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MERITOR WABCO

Technical Bulletin

Service Procedures for One-Knob Push-Pull (PP) Dash Valve

Hazard Alert Messages

Read and observe all Warning and Caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.

How to Obtain Additional Maintenance and Service Information

If you have any questions about the material covered in this publication, or for more information about the Meritor WABCO product line, please contact the ArvinMeritor Customer Service Center at 800-535-5560 or visit our website, meritorwabco.com.

Description and Function

The Meritor WABCO one-knob push-pull dash valve is designed to control application and release of the vehicle parking brakes.

When the push-pull dash valve knob is pushed in, the parking brakes are released. When the knob is pulled out, the parking brakes are applied. The valve receives blended air from the primary and secondary air brake systems, and delivers air to the parking brake system. The dash valve automatically applies the vehicle parking brakes when the supply pressure drops to a predetermined pressure. Figure 1.

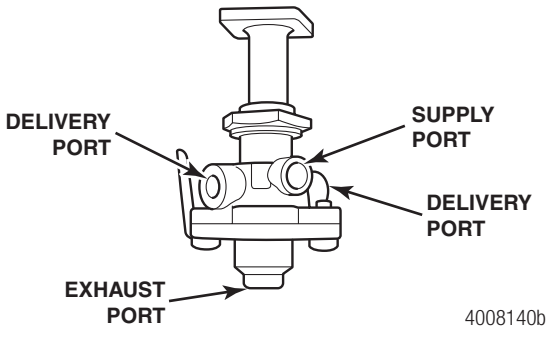

Figure 1

Service Procedures

Before servicing the Meritor WABCO push-pull dash valve, carefully read and follow all outlined procedures.

⚠ WARNING

To prevent serious eye injury, always wear safe eye protection when you perform vehicle maintenance or service.

Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving. Support the vehicle with safety stands. Do not work under a vehicle supported only by jacks. Jacks can slip and fall over. Serious personal injury and damage to components can result.

Open drain valves on all reservoirs to remove all pressure from the air system before you disconnect any component. Pressurized air can cause serious personal injury.

Removing the Push-Pull Dash Valve

1. Wear safe eye protection.
2. Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving.
3. Drain the entire air system. Open all of the drain valves on all of the reservoirs.
4. Follow the vehicle manufacturer's recommended instructions for removing all electrical power from the vehicle.
5. Identify the ports and mark each air line tube so that it can be attached to the proper port on the replacement valve. Color-coded tubing is recommended for new installations.
6. Disconnect the air line tubing and cover the ends of the tubing to protect them against contamination.
7. Remove the hex nut that secures the valve to the dash. Remove the valve assembly.

Installing the Push-Pull Dash Valve

⚠ CAUTION

Do not overtighten the hex nut or damage to the valve can result. Tighten the nut from 11 ft-lb (15 N•m) minimum to 13.5 ft-lb (18.3 N•m) maximum on metal body valves. Tighten the nut to 80 in-lb (9.04 N•m) maximum on plastic body valves.

1. Install the new push-pull dash valve and secure it with the hex nut provided with the new valve. Tighten the nut from 11 ft-lb (15 N•m) minimum to 13.5 ft-lb (18.3 N•m) maximum on metal body valves. Tighten the nut to 80 in-lb (9.04 N•m) maximum on plastic body valves.

⚠ WARNING

Do not kink the tubing. Kinked tubes can block the flow of air and cause a loss of braking, resulting in loss of vehicle control.

2. Connect the air line tubing to the corresponding ports identified during removal.
3. Before operating the vehicle, ensure all components and systems are restored to their correct operation.

Function and Leakage Test

1. Install test gauges, if necessary, to check pressures.
2. With 15 ± 5 psi (1.03 ± 0.34 bar) in the supply reservoirs and with the knob pulled out, apply a soap solution to the exhaust port. Leakage of a one-inch (25.4 mm) bubble in three seconds is permissible. Repeat the procedure with 125 ± 5 psi (8.62 ± 0.34 bar) in the supply reservoirs.
3. With 65 ± 5 psi (4.48 ± 0.34 bar) in the supply reservoirs, push the knob in. The knob must stay in and the delivery port pressure must be 65 ± 5 psi (4.48 ± 0.34 bar). Apply a soap solution to the exhaust port. Leakage of a one-inch (25.4 mm) bubble in three seconds is permissible.
4. With 125 ± 5 psi (8.62 ± 0.34 bar) in the supply reservoirs, push the knob in. The delivery port pressure must be 125 ± 5 psi (8.62 ± 0.34 bar). Apply a soap solution to the exhaust port. Leakage of a one-inch (25.4 mm) bubble in three seconds is permissible. Begin to exhaust the pressure in the supply reservoirs. The knob must pop out when the supply pressure reaches 40 ± 5 psi (2.76 ± 0.34 bar).
5. With 125 ± 5 psi (8.62 ± 0.34 bar) in the supply reservoirs, push the knob in. The pressure in the delivery must rise promptly. Pull the knob out. The pressure in the delivery must fall promptly.

Troubleshooting

Troubleshooting the Push-Pull Dash Valve

⚠ WARNING

The push-pull dash valve is an important part of the air brake system. Never ignore any symptom such as leakage or a change in operation. Loss of braking may occur resulting in loss of vehicle control.

1. Conduct the Function and Leakage Test when there is leakage or a change in operation.
2. Replace the valve if it does not meet the requirements of the Function and Leakage Test.

MERITOR WABCO

Meritor WABCO Vehicle Control Systems
2135 West Maple Road
Troy, MI 48084-7121 USA
800-535-5560
meritorwabco.com

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