

Installation Sheet, Injection Pump Rebuild Kit

Discharge Valve Assembly

1. To disassemble the discharge valve, carefully remove the retainer clip (Item 7). Hold the assembly together so the valve does not come apart unexpectedly.

FIGURE 1. Discharge Valve Assembly

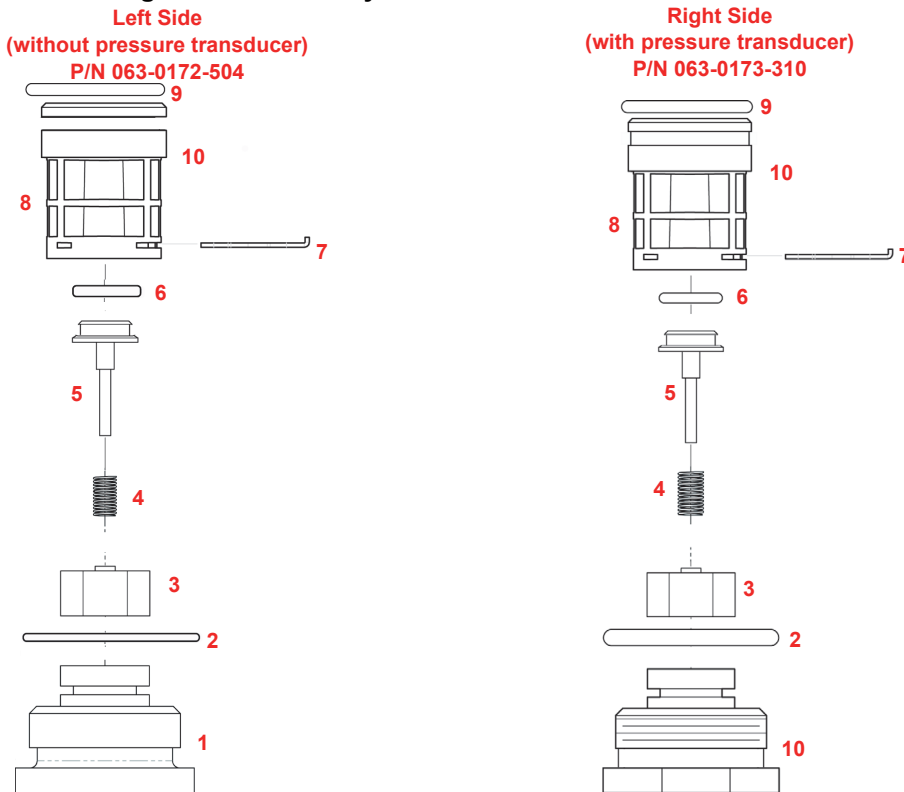


TABLE 1. Discharge Valve Assembly Parts

Item Number	Description	Raven Part Number
1	Fitting, Plug	107-0171-519
2	O-Ring	219-0002-912
3	Guide, Poppet	107-0159-934
4	Spring	314-0000-006
5	Poppet	107-0159-935
6	O-Ring (Viton)	219-0007-011
7	Clip, Retainer	107-0171-576
8	Valve Body, Discharge	106-0159-621
9	O-Ring (Viton)	219-0002-018
10	FTG Plug Pressure Transducer	107-0171-955

Intake Valve Assembly

FIGURE 2. Intake Valve Assembly

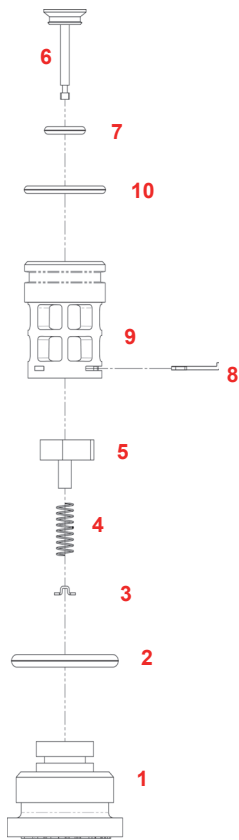
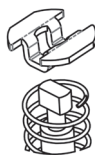
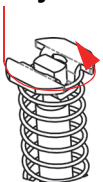


TABLE 2. Intake Valve Assembly parts

Item Number	Description	Raven Part Number
1	Fitting, Plug	107-0171-519
2	O-Ring	219-0002-912
3	Retainer, Intake	107-0171-459
4	Spring	314-0000-005
5	Guide, Poppet	107-0171-092
6	Stem, Poppet	107-0171-447
7	O-Ring (Viton)	209-0007-011
8	Clip, Retainer	107-0171-576
9	Valve Body Intake	106-0159-719
10	O-Ring (Viton)	219-0002-018

1. Remove the retainer clip (Item 8).
2. Remove the plug (Item 1).
3. Hold the poppet (Item 6) securely in the body (Item 9).
4. Depress the spring retainer (Item 3) and turn 90°.

FIGURE 3. Spring Retainer Disassembly

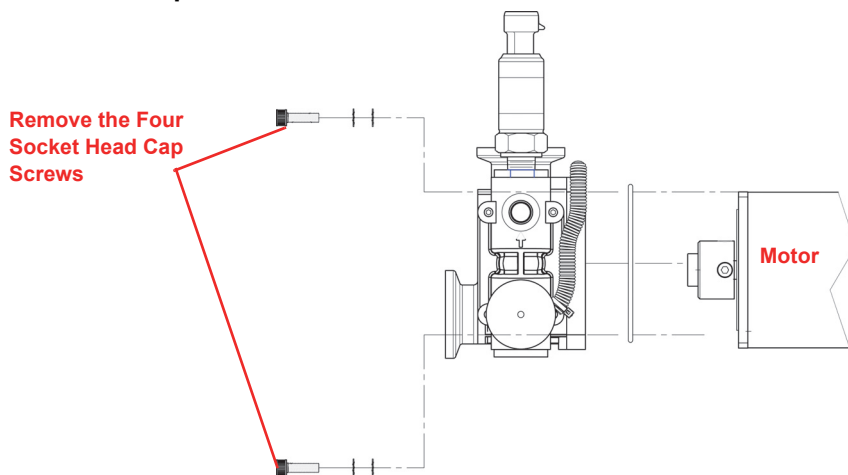


5. Carefully lift the spring retainer off the poppet.

Piston Seal Replacement

1. Empty any product from the injection module tank.
2. Flush the pump with water.
3. Disconnect the plumbing and wiring from the pump.
4. Remove the four socket head screws to separate the pump from the motor.
5. Remove the four socket head cap screws that secure each pump head to the pump.

FIGURE 4. Pump Head to Motor



6. Remove the pump heads.

Note: Ensure that the stainless steel ball does not fall out of the pump head.

7. Remove the two balls and magnet assembly from the pump.

FIGURE 5. Pump Assembly

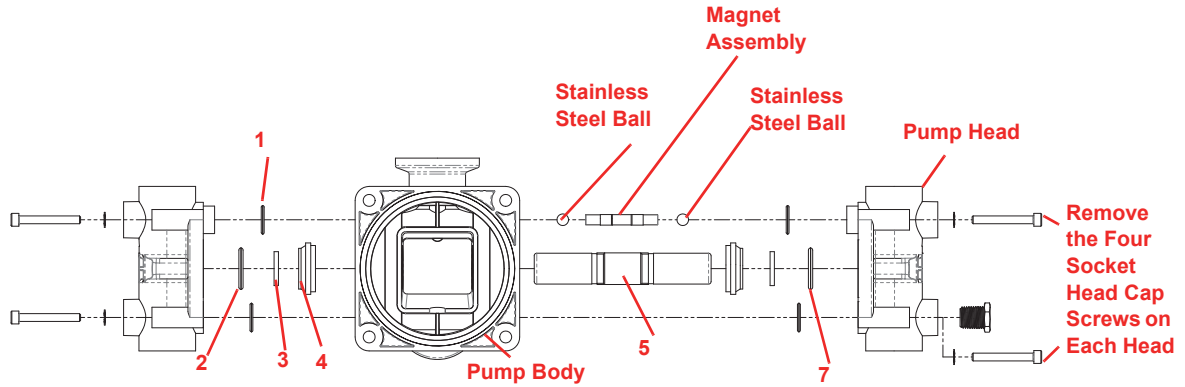


TABLE 3. Pump Assembly Components

Item Number	Description	Raven Part Number
1	O-Ring, Viton	219-0002-015
2	O-Ring, Compound 117965-80	219-0002-117
3	Seal, Slipper, 3/4"	219-0000-125
4	Bearing Piston	325-0000-018
5	Piston	107-0172-467

Note: Keep the slipper seal and o-rings in the pump head or the piston.

8. Replace the piston and piston bearings.
9. Lubricate the piston bearings with general purpose grease.
10. Install the slipper seal (Item 3) on the piston.
11. Apply general purpose to lubricant to all o-rings.
12. Place the lubricated o-ring (Item 2) over the slipper seal.
13. Install the o-rings (Item 1) in the head and pump body.

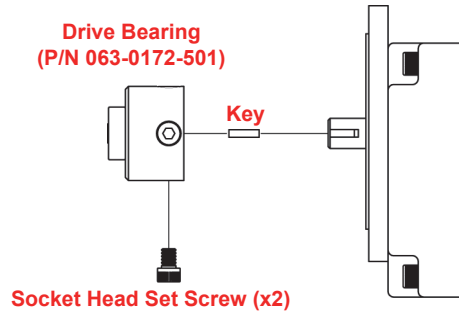
Note: If the o-rings fall out before the head is installed, apply more lubricant to the o-ring.

14. Install the head.
15. Install the stainless steel balls and magnet assembly, and spring.
16. Repeat Steps 10 - 15 for the other side of the pump.
17. Tighten the four head bolts to 17 in/lbs.

Replace Pump Drive Bearing Assembly

1. Remove the 2 1/4" - 20 socket head set screws from the drive bearing and retainer.

FIGURE 6. Drive Bearing Assembly

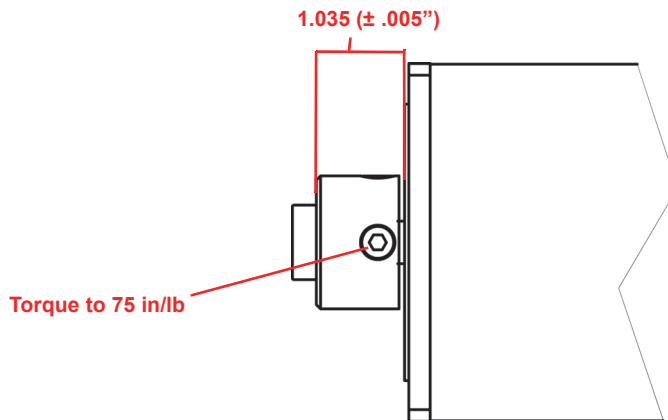


2. Pry the bearing assembly off the motor.

Note: Keep the 1/8" x 1/8" x 1/2" long key.

3. Replace the pump drive bearing. Use the key to secure the bearing in place.
4. Install two 1/4" - 20 socket head screws into the drive bearing assembly.
5. Space the drive bearing 1.035" ($\pm .005$ ") away from the motor face. Refer to FIGURE 7.

FIGURE 7. Installed Set Screws



6. Tighten the two 1/4" - 20 socket head set screws to 75 in/lbs.

Assemble Pump to Motor

1. Apply general purpose grease in the rectangular cavity in the piston where the drive bearing and piston meet.
2. Lubricate the o-ring (Item 7) with general purpose grease and place in the groove on the back side of the pump.
3. Install the pump onto the motor and drive bearing.
4. Secure the pump with the four socket head cap screws. Tighten the cap screws to 41 in/lbs.

FIGURE 8. Pump Assembly

