

Installation Instructions



BENDIX® PP-2™ CONTROL VALVE MAINTENANCE KIT



Bendix® PP-2™ Control Valve

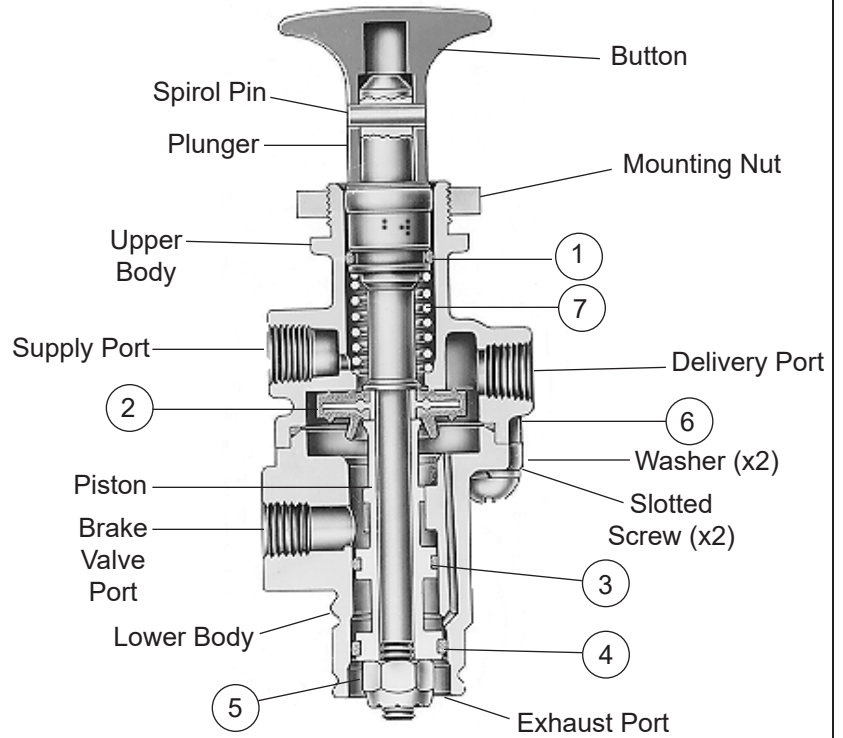


Figure 1

Kit Contents		
Item No.	Description	Qty.
1	O-Ring	1
2	Inlet and Exhaust Valve	1
3	O-Ring	1
4	O-Ring	1
5	Locknut	1
6	Sealing Ring	1
7	Spring	1
8	Tube of Lubricant	1



Figure 1 – Bendix® PP-2™ Control Valve Maintenance Kit Contents

GENERAL SAFETY GUIDELINES



WARNING! PLEASE READ AND FOLLOW THESE INSTRUCTIONS



TO AVOID PERSONAL INJURY OR DEATH:

When working on or around a vehicle, the following guidelines should be observed **AT ALL TIMES**:

- ▲ Park the vehicle on a level surface, apply the parking brakes, and always block the wheels. Always wear personal protection equipment.
- ▲ Stop the engine and remove the ignition key when working under or around the vehicle. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. 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.
- ▲ 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.
- ▲ If the work is being performed on the vehicle's air brake system, or any auxiliary pressurized air systems, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle. If the vehicle is equipped with a Bendix® AD-IS® air dryer system, a Bendix® DRM™ dryer reservoir module, a Bendix® AD-9si®, AD-HF®, or AD-HFi™ air dryer, be sure to drain the purge reservoir.
- ▲ Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.
- ▲ Never exceed manufacturer's recommended pressures.
- ▲ You should consult the vehicle manufacturer's operating and service manuals, and any related literature, in conjunction with the Guidelines above.
- ▲ Never connect or disconnect a hose or line containing pressure; it may whip and/or cause hazardous airborne dust and dirt particles. Wear eye protection. Slowly open connections with care, and verify that no pressure is present. Never remove a component or plug unless you are certain all system pressure has been depleted.
- ▲ Use only genuine Bendix® brand replacement parts, components, and kits. Replacement hardware, tubing, hose, fittings, wiring, etc. must be of equivalent size, type, and strength as original equipment and be designed specifically for such applications and systems.
- ▲ Components with stripped threads or damaged parts should be replaced rather than repaired. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle and component manufacturer.
- ▲ Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.
- ▲ For vehicles with Automatic Traction Control (ATC), the ATC function must be disabled (ATC indicator lamp should be ON) prior to performing any vehicle maintenance where one or more wheels on a drive axle are lifted off the ground and moving.
- ▲ The power **MUST** be temporarily disconnected from the radar sensor whenever any tests **USING A DYNAMOMETER** are conducted on a vehicle equipped with a Bendix® Wingman® system.

REMOVAL

1. Block and/or hold the vehicle by a means other than the air brakes. Drain the air brake system.
2. Disconnect the supply and delivery lines from the Bendix® PP-2™ valve and mark them for identification later.
3. Drive out the PP-2 button roll pin and remove the button. Remove the PP-2 mounting nut, then the PP-2 valve.

DISASSEMBLY

1. The spirol pin, button, and mounting nut are normally removed when the valve is removed from the vehicle.
2. Insert a rod or punch in the plunger and spirol pin hole to hold the plunger. Using a 1/4" socket, remove and discard the locknut (5).
3. Pull the plunger out of the body and remove the spring (7).
4. Pull the piston out of the lower body.
5. Remove the o-rings (3 and 4) from the piston and discard.
6. Remove the o-ring (1) from the plunger.
7. Remove the two slotted screws and their washers.
8. Separate the upper body from the lower body and remove and discard the inlet and exhaust valve (2) and sealing ring (6).

CLEANING AND INSPECTION OF PARTS

Wash all metal parts in mineral spirits and then dry. Pay particular attention to the cleaning of the air passage in the lower body.

ASSEMBLY

Prior to assembly, lubricate o-rings and bearing surfaces with silicone lubricant (8).

1. Install the o-ring (1) on the plunger.
2. Install the o-rings (3) and (4) on the piston.
3. Install the spring (7) in the upper body and insert the plunger into the upper body and hold the plunger in place.
4. Install the inlet and exhaust valve (2) and the plunger. The flattest side of the inlet and exhaust valve should be next to the upper body when it is installed on the plunger.
5. Install the sealing ring (6) in the upper body.
6. Install the lower body on the upper body and secure using the two slotted screws and their washers.
7. Install the piston over the plunger and insert the piston into the lower body.
8. Secure the piston to the plunger using the 1/4" locknut (5).
9. Torque the screws to 30-60 in-lbs.
10. Torque the locknut (5) to 20-25 in-lbs while holding the plunger in the manner described in Disassembly, Step 2.

INSTALLATION

1. Reconnect the supply and delivery lines to their proper ports on the PP-2 valve using the identification marks made during removal.
2. Install the PP-2 valve in the vehicle dash using the mounting nut.
3. Install the button on the plunger using the spirol pin.

OPERATING AND LEAKAGE TESTS

1. Connect a 120 psi air source to the supply port. An accurate test gauge should be tee'd into the supply line and a means of controlling the supply pressure provided. A small volume with a gauge should be connected to the delivery port.
2. With the button pulled out (exhaust position), leakage at the brake valve port or at the plunger stem should not exceed a 1" bubble in 5 seconds.
3. Push the button in. Supply pressure should be present in the delivery volume. Leakage at the exhaust port or around the plunger stem should not exceed a 1" bubble in 5 seconds.
4. Reduce the supply pressure. At a pressure from 60 to 20 psi –depending on the spring installed– the button should pop out automatically, exhausting the delivery volume.
5. With the button out, apply supply pressure at the brake valve port. Supply pressure should be present in the delivery volume and leakage at the exhaust port should not exceed a 1" bubble in 5 seconds.

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