

Removal and Installation of Fuel Tank

Job No.

47-1

A. General

On Models 180 to 220 SE the fuel level in the tank is indicated on the fuel gage. Models 180, 180 a, 180 b, 180 D, 180 Db, 190 D, 190 Db, 219, and 220 SE are not fitted with a reserve fuel line. When the fuel level in the tank is down to 5 to 6 liters, the red warning light lights up on the fuel gage. Models 190 SL, 220 a, and 220 S are fitted with a reserve fuel line and a fuel change-over cock.

B. Removal and Installation

On Models 180 to 220 SE the removal and installation procedures for the fuel tank are essentially the same as on Model 190.

To check the fuel gage fill up with fuel slowly after the installation of the fuel tank and on cars without reserve fuel line get a second mechanic to watch the red warning light on the fuel gage in the instrument cluster. The warning light must go out after 5 to 6 liters have been put in the tank.

Fuel Gage Graduation

Model	Reserve	¼ full	½ full	¾ full	full
180, 180 a, 180 b, 180 D, 180 Db, 190 D, 190 Db, 219	5—6 ltr.	14 ltr.	28 ltr.	42 ltr.	56 ltr.
190 SL, 220 a, 220 S	5—6 ltr.	16 ltr.	32 ltr.	48 ltr.	64 ltr.
220 SE	5—6 ltr.	15 ltr.	30 ltr.	45 ltr.	60 ltr.

During removal and installation the following details require attention on the models listed below:

I. Models 180 D, 180 Db, 190 D, and 190 Db

Disconnect and connect the fuel return line on the tank. The connection for this line is marked by the letter "R" stamped on the fuel tank.

II. Models 220 a and 220 S

Disconnect and connect the reserve fuel line on the fuel tank. On cars of Model 220 S with built-in scavenging device also disconnect and connect the fuel return line on the filler neck.

III. Model 190 SL

Disconnect and connect the reserve fuel line. The fuel tank is ventilated by the one-turn cap (16) (Fig. 47-1/1). On this model the vent line is not required.

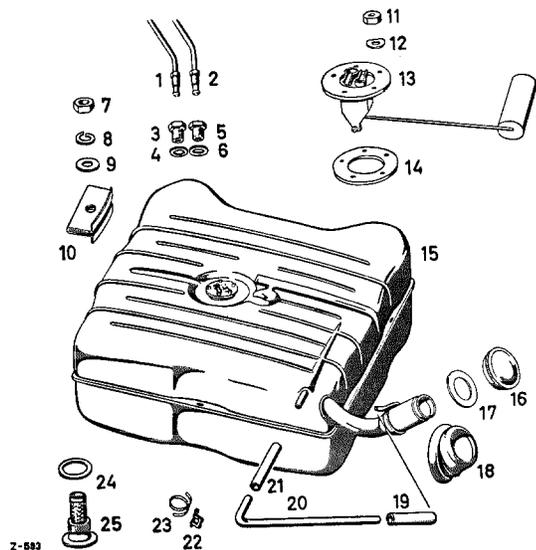


Fig. 47-1/1

- 1 Fuel line
- 2 Reserve fuel line
- 3 Adapter
- 4 Sealing ring
- 5 Adapter
- 6 Sealing ring
- 7 Hexagon nut
- 8 Lock washer
- 9 Washer
- 10 Reinforcement plate
- 11 Hexagon nut
- 12 Spring washer
- 13 Fuel level indicator
- 14 Gasket
- 15 Fuel tank
- 16 One-turn cap
- 17 Sealing ring
- 18 Cuff
- 19 Rubber hose
- 20 Breathing line
- 21 Rubber hose
- 22 Hose clamp
- 23 Hose strap
- 24 Sealing ring
- 25 Screw plug with screen

When complaints are received about fuel leakage through the fuel tank filler cap two vent lines (2) and (3) can be subsequently installed in the fuel tank (1). These lines, which are connected to the vent tube, provide pressure compensation if over-pressure should occur in the fuel tank. The vent tube is attached to the right wheel arch pan in the trunk compartment and runs into the open. The ventilated filler cap of the fuel tank must be replaced by a non-ventilated cap (Fig. 47-1/2).

1. Empty and remove the fuel tank.
2. Drill a 5 mm ϕ hole into both the front and rear second corrugation at a distance $a = 170$ mm from the left side of the fuel tank (Fig. 47-1/2).

Note: Observe the safety regulations when soldering.

4. Solder the vent lines (2) and (3) to the corrugations and lay them along the breathing line (4) (Fig. 47-1/2).

Note: Solder the vent lines to the breathing line in such a way that they are flush with the highest point of the breathing line.

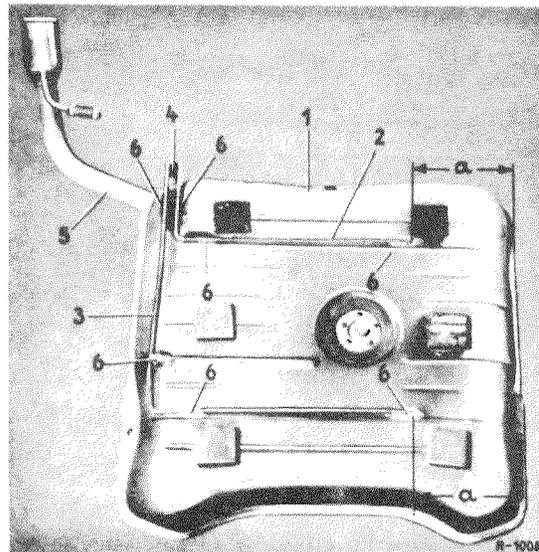
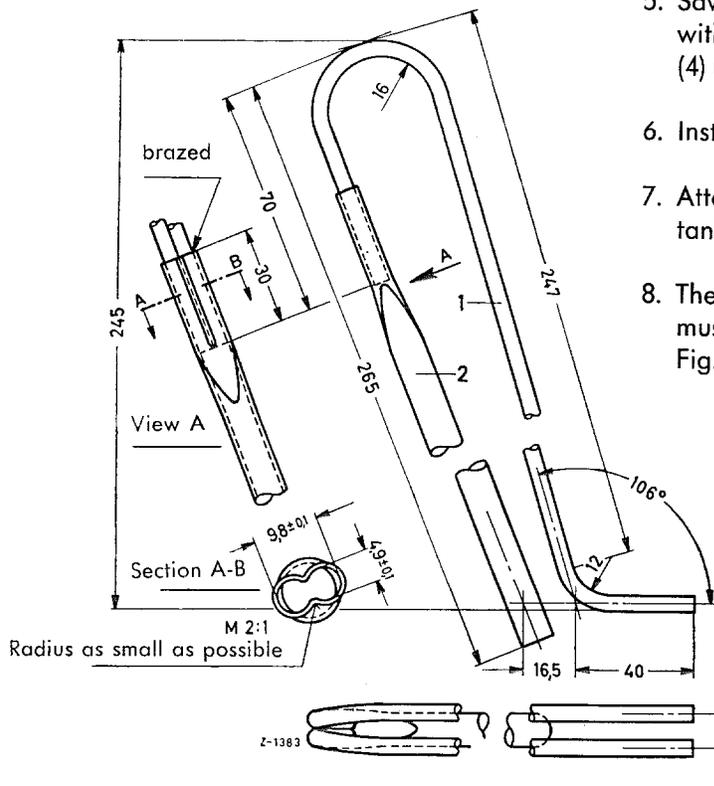


Fig. 47-1/2

- 1 Fuel tank
- 2 Vent line
- 3 Vent line
- 4 Breathing line
- 5 Filler neck
- 6 Soldering points



5. Saw off the two vent lines (2) and (3) flush with the pipe socket of the breathing line (4) (Fig. 47-1/2)
6. Install the fuel tank.
7. Attach the breathing line (4) to the fuel tank (1) and the filler neck (5) (Fig. 47-1/5).
8. The vent lines (1) and the vent tube (2) must be made in a workshop as shown in Fig. 47-1/3.

Fig. 47-1/3

9. Install the vent tube (12) on the right wheel arch pan in the trunk compartment. To do this drill a 14 mm ϕ hole and two 9 mm

ϕ holes into the floor panel of the trunk compartment and fit suitable rubber grommets (16) and (17) in the bores. Now install the vent tube so that the tube projects approx. 5–10 mm beyond the rubber grommet and then fix it to the wheel arch by means of a pipe clip (15) (Fig. 47-1/4).

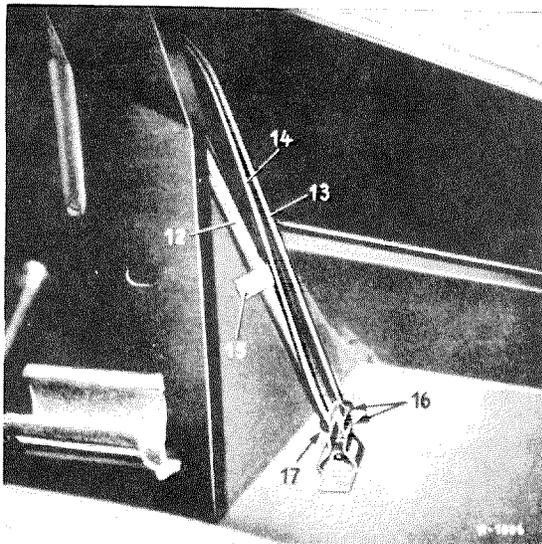


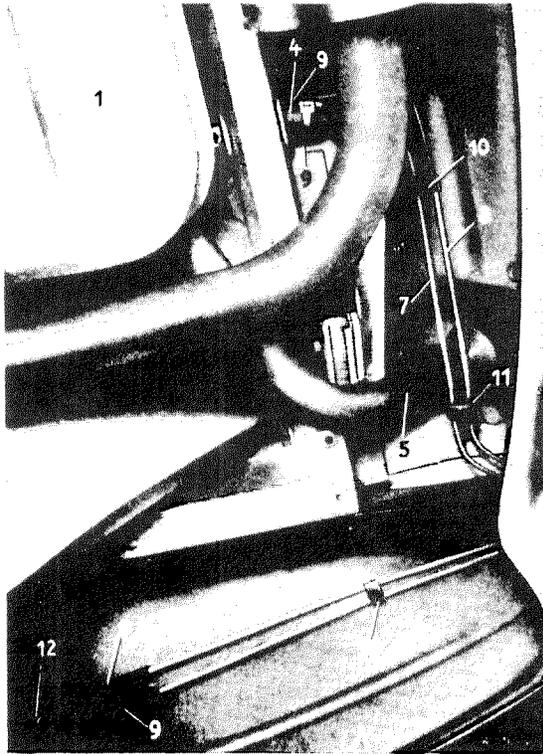
Fig. 47-1/4

- 12 Vent tube
- 13 Vent line
- 14 Vent line
- 15 Pipe clip
- 16 Rubber grommet
- 17 Rubber grommet

10. Bend the connecting pipes (7) and (8) and fit them to the vent lines of the fuel tank and to the vent lines of the vent tube (Fig. 47-1/5).
11. Connect the connecting pipes (7) and (8) to the vent lines of the fuel tank and to the vent lines of the vent tube and attach the hose clips (Fig. 47-1/5).

Note: Only fuel-resistant synthetic-rubber hoses with vulcanized fabric cover should be used as connecting hose.

12. Replace the filler cap of the fuel tank by a non-ventilated cap.



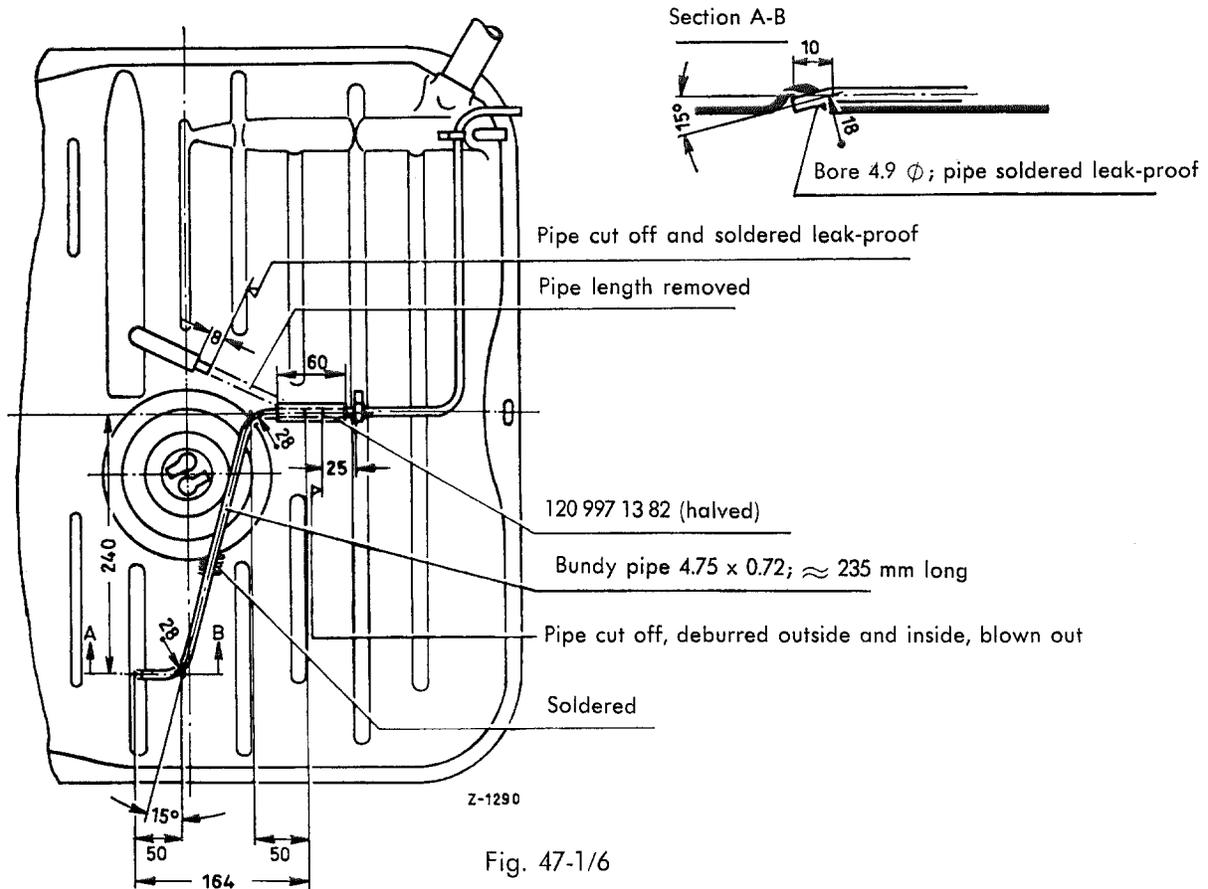
Note: The non-ventilated filler cap for the fuel tank is marked on the bottom with the words **OHNE LUFTUNG (non-ventilated)**. This cap must only be used for fuel tanks equipped with ventilating lines.

Fig. 47-1/5

- 1 Fuel tank
- 4 Breathing line
- 5 Filler neck
- 7 Connecting pipe
- 8 Connecting pipe
- 9 Rubber hose
- 10 Double pipe clip
- 11 Pipe holder

IV. Model 220 SE

The suction line connection on the fuel tank is on the left side (seen in the direction of travel). The fuel feed pump located under the left spare wheel trough is connected by a hose to the fuel tank



suction line. The fuel return line between the injection pump and the fuel tank is screwed down at the same place as the return line on Diesel engine cars.

On recent cars of Model 220 SE Cabriolet and Coupé the fuel tank vent line is located on the left side of the fuel tank. If complaints are received about fuel leakage from the vent line on older cars of Models 180 to 220 SE (except 190 SL) the vent line can be subsequently installed as shown in Fig. 47-1/6.

C. Screw Plug for Fuel Tank

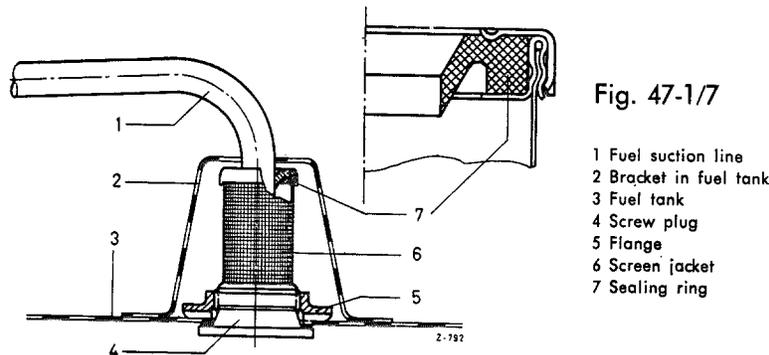
I. Models 180 to 220 S

The screw plug is provided with a screen jacket filter. When the screw plug is screwed into the fuel tank, the ring presses against a bracket in the fuel tank and prevents unfiltered fuel from flowing into the suction line.

II. Model 220 SE

1st Version

A sealing ring (7) has been installed in the screw plug (4) in the upper part of the screen jacket (6). When the screw plug is screwed in, the lip of the sealing ring is pushed over the fuel suction line (1) and provides a seal against the screen (Fig. 47-1/7).



2nd Version

Because of the low suction head of the fuel feed pump the fuel suction line in the fuel tank was lowered.

For this reason a small number of cars have a screw plug without screen jacket in the fuel tank and have a filter soldered to the fuel suction line which is parallel to the fuel tank bottom. On this version the filter (screen jacket) cannot be cleaned. If the filter should be clogged by impurities in the fuel or in the tank, the fuel tank must be replaced by a new tank with a 3rd version screw plug.

3rd Version

The screw plug (4) is provided with a screen jacket (6). The screen jacket is covered at the top by a lid (7). The fuel suction line (1) is soldered to the threaded socket (5). The screw plug (4) must be screwed through the lower and upper threads of the threaded socket (5).

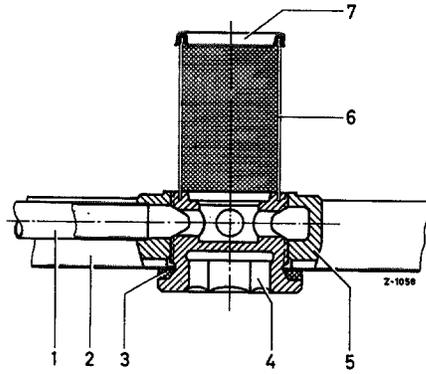


Fig. 47-1/8

- 1 Fuel suction line
- 2 Fuel tank
- 3 Sealing ring
- 4 Screw plug
- 5 Threaded socket
- 6 Screen jacket
- 7 Lid