



Installation Instructions

BENDIX® TR-3™ INVERSION VALVE INSTALLATION KIT

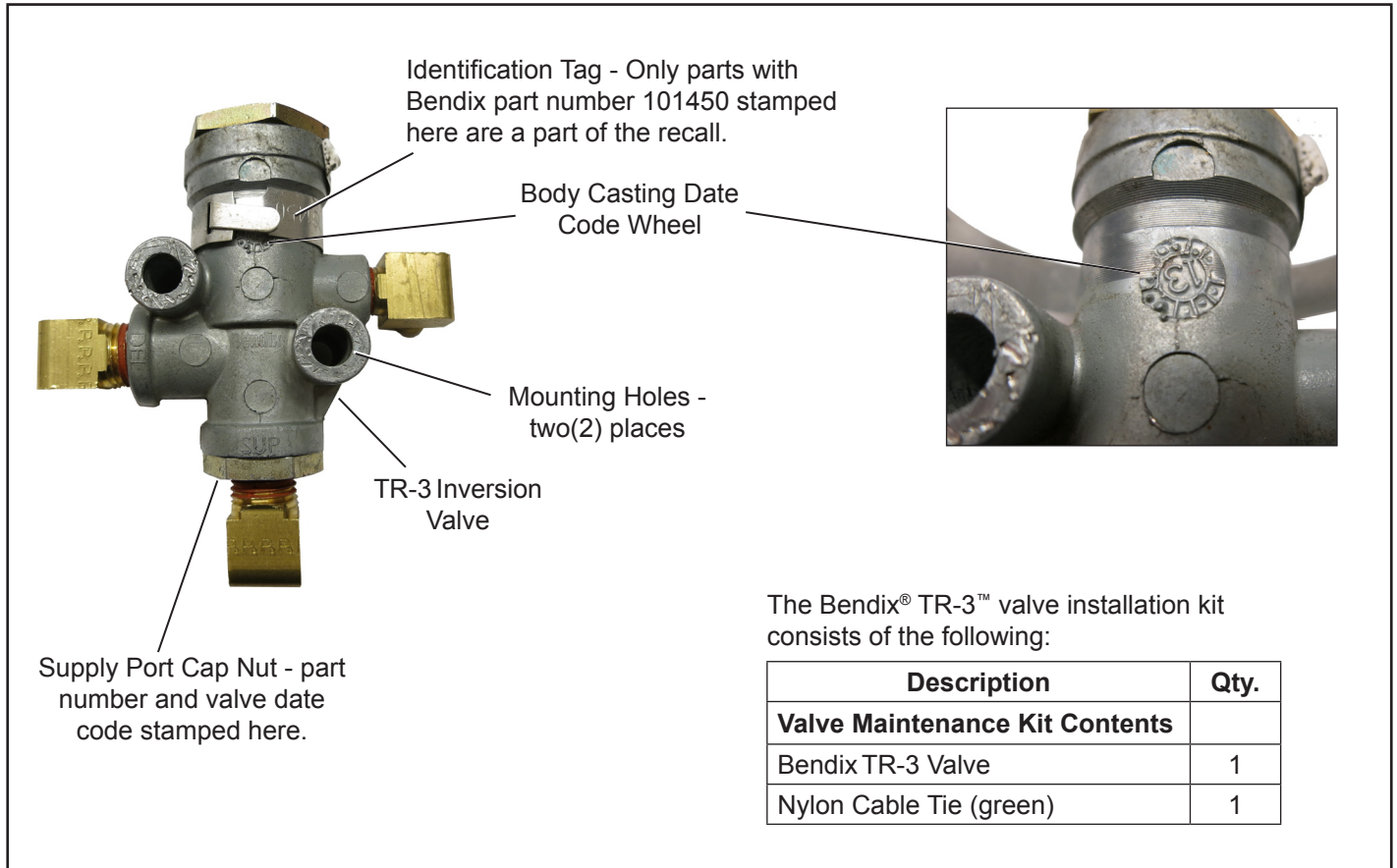


Figure 1 **Bendix® TR-3™ Inversion Valve Kit Contents**

GENERAL INFORMATION

This kit is intended for the installation of a replacement Bendix® TR-3™ inversion valve as a part of a voluntary safety recall number **15E021**. This issue affects a very select population of vehicles that do not have spring brakes and the TR-3 valve is used to apply the service brake as a parking brake (primarily in dolly applications). The TR-3 valves being recalled are Bendix part numbers 101450, 101450N and 101450R that were manufactured between February 6, 2014 and October 15, 2014.

IDENTIFICATION

Before installing this kit, verify the valve being replaced is a part of the recall campaign.

1. Locate the TR-3 valve on the vehicle. The valve may not need to be removed to determine if it is a part of the recall campaign. Clean the exterior of the valve with a clean cloth.
2. Locate the identification tag that covers the body casting date code wheel on the valve body. *Refer to Figure 1.*
3. Inspect the identification tag. If the identification tag has the following wording "SPECIAL TR-3 REPLACE WITH 101450" it *may be* a part of the recall campaign. A valve with an identification tag that refers to any other part number *is not* a part of the recall and the vehicle can be returned to service. If the identification tag is missing, or if the part number is illegible, continue the identification process.
4. Underneath the identification tag is the body casting date code wheel. If the number 13 appears in the center of the wheel the valve *may be* a part of the recall. If any other number appears in the center, the valve *is not* a part of the recall. To view this date code, remove the identification tag by bending the tab back and sliding the tab out of its slot. If it is determined that the valve is not a part of the recall campaign, replace the identification band and return the vehicle to service. *Refer to Figure 1.* You may want to secure a nylon cable tie to the valve so that the valve inspection process is not repeated.

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, or a Bendix® AD-9si® 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. 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, 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 Bendix® Wingman® Advanced™-equipped vehicle.
- ▲ You should consult the vehicle manufacturer's operating and service manuals, and any related literature, in conjunction with the Guidelines above.

5. If the valve body has a number 13 in the date code wheel, or is mounted in a position that blocks the date code wheel from view, disconnect the air lines and remove the valve to determine if it is a part of the recall campaign.

BENDIX® TR-3™ VALVE REMOVAL

1. Identify and mark the connecting air lines for ease of installation.
2. Remove and retain the two mounting screws that support the Bendix® TR-3™ valve.
3. Disconnect the air lines and remove the valve from the vehicle.
4. If the valve body casting date code wheel has a number 13 in the center of the wheel, continue with the recall identification process.
5. If the date code wheel has any other number in the center, the valve *is not* a part of the recall. Replace the identification band and go to the Bendix TR-3 Valve Installation procedure in this manual.
6. Further investigation to determine if the valve is a part of the recall is still needed. To find the date of manufacture of the valve assembly, look at the supply port cap nut for the part number and date code stamp. Refer to Figure 1 for location.

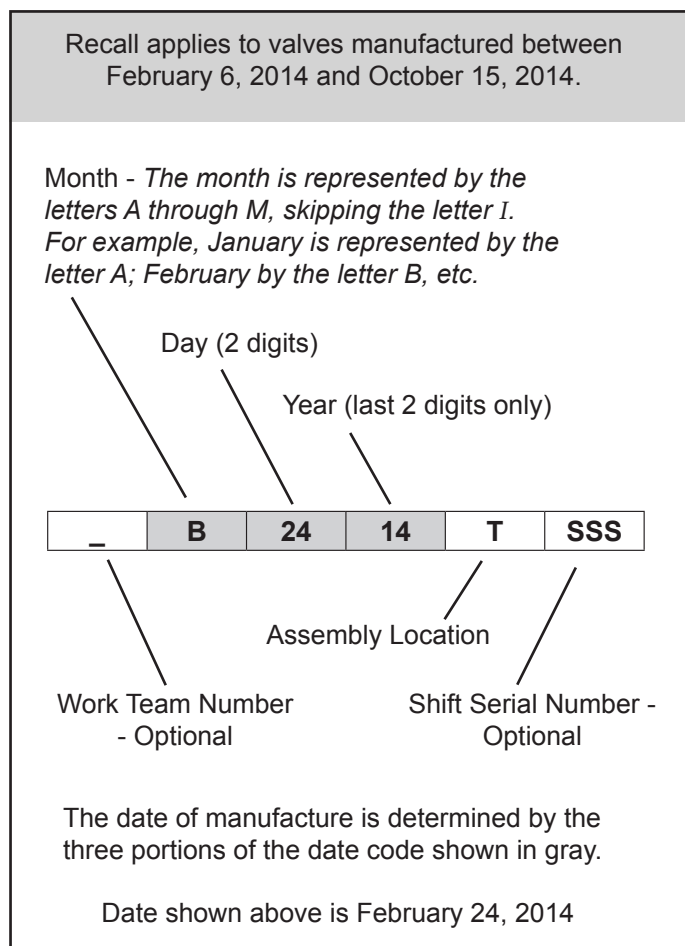


Figure 2 **Bendix Product Date Code Interpretation**

7. Verify the valve part number is 101450 and the date of manufacture is within the recall time period. *Refer to Figure 2 for the date code interpretation.*
If the valve does not meet the criteria of this recall, go to the Bendix® TR-3™ Valve Installation procedure in this manual.
8. If the TR-3 valve date of manufacture is within the time period of the recall, replace the TR-3 valve with the valve included in the kit.

BENDIX® TR-3™ VALVE INSTALLATION

1. Securely mount the valve using the holes provided in the body and the mounting screws that were retained during the removal process. Check and clean the air lines and reconnect.
2. Once the valve is installed, mark the valve with a cable tie to identify that the valve has been inspected or replaced. A cable tie is included for those valves that are replaced with this kit.
3. Perform the operating and leakage tests in this manual.

OPERATING AND LEAKAGE TESTS

NOTE: The following checks should be made with two calibrated gauges or two gauges known to be accurate. Depending upon installation, it may be easier, or necessary, to completely remove the valve to test properly.

Install one test gauge in a common control and supply line; install the other gauge in the delivery port. Gradually apply pressure to the common supply and control line. On ascending pressure, note at what pressure exhaust occurs and compare with the vehicle manual. With air pressure present in supply and control ports, apply a soap solution to the delivery and exhaust ports. Leakage should not exceed 100 SCCM or a one (1) inch bubble in five (5) seconds. Excessive leakage would indicate a faulty o-ring or inlet valve.

Slowly decrease pressure in the control cavity and note at what pressure delivery is made. Compare this with the vehicle manual notation.

NOTE: In the Bendix TR-3 valve the control pressure is reduced by decreasing supply air pressure because of the internal passage connecting supply and control.

If the Bendix TR-3 inversion valve does not function as described—or leakage is excessive—it is recommended that it be replaced with a new valve.

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