Installation Instructions

KIT
PC. No. 287691

FIELD MAINTENANCE KIT SR-2 TRAILER SPRING BRAKE VALVE

Qty.	Description	Key
2	O-Ring	1
1	O-Ring	2
1	Spring	3
1	Sealing Ring	4
1	Inlet Exhaust Valve	5
1	Inlet Exhaust Spring	6
1	O-Ring	7
1	Piston Assembly	8
1	Spring	9
2	Check Valve Assemblies	10
1	Diaphragm	11
1	Tube of Lubricant	

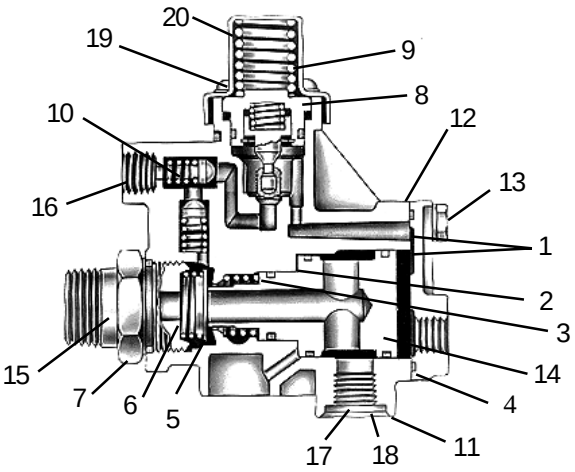

Figure 1

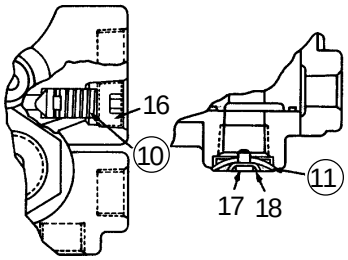

Figure 2 Figure 3

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 OF VALVE FROM VEHICLE

1. Block the vehicle wheels and drain all air system reservoirs completely.
2. Disconnect all supply, delivery, and exhaust lines at the trailer spring brake valve. NOTE: Mark all air lines and their relation to the spring brake valve for reconnection.
3. Remove the spring brake valve from the trailer spring brake reservoir.

DISASSEMBLY (FIGURE 1)

1. Remove the four round head machine screws (19) holding the spring retainer (20) to the body and remove the spring retainer. CAUTION: The spring retainer is spring loaded and should be removed carefully.
2. Remove and discard the spring (9) and the piston assembly (8).
3. Note and mark the position of the control piston cover (12) on the valve body. Remove the four 1/4" x 20 hex head cap screws (13) and cover. Discard the sealing ring (4).
4. Remove the control piston (14) and spring (3). Remove and discard O-rings (1 & 2) and spring (3).
5. Remove the reservoir fitting cap nut(15) and remove and discard O-ring (7), spring(6) and inlet exhaust valve (5).
6. Remove the two socket head pipe plugs (16) and remove and discard the two check valve spring assemblies (10). (See Figure 2)
7. If so equipped, remove the screw (17), washer (18) and discard the diaphragms (11). (Figure 3).

ASSEMBLY

NOTE: Prior to the assembly of new parts in valve, clean all internal parts and passages with a suitable solvent equivalent to mineral spirits. Grease all O-Rings, bores, pistons and internal parts with lubricant supplied in kit.

1. Install the two check valve assemblies (10) in their respective cavities and install the pipe plugs (16) and torque to 150-170 inch pounds. (17-19 N.M)
2. Insert the inlet exhaust valve (5) into the valve body, flat side adjacent to the inlet exhaust valve seat.
3. Position the inlet exhaust spring (6) on the inlet exhaust valve, install O-ring (7) on the reservoir fitting (15) and install the reservoir fitting. Torque to 200-300 inch pounds. (23-34 N.M)
4. Install the O-rings (two of (1) and one (2)) on the control piston (14).
5. Place spring (3) over the piston and install in body.
6. Place the sealing ring (4) in its groove in the cover (12). Assemble cover to body, as marked at disassembly. Torque the four cap screws (13) to 40-60 inch pounds. (4.5-6.7 N.M)
7. Install the piston assembly (8) into the body.
8. Install the spring (9) and cover (20) and torque screws (19) to 20-30 inch pounds. (2.2-3.4 N.M)
9. If so equipped, re-assemble new exhaust diaphragm (11) to the exhaust port with washer (18) and screw (17). Torque the screw to 15-25 inch pounds. (1.7-2.8 N.M)

INSTALLATION OF VALVE ON VEHICLE

1. Install the spring brake valve on the vehicle spring brake reservoir.
2. Reconnect the air line as identified during Disassembly, Step 2.
3. Perform the Service and Leakage Tests before placing vehicle in service.

SERVICE AND LEAKAGE TESTS

Check the tractor dash gauge against a test gauge known to be accurate prior to performing these tests. Connect the tractor air lines to the trailer on which the SR-2 Trailer Spring Brake Valve is to be tested. Block all wheels or otherwise hold both vehicles by a means other than air brakes during these tests.

1. Install two separate test gauges or one dual test gauge with one line to the service reservoir. Build the tractor and trailer to full system pressure by placing the trailer supply valve in the charge position and the parking control valve in the brakes released position.
   NOTE: As system pressure reaches approximately 55 psi (379 kPa), the service reservoir and the spring brake reservoir should begin to charge. When full system pressure has been obtained and the spring brakes are released, it is acceptable to have a slightly lower pressure reading in the service and spring brake reservoir than is registered on the dash gauge. Soap suds should be applied to the cap nut, exhaust port and vent to detect possible leakage. Leakage of a one inch (25.4 mm) soap bubble in not less than five seconds is permissible.
2. Place the trailer supply valve in the exhaust position; the spring brakes should be applied. Disconnect the trailer supply line and soap the hose coupling to check for leaks. A one inch (25.4 mm) soap bubble in not less than five seconds is permissible.
3. Reconnect supply hose coupling and push the trailer supply valve into the charge position. The spring brakes will release. Shut off the engine leaving the ignition on and open the drain cock on the trailer service reservoir. The tractor air system should bleed down to approximately 45 psi (310 kPa) with low pressure indication occurring at 60 psi (414 kPa). There should be no noticeable drop in pressure in the spring brake reservoir, and the trailer service reservoir test gauge should read zero psi. Allow one minute for the air pressure in the service reservoir to stabilize after obtaining a zero psi reading on the test gauge. The trailer spring brakes should remain released. Soap the trailer service reservoir drain cock and the exhaust port of the SR-2 checking for leaks. A one inch (25.4 mm) soap bubble in not less than three seconds is permissible.
4. Leaving the tractor air system pressure at approximately 45 psi (310 kPa), place the trailer supply valve in the exhaust position. After making sure the trailer spring brakes are applied, place the trailer supply valve in the charge position and the spring brakes should release. The trailer supply valve and possibly the parking control valve may have to be held in.
   Note: If the system functions as described, close the service reservoir drain cock as a final step in completing these tests.