



Installation Instructions

INTERNAL CHECK VALVE CARTRIDGE
AND PARKER SINGLE CHECK VALVE
RETROFIT KIT

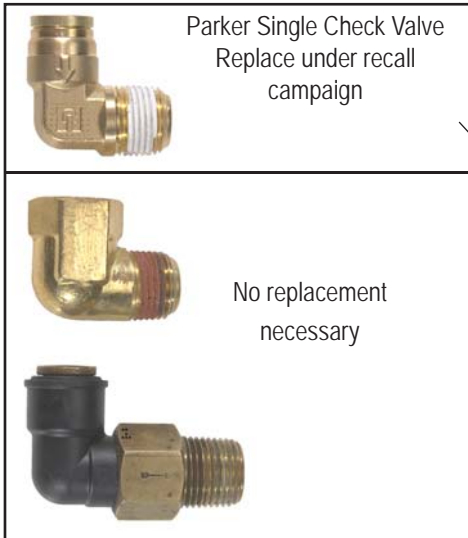
BENDIX® SR-7™ SPRING BRAKE
MODULATING VALVE

Recall Campaign Nos.: 07E-037 and 07E-038

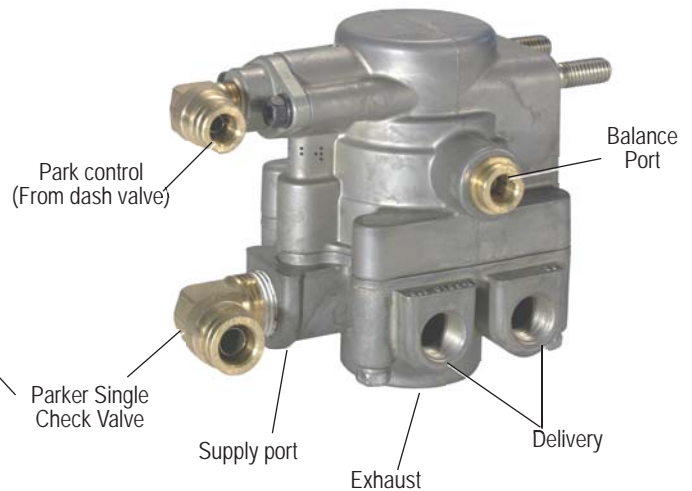
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Single Check Valves that might be found in the supply port of the SR-7™ valve



SR-7™ Valve port designations



Kit Contents



Internal Check Valve Cartridge shown in shipping tube.

Internal Check Valve Cartridge and External Single Check Valve Retrofit Kit part number **K022700** contains the following components:

| Description | Qty. |
|--------------------------------------|----------|
| Internal Check Valve Cartridge | 1 |
| Plastic guide with o-ring | |
| Spring | |
| Check valve | |
| O-ring | 1(extra) |
| Screw | 1(extra) |
| External Single Check Valve | 1 |
| Green tie wrap | 1 |

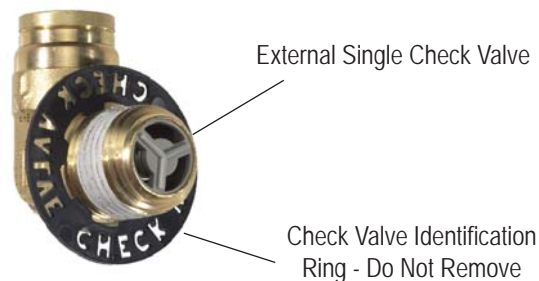
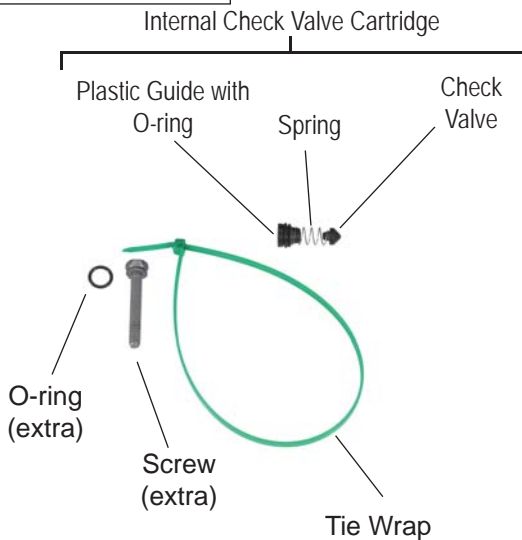


Figure 1 - BENDIX® SR-7™ SPRING BRAKE MODULATING VALVE PORT DESIGNATIONS AND KIT CONTENTS

GENERAL

This instruction sheet is intended to provide the necessary information to service the Bendix® SR-7™ spring brake modulating valve with a retrofit internal check valve cartridge and a replacement external single check valve. This is in connection with Recall Campaign numbers 07E-037 and 07E-038.

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 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. Always wear safety glasses.
2. Stop the engine and remove 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.
3. 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.
4. 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 an AD-IS® air dryer system or a dryer reservoir module, be sure to drain the purge reservoir.
5. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.
6. Never exceed manufacturer's recommended pressures.
7. 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.
8. Use only genuine Bendix® replacement parts, components and kits. Replacement hardware, tubing, hose, fittings, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.
9. 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.

10. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.
11. For vehicles with Antilock 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.

PARKER SINGLE CHECK VALVE REMOVAL

CAUTION: Do not disconnect air lines and fittings unless specified. Installation of this kit does not require that the SR-7™ spring brake modulating valve be removed or that all the air lines be disconnected. **Note:** Instructions for SR-7™ valve removal and installation are included in this document in the event that this kit cannot be installed with the SR-7™ valve mounted on the vehicle.

1. Locate the SR-7™ spring brake modulating valve on the vehicle. Typically, it is located near the rear axle mounted on the frame rail or cross member.
2. Locate the Parker external single check valve installed in the supply port of the SR-7™ valve as shown in Figure 1.
3. Note: Verify the check valve is a Parker single check valve. Refer to Figure 1. If the external check valve is not a Parker single check valve, replacement of the check valve is not necessary and is not covered by this campaign. However the rest of this kit with the internal check valve must be installed.
4. Remove the 1/2" OD supply line from the external single check valve supply port. See Figure 3.
5. Note the orientation of the external check valve. (Some SR-7™ valves may have a fitting between the external single check valve and the SR-7™ valve.) As shown in Figure 4, use a wrench to remove the external single check valve. **IMPORTANT: Inspect the outlet (threaded side) of the Parker single check valve to ensure the presence of check valve components. Verify that the brass retainer is present and intact.** Refer to Figure 6.

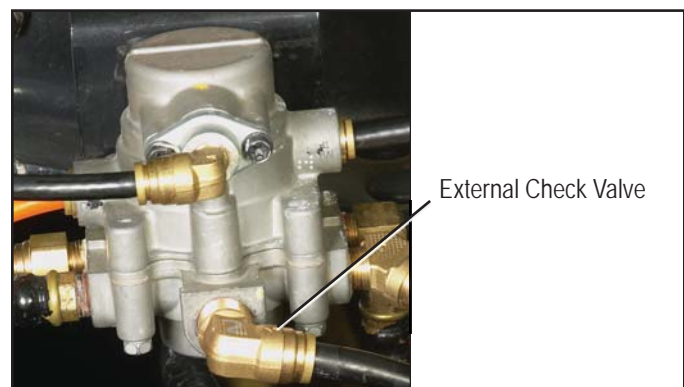


Figure 2 - SR-7™ VALVE AND EXTERNAL CHECK VALVE

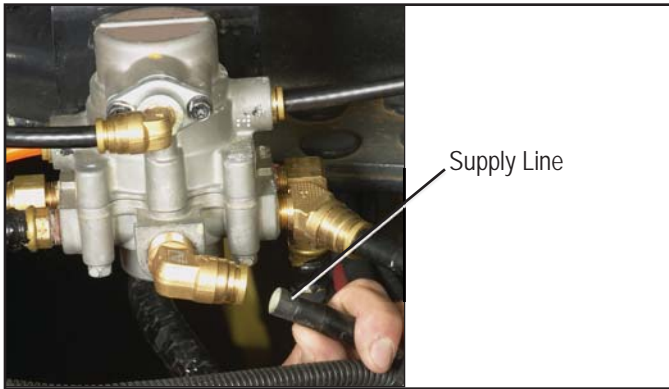


Figure 3 - DISCONNECTING THE SUPPLY LINE

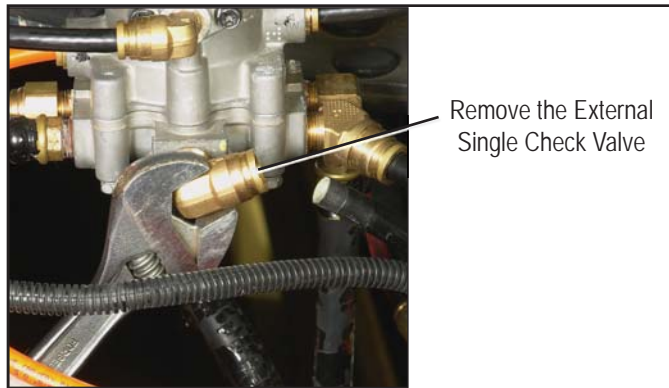


Figure 4 - REMOVING THE EXTERNAL SINGLE CHECK VALVE

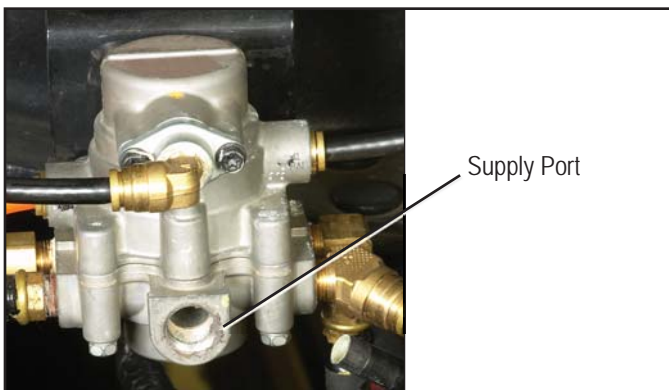


Figure 5 - EXTERNAL SINGLE CHECK VALVE REMOVED

6. **NOTE:** If the brass retainer is NOT present and intact, both the Parker external check valve AND the entire SR-7™ valve must be replaced. Do not proceed with the internal check valve cartridge in this kit. The SR-7™ valve replacement kit part must be obtained and installed.

INTERNAL CHECK VALVE REMOVAL

CAUTION: Do not disconnect air lines and fittings unless specified. Installation of this kit does not require that the SR-7™ valve be removed or that all the air lines be disconnected.

1. Using a 7/16" wrench remove the four screws that secure the upper and lower bodies of the SR-7™ valve. Refer to Figure 7. Do not disconnect additional hoses or fittings. The separation of the SR-7™ valve between

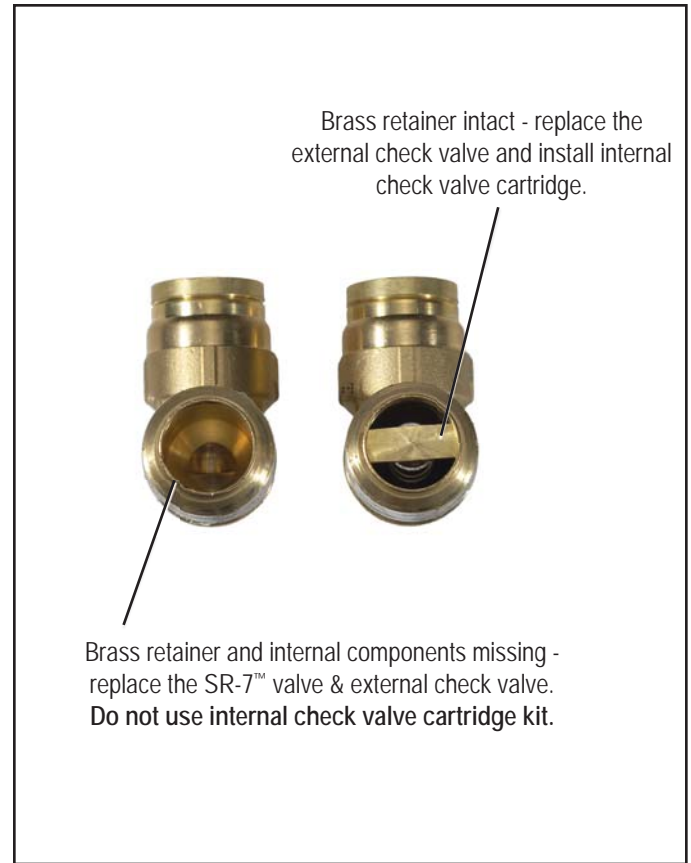


Figure 6 - PARKER CHECK VALVE

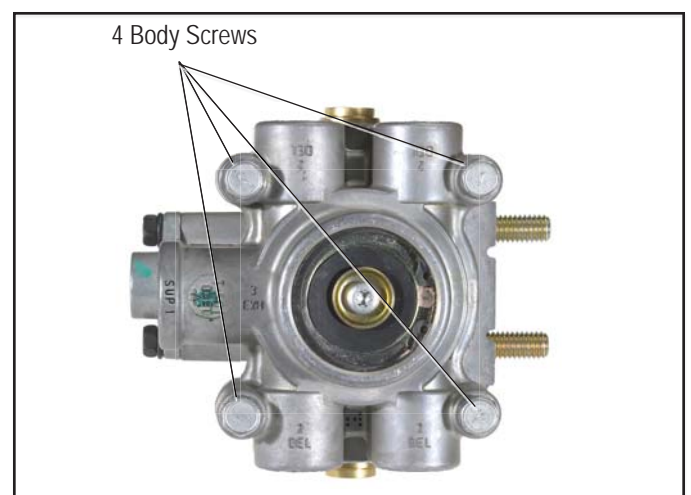


Figure 7 - BOTTOM VIEW OF SR-7™ VALVE

the upper and lower body should be approximately three inches to allow adequate room to install this kit.

2. Locate the plastic guide in the upper body of the SR-7™ valve directly above the supply port. The o-ring seal from the lower body may stick to the plastic guide when the bodies are separated. If so, remove it from the guide and place it back into the lower body. An extra o-ring has been included in this kit in the event that the o-ring is lost or damaged during servicing. Refer to Figure 8.

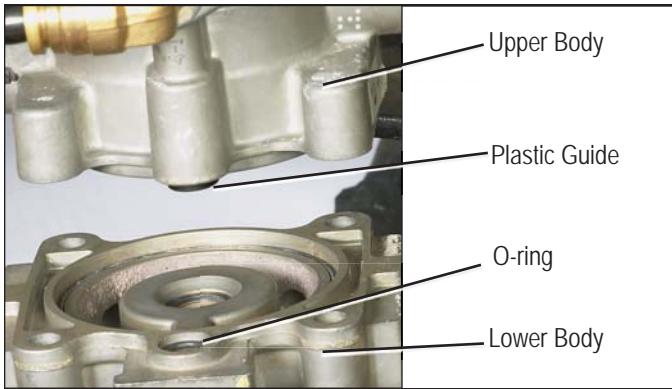


Figure 8 - PLASTIC GUIDE AND O-RING SEAL

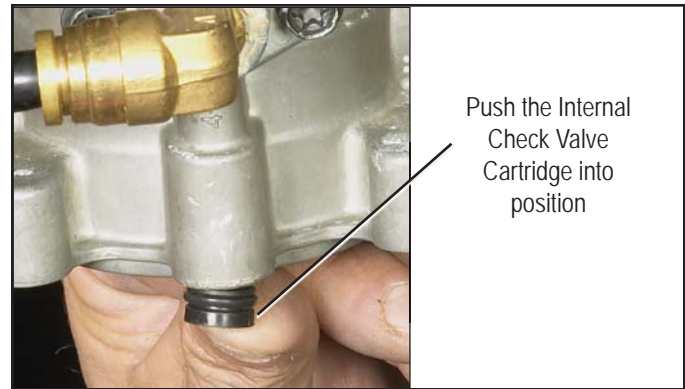


Figure 10 - CARTRIDGE INSTALLATION

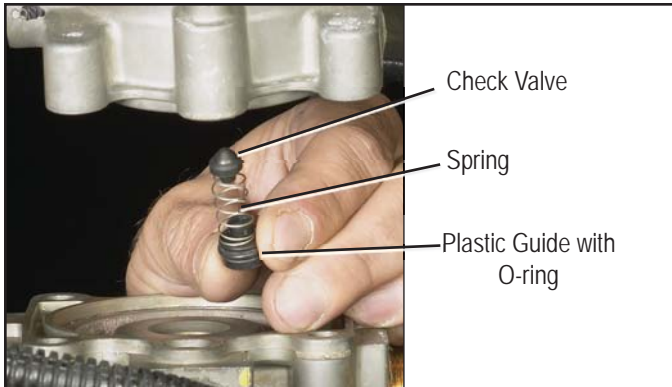


Figure 9 - INTERNAL CHECK VALVE

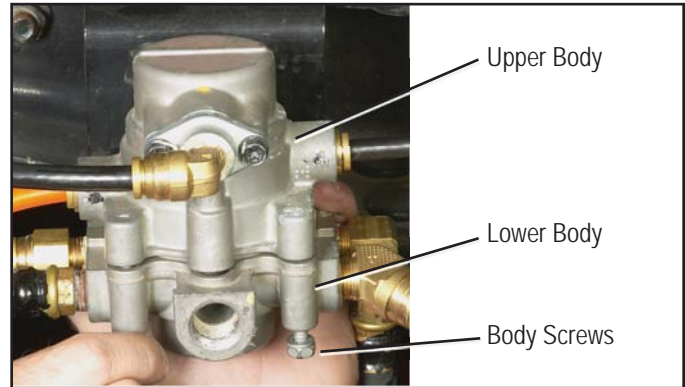


Figure 11 - SECURING THE UPPER & LOWER BODY

3. As shown in Figure 9, remove the plastic guide, spring and check valve from the valve bore and discard. Note: The check valve may stick to its seat in the upper body. Be sure that all of the components are removed before going to the next step.

CARTRIDGE INSTALLATION

1. Insert the replacement cartridge in the bore where the check valve, spring and plastic guide were removed. Note: Be sure to remove the replacement cartridge from its shipping tube prior to installation. Push the cartridge into position until it stops as shown in Figure 10. A portion of the plastic guide in the cartridge will stick out as shown in Figure 8. **DO NOT FORCE THE CARTRIDGE FURTHER INTO THE BORE.**
2. As shown in Figure 11, align the valve lower body with the upper body. Push the body halves together. Insert two of the four screws (finger tight) into the lower body mounting holes closest to the supply port first. This will help with alignment. One extra screw is included in this kit in the event one is lost during installation.
3. Insert the remaining two screws and tighten finger tight. Tighten all four screws to 80-100 in. lbs.
4. Using pipe sealant, install the new external check valve and any fittings that were removed. Be sure that orientation of the fittings is the same. Teflon tape is not

an acceptable substitute for pipe sealant. Install fittings finger tight, then tighten 1.5 - 2 turns. For shaped fittings, such as tees and elbows, tighten no more than one additional turn to the final position.

5. Reconnect all air lines.
6. Secure the enclosed tie wrap on the valve or fitting in a conspicuous location to identify the field repair has been performed.
7. Proceed to "Testing the SR-7™ Spring Brake Modulating Valve."

VALVE REMOVAL (IF REQUIRED)

In case installation of the internal check valve cartridge is not feasible or the entire SR-7™ valve is required to be replaced due to damaged or missing components in the Parker single check valve, follow these steps for removal.

1. Prior to removing the SR-7™ valve, review the general safety guidelines of this document.
2. Identify all air lines before disconnecting.
3. Remove the two mounting nuts that secure the valve to the frame rail and remove the valve.
4. Compare the valve that was removed to the replacement valve. If the valve that was removed contains fittings or pipe plugs that the new valve does not, note their orientation and remove the fittings.

5. If the removed SR-7™ contains an external single check valve in the supply port identify the type of single check valve. **If the SR-7™ valve contains a Parker single check valve do not reuse it in the replacement valve. The Parker single check valve is covered by Recall Campaign No. 07E-038.** Use the replacement external single check valve included with this kit.
6. If the external check valve located in the supply port is not a Parker check valve, it must be removed and installed on the replacement valve. A standard fitting **is not** an acceptable substitute.
7. Using pipe sealant, install the fittings that were removed into the replacement SR-7™ valve. Be sure that orientation of the fittings is the same. Teflon tape is not an acceptable substitute for pipe sealant. Install fittings finger tight, then tighten 1.5 - 2 turns. For shaped fittings, such as tees and elbows, tighten no more than one additional turn to the final position.
8. Reconnect any air lines that were disconnected.
9. Secure the tie wrap on the valve or fitting in a conspicuous location to identify that the field repair has been performed.

VALVE INSTALLATION (IF REQUIRED)

1. Align the valve mounting studs with the mounting holes on the vehicle frame rail. Tighten the mounting nuts to 180-220 in. lbs.
2. Install the valve onto the vehicle ensuring all air lines are connected as marked during disassembly.

TESTING THE SR-7™ SPRING BRAKE MODULATING VALVE

Perform operating and leakage tests as outlined below.

OPERATING TEST

Block vehicle and hold by means other than vehicle brakes. Charge air brake system to governor cut-out pressure.

Place parking control valve in “release” position. Observe that spring brake actuators release fully.

Place parking control valve in “park” position. Observe that spring brake actuators apply promptly, within 3 seconds.

LEAKAGE TEST

Place the park control valve in the “release” position; using a soap solution, coat all ports including the exhaust port and external check valve, if applicable. A 1" bubble in 3 seconds is permitted (175 SCCM).

With both service reservoirs at 120 PSI, decrease the pressure at the secondary reservoir to 0 PSI. The primary reservoir should not drop below 100 PSI.

If the Parker external check valve or SR-7™ valve do not function as described, or if leakage is excessive, it is recommended that it be replaced with a new unit available from a Bendix parts outlet.

INSTALLATION IDENTIFICATION

If the tie wrap has not already been secured to the valve, secure it to the valve or fitting in a conspicuous location to identify that the field repair has been performed.

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