Installation Instructions

KIT PC. Nos. 109015 & 109419

MAINTENANCE KIT FOR SR-5 TRAILER SPRING BRAKE VALVE

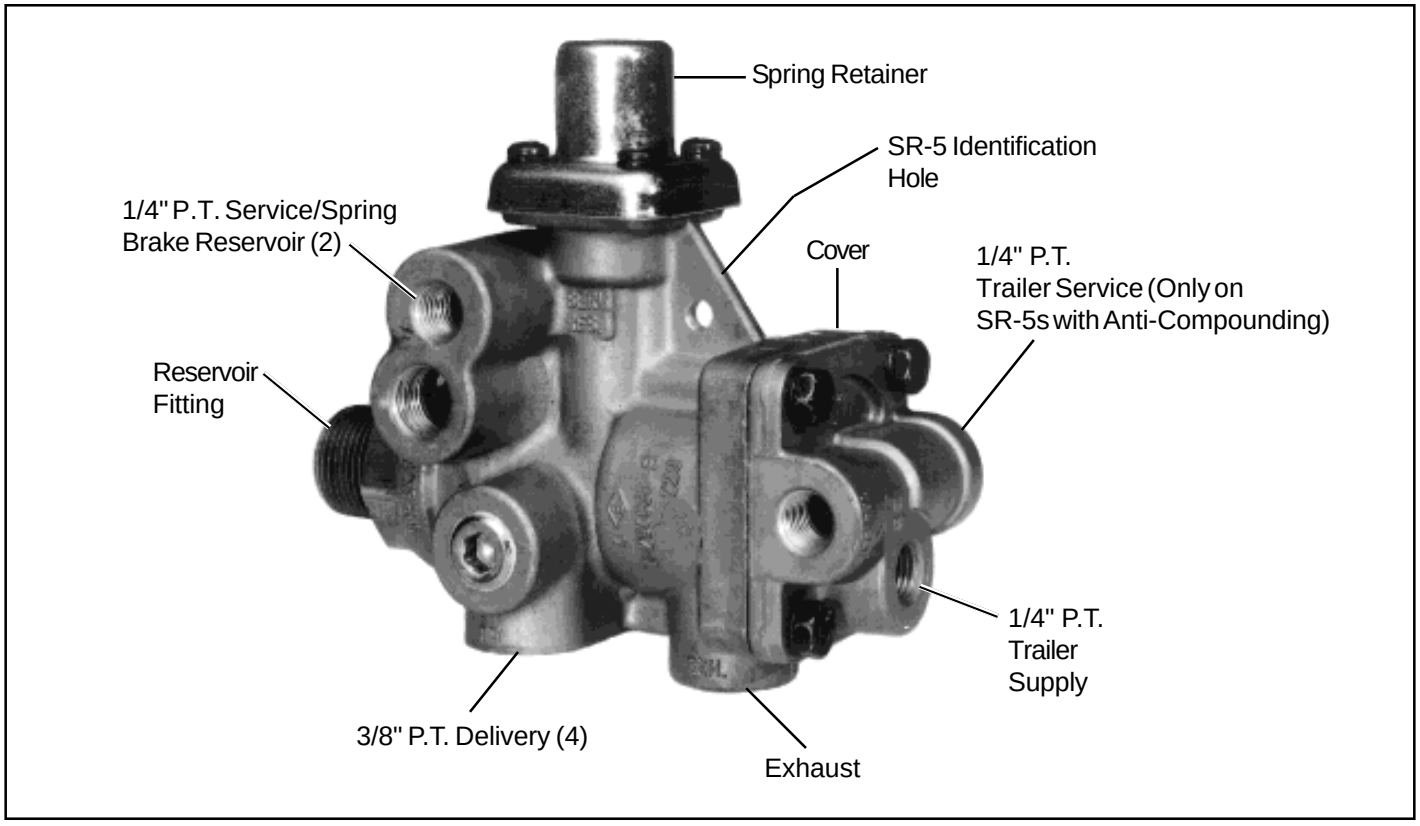


Figure 1 - SR-5 Exterior View

Key No.	Qty.	Description
1	1	Spring
2	1	Piston Assembly
3	1	Sealing Ring
4	2	O-Ring
5	1	O-Ring
6	1	Spring
7	1	Valve
8	1	Inlet / Exhaust Valve Spring
9	1	O-Ring
10	1	Check Valve Spring
11	1	Check Valve
12	3	Check Valve Assembly
13	1	Diaphragm

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.**

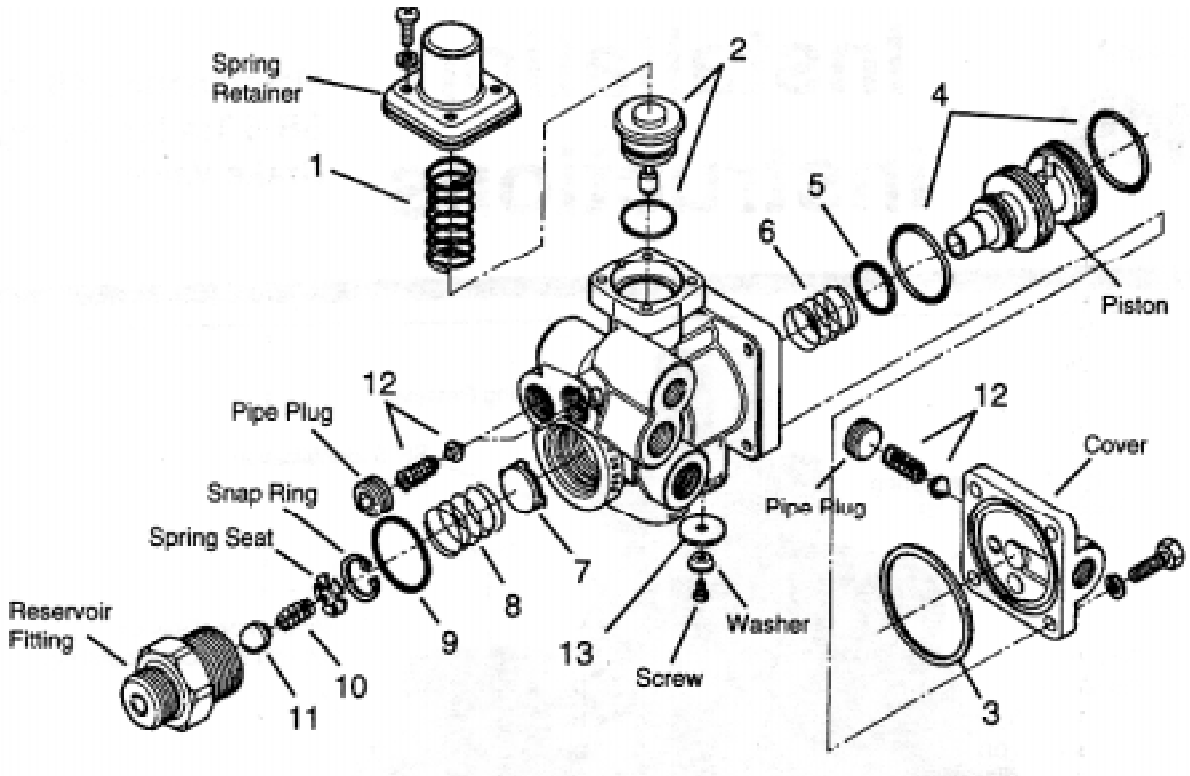
REMOVAL

1. Identify and mark or label all air lines and their connections on the SR-5. Then disconnect the air lines.
2. Remove the SR-5 from the reservoir.

DISASSEMBLY

Refer to Figure 2 throughout the procedure.

1. Remove four screws that secure spring retainer to the valve body. Note that the retainer is spring-loaded. Remove the screws while holding the retainer against its spring load. Then slowly remove the retainer.
2. Remove spring(1) and piston assembly(2).
3. Note and mark the position of the control piston cover. Then remove the four screws that secure the cover to the body.
4. Remove cover and sealing ring(3), control piston, and spring(6).



5. Remove O-rings(4 & 5) from the control piston.
6. Remove reservoir fitting and O-ring(9).
7. Remove spring(8) and inlet/exhaust valve(7).
8. Remove the pipe plugs that retain the three single check valves. Two check valves are in the body, and one is in the cover. Remove check valve assemblies(12).
9. With a pair of I.D. snap ring pliers, remove the snap ring in the end of the reservoir fitting check valve assembly. Remove spring seat, spring(10), and check valve(11).
10. Remove screw, washer, and diaphragm(13) from the exhaust port.

ASSEMBLY

Discard all components that have replacements in the kit. Before assembling the new parts in the SR-5, lubricate all O-rings, O-ring grooves, piston bores, and metal-to metal moving surfaces with Bendix silicone lubricant (Pc. No. 291126) or equivalent.

NOTE: When using pipe thread sealant during assembly and installation, take particular care to not allow the sealant into the valve itself. Apply the sealant beginning with the second thread back from the end.

1. Install the check valve assemblies(12) into their respective bores in the valve body. Install the pipe plugs. Torque the plugs to 140-170 inch pounds.
2. Place reservoir fitting upright, pipe threads down. Drop check valve(11) into place. Install check valve spring(10), spring seat and snap ring. Install O-ring(9) into fitting.
3. Install inlet/exhaust valve(7) into valve body. NOTE: The side with four protruding ears rests against the seat in the body.
4. Place spring(8) in position on the inlet/exhaust valve. The spring's inner diameter goes over the valve's outer diameter. Make sure the spring rests evenly on the four ears of the inlet/exhaust valve.
5. Properly align inlet/exhaust valve spring(8) in the recess at the end of the reservoir port fitting. Install the fitting into the valve body. Torque to 200-300 inch pounds.
6. Install O-rings(4 & 5) into their respective grooves in the control piston.
7. Drop and position spring(6) into the valve body.
8. Make sure all parts are properly aligned, and install the control piston into the valve body.
9. Install sealing ring(3) in the cover, and install cover onto valve body, using the identification made in DISASSEMBLY step 4. Torque screws to 40-60 inch pounds.
10. Install piston assembly(2) into the valve body.
11. Position spring(1) and the spring retainer on top of piston assembly(2), and secure with the spring retainer's four screws. Torque to 20-30 inch pounds.
12. Install diaphragm(13), washer and screw into the exhaust port. Torque screw to 15-25 inch pounds.

INSTALLATION

1. Install the SR-5 on the reservoir.
2. Reconnect all air lines to the valve using the identification made in REMOVAL step 1.
3. Perform OPERATIONAL AND LEAKAGE TESTS before placing the vehicle back in service.

OPERATIONAL AND LEAKAGE TESTS

Check the tractor dash gauge against a gauge known to be accurate before performing these tests. Connect the tractor air lines to the trailer on which the SR-5 is to be tested. Block all wheels or hold the vehicles by means other than air brakes.

1. Install a gauge in the trailer reservoir(s). Build tractor and trailer to full system pressure by placing the park control valve and the trailer air supply valve in the charge position. As system pressure reaches approximately 75-95 psi, the trailer spring brakes should also build up to approximately 75-95 psi–before the reservoir(s) begin to charge.
2. When full system pressure is reached, and the spring brakes are fully released, apply a soap solution to the SR-5 exhaust port and the vent. A one inch bubble in five seconds is permissible.
3. Place the trailer air supply valve in the exhaust position. The spring brakes should apply. Disconnect the trailer supply line and soap the hose coupling to check for leaks. A one inch bubble in five seconds is permissible.
4. Reconnect the trailer supply hose coupling and recharge the trailer system. The spring brakes should release. Shut off the engine. Open the trailer reservoir drain cock. The tractor air system should bleed down to approximately 70 psi. The trailer spring brakes should remain released. After the system is stabilized, leakage at the open drain cock should not exceed a one inch bubble in five seconds.
5. If the SR-5 does not function as described; or if leakage is excessive, repair the valve, or replace it at the nearest authorized Bendix parts outlet.