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WABCO

Installation Guide

Installing and Configuring the WABCO Trailer RSS*plus*™ with Tire Inflation and Door Ajar 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.

How to Obtain Additional Maintenance, Service and Product Information

Refer to WABCO Maintenance Manual MM-0888, RSS*plus*™ Trailer ABS with Roll Stability Support; and Installation Guide TP-0887, Trailer ABS with Roll Stability Support (RSS*plus*™) for Trailers with Air or Mechanical Suspensions. If you have any questions about the material covered in this publication, or for more information about the WABCO product line, please contact the OnTrac™ Customer Call Center at 1-866-OnTrac1 (866-668-7221) or visit our website: meritorwabco.com

How to Obtain Tools, Kits and Supplies

Original equipment manufacturers may obtain kits through their standard WABCO purchasing channels.

NOTE: Application Sheet WT-0212 (single trailers) or WT-0213 (double trailers) must be completed and submitted to WABCO Trailer Engineering for approval prior to installing the Tire Inflation and Door Ajar Systems Kit. Application Sheets WT-0212 and WT-0213 can be found at meritorwabco.com.

Kit 1

Meritor Tire Inflation and Door Ajar Systems Components

- 480 107 000 0 — RSS*plus*™
- 446 147 XXX 4 — Proximity Switch
- 449 535 XXX 0 — Feedback Cable
- 884 490 443 0 — Digital Output Cable
- 449 712 XXX 0 — Sensor Extension Cable (optional)
- Meritor Tire Inflation System (MTIS) (not included)

Kit 2

Compatible Tire Inflation and Door Ajar System Components (Hendrickson Tiremaax System or Stemco ATIS)

- 480 107 000 0 — RSS*plus*™
- 446 147 XXX 4 — Proximity Switch
- 449 535 XXX 0 — Feedback Cable
- 884 490 443 0 — Digital Output Cable
- 449 712 XXX 0 — Sensor Extension Cable (optional)
- 449 027 XXX X (STEMCO) or 449 025 XXX X (TIREMAAX) Jumper Harness
- STEMCO or TIREMAAX Tire Inflation System (not included)

NOTE: Please choose the appropriate kit that meets government regulations where the trailer will be in service.

Introduction

The Tire Inflation System uses compressed air from the trailer to inflate any trailer tire that falls below the tire air pressure setting during operation. Air from the existing trailer air supply is routed to a control box, then into each axle. WABCO RSS*plus*™ can warn the driver of a tire inflation event through a warning lamp. Fleets have the option of transferring the event information through telematics. Please refer to the kit parts lists for the components required for the different tire inflation systems.

The door ajar system consists of magnetic switches that are used to monitor access/connection points. This is a normally closed switch. When an access point is open, an indicator light on the trailer is illuminated to signal the driver that the access point is open. Fleets have the option of transferring the event information through telematics.

Installation Procedures

Preparation for Service

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

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. Disconnect the electrical power.
4. Disconnect all telematics or diagnostic systems from the PLC line.

Meritor Tire Inflation and Door Ajar Systems via RSS*plus*™ Installation

Refer to Figure 1 for correct connection of the digital output cable, part number 884 490 443 0, and feedback cable, part number 449 535 XXX 0, to the Tire Inflation and Door Ajar Systems.

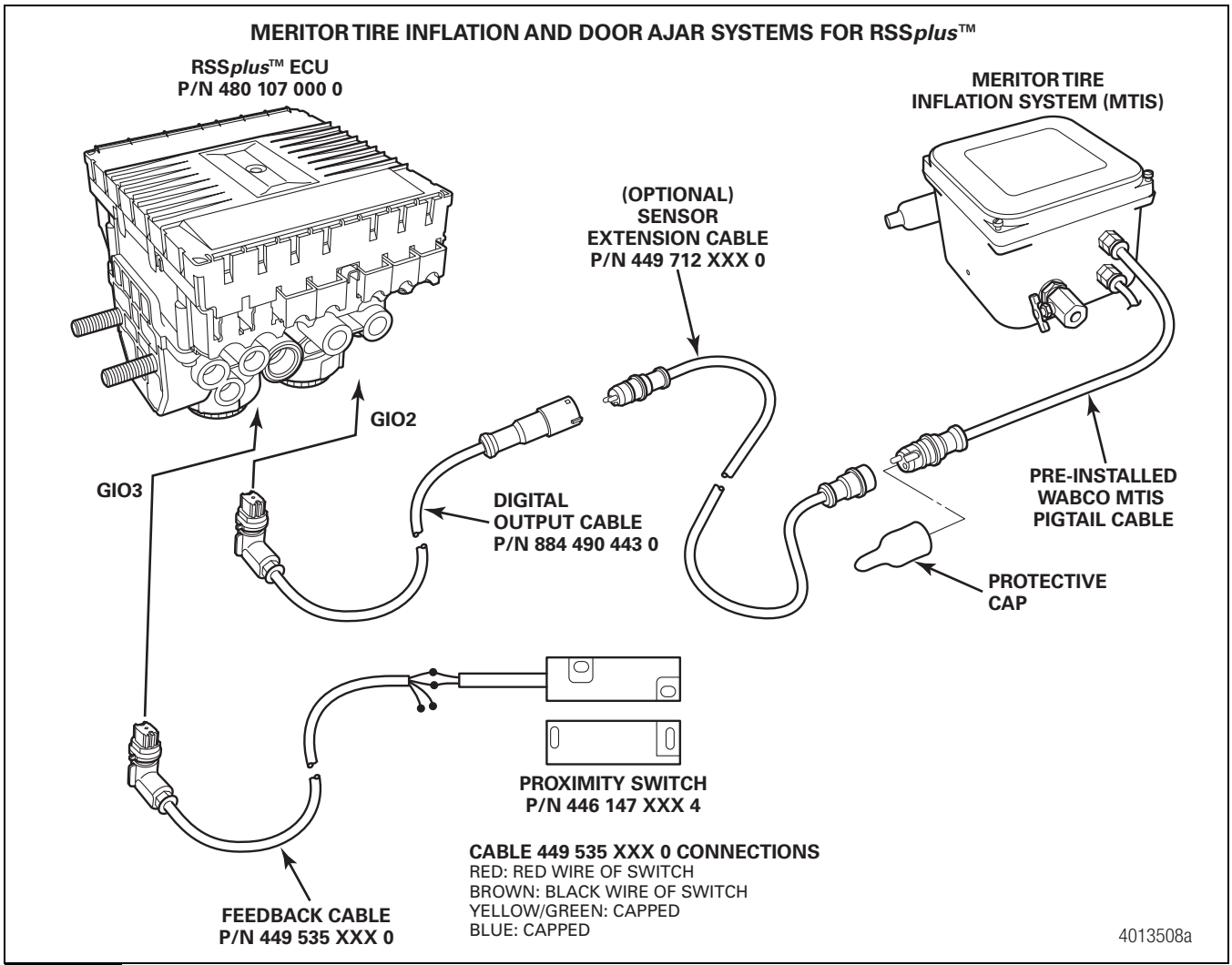

Figure 1

Connecting the Digital Output Cable, Part Number 884 490 443 0

1. Connect the digital output cable (generic I/O cable), part number 884 490 443 0, to the ECU on port GI02 and secure it with the locking tab.
2. Connect the female end of the digital output cable to the MTIS pigtail cable.
3. If necessary, use the optional sensor extension cable, part number 449 712 XXX 0.

Connecting the Feedback Cable, Part Number 449 535 XXX 0

1. Connect the feedback cable (generic I/O cable), part number 449 535 XXX 0, to the ECU on port GI03 and secure it with the locking tab.

   NOTE: The proximity switch is a normally closed switch. It comes in pairs with an actuator and the switch itself.

2. Connect the wire leads of the feedback cable to the wire leads on the proximity switch as follows.
   - Connect the red lead from the cable to the red lead of the proximity switch.
   - Connect the brown lead from the cable to the black lead of the proximity switch.

   NOTE: The yellow/green and blue leads are unused and should remain capped.
3. Ensure the distance between the actuator and proximity switch is less than 1.18-inch (30 mm) for correct operation. Adjust if necessary.

Compatible Tire Inflation and Door Ajar Systems via RSS*plus*™ Installation

Refer to Figure 2 for correct connection of the digital output cable, part number 884 490 443 0, and feedback cable, part number 449 535 XXX 0, to the Tire Inflation and Door Ajar Systems.

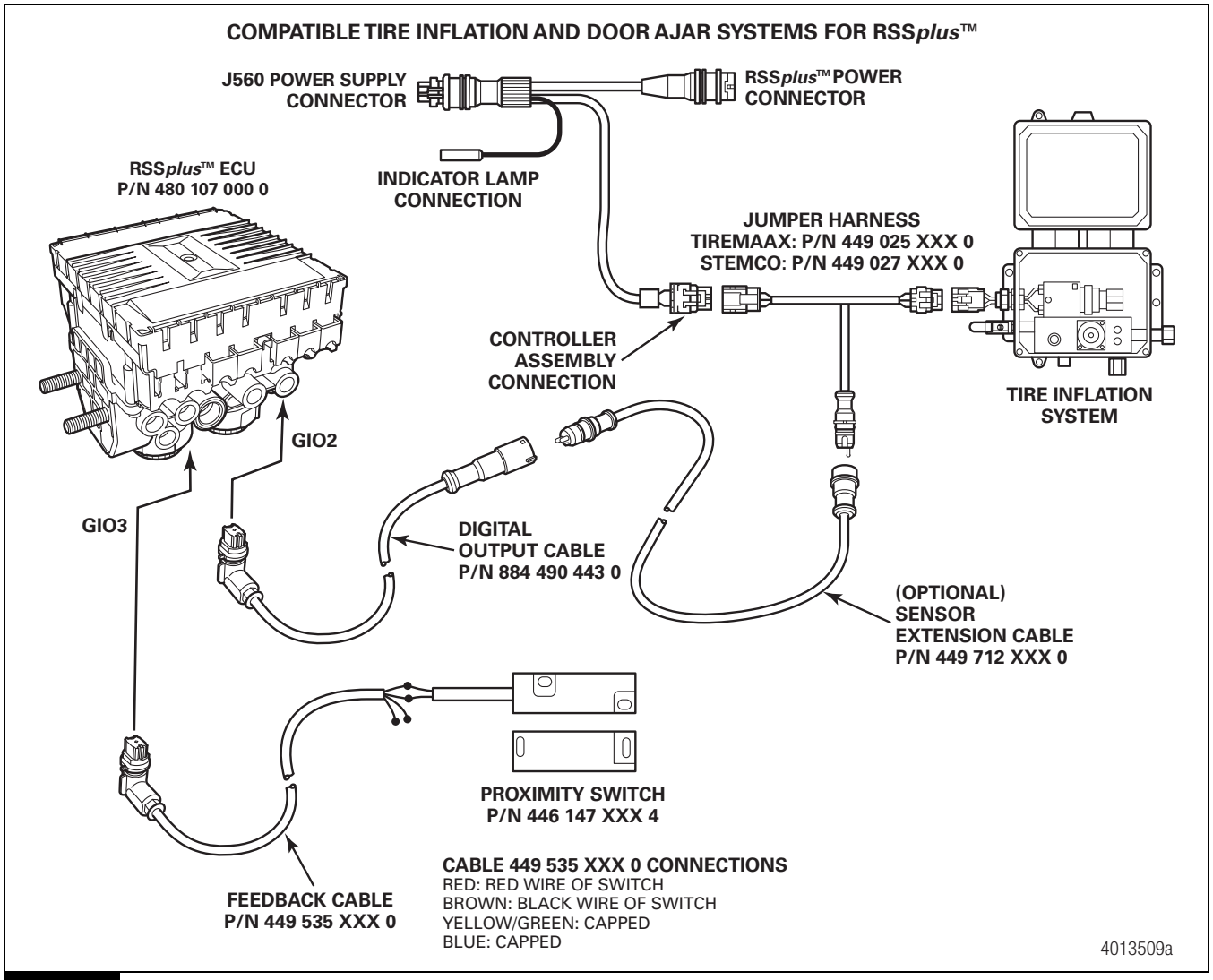

Figure 2

Connecting the Digital Output Cable, Part Number 884 490 443 0

1. Connect the digital output cable (generic I/O cable), part number 884 490 443 0, to the ECU on port GI02 and secure it with the locking tab.
2. Connect the female end of the digital output cable to the MTIS pigtail cable.
3. If necessary, use the optional sensor extension cable, part number 449 712 XXX 0.
4. Connect the jumper harness between the five-pin ABS power cord and the tire inflation system Delphi connector.

Connecting the Feedback Cable, Part Number 449 535 XXX 0

1. Connect the feedback cable (generic I/O cable), part number 449 535 XXX 0, to the ECU on port GI03 and secure it with the locking tab.

   NOTE: The proximity switch is a normally closed switch. It comes in pairs with an actuator and the switch itself.

2. Connect the wire leads of the feedback cable to the wire leads on the proximity switch as follows.
   - Connect the red lead from the cable to the red lead of the proximity switch.
   - Connect the brown lead from the cable to the black lead of the proximity switch.

   NOTE: The yellow/green and blue leads are unused and should remain capped.
3. Ensure the distance between the actuator and proximity switch is less than 1.18-inch (30 mm) for correct operation. Adjust if necessary.

Activating the Tire Inflation and Door Ajar Systems Option with TOOLBOX™ Software

Once the hardware has been installed, both the Tire Inflation System and Door Ajar options must be activated using WABCO TOOLBOX™ Software version 12.5 or later. When installing Tire Inflation and Door Ajar Systems option on new or replacement ECUs, the activation process is part of the normal programming procedure. Refer to Installation Guide TP-0887, Trailer ABS with Roll Stability Support (RSS*plus*™) for Trailers with Air or Mechanical Suspensions, or Maintenance Manual MM-0888, RSS*plus*™ Trailer ABS with Roll Stability Support, for step-by-step instructions on programming and conducting the End-of-Line test.

1. Click the **TOOLBOX** icon on the desktop and then click the **J1708/PLC** icon. Figure 3.

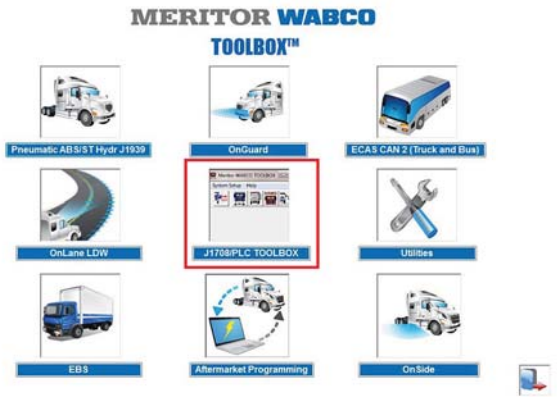

Figure 3

2. Click on the **RSS** icon to initiate the Roll Stability System portion of TOOLBOX™ Software. Figure 4.

   NOTE: To enable trailer and TOOLBOX™ Software communication, make sure the correct adapter is selected under System Setup tab.

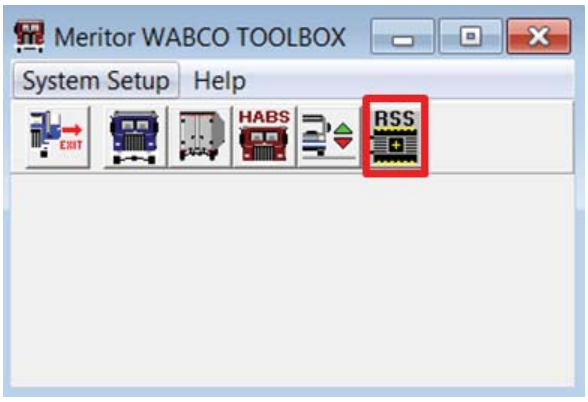

Figure 4

3. From the top menu bar, go to the **System** pull-down menu and select **Edit Parameters from ECU**. Figure 5.

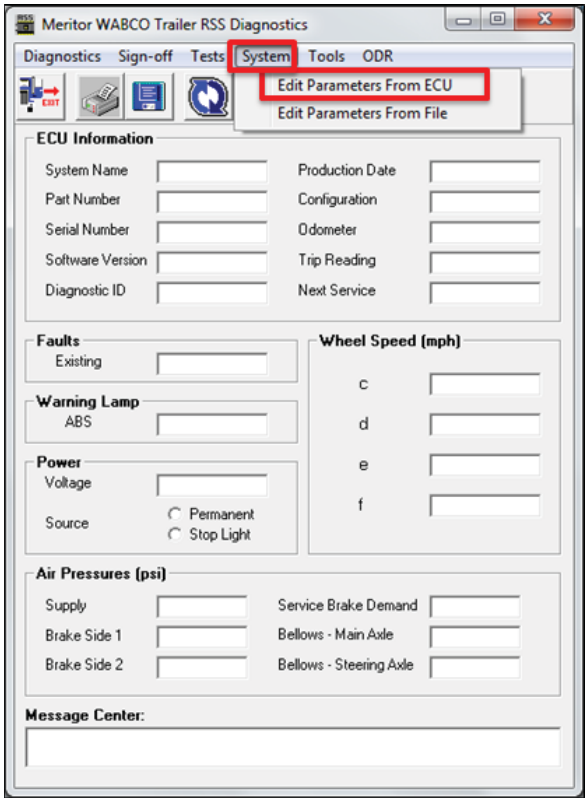

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Figure 5

4. From the RSS System Parameters screen, verify that the settings are correct, then click **Next**. Figure 6.

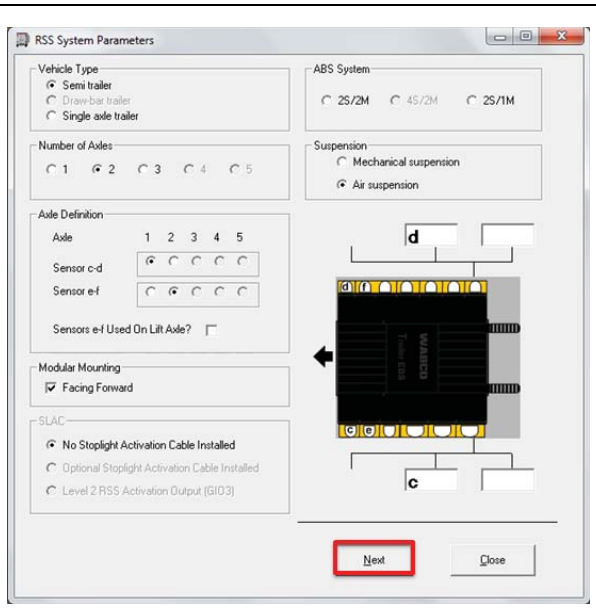

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Figure 6

5. When the GIO Selection screen is displayed, click both the **Tire Inflation Systems** and **Door Ajar** check boxes. Ensure that a check appears in each box. Then, press the **Next** button at the bottom of the screen. Figure 7.

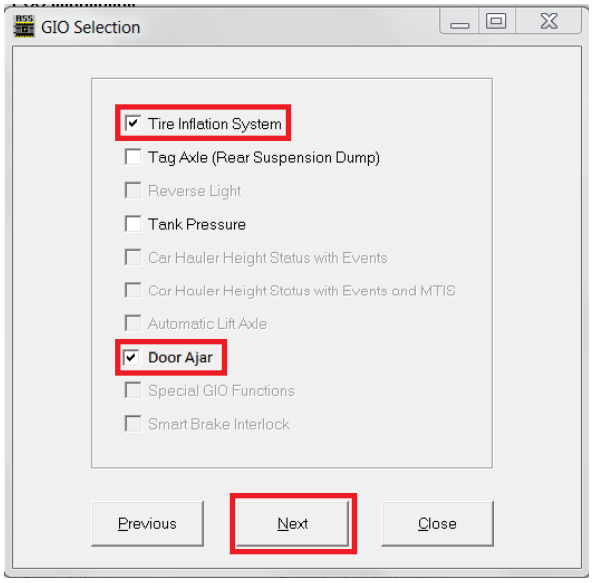

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Figure 7

6. From the RSS LSV Parameters screen, press the **Next** button at the bottom of the screen. Please use default settings unless directed otherwise by WABCO. Figure 8.

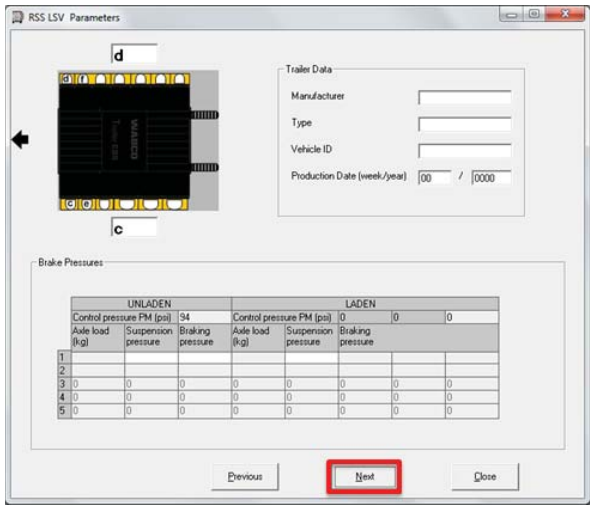

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Figure 8

7. From the RSS/ABS Parameters screen, ensure that one of the RSS On options is selected, then press the **Save to ECU** button at the bottom of the screen. Figure 9.

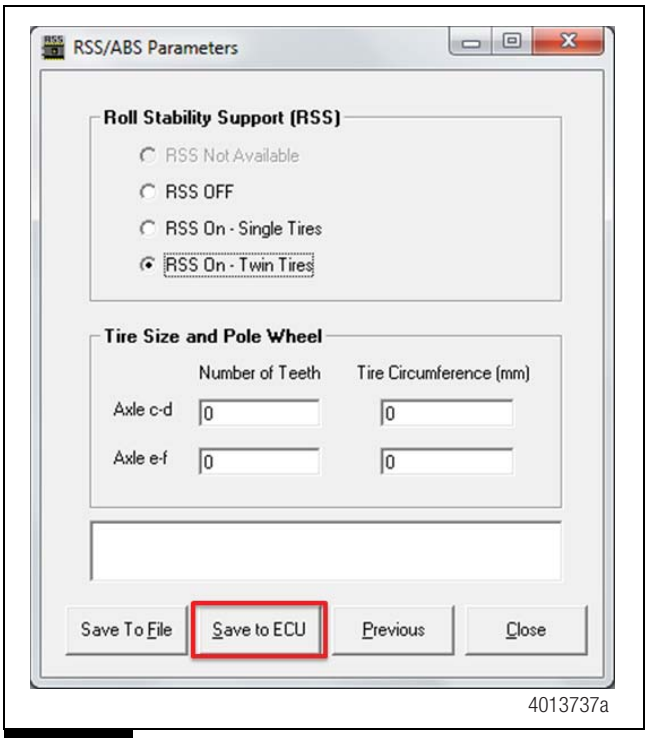

Figure 9

8. Once a message is displayed confirming a successful save, click **Exit** in the main screen to close the TOOLBOX™ Software.
9. Cycle the power on the trailer in order to reset the ECU.

   NOTE: The End-Of-Line test is required on a new ECU and recommended each time after programming the ECU.

Cable Routing Guidelines

All wires should be tightly secured to a solid member in intervals not greater than 18-inches (457 mm) to avoid excess cable vibration and potential snags with road debris. The correct cable installation should not allow the cable to slide through beam clamps/zip ties, but not tight enough to pinch the internal wires. Refer to technical bulletins TP-20212 and TP-1593 for more information. Figure 10.

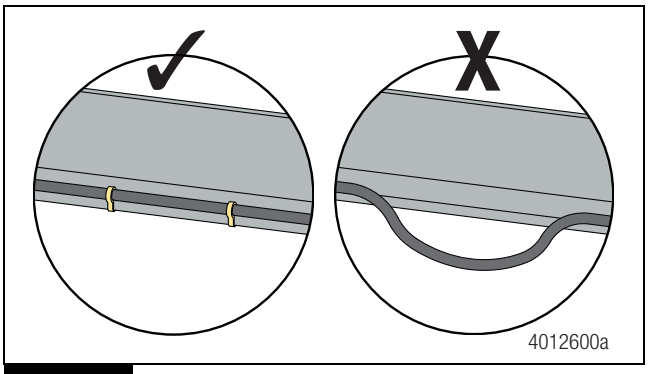

Figure 10

Wiring should NEVER go through any bare, unprotected metal holes. Use grommets, caulk or wire wrap to protect wire from premature wear. Figure 11.

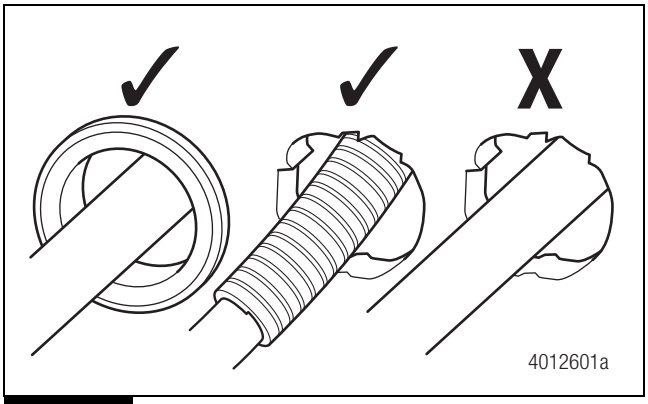

Figure 11

When routing the cable through the wiring channel on the edge or center of the trailer, secure the shorter leg of the latch connectors to the longer leg to ease wire routing. Figure 12.

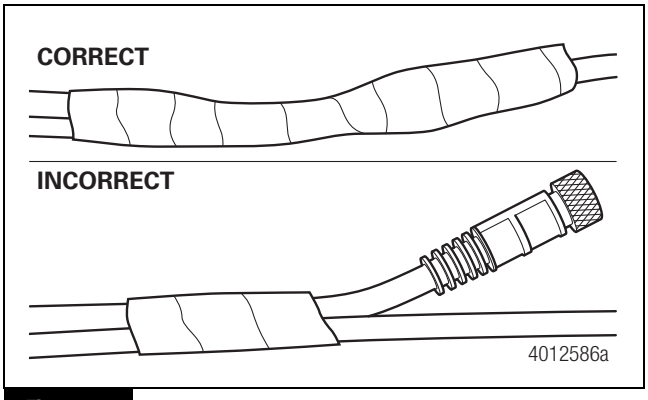

Figure 12

When using a wire snake to pull the cable up through the frame, make sure to tape the connectors correctly to the wire snake. Figure 13.

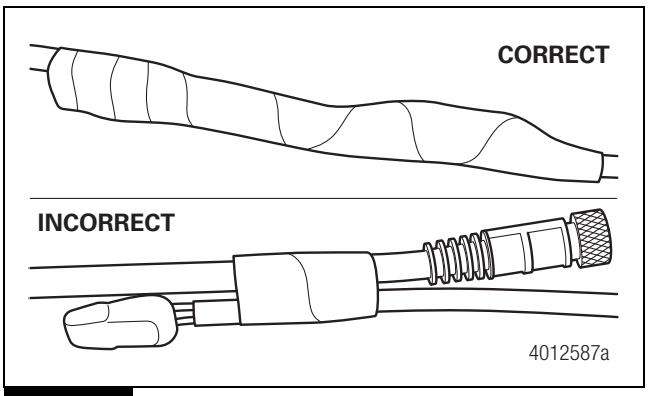

Figure 13

Vehicle Electrical Grounding Guidelines

Ensure that the vehicle includes a correct common chassis ground point. A common chassis ground point connects the trailer frame/chassis to the ground pin of the J560 seven-way connector and will protect the vehicle electrical system from unwanted electrical noise.

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 ohm (< 10 Ω). 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, WABCO requires adding one. Consult your trailer manufacturer (OEM) for further instructions on how to perform this task. This ensures that the trailer OE warranty is not voided.

Parts List

WABCO Parts List

Part Number	Description	Detail
480 107 000 0	RSS*plus*™	ECU/Valve Assembly
446 147 030 4	Proximity Switch	3.0 meters
446 147 100 4	Proximity Switch	10.0 meters
446 147 160 4	Proximity Switch	16.0 meters
449 535 020 0	Feedback Cable	2.0 meters
449 535 040 0	Feedback Cable	4.0 meters
449 535 060 0	Feedback Cable	6.0 meters
884 490 443 0	Digital Output Cable	1.0 meter
449 712 008 0	Sensor Extension Cable	0.8 meter
449 712 013 0	Sensor Extension Cable	1.3 meters
449 712 018 0	Sensor Extension Cable	1.8 meters
449 712 038 0	Sensor Extension Cable	3.8 meters
449 712 051 0	Sensor Extension Cable	5.1 meters
449 712 064 0	Sensor Extension Cable	6.4 meters
449 712 100 0	Sensor Extension Cable	10.0 meters
449 027 000 0	STEMCO Cable	1.0 meter
449 025 010 0	TIREMAAX Cable	1.0 meter
449 025 025 0	TIREMAAX Cable	2.5 meters
449 025 050 0	TIREMAAX Cable	5.0 meters

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