

EN Assembly Instructions

Electric fuel pump type E1F

Possible applications:

- As a replacement for a mechanical fuel pump (vintage/classic cars) (Fig. 3)
- As a supplementary pump, parallel to an existing fuel pump (Fig. 4)
- As a second pump that can be activated as required (e.g. in off-road vehicles, in motor racing) (Fig. 5)
- In generators or boats
- As a pre-feeder pump



Not approved for use in aircraft!

General safety

- Work on the fuel system may only be carried out by specialist personnel. These are persons in possession of adequate knowledge of safety regulations, accident prevention regulations, directives and sound engineering practice acquired through specialist training, experience and instruction.
- Please note the applicable legal provisions, safety provisions and vehicle manufacturer's instructions.
- Do not use fuel pumps that have been dropped.
- Make sure that impurities do not get into the fuel system.
- Only use fuel lines that conform to the applicable standards. Do not route plastic fuel lines in the vicinity of hot vehicle parts.
- Use hose clamps to secure fuel lines to connecting tubes.
- Following work on the fuel system, make sure that it is tight and that the operating licence is valid.

General notes on installation

- The E1F (3) is inserted in the fuel line.
- It is suitable for system pressures from 0.1 – 1.0 bar, depending on the version.
- The maximum suction lift when lines are full is 500 mm. It must therefore be installed low down ("wet", under the fluid level) and in the vicinity of the tank (1) (see Fig. 1).
- The fuel filter (4) (fine filter, paper filter) must always be situated on the discharge side, i.e. in the direction of the flow behind the fuel pump.
- A wide-meshed sediment separator (2) (mesh size 60...100 µm) can be positioned before the fuel pump (e.g. part no. 4.00030.80.0).
- Replace the sediment separator (2) at the same maintenance interval as the fuel filter (4).
- A non-return valve (5) and (6) (see PIERBURG catalogue) should be installed in the flow and return lines to prevent the fuel lines from running empty.



Type E1F fuel pumps feature a small separator in the intake side (exception: 7.21440.68.0). This separator must be removed before use in diesel vehicles.

- The aluminium housing of the E1F must not come into contact with salt water.
- Take care not to use material combinations that can lead to contact corrosion: do not allow the E1F to come into contact with galvanised surfaces, for example.

Example: Replacement for a mechanical fuel pump (Fig. 3)

- The "old" fuel pump (7) can be bypassed or removed.
- If it is removed, the opening on the engine side must be sealed so that it is oil-tight. If it is bypassed, use a piece of tubing (8) to connect the inlet and outlet to one another to prevent dirt from entering.
- A fuel return (11) is recommended for vintage cars (1...3 mm Ø, depending on full-load consumption).
- A nozzle must be installed in the fuel return (11) as a flow resistor, to prevent the fuel from simply being pumped back into the fuel tank. The cross section of this nozzle must be such as to ensure the supply of fuel, even at full load.
- The installation of a pressure reducing valve (9) is recommended with some types of carburettor.

Example: Retrofit as a supplementary pump

- As a supplementary pump (3), the E1F should be connected parallel to the existing fuel pump (12) (see Fig. 4). A non-return valve (5) must be installed in both fuel lines.

Electrical connection

- Installation of a safety shut-off (Fig. 5) is mandatory when retrofitting electric fuel pumps.
- The shut-off relay (13) shuts off the fuel pump if the engine comes to a stop but the ignition remains on (e.g. stalled engine, accident).
- If a separate switch is used to switch the E1F on as required, this switch must be installed in the positive cable.
- Cross section of electric cables: 1.0 mm² minimum.
- Note the correct tightening torques for the electrical contacts of the E1F:
M4 (+) = 1,2 Nm
M5 (-) = 1,6 Nm

Key, Figs. 1-5

- 1 Fuel tank
- 2 Sediment separator (coarse filter)
- 3 Electric fuel pump E1F
- 4 Fuel filter (fine filter)
- 5 Non-return valve, flow line
- 6 Non-return valve, return line
- 7 Mechanical fuel pump
- 8 Connection between inlet/outlet of mechanical fuel pump
- 9 Pressure reducing valve
- 10 Gas bubble separator or calibrating nozzle
- 11 Fuel return
- 12 Existing fuel pump
- 13 Shut-off relay
- 14 Fuse (10 A)
- 15 Ignition coil

All content including pictures and diagrams is subject to change.

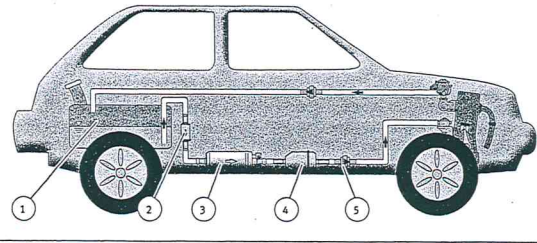


Abb. 1/ Fig. 1/ Puc. 1/图1

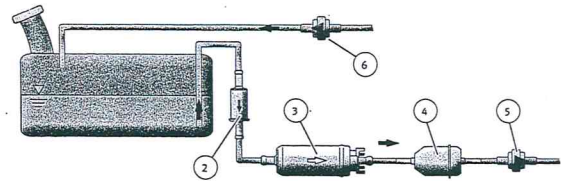


Abb. 2/ Fig. 2/ Puc. 2/图2

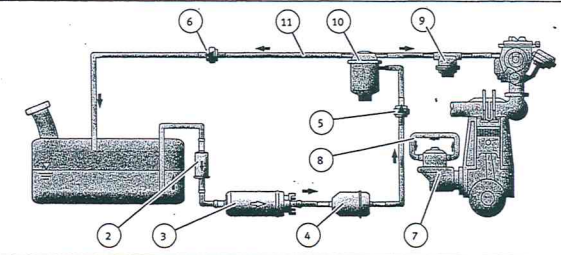


Abb. 3/ Fig. 3/ Puc. 3/图3

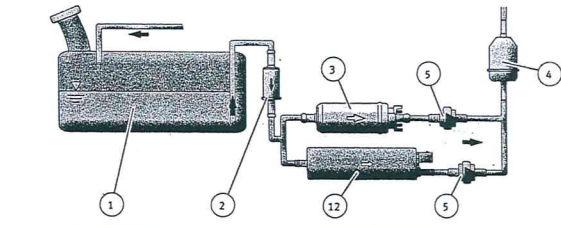


Abb. 4/ Fig. 4/ Puc. 4/图4

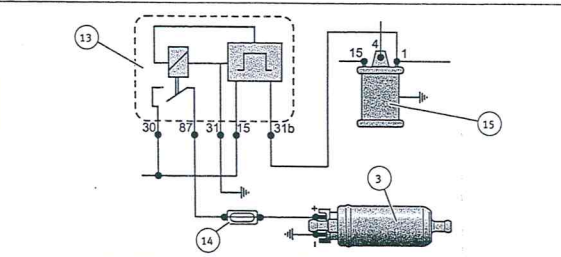


Abb. 5/ Fig. 5/ Puc. 5/图5