

MERITOR WABCO

Technical Bulletin

Installing the Meritor WABCO Tire Inflation Module to Support Telematics Systems

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.

⚠ 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 or fall over. Serious personal injury and damage to components can result.

When you work on an electrical system, the possibility of electrical shock exists, and sparks can ignite flammable substances. You must always disconnect the battery ground cable before you work on an electrical system to prevent serious personal injury and damage to components.

How to Obtain Additional Maintenance, Service and Product Information

Refer to Meritor Maintenance Manual 14P, Meritor Tire Inflation Systems (MTIS) by P.S.I.™, for additional information regarding the MTIS; or technical publication TP-20214, Enhanced Easy-Stop™ Trailer ABS 2S/2M, 4S/2M and 4S/3M Premium with PLC Installation Instructions. Meritor WABCO publications are available on our website:

Meritorwabco.com

If you require technical assistance, contact the Meritor OnTrac™ Customer Call Center 866-OnTrac1 (668-7221).

How to Obtain Parts

To obtain parts, call Meritor's Commercial Vehicle Aftermarket at 888-725-9355.

Introduction

The Meritor WABCO tire inflation module is designed to communicate the Meritor Tire Inflation System (MTIS) fill events via power line carrier (PLC) to the Meritor WABCO tractor ABS or ESC controller. The MTIS is designed to maintain trailer tire pressure at desired pressured levels on commercial trailers. When the pressure of any tire falls below the preset value, air flow will be delivered to the tires by the MTIS. This air flow is detected by the flow-sensing switch located within the control box through an internal electrical contact. Figure 1. This electrical contact will close during a tire fill event, activating the tire inflation module and MTIS warning light. When the tire inflation module is activated, it transmits a PLC signal that is converted to J1939 and J1708/J1587 by the Meritor WABCO tractor anti-lock braking system (ABS) and electronic stability control (ESC) module, which is then received by the telematics system.

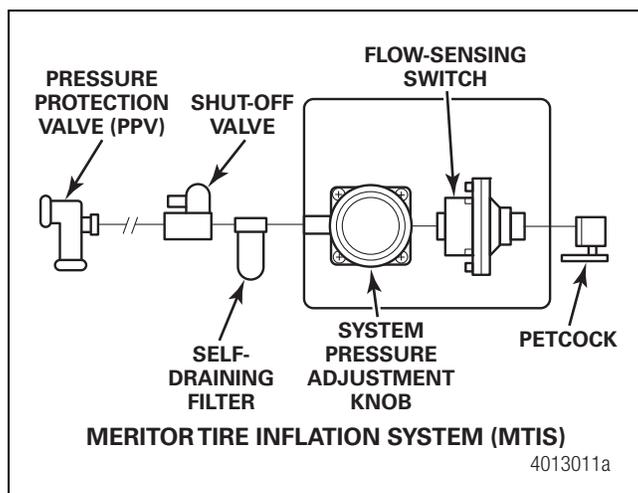


Figure 1

The MTIS is typically mounted on a trailer cross member or frame rail near the axles and reservoir tank. When the MTIS control box is opened, note the two electrical contacts located on the flow-sensing switch. These electrical contacts will be populated with electrical leads which power the MTIS warning lamp when a tire fill event occurs. Figure 2 and Figure 3.

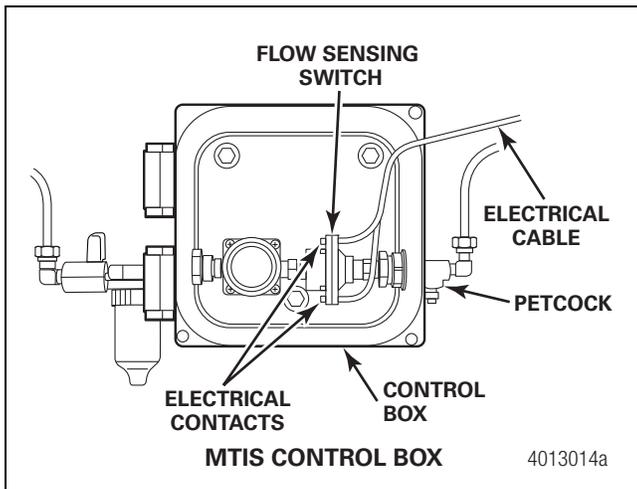


Figure 2

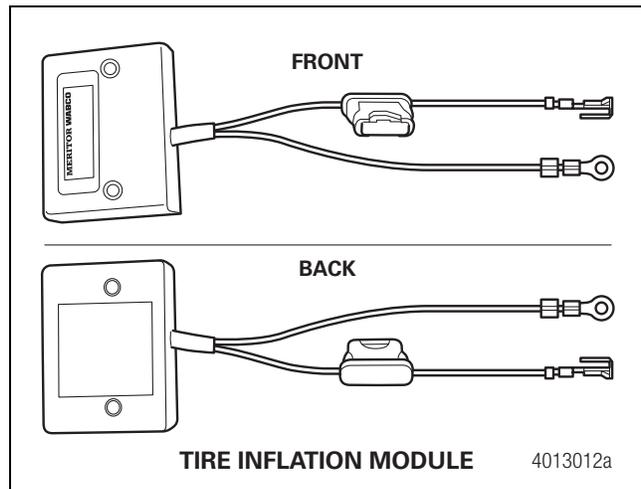


Figure 4

NOTE: The tire inflation module does not support road train applications where more than one trailer is behind the tractor.

Recommended Installation Procedure

1. For maximum bond strength of the mounting tape, thoroughly clean the surface within the MTIS control box to remove any grease and/or dirt. Ideal application of the tape is accomplished when temperatures of the tape and mounting surface are between 70°F and 100°F (21° and 37.7°C). Application of the tape is not recommended at temperatures below 50°F (10°C).
2. Remove the plastic film on the double-sided tape ensuring no dirt or debris comes in contact with the exposed tape adhesive. Firmly place the module tape side down within the MTIS control box. Maintain access to the mounting fasteners of the control box as shown in Figure 5.

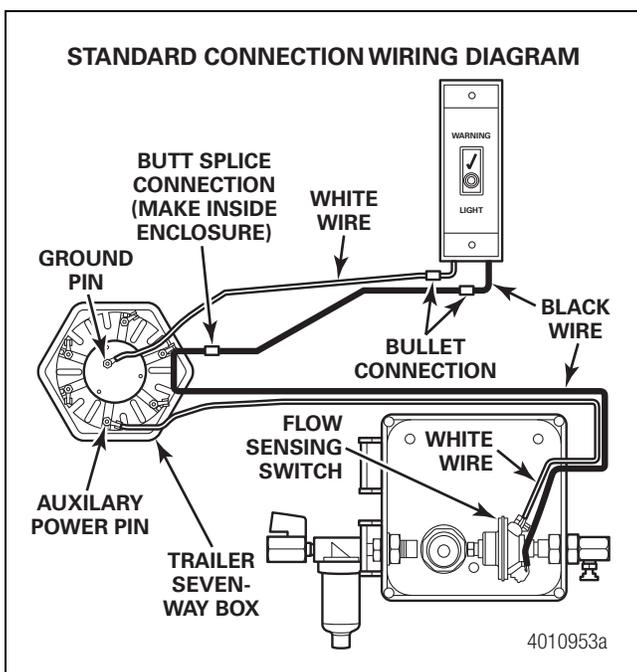


Figure 3

The tire inflation module includes two electrical leads: one eyelet terminal and one dual-spade terminal. Double-sided tape on the back of the module is included for mounting purposes. Figure 4.

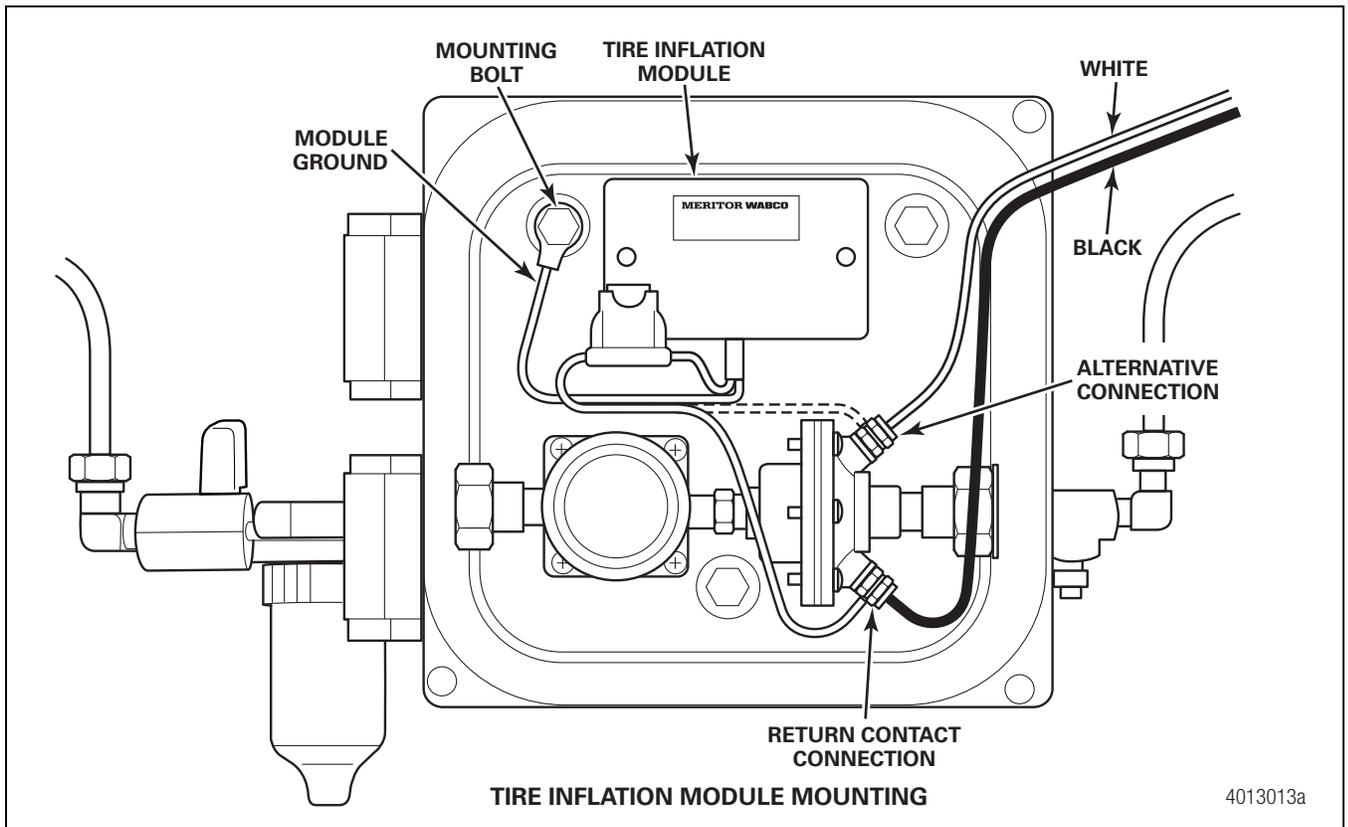


Figure 5

3. Remove the upper left MTIS control box mounting bolt to attach the ring terminal lead to the inside of the box. Place the ring terminal within the mounting bolt and reattach the bolt to the assembly. This provides electrical ground to the module. Figure 5.
 4. Apply power to the trailer and examine the existing electrical leads within the MTIS control box. Determine which of the leads attached to the MTIS flow switch is the return line used to power the MTIS indicator lamp (mounted on the front of the trailer). The return line is typically the black wire, if the standard wiring is used. Figure 3. Using a volt meter, attach its negative lead to chassis ground and then use the positive lead to probe each of the switch's terminals. If the meter displays 12 volts when touching one terminal, the supply lead is identified. If the meter reads 0 volts when touching the other terminal, the return lead is identified. The return lead is the terminal/wire where the module's dual-spade lead needs to be placed.
 5. Remove power from the vehicle, then remove the return voltage wire from the switch terminal. Install the module's dual-spade terminal onto the switch terminal and then reattach the return voltage wire onto the dual-spade male terminal. When the flow-sensing switch is closed, the tire inflation module and MTIS indicator light will be powered.
 6. Ensure the trailer includes a correct chassis ground provision. A common chassis ground point connects the trailer frame/chassis to the ground pin of the J560 seven-way connector. Refer to technical publication TP-20214 for additional information. Common chassis ground can be verified by measuring the resistance between the J560 ground pin and the vehicle chassis (or frame) and confirming that the resistance is less than 10 ohms ($<10 \Omega$). If this is not the case, the electrical contact at the common chassis ground point is not sufficient or not present. If a common chassis ground point is present, but not sufficient, ensure that there is no paint or debris inhibiting electrical contact at the ground point. If a common chassis ground point is not present, Meritor WABCO requires adding one.
- Most J560 nose boxes include a common chassis ground lug/point that allows for the standard ground wire to be electrically connected to the trailer chassis (or frame). It may be also possible to add a common chassis ground provision through the mounting bolt of the existing J560 nose box. To determine this possibility, check the resistance of the J560 nose box mounting bolt to the trailer chassis. Ensure that there is no paint or debris inhibiting electrical contact at the measurement points. If this measurement is less than 10 ohms ($<10 \Omega$), a jumper harness can be fabricated to provide the common chassis ground provision, connecting the ground lug/point

within the J560 nose plug to the chassis grounded mounting bolt of the nose box. Figure 6. If doing so, ensure that the J560 nose box remains sealed to the outside environment. If neither of these solutions are possible with the existing J560 nose box, replace it with one that includes a common chassis ground lug/point.

NOTE: Do not add more than one common chassis ground point (connecting the J560 ground pin to the chassis) to avoid potential ground shifts within the vehicle electrical system.

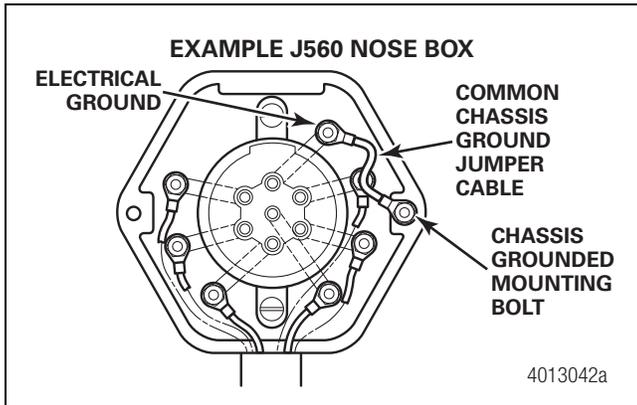


Figure 6

7. For slider applications only, Meritor WABCO requires adding a ground strap from the trailer frame to the sliding suspension bogie if one is not currently present. This can be verified by measuring the resistance between trailer frame and the sliding suspension bogie and confirming that the resistance is less than 10 ohms (<10 Ω).
8. Test the communication system for correct functionality. Electrically and pneumatically connect the trailer to a Meritor WABCO ABS-equipped tractor to test the tire inflation telematics alert. Ensure that the telematics system has been updated to receive the tire inflation message (consult the telematics provider). Power up both the tractor and trailer. Create a fill event by opening the MTIS petcock (Figure 2) located outside of the MTIS control box. With the petcock open, look for the telematics system to report the fill event. Some telematics systems provide a driver notification on the display, and some require verification of remote notification to the fleet maintenance manager or fleet data analyst.

MERITOR WABCO

Meritor WABCO Vehicle Control Systems
2135 West Maple Road
Troy, MI 48084-7121 USA
866-OnTrac1 (668-7221)
meritorwabco.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. Meritor WABCO reserves the right to revise the information presented or to discontinue the production of parts described at any time.

Copyright 2016
Meritor, Inc.
All Rights Reserved

Printed in USA

TP-1705
Issued 11-16
(16579)