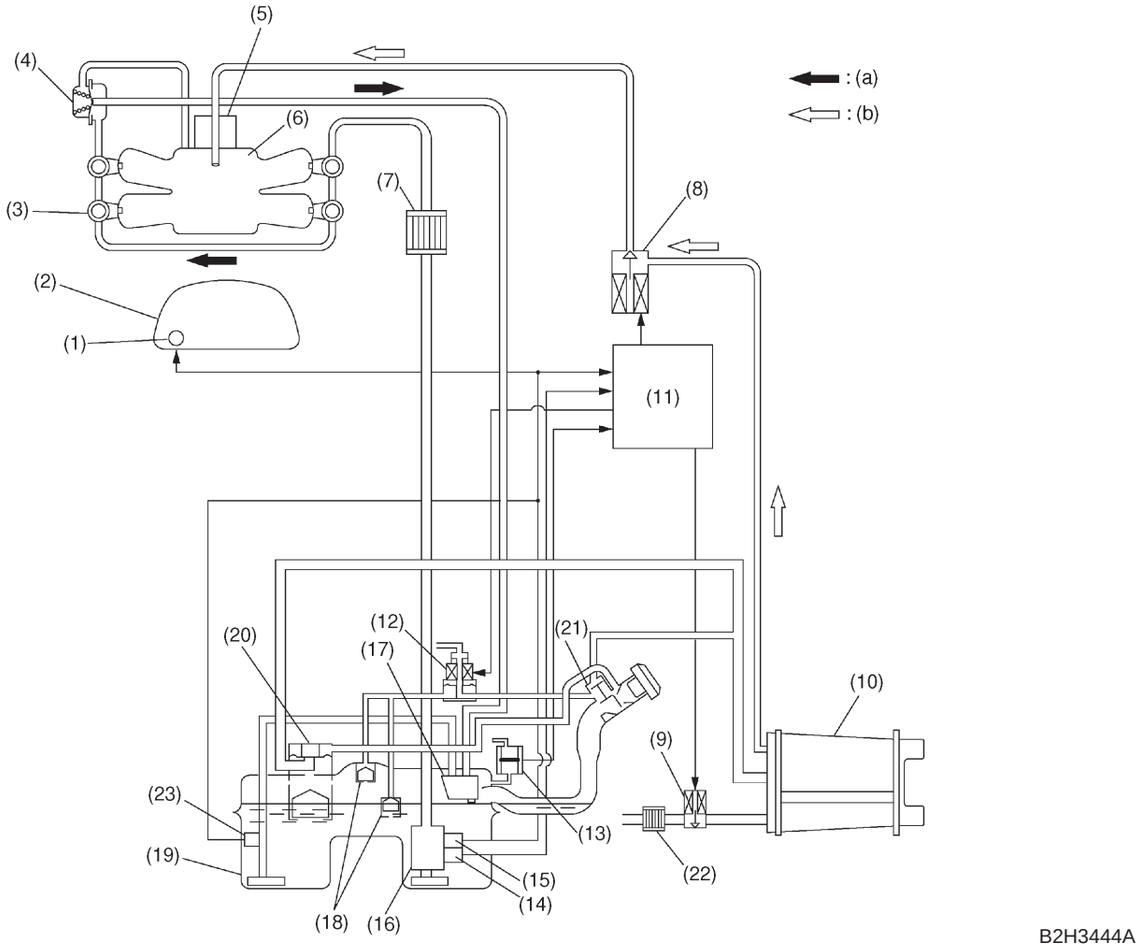
4. Fuel Line

A: GENERAL

● Fuel pressurized by the fuel pump built into the fuel tank is delivered to fuel injectors by way of the fuel pipe and fuel filter. Fuel is regulated to the optimum pressure level by the pressure regulator on the way to the injectors.

● From the injectors, fuel is injected into the intake port of each cylinder where it is mixed with intake air, and is then delivered to the respective cylinders.
Fuel injection timing and the amount of fuel injected is regulated by the ECM.



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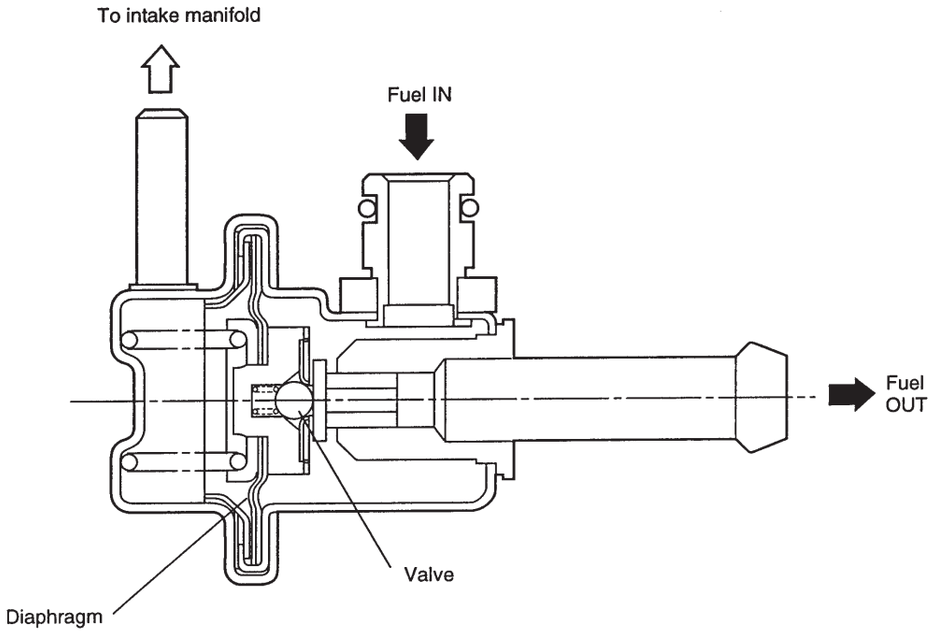
(1) Fuel gauge
(2) Combination meter
(3) Fuel injector
(4) Pressure regulator
(5) Throttle body
(6) Intake manifold
(7) Fuel filter
(8) Purge control solenoid valve
(9) Drain valve
(10) Canister
(11) ECM
(12) Pressure control solenoid valve
(13) Fuel tank pressure sensor
(14) Fuel temperature sensor
(15) Fuel level sensor
(16) Fuel pump
(17) Jet pump
(18) Fuel cut valve
(19) Fuel tank
(20) Vent valve
(21) Shut valve
(22) Drain filter
(23) Fuel sub level sensor

(a) Fuel line
(b) Evaporation line

B: PRESSURE REGULATOR

● The pressure regulator is divided into the fuel chamber and the spring chamber by the diaphragm as illustrated below. Fuel is fed to the fuel chamber through the fuel inlet connected with the injector. A difference in pressure between the fuel chamber and the spring chamber connected with the intake manifold causes the diaphragm to be pushed down, and fuel is fed back to the fuel tank through the return line.

● By returning fuel so as to balance the above pressure difference and the spring force, the fuel pressure is kept at a constant level 294 kPa (3.00 kg/cm^2, 43.0 psi): MT vehicle, 299.1 kPa (3.05 kg/cm^2, 43.4 psi): AT vehicle against the intake manifold pressure.

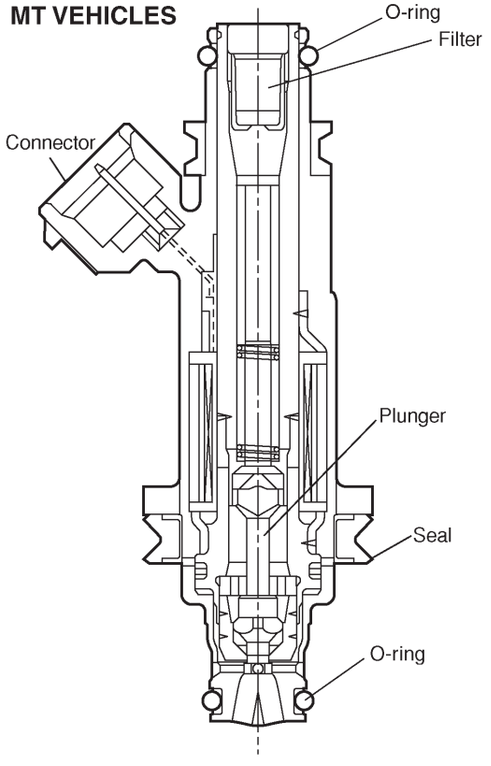


C: FUEL INJECTOR

- The MFI system employs a top feed type fuel injector with air assist system.
- The top feed type fuel injector is installed in the fuel pipe to allow cooling of the injector by the fuel.
- The features of this type of fuel injector are as follows:

1) High heat resistance
2) Low driving noise
3) Easy to service
4) Small size

- The fuel injector injects fuel according to the valve open signal received from the ECM.
- The nozzle is attached on the top of the fuel injector. The needle valve is lifted by the solenoid coil through the plunger on arrival of the valve open signal.
- Since the injection opening, the lifted level of valve and the regulator-controlled fuel pressure are kept constant, the amount of fuel to be injected can be controlled only by the valve open signal from the ECM.
- Fuel is atomized using air supplied from the idle air control solenoid valve, which contributes to not only higher combustion efficiency and higher output but also cleaner exhaust emission.



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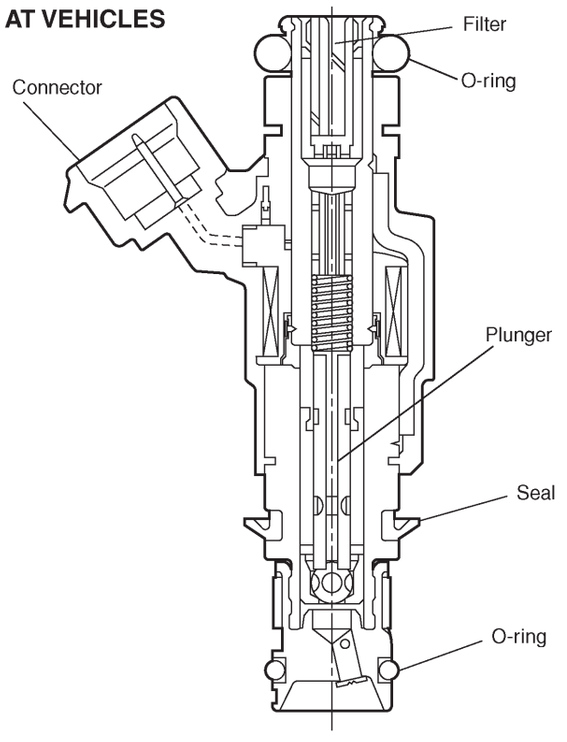

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