

**GENERAL:** The following steps are provided primarily to facilitate disassembly of the pump. As a general rule, the pump is reassembled by simply reversing the disassembly steps; installing new parts as indicated in the instructions.

Unlike their automotive cousins, fuel pumps in the Atomic 4 fleet typically have relatively few operating hours, and wear on the rocker arm pivot and link pins are minimal. Replacement of these pins can therefore be considered optional. Except as indicated in note 3 on page 3, sealer is not normally required during installation of this kit.

### SEPARATION OF THE TWO HALVES OF THE HOUSING

**Step 1)** Remove the 6 machine screws (fig. 1) holding the two halves of the diaphragm housing together. Note the orientation of the two halves, so that the inlet and outlet will be located in the same position after reassembly. It helps to file a small alignment notch at some point around the perimeter of the diaphragm housing.



### DISASSEMBLY OF THE LOWER HOUSING:

(The rocker arm chamber)

**Step 2)** Remove the 3 machine screws holding the spring and rocker arm cover in place (fig. 2). Note the location of the two coil springs below the cover, and lay the springs and end caps aside until reassembly (see misc. figures, #6 bottom page 3).



**Step 3)** Carefully remove the priming lever, by spreading its ends from around the stem of the diaphragm.

**Step 4)** Remove the small retaining clip from one end of the link pin which attaches the bottom of the diaphragm stem to the rocker arm link (fig. 3). A pointed tool (like an ice pick) is the best choice to use in removing this little clip, and care must be used to prevent the clip from flicking off and getting lost. We recommend removing only one clip so as to minimize the chances of losing one of them.



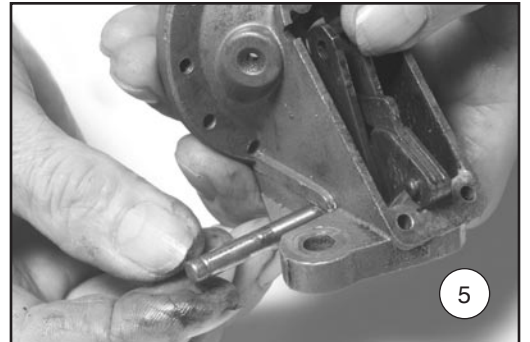
## MOYER MARINE MECHANICAL FUEL PUMP REPAIR KIT (CONT):

**Step 5)** With the priming lever removed, it's possible to hold the diaphragm in a downward position, which brings the link pin in the bottom of the diaphragm stem into view below the base of the housing. In this position, it's possible to slide the link pin in and out of the link without removing the second small clip (fig. 4).

**Note 1:** Replacement of rocker arm pins is quite difficult, and seldom necessary in Atomic 4 fuel pumps, so they are not included in our kits. If you must remove the rocker arm for some reason, their pins are held in place by two different methods. Some pins are held in place with a small snap ring at each end of the pin (fig 5), or by peening the end of the pin (as in fig 6).

**Step 6)** After cleaning and inspecting the lower housing as necessary, insert the new diaphragm through the housing, into the rocker arm link, and then install the link pin and small clip (fig. 4).

**Step 7)** Place the priming lever back in place, and install the springs and rocker arm cover, using the new gasket provided in the kit. The springs are interchangeable.



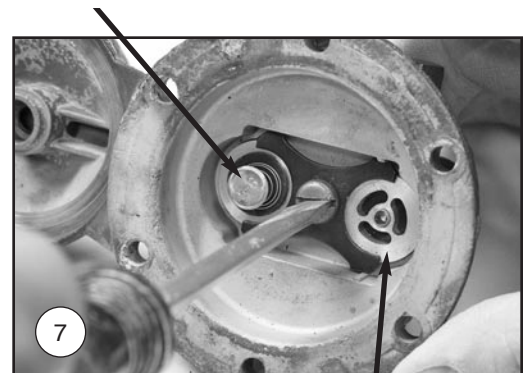
### PREPARATION OF THE UPPER HALF OF THE HOUSING: (The pump chamber)

**Step 8)** Remove the clip holding the two valves in place in the upper half of the housing (fig. 7); and after noting the orientation of the two valves, install the new valves making sure that the two thin ring gaskets are in place.

**NOTE 2:** The two valves are identical, but because they are installed in opposite directions, the valve nearest the sediment bowl functions as an inlet valve (install spring facing up), and the valve nearest the diaphragm as the outlet valve (install spring facing down). In normal operation, fuel is drawn in through the inlet valve as the diaphragm is lowered, and forced out through the outlet valve as the diaphragm spring returns the diaphragm to its upward position.



Inlet valve, install with spring facing up.



Outlet valve, install with spring facing down.

## MOYER MARINE MECHANICAL FUEL PUMP REPAIR KIT (CONT):

### FINAL ASSEMBLY:

**Step 9)** Reassemble the two halves of the pump, being careful to use the alignment mark so that the two halves of the housing end up being in the same orientation as before. Tighten all 6 machine screws securely.

**Step 10)** Hold the sediment bowl against the bottom of the housing without the gasket being in place. If you can rock the bowl back and forth on the bottom of the housing, it is an indication that previous over-tightening of the bale has created a downward bow in the housing, which will make the sediment bowl very difficult to seal. If this is the case, proceed to Step 11. If the sediment bowl seats squarely, proceed directly to Step 12.

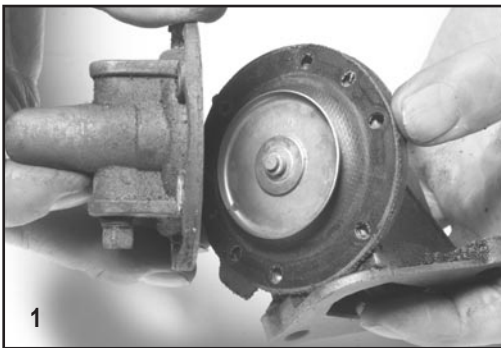
**Step 11)** Cut a round piece of sand paper with adhesive on one side (normally used on power sanding disks, and available from most local hardware stores) and secure it to the top of the sediment bowl. Press the bowl against the housing while rotating it back and forth in circular motions until the sand paper wears the housing flat.

**Step 12)** Reinstall the sediment bowl and bale, using the new cork gasket and brass screen provided in the kit.

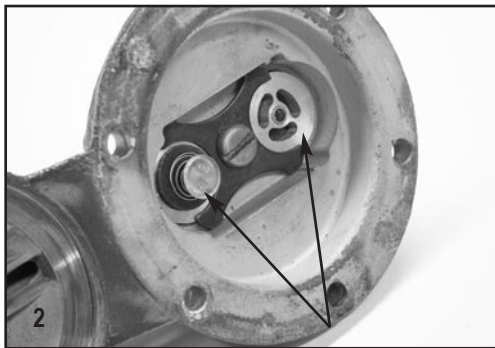
**NOTE 3:** It's critically important to not over-tighten the sediment bowl bale.

After reinstalling the pump, check carefully for fuel leaks. Use care to not over-tighten any of the fittings. The housing of the pump is made of rather soft zinc alloy, and the 1/8" pipe threaded holes can easily be enlarged to the point that fittings will be difficult to seal. We make careful use Permatex Aviation Brand sealer on any questionable fittings, rather than risk over-tightening.

### MISC. FIGURES



Separating the diaphragm housing



Full view of both valves, held in place with clip



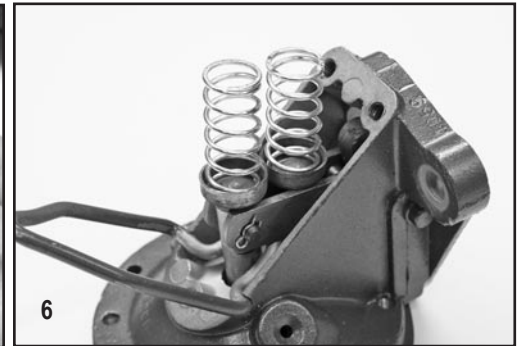
Close up of intake valve with gasket



With link pin removed, the diaphragm is pulled out



Diaphragm fully removed



Spring locations (springs are interchangeable)