



475-485 Diaphragm Pump Repair Kit (0610406-K)

Tools needed for the installation of parts:

6mm Allen head wrench	13mm socket or wrench
Flat head screwdriver	T-25 Torx screwdriver (optional)
11mm wrench or crescent wrench	Grease (Vaseline®)
Valve assembly removal tool (Figure 3) (#4400222-T)	Needle Nose Pliers

SAFETY PRECAUTIONS:

1. Always wear rubber gloves, safety goggles and appropriate protective clothing when repairing a sprayer.
2. Work in a well-ventilated area.
3. Prior to repair, thoroughly flush the sprayer with water. Next, fill the tank with water and pump the water through the sprayer. Discharge out of the wand into an appropriate container or area.
4. Ensure all pressure in the sprayer is released by locking the shut-off valve in the open position.

PROCEDURE: (SEE DIAGRAM ON NEXT PAGE FOR PART NUMBERS)

1. Remove the 13mm bolt (3) from the pump shaft (Figure 1). Remove the stop plate (17) and washer (4).
2. Remove the pump shaft (18).
3. Remove the black clamp (16) that holds the pressure cylinder (39) to the tank.
4. Push the pressure cylinder out of the bottom of the formula tank until the large O-ring (11) is visible.
5. Remove 9 of the 12 screws (64) from flange (61). Rotate the pressure cylinder 180° to remove the last 3 screws (64). This is most easily accomplished by gripping the top of the pressure cylinder through the top opening of the tank, gripping the outer pump assembly with the other hand and rotating the entire assembly. Remove the valve assembly (63) placing the open jaws of the needle nose pliers in opposite grooves in the valve assembly or with the optional special tool (figure 3).
6. Remove the diaphragm housing (60) and replace the O-ring (106) onto first groove (closest to the edge of the diaphragm housing) and lubricate with grease.
7. Re-insert the diaphragm housing into the pressure cylinder. The squared edges of the tab of the diaphragm housing (60) should be aligned with the notches on the pressure cylinder (39). (The tab should fit between the notches).
8. Locate the valve assembly (63). Replace and lubricate the O-ring (12). Replace the two valve plates (20). Tighten down valve assembly with the optional special tool the areas between the second and third hole in the valve assembly is aligned with the hose.
9. Place the diaphragm (66) between the lever (67) and the backing plate (65). The lever is positioned on the raised side of the diaphragm. Insert the screw through the base plate (65) and the diaphragm (66) and thread into the lever (67). Tighten with a screwdriver. Lubricate the backing plate side of the diaphragm with grease; Vaseline works well.
10. Place the lever/ diaphragm/ backing plate assembly into the diaphragm housing (60) with the lever (67) facing outwards. The hole in the lever should be parallel with the tab on the diaphragm housing. This alignment is necessary so that the wrist pin (68) and connecting rods (69 & 70) will attach correctly.
11. Place the flange (61) with the raised inner ring facing the diaphragm (66). Tighten the flange to the housing with the twelve T-25 Torx/slotted head screws (64) – see step 5 above. Tighten all screws equally.

12. Lubricate the O-ring at the base of the cylinder and push it back into the formula tank. The tab on the pressure cylinder should fit into the slot on the formula tank.
13. Secure the pressure cylinder to the formula tank by installing the black clamp (16) and tightening the bolt and nut.
14. Re-install the pump shaft (do not install the stop plate yet). Insert the wrist pin (68) into the hole on the lever (67). Fit the connecting brackets (69 & 70) into the pin.
15. Insert the 6mm Allen head bolts (72) into the connecting brackets (69 & 70) and tighten onto the pump shaft (18).
16. Re-install the stop plate (17), washer (4) and 13mm bolt (3).
17. Fill the formula tank with water only and make sure there are no leaks. Pressurize the sprayer to make sure there are no leaks and that all components are functioning properly. **DO NOT USE THE SPRAYER UNTIL ALL COMPONENTS ARE LEAK FREE AND FUNCTIONING PROPERLY.**

Hint: Vaseline® applied to O-rings will help in re-assembly

Figure 1

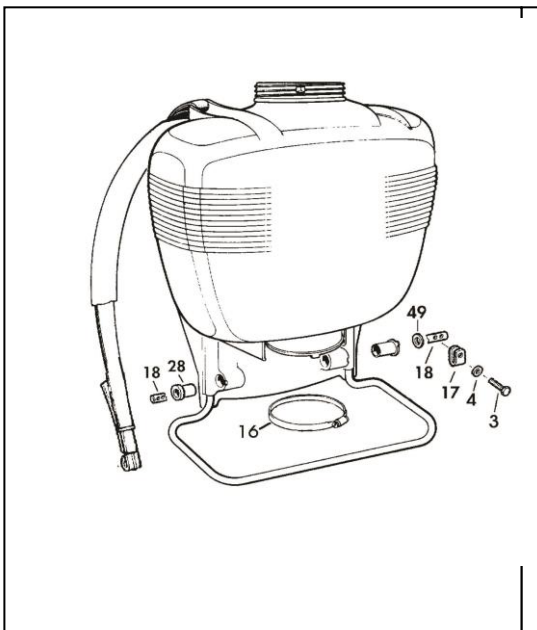


Figure 2

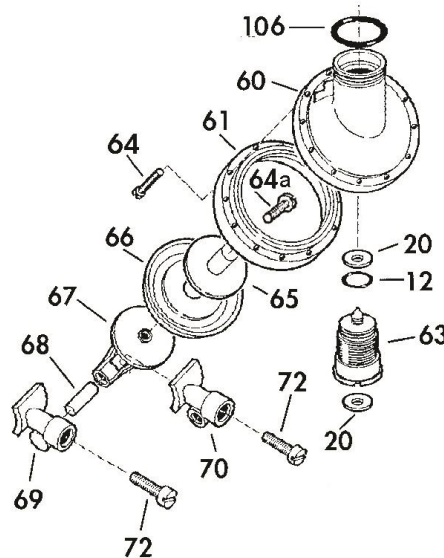
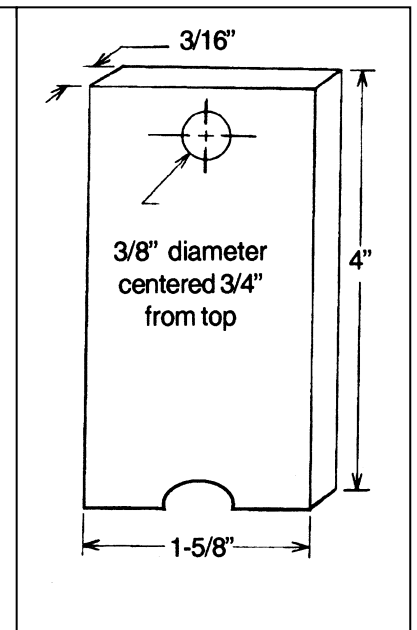


Figure 3



<u>Solo Number</u>	<u>Description</u>	<u>Reference Number</u>
0062139	O-Ring	12
0062324	O-Ring	13
4061257 x 2	Valve Plate	20
4074246	Diaphragm	66
0062291	O-Ring	11
0070260	Spring	25
4074350	Seal Plug	24
0062258	O-Ring	8
4074233	Lever	67
4073410	Flange	61
4035111	Pump Shaft	18