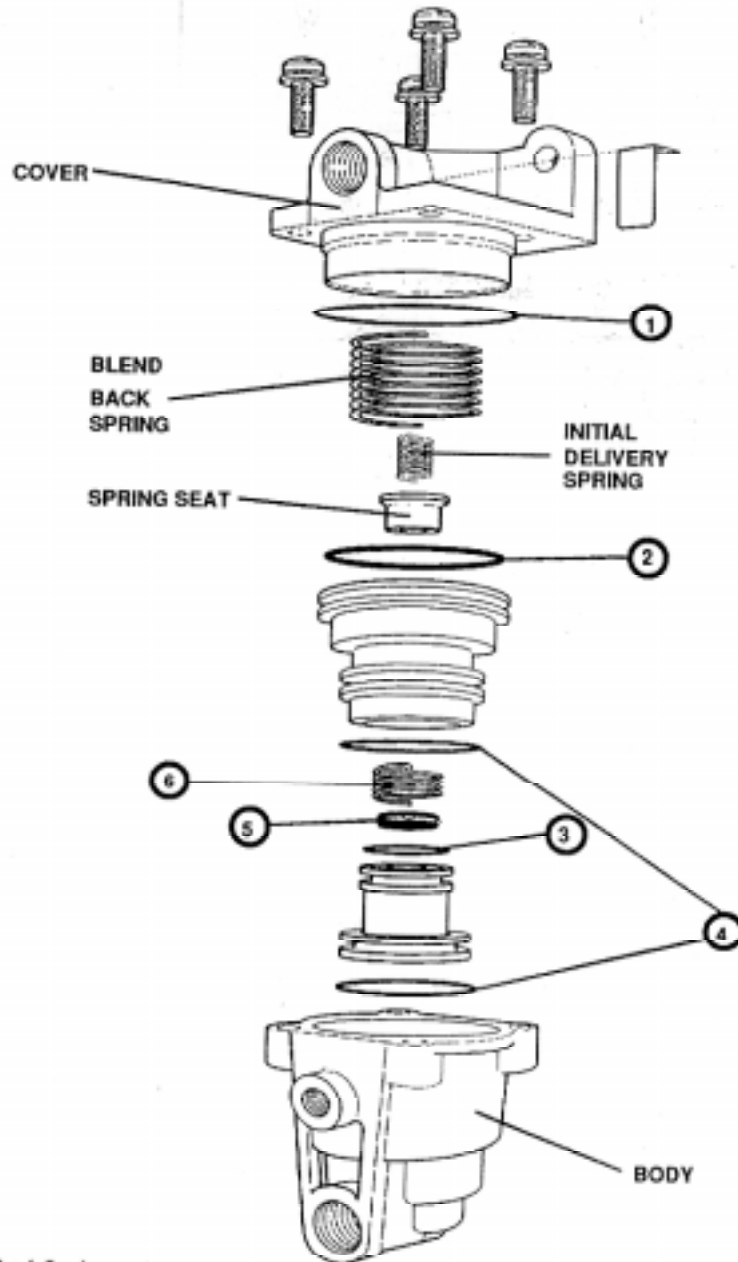




Installation Instructions

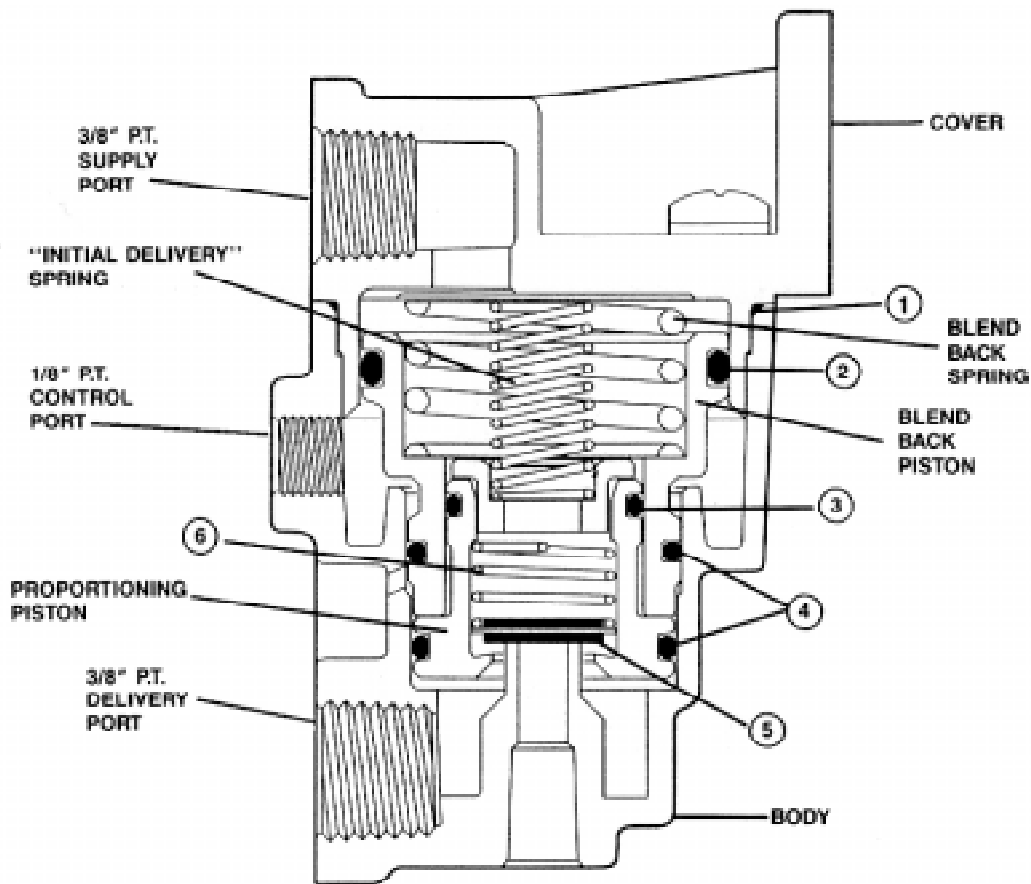
KIT PC. No.
107195

LQ-5 MAINTENANCE KIT



This kit contains the following parts:

KEY NO.	DESCRIPTION	QTY.
1	O-Ring	1
2	O-Ring	1
3	O-Ring	1
4	O-Ring	2
5	Inlet/Exhaust Valve	1
6	Valve Spring	1



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.

VEHICLE PREPARATION

1. Park vehicle on level surface and block the wheels and/or hold the vehicle by means other than the air brakes.
2. Drain air pressure from all vehicle reservoirs.

VALVE REMOVAL

1. Identify and mark or label all air lines and their connections on the valve. Disconnect all air lines.
2. Remove the valve from the vehicle.

PREPARATION FOR DISASSEMBLY

1. Remove all air fittings from the valve.
2. Mark the relationship of the valve cover to the body.

DISASSEMBLY

CAUTION: The valve may be lightly clamped in a bench vise during disassembly, but over-clamping will damage the valve, causing leakage and/or malfunction. If a vise is used, clamp around the supply port and the mounting surface.

1. Remove and retain the four Phillips head screws that secure the cover to the body.
2. Separate cover from body. Remove and discard o-ring(1).
3. Remove the blend back and proportioning pistons from the body.
4. Separate and retain the pistons. Remove and retain the spring seat from the proportioning piston.
5. With a pair of needle nose pliers, grasp the end of the valve spring(6) inside the proportioning piston. Remove the spring by pulling and turning clockwise. Discard the spring.
6. Remove and discard inlet/exhaust valve(5) from proportioning piston.
7. Remove and discard o-rings(2, 3 & 4) from the pistons.

CLEANING & INSPECTION

1. Clean all metal parts with mineral spirits or an equivalent solvent.
2. Thoroughly dry all metal parts.
3. Inspect interior and exterior of all reusable metal parts for severe corrosion, pitting or cracks. Superficial corrosion and/or pitting on the exterior of the body or cover is acceptable. Replace entire valve if interior of body or cover shows signs of corrosion or pitting.
4. Inspect body and cover bores for deep scuffing or gouges. Replace entire valve if either is found.
5. Make certain all air channels are clear and free of obstruction.
6. Inspect all pipe threads and make sure they are clean and free of thread sealant.
7. Inspect all air line fittings for corrosion and replace as necessary.

ASSEMBLY

1. Before assembly, lubricate o-rings, pistons and body and cover bores with the lubricant in the Bendix maintenance kit.
2. Install o-rings(3 & 4) on proportioning piston. Install o-rings (2 & 4) on blend back piston. Install o-ring(1) on cover.
3. Place inlet/exhaust valve(5) into the inner diameter of the proportioning piston and retain with valve spring(6). Use needle nose pliers to install the spring by grasping it on the bar that intersects its end and turning clockwise while pressing down. The bar must be away from (not touching) the valve.

Note: Make sure spring coils do not overlap each other as the spring compresses into the proportioning piston. Also, make sure the valve is square, contacts the seat and doesn't bind.

4. Insert the proportioning piston into the small bore of the blend back piston and install the assembly in the body.
5. Install spring seat into the piston assembly bore, small end first.
6. Install the "initial delivery" spring on the inner wall of the spring seat.
7. Install the blend back spring in the inner diameter of the blend back piston so that it surrounds the "initial delivery" spring.
8. Place cover on body in the proper position, as marked in PREPARATION FOR DISASSEMBLY, step 2. Make sure the springs are square when the cover is attached to the body.
9. Using the Phillips head screws, secure the cover to the body. Torque the screws to 50-80 inch pounds.
10. Install all air line fittings, making sure thread sealant does not enter the valve.

VALVE INSTALLATION

1. Install the assembled valve on the vehicle.
2. Reconnect all air lines to the valve using the identification made during VALVE REMOVAL, step 1.
3. Perform the OPERATION & LEAKAGE TESTS before placing the vehicle in service.

OPERATION & LEAKAGE TESTS

To properly test the LQ-5, use a pair of test gauges or gauges of known accuracy.

1. With the trailer supply valve pushed in (tractor-trailer mode), install two air gauges in the front axle service system: one between the brake valve and the LQ-5 and one at a front axle actuator.
2. Build system pressure to governor cut-out setting.
3. Make a service brake application with the foot valve and have someone observe the gauges. When the gauge between the foot valve and the LQ-5 reaches 40 psi, the actuator gauge should read approximately 20 psi (± 5 psi).
4. Make a full service brake application. Both gauges should read the same pressure.
5. With the trailer supply valve pulled out (bobtail mode), make a 30-40 psi service brake application. Both gauges should read the same pressure.
6. Remove the test gauges.

Leakage Test

1. Build system pressure to governor cutout. With the trailer supply valve pushed in (tractor-trailer mode), apply a soap solution to the LQ-5 exhaust port. The leakage should not exceed a one inch bubble in less than three (3) seconds.
2. Make and hold a full brake application and apply a soap solution to the exhaust port and around the valve where the cover joins the body. The leakage should not exceed a one inch bubble in less than one (1) second.