

Servicing the Fluid Section

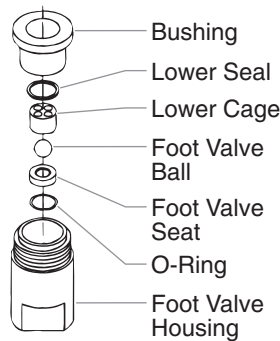
Use the following procedures to service the valves and repack the fluid section. Perform the following steps before performing any maintenance on the fluid section. For best results use all parts supplied in this kit.

- Loosen and remove the four front cover screws. Remove the front cover.
- Stop the sprayer at the bottom of its stroke so that the piston is in its lowest position. Turn off and unplug the sprayer.



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!

- Unscrew the return hose assembly from the pump block.
- Remove the retaining clip that holds the suction set in the foot valve. Pull the suction set out of the foot valve.
- Tilt the pump back for easy access to the fluid section.

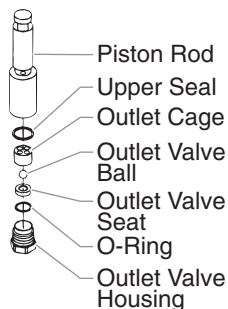


Servicing the Valves

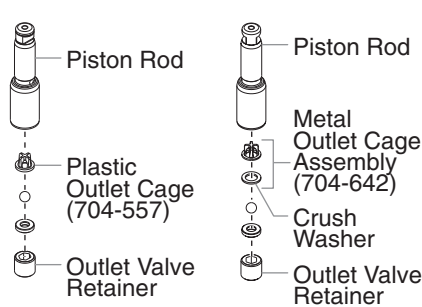
The design of Titan's fluid section allows access to the foot valve and seat as well as the outlet valve and seat without completely disassembling the fluid section. It is possible that the valves may not seat properly because of debris stuck in the foot valve seat or outlet valve seat. Use the following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

- Using a wrench, loosen and remove the foot valve housing from the pump block.
- Clean out any debris in the foot valve housing and examine the valve housing and seat. If the seat is damaged, reverse or replace the seat.
- Remove the outlet valve housing/retainer from the piston rod.
 - For sprayers built before 1/1/2005, use a 3/4" socket.
 - For sprayers built after 1/1/2005, use a 5/16" hex wrench.

Piston Rod Assembly before 1/1/2005.



Piston Rod Assemblies after 1/1/2005.



The piston rod used in sprayers built after 1/1/2005 is different than the one used in earlier sprayers. As a result, the internal parts are not interchangeable. Use the metal outlet cage and crush washer included in this kit to replace the plastic outlet cage. Refer to the above illustration for the configuration that matches your sprayer.

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 outlet valve housing/retainer and seat. If the seat is damaged, reverse or replace the seat.
- Remove, clean, and inspect the outlet cage, crush washer, and outlet valve ball. Replace if they are worn or damaged.

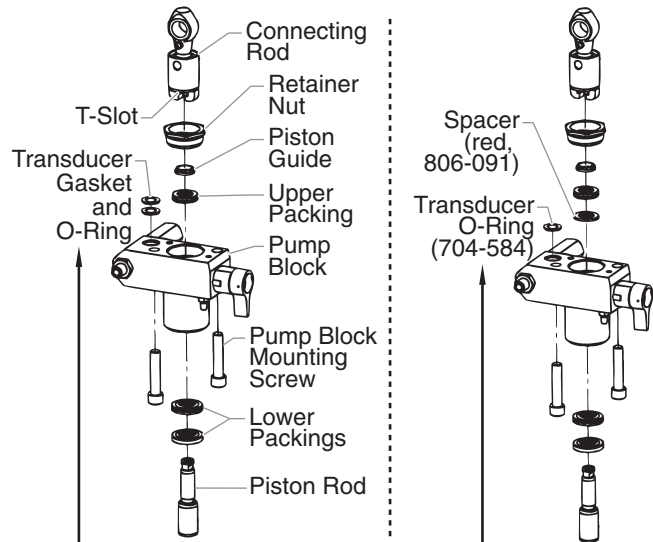
NOTE: For sprayers built after 1/1/2005, either the plastic outlet cage or the metal outlet cage and crush washer can be used. The metal outlet cage must always be used with the crush washer. The metal outlet cage and crush washer are included in this kit as assembly P/N 704-642.

- Reassemble the valves by reversing the steps above.

NOTE: For sprayers built after 1/1/2005, during reassembly of the outlet valve, apply one drop of Loctite (included in this kit) to the threads of the outlet valve retainer before threading it into the piston rod. Then, torque the retainer to 144 in./lbs. (12 ft./lbs.).

Repacking the Fluid Section

- Remove the foot valve and outlet valve assemblies using the steps in the "Servicing the Valves" procedure above.
- Using 3/8" a hex wrench, loosen and remove the two pump block mounting screws.
- Pull the pump block down approximately 1/2" from the pump housing.
- Slide the pump block and piston rod forward until the piston rod is out of the T-slot on the connecting rod.
- Slide the piston rod out through the bottom of the pump block.
- Loosen and remove the retainer nut and piston guide from the pump block.



A transducer gasket kit is included with this kit for use with "i" series pumps only.

For sprayers built after 1/1/2005, a single transducer o-ring is used with the new "screw-in" transducer. Also, a red spacer has been added underneath the upper packing (earlier sprayers do not need a spacer).

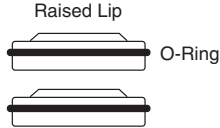
7. Remove the upper and lower packings from the pump block.
8. Clean the pump block and install the new upper and lower packings. For sprayers built after 1/1/2005, insert the spacer into the top of the pump block before installing the upper packings. Refer to the illustrations below for proper packing orientation.

NOTE: Coat the insides of the packings liberally with grease before installation.

Install upper packing with raised lip and O-ring facing down.



Install lower packings with raised lip and O-ring facing up.



9. Inspect the piston rod for wear and replace if necessary.
10. Reassemble the outlet valve assembly into the piston rod.
 - a. For sprayers built before 1/1/2005, tighten the outlet valve housing until secure.
 - b. For sprayers built after 1/1/2005, apply one drop of Loctite (included in this kit) to the threads of the outlet valve retainer before threading it into the piston rod. Then, torque the retainer to 144 in./lbs. (12 ft./lbs.)

NOTE: Use the T-slot on the connecting rod to hold the piston rod in position while securing the outlet valve housing.



Never use a wrench on the piston itself. This could cause damage to the piston and cause leakage.

11. Insert the piston guide into the retainer nut. Thread the retainer nut into the pump block until it is hand tight.
12. Slide the piston guide tool (included in the repacking kit) over the top of the piston rod and insert the piston rod through the bottom of the pump block. Using a rubber mallet, tap the bottom of the piston rod lightly until the piston rod is in position in the pump block.

NOTE: Coat the piston guide tool and the piston rod with grease before inserting them into the pump block.

13. Using a wrench, tighten the retainer nut securely.
14. Slide the top of the piston rod into the T-slot on the connecting rod.
15. Position the pump block underneath the pump housing and push up until it rests against the pump housing.



Make sure the transducer is aligned properly with the hole in the pump block during reassembly. Improper alignment may cause damage to the transducer gasket.

16. Thread the pump block mounting screws through the pump block and into the pump housing. Tighten securely.
17. Reassemble the foot valve assembly into the pump block.
18. Insert the elbow on the suction set into the bottom of the foot valve. Position the retaining clip into the foot valve to secure the suction set assembly.
19. Thread the return hose into the pump block and tighten securely.
20. Place the front cover on the pump housing and secure in position using the four front cover screws.
21. Turn on the sprayer by following the procedure in the "Operation" section of the Owner's Manual and check for leaks.



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