Bendix® SC-3™ Single Check Valves

FIGURE 1 - SC-3 SINGLE CHECK VALVES

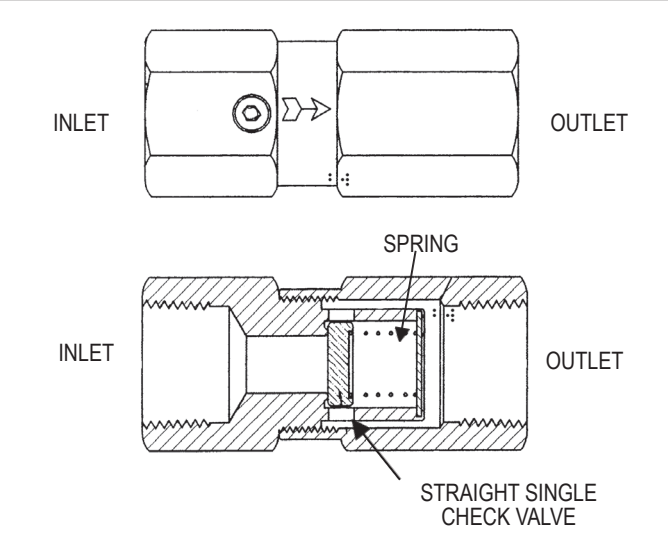

FIGURE 2 - STRAIGHT SC-3 SINGLE CHECK VALVE (EXTERIOR/CROSS-SECTIONAL VIEWS)

DESCRIPTION

The Bendix® SC-3™ single check valve is a device placed in an air line to allow air flow in one direction only, and to prevent the flow of air in the reverse direction.

The two types of SC-3 single check valves are:

1. Straight (wafer-type) single check valve *(See Figure 2)*.
2. Angled (shuttle-type) single check valve *(See Figure 3)*.

An arrow indicating the direction of air flow is found on the body of the valve.

OPERATION

Air flow in the normal direction moves the SC-3 single check valve from its seat, and the flow is unobstructed. Air flow in the reverse direction is prevented by the seating of the shuttle - or wafer-type disc - which is caused by a drop in upstream air pressure and assisted by the spring.

PREVENTIVE MAINTENANCE

⚠IMPORTANT

Review the Bendix warranty policy before performing any intrusive maintenance procedures. A warranty may be voided if intrusive maintenance is performed during the warranty period.

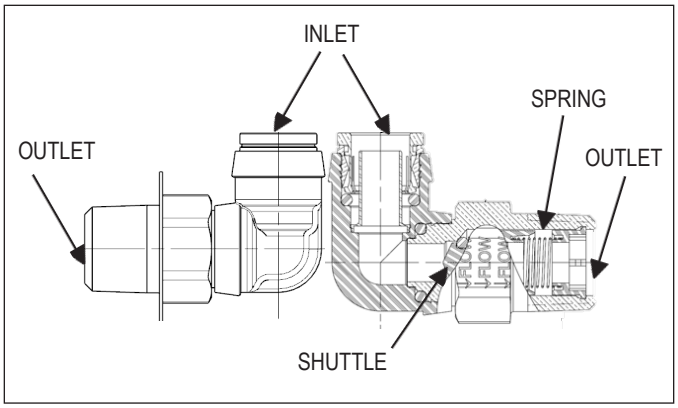

FIGURE 3 - ANGLED SC-3 SINGLE CHECK VALVE (EXTERIOR/CROSS-SECTIONAL VIEWS)

No two vehicles operate under identical conditions; as a result, maintenance intervals may vary. Experience is a valuable guide in determining the best maintenance interval for air brake system components. At a minimum, the SC-3 single check valve should be inspected every six (6) months or 1500 operating hours, whichever comes first, for proper operation. Should the SC-3 single check valve not meet the elements of the operational tests noted in this document, further investigation and service of the valve may be required. Replace any SC-3 single check valve(s) that is leaking or showing signs of wear or deterioration.

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-HF®i 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.**

INSTALLATION

See Figure 4. The straight Bendix® SC-3™ single check valve consists of a two-piece body. When installing the straight single check valve, tighten using the hex surface that is closest to the port that it is being installed in. This will prevent breaking the seal between the two halves which would cause leakage. Angled SC-3 single check valves can be assembled finger tight and then further tightened to the original orientation in no more than two full revolutions.

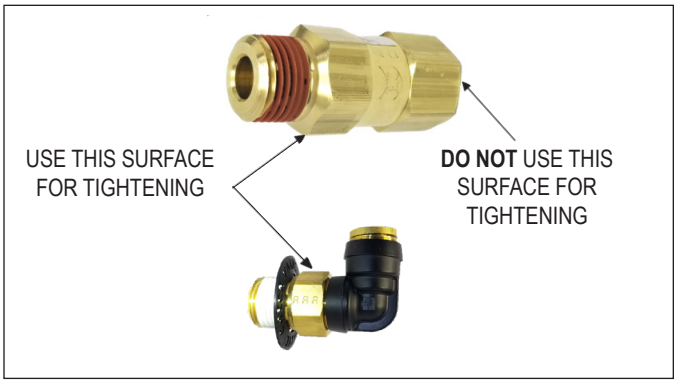

FIGURE 4 - STRAIGHT AND ANGLED SC-3 SINGLE CHECK VALVES

OPERATION AND LEAKAGE CHECKS

NOTE: Depending on installation, it may be easier or necessary to completely remove the single check valve so the following checks may be made.

- With air pressure present at the outlet side of the single check valve and the inlet side open to atmosphere, coat the open end of the single check valve with soap suds; a 1-in. bubble in five (5) seconds is permissible (100 SCCM).
- If the single check valve does not function as described, or leakage is excessive, it is recommended that it be replaced with a new genuine Bendix® part available at any authorized Bendix parts outlet.

REMOVAL

- Block and hold the vehicle by means other than the air brakes.
- Completely drain all reservoirs.
- Disconnect the air lines at the single check valve and remove the single check valve.

DISASSEMBLY/ASSEMBLY

NOTE: There are no disassembly or assembly procedures for SC-3 single check valves. They are non-serviceable items. If a valve does not meet the operational and leakage tests, it should be replaced at any authorized Bendix parts outlet.

TESTING AND TROUBLESHOOTING

Perform the *Operation and Leakage Checks* noted above.