

Only qualified personnel should perform maintenance.



Be sure that system pressure has been VENTED prior to disassembly.

Assembly Instructions

Preparation

1. Prepare a clean surface for disassembly, free of dust, grease, grit, etc. A vise is not necessary, but helpful. Have rags, degreasing solvent and lubricant available.
2. All O-rings and gaskets are recommended to be replaced at a minimum. See the parts list for kit contents.
3. Special items include silicon grease and light machine oil.
4. Arrange O-rings in order of size. smallest to largest. Referring to the item number on the drawing (page 3) they are:

8, 7, 2, 6, 1, 4, 3, 5

Hydraulic Side

NOTE: Use grease on hydraulic side o-rings or parts when reassembling components. Do not apply grease to Air side components (see below).

1. Diaphragm Plate Assembly: start by placing lower diaphragm plate 13 on flat surface and then align diaphragm 11 with lower diaphragm plate. Place upper diaphragm plate 12 on diaphragm with countersink side facing up.
2. Install O-ring 7 on each flat head screw 27. Loosely install two screws at 12 and 6 o'clock to confirm alignment. Continue with remaining screws and tighten in cross-wise pattern until all are snugly tightened.



3. Hydraulic side bushing assembly: install o-ring 5 and two back-up rings 6 on piston 15, lubricating piston with silicon grease. Install o-ring 3 on bushing 16. Insert greased piston into bushing with hex head side facing up.
4. Top plate/body assembly: install bushing assembly into body 9. Position diaphragm plate assembly on body with flat head screws facing up. Place conical spring 14 on center with the narrow portion of the conical spring making contact with the diaphragm plate. Align the top plate with the diaphragm/body and install screws 25.

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Air Side

NOTE: Do not use any grease on air side o-rings or parts because clogging of the air ports will occur. Minimal use of light oil while installing o-rings may be used. All air side components must be cleaned of any and all debris.

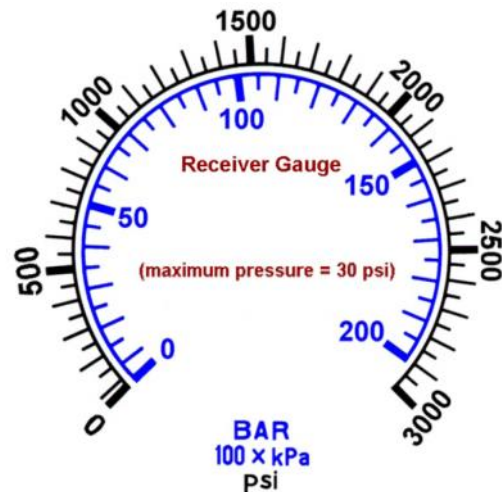
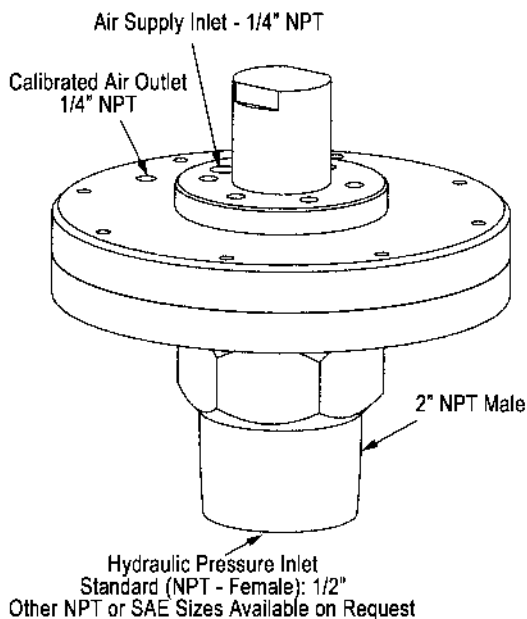
5. Air valve plug: Install one o-ring 1 on top groove of air valve body 20. Drop o-ring 7 into air valve body through the bore and make sure the o-ring sits flush on the bottom of the air valve body inside diameter. Insert the poppet 17 into the air valve body 20 with poppet o-ring groove protruding out of bottom of the air valve body. Insert coil spring 18 into the air valve body (make sure the poppet is centered inside the coil spring). Install o-ring 2 onto air valve plug 19 and install into air valve body. Hold the poppet to prevent it from receding when installing o-ring 8 onto poppet.

6. Air inlet flange assembly: Install o-ring 4 to bottom of the air inlet flange 22. Lightly oil the o-ring 1 on top groove of the air valve body 20 and with threaded side of air inlet flange facing up, install air valve body o-ring first. Turn air valve body until the bottom o-ring groove protrudes out of the bottom of the air inlet flange. Install the second o-ring 1 onto bottom groove of air valve body; oil lightly and back out carefully until air valve assembly sits flush with the air inlet flange.
7. Air Inlet to Top Plate Assembly: Place gasket 21 to align mounting holes of the flange to the top plate 10. Fasten all screws 26 snugly.

Adjustment Procedure

NOTE: Available hydraulic pressure should be 3000 psi and air supply 60 psi minimum. The scope of this procedure does not include configuration of the hydraulic power source, however proper controls and gauges are required to properly adjust the transmitter.

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1. Using Teflon tape wrap the threads of (2) 1/4" NPT air fittings, one to supply air pressure to the "air supply inlet" and the other for a receiver gauge to the "air outlet".

WARNING: a receiver gauge is a 1:100 false reading gauge (1 psi air = 100 psi on the gauge), displaying hydraulic pressure in terms of the air pressure on the outlet. This is not a high pressure gauge! *Do not exceed the maximum pressure shown on the gauge face.*

2. Use Teflon tape on a 1/2" NPT fitting for the hydraulic supply and install into the body.
3. Remove the jam nut 24 and adjustment cap 23 in order to access the air valve body 20.
4. Apply hydraulic pressure to transmitter and inspect for leaks. Air leaks can be heard, or use a soap solution to detect.
5. Adjust the air valve body to calibrate the transmitter such that the reading on the receiver gauge approximates the hydraulic supply pressure (-100 psi / +0 psi). Rotate the air valve body clockwise to increase air outlet pressure and counterclockwise to decrease. Never increase air outlet reading greater than the hydraulic supply.
6. When desired pressure reading has been attained on the air outlet gauges and no leaks have been detected, vent the hydraulic pressure and monitor the air receiver gauge to make sure it resets to zero quickly. If it takes longer than 1 second to reset to zero, the air valve body is threaded too far and must be backed out to reduce pressure; repeat steps 4 and 5.

When the transmitter has been successfully calibrated, install and tighten the jam nut and adjustment cap.

Troubleshooting

Receiver Gauge won't return to zero

1. Air valve body has been adjusted too far down.

Receiver Gauge won't track hydraulic pressure properly.

1. Receiver gauge and/or hydraulic gauge is defective.

Air Leaks: Any hissing, drop in pressure or rapid gauge needle movements are a clear indication that an air leak is present.

1. Dirt or debris is interfering with an o-ring seal and its seating surface.
2. Damaged O-rings.
3. Inadequate or uneven tightening of bolts on air inlet flange or body bolts.
4. 1/4" NPT fittings are threaded too deeply into the body or air inlet flange, which results in contacting the diaphragm plate.

Hydraulic Leaks: Weepage through the weep hole on the underside of the body will indicate a hydraulic leak.

1. Bushing o-ring 3 is damaged and has failed.
2. Piston o-ring 5 is damaged and has failed.

Technician Notes: