

# WABCO

## Technical Bulletin

### Service Procedures for TP2DC Tractor Protection Valve

#### Hazard Alert Messages

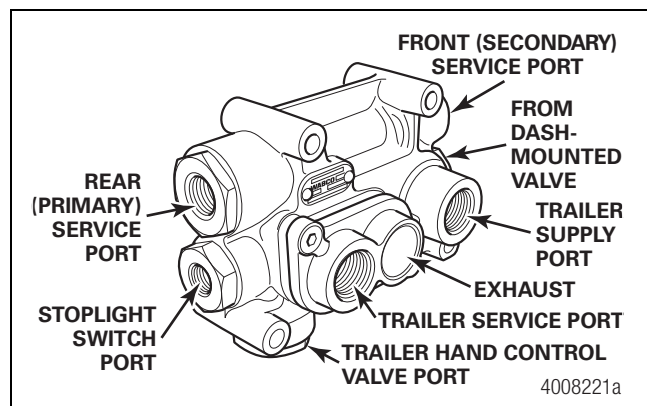
Read and observe all Warning and Caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.

#### 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 WABCO product line, please contact WABCO North America Customer Care at 855-228-3203 or visit our website, [wabco-na.com](http://wabco-na.com)

#### Description and Function

The WABCO tractor protection valve (TP2DC) is a trailer service brake air shut-off valve on the towing vehicle controlled from a dash-mounted push-pull valve. Service brake air comes from the foot valve primary or secondary or the trailer hand control valve to the two built-in two way check valves in the TP2DC. The tractor protection valve delivers and quick releases trailer service brake air when the pressure from the dash-mounted valve is above 65 psi (4.48 bar) and blocks the trailer service brake air when the pressure is below 15 psi (1.03 bar). It protects against loss of tractor service air when operating without a trailer.



#### Service Procedures

Before servicing the WABCO TP2DC tractor protection 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 TP2DC Tractor Protection 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 total 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 proper 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 and cover the ends of the tubing to protect them against contamination.
7. Remove the assembly from the vehicle and save the mounting hardware.

## Installing the TP2DC Tractor Protection Valve

1. Install the new tractor protection valve using the hardware removed in Step 7 of the removal procedure. Tighten the mounting bolts from 10 ft-lb (14 N•m) minimum to 12 ft-lb (16 N•m) maximum (SAE Grade 8 or Class 10.9 metric). 

### 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

**Ensure the tubing is connected correctly and securely. Insert the tubing into the push-to-connect fitting until it hits a 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 function, resulting in loss of vehicle control.**

**Do not kink the tubing. Kinked tubing can block the flow of air which may cause a loss of braking function, resulting in loss of vehicle control.**

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

## Function and Leakage Test

1. With  $125 \pm 5$  psi ( $8.62 \pm 0.34$  bar) in all service reservoirs and with the dash-mounted trailer supply valve in the park position (knob out) and with the trailer service line hose coupling open, make a full application of the trailer hand control valve. Apply a soap solution to the tractor protection valve exhaust port and to the trailer service line hose coupling. Leakage of a one-inch (25.4 mm) bubble in three seconds is permissible at each location.

2. Connect test gauges to the trailer service line hose coupling and to the trailer supply line hose coupling. With the dash-mounted trailer supply valve in the run position (knob pushed in) and with  $125 \pm 5$  psi ( $8.62 \pm 0.34$  bar) in all service reservoirs, make a full application of the trailer hand control valve. Pressure must be present at both test gauges. Apply a soap solution to the tractor protection valve exhaust port and foot valve exhaust port. Leakage of a one-inch (25.4 mm) bubble in three seconds is permissible at each location.
3. With both test gauges still in place,  $125 \pm 5$  psi ( $8.62 \pm 0.34$  bar) in all service reservoirs and with the dash-mounted trailer supply valve in the run position (knob pushed in), make a full application of the foot valve. Pressure must be  $125 \pm 5$  psi ( $8.62 \pm 0.34$  bar) at both gauges. Apply a soap solution to the tractor protection valve exhaust port and to the hand control valve exhaust port. Leakage of a one-inch (25.4 mm) bubble in three seconds is permissible at each location.
4. Connect a 50 cu. in. (819 cc) reservoir to the trailer service line hose coupling. With the dash-mounted trailer supply valve in the run position (knob pushed in) and with  $125 \pm 5$  psi ( $8.62 \pm 0.34$  bar) in all service reservoirs, quickly apply and release the foot valve. The pressure in the 50 cu. in. (819 cc) reservoir must rise and fall promptly.

## Troubleshooting

### Troubleshooting the TP2DC Tractor Protection Valve

#### WARNING

**The TP2DC tractor protection 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.

# 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

TP-10112  
Revised 09-18  
(16579)