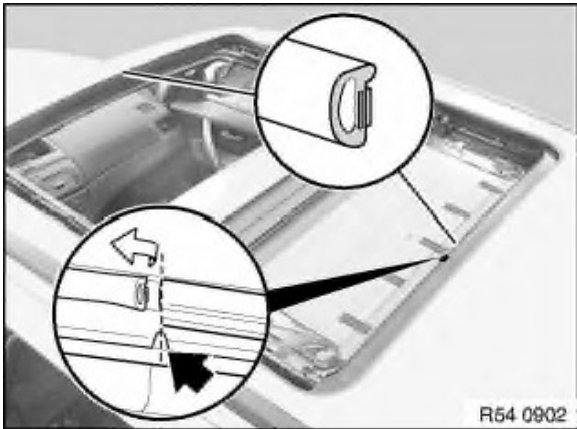


*Necessary preliminary tasks:*

- Remove glass slide/tilt sunroof lid at rear
- Lower (open) glass slide/tilt sunroof lid at front

Note:

Follow repair instructions for bonded seals on glass slide/tilt sunroof.



Pull off seal of sunroof cut-out at contact edge starting from body.
(Peel off)

Installation:

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

Press seal without stretching (squashing).

Stick on seal in sections.

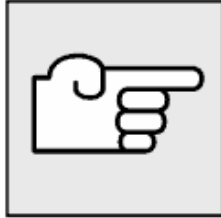
Establish seal joint.

Important!

Do not touch bonding surface.

Surface temperature ≥ 20 °C

Incorrect bonding of the seal will result in leakage.

*Note:*

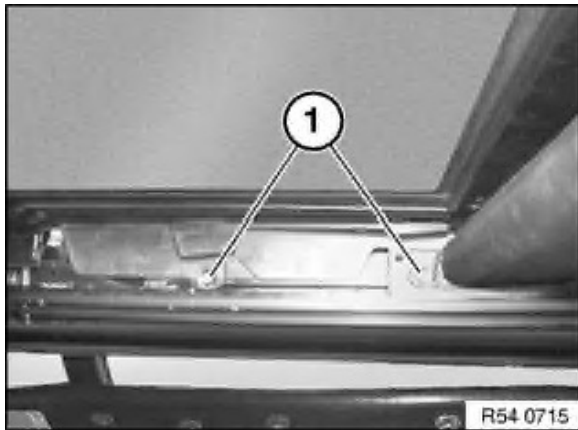
The following steps can be carried out inside the vehicle with the glass roof panel fully closed.

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 washers in order to ensure correct alignment during installation.

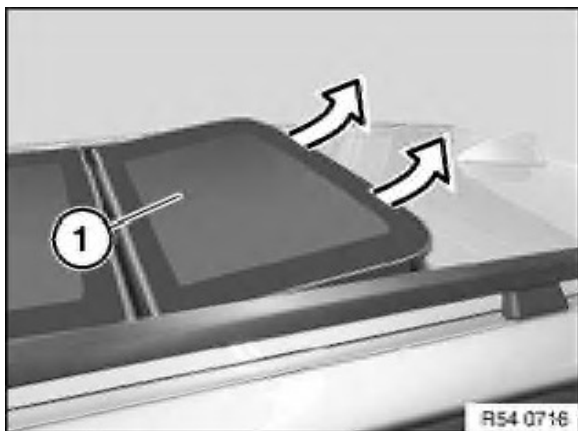


Remove and dispose of the Torx screws (1) securing the glass panel to the mechanism.

Installation:

Insert new Torx screws with Loctite and align washers to markings.

Tightening torque 54 12 01AZ .

**Important!**

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

Lift out glass slide/tilt sunroof cover (1).

Installation:

Tape off complete edge area at roof aperture with fabric adhesive tape (risk of damage).

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

Check glass slide/tilt sunroof cover for correct alignment and adjust if necessary.

54 12 Mechanical components, panorama sunroof

	Type	Thread	Tightening specification	Measure
1AZ Glass lid to gate	E53 / E61 / E70 / E83 / E91		Always use new nuts and bolts.	4 ± 0.5 Nm
2AZ Cassette to body	E53 / E61 / E70 / E83 / E91	M6	Self-tapping screw	5.4 ± 0.5 Nm
3AZ Cover, cross-member	E91			2 ± 0.5 Nm
	E53 / E61 / E70 / E83			3.5 ± 0.5 Nm
4AZ Front floating roofliner to detent element	E53 / E61 / E70 / E83 / E91			1.5 ± 0.2 Nm
5AZ Rear floating roofliner to detent element	E53 / E61 / E70 / E83 / E91			1 ± 0.2 Nm

1. General information on handling rubber seal profiles:

- If seals reveal partly detached protective film on delivery, they must not be bonded.
- Store seals at 15 °C to 25 °C.
- If, during the handling, the protective film has come off before bonding, it can still be bonded.
- Bonding at room and object temperature >20 °C. Temperatures between 40 and 50 °C significantly increase initial adhesion.
- Seals, which are subjected to temperatures above 80 °C after gluing, will be very difficult to remove.

2. Damage pattern and repair

2.1 Partially detached bond (rubber-adhesive tape or adhesive tape-paint)

- Up to 120 mm for retouching without auxiliary resources
- Up to 200 mm repaired with pressing-on tools on straight surfaces

- a) Cleaning damaged areas:
- Degrease bonded area with adhesive cleaner (refer to BMW Parts Service) and remove other residues.

Note:

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

When using solvent:

expose repair area to air for at least 2 minutes.

- b) Applying adhesive:
- With a fine nozzle, apply a wafer-thin bead to adhesive tape.

Note:

Use contact adhesive (e.g. Terokal 2444)

Caution!

Avoid contact to skin!

Do not apply adhesive to visible painted surfaces.

- c) Pressing on rubber seal:
- Press down seal using contact pressure (forced pressure not necessary) for at least 1 minute.

Caution!

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

2.2 Larger defects (mechanical damage and larger separations of seal)

- Complete replacement of rubber seal necessary

- a) Peeling off damaged rubber seal:

- Pull off rubber seal slowly at an angle up to 20° under uniformly strong tension.

Note:

Make sure the connection between adhesive tape and seal is retained.

If the connection between adhesive tape and seal is detached: Carefully and slowly detach adhesive tape at an angle of 20° from roof opening or lid.

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

Do not detach rubber-adhesive tape connection if at all possible.

b) Cleaning bonded area:

- Degrease bonded area with adhesive cleaner (refer to BMW Parts Service) and remove other residues.

Note:

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

When using solvent:

expose repair area to air for at least 2 minutes.

c) Detaching protective film from bonded area:

- Detach protective film from rubber seal in sections.

Caution!

Once the protective film has been removed, do not under any circumstances touch the exposed bonded area.

d) Applying rubber seal:

- Apply rubber seal on roof opening edge beginning at rear centre. Use upper lip as application edge. Press on seal continuously by hand. Carefully unwrap seal at radii without tension and press down (critical area).

Note:

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

e) Establishing seal joint:

- Mark contact point at joint by pressing down loose end on seal of already bonded end. Then cut and press down loose end at same height.

Note:

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

- f) Pressing on seal:
- Press on seal using a roller
 - Adhesive tape width up to 5 mm Application pressure approx. 5 N
 - Adhesive tape width up to 10 mm Application pressure approx. 10 N

Sliding sunroof seal only:

- Press against seal strongly with a roller. Application pressure approx. 70 N.

E36 sliding sunroof seal only:

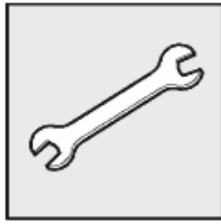
- Application pressure approx. 30 N.
- Tear off tear-off lip at rear and side in area of narrower flange.

Note:

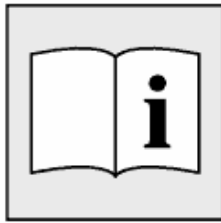
Firm thumb pressure has approx. 35 N/cm²

3. Checking rubber seal

- Check the bonded seals for correct positioning and perfect adhesion. The bonding can be checked by pressing back the sealing lip.
- The force required to peel off the seal immediately after gluing must be greater than 10 N/cm.

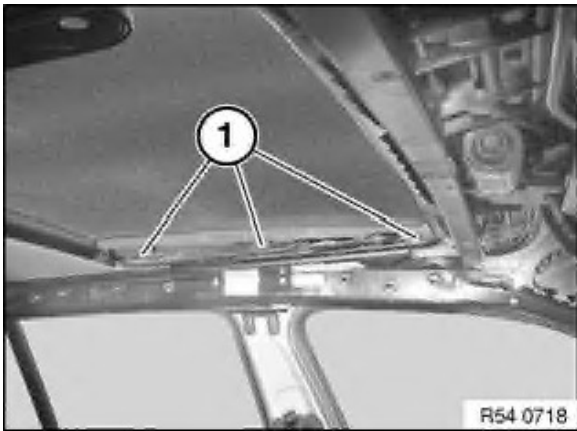
**Special tools required:**

- 00 9 315
- 00 9 340

*Necessary preliminary tasks:*

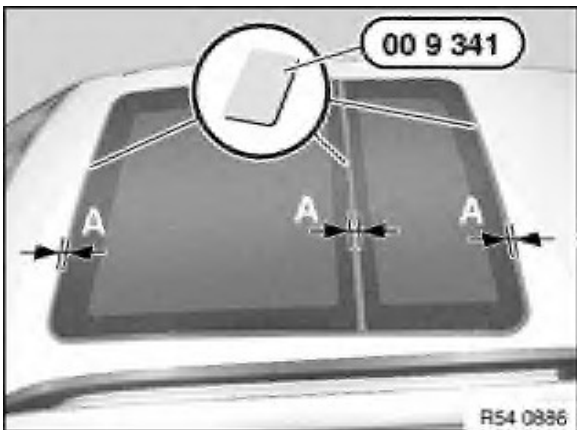
- Remove gaiter on left and right
- Close glass slide/tilt sunroof completely

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

**Adjusting glass slide/tilt sunroof unit:**

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 roof panel can still just be adjusted
- Move glass slide/tilt sunroof lid as required
- Make sure all screws are tightened down.
- Tightening torque 54 12 01AZ .
- Repeat procedure on other side.

**Distance setting:**

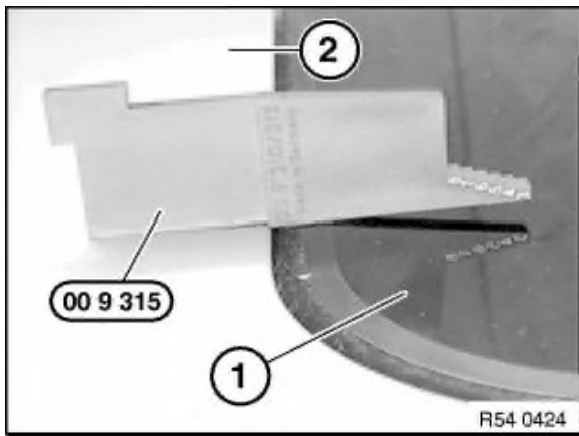
Distance A between body and glass lid (without seal):

$$A = 5.8 \pm 0.3 \text{ mm all round}$$

Check same gap of glass lid and body with special tool 00 9 340 .

Slide special tool 00 9 340 or similar between seal and insert. It must be possible to slide the card against the same level of resistance.

Slide glass lid towards front or rear until ideal position is reached.



Height adjustment:

Note:

Front glass lid must be adjusted first.

Check height of glass lid (1) in relation to body (2) with special tool 00 9 315 .

Press glass lid (1) at front and rear towards top or bottom until ideal position is reached.

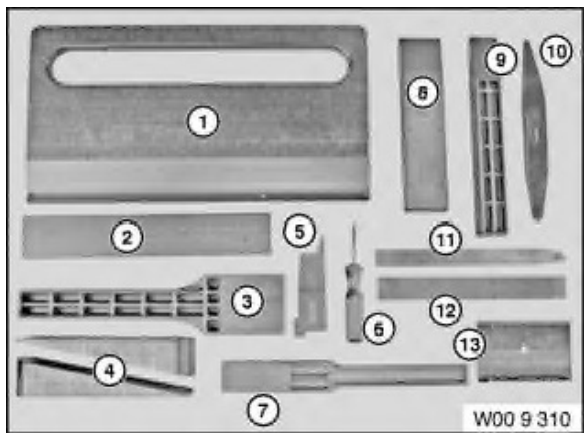
Height:

- Front edge of glass lid at front 0 to 1 mm under roof edge
- Rear edge of glass lid at front 0 to 0.5 mm over glass lid at rear
- Rear edge of glass lid at rear 0 to 1 mm over roof edge

Check function and adjustment.

00 9 310 Assembly wedges (set in plastic case)

Minimum set: Mechanical tools



Note:

For straightening and assembly jobs on vehicle bodies, e.g. fitting trim panels, removing window weatherstrips, repairing small-scale dents, removing residual adhesive materials, measuring gap widths, levering out trim panel parts

Series:

E12, E21, E23, E24, E28, E30, E30/C, E30tou, E31, E32, E32/3, E34, E34tou, E36, E36/2, E36/3, E36/5, E36/7, E36/C, E36tou, E38, E38/3, E39, E39PL, E39tou, E46, E46/16, E46/2, E46/3, E46/5, E46/C, E52, E53, E60, E61, E63, E64, E65, E66, E67, E68, E70, E71, E81, E82, E83, E85, E86, E87, E88, E90, E91, E92, E93, R50, R52, R53, R55, R56, RR1, RR2

SI number:

1 25 05 230

Order number:

00 9 310

Assembly wedges (set in plastic case)

Consisting of:

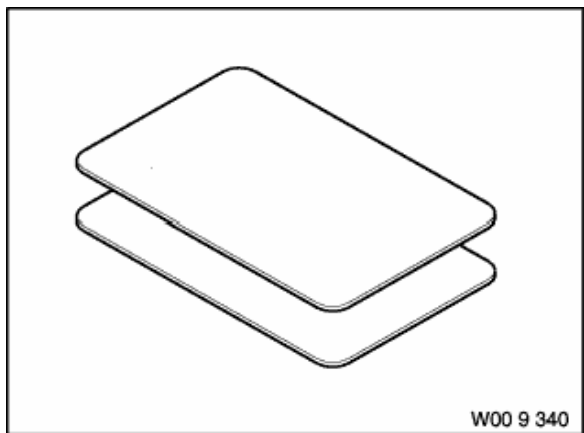
- | | |
|---------------|-------------------------------------|
| 1 = 00 9 311 | Trim remover |
| 2 = 00 9 312 | Striking wedge, square |
| 3 = 00 9 313 | Striking wedge, large |
| 4 = 00 9 314 | Adjusting wedges (2 x) |
| 5 = 00 9 315 | Gap wedge |
| 6 = 00 9 316 | Sealing lip wedge |
| 7 = 00 9 317 | Trim panel wedge |
| 8 = 00 9 318 | Universal wedge |
| 9 = 00 9 319 | Striking wedge, small |
| 10 = 00 9 321 | Fishbone |
| 11 = 00 9 322 | Plastic wedge |
| 12 = 00 9 323 | Cleaning wedge (scraper) |
| 13 = 00 9 324 | Trim remover (metal plate) |
| 14 = 00 9 329 | Case with inlay for assembly wedges |

Note: For removing stem trims from E60

In conjunction with: 009310

00 9 340 Disassembly aid (2)

Minimum set: Mechanical tools



Note:

For levering out switch block on driver's door.

Series:

E12, E21, E23, E24, E28, E30, E30/C, E30tou, E31, E32, E32/3, E34, E34tou, E36, E36/2, E36/3, E36/5, E36/7, E36/C, E36tou, E38, E38/3, E39, E39PL, E39tou, E46, E46/16, E46/2, E46/3, E46/5, E46/C, E52, E53, E60, E61, E63, E64, E65, E66, E67, E68, E70, E71, E81, E82, E83, E85, E86, E87, E88, E90, E91, E92, E93, R50, R52, R53, R55, R56, RR1, RR2

SI number:

1 15 99 (483)

Order number:

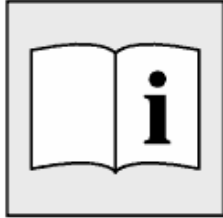
00 9 340
Disassembly aid (2)

Consisting of:

1 = 00 9 341

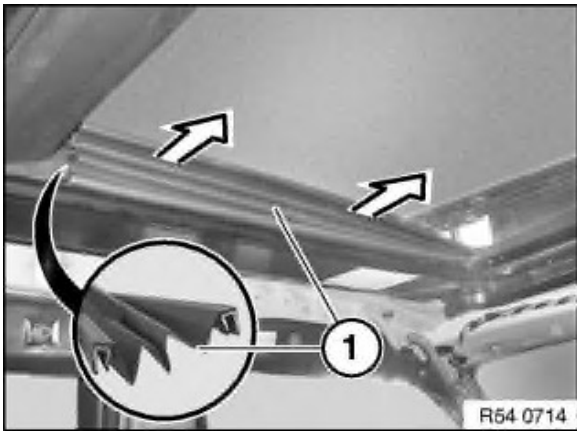
Removal aid

Note: Only available as a set (2 pieces) on 00 9 340.



Necessary preliminary tasks:

- Close glass slide/tilt sunroof



Detach gaiter (1) from guide.

Installation:

Gaiter cannot be removed without incurring damage.

Replace gaiter.

Check that aluminium section inlay is firmly seated on guide.

54 12 Mechanical components, panorama sunroof

	Type	Thread	Tightening specification	Measure
1AZ Glass lid to gate	E53 / E61 / E70 / E83 / E91		Always use new nuts and bolts.	4 ± 0.5 Nm
2AZ Cassette to body	E53 / E61 / E70 / E83 / E91	M6	Self-tapping screw	5.4 ± 0.5 Nm
3AZ Cover, cross-member	E91			2 ± 0.5 Nm
	E53 / E61 / E70 / E83			3.5 ± 0.5 Nm
4AZ Front floating roofliner to detent element	E53 / E61 / E70 / E83 / E91			1.5 ± 0.2 Nm
5AZ Rear floating roofliner to detent element	E53 / E61 / E70 / E83 / E91			1 ± 0.2 Nm