

OPERATION

The fuel delivery sub-system consists of a high-pressure in-tank mounted fuel pump (9350) and a fuel filter / reservoir delivering fuel from the fuel tank (9002) through a 20-micron fuel filter to a fuel charging manifold assembly.

The fuel charging manifold assembly incorporates electrically actuated fuel injectors directly above each of the engine's six intake ports. The injectors, when energized, spray a metered quantity of fuel into the intake air stream.

A constant fuel pressure drop is maintained across the fuel injectors by a fuel pressure regulator (9C968). The regulator is connected in series with the fuel injectors and is positioned downstream from them. Excess fuel supplied by the pump, but not required by the engine, passes through the fuel pressure regulator and returns to the fuel tank through a fuel return line.

Each fuel injector is energized once every other crankshaft revolution in sequence with engine firing order. The period of time that the fuel injectors are energized (injector "on time" or pulse width) is controlled by the vehicle's powertrain control module (PCM). Air entering the engine is monitored by speed, pressure and temperature sensors. The outputs of these sensors are processed by the powertrain control module (PCM). The PCM determines the needed injector pulse width and outputs a command to the fuel injector to meter the exact quantity of fuel.

Air Intake Manifold

The air intake manifold for the 3.0L SHO is made up of three sections: surge plenums, the primary intake runners and the secondary intake runners. Runner lengths are tuned to optimize engine torque and horsepower output.

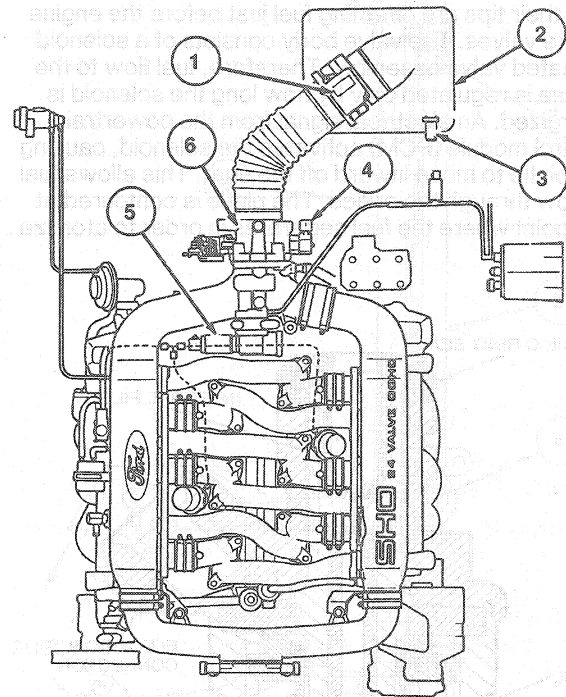
The entire intake system can be removed as an assembly to allow access to the fuel injectors and fuel injection supply manifold (9D280).

The manifold provides mounting flanges for the throttle body assembly, and the ignition control module (ICM) (12A297) on the surge plenum assembly.

The unique air intake manifold (9424) for the 3.0L SHO engine features the following items:

1. Two surge plenums connected by a crossover tube.
2. Primary and secondary intake runners. The primary runner (longer length) is always open. A secondary runner (shorter length) is controlled by a vacuum-operated idle air control valve (9F715) and is open at high engine rpm. Each secondary port has a tuning horn upstream of the idle air control valve and inside surge tanks.

3. Vacuum taps for EGR valve (9D475), fuel pressure regulator, idle air control valve, canister purge and brake booster are provided on the surge plenums.



A12905-B

Item	Part Number	Description
1	12B579	Mass Air Flow Sensor
2	9600	Engine Air Cleaner
3	12A697	Intake Air Temperature Sensor
4	9B989	Throttle Position Sensor
5	9F715	Idle Air Control Valve
6	9E926	Throttle Body

REMOVAL AND INSTALLATION

Fuel Charging Assembly

Remove the upper, lower and surge manifolds.

Pre-Service Procedure

The fuel charging assembly consists of the throttle body, and the upper and lower intake manifolds. Prior to service or removal of the fuel charging assembly, the following steps must be taken:

1. Turn good, and install protective covers.