

30 Fill coolant

NOTE: Use only pre-mixed coolant (anti-corrosion/anti-freeze agents and clean water at 50 % by volume each). The coolant agents are preventing freeze and corrosion damages and raise the boiling-point of the water. Therefore the cooling system must be filled with pre-mixed coolant the whole year round.

The coolant has to be filled according to the versions A, B, C or D observing the following instructions.

In case of new filling of the cooling system some changes in the coolant circulation have to be made. Works therefore are divided into two parts: changes and fillings.

Distinctive features of versions A, B, C, and D**Version A:**

up to chassis end number 0264
radiator cover, short (1/arrow)

filler neck (2/1)

expansion tank (2/2)

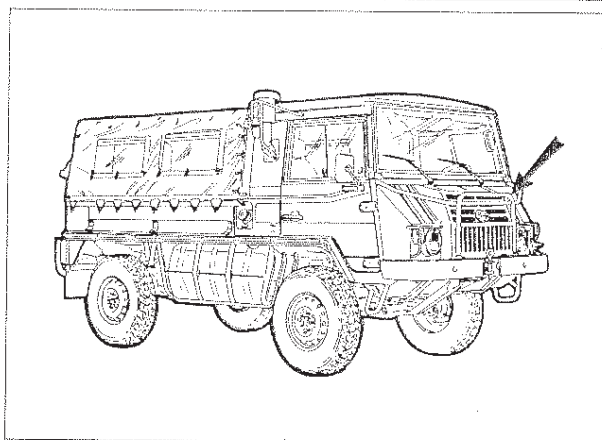


Fig. 1

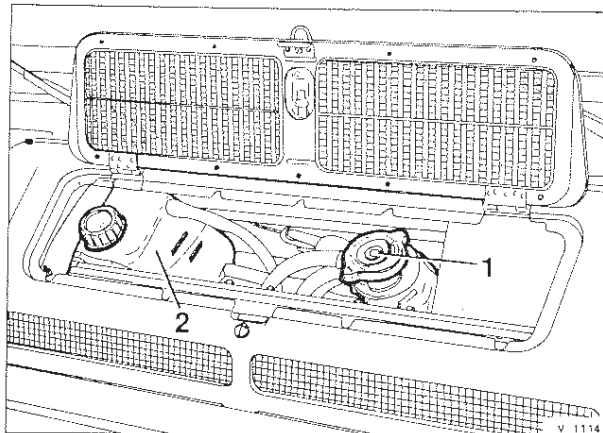


Fig. 2

Version B:

from chassis end number 0265
up to chassis end number 1790

radiator cover, short (3/arrow)

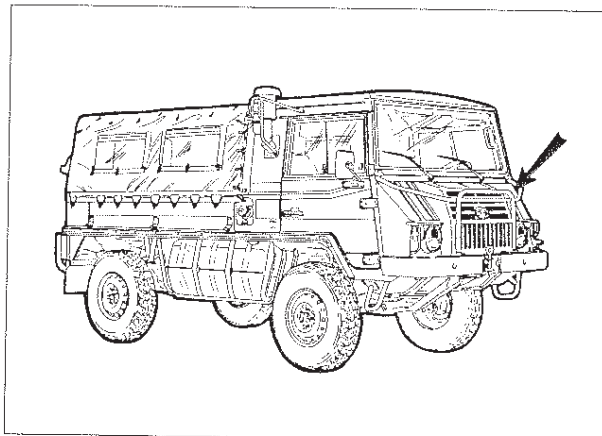


Fig. 3

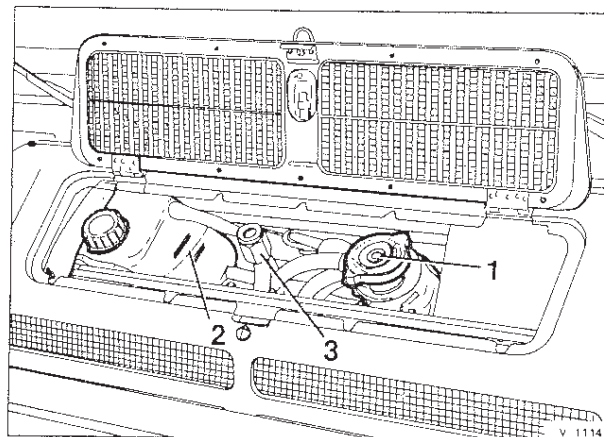


Fig. 4

filler neck (4/1)

compensation tank (4/2)

filler tube (4/3)

Version C:

from chassis end number 1791
up to chassis end number 1936

radiator grille advanced (5/arrow)

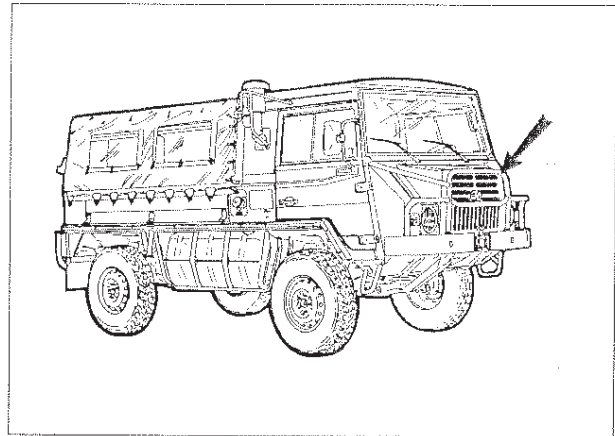


Fig. 5

without coolant filling auxiliary valve (6/arrow)

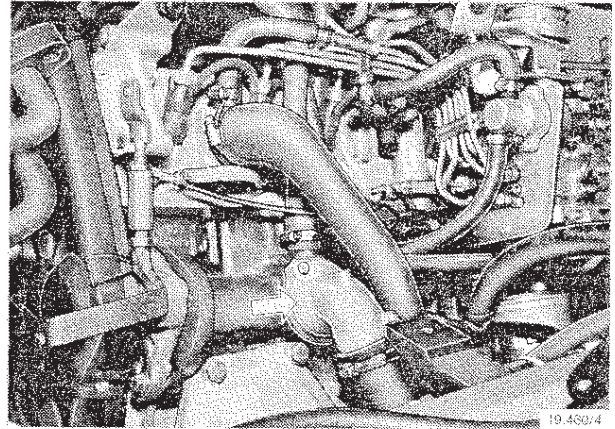


Fig. 6

Version D:

from chassis end number 1937
radiator grille advanced (7/arrow)

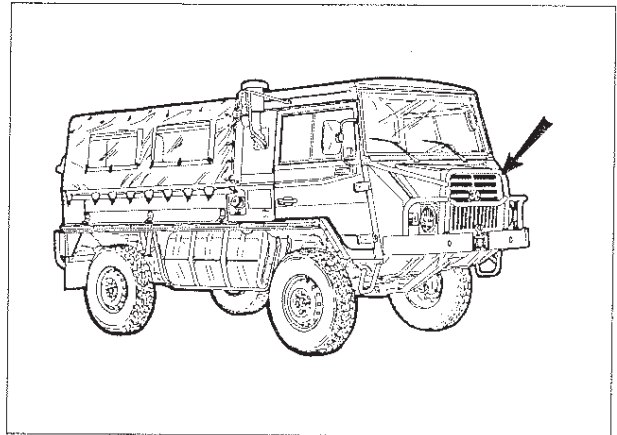


Fig. 7

with coolant filling auxiliary valve

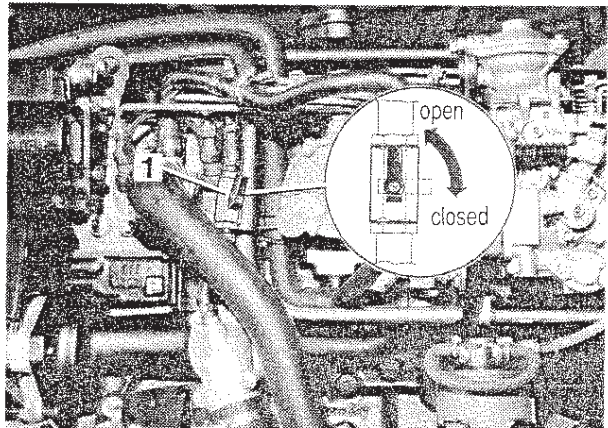


Fig. 8

Filling of coolant circulation

Version A

Change:

- 1 Mount Y-piece (9/1) according to drawing. Observe mounting position (branch pointing to cold starter).
- 2 Place throttle (9/2), pos. no. 758.1.17.016.1, into hose to cold starter (9/3) and insert with Y-piece (9/1).

Filling:

- 1 Push heating control lever on instrument panel to the left (red point being "open" position).
 - 2 Top up coolant in expansion tank (10/2) between min. and max. marks.
 - 3 Open filler cap (10/1) on filler neck.
 - 4 Top up coolant to neck of filler neck.
 - 5 Start engine and let idle for about 10 minutes at 2000 revs. (filler neck open).
 - 6 Stop engine. Top up coolant to neck of filler neck.
 - 7 Start engine again and let idle for about 6 minutes at 2000 revs. (filler neck open).
 - 8 Stop engine and top up coolant to neck of filler neck.
 - 9 Attach filler cap (10/1) and tighten.
 - 10 Make a roadtest for about 20 minutes.
- WARNING:** Open filler cap on filler neck only when engine is cold (danger of scalding)!
- 11 Turn filler cap (10/1) as far as first notch. Release excess pressure. Continue turning to second notch and remove.
 - 12 Top up coolant to neck of filler neck.
 - 13 Place and tighten filler cap (10/1).
 - 14 After cooling down of the engine, coolant level in expansion tank (10/2) must be between maximum and minimum marks.

Filling capacity: approx. 12 liters.

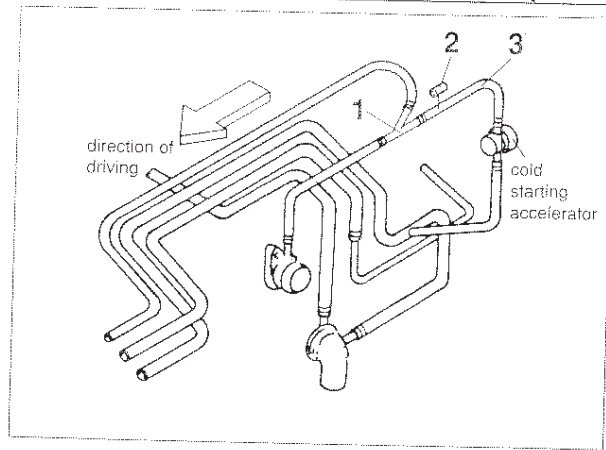


Fig. 9

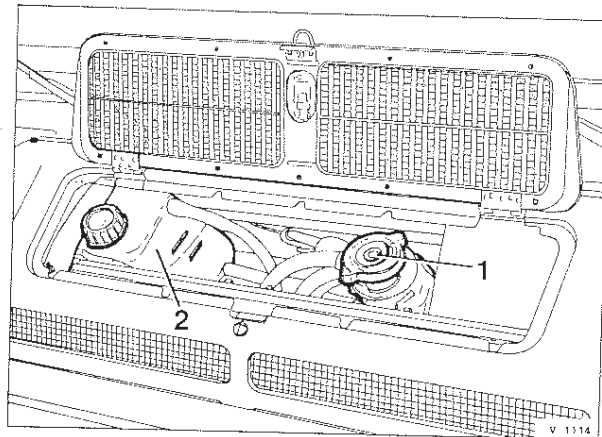


Fig. 10

Version B

Change:

- 1 Mount Y-piece (11/1) according to drawing. Observe mounting position (branch pointing to cold starter).
- 2 Place throttle (9/2), pos. no. 758.1.17.016.1, into hose to cold starter (11/3) and insert with Y-piece (11/1).

Filling:

- 1 Push heating control lever on instrument panel to the left (red point being "open" position).
- 2 Top up coolant in expansion tank (12/2) between min. and max. marks.
- 3 Open filler cap (12/1) of filler neck.
- 4 Open screw plug of filler tube (12/3).
- 5 Fill coolant to top of filler tube.
- 6 Tighten screw plug (12/3) of filler tube.
- 7 Top up coolant to neck of filler neck.
- 8 Start engine and let idle for about 10 minutes at 2000 revs. (filler neck open).
- 9 Stop engine. Top up coolant to neck of filler neck.
- 10 Start engine again and let idle for about 6 minutes at 2000 revs. (filler neck open).
- 11 Stop engine and top up coolant to neck of filler neck.
- 12 Attach filler cap (12/1) and tighten.
- 13 Make a roadtest for about 20 minutes.

WARNING: Open filler cap on filler neck only when engine is cold (danger of scalding)!

- 14 Turn filler cap (12/1) as far as first notch. Release excess pressure. Continue turning to second notch and remove.
- 15 Top up coolant to neck of filler neck.
- 16 Place and tighten filler cap (12/1).
- 17 After cooling down of the engine, coolant level in expansion tank (12/2) must be between maximum and minimum marks.

Filling capacity: approx. 12 liters.

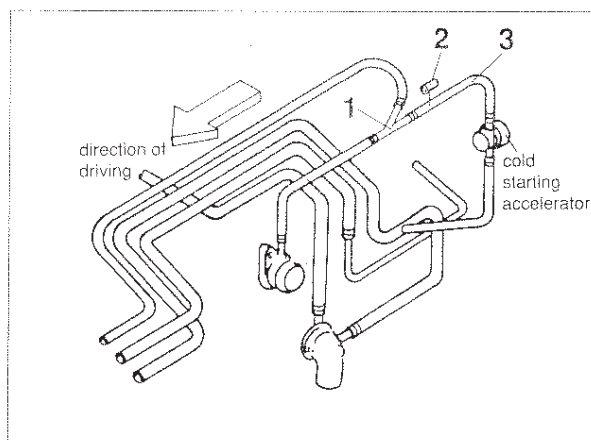


Fig. 11

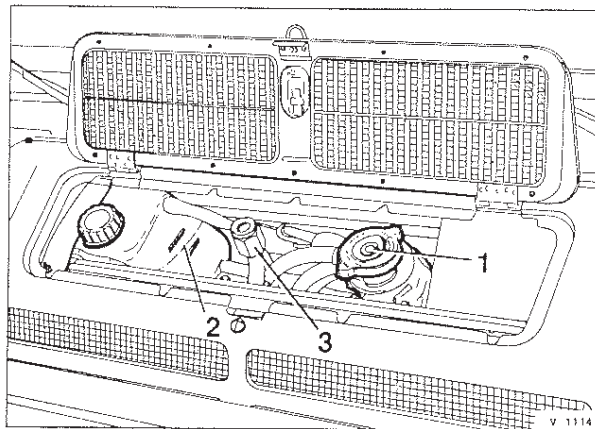


Fig. 12

Version C

Change:

- 1 Mount Y-piece (11/1) according to drawing. Observe mounting position (branch pointing to cold starter).
- 2 Place throttle (9/2), pos. no. 758.1.17.016.1, into hose to cold starter (11/3) and insert with Y-piece (11/1).
- 3 Pull off hose (14/1) from filler neck (14/2). Make visual check that throttle (14/3) is mounted in hose (14/1). Pull throttle (14/3) out of hose (14/1) using counter-clockwise driver. Shorten hose (14/1) as far as it can be mounted without sagging on the filler neck (14/2)
- 4 Check engraved degree number (71°, 80° or 87°) on thermostat.

WARNING: There are thermostats with differing opening temperatures depending on countries.

Near East countries:

Thermostat (15), pos. no. 716.1.17.100.0, 71°C and bore 2.5 mm.

African and Asian countries:

Thermostat (16), pos.no. 076.121.113 or 076.121.113B 80°C.

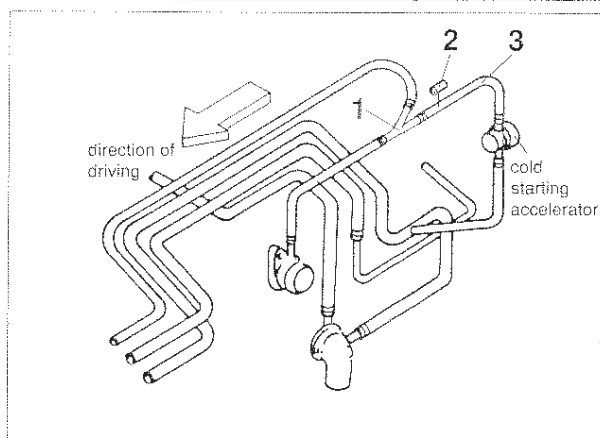


Fig. 13

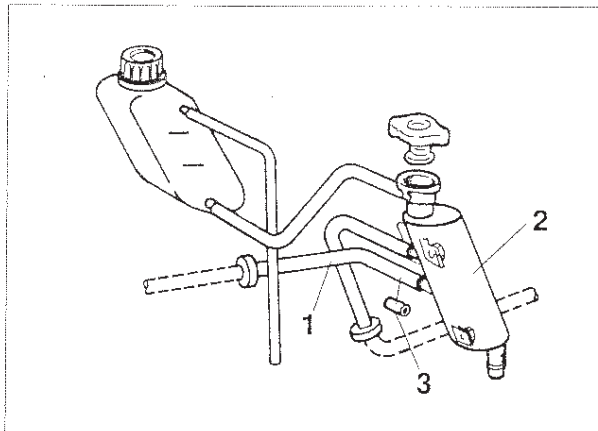


Fig. 14

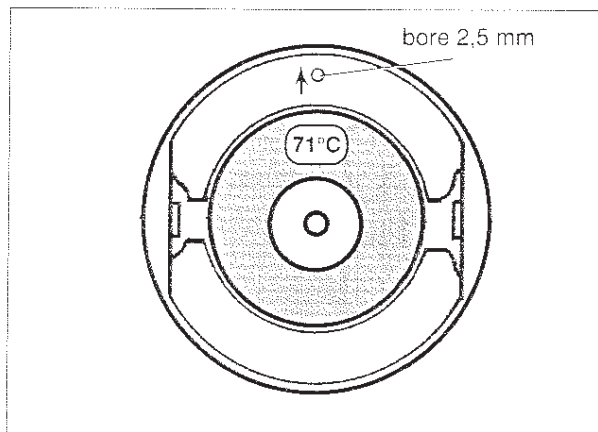


Fig. 15

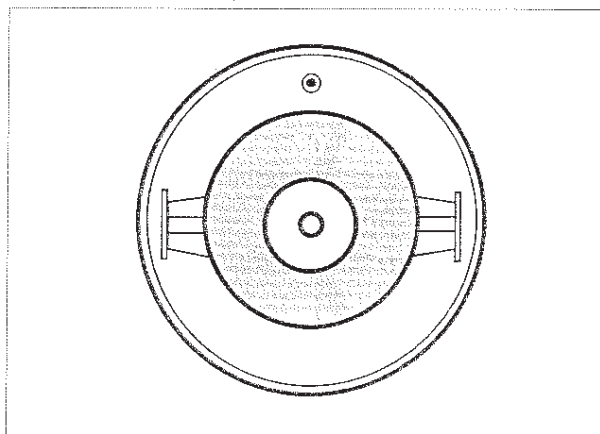


Fig. 16

European countries:

Thermostat (17), pos. no. 075.121.113 A, 87°C.

When fitting the thermostat the bore of the valve must point upwards.

- 5 Check filler cap of filler neck.

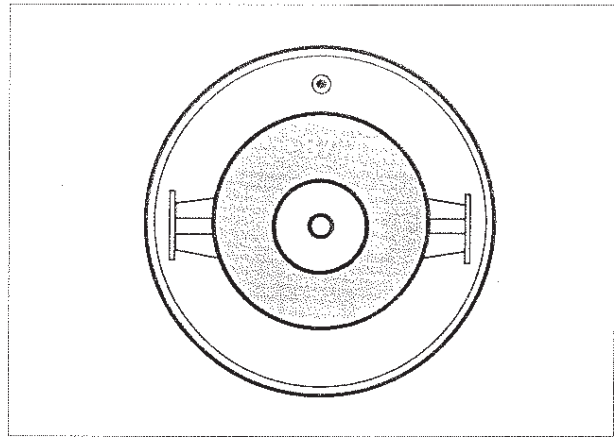


Fig. 17

WARNING: Use filler cap (18/arrow), pos. no. 716.1.17.031.2, opening pressure 1.3 bar only in case of versions A and B.

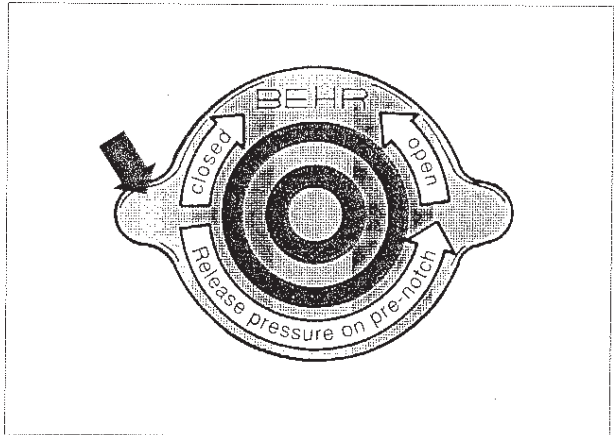


Fig. 18

Use filler cap (19), pos. no. 716.2.17.031.2, opening pressure 1 bar only in case of versions C and D.

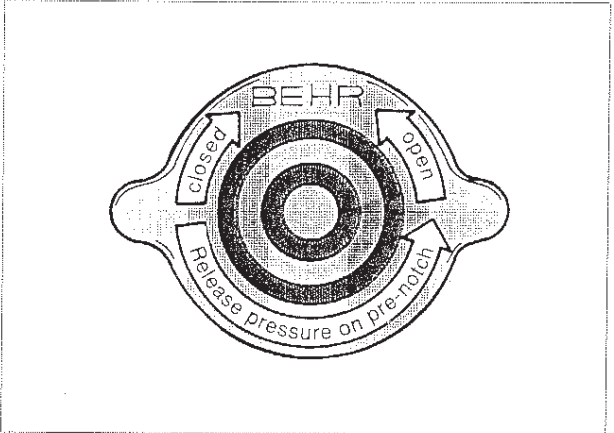


Fig. 19

Filling:

- 1 Pull off heating return hose (20/1) from connecting tube (20/2) at air duct.
- 2 Place funnel on heating return hose (20/1) and fill in coolant until it flows out of the hose.
- 3 Fit heating return hose (20/1).

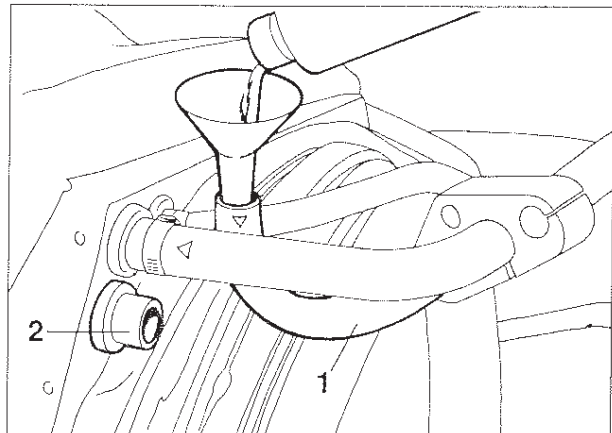


Fig. 20

- 4 Push heating control lever on instrument panel to the left (red point being "open" position).
- 5 Top up coolant in expansion tank (21/2) between min. and max. marks.
- 6 Open filler cap (21/1) on filler neck.
- 7 Top up coolant to neck of filler neck.
- 8 Start engine and let idle for about 10 minutes at 2000 revs. (filler neck open).
- 9 Stop engine. Top up coolant to neck of filler neck.
- 10 Start engine again and let idle for about 6 minutes at 2000 revs. (filler neck open).
- 11 Stop engine and top up coolant to neck of filler neck.
- 12 Attach filler cap (21/1) and tighten.
- 13 Make a roadtest for about 20 minutes.

WARNING: Open filler cap on filler neck only when engine is cold (danger of scalding)!

- 14 Turn filler cap (21/1) as far as first notch. Release excess pressure. Continue turning to second notch and remove.
- 15 Top up coolant to neck of filler neck.
- 16 Place and tighten filler cap (21/1).
- 17 After cooling down of the engine, coolant level in expansion tank (21/2) must be between maximum and minimum marks.

Filling capacity: approx. 15 liters.

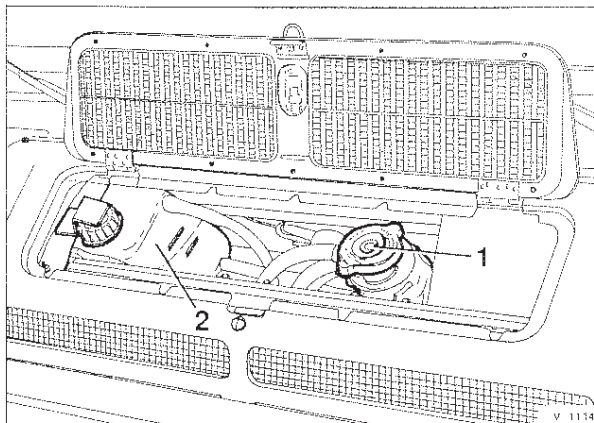


Fig. 21

Version D:

Filling:

- 1 Open coolant filling auxiliary valve (22/1) (vertical position).
- 2 Push heating control lever on instrument panel to the left (red point being "open" position).
- 3 Top up coolant in expansion tank (23/2) between min. and max. marks.
- 4 Open filler cap (23/1) on filler neck.
- 5 Top up coolant to neck of filler neck.
- 6 Start engine and let idle for about 10 minutes at 2000 revs. (filler neck open).
- 7 Stop engine. Top up coolant to neck of filler neck.
- 8 Start engine again and let idle for about 6 minutes at 2000 revs. (filler neck open).
- 9 Stop engine and top up coolant to neck of filler neck.
- 10 Attach filler cap (23/1) and tighten.
- 11 Close coolant filling auxiliary valve (24/1) (horizontal position).
- 12 Make a roadtest for about 20 minutes.

WARNING: Open filler cap on filler neck only when engine is cold (danger of scalding)!

- 13 Turn filler cap (23/1) as far as first notch. Release excess pressure. Continue turning to second notch and remove.
- 14 Top up coolant to neck of filler neck.
- 15 Place and tighten filler cap (23/1).
- 16 After cooling down of the engine, coolant level in expansion tank (23/2) must be between maximum and minimum marks.

Filling capacity: approx. 15 liters.

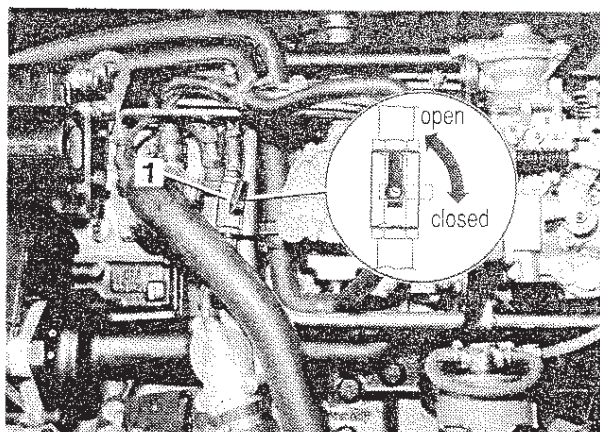


Fig. 22

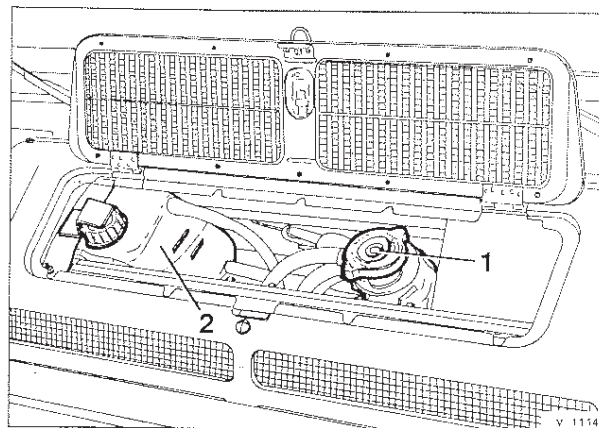


Fig. 23

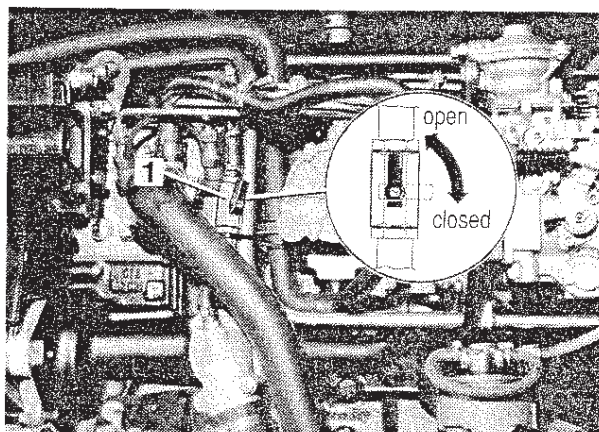


Fig. 24