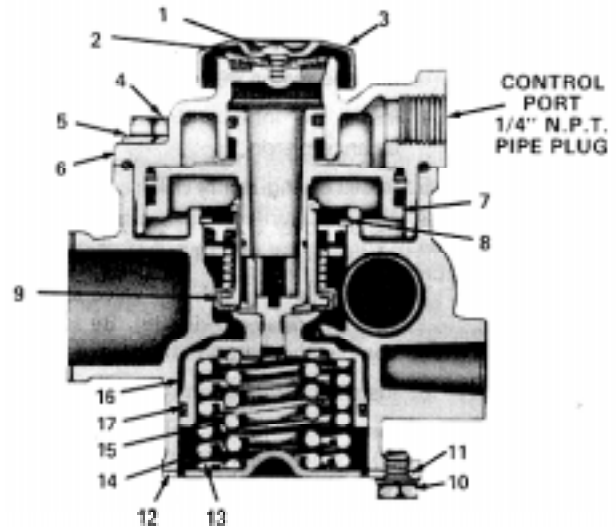
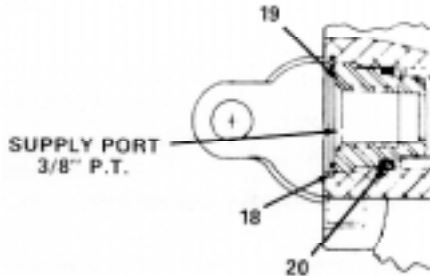




# Installation Instructions

KIT  
PC. No. 103836

## RV-4 PRESSURE REDUCING VALVE MAINTENANCE KIT



QUANTITY	DESCRIPTION	KEY
1	O-Ring	17
1	O-Ring	20
1	Exhaust Diaphragm	2
1	Inlet and Exhaust Valve Assy.	9
*1	Shim (.010")	13
*2	Shim (.004")	13
1	Tube of Lubricant	

\*NOTE: These parts included for adjusting pressure if necessary. Do not use unless required to meet operating pressure test.

Figure 1 This kit consists of the parts listed above.

### **IMPORTANT! PLEASE READ AND FOLLOW THESE INSTRUCTIONS TO AVOID PERSONAL INJURY OR DEATH:**

When working on or around a vehicle, the following general precautions should be observed at all times.

1. Park the vehicle on a level surface, apply the parking brakes, and always block the wheels.
2. Stop the engine when working around the vehicle.
3. If the vehicle is equipped with air brakes, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle.
4. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in manner that removes all electrical power from the vehicle.
5. When working in the engine compartment the engine should be shut off. Where circumstances require that the engine be in operation, **EXTREME CAUTION** should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated, or electrically charged components.

6. Never connect or disconnect a hose or line containing pressure; it may whip. Never remove a component or plug unless you are certain all system pressure has been depleted.
7. Never exceed recommended pressures and always wear safety glasses.
8. Do not attempt to install, remove, disassemble or assemble a component until you have read and thoroughly understand the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
9. Use only genuine Bendix replacement parts, components, and kits. Replacement hardware, tubing, hose, fittings, etc. should be of equivalent size, type, and strength as original equipment and be designed specifically for such applications and systems.
10. Components with stripped threads or damaged parts should be replaced rather than repaired. Repairs requiring machining or welding should not be attempted unless specifically approved and stated by the vehicle or component manufacturer.
11. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.

## REMOVAL

1. Park and hold the vehicle on a level surface by means other than air brakes.
2. Drain air pressure from all reservoirs.
3. **Identify** and mark all air lines and disconnect them from the valve.
4. Remove the mounting screws and remove the valve.

## DISASSEMBLY

1. Remove the exhaust cover screw (1), exhaust cover (3), and exhaust diaphragm (2). Discard exhaust diaphragm (2).
2. Remove the four cap screws (4) and washers (5), and remove the cover (6).
3. Remove control piston (7).
4. Remove and retain retaining ring (8).
5. Remove and discard inlet and exhaust valve assembly (9).
6. Remove the four cap screws (10), washers (11) and cover (12).
7. Remove and retain shims (13).
8. Remove and retain springs (14 and 15).
9. Remove balance piston.
10. Remove and discard O-Ring (17) from balance piston (16).
11. Remove and retain retainer (18).
12. Remove supply port adapter (19).
13. Remove and discard O-Ring (20).

**NOTE:** It is not necessary to remove the 1/4" N.P.T. pipe plug installed in the control port.

## ASSEMBLY

Prior to assembly, wash the metal components in mineral spirits and dry thoroughly. Lubricate all O-Ring grooves and valve body bores with the lubricant provided in this kit.

1. Install O-Ring (20) on the supply port adapter (19).
2. Install adapter (19) and secure by installing retaining ring (18). Make sure the retaining ring is completely seated in its groove.
3. Install O-Ring (17) on balance piston (16) and install the balance piston in the valve body.
4. Install the inner and outer springs (14 & 15) in the balance piston.
5. Install spring shims (13).
6. Install cover (12) and secure with the cap screws (10) and washers (11). Torque to 30-60 inch pounds.
7. Install inlet and exhaust valve assembly (9) and secure with the retaining ring (8). Be sure the retaining ring is completely seated in its groove.
8. Install control piston (7).
9. Install cover (6) on the valve and secure with cap screws (4) and washers (5). Torque to 80-120 inch pounds.
10. Install diaphragm (2), exhaust cover (3), and secure with screw (11). Torque screw to 20-30 inch pounds.

## INSTALLATION

1. Install the valve, securing with the mounting screws.
2. Reconnect all air lines according to the identification made during removal.
3. Build up air system pressure.
4. Perform Operating and Leakage Tests before putting vehicle into service.

## OPERATING AND LEAKAGE TESTS

### Operating

Connect an accurate test gauge in the supply and delivery lines of the RV-4. Make certain that supply air pressure is at the vehicle manufacturers recommended level. Delivery pressure should be within plus or minus 5 p.s.i. of the delivery pressure specified for the RV-4. If not, the valve should be repaired by adding or subtracting shims or replaced. If the valve meets this operating test, proceed to the leakage tests. Do not remove the gauges at this time.

### Leakage

With supply pressure at the level recommended by the vehicle manufacturer, apply a soap solution to the exhaust port. Leakage should not exceed a 1" diameter bubble in three seconds. Apply a soap solution around cover (12) and the valve body. Leakage should not exceed a 1" diameter bubble in three seconds. If leakage is excessive, the valve should be replaced and the operating and leakage tests performed at the time of replacement. This concludes the operation and leakage tests and test gauges should be removed.

