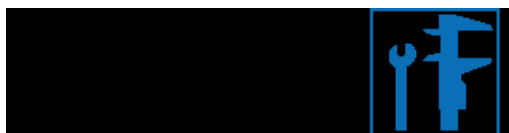
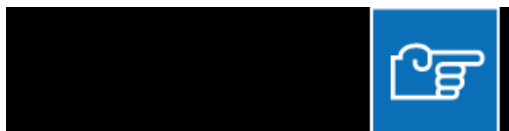


54 13 004 Adjusting front or rear glass slide/tilt sunroof panel



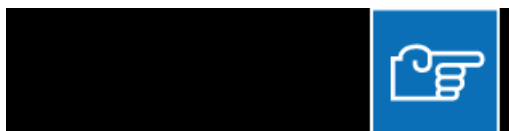
Special tools required:

- [00 9 315](#)
- [00 9 340](#)



Installation note:

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

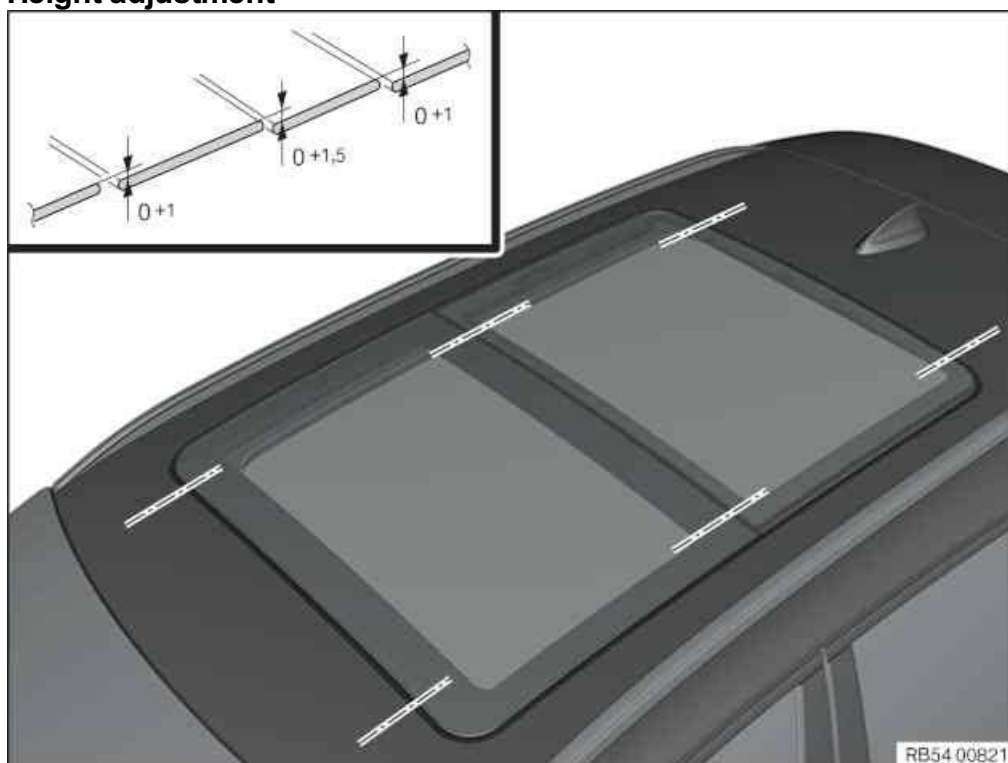


Note:

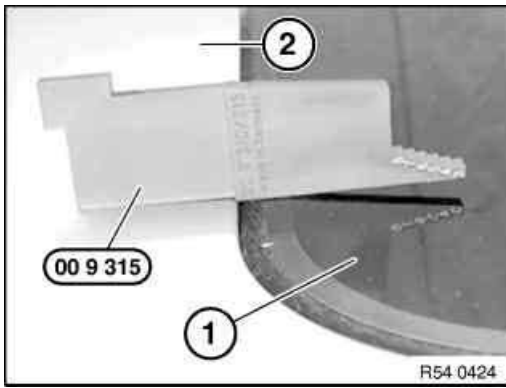
Make the adjustment with an assistant.

Perform setting with fully closed glass slide/tilt sunroof.

Height adjustment



- Front edge of glass slide/tilt sunroof panel at front 0 to 1 mm under roof edge
- Rear edge of front glass slide/tilt sunroof panel 0 to 1.5 mm above rear glass slide/tilt sunroof panel
- Rear edge of glass slide/tilt sunroof panel 0 to 1 mm above roof edge



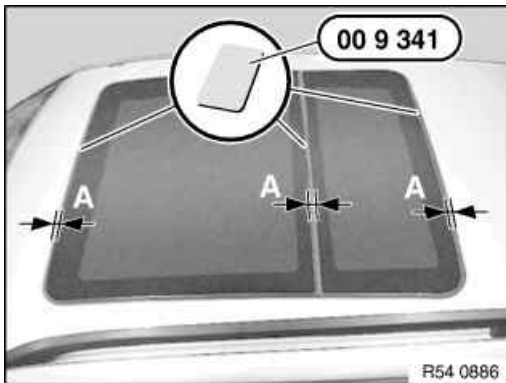
Height adjustment:

Note:

Front glass slide/tilt sunroof panel must be adjusted first.

Check height of glass slide/tilt sunroof panel (1) in relation to body (2) with special tool [00 9 315](#).

Press glass slide/tilt sunroof panel (1) at front and rear upwards or downwards until ideal position is reached.



Distance setting:

Use special [00 9 340](#) tool check that the gap between the glass slide/tilt sunroof panel and body is the same.

Slide special tool [00 9 340](#) or similar between gasket and insert. It must be possible to slide the card against the same level of resistance.

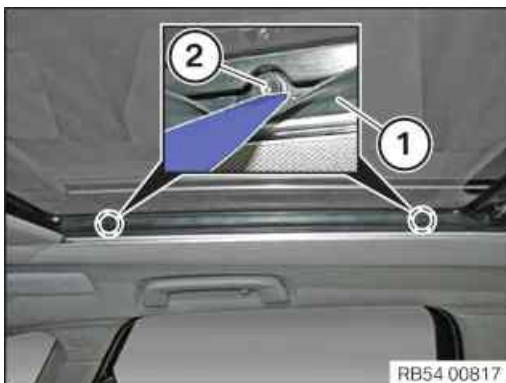
Slide glass slide/tilt sunroof panel towards front or rear until ideal position is reached.



Adjusting glass slide/tilt sunroof panel at front:

Carry out the following step on one side first and then the other (first left, then right or vice versa):

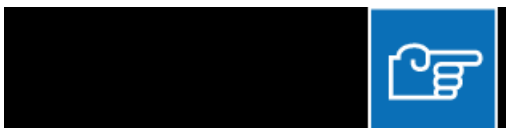
- Fold screen (1) downwards slightly
- Loosely screw in screws (2) on left/right until glass slide/tilt sunroof panel can just still be moved
- If necessary, move glass slide/tilt sunroof panel
- Tighten down screws (2)
Tightening torque [54 12 1AZ](#).
- Repeat procedure on other side.



Glass slide/tilt sunroof panel rear setting:

Carry out the following step on one side first and then the other (first left, then right or vice versa):

- Fold screen (1) downwards slightly
- Loosely screw in screws (2) on left/right until glass slide/tilt sunroof panel can just still be moved
- If necessary, move glass slide/tilt sunroof panel
- Tighten down screws (2)
Tightening torque [54 12 2AZ](#).
- Repeat procedure on other side.



Check function and adjustment.

Carry out [initialization](#).

54 13 ... Notes on panorama glass roof (initialisation/normalisation/learning of characteristic curve)



Initialisation comprises:

- Initialisation of the glass slide/tilt sunroof panel
- Initialisation of the roller sunblind

Then carry out **initialisation**:

- if the panorama glass roof has been mechanically moved by means of the emergency actuator
- In the event of malfunctions, e.g. no one-touch function, no opening or no comfort function possible
- after disengagement of the drive unit
- after repair work is carried out on the mechanism of the panorama glass roof
- after exchange of the control unit
- After removal and installation or adjustment of a glass slide/tilt sunroof panel
- After removal and installation of the complete panorama glass roof



Warning!

There is no anti-trap mechanism during initialisation.

Ensure adequate voltage supply during initialisation.

If necessary, recharge battery.

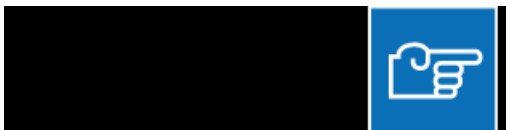


The initialisation is carried out through the switch of the panorama glass roof. The switch must be operated in the "vent position" direction during the **entire** process.

Panorama glass roof can be initialised in any position.

Initialisation:

- Switch on ignition.
- Press and hold the switch in the "vent position" direction
- Initialisation occurs after approx. 15 seconds
- first the panorama glass roof closes depending on the position
- Panorama glass roof opens and closes once completely
- Initialisation of the panorama glass roof is completed
- the roller sunblind closes next
- Roller sunblind opens and closes once completely
- Initialisation of the roller sunblind is completed
- release switch when the roller sunblind is closed



Note:

- The entire process takes approx. 60 seconds
- If the switch is released in the meantime, the entire procedure must be repeated
- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function)

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

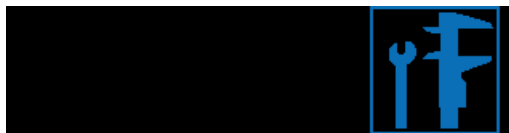
The water drain hoses for the slide/tilt sunroof are partially permanently integrated in the body and cannot be replaced individually.

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

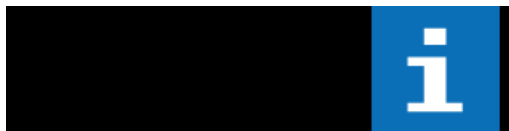
Component	Vehicle	Individually replaceable
Water drain hose, front	All BMW	No
	All MINI	
Rear water drain hose	E60, F34	No
	All other BMWs	Yes
	All MINI	Yes

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

Contact national hotline.

**Special tools required:**

- [2 354 941](#)

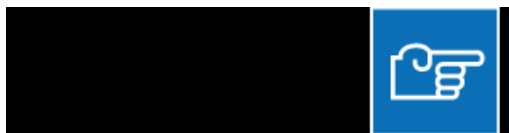
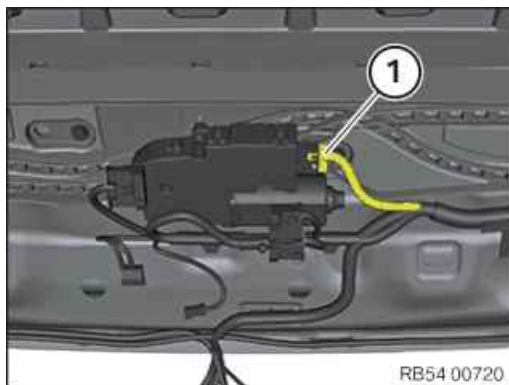
**Necessary preliminary tasks:****F45, F48, F49:**

- Remove [headlining](#)

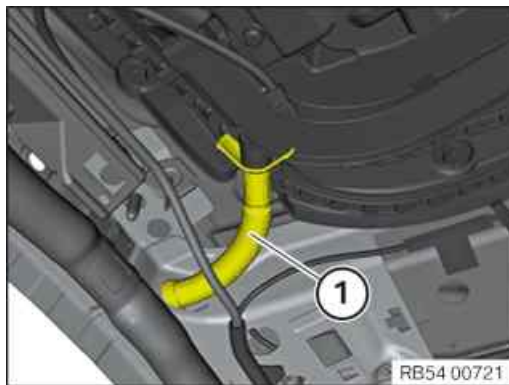
F46:

- Lower [roofliner](#)

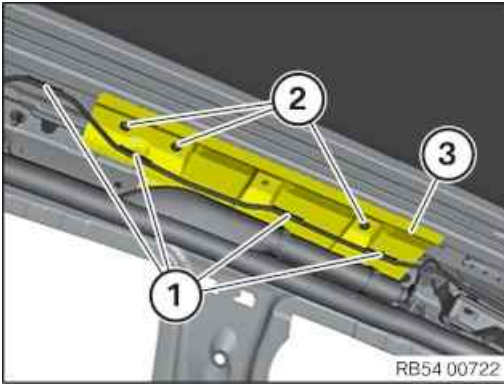
Luggage compartment wheel arch trim panel must not be removed.

**Removal:**

Unlock plug connection (1) on front drive and disconnect.



Pull off front water drain hose (1) on left/right.



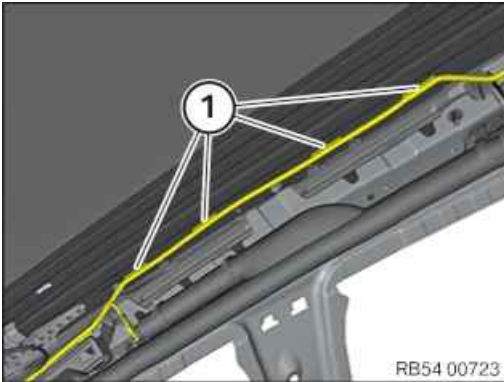
US national-market version:

Release cable clip (1).

Release bolts (2) and remove panel (3).

Note:

Carry out work on the right side in the same way as for the left side illustrated here.

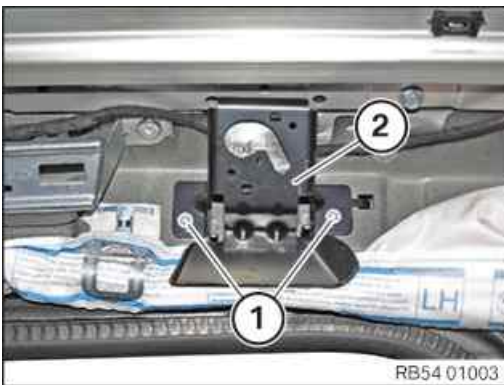


All national-market versions except US:

Release cable clip (1).

Note:

Carry out work on the right side in the same way as for the left side illustrated here.

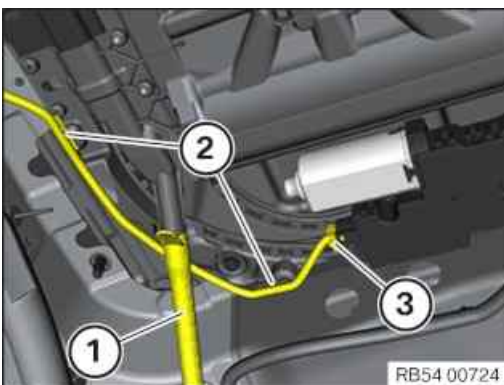


Release screws (1).

Take off holder (2).

Note:

Carry out work on the left side in the same way as for the right side illustrated here.



Pull off rear water drain hose (1) on left/right.

Unfasten cable strap (2).

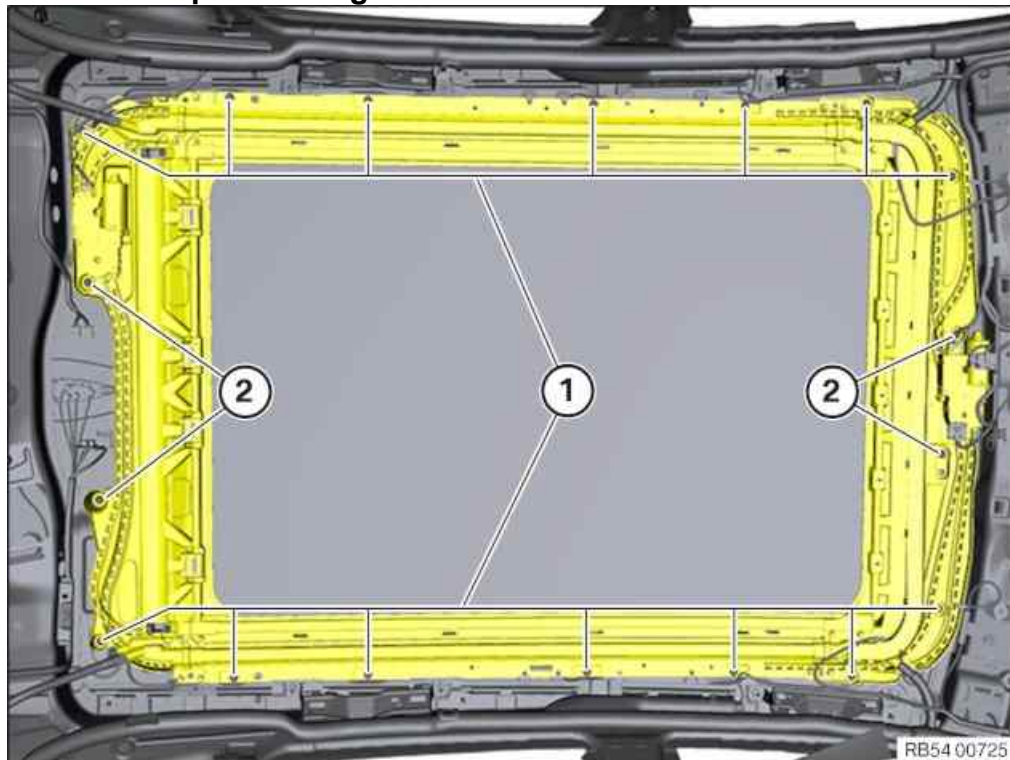
Unlock plug connection (3) on rear drive and disconnect.



Attention!

Two persons are required to help in removing the panorama glass roof.

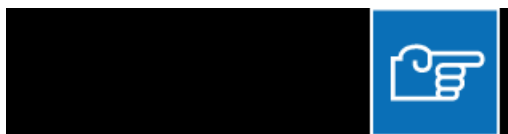
Overview of panorama glass roof:



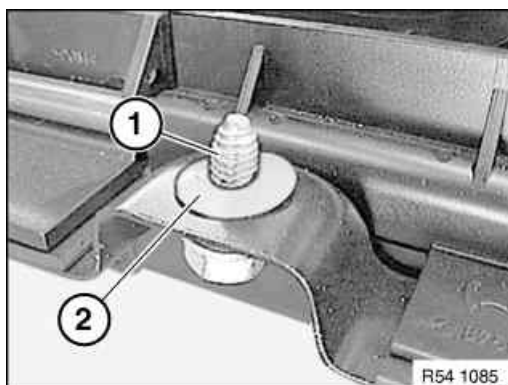
- Release screws (1).
- An assistant must secure the panorama glass roof to prevent it falling.

Attention! Do not damage any surrounding components when removing the panorama glass roof.

- Unfasten screws (2).
- Carefully lower the panorama glass roof and remove from vehicle towards rear through tailgate opening.



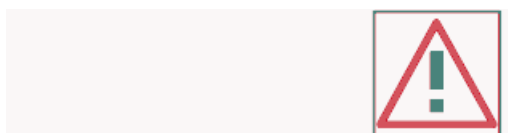
Installation:



Note:

To stop groaning noises, secure all screws (1) prior to installation with plastic washers (2).

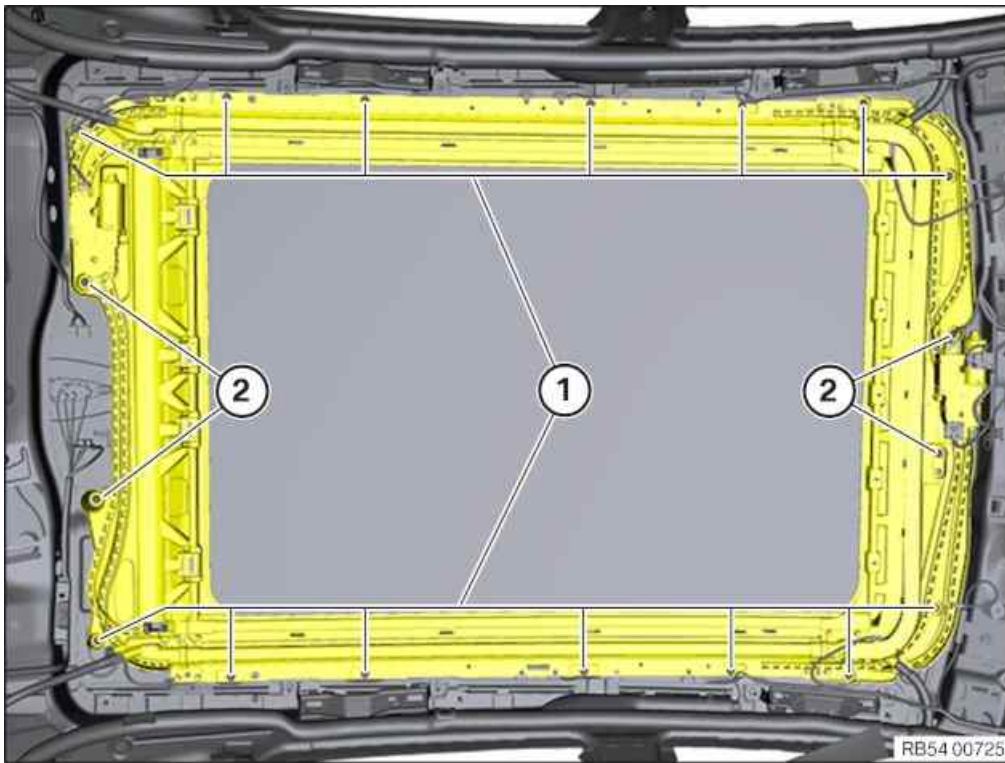
If the standard screws can no longer grip, use "repair screws" (larger threads).



Attention!

Two persons are required to help in installing the panorama glass roof.

Panorama glass roof:



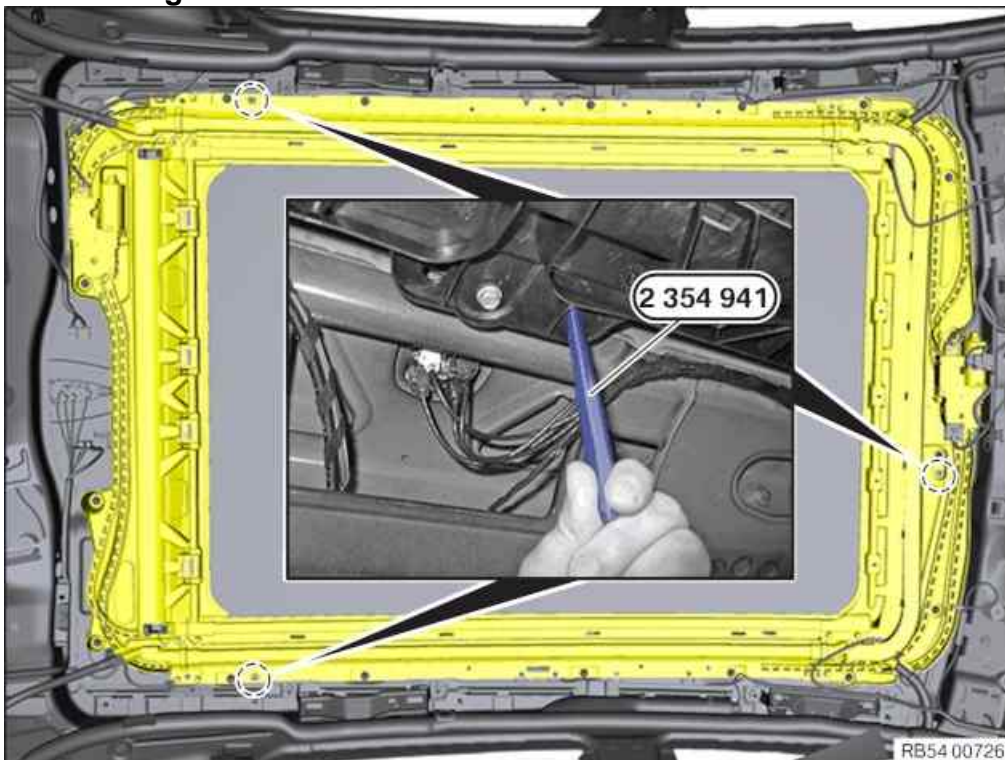
Insert panorama glass roof and loosely tighten screws (1 and 2).

The panorama glass roof must still be able to move in the body aperture.

Attention!

Do not crush any cables when installing the panorama glass roof.

Panorama glass roof:



Note:

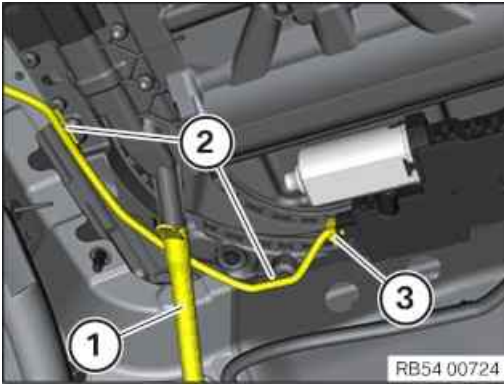
On account of leaks, the panorama glass roof must be exactly aligned to body aperture.

Insert special tool [2 354 941](#) into centring bores at front and one on the side up to limit position in panorama glass roof and body.

Panorama glass roof glides into place.

Tighten the screws.

Tightening torque [54 12 3AZ](#).



Secure cable clip (2).

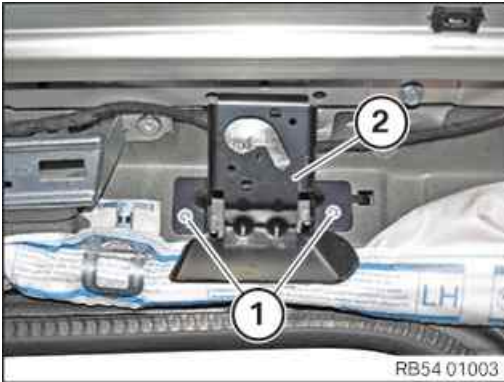
Connect connector (3) to rear drive.

Attach rear water drain hose (1) on left/right.

Note:

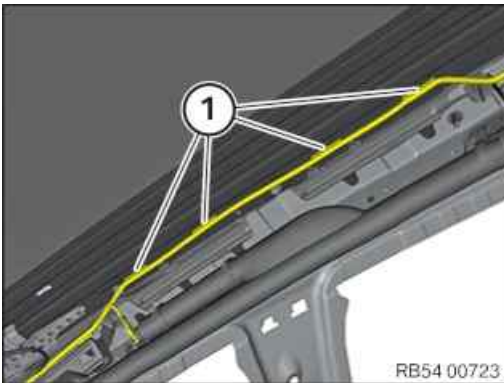
Make sure water drain hoses are correctly seated.

Water ingress into passenger compartment is possible if water drain hoses are not correctly fitted.



Tighten holder (2) with screws (1). *Note:*

Carry out work on the left side in the same way as for the right side illustrated here.

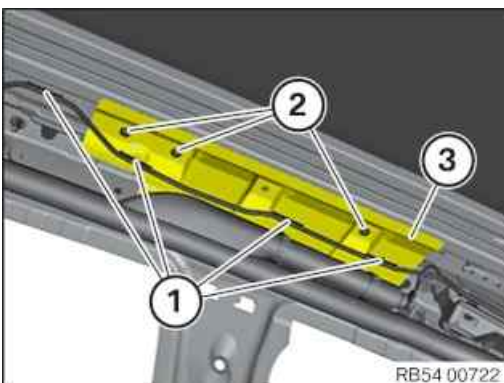


All national-market versions except US:

Attach cable clip (1).

Note:

Carry out work on the right side in the same way as for the left side illustrated here.



US national-market version:

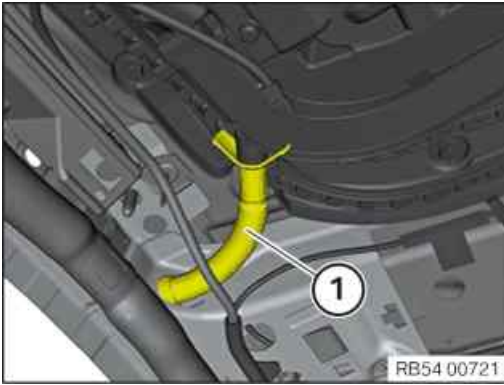
Attach panel (3) and tighten screws (2).

Tightening torque [54 12 5AZ](#).

Attach cable clip (1).

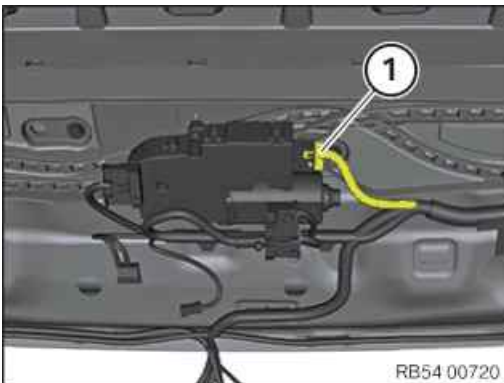
Note:

Carry out work on the right side in the same way as for the left side illustrated here.

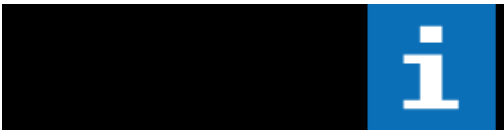


Attach front water drain hose (1) on left/right. *Note:*
Make sure water drain hoses are correctly seated.

Water ingress into passenger compartment is possible if water drain hoses are not correctly fitted.



Connect connector (1) on front drive.

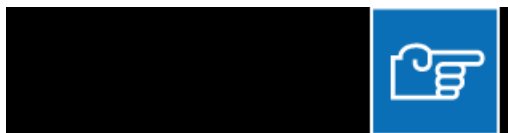


Required follow-up work:

- Fit the [headlining](#)
- [Initialise the panorama glass roof.](#)

Replacement:

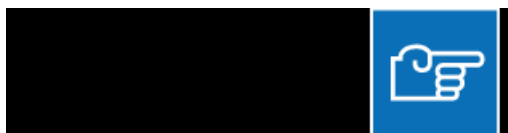
- Carry out [vehicle programming/encoding](#)



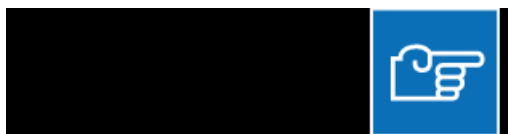
Removal:



Open glass slide/tilt sunroof panel until the screws (1) are accessible.
Release left and right screws (1).
Carefully remove the glass slide/tilt sunroof panel upwards.



Installation:



Note:

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



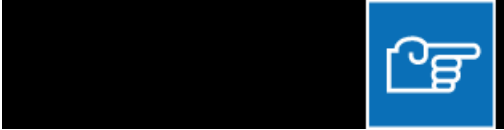
Carefully insert glass slide/tilt sunroof panel from above.

Note:

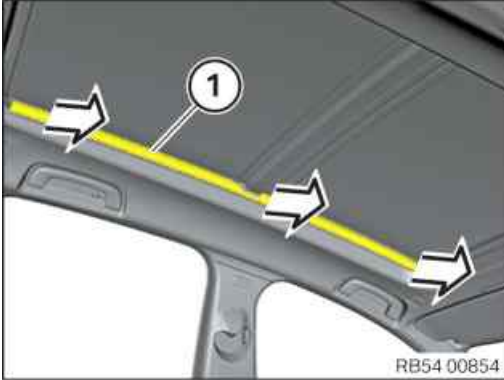
Parts: Replace screws (1).

Feed in screws (1) on left and right.
Adjust [glass slide/tilt sunroof panel](#).

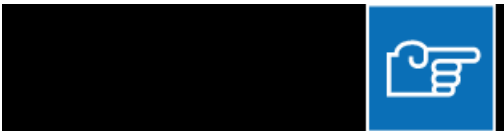
54 13 047 Removing and installing/replacing inside left or right gasket on the slide/tilt sunroof



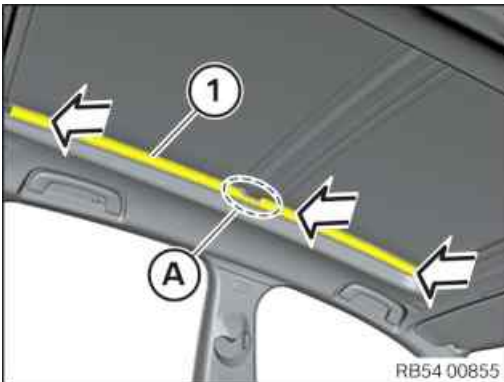
Removal:



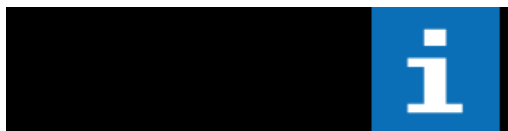
Pull off gasket (1) slide/tilt sunroof frame.



Installation:

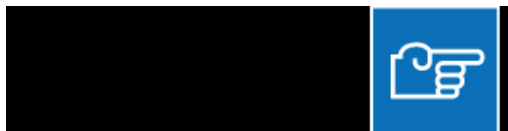


Insert gasket (1) in the slide/tilt sunroof frame. *Note:*
To facilitate installation, coat gasket (1) with water.
Ensure correct positioning in area (A).

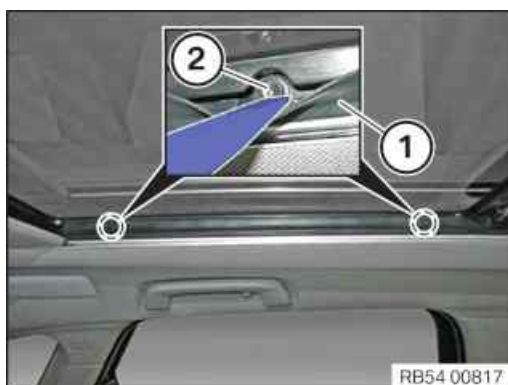


Necessary preliminary work:

- Remove front [glass slide/tilt sunroof panel](#)



Removal:

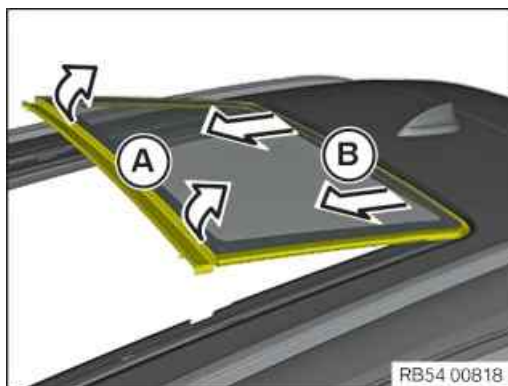


Fold the screen (1) downwards slightly.

Unfasten screws (2).

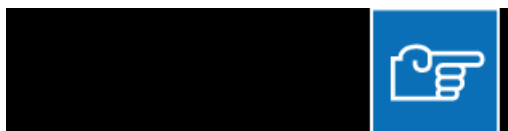
Note:

Carry out work on the right side in the same way as for the left side illustrated here.

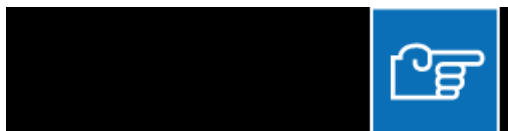


(A) Raise front glass slide/tilt sunroof panel.

(B) Feed rear glass slide/tilt sunroof panel with water channel out of the roof.

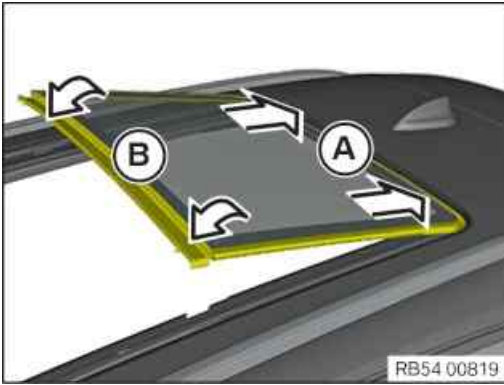


Installation:

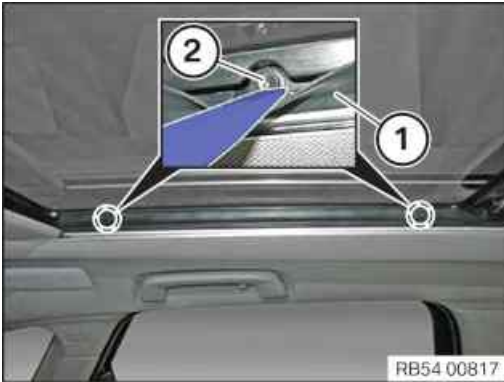


Note:

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



- (A) Feed rear glass slide/tilt sunroof panel with water channel into the roof.
 (B) Fold down front glass slide/tilt sunroof panel.



Parts: Replace screws (2).

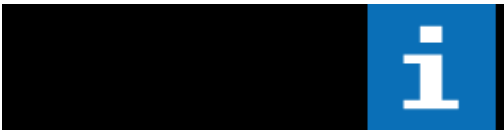
Fold the screen (1) downwards slightly.

Feed in screws (2) on left and right.

Note:

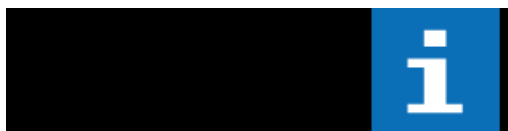
Carry out work on the right side in the same way as for the left side illustrated here.

The screws (2) are tightened when adjusting the glass slide/tilt sunroof panel.

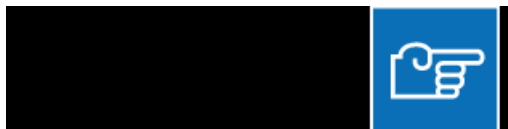
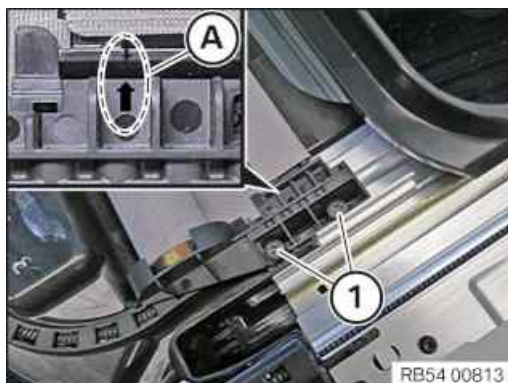


Required follow-up work:

- Install front [glass slide/tilt sunroof panel](#)
- Adjusting [glass slide/tilt sunroof panel](#)

**Necessary preliminary tasks:**

- Remove [panorama glass roof completely](#)

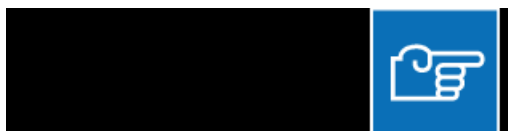
**Removal:**

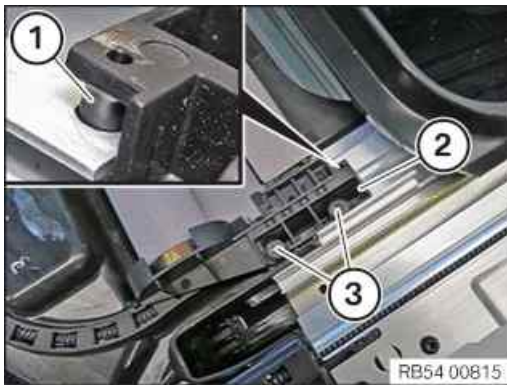
Manually operate roller sunblind via the emergency operation facility at the drive until the arrows on the left and right are flush in area (A).
Release left and right screws (1).

**Note:**

The guide (1) must not be damaged when the roller sunblind is detached.

Detach roller sunblind at the holders (2) on left and right by moving straight upwards.

**Installation:**



Note:

Guide (1) must not be missing.

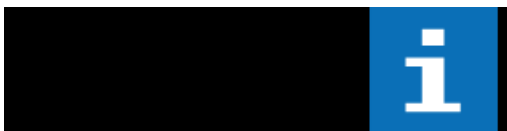
The guide (1) must be correctly fitted in the corresponding fixture when the roller sunblind is installed.

Install roller sunblind at the holders (2) on left and right by moving straight down from above.

Tighten down screws (3).

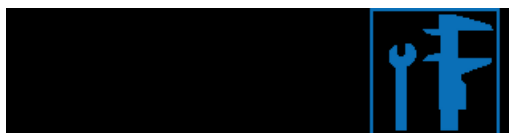
Tightening torque [54 12 4AZ](#).

Then manually wind the roller sunblind approx. 10 cm in the "close" direction in order to ensure that the roller sunblind is being guided correctly.

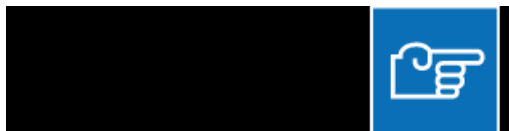
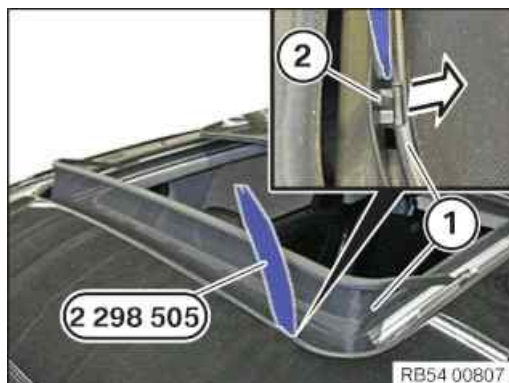


Required follow-up work:

- Install the [panorama glass roof](#) completely.

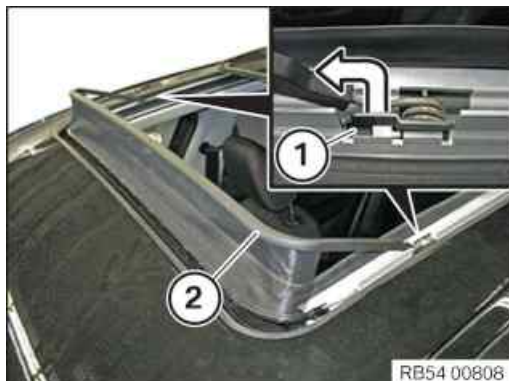
**Special tools required:**

- [2 298 505](#)

**Removal:**

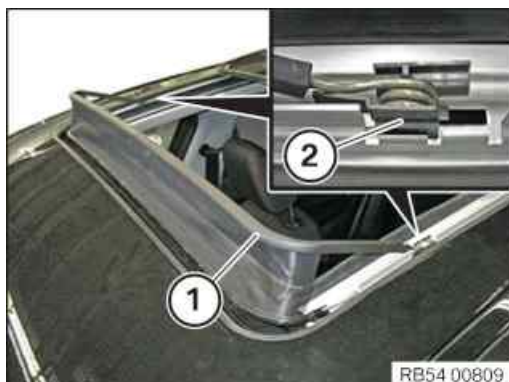
Open glass slide/tilt sunroof.

Unclip wind deflector (1) from the latch mechanisms (2) over the entire width with special tool [2 298 505](#).

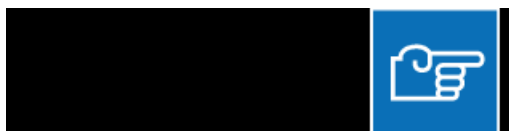


Press front section of the holder (1) inwards.

Push holder (1) with the wind deflector (2) forwards.

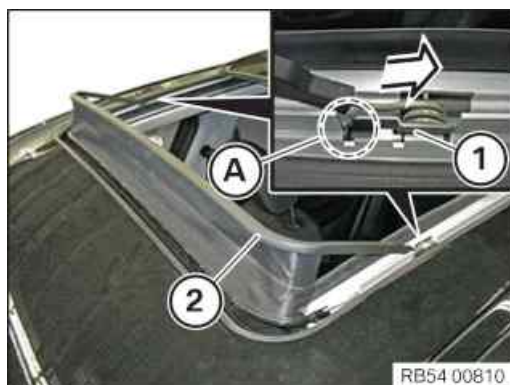


Remove wind deflector (1) with holders (2) upwards.

**Installation:**



Fit wind deflector (1) with holders (2) from above.



Push holder (1) with wind deflector (2) towards rear. *Note:* Make sure that holder (1) is correctly seated in area (A).

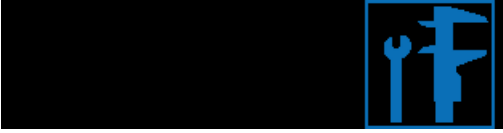


Note:
Spring (1) must rest on the holder (2).



Clip wind deflector (1) into latch mechanisms (2) over the entire width.

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

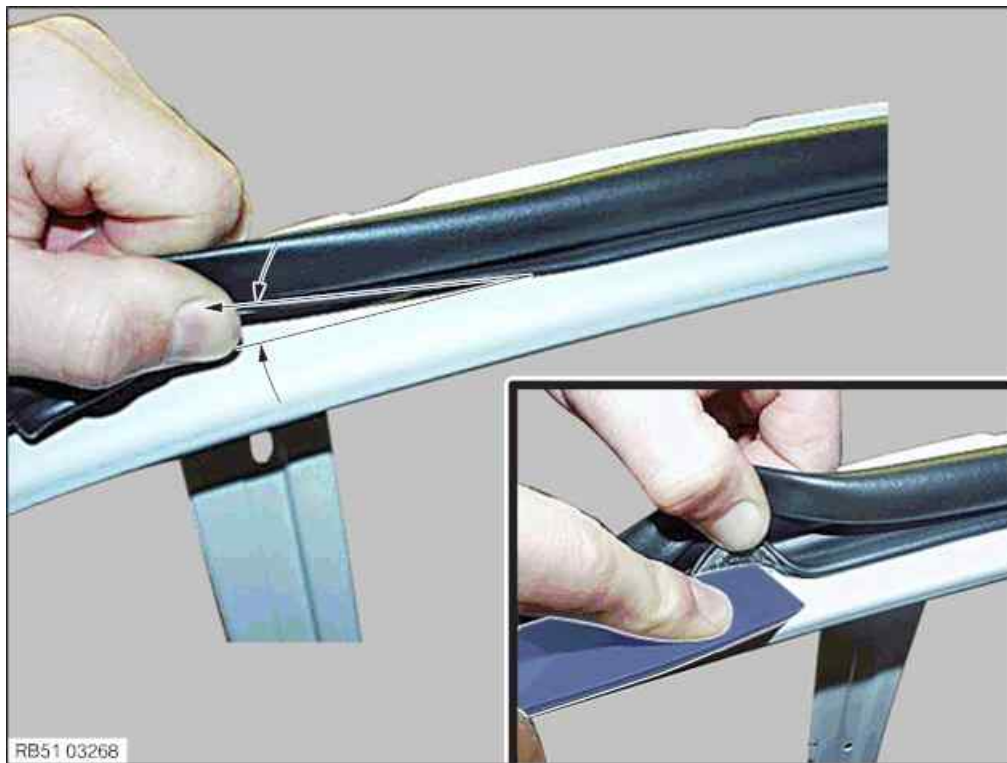
- Press down gasket using contact pressure (forced pressure not necessary) for > 1 minute.

Attention:

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

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

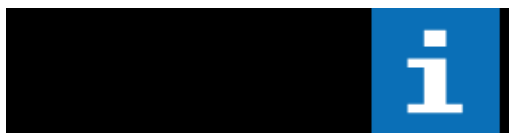
- Always press gasket vertically to the bonding surface
- Press gasket by hand or hand roller
- Adhesive tape width up to 5 mm, contact pressure $> 5 \text{ N/cm}^2$
- Adhesive tape width up to 10 mm, contact pressure $> 10 \text{ N/cm}^2$

Note:

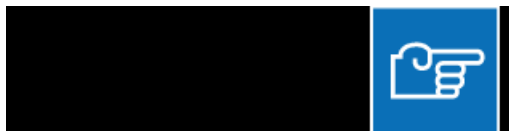
Firm thumb pressure has approx. 35 N/cm^2

3 Checking the rubber seal

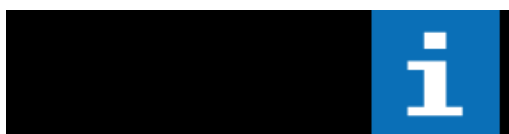
- Check the bonded gaskets for correct positioning and perfect adhesion. The bonding can be checked by pressing back the sealing lip.
- The peel strength of the gasket must be greater than 10 N/cm^2 for about 15 min after bonding.

**Necessary preliminary work:**

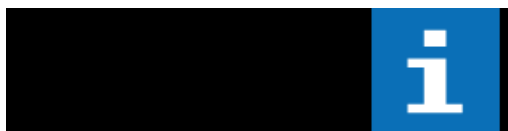
- Remove [panorama glass roof completely](#)

**Remount the following parts:**

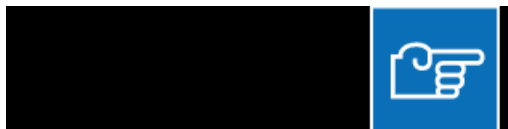
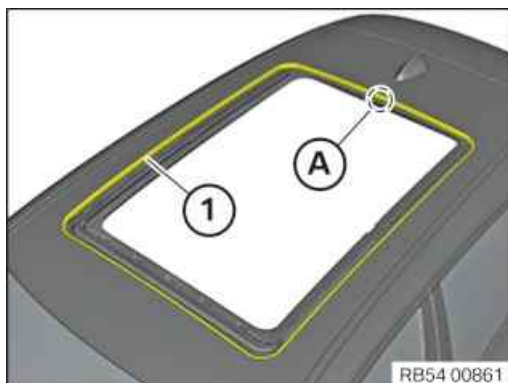
- [Roller sunblind](#)
- [Wind deflector](#)
- [drives](#)
- [Glass slide/tilt sunroof panel at front and rear](#)
- [Gasket on slide/tilt sunroof at inner left and right](#)

**Required follow-up work:**

- Install [complete panorama glass roof](#)

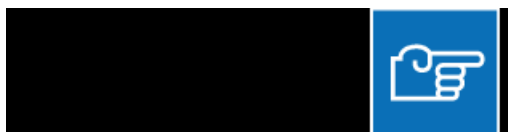
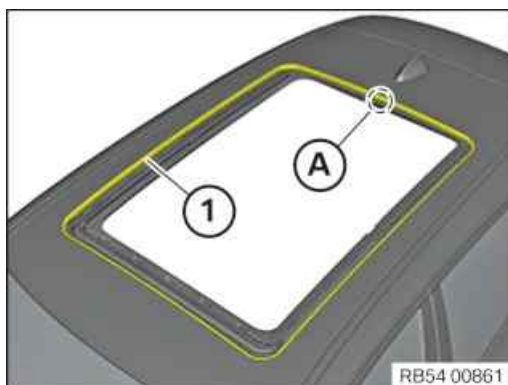
**Necessary preliminary work:**

- Remove [glass slide/tilt sunroof panel](#) at front and rear

**Removal:****Note:**

Follow [repair instructions](#) for bonded seals on panorama glass roof.

Pull off gasket (1) at contact edge in area (A) starting from body aperture. (peel off).

**Installation:****Important!**

Do not touch bonding surface.

Surface temperature $\geq 20^{\circ}\text{C}$

Incorrect bonding of the seal will result in leaks.

Clean bonding surface with [cleaning agentR2](#).

Stick on gasket (1) at contact edge (A) without stretching (squashing) starting at body aperture.

Upper edge of gasket must be flush with roof outer skin.

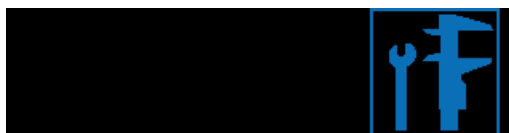
Stick on gasket (1) in sections.

Establish seal joint.

**Required follow-up work:**

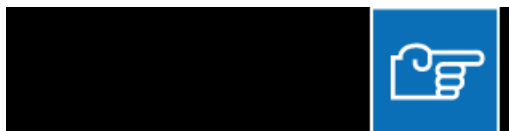
- Install [glass slide/tilt sunroof panel](#) at front and rear

54 13 004 Adjusting front or rear glass slide/tilt sunroof panel



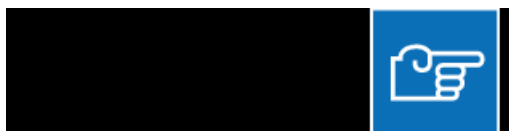
Special tools required:

- [00 9 315](#)
- [00 9 340](#)



Installation note:

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

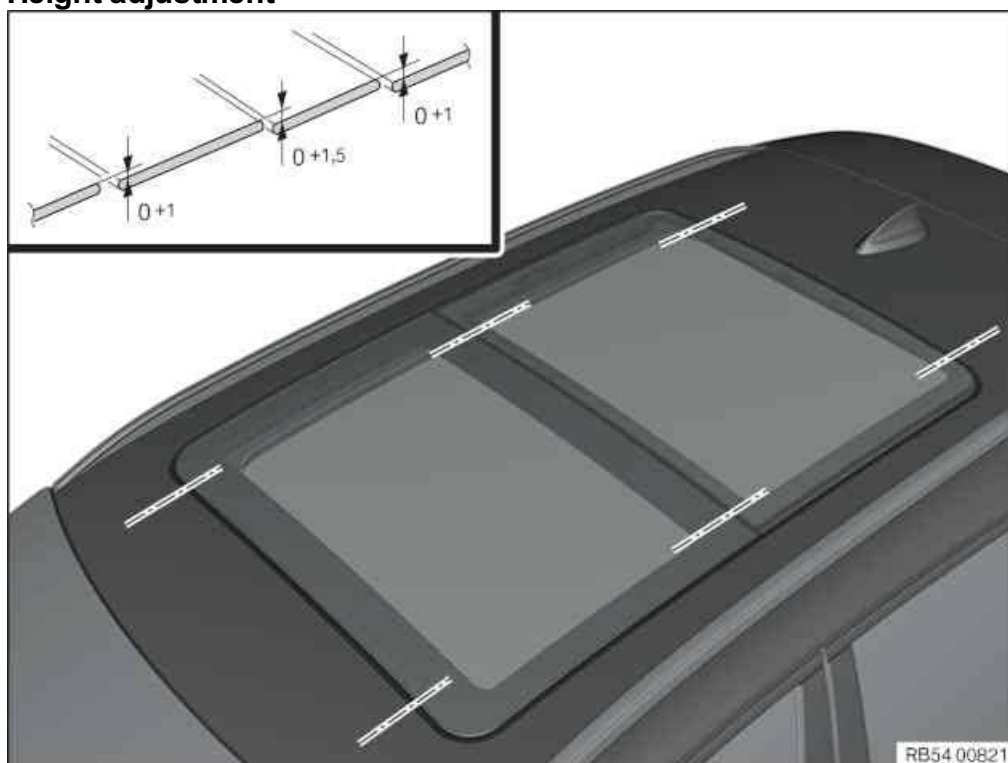


Note:

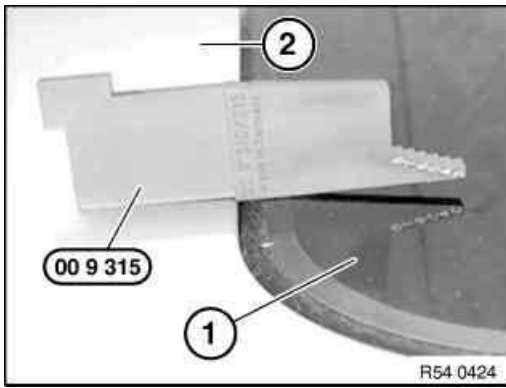
Make the adjustment with an assistant.

Perform setting with fully closed glass slide/tilt sunroof.

Height adjustment



- Front edge of glass slide/tilt sunroof panel at front 0 to 1 mm under roof edge
- Rear edge of front glass slide/tilt sunroof panel 0 to 1.5 mm above rear glass slide/tilt sunroof panel
- Rear edge of glass slide/tilt sunroof panel 0 to 1 mm above roof edge



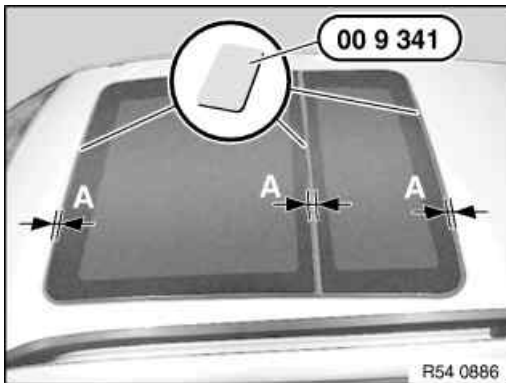
Height adjustment:

Note:

Front glass slide/tilt sunroof panel must be adjusted first.

Check height of glass slide/tilt sunroof panel (1) in relation to body (2) with special tool [00 9 315](#).

Press glass slide/tilt sunroof panel (1) at front and rear upwards or downwards until ideal position is reached.



Distance setting:

Use special [00 9 340](#) tool check that the gap between the glass slide/tilt sunroof panel and body is the same.

Slide special tool [00 9 340](#) or similar between gasket and insert. It must be possible to slide the card against the same level of resistance.

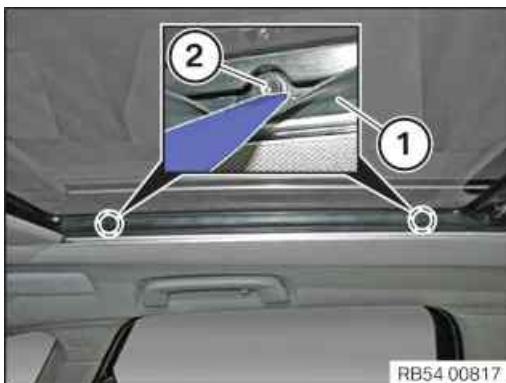
Slide glass slide/tilt sunroof panel towards front or rear until ideal position is reached.



Adjusting glass slide/tilt sunroof panel at front:

Carry out the following step on one side first and then the other (first left, then right or vice versa):

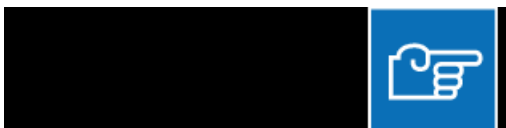
- Fold screen (1) downwards slightly
- Loosely screw in screws (2) on left/right until glass slide/tilt sunroof panel can just still be moved
- If necessary, move glass slide/tilt sunroof panel
- Tighten down screws (2)
Tightening torque [54 12 1AZ](#).
- Repeat procedure on other side.



Glass slide/tilt sunroof panel rear setting:

Carry out the following step on one side first and then the other (first left, then right or vice versa):

- Fold screen (1) downwards slightly
- Loosely screw in screws (2) on left/right until glass slide/tilt sunroof panel can just still be moved
- If necessary, move glass slide/tilt sunroof panel
- Tighten down screws (2)
Tightening torque [54 12 2AZ](#).
- Repeat procedure on other side.



Check function and adjustment.

Carry out [initialization](#).

54 13 ... Notes on panorama glass roof (initialisation/normalisation/learning of characteristic curve)



Initialisation comprises:

- Initialisation of the glass slide/tilt sunroof panel
- Initialisation of the roller sunblind

Then carry out **initialisation**:

- if the panorama glass roof has been mechanically moved by means of the emergency actuator
- In the event of malfunctions, e.g. no one-touch function, no opening or no comfort function possible
- after disengagement of the drive unit
- after repair work is carried out on the mechanism of the panorama glass roof
- after exchange of the control unit
- After removal and installation or adjustment of a glass slide/tilt sunroof panel
- After removal and installation of the complete panorama glass roof



Warning!

There is no anti-trap mechanism during initialisation.

Ensure adequate voltage supply during initialisation.

If necessary, recharge battery.

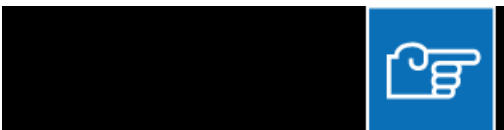


The initialisation is carried out through the switch of the panorama glass roof. The switch must be operated in the "vent position" direction during the **entire** process.

Panorama glass roof can be initialised in any position.

Initialisation:

- Switch on ignition.
- Press and hold the switch in the "vent position" direction
- Initialisation occurs after approx. 15 seconds
- first the panorama glass roof closes depending on the position
- Panorama glass roof opens and closes once completely
- Initialisation of the panorama glass roof is completed
- the roller sunblind closes next
- Roller sunblind opens and closes once completely
- Initialisation of the roller sunblind is completed
- release switch when the roller sunblind is closed



Note:

- The entire process takes approx. 60 seconds
- If the switch is released in the meantime, the entire procedure must be repeated
- Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function)

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

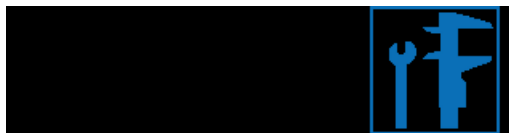
The water drain hoses for the slide/tilt sunroof are partially permanently integrated in the body and cannot be replaced individually.

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

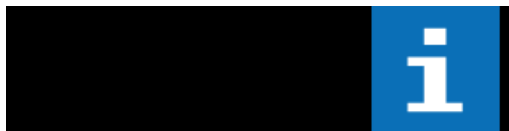
Component	Vehicle	Individually replaceable
Water drain hose, front	All BMW	No
	All MINI	
Rear water drain hose	E60, F34	No
	All other BMWs	Yes
	All MINI	Yes

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

Contact national hotline.

**Special tools required:**

- [2 354 941](#)

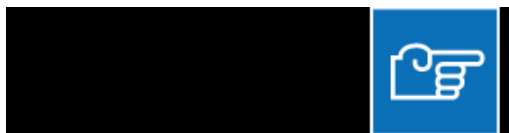
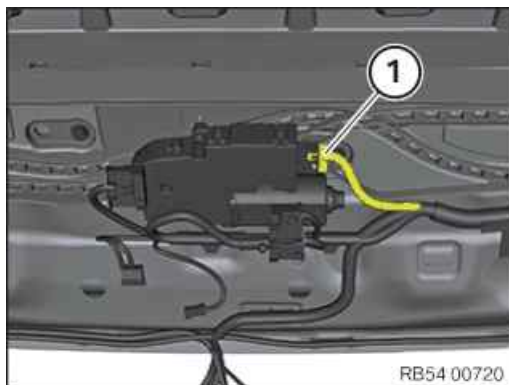
**Necessary preliminary tasks:****F45, F48, F49:**

- Remove [headlining](#)

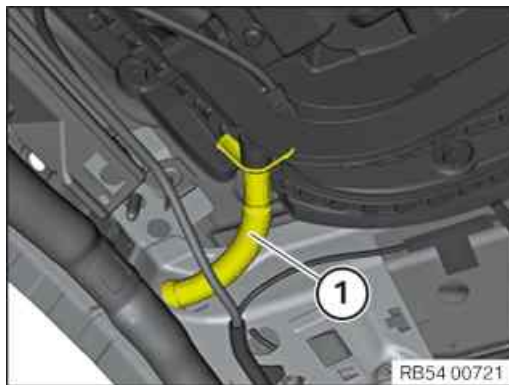
F46:

- Lower [roofliner](#)

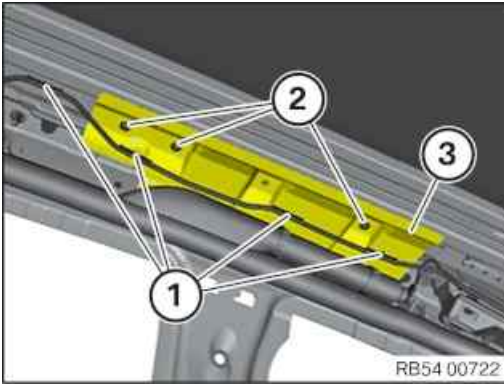
Luggage compartment wheel arch trim panel must not be removed.

**Removal:**

Unlock plug connection (1) on front drive and disconnect.



Pull off front water drain hose (1) on left/right.



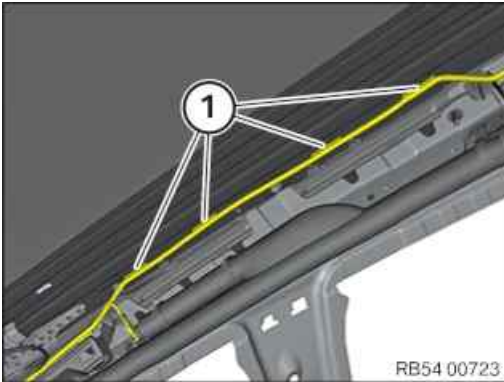
US national-market version:

Release cable clip (1).

Release bolts (2) and remove panel (3).

Note:

Carry out work on the right side in the same way as for the left side illustrated here.

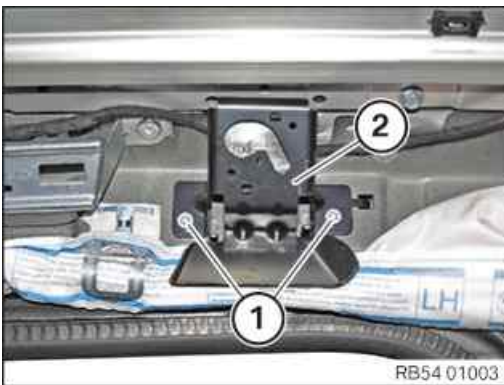


All national-market versions except US:

Release cable clip (1).

Note:

Carry out work on the right side in the same way as for the left side illustrated here.

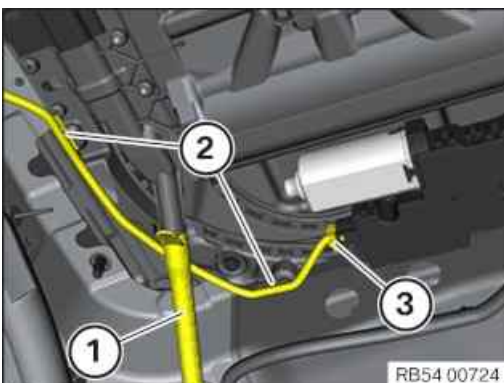


Release screws (1).

Take off holder (2).

Note:

Carry out work on the left side in the same way as for the right side illustrated here.



Pull off rear water drain hose (1) on left/right.

Unfasten cable strap (2).

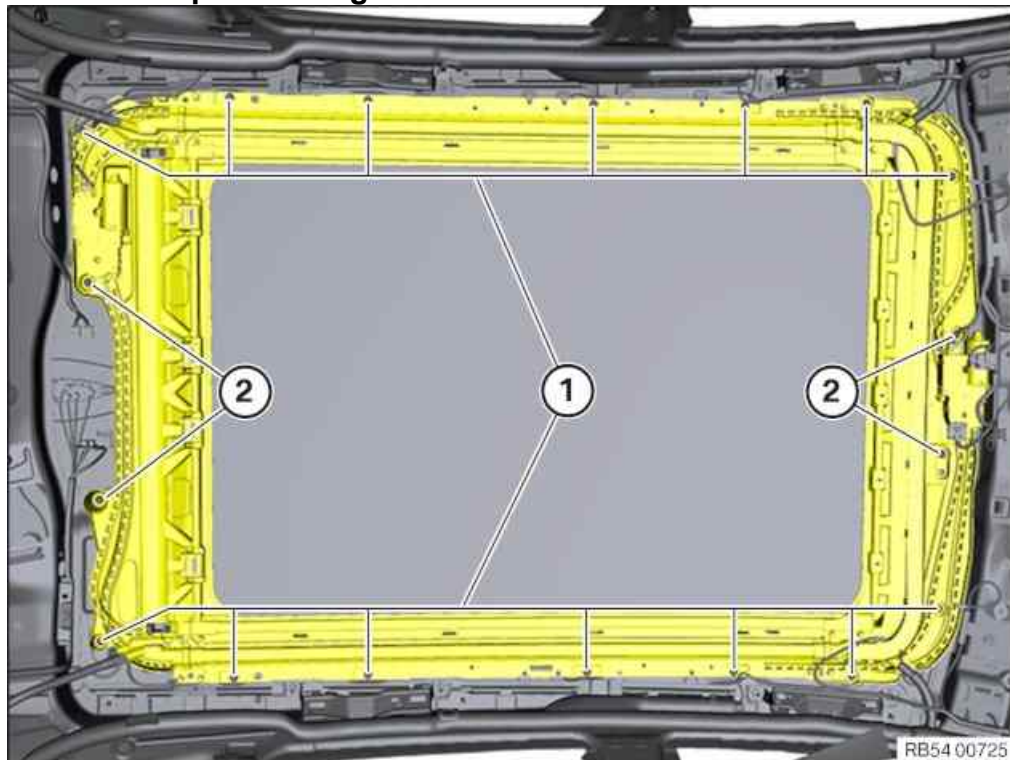
Unlock plug connection (3) on rear drive and disconnect.



Attention!

Two persons are required to help in removing the panorama glass roof.

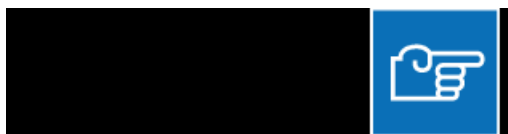
Overview of panorama glass roof:



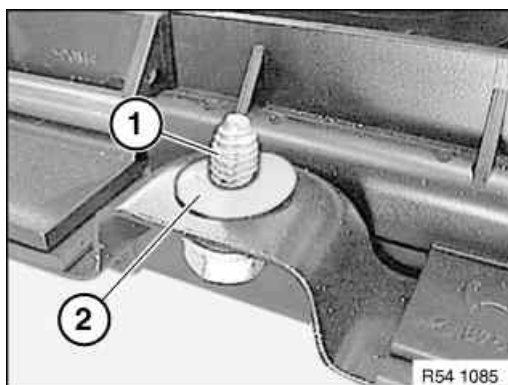
- Release screws (1).
- An assistant must secure the panorama glass roof to prevent it falling.

Attention! Do not damage any surrounding components when removing the panorama glass roof.

- Unfasten screws (2).
- Carefully lower the panorama glass roof and remove from vehicle towards rear through tailgate opening.



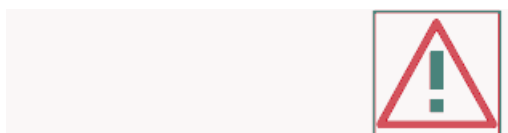
Installation:



Note:

To stop groaning noises, secure all screws (1) prior to installation with plastic washers (2).

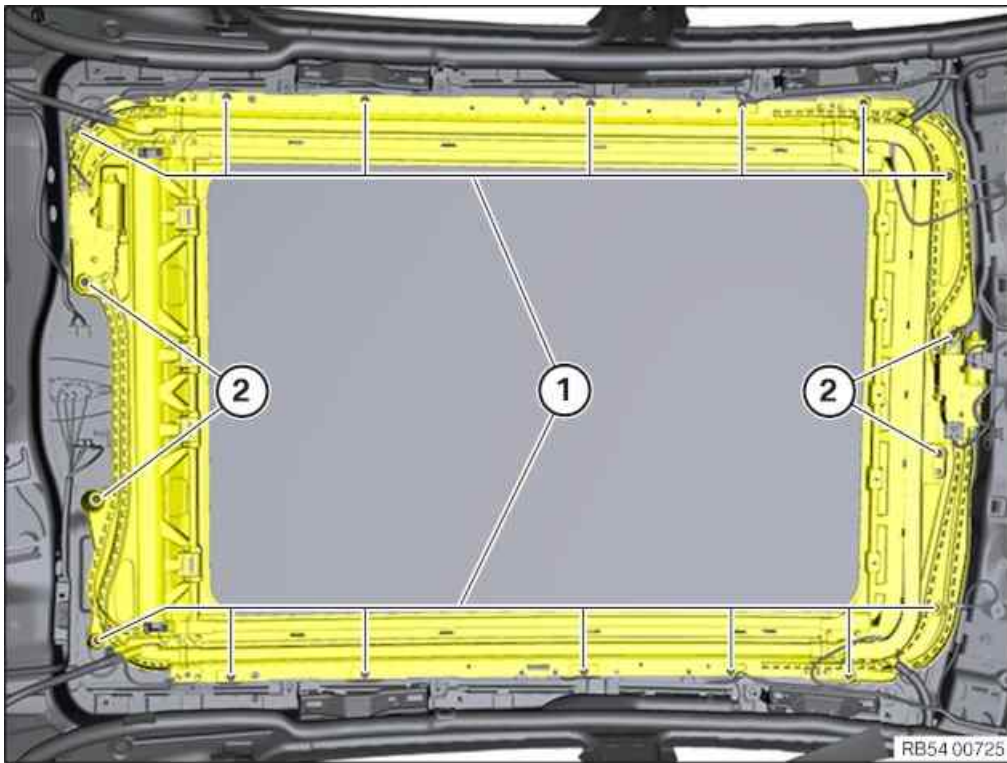
If the standard screws can no longer grip, use "repair screws" (larger threads).



Attention!

Two persons are required to help in installing the panorama glass roof.

Panorama glass roof:



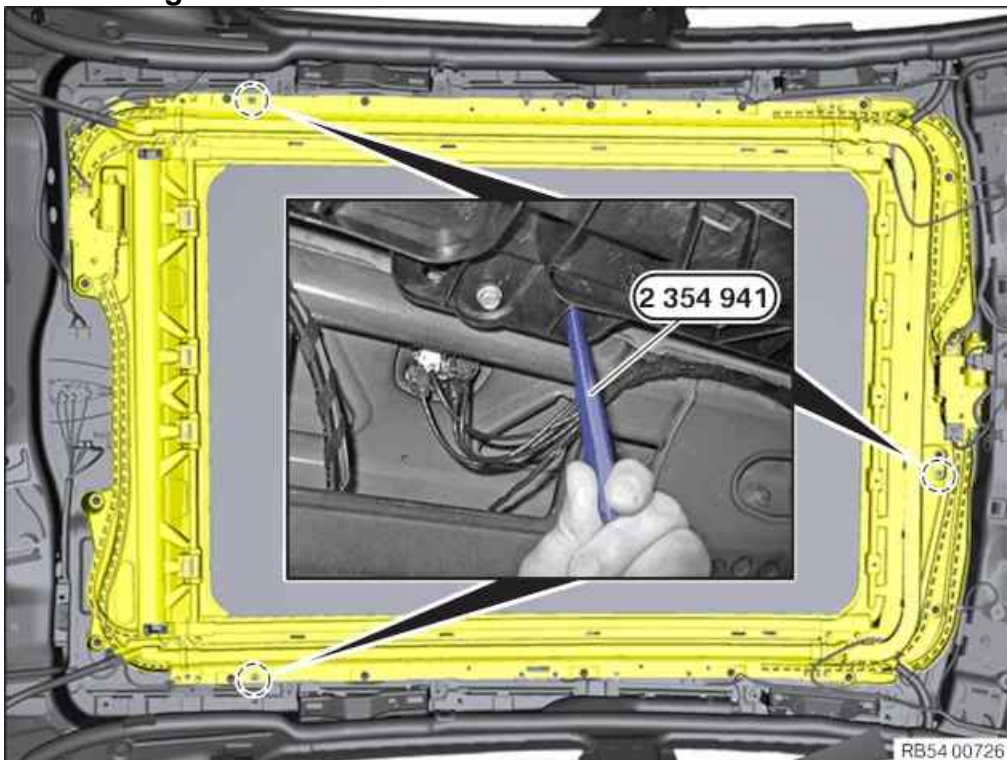
Insert panorama glass roof and loosely tighten screws (1 and 2).

The panorama glass roof must still be able to move in the body aperture.

Attention!

Do not crush any cables when installing the panorama glass roof.

Panorama glass roof:



Note:

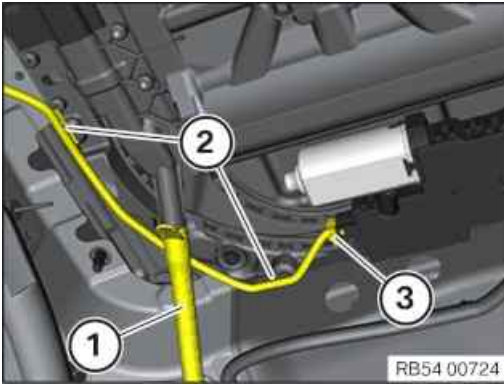
On account of leaks, the panorama glass roof must be exactly aligned to body aperture.

Insert special tool [2 354 941](#) into centring bores at front and one on the side up to limit position in panorama glass roof and body.

Panorama glass roof glides into place.

Tighten the screws.

Tightening torque [54 12 3AZ](#).



Secure cable clip (2).

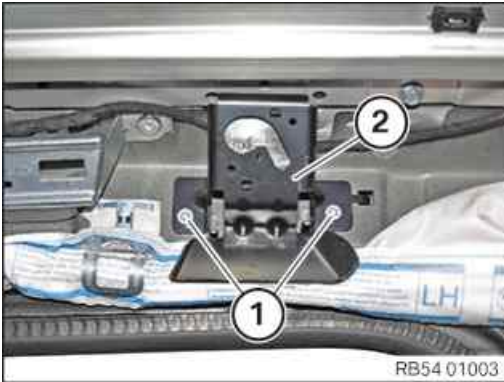
Connect connector (3) to rear drive.

Attach rear water drain hose (1) on left/right.

Note:

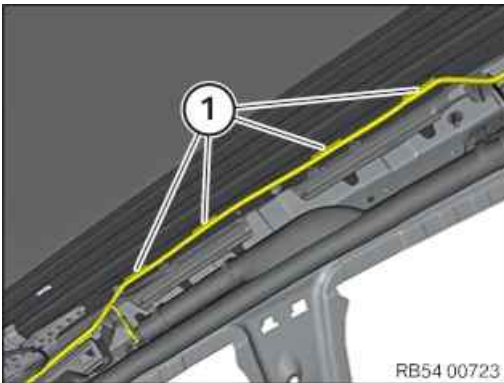
Make sure water drain hoses are correctly seated.

Water ingress into passenger compartment is possible if water drain hoses are not correctly fitted.



Tighten holder (2) with screws (1). *Note:*

Carry out work on the left side in the same way as for the right side illustrated here.

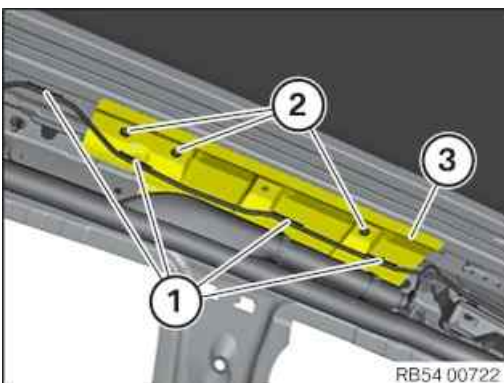


All national-market versions except US:

Attach cable clip (1).

Note:

Carry out work on the right side in the same way as for the left side illustrated here.



US national-market version:

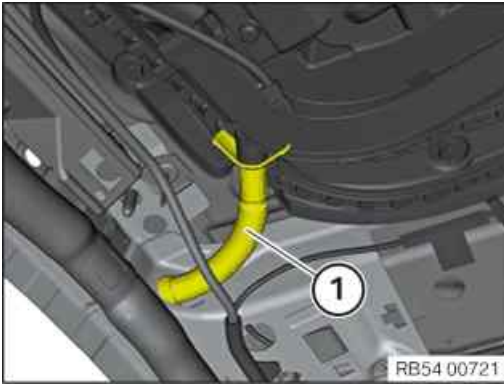
Attach panel (3) and tighten screws (2).

Tightening torque [54 12 5AZ](#).

Attach cable clip (1).

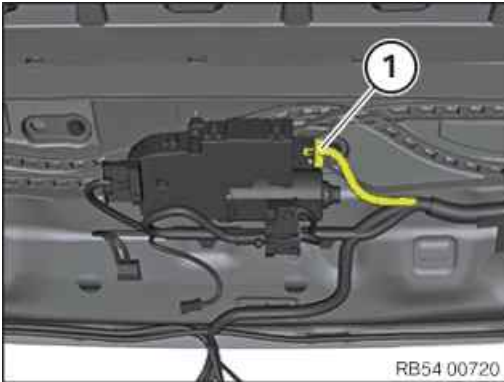
Note:

Carry out work on the right side in the same way as for the left side illustrated here.

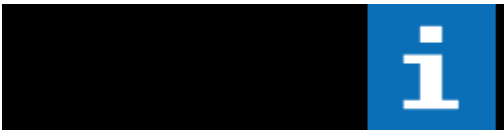


Attach front water drain hose (1) on left/right. *Note:*
Make sure water drain hoses are correctly seated.

Water ingress into passenger compartment is possible if water drain hoses are not correctly fitted.



Connect connector (1) on front drive.



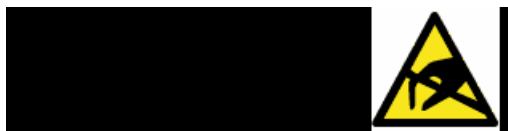
Required follow-up work:

- Fit the [headlining](#)
- [Initialise the panorama glass roof.](#)

Replacement:

- Carry out [vehicle programming/encoding](#)

67 61 007 Removing and installing/replacing drive with gearbox (rear) for actuating slide/tilt sunroof (rear)



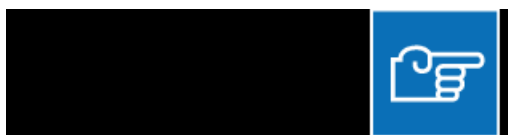
Important!

Read and comply with notes on [protection against electrostatic discharge \(ESD protection\)](#)!

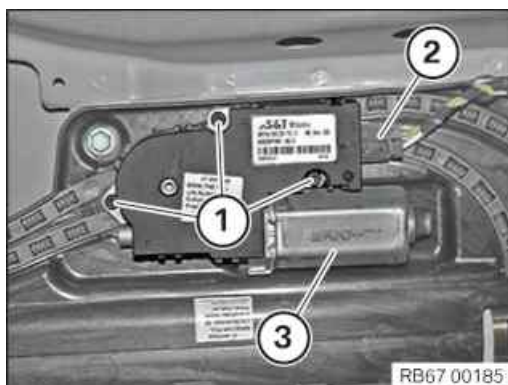


Necessary preliminary tasks:

- Lower [roofliner](#)



Removal:



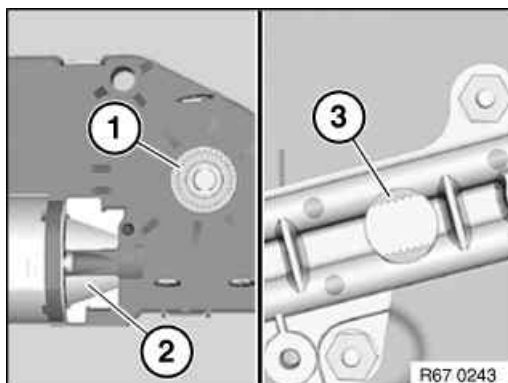
Release screws (1).

Unlock and disconnect connector (2).

Remove electric motor (3).

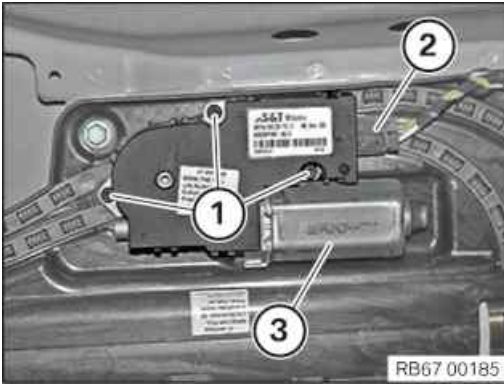


Installation:

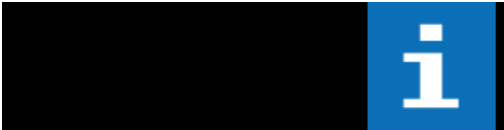


Note:

Insert gear (1) of electric motor with gearbox for operating slide/tilt sunroof (2) exactly into gearing (3).

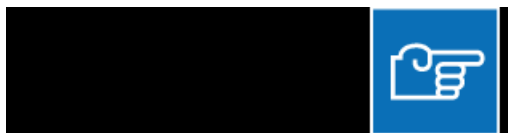


Position drive (3) correctly.
Tighten down screws (1).
Connect connector (2).
Tightening torque [54 13 1AZ](#).



Required reworking:

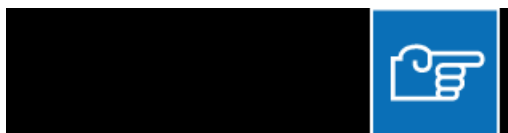
- Fit the [headlining](#)
- Initialise [slide/tilt sunroof](#).



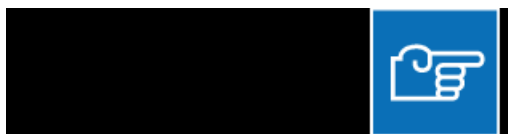
Removal:



Open glass slide/tilt sunroof panel until the screws (1) are accessible.
Release left and right screws (1).
Carefully remove the glass slide/tilt sunroof panel upwards.



Installation:



Note:

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



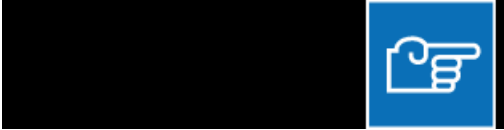
Carefully insert glass slide/tilt sunroof panel from above.

Note:

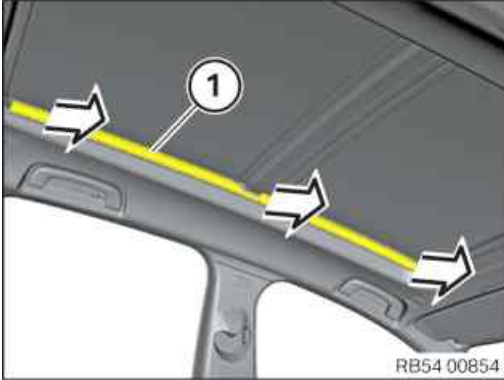
Parts: Replace screws (1).

Feed in screws (1) on left and right.
Adjust [glass slide/tilt sunroof panel](#).

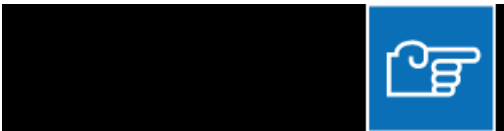
54 13 047 Removing and installing/replacing inside left or right gasket on the slide/tilt sunroof



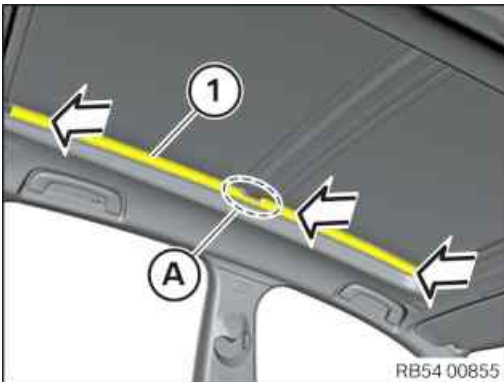
Removal:



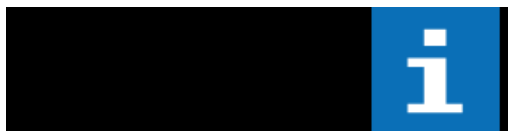
Pull off gasket (1) slide/tilt sunroof frame.



Installation:

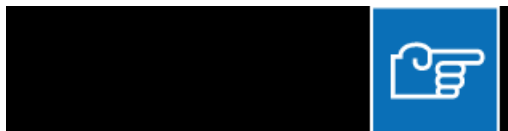


Insert gasket (1) in the slide/tilt sunroof frame. *Note:*
To facilitate installation, coat gasket (1) with water.
Ensure correct positioning in area (A).

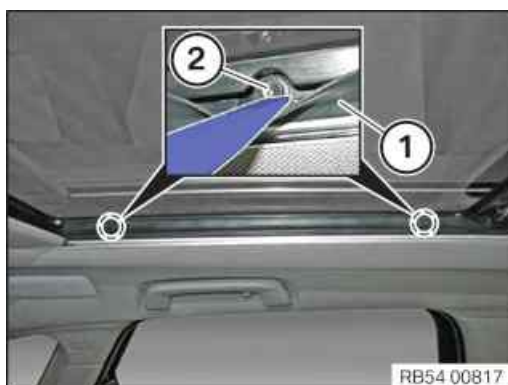


Necessary preliminary work:

- Remove front [glass slide/tilt sunroof panel](#)



Removal:

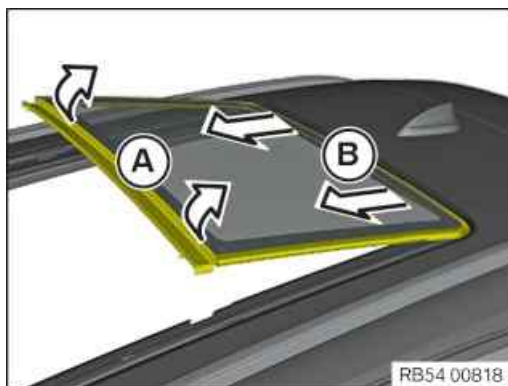


Fold the screen (1) downwards slightly.

Unfasten screws (2).

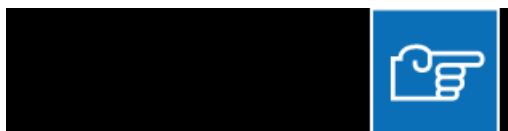
Note:

Carry out work on the right side in the same way as for the left side illustrated here.

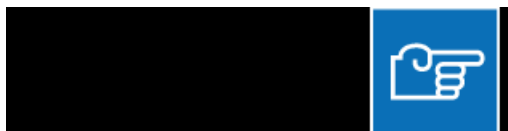


(A) Raise front glass slide/tilt sunroof panel.

(B) Feed rear glass slide/tilt sunroof panel with water channel out of the roof.

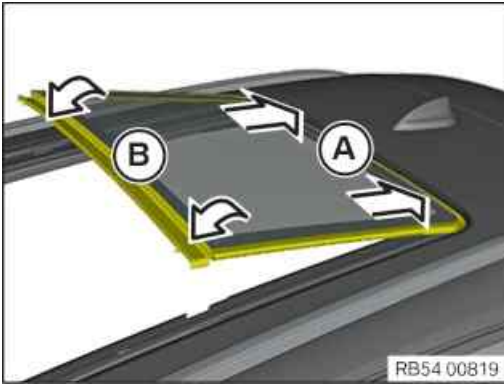


Installation:

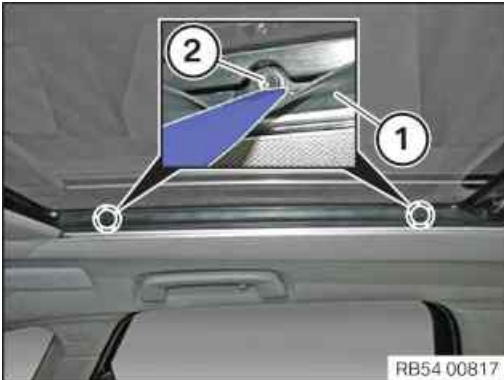


Note:

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



- (A) Feed rear glass slide/tilt sunroof panel with water channel into the roof.
 (B) Fold down front glass slide/tilt sunroof panel.



Parts: Replace screws (2).

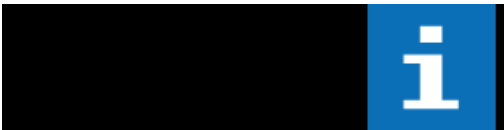
Fold the screen (1) downwards slightly.

Feed in screws (2) on left and right.

Note:

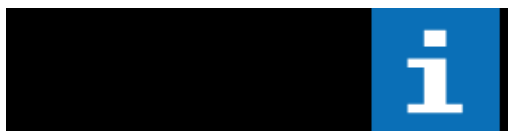
Carry out work on the right side in the same way as for the left side illustrated here.

The screws (2) are tightened when adjusting the glass slide/tilt sunroof panel.

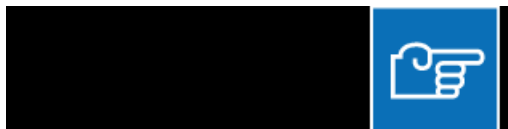
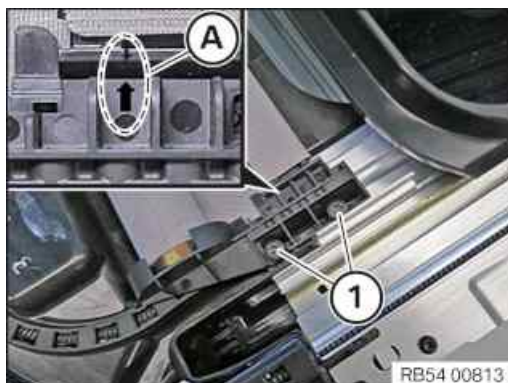


Required follow-up work:

- Install front [glass slide/tilt sunroof panel](#)
- Adjusting [glass slide/tilt sunroof panel](#)

**Necessary preliminary tasks:**

- Remove [panorama glass roof completely](#)

**Removal:**

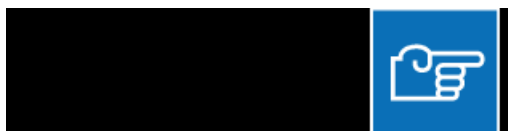
Manually operate roller sunblind via the emergency operation facility at the drive until the arrows on the left and right are flush in area (A).

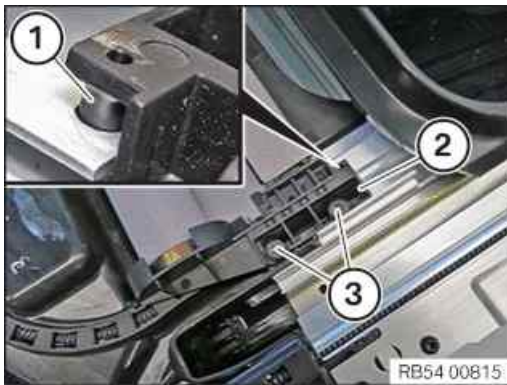
Release left and right screws (1).

**Note:**

The guide (1) must not be damaged when the roller sunblind is detached.

Detach roller sunblind at the holders (2) on left and right by moving straight upwards.

**Installation:**



Note:

Guide (1) must not be missing.

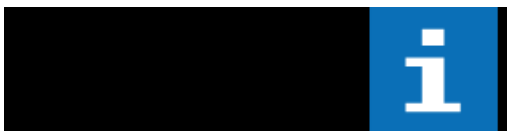
The guide (1) must be correctly fitted in the corresponding fixture when the roller sunblind is installed.

Install roller sunblind at the holders (2) on left and right by moving straight down from above.

Tighten down screws (3).

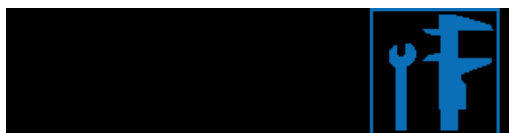
Tightening torque [54 12 4AZ](#).

Then manually wind the roller sunblind approx. 10 cm in the "close" direction in order to ensure that the roller sunblind is being guided correctly.

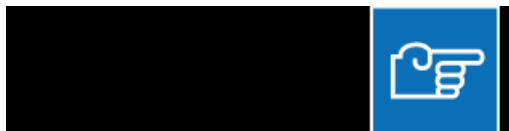
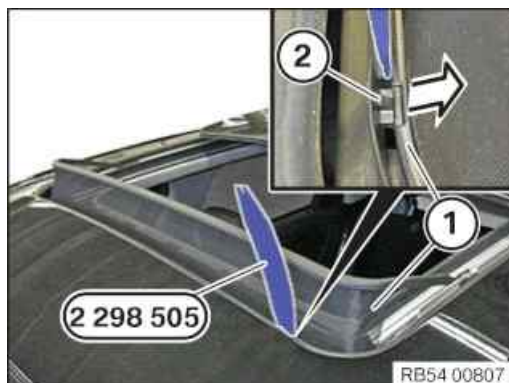


Required follow-up work:

- Install the [panorama glass roof](#) completely.

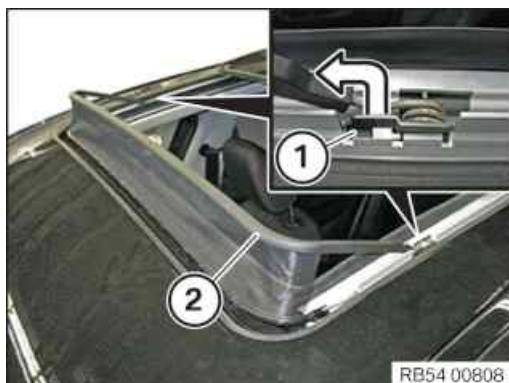
**Special tools required:**

- [2 298 505](#)

**Removal:**

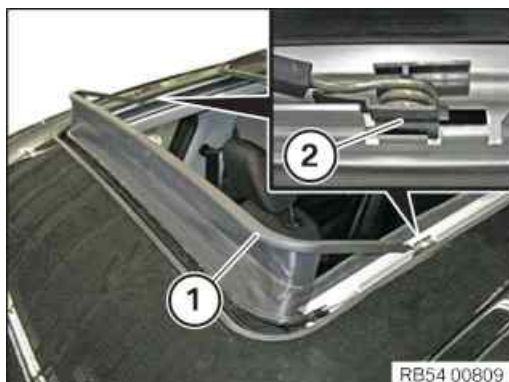
Open glass slide/tilt sunroof.

Unclip wind deflector (1) from the latch mechanisms (2) over the entire width with special tool [2 298 505](#).

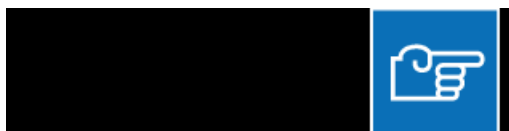


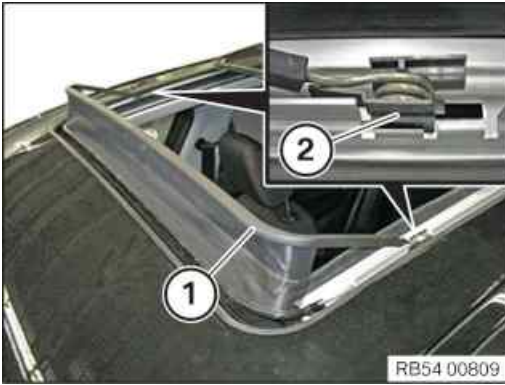
Press front section of the holder (1) inwards.

Push holder (1) with the wind deflector (2) forwards.

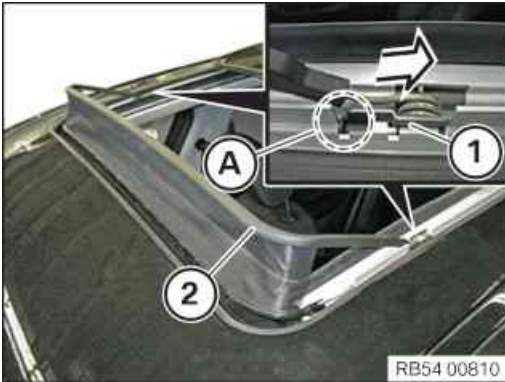


Remove wind deflector (1) with holders (2) upwards.

**Installation:**



Fit wind deflector (1) with holders (2) from above.



Push holder (1) with wind deflector (2) towards rear. *Note:* Make sure that holder (1) is correctly seated in area (A).

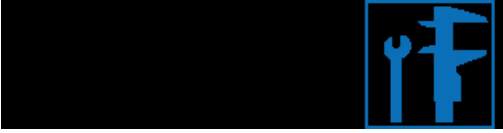


Note:
Spring (1) must rest on the holder (2).



Clip wind deflector (1) into latch mechanisms (2) over the entire width.

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

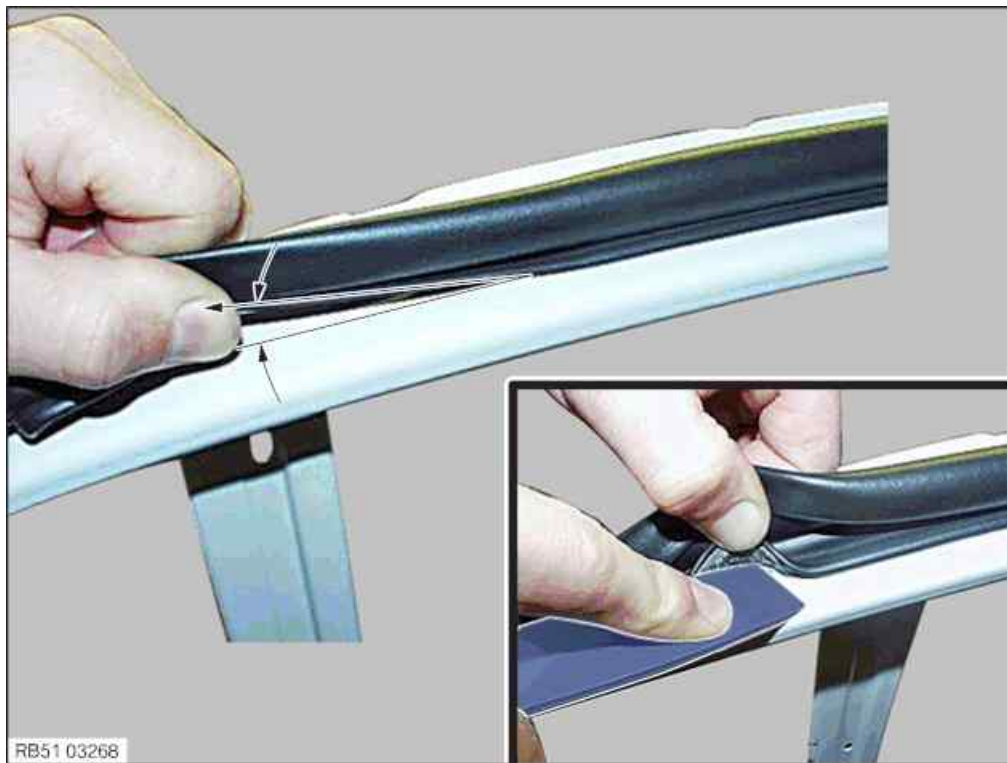
- Press down gasket using contact pressure (forced pressure not necessary) for > 1 minute.

Attention:

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

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

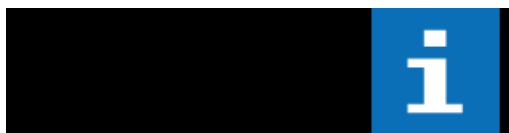
- Always press gasket vertically to the bonding surface
- Press gasket by hand or hand roller
- Adhesive tape width up to 5 mm, contact pressure $> 5 \text{ N/cm}^2$
- Adhesive tape width up to 10 mm, contact pressure $> 10 \text{ N/cm}^2$

Note:

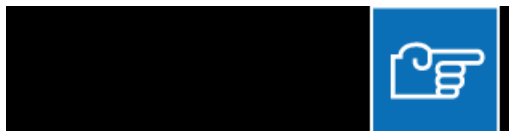
Firm thumb pressure has approx. 35 N/cm^2

3 Checking the rubber seal

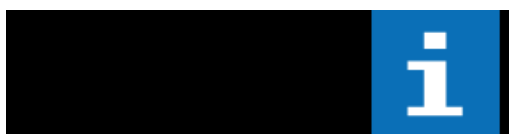
- Check the bonded gaskets for correct positioning and perfect adhesion. The bonding can be checked by pressing back the sealing lip.
- The peel strength of the gasket must be greater than 10 N/cm^2 for about 15 min after bonding.

**Necessary preliminary work:**

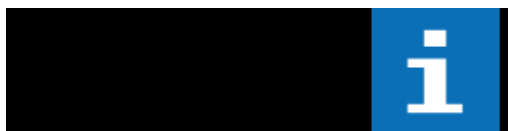
- Remove [panorama glass roof completely](#)

**Remount the following parts:**

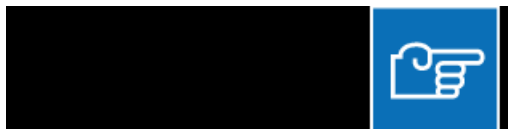
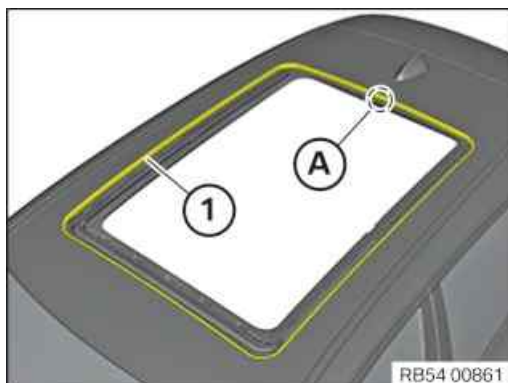
- [Roller sunblind](#)
- [Wind deflector](#)
- [drives](#)
- [Glass slide/tilt sunroof panel at front and rear](#)
- [Gasket on slide/tilt sunroof at inner left and right](#)

**Required follow-up work:**

- Install [complete panorama glass roof](#)

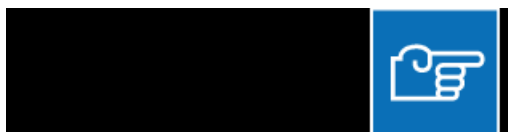
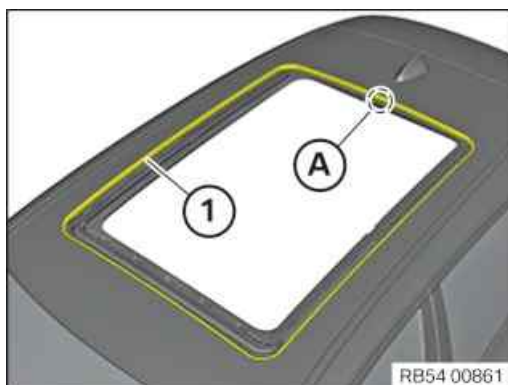
**Necessary preliminary work:**

- Remove [glass slide/tilt sunroof panel](#) at front and rear

**Removal:****Note:**

Follow [repair instructions](#) for bonded seals on panorama glass roof.

Pull off gasket (1) at contact edge in area (A) starting from body aperture. (peel off).

**Installation:****Important!**

Do not touch bonding surface.

Surface temperature ≥ 20 °C

Incorrect bonding of the seal will result in leaks.

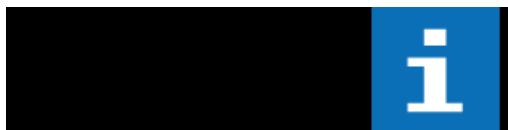
Clean bonding surface with [cleaning agentR2](#).

Stick on gasket (1) at contact edge (A) without stretching (squashing) starting at body aperture.

Upper edge of gasket must be flush with roof outer skin.

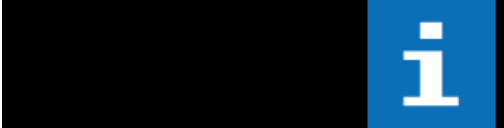
Stick on gasket (1) in sections.

Establish seal joint.

**Required follow-up work:**

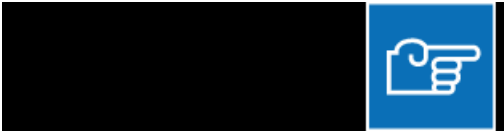
- Install [glass slide/tilt sunroof panel](#) at front and rear

67 61 515 Replacing electric motor with gearbox (front) for operation of slide/tilt sunroof

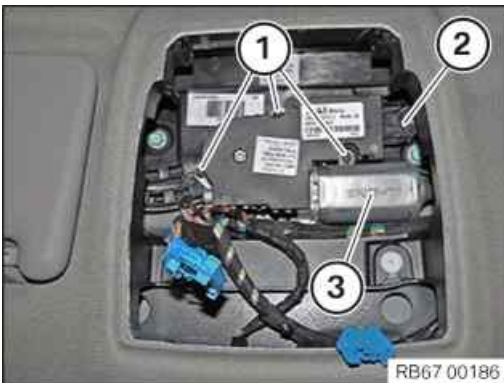


Necessary preliminary tasks:

- Remove [roof switch cluster](#)



Removal:

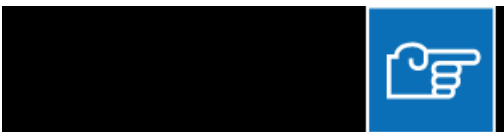


Note:

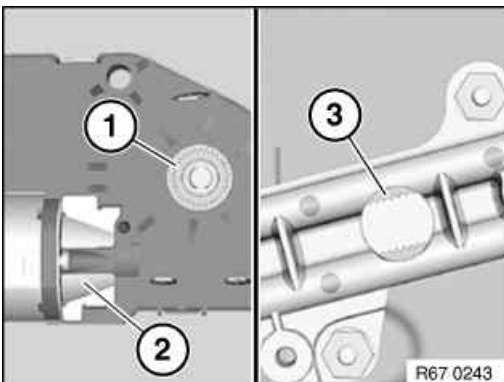
Secure drive with gearbox for actuating slide/tilt sunroof (3) against falling out.

Unlock and disconnect connector (2).

Remove drive with gearbox for actuating slide/tilt sunroof (3).

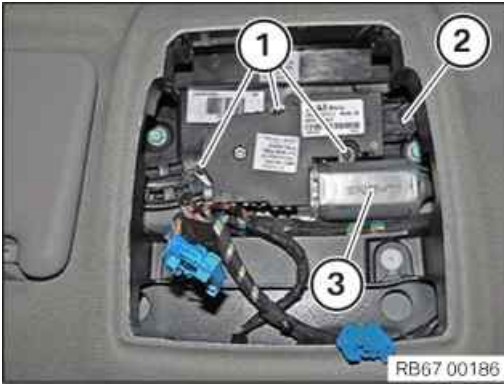


Installation:



Note:

Insert gear (1) of electric motor with gearbox for operation of slide/tilt sunroof (2) exactly in gearing (3).

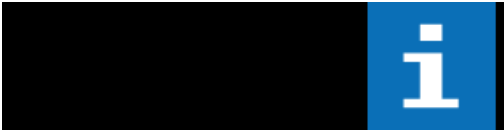


Correctly attach drive with transmission for slide/tilt sunroof operation (3).

Tighten down screws (1).

Tightening torque [54 13 1AZ](#).

Connect connector (2).



Required reworking:

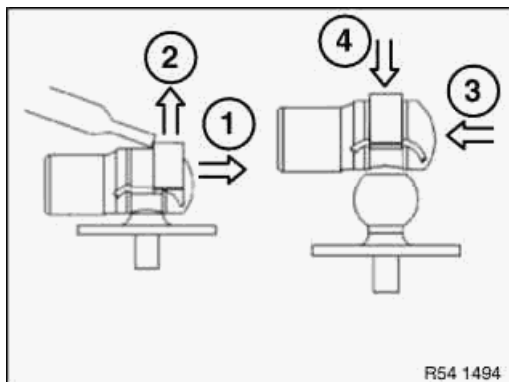
- Install [roof switch cluster](#)
- Initialise [slide/tilt sunroof](#).

**Warning!**

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

**Important!**

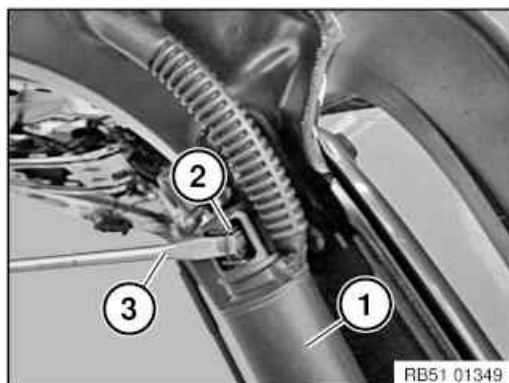
Never lift off ball socket with engaged clamp.

**Version A:**

1. Push on clamp in direction of groove with screwdriver
2. Lift off ball socket from ball pin
3. Slide clamp back
4. Fit ball socket on ball stud and snap into place with force

Installation note:

Pack grease into two opposite positions in socket. The grease spreads after installation on the ball pin all round in the ball socket.

**Version B:****Important!**

Risk of damage!

If you are not careful, retaining spring (2) may be bent to such an extent that the entire drive spindle will have to be replaced.

Press drive spindle (1) against ball pin in order to relieve strain on retaining spring (2) at ball pin.

Pull out retaining spring (2) approx. 2-3 mm with screwdriver (3).

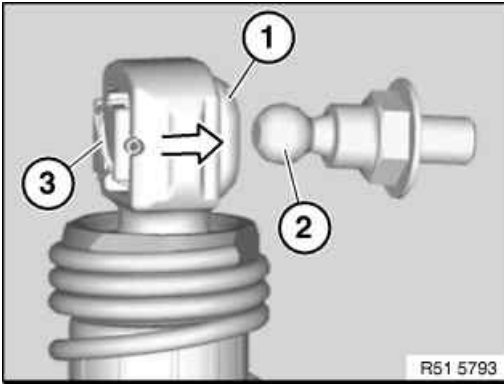
Pull off spindle foot.

**Warning!**

Observe warning notices on the damper.

Electrical spindle drive for tailgate is under mechanical spring load!

The component must be secured against falling down.



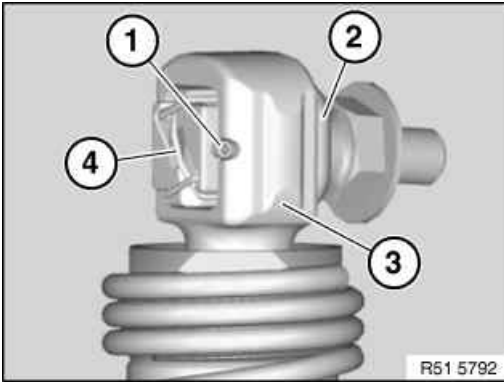
Attention!

Risk of damage!

Do not press on spindle drive at an angle or twisted.

Installation note:

Press ball socket (1) onto ball pin (2) until retaining spring (3) engages correctly (clicking sound).



Important!

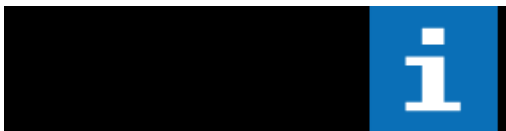
If retaining spring (4) is damaged!

Release pin (1).

Remove spindle drive (3).

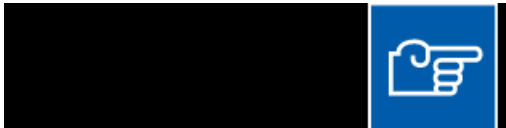
Remove ball socket (2).

Remove retaining spring (4) and replace if necessary.



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