



Application: 1959-1966

Part Includes

1 - Component

Corvette Rebuild Kit Fuel Pump



Tools Needed



Search: **Fuel**

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TROUBLE DIAGNOSIS AND TESTING

FUEL PUMP INSPECTION AND TEST

Always check pump while it is mounted on the engine and be sure there is gasoline in the tank. The line from the tank to the pump is the suction side of the system and the line from the pump to the carburetor is the pressure side of the system. A leak on the pressure side, therefore, would be made apparent by dripping fuel, but a leak on the suction would not be apparent except for its effect of reducing volume of fuel on the pressure side.

STEP 1. Tighten any loose line connections and look for bends or kinks in the lines which would reduce fuel flow.

STEP 2. Tighten diaphragm flange screws.

STEP 3. Disconnect fuel pipe at carburetor. Disconnect distributor to coil primary wire so that 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 gas tank and outlet pipe at gas tank and outlet pipe and blow through them with an air hose to make sure they are clear. Reconnect pipes and retest while cranking engine.

STEP 4. If fuel flows from pump in good volume from pipe at carburetor, check fuel delivery pressure to be certain that 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 450 and 1,000 rpm on gasoline in carburetor bowl and note reading on pressure gauge.

c. If pump is operating properly, the pressure will be 5 1/4 to 6 1/2 psi for V-8 Engine and 3 1/2 to 4 1/4 psi on L-6 Engine and will remain constant at speeds between 450 and 1,000 rpm. If pressure is too low or too high, or varies materially at different speeds, the pump should be removed for repair.

SERVICE OPERATIONS

FUEL PUMP

Removal

STEP 1. Disconnect fuel inlet and outlet pipes at fuel pump and fuel cover.

STEP 2. Remove two fuel pump mounting bolts and locking washers, and remove pump and gasket.

STEP 3. On eight cylinder models, if rocker arm push rod is to be removed, remove two adapter mounting bolts and lockwashers, and remove adapter and gasket from lock. Remove push rod from block. **NOTE:** After removal of pump from engine and before disassembly is started, plug all openings and thoroughly wash exterior of pump with cleaning solvent to remove all dirt and grease.

Disassembly

STEP 1. Remove fuel pulsator diaphragm plate and diaphragm from fuel cover.

STEP 2. Mark edges of fuel and body flange with file. The parts may then be assembled in the same relative position.

STEP 3. Remove cover screws and lock washers. Separate fuel cover from body by jarring cover loose with a light plastic hammer.

STEP 4. Raise fuel pump link with a screwdriver (fig. 121). Unhook diaphragm from the link by pressing down and away from the rocker arm side. Remove oil seal and retainer from diaphragm.



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Description (cont.)

Cleaning and Inspection

STEP 1. Clean and rinse all metal parts in solvent. Blow out all passages with air hose.

STEP 2. Inspect pump body and fuel cover for cracks, breakage and distorted flanges. Examine all screw holes for stripped or crossed threads. Replacement of pump assembly is advisable if one of the main casting is not serviceable.

STEP 3. Inspect the rocker arm and link for excessive wear and for loose hinge pin.

STEP 4. Replace diaphragm.

STEP 5. Replace rocker arm spring and diaphragm springs as removed, because old springs may be distorted, weak or corroded.

STEP 6. Check the condition of the valves by pushing each valve off its seat with a thin rod of pencil. A hooked wire may be inserted through inlet opening in fuel cover to move the fuel inlet valve off its seat. If a valve sticks to its seat, if it moves off its seat and does not rebound, or if the cage is damaged, the complete valve must be replaced. To remove the valves, clear the staked metal with a sharp chisel, file or suitable scraper and pull valve out with a hook shaped tool.

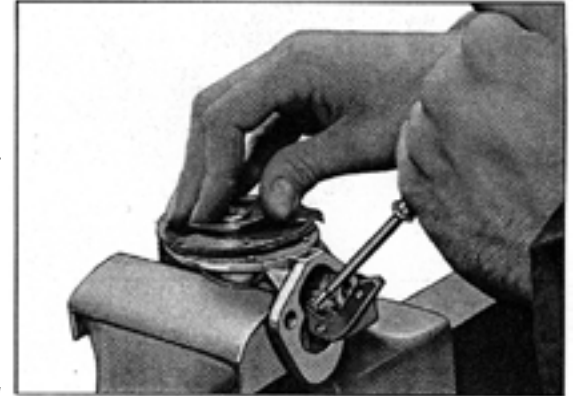


Fig. 121 – Raising Fuel Link

Assembly

STEP 1. Install the oil seal to the diaphragm push rod in the following manner. Assemble oil seal spring, upper retainer, two leather seals and lower retainer with convex side out. This is extremely important in order to seal the fuel pump from any oil that might come up from the crankcase. Raise the fuel pump link with a screwdriver (fig. 121), install the diaphragm spring and hook the diaphragm pull rod over the end of the link.

STEP 2. If either valve was removed from the fuel cover, install by placing gasket in recess and pressing valve into place. Outlet valve cage must face bottom of cover, and inlet valve cage must face opposite. Secure valve assembly by staking cover metal in four places around valve.

STEP 3. Place new pulsator diaphragm over fuel cover opening, install plate and retain with the screw and fiber washer.

STEP 4. Install cover on body, making sure that file marks on cover and body line up. Push rocker arm until diaphragm is flat across body flange. Install cover screws and lock washers loosely until screws just engage lockwashers. Push rocker arm through its full stroke to flex diaphragm and hold in that position while tightening cover screws securely.

CAUTION: Diaphragm must be flexed to its full stroke while tightening cover screws or pump diaphragm protector will not be properly centered, resulting in diaphragm wear due to rubbing on pump body casting.

FUEL PUMP

Installation

STEP 1. Install fuel pump gasket and fuel pump.

STEP 2. Connect fuel pipes to pump.

STEP 3. Start engine and check for leaks.



Description (cont.)

TROUBLES AND REMEDIES

FUEL PUMP

Symptom and Probable Cause

Probable Remedy

Fuel Pump Leaks - Fuel

- a. Loose housing screws.
- b. Ruptured or torn diaphragm.
- c. Loose fittings.
- d. Stripped thread on inlet and outlet fittings.

- a. Tighten housing screws.
- b. Install new diaphragm.
- c. Tighten fittings.
- d. Replace fittings.

Fuel Pump Leaks - Oil

- a. Hole in diaphragm.
- b. Leak at mounting flange.
- c. Damaged oil seal.

- a. Install new diaphragm.
- b. Install new mounting gasket and tighten fuel pump mounting bolts.
- c. Replace oil seal.

Insufficient Fuel Delivery

- a. Loose fuel line fittings.
- b. Damaged diaphragm.
- c. Cracked or broken fuel line.

- a. Tighten fittings.
- b. Install new diaphragm.
- c. Replace line.

Fuel Pump Noise

- a. Pump loose at mounting.
- b. Worn rocker arm.
- c. Broken or weak rocker arm spring.

- a. Tighten fuel pump mounting bolt.
- b. Replace.
- c. Install new rocker arm spring.

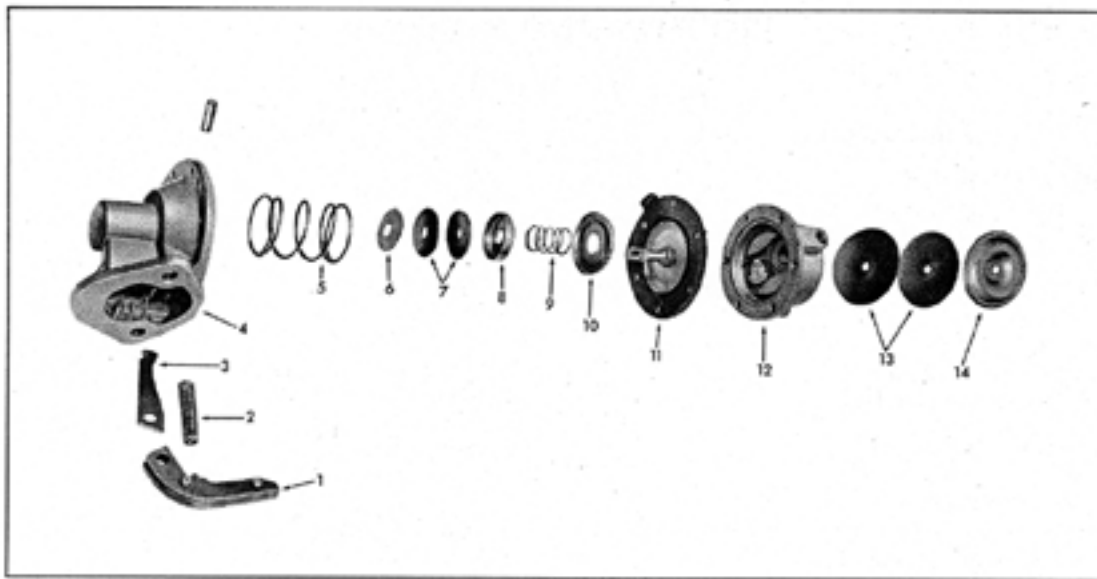


Fig. 122 - Six Cylinder Pump Disassembled

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|-----------------------------|------------------------|---------------------------------|------------------------|
| 1. Rocker Arm | 5. Diaphragm Spring | 9. Seal Spring | 13. Pulsator Diaphragm |
| 2. Rocker Arm Return Spring | 6. Lower Seal Retainer | 10. Diaphragm Spring Upper Seal | 14. Pulsator Cover |
| 3. Actuating Lever | 7. Oil Seal | 11. Diaphragm | |
| 4. Pump Body | 8. Upper Seal Retainer | 12. Fuel Cover and Valves | |