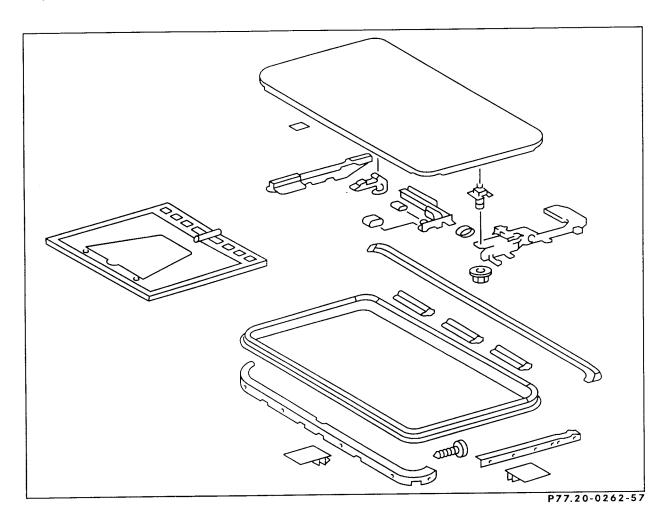
Contents

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3 Ac	Removal and installation of sliding/tilting roof panel ljusting sliding roof panel	E9 H9	0.0/4
4 cu	Removal and installation of sealing and retaining strips on sliding attout section	tilting roof No	9 4.1/1
5	Removal and installation of cable	Q	5.1/1
6	Removal and installation of rain channel	B1	10 6.1/1
7	Removal and installation of lifting bracket on sliding/tilting roof	D1	7.1/1
8	Removal and installation of tube for cable	G1	8.1/1
9	Removal and installation of motor for sliding/tilting roof	H1	9.1/1
10	Checking and adjusting slip clutch of sliding/tilting roof motor	K1	10 10.1/1
11	Removal, installation and adjusting of draft deflector on sliding/tilt	ing roof L1	0 11.1/1
12	Removal and installation of sliding/tilting roof frame	N	10 12.1/1

Exploded view

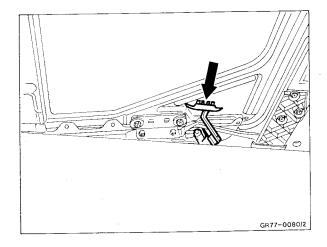


Removal

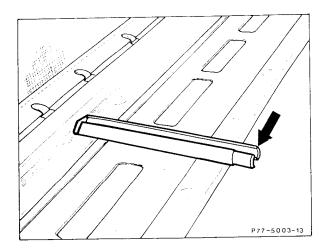
- Unclip sliding roof lining at the front (4 clips) with the sliding roof 3/4 open.
- 2 Completely open sliding roof.
- Pull out sliding roof lining towards the front.
- 4 Check clip upper parts on the sliding roof
- 5 Check clip lower parts on the sliding roof.

Installation

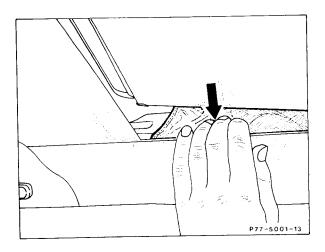
- 1 Close sliding roof and position both sliding pieces horizontal.
- 2 Completely open sliding roof.



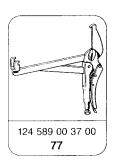
- 3 Insert sliding roof lining from the front at the top, until the clips make contact with the sliding roof, at the same time introduce the tube into the protective tube on the sliding roof lining.
- 4 Close sliding roof half way and audibly clip on the sliding roof lining at the front (4 clips).



5 Close sliding roof, tilt about half way and in this position check that the side view panels can be satisfactorily pulled in and out.



Special tools

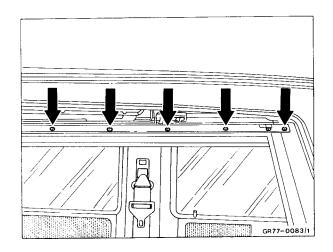


Expendable materials

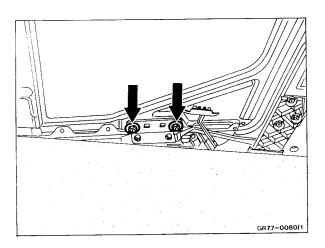
Cons. No.	Designation	Part Number
1	Anti-friction paste	001 981 14 51

Removal

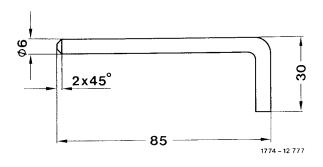
- 1 Remove sliding/tilting roof lining, refer to 2.1/1.
- 2 Fully open sliding/tilting roof and remove left and right runner rails.
- 3 Close sliding/tilting roof.



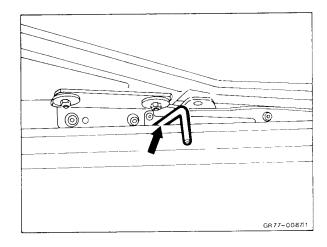
- 4 Unscrew nuts on left and right.
- 5 Pull out sliding roof panel in upward direction.



6 Make two centering pins. (If not available).



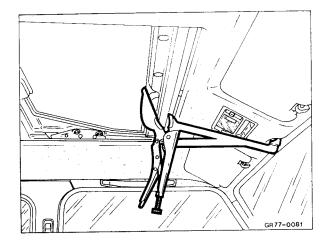
7 Insert centering pins into the centering bores on the left and right.



Installation

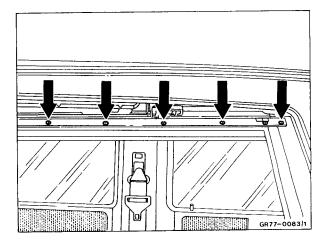
- 1 Thoroughly coat sliding shoes and runner rails with anti-friction paste No. 1 prior to installation.
- **2** Remove interior rear-view mirror, refer to 68.50 8.1/1.
- 3 Insert sliding/tilting roof panel from above, pretension using special tool and tighten nuts.





- 4 Open sliding/tilting roof.
- 5 Remove runner rails on the right and left.
- 6 Further installation in reverse sequence.

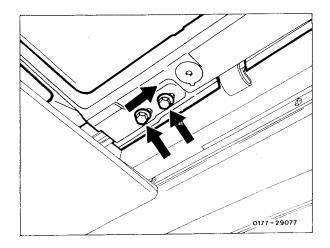
Note: Prior to assembly of the sliding headliner adjust the sliding angles and the sliding/tilting roof panel, refer to **3.2/1.**



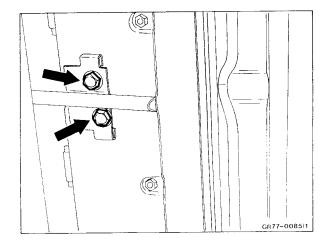
Adjustment

Adjust sliding shoes at the front

- 1 Remove sliding/tilting roof lining, refer to 2.1/1.
- 2 Release the fastening bolts at the sliding angles at the front on the left and right and press the sliding angles inwards to such a degree that the sliding shoes rest up against the side and the sliding/tilting roof is positioned exactly in the center of the opening.

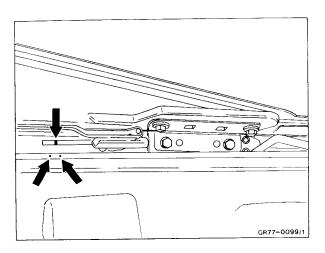


3 As the sliding roof frame shows tolerances over its entire width, it is necessary to check the lateral clearance at several points. For this purpose unscrew the cable at the sliding carrier and manually displace the sliding/tilting roof panel.

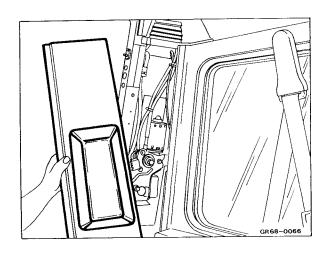


Fine adjustment at the sliding/tilting roof motor

4 If the sliding angles on the right and left do not coincide with the markings, then it is possible to carry out a fine adjustment at the sliding/tilting roof motor (C-pillar on the left).



5 For this purpose remove edge protection. Remove covering.



- **6** Pull hand wheel right out and press in again by approx. 3 to 4 mm.
- 7 Turn hand wheel to lifting or lowering and then press back in completely.

Caution: The sliding/tilting roof is not to be electrically actuated with the hand wheel pulled out.

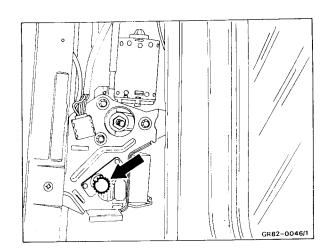
Note

- If the sliding/tilting roof does not close exactly after this adjustment, pull hand wheel back into adjusting position and carry out a further fine adjustment by turning the hand wheel.
- Turning the knob in clockwise direction = sliding/tilting roof forward

Turning the knob in counterclockwise direction = sliding/tilting roof back

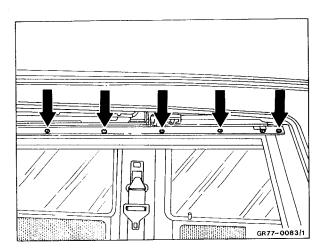
– Guide values:

One revolution of the knob alters the position of the sliding/tilting roof by approx. 45 mm.

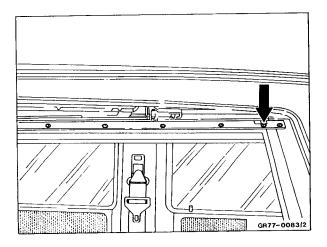


Height adjustment at the front

8 Open sliding/tilting roof and release fastening bolts on the runner rails.

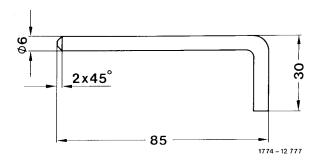


- **9** Adjust height adjusting screw on the left and right in such a way that the front edge of the closed sliding roof is 0 to 1 mm lower than the outer skin of the roof.
- 10 Tighten fastening bolts of the runner rails.

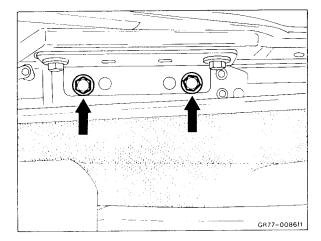


Height adjustment at the rear

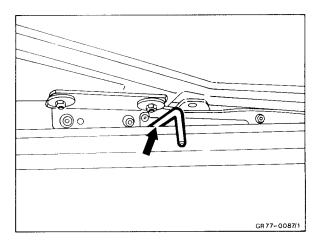
- 11 Make two centering pins. (If not available).
- **12** Remove sliding/tilting roof lining, refer to **2.1/1.**

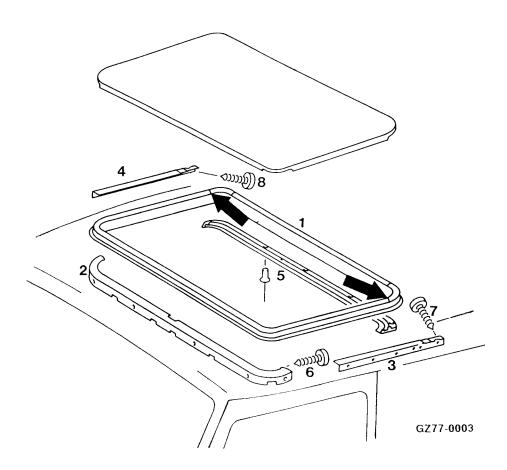


13 Release bolts at the mounting bracket on the left and right.



- **14** Insert centering pins into the centering bores on the left and right.
- 15 Adjust sliding/tilting roof panel in such a way that, from the sliding position, it lies flush with the roof or up to 1 mm higher in the radius area at the rear.
- **16** Tighten bolts on the mounting bracket on the left and right.
- 17 Pull out centering pins and install sliding/tilting roof lining.





- 1 Open sliding/tilting roof, do not remove.
- **2** Mark installation position of the sealing on the roof opening at the joints (arrows).
- **3** Pull sealing (1) out of the retaining strip (2, 3, 4 and 5).

- 4 Remove draft deflector, refer to 11.1/1.
- 5 Unscrew bolt (6).
- 6 Remove retaining strip (2).
- 7 Unscrew bolt (7 and 8).

- 8 Slide back retaining strip (3 and 4) and pull out in upward direction.
- **9** The retaining strip (5) can only be removed after removing the sliding/tilting roof frame and drilling off the rivets.
- **10** Press sealing into the retaining strips (2, 3, 4 and 5), when doing so, the ribbing on the profile must point upward.

Installation note

In order to ensure that the sealing (1) has enough hold in the retaining strip 2, 3 and 4, make sure there is a gap of 3 mm between the retaining strip and roof panelling.

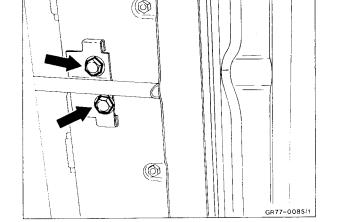
Expendable materials

Cons. No.	Designation	Part Number
1	Anti-friction paste	001 981 14 51

Removal

- 1 Remove sliding/tilting roof lining, refer to 2.1/1.
- **2** Unscrew guide plate on the sliding carrier and disengage.
- **3** Press actuating switch to "Lift roof" and let cable run out of transmission.
- 4 Pull cable out toward the front.

Note: If the cable cannot be moved with the electric drive, use the emergency crank.

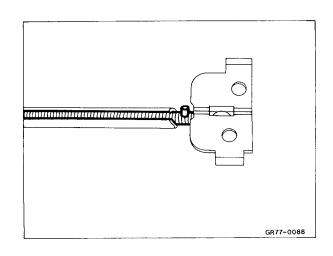


- 5 If the cable cannot be pulled out, the transmission of the electric drive has to be disassembled.
- **6** If after disassembly of the transmission, the cable can still not be removed, it has become distorted in the tube, and the tube then also has to be removed, refer here to **8.1/1.**

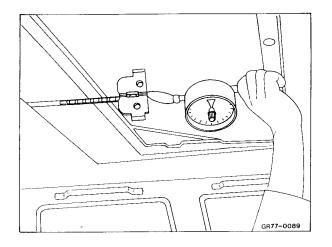
Installation

1 Coat the spiral section at the end of a new cable with anti-friction paste No. 1 and introduce it into the tube.

Note: When installing the cable, make sure that the guide piece on the cable slides into the opening of the tube.

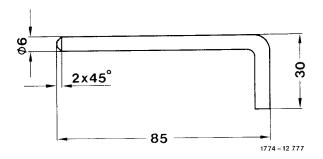


- 2 The cable must be able to be pulled out with a max. force of 80 N. The testing is carried out with a spring balance.
- 3 Slide cable right into the tube and press actuating switch to "Lower roof" and let cable run into the transmission untill the bores of the guide plate and the sliding carrier are in line with each other.
- 4 Bolt guide to sliding carrier.
- 5 Install sliding/tilting roof lining, refer to 2.1/4.

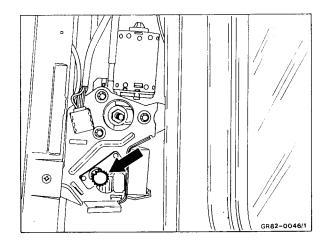


Adjustment

- 1 Make two centering pins. (If not available).
- 2 Remove lining on C-pillar.
- **3** Press actuating switch to "Lift roof" until the sliding/tilting roof panel has been lifted.



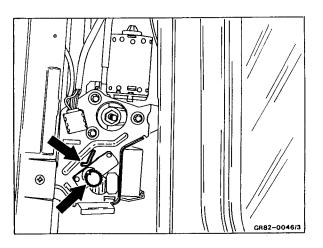
4 Bring the adjusting knob into individual position (pull out up to stop and press in approx. 3 mm).



- 5 Turn adjusting knob until the centering pin can be completely inserted in the centering bore and the notch on the knob is pointing in the direction of the bore.
- **6** Press in adjusting knob and remove centering pin.

Caution!

Do not actuate the sliding/tilting roof motor with centering pin inserted or adjusting knob pulled out, as otherwise the control unit may be damaged or the adjustment altered.



7 If the sliding/tilting roof does not close exactly after this adjustment, pull hand wheel back into adjusting position and carry out a further fine adjustment by turning the hand wheel.

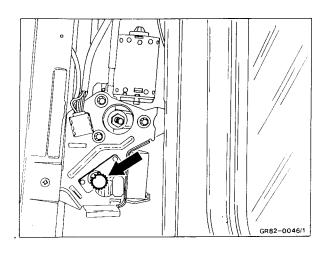
Turning the knob in clockwise direction = sliding/tilting roof forward

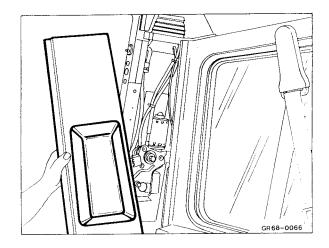
Turning the knob in counterclockwise direction = sliding/tilting roof back

Guide values:

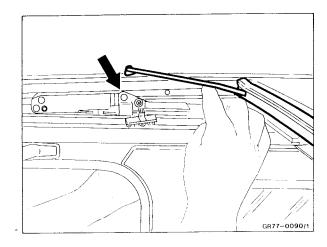
One revolution of the knob alters the position of the sliding/tilting roof by approx. 45 mm.

- **8** Press in adjusting knob and actuate sliding/tilting roof switch.
- 9 Install lining on C-pillar.

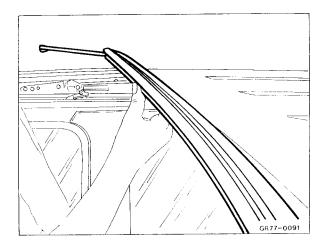




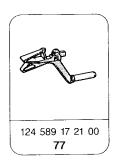
- 1 Remove sliding/tilting roof lining, refer to 2.1/1.
- 2 Remove sliding/tilting roof panel, refer to 3.1/1.
- **3** Disengage rain channel on the right and left from the lifting bracket.

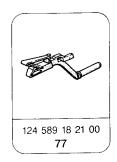


- 4 Pull out rain channel and remove.
- 5 Install in reverse sequence.



Special tools ${\cal Z}$



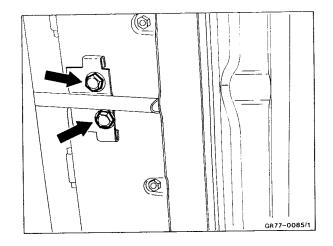


Expendable materials

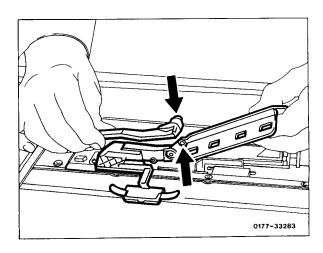
Cons. No.	Designation	Part Number
1	Anti-friction paste	001 981 14 51

Removal

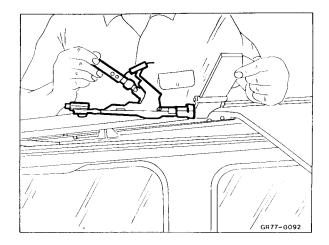
- 1 Remove sliding/tilting roof panel, refer to 3.1/1.
- 2 Unscrew cable from sliding carrier.



- **3** Pull out mounting bracket for sliding/tilting roof panel from lateral guide (gate) and remove rain channel.
- 4 Unscrew sliding carrier and remove.



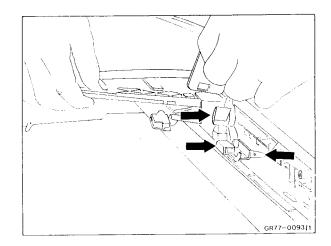
5 Slide lifting bracket forward up to the stop, tilt upward and remove at an angle toward the inside.



Installation

1 Prior to installation grease lifting bracket with anti-friction paste No. 1 at the sliding shoes and moving parts.

Note: During the installation pay attention to correct fit of the sliding shoes (arrows).



- 2 Install lifting bracket.
- 3 Install sliding carrier, at the same time, using a screwdriver, press lifting bracket slightly outward and tighten.
- 4 Install rain channel.
- **5** Carry out basic adjustment at lifting bracket mechanism. For this purpose insert adjusting gauges on the left and right in the gate (lateral guide) and groove in the lifting bracket.



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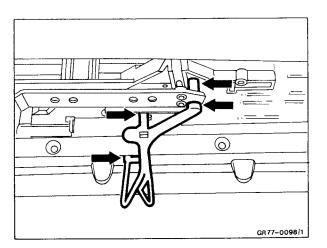
Representation with unscrewed sliding/tilting roof mounting bracket.

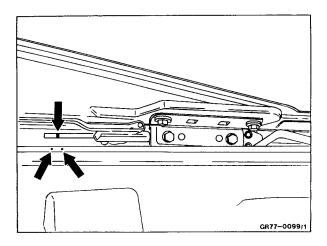
6 Install sliding/tilting roof panel, refer to 3.1/1. Note

- Do not remove adjusting gauges until after installation of the sliding/tilting roof panel.
- 7 Screw cable to sliding carrier.
- 8 Actuate sliding/tilting roof panel several times into all positions.
- **9** Check coincidence of markings on the bracket of the sliding/tilting roof lining to the marking on the runner rail.

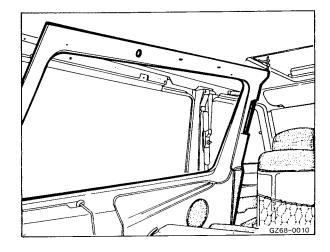
Note: If the marking is outside the notches on the runner rail, the cable must then be adjusted, refer to **5.1/1.**

10 The further installation takes place in the reverse order to the removal.

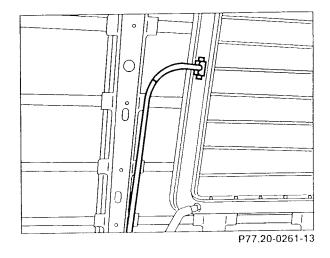




- 1 Remove cable, refer to 5.1/1.
- 2 Remove side lining, refer to 68.50 **7.1**/1 bzw. **7.2**/1.



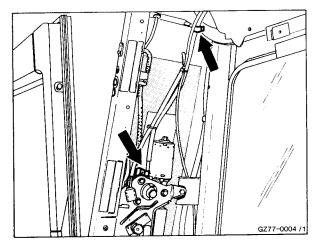
- 3 Release roof lining and press down.
- 4 Unscrew tube on sliding/tilting roof unit.



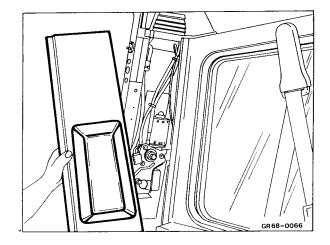
- 5 Unscrew tube clamp on C-pillar.
- Disengage tube on motor and remove.
- 6 Install in reverse sequence.

Installation note

Do not bend tube during installation, as otherwise the cable gets stuck.

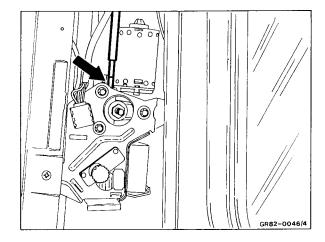


- 1 Remove sliding/tilting roof panel lining, refer to 2.1/1, 3.1/1.
- 2 Remove cable, refer to 5.1/1.
- 3 Remove edge protection on tailgate on the left.
- 4 Remove lining on C-pillar.

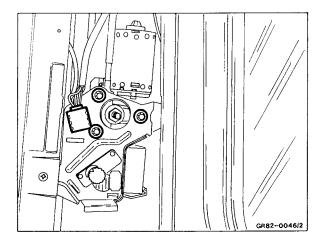


5 Disengage tube on sliding/tilting roof motor at the top.

Note: When clipping on the tube make sure that the bead on the tube slides into the groove on the transmission.

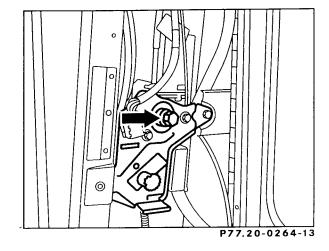


- 6 Disconnect electrical connector.
- 7 Remove motor with bracket.
- 8 Install in reverse sequence.

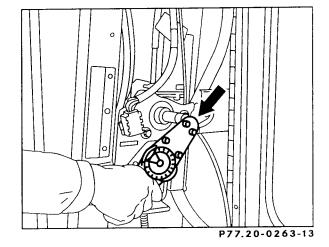


Test

- 1 Half open sliding/tilting roof.
- 2 Remove lining on C-pillar.
- 3 Place socket on emergency crank drive. Size: 16 mm



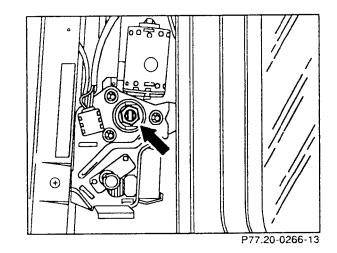
- 4 Place torque wrench on socket and hold.
- 5 Have a person actuate the sliding/tilting roof switch and read off torque. Specified value 6 to 7 Nm.
- 6 Remove socket.
- 7 Install lining on C-pillar.



Adjustment

- 1 Remove lining on C-pillar.
- 2 Remove plastic cap for emergency crank drive and screw in hexagon nut lying underneath to increase the torque and unscrew for reduction of torque.

Note: Hold transmission shaft in place with an open-end wrench (6 mm).

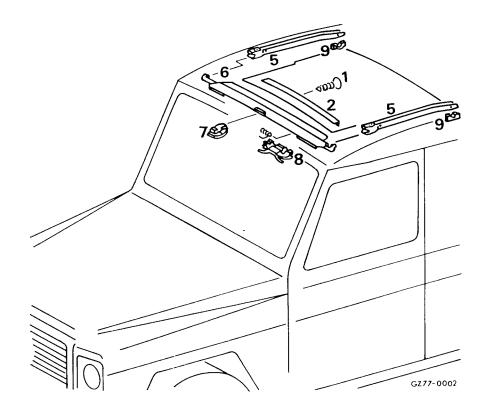


3 Turn hexagon nut max. 60°, then press on plastic cap and check torque, readjust if necessary.

Caution!

The slip clutch is under no circumstances to jam.

4 Install lining of C-pillar.

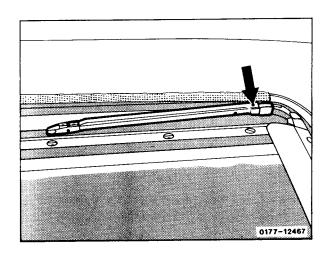


- 1 Unscrew bolt (1).
- 2 Detach chrome rail (2).
- 3 Disengage holding down device (5) from bearing (9) and pull out of the draft deflector (6).
- 4 Pull draft deflector (6) out of the center bearing (7).
- 5 Carefully press draft deflector (6) out of the well with bearing (8) on the left and right using a screwdriver.
- 6 Pull out draft deflector (6) in upward direction.
- 7 Install in reverse sequence.

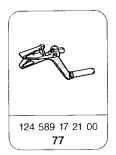
Adjustment

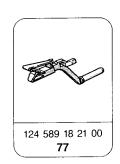
If the draft deflector slides against the sliding/ tilting roof panel when inserting it into the opening, the height adjustment can be altered by adjusting the adjusting screw (arrow). If the draft deflector rattles in the center bearing, this can be pretensioned slightly. For this purpose hold draft deflector at the outer bearings, in the center pull it out of the center bearing and bend up slightly. Gap during the closing between cover and draft deflector: 5 mm.

Note: Check operation of sliding/tilting roof during test run (100 km/h), readjust draft deflector again if necessary.



Special tools ${\cal Z}$



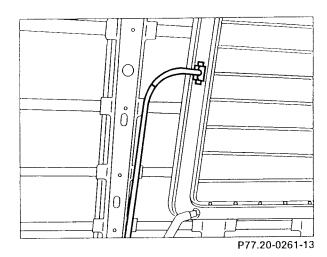


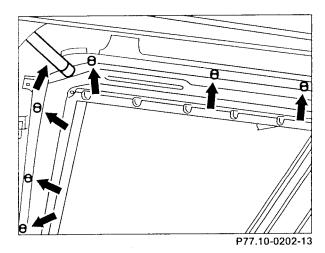
Removal

- 1 Remove sliding/tilting roof lining, refer to 2.1/1.
- 2 Remove sliding/tilting roof panel, refer to 3.1/1.
- 3 Remove cable, refer to 5.1/1.
- 4 Remove roof lining, refer to 68.50 5.1/1.
- **5** Unscrew tube on sliding/tilting roof frame at the rear.
- 6 Detach draining hoses and unscrew bolts.

Note: Risk of injury when removing the sliding/ tilting roof frame through the sliding carrier, for this reason you should always wear protective gloves.

7 Remove sliding/tilting roof frame.





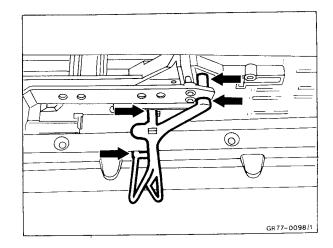
Installation

Note: Prior to installation of the sliding/tilting roof frame, insert adjusting gauges left and right in the gate (lateral guide) and the groove in the lifting bracket.

Do not remove adjusting gauges until after installation of the sliding/tilting roof panel.



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1 Lift sliding/tilting roof frame into the interior of the vehicle.

Note: During the installation of the sliding/tilting roof frame, pay attention to the satisfactory sealing between frame and body.

2 Bolt on sliding/tilting roof frame and at the same time pay attention to the correct installation position of the tube and the draining hoses.

Note: The two rear fastening bolts have a metric screw thread. In order for the sliding/tilting roof frame to be centered towards the sliding/tilting roof opening, first tighten the two front fastening bolts on the left and right.

- 3 Secure on the sliding/tilting roof frame at the rear.
- 4 Further installation in reverse sequence.