



ANTI-LOCK BRAKING SYSTEM (ABS)

OEM INSTALLATION MANUAL

TABLE OF CONTENTS

Introduction	2
Safety	3
Resources Required	4
Installation	4
Notes	11

Introduction

Anti-lock braking systems (ABS) are designed to improve stability of the trailer during severe braking events. When the ABS control is not active, or if there is no power to the ABS module, the tow brake signal from the vehicle will pass through to the trailer brakes, the same as on a trailer without ABS technology. When the ABS system detects a wheel is about to lock, the brake signal from the tow vehicle is reduced on that specific wheel, to maintain wheel rotation. The tow vehicle brake signal is monitored at all times, and a proxy load is in place, to ensure the ABS system maintains compatibility with all tow vehicle brake controllers.

The system can send notifications to the drive via the OneControl mobile app.

Key features of the anti-lock braking module are:

- Module Auto configuration
 - o When the module is installed per the instructions, this feature will accurately predict tire size, track width, axle count and module orientation.
- True Course (If equipped)
 - o Excessive trailer sway can result in loss of control of the vehicle with potentially severe consequences. ABS and Lippert's True Course technology work in tandem to detect trailer sway and engage the trailer brakes independently of the tow vehicle to bring the trailer back under control. The system engages and disengages automatically, and always defaults to the tow vehicle brake input. ABS is constantly monitoring wheel speeds during a True Course activation.
- Dynamic Brake Boost (If equipped)
 - o Dynamic Brake Boost can temporarily boost brake torque during hard braking events to maximize trailer braking performance. In an emergency or sudden braking event, delivering the maximum brake torque without locking the trailer brakes can decrease total braking distance.

NOTE: Images used in this document are for reference only when assembling, installing and/or operating this product. Actual appearance of provided and/or purchased parts and assemblies may differ.

For information on the assembly or individual components of this product, please visit:

<https://support.lci1.com/lippert-anti-lock-braking-abs-system>

Safety

Read and understand all instructions before installing or operating this product. Adhere to all safety labels.

This manual provides general instructions. Many variables can change the circumstances of the instructions, i.e., the degree of difficulty, operation and ability of the individual performing the instructions. This manual cannot begin to plot out instructions for every possibility, but provides the general instructions, as necessary, for effectively interfacing with the device, product or system. Failure to correctly follow the provided instructions may result in death, serious personal injury, severe product and/or property damage, including voiding of the Lippert limited warranty.

WARNING

The "WARNING" symbol above is a sign that a procedure has a safety risk involved and may cause death or serious personal injury if not performed safely and within the parameters set forth in this manual.

CAUTION

The "CAUTION" symbol above is a sign that a safety risk is involved and may cause personal injury and/or product or property damage if not safely adhered to and within the parameters set forth in this manual.

CAUTION

Always wear eye protection when performing service, maintenance or installation procedures. Other safety equipment to consider would be hearing protection, gloves and possibly a full face shield, depending on the nature of the task.

NOTICE

All electrical wiring harnesses shall be loomed and secured to prevent possible damage and installed in accordance with RVIA electrical standards.

Resources Required

- Cordless or electric drill or screw gun
- Appropriate drive bits
- Four #8 self-tapping pan head screws
- Silicone sealant
- Utility knife

Installation

NOTICE

Lippert strongly recommends that all brake and ABS module ground wires be routed to the junction box of the trailer.

NOTE: This manual depicts a roadside installation. However, a curbside installation is possible by following the same general principles. It is recommended installers dry fit the harnesses prior to installation to make sure there is adequate length to attach the harnesses to the sensors.

1. Using four self-tapping screws, attach control module to frame rail (Fig. 1). Module should be:
 - A. Located not more than 18" in front of the front axle.
 - B. Parallel with the top web of the frame rail but not placed against the top web. The module will be harder to service if it is located too close to the top of the frame rail.
 - C. Mounted as level as possible.
 - D. Positioned with the harness receptacles toward the rear of the trailer.

NOTE: Identifying notices are included on the control module label to indicate mounting orientation.

2. Remove the two peel-off QR code stickers located on the control module (Fig. 1).
 - A. One sticker should follow the build sheet of the unit through production.
 - B. The second sticker should be placed in an interior cupboard or on support documentation to permit the end user to scan the QR code for the OneControl app connection.
3. Connect sensor harness to the control module and extend to the appropriate wheel speed sensors.

NOTE: The harnesses are fixed lengths, including shorter harnesses that connect to the roadside wheels and longer harnesses for the curbside wheels.



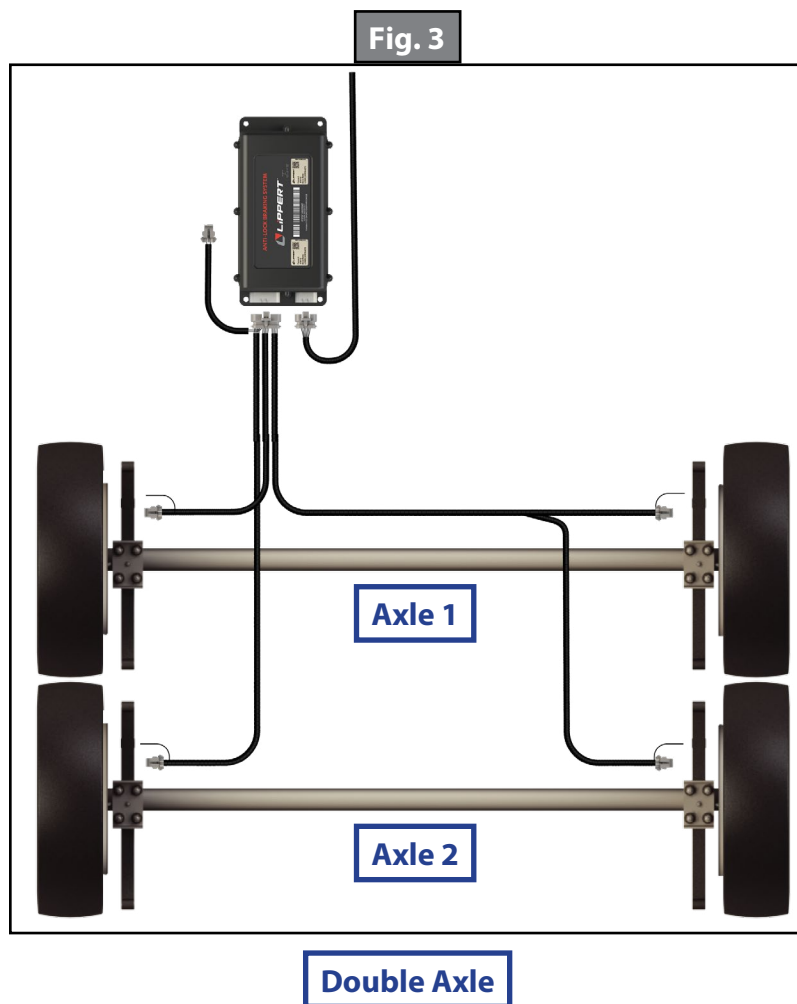
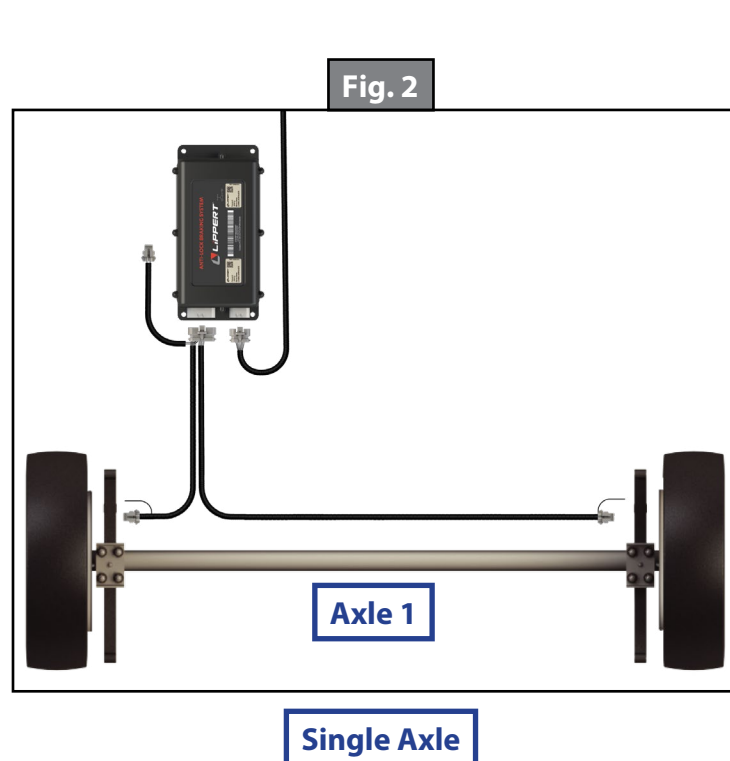
4. Route the harnesses to the wheel sensors through the typical frame cutouts and crossmembers. Install harnesses based on the length of each section and using the appropriate harnesses for single axle (Fig. 2), double axle (Fig. 3) and triple axle (Fig. 4).

NOTE: The examples depict a roadside installation. For a curbside installation, the harnesses would be reversed.

5. Cut a slit in the underbelly near each brake hub and push the end of each sensor harness and brake power wire through this penetration.
6. Seal penetration with silicone sealant.

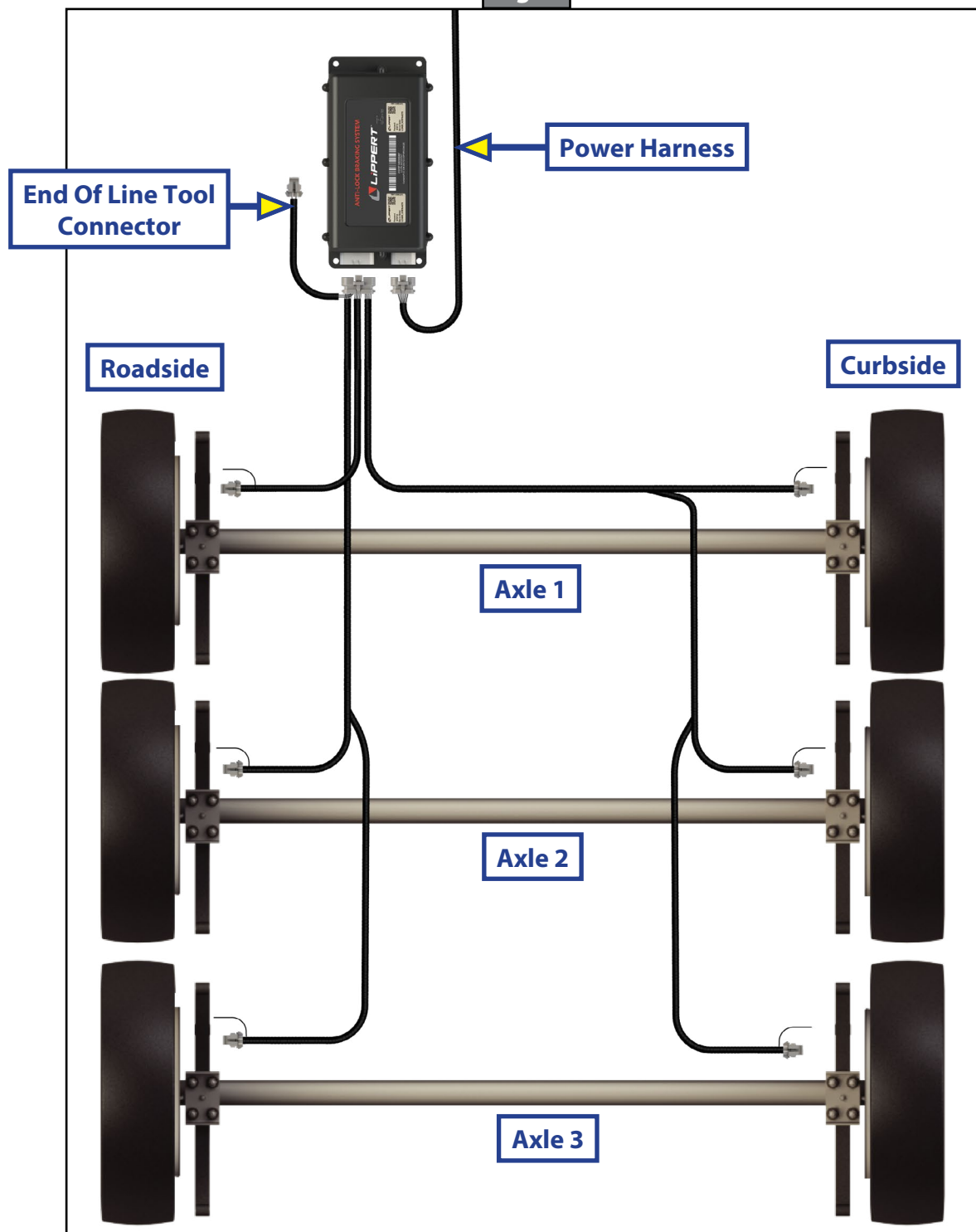
NOTE: OEM may secure harness with whatever means are used to secure other unit harnesses.

NOTE: An exposed connector at the module will be used to connect to an End of Line Tool to verify the system is functioning properly.



Harness Wire Colors				
	Roadside		Curbside	
Axle	Brake Magnet	Sensor Plug	Brake Magnet	Sensor Plug
Axle 1	Blue/Orange	Red/Orange, Orange	Blue/Green	Red/Green, Green
Axle 2	Blue/Yellow	Red/Yellow, Yellow	Blue/Violet	Red/Violet, Violet
Diagnostic harness: Pink, Brown				

Fig. 4



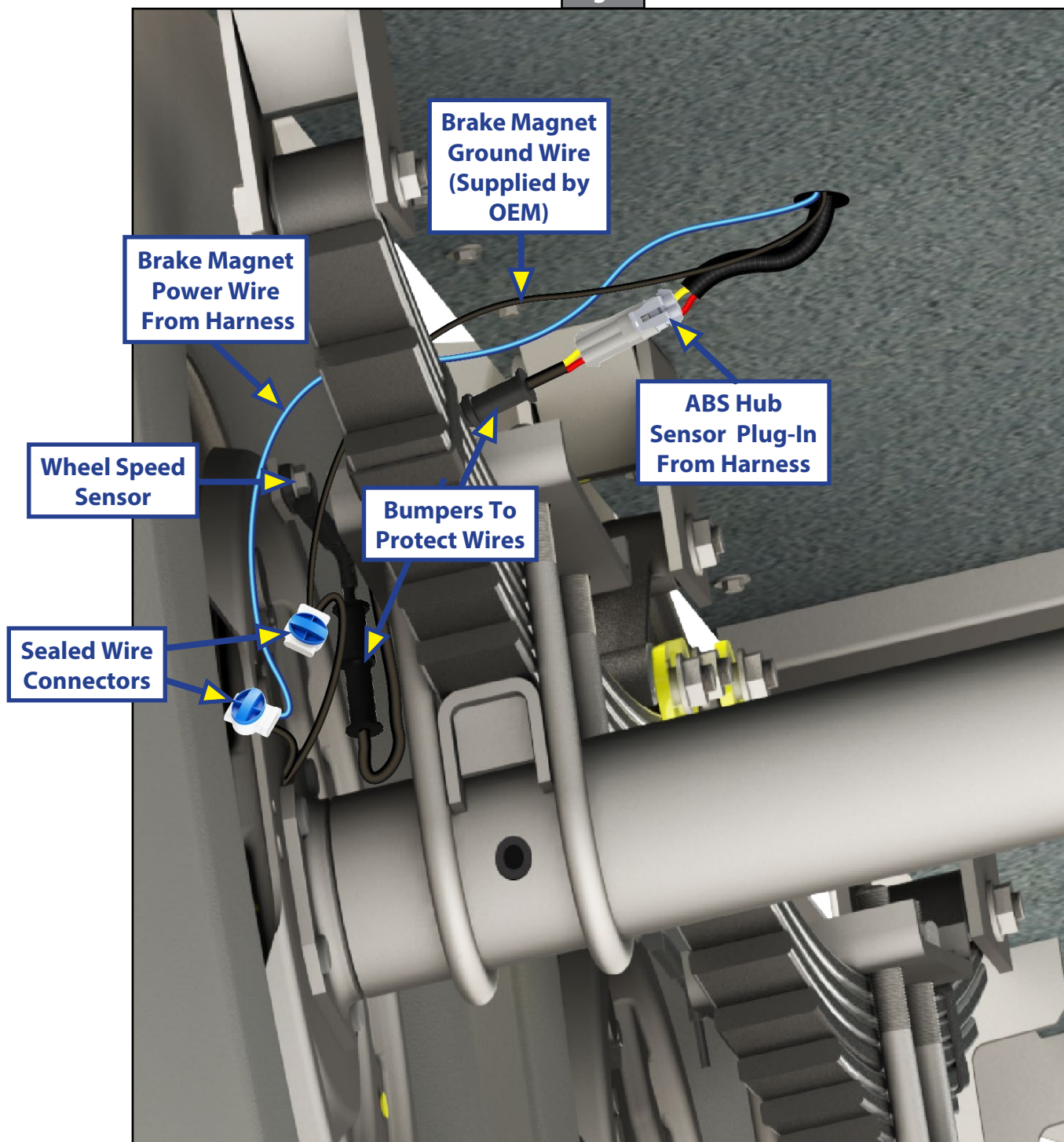
Triple Axle

Harness Wire Colors				
	Roadside		Curbside	
Axle	Brake Magnet	Sensor Plug	Brake Magnet	Sensor Plug
Axle 1	Blue/Orange	Red/Orange, Orange	Blue/Green	Red/Green, Green
Axle 2	Blue/Yellow	Red/Yellow, Yellow	Blue/Violet	Red/Violet, Violet
Axle 3	Blue/Black	Red/Black, Black	Blue/White	Red/Violet, White
Diagnostic harness: Pink, Brown				

7. Connect the harnesses to the wheel speed sensors by connecting the male and female connector ends together (Fig. 5).
8. Connect the brake power wire from the harness to one of the brake magnet wire leads on the back of the brake assembly (Fig 5).
9. Connect the other brake magnet wire lead to the ground (Fig. 5).

NOTE: There are two bumpers that can slide along the harness to protect the wires (Fig. 5).

Fig. 5



10. Connect appropriate power harness to the control module port.

NOTE: There are variable lengths of power harnesses, including 15, 20, 25, 35 and 50 feet.

11. Route harness along the frame (Fig. 6) so it terminates behind the pin box where it can be wired into the seven-way power cord (Fig. 7).

Fig. 6

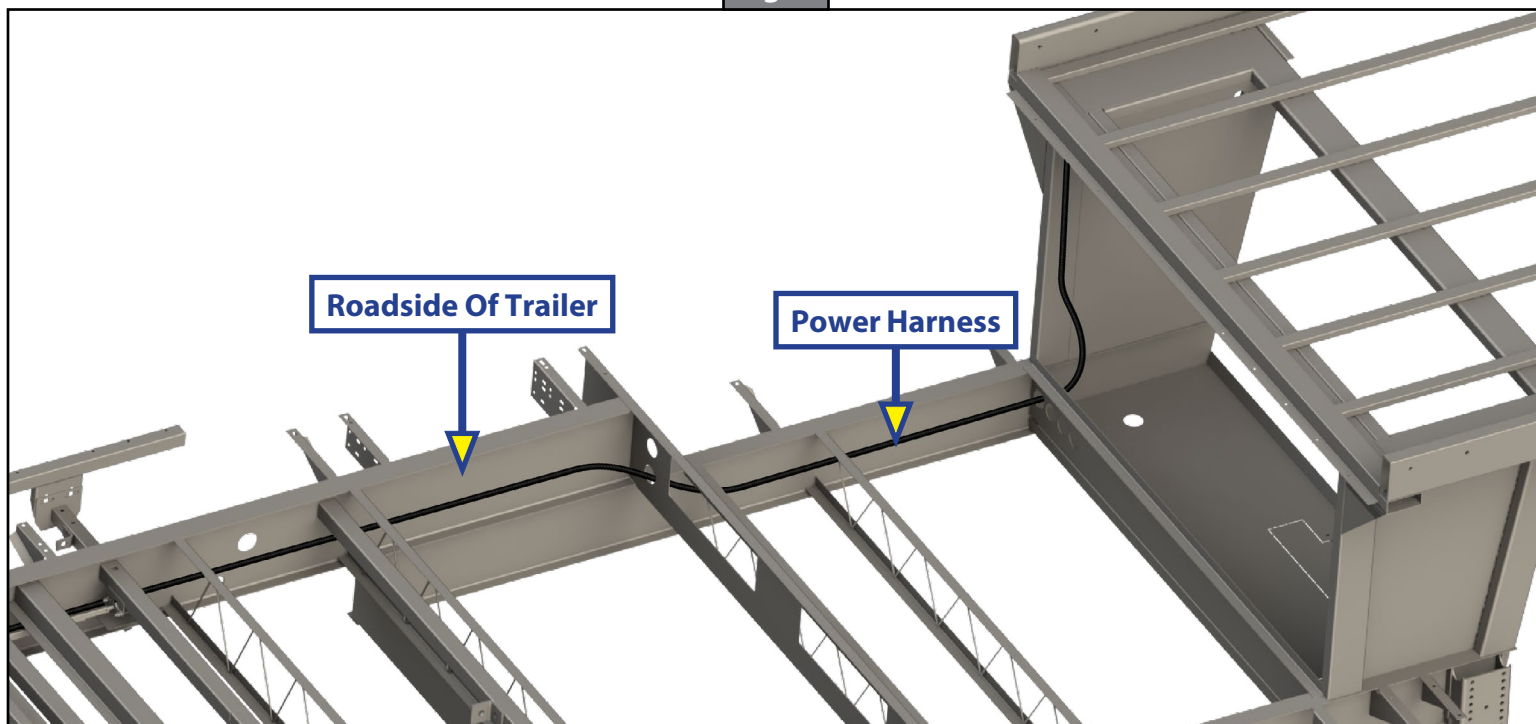
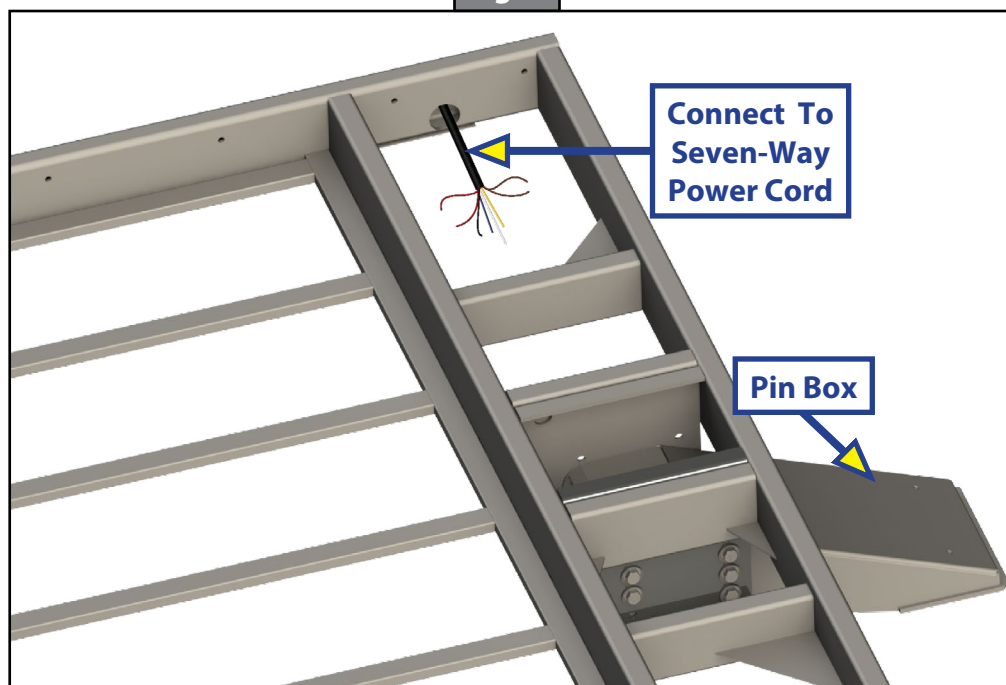


Fig. 7



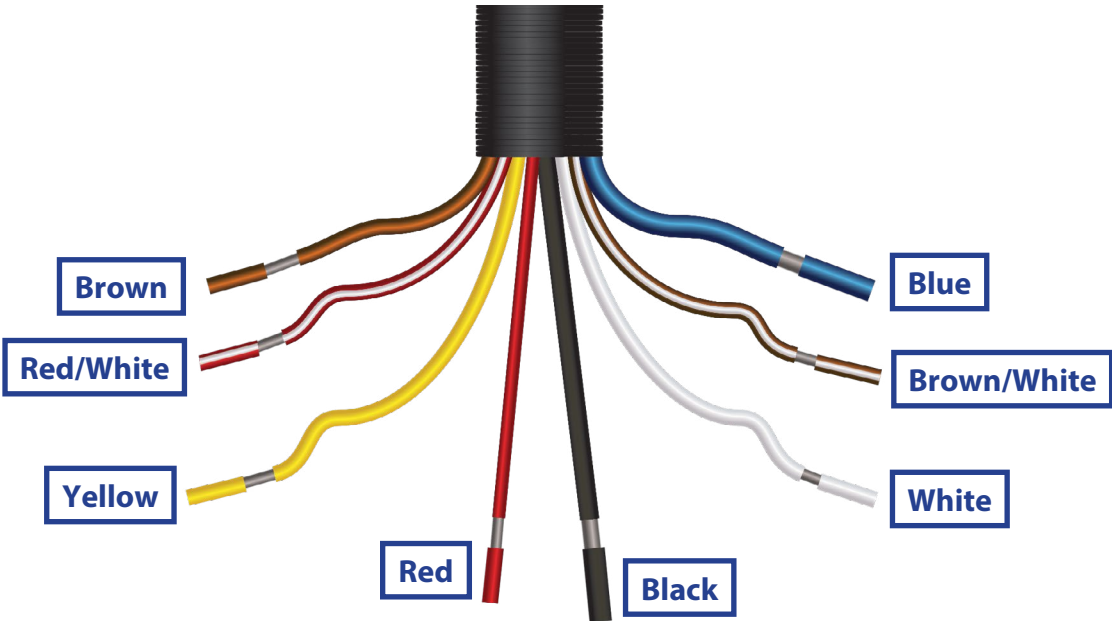
⚠ NOTICE

Lippert strongly recommends that all brake and ABS module ground wires be routed to the junction box of the trailer.

12. Wire end of harness into junction box of seven-way power cord (Figs. 8 and 9).

Fig. 8

ABS Power Harness			
Color/Stripe	AWG	Function	Truck/Trailer Connections
Black	10	Battery	AUX 12V+ (7-way/Pos 4)
Brown	16	Right turn light in	Right turn/brake light signal (7-way/Pos 6)
Brown/White	16	Right turn light out	Right taillight (Trailer)
Red	16	Left turn light in	Left turn signal (7-way/Pos 5)
Yellow	16	Backup light	Reverse light (7-way/Pos 7)
Red/White	16	Left turn light out	Left taillight (Trailer)
Blue	12	Brake	Brake signal (7-way/Pos 2)
White	16	Battery (-)	Ground



ABS Power Harness From ABS Controller

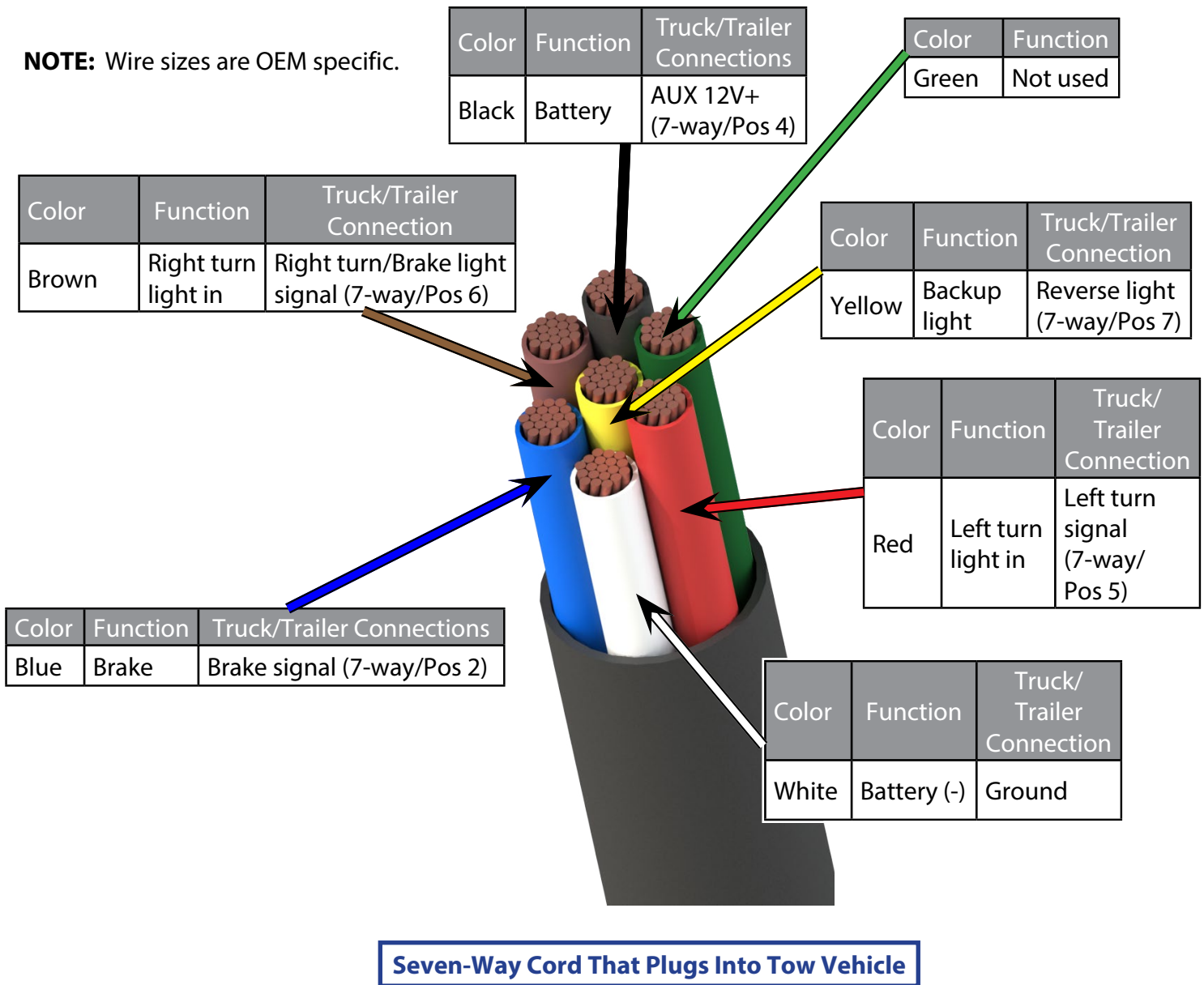


Pin	Color	Pin	Color
1	Black	8	Yellow
2	Black	9	Red/White
3	Brown	10	Blue
4	Brown/White	11	Blue
5	Red	12	Blue
6	Black	13	Not Used
7	Not Used	14	White

End Of 14-Pin ABS Power Harness

Fig. 9

NOTE: Wire sizes are OEM specific.



- After installation is complete, plug in the End of Line Tool to the diagnostic port to verify that wiring has been properly connected. Instructions for use are contained inside the tool case.

Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



The contents of this manual are proprietary and copyright protected by Lippert. Lippert prohibits the copying or dissemination of portions of this manual unless prior written consent from an authorized Lippert representative has been provided. Any unauthorized use shall void any applicable warranty. The information contained in this manual is subject to change without notice and at the sole discretion of Lippert. Revised editions are available for free download from lippert.com.

Please recycle all obsolete materials.

For all concerns or questions, please contact Lippert
Ph: 432-LIPPERT (432-547-7378) | Web: lippert.com | Email: customerservice@lci1.com



This manual is provided courtesy of **RV Tech Cheat Sheet**



Professional resources for the whole RV industry — free.

We put manuals, wiring diagrams and hard-won tech knowledge in every technician's hands, so repairs get done right the first time, techs work faster, and RV owners everywhere get better service.



rvtechcheatsheet.com/manuals

Find thousands more RV manuals, wiring diagrams and parts lists

RV techs: share fixes, ask questions and learn from each other.

Join our free Facebook group →



Follow proper safety practices. If in doubt, consult a professional RV technician.