

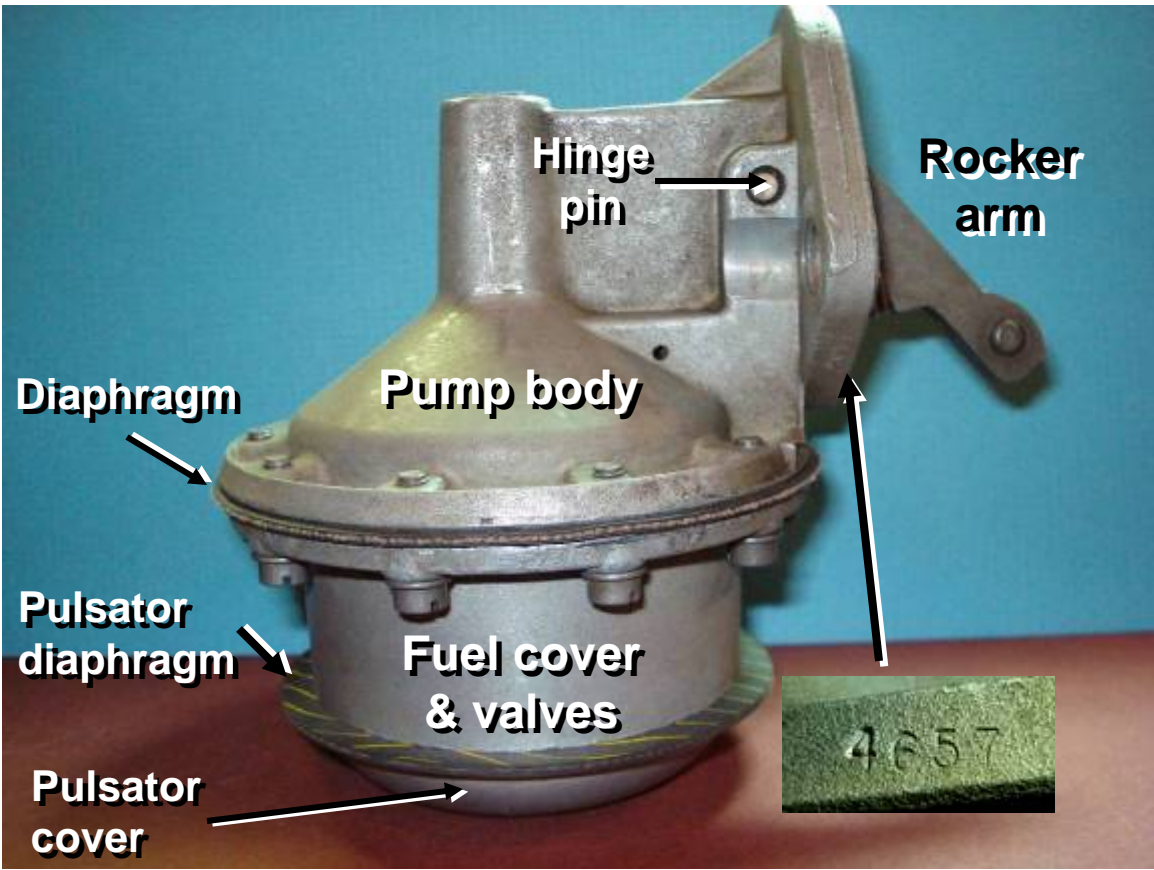
Rebuild of the fuel pump from my 60 Corvette

Dave Zuberer



Note: this is a Type 4657 pump

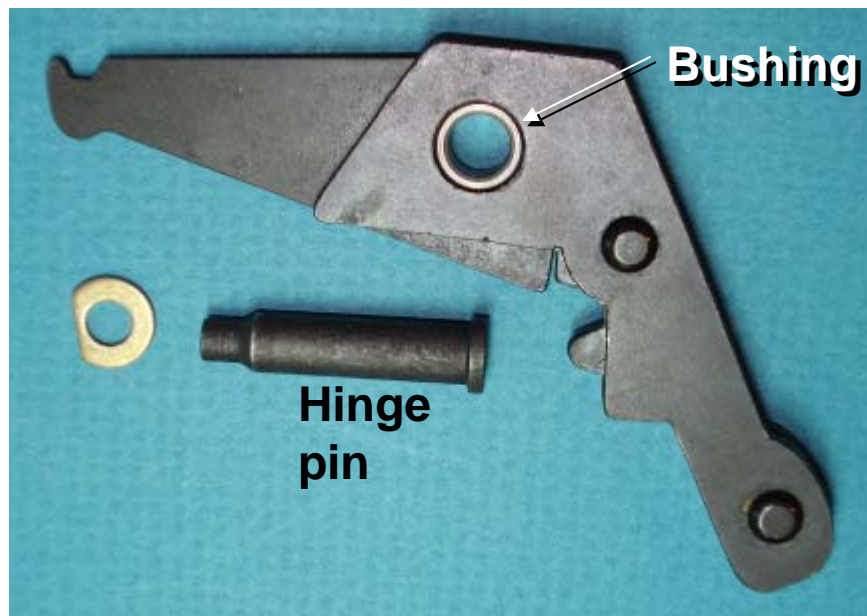
Included here are photos and some info generated during the rebuild of a leaking fuel pump that was on the 60 when we got it. I replaced it with a new pump and bought the kit for the experience of rebuilding the pump and having a back-up. Hope it works if I ever need it!





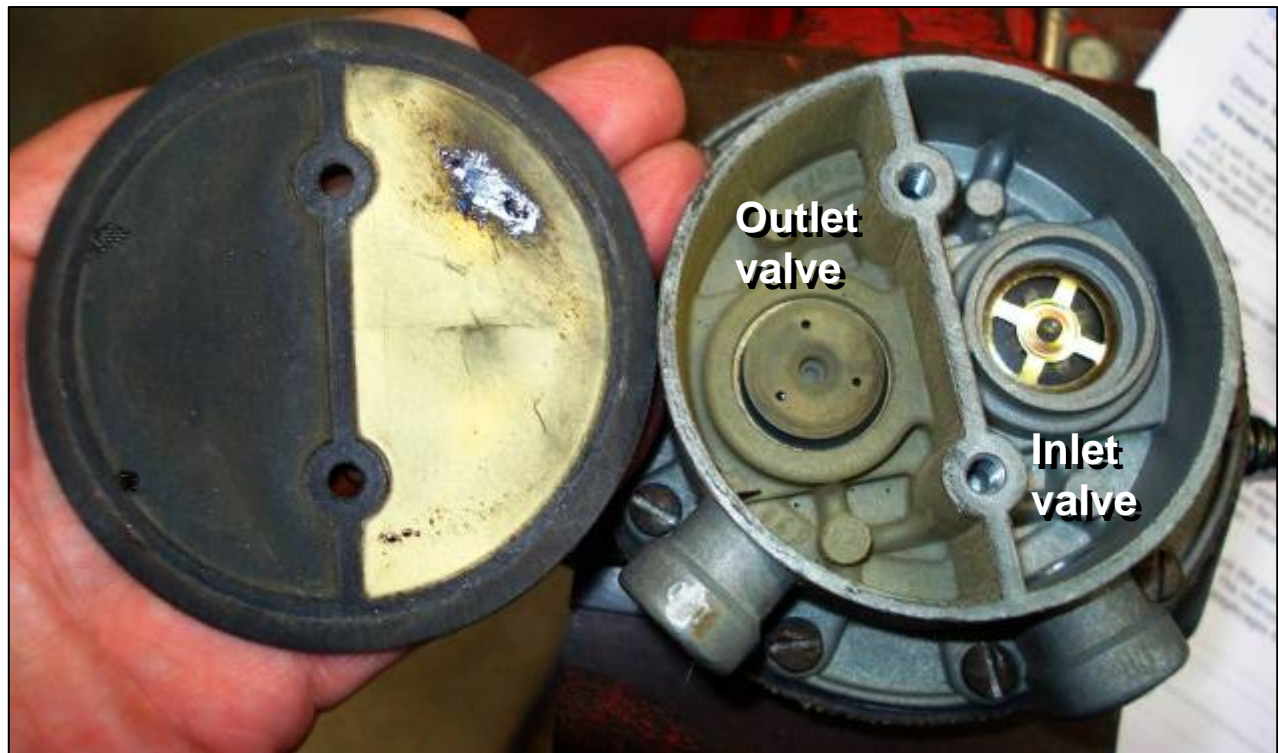
Remove the screws from the pulsator cover to expose the pulsator diaphragm. →

Rocker arm components

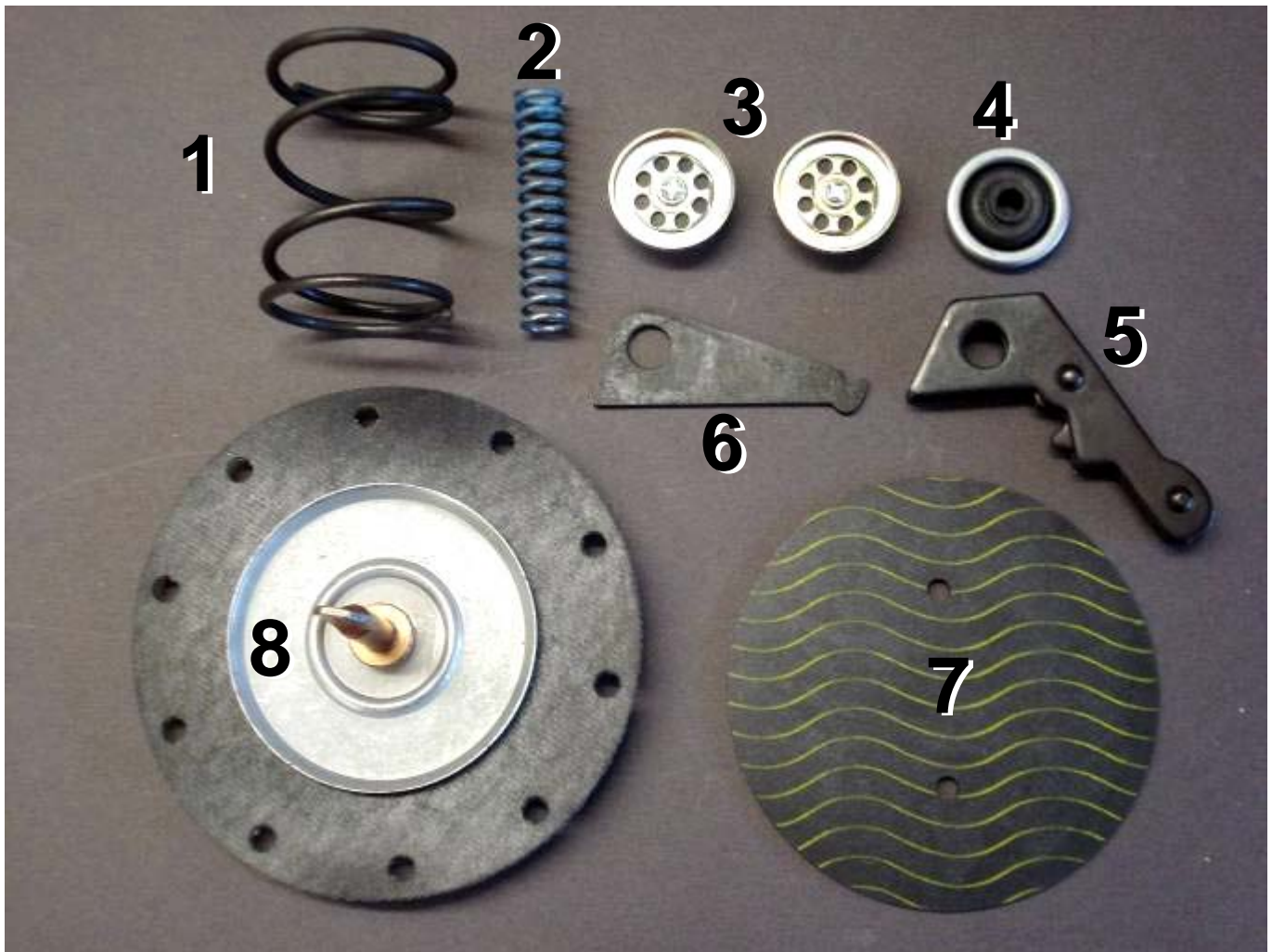




Pulsator cover removed to reveal pulsator diaphragm



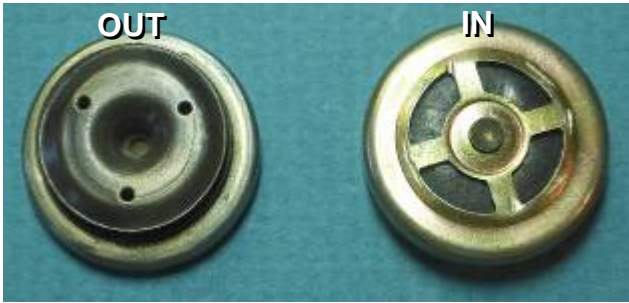
Pulsator diaphragm removed to reveal fuel valves in fuel cover. The outlet side of the pump had a “yellow” residue and the inlet side was clean. Note the outlet valve cage faces the bottom of the pump.



Fuel pump parts in rebuild kit

- 1 – Diaphragm spring
 - 2 – Rocker arm return spring
 - 3 – Valves (mount in fuel cover)
 - 4 – Oil seal (mounts in pump body)
 - 5 – Rocker arm
 - 6 – Actuating lever
 - 7 – Pulsator diaphragm
 - 8 – Diaphragm
- Not shown – screws and hinge pin with bushing.

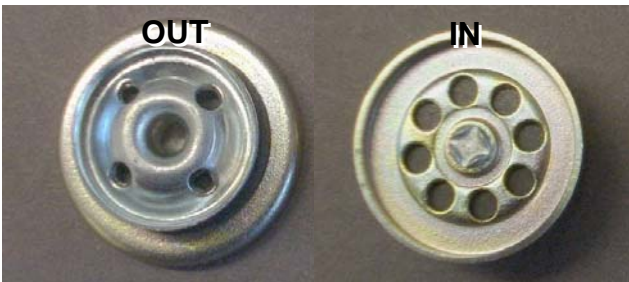
“Old” valves and kit valves compared



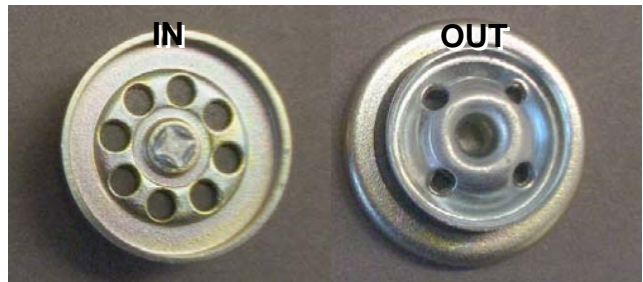
These are the “old” valves as they would be seen in the fuel cover when you remove the pulsator cover and diaphragm. (See figure on next page)



These are the reverse sides of the “old” valves. Note that these valves are both “cupped” in the same direction whereas the new valves shown below are cupped in opposite directions



These are the new valves as they would be seen in the fuel cover after installation. It is critical that you install the valves in the right directions. As stated in the Service Manual, “Outlet valve cage must face bottom of cover, and inlet valve cage must face opposite.”

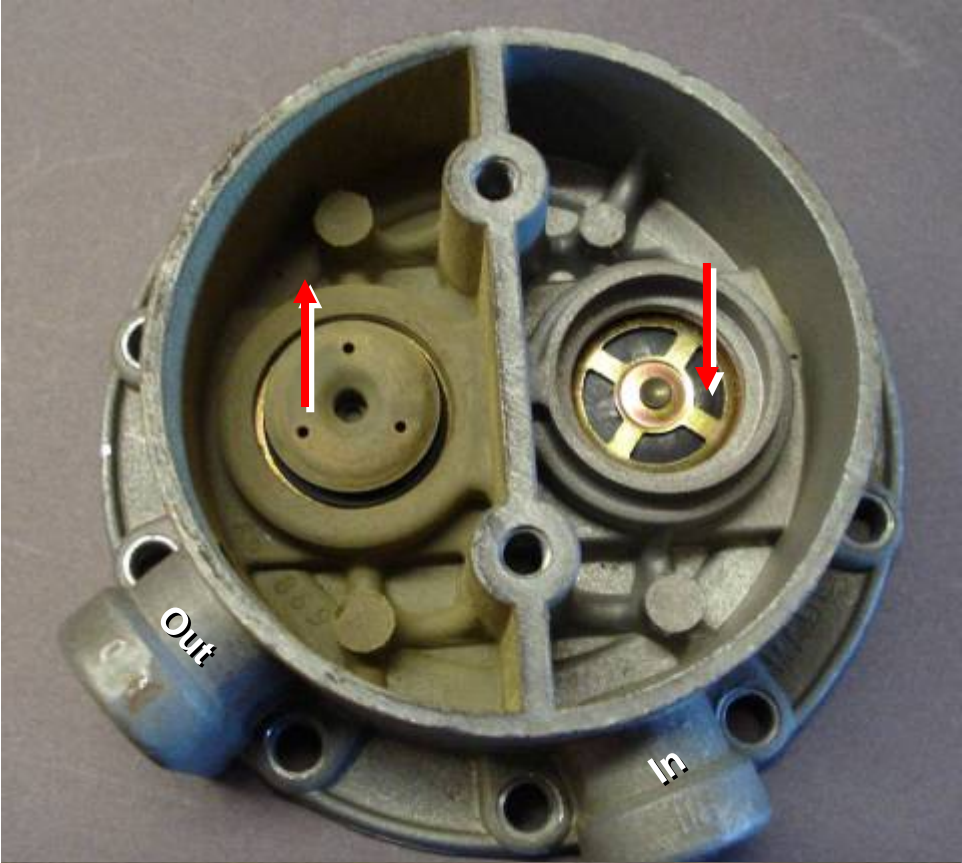


These are the reverse sides of the new valves.



As shown above, the valves have a spring-loaded rubber diaphragm (disk) which controls the direction of flow (arrow).

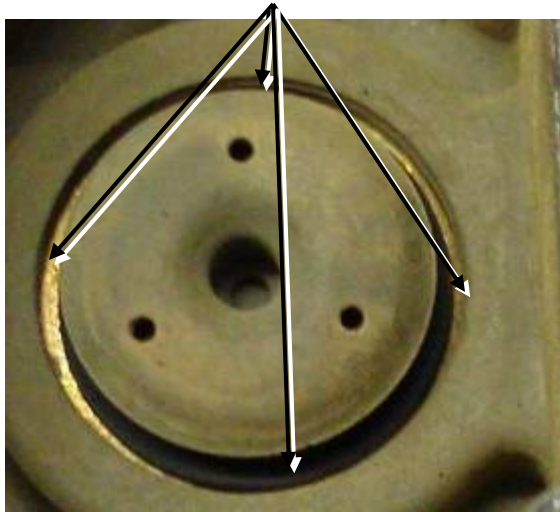
Old valves



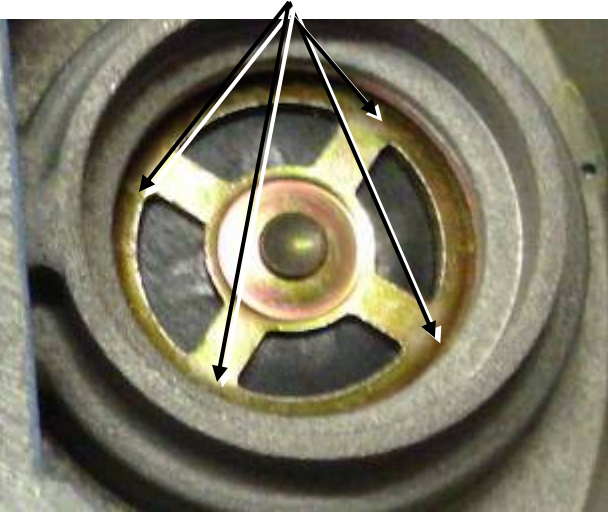
New valves



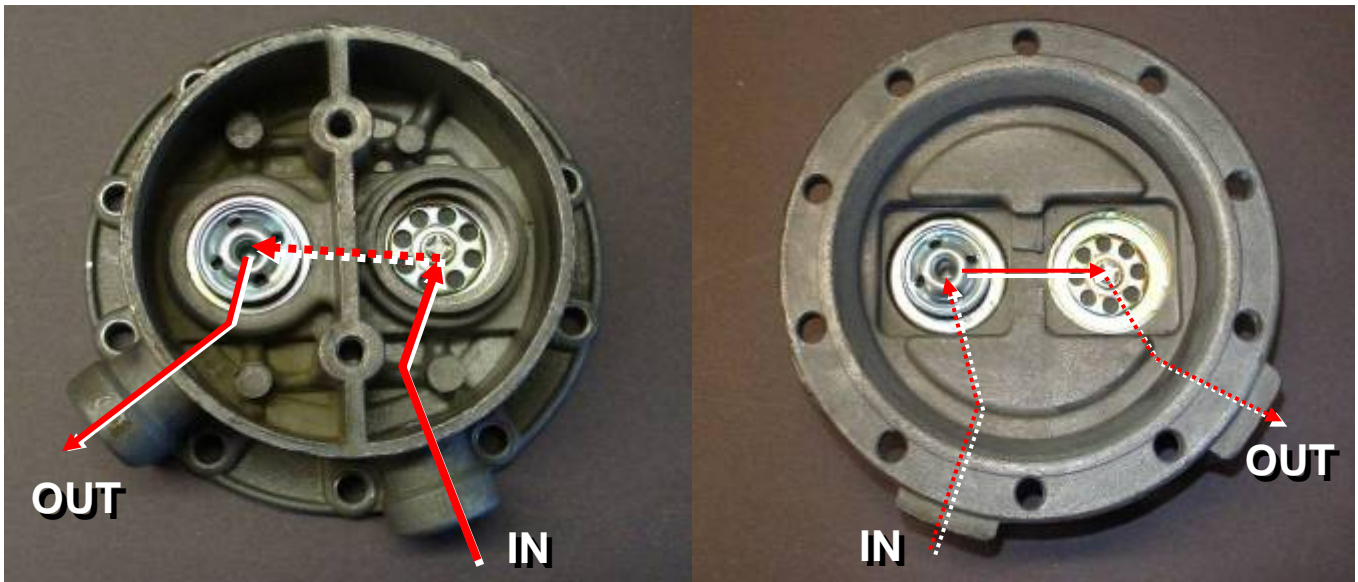
Tapped here with small flat screw-driver blade



Tapped here with punch

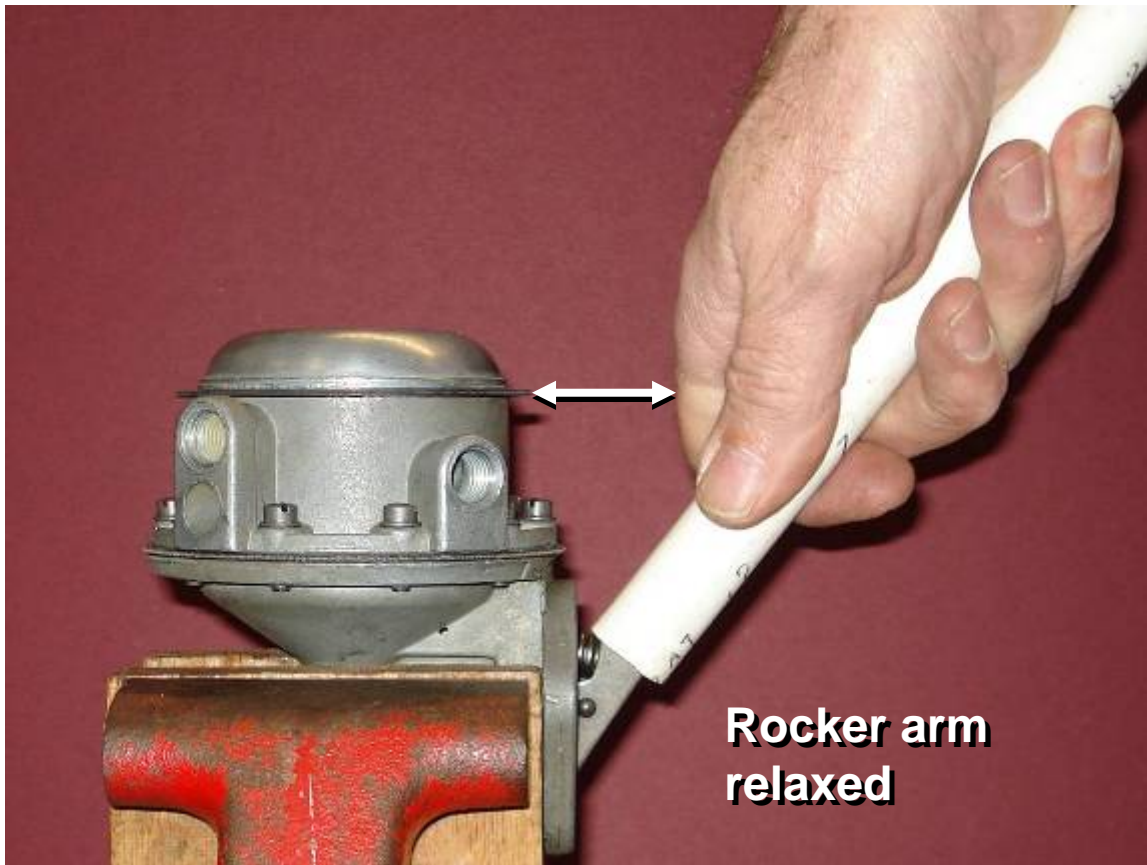


I removed the old valves by tapping around the edges of the valves with a small flat screw driver or flat punch.

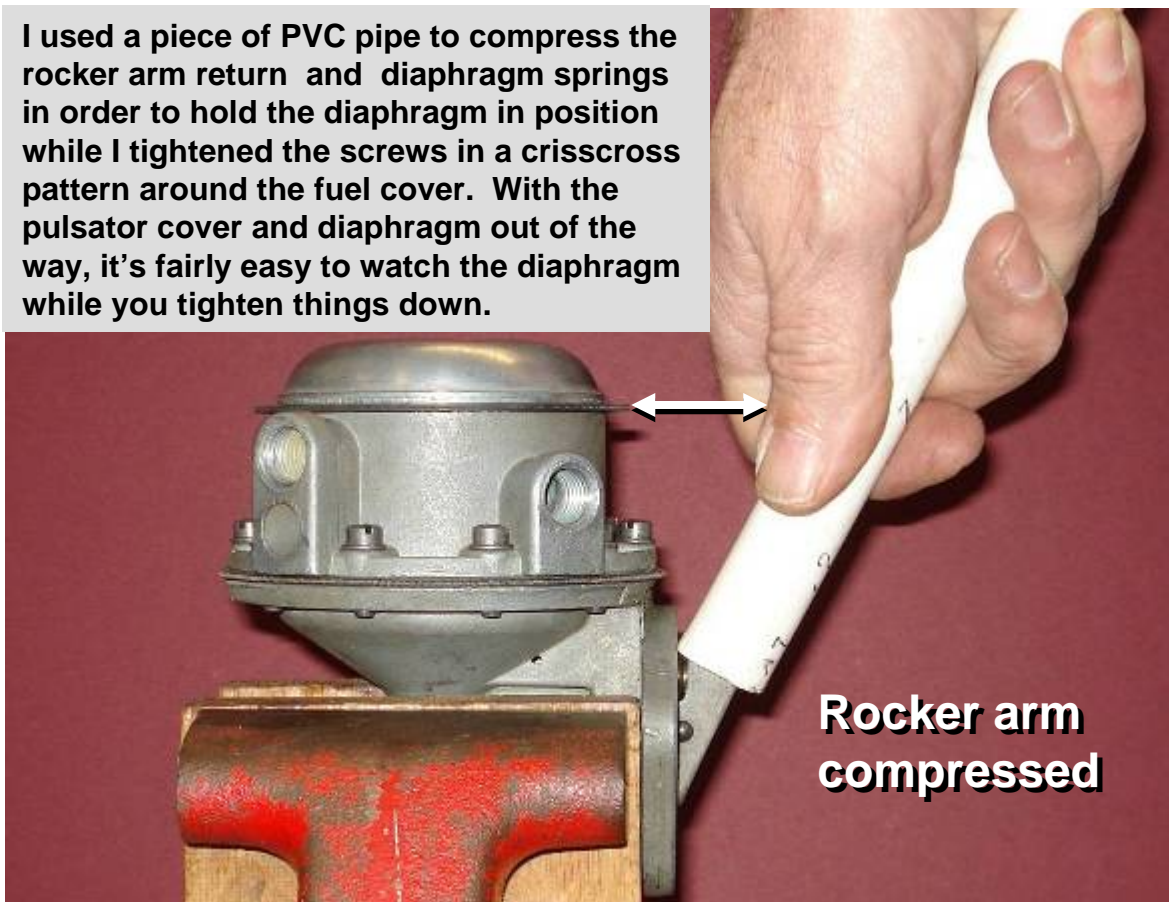


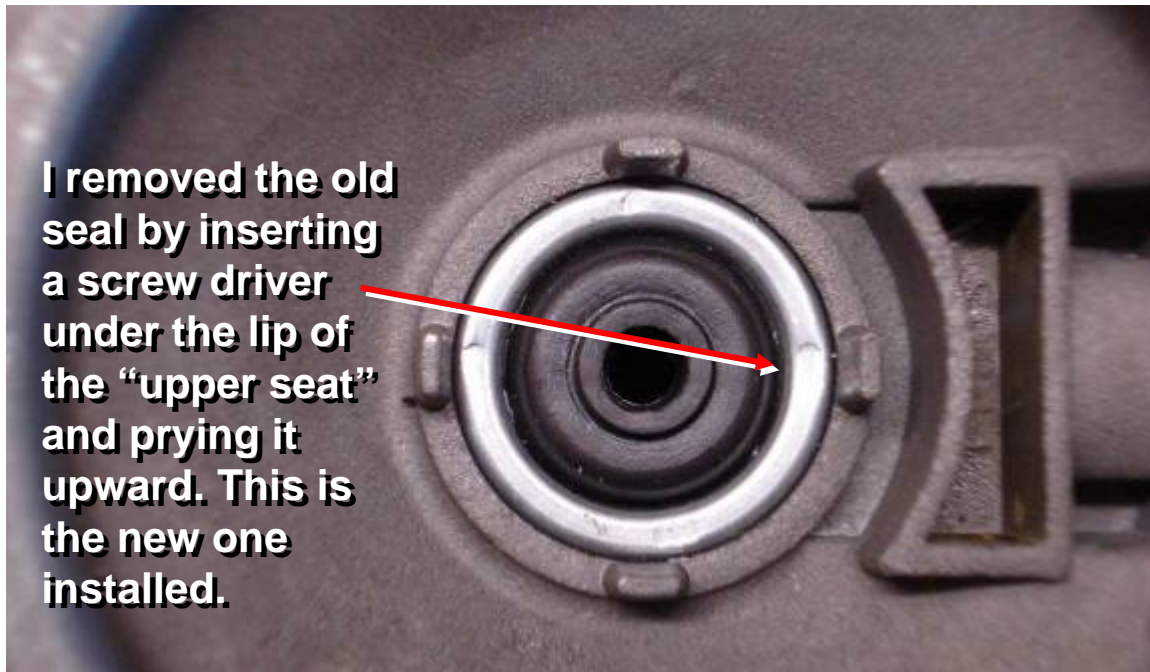
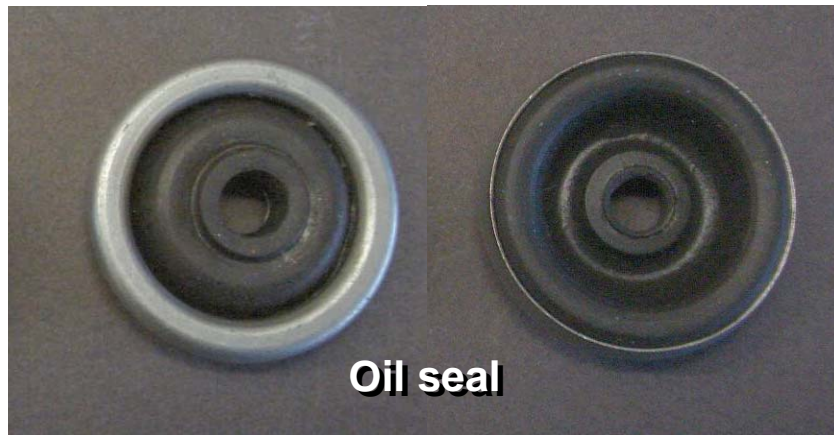
New valves installed in fuel cover

The service manual says to “stake” the valves in the fuel cover but these replacement valves seem plenty tight with an interference fit.



I used a piece of PVC pipe to compress the rocker arm return and diaphragm springs in order to hold the diaphragm in position while I tightened the screws in a crisscross pattern around the fuel cover. With the pulsator cover and diaphragm out of the way, it's fairly easy to watch the diaphragm while you tighten things down.





Oil seal in pump body

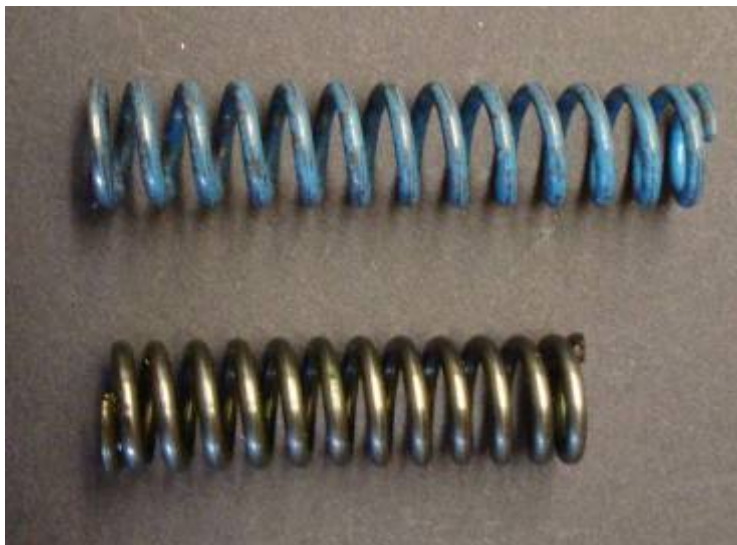
Comparison of old springs with the kit springs



New from kit

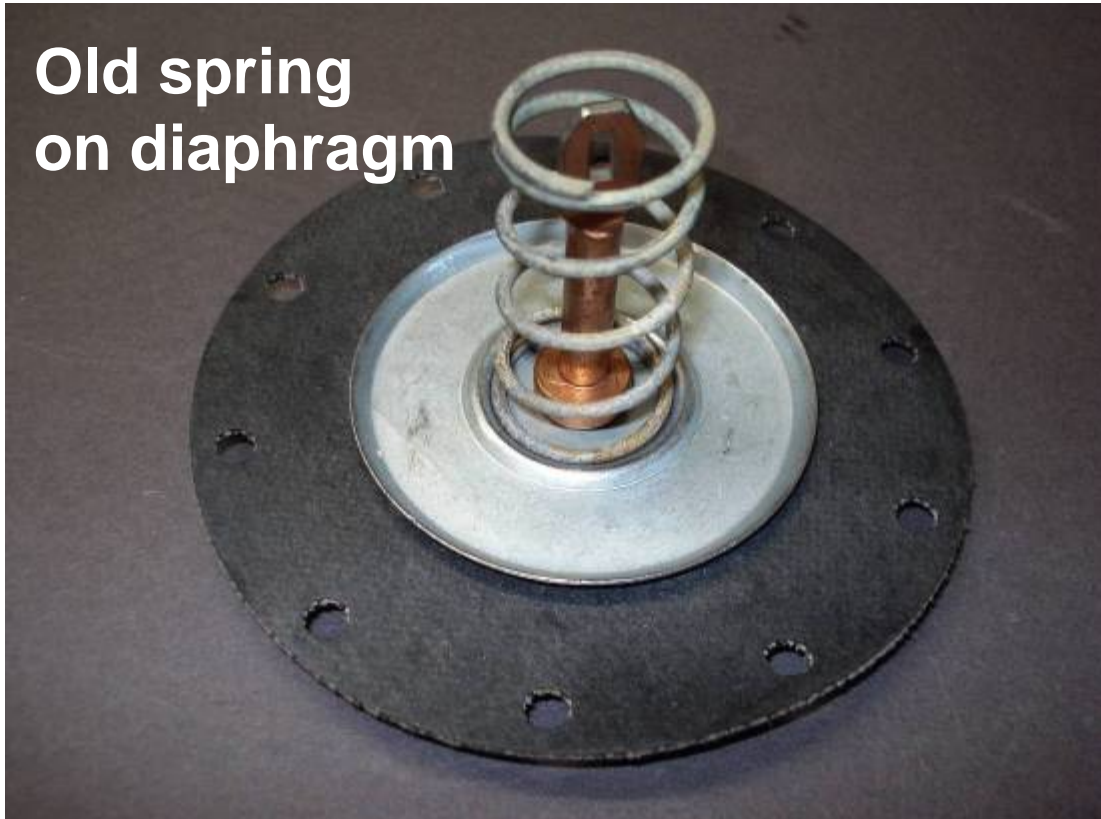
Old from pump

Old and new diaphragm springs. The one from the kit is a larger diameter with fewer coils. I used the new one.

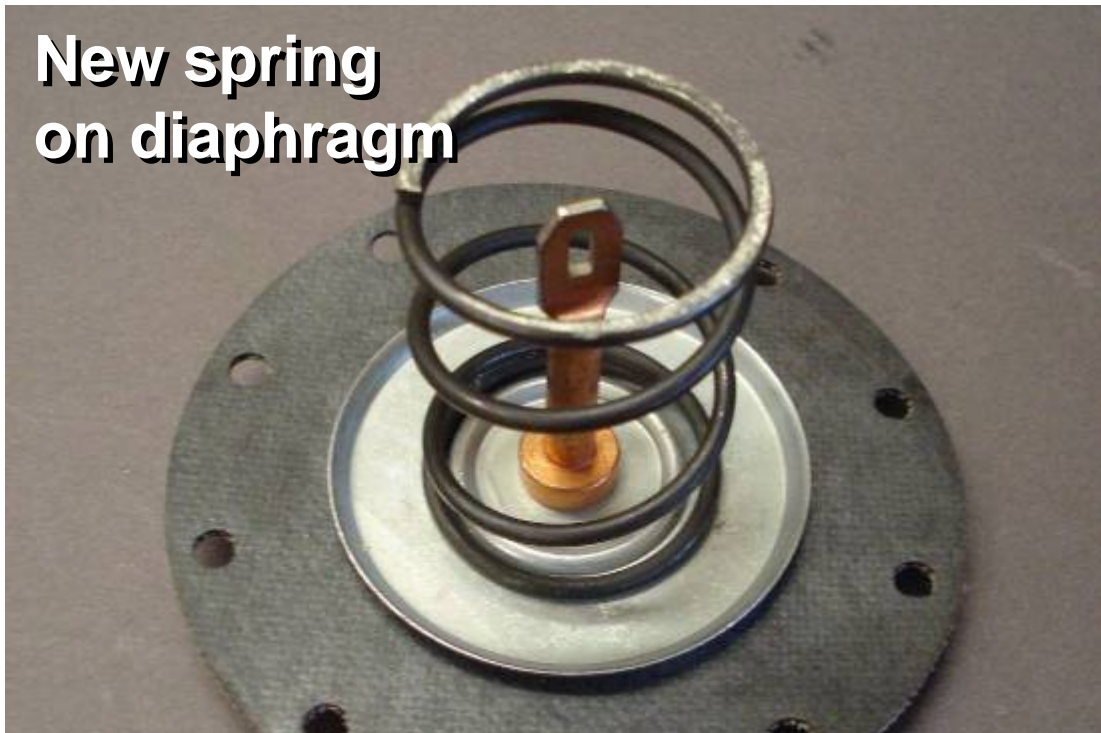


Rocker arm return springs. The spring from the kit (blue) is longer than the old one. I used the old one. These are about 3/8" diam.

**Old spring
on diaphragm**



**New spring
on diaphragm**



Note, when you reinstall the diaphragm into the pump body (the point at which you are trying to hook the diaphragm rod over the actuator arm hook, be sure that the holes in the diaphragm line up with the screw holes in the body flange. I missed that on the first install and had to detach it and rotate it 180°. I don't know if all kits would have this issue.