

WABCO

Technical Bulletin

Service Procedures for Quick Release with Double Check Valve (QRDC)

Hazard Alert Messages

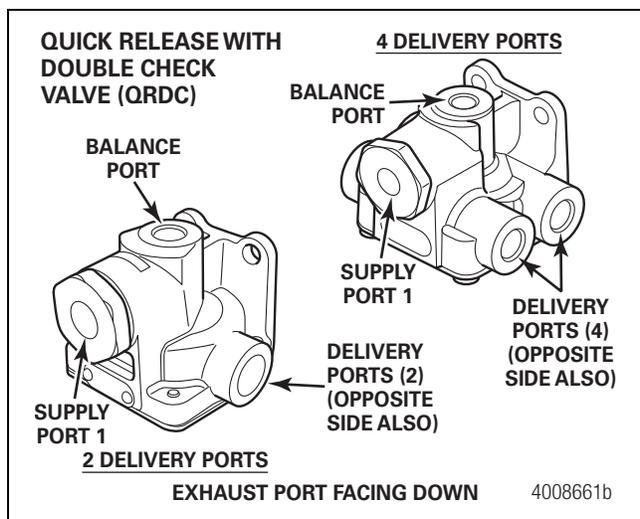
Read and observe all Warning and Caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.

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 WABCO product line, please contact WABCO North America Customer Care at 855-228-3203 or visit our website, wabco-na.com.

Description and Function

This WABCO quick release valve has a double check valve between the supply and balance ports. It is designed to allow air to pass through it when supply pressure is applied and to speed up the release of delivery air when the supply pressure to the valve is released. This type of valve is used in a park brake system of an air brake vehicle to speed up the release of air pressure from the spring brake chambers and thus speed up the park brake application. The double check valve prevents compounding the force on the foundation brakes when a service brake application is made while the vehicle is parked.



Service Procedures

Before servicing the WABCO quick release with double check valve, carefully read and follow all outlined procedures.

⚠ WARNING

To prevent serious eye injury, always wear 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 pressurized air from the air system before you disconnect any component. Pressurized air can cause serious personal injury.

Removing the Quick Release with Double Check 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 recommendations 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 correct port on the replacement valve. Color-coded tubing is recommended for new installations.
6. Using a tubing removal tool or similar device, disconnect the push-to-connect air line tubing. Disconnect the remaining air line tubing by turning the tubing fitting counterclockwise, and cover the ends of the tubing to protect them against contamination.
7. Remove and save the mounting hardware that mounts the valve to the vehicle. Remove the valve assembly.

Installing the Quick Release with Double Check Valve

CAUTION

Be sure that the replacement valve has the same “crack pressure” as the valve being removed. The crack pressure is located on a tag or plate. A designation of QRDC010 designates a quick release with double check valve with a nominal crack pressure of 1.0 psi. Using a different crack pressure valve may cause a change in braking characteristics. Typical crack pressures are 0.0 and 1.0 psi.

1. Install the new quick release with double check valve using the hardware removed in Step 7 of the removal procedure. Tighten the mounting bolts from 17 ft-lb (23 N•m) minimum to 19 ft-lb (26 N•m) maximum for 5/16-inch SAE Grade 5 bolts.

CAUTION

Tubing for push-to-connect fittings must be cut cleanly and end cuts must be perpendicular within seven degrees. Angles and sharp edges can damage the seal in the fitting and cause air leakage.

WARNING

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

Ensure the tubing is connected correctly and securely. Insert the tubing into the push-to-connect fitting until it hits the stop in the fitting. After inserting the tubing, pull on the tubing to ensure that it is locked in the fitting. Unsecured tubing can cause excessive leakage which may lead to a loss of braking, resulting in loss of vehicle control. Serious personal injury can result.

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

WABCO

WABCO North America
1220 Pacific Drive
Auburn Hills, MI 48326 USA
855-228-3203
wabco-na.com

Information contained in this publication was in effect at the time the publication was approved for printing and is subject to change without notice or liability. WABCO reserves the right to revise the information presented or to discontinue the production of parts described at any time.

Copyright 2018
WABCO, Inc.
All Rights Reserved

Printed in USA

Function and Leakage Test

NOTE: Install test gauges where pressure readings are required.

1. Apply 15 ±5 psi (1.03 ±0.34 bar) to the balance port. The supply port is to be open. Apply a soap solution to the supply port and to the exhaust port. Leakage of a one-inch bubble in three seconds is permissible at each location. Pressure in the delivery port must be 15 ±5 psi (1.03 ±0.34 bar) minus the “crack pressure.”
2. Repeat Step 1 except apply 125 ±5 psi (8.62 ±0.34 bar) to the balance port. Pressure in the delivery port must be 125 ±5 psi (8.62 ±0.34 bar) minus the crack pressure.
3. Apply 15 ±5 psi (1.03 ±0.34 bar) to the supply port. The balance port is to be open. Apply a soap solution to the balance port and to the exhaust port. Leakage of a one-inch bubble in three seconds is permissible at each location. Pressure in the delivery port must be 15 ±5 psi (1.03 ±0.34 bar) minus the crack pressure.
4. Repeat Step 3 except apply 125 ±5 psi (8.62 ±0.34 bar) to the supply port. Pressure in the delivery port must be 125 ±5 psi (8.62 ±0.34 bar) minus the crack pressure.
5. Quickly apply and release the supply pressure at the balance port. The pressure in the delivery must rise and fall promptly. Repeat the above test with pressure applied and released at the supply port. The pressure in the delivery must rise and fall promptly. When air pressure is released at the supply port, some air may blow out the balance port.

Troubleshooting

Troubleshooting the Quick Release with Double Check Valve

WARNING

The quick release with double check 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. Serious personal injury can result.

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.

TP-10152
Revised 09-18
(16579)