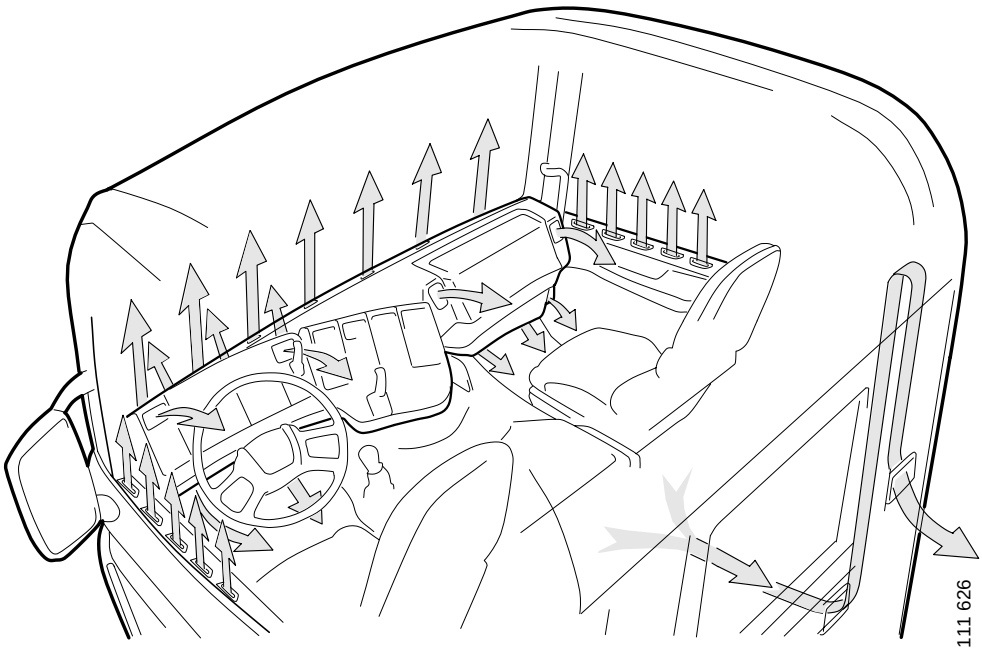
SCANIA

18:03-01

Issue 02 **en**

Heating and ventilation

Work description



1 585 372

Contents

Heater unit and controls

Heat exchanger

Removal

1 Drain the coolant Refer to the Workshop manual group 2, Cooling system.

2 Remove the upper front grille panel.

3 Remove the ventilation grille 4 or the coarse filter 1.

Note: If fitted, coarse filter 1 should be replaced with ventilation grille 4 on P and R cabs.

4 Remove the cab air filter 2.

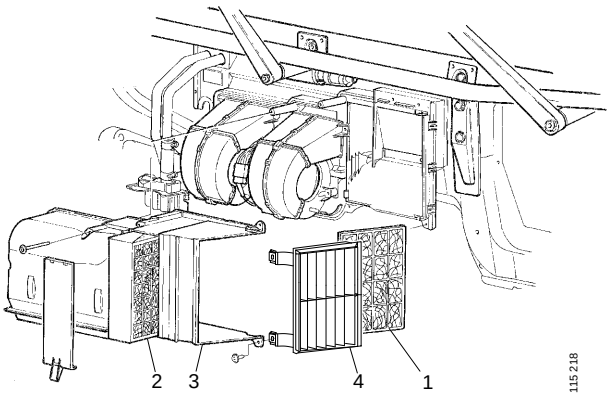
Note: Note how the cab air filter is fitted. It must be refitted in the same way.

5 Remove the outer air duct 3.

6 Loosen the wire to the windscreen wipers. Loosen the washer hoses from the reservoir at the T-junction and loosen them from the clamps (2 clamps).

7 Remove the bracket for the windscreen wipers and the front grille panel.

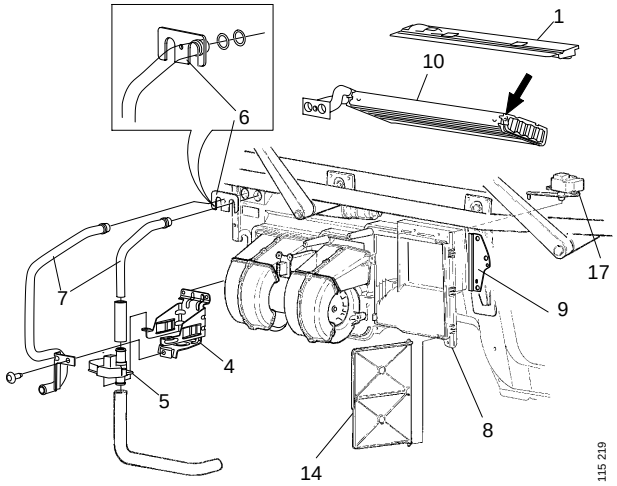
8 Disconnect and loosen the wiring to the fan resistor unit and the fan motor.



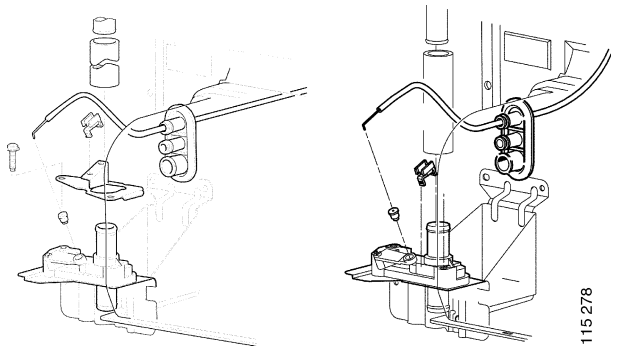
9 For vehicles equipped with recirculation damper. Remove the recirculation damper 14 and loosen the control motor 17. The motor can remain in the recirculation duct.

10 Loosen the coolant pipes 7 at the bracket 6, bracket 4 and at the water valve 5.

11 Remove the coolant pipes 7.



12 Detach the cable and the clamp from the water valve 5.



Cable and clamp, older and newer design

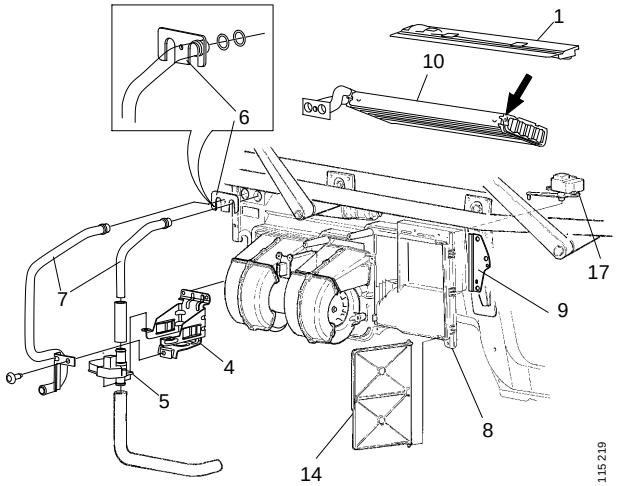
13 Loosen the water valve from the bracket 4.

14 Remove the heat exchanger cover 8 and the plate 9.

15 Remove the bolt that on the older designs retains the heat exchanger in its housing, see arrow at pos. 10.

16 Remove the heat exchanger 10.

Note: Be careful, there may still be coolant inside the heat exchanger.



Modification of heat exchanger and damper housing

The temperature of the incoming warm air in the cab may on earlier trucks be too low when the ambient temperature is low. One cause is that too much fresh air is mixed with the heated air in the heater unit.

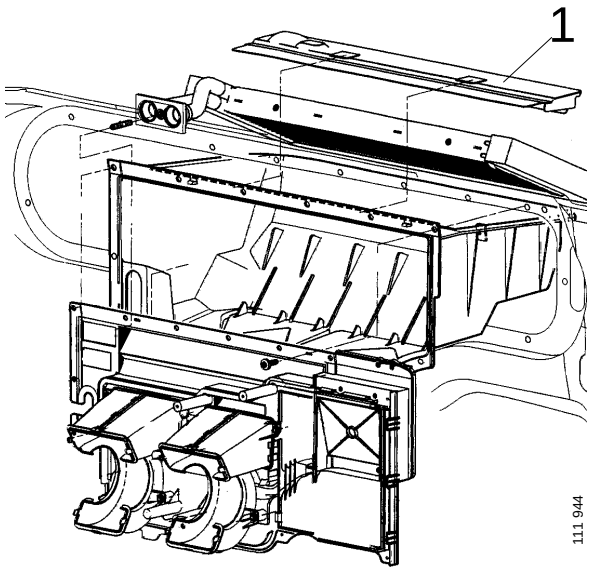
The following measures raise the temperature of the incoming warm air. The measures are introduced in production from September 1998 and the following chassis numbers:

Scania Södertälje	1 242 946
Scania Zwolle	4 398 440
Scania Angers	9 035 140

List of measures

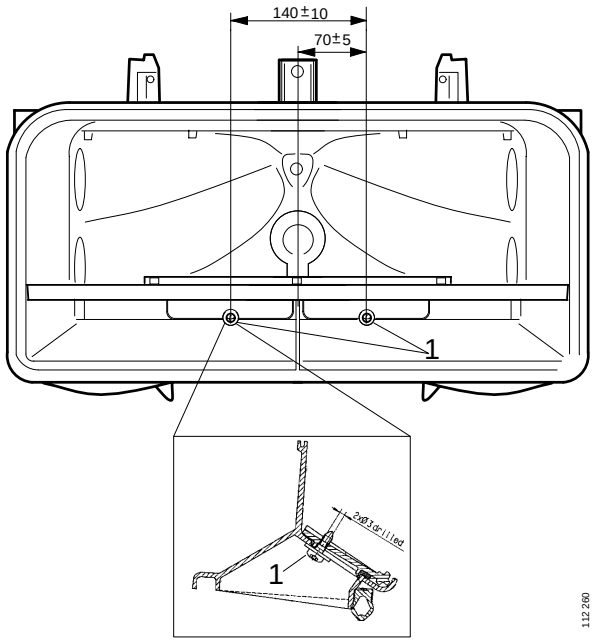
1 Change to a more effective heat exchanger with improved sealing against the damper housing.

2 Fitting of an extra seal plate 1 to prevent unheated air from leaking into the cab. This permits use of the air distribution control between the positions panel air vents and floor air vents, without the addition of fresh air. In this way, the temperature of the air from the panel air vents is raised. The damper housing must be adapted to the new seal plate.



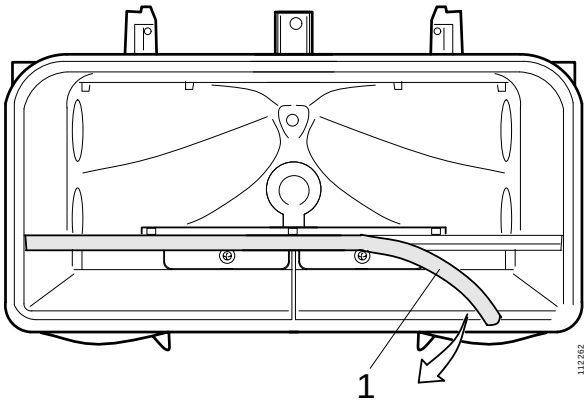
3 The air resistance is greater in the new heat exchanger. Increase the fan speed in the fan knob positions 1 and 2 in order to maintain the same air flow as before, by changing the fan resistor unit R2 from 1.5 ohms to 0.9 ohms.

4 The sealing of the recirculation damper is improved by the introduction of a new bracket for the control motor. This reduces the risk of cold air leaking into the cab. On previously modified trucks, secure the cold air damper with screws 1 as shown in the figure.

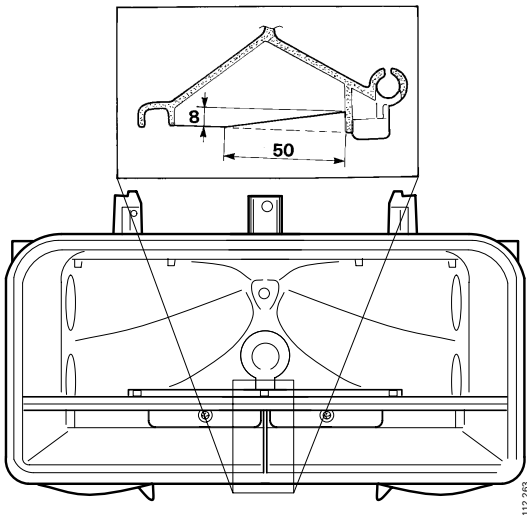


Description

1 Remove the rubber moulding 1.

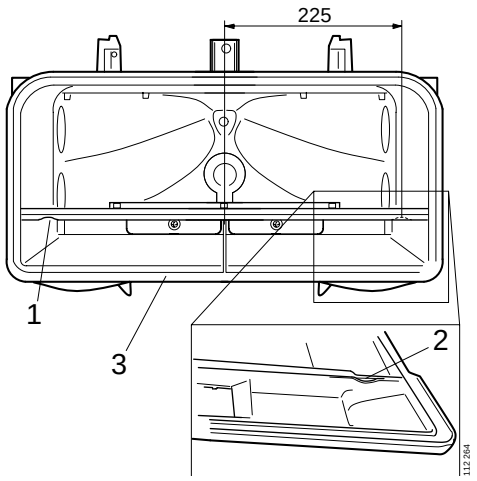


2 Modify the damper housing. Make a recess for the seal plate as shown in the figure.

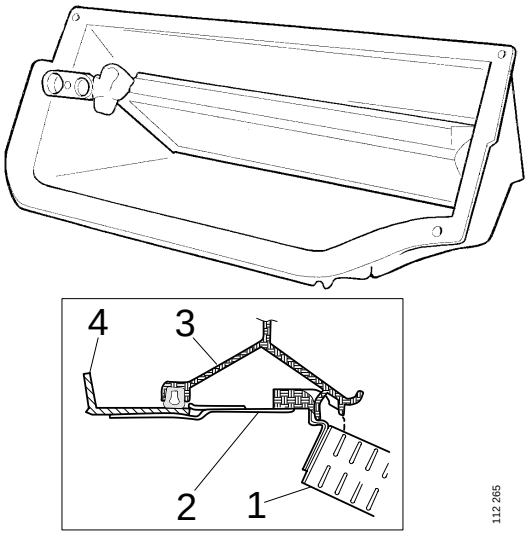


3 Make a new recess for the pipe at 2. The recess should have the same shape as the existing recess at 1.

4 Check that the seal strip 3 between the upper and lower damper housing is correctly positioned.



5 Fit the new heat exchanger and seal plate. Clamp the seal plate in position, between the heat exchanger and the damper housing. Snap the plate in place as shown in the figure.



6 Renew fan resistor unit, refer to Fan resistor unit, Renewal.

1 Heat exchanger
2 Seal plate
3 Damper housing
4 Heater housing

Insulation of member under defroster duct

The temperature of the incoming warm air in the cab may on earlier trucks be too low when the ambient temperature is low. This is partly due to the heated air in the heater assembly being cooled by the ram air.

The member under the defroster duct is now insulated in production from chassis numbers:

Scania Södertälje	1 242 946
Scania Zwolle	4 398 440
Scania Angers	9 035 140

For modification of earlier vehicles, a self-adhesive insulation is available, which should be fitted when the modification of the heat exchanger unit is carried out.

Description

1 Remove the upper front grille panel and brackets.

2 Remove the windscreen wiper wiring.

3 Loosen the washer hoses and remove the windscreen wipers.

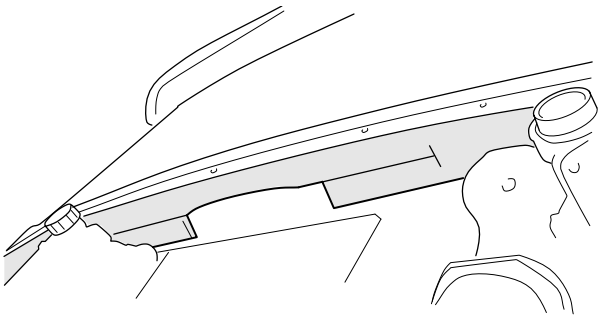
4 Remove dirt and grease from the defroster member.

5 Remove the protective foil from the insulation and fit the insulation.

6 Fit the windscreen wipers and the washer hoses.

7 Refit the windscreen wiper wiring.

8 Fit the upper front grille panel and brackets.



Recirculation of cab air

Trucks without AC can be complemented with a separate function for recirculation of the cab air. The recirculation can be used to exclude contaminated air from the cab. The function can also be used for quicker warming up.

Description

1 Fit the new mechanical parts.

2 Connect according to the wiring diagram and the Workshop manual 18:03-40.

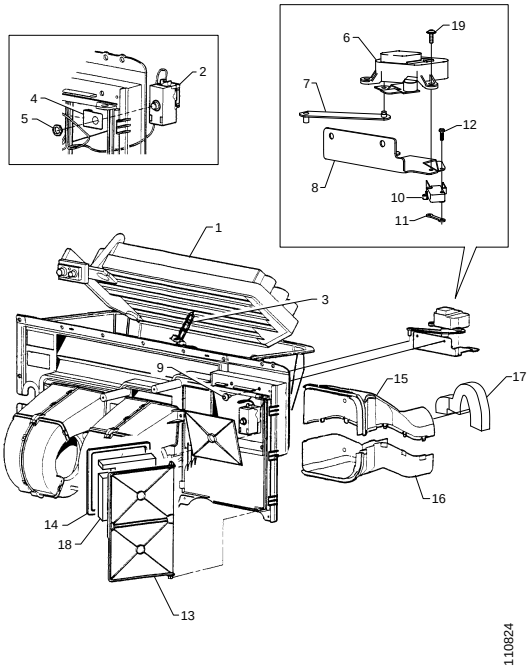
3 Fit the new switch for recirculation in a vacant position in the heating control panel.

New electrical parts

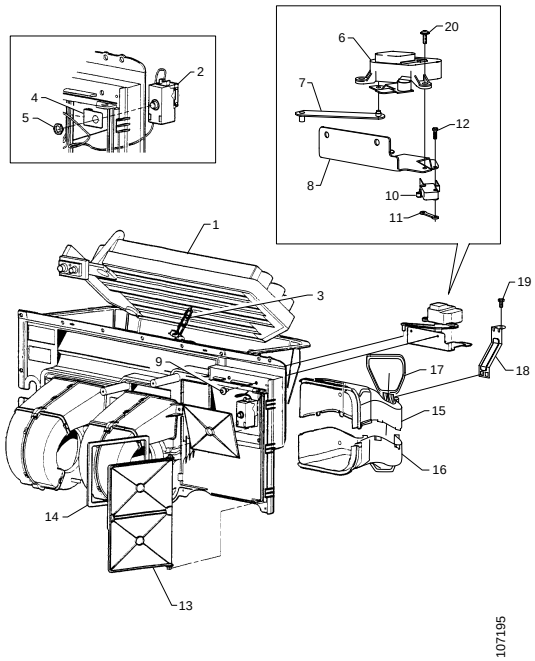
Designation	Comments	New parts
Cable harness		1 378 472
Cable harness	Left-hand drive	1 420 863
Cable harness	Right-hand drive	1 420 864
Switch		1 421 036

New mechanical parts

Designation	Part No.	Quantity P/R cab	Quantity T cab	Position	Comments
Seal strip	1 342 282	1	1	14	
Damper	1 373 259	1	1	13	
Bolt	815 871	2	2	9	
Rod	1 372 940	1	1	7	
Washer	144 181	1	1	-	
Bolt	394 009	3	3	19	
Control motor	1 372 941	1	1	6	
Bolt	805 912	4	4	12	
Bracket	1 423 959	1	1	8	
Switch	338 617	2	2	10	
Retainer	756 483	2	2	11	
Air duct	1 368 749	1		15	
Seal strip	1 368 829	1		(15)	Pos. 15 and 16 only apply to R cab
Air duct	1 368 750	1		16	
Seal strip	1 368 830	1		(16)	
Bushing	810 860	1		(16)	
Seal strip	1 368 829		1	17	
Air duct	1 379 524		1	15	
Air duct	1 379 525		1	16	
Ring	1 379 526		1	(16)	
Bolt	815 871		1	19	
Bracket	1 374 815		1	18	

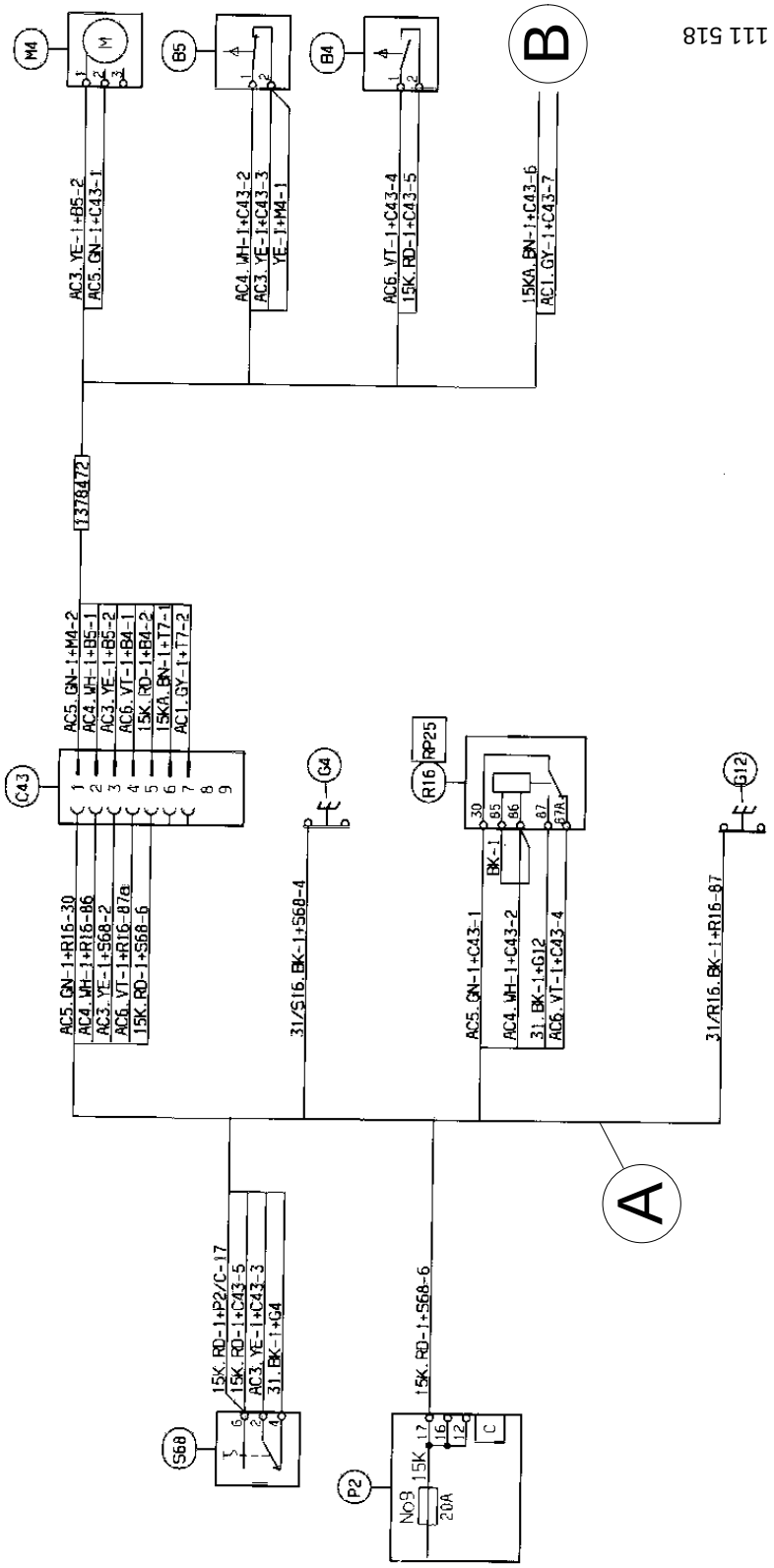


Parts for P and R cab



Parts for T cab

Wiring diagram for modification to recirculation of cab air



A. New cable harness 1 420 863 for left-hand drive and 1 420 864 for right-hand drive trucks.

B. Not connected

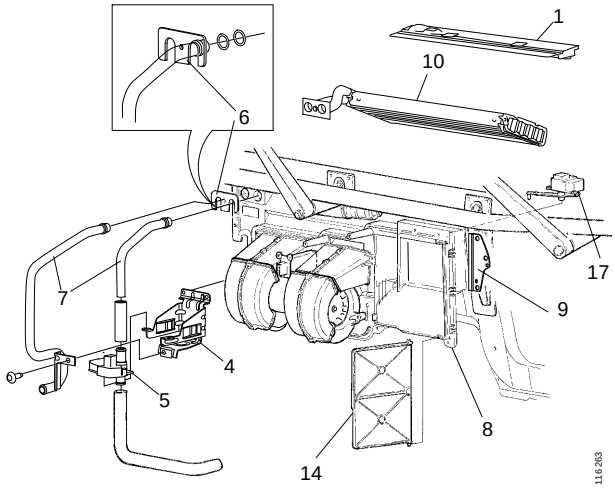
Fitting

1 Place the new heat exchanger in the heater housing.

2 Fit the heat exchanger cover 8 and the plate 9.

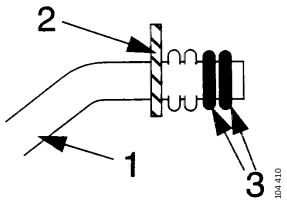
3 Fit the water valve to the bracket 4.

4 Set the temperature control in the cab to "0". Close the water valve by turning the arm fully anti-clockwise. Connect the cable and the clamp to the water valve 5.



5 Renew the O rings on the coolant pipes 7, lubricating them with vaseline. Two O rings per pipe on the same side of the flanges.

6 Connect the coolant pipes to the valve and at bracket 4. Fit the coolant pipes using bracket 6, which secures the pipes. Tightening torque 8 Nm.



1 Coolant pipe
2 Bracket
3 O rings

7 For trucks equipped with recirculation damper. Fit the recirculation damper 14 and the control motor 17.

8 Connect the wiring to the fan resistor unit and the fan motor. Secure the wiring using the hooks on the heat exchanger cover.

9 Fit the wiper system and front grille panel bracket.

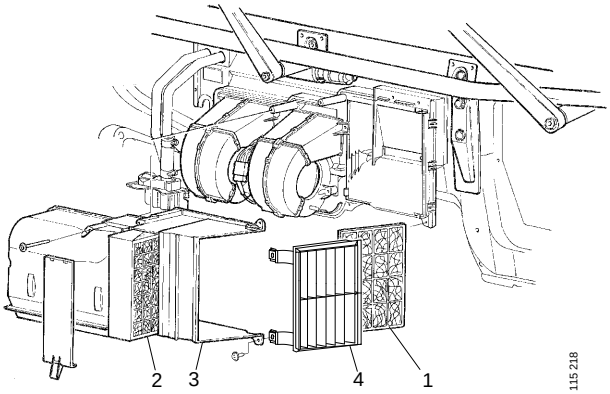
10 Connect the washer hoses to the windscreen wipers and connect the electrical connector.

11 Fit the outer air duct 3.

12 Fit the ventilation grille 4 or the coarse filter 1. If fitted, coarse filter 1 should be replaced with ventilation grille 4 on P and R cabs.

13 Fit the cab air filter 2.

Note: Make sure the cab air filter faces the correct way.



14 Refit the front grille panel.

15 Fill with coolant. Refer to the Workshop manual group 2, Cooling system.

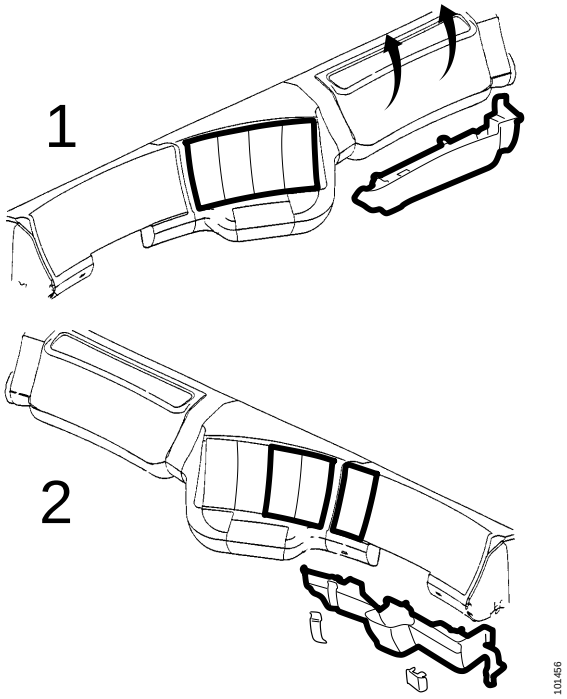
16 Run the engine until it reaches operating temperature.

17 Check that the temperature control functions and that no hose or pipe connections are leaking.

Temperature control cable

Renewal

1 Remove the sections on and under the instrument panel as marked for left-hand and right-hand drive trucks. In addition, fold up the central electric unit on left-hand drive trucks.



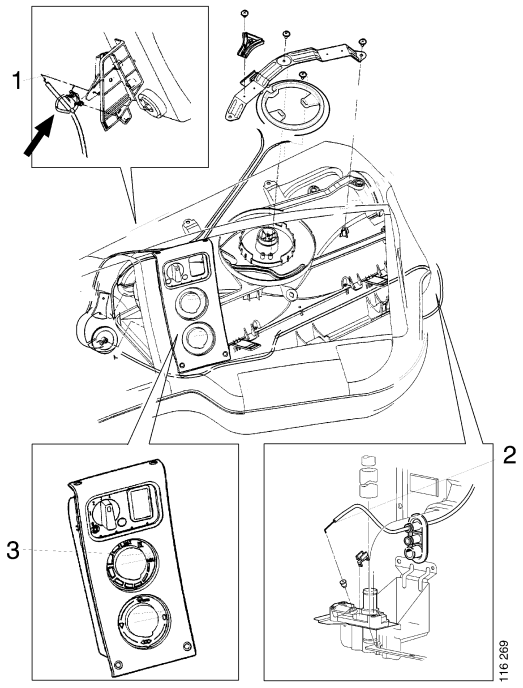
1 Panels to remove on left-hand drive trucks.
2 Panels to remove on right-hand drive trucks.

2 Disconnect the cable from the temperature control at 1.

3 Loosen the cable from the water valve at 2.

4 Set the temperature control 3 in the cab to "0". Close the water valve by turning the arm fully anti-clockwise.

5 Renew the cable. Clamp the new cable using a strap at 1. The cable should otherwise be loose without being clamped.



Ventilation control cable

Removal

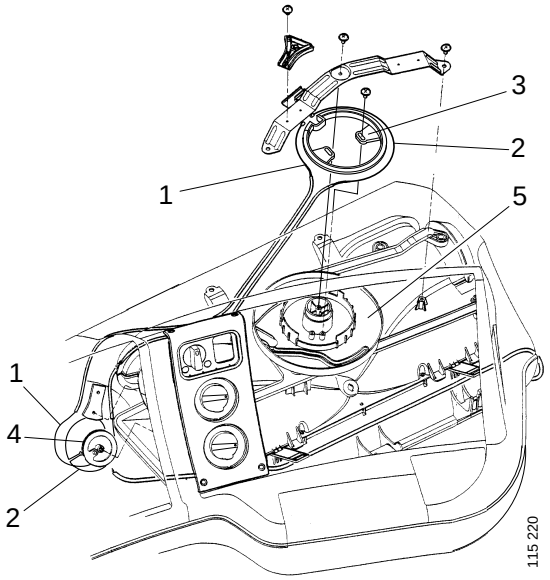
1 Loosen the panel for temperature and ventilation control on the instrument panel.

2 Loosen the other sections in the instrument panel centre section.

3 Disconnect the cables 1 and 2 from the cable wheel 3 on the damper housing.

4 Disconnect the cables 1 and 2 from the cable wheel 4 on the control panel.

5 Remove the cables.



Lubrication

Lubricate the cam disc, the axle, groove and any other plastic parts of the cam disc if required, using grease 584 084.

Note: Use of any other grease can irreparably damage the plastic components.

Fitting

1 Set the temperature control on the panel to "0".

2 Close all dampers by rotating the cam disc 5 on the damper housing anti-clockwise until it stops.

3 Fit the common attachment point for the cables to the cable wheel 4 on the control panel. Wind the cable 1 (red or blue) one revolution clockwise and cable 2 (black) a half revolution anti-clockwise.

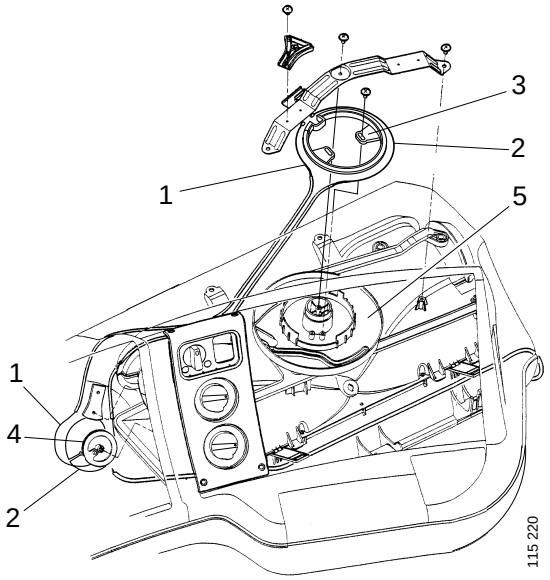
4 Fit the cable wheel to the axle of the ventilation control on the panel.

5 Press the cable casings into the retainer on the control panel and screw in place.

6 Hook the wires onto the cable wheel 3 on the damper housing.

7 Press the cable casings into the retainers on the damper housing and screw into place. The black cable should be on the right.

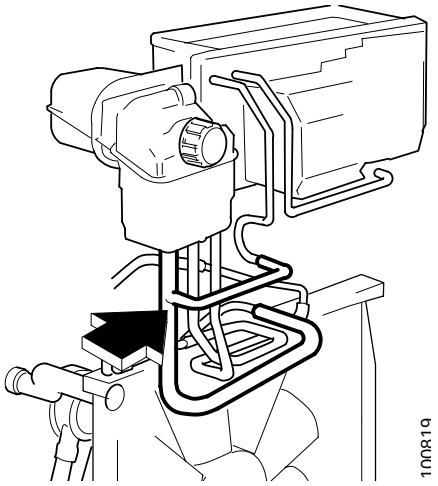
Note: Ensure that the cables are not twisted behind the ventilation control panel.



Water valve

Removal

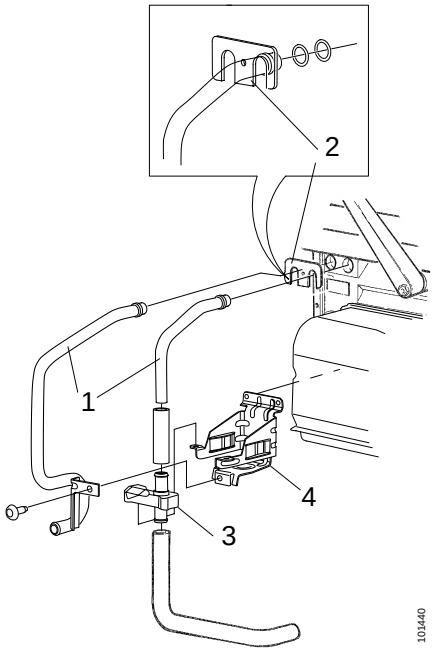
1 Drain the coolant, at least down to the T junction of the pipe. Refer to Workshop manual group 2, Cooling system.



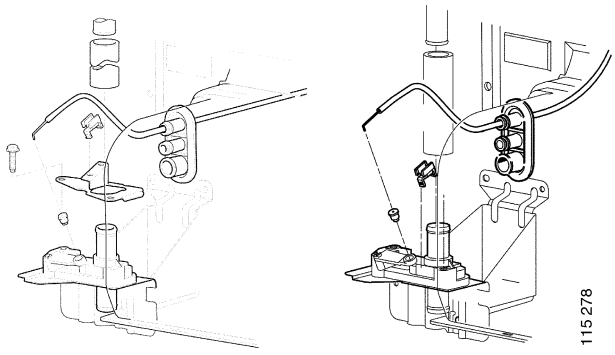
2 Loosen the coolant pipes 1 at bracket 2.

3 Remove the bolt that secures the pipes at the water valve 3 and the bracket 4.

4 Remove the coolant pipes.



5 Remove the two water valve retaining bolts and detach the cable and clamp from the water valve 3.



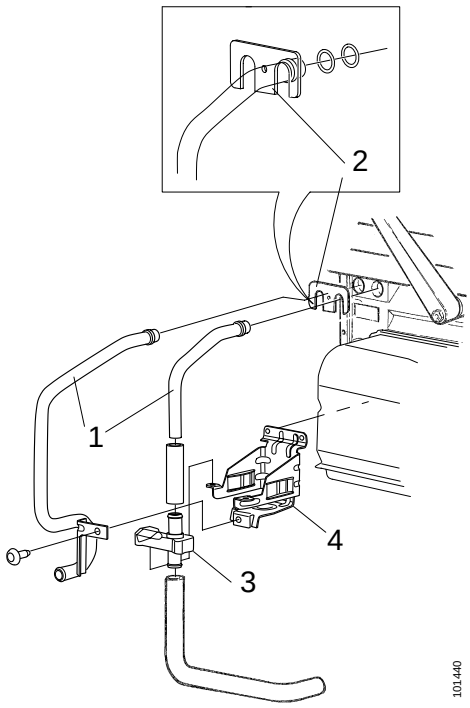
Cable and clamp, older and newer design

Fitting

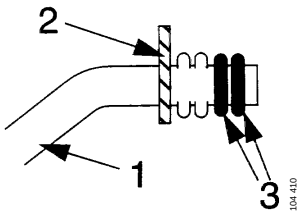
1 Screw the water valve 3 onto the retainer 4.

2 Set the temperature control in the cab to "0". Close the water valve by turning the arm fully anti-clockwise. Connect the cable and the clamp to the water valve 3.

3 Connect the coolant pipes 1 to the valve 3.



4 Renew the O rings on the coolant pipes 1, lubricating them with Vaseline. Two O rings per pipe on the same side of the flanges.



1 Coolant pipe
2 Bracket
3 O rings

5 Fit the coolant pipes 1 using the bracket 2. Tightening torque 8 Nm.

6 Screw the coolant pipes 1 into the retainer 4.

7 Fill with coolant. Refer to the Workshop manual group 2, Cooling system.

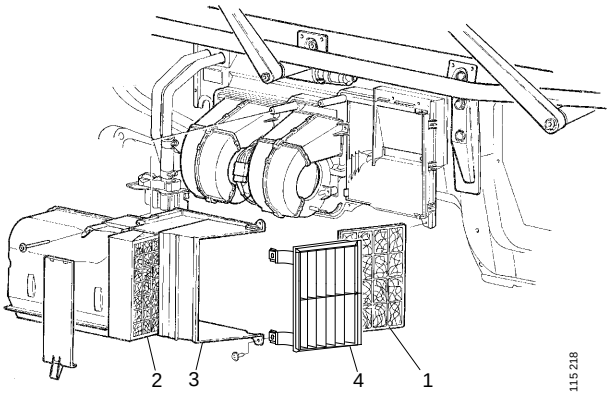
8 Run the engine until it reaches operating temperature.

9 Check that the temperature control functions and that no hose or pipe connections is leaking.

Fan motor

Removal

1 Remove the ventilation grille 4 or the coarse filter 1.



Note: If fitted, coarse filter 1 should be replaced with ventilation grille 4 on P and R cabs.

2 Remove the cab air filter 2.

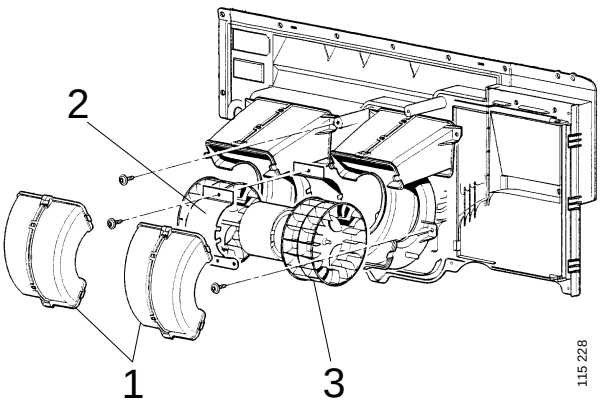
Note: Note how the cab air filter is fitted. It must be refitted in the same way.

3 Remove the outer air duct 3.

4 Remove the fan cowlings 1 by opening the snap latches.

5 Disconnect the electrical connector and the fan resistor electrical connector. Remove the motor bracket 2.

6 Remove the complete motor unit 3.



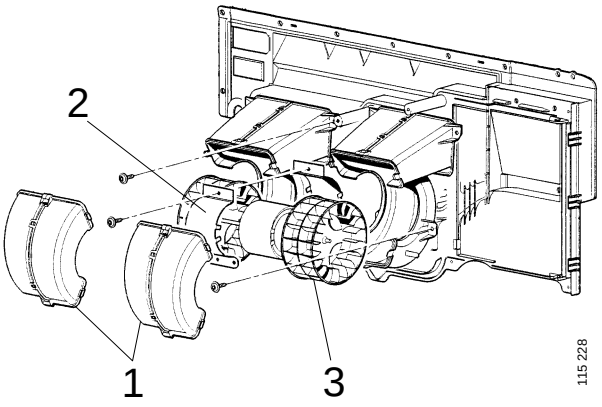
Fitting

1 Fit the motor unit 3.

2 Fit the bracket 2 and electrical connectors for the motor.

3 Fit the fan cowlings 1 using the snap latches.

4 Check that the fan rotates freely, without striking the cowlings.

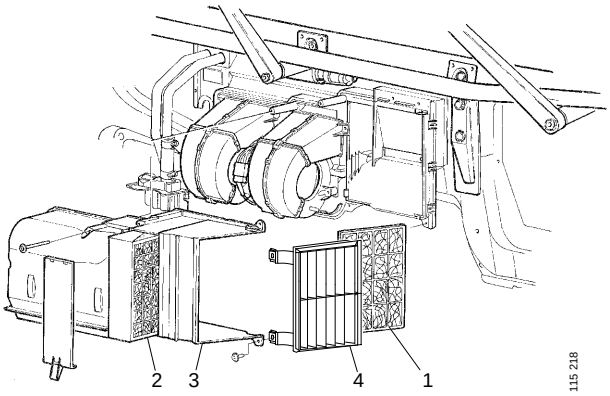


5 Fit the outer air duct 3.

6 Fit the ventilation grille 4 or the coarse filter 1. If fitted, coarse filter 1 should be replaced with ventilation grille 4 on P and R cabs.

7 Fit the cab air filter 2.

Note: Ensure the cab air filter faces the correct way.



Fan resistor unit

Renewal

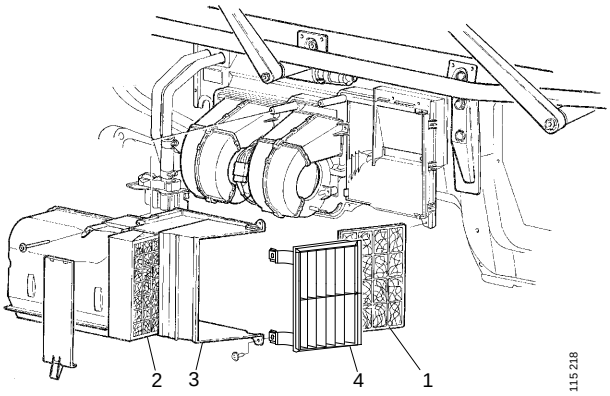
1 Remove the ventilation grille 4 or the coarse filter 1.

Note: If fitted, coarse filter 1 should be replaced with ventilation grille 4 on P and R cabs.

2 Remove the cab air filter 2.

Note: Note how the cab air filter is fitted. It must be refitted in the same way.

3 Remove the outer air duct 3.



4 Loosen the electrical connector and the bolts on the fan resistor unit 5 between the air ducts 4.

5 Fit the fan resistor unit 5.

6 Fit the outer air duct 3.

7 Fit the ventilation grille 4 or the coarse filter 1. If fitted, coarse filter 1 should be replaced with ventilation grille 4 on P and R cabs.

8 Fit the cab air filter 2.

Note: Ensure the cab air filter faces the correct way.