



Installation Instructions

KIT
PC. No. 229426 &
289322

E-1 BRAKE VALVE MAINTENANCE KITS

MINOR KIT - 229426

Qty.	Description	Key No.
1	O-Ring(2.380" O.D.)	1
1	O-Ring(1.00" O.D.)	2
1	O-Ring(1.375" O.D.)	3
1	Boot	4
1	Inlet / Exhaust Valve Assm.	5
1	Lubrication (BW-650M)	

MAJOR KIT - 289322

Qty.	Description	Key No.
1	MInitor Kit	
1	Inlet Nut	6
1	Piston Return Spring	7
1	Piston and Spring Assm.	8
1	Self-tapping Screws	9
1	Filter Screen (Exhaust)	10
1	Inlet Valve Guide	11

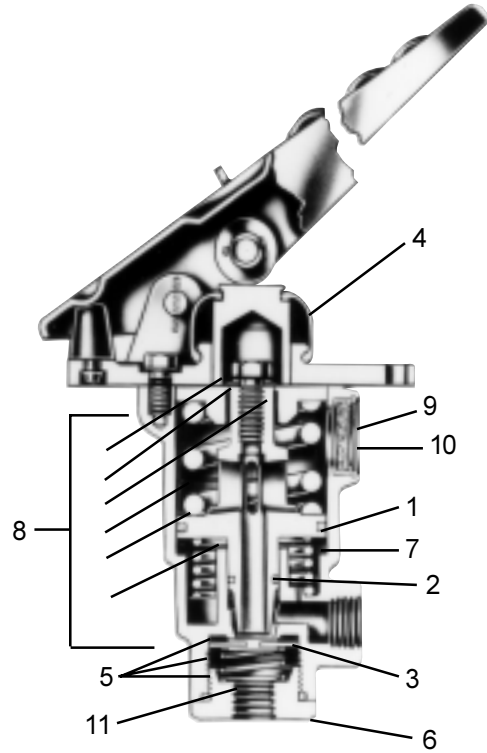


Figure 1 This kit consists of the parts listed above.

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 vehicle by means other than air brakes and exhaust air pressure from reservoirs.
2. Disconnect air lines at valve; if lever operated, disconnect pedal rod.
3. Remove mounting bolts, and remove valve.

DISASSEMBLY

1. Remove treadle or lever assembly from mounting plate. Note: New treadle or lever parts are included in kits; however, it is recommended that the treadle or lever assembly be dismantled, cleaned and inspected. Replace any worn parts.
2. Remove boot (4) and plunger. Remove three cap screws attaching mounting plate to body and remove mounting plate.
3. Remove piston and spring assembly (8). If using kit 289322, this assembly may be discarded. If using kit 229426, remove O-Rings (1) and (2) from piston.
4. Remove piston return spring (7) from body.
5. Remove inlet nut (6), inlet valve guide (11) and inlet / exhaust valve assembly (5). Remove O-Ring (3) from inlet nut (6).
6. If filter screen (10) is to be replaced, remove screws (9) and then screen (10) (a new screen (10) and screws (9) are furnished in kit 289322).

CLEANING AND INSPECTION

Wash all metal parts that are to be reused in cleaning solvent and dry.

Inspect carefully for wear or deterioration and replace as necessary.

ASSEMBLY

1. Using lubricant furnished in kit, lightly lubricate all stems, bores and O-Rings.
2. Carefully install O-Rings (1) and (2) on piston. Install piston return spring (7) in body, and install piston and spring assembly (8) in body.
3. Install mounting plate; tighten cap screws evenly and securely. Install O-Ring (3) on inlet nut (6).
4. Install inlet/exhaust valve assembly (5), inlet valve guide (11) and install inlet nut and tighten firmly.
5. Install plunger and boot (4) on mounting plate.
6. Assemble treadle or lever to mounting plate and adjust so that roller just contacts the plunger with valve fully released. Make certain all parts are properly secured in place.
7. If filter screen (10) was removed, replace using new screws (9) (furnished only in kit 289322).
8. Install valve in vehicle and connect air lines.

TESTING FOR SERVICEABILITY

Charge the air brake system to govern or cut-out and test valve as follows:

OPERATING AND LEAKAGE TESTS

If facilities are available, the rebuilt brake valve can be tested on a suitable test rack. If such facilities are not available, the brake valve can be tested on the vehicle. Both operating tests and leakage tests must be made in either case so the brake valve meets the following specifications:

1. The brake valve must deliver approximately full reservoir pressure when the treadle is fully depressed. If this test is being made on a vehicle and brake valve does not deliver approximately full reservoir pressure, check to see if the treadle or pedal stop (or linkage if lever type brake valve is used) is arranged so as to prevent the brake valve from delivering full reservoir pressure. This arrangement may be found on some vehicles and must not be altered unless a higher delivery pressure is desired to meet the specification covering the vehicle or unless it is necessary to increase the effectiveness of the brakes.
2. The brake valve must control delivered pressures between approximately 5 and 75 pounds. These pressures must rapidly vary in accordance with the position in which the treadle is held.
3. Leakage at the exhaust port in both the fully applied or fully released positions must not exceed a one-inch soap bubble in one second.
4. No leakage is permissible at any other point on the brake valve with the treadle in depressed position.

ADJUSTMENT

If the brake valve does not release promptly, or does not fully release, it indicates that the exhaust valve is not opening sufficiently. This can be caused:

1. By improper adjustment of the linkage or lever adjusting screw which would prevent the lever on the lever type valve from returning to the fully released position.
2. Lack of lubrication in the body causing the piston and spring assembly to bind.
3. Dirt or other foreign matter between the heel of the treadle and body or in the delivery ports.

If the brake valve does not apply promptly, or does not apply fully, it indicates that the inlet valve is not opening sufficiently. This can be caused:

1. By improper adjustment of the linkage, which would not permit the piston to travel far enough when the brake is being applied.
2. Improper adjustment of the treadle or pedal stop.
3. Dirt or other foreign matter in the supply port.

If the brake valve does not graduate the delivered pressure properly, check to be sure bleed hole to the cavity immediately below the piston is not restricted.

For complete details on the operation and maintenance of this device refer to Bendix Service Data Sheet SD-03-1 on E-1 Brake Valve available from Bendix, Elyria, OH 44035.