



# Installation Instructions

KIT  
PC. No. 278826

MAINTENANCE KIT FOR DIFFERENTIAL LOCK CYLINDER

QUANTITY	DESCRIPTION	KEY
1	O-Ring	6
1	Spring	11
3	*Shim Washer	7
3	*Shim Washer	7
3	*Shim Washer	7
1	Piston Bearing	12
1	O-Ring	13
1	O-Ring	14
1	O-Ring	14
3	Washer	17

\*Nine Shims of three different thicknesses are included in this kit.

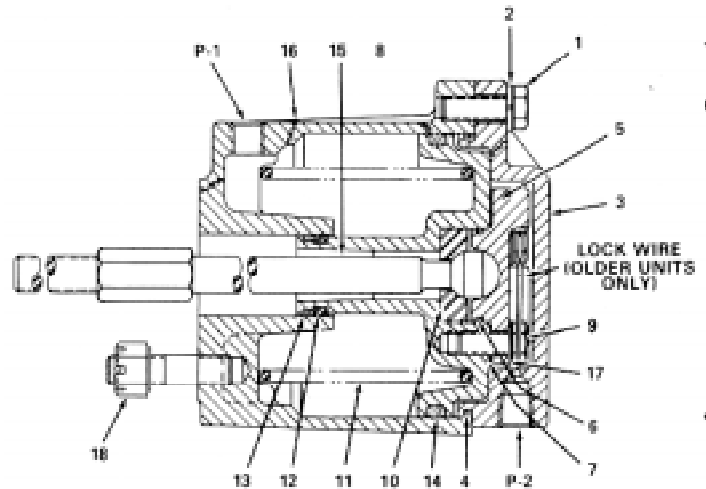


Figure 1 This kit consists of the parts listed above.

**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 vehicle by means other than air brakes. Drain air pressure from all reservoirs.
2. Remove the air lines.
3. Remove both castellated nuts (18).
4. Using a 5/8" open end wrench on the hexagon portion of the cylinder push rod (15), remove the push rod from the differential linkage.
5. Remove the cylinder.

## DISASSEMBLY

1. Note the cover (3) position relative to body (16). Remove the four cap screws (1) and lockwashers (2) and remove the cover (3).  
**NOTE:** Cover is spring loaded and should be held compressed during removal. Spring load is 18 pounds.
2. Remove and discard O-Ring (4) from cover.
3. Remove entire piston and rod assembly.
4. Remove and discard O-Ring (14), bearing (12), O-Ring (13), and spring (11).
5. Remove and discard the lock wire threaded through the heads of piston cap screws (9).  
**NOTE:** Newer models no longer use the lock wire.
6. Remove the three cap screws (9) and washers (17) from the piston (3). Discard washers (17).
7. Remove inner piston (3) from outer piston (8) and remove and discard O-Ring (6) and shims (7).
8. Remove push rod (15) and rod keeper (10) from outer piston (8).

## ASSEMBLY

Prior to assembly, wash all parts in mineral spirits or its equivalent and dry thoroughly. Lubricate all O-Ring grooves and bores with a barium-base grease, such as Bendix part 240176 or 246671.

1. Install O-Ring (13), bearing (12) and O-Ring (14) on outer piston (8).
2. Install rod keeper (10) on push rod (15) and install both in outer piston (8).
3. Install O-Ring (6) on inner piston (5).
4. Pack the push rod bell socket of piston (5) and rod keeper (10) with a good grade chassis lube.
5. Install the necessary shims (7) to obtain a tight fit between the push rod ball and its socket in piston (5). The push rod must swivel freely.
6. Apply Loctite to the threads of piston cap screws (9).
7. Install inner piston (5) in outer piston (8) and secure, using cap screws (9) and washers (17). Torque cap screws to 460 inch pounds.  
**NOTE:** Lockwire will not be used because of Loctite.
8. Install spring (11) in body (16).
9. Install piston and push rod assembly in body (16).
10. Install O-Ring (4) on cover (3).
11. Install cover (3) on body (16), noting relative position marked during disassembly.
12. Secure cover to body with cap screws (1) and lockwashers (2). Torque to 180-220 inch pounds.

## INSTALLATION

1. Install the push rod (15) on the vehicle differential linkage, using a 5/8" open end wrench.
2. Install both castellated nuts (18) on the cylinder mounting.
3. Install the air lines.
4. Perform the "Operating and Leakage Tests" before placing vehicle in service.

## OPERATIONAL AND LEAKAGE TESTS

1. Build air system pressure to governor cut-out.
2. Operate the differential lock out cylinder at least three times and determine proper operation on the vehicle differential.
3. Apply 120 psi to inlet port P1 and apply a soap solution to inlet port P2 and around the push rod. Combined leakage at both locations should not exceed a 1" bubble in five seconds. Remove air pressure from port P1.
4. Apply 120 psi to inlet port P2 and apply a soap solution to inlet port P1 and around the push rod. Combined leakage at both locations should not exceed a 1" bubble in five seconds. Remove the air pressure from inlet port P2 and note the push rod returns to zero stroke unassisted.