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### HEATING/VENTILATION Assy group 210

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## 1 Change complete heating unit

### Removing:

- 1 Drain off about 5 liters of cooling water see group 031
- 2 Pull off air ducts (4 pieces).
- 3 Unhook Bowden cable, see group 10.
- 4 Loosen both hose clips at heater housing and pull off hoses.
- 5 Loosen both nuts (1 and 2) and remove them with their washers (left-side).

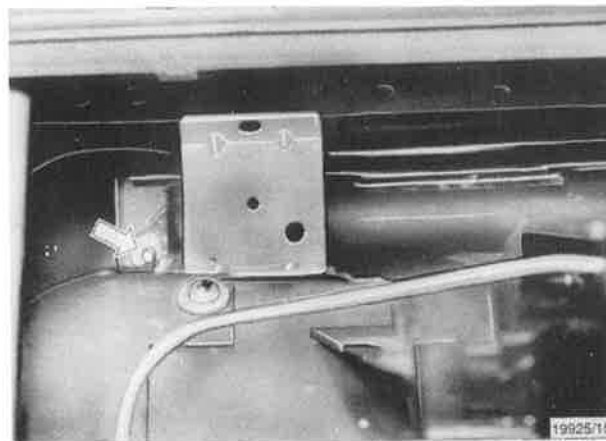


Fig. 1

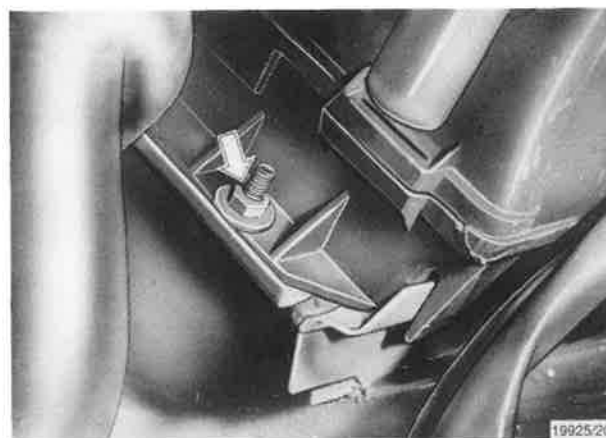


Fig. 2

- 6 Loosen both nuts (1 and 2) and remove them with their washers (right-side).
- 7 Pull off plug connection from blower toggle switch, loosen cable clips.
- 8 Lift out heater casing.

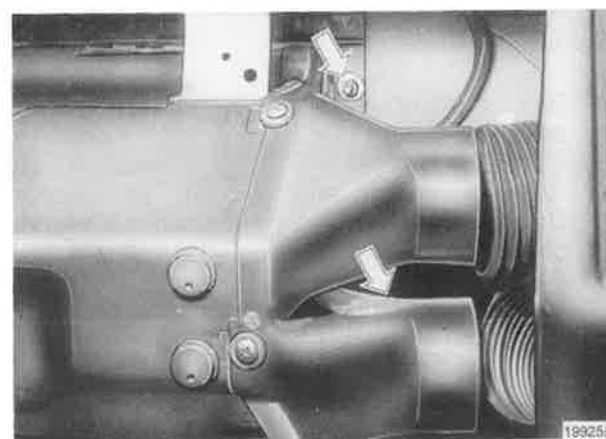


Fig. 3

### Fitting:

- 9 Fitting is made in reverse sequence 9-1.

## 2 Change heat exchanger

Removing:

- 1 Remove heating see section 1.
- 2 Clip off fixing clips (1) at heater casing and remove casing top together with blower.

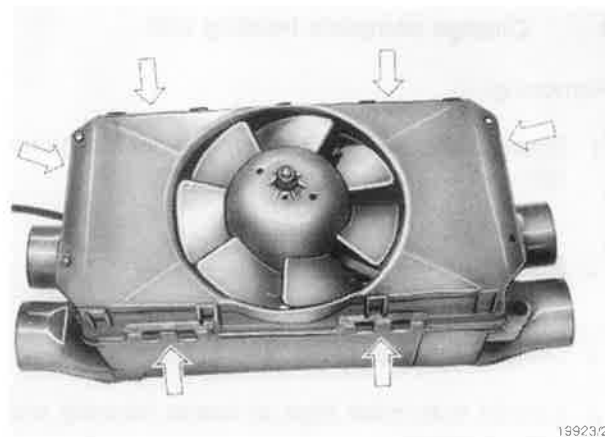


Fig. 1

- 3 Remove heater (2)

Fitting:

- 4 Fitting is made in reverse sequence 3–1.

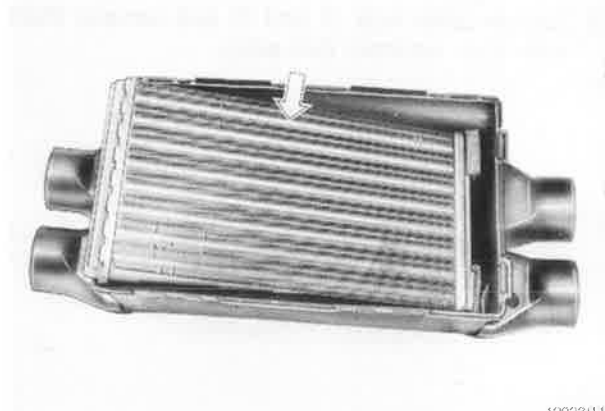


Fig. 2

## 3 Change heater water-pipes

### Change leading pipe

Removing:

- 1 Remove driver seat, see change complete driver seat, see group 171
- 2 Remove left-side engine cover, see section change left-side engine cover and maintenance cover, see group 171
- 3 Drain off coolant, see section change water pump, see group 031
- 4 Loosen hose clip and pull off hose (1).
- 5 Loosen screw (1/2), remove nut and washer.
- 6 Loosen cable clip.
- 7 Loosen hose clip (2/1) and pull out leading pipe (2/2).
- 8 Remove leading pipe.

Fitting:

- 9 Fitting is made in reverse sequence 8–4.
- 10 Fill coolant, see change water pump group 031
- 11 Further fitting is made in reverse sequence 2–1.



Fig. 1

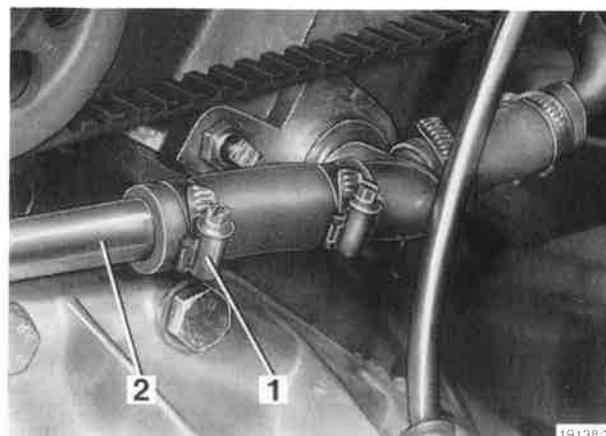


Fig. 2

## 4 Change hose between leading pipe and water connection piece

Removing:

- 1 Remove leading pipe, see section change leading pipe, see group 031
- 2 Loosen hose clip (1/1) and pull off hose (1/2) with leading pipe (1/3).
- 3 Loosen hose clip (2/1) and pull off hose (2/2) from leading pipe.

Fitting:

- 4 Push hose (2/2) on leading pipe and tighten hose clip.
- 5 Further fitting is made in reverse order, section change leading pipe, see group 031
- 6 Fill coolant, see section change water pump, see group 031

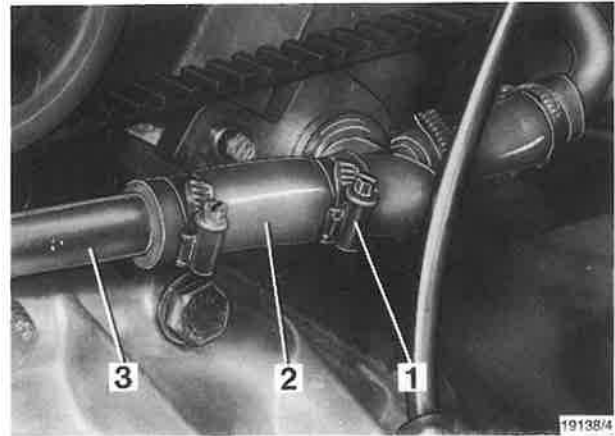


Fig. 1



Fig. 2

## 5 Change hose from leading pipe to air duct

Removing:

- 1 Remove driver seat, see change complete driver seat, see group 171
- 2 Remove left-side engine cover, see section change left-side engine cover and maintenance cover, see group 171
- 3 Drain off coolant, see section change water pump, see group 031
- 4 Loosen hose clip (1/1) and pull off hose (1/2).
- 5 Loosen cable clip (1/3).
- 6 Separate hose from hose guides (1/4 and 1/5).

Fitting:

- 7 Tie hose into hose guides (1/4 and 1/5).
- 8 Apply cable clips.
- 9 Put on hose (1/2) and fasten hose clip (1/1).
- 10 Fill coolant, see section change water pump group 031
- 11 Further fitting is made in reverse sequence 2-1

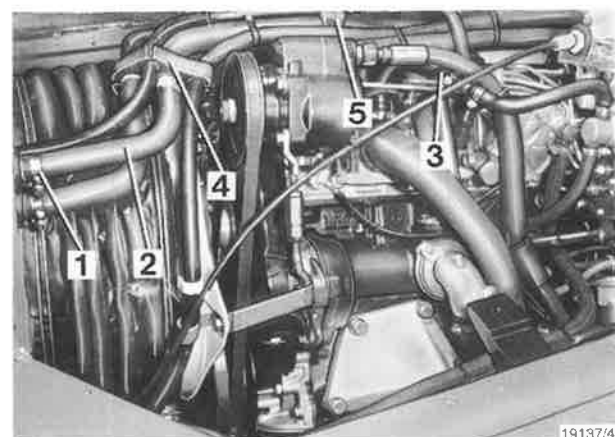


Fig. 1

- 6 Change leading hose from leading pipe to control valve, hose from control valve to heater casing and return hose from heater casing to return pipe resp.**

Removing:

- 1 Remove knee guard, see section ...
- 2 Drain off about 5 liters of coolant.
- 3 Loosen hose clips and remove respective hose (1).

Fitting:

- 4 Fitting is made in reverse order.
- 5 Fill coolant, see group 031

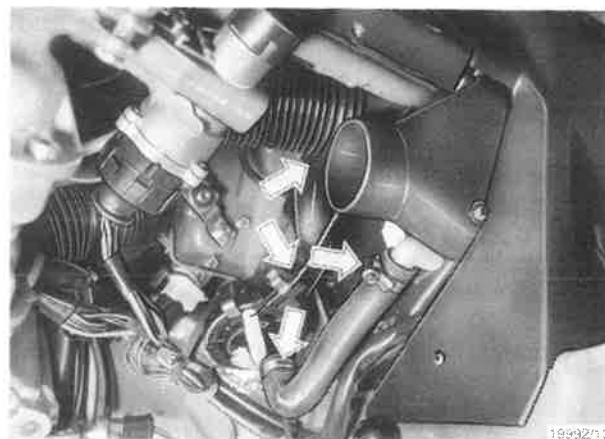
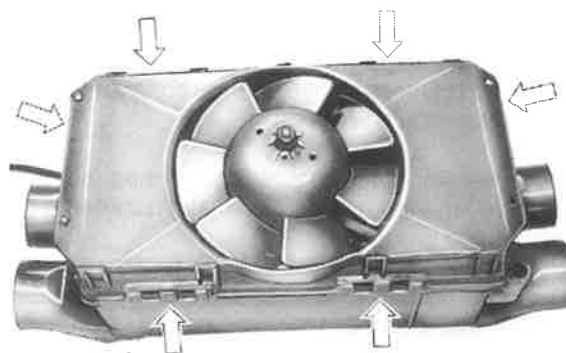


Fig. 1

## 7 Change blower

Removing:

- 1 Remove heating unit see section 1.
- 2 Clip off fixing clips (1) at heater casing.



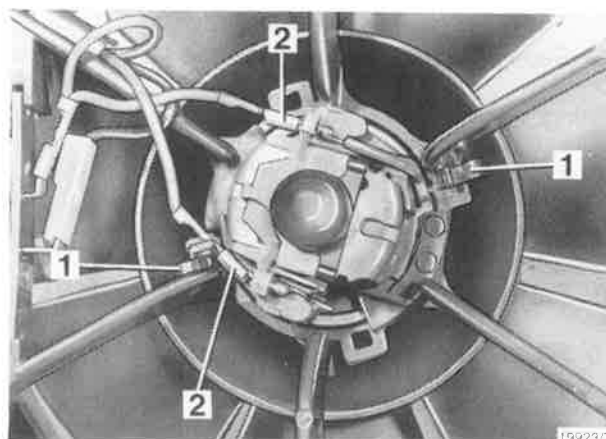
19923/2

Fig. 1

- 3 Remove clips (2/1). Pull off plug connections (2/2) and push out blower to front-side.

Fitting:

- 4 Fitting is made in reverse sequence 3-1.



19923/7

Fig. 2

## 8 Change air duct parts

Removing:

- 1 Open glove box and loosen adhesive lock.
- 2 Loosen and screw out bolts (1).

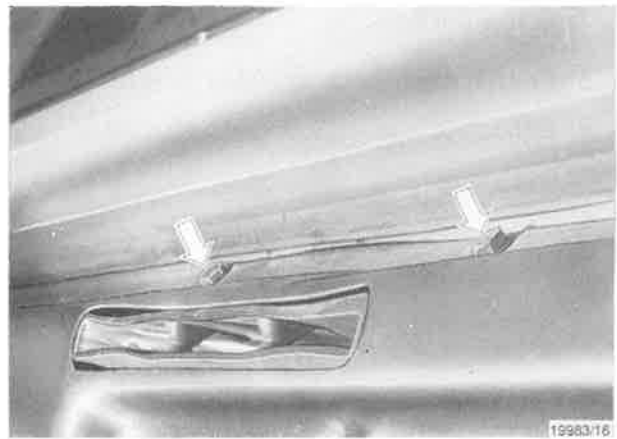


Fig. 1

- 3 Pull off hoses (2/1 and 2/2) and remove hose (2/1) with air vent (right-side).

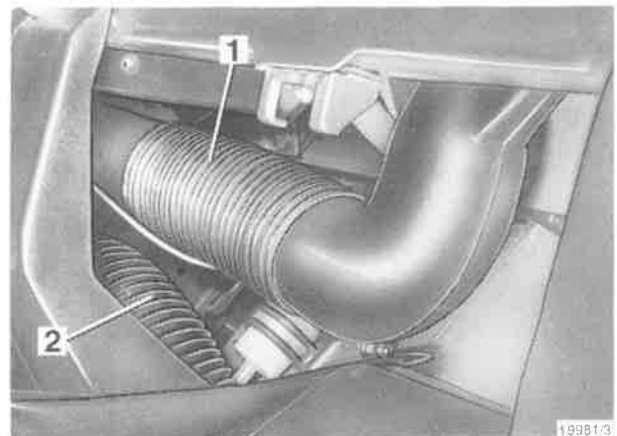


Fig. 2

- 4 Loosen screws (3/1) and remove hose (3/2) with vent (3/3) for floor heating.
- 5 Remove knee guard see section ...

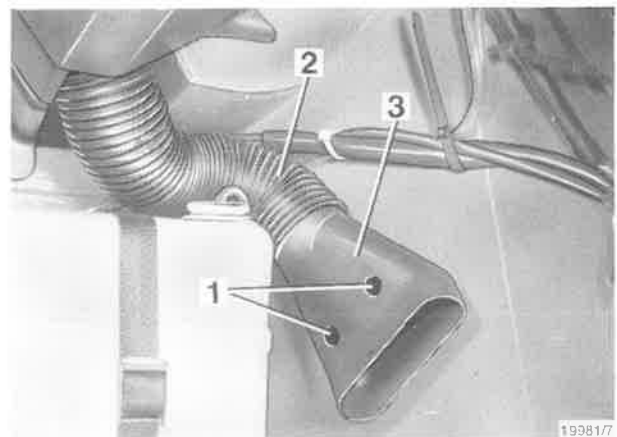


Fig. 3

- 6 Pull off hose (4/1 and 4/2) and loosen cable clip at hose for floor heating (left-side).

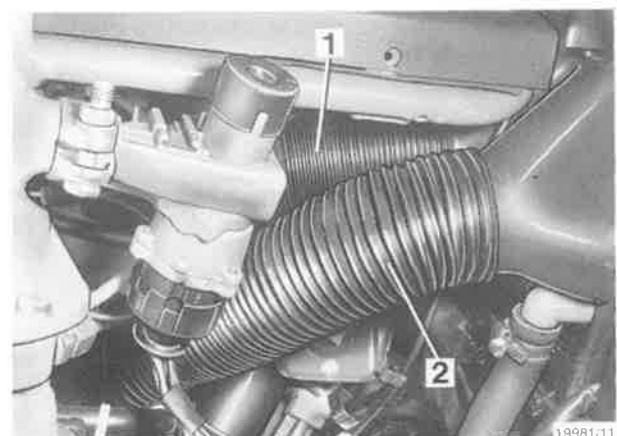


Fig. 4

- 7 Screw out bolts (5)
- 8 Pull out downwards hose and air vent.
- 9 Remove center cover see section ...

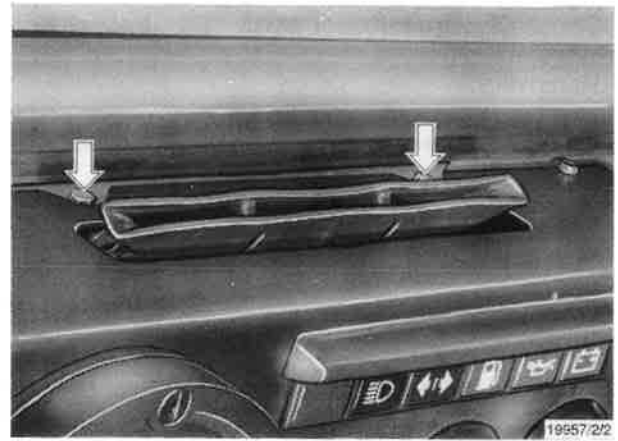


Fig. 5

- 10 Unscrew bolts (6) and remove air distributor vents.

Fitting:

- 11 Fitting is made in reverse sequence 10-1.

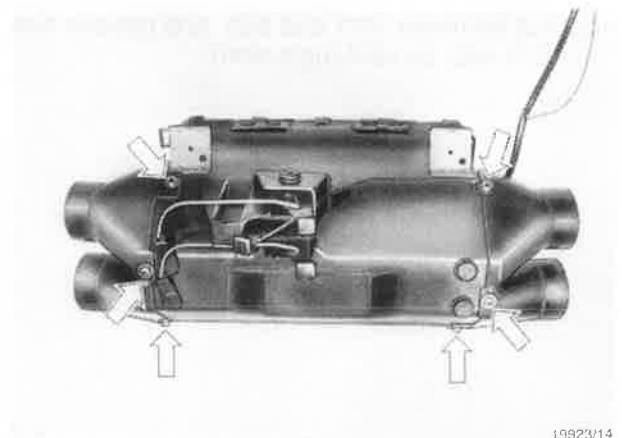


Fig. 6

### 9 Control lever and temperature control Change heating control lever

Removing:

- 1 Remove center cover see section ...
- 2 Pull out bolt (1/1).
- 3 Pull out lever (1/2), unhook linkage (1/3) and cable (1/4).

Fitting:

Fitting is made in reverse sequence 3-1.

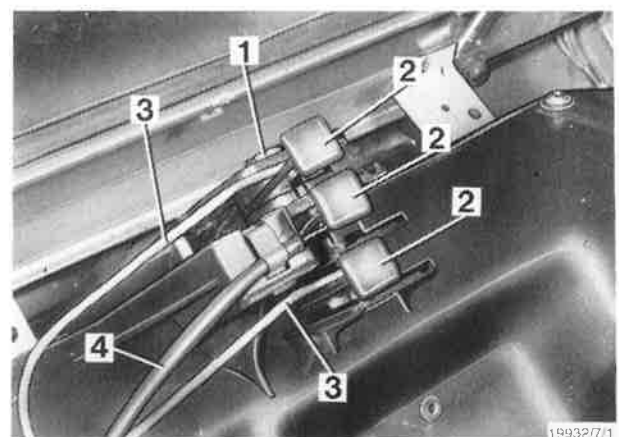


Fig. 1



## 10 Change Bowden cable for heater

Removing:

- 1 Remove center cover see section ...
- 2 Remove knee guard see section ...
- 3 Open clip (1/1)

- 4 Open clip (2/1).
- 5 Unhook Bowden cable.

Fitting:

- 6 Fitting is made in reverse sequence 5-1.

**Note:** Observe adjustment. Push control lever (1/2) all the way to the left, lever (2/4) must reach stop (2/2) at control valve. Push control lever (1/2) all the way to the right, stop (2/3) must be reached.

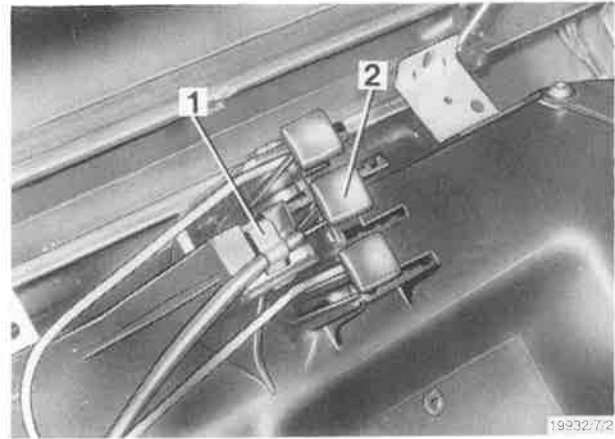


Fig. 1

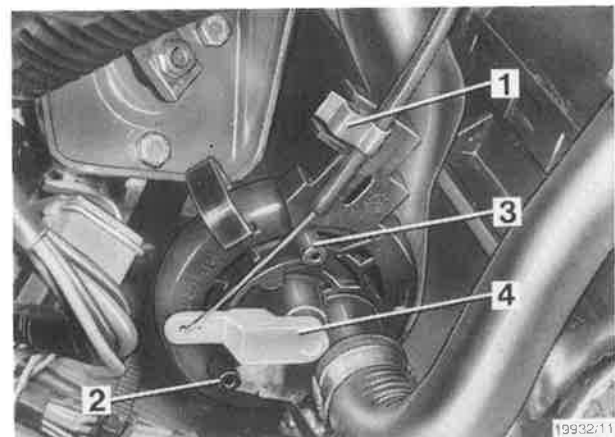


Fig. 2

## 11 Change heating control valve

Removing:

- 1 Remove knee guard see section ...
- 2 Drain off about 5 liters of coolant see group 031
- 3 Open clip (1/1), unhook Bowden cable.
- 4 Open both hose clips (2/1 and 2/2), pull off hoses and change control valve (2/3).

Fitting:

- 5 Fitting is made in reverse sequence 4-3.

**Note:** Observe adjustment. Push control lever (1/2) all the way to the left, lever (2/4) must reach stop (2/2) at control valve. Push control lever (1/2) all the way to the right, stop (2/3) must be reached.

- 6 Fill coolant see group 031
- 7 Fit knee guard.

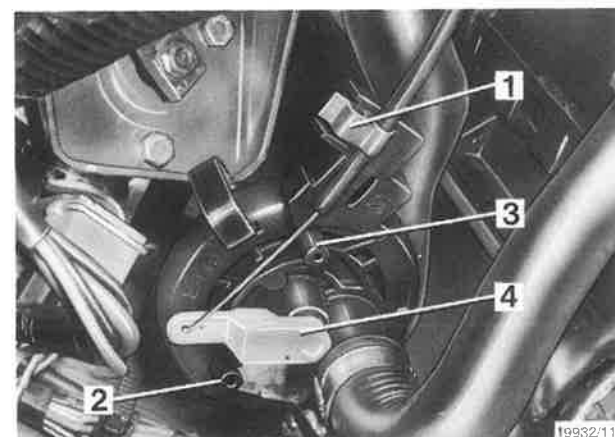


Fig. 1

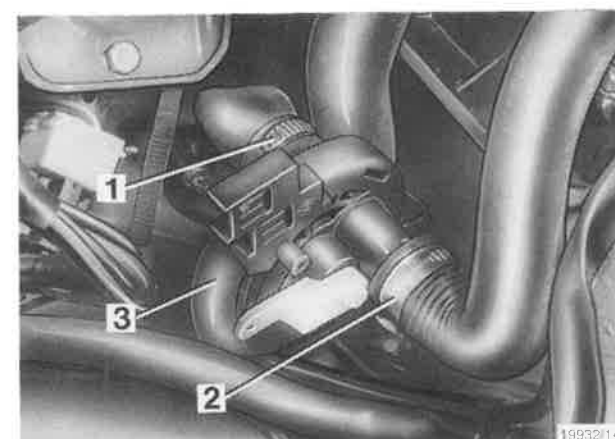


Fig. 2

## 12 Change complete heater

Removing:

- 1 Remove driver seat see group ...
- 2 Switch off battery main switch.
- 3 Twist lock (1/1) and remove cover (1/2).

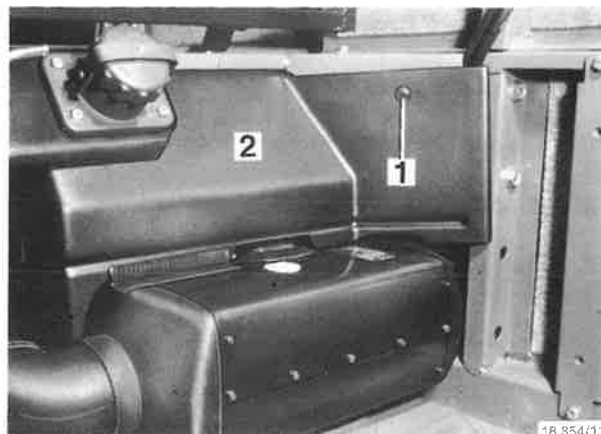


Fig. 1

- 4 Unscrew left-side front splash guard (2).



Fig. 2

- 5 Loosen four nuts (3/1) and remove them with washers and reinforcing plate (3/2).
- 6 Loosen hose clip (3/3) to facilitate pulling off fuel hose (3/4).
- 7 Lift out heater.

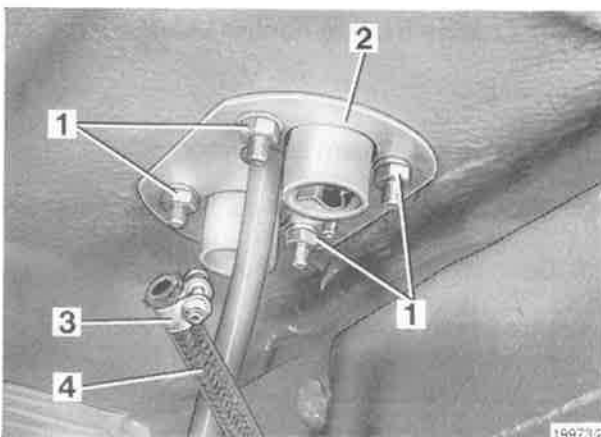


Fig. 3

- 8 Pull off relay (4/1 and 4/2) and unscrew relay base.



Fig. 4

9 Loosen connection plugs (5/1 and 5/2).

Fitting:

10 Fitting is made in reverse sequence 9-1.

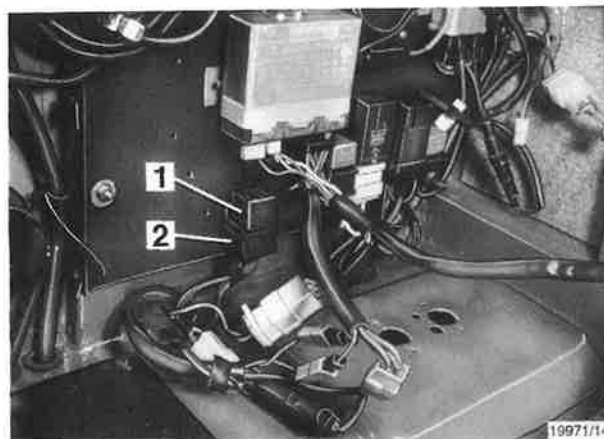


Fig. 5

## 13 Change control unit

Removing:

- 1 Switch off battery main switch.
- 2 Twist lock (1/1) and remove cover (1/2).



Fig. 1

- 3 Remove control unit (2/1), pull off connection plugs (2/2, 2/3 and 2/4).

Fitting:

- 4 Fitting is made in reverse sequence 3-1.

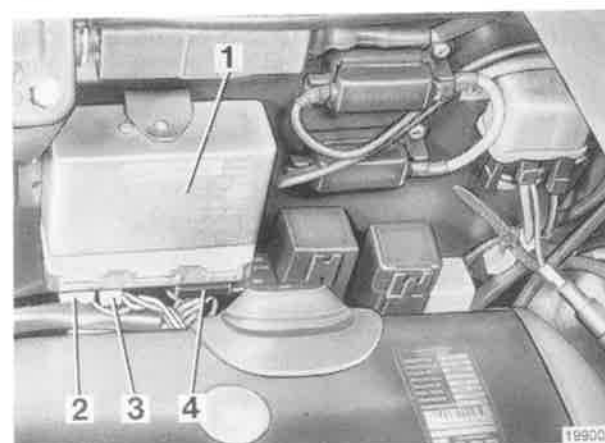


Fig. 2

### 14 Clean, change glow plug

Removing:

- 1 Twist lock (1/1) and remove cover (1/2).

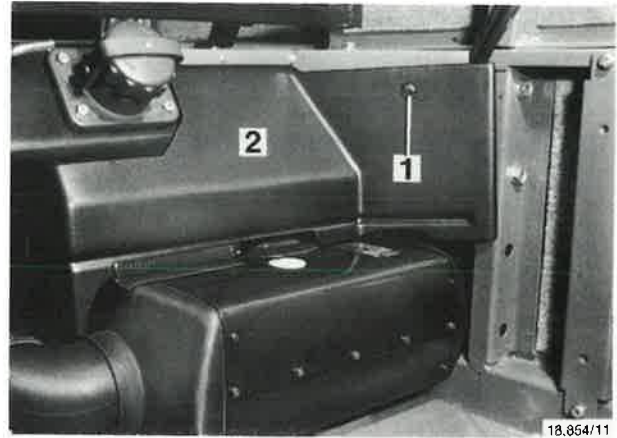


Fig. 1

- 2 Remove cap (2).

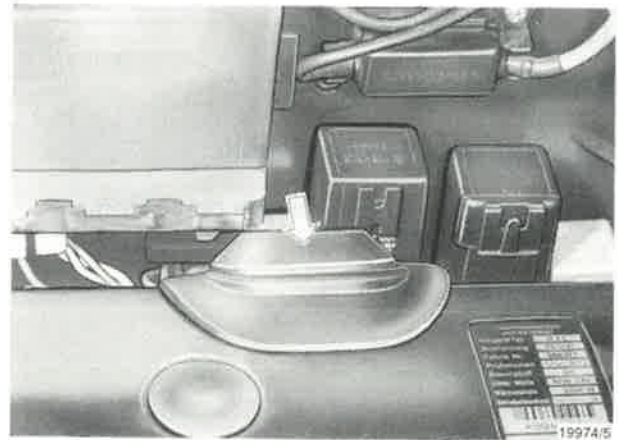


Fig. 2

- 3 Unscrew nut, remove power connection (3/1) and screw out glow plug (3/2). Clean glow plug filament with soft brass brush.

Fitting:

- 4 Fitting is made in reverse sequence 3-1.

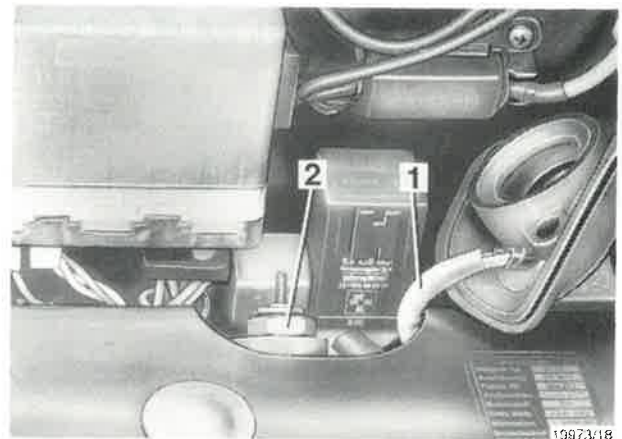


Fig. 3

## 15 Change air duct parts

### Change elbow tube and flexible tube resp.

Removing:

- 1 Remove connection tube, see change connection tube 1-4.
- 2 Loosen tube clip (1/3), twist upwards by 90° and pull off elbow tube (1/1) with flexible tube (1/2).

Fitting:

Fitting is made in reverse sequence 2-1.

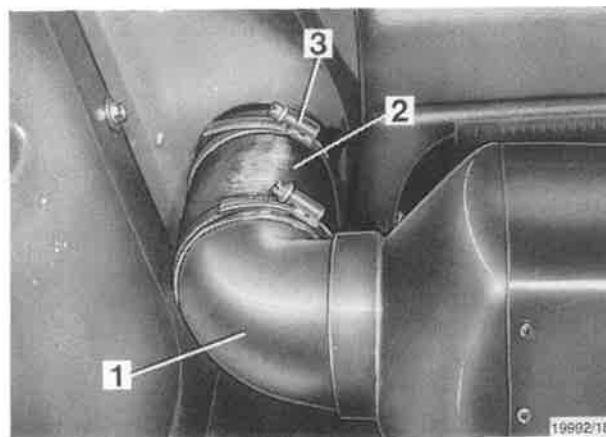


Fig. 1

### Change air vent

Removing:

- 1 Unscrew fixing bolt (2/1) and remove air vent (2/2).
- 2 Detach tufted covering and edge guard profile.

Fitting:

- 3 Fitting is made in reverse sequence 2-1.

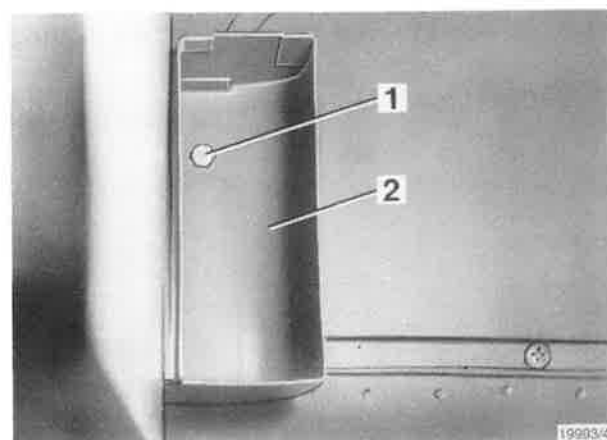


Fig. 2

### Change connection tube

Removing:

- 1 Unscrew fixing bolt (2/1) and remove air vent.
- 2 Loosen three fixing nuts (3/1) and remove mounting housing (3/2).

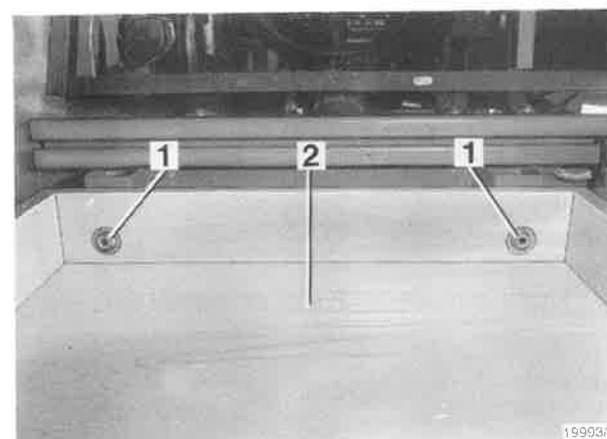


Fig. 3

- 3 Loosen three screws (4/1) of connection tube (4/2).

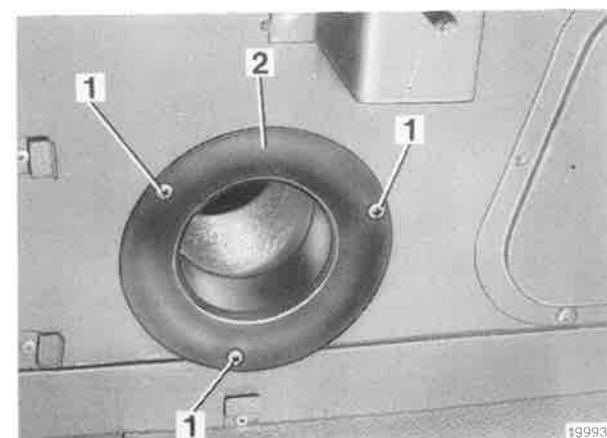


Fig. 4

- 4 Loosen tube clip (5/3) at flexible tube and pull out connection tube.

Fitting:

- 5 Fitting is made in reverse sequence 4-1.

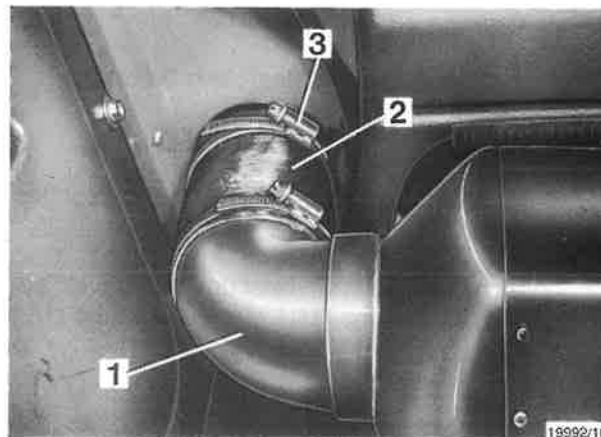


Fig. 5

## 16 Change flexible tube of auxiliary heating

Removing:

- 1 Remove splash guard (1).

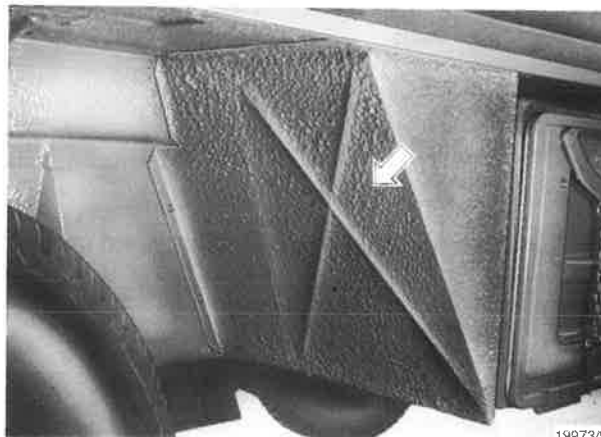


Fig. 1

- 2 Loosen tube clip (2/1), detach tube (2/2) and pull it out of battery case. Check grommet as to perfect condition.

**Note:** Replace damaged, porous or swelled grommet.

Fitting:

- 3 Fitting is made in reverse sequence 2-1.

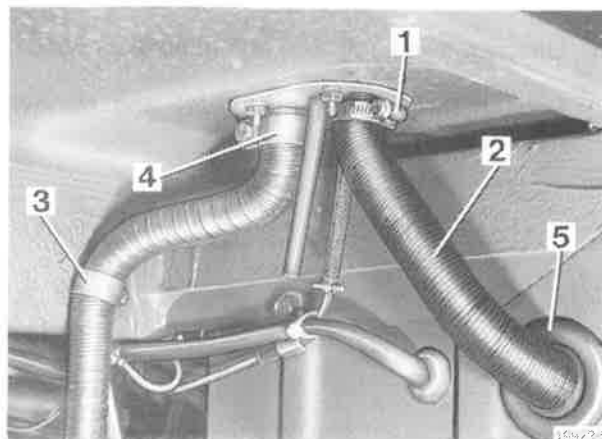


Fig. 2

## 17 Change exhaust tube of auxiliary heating

### Change coil tube

Removing:

- 1 Remove splash guard (1).



Fig. 1

- 2 Loosen tube clips (2/3 and 2/4).

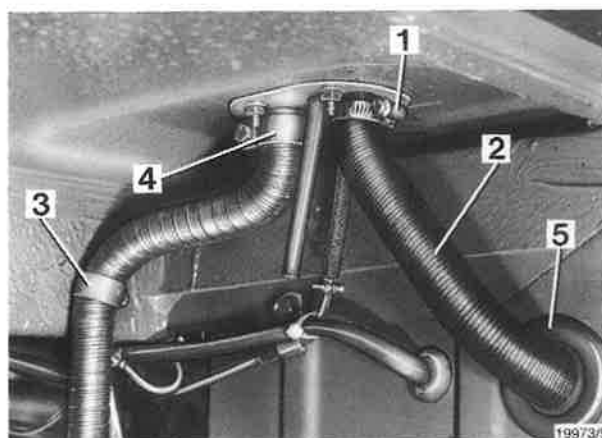


Fig. 2

- 3 Loosen tube clip (3/1) and pull off coil tube from exhaust tube.

- 4 Remove three tube clips from coil tube.

Fitting:

- 5 Fitting is made in reverse sequence 4-1.

### Change exhaust tube

Removing:

- 6 Loosen tube clip (3/1), screw off screw (3/2) and detach it with washer.

- 7 Loosen screw (4) and detach it with washer.

- 8 Pull out pipe from coil tube and remove it.

Fitting:

- 9 Fitting is made in reverse sequence 8-6.

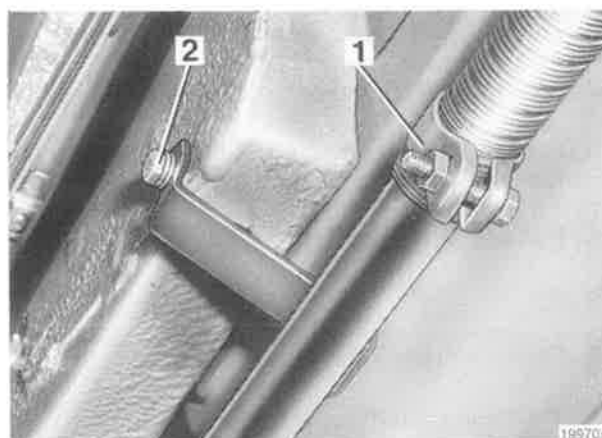


Fig. 3



Fig. 4



## 18 Change fuel pipe

### Change pipe between supply unit and fuel-dosing pump

Removing:

- 1 Remove fuel tank, see group 020
- 2 Loosen hose clips (1/1 and 1/2) as well as cable clip (1/3) and pull off hose (1/4).

Fitting:

- 3 Fitting is made in reverse sequence 2-1.

**Note:** Check system for leakage.

### Change pipe between fuel-dosing pump and heater

Removing:

- 1 Remove fuel tank, see group 020
- 2 Remove splash guard (2).

- 3 Loosen hose clip (3/3) and pull of pipe (3/4).
- 4 Loosen hose clamp at fuel-dosing pump.
- 5 Loosen various cable clips at pipes from automatic gearbox to oil cooler.
- 6 Pull out fuel pipe.

Fitting:

- 7 Fitting is made in reverse sequence.

**Note:** Check system for leakage.

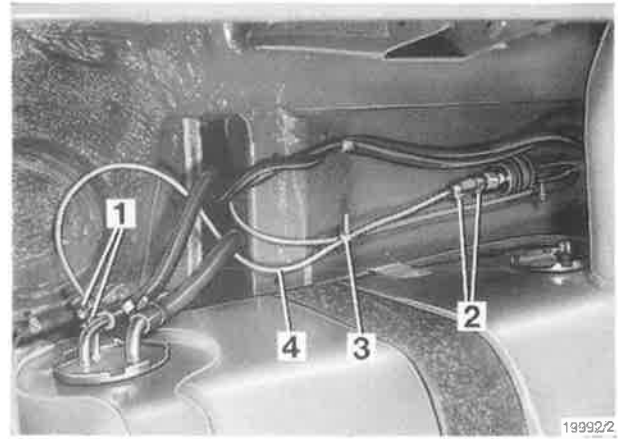


Fig. 1

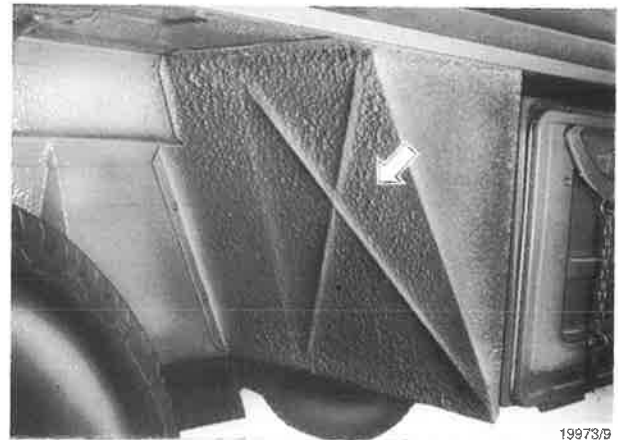


Fig. 2

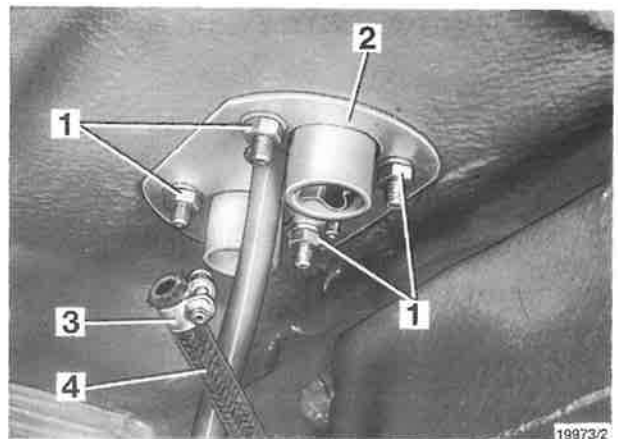


Fig. 3



**19 Change fuel pump**

Removing:

- 1 Remove fuel tank, see group 020
- 2 Loosen both hose clips (1/1).
- 3 Pull off both electric connections (12).
- 4 Loosen fixing nut (1/3) and remove fuel-dosing pump with rubber ring and pipe clip.
- 5 Detach pipe clip with rubber ring from fuel-dosing pump.

Fitting:

- 6 Fitting is made in reverse sequence 5-1.

**Note:** Check auxiliary heating for function and system for leakage.

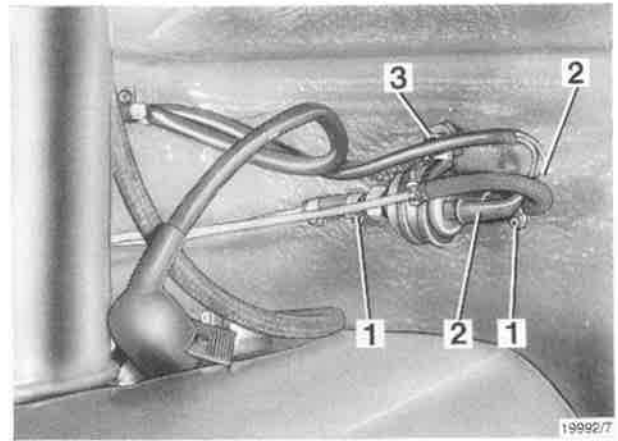


Fig. 1

