

MERITOR WABCO

Installation Guide

Installing the Meritor WABCO Trailer RSS*plus*[™] Tag Axle Option

Kit 400 850 842 0, Kit 400 850 842 2
Must be used with the following Meritor WABCO
InfoLink[™]-equipped ECU/Valve assemblies:
480 107 000 0

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 Technical Bulletin TP-0685, PLC Display Kit Installation Instructions; Installation Guide TP-0887, Trailer ABS with Roll Stability Support (RSS*plus*[™]) for Constant Power Trailers with Air or Mechanical Suspensions; and Maintenance Manual MM-0888, RSS*plus*[™] 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

How to Obtain Tools, Kits and Supplies

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

NOTE: Application Sheet WT-0212 (single trailers) or WT-0213 (double trailers) must be completed and submitted to Meritor WABCO Trailer Engineering for approval prior to installing the Tag Axle Option Kit. This will allow Meritor WABCO to assist the trailer builder in determining correct application in order to achieve desired performance. Application Sheets WT-0212 and WT-0213 can be found at www.meritorwabco.com.

Tag Axle Kit 400 850 842 0 without Indicator Lamp

- 472 170 997 0 — 3/2 solenoid valve
- 449 810 148 0 — 3-meter single-port Y-cable
- MISC-13128 — Installation Guide link

Tag Axle Kit 400 850 842 2 with Indicator Lamp

- 472 170 997 0 — 3/2 solenoid valve
- 449 866 010 0 — Multiple generic I/O cable
- 449 518 030 0 — Solenoid valve cable
- 449 711 060 0 — Extension cable for indicator lamp
- 449 711 150 0 — Extension cable for activation switch
- Misc-13128 — Installation Guide link

Other Components Sold Separately

- 110591 — SEALCO pilot lockout valve* (required)
- Optional, 1300-05 — Residual pressure valve*
- 400 850 411 0 — PLC Display
- Optional, 715152 — Breather*
- TM101 — Toggle switch*
- TP-11113 — Tag Axle Label

*Call SEALCO Commercial Vehicle Products at 602-253-1007 to obtain this part.

Introduction

The Meritor WABCO Trailer RSS*plus*[™] with InfoLink[™] Tag Axle Option uses the generic I/O capability to control the tag axle function of a trailer that is in compliance with FMCSA 393.207. It controls the operation of a tag axle by using driver input from the tractor cab as well as wheel speeds to decide when to exhaust air out of the tag axle air bags to maneuver the trailer with ease around corners at low speeds.

A 12-volt switch input from the driver signals the ECU to deflate the tag axle bags when the vehicle is below 10 mph (16 kph). Once the vehicle exceeds 10 mph (16 kph), the bags automatically reinflate to the correct ride height. If the switch is activated and the vehicle speed exceeds 30 mph (48 kph) for 30 seconds or more, the ECU will not allow the driver to deflate the air bags until the switch has been cycled to OFF and then back to ON and the speed is less than 10 mph (16 kph).

The optional PLC display by Meritor WABCO mounts to the vehicle's instrument panel enabling the driver to monitor the status of the tag axle. Figure 1 and Figure 2.

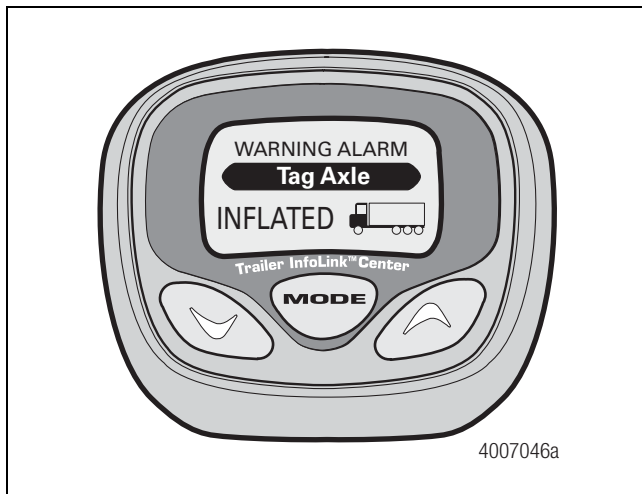


Figure 1

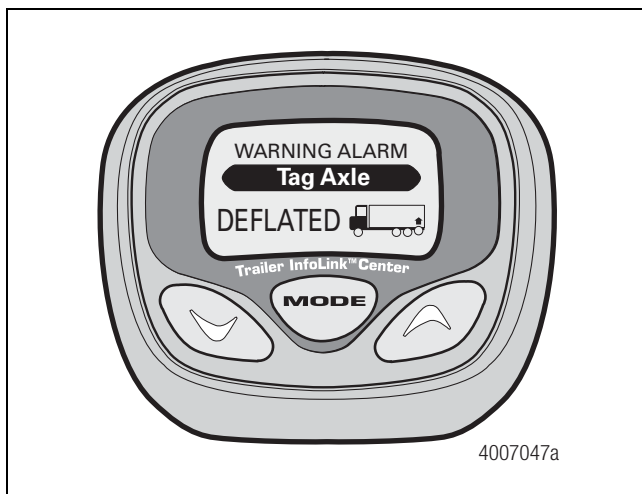


Figure 2

Refer to the instructions in this technical bulletin for installing the Meritor WABCO Trailer RSSplus™ with InfoLink™ Tag Axle Option.

Refer to Technical Bulletin TP-0685 for instructions on installing the PLC display.

Installation

Tag Axle Kit 400 850 842 0 without Indicator Lamp

NOTE: In the absence of an indicator lamp, it is essential that you install the PLC display so that the driver has continuous visual access to the tag axle status.

⚠ WARNING

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

Remove all pressure from the air system before you disconnect any component. Pressurized air can cause serious personal injury.

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.

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.

NOTE: The trailer must not be loaded during this component installation.

3. Drain the brake and suspension systems of air before starting this procedure.
4. Disconnect the electrical power before starting this procedure.
5. Connect the single port Y-cable, part number 449 810 148 0, to the ECU port labeled GI03 and secure it with the locking tab. Figure 3 and Figure 4.

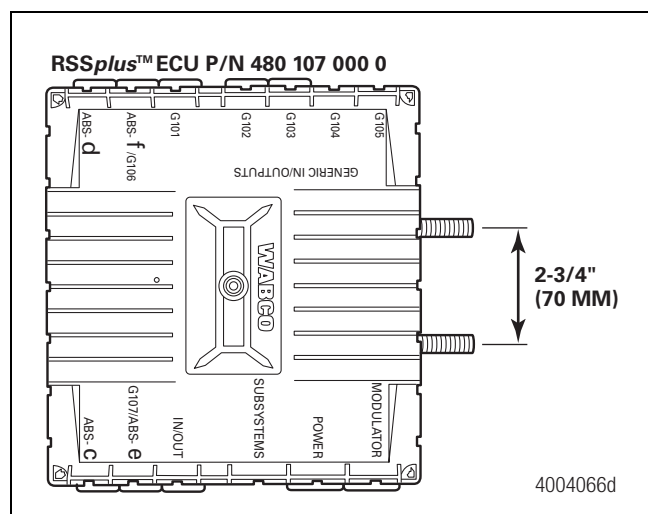
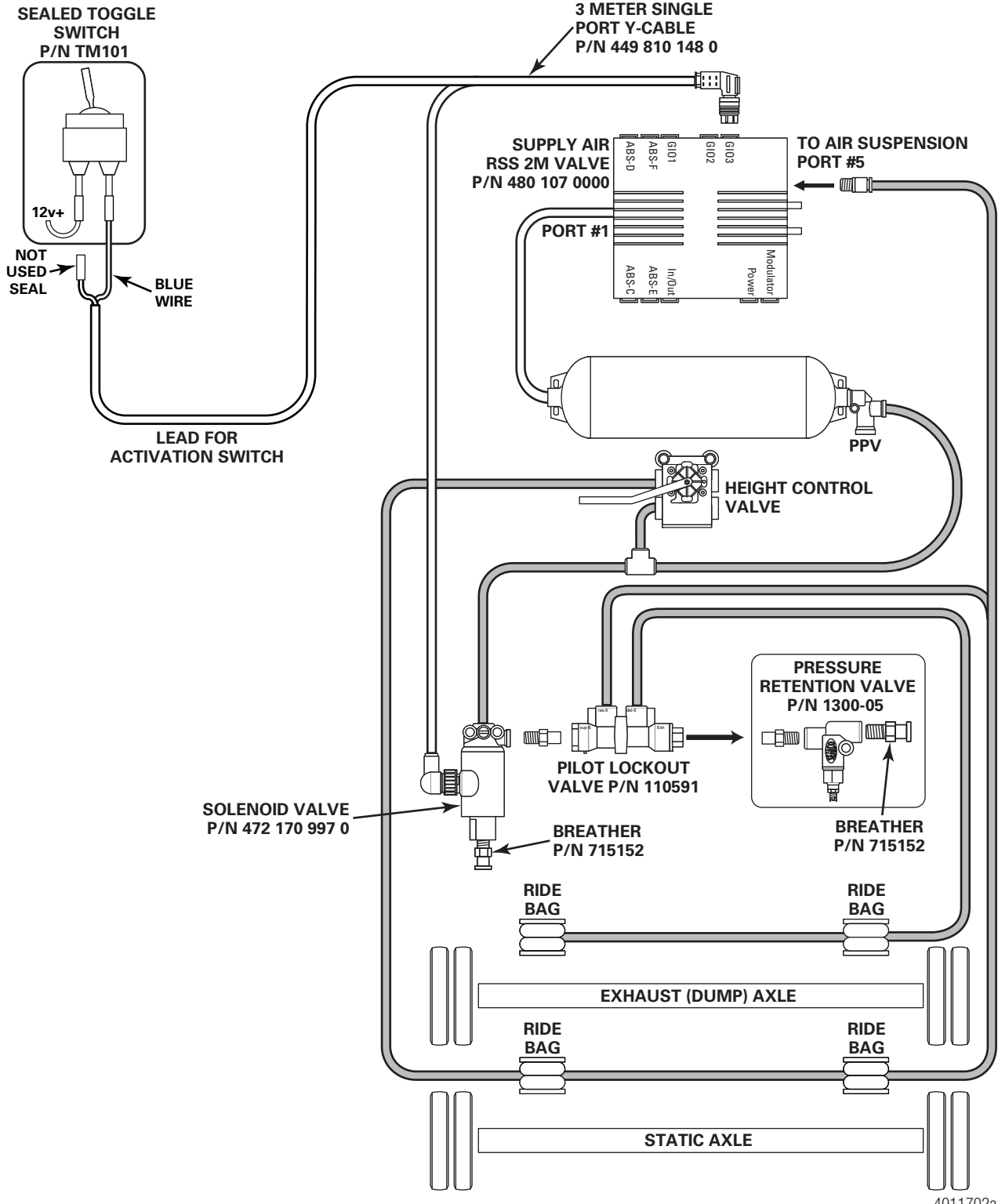


Figure 3

TAG AXLE KIT 400 850 842 0 WITHOUT INDICATOR LAMP



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Figure 4

- Connect the single-port Y-cable socket to the 3/2 solenoid valve, part number 472 170 997 0. Twist the socket to ensure it locks securely to the valve. Figure 4.
- Ensure that the solenoid valve is installed correctly. Figure 5.

NOTE: A plastic or mylar barrier must be installed between the solenoid valve and it's mounting surface to protect against corrosion.

⚠ WARNING

Ensure the thread sealant does not enter inside any of the ports as it could damage the solenoid valve and affect system performance. Figure 5. Damage to components and serious personal injury can result.

- Apply a thread sealant and install the 1/4-inch to 3/8-inch adapter fitting from the solenoid valve to the pilot lockout valve, SEALCO part number 110591. Figure 5.

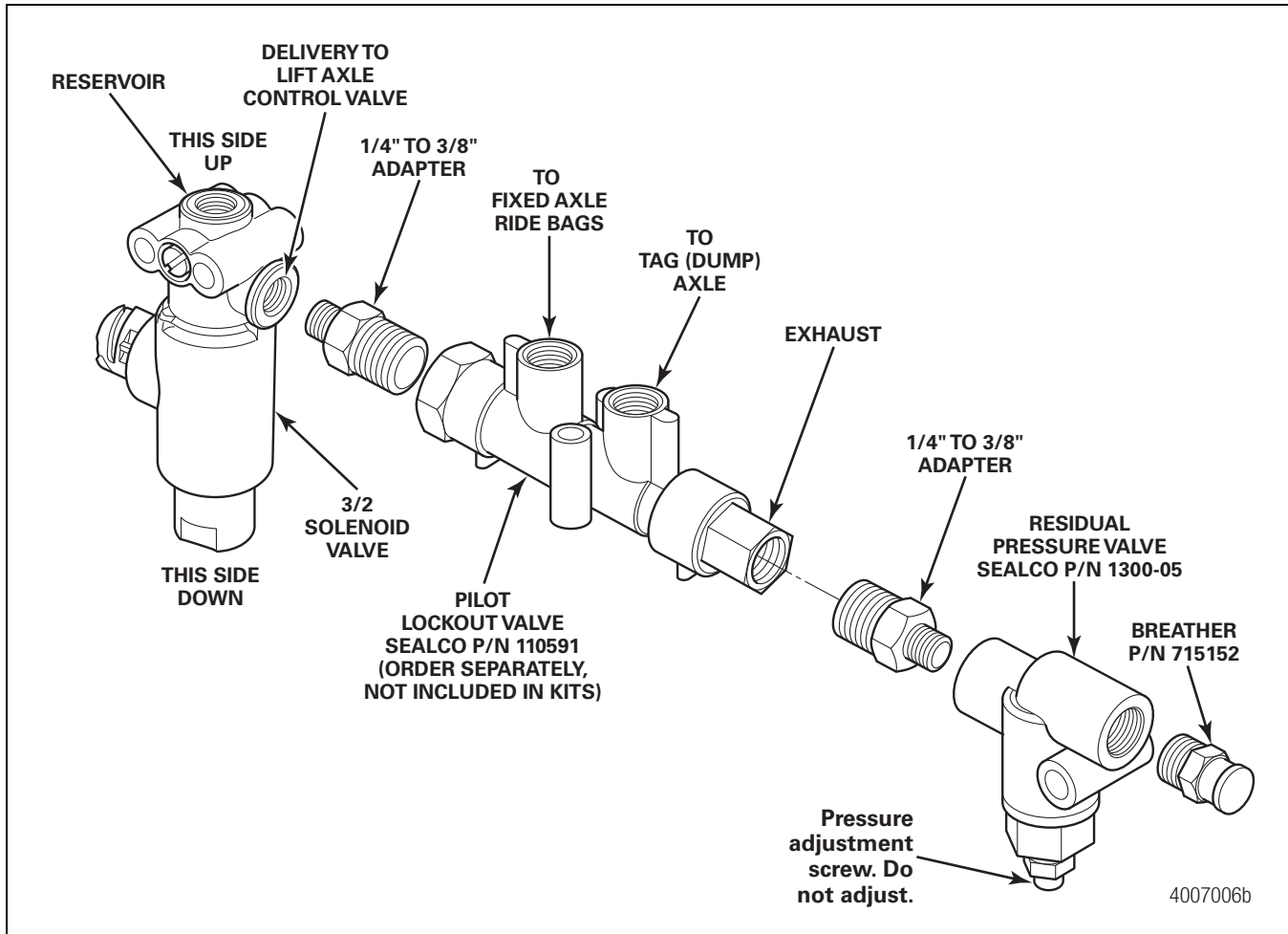


Figure 5

- Connect the blue wire of the blunt-cut lead on the Tag Axle “Y” cable, part number 449 810 148 0, to a wire that leads into the cab of the tractor. This extended blue wire will connect to a single-pole, single-throw switch (not supplied) mounted inside the cab of the tractor. The other side of the switch is attached to 3-amp fused, 12-volt DC power in the tractor. The brown wire on the blunt-cut lead of the Tag Axle “Y” cable is not used and must be capped.

NOTE: Connect the blue wire to its extension lead within a junction box if possible. If a junction box is not available, ensure that the connection is weatherproofed and electrically insulated. Figure 4.

- Optional: Install the residual pressure valve (SEALCO part number 1300-05) to prevent air bag damage. This will allow 5 psi (0.34 bar) of air to remain in the air bags of the tag axle. Figure 5.

NOTE: Do not attempt to adjust the pressure adjustment screw on the residual pressure valve. It is preset to the correct pressure.

11. Install the optional breather (SEALCO part number 715152) onto the residual pressure valve. This will prevent water and contamination from entering into the residual pressure valve.

Tag Axle Kit 400 850 842 2 with Indicator Lamp

WARNING

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

Remove all pressure from the air system before you disconnect any component. Pressurized air can cause serious personal injury.

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.

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.

NOTE: The trailer must not be loaded during this component installation.

3. Drain the brake and suspension systems of air before starting this procedure.
4. Disconnect the electrical power before starting this procedure.
5. Connect the multiple generic I/O cable, part number 449 866 010 0, to the ECU port labeled GI03 and secure it with the locking tab. Figure 6 and Figure 7.

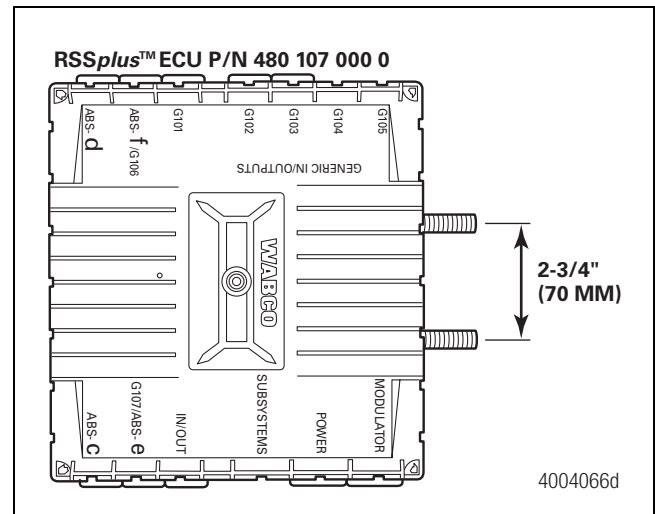
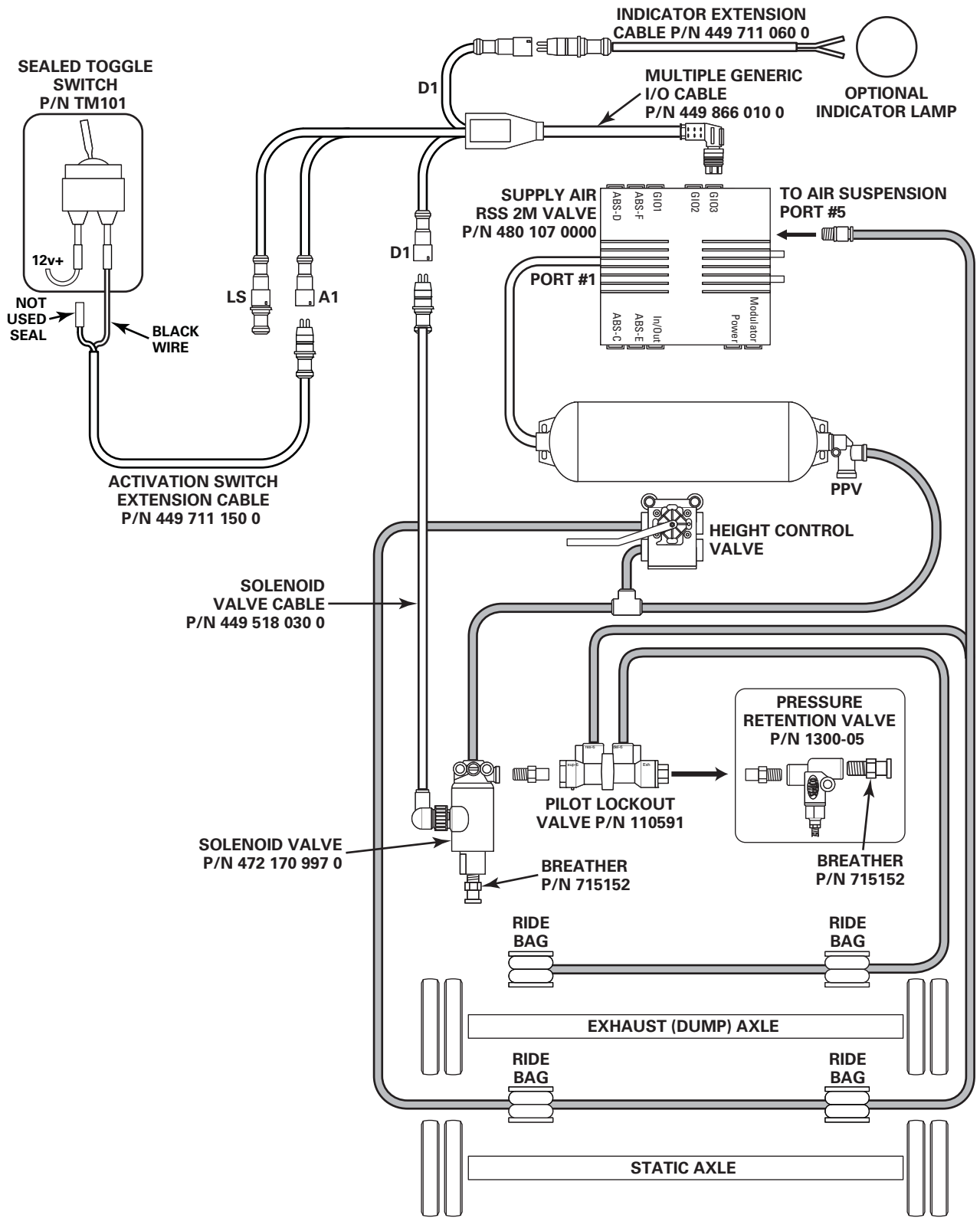


Figure 6

TAG AXLE KIT 400 850 842 2 WITH INDICATOR LAMP



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Figure 7

6. Connect the indicator lamp cable, part number 449 711 060 0, to the lead labeled "D1" on the multiple generic I/O cable, part number 449 866 010 0.
7. Connect the indicator lamp cable leads to a 12-volt incandescent or load resistored LED light. This OEM supplied lamp should be mounted on the trailer in the view of the driver. Connect the black wire to the power lead and the brown wire to ground.
8. Connect the activation switch cable, part number 449 711 150 0, to the lead labeled "A1" on the multiple generic I/O cable, part number 449 866 010 0.
9. Connect the black wire of the blunt-cut lead on the activation switch extension cable, part number 449 711 150 0, to a wire that leads into the cab of the tractor. This extended black wire will connect to a single-pole, single-throw switch (not supplied) mounted on the dashboard in the cab of the tractor. The other side of the switch is attached to 3-amp fused, 12-volt DC power in the tractor. The brown wire on the blunt-cut lead of the activation switch extension cable is not used and must be capped.

NOTE: Connect the black wire to its extension lead within a junction box if possible. If a junction box is not available, ensure that the connection is weatherproofed and electrically insulated.

10. Connect the 3/2 solenoid valve cable, part number 449 518 030 0, to the lead labeled "D1" on the multiple generic I/O cable, part number 449 866 010 0.
11. Connect the solenoid valve cable socket to the 3/2 solenoid valve, part number 472 170 997 0. Twist the socket to ensure it locks securely to the valve. Figure 7.
12. Ensure that the solenoid valve is installed correctly. Figure 8.

NOTE: A plastic or mylar barrier must be installed between the solenoid valve and its mounting surface to protect against corrosion.

WARNING

Ensure the thread sealant does not enter inside any of the ports as it could damage the solenoid valve and affect system performance. Figure 8. Damage to components and serious personal injury can result.

13. Apply a thread sealant and install the 1/4-inch to 3/8-inch adapter fitting from the solenoid valve to the pilot lockout valve, SEALCO part number 110591. Figure 8.

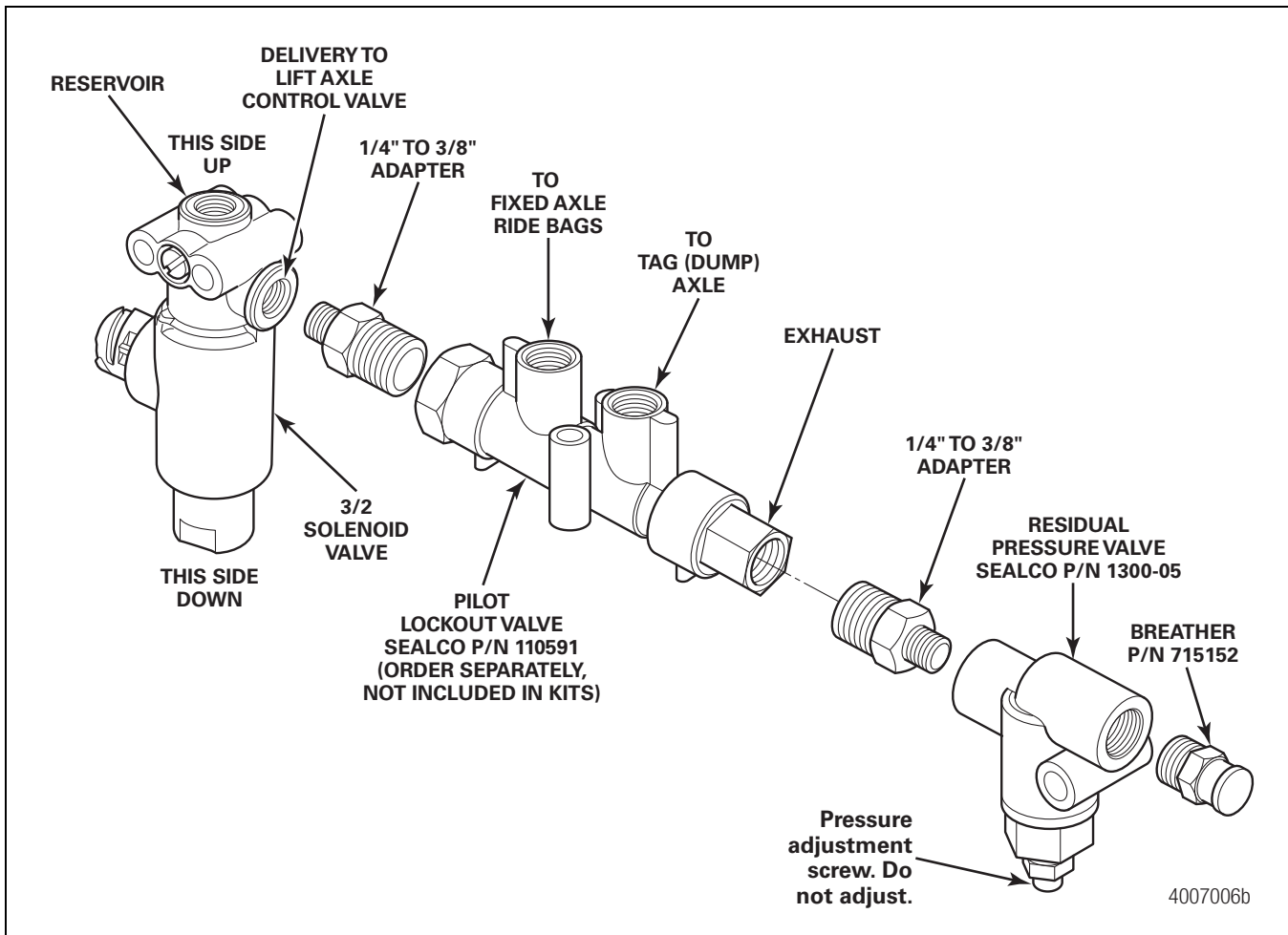


Figure 8

- Optional: Install the residual pressure valve (SEALCO part number 1300-05) to prevent air bag damage. This will allow 5 psi (0.34 bar) of air to remain in the air bags of the tag axle. Figure 8.

NOTE: Do not attempt to adjust the pressure adjustment screw on the residual pressure valve. It is preset to the correct pressure.

- Install the optional breather (SEALCO part number 715152) onto the residual pressure valve. This will prevent water and contamination from entering into the residual pressure valve.

Activating the Tag Axle Option with TOOLBOX™ Software

Once the hardware has been installed, the Generic I/O Tag Axle 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-0887, Trailer ABS with Roll Stability Support (RSSplus™) for Trailers with Air or Mechanical Suspensions, or Maintenance Manual MM-0888, RSSplus™ Trailer ABS with Roll Stability Support, for step-by-step instructions on programming and conducting the End-of-Line test.

- Enter the Roll Stability portion of TOOLBOX™ Software. From the top menu bar, go to the **System** pull-down menu and select **Edit Parameters from ECU**. Figure 9.

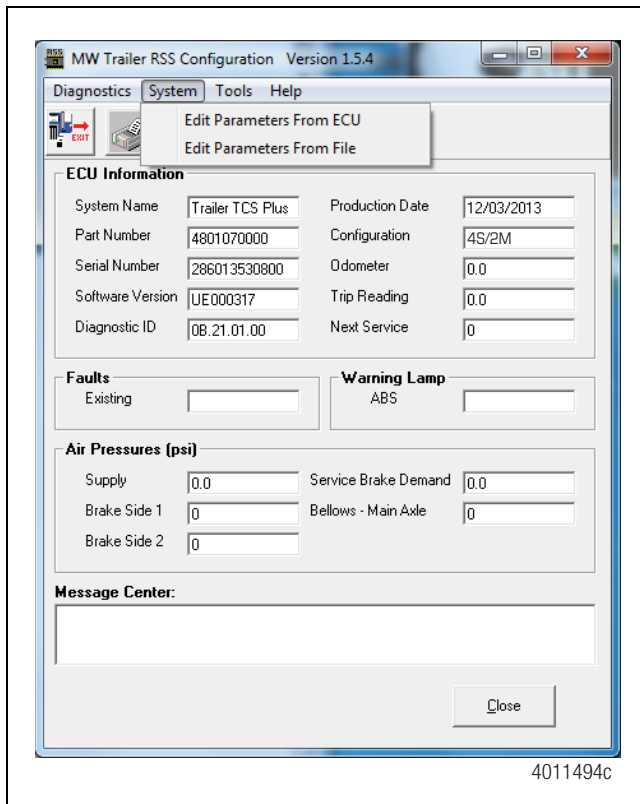


Figure 9

- 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 10.

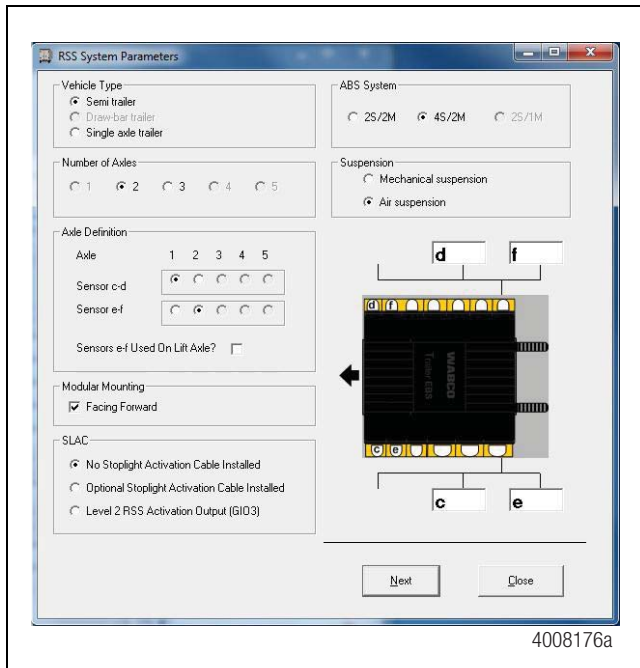


Figure 10

- The *GIO Selection* screen appears. Click the **Tag Axle (Rear Suspension Dump)** check box. Ensure that a check mark appears in the box. Then, press the **Next** button at the bottom of the screen. Figure 11.

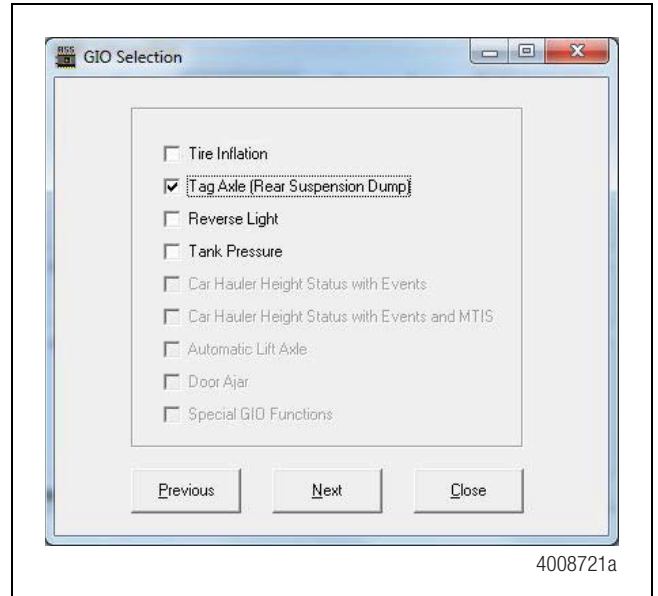


Figure 11

- 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 12.

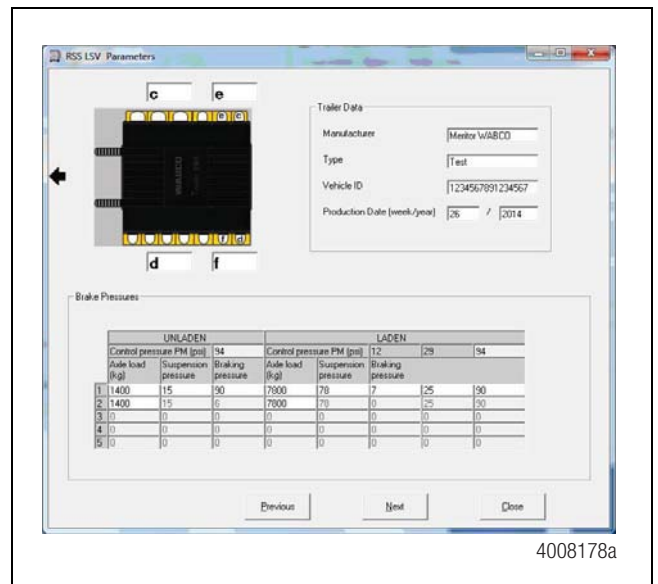


Figure 12

- From the parameter screen labeled *RSS / ABS Parameters*, press the **Save To ECU** button located at the bottom of the window. There is no change in parameters at this screen. Figure 13.

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

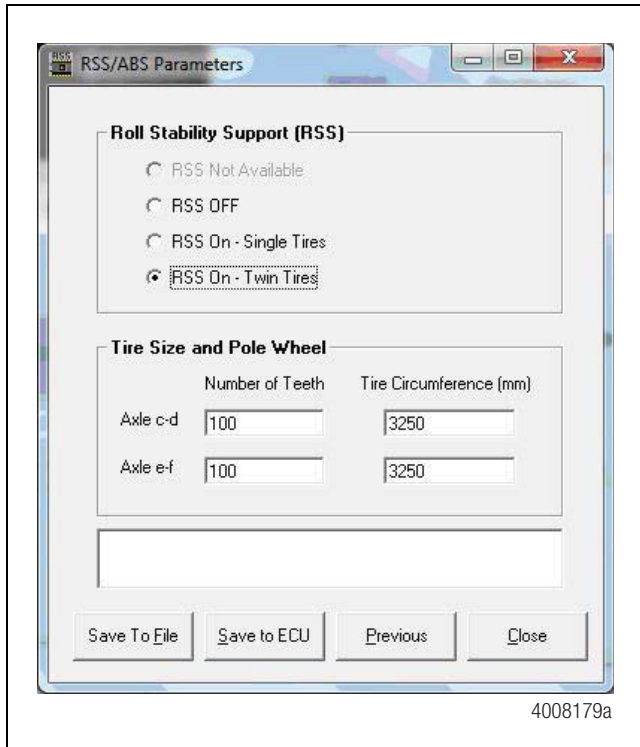


Figure 13

- Once a message appears confirming a successful save, you may exit the TOOLBOX™ Software. Be sure to reset the power on the trailer in order to recycle the ECU. An End-Of-Line test is not required on a previously programmed ECU.

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 three-inch (76 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

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