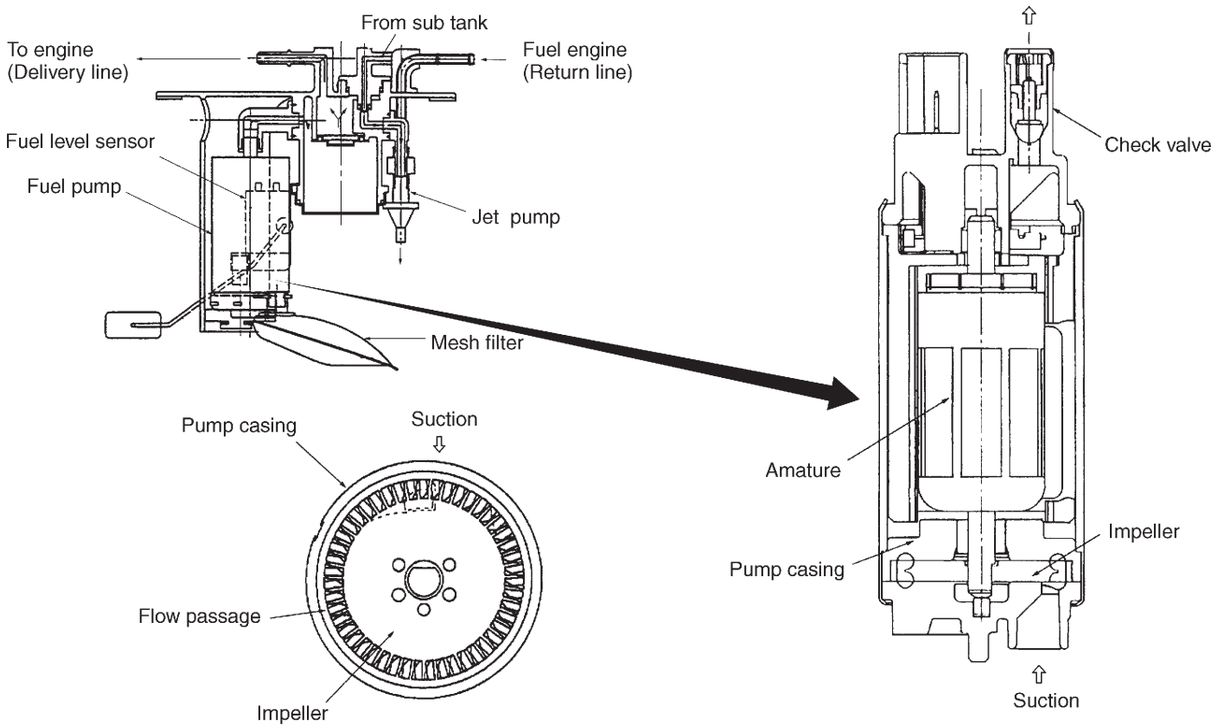
3. Fuel Pump and Fuel Level Sensor Assembly

A: FUEL PUMP

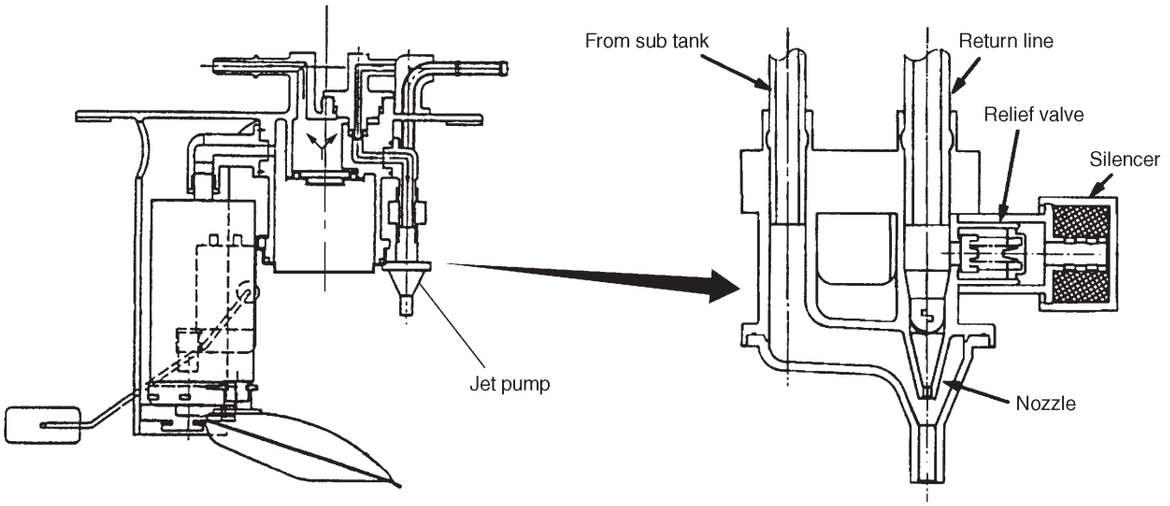
The impeller type fuel pump consists of a motor, impeller, pump casing, pump cover, relief valve, check valve and pump filter. It is built into the fuel tank together with the fuel level sensor to provide quiet operation.

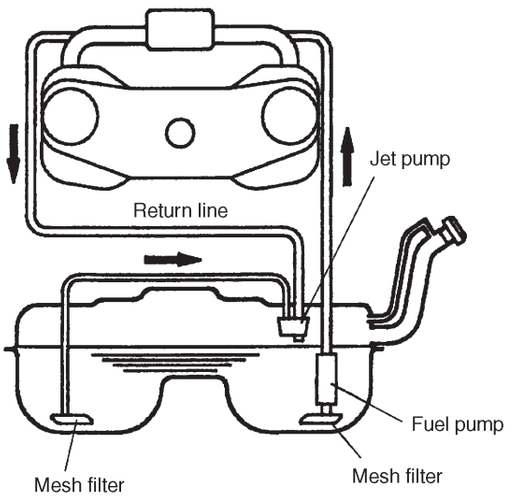


- When the engine starts, fuel pump relay activates. This operates the motor to rotate the impeller.
- Fuel entering a vane groove of the impeller flows along the fuel passage and into the next vane groove by centrifugal force. During the time fuel flows from one groove to the next, a pressure differential is produced by friction of the flow.
- Thus, fuel pressure increases while the action is described above is repeated, and fuel is discharged from the pump casing. Fuel under pressure then passes through the clearance between the armature and the magnet and is discharged from the fuel pump.
- As fuel discharge pressure reaches the specified value, the relief valve opens. This discharges fuel under pressure into the fuel tank. Fuel from the fuel tank then returns to the suction port and passes through the fuel pump. This action of fuel flow is repeated. In this manner, the relief valve prevents an abnormal increase in fuel pressure.
- When the engine and fuel pump stop, spring force acts on the check valve to close the discharge port so that fuel pressure remains in the fuel delivery line.

B: JET PUMP

- The jet pump utilizes the velocity of fuel returning from the engine to produce negative pressure inside the jet pump.
- This negative pressure allows fuel to be sucked up.
- When the return line nozzle is clogged, the fuel sent back through the return line flows back into the fuel tank via the relief valve.





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