

## Fluid Section Repacking Kit

For 840i, 1140i, and 3411i airless sprayers

P/N 800-273

Form No. 313-1875A

### Servicing the Fluid Section

Use the following procedures to service the valves and repack the fluid section. Perform the following steps before performing any maintenance on the fluid section. For best results use all parts supplied in this kit.

- Loosen and remove the four front cover screws. Remove the front cover.
- Position the crankshaft/slider assembly at the bottom, dead-center of its stroke so that the connecting pin and retaining ring are visible below the slider assembly. This is done by turning the sprayer on and off in short bursts until the connecting pin is visible below the slider housing.
- Perform the "Pressure Relief Procedure" in the Owner's Manual and unplug the unit.

### WARNING

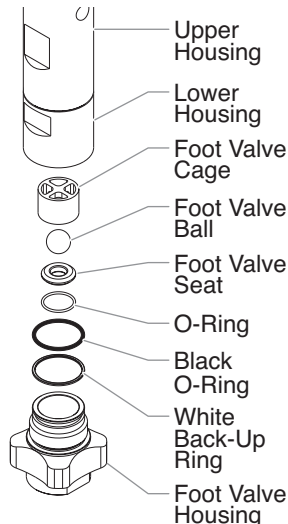
**Before proceeding, follow the Pressure Relief Procedure outlined in the Owner's Manual. Additionally, follow all other warnings to reduce the risk of an injection injury, injury from moving parts or electric shock. Always unplug the sprayer before servicing!**

- Remove the return hose from the clamp on the siphon tube.
- Unscrew the siphon tube/siphon set from the foot valve.
- Loosen and remove the high-pressure hose from the nipple on the back of the upper housing of the fluid section.

### Servicing the Valves

The design of the fluid section allows access to the foot valve and seat as well as the outlet valve and seat without completely disassembling the fluid section. It is possible that the valves may not seat properly because of debris stuck in the foot valve seat or outlet valve seat. Use the following instructions to clean the valves and reverse or replace the seats.

- Loosen and remove the foot valve housing from the lower housing.
- Clean out any debris in the foot valve housing and examine the housing and the foot valve seat. If the seat is damaged, reverse or replace the seat.
- Using two wrenches, hold the upper housing at the wrench flats with one wrench and loosen the lower housing with the other. Remove the lower housing.

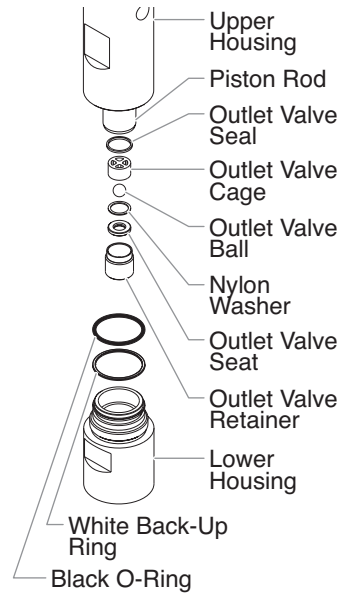


- Using a 3/8" hex wrench, loosen and remove the outlet valve retainer from the piston rod.

**NOTE: Always service the outlet valve with the piston rod attached to the pump. This will prevent the piston rod from rotating during disassembly of the outlet valve.**

- Clean out any debris and examine the retainer and outlet valve seat. If the seat is damaged, reverse or replace the seat.
- Remove, clean, and inspect the outlet valve cage and outlet valve ball. Replace if they are worn or damaged (the outlet valve cage is not included with this kit but can be ordered separately).
- Reassemble the valves by reversing the steps above. During reassembly of the outlet valve, use the new outlet valve ball, nylon washer, and outlet valve seal supplied with this kit. During reassembly of the foot valve, use the new o-ring and foot valve ball supplied with this kit.

**NOTE: During reassembly, make sure the new black o-rings and the new white back-up rings between the upper housing and lower housing as well as between the lower housing and the foot valve housing are lubricated with grease and in position.**



### Repacking the Fluid Section

- Remove the foot valve assembly and the lower housing using the steps in the "Servicing the Valves" procedure above.

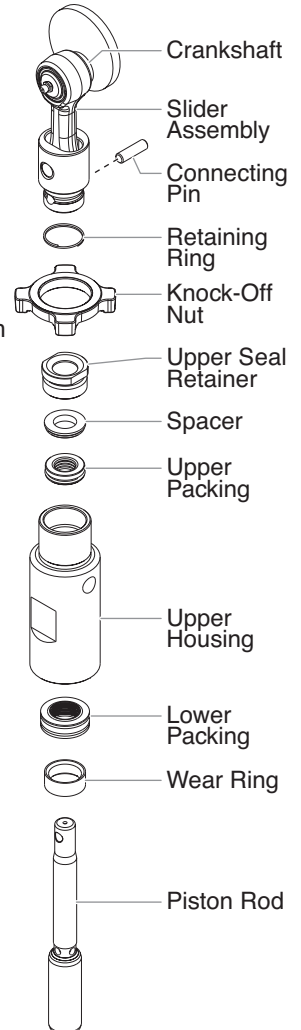
**NOTE: The outlet valve does not need to be disassembled from the piston rod for this procedure.**

- Slide the retaining ring up on the slider assembly to expose the connecting pin.
- Push the connecting pin back through the slider assembly and piston. The connecting pin will fall into a recessed area of the gear box housing where it can be retrieved.
- Tap the knock-off nut with a soft hammer so that it turns counterclockwise and loosens.
- Turn the fluid section counterclockwise to remove it from the gear box housing.
- Place the upper housing upright in a vise by clamping on the wrench flats.

**NOTE: Do not over-tighten the vise. Damage to the upper housing may occur.**

- Using a wrench, remove the upper seal retainer.
- Slide the piston rod out through the bottom of the upper housing.
- Inspect the piston rod for wear and replace if necessary.
- Remove the upper and lower packings from the upper housing.

**NOTE: Be careful not to scratch, score, or otherwise damage the upper housing during removal of the packings.**



11. Clean the upper housing. Inspect the upper housing for damage and replace if necessary.
12. Locate the new upper and lower packings and remove the pre-form tools. Save the upper packing pre-form tool for use as the piston insertion tool later in this procedure.
13. Pack the areas between the packing lips with grease. Lubricate the o-rings on the exterior of the packings with grease.

**NOTE: The factory-installed packings are black in color. The replacement packings in this kit are white.**

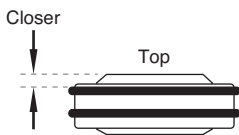
14. Insert the upper packing into the top of the upper housing with the raised lip on the packing facing down.
15. Insert the spacer on top of the upper packing.
16. Thread the upper seal retainer into the upper housing and torque to 25-30 ft. lbs.
17. Insert the lower packing partially into the bottom of the upper housing so that the side that has the o-ring closest to the face of the packing faces up.
18. Push the lower packing into position using the lower packing insertion tool (see Fluid Section Assembly parts list for lower packing insertion tool P/N).

Install upper packing with raised lip facing down.



Raised Lip

Install lower packing with the side that has the o-ring closest to the face of the packing facing up.



**NOTE: Coat the piston insertion tool (i.e., upper packing pre-form tool) and the piston rod with grease before inserting them into the pump block.**

19. Place the piston insertion tool over the top of the piston rod.
20. Insert the piston rod into the bottom of the upper housing, through the lower packing, through the upper packing, and out through the upper seal retainer.

**NOTE: When repacking the fluid section, make sure the raised lip on the bottom of the lower packing is fully outside the packing around the piston rod after insertion of the piston rod.**

21. Remove the piston insertion tool from the top of the piston rod.
22. Turn the knock-off nut counterclockwise until it is flush against the upper housing.
23. Lubricate the threads on the upper housing with anti-seize compound. Remove the upper housing from the vise.
24. Thread the upper housing into the gear box housing, turning clockwise. When the connecting pin hole on the piston rod lines up with the hole in the slider assembly, insert the connecting pin.
25. Slide the retaining ring down over the connecting pin.
26. Continue to turn the upper housing clockwise until the knock-off nut is flush against the gear box housing.

**NOTE: If the nipple on the upper housing does not face the back of the unit, turn the upper housing counterclockwise until the nipple faces the back of the unit. Do not turn the upper housing more than one full turn.**

27. Once the nipple is positioned, turn the knock-off nut clockwise until it contacts the gear box housing.
28. Tap the knock-off nut with a soft hammer to tighten it against the gear box housing.
29. Making sure that the new black o-ring and new white back-up ring are lubricated and in place, thread the lower housing into the upper housing. Using two wrenches, hold the upper housing at the wrench flats with one wrench and tighten the lower housing with the other.
30. Attach the high-pressure hose to the nipple on the back of the housing and tighten with a wrench. Do not kink the hose.

**NOTE: For low rider units, make sure the hose does not touch the cart frame. If it does, reposition the nipple by turning the upper housing until the hose is clear of the frame and the nipple is within 45° of the back of the unit.**

31. Making sure that the new black o-ring and new white back-up ring are lubricated and in place, reassemble the foot valve assembly and thread it into the lower housing. During reassembly of the foot valve, use the new o-ring and foot valve ball supplied with this kit. Tighten securely.
32. Thread the siphon tube/siphon set into the foot valve and tighten securely. Make sure to wrap the threads on the down tube/siphon hose adapter with Teflon tape before assembly.
33. Replace the return hose into the clamp on the siphon tube.
34. Place the front cover on the gearbox housing and secure in position using the four front cover screws.
35. Turn on the sprayer by following the procedure in the "Operation" section of the Owner's Manual and check for leaks.



**United States Sales & Service**

**1-800-526-5362  
Fax 1-800-528-4826**

556 Commerce Street  
Franklin Lakes, NJ 07417

www.titantool.com

**Canadian Branch**

**1-800-565-8665  
Fax 1-905-856-8496**

200 Trowers Road, Unit 7B  
Woodbridge, Ontario L4L 5Z8

**International**

**1-201-337-1240  
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556 Commerce Street  
Franklin Lakes, NJ 07417 USA