

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.

**Note:**

The following steps can be carried out in passenger compartment with the glass roof panel fully closed.

Open floating roofliner fully.

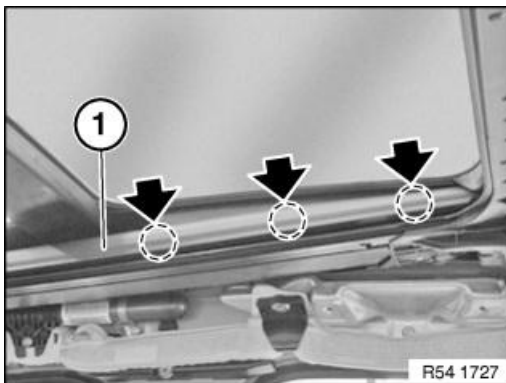
Make sure that grease at the ends of the rail do not come into contact with the roofliner.

Not necessary for replacement:

Before removing the Torx screws, make a mark around the washer in order to ensure correct alignment during installation.

**Installation note:**

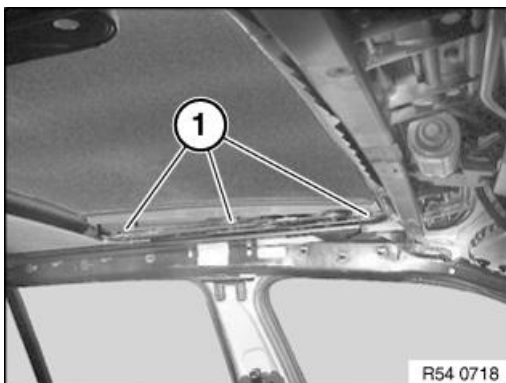
- Microencapsulated screws (Loctite) must be replaced and may not be reused
- Screw connection must be completed within 20 minutes (start of curing)
- Microencapsulated screws must not be retightened
- Clean thread of nut beforehand in event of repeated use



To unscrew Torx screws (see next work step) press side cover seal (1) downward in the marked area.

Side cover seal (1) must not be damaged or soiled.

Replace side cover panel (1) if necessary.

**Important!**

Risk of damage!

To avoid scratches do not rest glass slide/tilt sunroof panel on glass surface.

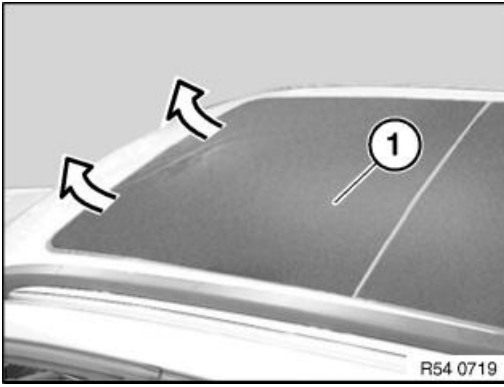
Release Torx screws (1). **Installation note:**

Replace Torx screws and insert with Loctite.

Align shims to marks.

Screw down glass slide/tilt sunroof panel.

Tightening torque [54 12 01AZ](#).



Important!

A second person is required to help in removing and installing the glass slide/tilt sunroof panel!

Lift out glass slide/tilt sunroof panel (1). *Installation note:*

Tape off installation area on left and right at roof aperture with fabric adhesive tape.

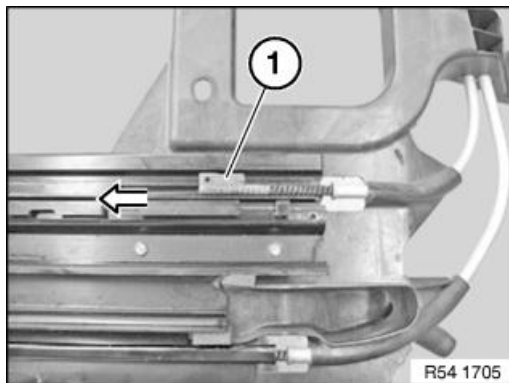
Install glass slide/tilt sunroof panel carefully (twist in) as gasket can be damaged during installation.

Check glass slide/tilt sunroof panel for correct [alignment](#) and adjust if necessary.

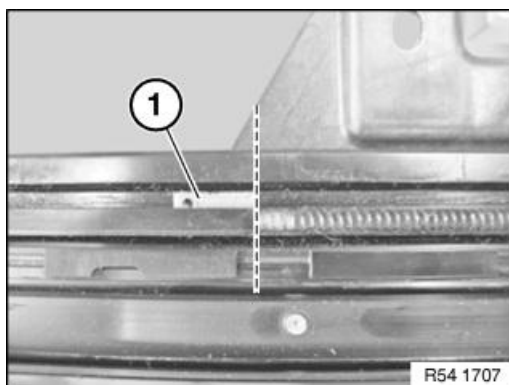


Necessary preliminary tasks:

- [Remove front floating headlining:](#)
- Remove [drive with transmission \(rear\)](#)



Pull cable at driver (1) out of guide channel. *Note:*
Both cables must be replaced together.



Adjusting drive cable:

Fit cable in guide channel such that driver (1) faces inward.

Slide left and right driver flush on guide rail.

Install [drive units with gear mechanism](#).

Move cable over drive with cranked hexagon socket and check setting again.

If necessary, repeat adjusting procedure.

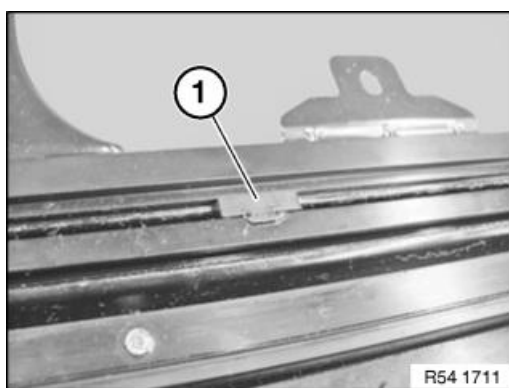
**Necessary preliminary tasks:**

- Remove [front section of panorama glass roof](#)

Note:

For following operation position individual component as follows:

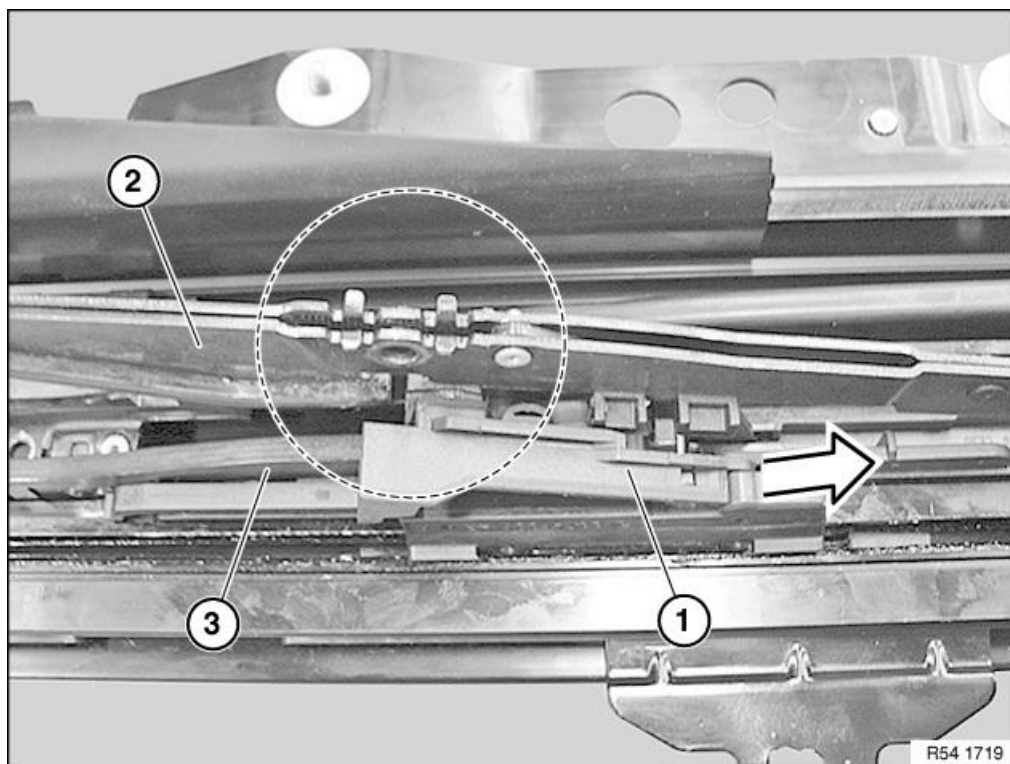
- Approach positions above emergency drive with offset hexagon socket (to do so, disconnect plug connection from drive)
- Floating roofliner closed
- Glass lid mechanism in fan setting
- Remove [drive with gearbox at front](#)
- Remove [water gutter](#)

**Important!**

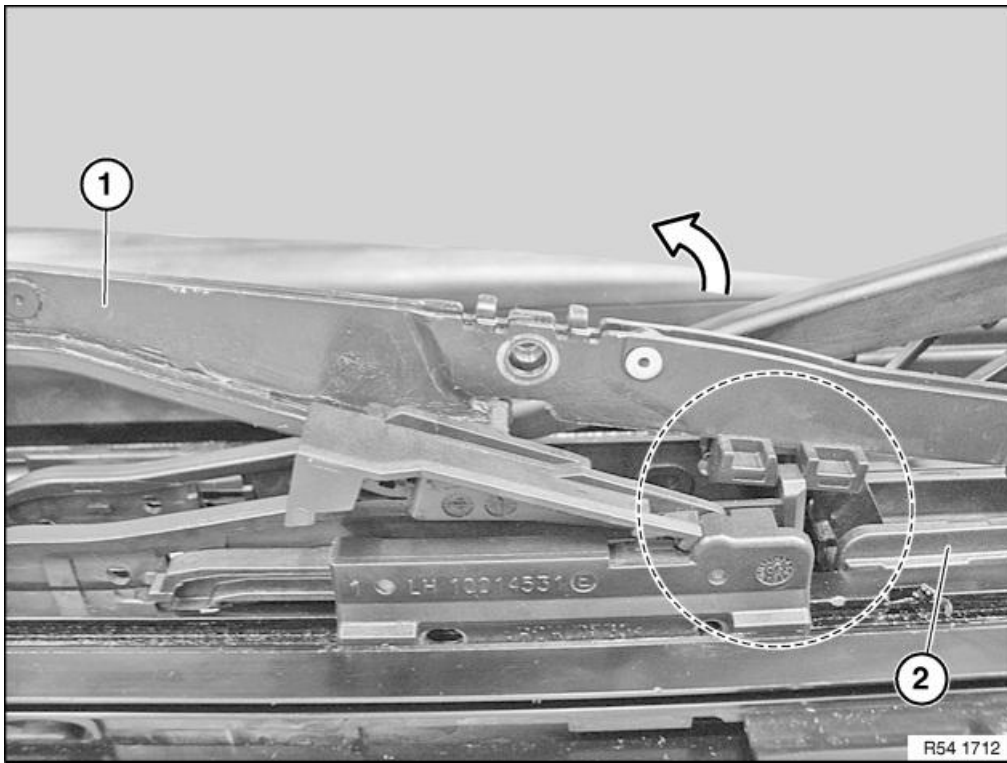
Risk of damage to guide rail.

Use a screwdriver to lever out all guide rail end stops (1). *Installation note:* Make sure end stops are securely seated in guide rail.

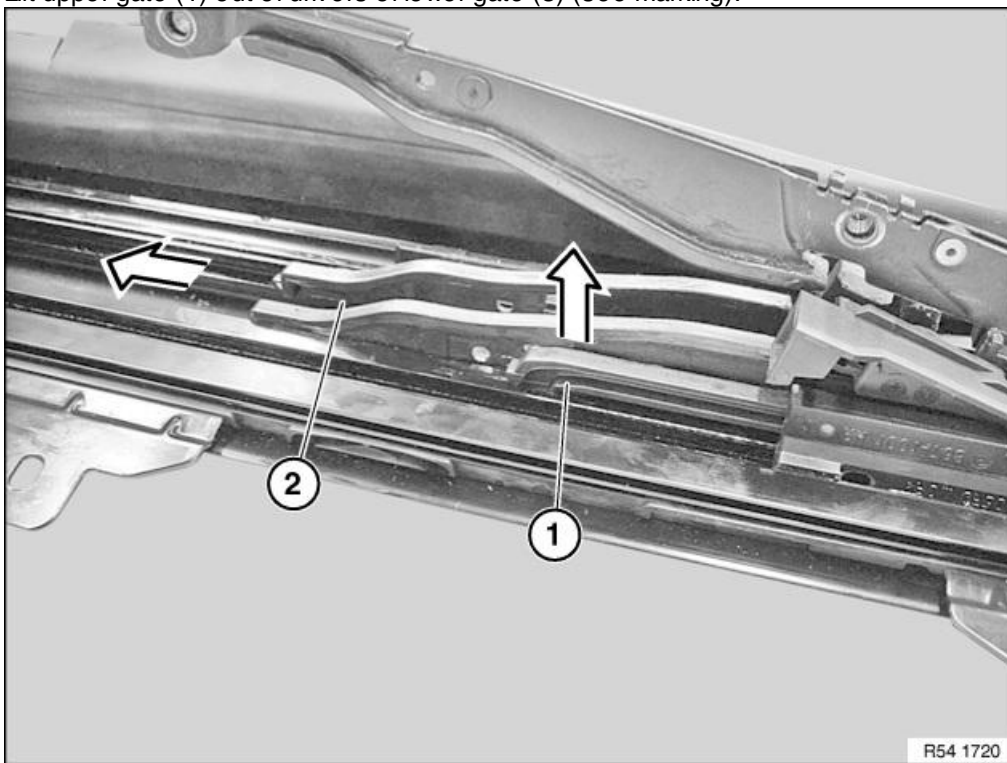
If required, fix in position with a punch mark.



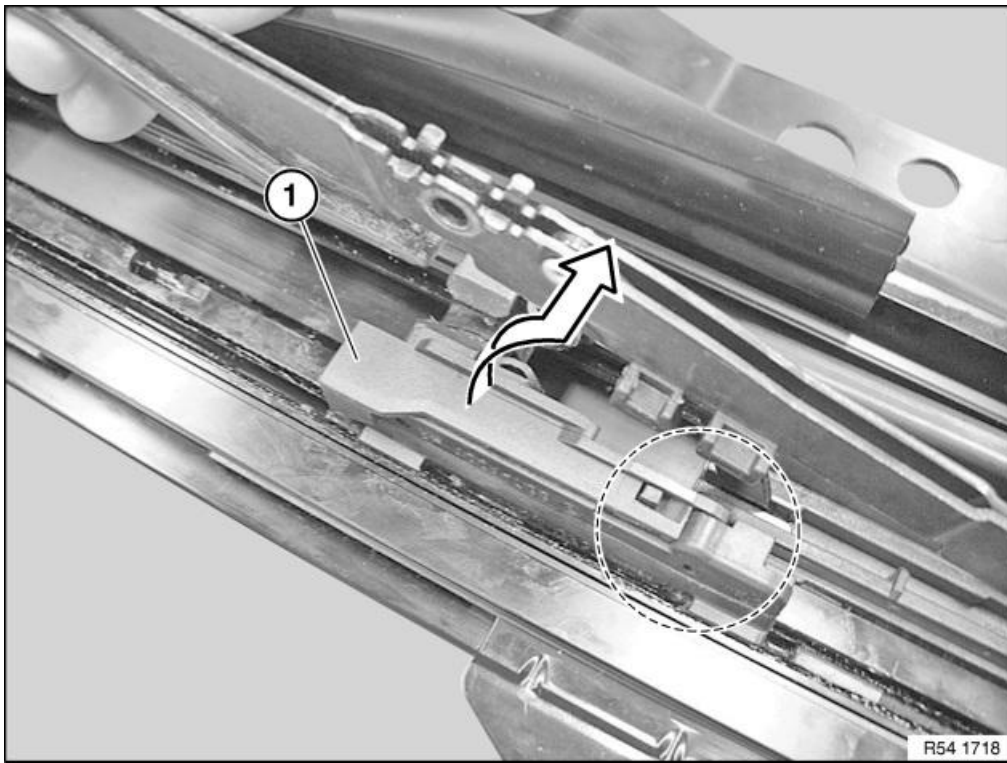
Slide drive cable plate with positioning wedge (1) forwards until guide of upper gate (2) and lower gate (3) is free (see marking).



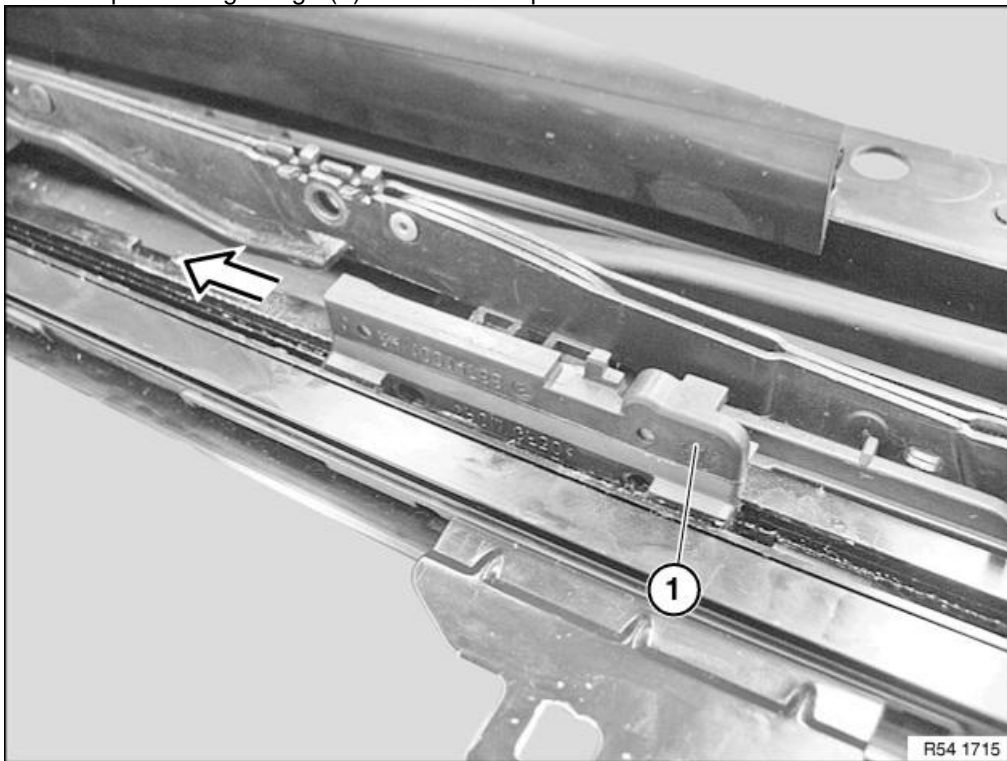
Lift upper gate (1) out of drivers of lower gate (3) (see marking).



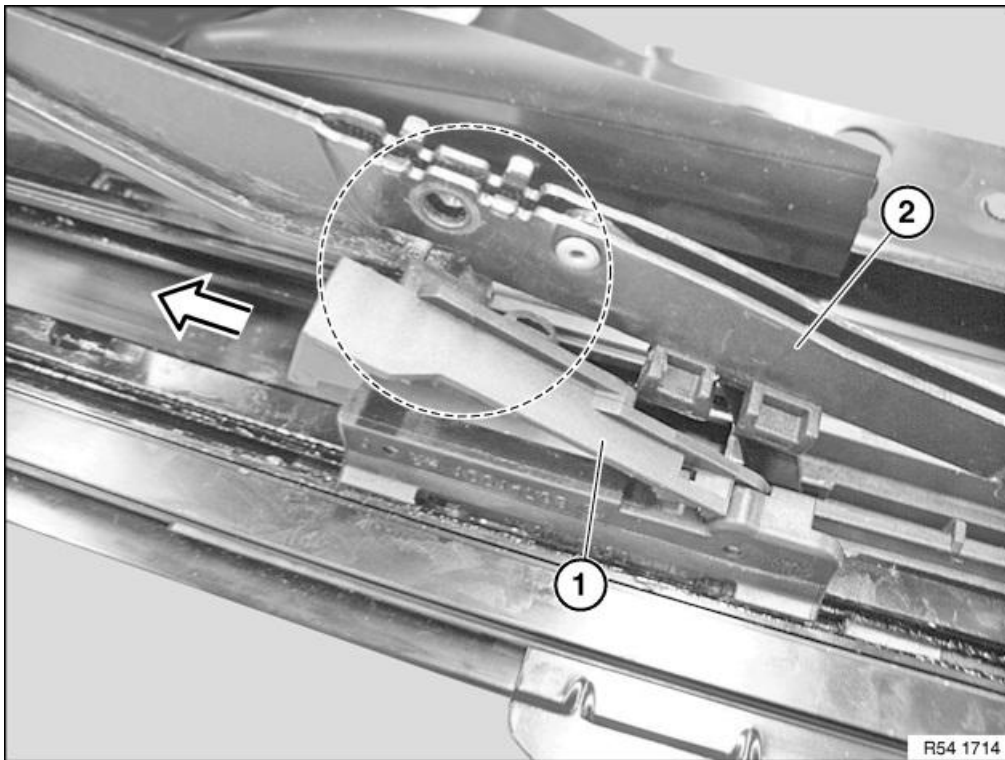
Release bridge (1) and slide lower gate (2) towards rear.



Remove positioning wedge (1) of drive cable plate in direction of arrow.



If necessary, slide drive cable plate (1) towards rear and remove with rising cable from guide rail.

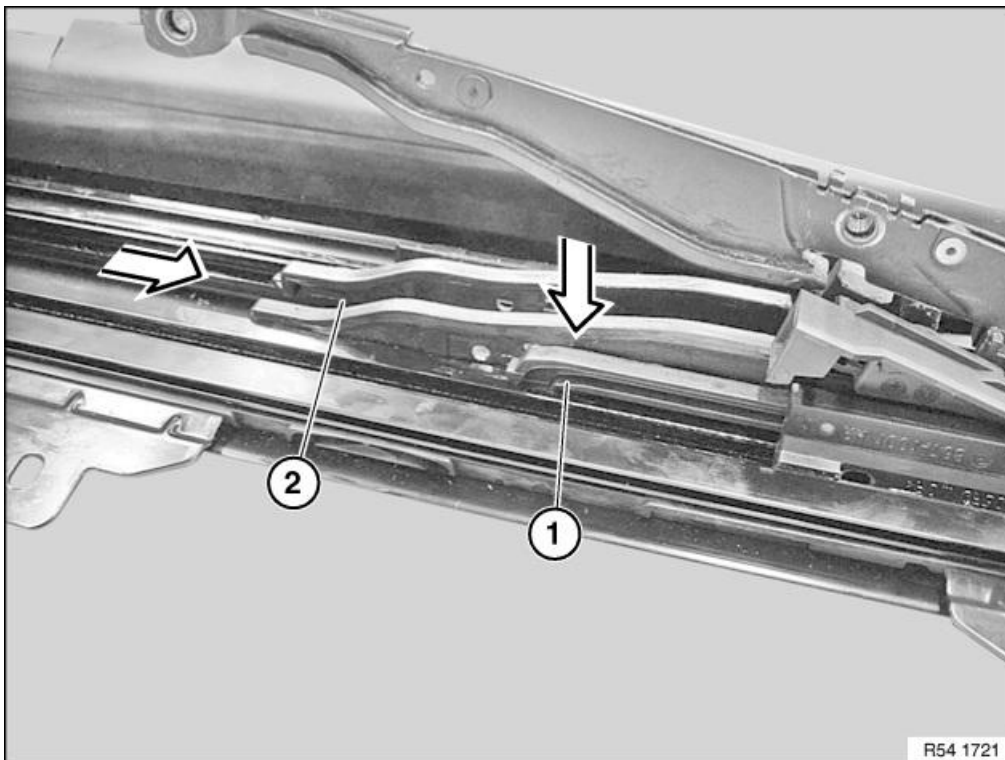


Installation note:

Insert positioning wedge (1) into drive cable plate.

Positioning wedge (1) must be located in free area of upper gate (2) (if necessary, slide drive cable plate).

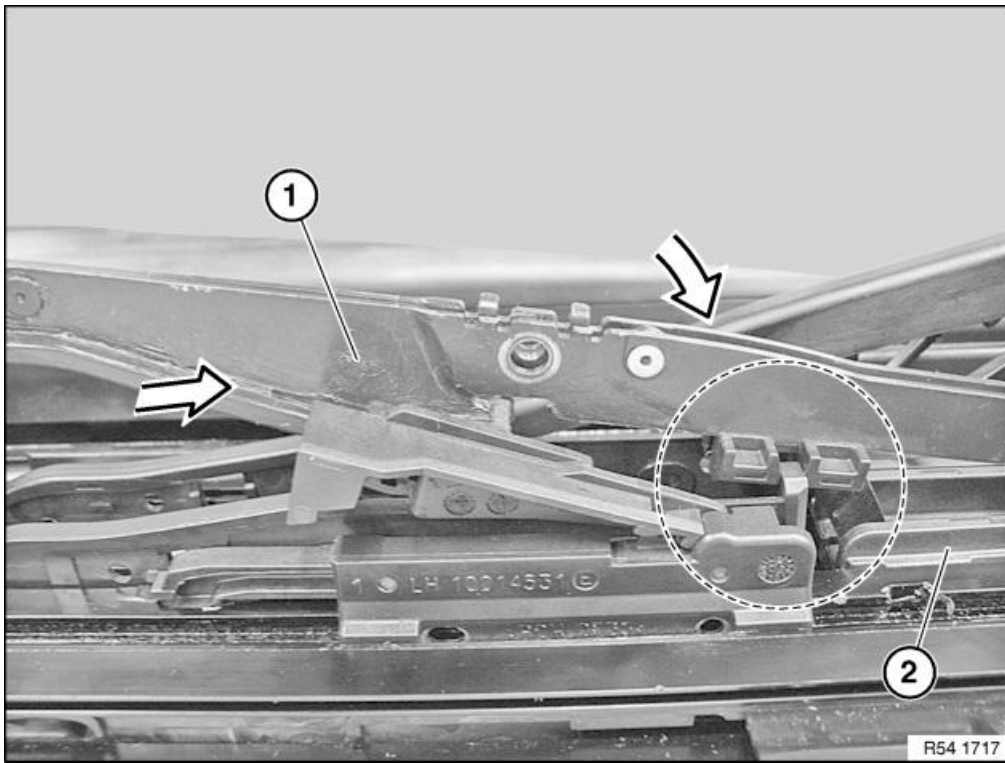
Slide drive cable plate with positioning wedge (1) towards rear onto upper detent element (2). (see marking).



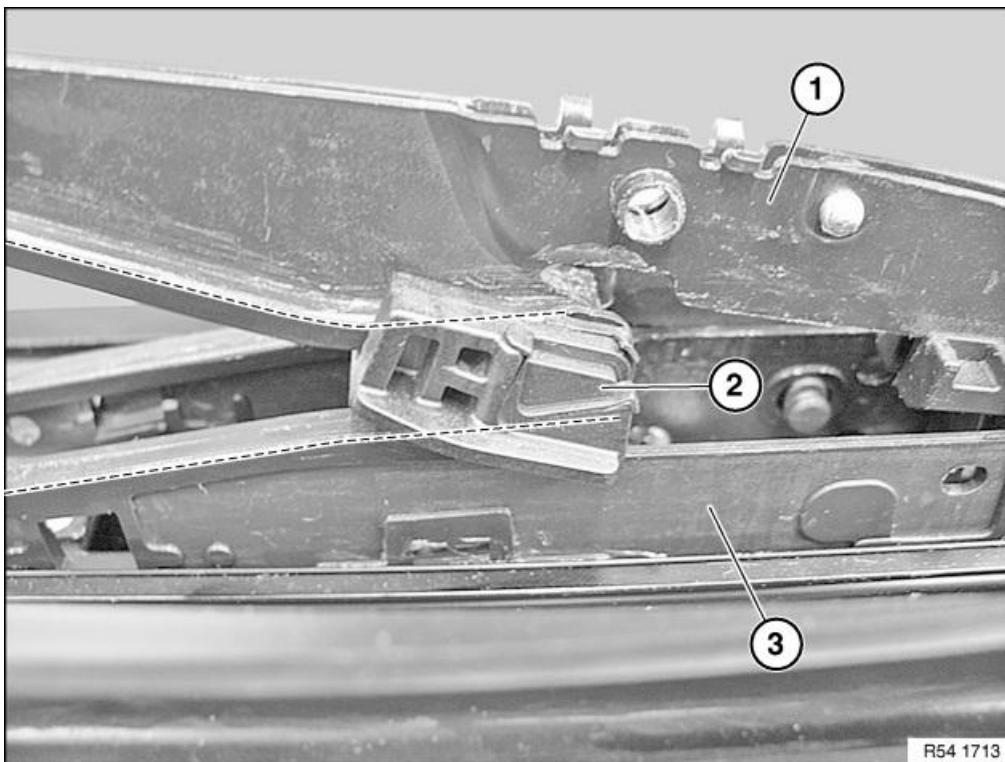
Installation note:

Slide lower gate (2) forwards until bridge snaps into guide rail.

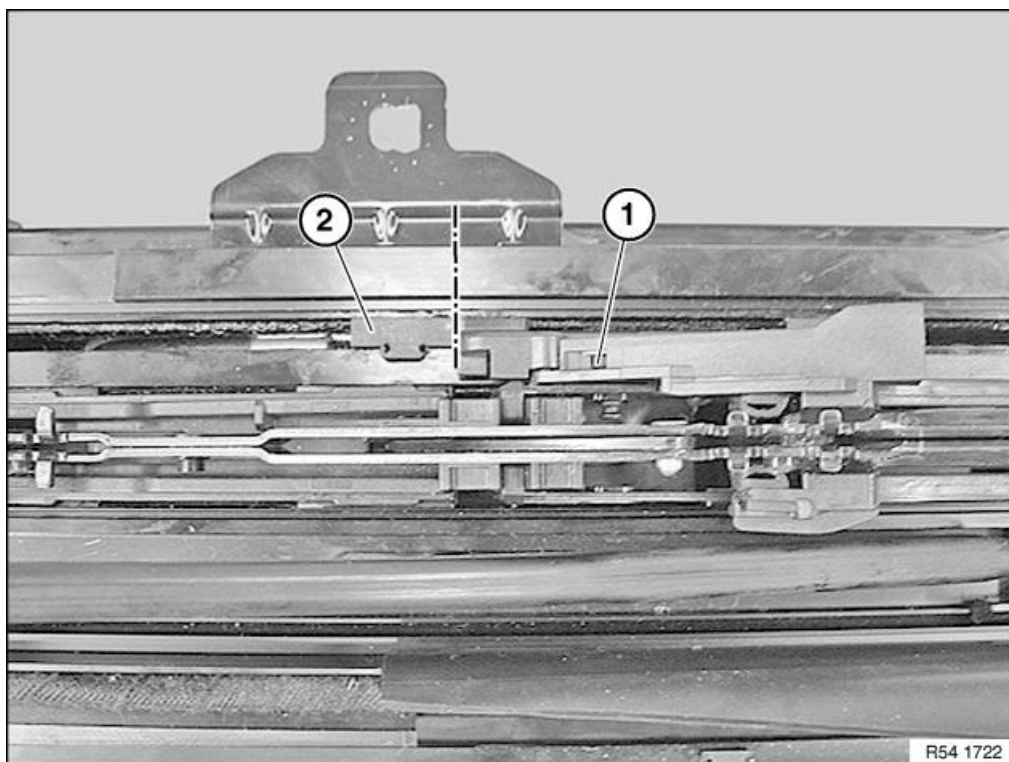
Raise upper detent element in the process.



Installation note:
 Slide upper gate (1) forwards over drivers of lower gate (2).
 Press upper gate (1) onto drivers of lower gate (2) (see marking).



Installation note:
 Slide positioning wedge (2) of drive cable plate towards rear.
 Positioning wedge (2) of drive cable plate must slip into guides (marked area) of lower (3) and upper (1) gates.



Installation note:

Insert end stops in guide rail and fix in position with a punch mark.

Check that end stops are securely seated in guide rail.

Slide positioning wedge (1) with drive cable plate on left and right with gates to full extent up to end stop (2).

Install [drive with gearing](#).



Note:

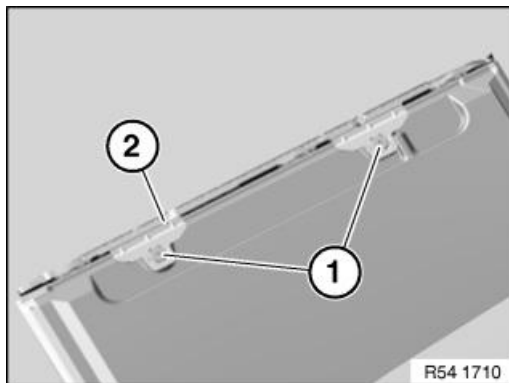
Check smooth and noise-free running of mechanism.

Run a function check.



Necessary preliminary tasks:

- [Remove front floating roofliner:](#)



Release screws (1).

Tightening torque 54 10 08AZ .

Remove star washers.

Installation:

Make sure serrated washers are fitted in correct position.

Remove mechanism (2).

54 10 060 Removing and installing/replacing mechanism for front glass slide/tilt sunroof cover



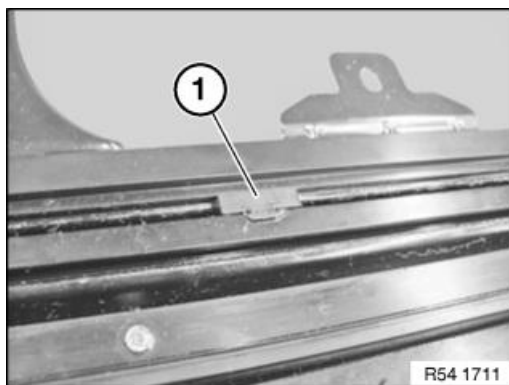
Necessary preliminary tasks:

- Remove [front section of panorama glass roof](#)

Note:

For following operations position individual component as follows:

- Approach positions above emergency drive with offset hexagon socket (disconnect plug connection from drive)
- Floating headlining closed
- Glass lid mechanism in fan setting
- Remove [drive with gearbox at front](#)
- Remove [water channel](#)

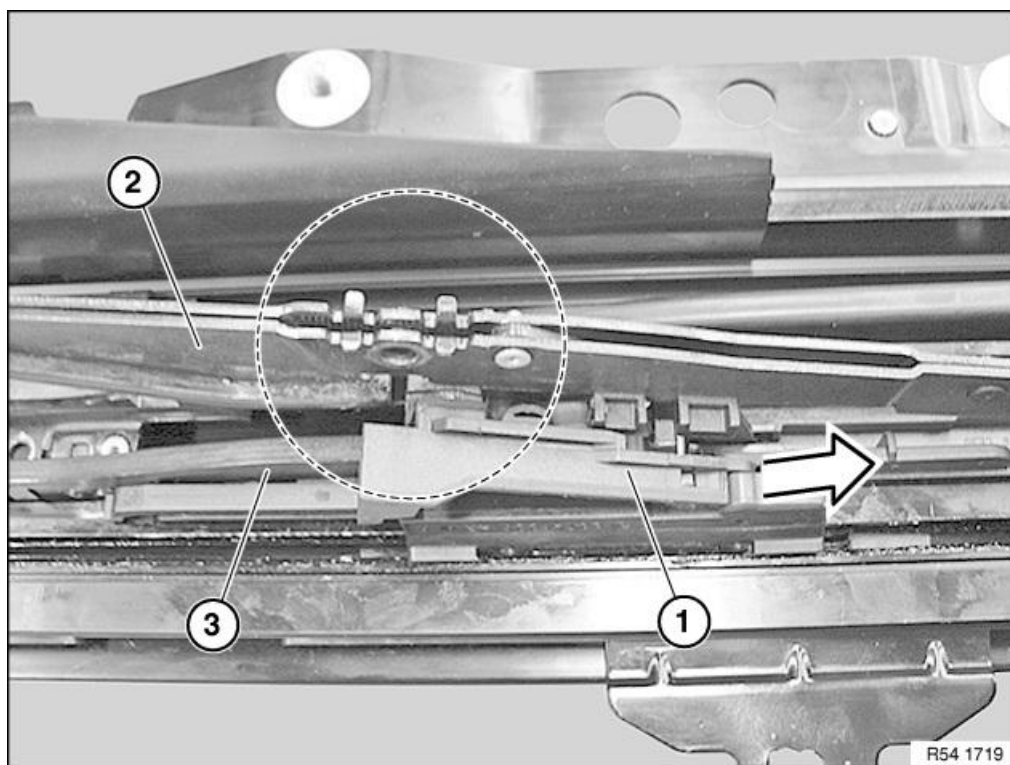


Important!

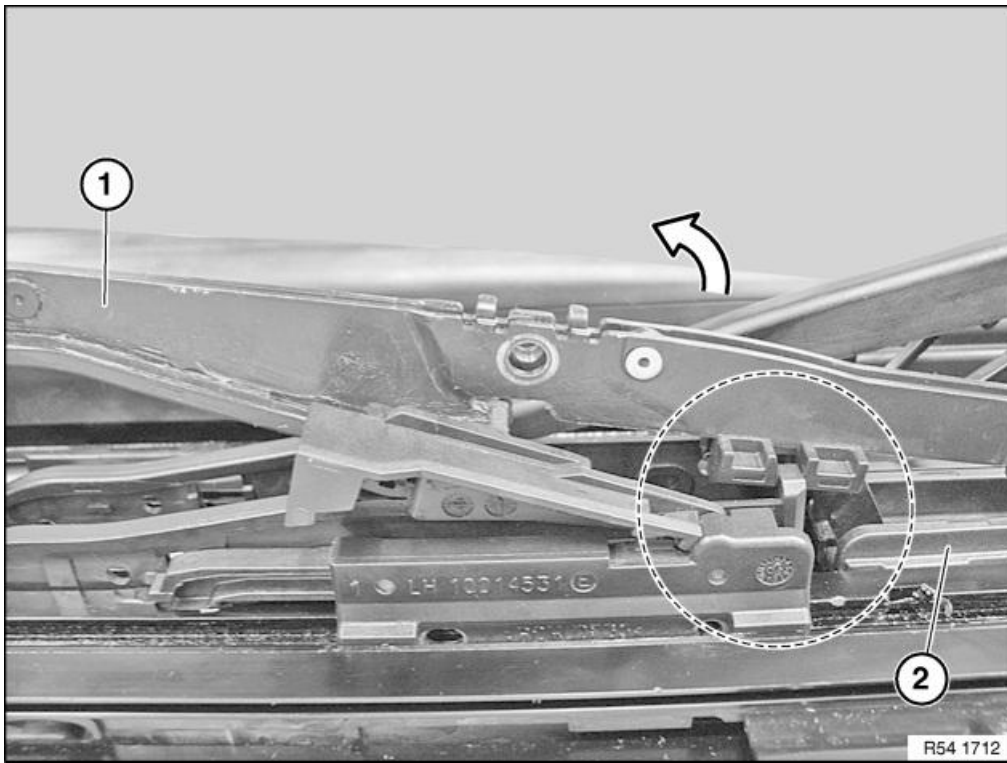
Risk of damage to guide rail.

Use a screwdriver to lever out all guide rail end stops (1). *Installation note:* Make sure end stops are securely seated in guide rail.

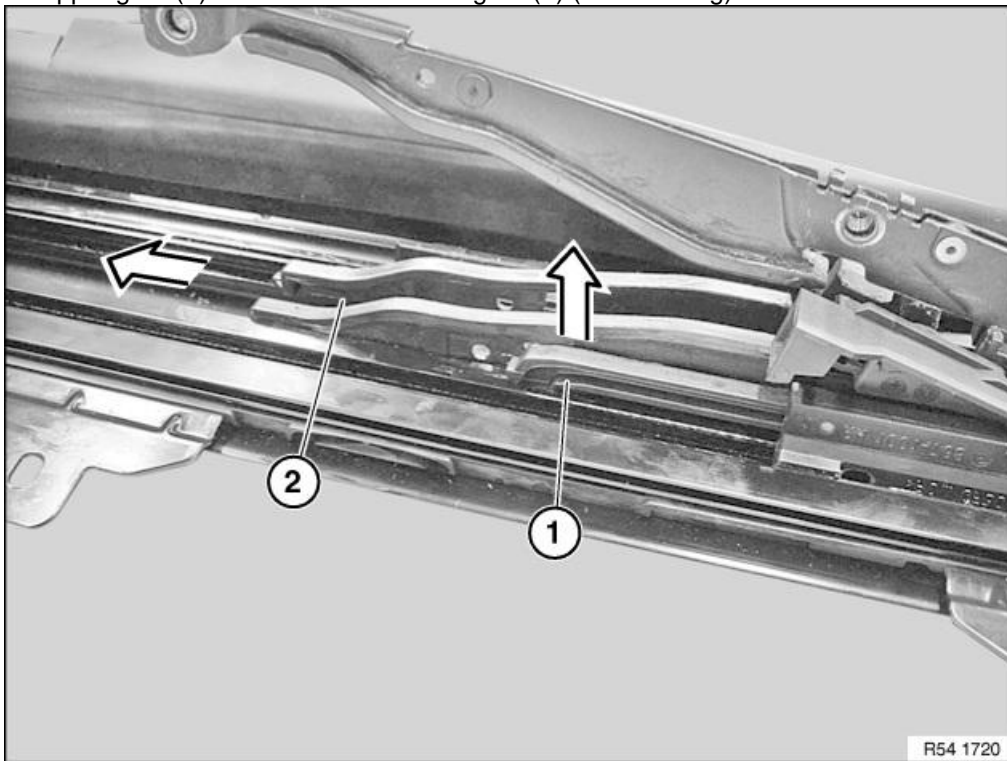
If required, fix in position with a punch mark.



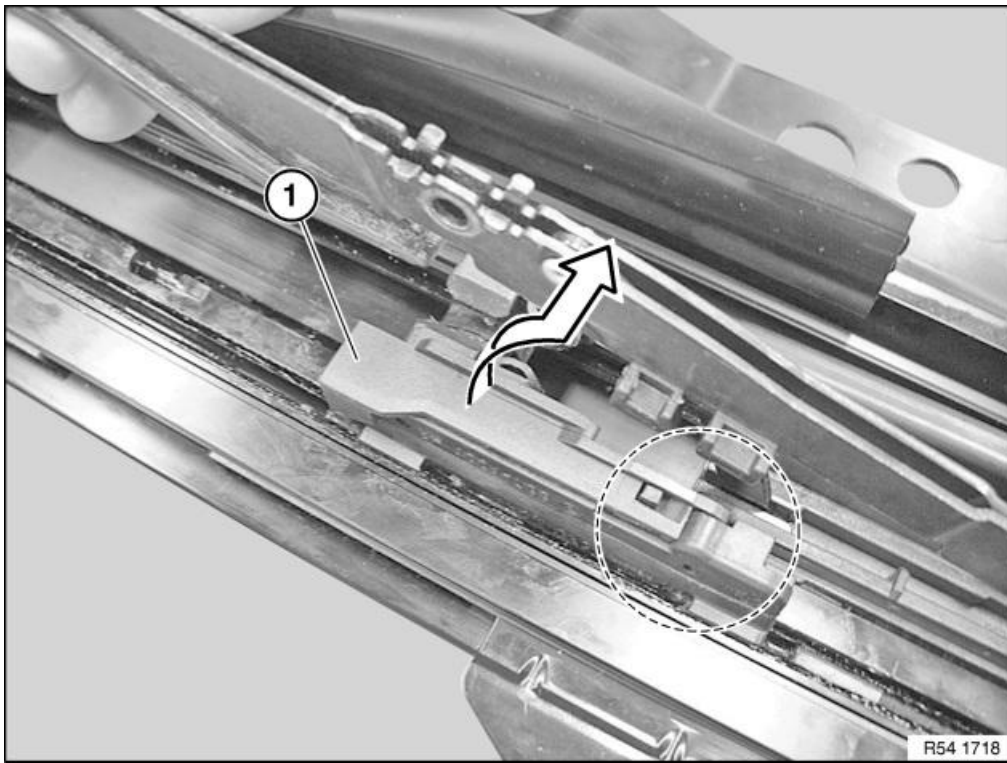
Slide drive cable plate with positioning wedge (1) forwards until guide of upper gate (2) and lower gate (3) is free (see marking).



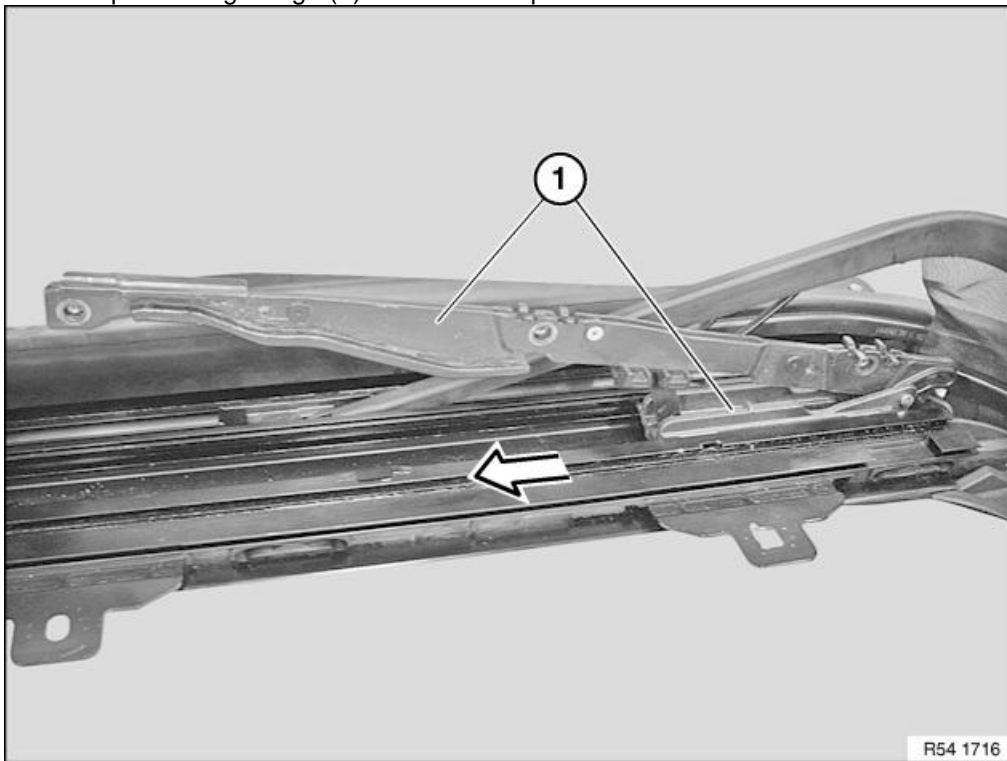
Lift upper gate (1) out of drivers of lower gate (3) (see marking).



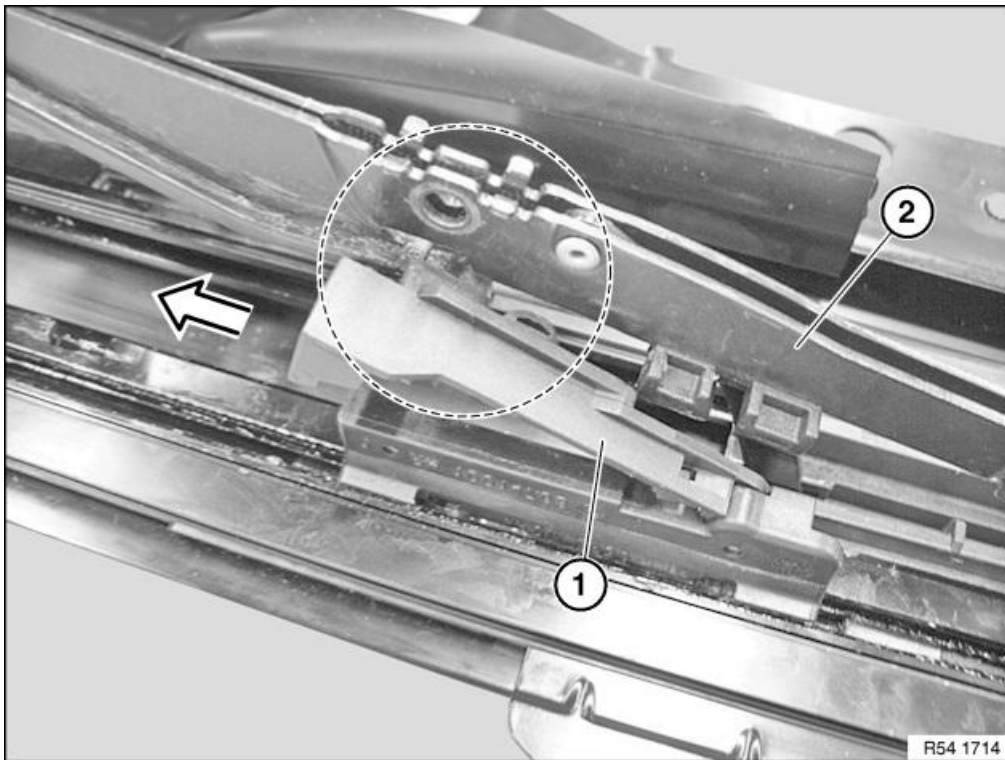
Release bridge (1) and slide lower gate (2) towards rear.



Remove positioning wedge (1) of drive cable plate in direction of arrow.



Slide mechanism (1) for glass slide/tilt sunroof cover towards rear and remove from guide rail.

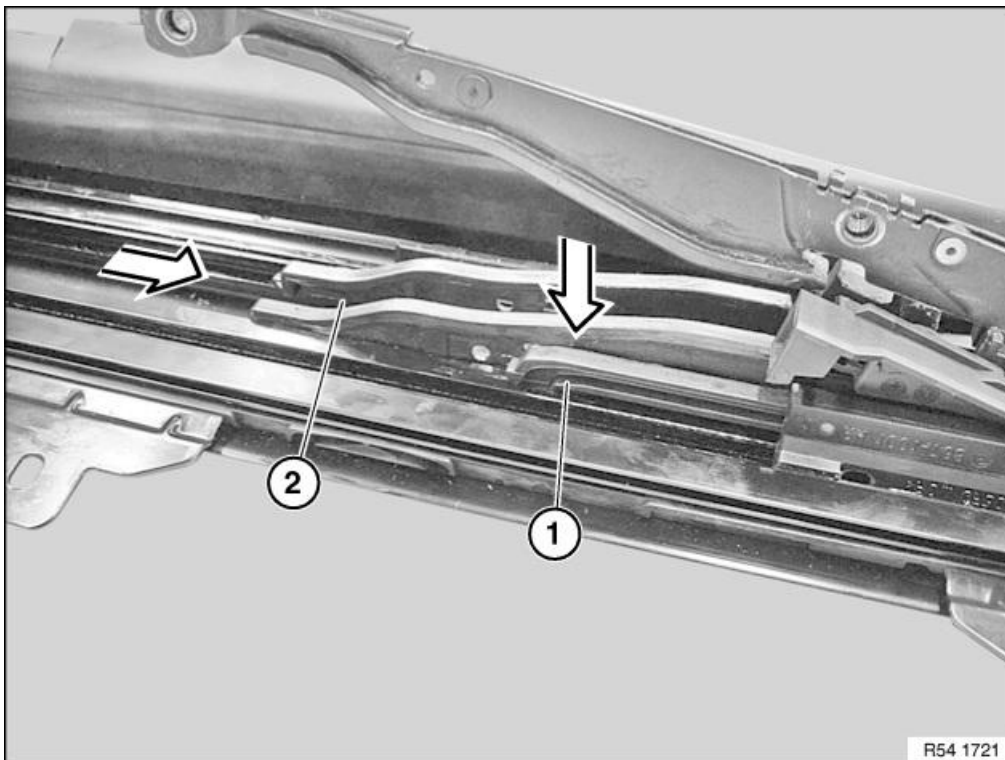


Installation note:

Insert positioning wedge (1) into drive cable plate.

Positioning wedge (1) must be located in free area of upper gate (2) (if necessary, slide drive cable plate).

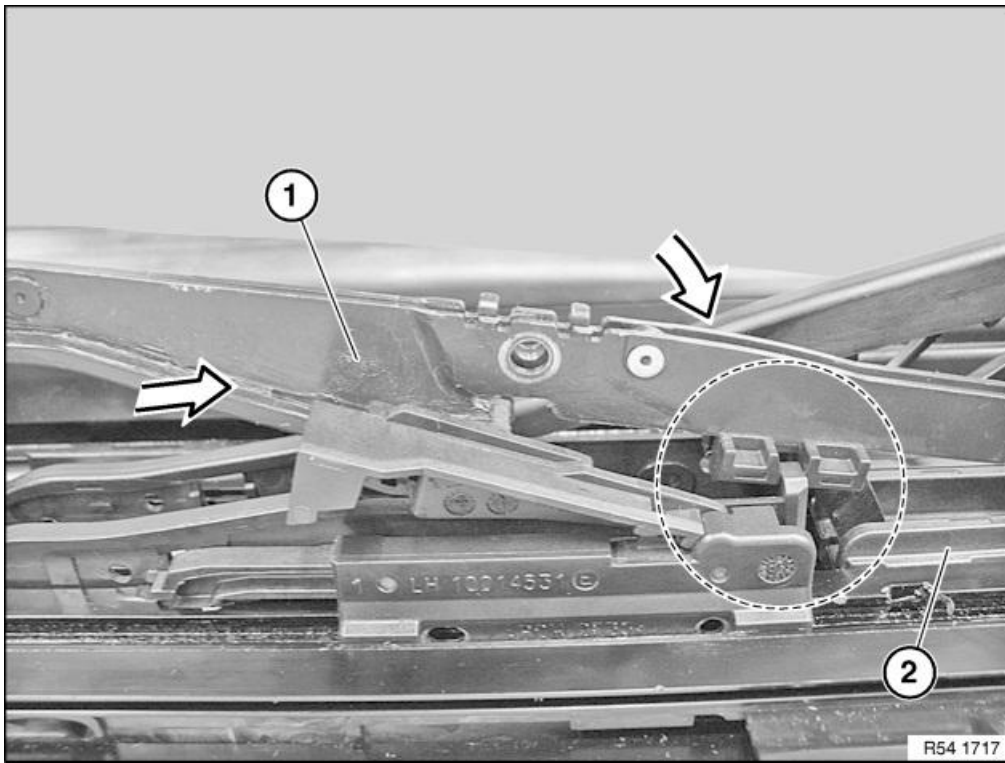
Slide drive cable plate with positioning wedge (1) towards rear onto upper detent element (2). (see marking).



Installation note:

Slide lower gate (2) forwards until bridge snaps into guide rail.

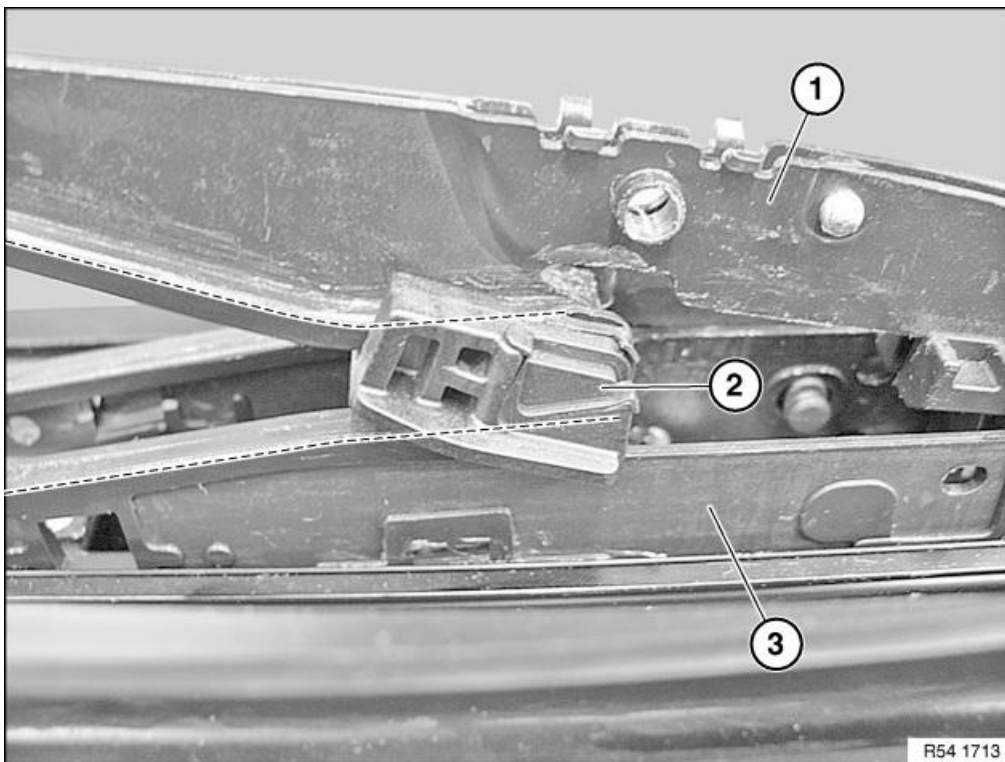
Raise upper detent element in the process.



Installation note:

Slide upper gate (1) forwards over drivers of lower gate (2).

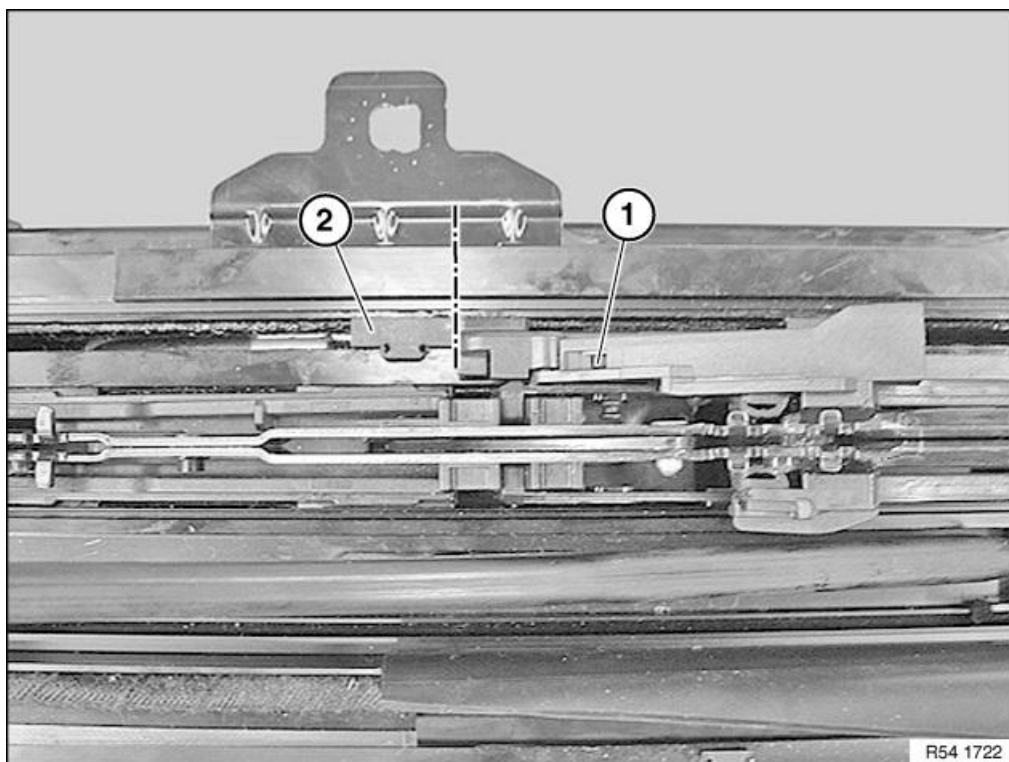
Press upper gate (1) onto drivers of lower gate (2) (see marking).



Installation note:

Slide positioning wedge (2) of drive cable plate towards rear.

Positioning wedge (2) of drive cable plate must slip into guides (marked area) of lower (3) and upper (1) gates.



Installation note:

Insert end stops in guide rail and fix in position with a punch mark.

Check that end stops are securely seated in guide rail.

Slide positioning wedge (1) with drive cable plate on left and right with gates to full extent up to end stop (2).

Install [drive with gearing](#).



Note:

Check smooth and noise-free running of mechanism.

Run a function check.

**Special tools required:**

- [54 1 110](#)

**Necessary preliminary tasks:**

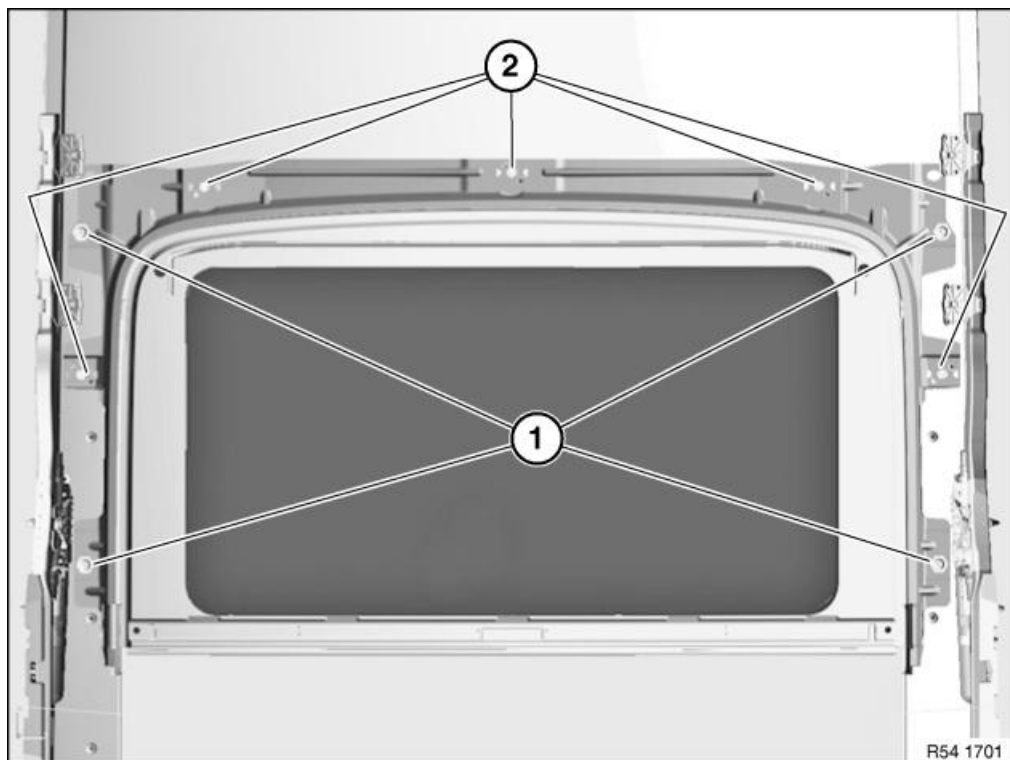
- Remove [front section of panorama glass roof](#)

Important!

The assistance of a second person is required when removing the glass slide/tilt sunroof cover.

Do not rest sunroof pane on seal components.

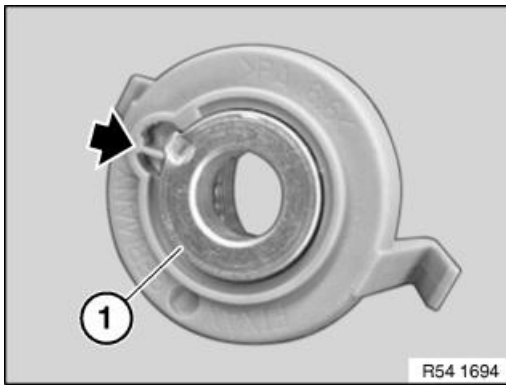
Prepare a support on which to place the pane in order to prevent scratching the surface of the glass.



Important! Have an assistant hold the glass slide/tilt sunroof cover secure so that it does not fall.

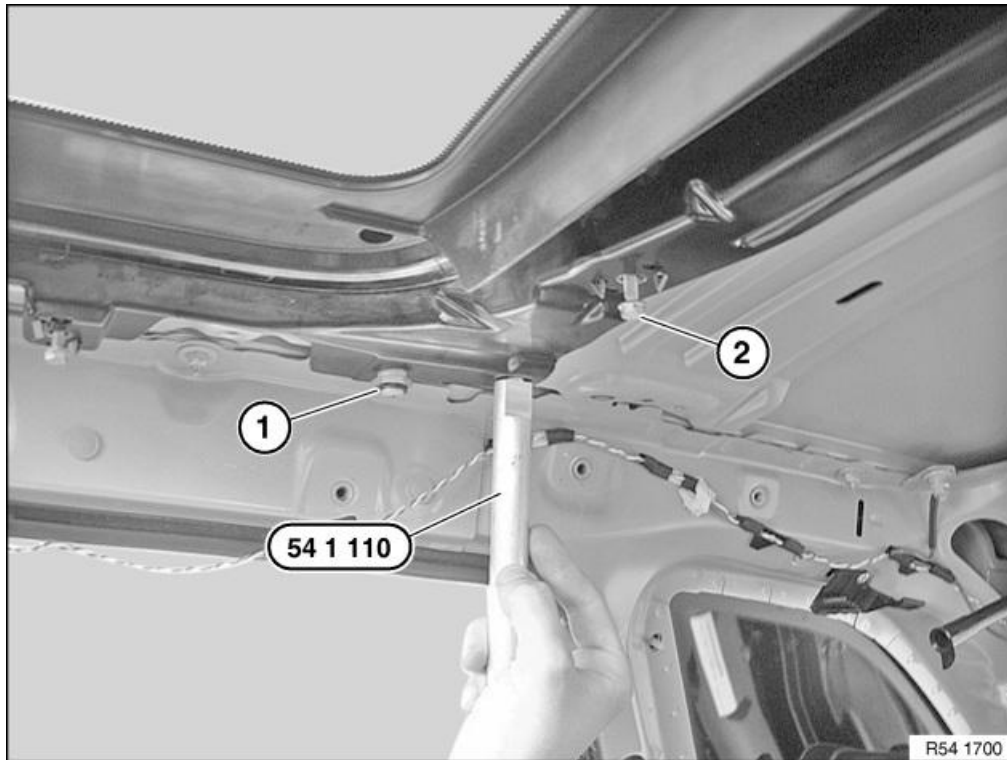
- Remove screws (1) from active components.
- Remove screws (2) from passive components.
- Remove glass slide/tilt sunroof panel from vehicle.

Installation note: Insert screws (1) of active components with Loctite.



Screw passive components (1) back in to the limit position.

If the retaining tabs are defective, the active components must be replaced.

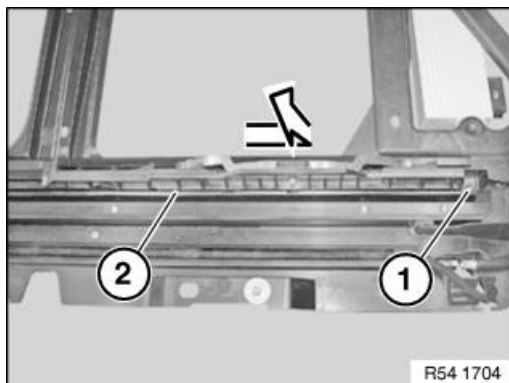


Installation note:

- Insert all screws (1) of active components with Loctite and tighten loosely; it should just be possible to move the glass slide/tilt sunroof panel.
- Insert special tool [54 1 110](#) into left and right centring holes and push fully home into sunroof pane frame and body panel in order to align glass slide/tilt sunroof panel.
- Tighten all screws (1) of active components:
Tightening torque [54 12 07AZ](#).
- [Adjust](#) height by means of hexagon head.
- Tighten screws (2) of passive elements.
Tightening torque [54 12 07AZ](#).

**Necessary preliminary tasks:**

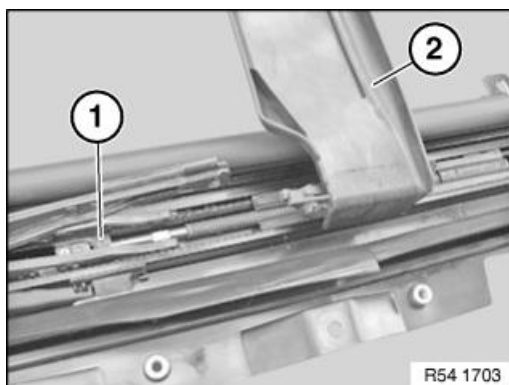
- Remove [front section of panoramic sunroof](#)
- Move mechanism for front pane to ventilation position
- Floating headliner must be closed



Release screw (1).

Tightening torque [54 12 09AZ](#).

Pull gate (2) for floating headliner backwards and remove from above.



Release left and right screws (1).

Tightening torque [54 12 10AZ](#).

Slide water gutter backwards and out of guide.

**Special tools required:**

- [54 1 110](#)

**Necessary preliminary tasks:**

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

Important!

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

**Important!**

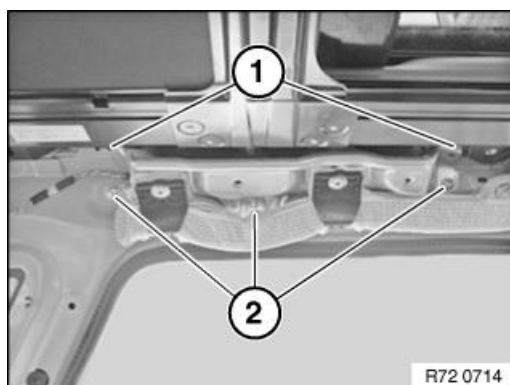
Risk of damage!

Removed panorama glass roof must only be placed on a level support.

Do not place panorama glass roof on cross members.

Place panorama glass roof broadly across side frame.

Do not rest panorama glass roof on seals.

**Important!**

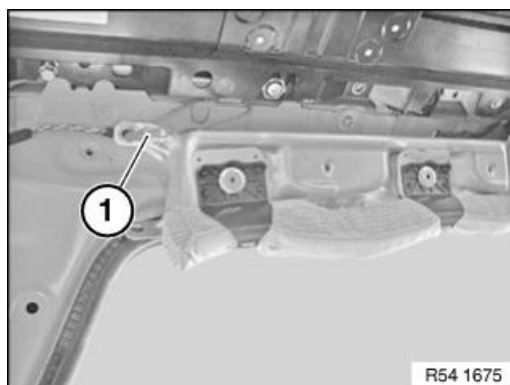
The airbag folding package must not be kinked.

Holder with folding package must not hang loose.

Prepare cable strap.

Remove holder for grab handle at rear:

- Release screw (1) on holder for grab handle
Tightening torque [54 12 02AZ](#).
- Release screws (2) and secure holder against falling out.
Tightening torque [51 71 07AZ](#).
- Tighten cable straps as shown in step below.

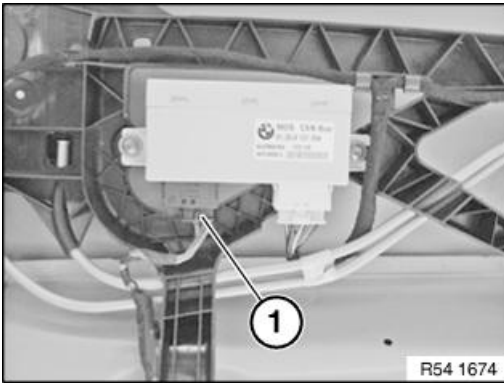


Immediately attach holder with cable straps (1) to body.

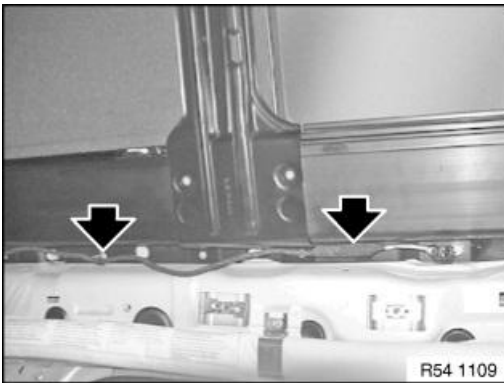


Important!

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



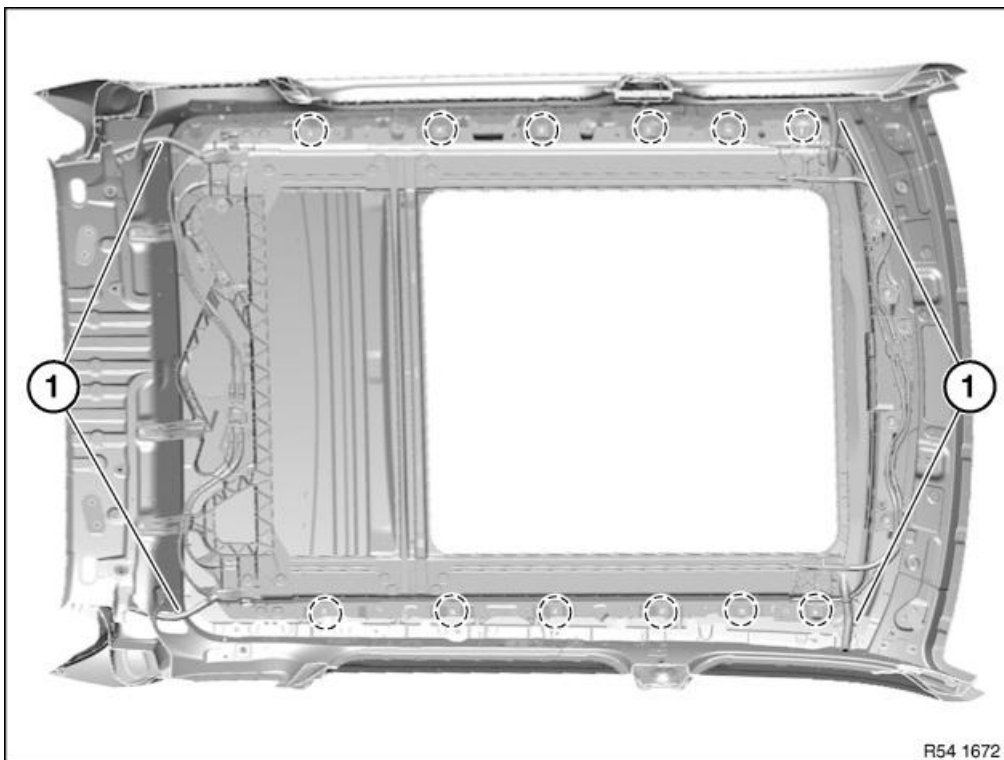
Unfasten plug connection (1) and disconnect. *Installation note:* [Initialise](#) the panorama glass roof.



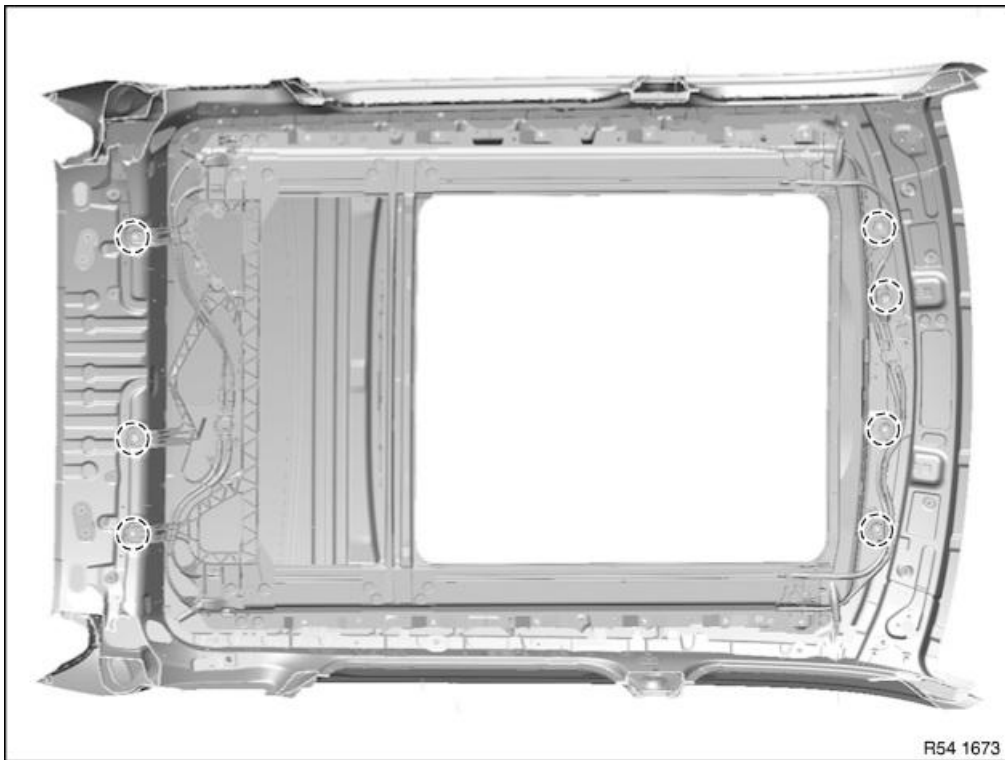
Important!

Airbag lead must not be damaged.

Pull off metal tab clips with airbag lead from panorama glass roof frame. *Installation note:* Lay airbag lead without tension or kinks.



- Detach water drain hoses (1)
Note: Check hoses for damage and coat with water before installation
- Release screws in marked area
Tightening torque [54 12 02AZ](#).



- An assistant must secure the panorama glass roof to prevent it falling.
- Release screws in marked area and carefully lower the panorama glass roof.
Tightening torque [54 12 02AZ](#).

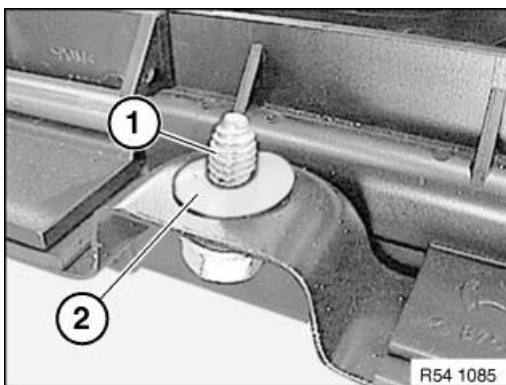
Important! Do not damage any surrounding parts when removing the panorama glass roof.

- Remove the panorama glass roof completely (through rear tailgate).



Replacement:

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



Installation note:

If necessary, remove fabric adhesive tape.

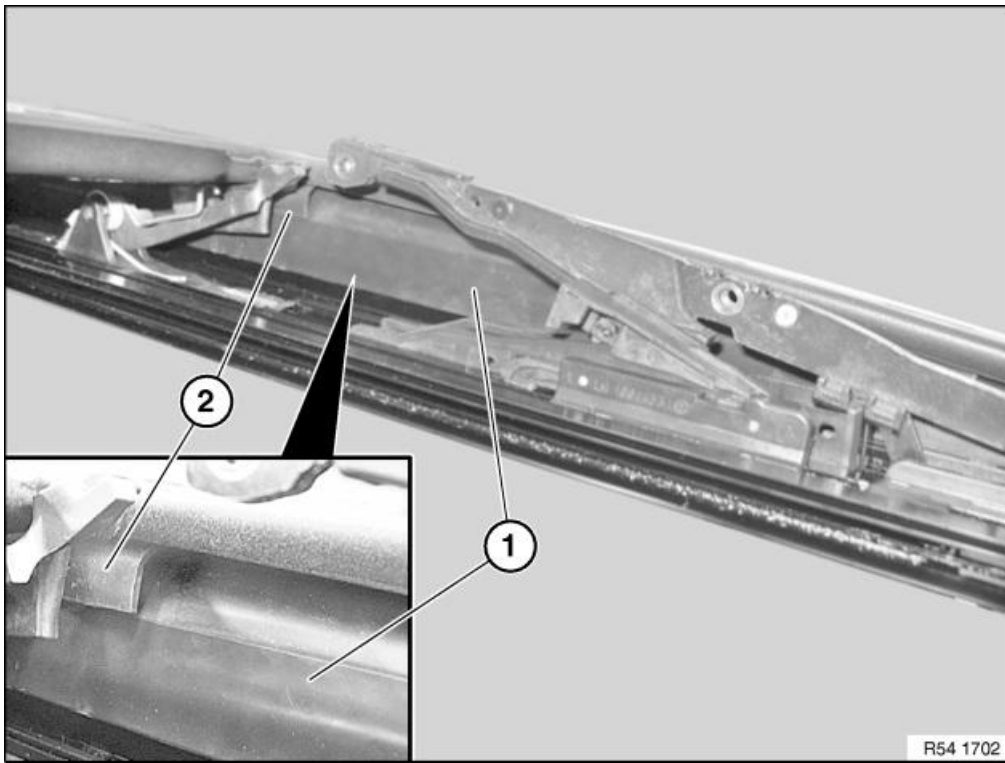
To stop creaking noises, secure all screws (1) prior to installation with plastic washers (2).

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

Important!

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

[Initialise](#) the panorama glass roof.

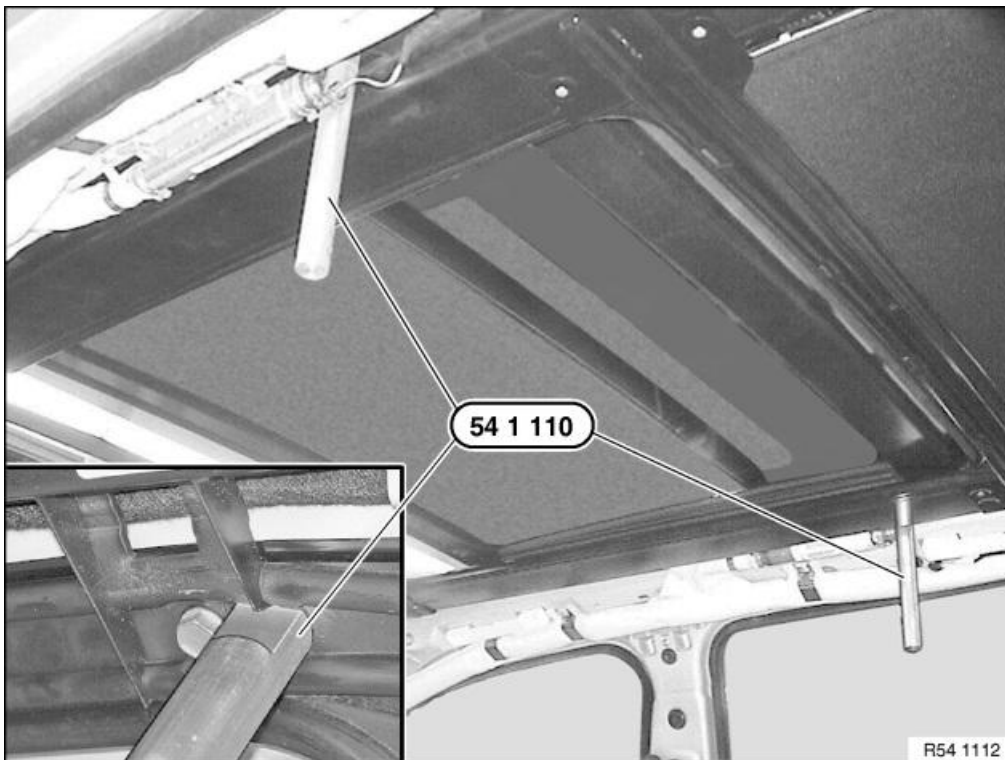


Installation note:

Place panorama glass roof straight upwards on body aperture.

Gasket (1) of panorama glass roof must face outwards.

Seal (2) of rear glass slide/tilt sunroof panel must extend over front seal (1).



Installation note:

To align the panorama glass roof to the body aperture, insert screws and tighten loosely.

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

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

Insert special tool [54 1 110](#) into the centring bore as far as it will go in the panorama glass roof and body.

Tighten down screws.

Tightening torque [54 12 02AZ](#).

Important!

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

[Initialise](#) the panorama glass roof.

54 10 ... Repair instructions for bonded seals

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. Kintex blue, see BMW Parts Department)
- 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.

Important:

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.

Important:

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

- Beginning at the stop, the gasket with the adhesive tape is slowly separated from the paint. The gasket is slowly pulled off from an angle of approx. 20° while applying 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](#), do not damage paint.
- Before a new bond, degrease the entire adhesive area with [cleaning agent R2](#). 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.

Important:

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.

- 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

- Press gasket by hand or hand roller
- Adhesive tape width up to 5 mm, contact pressure > 5 N/cm²
- Adhesive tape width up to 10 mm, contact pressure > 10 N/cm²

Note:

Firm thumb pressure has approx. 35 N/cm²

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/cm² for about 15 min after bonding.

**Necessary preliminary tasks:**

- Remove [panorama glass roof](#)

**Replacement only:**

- Remove [floating headlining](#), front and rear
- Remove [electric motor with gearbox](#), front and rear

**Special tools required:**

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

**Note:**

Make the adjustment with an assistant.

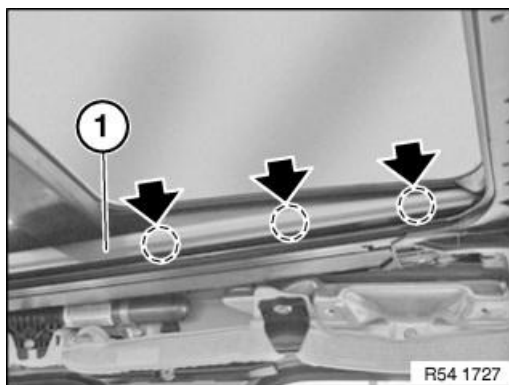
Necessary preliminary work:

- Close glass slide/tilt sunroof completely

If the glass slide/tilt sunroof is outside the adjustment tolerances, adjust as follows:

**Installation note:**

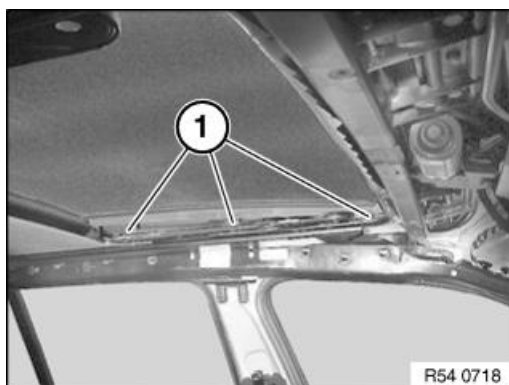
- Microencapsulated screws must be coated with Loctite if they are to be reused
- Screw connection must be completed within 20 minutes (start of curing)
- Microencapsulated screws must not be retightened
- Clean thread of nut beforehand in event of repeated use



To unscrew Torx screws (see next work step) press side cover seal (1) downward in the marked area.

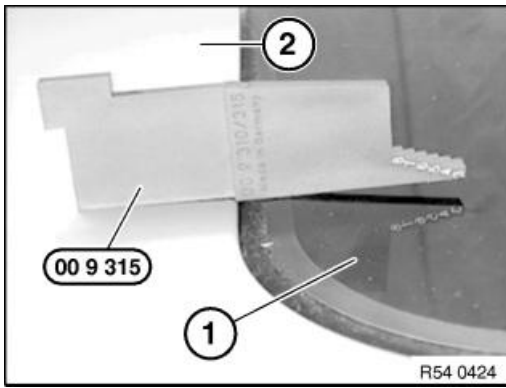
Side cover seal (1) must not be damaged or soiled.

Replace side cover panel (1) if necessary.

**Adjusting glass slide/tilt sunroof panel, front:**

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

- Insert Torx screws (1) on left/right so that glass slide/tilt sunroof panel can still just be adjusted
- Partially open and then close glass slide/tilt sunroof panel, glass slide/tilt sunroof panel floats settles into position
- Adjust height of glass slide/tilt sunroof panel (see below)
- Tighten screws to tightening torque [54 12 01AZ](#)
- Repeat procedure on other side.



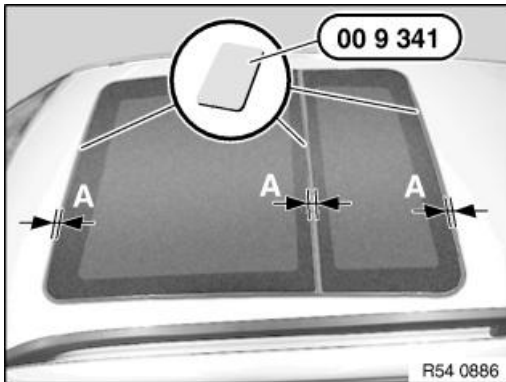
Adjusting height of glass slide/tilt sunroof panel at front:

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.

Height:

- Front edge of glass slide/tilt sunroof panel 0.9 to mm under roof edge
- Rear edge of front glass slide/tilt sunroof panel 0.9 to mm above rear glass slide/tilt sunroof panel



Distance setting:

Distance A between body and front glass slide/tilt sunroof panel settles into position and should be evenly set all round.

Distance A between body and rear glass slide/tilt sunroof panel is determined by means of a fixed installation position with alignment tool.

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.

Check function and adjustment.

**Special tools required:**

- [54 1 110](#)
- [00 9 315](#)

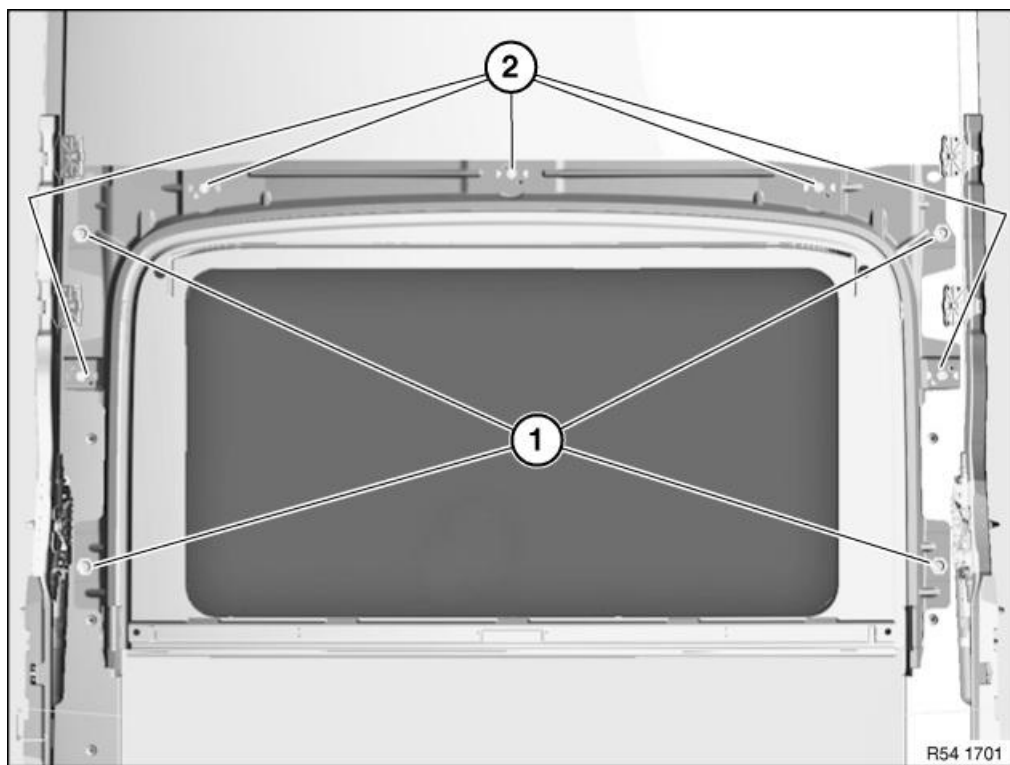
**Necessary preliminary tasks:**

- Remove [headlining](#)
- Close glass slide/tilt sunroof completely

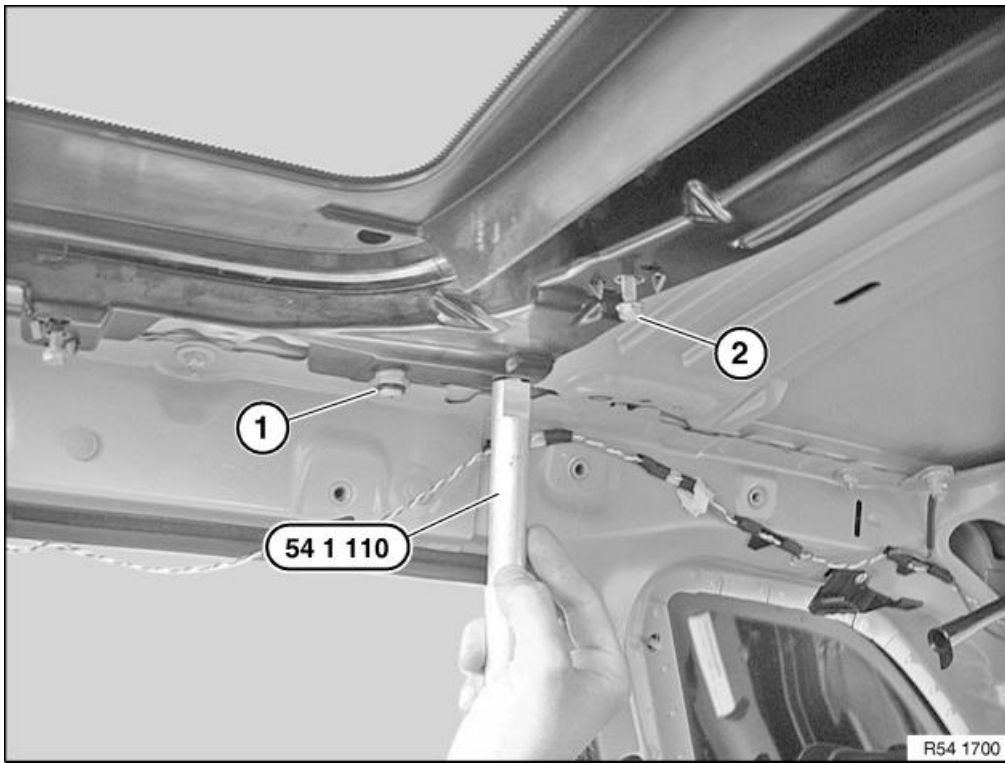
If the glass slide/tilt sunroof is outside the adjustment tolerances, adjust as follows:

**Installation note:**

- Microencapsulated screws must be coated with Loctite if they are to be reused
- Screw connection must be completed within 20 minutes (start of curing)
- Microencapsulated screws must not be retightened
- Clean thread of nut beforehand in event of repeated use



- Slacken screws (1) from active components.
- Slacken screws (2) from passive components.



Adjustment sequence:

1. Lightly tighten screws of active elements; it must still be possible to move the glass slide/tilt sunroof panel.
2. Align glass slide/tilt sunroof panel using special tool [54 1 110](#).
3. Tighten screws of active components.
Tightening torque [54 12 05AZ](#).
4. Check height setting dimension on glass slide/tilt sunroof panel at rear.
 - Rear edge of front glass slide/tilt sunroof panel 0.9 to mm above rear glass slide/tilt sunroof panel
 - Rear edge of glass slide/tilt sunroof panel 0.9 to mm above roof edge
 - Check height of glass slide/tilt sunroof panel in relation to body with special tool [00 9 315](#).
5. Slightly loosen screws of active elements in the adjustable area.
6. Adjust the height using the height adjustment element (hexagon head of active element).

Notes:

- One turn corresponds to approx. 1 mm.
- Turn clockwise: glass slide/tilt sunroof panel is adjusted downward.
- Turn anticlockwise: glass slide/tilt sunroof panel is adjusted upward.

Height setting dimensions:

- Rear edge of front glass slide/tilt sunroof panel 0.9 to mm above rear glass slide/tilt sunroof panel
 - Rear edge of glass slide/tilt sunroof panel 0.9 to mm above roof edge
 - Check height of glass slide/tilt sunroof panel in relation to body with special tool [00 9 315](#).
7. Tighten screws of active components.
Tightening torque [54 12 05AZ](#).
 8. Tighten screws (2) of passive elements.
Tightening torque [54 12 05AZ](#).

**Special tools required:**

- [54 1 110](#)
- [00 9 315](#)

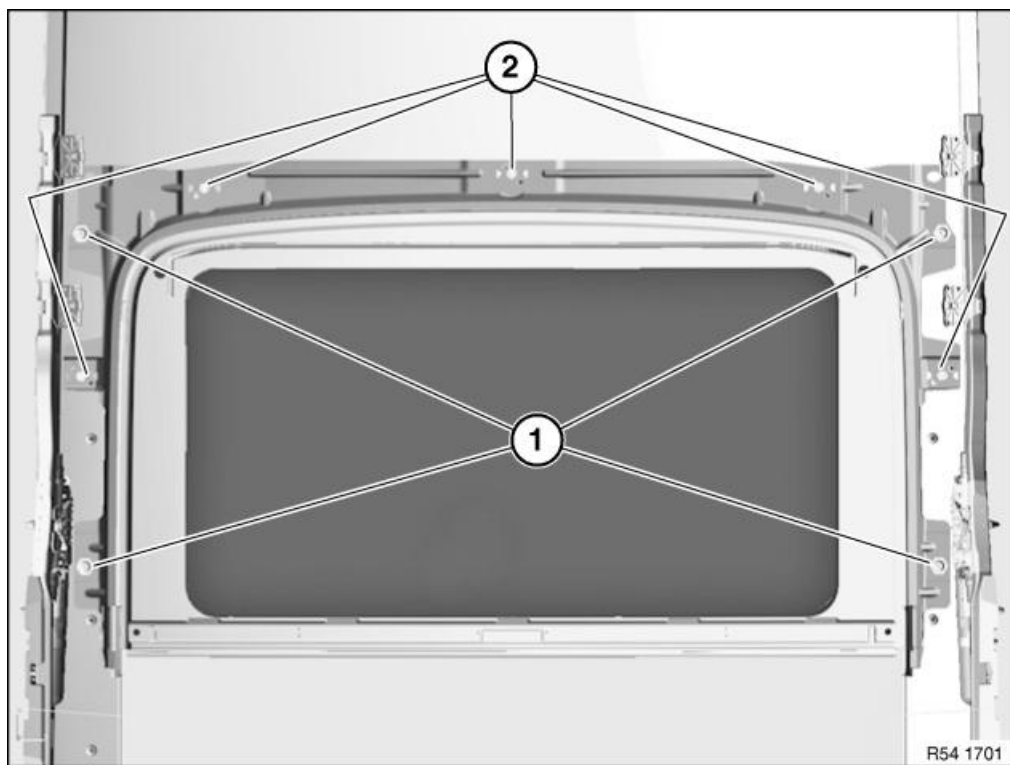
**Necessary preliminary work:**

- Remove [headlining](#)
- Close glass slide/tilt sunroof completely

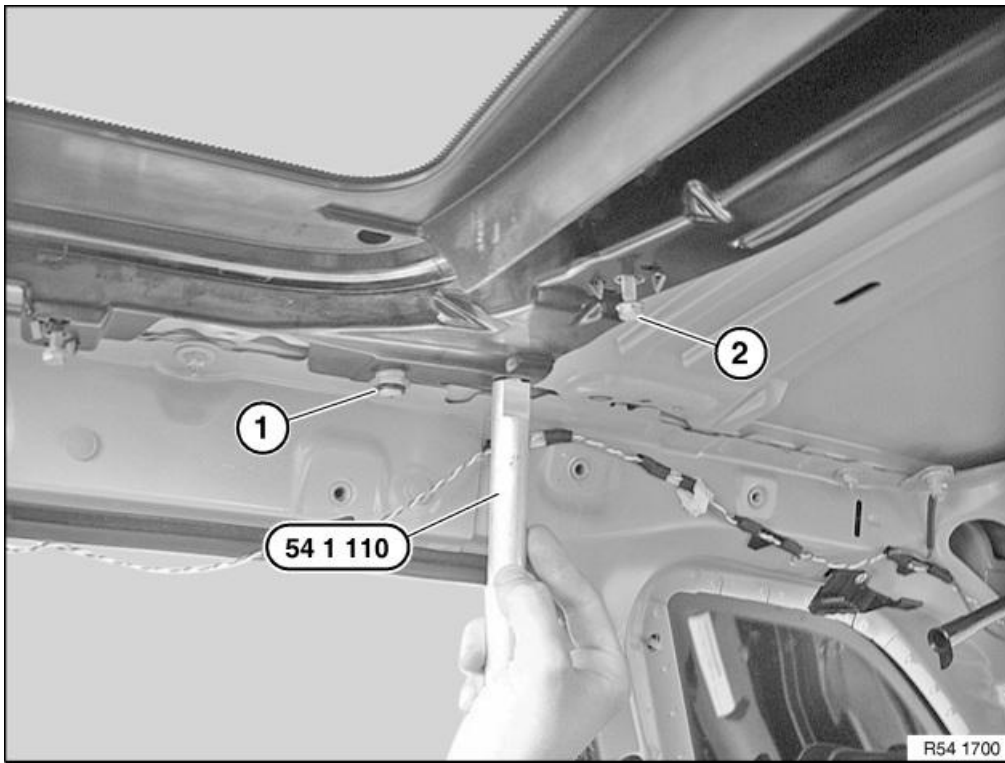
If the glass slide/tilt sunroof is outside the adjustment tolerances, adjust as follows:

**Installation note:**

- Microencapsulated screws must be coated with Loctite if they are to be reused
- Screw connection must be completed within 20 minutes (start of curing)
- Microencapsulated screws must not be retightened
- Clean thread of nut beforehand in event of repeated use



- Slacken screws (1) from active components.
- Slacken screws (2) from passive components.



Installation note:

- Loosely screw in all screws (1) of active components; it should just be possible to move the glass slide/tilt sunroof panel.
- Insert special tool [54 1 110](#) into left and right centring holes and push fully home into glass slide/tilt sunroof panel frame and body panel in order to align glass slide/tilt sunroof panel.
- Tighten all screws (1) of active components:
Tightening torque [54 12 07AZ](#).
- Adjust height by means of hexagon head.
- Height:
 - Rear edge of front glass slide/tilt sunroof panel 0.9 to mm above rear glass slide/tilt sunroof panel
 - Rear edge of glass slide/tilt sunroof panel 0.9 to mm above roof edge
 - Check height of glass slide/tilt sunroof panel in relation to body with special tool [00 9 315](#).
- Tighten screws (2) of passive elements.
Tightening torque [54 12 07AZ](#).

54 0 ... Notes on panorama glass roof (initialization/normalization/learning of characteristic curve)



Note:

Initialization comprises:

- Normalization
- Learning characteristic curve

The mechanical end positions are recorded and stored during normalization.

The characteristic curve is learnt immediately after normalization.

When the characteristic curve is learnt, the mechanical closing forces of the panorama glass roof are recorded and stored for correct operation of the anti-trapping mechanism.

Initialisation is started and implemented by pressing and holding switch in "Lift" direction.

Initialisation depends on installed roof system and software used.



Note:

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 work is carried out on the mechanism of the panorama glass roof
- after the control unit has been replaced
- After replacement of circumferential gasket

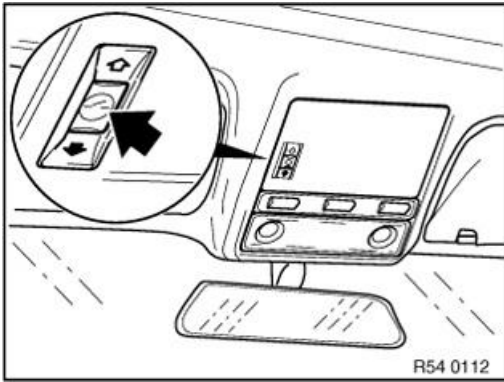


Warning!

The anti-trapping mechanism is not active during initialisation.

For correct initialisation and function, the following conditions must be met:

- Ignition ON
- at room temperature ($23^{\circ}\text{C} \pm 5^{\circ}\text{C}$)
- No direct solar radiation
- only when vehicle is at a standstill
- Fully charged vehicle battery
- in addition, for US vehicles, let engine run to enable key, if necessary

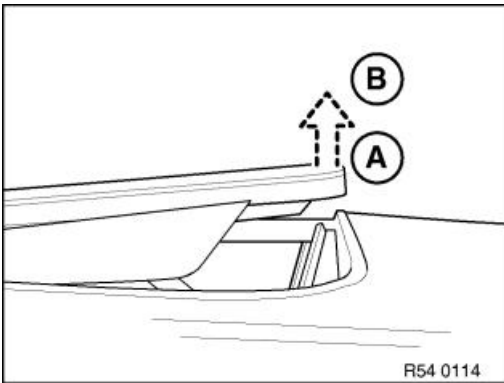


Note:

Subsequently described processes relate to a completely closed roof system. However, initialisation can be started from any position.

Initialisation process:

- Move switch in "Lift" direction and hold (roof system moves to "Lift" position)
- In the event of delayed starting or sudden stopping of the panorama glass roof, continue pressing the switch in the "Lift" direction



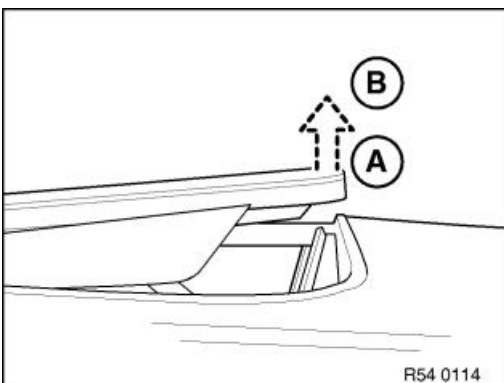
Note:

Hold switch depressed for entire process.

- After reaching the fully raised position (A), keep the switch pressed for approx. 30 seconds further (initialisation process starts)
- Panorama glass roof moves briefly from lift end position (A) in direction of position (B)
- Shading system (floating headlining) closes completely
- Shading system (floating headlining) opens completely
- Panorama glass roof moves to "Closed" position
- Panorama glass roof then moves to "Open" end position and immediately back to "Closed" position
- After a brief pause, shading system closes completely

Note:

After panorama glass roof and shading system close completely, initialisation is finished. Switch can be released.



E63 only: Note:

Hold switch depressed for entire process.

- After reaching the fully raised position (A), keep the switch pressed for approx. 30 seconds further (initialisation process starts)
- Panorama glass roof moves briefly from lift end position (A) in direction of position (B)
- Shading system (floating headlining) closes completely
- Shading system (floating headlining) opens completely
- Panorama glass roof moves to "Closed" position
- After a brief pause, shading system closes completely

Note:

After panorama glass roof and shading system close completely, initialisation is finished. Switch can be released.



Note:

- If the switch is released in the meantime, the entire procedure must be repeated
- On completion of successful initialization, the corresponding messages in the check control and the control display go out
- Carry out function check (tip 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.

**Note:**

The following steps can be carried out in passenger compartment with the glass roof panel fully closed.

Open floating roofliner fully.

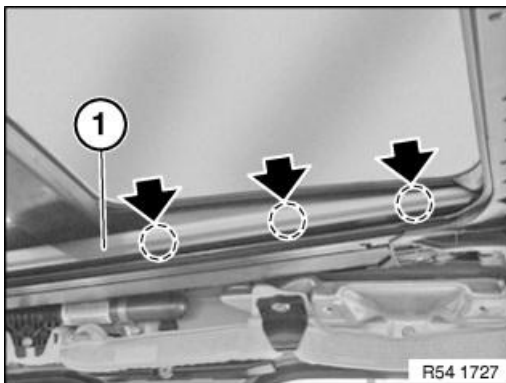
Make sure that grease at the ends of the rail do not come into contact with the roofliner.

Not necessary for replacement:

Before removing the Torx screws, make a mark around the washer in order to ensure correct alignment during installation.

**Installation note:**

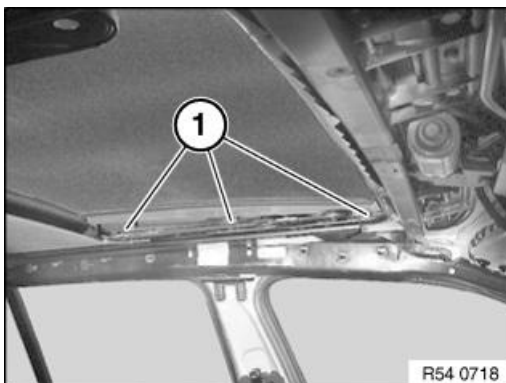
- Microencapsulated screws (Loctite) must be replaced and may not be reused
- Screw connection must be completed within 20 minutes (start of curing)
- Microencapsulated screws must not be retightened
- Clean thread of nut beforehand in event of repeated use



To unscrew Torx screws (see next work step) press side cover seal (1) downward in the marked area.

Side cover seal (1) must not be damaged or soiled.

Replace side cover panel (1) if necessary.

**Important!**

Risk of damage!

To avoid scratches do not rest glass slide/tilt sunroof panel on glass surface.

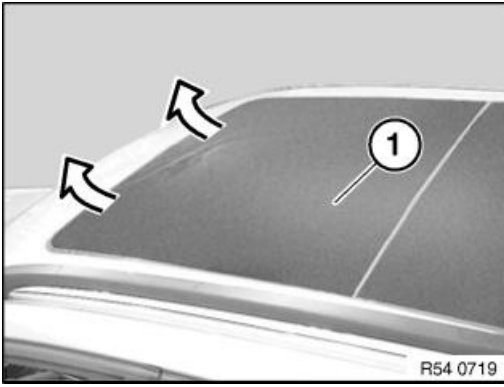
Release Torx screws (1). **Installation note:**

Replace Torx screws and insert with Loctite.

Align shims to marks.

Screw down glass slide/tilt sunroof panel.

Tightening torque [54 12 01AZ](#).



Important!

A second person is required to help in removing and installing the glass slide/tilt sunroof panel!

Lift out glass slide/tilt sunroof panel (1). *Installation note:*

Tape off installation area on left and right at roof aperture with fabric adhesive tape.

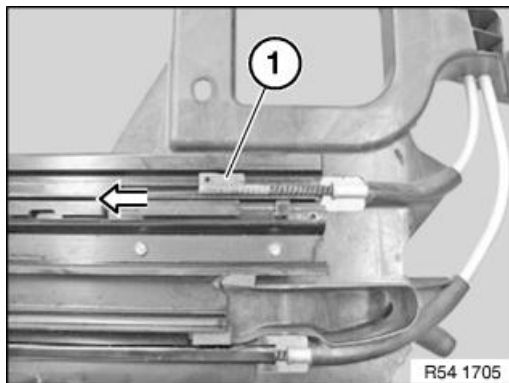
Install glass slide/tilt sunroof panel carefully (twist in) as gasket can be damaged during installation.

Check glass slide/tilt sunroof panel for correct [alignment](#) and adjust if necessary.

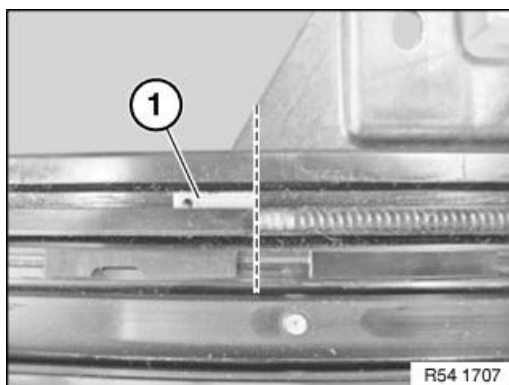


Necessary preliminary tasks:

- [Remove front floating headlining:](#)
- Remove [drive with transmission \(rear\)](#)



Pull cable at driver (1) out of guide channel. *Note:*
Both cables must be replaced together.



Adjusting drive cable:

Fit cable in guide channel such that driver (1) faces inward.

Slide left and right driver flush on guide rail.

Install [drive units with gear mechanism](#).

Move cable over drive with cranked hexagon socket and check setting again.

If necessary, repeat adjusting procedure.

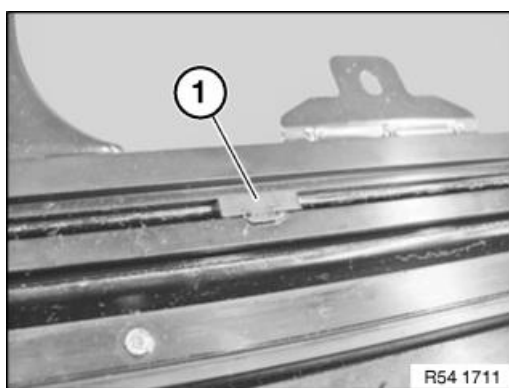
**Necessary preliminary tasks:**

- Remove [front section of panorama glass roof](#)

Note:

For following operation position individual component as follows:

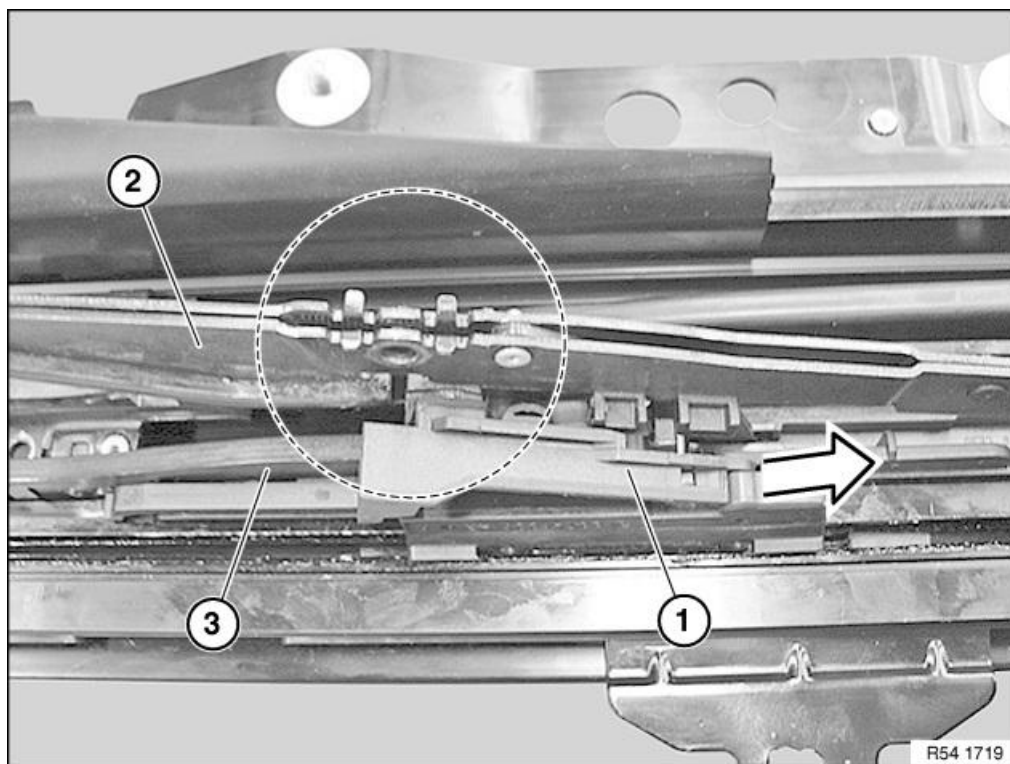
- Approach positions above emergency drive with offset hexagon socket (to do so, disconnect plug connection from drive)
- Floating roofliner closed
- Glass lid mechanism in fan setting
- Remove [drive with gearbox at front](#)
- Remove [water gutter](#)

**Important!**

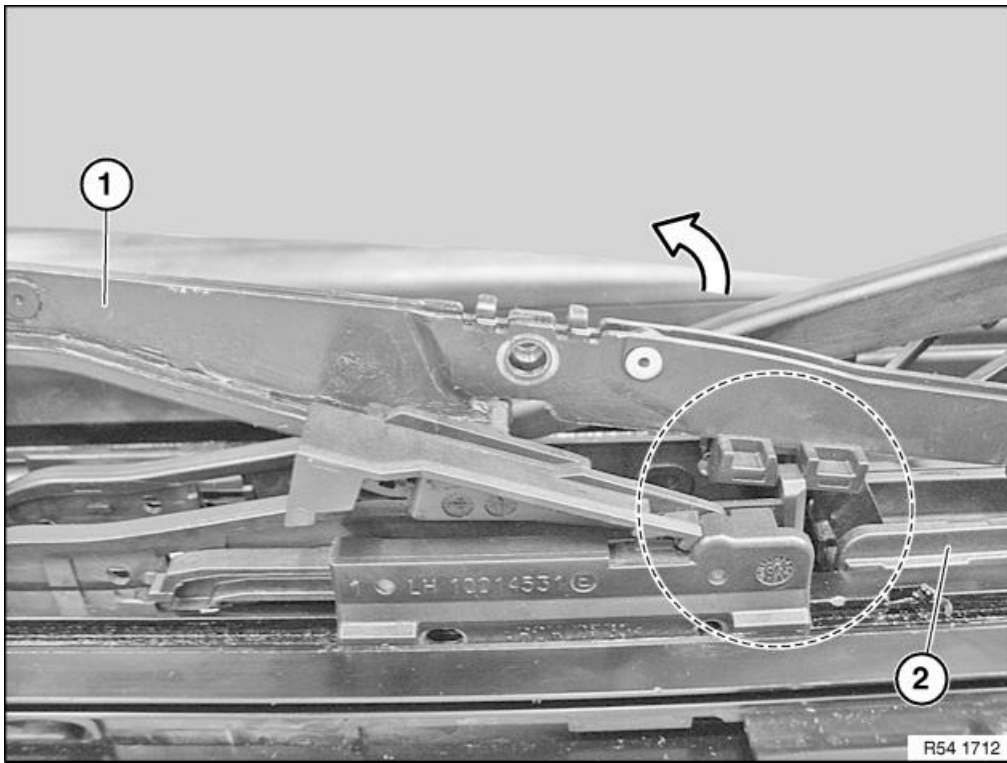
Risk of damage to guide rail.

Use a screwdriver to lever out all guide rail end stops (1). *Installation note:* Make sure end stops are securely seated in guide rail.

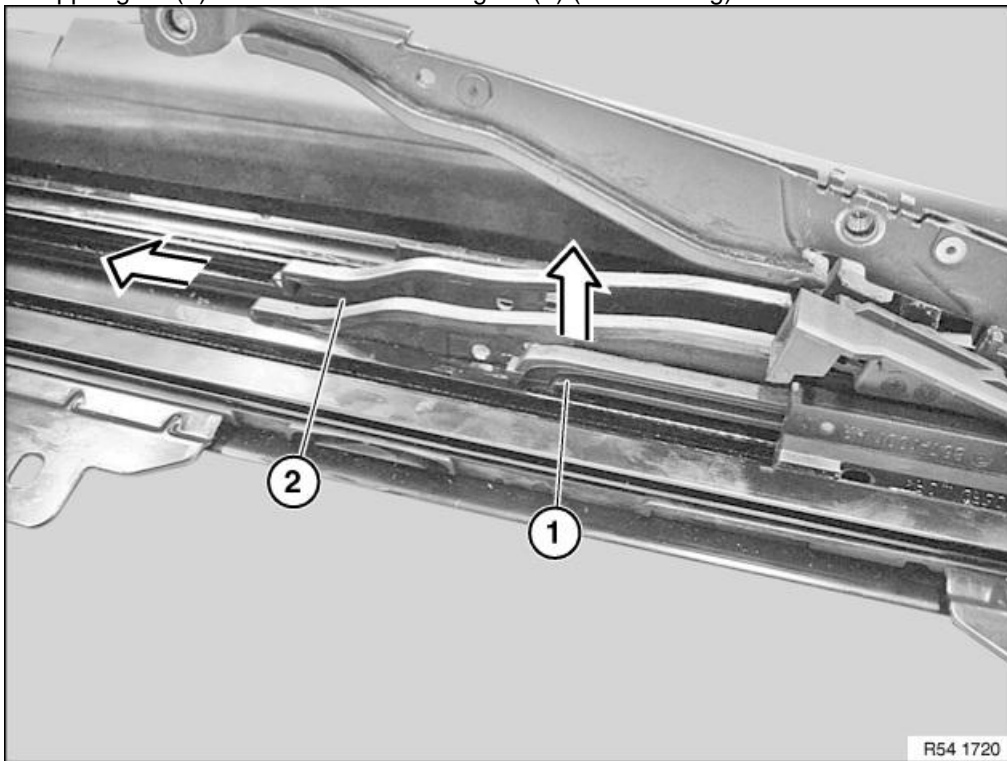
If required, fix in position with a punch mark.



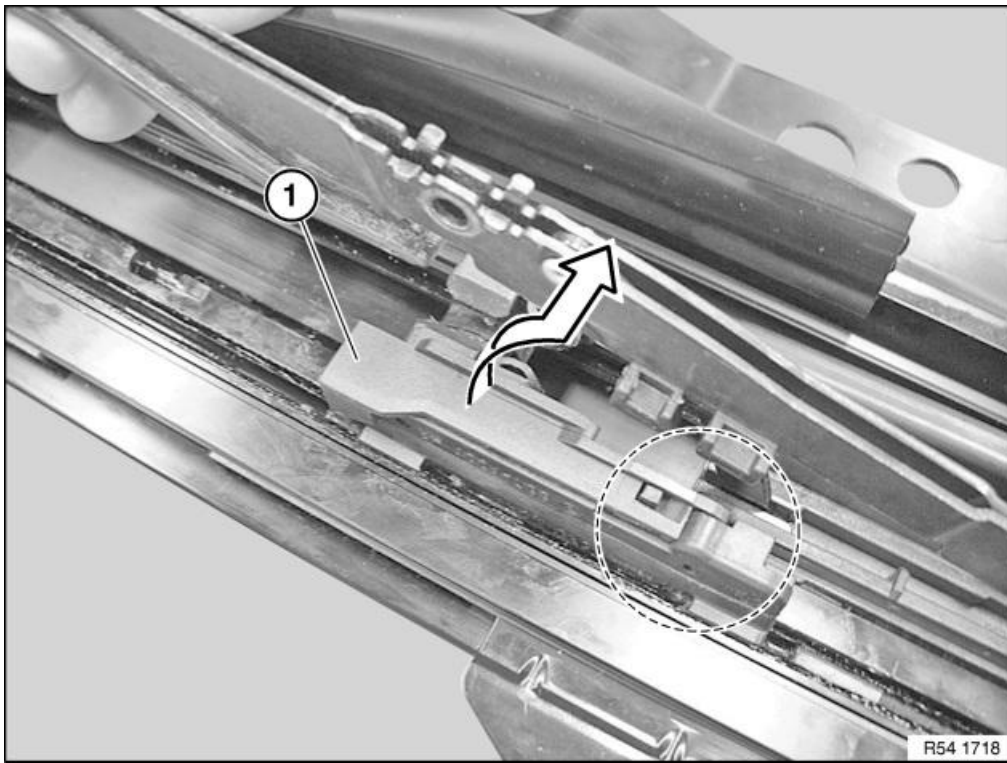
Slide drive cable plate with positioning wedge (1) forwards until guide of upper gate (2) and lower gate (3) is free (see marking).



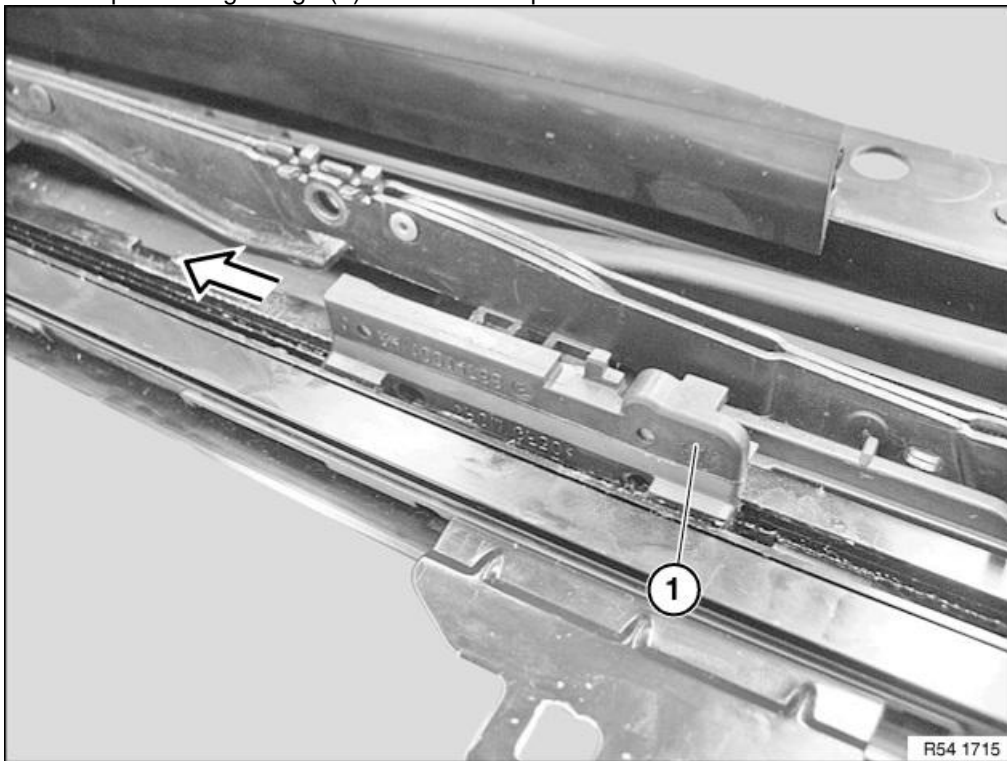
Lift upper gate (1) out of drivers of lower gate (3) (see marking).



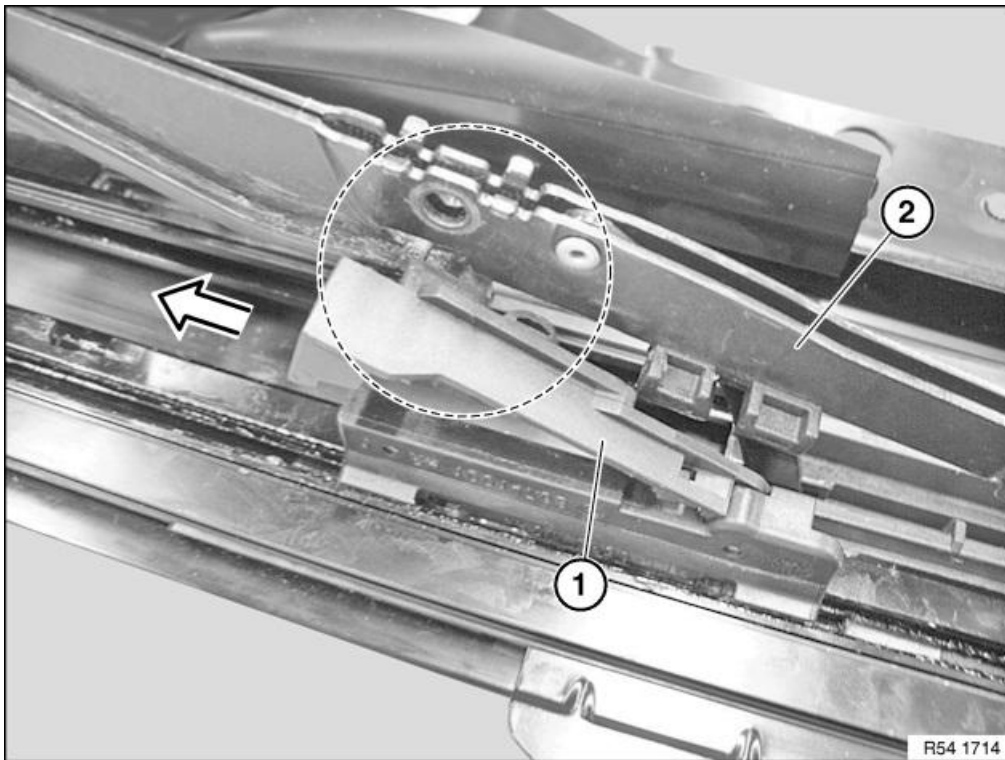
Release bridge (1) and slide lower gate (2) towards rear.



Remove positioning wedge (1) of drive cable plate in direction of arrow.



If necessary, slide drive cable plate (1) towards rear and remove with rising cable from guide rail.

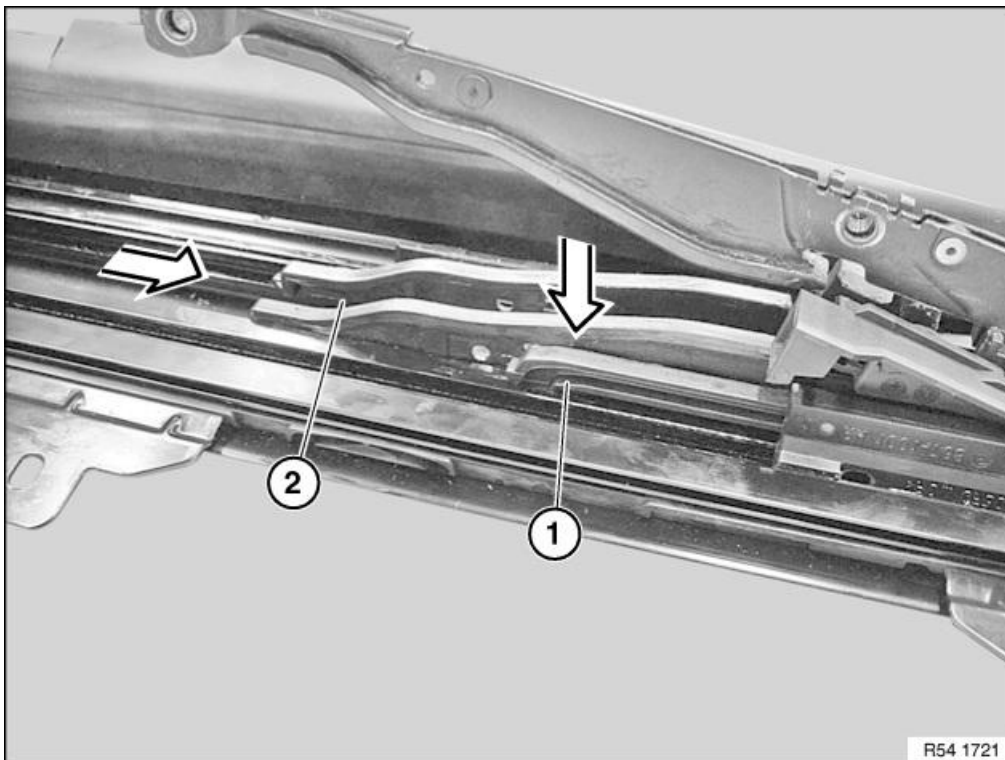


Installation note:

Insert positioning wedge (1) into drive cable plate.

Positioning wedge (1) must be located in free area of upper gate (2) (if necessary, slide drive cable plate).

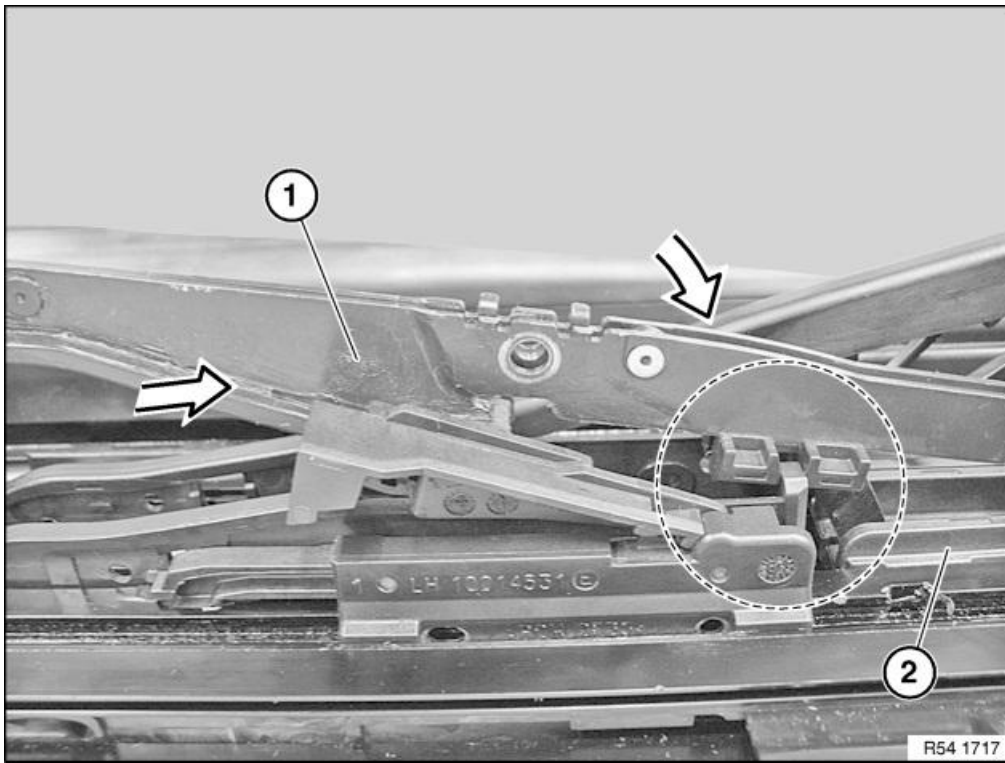
Slide drive cable plate with positioning wedge (1) towards rear onto upper detent element (2). (see marking).



Installation note:

Slide lower gate (2) forwards until bridge snaps into guide rail.

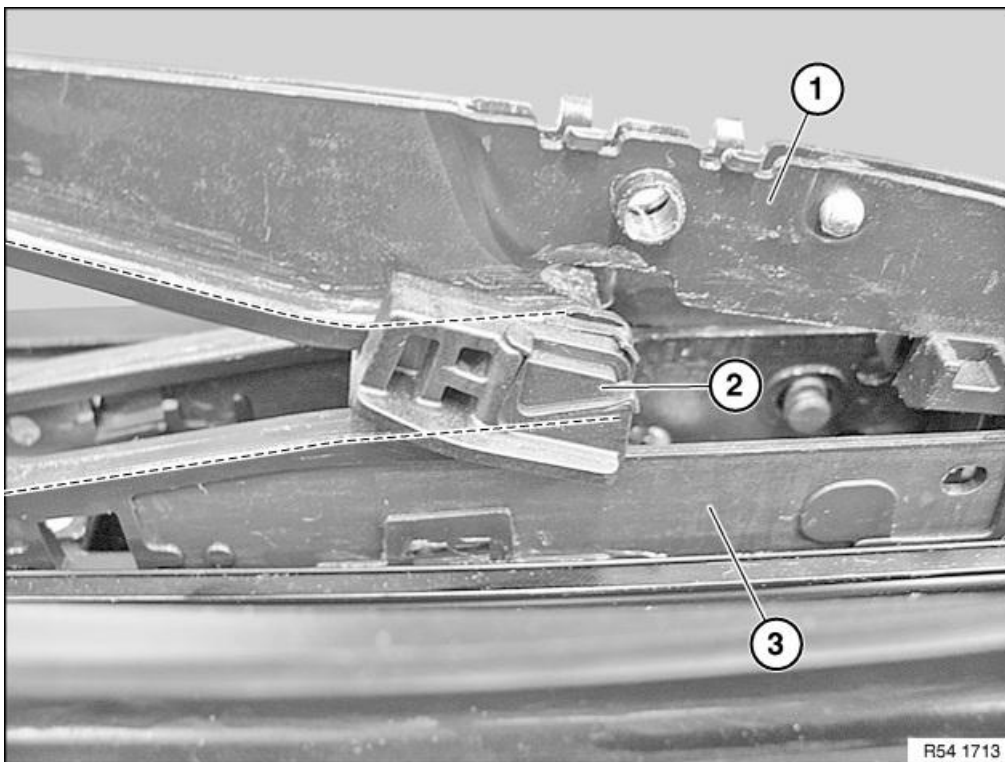
Raise upper detent element in the process.



Installation note:

Slide upper gate (1) forwards over drivers of lower gate (2).

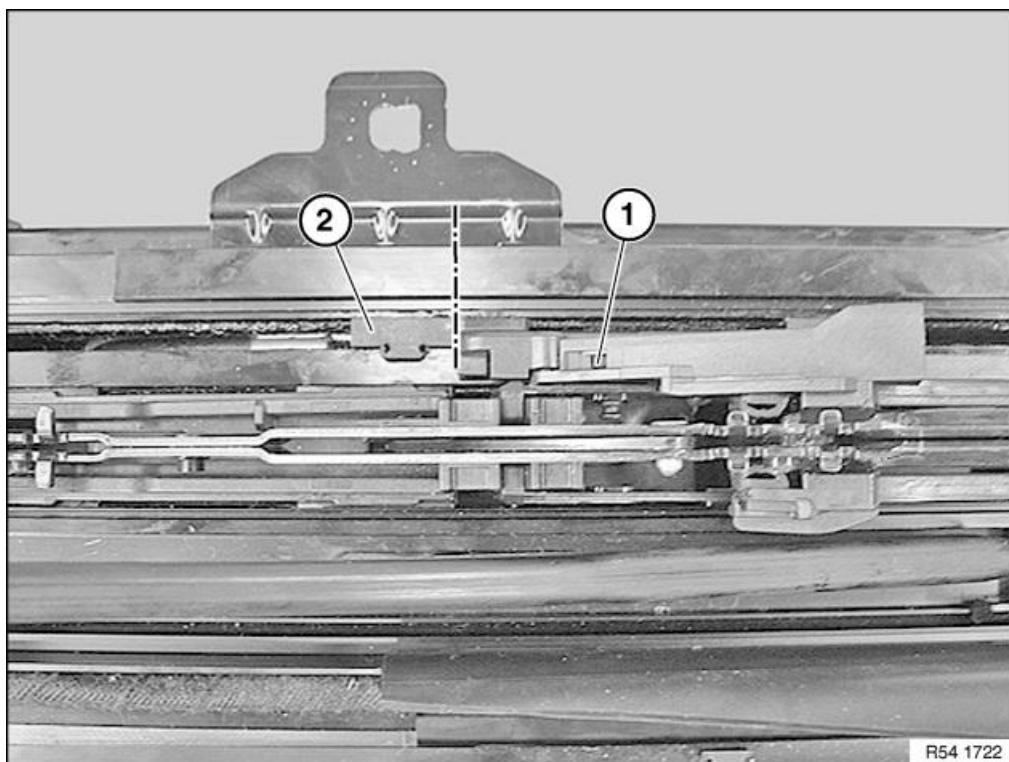
Press upper gate (1) onto drivers of lower gate (2) (see marking).



Installation note:

Slide positioning wedge (2) of drive cable plate towards rear.

Positioning wedge (2) of drive cable plate must slip into guides (marked area) of lower (3) and upper (1) gates.



Installation note:

Insert end stops in guide rail and fix in position with a punch mark.

Check that end stops are securely seated in guide rail.

Slide positioning wedge (1) with drive cable plate on left and right with gates to full extent up to end stop (2).

Install [drive with gearing](#).



Note:

Check smooth and noise-free running of mechanism.

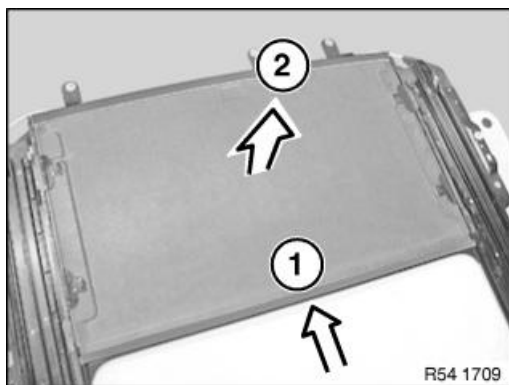
Run a function check.

54 13 060 Removing and installing/replacing floating headlining for glass slide/tilt sunroof

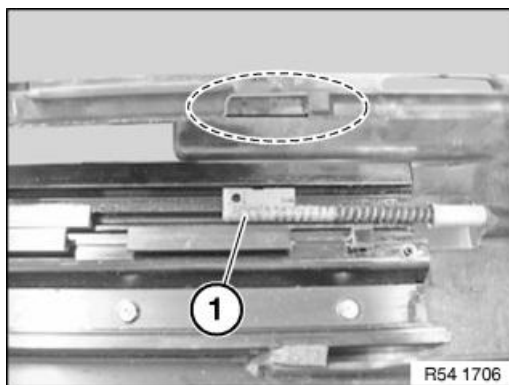


Necessary preliminary tasks:

- Remove [floating headlining for glass slide/tilt sunroof](#), rear



1. Completely retract floating headlining to the rear
Approach positions above emergency drive with offset hexagon socket (to do so, disconnect plug connection from drive)
2. Lift out floating headlining



Correctly place sliding sunshade mechanism on driver (1).



Replacement only:

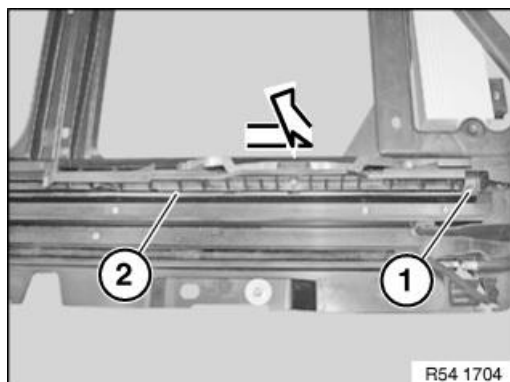
Remove [floating headlining mechanism](#)

54 13 065 Removing and installing/replacing floating headlining for glass slide/tilt sunroof at rear



Necessary preliminary tasks:

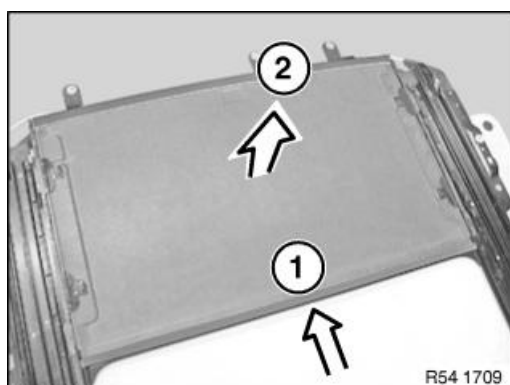
- Remove [front section of panorama glass roof](#)



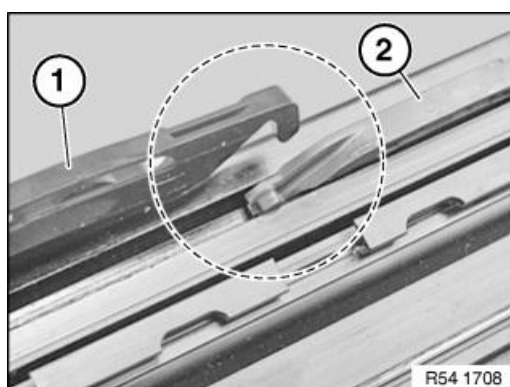
Release screw (1).

Tightening torque [54 12 09AZ](#).

Pull gate (2) for floating headlining towards rear and lift out.



1. Move floating headlining towards rear
Approach positions above emergency drive with offset hexagon socket (to do so, disconnect plug connection from drive)
2. Lift out floating headlining



Installation note:

Insert mechanism (1) of rear floating headlining on left and right into mechanism (2) of front floating headlining.



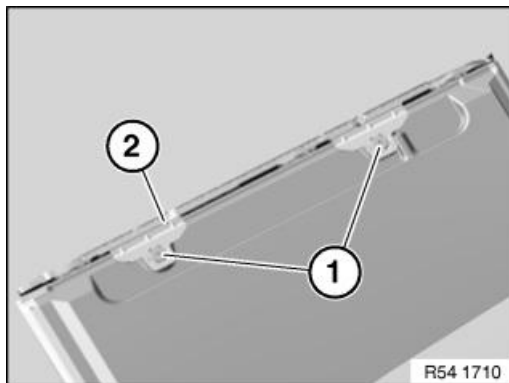
Replacement only:

Remove [floating headlining mechanism](#).



Necessary preliminary tasks:

- [Remove front floating roofliner:](#)



Release screws (1).

Tightening torque 54 10 08AZ .

Remove star washers.

Installation:

Make sure serrated washers are fitted in correct position.

Remove mechanism (2).

54 10 060 Removing and installing/replacing mechanism for front glass slide/tilt sunroof cover



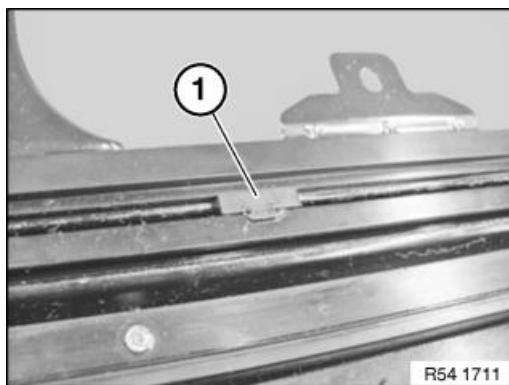
Necessary preliminary tasks:

- Remove [front section of panorama glass roof](#)

Note:

For following operations position individual component as follows:

- Approach positions above emergency drive with offset hexagon socket (disconnect plug connection from drive)
- Floating headlining closed
- Glass lid mechanism in fan setting
- Remove [drive with gearbox at front](#)
- Remove [water channel](#)

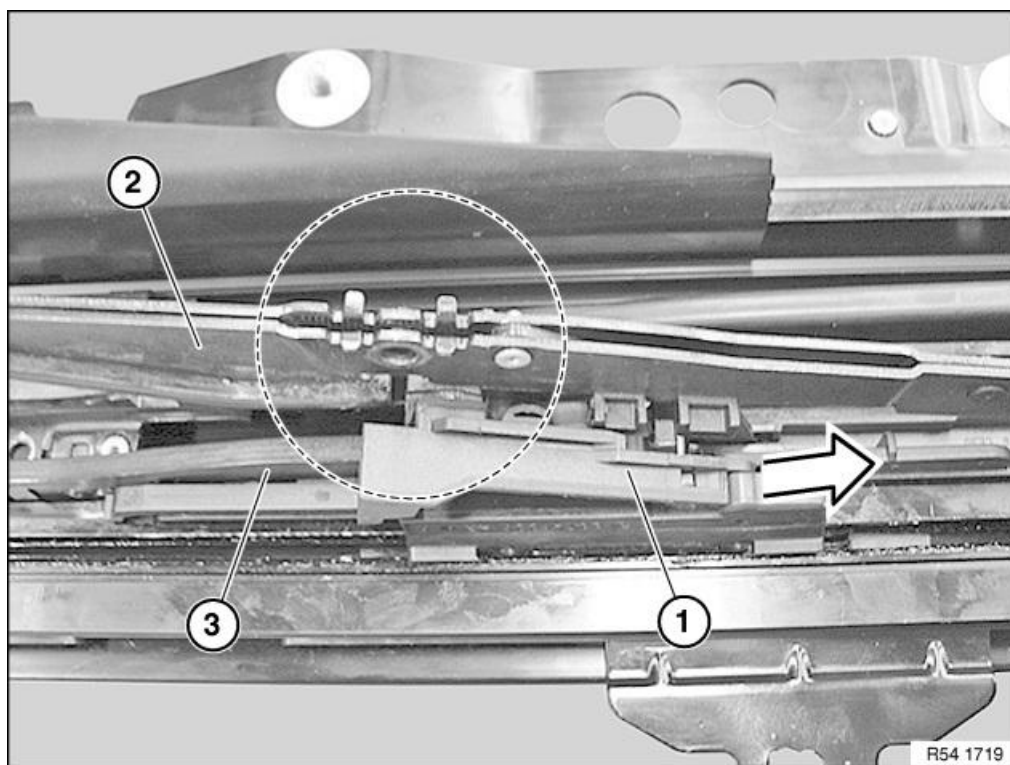


Important!

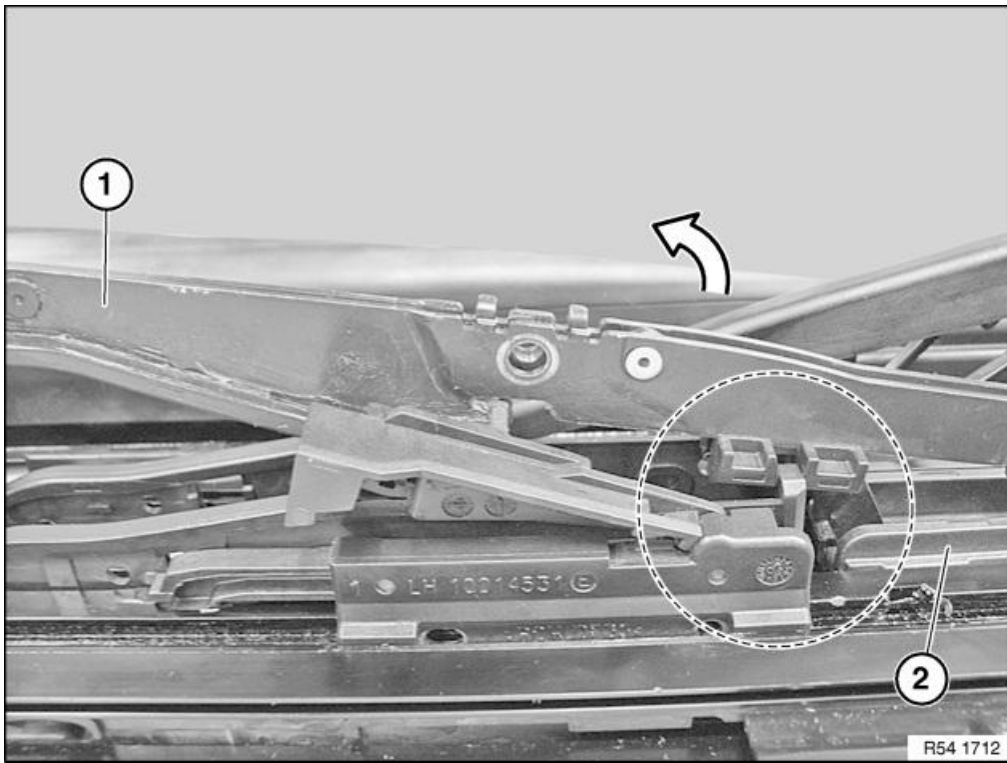
Risk of damage to guide rail.

Use a screwdriver to lever out all guide rail end stops (1). *Installation note:* Make sure end stops are securely seated in guide rail.

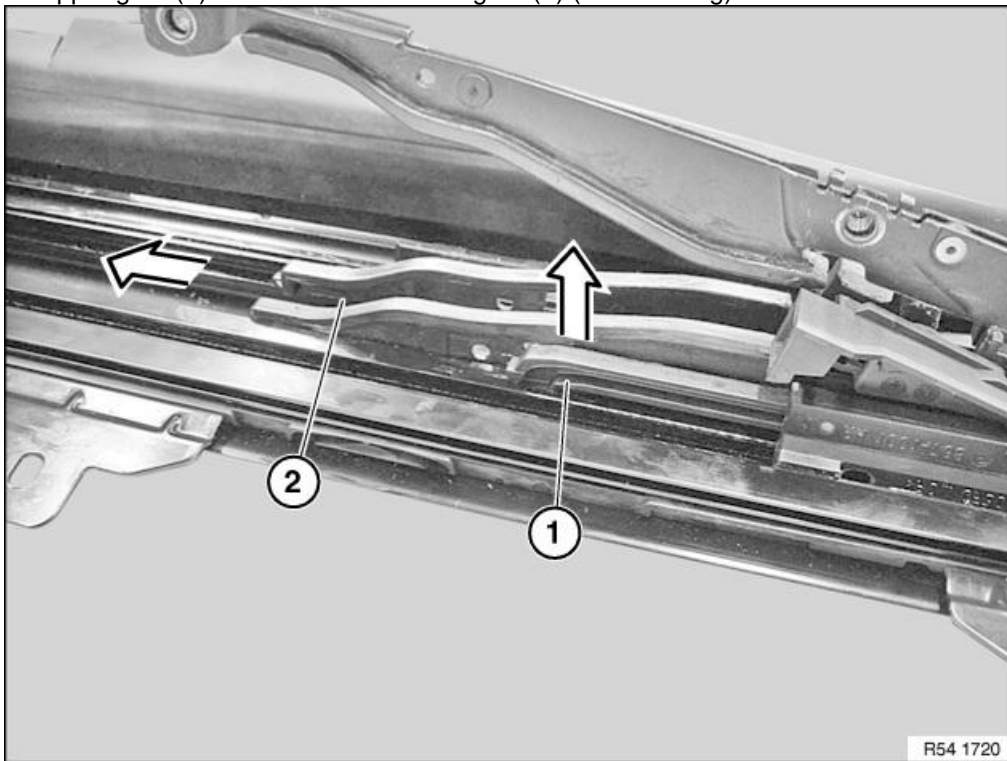
If required, fix in position with a punch mark.



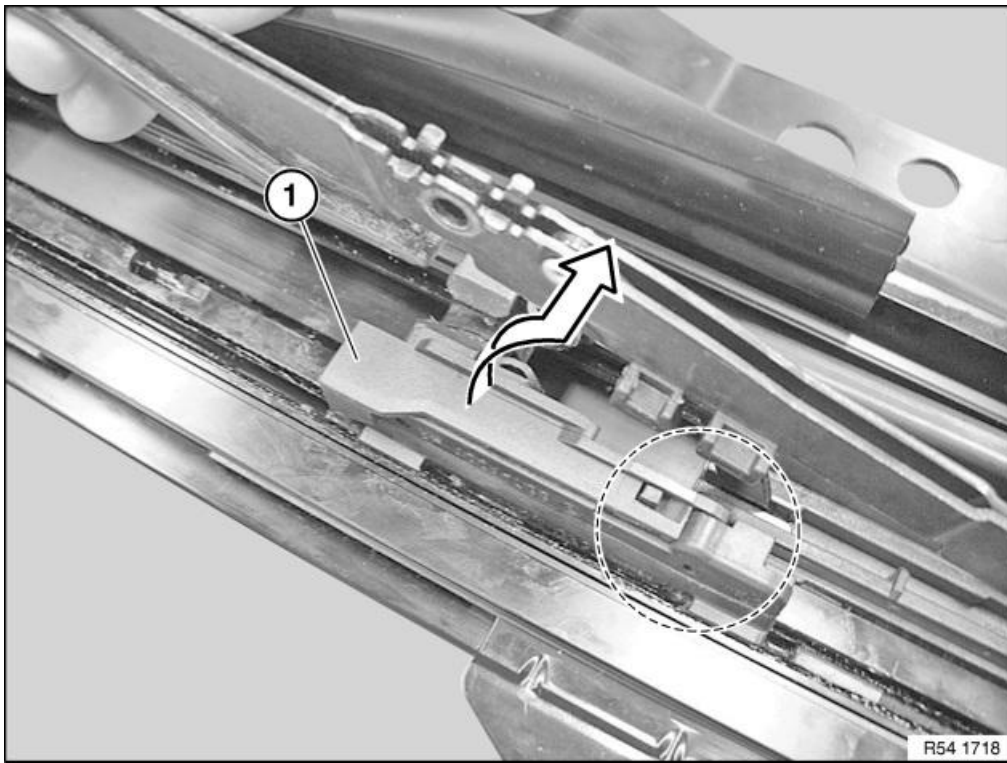
Slide drive cable plate with positioning wedge (1) forwards until guide of upper gate (2) and lower gate (3) is free (see marking).



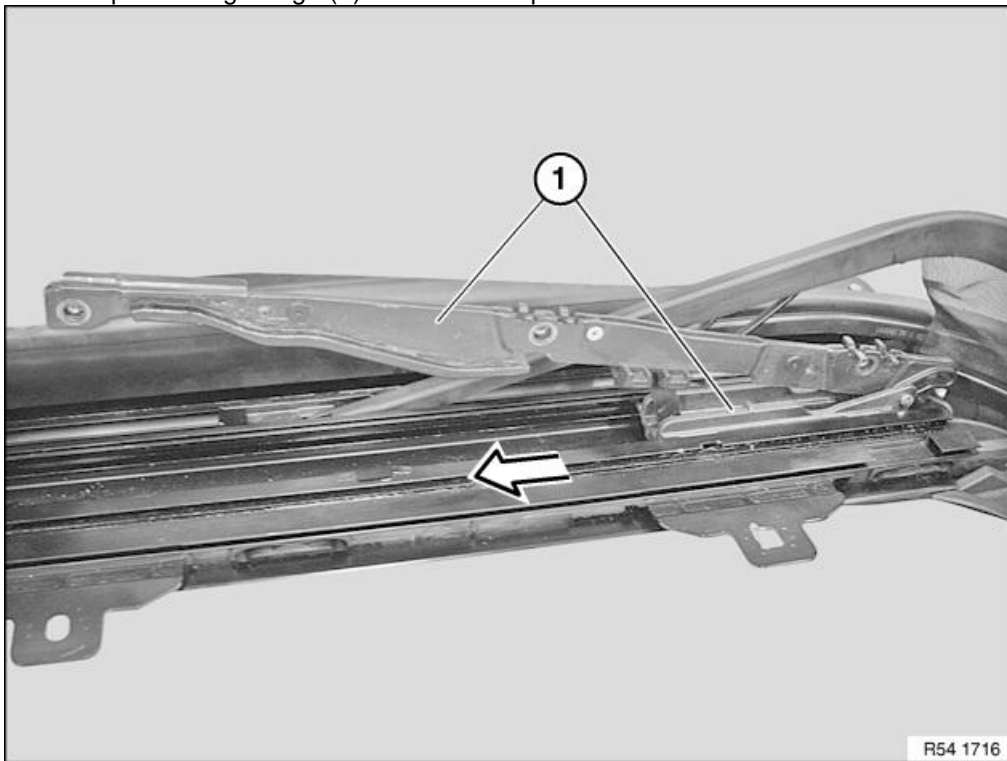
Lift upper gate (1) out of drivers of lower gate (3) (see marking).



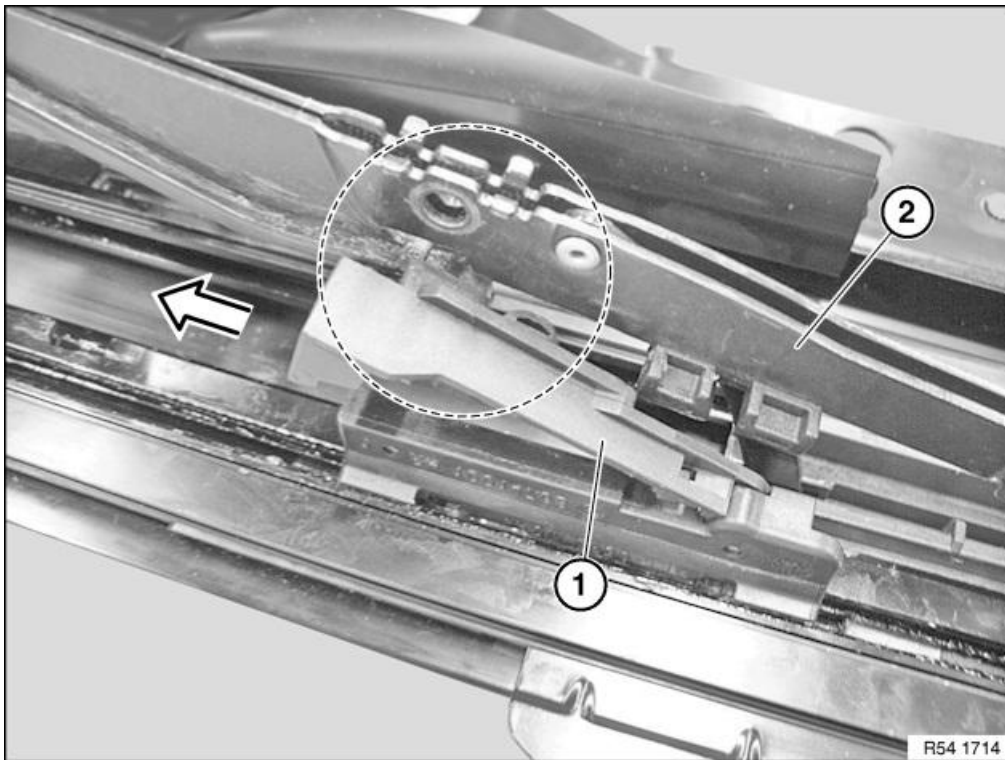
Release bridge (1) and slide lower gate (2) towards rear.



Remove positioning wedge (1) of drive cable plate in direction of arrow.



Slide mechanism (1) for glass slide/tilt sunroof cover towards rear and remove from guide rail.

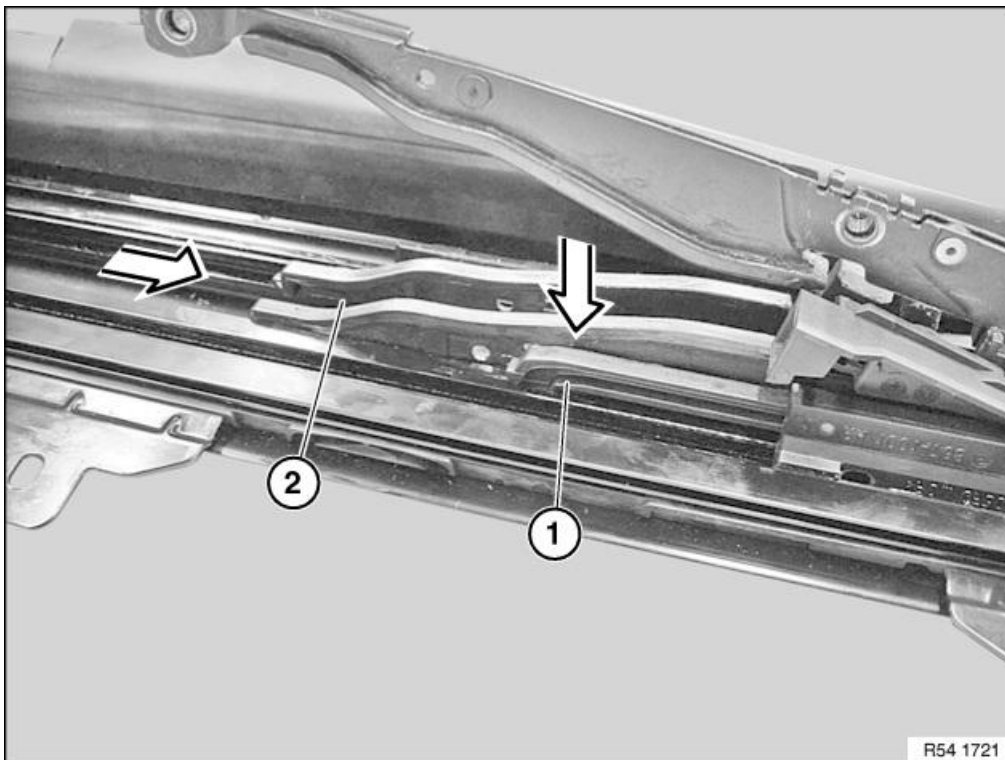


Installation note:

Insert positioning wedge (1) into drive cable plate.

Positioning wedge (1) must be located in free area of upper gate (2) (if necessary, slide drive cable plate).

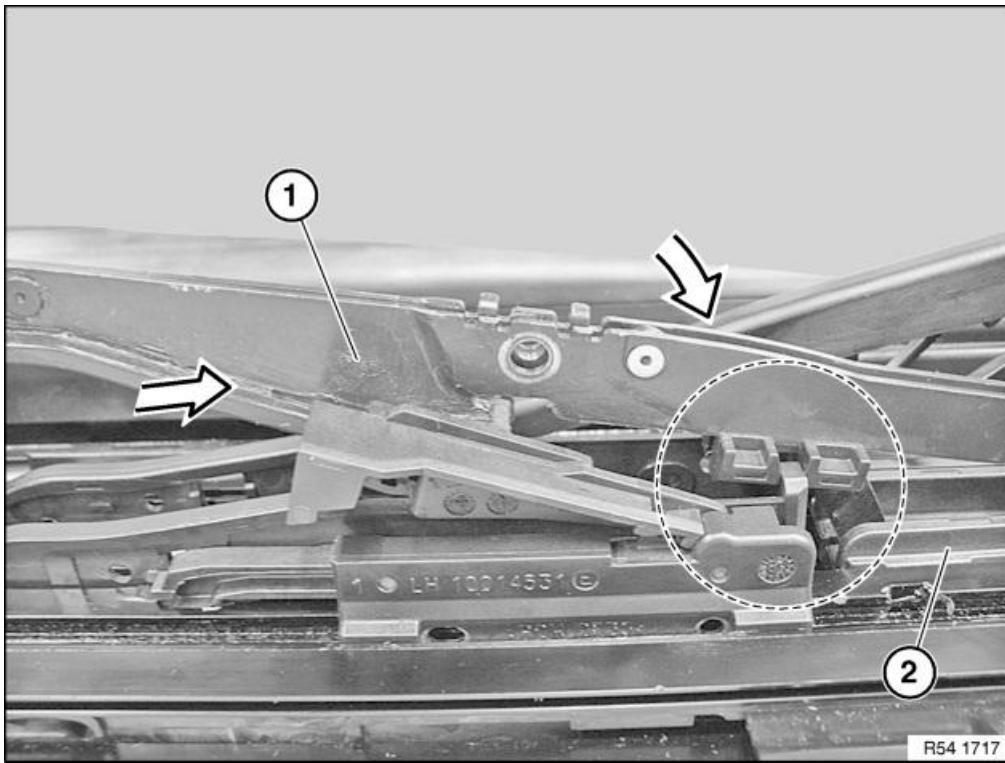
Slide drive cable plate with positioning wedge (1) towards rear onto upper detent element (2). (see marking).



Installation note:

Slide lower gate (2) forwards until bridge snaps into guide rail.

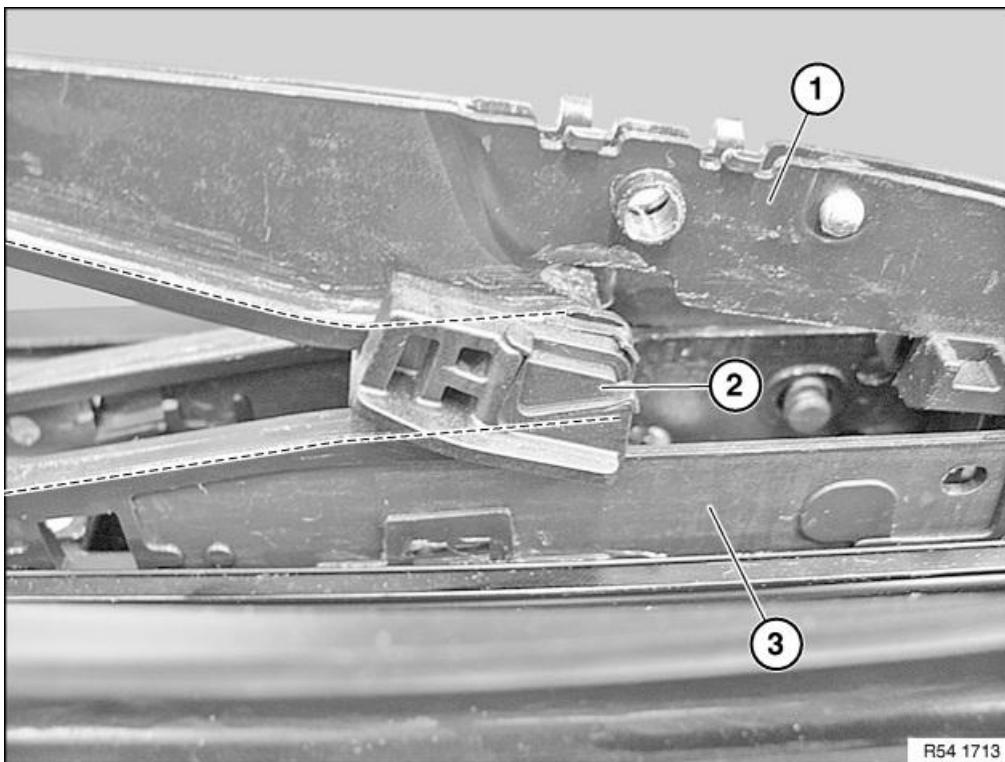
Raise upper detent element in the process.



Installation note:

Slide upper gate (1) forwards over drivers of lower gate (2).

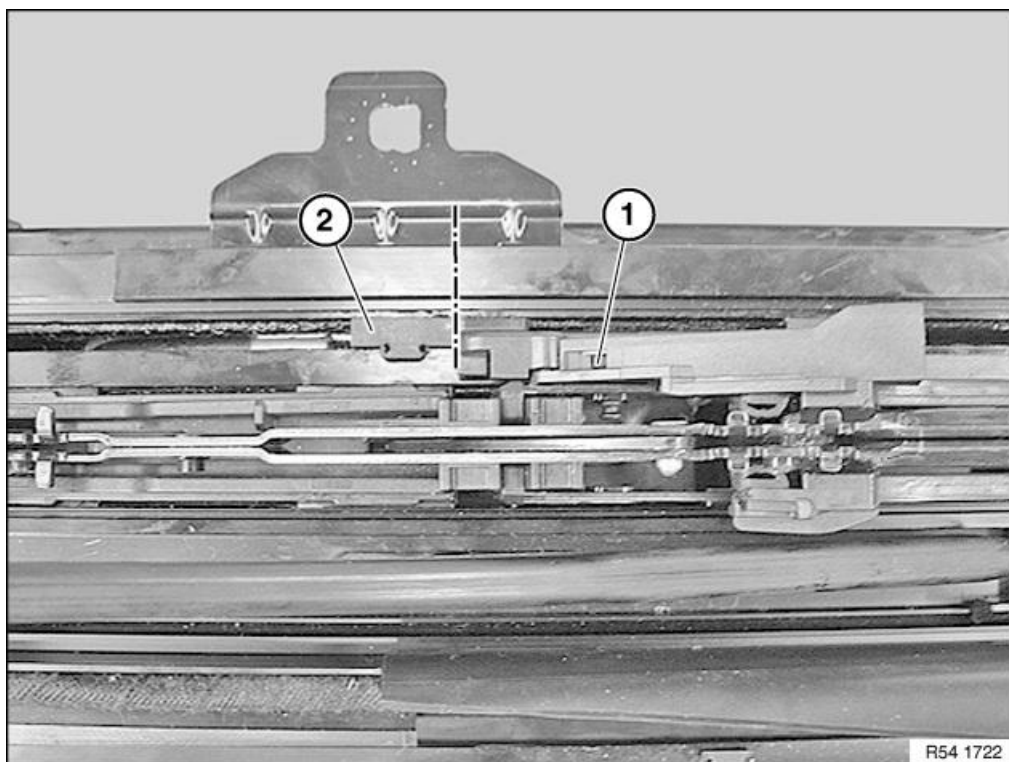
Press upper gate (1) onto drivers of lower gate (2) (see marking).



Installation note:

Slide positioning wedge (2) of drive cable plate towards rear.

Positioning wedge (2) of drive cable plate must slip into guides (marked area) of lower (3) and upper (1) gates.



Installation note:

Insert end stops in guide rail and fix in position with a punch mark.

Check that end stops are securely seated in guide rail.

Slide positioning wedge (1) with drive cable plate on left and right with gates to full extent up to end stop (2).

Install [drive with gearing](#).



Note:

Check smooth and noise-free running of mechanism.

Run a function check.

**Necessary preliminary tasks:**

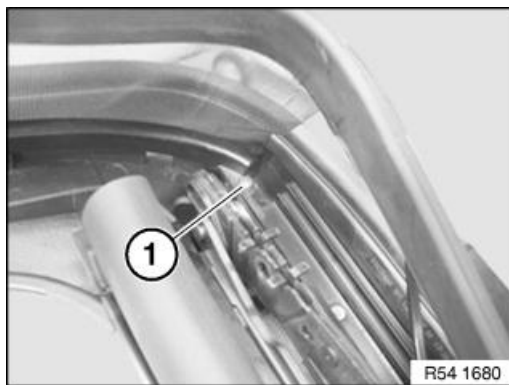
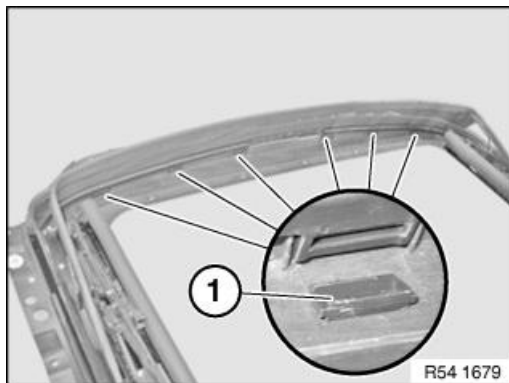
- Open slide/tilt sunroof

Note:

Shown removed here for purposes of clarity.

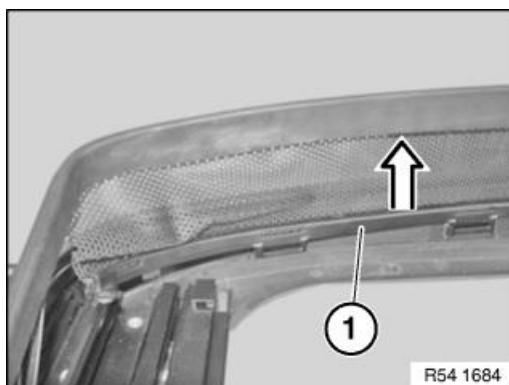
Depending on the version, the plastic wedges (1) have been eliminated.

Pull out plastic wedges (1) with screwdriver.

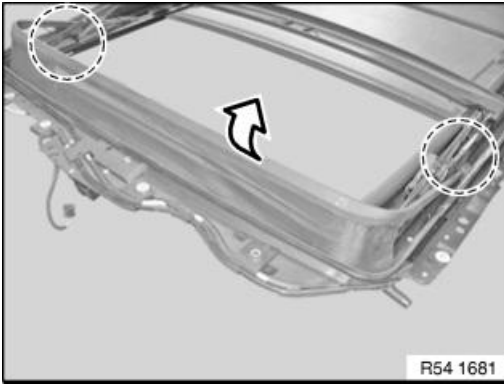


Release screws (1) on left and right.

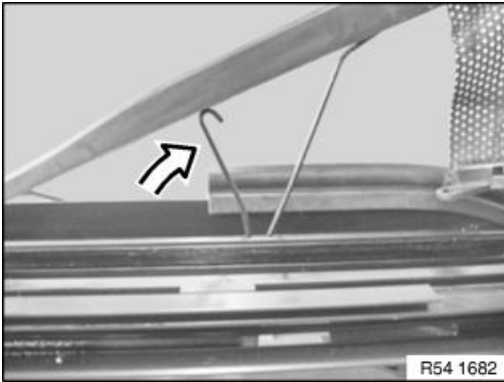
Tightening torque [54 12 11AZ](#).



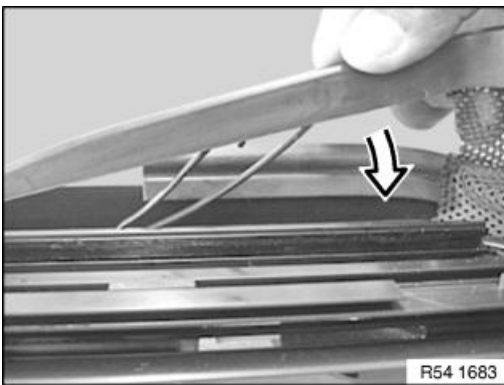
Lever out welt (1).



Tilt wind deflector into vertical position and remove from pivots. **Installation note:**
Make sure wind deflector is correctly seated in pivots.



Installation note:
Reposition spring in direction of arrow.



Installation note:
Keep wind deflector pressed in direction of arrow and install plastic wedges.

**Special tools required:**

- [54 1 110](#)

**Necessary preliminary tasks:**

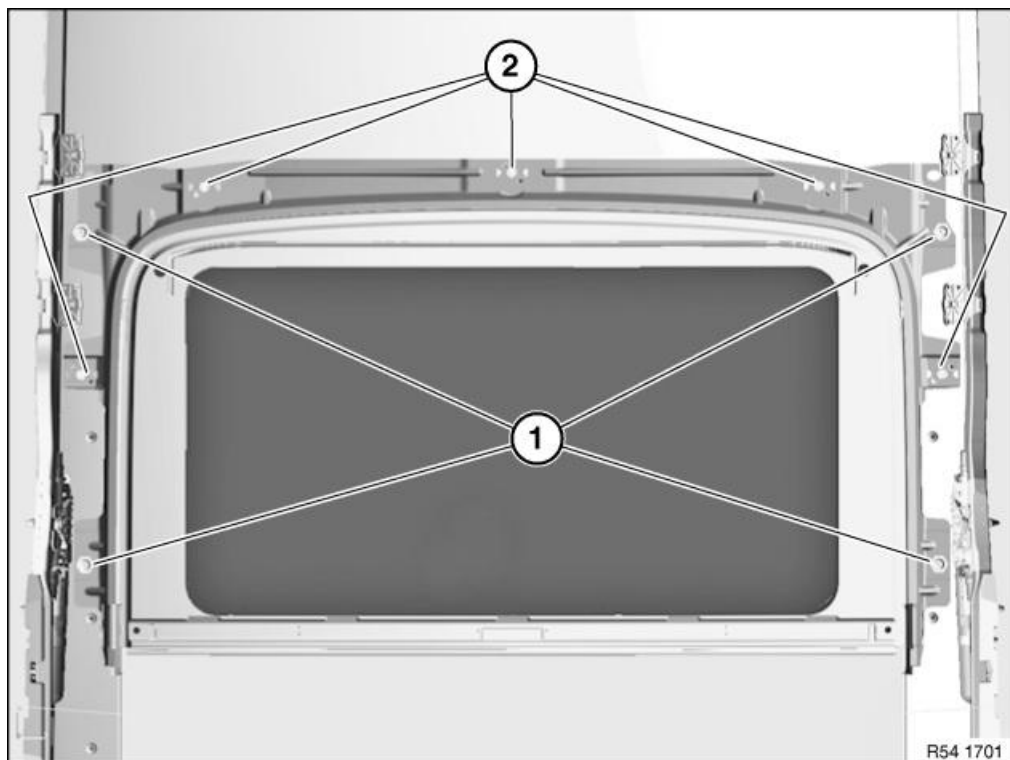
- Remove [front section of panorama glass roof](#)

Important!

The assistance of a second person is required when removing the glass slide/tilt sunroof cover.

Do not rest sunroof pane on seal components.

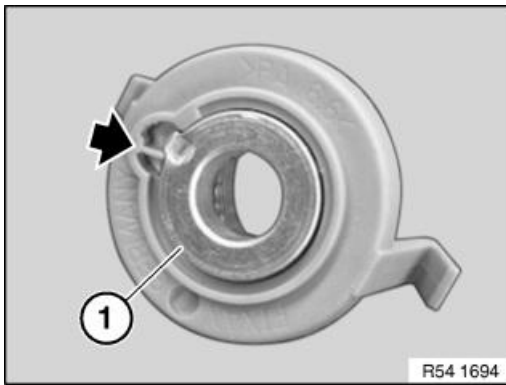
Prepare a support on which to place the pane in order to prevent scratching the surface of the glass.



Important! Have an assistant hold the glass slide/tilt sunroof cover secure so that it does not fall.

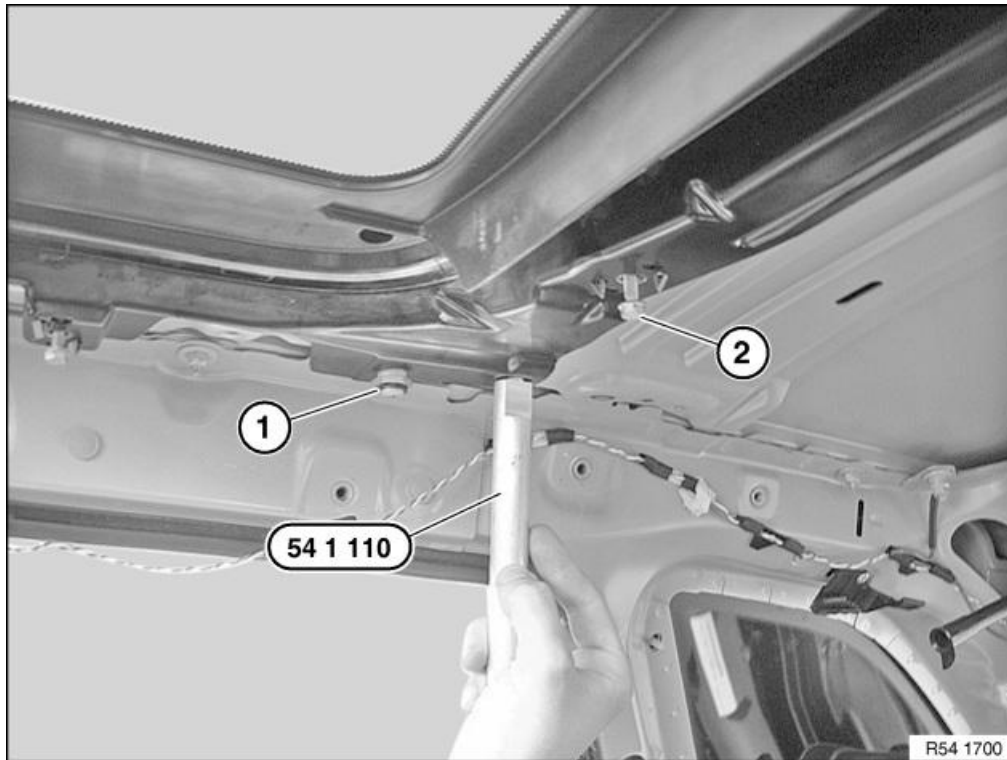
- Remove screws (1) from active components.
- Remove screws (2) from passive components.
- Remove glass slide/tilt sunroof panel from vehicle.

Installation note: Insert screws (1) of active components with Loctite.



Screw passive components (1) back in to the limit position.

If the retaining tabs are defective, the active components must be replaced.

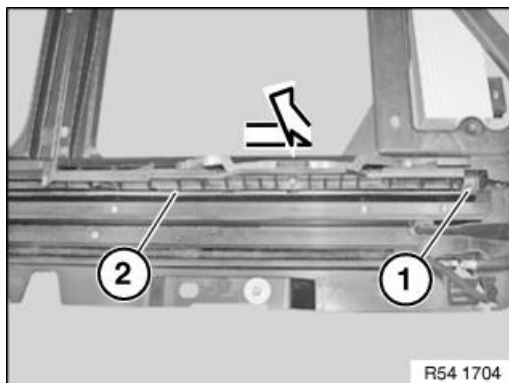


Installation note:

- Insert all screws (1) of active components with Loctite and tighten loosely; it should just be possible to move the glass slide/tilt sunroof panel.
- Insert special tool [54 1 110](#) into left and right centring holes and push fully home into sunroof pane frame and body panel in order to align glass slide/tilt sunroof panel.
- Tighten all screws (1) of active components:
Tightening torque [54 12 07AZ](#).
- [Adjust](#) height by means of hexagon head.
- Tighten screws (2) of passive elements.
Tightening torque [54 12 07AZ](#).

**Necessary preliminary tasks:**

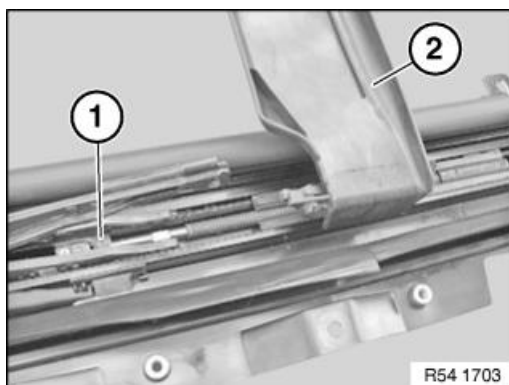
- Remove [front section of panoramic sunroof](#)
- Move mechanism for front pane to ventilation position
- Floating headliner must be closed



Release screw (1).

Tightening torque [54 12 09AZ](#).

Pull gate (2) for floating headliner backwards and remove from above.



Release left and right screws (1).

Tightening torque [54 12 10AZ](#).

Slide water gutter backwards and out of guide.

**Special tools required:**

- [54 1 110](#)

**Necessary preliminary tasks:**

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

Important!

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

**Important!**

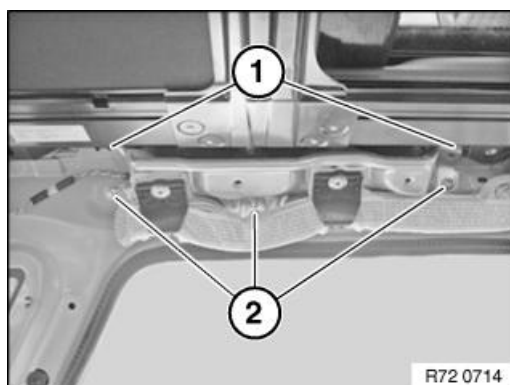
Risk of damage!

Removed panorama glass roof must only be placed on a level support.

Do not place panorama glass roof on cross members.

Place panorama glass roof broadly across side frame.

Do not rest panorama glass roof on seals.

**Important!**

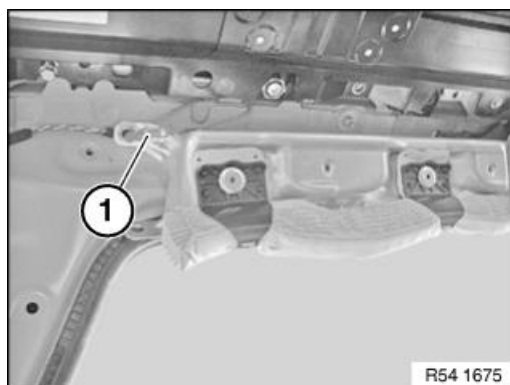
The airbag folding package must not be kinked.

Holder with folding package must not hang loose.

Prepare cable strap.

Remove holder for grab handle at rear:

- Release screw (1) on holder for grab handle
Tightening torque [54 12 02AZ](#).
- Release screws (2) and secure holder against falling out.
Tightening torque [51 71 07AZ](#).
- Tighten cable straps as shown in step below.

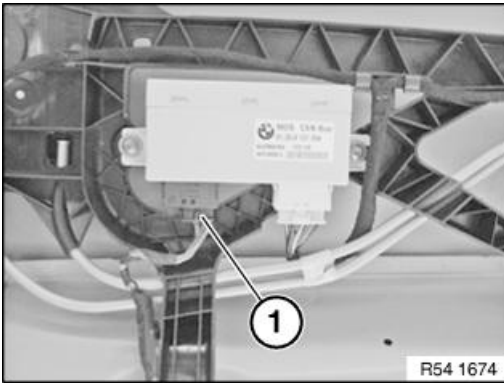


Immediately attach holder with cable straps (1) to body.

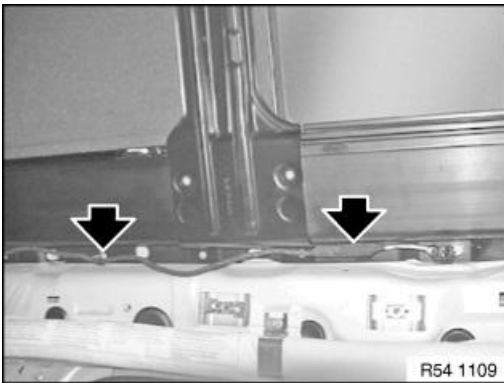


Important!

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



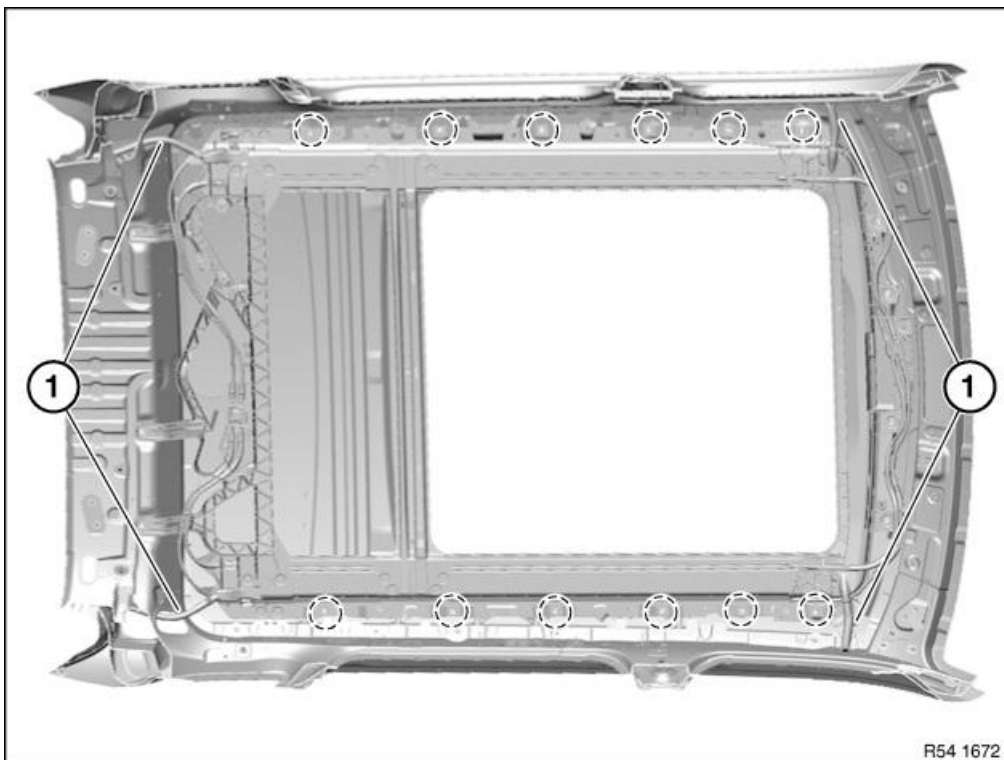
Unfasten plug connection (1) and disconnect. *Installation note:* [Initialise](#) the panorama glass roof.



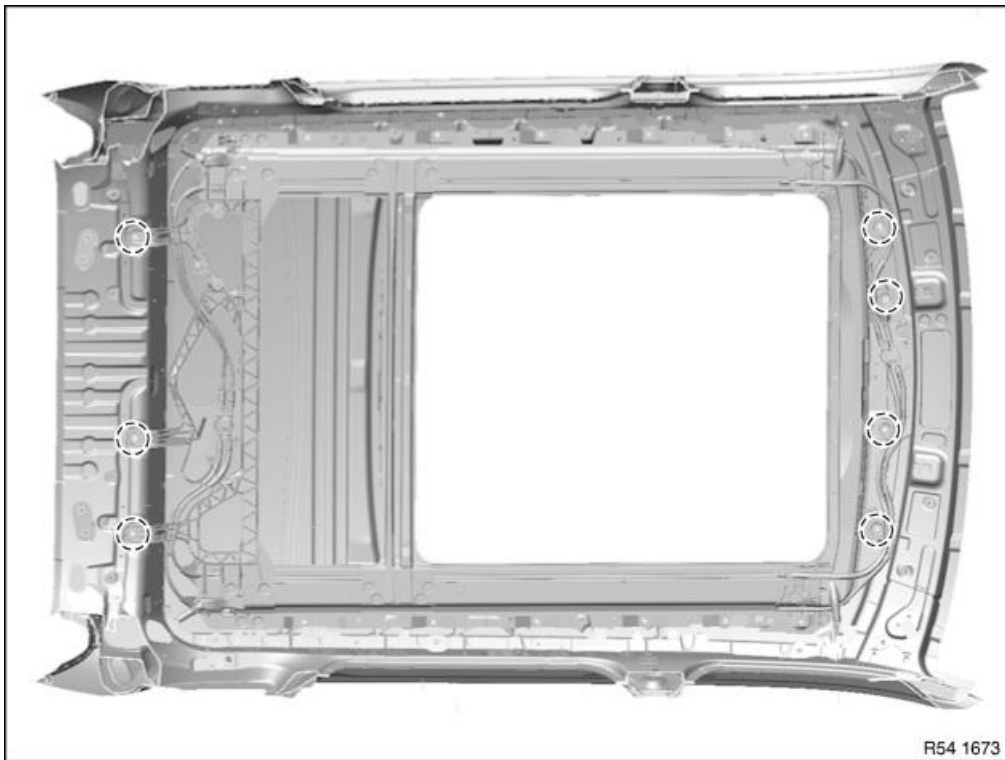
Important!

Airbag lead must not be damaged.

Pull off metal tab clips with airbag lead from panorama glass roof frame. *Installation note:* Lay airbag lead without tension or kinks.



- Detach water drain hoses (1)
Note: Check hoses for damage and coat with water before installation
- Release screws in marked area
Tightening torque [54 12 02AZ](#).



- An assistant must secure the panorama glass roof to prevent it falling.
- Release screws in marked area and carefully lower the panorama glass roof.
Tightening torque [54 12 02AZ](#).

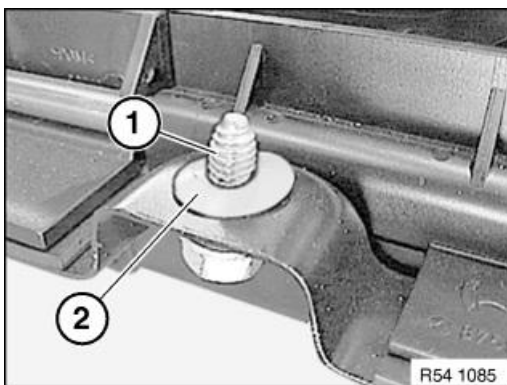
Important! Do not damage any surrounding parts when removing the panorama glass roof.

- Remove the panorama glass roof completely (through rear tailgate).



Replacement:

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



Installation note:

If necessary, remove fabric adhesive tape.

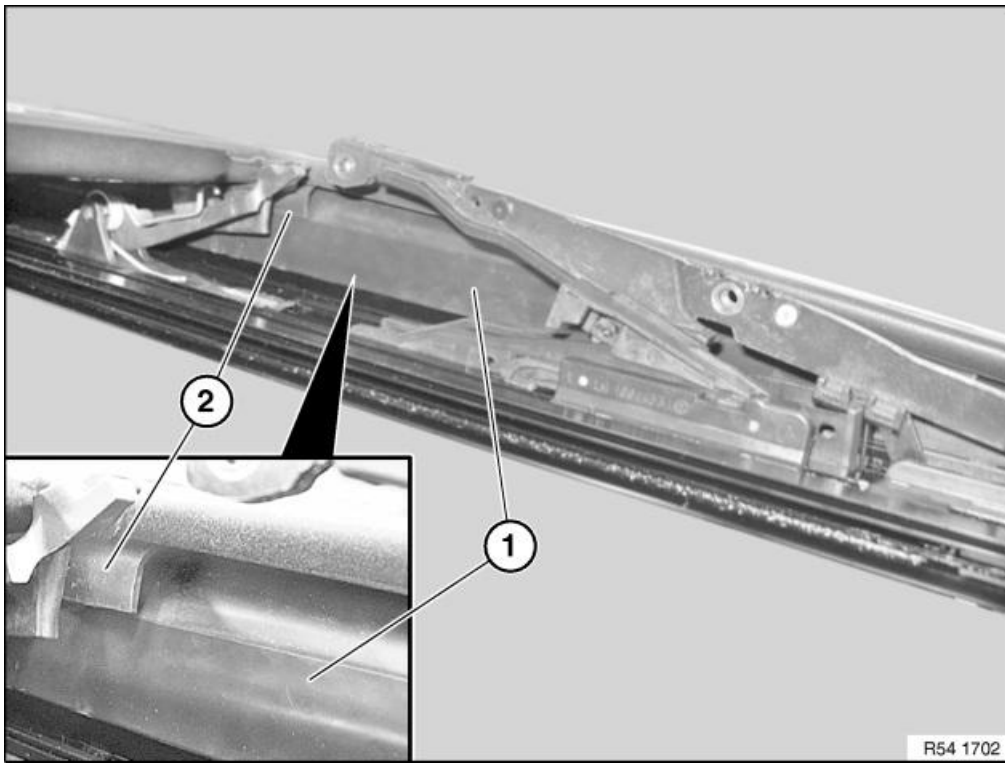
To stop creaking noises, secure all screws (1) prior to installation with plastic washers (2).

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

Important!

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

[Initialise](#) the panorama glass roof.

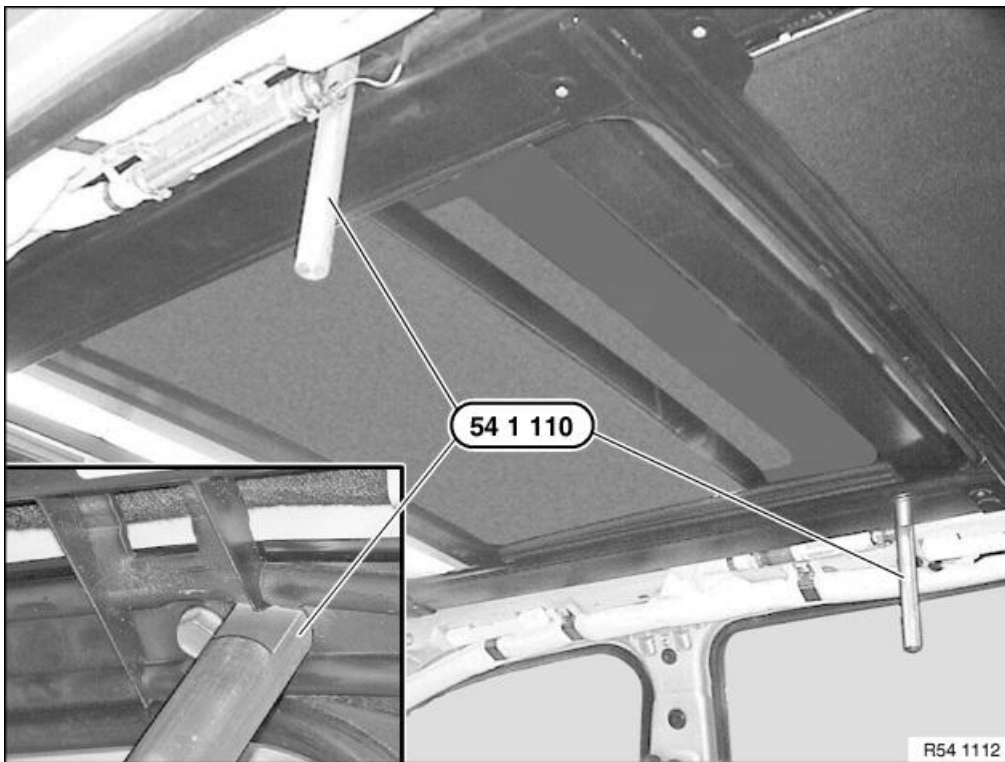


Installation note:

Place panorama glass roof straight upwards on body aperture.

Gasket (1) of panorama glass roof must face outwards.

Seal (2) of rear glass slide/tilt sunroof panel must extend over front seal (1).



Installation note:

To align the panorama glass roof to the body aperture, insert screws and tighten loosely.

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

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

Insert special tool [54 1 110](#) into the centring bore as far as it will go in the panorama glass roof and body.

Tighten down screws.

Tightening torque [54 12 02AZ](#).

Important!

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

[Initialise](#) the panorama glass roof.

**Necessary preliminary tasks:**

- Remove [panorama glass roof](#)

**Replacement only:**

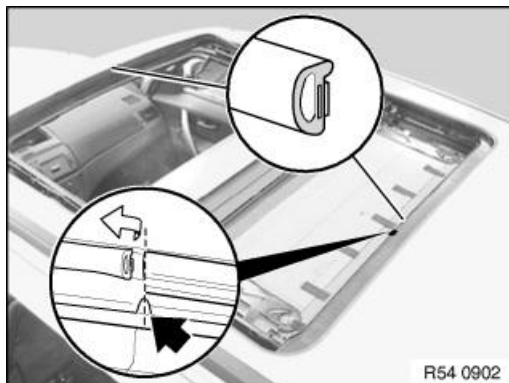
- Remove [floating headlining](#), front and rear
- Remove [electric motor with gearbox](#), front and rear

**Necessary preliminary tasks:**

- Remove [rear glass lid](#)

Note:

Follow [repair instructions](#) for bonded seals on slide/tilt sunroof.



Remove slide/tilt sunroof perimeter seal from body panel starting from joint where ends meet (peel off).

Installation:
Clean bonding surface with adhesive remover (sourcing reference: BMW Parts Service).

Press seal without stretching (squashing).

Stick on seal in sections.

Establish seal joint.

Important!

Do not touch bonding surface.

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

Incorrect bonding of the seal will result in leakage.

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



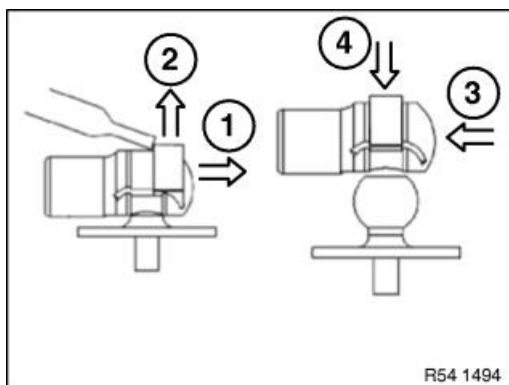
Warning!

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



Important!

Never lift off ball socket with engaged clamp.



Disassembly/assembly:

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.



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