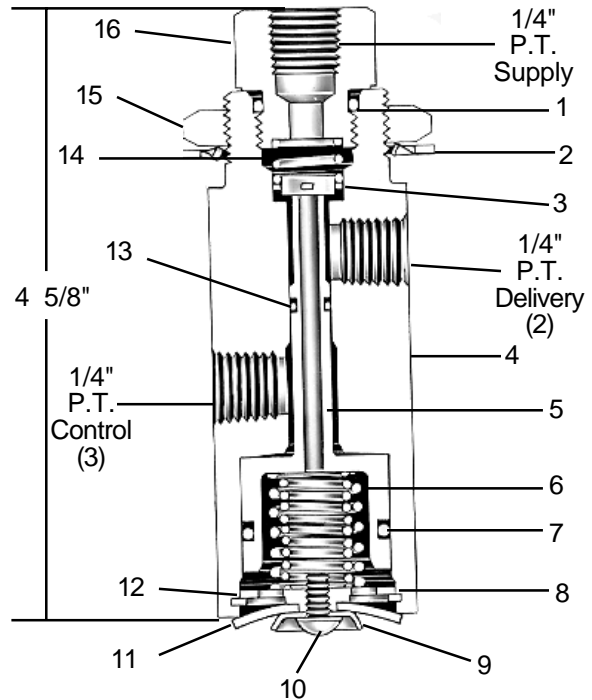




Installation Instructions

KIT
PC. No. 281138

FIELD MAINTENANCE KIT FOR TR-2 INVERSION VALVE



Qty.	Description	Key
1	Sealing Ring	1
1	Inlet and Exhaust Valve	3
1	Piston Spring Kit	6
1	O-Ring	7
1	Exhaust Diaphragm	11
1	O-Ring	13
1	Valve Spring	14
1	Tube of Lubricant	

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. Block and hold the vehicle on a level surface by means other than air brakes.
2. Drain the air pressure from all reservoirs.
3. Mark the air lines and their connections to the TR-2 valve and disconnect them.
4. Loosen and remove the mounting nut (15) and washer (2).

DISASSEMBLY

1. Remove the cap nut (16) and remove and discard the sealing ring (1).
2. Remove and discard valve spring (14) and inlet and exhaust valve (3).
3. Remove and retain the slotted screw (10) and washer (9).
4. Remove and discard exhaust diaphragm (11).
5. While applying pressure to the cover plate (12), remove retaining ring (8) and slowly allow the piston springs (6) to relax.

NOTE: Caution should be used in removing the retaining ring (8) since the piston springs (6) exert a force which must be relaxed.

6. Remove and retain cover plate (12) and remove and discard both piston springs (6).
7. Remove piston (5) from valve body (4).
8. Remove O-Rings (7 and 13) from piston (5).

ASSEMBLY

Prior to assembly, lubricate O-Rings and bearing surfaces with silicone lubricant, Bendix Pc. No. 291126.

1. Install sealing ring (1) on cap nut (16).
2. Install O-Rings (13 and 7) on piston (5).
3. Install inlet and exhaust valve (3) and spring (14) in valve body (4).
4. Install cap nut (16) in valve body (4) and torque to 75-175 inch pounds.
5. Install piston (5) in valve body (4).
6. Install the inner and outer piston springs (6) in the piston (5).
7. Install the flat side of cover plate (12) against the springs (6) and using thumb pressure push the cover plate into the valve body. See the cautionary note in Disassembly, Step 5.
8. Install retaining ring (8) making certain it is well seated in its groove in the valve body before releasing the thumb pressure.
9. Install diaphragm (11), washer (9), and secure with screw (10). Torque the screw to 15-25 inch pounds.

OPERATING AND LEAKAGE TESTS

It is recommended that the operating and leakage tests be performed prior to installation on the vehicle.

1. Connect a 120 PSI air source to the supply port and one of the three control ports. (The other control ports should be plugged.) An accurate test gauge should be tee'd into each air line and a means of controlling the air pressure provided. A small volume with a gauge should be connected to one of the two delivery ports. The other delivery port should be plugged.
2. With 120 PSI supply pressure and 0 PSI at the control port, the gauge at the delivery port should read 120 PSI also. Leakage at the exhaust port and at the control port should not exceed a 1 in. bubble in five seconds. No leakage is permitted around the cap nut (16).
3. Slowly increase air pressure to the control port. When the air pressure at the control port reaches 80 PSI, the air pressure at the delivery port should exhaust to 0 PSI. Leakage at the exhaust port should not exceed a 1 in. bubble in five seconds.
4. When air pressure is exhausted from the control port, 120 PSI should register on the gauge at the delivery port.

INSTALLATION

1. Mount the TR-2 using the lock washer (2) and mounting nut (15).
2. Connect the air lines to the proper parts of the TR-2 as marked during their removal.

