

BEML - TATRA 815

26RR36 22 255 6x6.1R/50T, 51T

Workshop manual

Part 13 – CAB, HEATING & VENTILATION SYSTEM

Publication numer: 03-0254-ENG/00





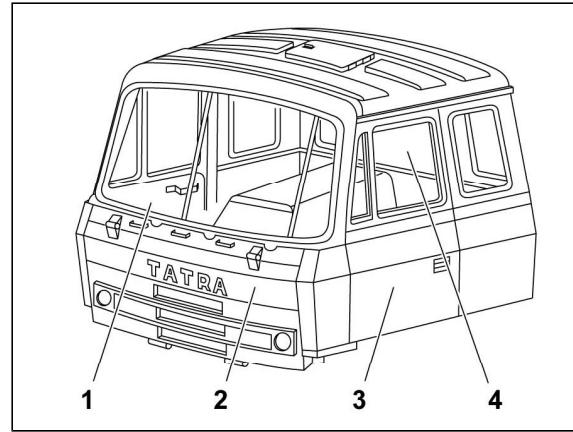
13 CAB, HEATING & VENTILATION SYSTEM

13.1 Description and Main Technical Specifications

The vehicles BEML - TATRA T 815 - 26RR36 22 255 6x6.1R/50T and BEML - TATRA T 815 - 26RR36 22 255 6x6.1R/51T feature the chassis frame and body construction.

The forward control cab is of middle-type, all-metal, tilting, two-door, four-seat.

The windshield is split. The windshield glasses are wiped by two wipers and are fitted with windshield washers. The cabin is equipped with sun visors. In the cab's roof there is a rectangular lifting manhole. In the cab's front part there is a tilting bonnet controlled by the Bowden cable mechanism with lever, which is situated inside the cabin in the driver's place. The cab's doors are fitted with drop glasses. Large-size rear-view mirrors are attached to doors holders. The cabin is fitted with weapons holders.



Legend: 1 - windshield, 2 - front bonnet, 3 - door, 4 - door drop window

Fig. 13.1 Middle-type driver's cabin

The cabin is mounted on the auxiliary ladder-type frame on two rubber silent blocks 3 pressed into bushes at the cab's front by means of cab's pins 1, round which the cab is tilted, and fitted with washers 2 and 5, lock washers 4 and nuts 6.

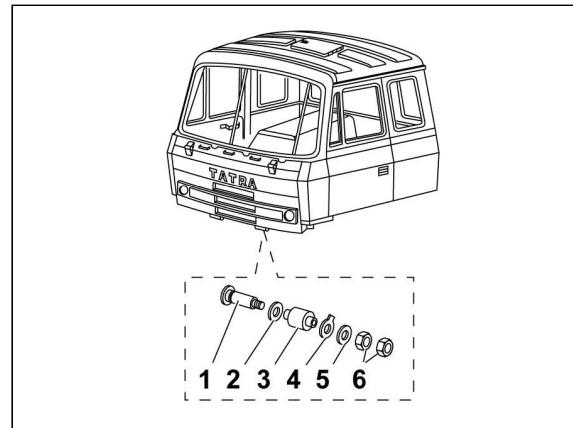


Fig. 13.2 Cab's mounting to frame



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The cab's locking in the operating position to the auxiliary frame is performed by means of the angular leverage system, tie-rods and hooks locking system, which is controlled from the left-hand side of the vehicle.

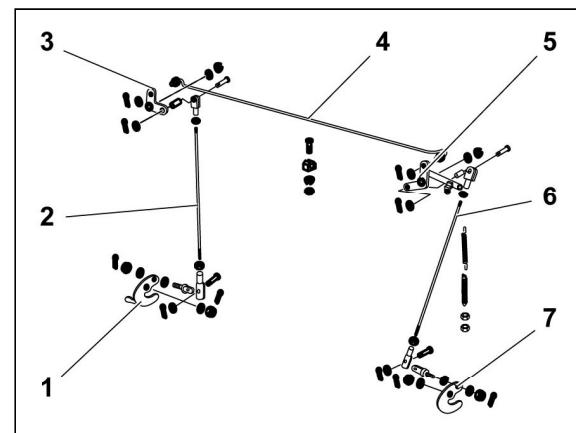


Fig. 13.3 Cab's locking device

The cab is tilted hydraulically by means of the manual pump 2 situated on the LH side behind the cab. The tilting system includes the manual pump 2, hoses 3 and hydraulic cylinder 1.

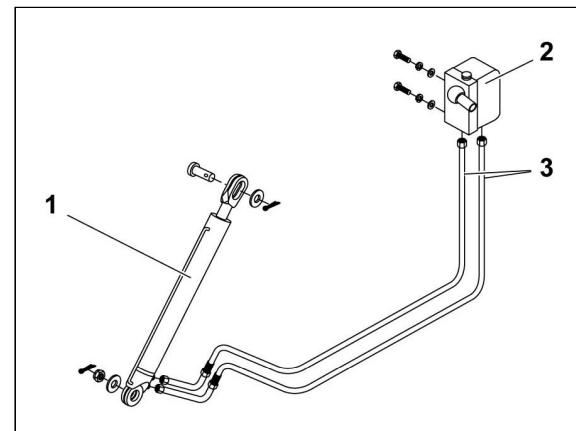


Fig. 13.4 Cab's tilting

The driver's and co-driver's seats are sprung pneumatically and adjustable. Between the driver's seat and co-driver's seats there is a two-person seat fitted with lap belts. At the rear of the cab there is a two-part couch.

The chassis is equipped with the dependent heater, ventilation and independent heater system.

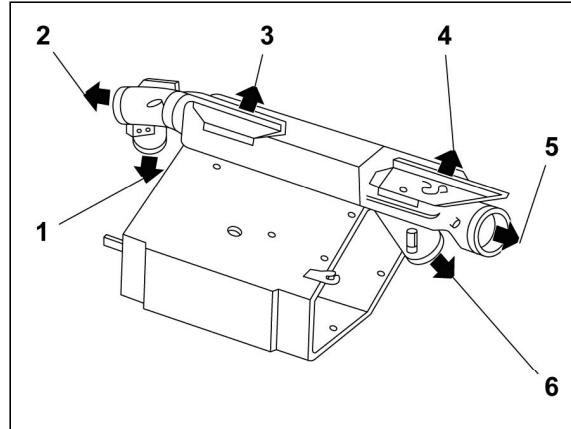


Description of the cab's ventilation and heating function

The ventilation and heating of the cab's interior is one of elements, which has an influence upon the traffic safety. The driver's cab interior can be ventilated and heated by means of the dependent and independent heaters.

Cab's ventilation and heating provided by the dependent heater

The dependent heater uses the engine oil temperature to warm the air inside the cab. The dependent heater and air distribution are controlled from the common control panel on the instrument board. The cab's ventilation is provided by the fresh ambient air, which enters the warm air distribution system from the space ahead of the windshield of the driver's cabin. The air amount can be controlled by setting the speed of the two-speed fan situated in the distribution housing. It is controlled by the change-over switch on the instrument board. As need be, the fresh ambient air or heated air can be directed inside the cab towards floor, towards windshield and side glasses or windshield by means of flaps controlled from the control panel.



Legend: 1, 6 - floor; 2, 5 - windshield and side windows; 3, 4 - windshield

Fig. 13.5 Air distribution inside the cab

If need be, the fresh air supply into a system of the warm air distribution can be closed by the recirculation flap 1. The description of the control is mentioned in the vehicle Driver's Manual.

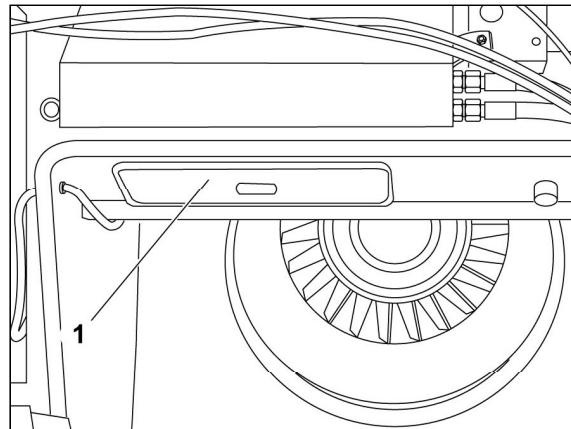


Fig. 13.6 Location of the recirculation flap



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The cab's heating and air distribution control

The control panel on the instrument board is used to control the cab's heating and air distribution. The lever 1 is used to control the air distribution and lever 2 to control the dependent heater. The description of the control is mentioned in the vehicle Driver's Manual.

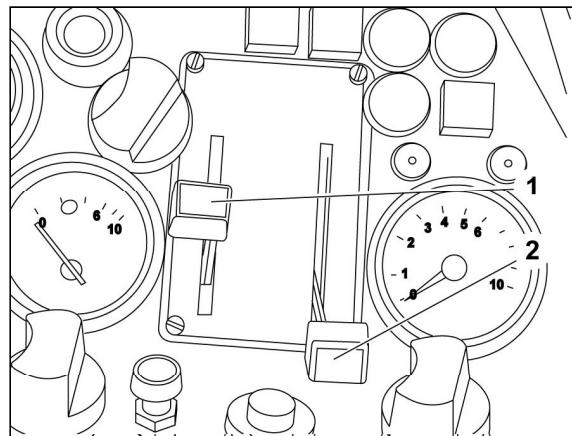
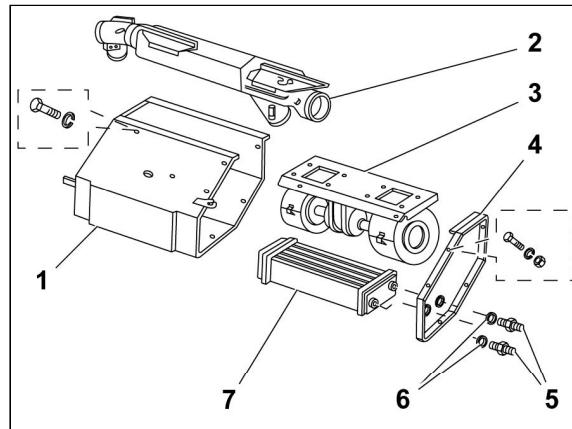


Fig. 13.7 Control panel - location

System of the warm air distribution

The system of the warm air distribution is situated above the center tunnel and is composed of components, which serve to heat the air, which enters the cab, fan and heater distribution with control flaps fitted on the housing. When the circuit of the dependent heater is closed, the cab's interior may be ventilated using the warm air distribution system by the ambient air.



Legend: 1 – housing jacket, 2 - heater distribution, 3 - fan, 4 - jacket cover, 5 - neck, 6 - sealing ring, 7 - heating body

Fig. 13.8 System of the warm air distribution



Heating body

The heating body is of the ribbed pipe design.

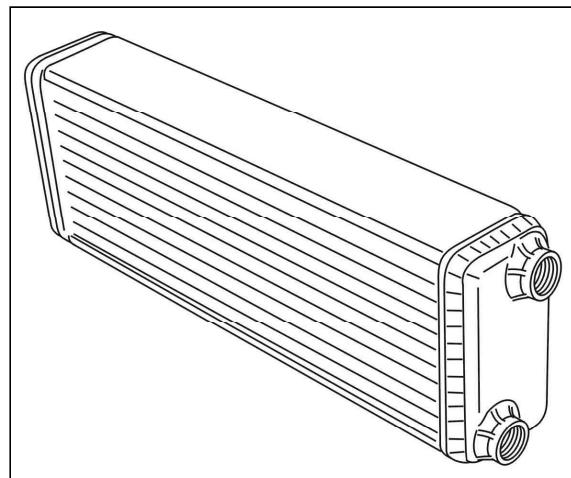


Fig. 13.9 Heating body

Fan

The fan is designed to allow the air flow through the heater distribution system during ventilation or heating. The complete fan consists of the electric motor with two output shafts and two radial fans.

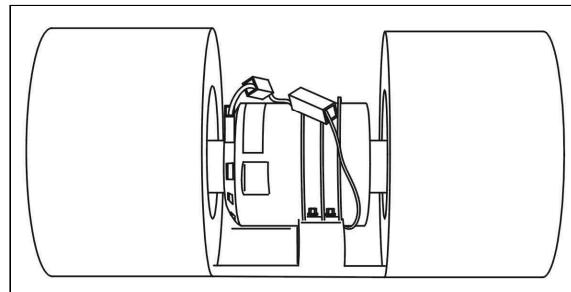
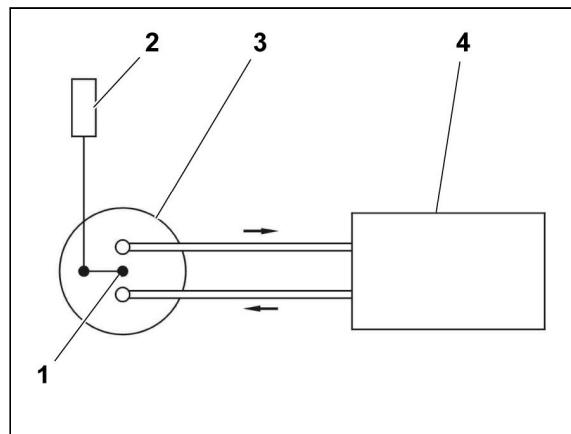


Fig. 13.10 Fan

Description of the dependent heater function

The heating of driver's cabin by means of the oil heated during the vehicle engine operation is illustrated in the figure.

The engine oil pump 3 is used to lubricate the engine (2 sections) and to allow the oil circulation via the heating body 4 (1 section). The oil flow regulation through the heating body is performed by the control valve 1 situated on the face of the oil pump. The control valve is controlled by the lever 2. Its position is determined by setting of lever 2 on the control panel on the instrument board. The dependent heater circuit is connected to the engine lubrication oil and cooling system.



Legend: 1 - oil flow control valve, 2 - control valve lever, 3 – engine oil pump, 4 - heating body

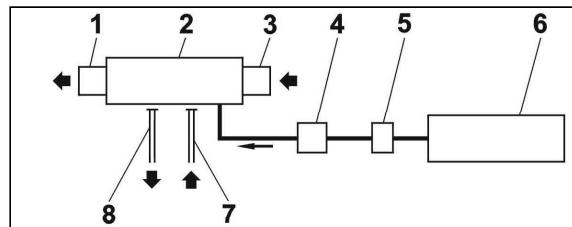
Fig. 13.11 Diagram of dependent heater



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**The driver's cabin heating by means of the independent heater**

The independent heater operates independently on the thermal regime of the vehicle engine. It serves to heat the driver's cabin interior prior to start the engine. The block diagram of the independent heater is illustrated in figure. The independent heater is situated on the LH side of the cab's front wall under the tilting front bonnet.



Legend: 1 – outlet duct of the warmed air from heater, 2 – air heater, 3 – inlet duct of the air inlet into heater, 4 – heater delivery pump, 5 – heater fuel cock, 6 – heater tank, 7 – combustion air inlet manifold, 8 – exhaust manifold

Fig. 13.12 Block diagram of independent heater

Control of the cab's independent heater

The timer of the independent heater 1 is situated besides the instrument board. The lay-out and function of individual timer control elements is described in the vehicle Driver's Manual.

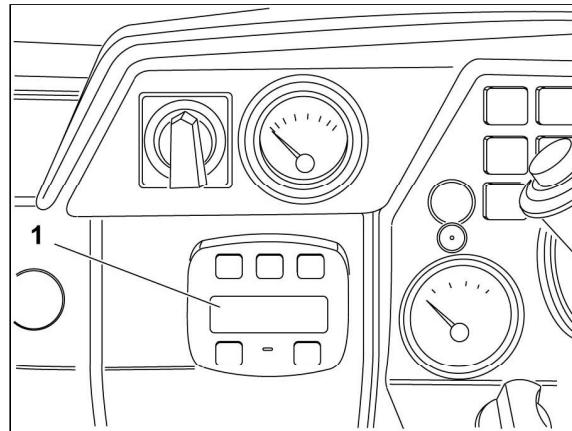


Fig. 13.13 Cab's independent heater timer

The principal technical data of the driver's cabin are mentioned in the next table.

Tab. 13.1 Technical data

Data	Value	
Kind	chassis frame and body construction, middle-type, all-metal, four-seat, two-door, forward tilting	
Cab's tilting mechanism	hydraulic, manual	
Seats:	- driver	sprung pneumatically, adjustable (seat cushion and backrest)
	- co-drivers	sprung pneumatically, adjustable (seat cushion and backrest)
	- attendants	fixed, two-seat, two-point seat belts
Cab's heating	engine oil temperature dependent heater and independent heater	



13.2 Faults Causes, Symptoms and Troubleshooting

Fault	Cause	Remedy	Mentioned in:
Insufficient windshield wiping	Damaged wiper blades	Replace wiper blades	(See Subchapter 13.5.1)
The windshield wiping is not operative	The wipers drive mechanism is faulty	Replace the wipers drive mechanism	(See Subchapter 13.5.2)
A wrong function of the rear-view mirror	Damaged rear-view mirror or the rear-view mirror holder	Replace the rear-view mirror or the mirror holder	(See Subchapter 13.5.3)
The door cannot be closed	Damaged door panel	Replace the door panel	(See Subchapter 13.5.4)
	Damaged door lock	Replace the door lock	(See Subchapter 13.5.5)
	Damaged door	Replace the door	(See Subchapter 13.5.11)
The door glass cannot be lowered or raised	Damaged window double-arm regulator	Replace the window double-arm regulator	(See Subchapter 13.5.6)
Damaged door drop glass	Damage due to other object impact	Replace the door glass	(See Subchapter 13.5.7)
Damaged door fixed glass	Damage due to other object impact	Replace the door glass	(See Subchapter 13.5.8)
Damaged the driver's or co-driver's seat	Mechanical damage of the seat	Replace the seat	(See Subchapter 13.5.12)
Seat positioning or suspension mechanism is not operative	Damaged seat positioning or suspension mechanism	Replace the seat	(See Subchapter 13.5.12)
Damaged the seat (double)	Mechanical damage of the seat	Replace the seat	(See Subchapter 13.5.13)
Damaged windshield	Damage due to other object impact	Replace the windshield	(See Subchapter 13.5.10)
Damaged side glass	Damage due to other object impact	Replace the side glass	(See Subchapter 13.5.9)
The cab cannot be tilted	Damaged some part of the cab's tilting mechanism	Replace the damaged part of the cab's tilting mechanism	(See Subchapter 13.5.20)



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Fault	Cause	Remedy	Mentioned in:
Insufficient dependent heater	Damaged heat exchanger	Replace the heat exchanger	(See Subchapter 13.5.18)
Insufficient ventilation	Damaged heat exchanger cover or other its component	Replace the heat exchanger cover or other damaged component	(See Subchapter 13.5.17)
	Damaged fan speed	Replace the fan	(See Subchapter 13.5.19)
Insufficient independent heater	Damaged independent heater timer	Replace the control panel	(See Subchapter 13.5.14)
	Damaged fuel pump	Replace the fuel pump	(See Subchapter 13.5.15)
	Damaged independent heater	Replace the independent heater	(See Subchapter 13.5.16)
Damaged driver's cab	Damage due to the vehicle collision or other object impact	Replace the driver's cab	(See Subchapter 13.5.21)



13.3 List of Special Tools

Tab. 13.2 Special tools for cab

<p>Name: Mounting tool of wind shield glass wedge frame <i>Tool number:</i> LMD 0019</p>	
<p>Name: Mounting tool of side window glass wedge frame <i>Tool number:</i> LMD 0025</p>	
<p>Name: Lifting device for cab handling - short cab and medium cab <i>Tool number:</i> PRM 1690</p>	



13.4 Survey of Torque Specifications

Tab. 13.3 Torque specifications

Data	Unit	Value
Wiper arm locking nut	Nm	9 - 10
Wipers drive mechanism fastening nut		25^{+5}
Fastening nuts of the wipers drive mechanism lever		34 ± 2



13.5 Working Procedures

13.5.1 Removal and Installation of Windshield Wipers

a) Reasons for Removal

1. Damaged wiper arm.
2. A low windshield wiping efficiency.

b) Technical Conditions

1. Adjust the wipers so that they do not come into contact with the windshield seal during installation.

c) Removal Procedure

1. Tilt the cap **2** from the nut locking the wiper arm **3**.
2. Loosen and unscrew the nut **1**, locking the wiper arm on pin with the splined shaft of the wiper drive mechanism.
3. Tilt the wiper arm **3** against the wiper arm pressure spring force away from the windshield.
4. Withdraw the wiper arm **3** c/w blade from splining of the wiper arm motor shaft.

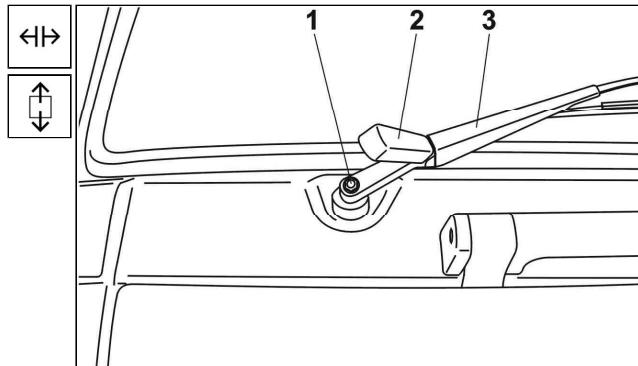


Fig. 13.14 Attachment of the wiper arm – removal

d) Installation Procedure

1. Slide the wiper arm **3** in the raised position on splining of the wiper arm motor shaft so that the wiper blade is positioned horizontally towards the windshield seal bottom in the distance of about 40 mm.
2. Mount and tighten the locking nut **1** to the torque of **9 - 10 Nm** to lock the wiper arm **3** in position.
3. Tilt the wiper arm **3** so that the wiper blade leans on the windshield.
4. Put the lid **2** on nut **1** to lock the wiper arm **3**.
5. After adjustment the wiper blades must not come into collision with the windshield seal.

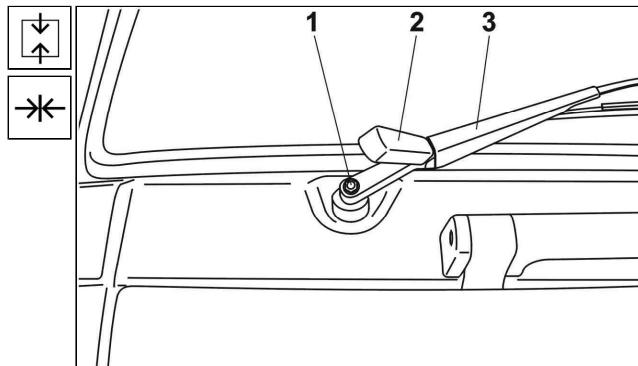


Fig. 13.15 Attachment of the wiper arm – installation



13.5.2 Removal and Installation of the Windshield Wipers Drive Mechanism

a) Reasons for Removal

1. The wipers leverage mechanism is not functioning.
2. Insufficient effect of the windshield wiping.

b) Technical Conditions

1. No ones have been stipulated.

c) Removal Procedure

1. Dismount the windshield wipers **3** according to the procedure mentioned in: (See Subchapter 13.5.1).
2. Loosen and unscrew nut **2**.
3. Withdraw sealing ring **1** and washer.

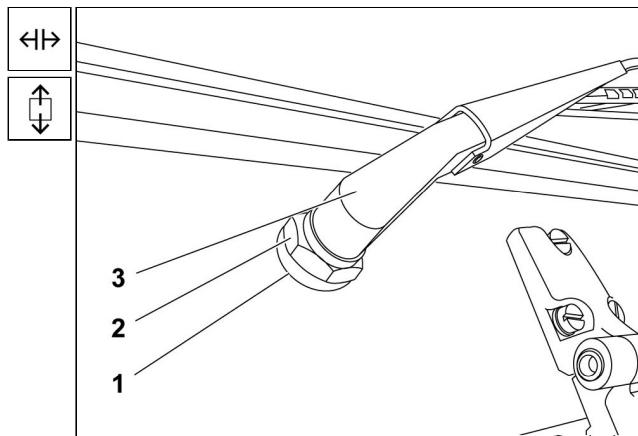


Fig. 13.16 Attachment of the wipers drive mechanism - removal

4. Loosen and unscrew the LH thread nut **2** fixing the lever of the wipers drive mechanism **1** to the motor shaft **5** and remove washer **3**.
5. Withdraw the lever **4** of the wipers drive mechanism **1** from the motor shaft **5**.
6. Move the wipers drive mechanism **1** out of the cabin.

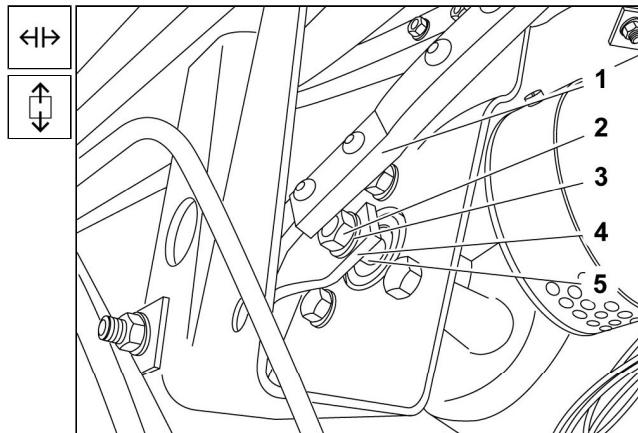


Fig. 13.17 Wipers drive mechanism - removal



d) Installation Procedure

1. Fit the wipers drive mechanism **1** to cab.
2. Fit lever **4** of the wipers drive mechanism **1** on the motor shaft **5**.
3. Use washer **3** and LH thread nut **2** to attach the lever **4**.
4. Tighten the nut **2** to **34 ± 2 Nm**.

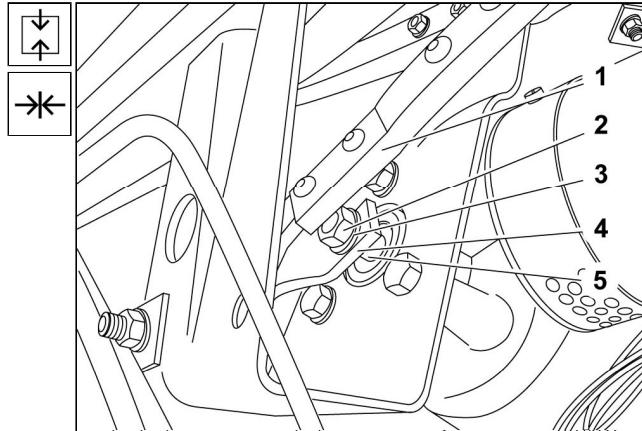


Fig. 13.18 Wipers drive mechanism - installation

5. Fit washer and sealing ring **1**.
6. Mount nut **2** and tighten to **25 ± 5 Nm**.
7. Install the windshield wipers **3** according to the procedure mentioned in: (See Subchapter **13.5.1**).

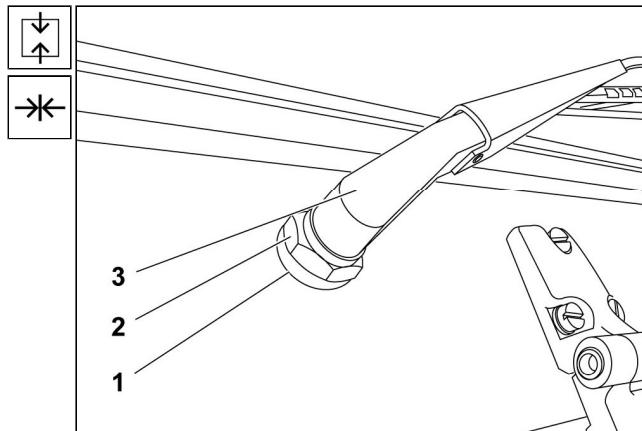


Fig. 13.19 Mounting of wipers drive mechanism - installation

8. Check the wipers drive mechanism for function.



13.5.3 Removal and Installation of the Rear-view Mirror and Rear-view Mirror Holder

a) Reasons for Removal

1. Damaged (broken) rear-view mirror.
2. Damaged rear-view mirror holder.

b) Technical Conditions

1. No ones have been stipulated.

c) Removal Procedure

1. Unscrew screws **2**.
2. Withdraw sleeve **3** and rear-view mirror **4** from holder **5**.
3. Unscrew screws **6** c/w spring washers and washers.
4. Unscrew screws **1**.
5. Withdraw the holder **5** from door and complete washer from inside the door.

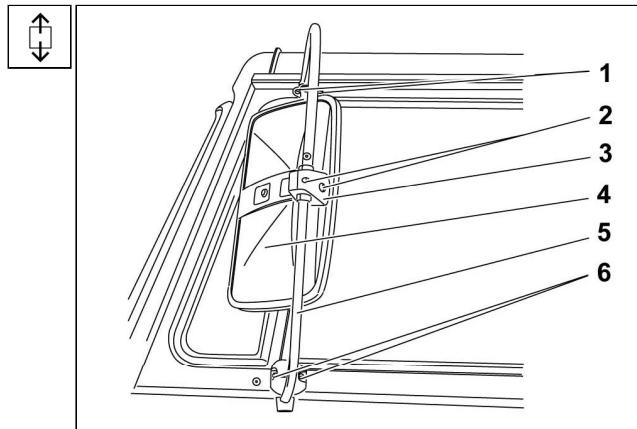


Fig. 13.20 Rear-view mirror and holder - removal

d) Installation Procedure

1. Fit holder **5** to door.
2. Attach the upper part of holder by means of screws **1** and complete washer fitted to the inner side of the door.
3. Use screws **6**, spring washers and washers to attach the lower part of the holder.
4. Fit mirror **4** and sleeve **3** on holder **5**.
5. Mount screws **2**.

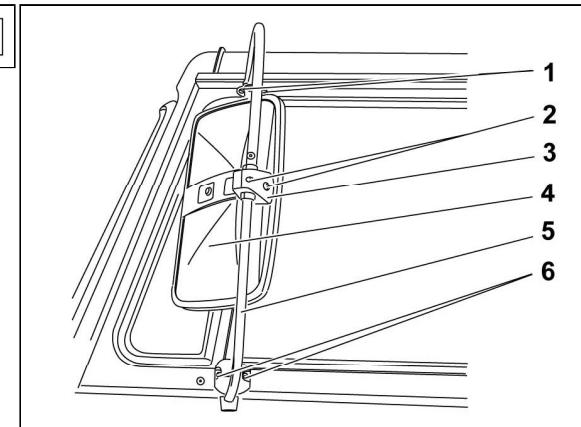


Fig. 13.21 Rear-view mirror and holder - installation



13.5.4 Removal and Installation of the Door Upholstery

a) Reasons for Removal

1. Damaged door upholstery.
2. Replacement of the door window drop leverage mechanism.
3. Door window glass replacement.

b) Technical Conditions

No ones have been stipulated.

c) Removal Procedure

1. Unscrew screw **1** c/w washer.
2. Withdraw the drop window crank **2** from the door window regulator shaft.
3. Dismount two screws **3** and withdraw the end pieces from handle **4**.
4. Unscrew two screws c/w spring washers and remove holder **5** from the door upholstery **8**.
5. Dismount screw c/w washer under inner handle **6** and withdraw the inner handle cover **7**.
6. Pry out the door upholstery **8** from inside the door panel to release clips fitted in holes in the door upholstery from clips inserts滑入到门内侧板上。
7. Move the door upholstery **8** out of U sections on the door inner side and remove the upholstery.

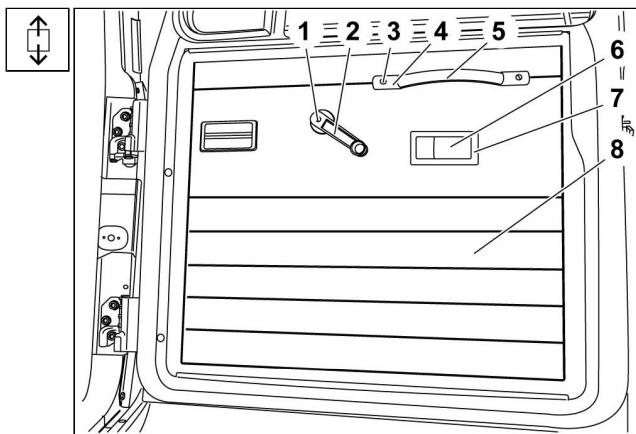


Fig. 13.22 Door upholstery - removal



d) Installation Procedure

CAUTION:

Fit clips (Order No 3218411380) into holes on the door upholstery from inside before installation of a new door upholstery.

1. Slide the door upholstery 8 into U sections on the door from inside.
2. Push the door upholstery 8 in spots of clips to fix the door upholstery in position.
3. Fit the cover of inner handle 7 on the door upholstery 8 and use screw c/w washer to fix the cover under the inner handle 6.
4. Use two screws c/w spring washers to attach the holder 5 to the door upholstery 8.
5. Fit the handle end pieces 4 and fix it using screws 3.
6. Fit the drop window crank 2 on the door window regulator shaft.
7. Use screw 1 to attach the door window regulator crank 2.

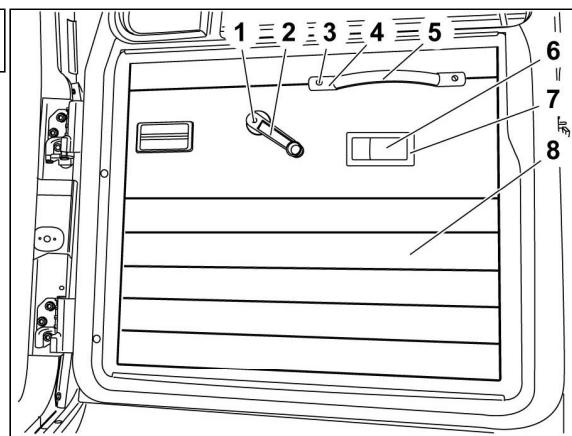


Fig. 13.23 Door upholstery - installation



13.5.5 Removal and Installation of the Door Lock

a) Reasons for Removal

1. The door lock does not allow a reliable door closing.
2. The cab's door cannot be locked (unlocked).

b) Technical Conditions

1. The door closing needs to be adjusted after installation of the door lock.

c) Removal Procedure

1. Open the door and remove the door trim panel (See Subchapter 13.5.4).
2. Uncover the foil above the marginal upper and lower cavities on the door inside.
3. Remove the rubber blind plug 3.
4. Hand press and/or use a screwdriver to push the following links in place 3 out of position:
 - To the door catch tie-rod,
 - To the inner crank tie-rod,
 - To the outer crank tie-rod,
 - To the lock tie-rod.
5. Manually adjust the door lock mechanism 2 into a position, which means the door-closed position (downwards).
6. Unscrew four screws 1 and lower the door lock through a cavity into the lower door part and move it away from the lower hole on the door inside.

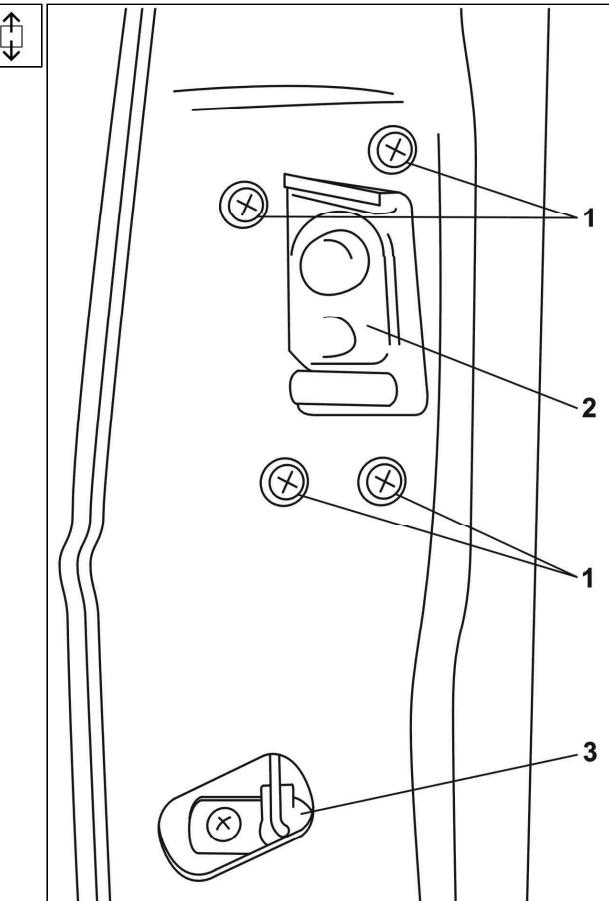
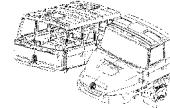


Fig. 13.24 Removal of the door lock



d) Installation Procedure

1. Install the door lock into a door cavity and move it upwards through the door cavity to a position, in which holes of the lock for screws **1** are aligned with fastening holes on the door metal sheet.
2. Screw and tighten four screws **1** to attach the door lock.
3. In place **3** connect the below mentioned links to the lock:
 - To the door catch tie-rod,
 - To the inner crank tie-rod,
 - To the outer crank tie-rod,
 - To the lock "FAB" tie-rod.
4. Fit a rubber blind plug into a hole **3**.

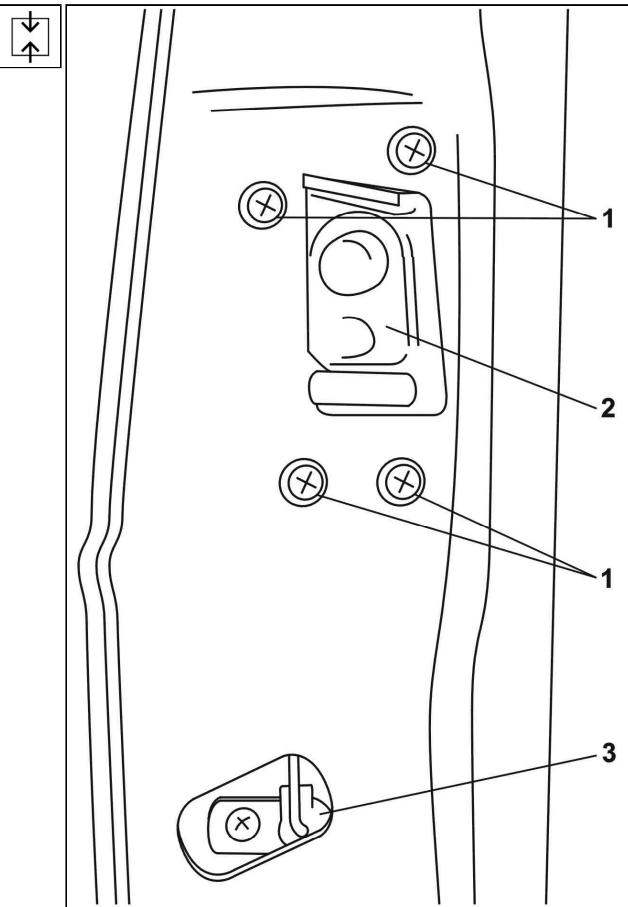


Fig. 13.25 Installation of the door lock

5. Check the door lock for all functions.
6. Stick the water shield to the inner door panel.
7. Install the door trim panel (See Subchapter **13.5.4**).
8. If need be, move the lock taper situated on the cab's door post to adjust the door closing.



13.5.6 Removal and Installation of the Door Window Regulator

a) Reason for Removal

1. The door window regulator does not allow a reliable door glass lowering and lifting.

b) Technical Conditions

1. No ones have been stipulated.

c) Removal Procedure

1. Dismount the door upholstery according to the procedure mentioned in: (See Subchapter **13.5.4**).
2. Withdraw the insulating foil from inside the door.
3. Unscrew screw **1** c/w spring washer **2** fixing the arm roller **4** of the door window regulator in the guide rail **3**.

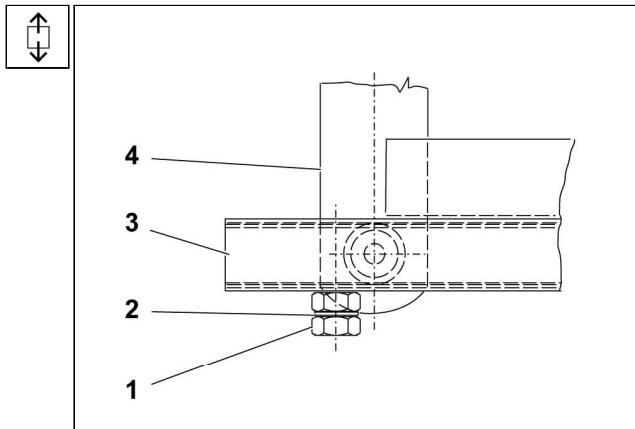


Fig. 13.26 Arm pin - removal

4. Fit the window crank **1** back on the shaft of the door window regulator **2** and lower the door glass **6** in position, in which the guide rail **5** of the door glass can be seen in holes of the door panel **7** from inside.
5. Secure the door glass against spontaneous motion.
6. Withdraw the window crank **1** from shaft of the door window regulator **2**.
7. Unscrew four screws **4** c/w spring washers **3** fixing the door window regulator **2** and slide the arm roller of the window mechanism out of the guide rail **5**.
8. Lower the door window regulator **2** through a door cavity into the lower part of the door **7** and move it out.

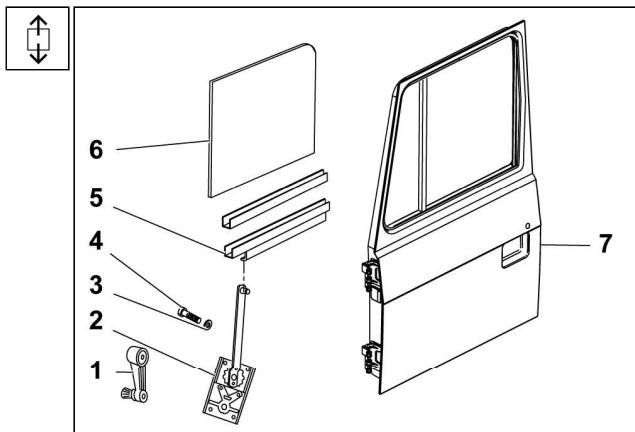


Fig. 13.27 Door window regulator - removal



d) Installation Procedure

1. Insert the door window regulator **2** into a cavity in the lower part of the door **7**.
2. Slide the arm roller **4** of the door window regulator **2** into guide rail **5** of the door glass **6**.
3. Use four screws **4** c/w spring washers **3** to attach the door window regulator **2**.

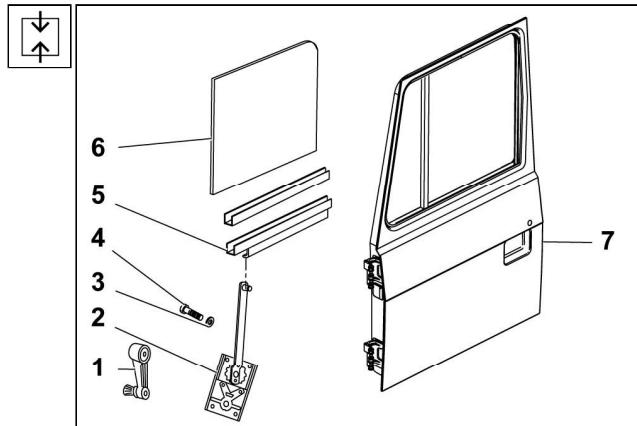


Fig. 13.28 Door window regulator - installation

4. Use screw **1** c/w spring washer **2** to secure the arm roller **4** of the door window regulator in the guide rail **3** in position.

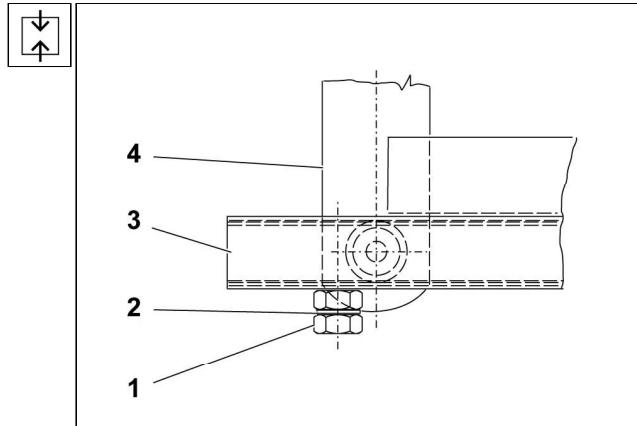


Fig. 13.29 Arm pin - installation

5. Fit the drop window crank **1** (See Fig. 13.28) on the shaft of the door window regulator **2**, check the door glass lifting and lowering for a correct function and remove the crank.
6. Stick the insulating foil on the door from inside.
7. Install the door upholstery according to the procedure mentioned in: (See Subchapter 13.5.4).



13.5.7 Removal and Installation of the Door Drop Window

a) Reasons for Removal

1. Broken or otherwise damaged door glass.
2. Damaged door glass seal.

b) Technical Conditions

1. No ones have been stipulated.

c) Removal Procedure

1. Dismount the door upholstery according to the procedure mentioned in: (See Subchapter 13.5.4).
2. Withdraw the insulating foil from inside the door.
3. Unscrew screw **1** c/w spring washer **2** fixing the arm roller **4** of the door window regulator in the guide rail **3**.

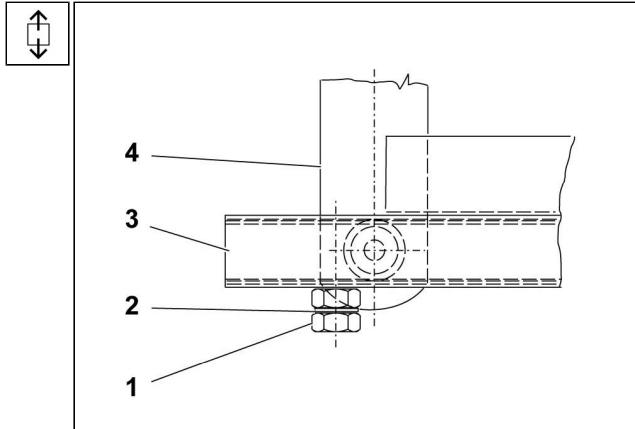


Fig. 13.30 Arm pin - removal

4. Unscrew two screws **10** from the lower part of the door **8** and withdraw the end molding **9**.
5. Fit the window crank **1** back on the shaft of the door window regulator **2** and lower the door glass **6** in position, in which you can see the guide rail **5** of the door glass in holes of the door panel **7** from inside.
6. Secure the door glass against spontaneous motion.
7. Withdraw the window crank **1** from shaft of the door window regulator **2**.
8. Unscrew four screws **4** c/w spring washers **3** fixing the door window regulator **2** and move the arm roller of the door window regulator out of the guide rail **5**.
9. Lower the door window regulator **2** through a door cavity into the lower part of the door **8** and move it out.

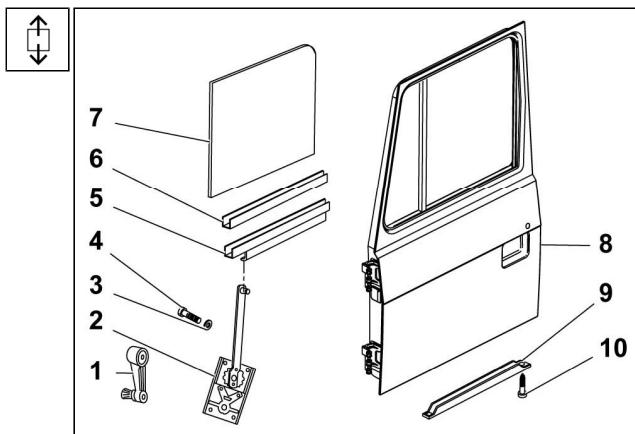


Fig. 13.31 Door glass - removal



10. Manually lower the door glass **7** c/w seal **6** and guide rail **5** into the lower part of the door **8** and move it out through a hole in the lower part of the door.

d) Installation Procedure

1. Insert the door window regulator **2** into a cavity in the lower part of the door **7**.
2. Use four screws **4** c/w spring washers **3** to attach the door window regulator **2**.
3. Slide the door glass **7** c/w seal **6** and guide rail **5** through a hole in the lower part of the door **8** into glass guide and pull it out manually in position, in which the guide rail **5** is easy accessible.
4. Slide the arm roller of the door window regulator **2** into the guide rail **5** of the door glass **6**.
5. Smear the guide rail **5** with the plastic lubricant from inside.
6. Fit the end molding **9** on the lower part of the door **8** and attach it using two screws **10**.
7. Use screw **1** c/w spring washer **2** to lock the arm roller **4** of the door window regulator in the guide rail **3** in position.

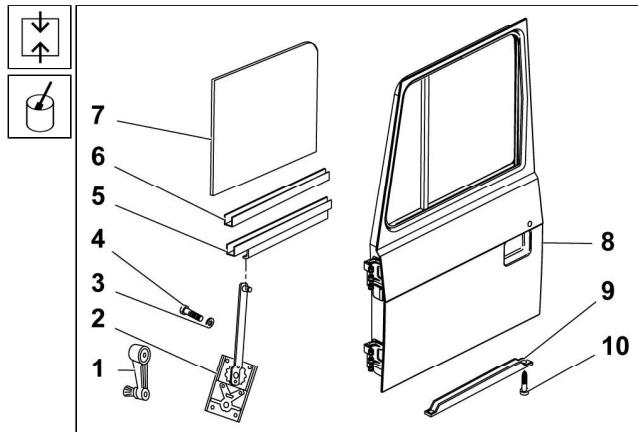


Fig. 13.32 Door glass - installation

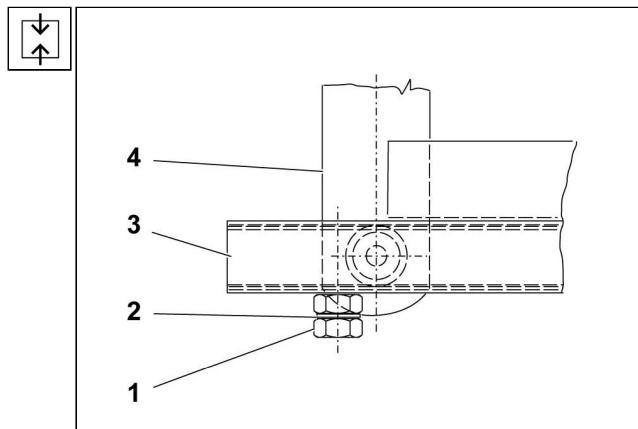


Fig. 13.33 Arm pin - installation

8. Fit the drop window crank **1** (See Fig. 13.32) on the shaft of the door window regulator **2**, check the door glass lifting and lowering for a correct function and remove the crank.
9. Stick the insulating foil on the door from inside.
10. Install the door upholstery according to the procedure mentioned in: (See Subchapter 13.5.4).



13.5.8 Removal and Installation of the Door Fixed Glass

a) Reasons for Removal

1. Broken, cracked or otherwise damaged fixed glass of the door.
2. Damaged rubber frame of the fixed glass.

b) Technical Conditions

1. Use a new rubber frame for the door fixed glass during installation.
2. The expander wedge must not be damaged.

c) Removal Procedure

1. Move the expander wedge **2** out of the rubber frame of the door fixed glass **1**.
2. Remove rests of the broken fixed glass **3** of the door.
In case that the glass has not been broken, cut off the rubber frame along the circumference of the door and take out the glass.
3. Remove the rubber frame **1** from door.

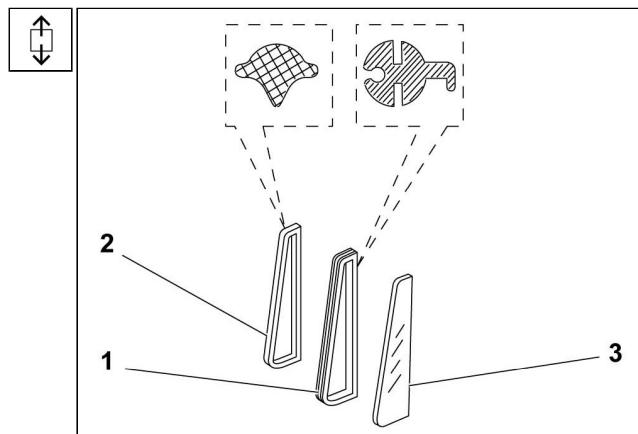


Fig. 13.34 Door fixed glass - removal

d) Installation Procedure

1. Slide the rubber frame of the door fixed glass **1** into "U" section on the door.
2. Insert one side of the door fixed glass **3** into the rubber frame **1** and using a screwdriver, slide the rubber frame **1** on the door glass **3**.
3. Apply the soap and water to slot for the expander wedge **2** in the rubber frame **1**.
4. Use the tool **LMD 0025** to fit the expander wedge **2** into slot and cut off the protruding wedge.
5. Clean the rubber frame **1** and door glass **2** from the soap and water.

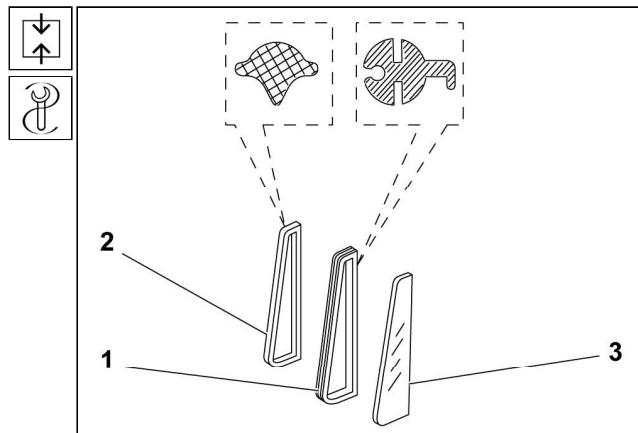


Fig. 13.35 Door fixed glass - installation



13.5.9 Removal and Installation of the Side Glass

a) Reasons for Removal

1. Broken, cracked or otherwise damaged side glass.
2. Damaged glass seal.

b) Technical Conditions

1. The margin of the side window opening must not be deformed; correct the possible deformations and renew the paint coat if needed.
2. Use a new side glass seal during installation.

c) Removal Procedure

1. Remove rests of the broken side glass **1**. In the case that the glass has not been broken, cut off the glass seal **2** along the circumference of the side glass **1** and remove the glass.
2. Remove the glass seal **2** from cabin.

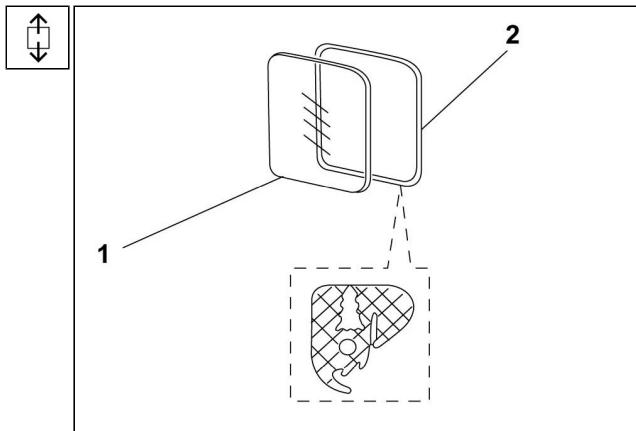


Fig. 13.36 Side glass - removal

d) Installation Procedure

1. Fit the glass seal **2** on the side glass **1**.
2. Put string into a slot for the window margin in the glass seal **2**. Ends of the string must meet and cross themselves in the middle of the lower part of the side glass and they must overlap by 20 cm to each side at least.
3. Fit the side glass assembled like this into an opening of the side window so that the ends of the string hang down towards the cab's interior.
4. Glaze the cab's side window glass **1** by hitting it with your fist from outside while pulling the string out of the slot of the glass seal towards the cab's interior at the same time.

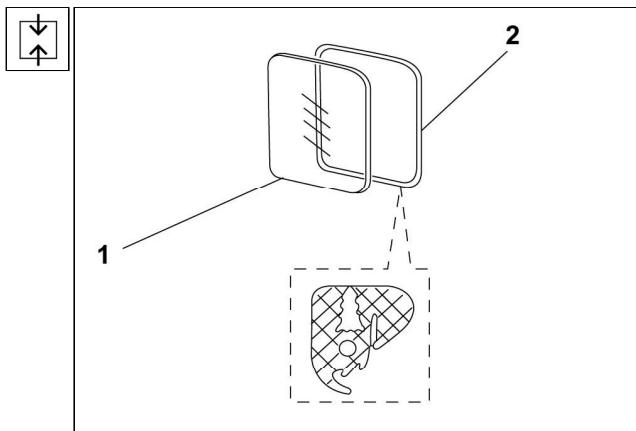


Fig. 13.37 Side glass - installation



13.5.10 Removal and Installation of the Windshield Glasses

a) Reasons for Removal

1. Broken, cracked or otherwise damaged windshield glasses.
2. Damaged windshield glazing rubber frame.

b) Technical Conditions

1. The margin of the windshield opening must not be deformed; correct the possible deformations and renew the paint coat if needed.
2. The margin of the windshield opening must be free of sealant rests, dirt and degreased.
3. The distance of the windshield margin edges in location of the inner section must be **838 ± 2 mm**.
4. The glass edges must be degreased.
5. The rubber wedge must not be damaged.
6. Use a new glazing rubber frame and center and corner glass rubber seals during installation.

c) Removal Procedure

1. Dismount wipers according to the procedure mentioned in: (See Subchapter 13.5.1).
2. Dismount four screws **1** and remove the inner section **2** from inside the cabin.

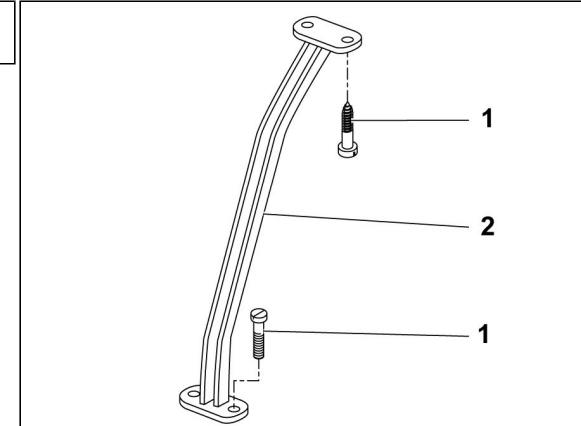


Fig. 13.38 Inner section - removal



3. Pull the rubber wedge **2** away from the glazing rubber frame **3**.
4. Remove rests of broken windshield face parts **1** and side parts **4** of even glass. In the event that glasses have not been broken, cut off the rubber frame along the glasses circumference and pull the glasses out.
5. Withdraw corner **5** and center **6** glass seals and glazing rubber frame **3** from the cabin.

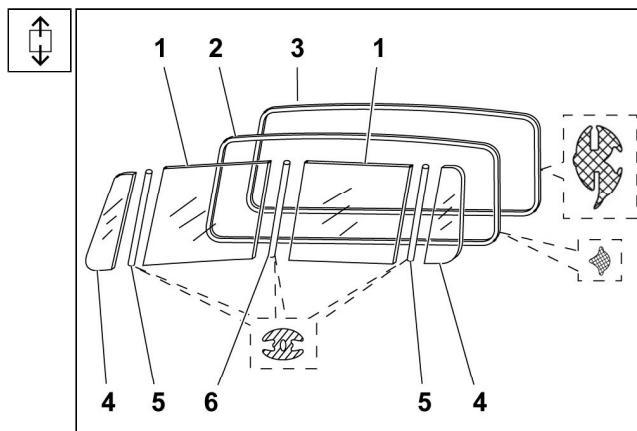


Fig. 13.39 Windshield glasses

d) Installation Procedure

1. Fit center **6** and corner **5** seals between individual glasses **1** (See Fig. 13.39) and **4** on a flat surface.
2. Apply the synthetic varnish to ends of seals.
3. Heat the glazing rubber frame **3** to about 70°C . The temperature must not exceed 80°C .
4. Fit the preheated glazing rubber frame on assembled glasses (See Fig. 13.40).
5. Using synthetic varnish, stick the frame to the glasses from inside.

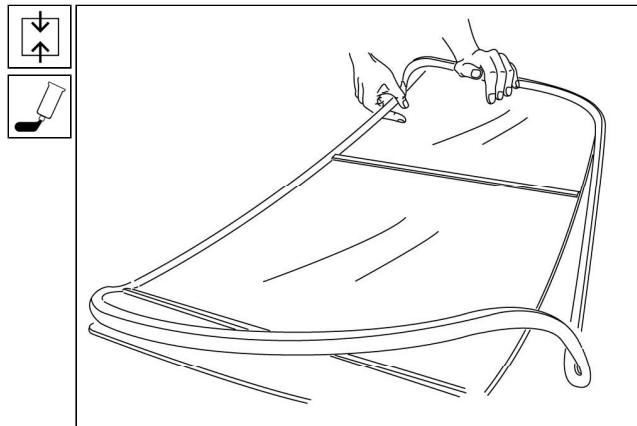


Fig. 13.40 Glazing rubber frame - installation

6. Fit a string into a slot for the cabin margin. Ends of the string must meet and cross themselves in the middle of the lower side of the glasses assembly and they must overlap by 20 cm to each side at least.

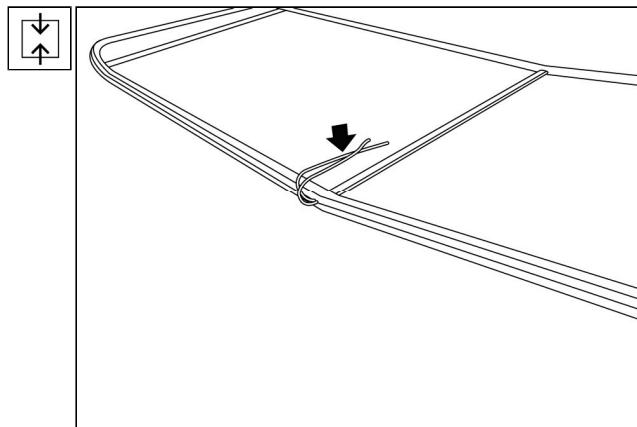


Fig. 13.41 Putting string into glazing frame



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7. Apply the synthetic varnish to the cabin margin.
8. Fit the whole kit of assembled glasses together with the glazing rubber frame into opening of the windshield so that the face parts of the even glass will come precisely to bear against location of the inner section and ends of the string hang down inside the cabin.

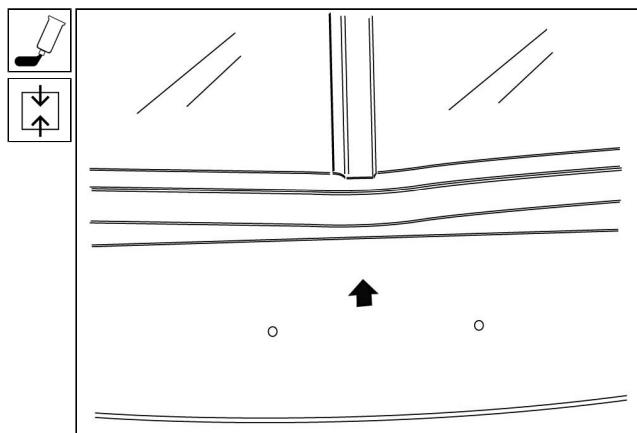


Fig. 13.42 Putting windshield glasses

9. While applying the rubber hammer (or using your fist) from outside and pulling out the string at the same time, fit the glazing rubber frame on the cabin margin along the whole circumference; while doing so, push individual parts of the windshield towards the lower cross girder of the outer metal sheet of the windshield.

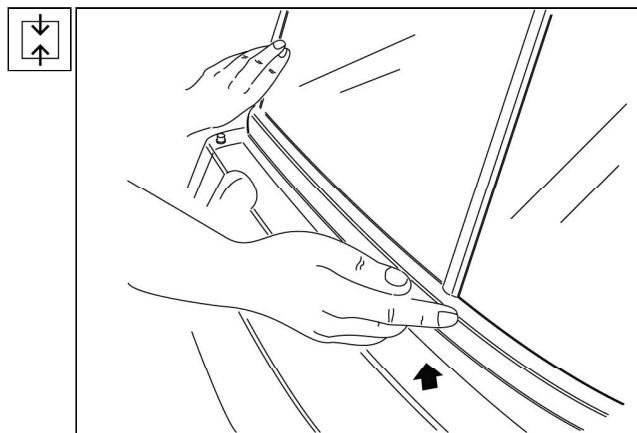


Fig. 13.43 Installation of windshield glasses

10. Apply the sealant **Dendrite** to connections between center and corner seals and glazing frame.
11. Apply the sealant **Dendrite** to connections between cabin and glazing frame along the whole circumference (with the exception of about 500 mm from both sides of the center seal down).
12. Check the sealant application by bending off the seal - the sealant layer must spread along the whole length of the sealed area without any interruption.

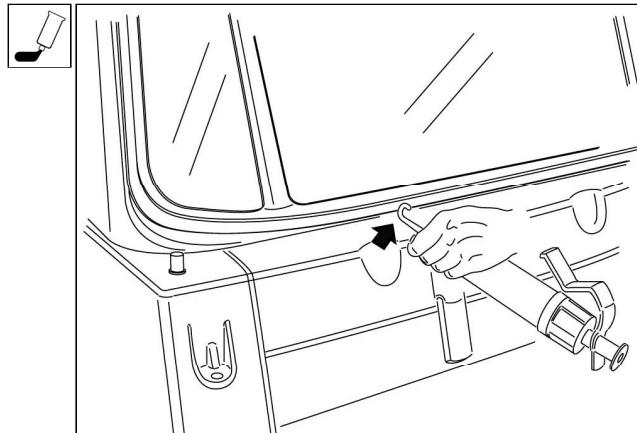


Fig. 13.44 Use of the sealant



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13. Stick the glazing frame - except the upper side - to the outer side of glasses using the synthetic varnish.

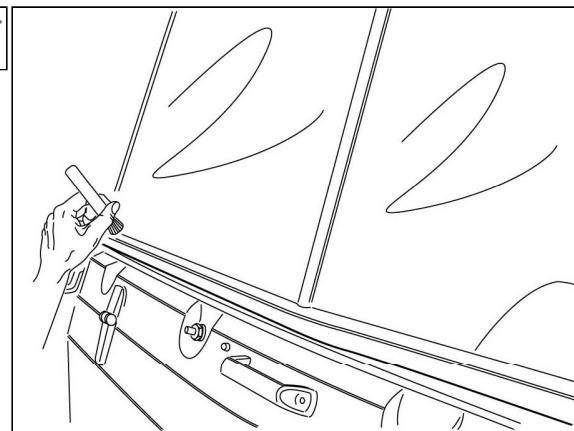


Fig. 13.45 Sticking the glazing frame

14. Apply the suds (soap and water) to a slot for the rubber wedge in the glazing frame.
15. Use the tool **LMD 0019** to fit the rubber wedge into a slot; start in the middle of the window up. Cut off the wedge overlap and tap back into a slot.

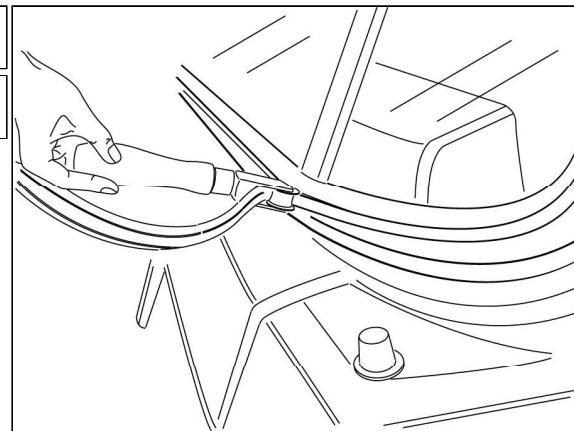
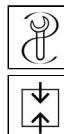


Fig. 13.46 Rubber wedge - installation

16. Use a tool (hook) or screwdriver to pull out the outer border of the glazing frame along the circumference.
17. Wipe off the surplus sealant **Dendrite** from the glazing frame, center seal and corner seals.
18. Thoroughly clean the glasses from sealant and varnish.

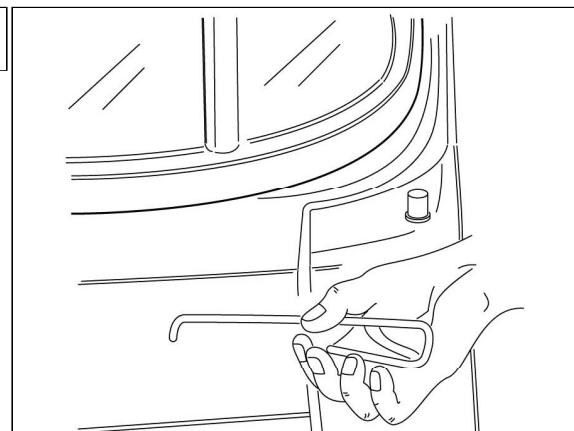


Fig. 13.47 Pulling out the outer border



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19. Use four screws **1** to fix the inner section **2** to the cabin.

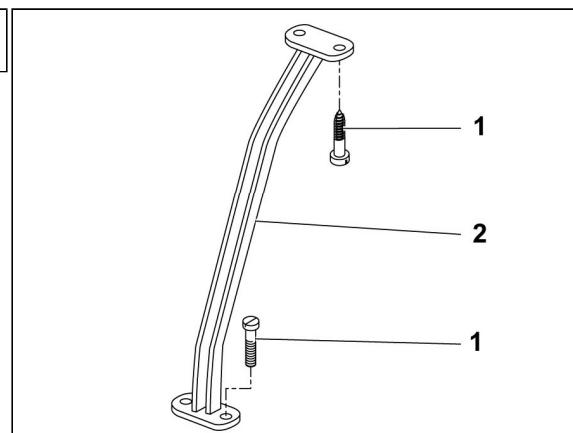


Fig. 13.48 Inner section - installation



13.5.11 Removal and Installation of the Door

Reason for Removal

1. The door has been damaged to such an extent that it cannot be closed reliably.

b) Technical Conditions

1. Adjust the specified circumferential clearances of the door.

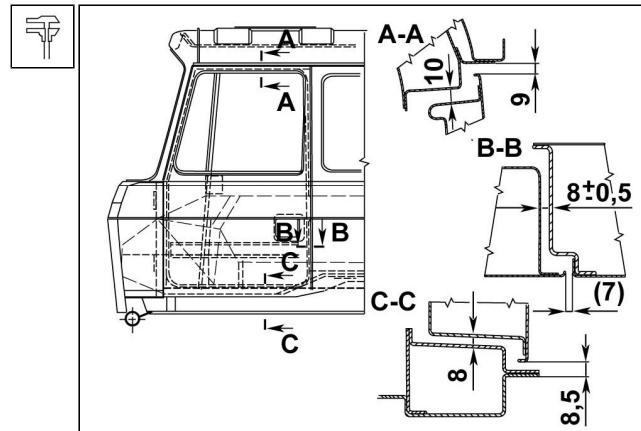


Fig. 13.49 Specified circumferential door clearances

c) Removal Procedure

1. Dismount the rear-view mirror and rear-view mirror holder according to the procedure mentioned in: (See Subchapter 13.5.3).
2. Loosen and unscrew six screws **2** c/w spring washers of fixed parts of hinges **1** of the door **3**.
3. Withdraw the door **3** from the front door pillar together with all parts of hinges.

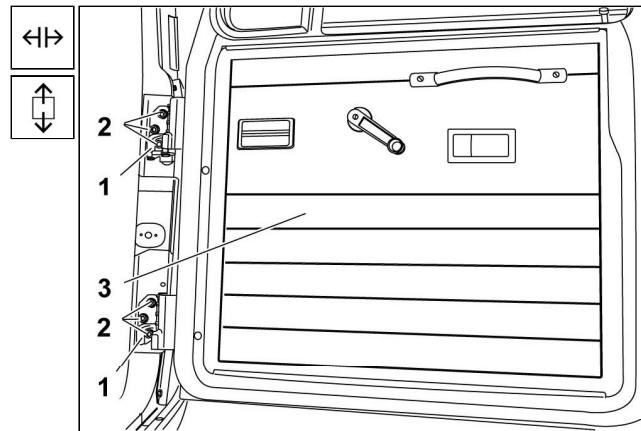
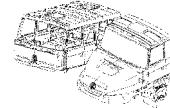


Fig. 13.50 Door - removal



d) Installation Procedure

1. Fit the door **3** to the front pillar.
2. Mount six screws **2** c/w spring washers of fixed parts of hinges **1**.
3. Adjust the specified circumferential clearances (See Fig. 13.49).
4. Tighten the screws **2**.

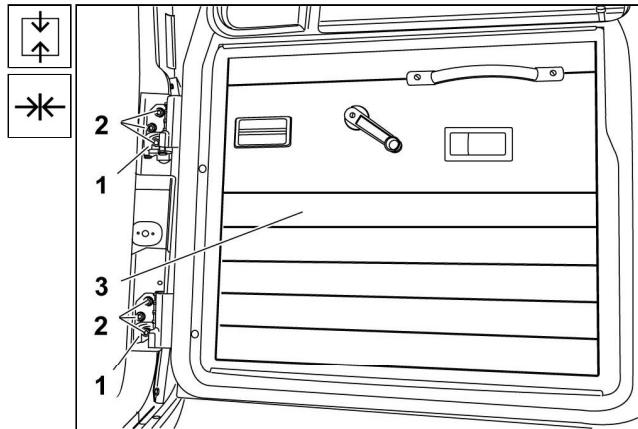


Fig. 13.51 Door - installation

5. Check the door closing and opening for a correct function.
6. Install the rear-view mirror holder and rear-view mirror according to the procedure mentioned in: (See Subchapter 13.4.3).



13.5.12 Removal and Installation of the Driver's or Co-driver's Seat

a) Reasons for Removal

1. Damaged driver's or co-driver's seat.
2. Damaged seat suspension mechanism on the driver's or co-driver's seat.
3. Damaged driver's or co-driver's seat adjusting mechanism.

b) Technical Conditions

1. Replace sealing rings with new ones.

c) Removal Procedure

1. Release air from the vehicle pneumatic system.
2. Unscrew the hollow screw **2** fixing the ring connection **1** of the pressure air inlet manifold to the seat valve **3**.

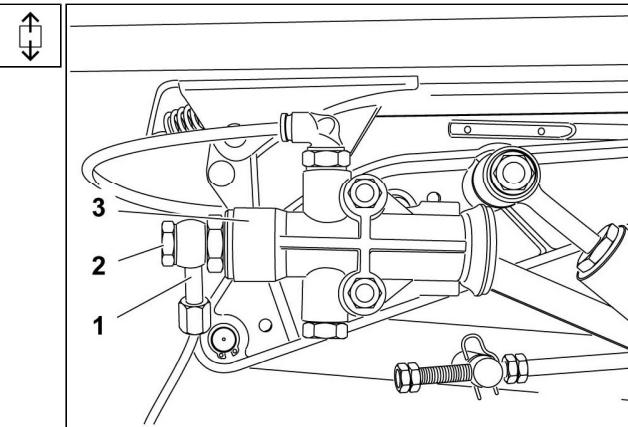


Fig. 13.52 Air inlet manifold to seat - removal

3. Unscrew four nuts **2** from below of the cabin.
4. Withdraw spring washers **1**.

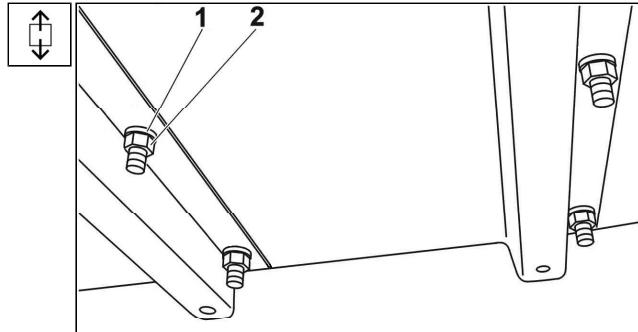


Fig. 13.53 Seat - removal 1



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5. Dismount four bolts **2** from seat **1**.
6. Remove the seat **1** from cabin.

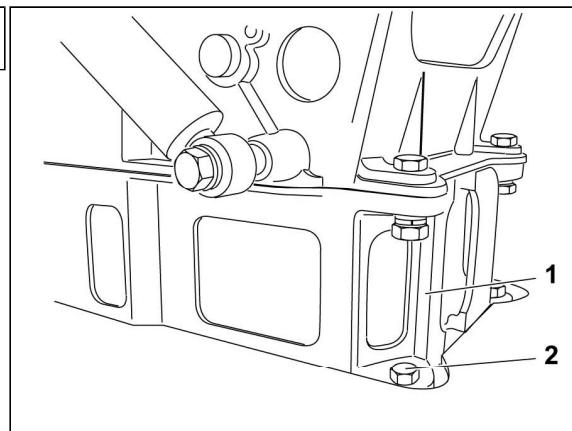


Fig. 13.54 Seat - removal 2

d) Installation Procedure

1. Fit the seat **1** on the cabin floor.
2. Insert four bolts **2**.

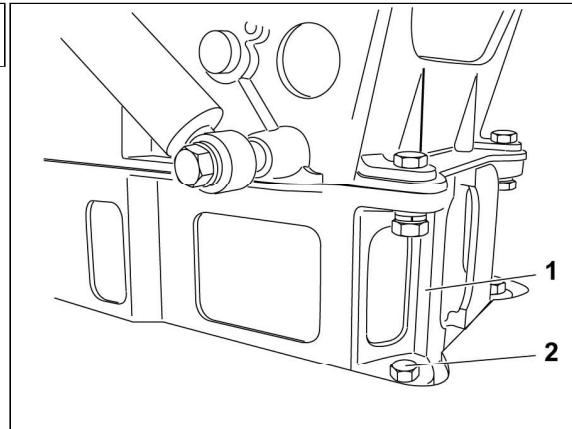


Fig. 13.55 Seat - installation 1

3. Fit spring washers **1** on bolts **2** (See Fig. 13.55) from below of the cabin.
4. Mount nuts **2**.

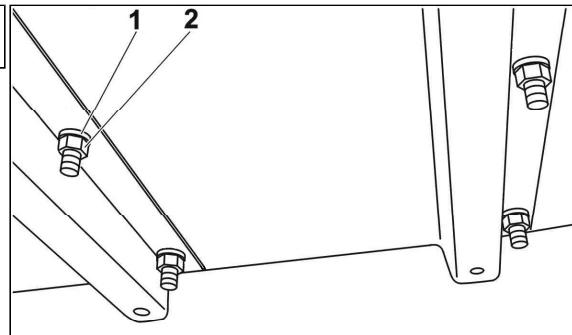


Fig. 13.56 Seat - installation 2



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5. Use hollow screw **2** and sealing rings to attach the ring connection **1** of the air pressure inlet manifold from both sides of the ring connection to the seat valve **3**.

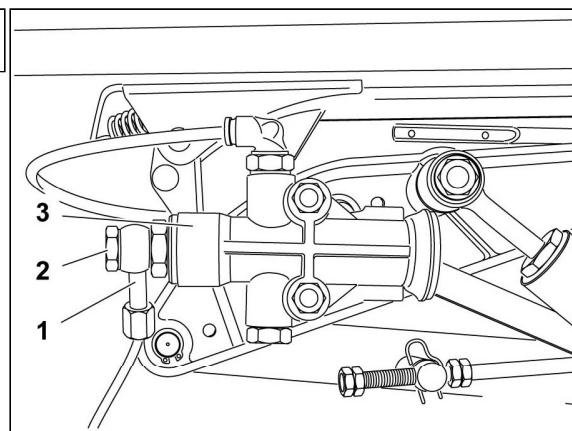


Fig. 13.57 Air inlet manifold to seat -
installation

6. Start the engine and pressurize the pneumatic system to achieve the operating pressure.
7. Check the seat suspension mechanism for leaks and a correct function.



13.5.13 Removal and Installation of the Emergency Seat

a) Reason for Removal

1. The seat has been damaged.

b) Technical Conditions

1. No ones have been stipulated.

c) Removal Procedure

1. Unscrew four screws **1**, and withdraw spring washers **2** c/w washers **3**.
2. Withdraw the seat **4** from the engine cover.

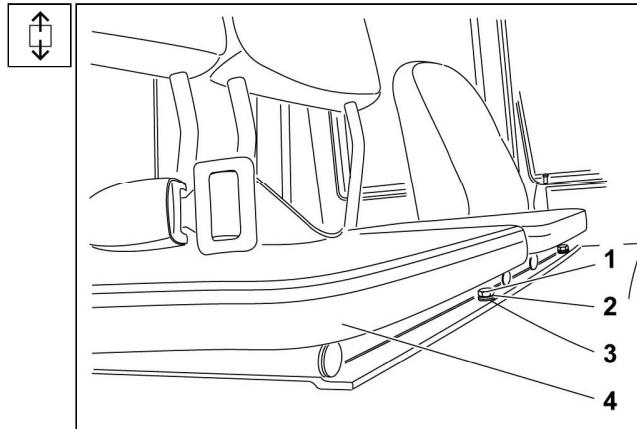


Fig. 13.58 Emergency seat - removal

d) Installation Procedure

1. Fit the seat **4** on the engine cover and attach it using four screws **1**, spring washers **2** and washers.

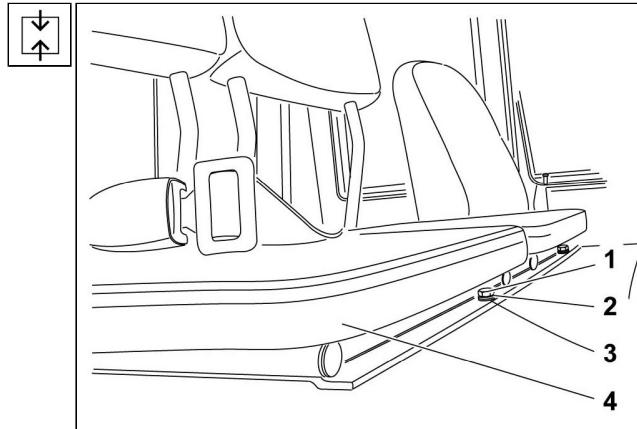


Fig. 13.59 Emergency seat - installation



13.5.14 Removal and Installation of the Independent Heater Timer

a) Reason for Removal

1. The timer of the independent heater is not functioning.

b) Technical Conditions

1. Unplug the positive cable from batteries.

c) Removal Procedure

1. Grasp the timer and pull the dry zip fastener holding the timer on the fascia to release it.
2. Unplug electrical connectors.

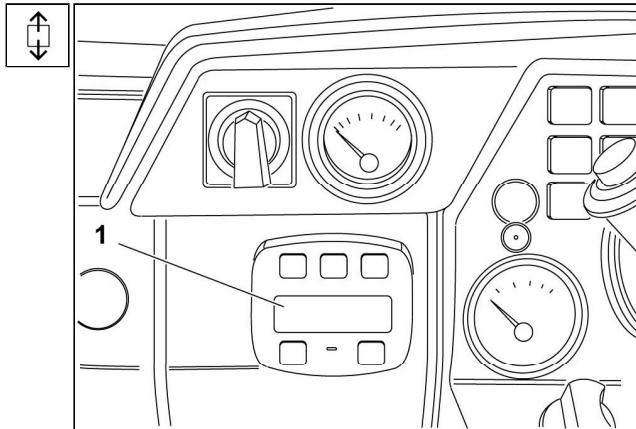


Fig. 13.60 Timer - removal

d) Installation Procedure

1. Plug electrical connectors to a new timer.
2. Attach the timer using a dry zip fastener to the fascia.

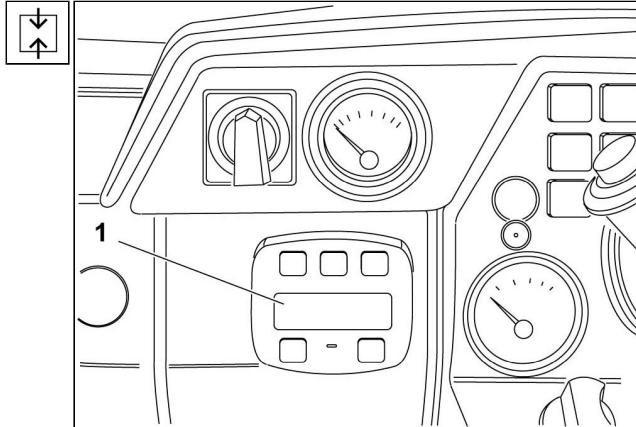


Fig. 13.61 Timer - installation

3. Connect the batteries.
4. Check the timer for a correct function.



13.5.15 Removal and Installation of the Independent Heater Proportioning Pump

a) Reasons for Removal

1. The pump is not functioning at all - it means it is not supplying any fuel.
2. Decreased output of the independent heater due to a low fuel delivery.

b) Technical Conditions

1. Good passage through the fuel manifolds.
2. Correct function of one-way cock.
3. Disconnected positive cable from accumulators.

c) Removal Procedure

1. Open the cabin front bonnet.
2. Close the one-way cock on the heater tank.
3. Disconnect the cable clip **10**.
4. Unlock and unplug electrical feeder cable connector **6** from the pump **3**.
5. Loosen the clamp **1** of the fuel hose **2** (intake) and clamp **7** of the hose **5** (delivery).
6. Withdraw hoses **2** and **5** from pump necks **5**. Catch the fuel, which spills out, into a pan prepared.
7. Unscrew nut **9** and remove spring washer **8**.
8. Withdraw the pump **3** from bolt **4**.

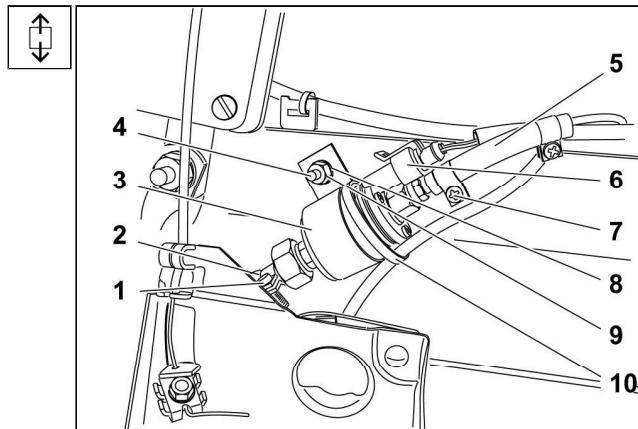


Fig. 13.62 Proportioning pump - removal



d) Installation Procedure

1. Fit the pump **3** on bolt **4** and attach it using spring washer **8** and nut **9**.
2. Attach the fuel hose **2** (delivery) and hose **5** (intake) on pump necks **5** and secure with clamps **1** and **7**.
3. Connect and lock the electrical feeder cable connector **6** to pump **3**.
4. Use the cable clip **10** to fix the electrical leads to pump **3**.

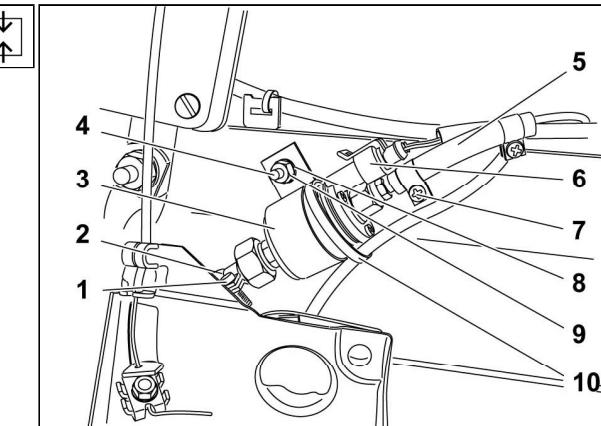


Fig. 13.63 Proportioning pump - installation

5. Check connections and fuel hoses for leaks.
6. Open the one-way cock on the heater tank.
7. Close the cab's front bonnet.
8. Connect accumulators.
9. Check the independent heater for a full output function.

Note:

You can check the pump for a correct function only after switching on the independent heater by listening to the pump running sound on the one side and by checking the heater correct function and output on the other side. It may happen that the heater will not start at the first trial (due to aeration), and then repeat the start several times if needed.



13.5.16 Removal and Installation of the Independent Heater

a) Reason for Removal

1. The heater timer display shows a defect, which cannot be corrected without removal of the heater.

b) Technical Conditions

1. Sufficient voltage in the vehicle board net.
2. Unplug the positive cable from accumulators' terminal.

c) Removal Procedure

1. Unplug the electrical current lead connector **6** from the heater.
2. Loosen the clamp **8** of the intake hose **7** and withdraw the hose from heater.
3. Loosen the clamp **4** of the blow-off hose **5** and remove the hose from heater.
4. Loosen the clamp **2** of the exhaust hose **1** and remove the hose from heater.
5. Loosen the clamp of the fuel hose **10** and detach the hose from heater. Pay attention to a small amount of Diesel fuel, which spills out, and catch it into waste wool.
6. Unscrew four screws **9** c/w spring washers **10** fixing the heater **3** to cabin and move the heater away from the cabin.

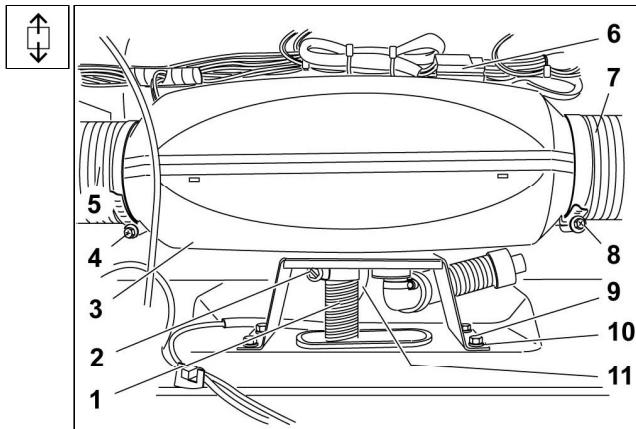


Fig. 13.64 Heater - removal

d) Installation Procedure

1. Use four screws **9** c/w spring washers **10** to attach the heater **3** to cabin.
2. Fit the fuel hose **11** on heater and secure with a clamp.
3. Fit the exhaust hose **1** on heater and secure with a clamp **2**.
4. Fit the blow-off hose **8** on heater and secure with a clamp **7**.
5. Fit the intake hose **5** on heater and secure with a clamp **4**.
6. Plug the electrical feeder cable connector **6** to heater.

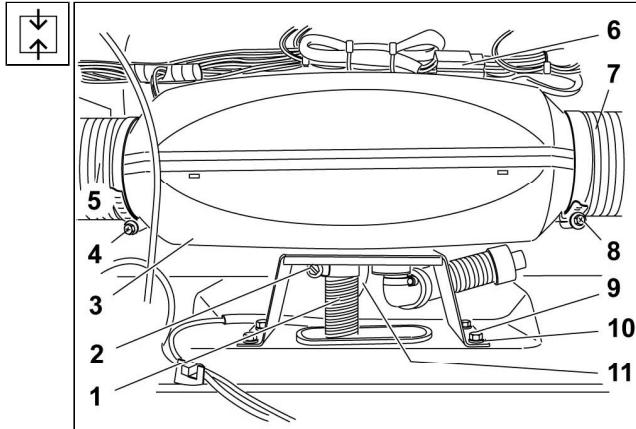
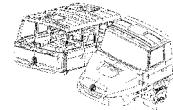


Fig. 13.65 Heater - installation

7. Connect the accumulator batteries.
8. Carry out an overall inspection of the heater function under various operating conditions, especially



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when running at minimum and maximum outputs. Abide by the instructions mentioned in the vehicle Operation Manual.

Note:

Probably the heater will not start functioning at the first trial due to air in the fuel discharge manifold between the proportioning pump and heater. Then repeat the start trial several times if needed.



13.5.17 Removal and Installation of the Heating Body Jacket

a) Reason for Removal

1. The jacket of the heating body or some of its components has been damaged.

b) Technical Conditions

1. Switch the batteries circuit breaker off.

c) Removal Procedure

1. Dismount the windshield wipers drive mechanism according to the procedure mentioned in: (See Subchapter 13.5.2).
2. Dismount the wipers motor according to the procedure mentioned in: (See Part 15).
3. Loosen the screw 5 and disconnect the wire 3 of the Bowden control cable 1 of the dependent heater from the valve lever 4 on the engine oil pump 3.

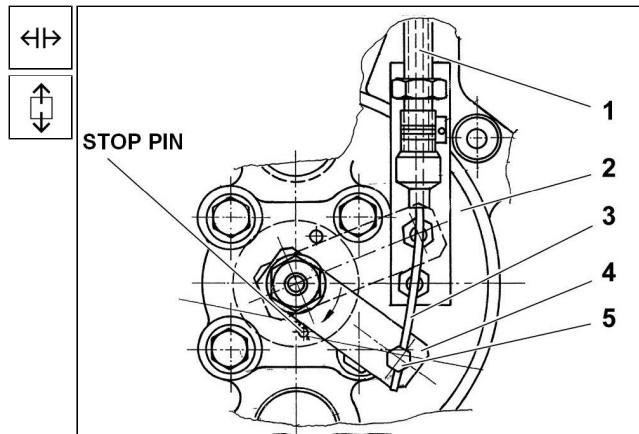


Fig. 13.66 Valve lever - disconnection

4. Withdraw buttons 3 and 4 from levers of the dependent heater and ventilation control panel.
5. Unscrew four screws 1 c/w spring washers and remove the plate 2.
6. Pull the control panel away from the cabin towards the front of the vehicle.

CAUTION:

Do not disconnect the wires of Bowden cables from the control panel!

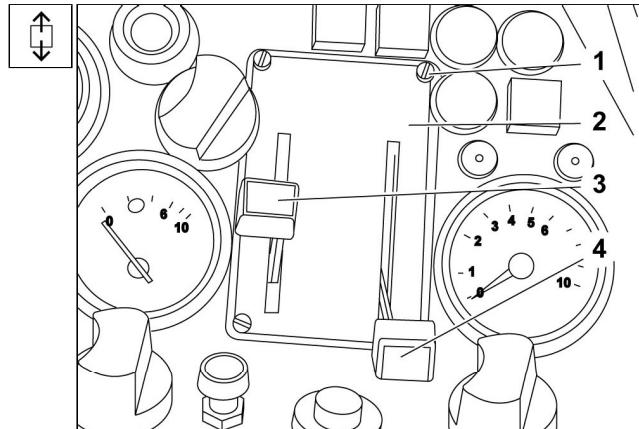


Fig. 13.67 Control panel - removal



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7. Withdraw hoses **1** and **3** from the RH side of the heater distribution **2**.

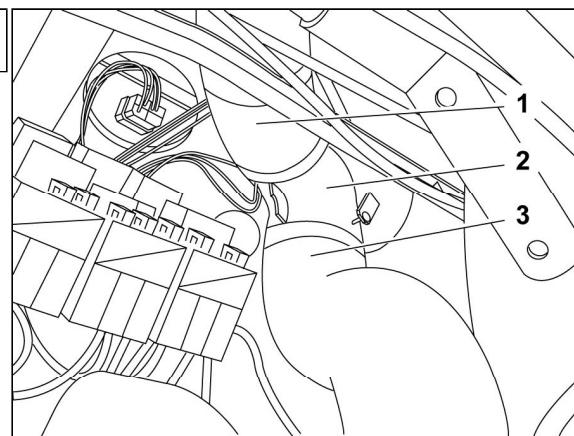


Fig. 13.68 Hoses of the heater distribution 1 - removal

8. Withdraw hoses **1** and **2** from the LH side of the heater distribution **3**.

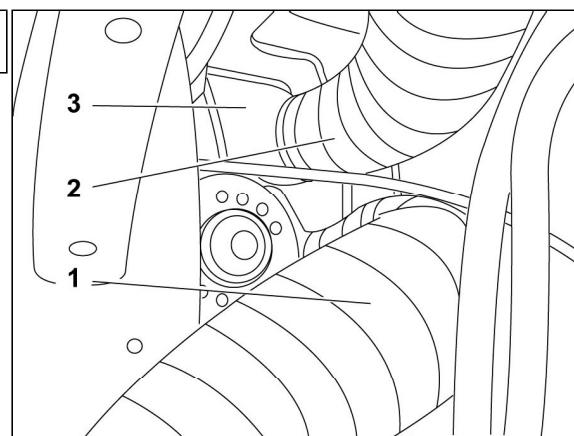


Fig. 13.69 Hoses of the heater distribution 2 - removal

9. Unplug electrical cable harness connector of the dependent heater **4**.
10. Unscrew nuts of hoses **5** and **6** from necks of the heating body.

CAUTION:

Catch the surplus oil into a pan prepared.
Cover hoses and necks with appropriate
plugs.

11. Dismount screw **1** c/w spring washer and washer and disconnect the screwed connection **3**.
12. Lift the front part of the heating body jacket **2** and move the jacket c/w heater distribution away from cabin.

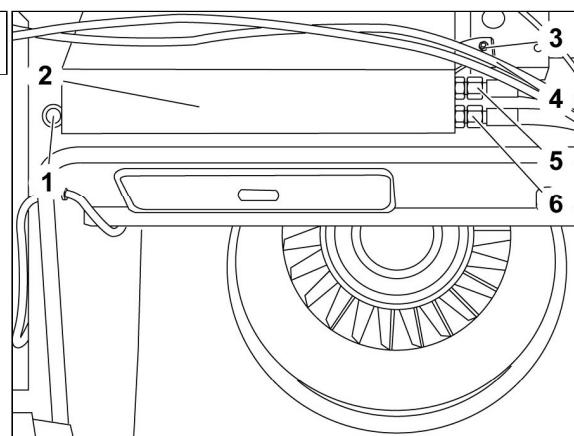


Fig. 13.70 Heating body jacket - removal



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13. Withdraw the heater distribution **1** from the heating body jacket **2**.

CAUTION:

Do not disconnect the wires of Bowden cables from the heater distribution!

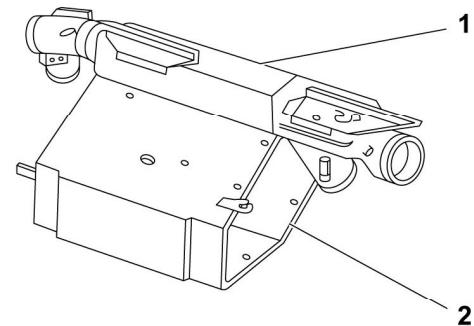


Fig. 13.71 Heater distribution - removal

d) Installation Procedure

1. Slide the heater distribution **1** on jacket of the heating body **2**.

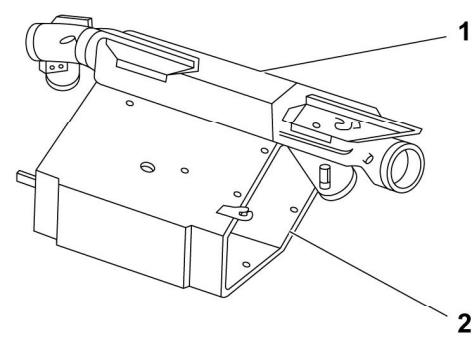


Fig. 13.72 Heater distribution - installation

2. Slide the jacket of the heating body **2** c/w heater distribution into cabin.
3. Use the screwed connection **3** and screw **1** c/w spring washer and washer to attach the jacket **2** to the cab.
4. Mount and tighten nuts of hoses **5** and **6** on necks of the heating body.
5. Plug electrical cable harness connector of the dependent heater **4**.

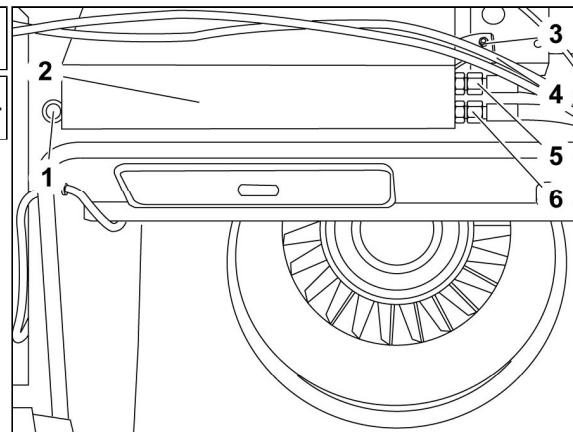


Fig. 13.73 Heating body jacket - installation



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6. Fit hoses **1** and **2** on the LH side of the heater distribution **3**.

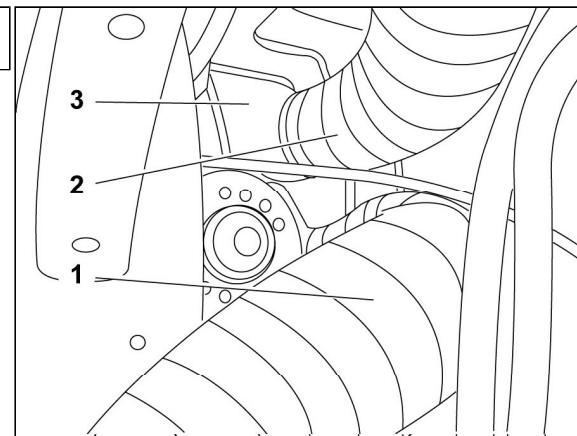


Fig. 13.74 Hoses of the heater distribution 2 - installation

7. Attach hoses **1** and **3** on the LH side of the heater distribution **2**.

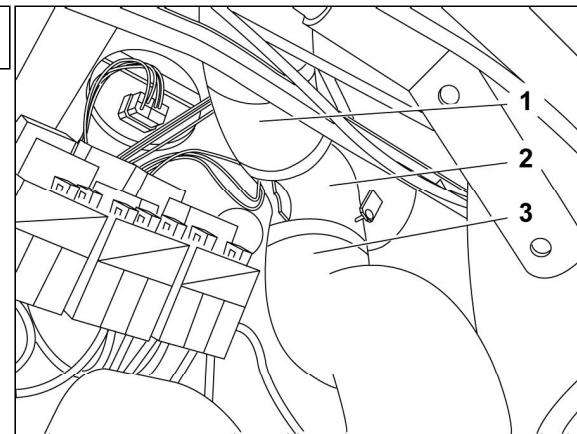


Fig. 13.75 Hoses of the heater distribution 1 - installation

8. Fit the control panel of the dependent heater and ventilation into cabin in direction viewed from the front of the vehicle, and attach it together with plate **2** using four screws **1** c/w spring washers.
9. Slide buttons **3** and **4** on panel levers.
10. Adjust the control lever of the dependent heater **4** into position, which corresponds with the heater OFF position (lower position) in accordance with the plate **2** instructions.

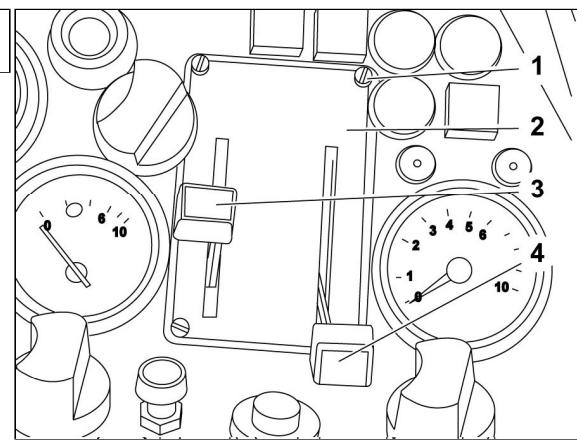


Fig. 13.76 Control panel - installation



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11. Adjust the valve lever **4** on the engine oil pump **3** into position closed (to the lower stop pin).
12. Adjust the length of the wire **3** of the Bowden control cable **1** of the dependent heater, attach it to the valve lever **4** and secure with a screw **5**.

CAUTION:

When adjusting the length of the wire, the lever **4** (See Fig. 13.77) of the dependent heater control must be in a position, which corresponds with the plate **2** instructions for the heater OFF position, i.e. lower position.

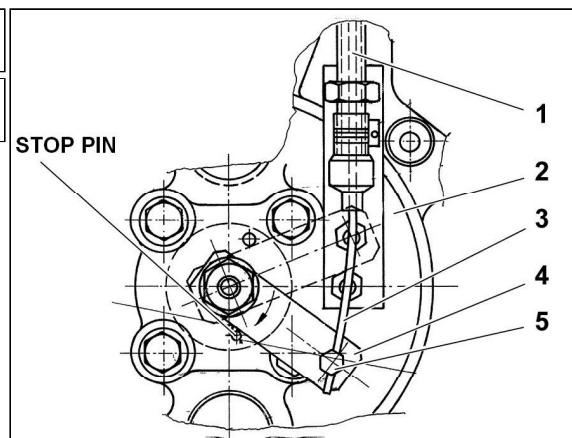
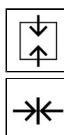


Fig. 13.77 Valve lever - connection

13. Check the oil level and/or add the oil into the engine lubricating system.
14. Switch the batteries circuit breaker on.
15. Start the engine to warm the engine oil and then check the driver's cab heating and ventilation system for a correct function.



13.5.18 Removal and Installation of the Heating Body

a) Reason for Removal

1. The cab's heating is not functioning because of the damaged or clogged heating body.

b) Technical Conditions

1. The batteries circuit breaker turned-off.
2. Replace all sealing rings with new ones.

c) Removal Procedure

1. Dismount the heating body jacket according to the procedure mentioned in: (See Subchapter 13.5.17).
1. Unscrew nuts 7, withdraw spring washers 8, remove bolts 5 fixing the jacket cover 6 to jacket 1 and remove the cover.
2. Remove the heating body 2 from jacket 1.
3. Unscrew necks 4 from the heating body 2.
4. Withdraw sealing rings 3.

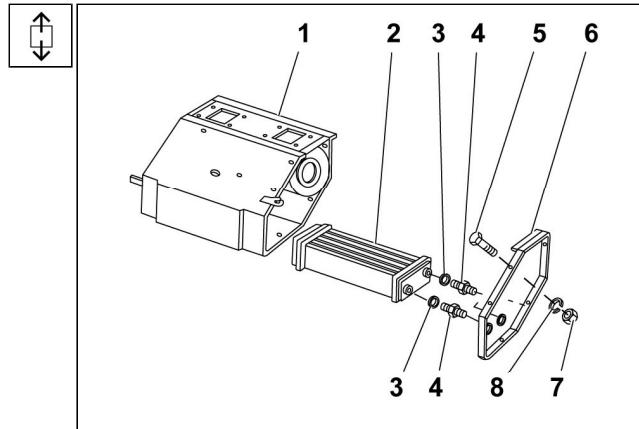


Fig. 13.78 Heating body - removal

d) Installation Procedure

1. Fit sealing rings 3 on necks 4.
2. Screw necks 4 into heating body 2.
3. Slide the heating body 2 into jacket 1.
4. Fit the jacket cover 6 into jacket 1 and fix it using bolts 5, spring washers 8 and nuts 7.

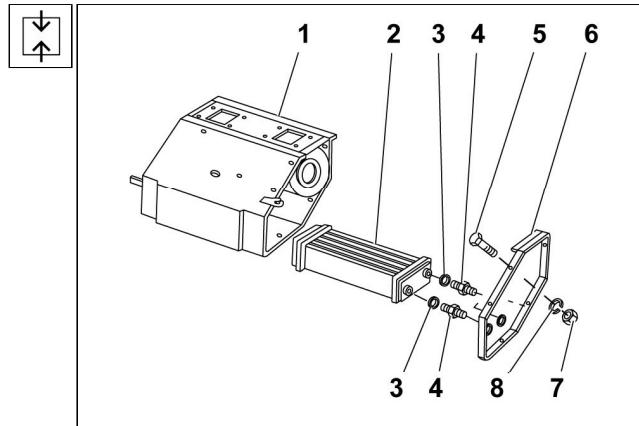


Fig. 13.79 Heating body - installation



-
5. Install the heating body jacket according to the procedure mentioned in: (See Subchapter **13.5.17**).



13.5.19 Removal and Installation of the Fan

a) Reason for Removal

1. The cab's ventilation is not functioning because of the damaged fan.

b) Technical Conditions

1. The batteries circuit breaker turned-off.

c) Removal Procedure

1. Dismount the heating body jacket according to the procedure mentioned in: (See Subchapter **13.5.17**).
1. Unscrew nuts **7**, withdraw spring washers **8**, remove bolts **5** fixing the jacket cover **6** to jacket **1** and remove the cover.
2. Unscrew screws **1** c/w spring washers **2** and remove the fan **4** from jacket **3**.

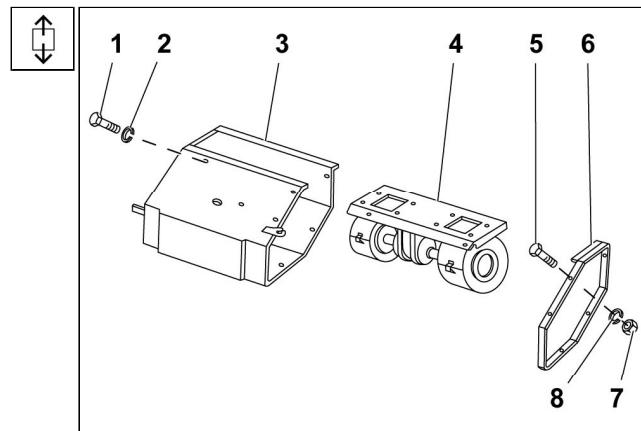


Fig. 13.80 Fan - removal

d) Installation Procedure

1. Fit the fan **4** into jacket **3** and fix it using screws **1** c/w spring washers **2**.
2. Fit the jacket cover **6** into jacket **3** and attach it using bolts **5**, spring washers **8** and nuts **7**.

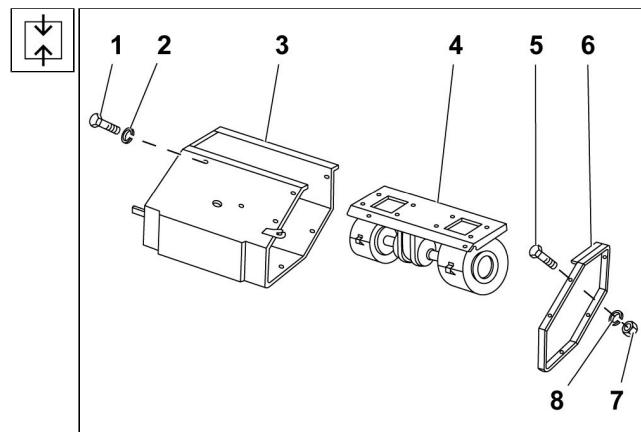


Fig. 13.81 Fan - installation

3. Install the heating body jacket according to the procedure mentioned in: (See Subchapter **13.5.17**).



13.5.20 Removal and Installation of the Cab's Tilting Mechanism

a) Reasons for Removal

1. The cab's tilting mechanism is not functioning.
2. Some part of the cab's tilting mechanism has been damaged.

b) Technical Conditions

1. Clean all parts from dirt before installation.
2. Smear all pins with grease before installation.
3. Bleed the hydraulic circuit of the cab's tilting mechanism after installation of individual parts.
4. Use only the specified oils to fill the hydraulic circuit of the cab's tilting mechanism.

c) Removal Procedure

CAUTION:

In the event of a defect in the hydraulic circuit of the cab's tilting mechanism, it is not allowed to lift the cab by means of a crane unless you released the hydraulic cylinder from pin on the cabin.

Never raise the cab by crane to the marginal position.

The lifted cab must be always supported in a safe manner.

1. Lift the driver's cabin and support it safely.
2. Unscrew hoses **1** from the manual pump **2**.
Catch the oil into a pan prepared.

CAUTION:

Before you dismount hoses from the manual pump, remember to mark the hoses and their connecting points on the pump.

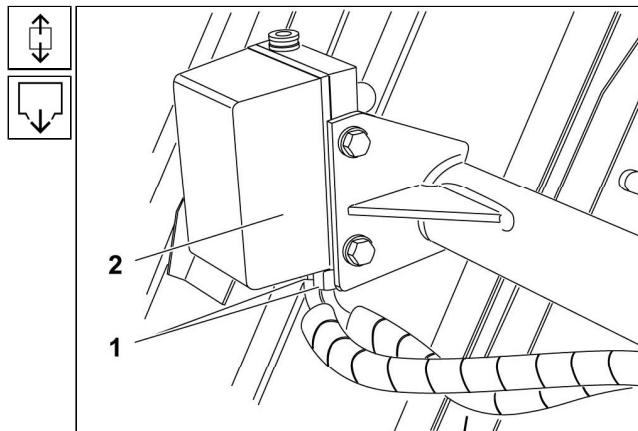


Fig. 13.82 Hoses of manual pump - removal



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3. Unscrew screws **1** c/w washers and spring washers fixing the hand pump **2** to holder of the LH front mudguard.
4. Withdraw the pump **2**.

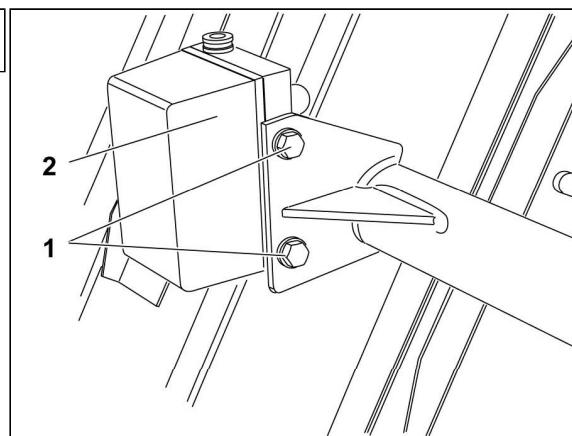
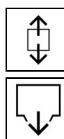


Fig. 13.83 Manual pump - removal

5. Unscrew nuts **1** and **2** to disconnect the hoses from hydraulic cylinder **3**. Catch the oil, which spills out, into a pan prepared.

**CAUTION:**

Before you dismount hoses from the hydraulic cylinder, remember to mark the hoses and their connecting points on the hydraulic cylinder.

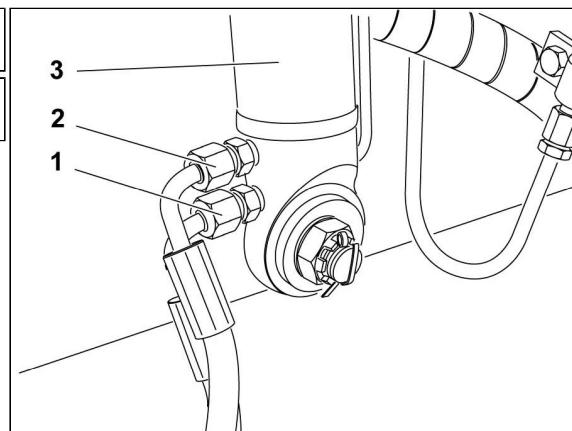


Fig. 13.84 Hoses of hydraulic cylinder - removal

6. Remove split pin **4** from pin **3**.
7. Withdraw washer **2**.
8. Remove pin **3** fixing the hydraulic cylinder **1** to cabin **5**.

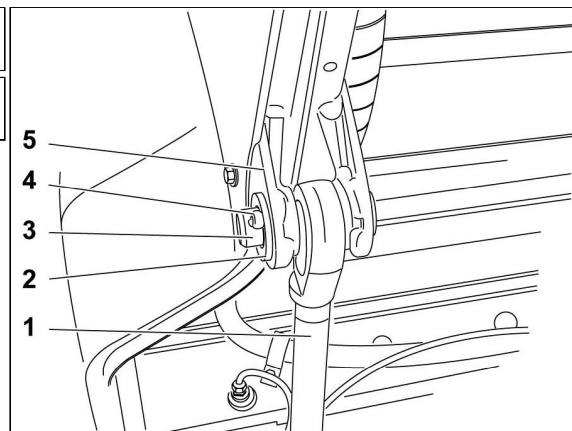
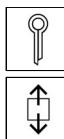


Fig. 13.85 Mounting of hydraulic cylinder on cab - removal



9. Remove split pin 4 from the crown nut 3.
10. Unscrew nut 3.
11. Withdraw washer 2.
12. Withdraw the hydraulic cylinder 1 from pin 5.

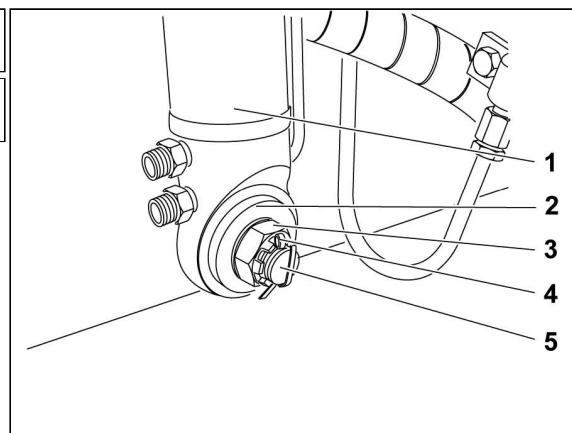
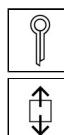


Fig. 13.86 Mounting of hydraulic cylinder on frame - removal

d) Installation Procedure

1. Use two screws 1 c/w washers and spring washers to attach the hand pump 2 to holder of the LH front mudguard.

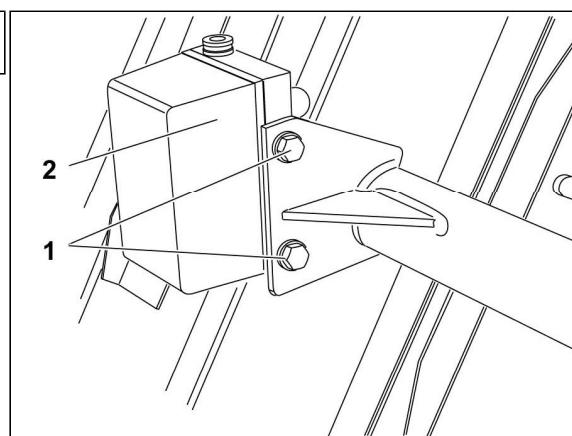


Fig. 13.87 Manual pump - installation

2. Screw hoses 1 to the manual pump 2.

CAUTION:
Do not confuse the hoses during their assembly. They must be mounted on the same screwed connections, from which they were removed.

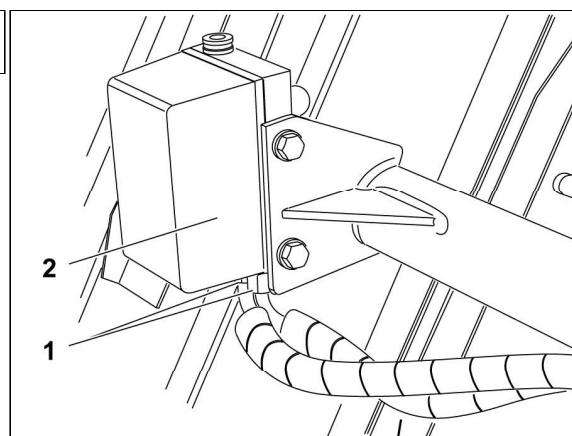


Fig. 13.88 Hoses of manual pump - installation



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3. Smear the pin 5 with grease.
4. Fit hydraulic cylinder 1 on pin 5.
5. Fit washer 2.
6. Mount crown nut 3.
7. Secure the nut 3 with split pin 4.

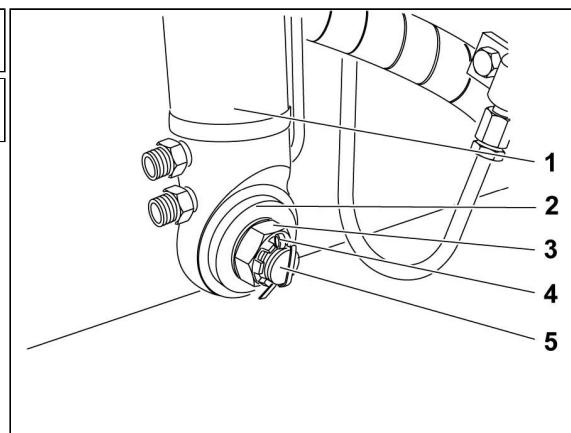
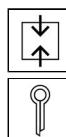


Fig. 13.89 Mounting of hydraulic cylinder on frame - installation

8. Fill, bleed and connect the hydraulic circuit in accordance with the following procedure:

- Unscrew plug and fill the manual pump with hydraulic oil.

CAUTION:

The pump must be full of oil all the time during filling.

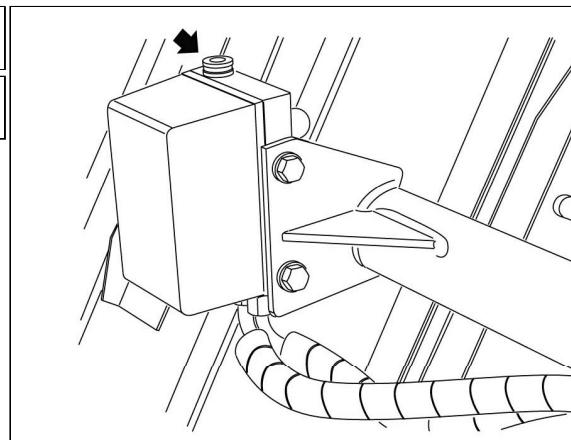
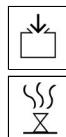


Fig. 13.90 Filler plug of the manual pump

- Adjust the controller on the pump into the "lifting" position. Use the pump to fill the "lifting" line up to the hydraulic cylinder. When the oil starts to flow from the hose, mount nut 2 on the hydraulic cylinder 3.

- Adjust the controller on the pump into the "lowering" position. Use the pump to fill the "lowering" line up to the hydraulic cylinder. When the oil starts to flow from the hose, mount nut 1 on the hydraulic cylinder 3.

Note:

The hydraulic cylinder has been factory filled with oil.

- Check the function - move the cylinder hydraulically by means of the manual pump only.

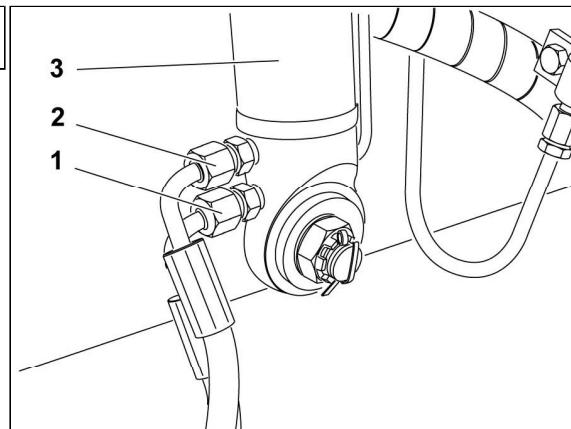


Fig. 13.91 Hoses of hydraulic cylinder - installation



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9. Fit the hydraulic cylinder **1** to cab **5**.
10. Use the pin **3** (first smear it with grease) to connect the cylinder **1** to cab **5**.
11. Fit washer **2**.
12. Secure the pin **3** with split pin **4**.

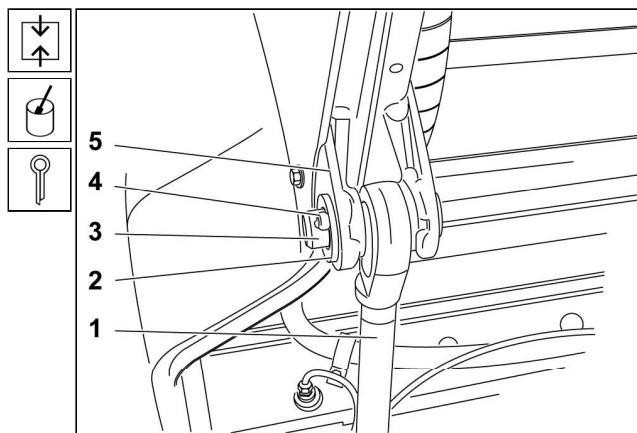


Fig. 13.92 Mounting of hydraulic cylinder on cab - installation

13. Correct the oil level in the manual pump up to the upper margin of the movable piston in the lower position.
14. Disconnect the driver's cabin from crane.
15. Operate the manual pump to check the cab's tilting mechanism for a correct function.



13.5.21 Removal and Installation of the Driver's Cabin

a) Reasons for Removal

1. The driver's cabin has been damaged too much and it cannot be repaired.
2. Removal of the auxiliary ladder-type frame.

b) Technical Conditions

1. The silent block of the cabin mounting must not be damaged.
2. Replace all sealing elements with new ones.
3. The closure hooks of the cab's locking mechanism must not be damaged.
4. Tie-rods and levers of the cab's locking mechanism must be set so that the cabin is secured in a safe manner during the vehicle operation.
5. Pneumatic and hydraulic circuits must be checked for leaks and function after installation.

c) Removal Procedure

1. Disconnect the positive terminal from batteries.
2. Release air from the vehicle pneumatic system.
3. Unlock, open and secure the cab's front bonnet in the open position.
4. Disconnect cables **1** and **2** from the ZAB socket **3** and pull them out of the cabin.

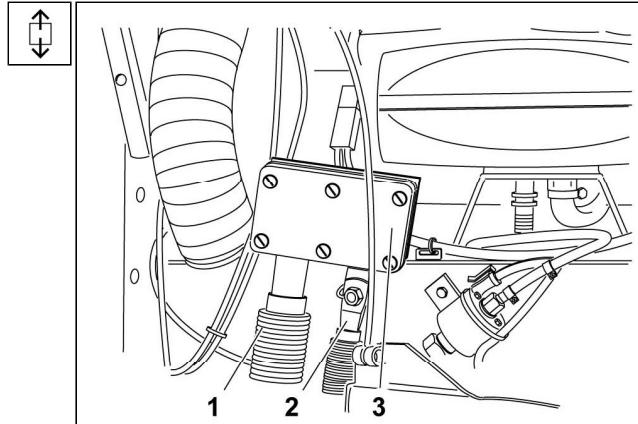


Fig. 13.93 Cables of the ZAB socket - removal



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5. Unscrew nuts of hoses **1** and **2** from necks of the heating body, disconnect cable clips, loosen the hoses from clamp and pull them out of the cabin.

CAUTION:

Catch the oil, which remains in hoses, into a pan prepared . Use suitable plugs to cover the hoses and necks.

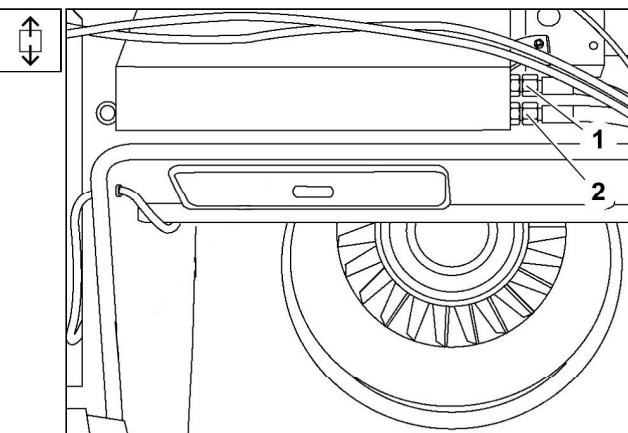


Fig. 13.94 Hoses of heating body - removal

6. Loosen screw **5** and disconnect the wire **3** of the control Bowden cable **1** of the dependent heater from the valve lever **4** on the engine oil pump **3**.

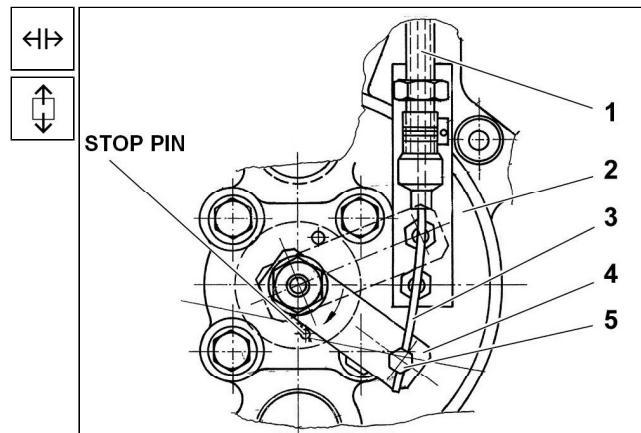


Fig. 13.95 Valve lever - disconnection

7. Dismount the engine stopping cable from cabin.

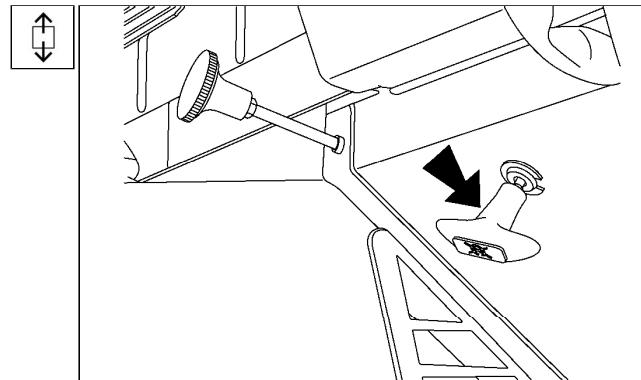


Fig. 13.96 Engine stopping cable - removal



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8. Disconnect the speed sensor and connecting cable from the speedometer **1** and pull them out of the cabin.

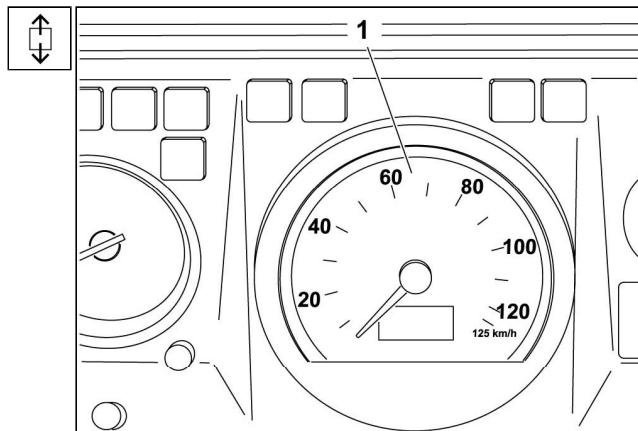


Fig. 13.97 Removal of speed sensor and connecting cable of speedometer

9. Disconnect the cable clip **1**.
10. Mark and detach the hose **2** of the fuel supply to tank and fuel discharge hose **3** from tank of the fuel line on the frame longitudinal beam. Catch the fuel, which spills out, into a pan prepared and cover the hoses with plugs.

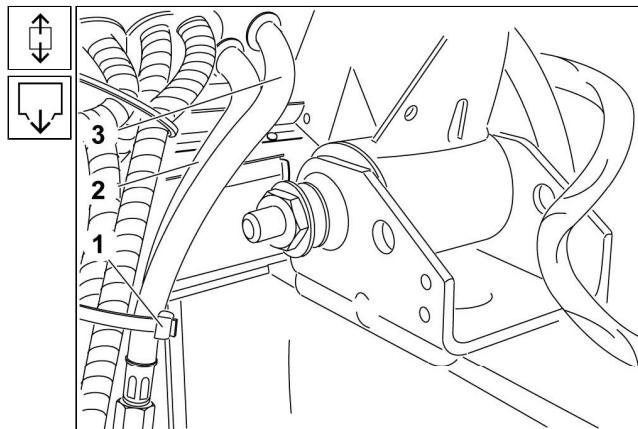


Fig. 13.98 Heater tank hoses - disconnection

11. Unscrew the pressure air inlet manifold **1** from seat.

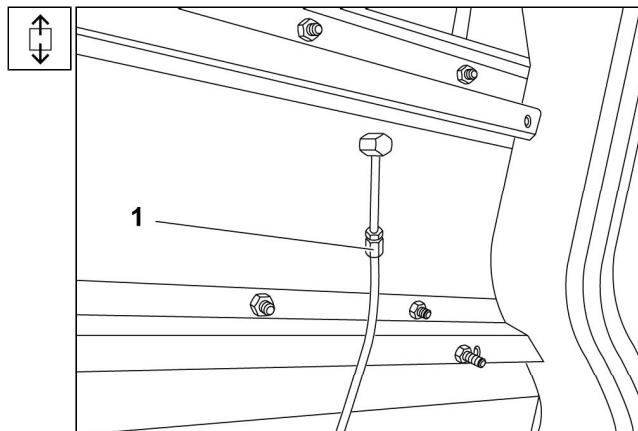


Fig. 13.99 Pressure air inlet manifold to seat - removal



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12. Detach the fluid delivery hose **2** from the clutch master cylinder and drain the brake fluid into a pan prepared according to a procedure mentioned in: (See Part **2**).
13. Remove the crosshead pin **6** of the steering wheel spindle from fork of the steering gear **7** according to a procedure mentioned in: (See Part **10**).
14. Disconnect the cab's grounding cable **1**.
15. Detach the air manifold from master brake valve **4**.
16. Detach the air manifold from horn **3**.
17. Detach the air manifold from manual brake valve and cocks **8**, pressure sensors, electro-valves, and pressure gauge on the instrument board.
18. Dismount the control Bowden cable of the fuel delivery **5** from the intermediate lever of the gas pedal and holder on cab and move them out of the cabin.
19. Disconnect electric cables of:
 - Cab's wiring cable harnesses,
 - Cab's wiring cable harnesses of main headlamps, fog lamps and side marker lamps,
 - Engine wiring cable harnesses,
 - Chassis wiring cable harnesses,
 - Electro-valves cable harnesses.
20. Unscrew nuts **2**, withdraw spring washers **3** and remove bolts **4** fixing the shifter rod **1** to the selector flange **5**.
21. Attach the steering rod **1** to cab in a suitable manner.

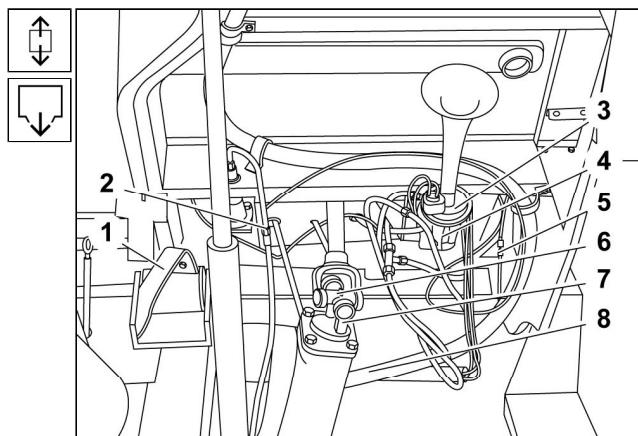


Fig. 13.100 Grounding cable of cabin, crosshead pin, air manifold, Bowden cable - removal

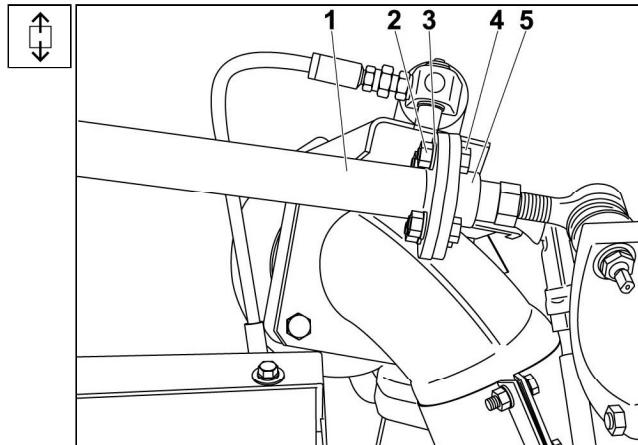


Fig. 13.101 Shifter rod - disconnection



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22. Partially lower down the cabin, hang it using a hanger **PRM 1690** on crane and support it safely.

CAUTION:

Keep safety precautions valid for the work with a hanging load when handling the driver's cabin not to suffer an injury.

23. Remove split pin **4** from pin **3**.
24. Withdraw washer **2**.
25. Remove pin **3** fixing the hydraulic cylinder **1** to cab **5**.

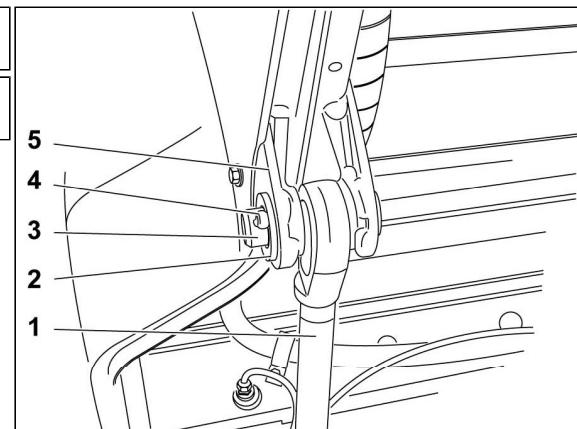
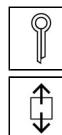


Fig. 13.102 Location of hydraulic cylinder on cab - removal

26. Dismount the metal cover sheet **7**.
27. Loosen and unscrew the nut **6** and withdraw the lock washer **5** from cab's pin **1**.
28. Loosen and unscrew the nut **4** and withdraw washer **3** from cab's pin **1**.
29. Remove the cab's pin **1** and washer **2**.

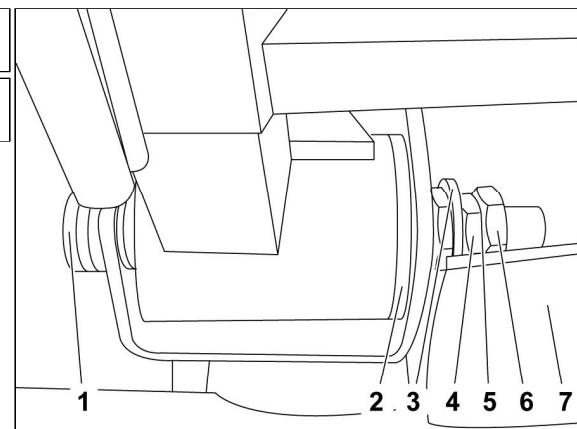


Fig. 13.103 Cab's pin - removal

30. Check whether all individual manifolds and elements, which would obstruct the removal of cab from bearings brackets on the auxiliary frame, are disconnected from cab.
31. Withdraw the driver's cabin from the auxiliary frame and place it in a safe place.

d) Installation Procedure

1. Use a hanger **PRM 1690** to hang the driver's cabin on crane and fit the cab's bearings into brackets on the auxiliary frame. Support the cabin in the rear part safely.

CAUTION:

Keep safety precautions valid for the work with a hanging load when handling the driver's cabin not to suffer an injury.



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2. Fit washer **2** and cab's pin **1** smeared with the plastic lubricant.
3. Fit washer **3** on the cab's pin **1** and mount nut **4**. Tighten the nut.
4. Fit the lock washer **5** on cab's pin **1** and mount nut **6**. Tighten the nut.
5. Install the cover metal sheet **7**.

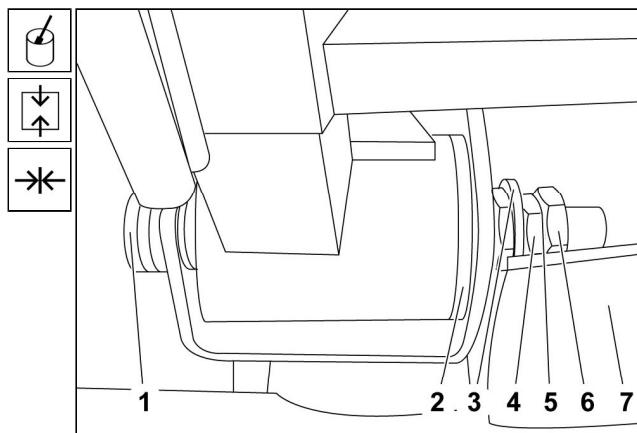


Fig. 13.104 Cab's pin - installation

6. Fit the hydraulic cylinder **1** to cab **5**.
7. Use the pin **3** smeared with grease to connect the cylinder **1** to cab **5**.
8. Fit washer **2**.
9. Secure the pin **3** with split pin **4**.

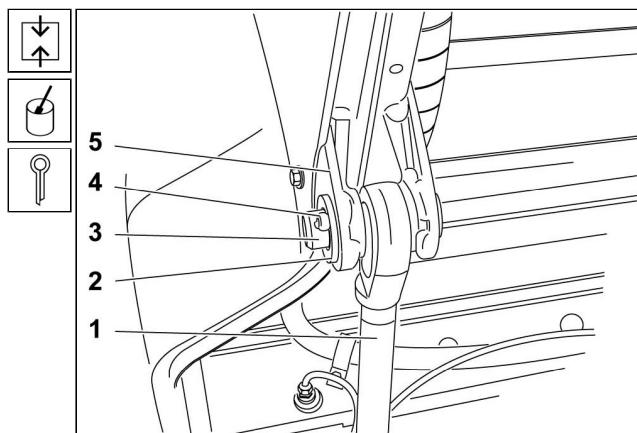


Fig. 13.105 Location of hydraulic cylinder on cab - installation

10. Carefully disconnect the driver's cabin from hanger **PRM 1690**.
11. Use the manual pump to lift the cabin into the upper position.



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12. Use bolts **4**, spring washers **3** and nuts **2** to connect the shifter rod **1** to the selector flange **5**.

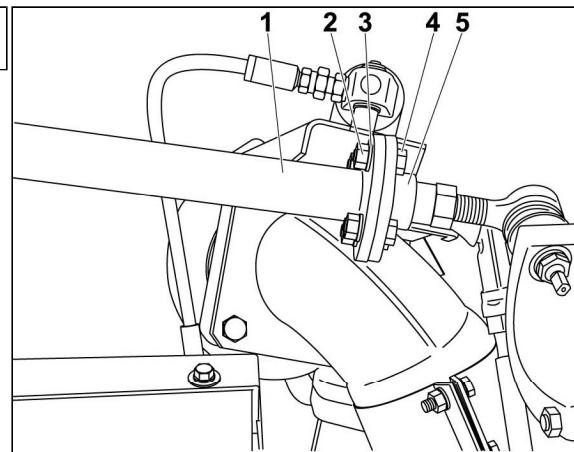


Fig. 13.106 Shifter rod - connection

13. Connect electric cables of:
- Cab's wiring cable harnesses,
 - Cab's wiring cable harnesses of main headlamps, fog lamps and side marker lamps,
 - Engine wiring cable harnesses,
 - Chassis wiring cable harnesses,
 - Electro-valves cable harnesses.
14. Attach the air intake manifold **1** to seat.

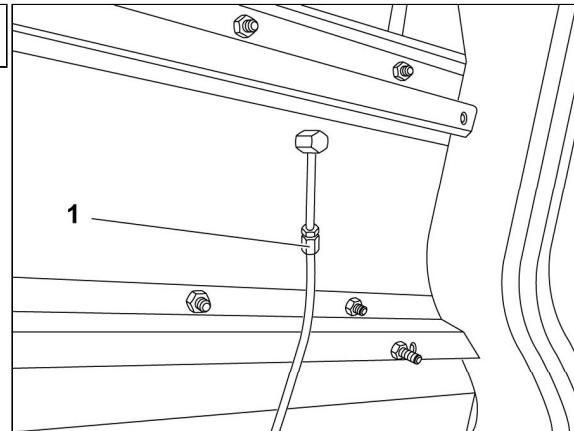


Fig. 13.107 Air pressure intake manifold to seat - installation



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15. Attach the fuel discharge hose **3** to tank and fuel supply hose **2** to tank of the fuel manifold on the frame longitudinal beam.
16. Use cable clip **1** to fix the hoses in position.

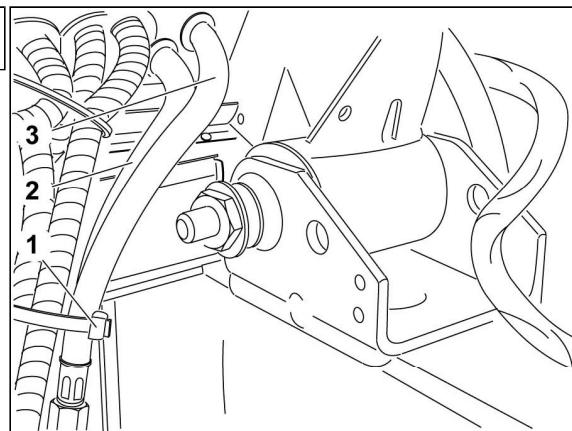


Fig. 13.108 Heater tank hoses - connection

17. Pull the connecting cable of speedometer and speed sensor through inside the cabin and connect to the speedometer **1**.

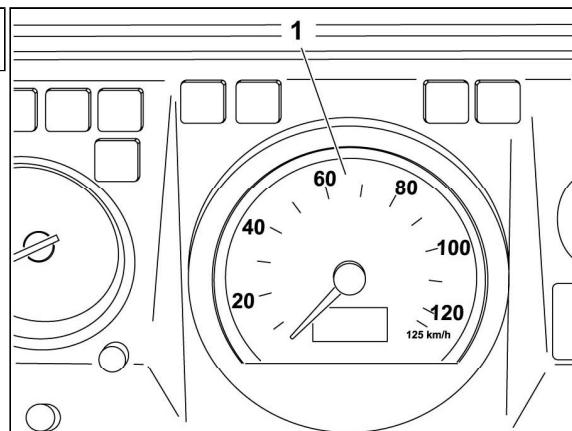


Fig. 13.109 Installation of the speed sensor and connecting cable of speedometer



18. Pull the control Bowden cable of the fuel delivery **5** through inside the cab and connect it to the holder on cab and intermediate lever of the gas pedal.
19. Attach the air manifold to the manual brake valve and cocks **8**, pressure sensors, electro-valves, and pressure gauge on the instrument board.
20. Attach the air manifold to horn **3**.
21. Attach the air manifold to master brake valve **4**.
22. Connect the cab's grounding cable **1**.
23. Install the crosshead pin **6** of the steering spindle into fork of the steering gear **7** according to a procedure mentioned in: (See Part **10**).
24. Attach the hose **2** of the fluid discharge from the clutch master cylinder, top up the brake fluid into equalizing tank and bleed the clutch fluid control equipment according to a procedure mentioned in: (See Part **2**).
25. Install the engine stopping tie-rod into cab.

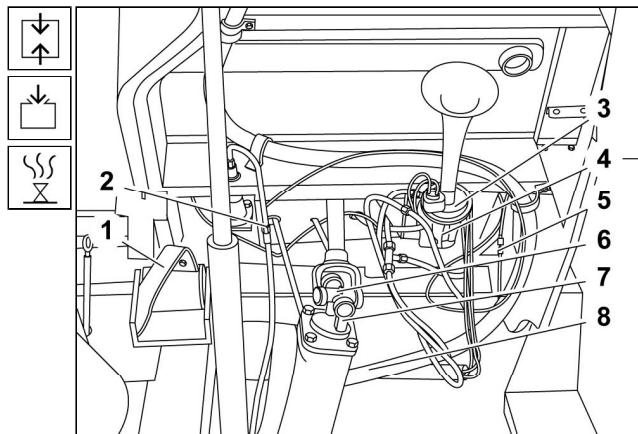


Fig. 13.110 Grounding cable of cabin, crosshead pin, air manifold, Bowden cable - installation

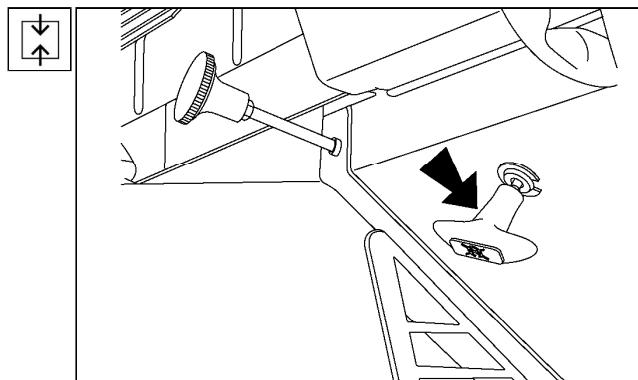


Fig. 13.111 Engine stopping cable - installation

26. Adjust the valve lever **4** on the engine oil pump **3** into "closed" position (to the lower stop pin).
27. Adjust the length of the wire **3** of the control Bowden cable **1** of the dependent heater, connect it to the valve lever **4** and secure with a screw **5**.

CAUTION:

When setting the length of the wire, the control Bowden cable of the dependent heater in cab must be in position, which responds to instructions on the label for the heater off - i.e. lower position.

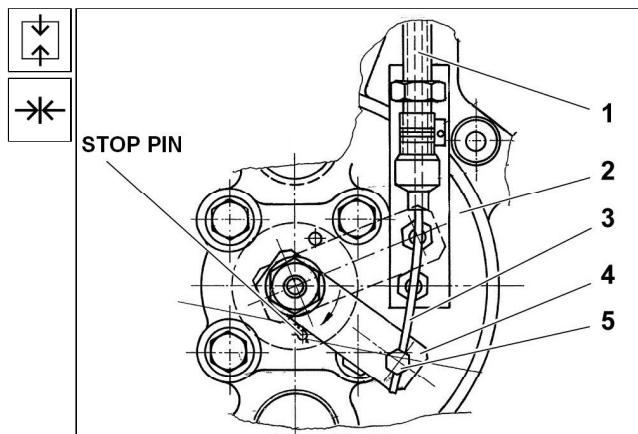


Fig. 13.112 Valve lever - connection



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28. Pull the hoses through inside the cab, screw and tighten the hoses nuts **1** and **2** on necks of the heating body. Fix the hoses with cable clips and clamps.

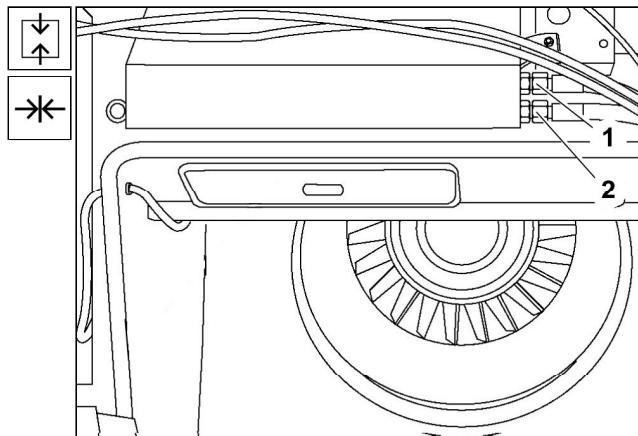
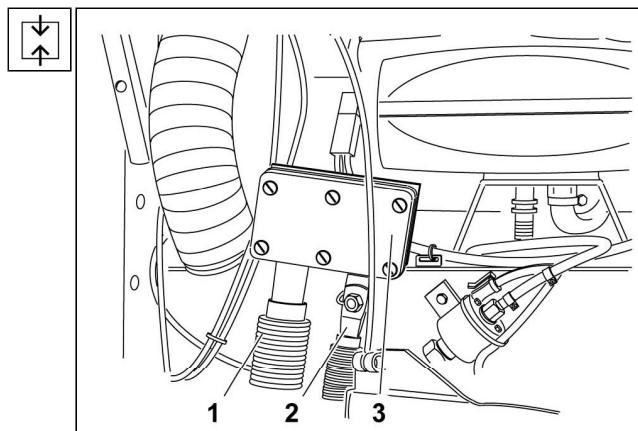


Fig. 13.113 Hoses of heating body - installation

29. Pull the cables **1** and **2** through inside the cab and connect them to the ZAB socket **3**.



30. Check and/or add the oil into the engine lubricating system.
31. Shut the cab's front bonnet.
32. Connect the batteries positive terminal.
33. Use the manual pump to check the cab's tilting mechanism for a correct function.
34. Check the cab's locking mechanism for a correct function.
35. Make sure that the vehicle control elements are working properly.

