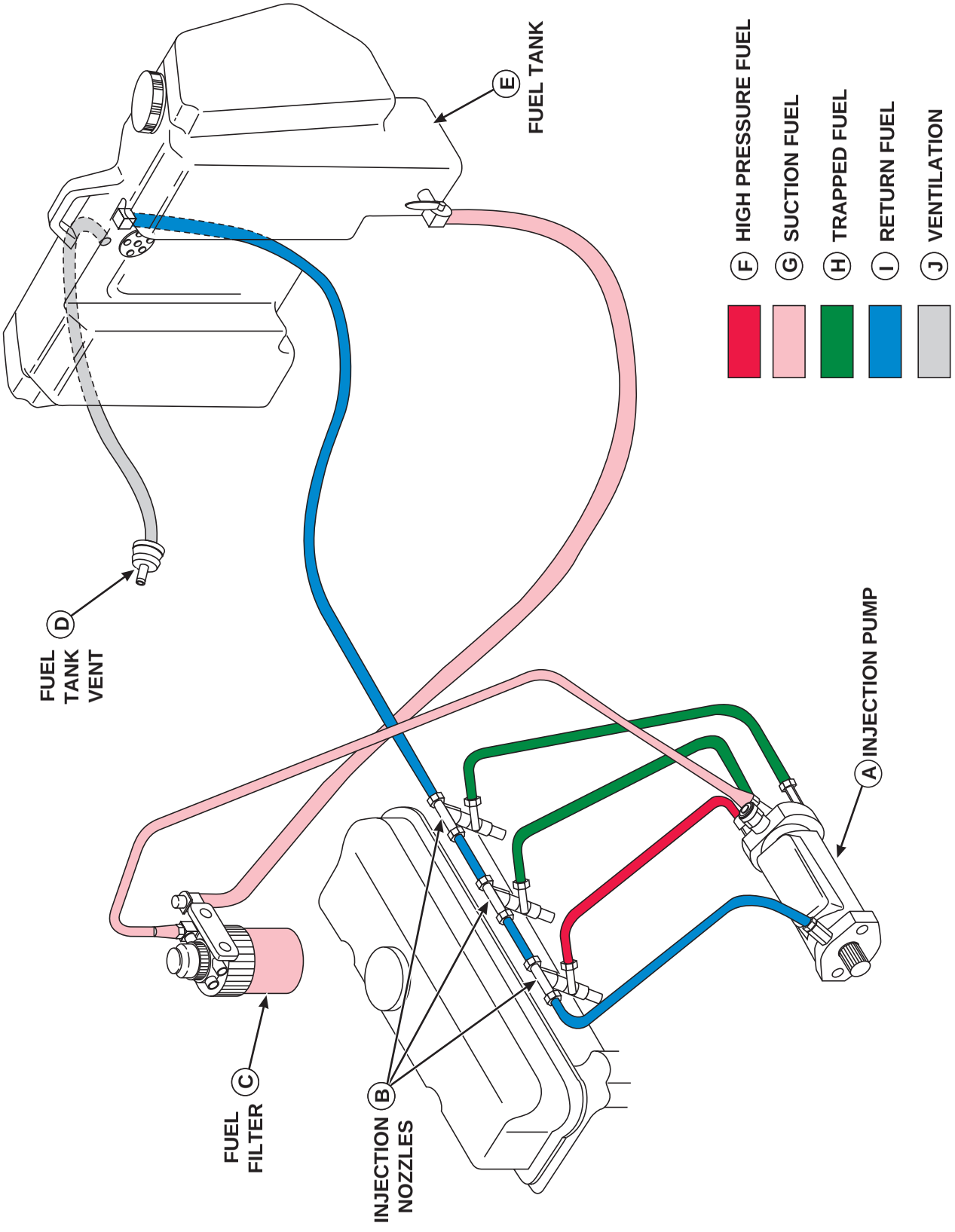
Fuel System Operation



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A—Fuel injection pump (FIP)
B—Inection nozzles
C—Fuel filter
D—Fuel tank vent
E—Fuel tank
F—High pressure fuel
G—Suction fuel
H—Trapped fuel
I—Return fuel
J—Ventilation

FUNCTION:

Fuel system supplies fuel to injector nozzles.

MAJOR COMPONENTS:

- Fuel Tank
- Fuel Tank Vent
- Fuel Filter/Primer Pump
- Injection Pump
- Injection Nozzles
- Supply Hose and Line
- High Pressure Lines
- Return Line and Hoses

THEORY OF OPERATION:

Suction fuel (G) flows from tank (E) to filter (C) to injection pump (A). The injection pump meters fuel as determined by its internal governor and throttle position, and delivers the fuel (F) at high pressure to the injection nozzles (B). The injector nozzle prevents flow until sufficiently high pressure is reached, opening the valve and spraying atomized fuel into the combustion chamber. Injection lines have trapped fuel (H) whenever injection is not taking place.

Vented fuel cap (D) will open to permit air to escape if fuel tank becomes pressurized. Vent will also open to permit air to enter tank to replace fuel volume supplied to the system.

Any air in the system is bled out with return fuel (I) to the fuel tank. Manual bleeding of fuel system is usually necessary only after servicing components of fuel system.

More fuel is routed through the system than is required for injection. Excess fuel serves to cool and lubricate the injection pump and nozzles, and warm the fuel in the fuel tank.

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