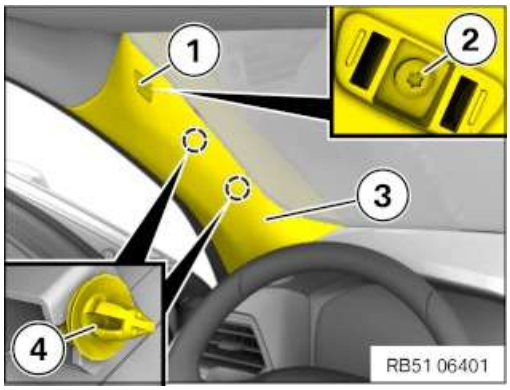
- Check the clips (1) for damage and renew if necessary.
- Check the guides (3) for damage.

Result

» Guide is damaged.

Measure

- Renew the A-pillar trim panel.



- Guide in A-pillar trim panel (3) downwards and clip it in with clips (4).
- Tighten down screw (2).

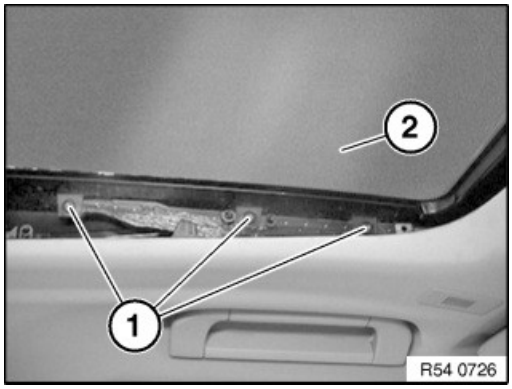
A-pillar trim panel to body

Sheet metal screw 4,8x38		Tightening torque	2,6 Nm

- Clip in the cover (1).

35 – Install glass slide/tilt sunroof panel

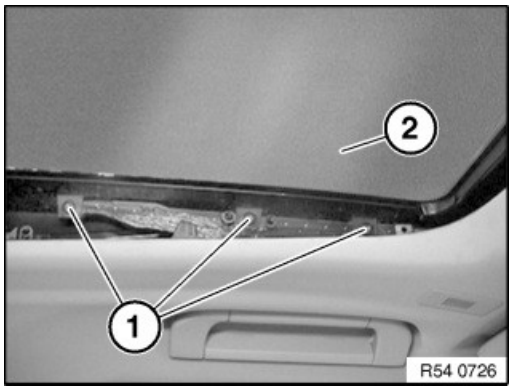
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- Insert the glass slide/tilt sunroof panel (2) from the top.
- Renew screws (1).

  Parts: Bolts
- Screw in the bolts (1) on the left and right, do not tighten.

36 – Adjusting glass slide/tilt sunroof panel

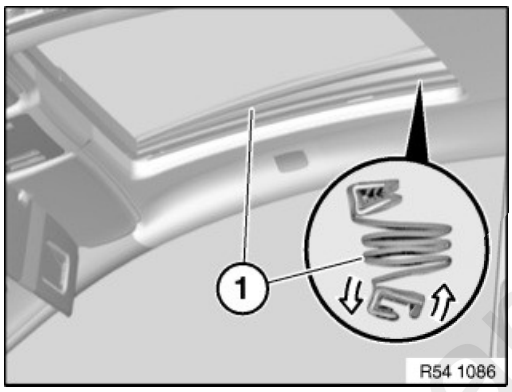


- Close glass slide/tilt sunroof lid (2).
- Slacken screws (1) at the left and right such that the glass slide/tilt roof panel (2) can just be moved.
- Move the glass slide/tilt roof panel (2) until the right position is reached.
- Tighten the screws (1).

Panorama glass roof lid to mechanics

M5	Replace screws.	4,5 Nm

37 – Install the gaiter for the glass slide/tilt sunroof



NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully screw in the gaiter (1) into the bottom guide.
- Carefully screw the gaiter (1) into the top guide.
- Check the gaiter (1) is seated securely.

38 – Initialising glass slide/tilt sunroof

▸ **Prerequisites for initialising the slide/tilt sunroof/panoramic glass sunroof**

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- The following prerequisites must be met for a trouble-free initialisation:

Interior temperature of the vehicle	15 °C - 30 °C
Vehicle voltage	12 V - 15 V
Vehicle condition	- The vehicle is standing on its own wheels
	- The vehicle is horizontal
	- Speed 0 km/h (the vehicle must not roll)
	- The radio-operated key is in the vehicle
	- Terminal 15 is switched on or the vehicle is in the Residing PFW state
Operating point	- FZD button
	- Diagnostic function: “Initialise slide/tilt sunroof”
Miscellaneous	No other work may be carried out on the vehicle during initialisation in order to avoid impacts or vibrations.



TECHNICAL INFORMATION

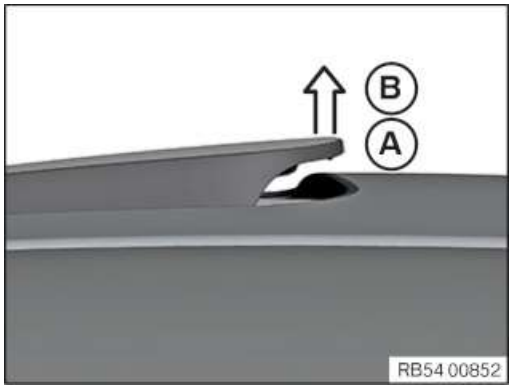
The following prerequisites are the basis for a correct initialisation and must be strictly observed.

For additional information see: 54 12 ... General prerequisites for initialising the slide/tilt sunroof or panoramic sunroof

- Press and hold the switch in the "Vent Position" direction.

  The glass slide/tilt sunroof moves to vent position.
- In the event of a delayed start or sudden stop of the glass slide/tilt sunroof, continue holding the switch in the "Vent position" direction.

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- Continue to keep the switch pressed during the entire test module.
- Continue to operate the switch further after reaching the vent position (A) for approx. 30 s.

  Initialisation begins:

  - The glass slide/tilt sunroof moves from vent position (A) toward position (B).
  - Screen (sliding headliner) fully closes.
  - Screen (sliding headliner) fully opens.
  - Glass slide/tilt sunroof moves to "closed" position.
  - The glass slide/tilt sunroof moves to the "Open" position and immediately returns to the "Closed" position.
  - After a brief pause, the screen fully closes.

  The initialisation is completed once the glass slide/tilt sunroof and the screen have completely closed.
- Release the switch.

TECHNICAL INFORMATION

If the switch is released in the meantime, the initialisation must be repeated. Following successful initialisation, the corresponding messages in the Check Control and on the control display go out.

- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

Additional Information

Overview of Tightening Torques

Drive for panorama sunroof to body			Used in step 22
Screw		Tightening torque	5,5 Nm

Slide/tilt sunroof frame to body			Used in step 23
M6			5,4 Nm

Headlining to frame			Used in step 24
Oval-head screw		Tightening torque	1,5 Nm

End fitting to body			Used in step 27
M10		Tightening torque	42 Nm

C-pillar trim panel to body			Used in step 29
Screw		Tightening torque	2,6 Nm

Roof function centre (FZD)			Used in step 32
		Tightening torque	1.2 Nm

Sun visor to body			Used in step 33
Screw		Tightening torque	3.3 Nm

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A-pillar trim panel to body — Used in step 34

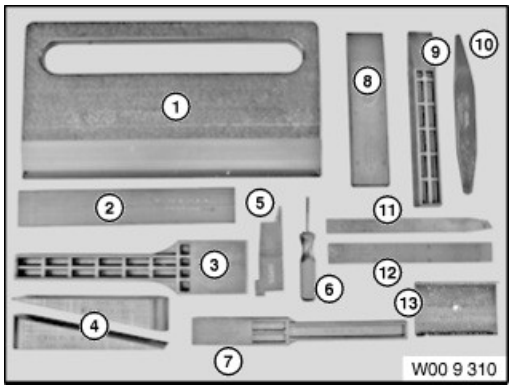
Sheet metal screw 4,8x38		Tightening torque	2,6 Nm

Panorama glass roof lid to mechanics — Used in step 36

M5	Replace screws.	4,5 Nm

Overview of Special Tools

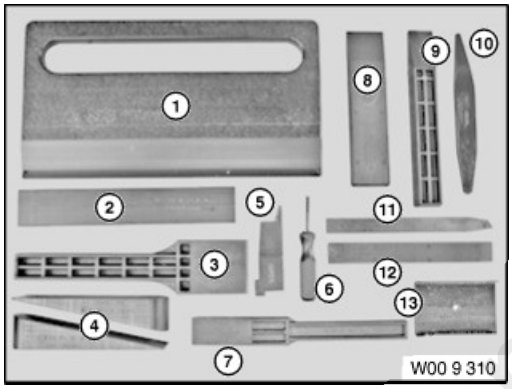
0 493 752 (00 9 329) Case



Common — Used in step 39

Usage	(Case) with insert without mounting wedges, delivery while stocks last - as of 02/2019.
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 07 09 (530)

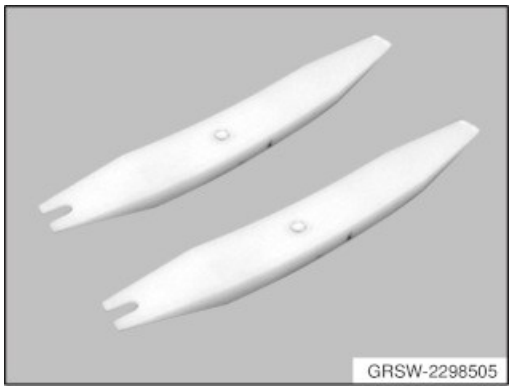
0 490 527 (00 9 310) Wedge



Common — Used in step 17

Usage	(Panel wedges (set in plastic case)) For straightening and installation work on the vehicle, e.g. feeding in trim panels, removing window cavity strips, removing minor dents, removing adhesive residue, measuring gap widths, levering out trim panels --> 12 pieces (item 6 = 009316 discontinued since 2009).
Included in the tool or work	
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 07 09 (530)

2 298 505 Wedge



Common — Used in step 32

Usage	Set (delivery of 2 pieces)
Included in the tool or work	
Storage location	C34
Replaced by	
In connection with	
SI-Number	01 03 12 (792)

Replacement tools:

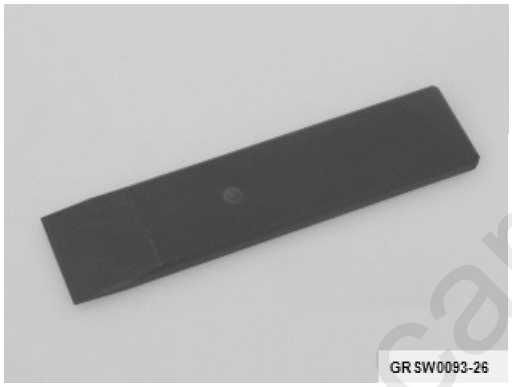
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0 496 569 (00 9 325) Wedge



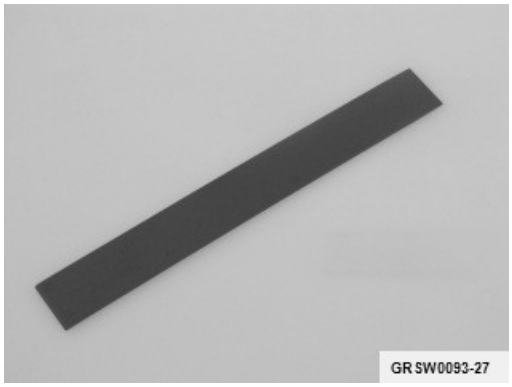
Common	Used in step 17
Usage	(Panel wedge) From 11/2008 this special tool replaces panel wedge 00 9 317 (different material)
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	41 01 09 (507)

0 496 570 (00 9 326) Wedge



Common	Used in step 17
Usage	(Universal wedge) From 11/2008 this special tool replaces panel wedge 00 9 318 (different material)
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 07 09 (530)

0 496 571 (00 9 327) Wedge



Common	Used in step 17
Usage	(Cleaning wedge) From 11/2008 this special tool replaces panel wedge 00 9 323 (different material)
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 07 09 (530)

Links

Repair instructions (PRE)	Used in step
Notes on 48-V battery	730

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General repair instructions	Used in step
72 00 ... Safety regulations for handling components with gas generators	3730
72 00 ... Safety regulations for handling components with gas generators	3

Repair instructions	Used in step
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	730
61 20 900 Disconnecting and connecting battery earth lead	730
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61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	730
61 20 900 Disconnecting and connecting battery earth lead	730
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	730
61 20 900 Disconnecting and connecting battery earth lead (Plug-in Hybrid Electric Vehicle)	730
61 20 900 Disconnecting and connecting battery earth lead	730
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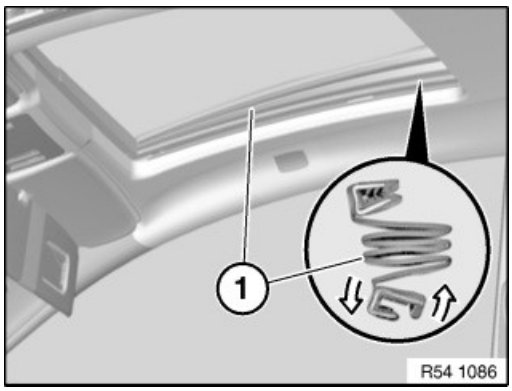
61 20 900 Disconnecting and connecting battery earth lead	730
61 20 900 Disconnecting and connecting battery earth lead	730
61 20 900 Disconnecting and connecting battery earth lead	730
61 20 900 Disconnecting and connecting battery earth lead	730
61 20 900 Disconnecting and connecting battery earth lead	730
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	730
61 20 900 Disconnecting and connecting battery earth lead	730
61 20 900 Disconnecting and connecting battery earth lead	730
61 20 900 Disconnecting and connecting battery earth lead	730

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54 12 302 Removing and installing/replacing roller sunblind for slide/tilt sunroof

PRELIMINARY WORK

1 – Remove the gaiter for the glass slide/tilt sunroof

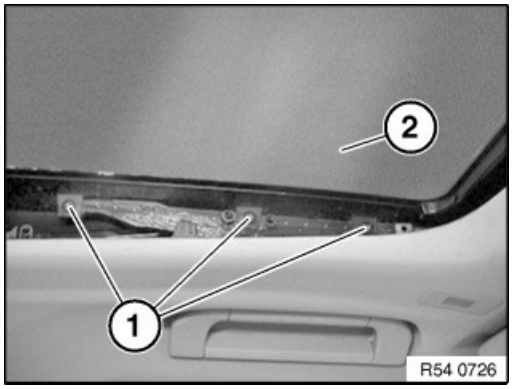


NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully pull off the gaiter (1) from the top guide.
- Carefully twist out the gaiter (1) from the bottom guide.

2 – Remove glass slide/tilt sunroof panel



- Loosen screws (1) on left and right.
- Remove the glass slide/tilt sunroof panel (2) towards the top.

3 – Remove left and right A-pillar trim panel

NOTICE

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

▸ **Remove the A-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

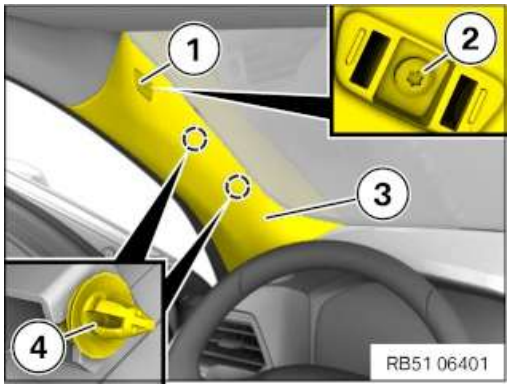
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RISK OF DAMAGE

Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



- Unclip cover (1) with a suitable special tool from the special tool kit 0 493 752 (00 9 329).
- Loosen screw (2).
- Unclip A-pillar trim panel (3) with clips (4) and feed it out to the top.

4 – Removing the sun visors and the end support on the left and right

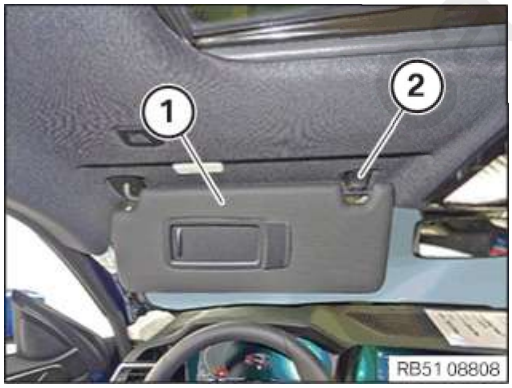
NOTICE

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

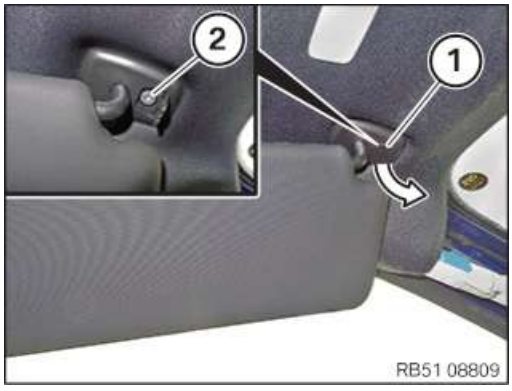
▸ **Remove the sun visor and the counter support**

NOTICE

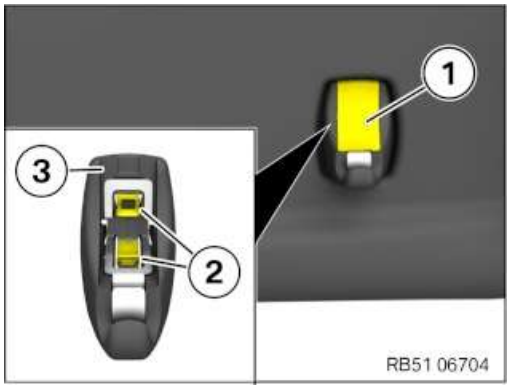
Schematic diagram is for example purposes. Some parts may differ in certain details.



- Detach sun visors (1) from end support (2) and swivel to the side.



- Fold open cover (1).
- Loosen screw (2).
- Remove sun visors and unlock and disconnect the associated plug connection.



- Unclip cover (1) using a suitable tool.
- Push the clamps (2) together and pull the counter support (3) out of the headlining.

5 – Removing the roof function centre (FZD)



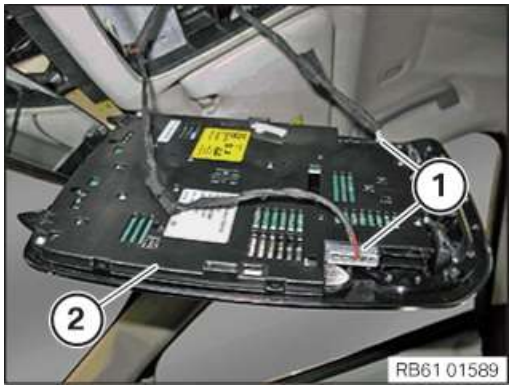
- Unclip the cover (1).



- Loosen screws (1).



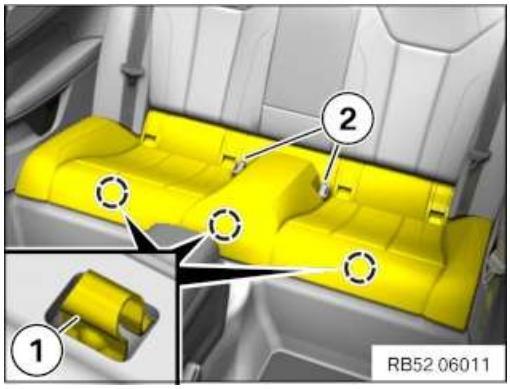
- Unclip the roof function centre (FZD) (1) from the clamps (2).
- Thread the roof function centre (FZD) (1) out of the guides (3).



- Unlock and disconnect plug connections (1).
- Unclip the cable clip from roof function centre (FZD) (2) and remove the roof function centre (FZD) (2).

6 – Remove rear seat bench

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- Unclip the rear seat bench upwards from clamps (1) and guide out seat belt buckles (2).
- Remove the rear seat bench.

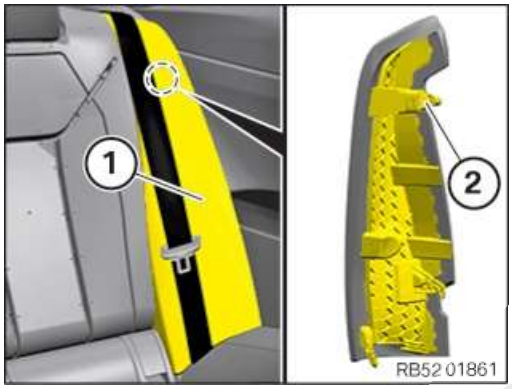
7 – Remove backrest side section on left and right

NOTICE

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

▸ **Remove armrest side section**

▹ **Remove armrest side section**



- Reach behind the backrest side section (1) from the top and unclip the backrest side section (1) from the mounting element (2) to the front.
- Remove backrest side section (1) in the upward direction from the guide.

◃

8 – Removing the C-pillar trim panel on the left and right

NOTICE

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

▸ **Remove C-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

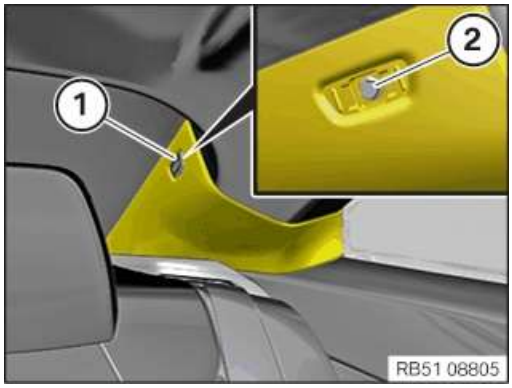
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RISK OF DAMAGE

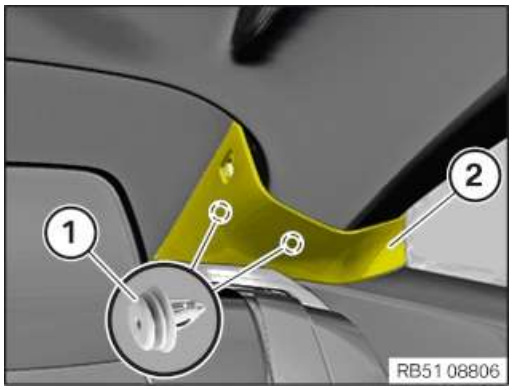
Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



- Unclip cover (1) of the C-pillar trim panel.
- Release the screw (2).



- Unclip C-pillar trim panel (2) from clips (1) and guide it out.

9 – Removing the inner door sill cover strip on the left and right

NOTICE

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

▸ **Removing the inner door sill cover strip**

RISK OF DAMAGE

Bending of plastic parts.

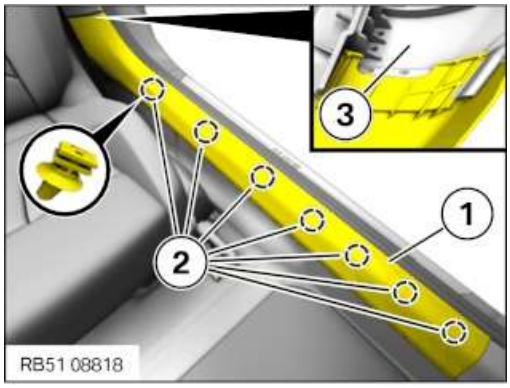
Application of too much force can lead to bending of plastic parts.

- Place special tool directly beside the mounting clip.
- Continue unclipping the part without using the tool if possible.

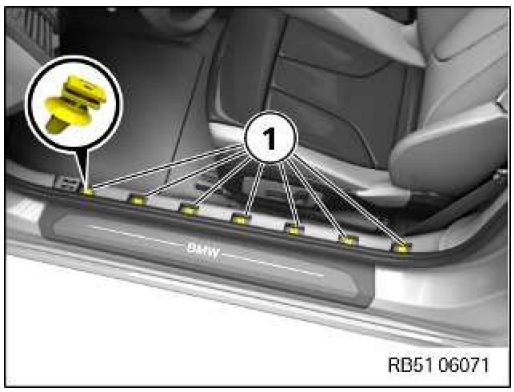
NOTICE

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

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- Release door sill cover strip (1) with clips (2) starting from the front using a suitable special tool from the set of special tools 0 493 752 (00 9 329).
- Guide out and remove door sill cover strip (1) under the rear side trim panel (3) .



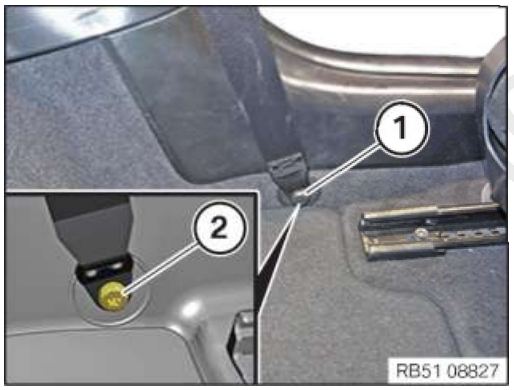
- If necessary, remove clips (1) and connect them to the door sill cover strip.

10 – Remove side trim panel, rear left and right

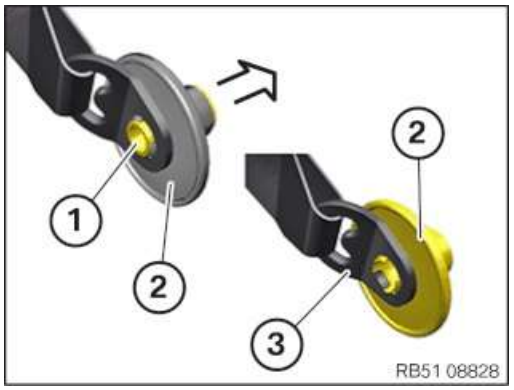
NOTICE

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

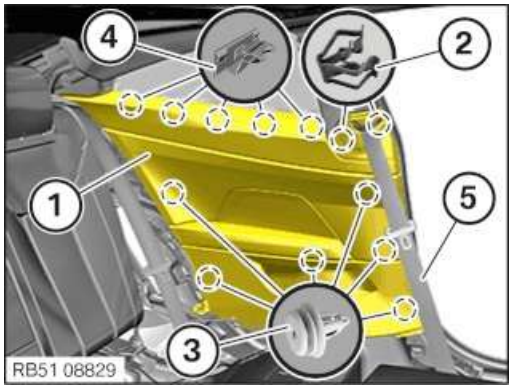
▸ **Remove rear side trim panel**



- Unclip the cover cap (1).
- Release the screw (2).



- Pull out the sleeve (1) from the cover (2) of the end fitting (3).
- Unclip the cover (2) of the end fitting (3) from the end fitting (3).



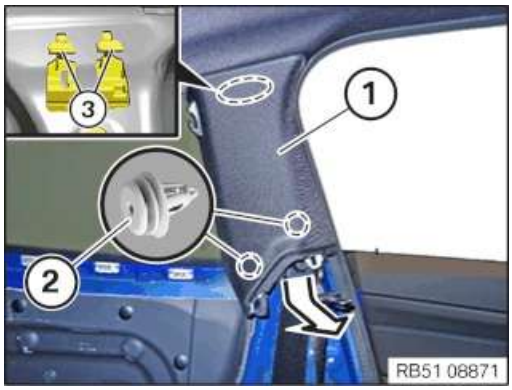
- Unclip the rear side trim panel (1) with a suitable tool at the clamps (2).
- Unclip the rear side trim panel (1) with a suitable tool at the clips (3).
- Release the rear side trim panel (1) at the clamps (4) and feed out at the edge protection.
- Unlock and disconnect all the plug connections at the rear side trim panel (1) of the wiring harness.
- Feed out the upper seat belt (5).

11 – Removing left and right B-pillar trim panel

NOTICE

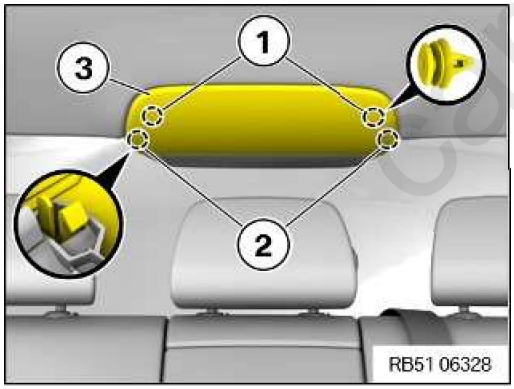
Description is for left component only. Procedure on the right side is identical.

▸ **Remove the B-pillar trim panel**



- Unclip the B-pillar trim panel (1) at the clips (2).
- Remove the B-pillar trim panel (1) from the lip of the edge protection and the guides (3) in the direction of the arrow.

12 – Removing the trim of the additional brake light



- Loosen the clips (1).
- Release the latch mechanisms (2) and remove the trim of the additional brake light (3).

13 – Lower the headlining (with SHD)

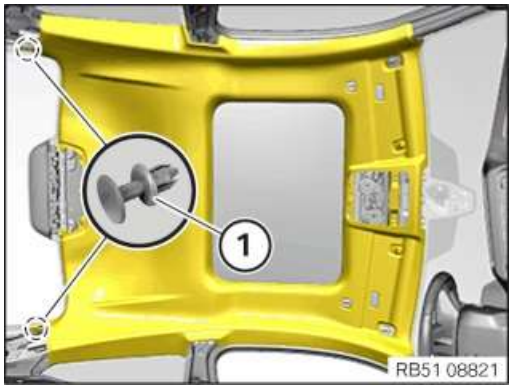
Prerequisite

The front seats have been fully adjusted towards the bottom.

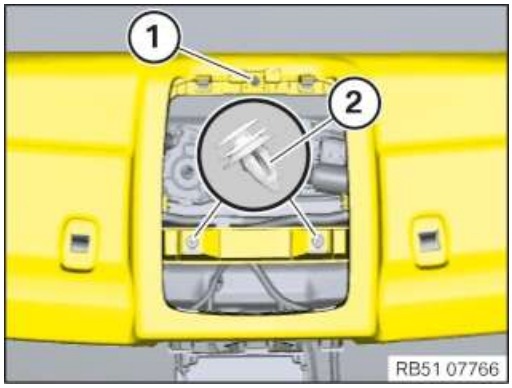
The front seat backrests have been fully adjusted towards the rear.

The rear seat backrest is folded down toward the front.

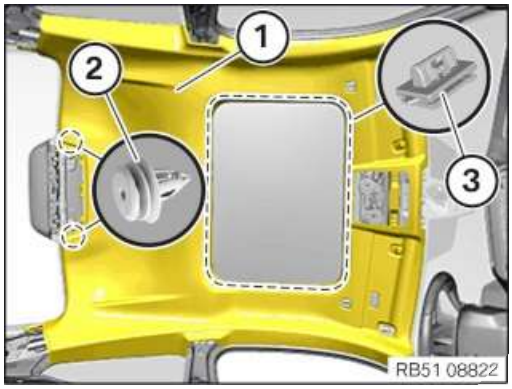
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- Loosen the expanding rivet (1).



- Loosen screw (1).
- Unclip the headlining on the clips (2) downwards.



- Unclip headlining (1) downwards from clips (2).
- Carefully unclip headlining (1) from the slide/tilt sunroof unit and clamps and the clamps (3) in the area of the dotted line.

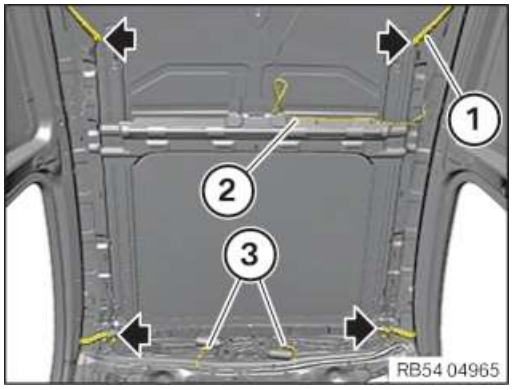


NOTICE

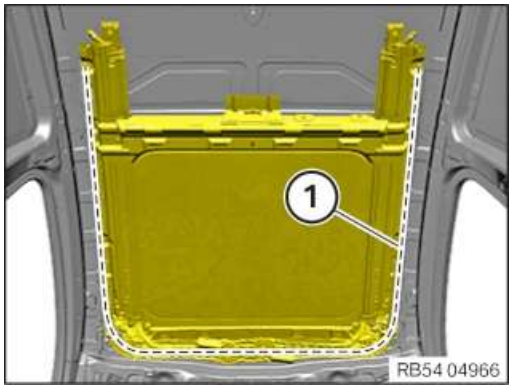
Schematic diagram is for example purposes. Some parts may differ in certain details.

- Feed out headlining (1) from the respective lips of edge protection with the assistance of a second person.
- Place the headlining (1) in the vehicle with an auxiliary person.

14 – Remove slide/tilt sunroof completely



- Pull off all 4 water drain hoses (1) (arrows).
- Unclip wiring harness (2) on the holders.
- Disconnect the plug connections (3) of engines and unclip the corresponding cable.



RISK OF DAMAGE

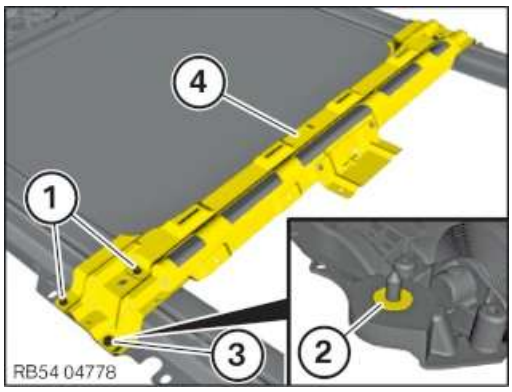
Heavy component.

Heavy components can lead to injury or damage.

- Remove and install heavy components with the aid of another person/other persons.

- Secure slide/tilt sunroof from falling with the help of an auxiliary person.
- Release all the screws along the line (1).
- Lower the slide/tilt sunroof with the assistance of an auxiliary person and remove from the vehicle through the front passenger door.

15 – Removing cross member



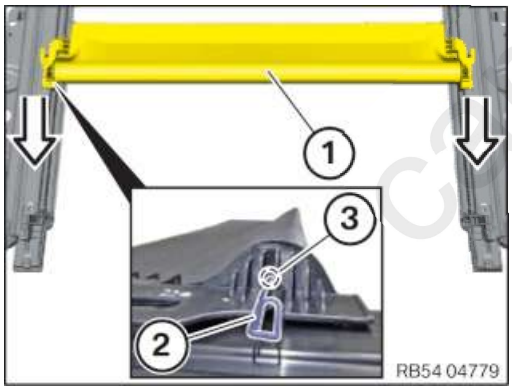
NOTICE

Perform the operations on the left and right side.

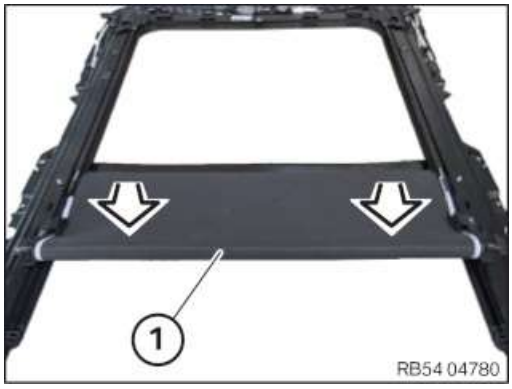
- Mark the position of the cross member (4) on the slide/tilt sunroof frame.
- Loosen nuts (1).
- Remove lock washer (2) and withdraw screw (3).
- Remove cross-member (4).

MAIN WORK

16 – Removing roller sunblind for the panorama glass roof

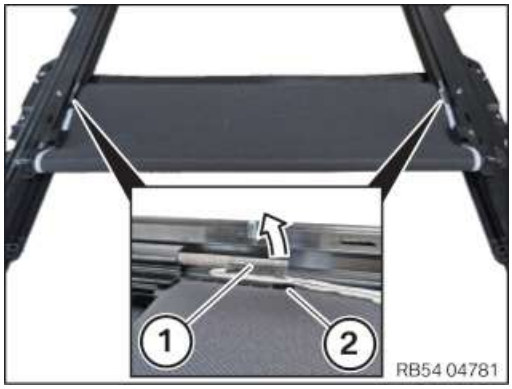


- Push the roller sunblind back (1) on both sides and thus roll it up a few cm.
- Unroll the roller sunblind (1) until it can be fixed with a suitable tool (2) (e.g. paper clip) over the pegging device (3).



- Open the roller sunblind completely (1) by hand, until a slight resistance is felt.

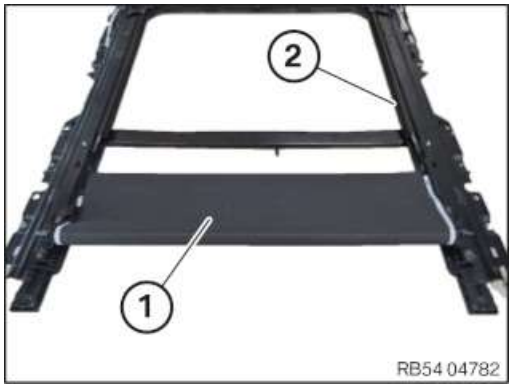
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NOTICE

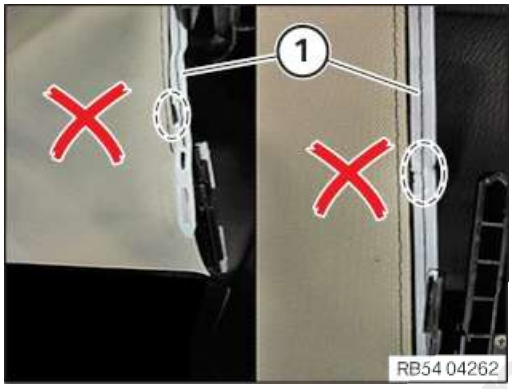
Perform the operations on the left and right side.

- Guide the driver (1) upwards out of the slider of the roller sunblind (2).



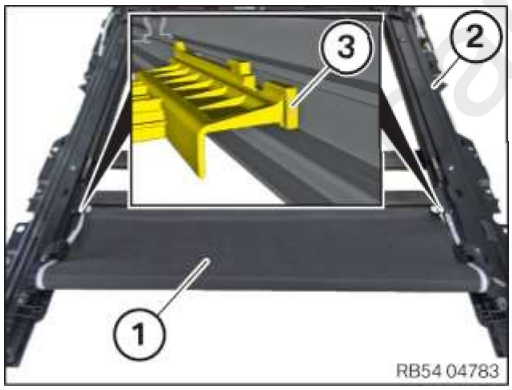
- Remove the roller sunblind (1) from the sunroof frame (2).

17 – Installing roller sunblind for the panorama glass roof

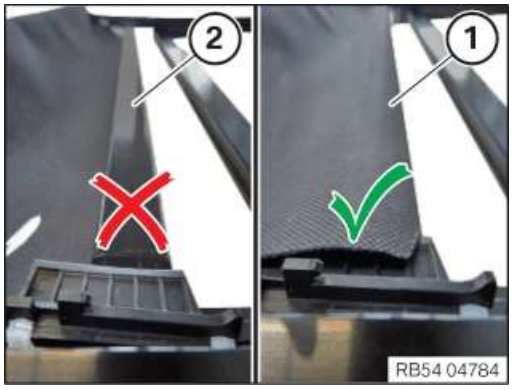


- Check the tensioning strap (1) of the roller sunblind for damage and renew the roller sunblind where required.

  The tensioning strap must be free of kinks, cracks or other defects.



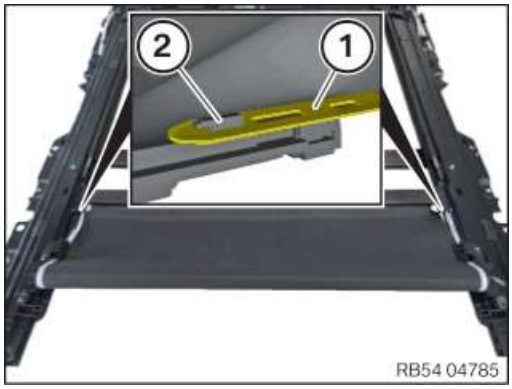
- Position the sunblind (1) on the slide/tilt sunroof frame (2).
- Ensure that the slider (3)is correctly positioned in the rail of the slide / tilt sunroof frame.



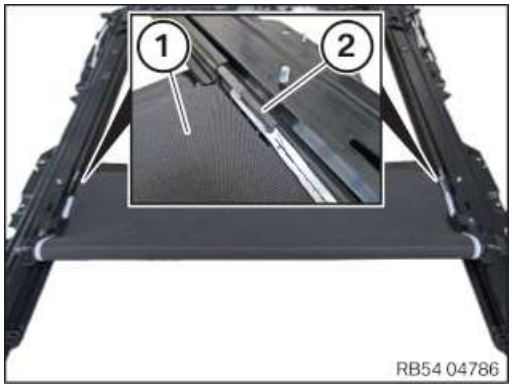
- Pay attention that the lining of the roller sunblinds (1) runs over the cross-member of the driver (2) as shown.

  If necessary, turn the cross brace (1) through 360°.

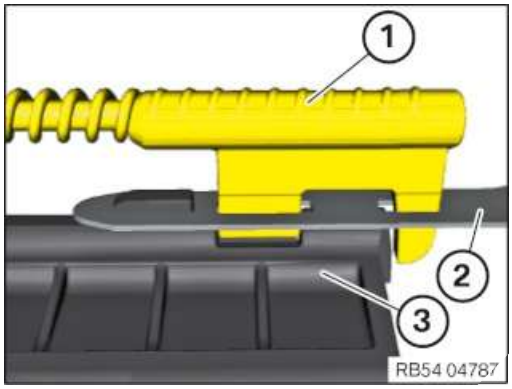
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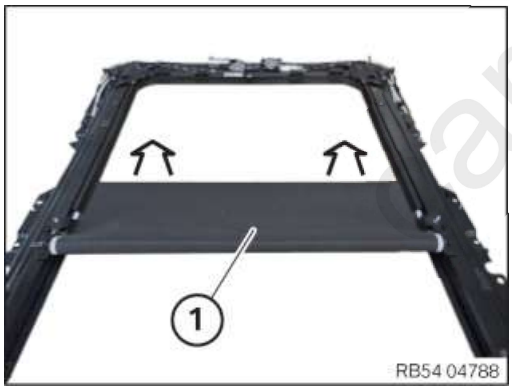
- Mount tensioning strap (1) on both sides of driver (2).



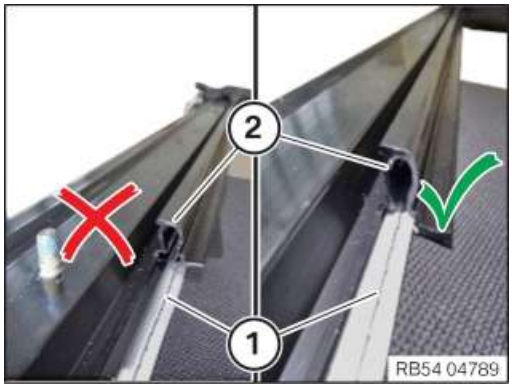
- Push the sunblind (1) forward until the drive (2) can be hooked.



- Pay attention that the driver (1) is hooked by the tensioning strap (2) on the slider (3).

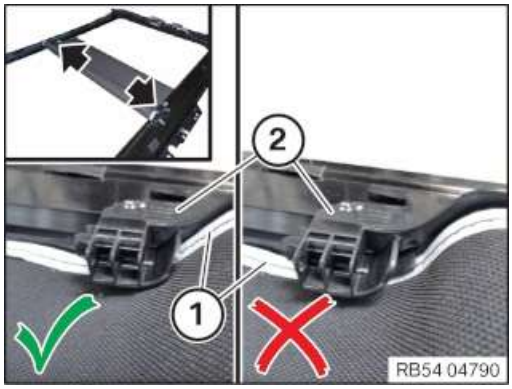


- Manually close the sunblind (1) a few cm.

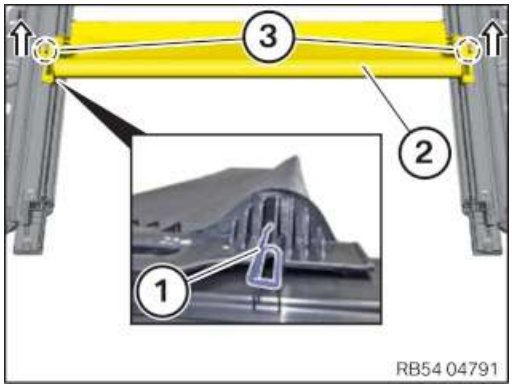


- Ensure that the tensioning strap (1) runs correctly in the guide on the slide/tilt sunroof frame (2).

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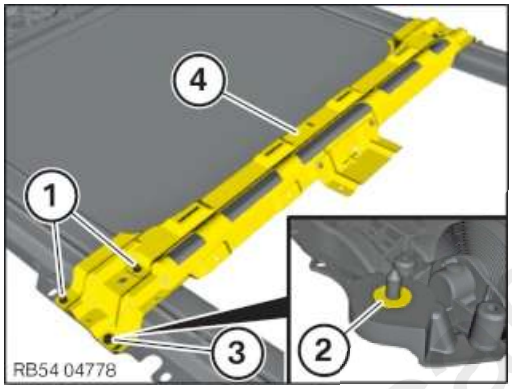
- Ensure that the tensioning strap (1) runs correctly in the guide (2) as shown.



- If necessary, remove the arresting device (1).
- Push the sunblind (2) forwards and position on the threaded bolts (3).

POSTPROCESSES

18 – Installing the cross member



- Position cross member (4) and align with the previously set markings on the slide/tilt sunroof frame.

NOTICE

Perform the operations on the left and right side.

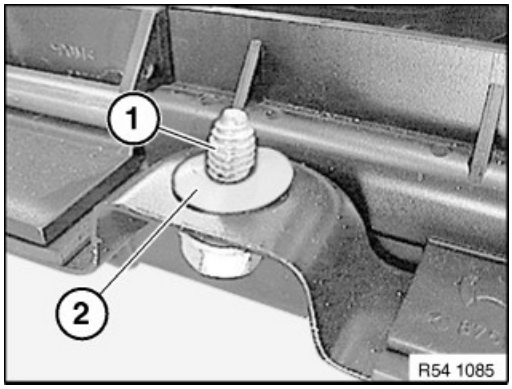
- Tighten nuts (1).

Cross member to glass slide/tilt sunroof frame

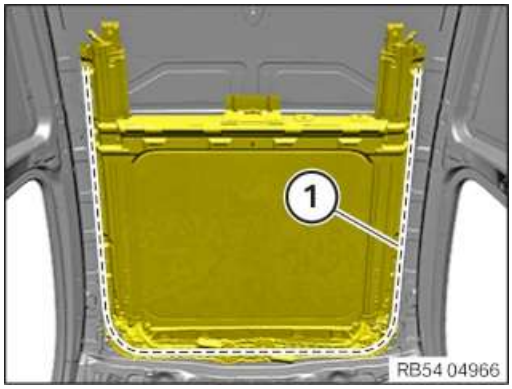
Nut		5,5 Nm

- Position retaining washer (2) and insert screw (3).

19 – Completely installing the slide/tilt sunroof



- Before installing, secure all the screws (1) with plastic washers (2), to avoid a groaning noise.



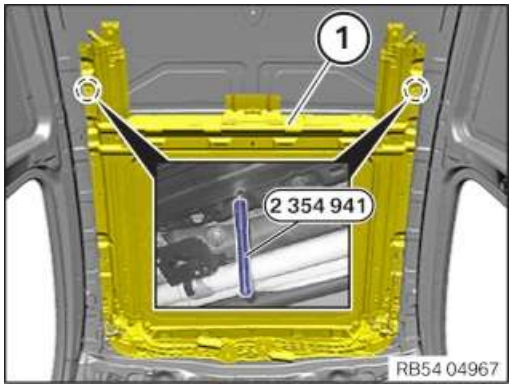
RISK OF DAMAGE

Heavy component.

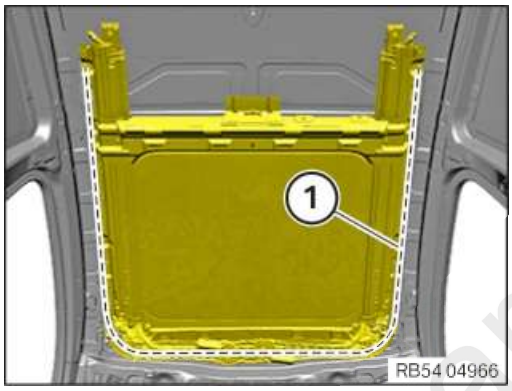
Heavy components can lead to injury or damage.

- Remove and install heavy components with the aid of another person/other persons.

- Insert the slide/tilt sunroof through the front passenger door into the vehicle with the help of an auxiliary person and position it.
- When installing it, ensure that no cables are clamped.
- Screw in all screws along the line (1) by several turns.



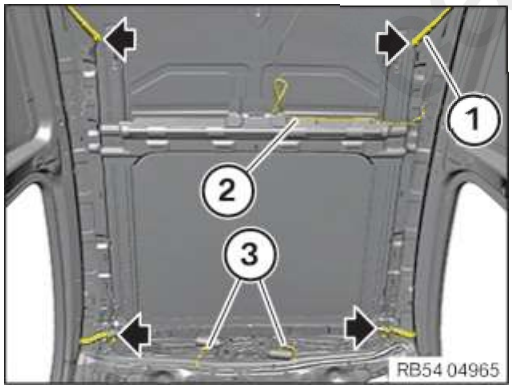
- Insert the special tool and align the panoramic glass sunroof (1) with the roof.



- Tighten all screws along the marked areas (1) .

Slide/tilt sunroof frame to body

M6	5,4 Nm



- Connect all 4 water drain hoses (1) (arrows).
- Clip in wiring harness (2) on the clips.
- Connect the connector (3) of the engines and clip in the corresponding cable.

20 – Install the headlining (with slide/tilt sunroof) (lowered)

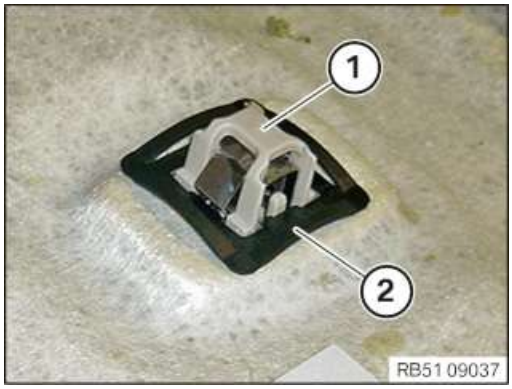
Prerequisite

The front seats have been fully adjusted towards the bottom.

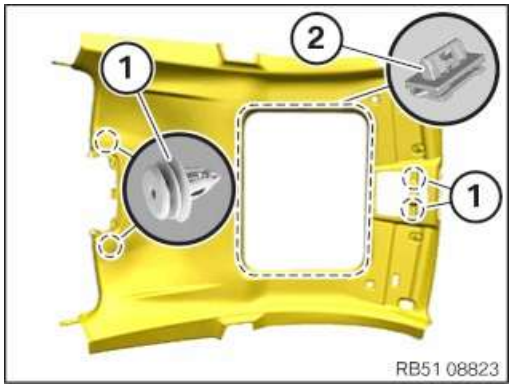
The front seat backrests have been fully adjusted towards the rear.

The rear seat backrest is folded down toward the front.

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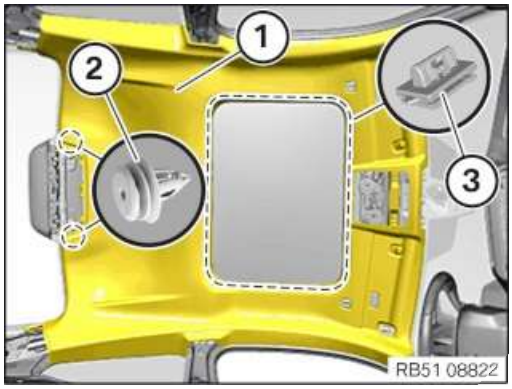
- Install the end support of the sun visors (1) in the headlining and mount it with clamps (2).



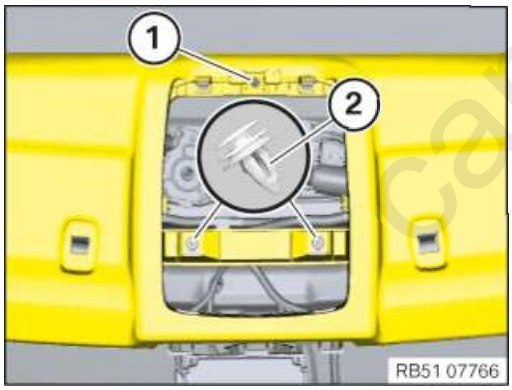
- Check the clips (1) on the headlining for damage.

  Defective or missing clips (1) must be renewed.
- Check the clamps (2) along the dotted line for damage.

  Defective or missing clamps (2) need to be renewed.



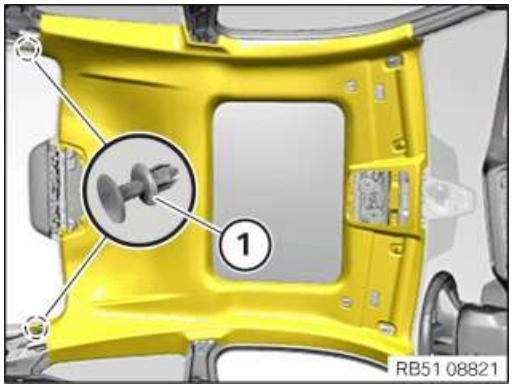
- Insert the headlining (1) with the help of an auxiliary person onto the respective edge protection.
- Clip in headlining (1) on the clips (2).
- Clip the headlining (1) in the area of the dotted line at the slide/tilt sunroof unit and the clamps (3).



- Clip headlining to the clips (2).
- Tighten down screw (1).

Headlining to frame

Oval-head screw		Tightening torque	1,5 Nm

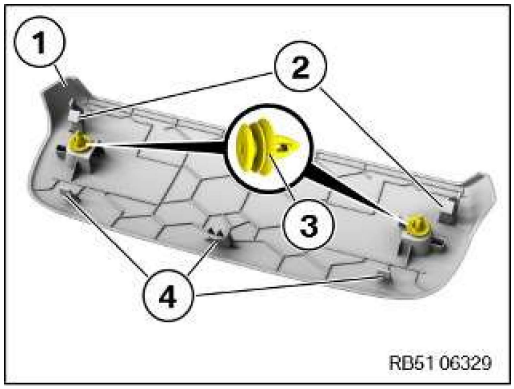


- Secure expanding rivet (1).

21 – Installing trim for additional brake light

Check

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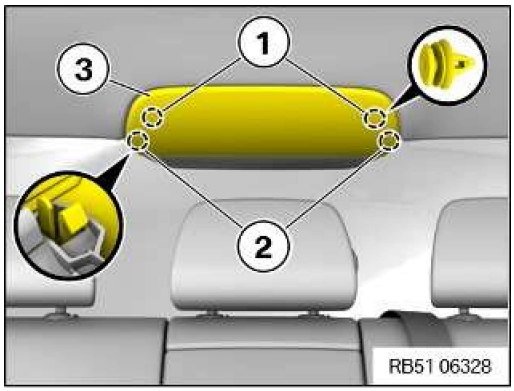
- Check the clips (3) for damage and renew if necessary.
- Check latch mechanisms (2) and guides (4) for damage.

Result

» The latch mechanism or the guide is damaged.

Measure

- Renew the trim for the additional brake light.



- Position trim for additional brake light (1) from the bottom and clip it in with latch mechanisms (2).
- Clip in clips (1).

22 – Installing the left and right B-pillar trim panel

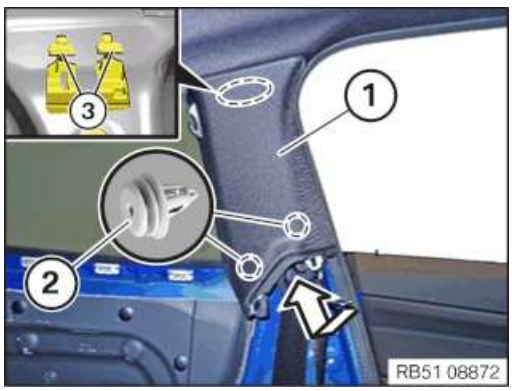
NOTICE

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

▸ Install the B-pillar trim panel



- Check clips (1) for damage and renew if necessary.



- Insert B-pillar trim panel (1) in direction of arrow into the guides (3) and under the lip of edge protection.
- Clip in the B-pillar trim panel (1) at the clips (2).

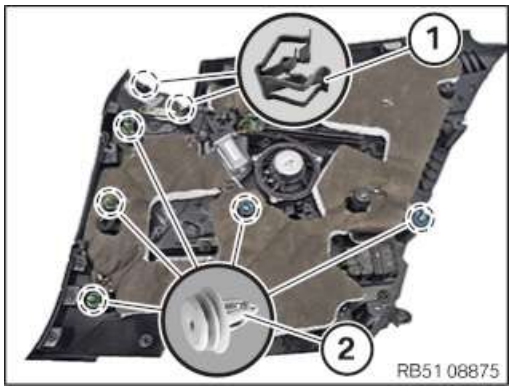
cardiagn.com

23 – Install side trim panel, rear left and right

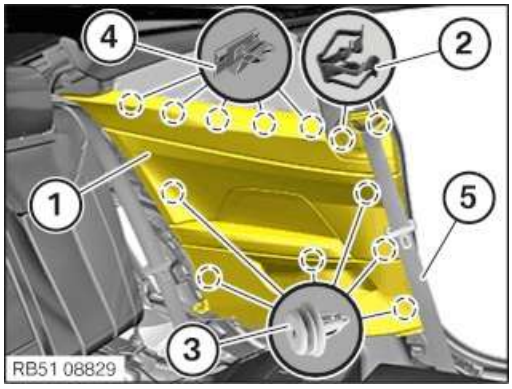
NOTICE

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

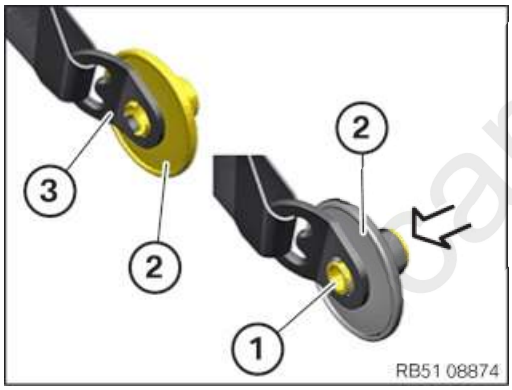
▸ **Install rear side trim panel**



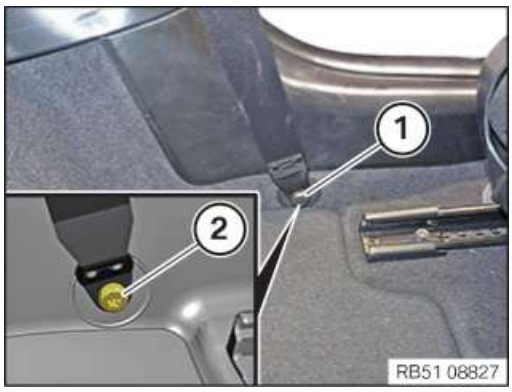
- Check clamps (1) for damage; renew them if necessary.
- Check clips (2) for damage, replace if necessary.



- Connect all the connectors to rear side trim panel (1) of the wiring harness and lock and disconnect them.
- Guide in upper seat belt (5).
- Position rear side trim panel (1) and clip it into clamps (4).
- Clip rear side trim panel (1) into clips (3).
- Clip rear side trim panel (1) into clamps (2).



- Clip cover (2) of end fitting (3) into end fitting (3).
- Slide sleeve (1) into cover (2) of end fitting (3).



- Correctly position the seat belt end fitting.
- Tighten down screw (2).

End fitting to body

M10		Tightening torque	42 Nm

- Clip in cover cap (1).

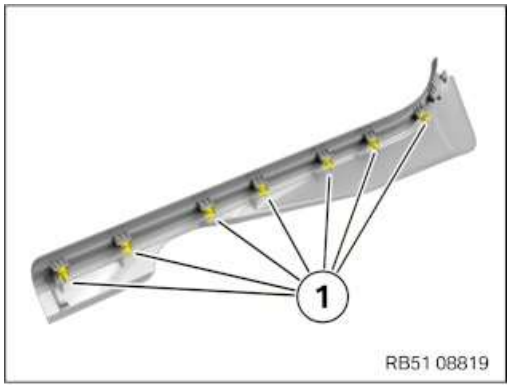
24 – Installing the inner door sill cover strip on the left and right

cardiagn.com

NOTICE

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

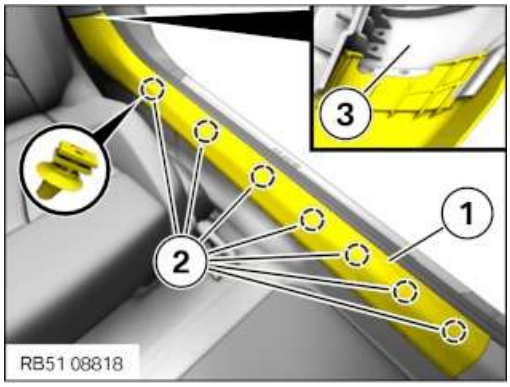
▸ **Installing the inner door sill cover strip**



NOTICE

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

- Check the clips (1) for damage and renew if necessary.



- Insert the door sill cover strip (1) below the rear side trim panel (3).
- Clip the door sill cover strip (1) in with the clips (2).

25 – Installing the C-pillar trim panel on the left and right

NOTICE

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

▸ **Installing C-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

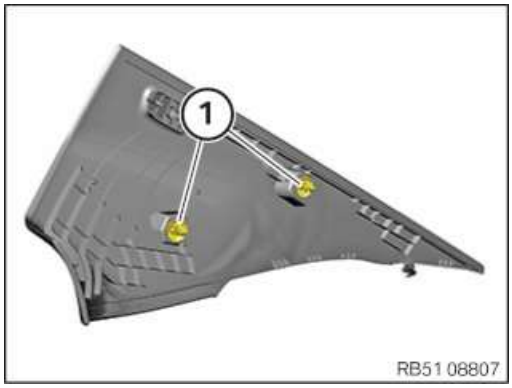
cardiagn.com

RISK OF DAMAGE

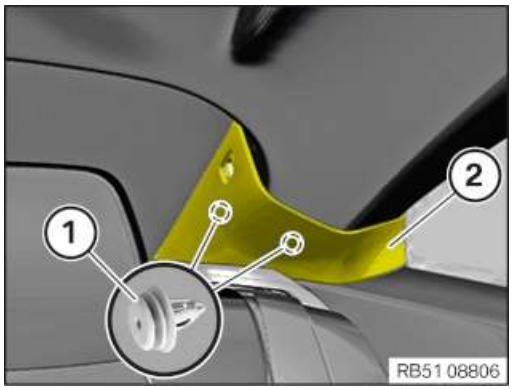
Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

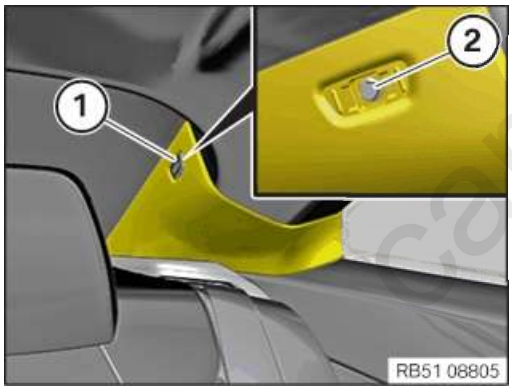
- Do not use sharp-edged tools when removing the trim panel.



- Check clips (1) for damage and, if necessary, renew them.



- Position C-pillar trim panel (2) and clip it onto clips (1).



- Tighten down screw (2).

C-pillar trim panel to body

Screw		Tightening torque	2,6 Nm

- Clip in cover (1) of the C-pillar trim panel.

26 – Install the backrest side section on the left and right

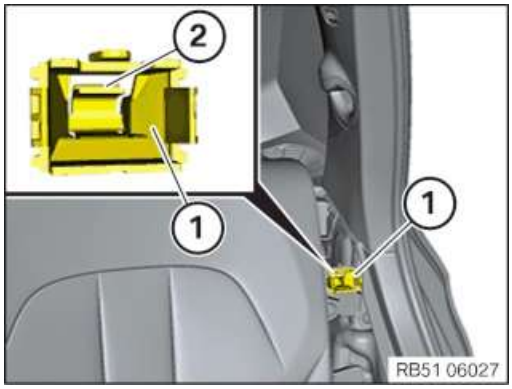
NOTICE

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

▸ **Installing backrest side section**

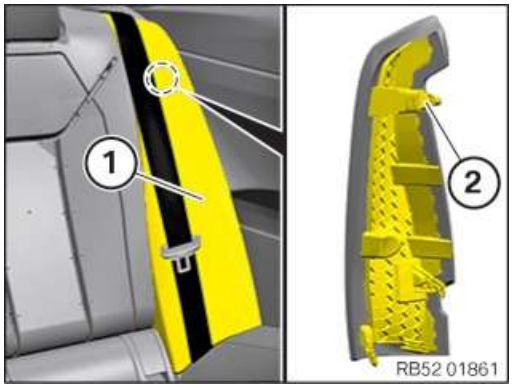
▹ **Installing backrest side section**

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- Release mounting element (1) from latch mechanism (2) and remove it from the body.
- Check the mounting element (1) for damage, renew if necessary.

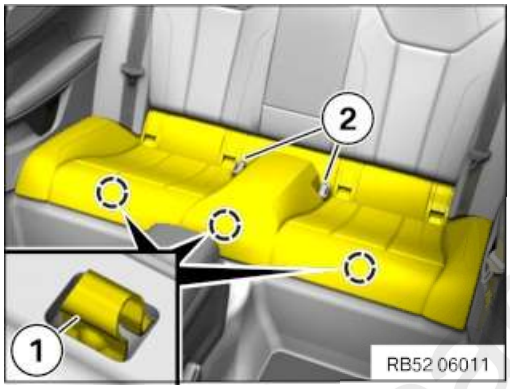
  The mounting element (1) must not be damaged or missing.
- Fit mounting element (1) on the backrest side section.



- Insert lower backrest side section (1) into the guide and position it correctly.
- Clip in backrest side section (1) to mounting element (2).

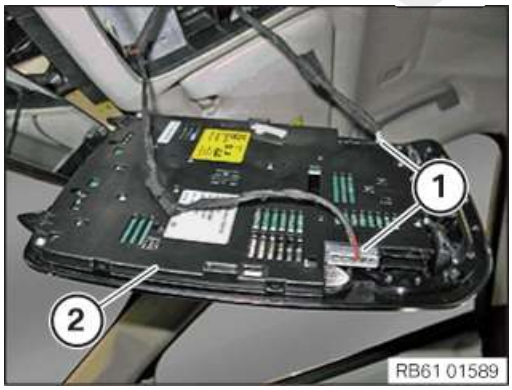
◁

27 – Installing the rear seat bench



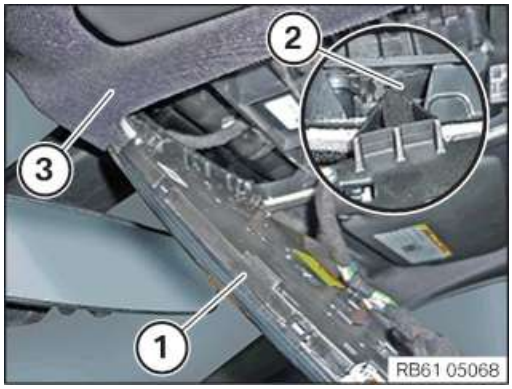
- Feed in the seat belt buckles (2).
- Position the rear seat bench and clip into the clamps (1).

28 – Installing roof function centre (FZD)



- Connect connectors (1) and lock.
- Clip in the cable for the roof function centre (FZD) (2) in the cable clip.

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- Insert the roof function centre (FZD) (1) as shown at a steep angle in the two guides (2) on the headlining (3).
- Make sure the headlining is not deformed during this operation.



- Clip the roof function centre (FZD) (1) upwards into the clamps (2).



- Slide the special tool 2 298 505 in the direction of arrow between the FZD frame and the headlining along the dotted line to adjust the headlining correctly.



- Tighten the screws (1).

Roof function centre (FZD)

	Tightening torque	1.2 Nm



- Clip in the cover (1).

29 – Installing the sun visors and the end support on the left and right

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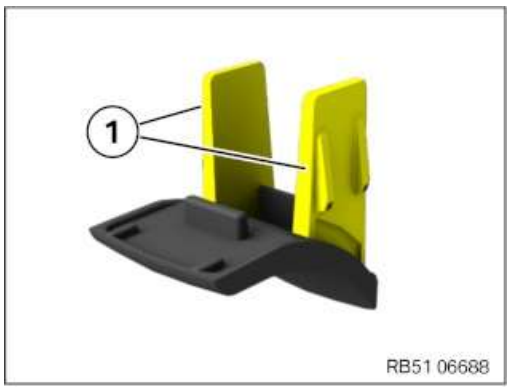
NOTICE

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

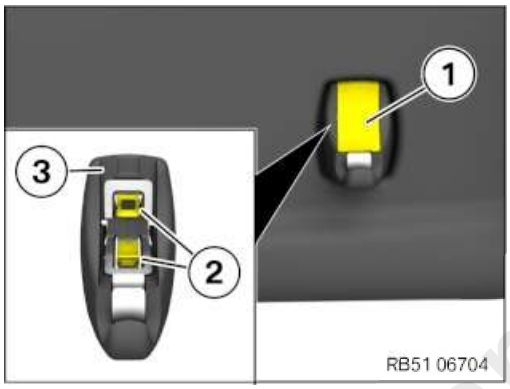
▸ **Install the sun visor and the counter support**

NOTICE

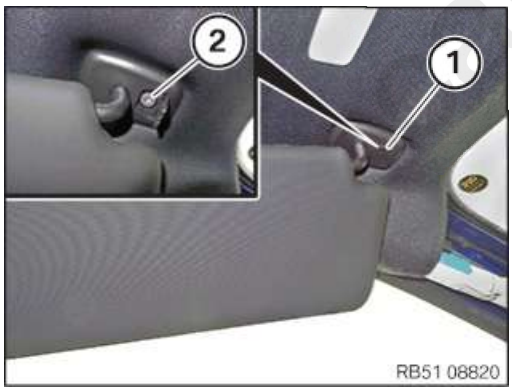
Schematic diagram is for example purposes. Some parts may differ in certain details.



- Check the guides (1) on the cover of the end support for damage, renew if necessary.



- Clip in the counter support (3) to the headlining.
- Make sure the clamps (2) are engaged correctly.
- Clip in the cover (1).



- Connect and lock corresponding connectors.
- Install the sun visors.
- Tighten down screw (2).

Sun visor to body

Screw		Tightening torque	3.3 Nm

- Close the cover (1).



- Hook the sun visors (1) to the end support (2).

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30 – Install the A-pillar trim panel on the left and right

NOTICE

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

▸ **Installing the A-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

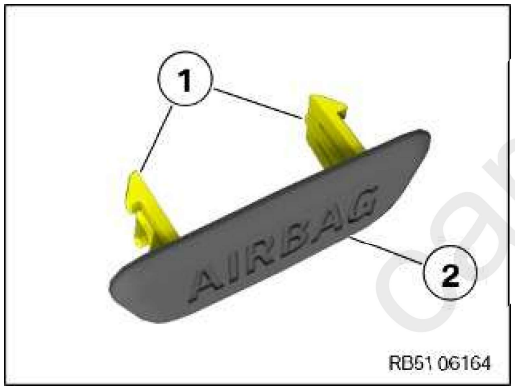
- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

RISK OF DAMAGE

Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



Check

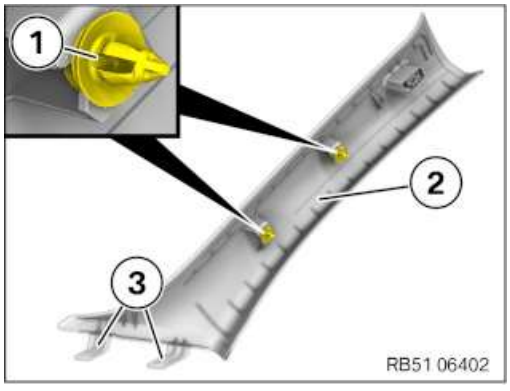
- Check retaining lugs (1) of cover (2) for damage.

Result

» Retaining lug is damaged.

Measure

- Renew the cover.



Check

- Check the clips (1) for damage and renew if necessary.
- Check the guides (3) for damage.

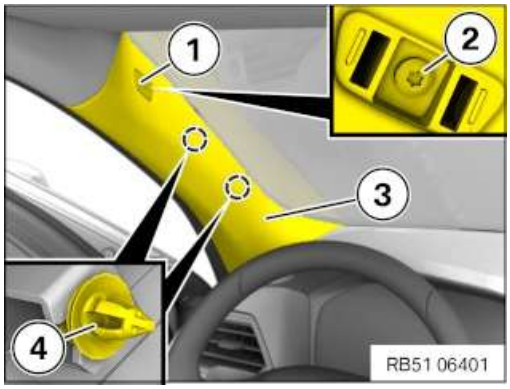
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Result

» Guide is damaged.

Measure

- Renew the A-pillar trim panel.



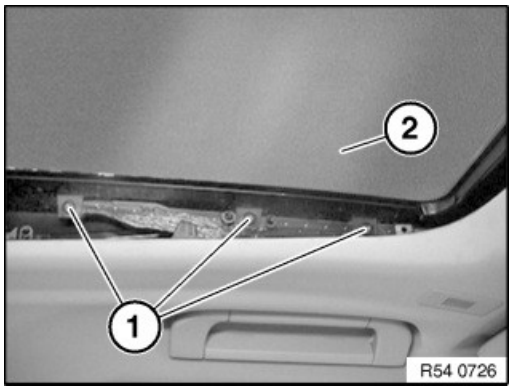
- Guide in A-pillar trim panel (3) downwards and clip it in with clips (4).
- Tighten down screw (2).

A-pillar trim panel to body

Sheet metal screw 4,8x38		Tightening torque	2,6 Nm

- Clip in the cover (1).

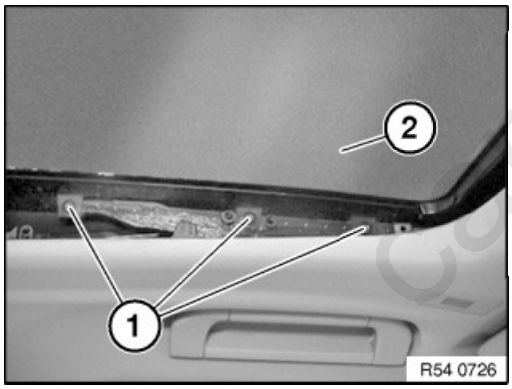
31 – Install glass slide/tilt sunroof panel



- Insert the glass slide/tilt sunroof panel (2) from the top.
- Renew screws (1).

  Parts: Bolts
- Screw in the bolts (1) on the left and right, do not tighten.

32 – Adjusting glass slide/tilt sunroof panel

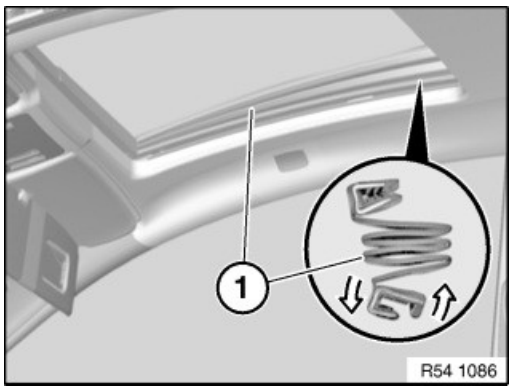


- Close glass slide/tilt sunroof lid (2).
- Slacken screws (1) at the left and right such that the glass slide/tilt roof panel (2) can just be moved.
- Move the glass slide/tilt roof panel (2) until the right position is reached.
- Tighten the screws (1).

Panorama glass roof lid to mechanics

M5	Replace screws.	4,5 Nm

33 – Install the gaiter for the glass slide/tilt sunroof



NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully screw in the gaiter (1) into the bottom guide.
- Carefully screw the gaiter (1) into the top guide.
- Check the gaiter (1) is seated securely.

34 – Initialising glass slide/tilt sunroof

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▸ **Prerequisites for initialising the slide/tilt sunroof/panoramic glass sunroof**

- The following prerequisites must be met for a trouble-free initialisation:

Interior temperature of the vehicle	15 °C - 30 °C
Vehicle voltage	12 V - 15 V
Vehicle condition	- The vehicle is standing on its own wheels
	- The vehicle is horizontal
	- Speed 0 km/h (the vehicle must not roll)
	- The radio-operated key is in the vehicle
	- Terminal 15 is switched on or the vehicle is in the Residing PFW state
Operating point	- FZD button
	- Diagnostic function: “Initialise slide/tilt sunroof”
Miscellaneous	No other work may be carried out on the vehicle during initialisation in order to avoid impacts or vibrations.



TECHNICAL INFORMATION

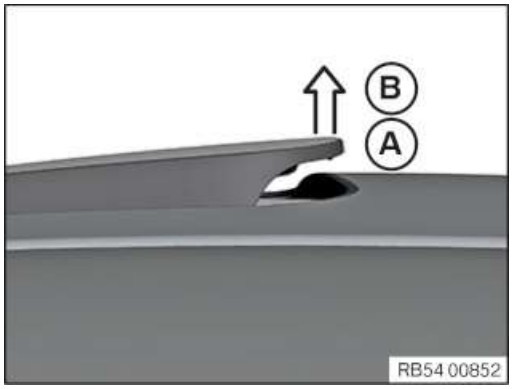
The following prerequisites are the basis for a correct initialisation and must be strictly observed.

For additional information see: 54 12 ... General prerequisites for initialising the slide/tilt sunroof or panoramic sunroof

- Press and hold the switch in the "Vent Position" direction.

  The glass slide/tilt sunroof moves to vent position.
- In the event of a delayed start or sudden stop of the glass slide/tilt sunroof, continue holding the switch in the "Vent position" direction.

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- Continue to keep the switch pressed during the entire test module.
- Continue to operate the switch further after reaching the vent position (A) for approx. 30 s.

  Initialisation begins:

  - The glass slide/tilt sunroof moves from vent position (A) toward position (B).
  - Screen (sliding headliner) fully closes.
  - Screen (sliding headliner) fully opens.
  - Glass slide/tilt sunroof moves to "closed" position.
  - The glass slide/tilt sunroof moves to the "Open" position and immediately returns to the "Closed" position.
  - After a brief pause, the screen fully closes.

  The initialisation is completed once the glass slide/tilt sunroof and the screen have completely closed.
- Release the switch.

TECHNICAL INFORMATION

If the switch is released in the meantime, the initialisation must be repeated. Following successful initialisation, the corresponding messages in the Check Control and on the control display go out.

- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

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Additional Information

Overview of Tightening Torques

Cross member to glass slide/tilt sunroof frame			Used in step 18
Nut			5,5 Nm

Slide/tilt sunroof frame to body			Used in step 19
M6			5,4 Nm

Headlining to frame			Used in step 20
Oval-head screw		Tightening torque	1,5 Nm

End fitting to body			Used in step 23
M10		Tightening torque	42 Nm

C-pillar trim panel to body			Used in step 25
Screw		Tightening torque	2,6 Nm

Roof function centre (FZD)			Used in step 28
		Tightening torque	1.2 Nm

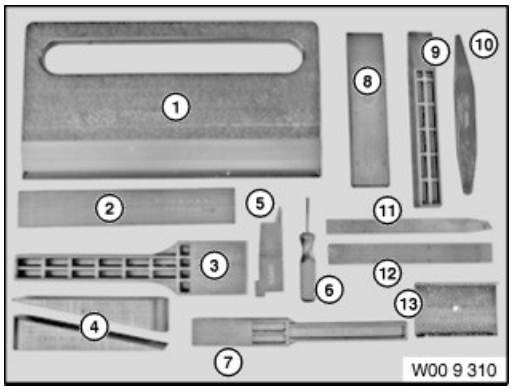
Sun visor to body			Used in step 29
Screw		Tightening torque	3.3 Nm

A-pillar trim panel to body			Used in step 30
Sheet metal screw 4,8x38		Tightening torque	2,6 Nm

Panorama glass roof lid to mechanics			Used in step 32
M5	Replace screws.		4,5 Nm

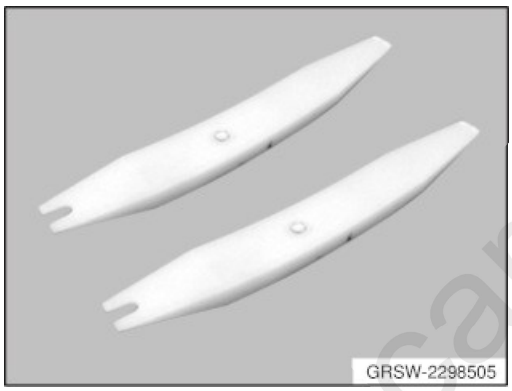
Overview of Special Tools

0 493 752 (00 9 329) Case



Common	Used in step 39
Usage	(Case) with insert without mounting wedges, delivery while stocks last - as of 02/2019.
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 07 09 (530)

2 298 505 Wedge



Common	Used in step 28
Usage	Set (delivery of 2 pieces)
Included in the tool or work	
Storage location	C34
Replaced by	
In connection with	
SI-Number	01 03 12 (792)

Links

Repair instructions (PRE)	Used in step
Notes on 48-V battery	726
Prerequisites for initialisation of the slide/panoramic sunroof	34

General repair instructions	Used in step
72 00 ... Safety regulations for handling components with gas generators	3726
72 00 ... Safety regulations for handling components with gas generators	3

Repair instructions	Used in step
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	726
61 20 900 Disconnecting and connecting battery earth lead	726
61 20 900 Disconnecting and connecting battery earth lead	726
61 20 900 Disconnecting and connecting battery earth lead	726

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61 20 900 Disconnecting and connecting battery earth lead	726
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61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	726
61 20 900 Disconnecting and connecting battery earth lead	726
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	726
61 20 900 Disconnecting and connecting battery earth lead (Plug-in Hybrid Electric Vehicle)	726
61 20 900 Disconnecting and connecting battery earth lead	726
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61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	726
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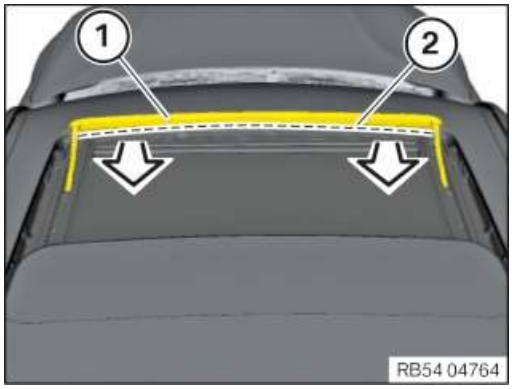
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54 12 497 Removing and installing/replacing wind deflector for glass slide/tilt sunroof

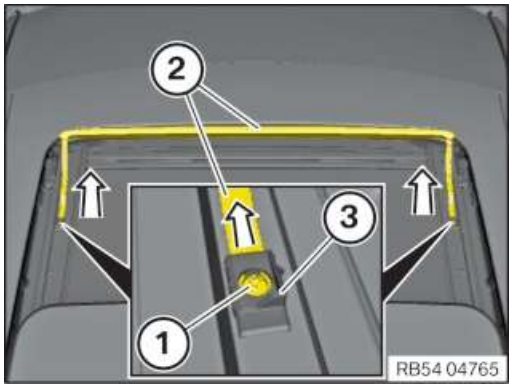
1 – Remove wind deflector

Prerequisite

The glass slide/tilt sunroof panel is open.



- Unclip the wind deflector (1) in the area (2) in the direction of arrow.

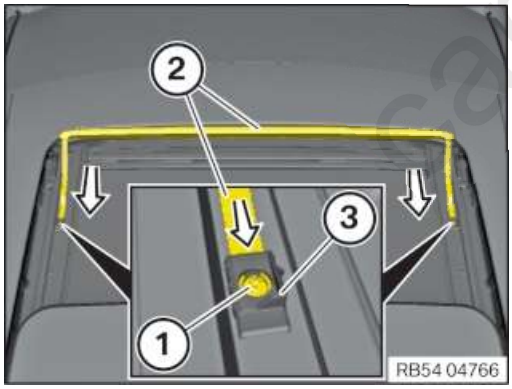


- Loosen screws (1).
- Push the wind deflector (2) in the direction of arrow to the front and remove it from the wind deflector (3).

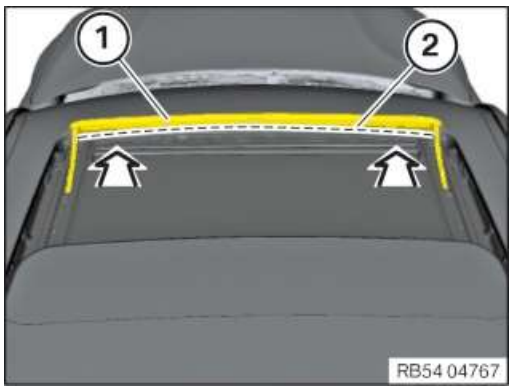
2 – Install wind deflector

Prerequisite

The glass slide/tilt sunroof panel is open.

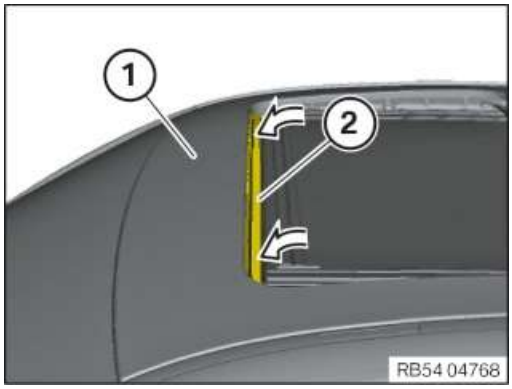


- Guide wind deflector (2) from the front into wind deflector mount (3) in the direction of the arrow.
- Screw the screws (1) by a few turns but do not tighten.

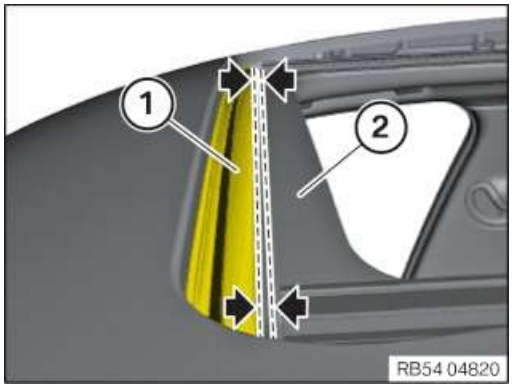


- Clip wind deflector (1)in area (2) in the direction of the arrow.

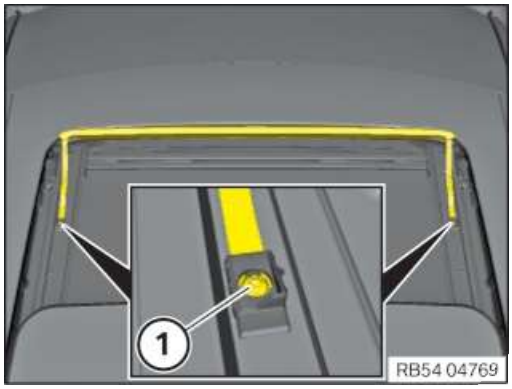
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- Press down wind deflector (2) in the direction of the arrow by hand. Ensure that wind deflector (2) is fully clear and does not collide with roof outer skin (1).



- Position wind deflector (1) at a distance of approx. 2 mm (arrows) from the gutter strip of slide/tilt sunroof frame (2).



- Tighten the screws (1).

3 – Initialising glass slide/tilt sunroof

▸ Prerequisites for initialising the slide/tilt sunroof/panoramic glass sunroof

- The following prerequisites must be met for a trouble-free initialisation:

Interior temperature of the vehicle	15 °C - 30 °C
Vehicle voltage	12 V - 15 V
Vehicle condition	- The vehicle is standing on its own wheels
	- The vehicle is horizontal
	- Speed 0 km/h (the vehicle must not roll)
	- The radio-operated key is in the vehicle
	- Terminal 15 is switched on or the vehicle is in the Residing PFW state
Operating point	- FZD button
	- Diagnostic function: “Initialise slide/tilt sunroof”
Miscellaneous	No other work may be carried out on the vehicle during initialisation in order to avoid impacts or vibrations.

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TECHNICAL INFORMATION

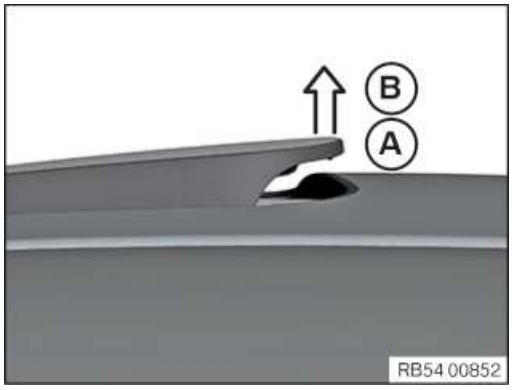
The following prerequisites are the basis for a correct initialisation and must be strictly observed.

For additional information see: 54 12 ... General prerequisites for initialising the slide/tilt sunroof or panoramic sunroof

- Press and hold the switch in the "Vent Position" direction.

  The glass slide/tilt sunroof moves to vent position.

- In the event of a delayed start or sudden stop of the glass slide/tilt sunroof, continue holding the switch in the "Vent position" direction.



- Continue to keep the switch pressed during the entire test module.
- Continue to operate the switch further after reaching the vent position (A) for approx. 30 s.

  Initialisation begins:

  - The glass slide/tilt sunroof moves from vent position (A) toward position (B).
  - Screen (sliding headliner) fully closes.
  - Screen (sliding headliner) fully opens.
  - Glass slide/tilt sunroof moves to "closed" position.
  - The glass slide/tilt sunroof moves to the "Open" position and immediately returns to the "Closed" position.
  - After a brief pause, the screen fully closes.

  The initialisation is completed once the glass slide/tilt sunroof and the screen have completely closed.

- Release the switch.

TECHNICAL INFORMATION

If the switch is released in the meantime, the initialisation must be repeated. Following successful initialisation, the corresponding messages in the Check Control and on the control display go out.

- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

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Additional Information

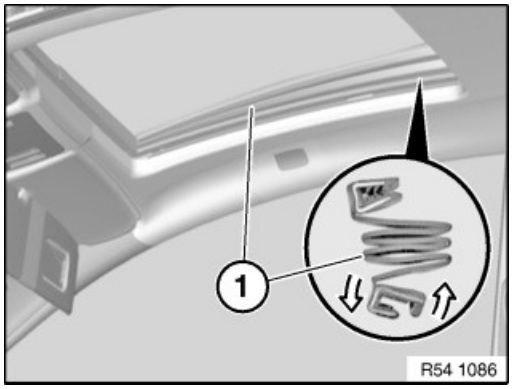
Links

Repair instructions (PRE)	Used in step
Prerequisites for initialisation of the slide/panoramic sunroof	3

54 12 116 Replace glass slide/tilt sunroof panel

PRELIMINARY WORK

1 – Remove the gaiter for the glass slide/tilt sunroof



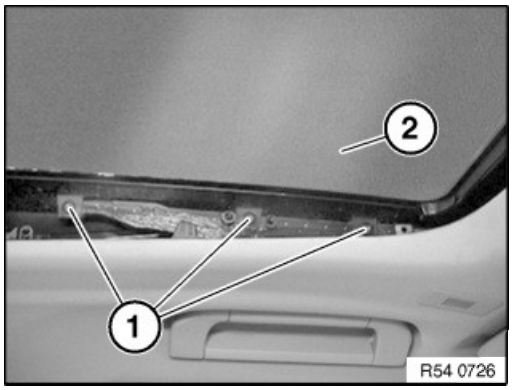
NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully pull off the gaiter (1) from the top guide.
- Carefully twist out the gaiter (1) from the bottom guide.

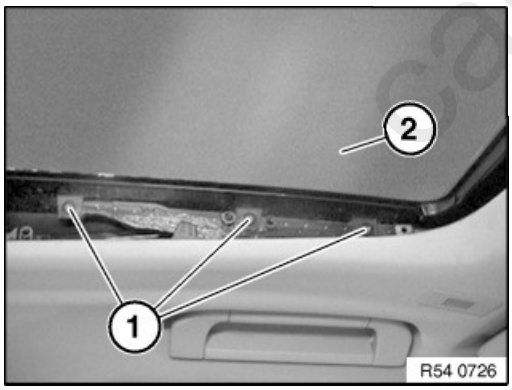
MAIN WORK

2 – Remove glass slide/tilt sunroof panel



- Loosen screws (1) on left and right.
- Remove the glass slide/tilt sunroof panel (2) towards the top.

3 – Install glass slide/tilt sunroof panel



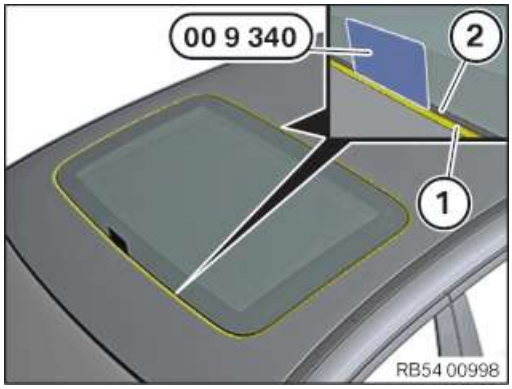
- Insert the glass slide/tilt sunroof panel (2) from the top.
- Renew screws (1).

  Parts: Bolts
- Screw in the bolts (1) on the left and right, do not tighten.

POSTPROCESSES

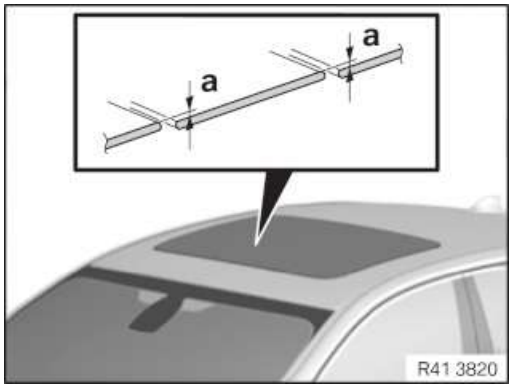
4 – Check the setting of the glass slide/tilt sunroof panel

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- Check whether the distance of the glass slide/tilt roof panel to the front roof and at the rear is the same and correct if necessary.
- Slide the special tool 0 493 687 (00 9 340) between the gasket (1) and the glass slide/tilt sunroof panel (2).

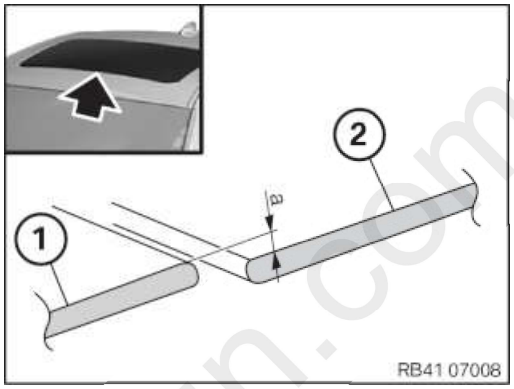
  The resistance when moving the special tool must be the same at the front and rear.



- Make sure that the glass slide/tilt roof panel at the front lies flush with the roof outer skin and is lower by a maximum of the dimension (a).

Gap dimension roof outer skin to glass slide/tilt sunroof panel

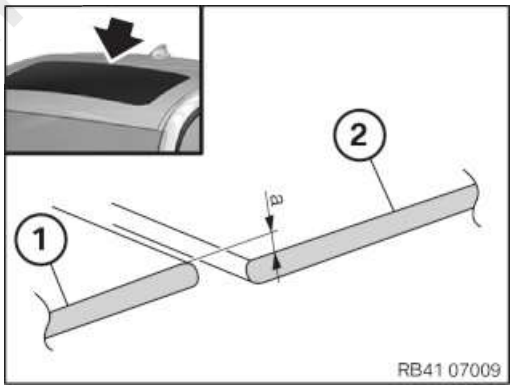
1 roof outer skin; 2 glass slide/tilt sunroof panel	
a	0,7 (-0,05 - 1,45) mm

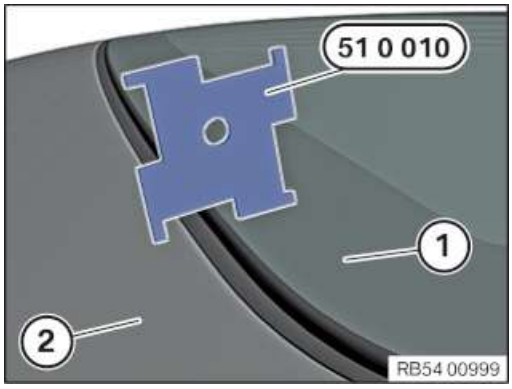


- Make sure that the glass slide/tilt roof panel at the rear lies flush with the roof outer skin and higher by a maximum of the dimension (a).

Gap dimension glass slide/tilt sunroof panel to roof outer skin

1 glass slide/tilt sunroof panel; 2 roof outer skin	
a	0,7 (-0,05 - 1,45) mm

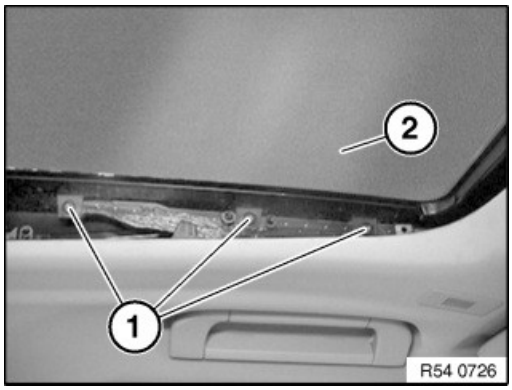




- Measure the position of the glass slide/tilt roof panel (1) to roof (2) with special tool 0 495 259 (51 0 010).

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5 – Adjusting glass slide/tilt sunroof panel



- Close glass slide/tilt sunroof lid (2).
- Slacken screws (1) at the left and right such that the glass slide/tilt roof panel (2) can just be moved.
- Move the glass slide/tilt roof panel (2) until the right position is reached.
- Tighten the screws (1).

Panorama glass roof lid to mechanics

M5	Replace screws.	4,5 Nm

6 – Initialising glass slide/tilt sunroof

▸ Prerequisites for initialising the slide/tilt sunroof/panoramic glass sunroof

- The following prerequisites must be met for a trouble-free initialisation:

Interior temperature of the vehicle	15 °C - 30 °C
Vehicle voltage	12 V - 15 V
Vehicle condition	- The vehicle is standing on its own wheels
	- The vehicle is horizontal
	- Speed 0 km/h (the vehicle must not roll)
	- The radio-operated key is in the vehicle
	- Terminal 15 is switched on or the vehicle is in the Residing PFW state
Operating point	- FZD button
	- Diagnostic function: “Initialise slide/tilt sunroof”
Miscellaneous	No other work may be carried out on the vehicle during initialisation in order to avoid impacts or vibrations.



TECHNICAL INFORMATION

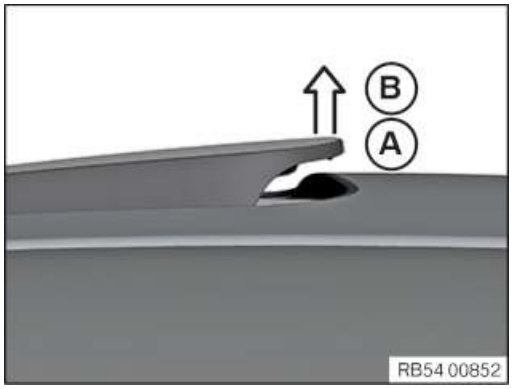
The following prerequisites are the basis for a correct initialisation and must be strictly observed.

For additional information see: 54 12 ... General prerequisites for initialising the slide/tilt sunroof or panoramic sunroof

- Press and hold the switch in the "Vent Position" direction.

  The glass slide/tilt sunroof moves to vent position.
- In the event of a delayed start or sudden stop of the glass slide/tilt sunroof, continue holding the switch in the "Vent position" direction.

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- Continue to keep the switch pressed during the entire test module.
- Continue to operate the switch further after reaching the vent position (A) for approx. 30 s.

  Initialisation begins:

  - The glass slide/tilt sunroof moves from vent position (A) toward position (B).
  - Screen (sliding headliner) fully closes.
  - Screen (sliding headliner) fully opens.
  - Glass slide/tilt sunroof moves to "closed" position.
  - The glass slide/tilt sunroof moves to the "Open" position and immediately returns to the "Closed" position.
  - After a brief pause, the screen fully closes.

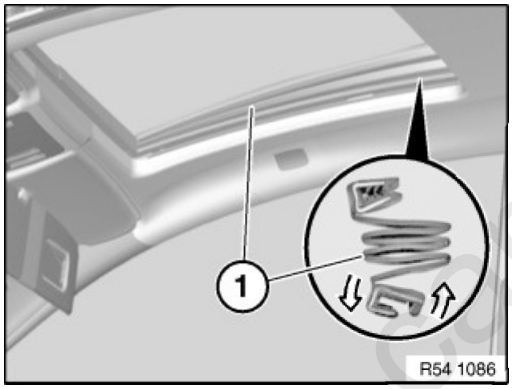
  The initialisation is completed once the glass slide/tilt sunroof and the screen have completely closed.
- Release the switch.

TECHNICAL INFORMATION

If the switch is released in the meantime, the initialisation must be repeated. Following successful initialisation, the corresponding messages in the Check Control and on the control display go out.

- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

7 – Install the gaiter for the glass slide/tilt sunroof



NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully screw in the gaiter (1) into the bottom guide.
- Carefully screw the gaiter (1) into the top guide.
- Check the gaiter (1) is seated securely.

Additional Information

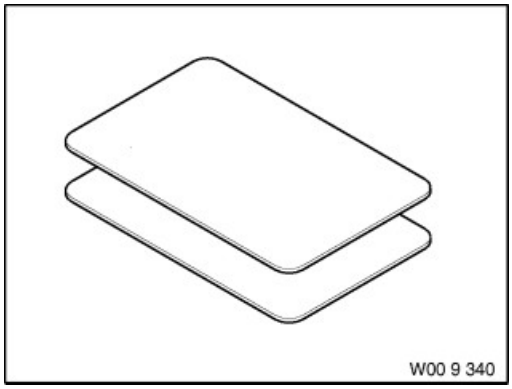
Overview of Tightening Torques

Panorama glass roof lid to mechanics — Used in step 5

M5	Replace screws.	4,5 Nm

Overview of Special Tools

0 493 687 (00 9 340) Removal aid



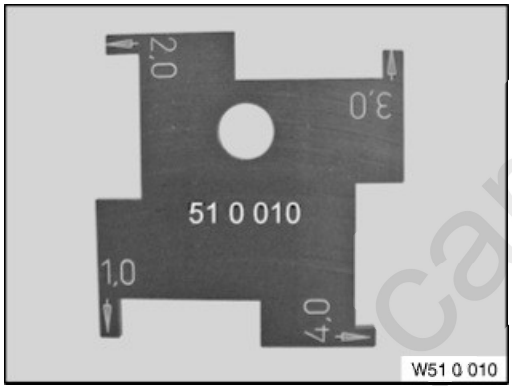
Common Used in step 4

Usage	(Dismantling aid (2 pieces))
Included in the tool or work	
Storage location	C2
Replaced by	
In connection with	
SI-Number	01 15 99 (483)

Consisting of

Pos	BMW Order number	Replaced by	Designation	In Connection with
1	0 496 289 (00 9 341)		**Removal aid** Only available as a set (2 tools) under 00 9 340 (= 83 30 0 493 687).	

0 495 259 (51 0 010) Gauge



Common Used in step 4

Usage	(test gauge for installing windscreen and rear window) (replaces special tool 51 3 210 from 06/2005)
Included in the tool or work	
Storage location	B2
Replaced by	
In connection with	
SI-Number	01 10 05 (189)

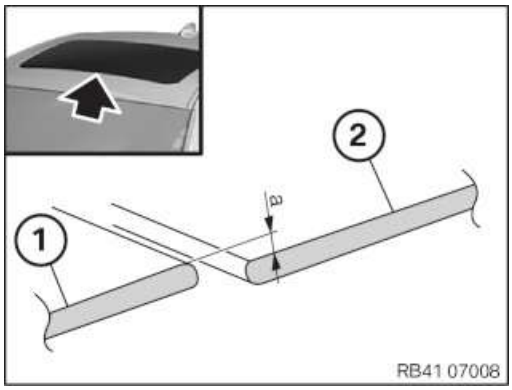
Overview Technical Data

Gap dimension roof outer skin to glass slide/tilt sunroof panel Used in step 4

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1 roof outer skin; 2 glass slide/tilt sunroof panel

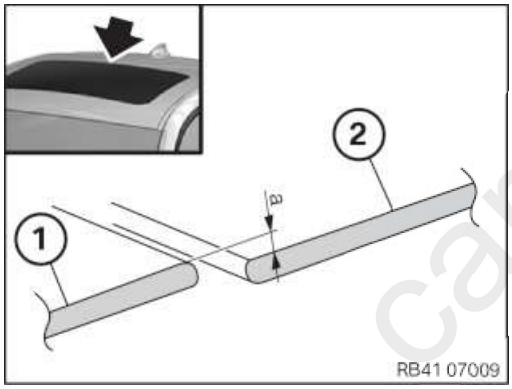
a	0,7 (-0,05 - 1,45) mm



Gap dimension glass slide/tilt sunroof panel to roof outer skin Used in step 4

1 glass slide/tilt sunroof panel; 2 roof outer skin

a	0,7 (-0,05 - 1,45) mm



Links

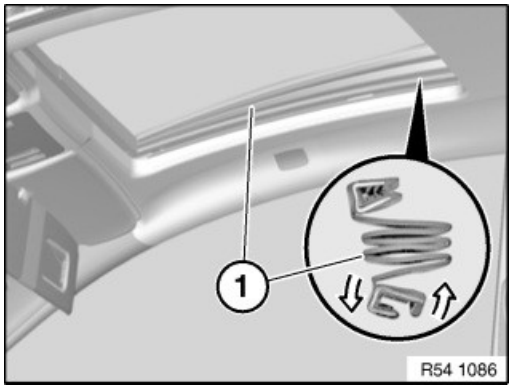
Repair instructions (PRE)	Used in step
Prerequisites for initialisation of the slide/panoramic sunroof	6

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54 12 646 Replacing glass slide/tilt sunroof frame

PRELIMINARY WORK

1 – Remove the gaiter for the glass slide/tilt sunroof

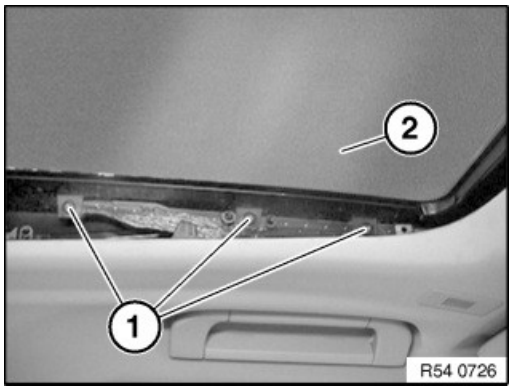


NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully pull off the gaiter (1) from the top guide.
- Carefully twist out the gaiter (1) from the bottom guide.

2 – Remove glass slide/tilt sunroof panel

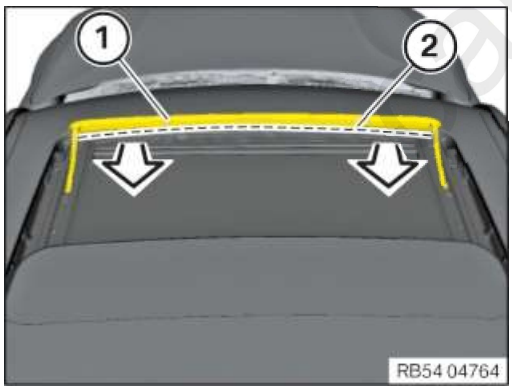


- Loosen screws (1) on left and right.
- Remove the glass slide/tilt sunroof panel (2) towards the top.

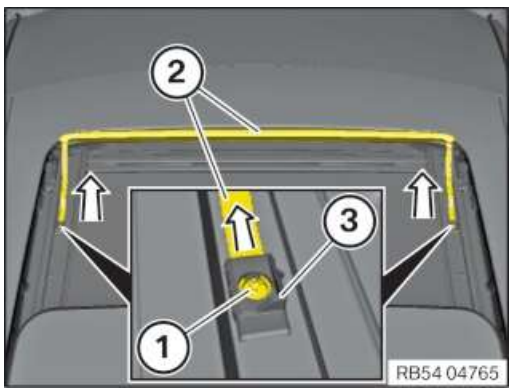
3 – Remove wind deflector

Prerequisite

The glass slide/tilt sunroof panel is open.



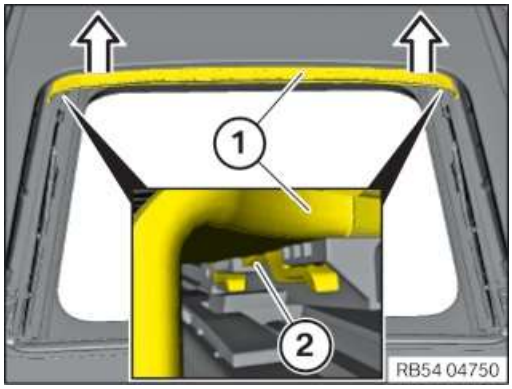
- Unclip the wind deflector (1) in the area (2) in the direction of arrow.



- Loosen screws (1).
- Push the wind deflector (2) in the direction of arrow to the front and remove it from the wind deflector (3).

4 – Remove water channel

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- Using a suitable tool, unlock the retaining lugs (2).
- Move the water channel (1) backwards and feed out.

5 – Remove left and right A-pillar trim panel

NOTICE

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

▸ **Remove the A-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

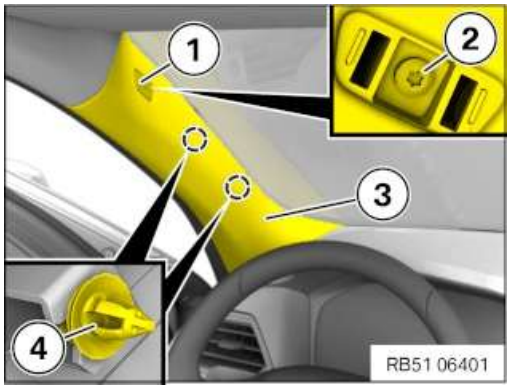
- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

RISK OF DAMAGE

Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



- Unclip cover (1) with a suitable special tool from the special tool kit 0 493 752 (00 9 329).
- Loosen screw (2).
- Unclip A-pillar trim panel (3) with clips (4) and feed it out to the top.

6 – Removing the sun visors and the end support on the left and right

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NOTICE

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

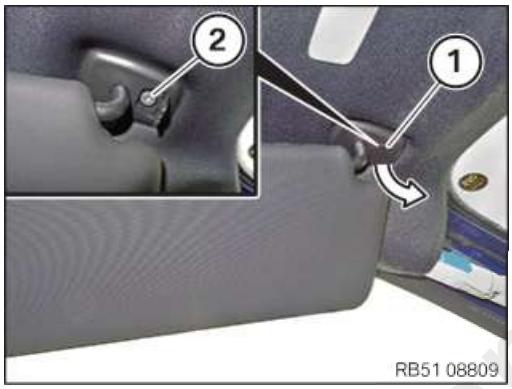
▸ **Remove the sun visor and the counter support**

NOTICE

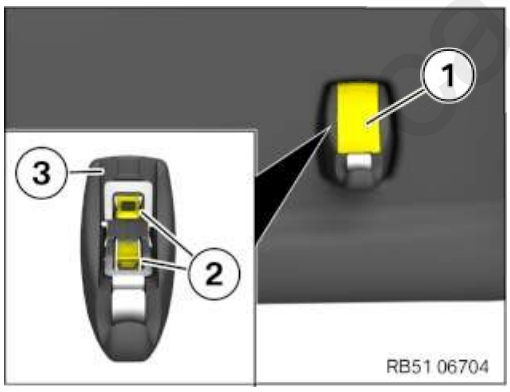
Schematic diagram is for example purposes. Some parts may differ in certain details.



- Detach sun visors (1) from end support (2) and swivel to the side.



- Fold open cover (1).
- Loosen screw (2).
- Remove sun visors and unlock and disconnect the associated plug connection.



- Unclip cover (1) using a suitable tool.
- Push the clamps (2) together and pull the counter support (3) out of the headlining.

7 – Removing the roof function centre (FZD)



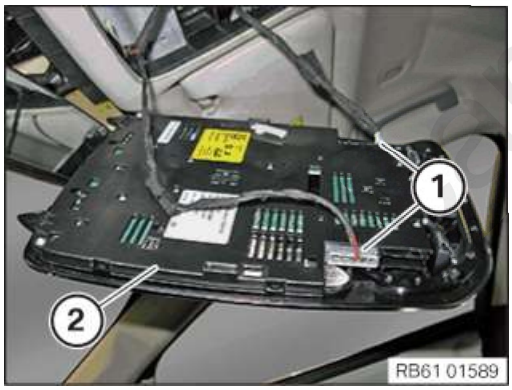
- Unclip the cover (1).



- Loosen screws (1).

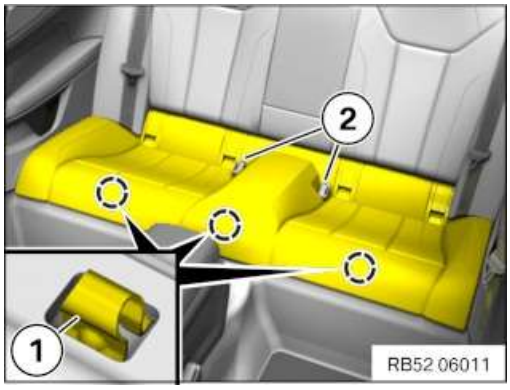


- Unclip the roof function centre (FZD) (1) from the clamps (2).
- Thread the roof function centre (FZD) (1) out of the guides (3).



- Unlock and disconnect plug connections (1).
- Unclip the cable clip from roof function centre (FZD) (2) and remove the roof function centre (FZD) (2).

8 – Remove rear seat bench



- Unclip the rear seat bench upwards from clamps (1) and guide out seat belt buckles (2).
- Remove the rear seat bench.

9 – Remove backrest side section on left and right

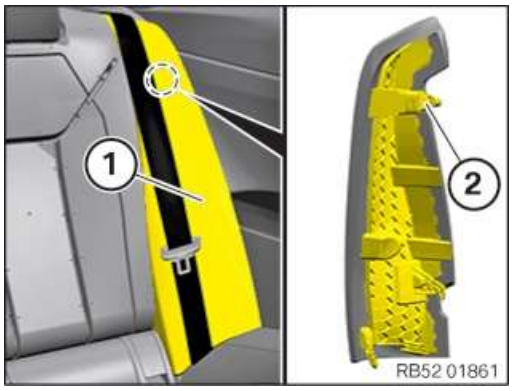
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NOTICE

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

▶ **Remove armrest side section**

▷ **Remove armrest side section**



- Reach behind the backrest side section (1) from the top and unclip the backrest side section (1) from the mounting element (2) to the front.
- Remove backrest side section (1) in the upward direction from the guide.

◁

10 – Removing the C-pillar trim panel on the left and right

NOTICE

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

▶ **Remove C-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

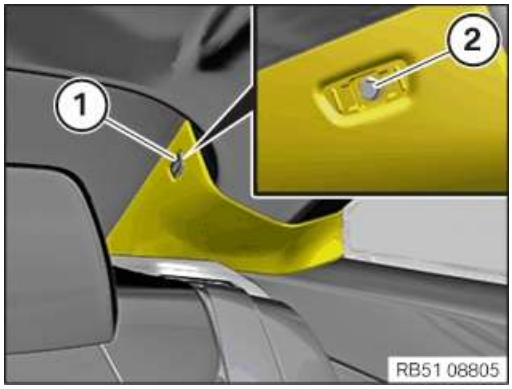
RISK OF DAMAGE

Damage to the head airbag.

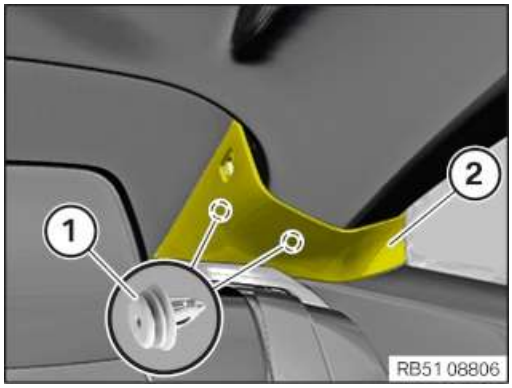
Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.

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- Unclip cover (1) of the C-pillar trim panel.
- Release the screw (2).



- Unclip C-pillar trim panel (2) from clips (1) and guide it out.

11 – Removing the inner door sill cover strip on the left and right

NOTICE

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

▸ **Removing the inner door sill cover strip**

RISK OF DAMAGE

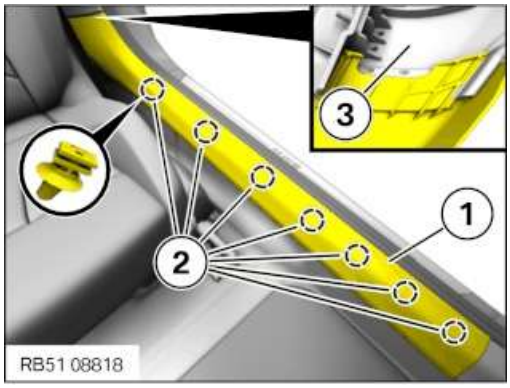
Bending of plastic parts.

Application of too much force can lead to bending of plastic parts.

- Place special tool directly beside the mounting clip.
- Continue unclipping the part without using the tool if possible.

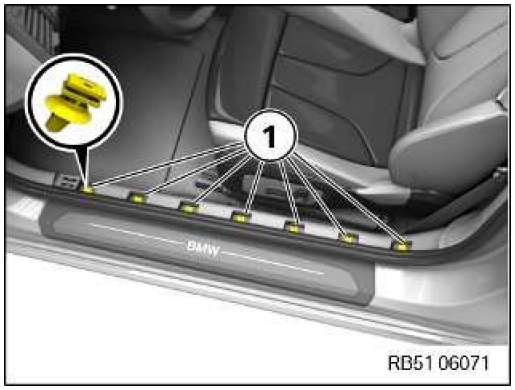
NOTICE

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



- Release door sill cover strip (1) with clips (2) starting from the front using a suitable special tool from the set of special tools 0 493 752 (00 9 329).
- Guide out and remove door sill cover strip (1) under the rear side trim panel (3) .

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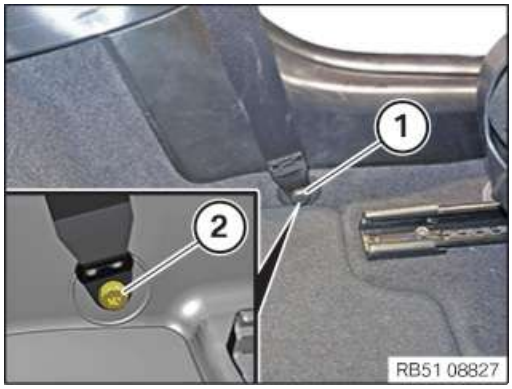
- If necessary, remove clips (1) and connect them to the door sill cover strip.

12 – Remove side trim panel, rear left and right

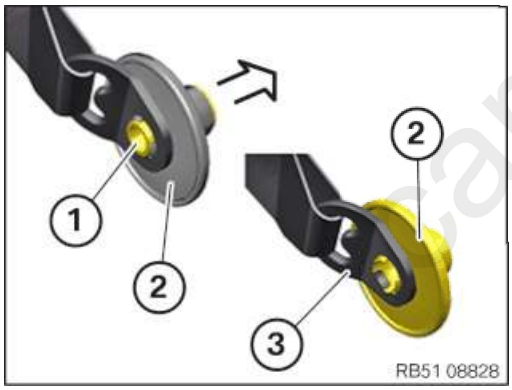
NOTICE

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

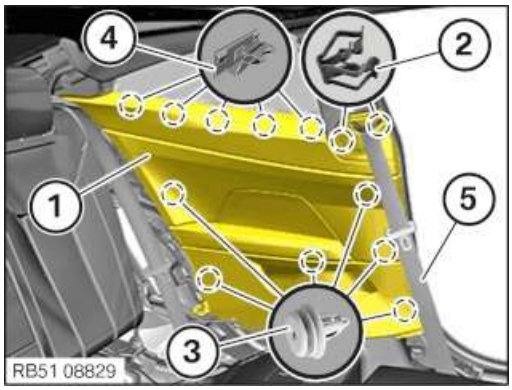
▸ **Remove rear side trim panel**



- Unclip the cover cap (1).
- Release the screw (2).



- Pull out the sleeve (1) from the cover (2) of the end fitting (3).
- Unclip the cover (2) of the end fitting (3) from the end fitting (3).



- Unclip the rear side trim panel (1) with a suitable tool at the clamps (2).
- Unclip the rear side trim panel (1) with a suitable tool at the clips (3).
- Release the rear side trim panel (1) at the clamps (4) and feed out at the edge protection.
- Unlock and disconnect all the plug connections at the rear side trim panel (1) of the wiring harness.
- Feed out the upper seat belt (5).

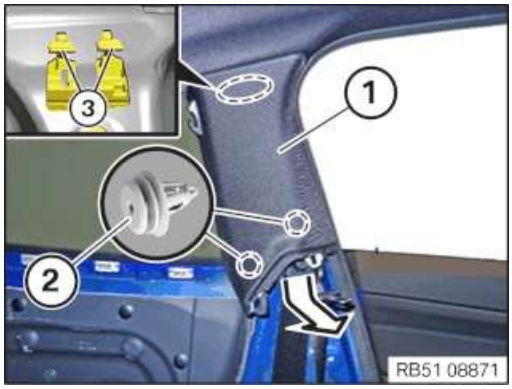
13 – Removing left and right B-pillar trim panel

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NOTICE

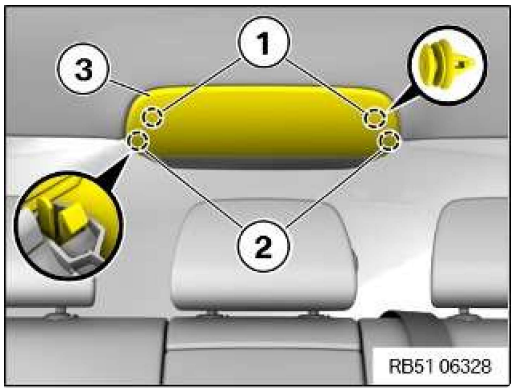
Description is for left component only. Procedure on the right side is identical.

▸ **Remove the B-pillar trim panel**



- Unclip the B-pillar trim panel (1) at the clips (2).
- Remove the B-pillar trim panel (1) from the lip of the edge protection and the guides (3) in the direction of the arrow.

14 – Removing the trim of the additional brake light



- Loosen the clips (1).
- Release the latch mechanisms (2) and remove the trim of the additional brake light (3).

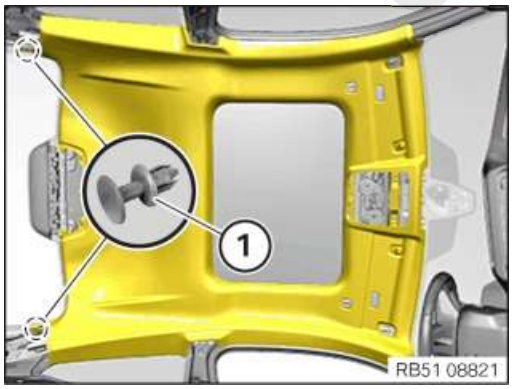
15 – Lower the headlining (with SHD)

Prerequisite

The front seats have been fully adjusted towards the bottom.

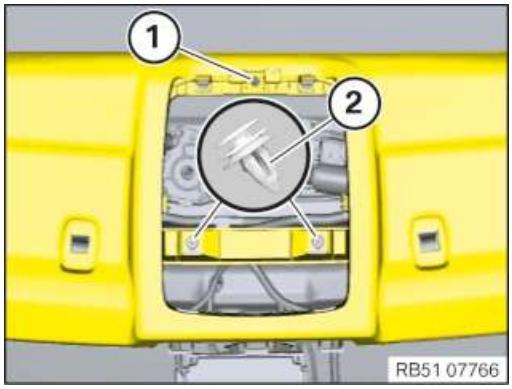
The front seat backrests have been fully adjusted towards the rear.

The rear seat backrest is folded down toward the front.

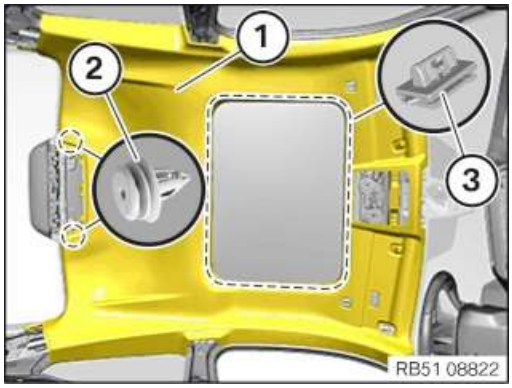


- Loosen the expanding rivet (1).

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- Loosen screw (1).
- Unclip the headlining on the clips (2) downwards.



- Unclip headlining (1) downwards from clips (2).
- Carefully unclip headlining (1) from the slide/tilt sunroof unit and clamps and the clamps (3) in the area of the dotted line.

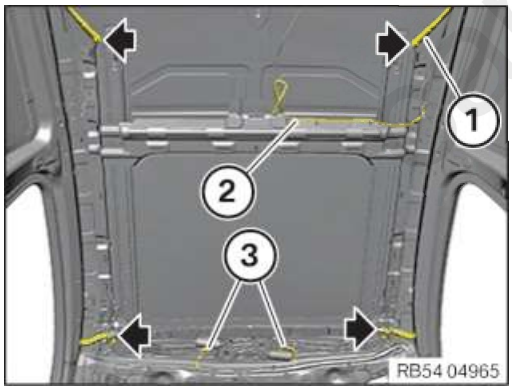


NOTICE

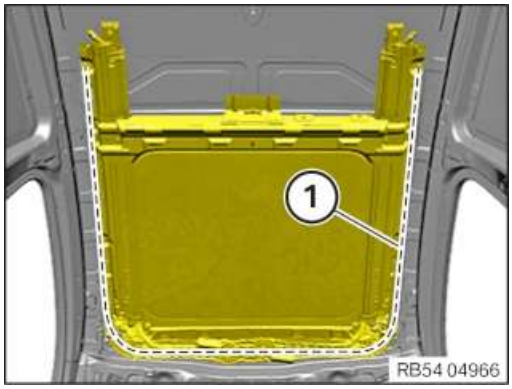
Schematic diagram is for example purposes. Some parts may differ in certain details.

- Feed out headlining (1) from the respective lips of edge protection with the assistance of a second person.
- Place the headlining (1) in the vehicle with an auxiliary person.

16 – Remove slide/tilt sunroof completely



- Pull off all 4 water drain hoses (1) (arrows).
- Unclip wiring harness (2) on the holders.
- Disconnect the plug connections (3) of engines and unclip the corresponding cable.



RISK OF DAMAGE

Heavy component.

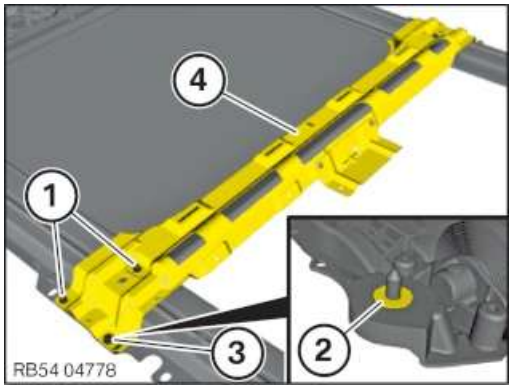
Heavy components can lead to injury or damage.

- Remove and install heavy components with the aid of another person/other persons.

- Secure slide/tilt sunroof from falling with the help of an auxiliary person.
- Release all the screws along the line (1).
- Lower the slide/tilt sunroof with the assistance of an auxiliary person and remove from the vehicle through the front passenger door.

MAIN WORK

17 – Removing cross member

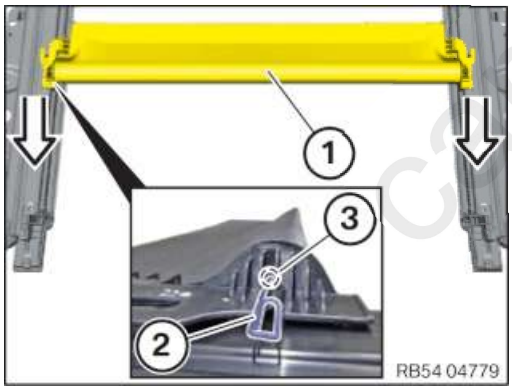


NOTICE

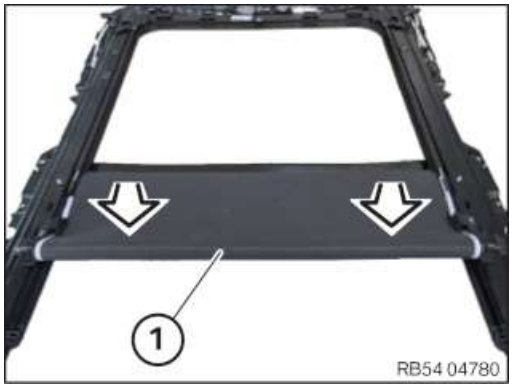
Perform the operations on the left and right side.

- Mark the position of the cross member (4) on the slide/tilt sunroof frame.
- Loosen nuts (1).
- Remove lock washer (2) and withdraw screw (3).
- Remove cross-member (4).

18 – Removing roller sunblind for the panorama glass roof

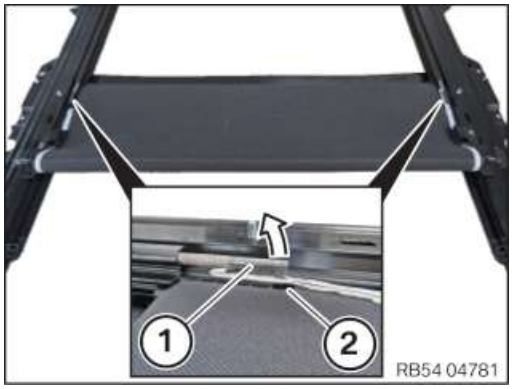


- Push the roller sunblind back (1) on both sides and thus roll it up a few cm.
- Unroll the roller sunblind (1) until it can be fixed with a suitable tool (2) (e.g. paper clip) over the pegging device (3).



- Open the roller sunblind completely (1) by hand, until a slight resistance is felt.

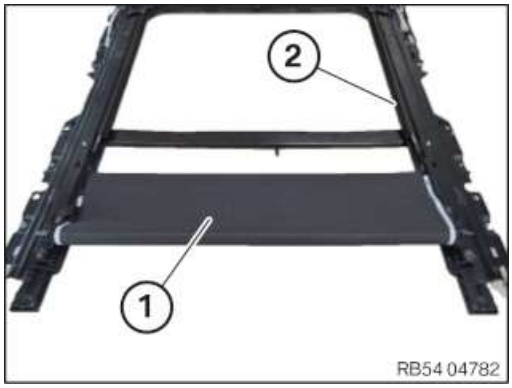
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NOTICE

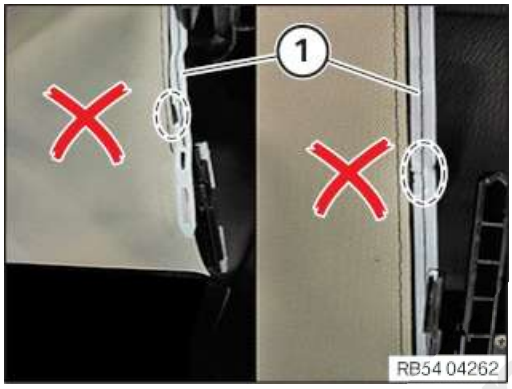
Perform the operations on the left and right side.

- Guide the driver (1) upwards out of the slider of the roller sunblind (2).



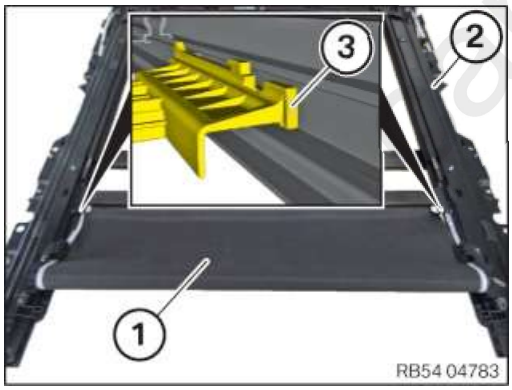
- Remove the roller sunblind (1) from the sunroof frame (2).

19 – Installing roller sunblind for the panorama glass roof

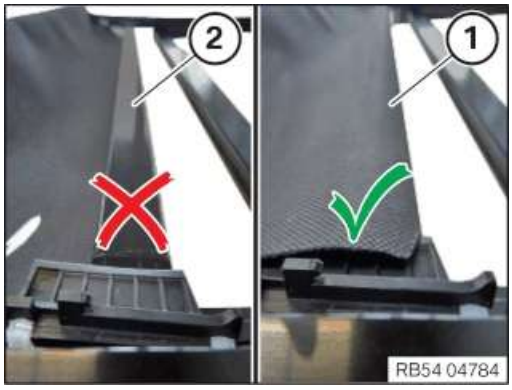


- Check the tensioning strap (1) of the roller sunblind for damage and renew the roller sunblind where required.

  The tensioning strap must be free of kinks, cracks or other defects.



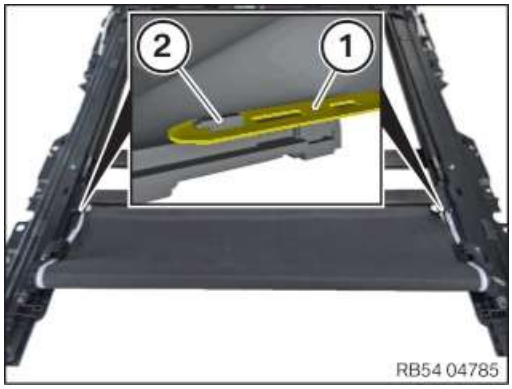
- Position the sunblind (1) on the slide/tilt sunroof frame (2).
- Ensure that the slider (3)is correctly positioned in the rail of the slide / tilt sunroof frame.



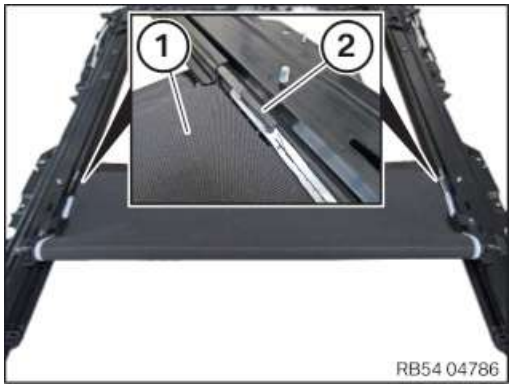
- Pay attention that the lining of the roller sunblinds (1) runs over the cross-member of the driver (2) as shown.

  If necessary, turn the cross brace (1) through 360°.

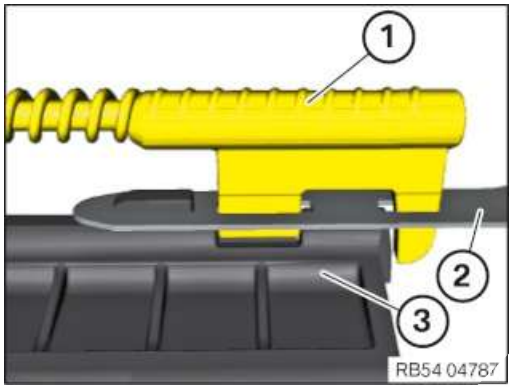
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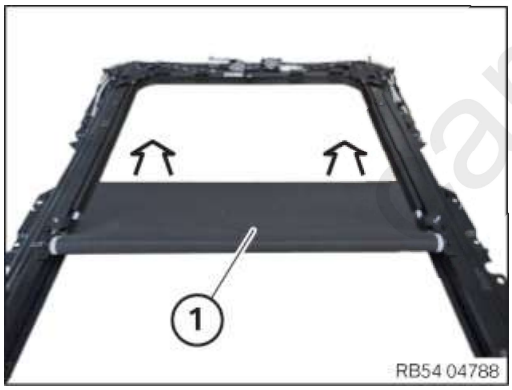
- Mount tensioning strap (1) on both sides of driver (2).



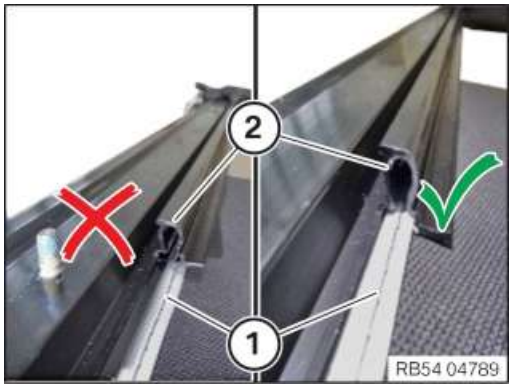
- Push the sunblind (1) forward until the drive (2) can be hooked.



- Pay attention that the driver (1) is hooked by the tensioning strap (2) on the slider (3).

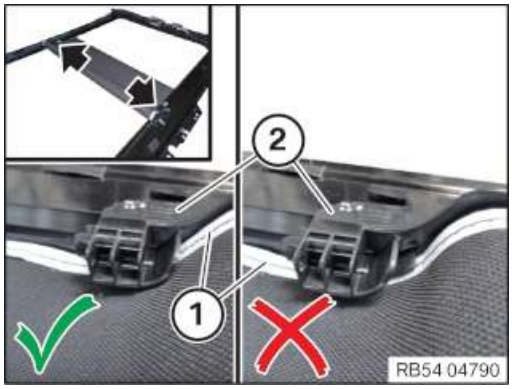


- Manually close the sunblind (1) a few cm.

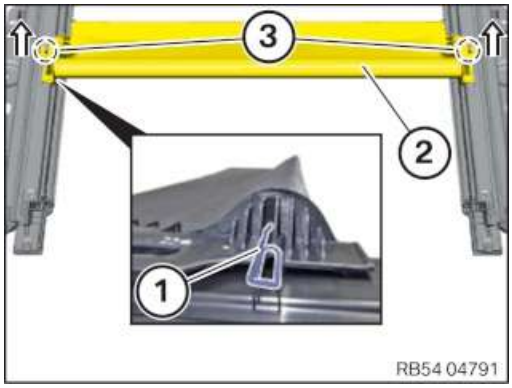


- Ensure that the tensioning strap (1) runs correctly in the guide on the slide/tilt sunroof frame (2).

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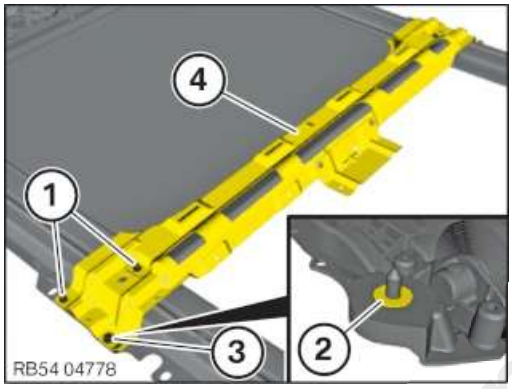


- Ensure that the tensioning strap (1) runs correctly in the guide (2) as shown.



- If necessary, remove the arresting device (1).
- Push the sunblind (2) forwards and position on the threaded bolts (3).

20 – Installing the cross member



- Position cross member (4) and align with the previously set markings on the slide/tilt sunroof frame.

NOTICE

Perform the operations on the left and right side.

- Tighten nuts (1).

Cross member to glass slide/tilt sunroof frame

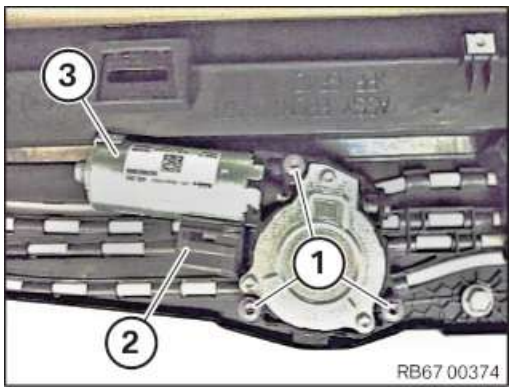
Nut		5,5 Nm

- Position retaining washer (2) and insert screw (3).

21 – Remove the drive for the glass slide/tilt sunroof panel

Prerequisite

Glass slide/tilt sunroof panel is closed.



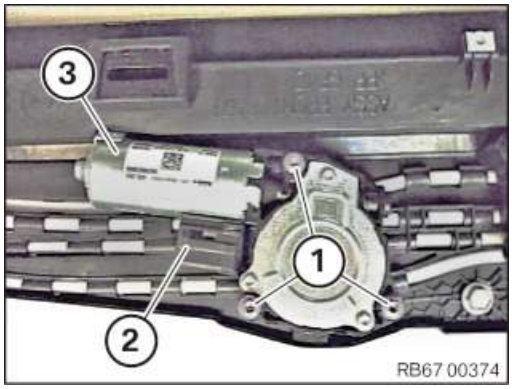
- Loosen screws (1).
- Unlock and disconnect available plug connection (2).
- Feed out the drive (3) for the glass slide/tilt sunroof panel.

22 – Installing the drive for the glass slide/tilt sunroof panel

Prerequisite

Glass slide/tilt sunroof panel is closed.

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- Feed in the drive (3) for the glass slide/tilt sunroof panel and position it correctly.
- Connect and lock existing connectors (2).
- Tighten the screws (1).

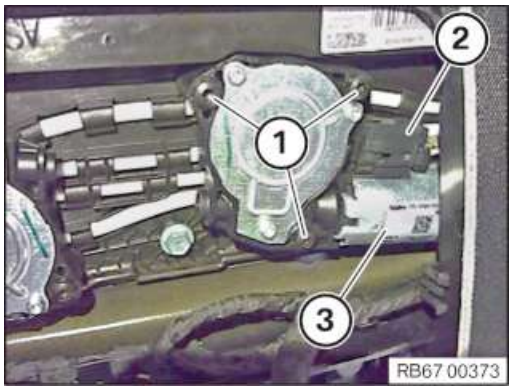
Drive for panorama sunroof to body

Screw		Tightening torque	5,5 Nm

23 – Remove the drive for the roller sunblind

Prerequisite

Roller sunblinds is open.

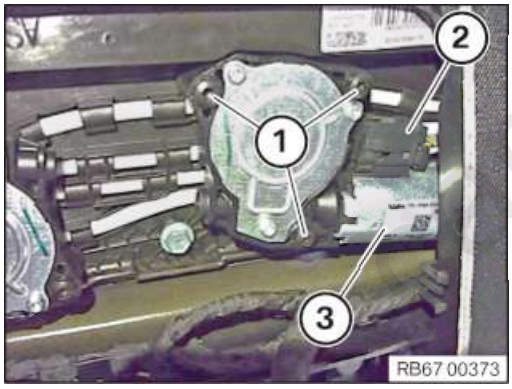


- Loosen screws (1).
- Unlock plug connection (2) and disconnect.
- Carefully feed out the drive (3).

24 – Installing the drive for the roller sunblind

Prerequisite

The roller sunblind is open.



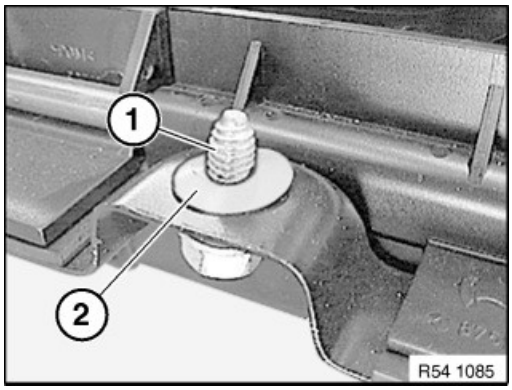
- Feed in the drive (3) of the roller sunblind and position correctly.
- Connect connectors (2) and lock.
- Tighten the screws (1).

Drive for panorama sunroof to body

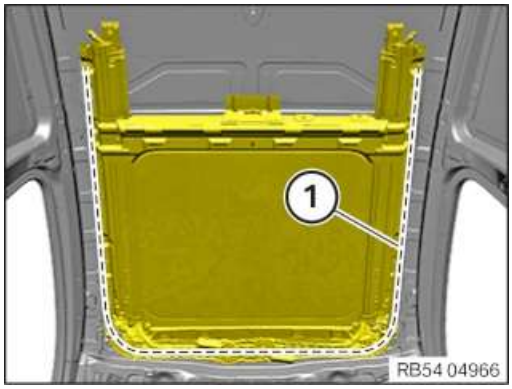
Screw		Tightening torque	5,5 Nm

POSTPROCESSES

25 – Completely installing the slide/tilt sunroof



- Before installing, secure all the screws (1) with plastic washers (2), to avoid a groaning noise.



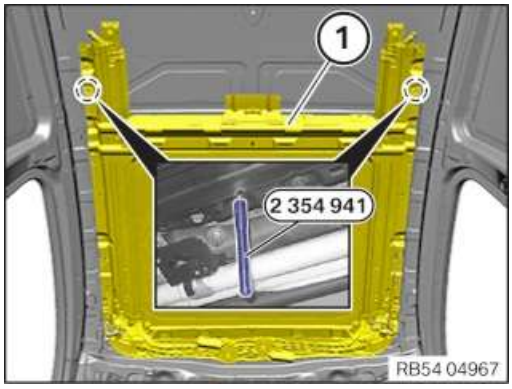
RISK OF DAMAGE

Heavy component.

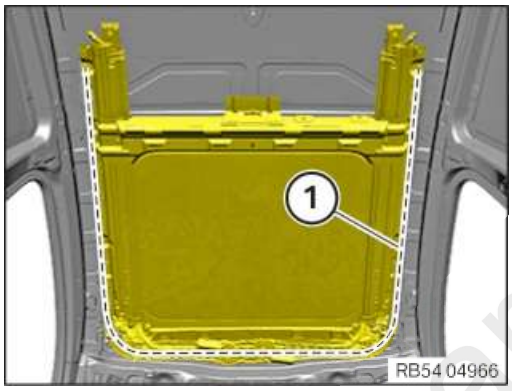
Heavy components can lead to injury or damage.

- Remove and install heavy components with the aid of another person/other persons.

- Insert the slide/tilt sunroof through the front passenger door into the vehicle with the help of an auxiliary person and position it.
- When installing it, ensure that no cables are clamped.
- Screw in all screws along the line (1) by several turns.



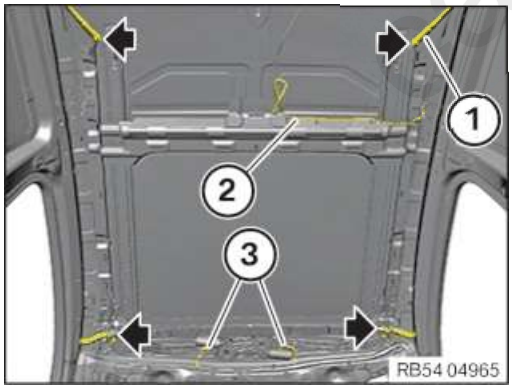
- Insert the special tool and align the panoramic glass sunroof (1) with the roof.



- Tighten all screws along the marked areas (1) .

Slide/tilt sunroof frame to body

M6	5,4 Nm



- Connect all 4 water drain hoses (1) (arrows).
- Clip in wiring harness (2) on the clips.
- Connect the connector (3) of the engines and clip in the corresponding cable.

26 – Install the headlining (with slide/tilt sunroof) (lowered)

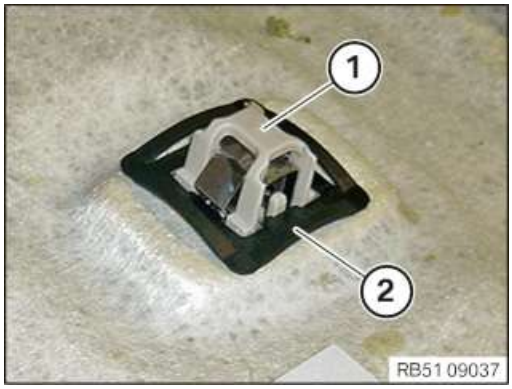
Prerequisite

The front seats have been fully adjusted towards the bottom.

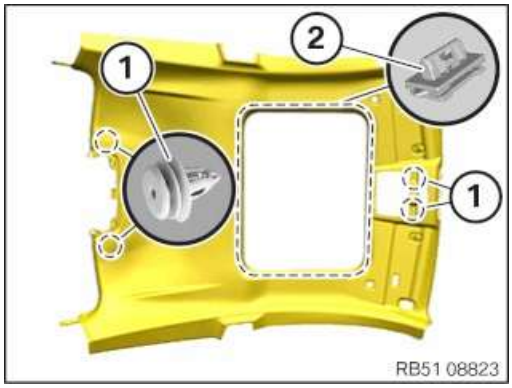
The front seat backrests have been fully adjusted towards the rear.

The rear seat backrest is folded down toward the front.

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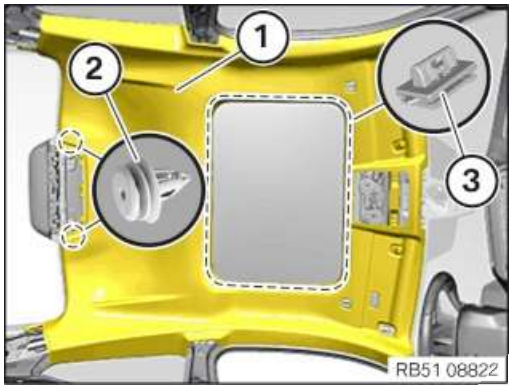
- Install the end support of the sun visors (1) in the headlining and mount it with clamps (2).



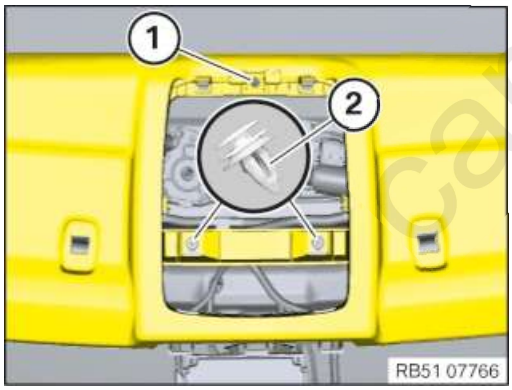
- Check the clips (1) on the headlining for damage.

  Defective or missing clips (1) must be renewed.
- Check the clamps (2) along the dotted line for damage.

  Defective or missing clamps (2) need to be renewed.



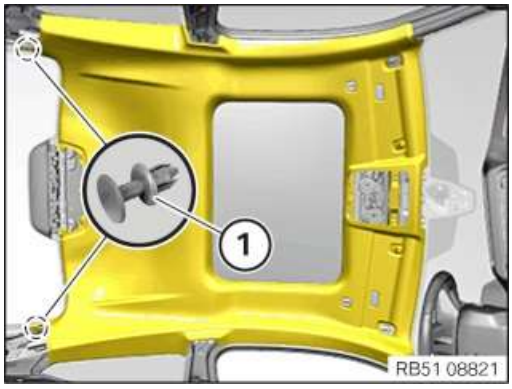
- Insert the headlining (1) with the help of an auxiliary person onto the respective edge protection.
- Clip in headlining (1) on the clips (2).
- Clip the headlining (1) in the area of the dotted line at the slide/tilt sunroof unit and the clamps (3).



- Clip headlining to the clips (2).
- Tighten down screw (1).

Headlining to frame

Oval-head screw		Tightening torque	1,5 Nm

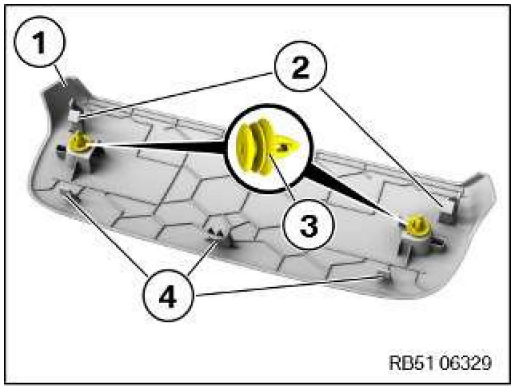


- Secure expanding rivet (1).

27 – Installing trim for additional brake light

Check

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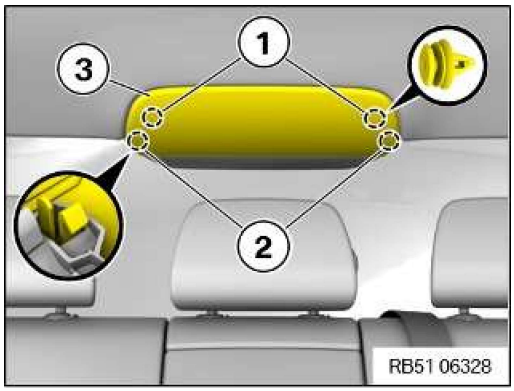
- Check the clips (3) for damage and renew if necessary.
- Check latch mechanisms (2) and guides (4) for damage.

Result

» The latch mechanism or the guide is damaged.

Measure

- Renew the trim for the additional brake light.



- Position trim for additional brake light (1) from the bottom and clip it in with latch mechanisms (2).
- Clip in clips (1).

28 – Installing the left and right B-pillar trim panel

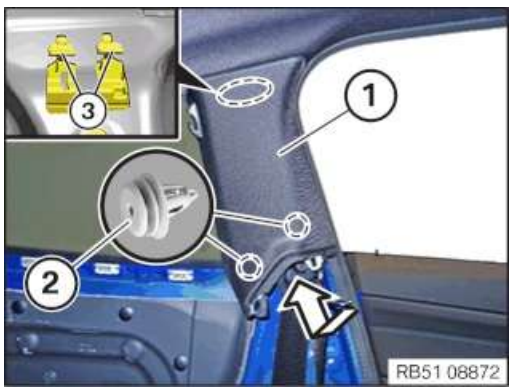
NOTICE

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

▸ Install the B-pillar trim panel



- Check clips (1) for damage and renew if necessary.



- Insert B-pillar trim panel (1) in direction of arrow into the guides (3) and under the lip of edge protection.
- Clip in the B-pillar trim panel (1) at the clips (2).

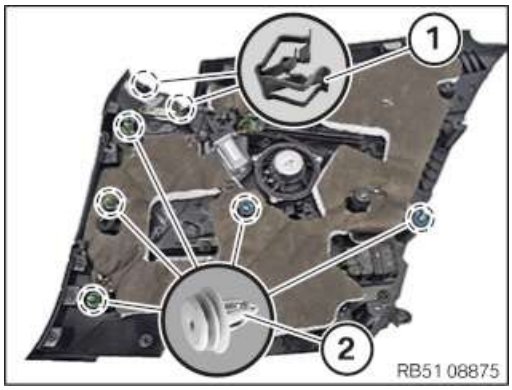
cardiagn.com

29 – Install side trim panel, rear left and right

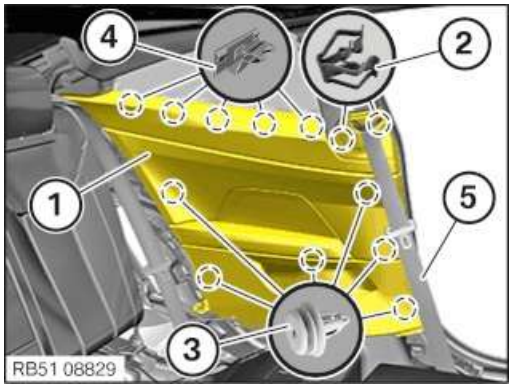
NOTICE

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

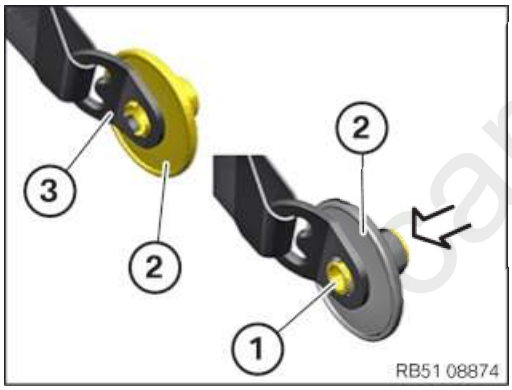
▸ **Install rear side trim panel**



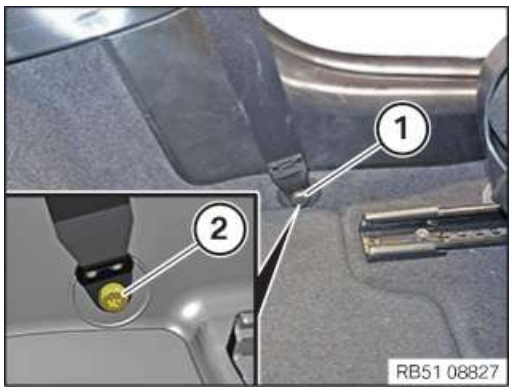
- Check clamps (1) for damage; renew them if necessary.
- Check clips (2) for damage, replace if necessary.



- Connect all the connectors to rear side trim panel (1) of the wiring harness and lock and disconnect them.
- Guide in upper seat belt (5).
- Position rear side trim panel (1) and clip it into clamps (4).
- Clip rear side trim panel (1) into clips (3).
- Clip rear side trim panel (1) into clamps (2).



- Clip cover (2) of end fitting (3) into end fitting (3).
- Slide sleeve (1) into cover (2) of end fitting (3).



- Correctly position the seat belt end fitting.
- Tighten down screw (2).

End fitting to body

M10		Tightening torque	42 Nm

- Clip in cover cap (1).

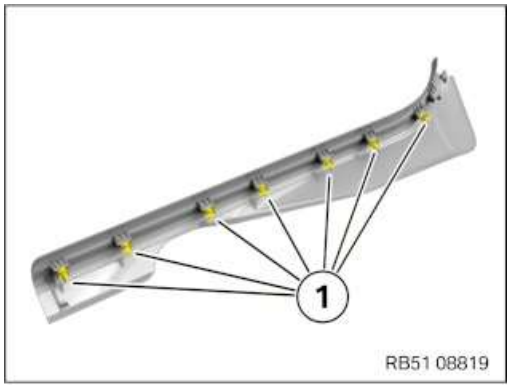
30 – Installing the inner door sill cover strip on the left and right

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NOTICE

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

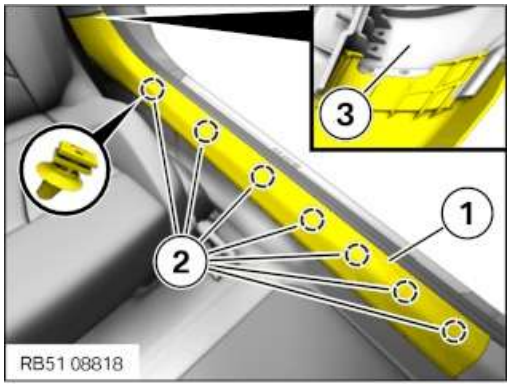
▸ **Installing the inner door sill cover strip**



NOTICE

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

- Check the clips (1) for damage and renew if necessary.



- Insert the door sill cover strip (1) below the rear side trim panel (3).
- Clip the door sill cover strip (1) in with the clips (2).

31 – Installing the C-pillar trim panel on the left and right

NOTICE

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

▸ **Installing C-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

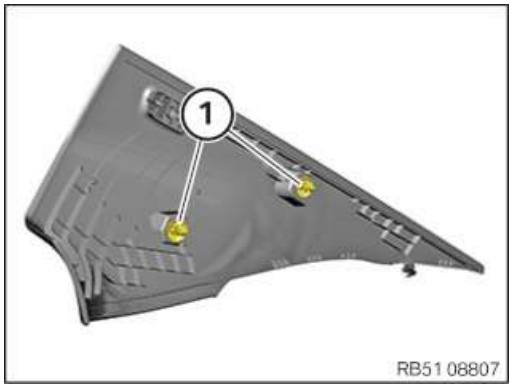
cardiagn.com

RISK OF DAMAGE

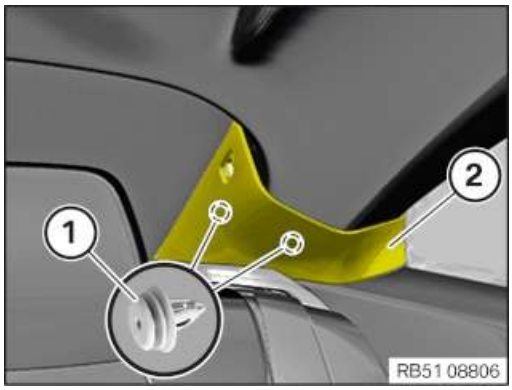
Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

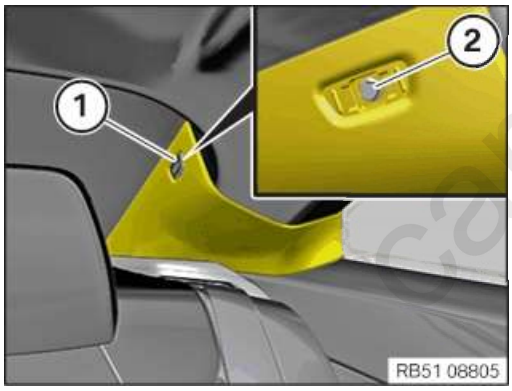
- Do not use sharp-edged tools when removing the trim panel.



- Check clips (1) for damage and, if necessary, renew them.



- Position C-pillar trim panel (2) and clip it onto clips (1).



- Tighten down screw (2).

C-pillar trim panel to body

Screw		Tightening torque	2,6 Nm

- Clip in cover (1) of the C-pillar trim panel.

32 – Install the backrest side section on the left and right

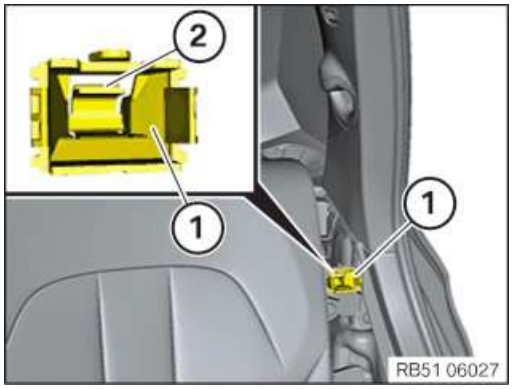
NOTICE

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

▸ **Installing backrest side section**

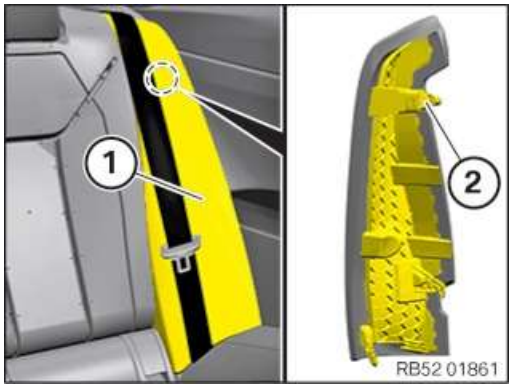
▹ **Installing backrest side section**

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- Release mounting element (1) from latch mechanism (2) and remove it from the body.
- Check the mounting element (1) for damage, renew if necessary.

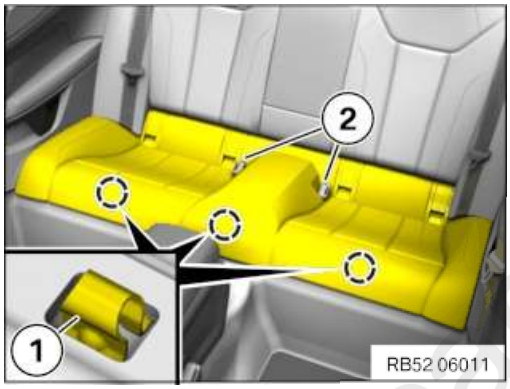
  The mounting element (1) must not be damaged or missing.
- Fit mounting element (1) on the backrest side section.



- Insert lower backrest side section (1) into the guide and position it correctly.
- Clip in backrest side section (1) to mounting element (2).

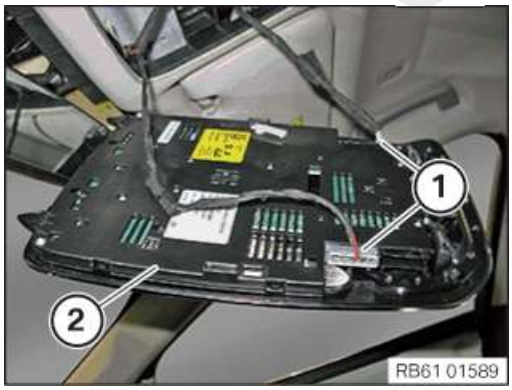
◁

33 – Installing the rear seat bench



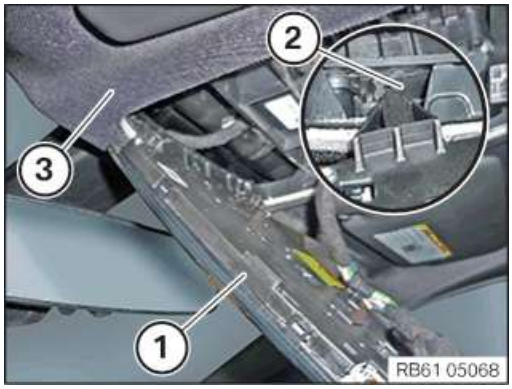
- Feed in the seat belt buckles (2).
- Position the rear seat bench and clip into the clamps (1).

34 – Installing roof function centre (FZD)



- Connect connectors (1) and lock.
- Clip in the cable for the roof function centre (FZD) (2) in the cable clip.

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- Insert the roof function centre (FZD) (1) as shown at a steep angle in the two guides (2) on the headlining (3).
- Make sure the headlining is not deformed during this operation.



- Clip the roof function centre (FZD) (1) upwards into the clamps (2).



- Slide the special tool 2 298 505 in the direction of arrow between the FZD frame and the headlining along the dotted line to adjust the headlining correctly.



- Tighten the screws (1).

Roof function centre (FZD)

	Tightening torque	1.2 Nm



- Clip in the cover (1).

35 – Installing the sun visors and the end support on the left and right

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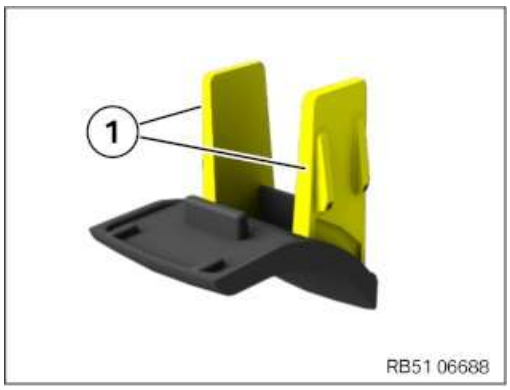
NOTICE

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

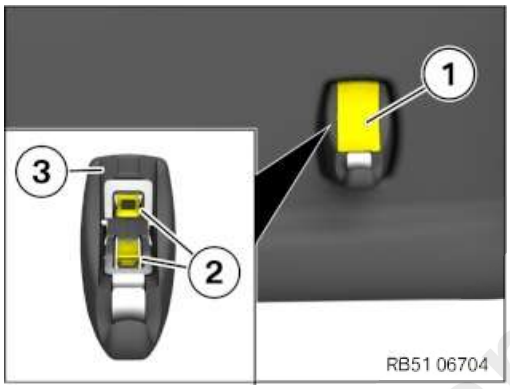
▸ **Install the sun visor and the counter support**

NOTICE

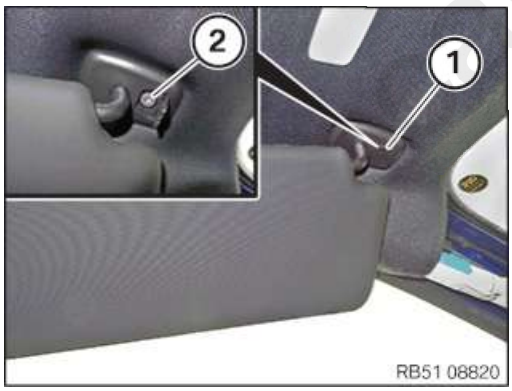
Schematic diagram is for example purposes. Some parts may differ in certain details.



- Check the guides (1) on the cover of the end support for damage, renew if necessary.



- Clip in the counter support (3) to the headlining.
- Make sure the clamps (2) are engaged correctly.
- Clip in the cover (1).



- Connect and lock corresponding connectors.
- Install the sun visors.
- Tighten down screw (2).

Sun visor to body

Screw		Tightening torque	3.3 Nm

- Close the cover (1).



- Hook the sun visors (1) to the end support (2).

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36 – Install the A-pillar trim panel on the left and right

NOTICE

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

▸ **Installing the A-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

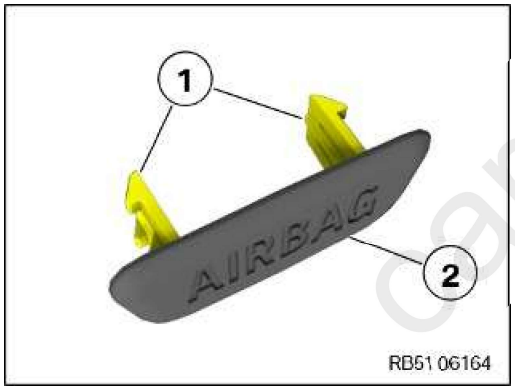
- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

RISK OF DAMAGE

Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



Check

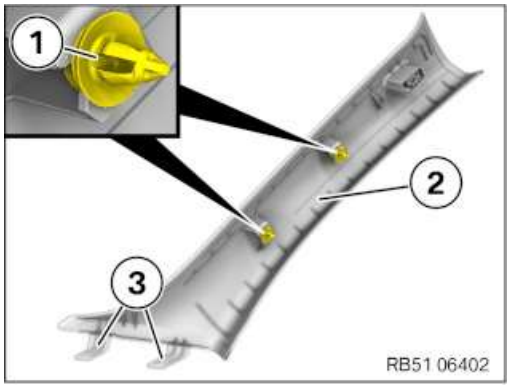
- Check retaining lugs (1) of cover (2) for damage.

Result

» Retaining lug is damaged.

Measure

- Renew the cover.



Check

- Check the clips (1) for damage and renew if necessary.
- Check the guides (3) for damage.

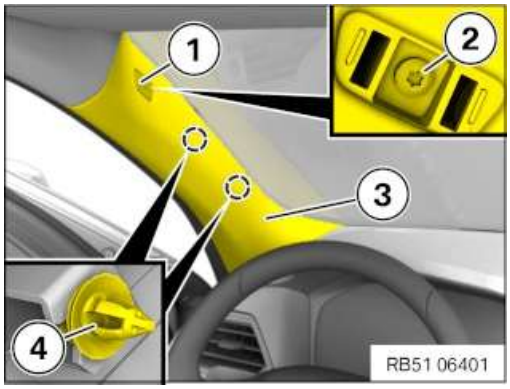
cardiagn.com

Result

» Guide is damaged.

Measure

- Renew the A-pillar trim panel.



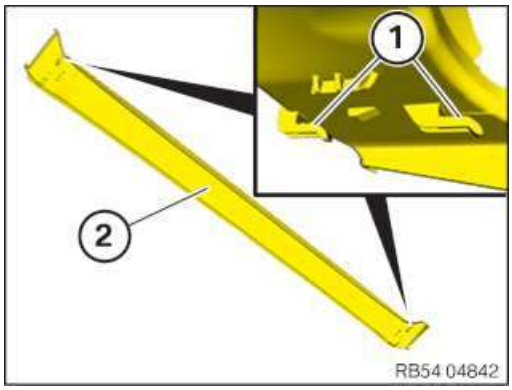
- Guide in A-pillar trim panel (3) downwards and clip it in with clips (4).
- Tighten down screw (2).

A-pillar trim panel to body

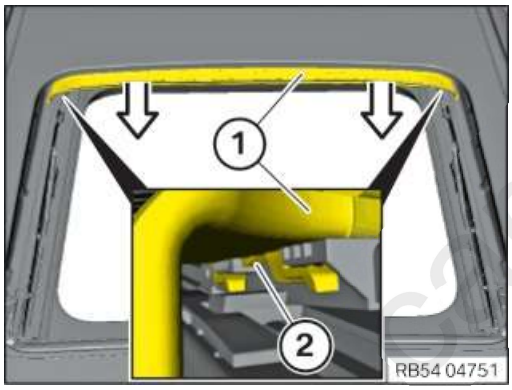
Sheet metal screw 4,8x38		Tightening torque	2,6 Nm

- Clip in the cover (1).

37 – Install water channel



- Check retaining lugs (1) of the water channel (2) for damage and renew, if necessary.

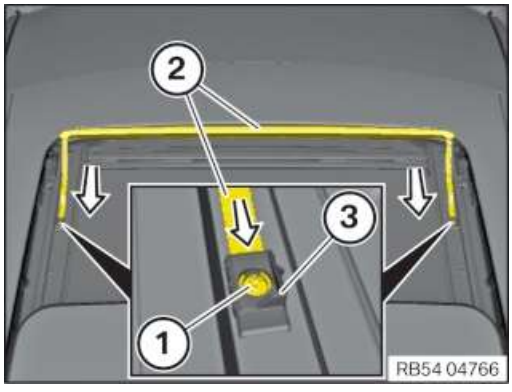


- Feed in the water channel (1) from rear and move towards front until the retaining lugs (2) engage.

38 – Install wind deflector

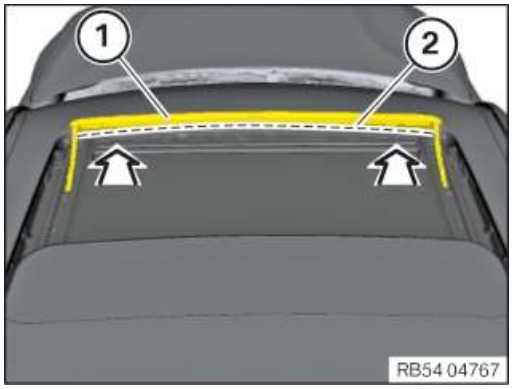
Prerequisite

The glass slide/tilt sunroof panel is open.

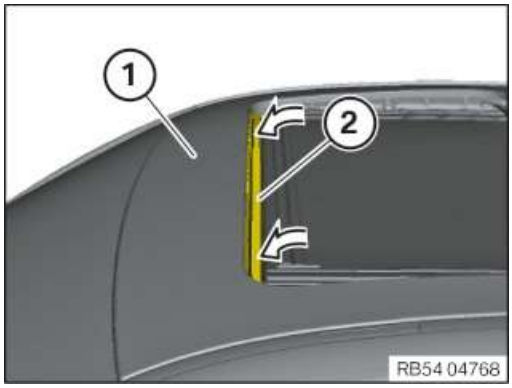


- Guide wind deflector (2) from the front into wind deflector mount (3) in the direction of the arrow.
- Screw the screws (1) by a few turns but do not tighten.

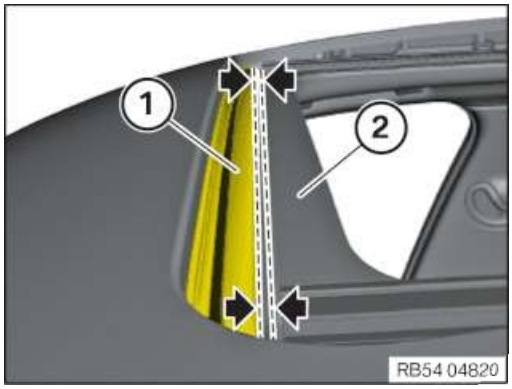
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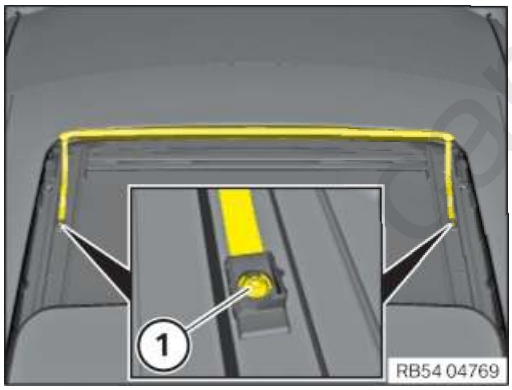
- Clip wind deflector (1)in area (2) in the direction of the arrow.



- Press down wind deflector (2) in the direction of the arrow by hand. Ensure that wind deflector (2) is fully clear and does not collide with roof outer skin (1).

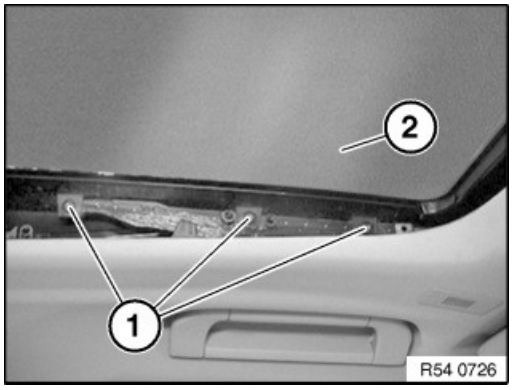


- Position wind deflector (1) at a distance of approx. 2 mm (arrows) from the gutter strip of slide/tilt sunroof frame (2).



- Tighten the screws (1).

39 – Install glass slide/tilt sunroof panel

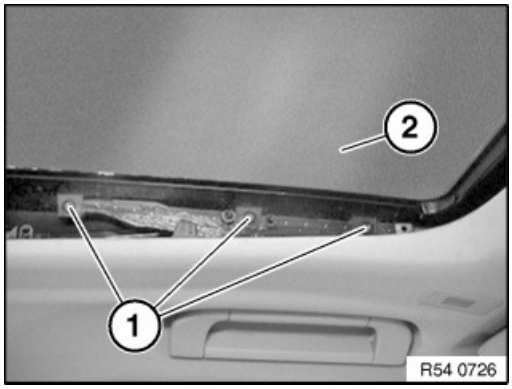


- Insert the glass slide/tilt sunroof panel (2) from the top.
- Renew screws (1).

  Parts: Bolts
- Screw in the bolts (1) on the left and right, do not tighten.

40 – Adjusting glass slide/tilt sunroof panel

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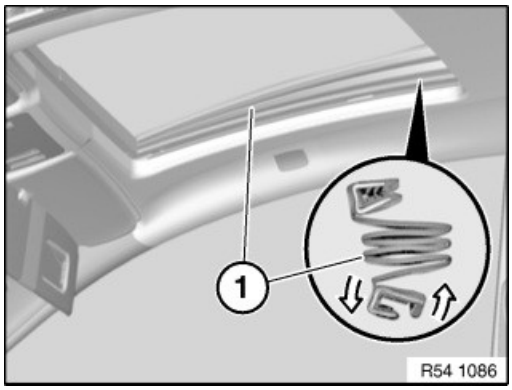


- Close glass slide/tilt sunroof lid (2).
- Slacken screws (1) at the left and right such that the glass slide/tilt roof panel (2) can just be moved.
- Move the glass slide/tilt roof panel (2) until the right position is reached.
- Tighten the screws (1).

Panorama glass roof lid to mechanics

M5	Replace screws.	4,5 Nm

41 – Install the gaiter for the glass slide/tilt sunroof



NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully screw in the gaiter (1) into the bottom guide.
- Carefully screw the gaiter (1) into the top guide.
- Check the gaiter (1) is seated securely.

42 – Initialising glass slide/tilt sunroof

▸ Prerequisites for initialising the slide/tilt sunroof/panoramic glass sunroof

- The following prerequisites must be met for a trouble-free initialisation:

Interior temperature of the vehicle	15 °C - 30 °C
Vehicle voltage	12 V - 15 V
Vehicle condition	- The vehicle is standing on its own wheels
	- The vehicle is horizontal
	- Speed 0 km/h (the vehicle must not roll)
	- The radio-operated key is in the vehicle
	- Terminal 15 is switched on or the vehicle is in the Residing PFW state
Operating point	- FZD button
	- Diagnostic function: “Initialise slide/tilt sunroof”
Miscellaneous	No other work may be carried out on the vehicle during initialisation in order to avoid impacts or vibrations.

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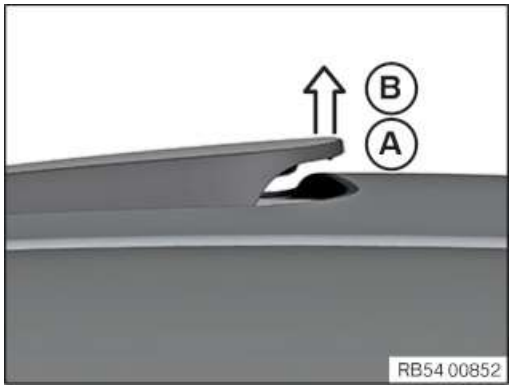
TECHNICAL INFORMATION

The following prerequisites are the basis for a correct initialisation and must be strictly observed.

For additional information see: 54 12 ... General prerequisites for initialising the slide/tilt sunroof or panoramic sunroof

- Press and hold the switch in the "Vent Position" direction.

  The glass slide/tilt sunroof moves to vent position.
- In the event of a delayed start or sudden stop of the glass slide/tilt sunroof, continue holding the switch in the "Vent position" direction.



- Continue to keep the switch pressed during the entire test module.
- Continue to operate the switch further after reaching the vent position (A) for approx. 30 s.

  Initialisation begins:
  - The glass slide/tilt sunroof moves from vent position (A) toward position (B).
  - Screen (sliding headliner) fully closes.
  - Screen (sliding headliner) fully opens.
  - Glass slide/tilt sunroof moves to "closed" position.
  - The glass slide/tilt sunroof moves to the "Open" position and immediately returns to the "Closed" position.
  - After a brief pause, the screen fully closes.

  The initialisation is completed once the glass slide/tilt sunroof and the screen have completely closed.
- Release the switch.

TECHNICAL INFORMATION

If the switch is released in the meantime, the initialisation must be repeated. Following successful initialisation, the corresponding messages in the Check Control and on the control display go out.

- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

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Additional Information

Overview of Tightening Torques

Cross member to glass slide/tilt sunroof frame — Used in step 20

Nut			5,5 Nm

Drive for panorama sunroof to body — Used in step 2224

Screw		Tightening torque	5,5 Nm

Slide/tilt sunroof frame to body — Used in step 25

M6			5,4 Nm

Headlining to frame — Used in step 26

Oval-head screw		Tightening torque	1,5 Nm

End fitting to body			Used in step 29
M10		Tightening torque	42 Nm

C-pillar trim panel to body			Used in step 31
Screw		Tightening torque	2,6 Nm

Roof function centre (FZD)			Used in step 34
		Tightening torque	1.2 Nm

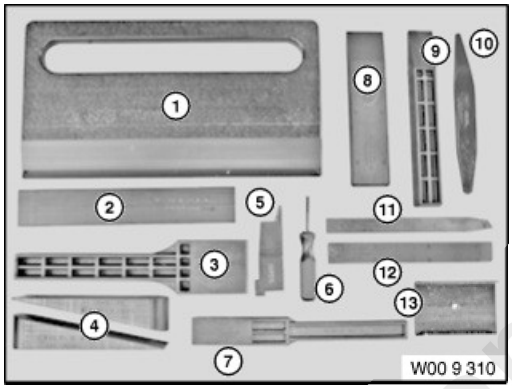
Sun visor to body			Used in step 35
Screw		Tightening torque	3.3 Nm

A-pillar trim panel to body			Used in step 36
Sheet metal screw 4,8x38		Tightening torque	2,6 Nm

Panorama glass roof lid to mechanics			Used in step 40
M5	Replace screws.		4,5 Nm

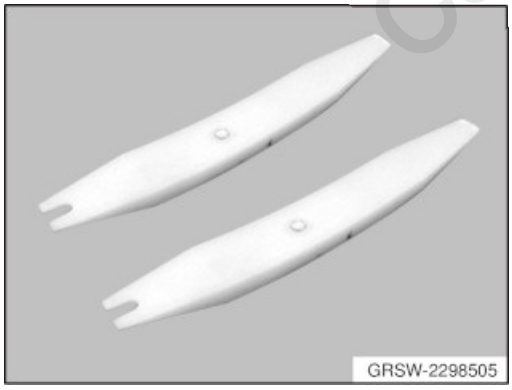
Overview of Special Tools

0 493 752 (00 9 329) Case



Common	Used in step 511
Usage	(Case) with insert without mounting wedges, delivery while stocks last - as of 02/2019.
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 07 09 (530)

2 298 505 Wedge



Common	Used in step 34
Usage	Set (delivery of 2 pieces)
Included in the tool or work	
Storage location	C34
Replaced by	
In connection with	
SI-Number	01 03 12 (792)

Links

Repair instructions (PRE)	Used in step
Notes on 48-V battery	932
Prerequisites for initialisation of the slide/panoramic sunroof	42

General repair instructions	Used in step

72 00 ... Safety regulations for handling components with gas generators	5932
72 00 ... Safety regulations for handling components with gas generators	5

Repair instructions	**Used in step**
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	932
61 20 900 Disconnecting and connecting battery earth lead	932
61 20 900 Disconnecting and connecting battery earth lead	932
61 20 900 Disconnecting and connecting battery earth lead	932
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61 20 900 Disconnecting and connecting battery earth lead	932
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	932
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	932
61 20 900 Disconnecting and connecting battery earth lead	932
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	932
61 20 900 Disconnecting and connecting battery earth lead (Plug-in Hybrid Electric Vehicle)	932
61 20 900 Disconnecting and connecting battery earth lead	932
61 20 900 Disconnecting and connecting battery earth lead	932
61 20 900 Disconnecting and connecting battery earth lead	932
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61 20 900 Disconnecting and connecting battery earth lead	932

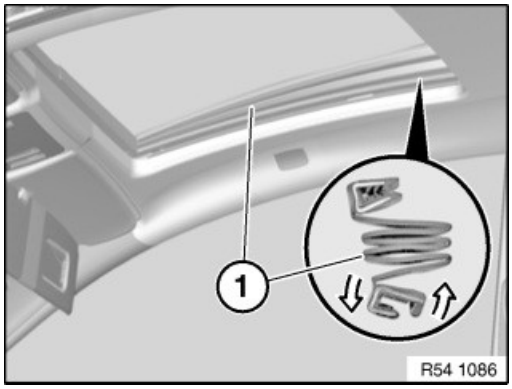
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61 20 900 Disconnecting and connecting battery earth lead	932
61 20 900 Disconnecting and connecting battery earth lead	932
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	932
61 20 900 Disconnecting and connecting battery earth lead	932
61 20 900 Disconnecting and connecting battery earth lead	932
61 20 900 Disconnecting and connecting battery earth lead	932

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54 12 015 Replacing left or right gaiter for glass slide/tilt sunroof

1 – Remove the gaiter for the glass slide/tilt sunroof

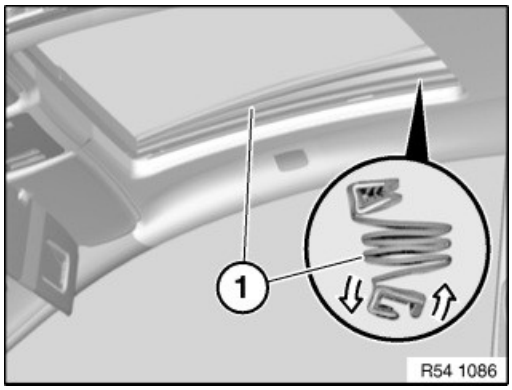


NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully pull off the gaiter (1) from the top guide.
- Carefully twist out the gaiter (1) from the bottom guide.

2 – Install the gaiter for the glass slide/tilt sunroof



NOTICE

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

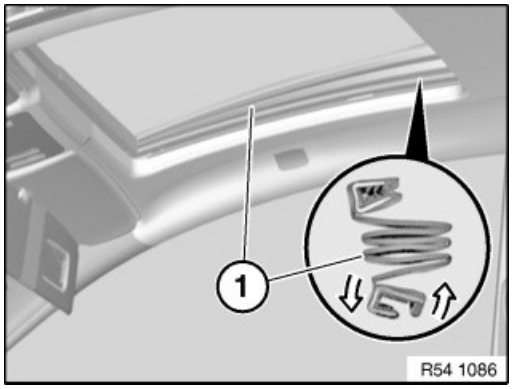
- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully screw in the gaiter (1) into the bottom guide.
- Carefully screw the gaiter (1) into the top guide.
- Check the gaiter (1) is seated securely.

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54 12 117 Replacing seal for glass slide/tilt roof panel

PRELIMINARY WORK

1 – Remove the gaiter for the glass slide/tilt sunroof

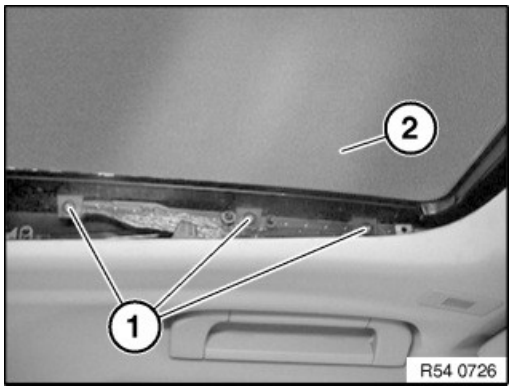


NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully pull off the gaiter (1) from the top guide.
- Carefully twist out the gaiter (1) from the bottom guide.

2 – Remove glass slide/tilt sunroof panel

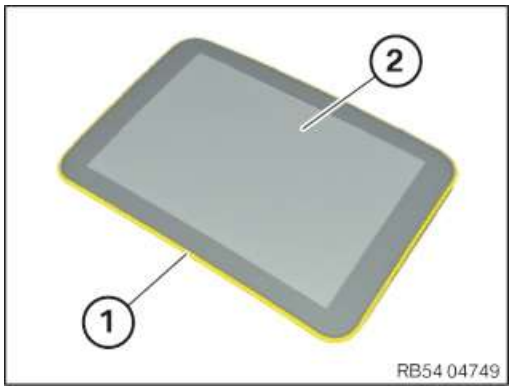


- Loosen screws (1) on left and right.
- Remove the glass slide/tilt sunroof panel (2) towards the top.

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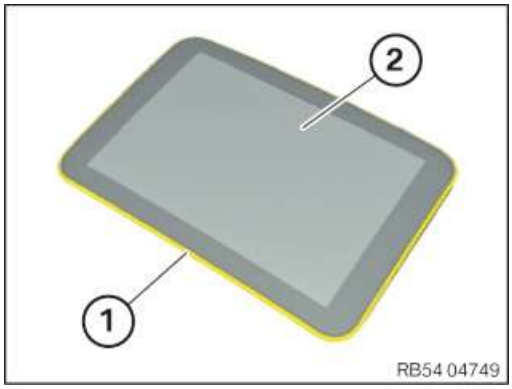
MAIN WORK

3 – Remove the gasket for the glass slide/tilt sunroof panel



- Pull off seal (1) from glass slide/tilt roof panel (2).

4 – Install the gasket for the glass slide/tilt sunroof panel



- Position the glass slide/tilt roof panel seal (1) on the groove of glass slide/tilt roof panel (2) and press.

  Make sure that the seal (1) rests completely on the glass slide/tilt roof panel.

Note: Coat the seal with a suitable lubricant.

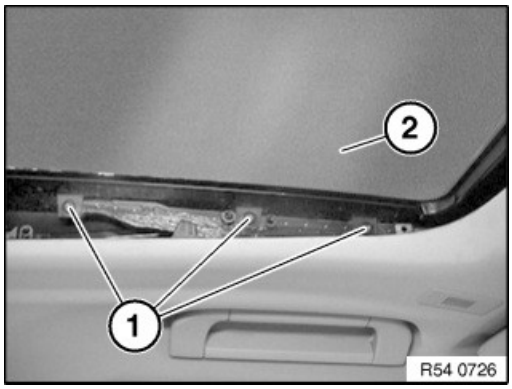
Expendable materials

Lubricant M	30 ml	83 19 2458653

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POSTPROCESSES

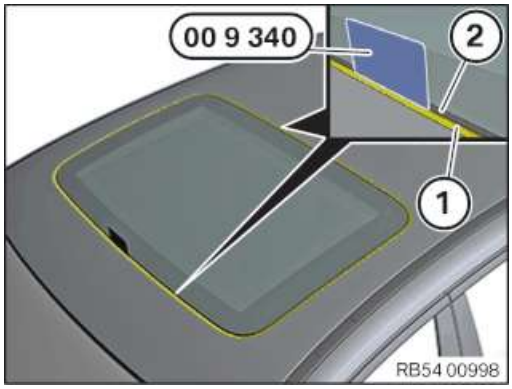
5 – Install glass slide/tilt sunroof panel



- Insert the glass slide/tilt sunroof panel (2) from the top.
- Renew screws (1).

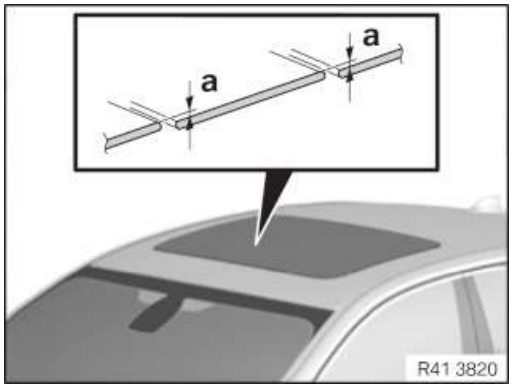
  Parts: Bolts
- Screw in the bolts (1) on the left and right, do not tighten.

6 – Check the setting of the glass slide/tilt sunroof panel



- Check whether the distance of the glass slide/tilt roof panel to the front roof and at the rear is the same and correct if necessary.
- Slide the special tool 0 493 687 (00 9 340) between the gasket (1) and the glass slide/tilt sunroof panel (2).

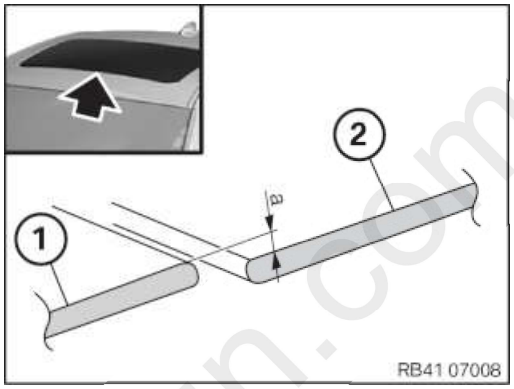
  The resistance when moving the special tool must be the same at the front and rear.



- Make sure that the glass slide/tilt roof panel at the front lies flush with the roof outer skin and is lower by a maximum of the dimension (a).

Gap dimension roof outer skin to glass slide/tilt sunroof panel

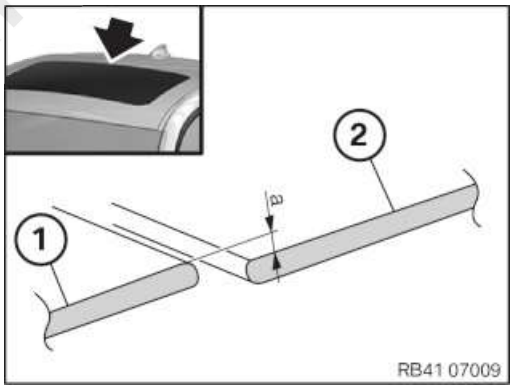
1 roof outer skin; 2 glass slide/tilt sunroof panel	
a	0,7 (-0,05 - 1,45) mm

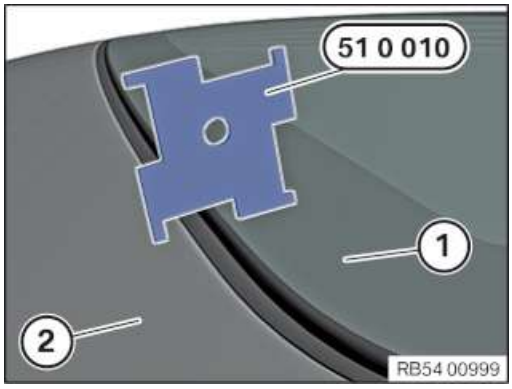


- Make sure that the glass slide/tilt roof panel at the rear lies flush with the roof outer skin and higher by a maximum of the dimension (a).

Gap dimension glass slide/tilt sunroof panel to roof outer skin

1 glass slide/tilt sunroof panel; 2 roof outer skin	
a	0,7 (-0,05 - 1,45) mm

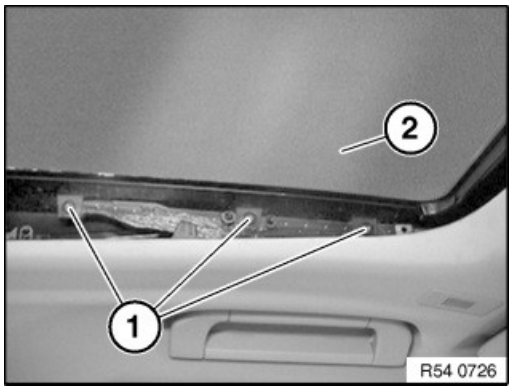




- Measure the position of the glass slide/tilt roof panel (1) to roof (2) with special tool 0 495 259 (51 0 010).

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7 – Adjusting glass slide/tilt sunroof panel



- Close glass slide/tilt sunroof lid (2).
- Slacken screws (1) at the left and right such that the glass slide/tilt roof panel (2) can just be moved.
- Move the glass slide/tilt roof panel (2) until the right position is reached.
- Tighten the screws (1).

Panorama glass roof lid to mechanics

M5	Replace screws.	4,5 Nm

8 – Initialising glass slide/tilt sunroof

▸ Prerequisites for initialising the slide/tilt sunroof/panoramic glass sunroof

- The following prerequisites must be met for a trouble-free initialisation:

Interior temperature of the vehicle	15 °C - 30 °C
Vehicle voltage	12 V - 15 V
Vehicle condition	- The vehicle is standing on its own wheels
	- The vehicle is horizontal
	- Speed 0 km/h (the vehicle must not roll)
	- The radio-operated key is in the vehicle
	- Terminal 15 is switched on or the vehicle is in the Residing PFW state
Operating point	- FZD button
	- Diagnostic function: “Initialise slide/tilt sunroof”
Miscellaneous	No other work may be carried out on the vehicle during initialisation in order to avoid impacts or vibrations.



TECHNICAL INFORMATION

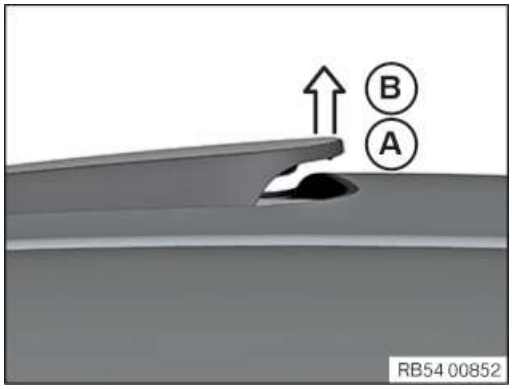
The following prerequisites are the basis for a correct initialisation and must be strictly observed.

For additional information see: 54 12 ... General prerequisites for initialising the slide/tilt sunroof or panoramic sunroof

- Press and hold the switch in the "Vent Position" direction.

  The glass slide/tilt sunroof moves to vent position.
- In the event of a delayed start or sudden stop of the glass slide/tilt sunroof, continue holding the switch in the "Vent position" direction.

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- Continue to keep the switch pressed during the entire test module.
- Continue to operate the switch further after reaching the vent position (A) for approx. 30 s.

  Initialisation begins:

  - The glass slide/tilt sunroof moves from vent position (A) toward position (B).
  - Screen (sliding headliner) fully closes.
  - Screen (sliding headliner) fully opens.
  - Glass slide/tilt sunroof moves to "closed" position.
  - The glass slide/tilt sunroof moves to the "Open" position and immediately returns to the "Closed" position.
  - After a brief pause, the screen fully closes.

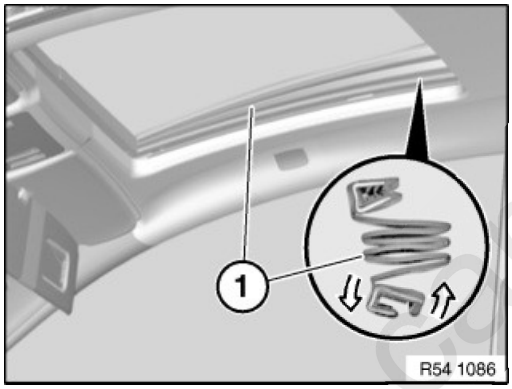
  The initialisation is completed once the glass slide/tilt sunroof and the screen have completely closed.
- Release the switch.

TECHNICAL INFORMATION

If the switch is released in the meantime, the initialisation must be repeated. Following successful initialisation, the corresponding messages in the Check Control and on the control display go out.

- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

9 – Install the gaiter for the glass slide/tilt sunroof



NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully screw in the gaiter (1) into the bottom guide.
- Carefully screw the gaiter (1) into the top guide.
- Check the gaiter (1) is seated securely.

Additional Information

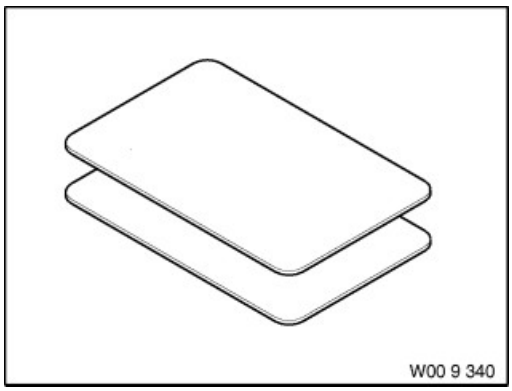
Overview of Tightening Torques

Panorama glass roof lid to mechanics — Used in step 7

M5	Replace screws.	4,5 Nm

Overview of Special Tools

0 493 687 (00 9 340) Removal aid



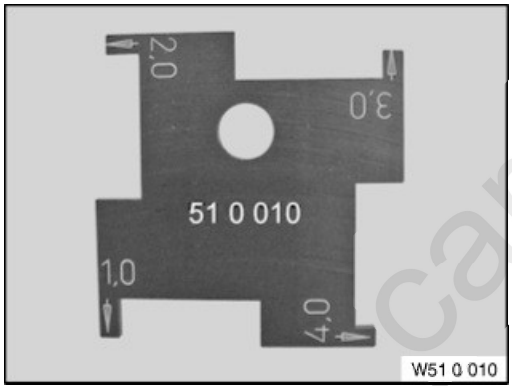
Common Used in step 6

Usage	(Dismantling aid (2 pieces))
Included in the tool or work	
Storage location	C2
Replaced by	
In connection with	
SI-Number	01 15 99 (483)

Consisting of

Pos	BMW Order number	Replaced by	Designation	In Connection with
1	0 496 289 (00 9 341)		**Removal aid** Only available as a set (2 tools) under 00 9 340 (= 83 30 0 493 687).	

0 495 259 (51 0 010) Gauge



Common Used in step 6

Usage	(test gauge for installing windscreen and rear window) (replaces special tool 51 3 210 from 06/2005)
Included in the tool or work	
Storage location	B2
Replaced by	
In connection with	
SI-Number	01 10 05 (189)

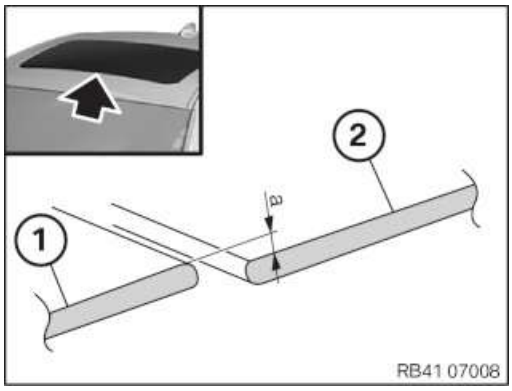
Overview Technical Data

Gap dimension roof outer skin to glass slide/tilt sunroof panel Used in step 6

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1 roof outer skin; 2 glass slide/tilt sunroof panel

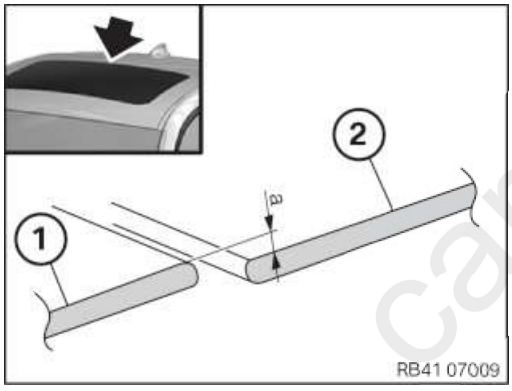
a	0,7 (-0,05 - 1,45) mm



Gap dimension glass slide/tilt sunroof panel to roof outer skin Used in step 6

1 glass slide/tilt sunroof panel; 2 roof outer skin

a	0,7 (-0,05 - 1,45) mm



Links

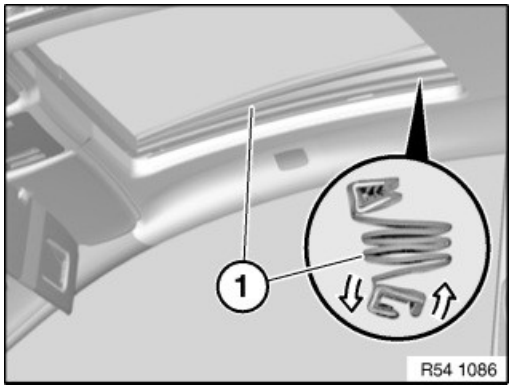
Repair instructions (PRE)	Used in step
Prerequisites for initialisation of the slide/panoramic sunroof	8

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54 12 791 Replacing the slider for roller sunblind

PRELIMINARY WORK

1 – Remove the gaiter for the glass slide/tilt sunroof

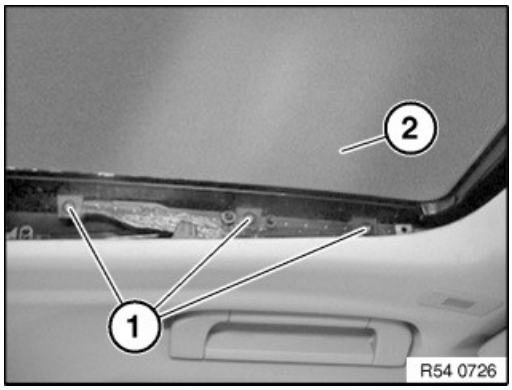


NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully pull off the gaiter (1) from the top guide.
- Carefully twist out the gaiter (1) from the bottom guide.

2 – Remove glass slide/tilt sunroof panel



- Loosen screws (1) on left and right.
- Remove the glass slide/tilt sunroof panel (2) towards the top.

3 – Remove left and right A-pillar trim panel

NOTICE

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

▸ **Remove the A-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

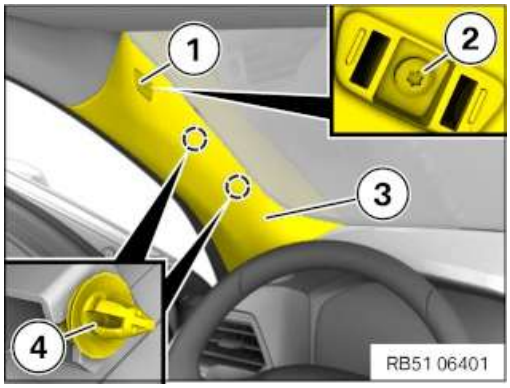
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RISK OF DAMAGE

Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



- Unclip cover (1) with a suitable special tool from the special tool kit 0 493 752 (00 9 329).
- Loosen screw (2).
- Unclip A-pillar trim panel (3) with clips (4) and feed it out to the top.

4 – Removing the sun visors and the end support on the left and right

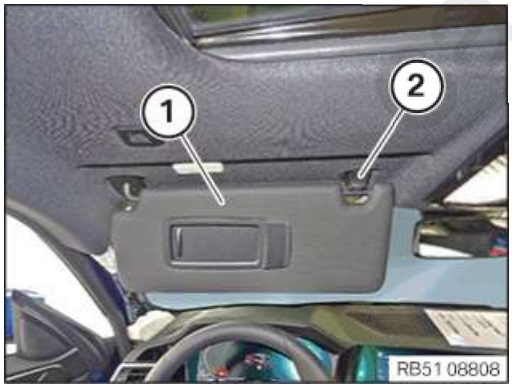
NOTICE

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

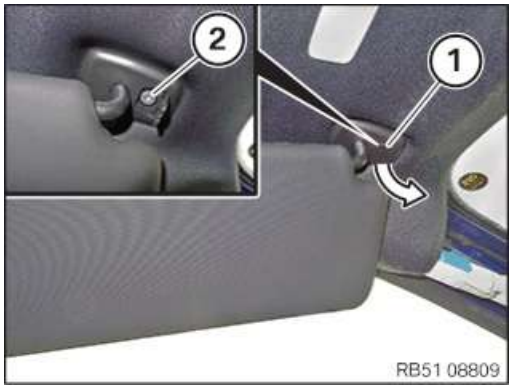
▸ **Remove the sun visor and the counter support**

NOTICE

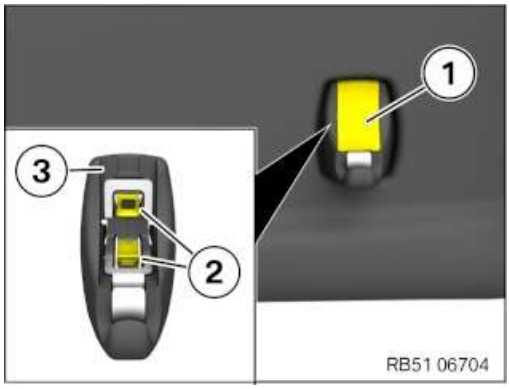
Schematic diagram is for example purposes. Some parts may differ in certain details.



- Detach sun visors (1) from end support (2) and swivel to the side.



- Fold open cover (1).
- Loosen screw (2).
- Remove sun visors and unlock and disconnect the associated plug connection.



- Unclip cover (1) using a suitable tool.
- Push the clamps (2) together and pull the counter support (3) out of the headlining.

5 – Removing the roof function centre (FZD)



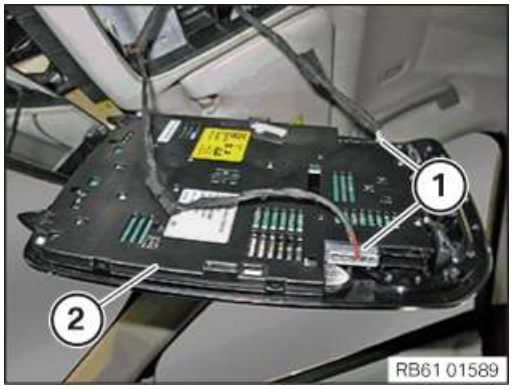
- Unclip the cover (1).



- Loosen screws (1).



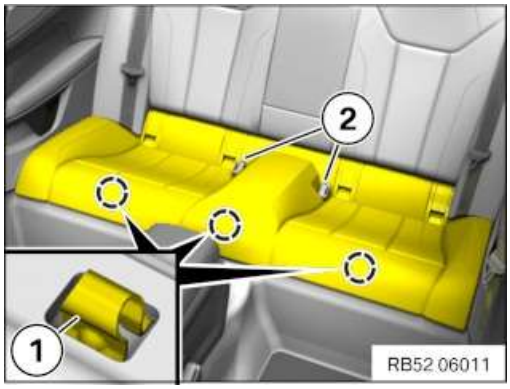
- Unclip the roof function centre (FZD) (1) from the clamps (2).
- Thread the roof function centre (FZD) (1) out of the guides (3).



- Unlock and disconnect plug connections (1).
- Unclip the cable clip from roof function centre (FZD) (2) and remove the roof function centre (FZD) (2).

6 – Remove rear seat bench

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- Unclip the rear seat bench upwards from clamps (1) and guide out seat belt buckles (2).
- Remove the rear seat bench.

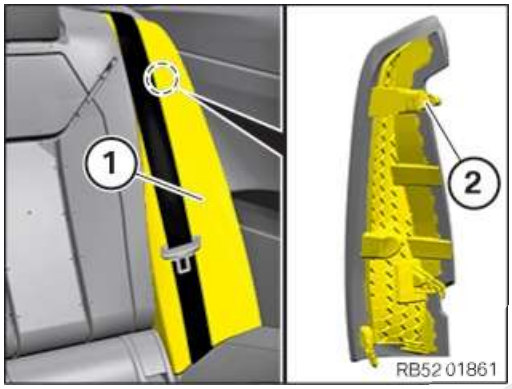
7 – Remove backrest side section on left and right

NOTICE

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

▸ **Remove armrest side section**

▹ **Remove armrest side section**



- Reach behind the backrest side section (1) from the top and unclip the backrest side section (1) from the mounting element (2) to the front.
- Remove backrest side section (1) in the upward direction from the guide.

◃

8 – Removing the C-pillar trim panel on the left and right

NOTICE

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

▸ **Remove C-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

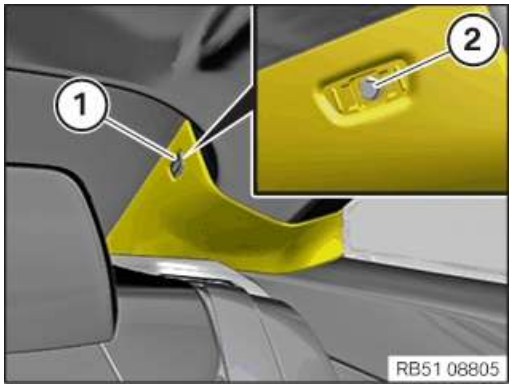
cardiagn.com

RISK OF DAMAGE

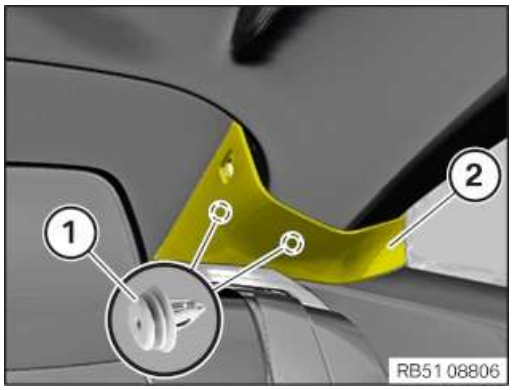
Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



- Unclip cover (1) of the C-pillar trim panel.
- Release the screw (2).



- Unclip C-pillar trim panel (2) from clips (1) and guide it out.

9 – Removing the inner door sill cover strip on the left and right

NOTICE

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

▸ **Removing the inner door sill cover strip**

RISK OF DAMAGE

Bending of plastic parts.

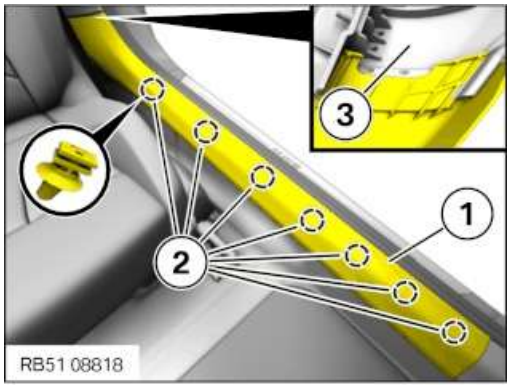
Application of too much force can lead to bending of plastic parts.

- Place special tool directly beside the mounting clip.
- Continue unclipping the part without using the tool if possible.

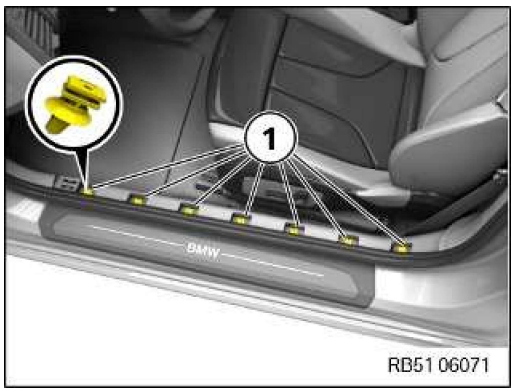
NOTICE

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

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- Release door sill cover strip (1) with clips (2) starting from the front using a suitable special tool from the set of special tools 0 493 752 (00 9 329).
- Guide out and remove door sill cover strip (1) under the rear side trim panel (3) .



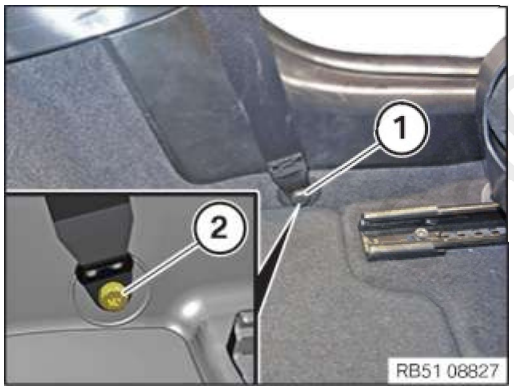
- If necessary, remove clips (1) and connect them to the door sill cover strip.

10 – Remove side trim panel, rear left and right

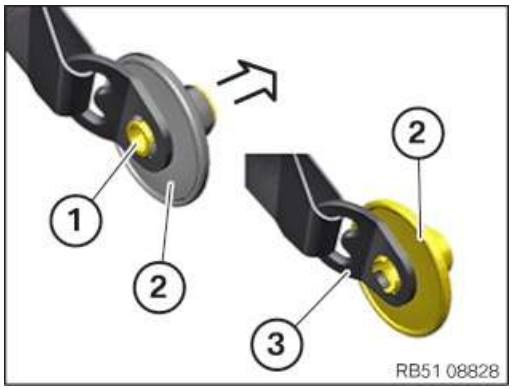
NOTICE

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

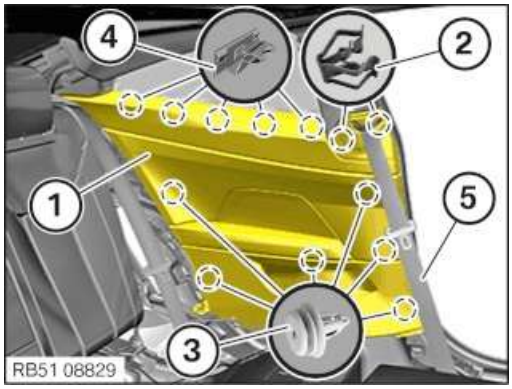
▸ **Remove rear side trim panel**



- Unclip the cover cap (1).
- Release the screw (2).



- Pull out the sleeve (1) from the cover (2) of the end fitting (3).
- Unclip the cover (2) of the end fitting (3) from the end fitting (3).



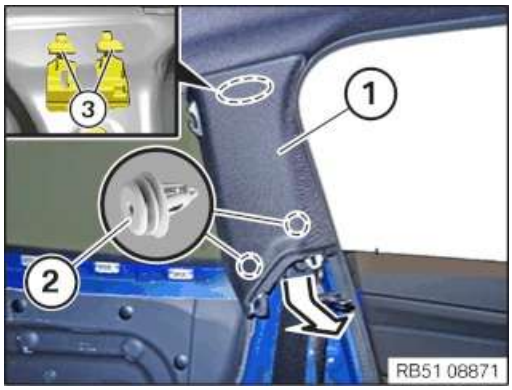
- Unclip the rear side trim panel (1) with a suitable tool at the clamps (2).
- Unclip the rear side trim panel (1) with a suitable tool at the clips (3).
- Release the rear side trim panel (1) at the clamps (4) and feed out at the edge protection.
- Unlock and disconnect all the plug connections at the rear side trim panel (1) of the wiring harness.
- Feed out the upper seat belt (5).

11 – Removing left and right B-pillar trim panel

NOTICE

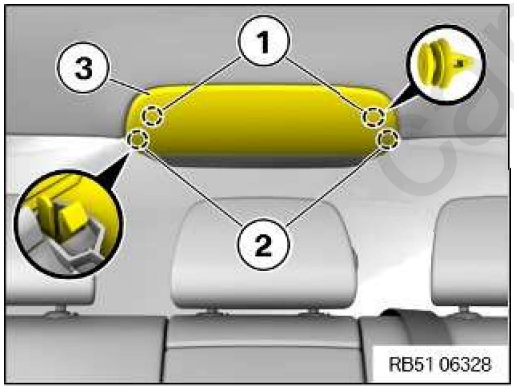
Description is for left component only. Procedure on the right side is identical.

▸ **Remove the B-pillar trim panel**



- Unclip the B-pillar trim panel (1) at the clips (2).
- Remove the B-pillar trim panel (1) from the lip of the edge protection and the guides (3) in the direction of the arrow.

12 – Removing the trim of the additional brake light



- Loosen the clips (1).
- Release the latch mechanisms (2) and remove the trim of the additional brake light (3).

13 – Lower the headlining (with SHD)

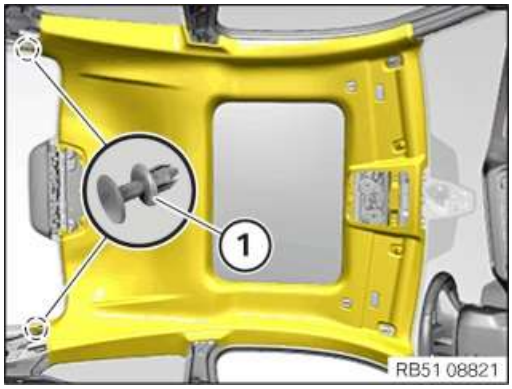
Prerequisite

The front seats have been fully adjusted towards the bottom.

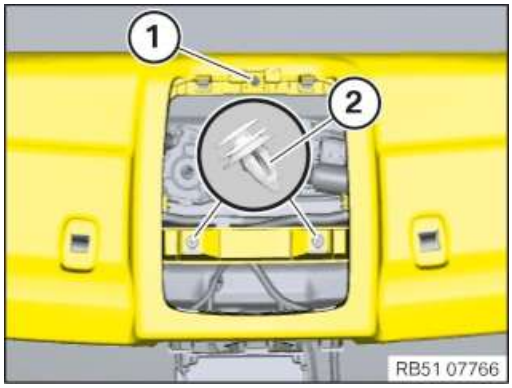
The front seat backrests have been fully adjusted towards the rear.

The rear seat backrest is folded down toward the front.

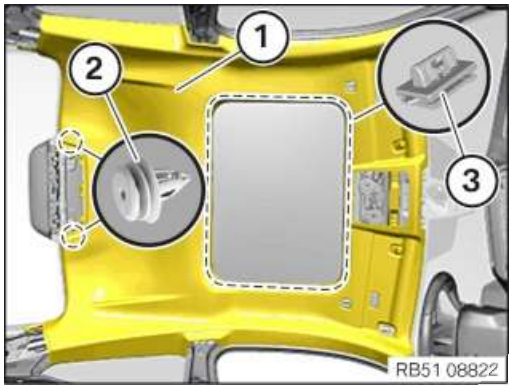
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- Loosen the expanding rivet (1).



- Loosen screw (1).
- Unclip the headlining on the clips (2) downwards.



- Unclip headlining (1) downwards from clips (2).
- Carefully unclip headlining (1) from the slide/tilt sunroof unit and clamps and the clamps (3) in the area of the dotted line.

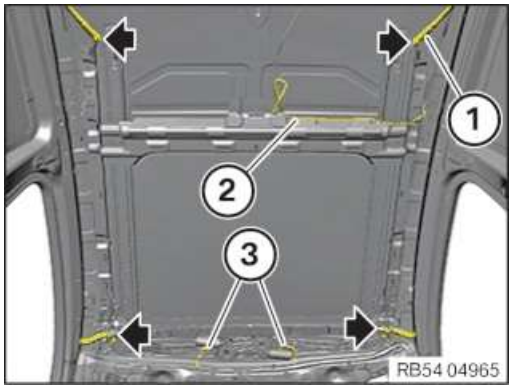


NOTICE

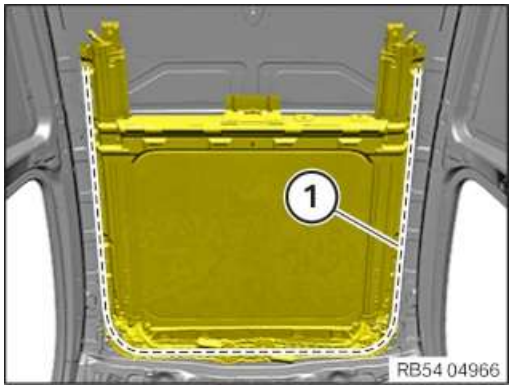
Schematic diagram is for example purposes. Some parts may differ in certain details.

- Feed out headlining (1) from the respective lips of edge protection with the assistance of a second person.
- Place the headlining (1) in the vehicle with an auxiliary person.

14 – Remove slide/tilt sunroof completely



- Pull off all 4 water drain hoses (1) (arrows).
- Unclip wiring harness (2) on the holders.
- Disconnect the plug connections (3) of engines and unclip the corresponding cable.



RISK OF DAMAGE

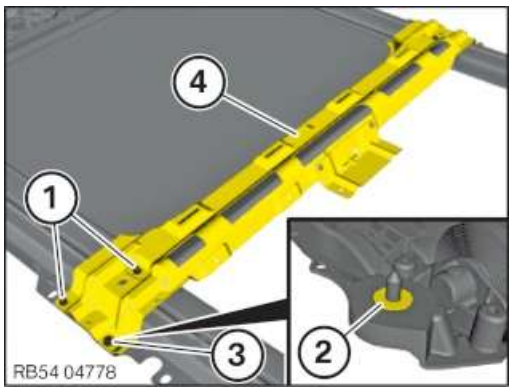
Heavy component.

Heavy components can lead to injury or damage.

- Remove and install heavy components with the aid of another person/other persons.

- Secure slide/tilt sunroof from falling with the help of an auxiliary person.
- Release all the screws along the line (1).
- Lower the slide/tilt sunroof with the assistance of an auxiliary person and remove from the vehicle through the front passenger door.

15 – Removing cross member

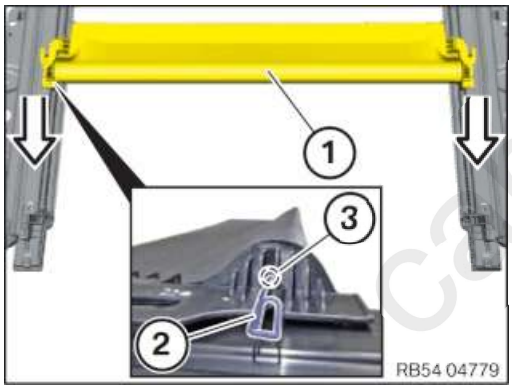


NOTICE

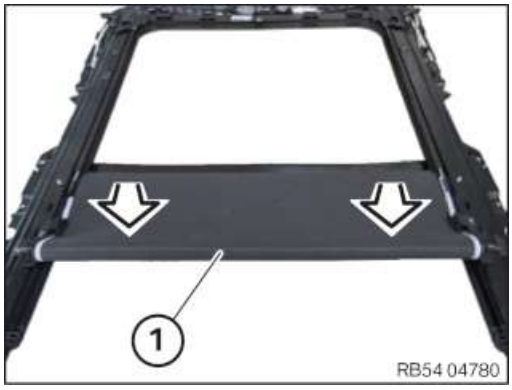
Perform the operations on the left and right side.

- Mark the position of the cross member (4) on the slide/tilt sunroof frame.
- Loosen nuts (1).
- Remove lock washer (2) and withdraw screw (3).
- Remove cross-member (4).

16 – Removing roller sunblind for the panorama glass roof

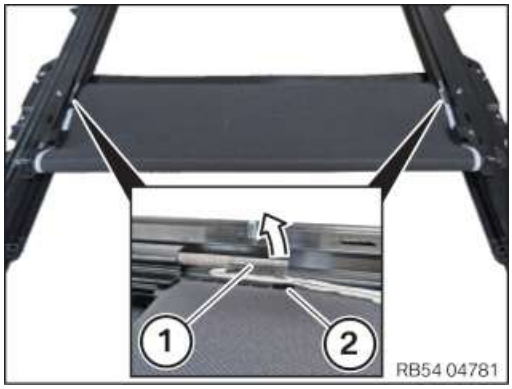


- Push the roller sunblind back (1) on both sides and thus roll it up a few cm.
- Unroll the roller sunblind (1) until it can be fixed with a suitable tool (2) (e.g. paper clip) over the pegging device (3).



- Open the roller sunblind completely (1) by hand, until a slight resistance is felt.

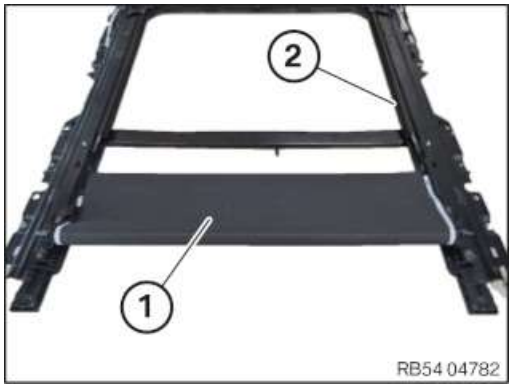
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NOTICE

Perform the operations on the left and right side.

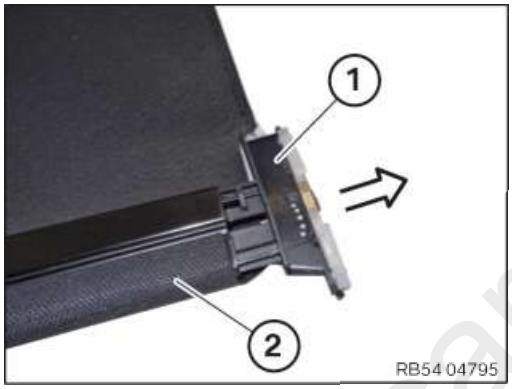
- Guide the driver (1) upwards out of the slider of the roller sunblind (2).



- Remove the roller sunblind (1) from the sunroof frame (2).

MAIN WORK

17 – Remove slider for sunblind

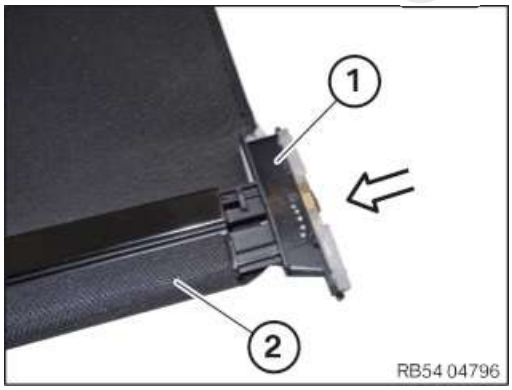


NOTICE

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

- Pull out the slider (1) from the roller sunblinds (2) in the direction of arrow.

18 – Install slider for sunblind



NOTICE

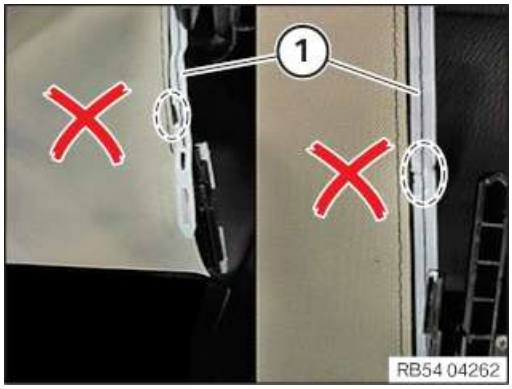
Description is for left component only. Procedure on the right side is identical.

- Feed slider (1) for sunblind (2) in and push to end stop.

POSTPROCESSES

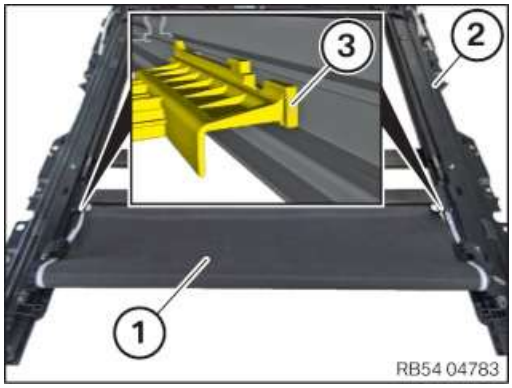
19 – Installing roller sunblind for the panorama glass roof

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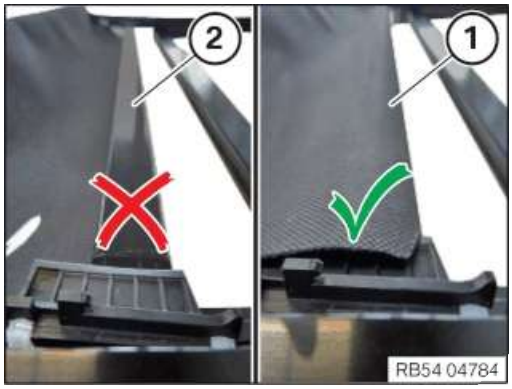


- Check the tensioning strap (1) of the roller sunblind for damage and renew the roller sunblind where required.

  The tensioning strap must be free of kinks, cracks or other defects.

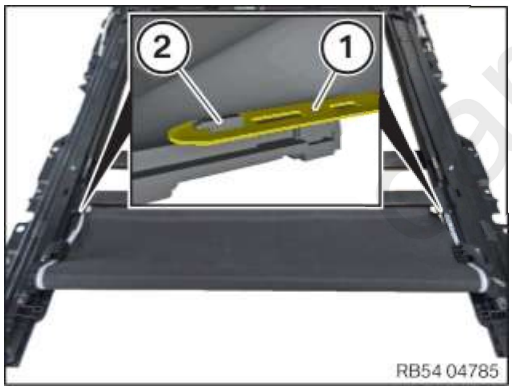


- Position the sunblind (1) on the slide/tilt sunroof frame (2).
- Ensure that the slider (3)is correctly positioned in the rail of the slide / tilt sunroof frame.

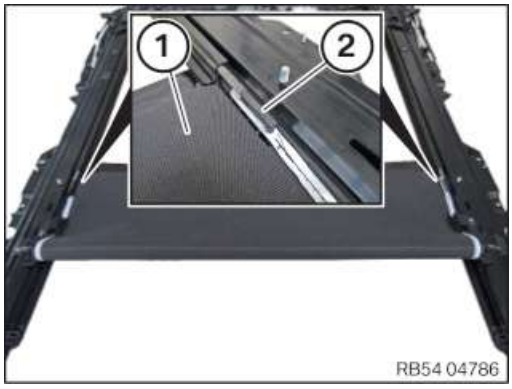


- Pay attention that the lining of the roller sunblinds (1) runs over the cross-member of the driver (2) as shown.

  If necessary, turn the cross brace (1) through 360°.

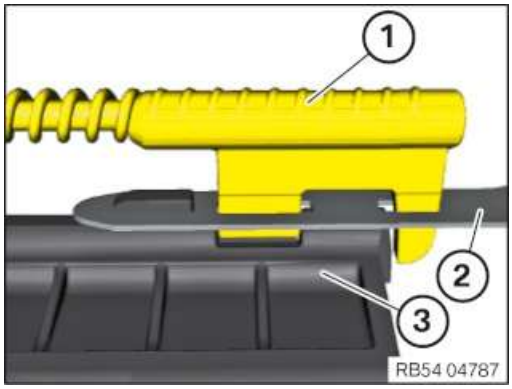


- Mount tensioning strap (1) on both sides of driver (2).

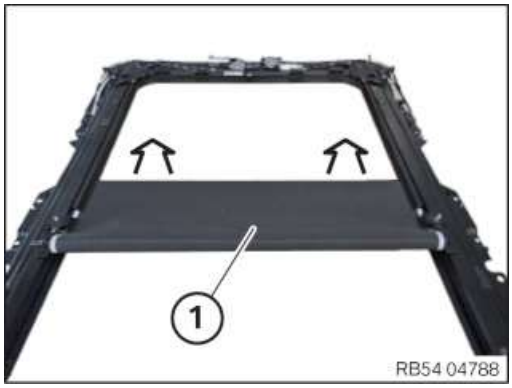


- Push the sunblind (1) forward until the drive (2) can be hooked.

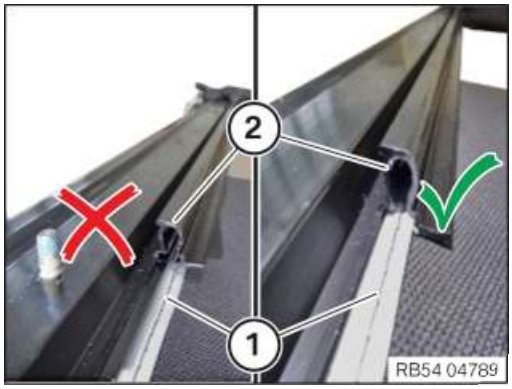
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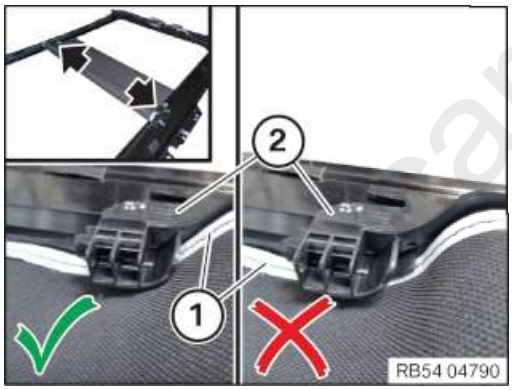
- Pay attention that the driver (1) is hooked by the tensioning strap (2) on the slider (3).



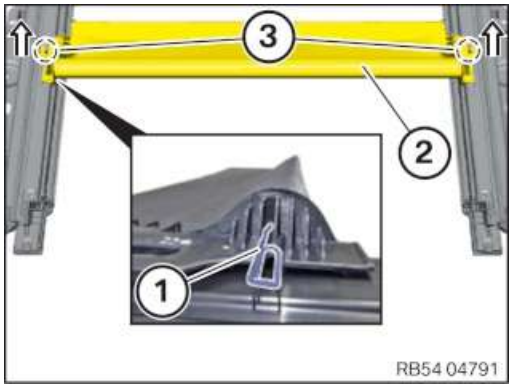
- Manually close the sunblind (1) a few cm.



- Ensure that the tensioning strap (1) runs correctly in the guide on the slide/tilt sunroof frame (2).



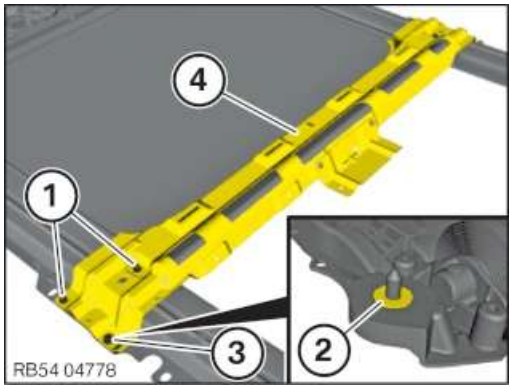
- Ensure that the tensioning strap (1) runs correctly in the guide (2) as shown.



- If necessary, remove the arresting device (1).
- Push the sunblind (2) forwards and position on the threaded bolts (3).

20 – Installing the cross member

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- Position cross member (4) and align with the previously set markings on the slide/tilt sunroof frame.

NOTICE

Perform the operations on the left and right side.

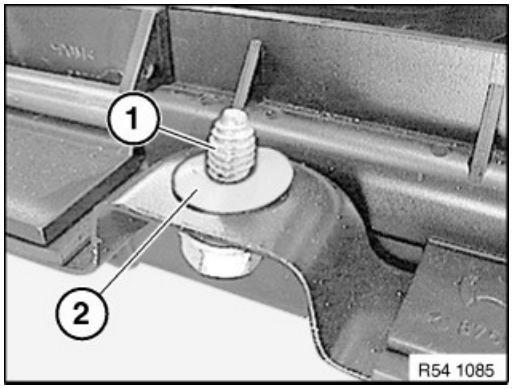
- Tighten nuts (1).

Cross member to glass slide/tilt sunroof frame

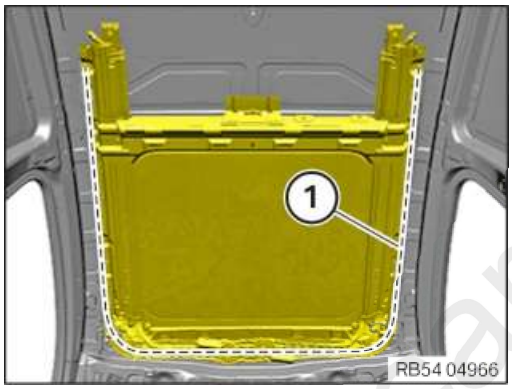
Nut		5,5 Nm

- Position retaining washer (2) and insert screw (3).

21 – Completely installing the slide/tilt sunroof



- Before installing, secure all the screws (1) with plastic washers (2), to avoid a groaning noise.



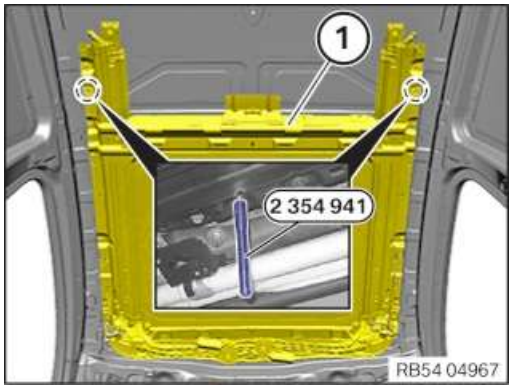
RISK OF DAMAGE

Heavy component.

Heavy components can lead to injury or damage.

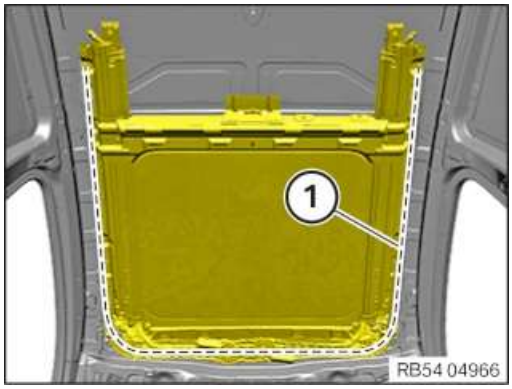
- Remove and install heavy components with the aid of another person/other persons.

- Insert the slide/tilt sunroof through the front passenger door into the vehicle with the help of an auxiliary person and position it.
- When installing it, ensure that no cables are clamped.
- Screw in all screws along the line (1) by several turns.



- Insert the special tool and align the panoramic glass sunroof (1) with the roof.

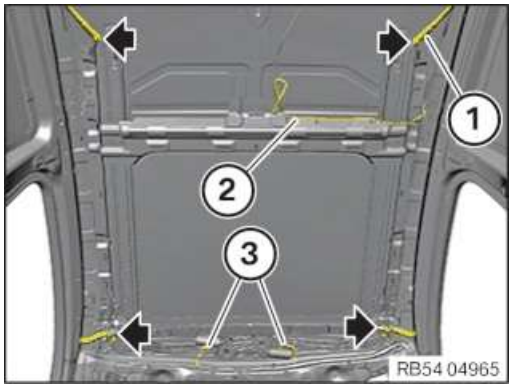
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- Tighten all screws along the marked areas (1) .

Slide/tilt sunroof frame to body

M6		5,4 Nm



- Connect all 4 water drain hoses (1) (arrows).
- Clip in wiring harness (2) on the clips.
- Connect the connector (3) of the engines and clip in the corresponding cable.

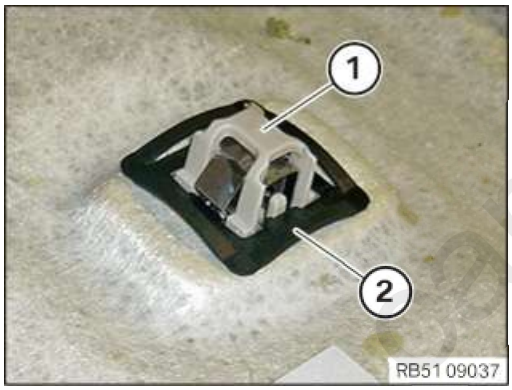
22 – Install the headlining (with slide/tilt sunroof) (lowered)

Prerequisite

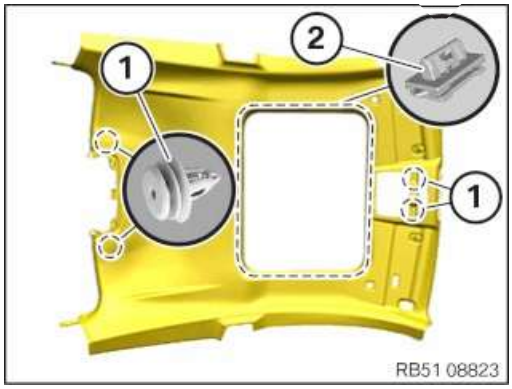
The front seats have been fully adjusted towards the bottom.

The front seat backrests have been fully adjusted towards the rear.

The rear seat backrest is folded down toward the front.



- Install the end support of the sun visors (1) in the headlining and mount it with clamps (2).

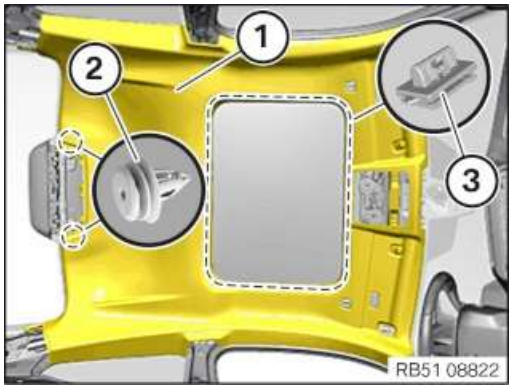


- Check the clips (1) on the headlining for damage.

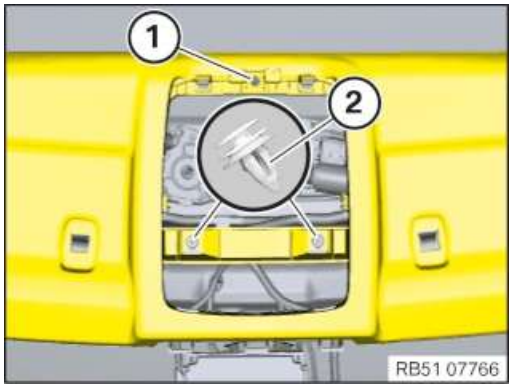
  Defective or missing clips (1) must be renewed.
- Check the clamps (2) along the dotted line for damage.

  Defective or missing clamps (2) need to be renewed.

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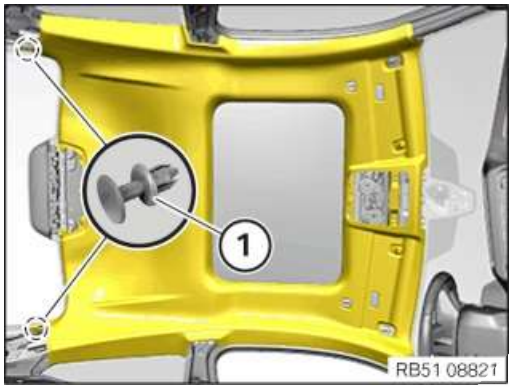
- Insert the headlining (1) with the help of an auxiliary person onto the respective edge protection.
- Clip in headlining (1) on the clips (2).
- Clip the headlining (1) in the area of the dotted line at the slide/tilt sunroof unit and the clamps (3).



- Clip headlining to the clips (2).
- Tighten down screw (1).

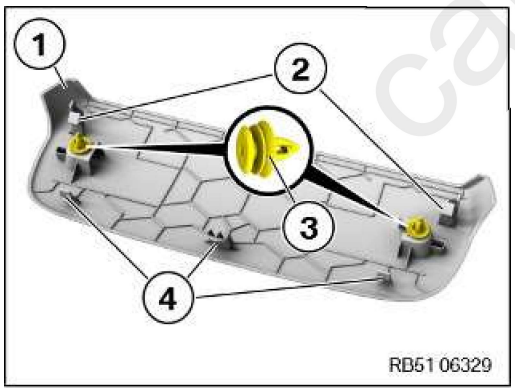
Headlining to frame

Oval-head screw		Tightening torque	1,5 Nm



- Secure expanding rivet (1).

23 – Installing trim for additional brake light



Check

- Check the clips (3) for damage and renew if necessary.
- Check latch mechanisms (2) and guides (4) for damage.

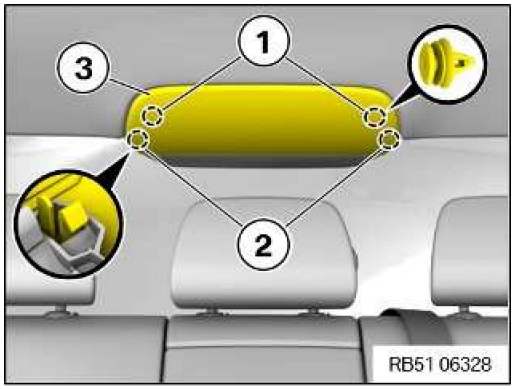
Result

» The latch mechanism or the guide is damaged.

Measure

- Renew the trim for the additional brake light.

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- Position trim for additional brake light (1) from the bottom and clip it in with latch mechanisms (2).
- Clip in clips (1).

24 – Installing the left and right B-pillar trim panel

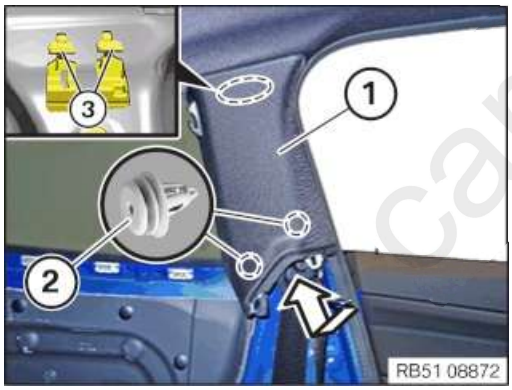
NOTICE

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

▸ **Install the B-pillar trim panel**



- Check clips (1) for damage and renew if necessary.



- Insert B-pillar trim panel (1) in direction of arrow into the guides (3) and under the lip of edge protection.
- Clip in the B-pillar trim panel (1) at the clips (2).

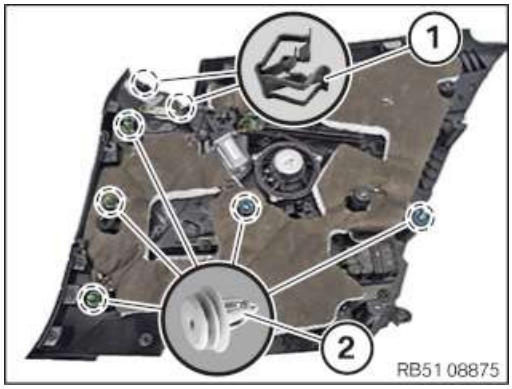
25 – Install side trim panel, rear left and right

NOTICE

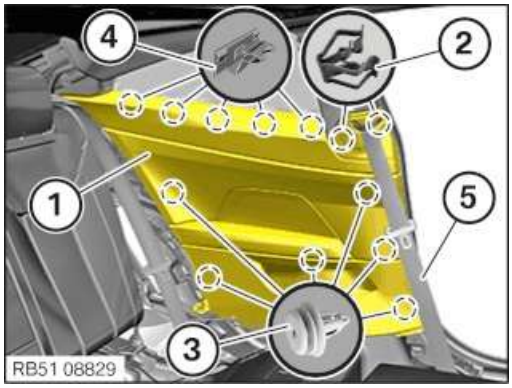
Description is for left component only. Procedure on the right side is identical.

▸ **Install rear side trim panel**

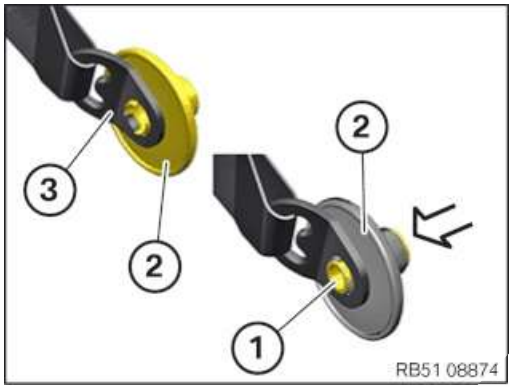
carmagn.com



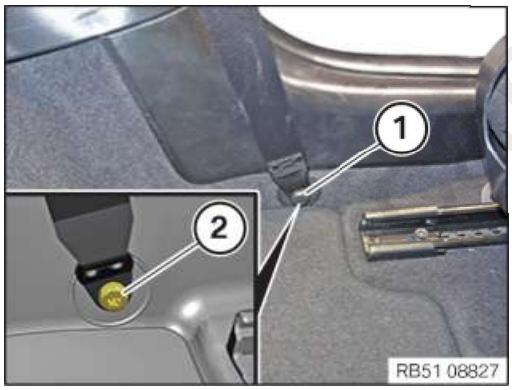
- Check clamps (1) for damage; renew them if necessary.
- Check clips (2) for damage, replace if necessary.



- Connect all the connectors to rear side trim panel (1) of the wiring harness and lock and disconnect them.
- Guide in upper seat belt (5).
- Position rear side trim panel (1) and clip it into clamps (4).
- Clip rear side trim panel (1) into clips (3).
- Clip rear side trim panel (1) into clamps (2).



- Clip cover (2) of end fitting (3) into end fitting (3).
- Slide sleeve (1) into cover (2) of end fitting (3).



- Correctly position the seat belt end fitting.
- Tighten down screw (2).

End fitting to body

M10		Tightening torque	42 Nm

- Clip in cover cap (1).

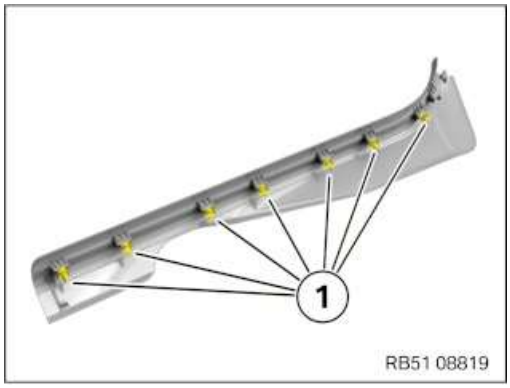
26 – Installing the inner door sill cover strip on the left and right

NOTICE

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

▸ **Installing the inner door sill cover strip**

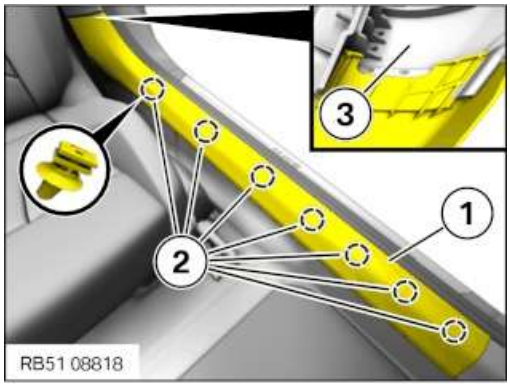
rdiagn.com



NOTICE

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

- Check the clips (1) for damage and renew if necessary.



- Insert the door sill cover strip (1) below the rear side trim panel (3).
- Clip the door sill cover strip (1) in with the clips (2).

27 – Installing the C-pillar trim panel on the left and right

NOTICE

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

▸ **Installing C-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

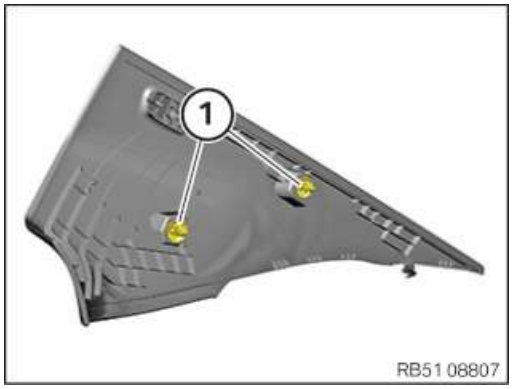
RISK OF DAMAGE

Damage to the head airbag.

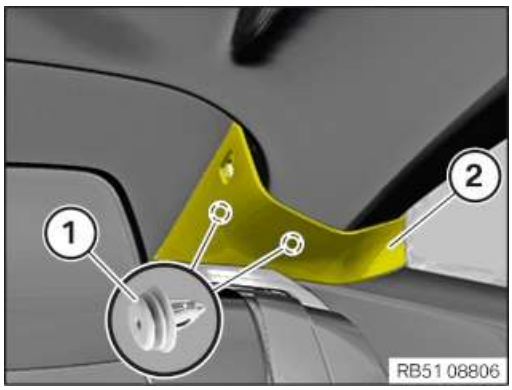
Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.

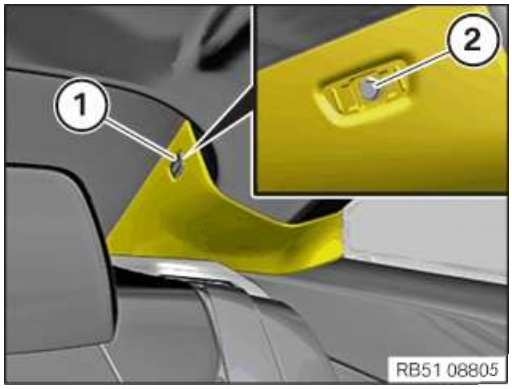
cardiagn.com



- Check clips (1) for damage and, if necessary, renew them.



- Position C-pillar trim panel (2) and clip it onto clips (1).



- Tighten down screw (2).

C-pillar trim panel to body

Screw		Tightening torque	2,6 Nm

- Clip in cover (1) of the C-pillar trim panel.

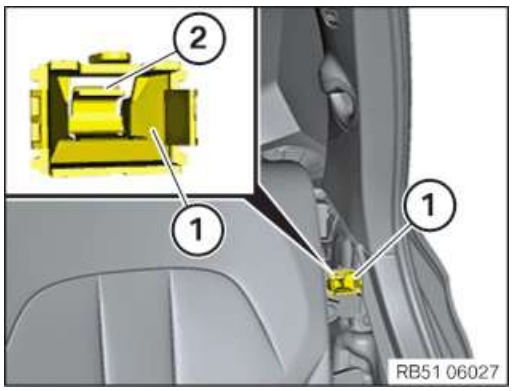
28 – Install the backrest side section on the left and right

NOTICE

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

▸ **Installing backrest side section**

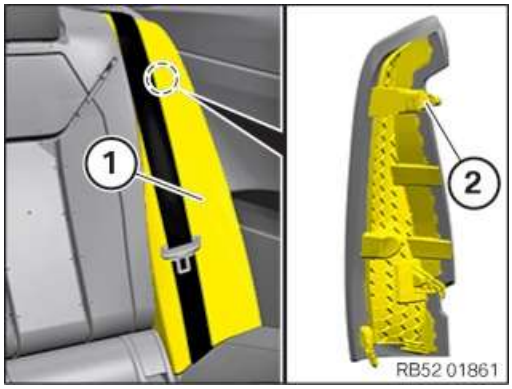
▹ **Installing backrest side section**



- Release mounting element (1) from latch mechanism (2) and remove it from the body.
- Check the mounting element (1) for damage, renew if necessary.

  The mounting element (1) must not be damaged or missing.
- Fit mounting element (1) on the backrest side section.

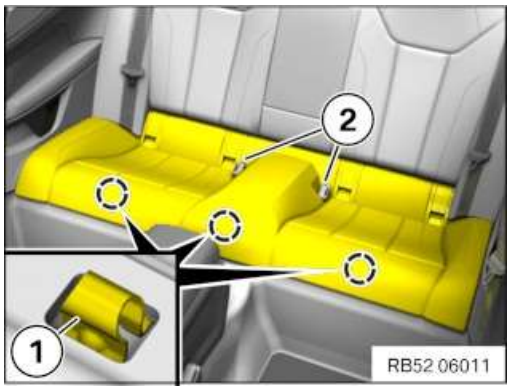
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- Insert lower backrest side section (1) into the guide and position it correctly.
- Clip in backrest side section (1) to mounting element (2).

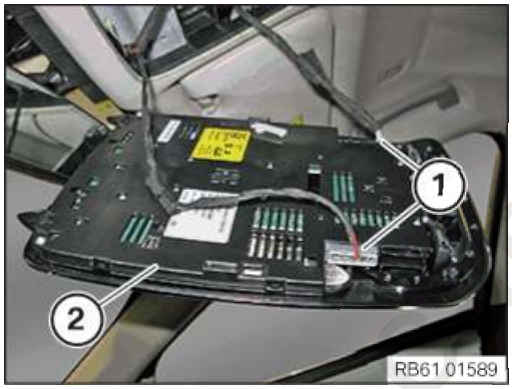
◁

29 – Installing the rear seat bench

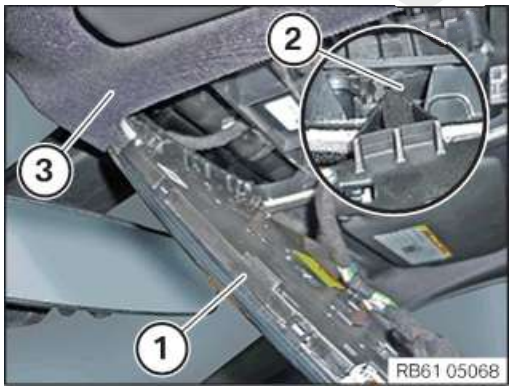


- Feed in the seat belt buckles (2).
- Position the rear seat bench and clip into the clamps (1).

30 – Installing roof function centre (FZD)



- Connect connectors (1) and lock.
- Clip in the cable for the roof function centre (FZD) (2) in the cable clip.



- Insert the roof function centre (FZD) (1) as shown at a steep angle in the two guides (2) on the headlining (3).
- Make sure the headlining is not deformed during this operation.

.com



- Clip the roof function centre (FZD) (1) upwards into the clamps (2).



- Slide the special tool 2 298 505 in the direction of arrow between the FZD frame and the headlining along the dotted line to adjust the headlining correctly.



- Tighten the screws (1).

Roof function centre (FZD)

	Tightening torque	1.2 Nm



- Clip in the cover (1).

31 – Installing the sun visors and the end support on the left and right

NOTICE

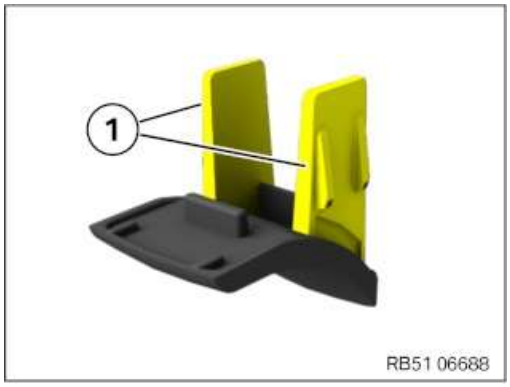
Description is for left component only. Procedure on the right side is identical.

▸ **Install the sun visor and the counter support**

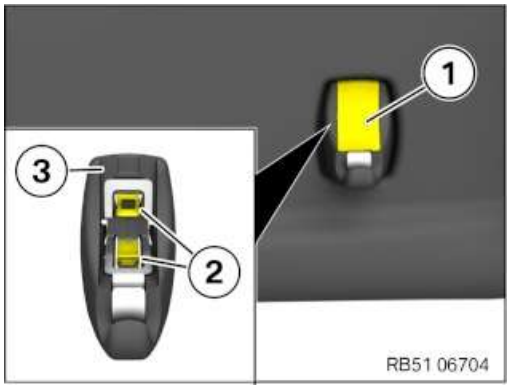
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NOTICE

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



- Check the guides (1) on the cover of the end support for damage, renew if necessary.



- Clip in the counter support (3) to the headlining.
- Make sure the clamps (2) are engaged correctly.
- Clip in the cover (1).



- Connect and lock corresponding connectors.
- Install the sun visors.
- Tighten down screw (2).

Sun visor to body

Screw		Tightening torque	3.3 Nm

- Close the cover (1).



- Hook the sun visors (1) to the end support (2).

32 – Install the A-pillar trim panel on the left and right

NOTICE

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

▸ **Installing the A-pillar trim panel**

WARNING

Pyrotechnic components.

Danger! Life-threatening injuries!

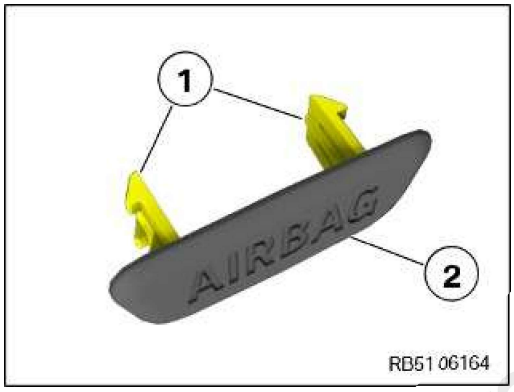
- All work on pyrotechnic parts may be carried out by technically experienced and appropriately trained personnel only.
- Replace any damaged part or ones that have been dropped.
- For additional information see: 72 00 Safety regulations on handling components with gas generators.

RISK OF DAMAGE

Damage to the head airbag.

Improper use of a tool when removing the trim panel may damage the head airbag.

- Do not use sharp-edged tools when removing the trim panel.



Check

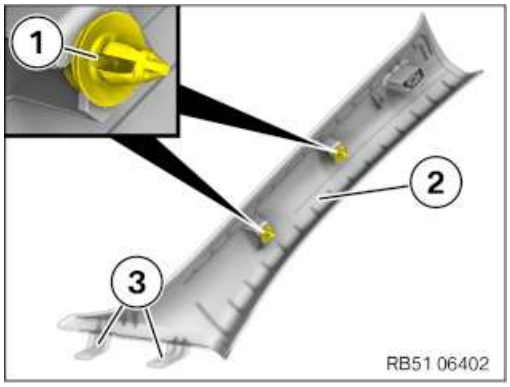
- Check retaining lugs (1) of cover (2) for damage.

Result

» Retaining lug is damaged.

Measure

- Renew the cover.



Check

- Check the clips (1) for damage and renew if necessary.
- Check the guides (3) for damage.

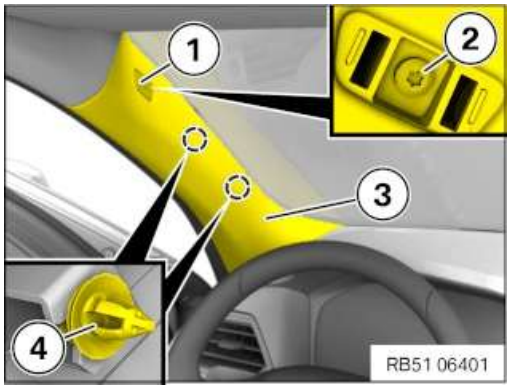
Result

» Guide is damaged.

Measure

- Renew the A-pillar trim panel.

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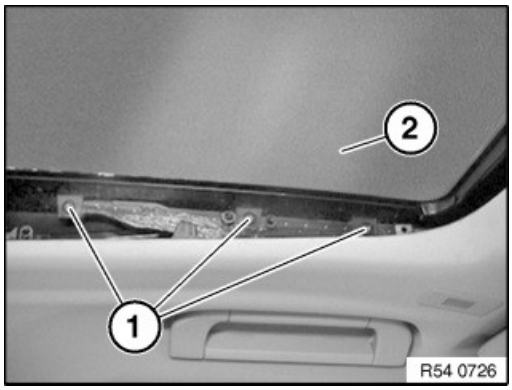
- Guide in A-pillar trim panel (3) downwards and clip it in with clips (4).
- Tighten down screw (2).

A-pillar trim panel to body

Sheet metal screw 4,8x38		Tightening torque	2,6 Nm

- Clip in the cover (1).

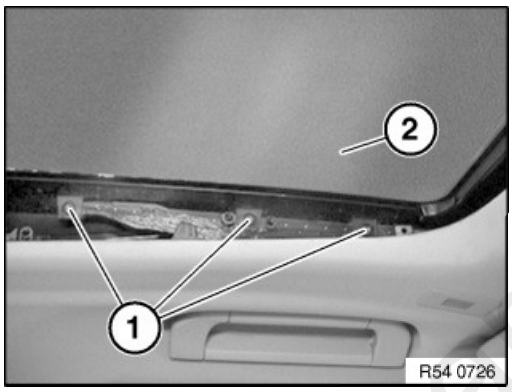
33 – Install glass slide/tilt sunroof panel



- Insert the glass slide/tilt sunroof panel (2) from the top.
- Renew screws (1).

  Parts: Bolts
- Screw in the bolts (1) on the left and right, do not tighten.

34 – Adjusting glass slide/tilt sunroof panel

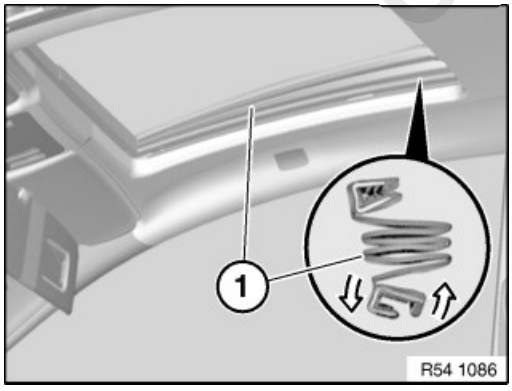


- Close glass slide/tilt sunroof lid (2).
- Slacken screws (1) at the left and right such that the glass slide/tilt roof panel (2) can just be moved.
- Move the glass slide/tilt roof panel (2) until the right position is reached.
- Tighten the screws (1).

Panorama glass roof lid to mechanics

M5	Replace screws.	4,5 Nm

35 – Install the gaiter for the glass slide/tilt sunroof



NOTICE

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

- Move the glass slide/tilt sunroof panel to the vent position.
- Carefully screw in the gaiter (1) into the bottom guide.
- Carefully screw the gaiter (1) into the top guide.
- Check the gaiter (1) is seated securely.

36 – Initialising glass slide/tilt sunroof

▸ **Prerequisites for initialising the slide/tilt sunroof/panoramic glass sunroof**

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- The following prerequisites must be met for a trouble-free initialisation:

Interior temperature of the vehicle	15 °C - 30 °C
Vehicle voltage	12 V - 15 V
Vehicle condition	- The vehicle is standing on its own wheels
	- The vehicle is horizontal
	- Speed 0 km/h (the vehicle must not roll)
	- The radio-operated key is in the vehicle
	- Terminal 15 is switched on or the vehicle is in the Residing PFW state
Operating point	- FZD button
	- Diagnostic function: “Initialise slide/tilt sunroof”
Miscellaneous	No other work may be carried out on the vehicle during initialisation in order to avoid impacts or vibrations.



TECHNICAL INFORMATION

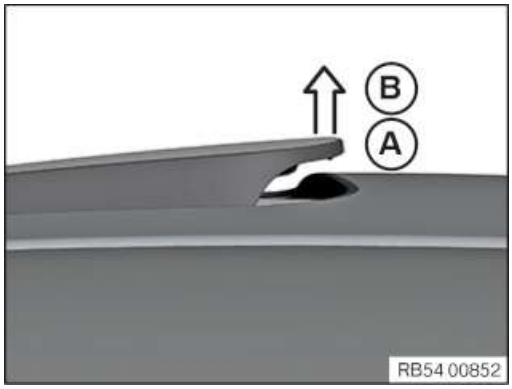
The following prerequisites are the basis for a correct initialisation and must be strictly observed.

For additional information see: 54 12 ... General prerequisites for initialising the slide/tilt sunroof or panoramic sunroof

- Press and hold the switch in the "Vent Position" direction.

  The glass slide/tilt sunroof moves to vent position.
- In the event of a delayed start or sudden stop of the glass slide/tilt sunroof, continue holding the switch in the "Vent position" direction.

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- Continue to keep the switch pressed during the entire test module.
- Continue to operate the switch further after reaching the vent position (A) for approx. 30 s.

  Initialisation begins:

  - The glass slide/tilt sunroof moves from vent position (A) toward position (B).
  - Screen (sliding headliner) fully closes.
  - Screen (sliding headliner) fully opens.
  - Glass slide/tilt sunroof moves to "closed" position.
  - The glass slide/tilt sunroof moves to the "Open" position and immediately returns to the "Closed" position.
  - After a brief pause, the screen fully closes.

  The initialisation is completed once the glass slide/tilt sunroof and the screen have completely closed.
- Release the switch.

TECHNICAL INFORMATION

If the switch is released in the meantime, the initialisation must be repeated. Following successful initialisation, the corresponding messages in the Check Control and on the control display go out.

- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

Additional Information

Overview of Tightening Torques

Cross member to glass slide/tilt sunroof frame			Used in step 20
Nut			5,5 Nm

Slide/tilt sunroof frame to body			Used in step 21
M6			5,4 Nm

Headlining to frame			Used in step 22
Oval-head screw		Tightening torque	1,5 Nm

End fitting to body			Used in step 25
M10		Tightening torque	42 Nm

C-pillar trim panel to body			Used in step 27
Screw		Tightening torque	2,6 Nm

Roof function centre (FZD)			Used in step 30
		Tightening torque	1.2 Nm

Sun visor to body			Used in step 31
Screw		Tightening torque	3.3 Nm

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A-pillar trim panel to body — Used in step 32

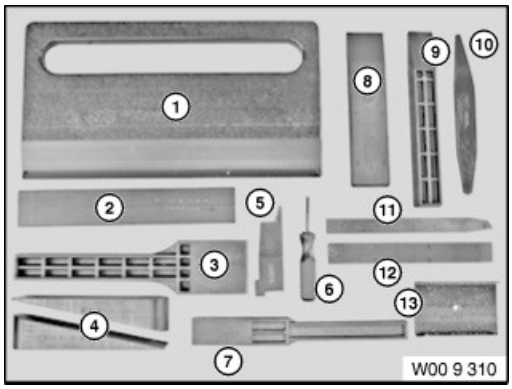
Sheet metal screw 4,8x38		Tightening torque	2,6 Nm

Panorama glass roof lid to mechanics — Used in step 34

M5	Replace screws.	4,5 Nm

Overview of Special Tools

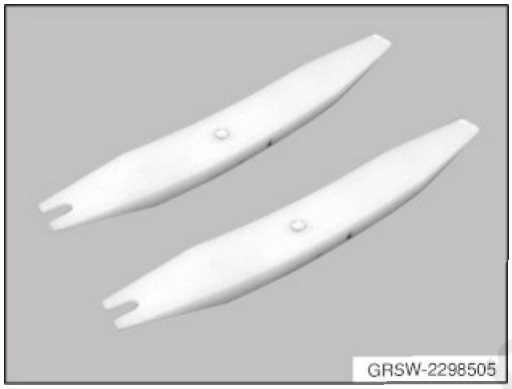
0 493 752 (00 9 329) Case



Common — Used in step 39

Usage	(Case) with insert without mounting wedges, delivery while stocks last - as of 02/2019.
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	01 07 09 (530)

2 298 505 Wedge



Common — Used in step 30

Usage	Set (delivery of 2 pieces)
Included in the tool or work	
Storage location	C34
Replaced by	
In connection with	
SI-Number	01 03 12 (792)

Links

Repair instructions (PRE)	Used in step
Notes on 48-V battery	728
Prerequisites for initialisation of the slide/panoramic sunroof	36

General repair instructions	Used in step
72 00 ... Safety regulations for handling components with gas generators	3728
72 00 ... Safety regulations for handling components with gas generators	3

Repair instructions	Used in step
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads)	728
61 20 900 Disconnecting and connecting battery earth lead	728
61 20 900 Disconnecting and connecting battery earth lead	728
61 20 900 Disconnecting and connecting battery earth lead	728
61 20 900 Disconnecting and connecting battery earth lead	728
61 20 900 Disconnecting and connecting battery earth lead	728

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61 20 900 Disconnecting and connecting battery earth lead 728
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61 20 900 Disconnecting and connecting battery earth lead 728
61 20 900 Disconnecting and connecting the battery earth lead (all battery earth leads) 728
61 20 900 Disconnecting and connecting battery earth lead (Plug-in Hybrid Electric Vehicle) 728
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61 20 900 Disconnecting and connecting battery earth lead 728

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41 00 ... Notes on the water drain hose of the slide/tilt sunroof

The water drain hoses for the slide/tilt sunroof are partially permanently integrated in the body and cannot be replaced individually.

These water drain hoses can only be completely replaced with extensive body repair work (e. g. after an accident).

Component	Vehicle	Individually replaceable
Water drain hose, front	All BMW All MINI	No
Rear water drain hose	E60, F34	No
	All other BMWs	Yes
	All MINI	Yes

An individual solution is required for damage that was not caused by an accident.

Contact national hotline.

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54 10 ... Repair instructions for bonded seals



Special tools required:

- 00 9 327

1 General remarks on handling rubber seal profiles:

- If seals reveal partly detached protective film on delivery, they must not be bonded.
- Store seals at 5 °C to 40 °C.
- If, during the handling, the protective film has come off before bonding, it can still be bonded.
- Bonding at room and object temperature 25° ±5° C. Temperatures between 40 and 50 °C significantly increase initial adhesion.
- Seals, which are subjected to temperatures above 80 °C after bonding, will be very difficult to remove.
- Maximum storage time for replacement: see identification of the expiry date on packaging

2 Damage pattern, repair and replacement

A partially released bonding (rubber part adhesive tape or adhesive tape paint) up to 120 mm may be finished. Continue with Point 2.1.

A partially released bonding (rubber part adhesive tape or adhesive tape paint) above 120 mm may **not** be finished. Gasket must be replaced. Continue with Point 2.2.

2.1 Repair of partially released bonding (adhesive tape rubber part or adhesive tape paint

2.1.1 Clean faulty areas

- Release adhesive area of paint side from recesses and degrease with cleaning agent R2. Stick to air drying time > of 1 minute. Never use paint thinner!
- This will usually partially destroy intact edge adhesive areas.
- When removing, it is important to wipe off the adhesive area of the adhesive tape with a lint-free disposable cloth. (e.g. blue Kimtex)
- Carefully wipe off the adhesive areas.

Note:

Use necessary cotton- or fluff-free paper towel once only.

Do not touch the adhesive area after cleaning.

2.1.2 Apply adhesive

- Apply profile rubber adhesive evenly as a thin layer first on the gasket and then on the painted surface.
- Stick to air drying time of 2 to 3 minutes.

Attention:

Avoid contact with skin!

Do not apply adhesive to visible painted surfaces.

2.1.3 Press in rubber seal

- Press down gasket using contact pressure (forced pressure not necessary) for > 1 minute.

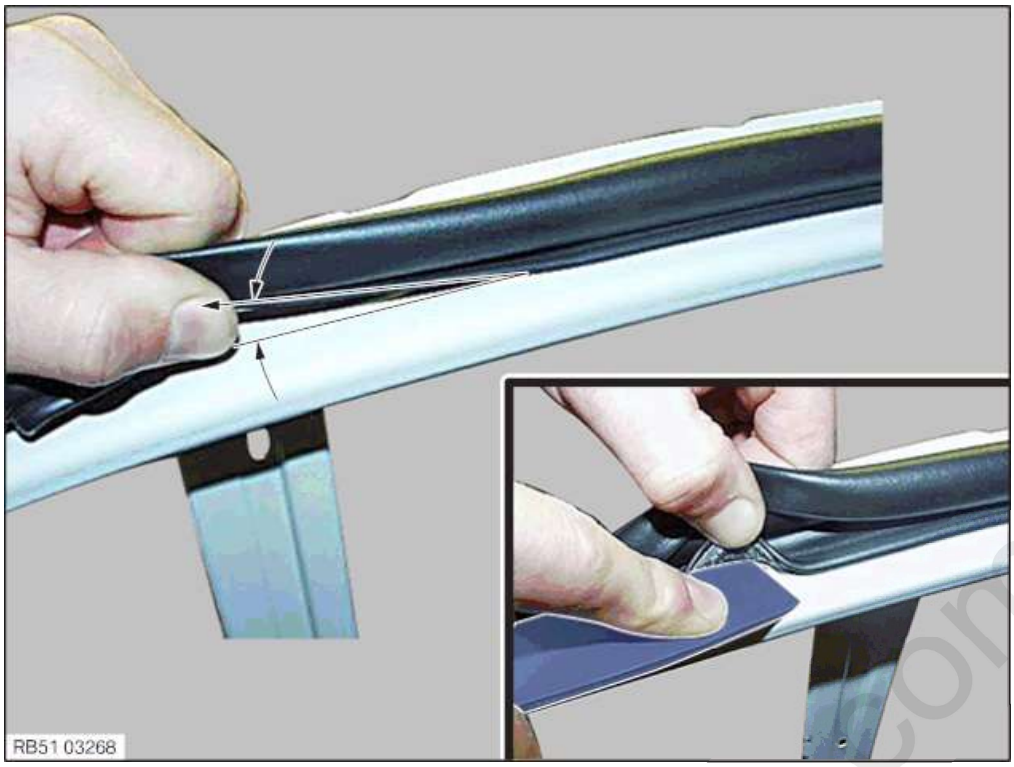
Attention:

Load can be applied to the bonding only after a period of 2 minutes. This waiting time is absolutely essential.

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2.2 Replacement

2.2.1 Peeling off the faulty rubber seal



- Remove bonded connection with fingers or cleaning agent liner 00 9 327.
- Overstretch gasket below an angle of maximum 20° very slowly under even tensile stress.
  If the gasket is pulled off too quickly, the adhesive tape can tear off and remain on the painted surface.
  The adhesive tape remaining on the painted surface must be removed with high cleaning costs.

Note:

When the adhesive tape separates from the gasket, the adhesive tape remaining on the paint must be fully separated at one location by approx. 10 mm until it is easy to grip.

Pull off the adhesive tape by pulling strongly at an angle of approx. 20°.

When existing gaskets are being peeled off with a hot air blower: Do not damage paintwork.

2.2.2 Clean bonding surface

- if required, remove adhesive remains with eraser disk or cleaning agent R2. do not damage paint. Stick to air drying time > of 1 minute.
- Before a new bond, treat the entire adhesive area with Sika Aktivator 205. Stick to air drying time > of 1 minute.

Note:

Use necessary cotton- or fluff-free paper towel once only.

Do not touch the adhesive area after cleaning.

2.2.3 Pull off protective film of the bonding surface

- Pull off the protective film off of the new gasket by approx. 15 cm using the tab.

Attention:

Once the protective film has been removed, do not under any circumstances touch the exposed bonding

surface.

2.2.4 Apply rubber seal

- Press on the gasket by hand continuously while pulling off the liner slightly at the same time.

Note:

If positioned incorrectly, the gasket can still be pulled off, repositioned and pressed on again.

Always ensure that you do not touch the bonding surface with your fingers or contaminate it in any way.

- Press gasket while moving in a straight line without compression or over-stretching.
- Compress the gasket the corners; never stretch it. (critical area)

2.2.5 Establish sealing joint

- Where the beginning and end meet, a mark is created from pressing the loose end onto the beginning of the gasket.
  Cut off the gasket vertically along the marked line (use sharp knife or special scissors) and press in place.
- Visually check the pre-bonded gasket.

Note:

Small areas of gasket can remain stuck to adhesive tape of loose end.

2.2.6 Press gasket

- Always press gasket vertically to the bonding surface
- Press gasket by hand or hand roller
- Adhesive tape width up to 5 mm, contact pressure > 5 N/cm^2
- Adhesive tape width up to 10 mm, contact pressure > 10 N/cm^2

Note:

Firm thumb pressure has approx. 35 N/cm^2

3 Checking the rubber seal

- Check the bonded gaskets for correct positioning and perfect adhesion. The bonding can be checked by pressing back the sealing lip.
- The peel strength of the gasket must be greater than 10 N/cm^2 for about 15 min after bonding.

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00 00 ... Microencapsulated screws

Screw securing adhesive is a means of preventing a screwed connection from being loosened by external influences.

Once the screw has been coated with adhesive, the adhesive remains inactive until such time that it is activated by the encapsulation breaking when the screw is inserted and then cures (hardens) at room temperature.

Installation note:

- Screw connection must be completed within 20 mins. (start of curing)
- Microencapsulated screws must not be retightened
- Thread of nut must be cleaned beforehand in event of repeated use

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61 00 ... Parking-residing-driving

Vehicles of the G series feature a new type of terminal control:

Functional description of the parking-residing-driving terminal control

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