

Installation Instructions



BENDIX® PP-1® & RD-3™ CONTROL VALVES MAINTENANCE KIT



**Bendix® RD-3™
Push Type Control Valve**



**Bendix® PP-1®
Control Valve**

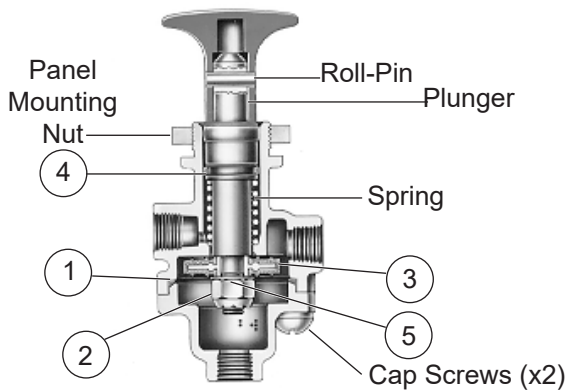


Figure 1

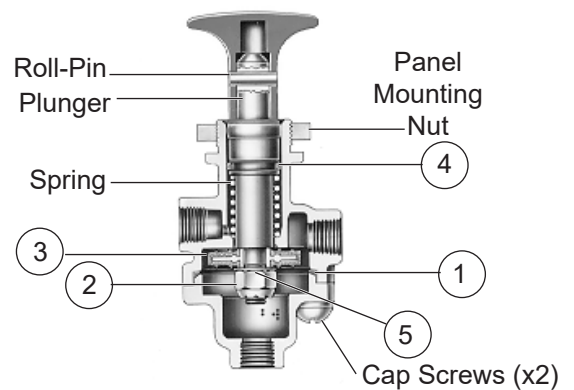


Figure 2



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

Figure 1 – Bendix® PP-1® & RD-3™ Control Valves 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.
- ▲ 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.
- ▲ You should consult the vehicle manufacturer's operating and service manuals, and any related literature, in conjunction with the Guidelines above.

REMOVAL

Block and/or hold the vehicle by a means other than the air brakes and drain all reservoirs.

1. Drive the button roll-pin out with a punch and remove the button.
2. Disconnect the air fittings, identify supply and delivery lines, remove the panel mounting nut, and remove the valve.

DISASSEMBLY

1. Remove the two cap screws which retain the lower cover and remove the cover. Remove the sealing ring (1) and discard.
2. Insert a small punch through the roll pin hole in the stem and remove the locknut (2) with a 7/16" wrench. Discard the locknut (2).
3. Remove the inlet/exhaust valve (3), plunger, spring, and washer (5) and discard items 3 and 5.
4. Remove the plunger o-ring (4) from the plunger and discard.

REASSEMBLY

1. Before reassembly, clean all parts and coat the plunger bore and o-ring grooves with the lubricant (6) provided.
2. Install the plunger o-ring (4) on the plunger.
3. Install the plunger spring on the plunger and insert and hold it in the valve body.
4. Install the inlet/exhaust valve (3) and washer (5) on plunger and tighten the locknut (2) to 20-25 in-lbs torque.
5. Install the sealing ring (1) on the cover and install the cover on the body. Tighten the cap screws to 30-60 in-lbs torque.

OPERATING AND LEAKAGE TESTS



Do not install fittings or tubing into the exhaust port if used for parking brake control. If a worn PP-1 or PP-8 valve is used for parking brake control and the exhaust plumbing is kinked, bent, or restricted, the vehicle might not park, and a roll away may result, potentially resulting in injury or death.

1. Run the vehicle until the air system reaches full reservoir pressure (120-135 psi). Turn off the vehicle.
2. Move the control valve button & plunger from side to side and up and down. Do not push the button in. If there is any play, or if audible leakage is detected, the valve must be replaced.
3. Identify the dash valve exhaust hose location – if there is a hose still connected to the Park Control Valve Exhaust Port, it is advised to disconnect it and remove any fitting.
4. With the button pulled out (exhaust position), rotate the button and plunger in a clockwise direction—stopping every 90° to check for leakage.
5. Using a soap solution, check for leaks. The allowable leakage should not exceed a 1” bubble in 5 seconds at any location on the valve.
6. Push the button in (applied position) and check for leaks. (The Bendix® RD-3™ valve will have to be manually held in this position.) The leakage should not exceed a 1” bubble in 3 seconds at any location on the valve.
7. Reduce the supply pressure. At a pressure from 60 to 20 psi, depending on the part number specific automatic release pressure, the button should pop out automatically, exhausting the delivery volume. (This does not apply to the RD-3, PP-8 or some PP-1 valves without an automatic release pressure).

INSTALLING

1. Install the valve in the panel, securing with the panel mounting nut.
2. Reconnect the air lines and check for proper piping of the supply and delivery lines.
3. Install the operating button. Secure the operating button by installing the roll pin.

For additional information on the PP-1 or RD-3 valves, reference the Service Data sheet SD-03-3611 on B2Bendix.com.

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