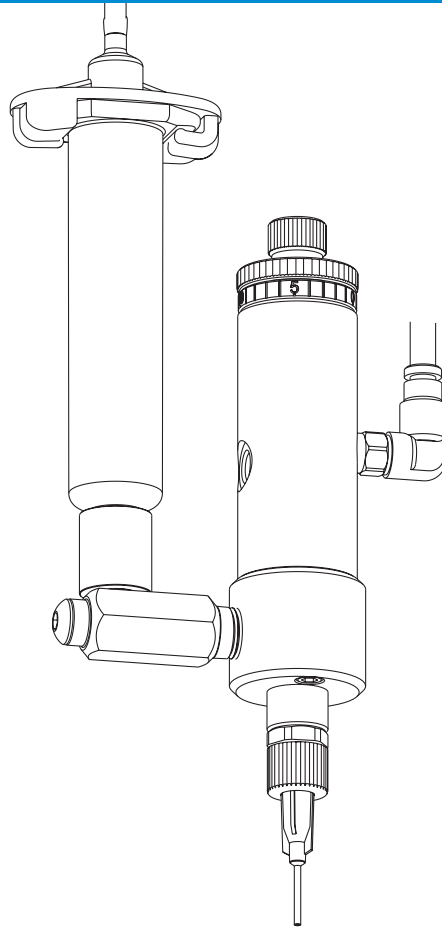


741MD-SS Needle Valve

Maintenance & Parts Guide



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Valve Disassembly and Reassembly Procedures

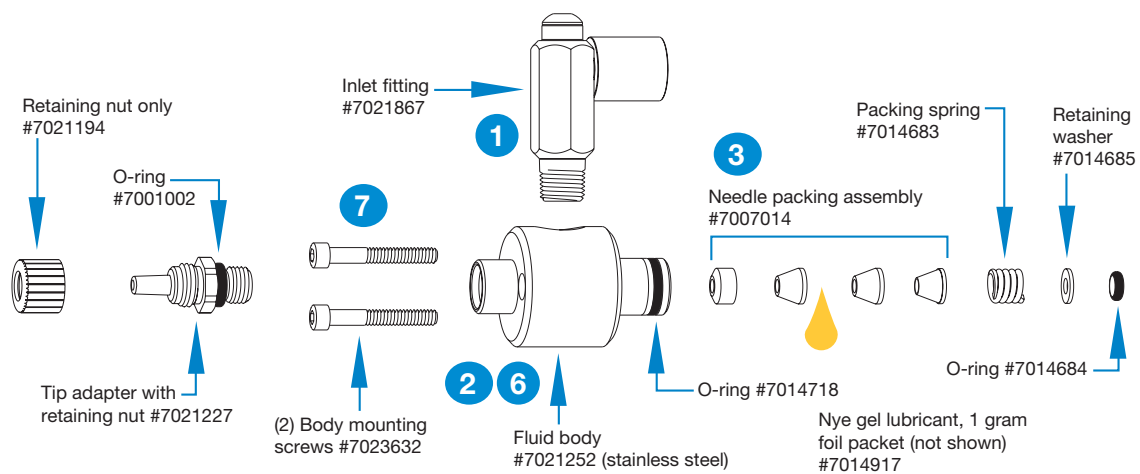
⚠ CAUTION

To prevent damage, the valve must be disassembled starting at the fluid outlet end of the valve.

Valve Maintenance

To thoroughly clean the fluid body and replace needle packings:

1. Remove the inlet fitting and tip adapter.
2. Remove the fluid body from the air cylinder body, then remove the O-ring.
3. Use tool #7021552 to remove the needle packings from the fluid body.
4. Remove any remaining packings and remove the spring from the needle.
5. Clean the needle with a cloth dampened in solvent and lubricate with the Nye Lubricant #865 gel included in the General Maintenance Kit. Lubricate and reinstall the needle packing assembly.
6. Install the new, lubricated O-ring on the fluid body. Then install the chamber in the air cylinder body.
7. Turn the fluid body to position the fluid inlet hole in the desired location. Install and tighten the fluid body mounting screws (2). Torque to 1.58 N•m (14 in-lb).
8. Reinstall the tip adapter / seat assembly.



Valve Disassembly and Reassembly Procedures (continued)

Replacing the Piston and Needle Assembly or Piston O-Ring

9. Remove the needle stroke control knob.
10. Remove the piston return spring and thrust washers.
11. Remove the snap ring.
12. With small pliers on the spring pilot, pull the piston-and-needle assembly out of the air cylinder body. The piston-and-needle assembly is one unit and cannot be disassembled.
13. Clean the air cylinder body wall and replace the piston O-ring. Lubricate with the Nye Lubricant #865 gel included in the General Maintenance Kit.
14. Reassemble the valve in the reverse order of disassembly.

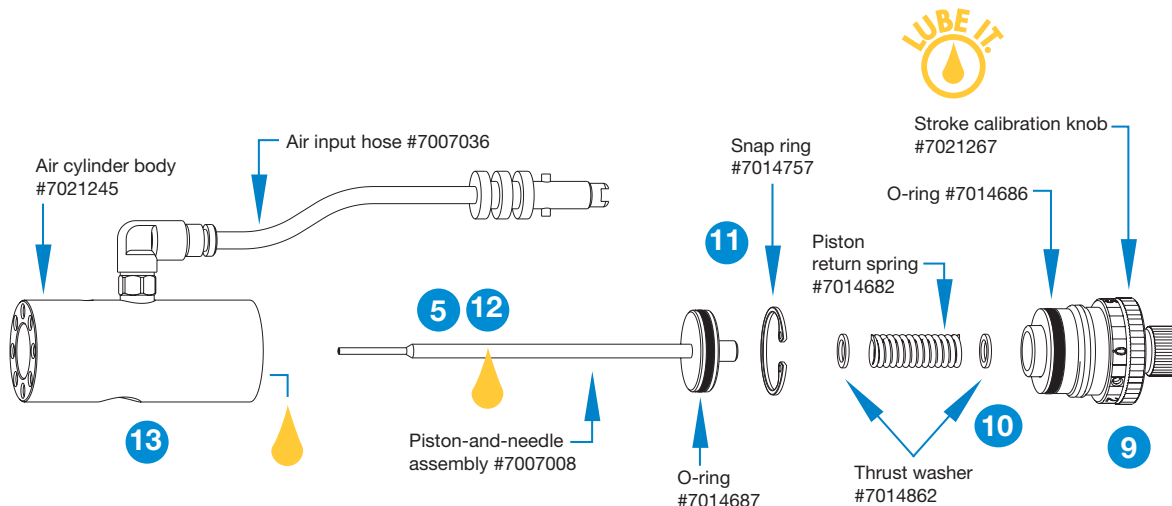
NOTE: Ensure that the lower cylinder needle O-ring is back in place before reinstalling the packing spring.

General Maintenance Kit #7007030

Includes all O-rings, needle packing set, and foil pack of Nye Lubricant #865 gel.

Maintenance Tools:

6" adjustable wrench
Snap-ring pliers
Packing extraction tool #7021552



Troubleshooting Guide

No fluid flow

- If the valve operating air pressure is too low, the valve will not open. Increase the air pressure to 4.8 bar (70 psi) minimum.
- The reservoir air pressure may not be high enough. Increase the pressure.
- The needle stroke adjustment may be closed. Open the stroke adjustment.
- Material may have clogged the fluid body or output tip adapter. Clean the valve.
- The dispensing tip retaining nut may not have been tightened enough to unseat the needle. Tighten the nut.

Steady Drip

- Remove the tip adapter / seat assembly. Clean and inspect the needle. Replace the dispensing tip.
- Make sure tip size is not larger than 22 gauge.

Fluid leaks out the drain hole

- Fluid leaking out the drain hole on the side of the valve indicates that the needle packings are worn. Replace the needle packings.

Inconsistent deposits

- Inconsistent deposits can result if the air pressure controlling the valve and / or supplying the reservoir is fluctuating or if the valve operating pressure is less than 4.8 bar (70 psi). Check to be sure air pressures are constant and that the valve operating pressure is 4.8 bar (70 psi).
- The time the valve is open must be constant. Check to be sure that the valve controller is providing a consistent output.

Calibration Feature

The stroke control reference ring of each 741MD-SS valve is factory calibrated to zero position. Slight internal variations in dispensing tips may require the stroke control to be recalibrated when tips are changed.

To do so:

1. Make a note of the current stroke setting number.
2. Turn the calibration knob (inner) counterclockwise one full turn.
3. Install the new dispensing tip and ensure that the retaining nut is tightened fully.

Calibration Feature (continued)

4. Turn the stroke adjustment knob (outer) clockwise until it stops at the zero position.
5. Turn the calibration knob clockwise until it stops. The stroke adjustment is now calibrated to zero.
6. Reset stroke to the required position noted in step 1.

In the event that the stroke reference ring must be repositioned or reset to the zero mark, use the following procedure:

- A. Remove the dispensing tip, if installed.
- B. Turn the small knob counterclockwise one full turn.
- C. Turn the large knob clockwise until it stops.

If the zero on the reference ring does not line-up with the index mark, continue with the following steps:

- D. Loosen the small set screw located on the reference ring.
- E. Rotate the reference ring until it aligns with the reference line on the air cylinder body.
- F. Tighten the small set screw to lock the reference ring into position.
- G. Install a dispensing tip and follow calibration procedure steps 3 to 5.



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