

MERITOR WABCO

Installation Guide

Installing the Meritor Tire Inflation Systems (MTIS™) by P.S.I. Control Box to the Meritor WABCO Trailer RSS 1M System to Support the Meritor WABCO PLC Display with InfoLink™

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, Service and Product Information

Refer to Maintenance Manual 14P, Meritor Tire Inflation Systems (MTIS™) by P.S.I.; technical bulletin TP-0607, PLC Display Installation and Operation Guide; technical bulletin TP-0685, PLC Display Kit Installation Instructions; Installation Guide TP-10169, Trailer ABS with Roll Stability Support (RSS 1M) for Constant Power Trailers with Air or Mechanical Suspensions; and Maintenance Manual MM-10168, RSS 1M Trailer ABS with Roll Stability Support. Call the Meritor OnTrac™ Customer Call Center at 866-OnTrac1 (668-7221) to obtain these publications. Meritor WABCO publications are also available on our website:

www.meritorwabco.com

Introduction

Meritor Tire Inflation Systems (MTIS™) by P.S.I. uses compressed air from the trailer to inflate any trailer tire that falls below the system air pressure setting during operation. Air from the existing trailer air supply is routed to a control box, then into each axle.

Acting as a conduit, axles carry air through a rotary union assembly at the spindle end which then distributes air to each tire as needed.

NOTE: An indicator light on the front of the trailer informs the driver of an excessive amount of airflow through the system. If the indicator light is illuminated, appropriate maintenance or repairs to the system should be performed, as there may be an air leak in the MTI system.

The PLC display by Meritor WABCO mounts to the vehicle's instrument panel enabling the driver to monitor the MTIS air pressure warnings. Refer to technical bulletin TP-0685 for display mounting instructions. Refer to technical bulletin TP-0607 for PLC display operation instructions.

This installation guide covers installing the parts necessary for trailers to have MTIS installed, for the Meritor WABCO in-dash PLC display. Refer to Maintenance Manual 14P for more detailed assembly, installation, inspection and maintenance information for MTIS not covered under this publication.

NOTE: In order to have the cable pigtail pre-installed into the MTIS control box, order your normal MTIS part number with the letters "MW" added to the end of the part number. (Example: xxx-xxx-xxx-xMW)

Installation of the MTIS

⚠ 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.

Remove air pressure from the trailer air system before beginning installation.

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.

1. Wear safe eye protection.

2. Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving.
3. Install the MTIS control box with the Meritor WABCO MTIS pre-installed pigtail cable. Figure 1.
4. Insert the black and white wires of the MTIS electrical cable through the unused black locknut and into the MTIS box. Figure 1. Turn the black locknut CLOCKWISE to fasten securely. Figure 2.

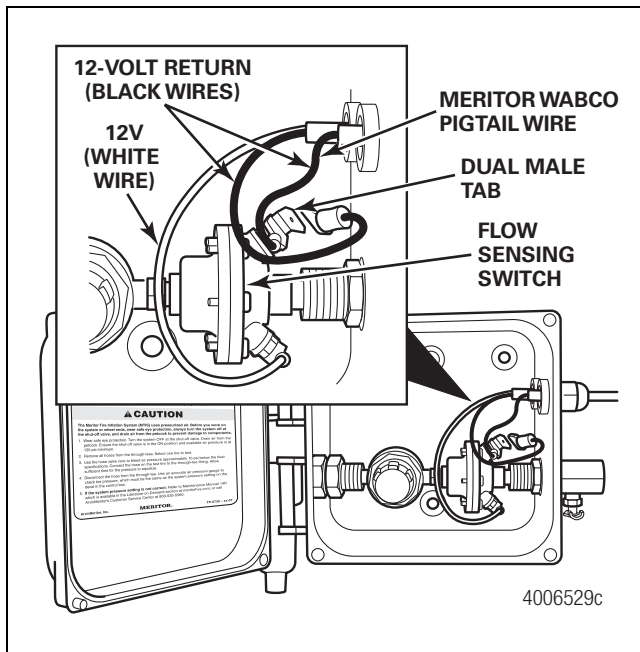


Figure 1

5. Fasten the 12-volt return (black) wire terminal of the MTIS electrical cable onto the dual male tab as shown in Figure 1. Confirm that the 12-volt return (black) wire terminal of the Meritor WABCO MTIS pigtail cable is attached to the flow sensing switch as shown in Figure 1.
6. Fasten the 12-volt (white) wire of the MTIS electrical cable terminal onto the tab on the opposite side (bottom shown) of the flow sensing switch. Figure 1.

NOTE: Refer to Maintenance Manual 14P for more detailed assembly, installation, inspection and maintenance information for MTIS.

7. Remove the protective caps from the Meritor WABCO MTIS pigtail cable and the GIO "Y" cable. Figure 2.
8. Connect the Meritor WABCO MTIS pigtail cable to the optional sensor extension cable. Figure 2.

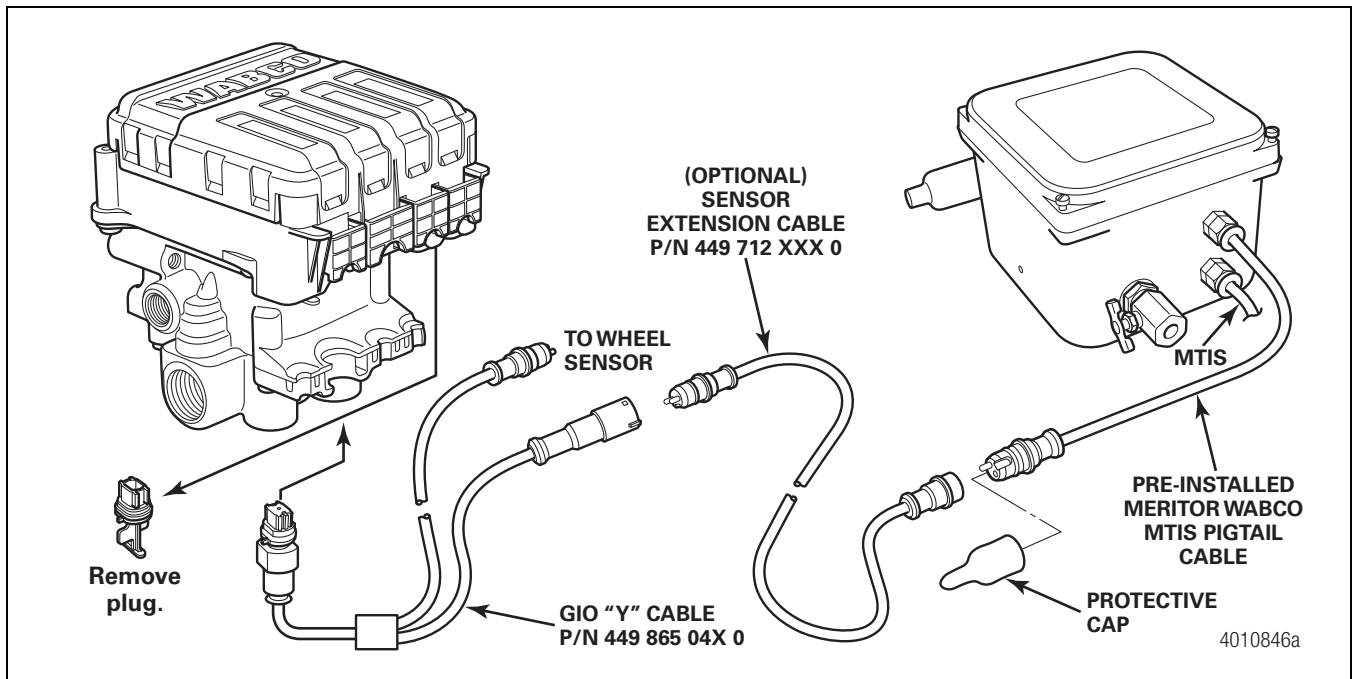


Figure 2

9. Connect the optional sensor extension cable to the GIO "Y" cable. Figure 2.
10. Connect the GIO "Y" cable to the generic I/O port labeled ABS d/4.
11. Connect the remaining lead of the GIO "Y" cable to the wheel speed sensor cable.
12. Secure the cable as appropriate with the correct strain relief to prevent overtightening or overstretched condition that would damage the wire.

Part List

| Description | Length | Part Number |
|------------------------|----------------|---------------|
| Sensor Extension Cable | 0.76 meter | 449 712 008 0 |
| Sensor Extension Cable | 1.30 meters | 449 712 013 0 |
| Sensor Extension Cable | 1.78 meters | 449 712 018 0 |
| Sensor Extension Cable | 1.90 meters | 449 712 019 0 |
| Sensor Extension Cable | 3.81 meters | 449 712 038 0 |
| GIO "Y" Cable | 1.0/2.0 meters | 449 865 046 0 |
| GIO "Y" Cable | 1.0/3.0 meters | 449 865 048 0 |
| RSS 1M ECU | | 480 110 001 0 |

Activating The MTIS Tire Inflation Option With TOOLBOX™ Software

Once the hardware has been installed, the Generic I/O Tire Inflation option must be activated using Meritor WABCO TOOLBOX™ software version 11.3 or later.

After Generic I/O activation, the End-of-Line test must be completed for new builds or new ECU replacement. Refer to Installation Guide TP-10169, Trailer ABS with Roll Stability Support (RSS1M™) for Trailers with Air or Mechanical Suspensions, or Maintenance Manual MM-10168, RSS1M™ Trailer ABS with Roll Stability Support, for step-by-step instructions on programming and conducting the End-of-Line test.

1. Enter the Roll Stability portion of TOOLBOX™ Software. From the menu bar at the top, choose the **System** pull-down menu and select **Edit Parameters From ECU**. Figure 3.

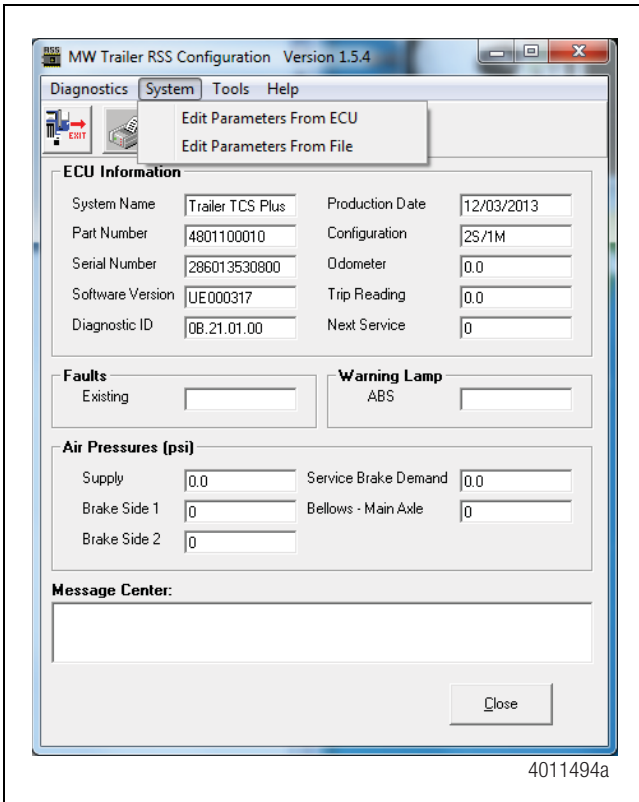


Figure 3

- From the first parameter screen labeled *RSS System Parameters*, press the **Next** button located at the bottom of the window. There is no change in parameters at this screen. Figure 4.

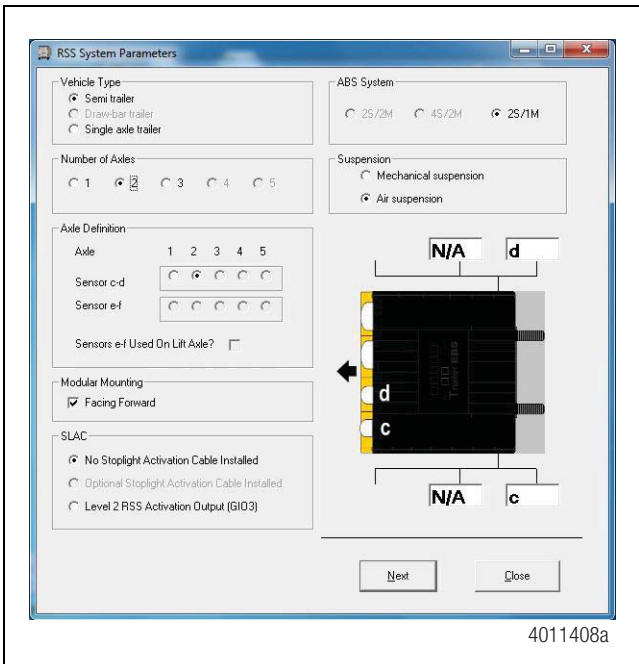


Figure 4

- The *GIO Selection* screen appears. Click on the box adjacent to the label **Tire Inflation System**. Ensure that a check mark appears in the box. Then press the button labeled **Next** at the bottom of the screen. Figure 5.

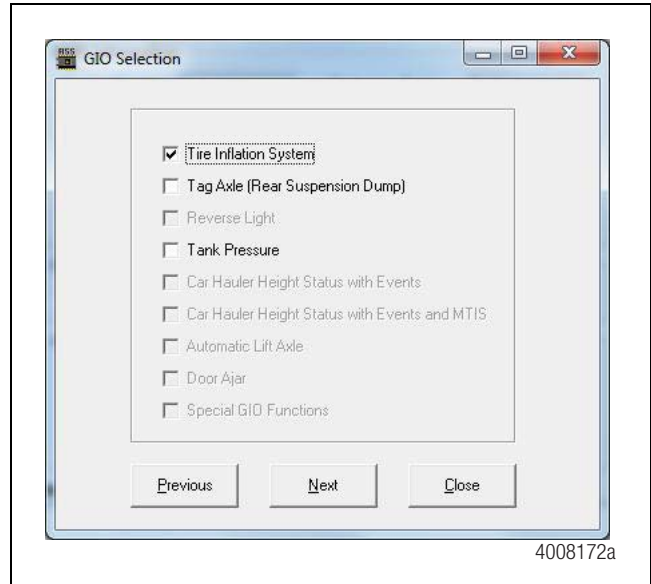


Figure 5

- From the parameter screen labeled *RSS LSV Parameters*, press the **Next** button located at the bottom of the window. There is no change in parameters at this screen. Figure 6.

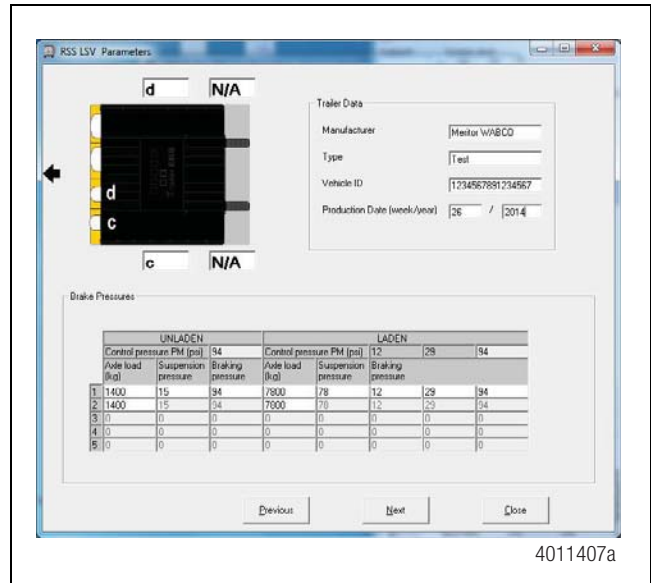


Figure 6

- From the parameter screen labeled *RSS / ABS Parameters*, enter the appropriate information in the Vehicle Data area. There is no change in parameters at this screen. Press the **Save To ECU** button located at the bottom of the window. Figure 7.

NOTE: Ensure that “RSS On - Twin Tires” or “RSS On - Single Tires” is selected.

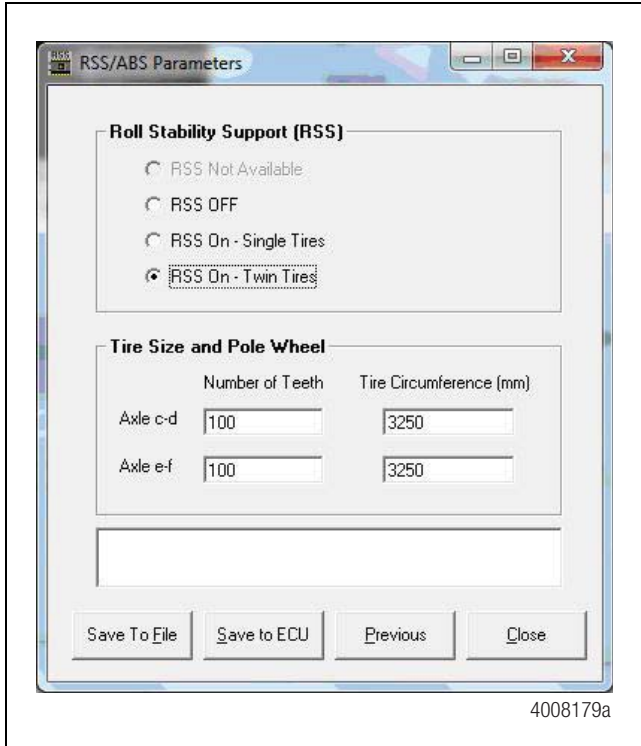


Figure 7

6. Once a message is displayed confirming a successful save, you may exit the TOOLBOX™ Software. Be sure to cycle the power on the trailer in order to reset the ECU. An End-Of-Line test is not required on a previously programmed ECU. A new ECU, however, REQUIRES an End-of Line test.

Testing the MTIS System

Verification of correct parameterization and ECU broadcast of MTIS messages can be confirmed through the PLC Display. Refer to Technical Bulletin TP-0607 and Maintenance Manual 14P for details.

Cable Strain Relief Guidelines

It is important that cabling follow good strain relief practices to ensure maximum performance and durability. Failure to provide adequate strain relief on the cables can result in future maintenance not covered under warranty.

Strain relief is defined as a small amount of slack in the cable at the area of connection. This lack of cable tension allows for slight movement of the cable during times when components of the suspension and air system may be in motion. A small amount of slack also eases access to other system components.

A taut cable can affect the lifespan of the cable. Cables without adequate strain relief can potentially stress a cable connection enough that cable performance is affected. Unnecessary wear at or near bend points can be the result of a cable under tension. Moisture intrusion at the component/cable connection point can also be the result of a cable under tension.

It is recommended that cable connections to a component, such as an ECU or external valve, display a visible amount of slack in the cable up to the first tie or clip that secures the cable to trailer structure or air line. This first anchor point should be a minimum of 6-inches and a maximum of 12-inches from the cable/component connection. This applies to all sensor, power, valve and GIO cables.

When placing ties used for cable-to-cable connections, have at least a one-inch (25.4 mm) distance from the cable connector. Do not place a tie on the connector itself.

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 2015
Meritor, Inc.
All Rights Reserved

Printed in USA

TP-1288
Revised 01-15
(16579)