

FUEL PUMP

6 CYL. AND V-8

DESCRIPTION (Fig. 6B-125)

The fuel pump transfers gasoline from the tank to the carburetor in sufficient quantity to meet engine requirements at any speed or load.

A disposable type fuel pump is used, which is completely sealed (except for an air bleed on the air side of the pump) resulting in added performance, particularly during warm weather operation or prolonged idle conditions.

Certain fuel pumps incorporate a built in air dome to dampen out pulsations in fuel pressure.

The fuel pump diaphragm is retained with a crimped edge. This provides a greater effective diaphragm area which results in more efficient handling of hot fuel in a manner which will virtually eliminate vapor lock.

The rocker arm spring keeps the rocker arm in constant engagement with the eccentric on the engine camshaft so that the rocker arm moves downward and upward as the camshaft rotates. As the rocker arm is moved downward it bears against a link which is also pivoted on the rocker arm pin. The link is hooked to the diaphragm pull rod so that the diaphragm is moved away from the fuel chamber and the diaphragm spring is compressed. The enlarging fuel chamber moves gasoline from the tank through the tubing and inlet valve and into the space below the diaphragm.

As the rotating eccentric permits the rocker arm to move away from contact with the link, the compressed diaphragm spring is free to move the diaphragm downward to expel the fuel through the outlet valve to the carburetor bowl.

Because the diaphragm is moved downward only by the diaphragm spring, the pump delivers fuel to the carburetor only when the pressure in the outlet line is less than the pressure maintained by the diaphragm spring. Fuel is delivered to the carburetor only when the needle valve is open. When the needle valve is closed by pressure of fuel on the float, the pump builds up pressure in the space below the diaphragm and in the outlet tube until the diaphragm spring is compressed. The diaphragm then remains stationary until more fuel is required.

There are no repairs possible to the fuel pump and when a malfunction is detected, it will be necessary to replace the pump assembly.

TROUBLE DIAGNOSIS AND TESTING

Always check fuel pump while it is mounted on the engine and be sure there is gasoline in the tank.

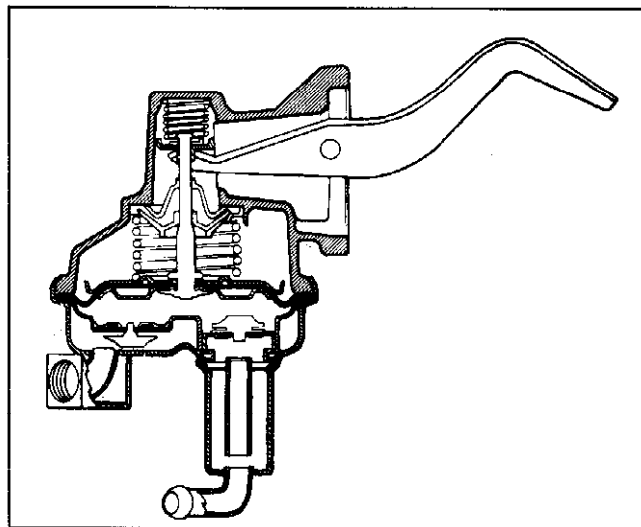


Fig. 6B-125 Schematic View of Fuel Pump

The line from tank to pump is the suction side of system. The line from pump to carburetor is the pressure side of system. A leak on the pressure side of system would be visible because of dripping fuel. A leak on the suction side would not be apparent except for its effect of reducing the volume of fuel on the pressure side.

1. Tighten any loose line connections and look for bends or kinks in lines which could reduce flow of fuel.

2. Disconnect fuel pipe at carburetor. Disconnect distributor to coil primary wire so that the engine can be cranked without firing. Place suitable container at end of pipe and crank engine a few revolutions. If little or no gasoline flows from open end of pipe, then fuel pipe is clogged or pump is inoperative. Before removing pump, disconnect fuel pipe at inlet of pump and at gas tank outlet pipe and blow through them with an air hose to make sure they are clear. Reconnect pipes to pump and retest while cranking engine.

3. If fuel flows from pump in good volume from pipe at carburetor, check fuel delivery pressure to be certain that fuel pump is operating within specified limits as follows:

- a. Attach a fuel pump pressure test gauge to disconnected end of pump to carburetor pipe.

- b. Run engine at approximately 1000 rpm on gasoline in carburetor bowl and note reading on pressure gauge.

- c. If pump is operating properly, the pressure will be between 4 to 5 1/2 psi at 1000 rpms on 6 cyl.; 5 to 6 1/2 psi at 1000 rpm on V-8. When equipped with factory installed air conditioning the pressure readings will be approximately 1-2 psi less.

	ENGINE HOT IDLE SPEEDS						WITH A.I.R. AND C.C.S.	
	WITHOUT A.I.R. SYSTEM							
	Tempest		G.T.O.		Pontiac		Tempest	All
	6-Cyl.	326	2-bbl.	4-bbl.	400	428	6-Cyl.	8-Cyl.
A.T.	500	500	500	600	500	600	600	600
A.T.-A/C	500	600	600	600	600	600	600	600
M.T.	600	600	—	700	600	700	700	700
M.T.-A/C	600	700	—	700	700	700	700	700

All A.T. Idle Speeds Set in Drive and A/C Off (If Equipped)

SERVICE SPECIFICATIONS												
Carburetor Model	Application	Float Level	Float Drop	Pump	Choke Rod	Idle Vent	Vacuum Break	Air Valve Lockout	Dashpot	Unloader	Choke Setting	Fast Idle
Rochester BV 7027167 7027168 7037167 7037168	230-MT 230-AT 230-MT-AIR 230-AT-AIR	1-5/16"±1/32"	1-7/8" Min.	--	.060"	.040"±.010"	.170"±.015" .160"±.015" .170"±.015" .160"±.015"	--	--	.230"±.030"	Refer To Choke Adjustment	2600 2800 2600 2800
Rochester 2GC 7027060 7027061 7027062 7027066 7027071 7037061 7037062 7037066 7037071 7037162	400-AT 400-AT-AC 326-AT 400-MT 326-MT 400-AT-AIR 326-AT-AIR 400-MT-AIR 326-MT-AIR 400-AT-CCS	9/16"±1/32"	1-9/16" Min.	1-11/32"±1/32"	.085	1-9/32"±1/64"	Choke Piston 1/32" Out Choke Piston Flush With Top of Cylinder	--	--	.160"±.030"	Index	2800 2800 2800 2500 2500 2500 2500 2500 2500 2500
Rochester 4MV 7027260 7027261 7027262 7027263 7037260 7037261 7037262 7037263	230-AT 230-MT 400 428-AT 400-MT 428-MT 230-AT-AIR 230-MT-AIR 400-AT-AIR 428-AT-AIR 400-MT-AIR 428-MT-AIR	7/32" 7/32" 3/16" 3/16" 7/32" 7/32" 3/16" 3/16"	--	9/32" With Pump Rod In Inner Hole	.085" .085" .040" .090" .085" .085" .040" .090"	3/8"	.130" .130" .180" .230" .130" .130" .180" .230"	.020"	.030"	.325"	Center Notch	2800 2600 2500 2500 2600 2600 2500 2500
Carter AFB 4242S 4243S 4244S 4245S 4246S 4248S	400-AT 400-MT 326 400-AT-AIR 400-MT-AIR 326-AT 326-AT-AIR	5/16"±1/32" 3/8"±1/32" 1/4"±1/32" 5/16"±1/32" 5/16"±1/32" 5/16"±1/32" 5/16"±1/32"	23/32" Min.	In Center Hole .375"±.030"	--	--	Choke Piston Flush to 1/64" Below Top of Cylinder	Secondary Throttle Lever .020"	--	5/32"±1/32"	One Notch Rich	2800 2500 2500 2500 2800 2800