Towtal View™

AIR LIFT Since 1949

Installation Guide

LaneGuard
Single Sensor Blind Spot Detection System

Watch the video
Info on Table of Contents page

Kit 25341

Read and understand all warnings and instructions in this manual prior to use.
Failure to follow warnings and instructions could result in serious injury or death.

MN-1198 • Revision 012406 • ERN 10336

Protect your Air Lift Purchase by Completing your Warranty Registration

Thank you for purchasing an Air Lift towing solution product!

Take a photo of your sales receipt and then scan the QR code to complete your online warranty registration.

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Video-enhanced installation guides

Visit airliftcompany.com/workshop/category/install-videos to access our installation video archive*.

* Subject to availability

Introduction

This guide has been crafted to simplify installing and maintaining the Air Lift Towtal View LaneGuard (single sensor) system. Every LaneGuard kit features state-of-the-art design, ensuring reliable performance for various applications.

LaneGuard features advanced technology, offering excellent blind spot detection (BSD) and lane change alert (LCA) for countless hours of safe towing and hauling. LaneGuard provides an excellent solution for assisting drivers hauling any type of towable, offering enhanced safety and peace of mind by increasing awareness of vehicles approaching from behind.

With this step-by-step installation guide, you will be on the road quickly, hauling and towing safely and comfortably.

NOTATION EXPLANATION

Hazard notations appear in various locations in this publication. Information highlighted by one of these notations must be observed to help minimize risk of personal injury or possible improper installation, which may render the vehicle unsafe. Notes are used to help emphasize areas of procedural importance and provide helpful suggestions. The following definitions explain the use of these notations as they appear throughout this installation guide.

WARNING

INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.

CAUTION

INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE MACHINE OR MINOR PERSONAL INJURY.

NOTE *Used to help emphasize areas of procedural importance and provide helpful suggestions.*

TECH TIP *Used to provide helpful tips to ease the installation process.*

Important Safety Information

WARNING

LaneGuard is an assistance device and not a substitute for alert and careful driving. Do not solely rely on device. Always use your mirrors and proper head-checks before changing lanes.

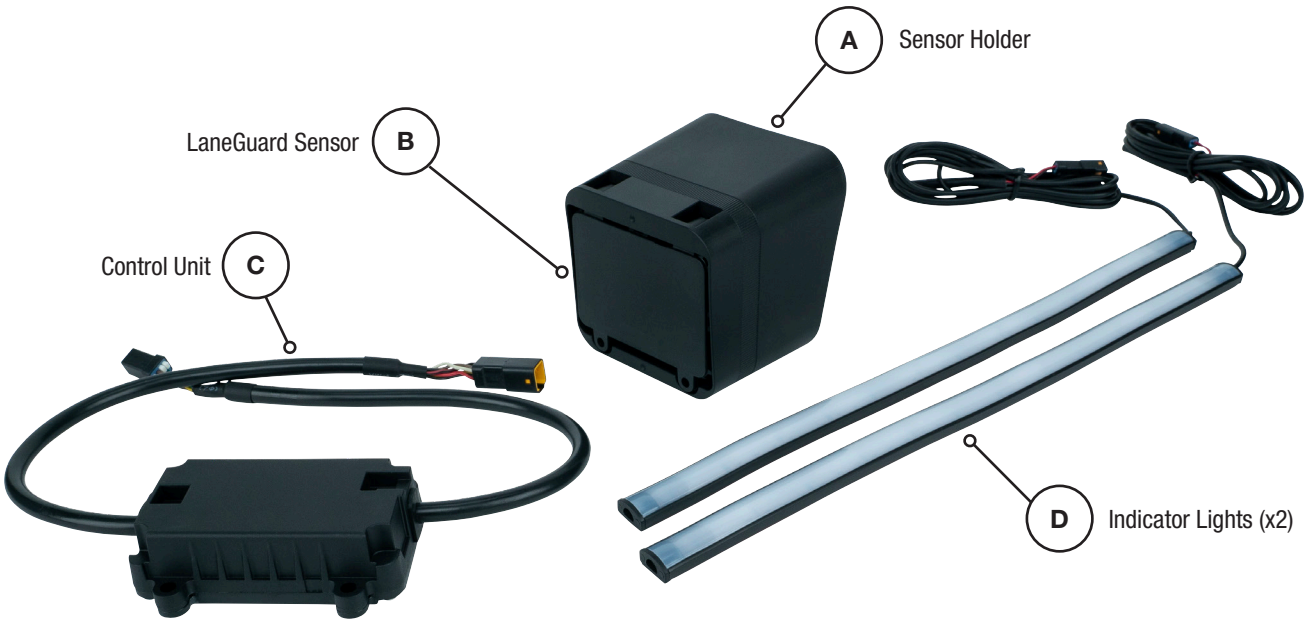
Device has limitations and may not function or function properly under certain conditions including:

- **During certain weather conditions, including fog, wet conditions, or snowfall.**
- **When sensors are blocked by cargo, snow, ice, dirt or mud: Before each use, always ensure sensors are clear, unobstructed, and in line of sight to indicator lights.**
- **When the driver's view of the indicator lights is blocked by cargo, snow, ice, dirt, or mud: Before each use, always ensure the driver's view of the indicator lights is clear and unobstructed.**

INSTALLATION PRECAUTIONS

- **Before installing product, please read installation instructions and warnings carefully to ensure correct installation and disassembly of product, and ensure to use product safely.**
- **This installation guide is compiled for left-hand drive vehicles.**
- **Before installing system, please ensure vehicle body is parallel with axle, flat, and free of bumps.**
- **Wear proper protective gear**
- **Work with an assistant**

System Overview



Wiring Harnesses

E Main Harness

F Sensor Harness

G Indicator Light Harness (optional)

System Specifications

No.	Description	Specification
1	Operating Voltage	12V (10.5-16V)
2	Operating Temperature	-20°C ~ +60°C
3	Frequency Band	77GHz, 2T4R
4	FOV (Horizontal)	120-degrees (Max.)
5	Storage Temperature	-20°C ~ +60°C
6	Waterproof:	
	LaneGuard Sensor	IPx7
	LaneGuard Sensor with Holder	IP69k (after installation)
	Control Unit	IPx7
	Indicator Light	IPx7
7	Alarm Level	Level I LED Solid Level II LED Flash
8	Relative Velocity Range	0 km/h ~ - 40 km/h
9	Certification	FCC • ISED

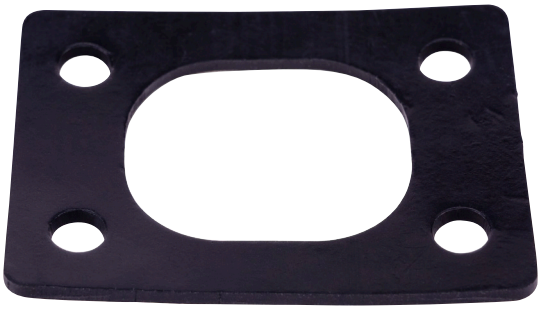
Hardware and Tools

Hardware List

Item	Description	Qty
A	Sensor Holder	1
B	LaneGuard Sensor	1
C	Control Unit	1
D	Indicator Light	2
E	Main Harness	1
F	Sensor Harness	1
G	Indicator Light Harness (optional)	2
H	Sensor Mounting Gasket	1
I	Waterproof Crimp Connector	10
J	#10 Ring Terminal	5
K	Zip Ties	10
L	Mounting Screws (for Sensor)	2
M	Mounting Screws (for Sensor Holder)	4
N	Mounting Screws (for Control Unit))	4
O	Alcohol Wipes	2

Tools Needed

Description	Qty
Electric drill	1
Phillips head screwdriver	1
Flathead screwdriver	1
Sockets & wrenches	set
Longnose pliers	1
Cutting pliers	1
Tape measure	1
Level	1
Torque wrench	1
Punch/scribe	1
Wire strippers	1
Multi-meter	1
Silicone sealant (color match to surface)	1
Painter's tape	1
Marker pen	1
Rag	1
Safety glasses	1



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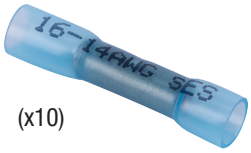


(x10)

I

(x5)

J

K

L

M

N

O

STOP! Missing or damaged parts? Call Air Lift customer service at (800) 248-0892 for a replacement part.

Install LaneGuard

Prepare LaneGuard for installation by following these recommendations:

1. Gather all necessary tools and materials for installation, including screwdrivers, drills, and any components specified in this installation guide. See the *Hardware and Tools* section for the complete list.
2. Before starting the installation, read the installation guide carefully to understand all the requirements, recommended tools, and safety precautions.
3. Identify suitable mounting locations (Fig. 1) for the LaneGuard Sensor (B), Indicator Lights (D) and Control Unit (C). Ensure they meet specified criteria, such as flat, clean surfaces and minimal obstructions.

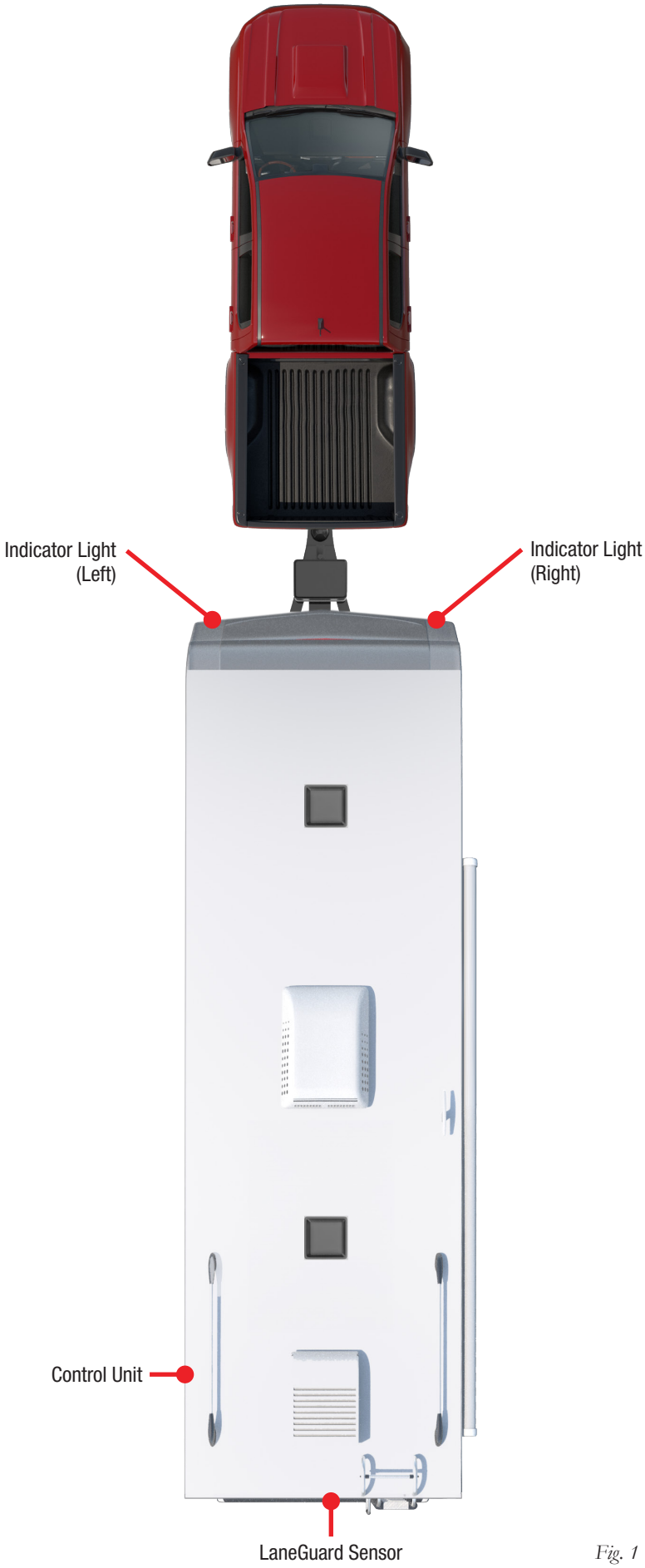
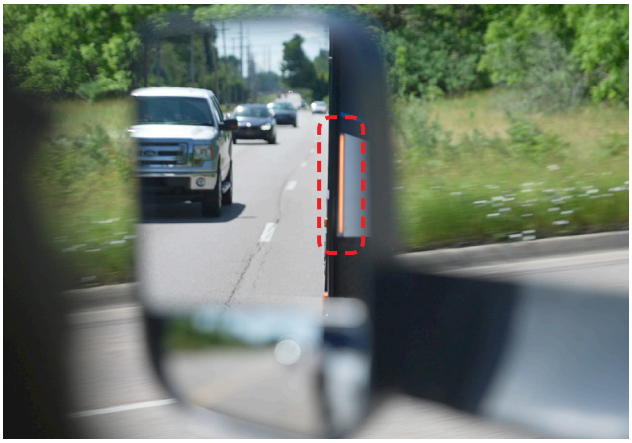


Fig. 1

INSTALL THE INDICATOR LIGHTS

NOTE *Ensure the Indicator Light wires and Main Harness wires are routed for easy access.*

1. Select the proper locations for the right & left Indicator Lights (D) to be installed. Ensure they are within view of the tow vehicle's side-view mirrors while seated in the driver's seat (Fig. 2).
2. Use an Alcohol Wipe (N) to clean the surface where the Indicator Light will be adhered.



Indicator Light (circled in red) viewable from the left (driver's side) side-view mirror.

Fig. 2

3. After determining the location to route the Indicator Light's wire, use a 3/8" drill bit to drill a hole for the wire (Fig. 3).

CAUTION

BE AWARE OF WHAT IS ON THE OTHER SIDE OF THE SURFACE BEING DRILLED. CONFIRM THERE IS ROOM TO ROUTE CABLES BEFORE DRILLING.

Fig. 3

4. Deburr the edges of the hole before inserting the Indicator Light's wire through the hole (Fig. 4).

Fig. 4

5. Route the Indicator Light's wire through the drilled hole (Fig. 5).

Fig. 5

6. Remove the adhesive release paper from the back of the Indicator Light and install it to the cleaned surface (Fig. 6).

NOTE *When applying the Indicator Light, hold for 20 seconds to ensure a strong hold to the cleaned surface.*

Fig. 6

7. Create a watertight seal by applying a like-color silicone sealant to the drilled hole (Fig. 7).
8. Repeat the same installation steps above for the other Indicator Light.

Fig. 7

SENSOR MOUNTING DETAILS

1. The LaneGuard Sensor unit is comprised of a Sensor Holder (A) and the LaneGuard Sensor (B) (Fig. 8).

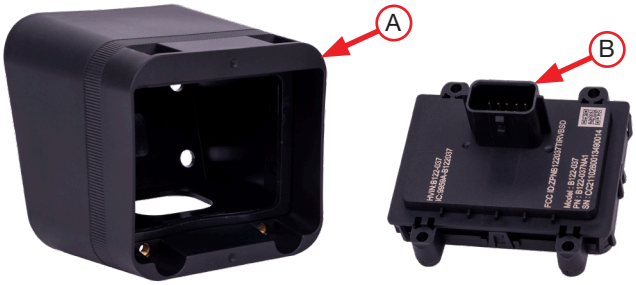


Fig. 8

2. Before beginning installation, ensure the vehicle and trailer are parked on a flat/level area (Fig. 9).
3. Ensure that the installation surface is perpendicular to the ground and as flat as possible. Avoid mounting the Sensor unit over any protrusions, such as window borders.

Fig. 9

4. The Sensor will be installed on the back outer wall of the trailer, as shown in Figure 10.
5. Before installing, confirm the area behind the wall where the Sensor is to be mounted has space for routing the Sensor Harness (F).

Be mindful of what is behind the cavity wall that could affect cable routing.

Fig. 10

6. The trailer's leveling legs should be stowed for the purposes of measuring sensor height and leveling (Fig. 11).

Fig. 11

7. **Sensor to Ground (vertical):** Locate an installation area for the LaneGuard Sensor unit between 59 – 79 inches (150 – 200cm), preferably within 59 – 65 inches (150 – 165cm) from the ground, and mark the height line with painter's tape (Fig. 12).

Unit = inches

Fig. 12

8. **Center Position Tolerance (horizontal):** The center point for the Sensor unit is ±4" (10cm) (Fig. 13).

9. **Sensor Inclination Angle:** The Sensor Holder is designed with a 15-degree inclination angle, as shown in Figure 13.

NOTE *When positioning the Sensor, ensure that the Sensor is oriented at a downward angle, as shown in Figure 13.*

Fig. 13

LANEGUARD WIRING DIAGRAM

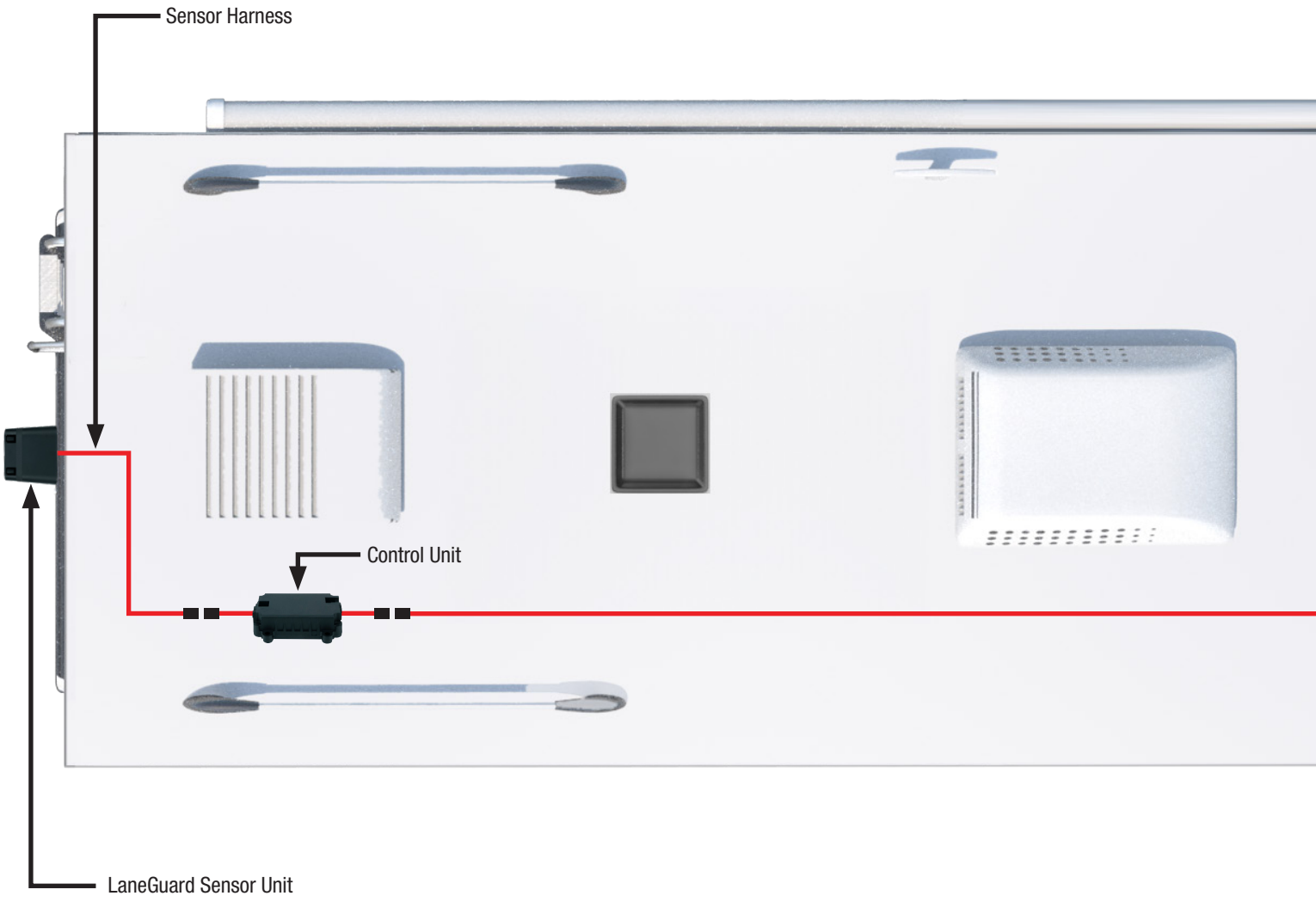
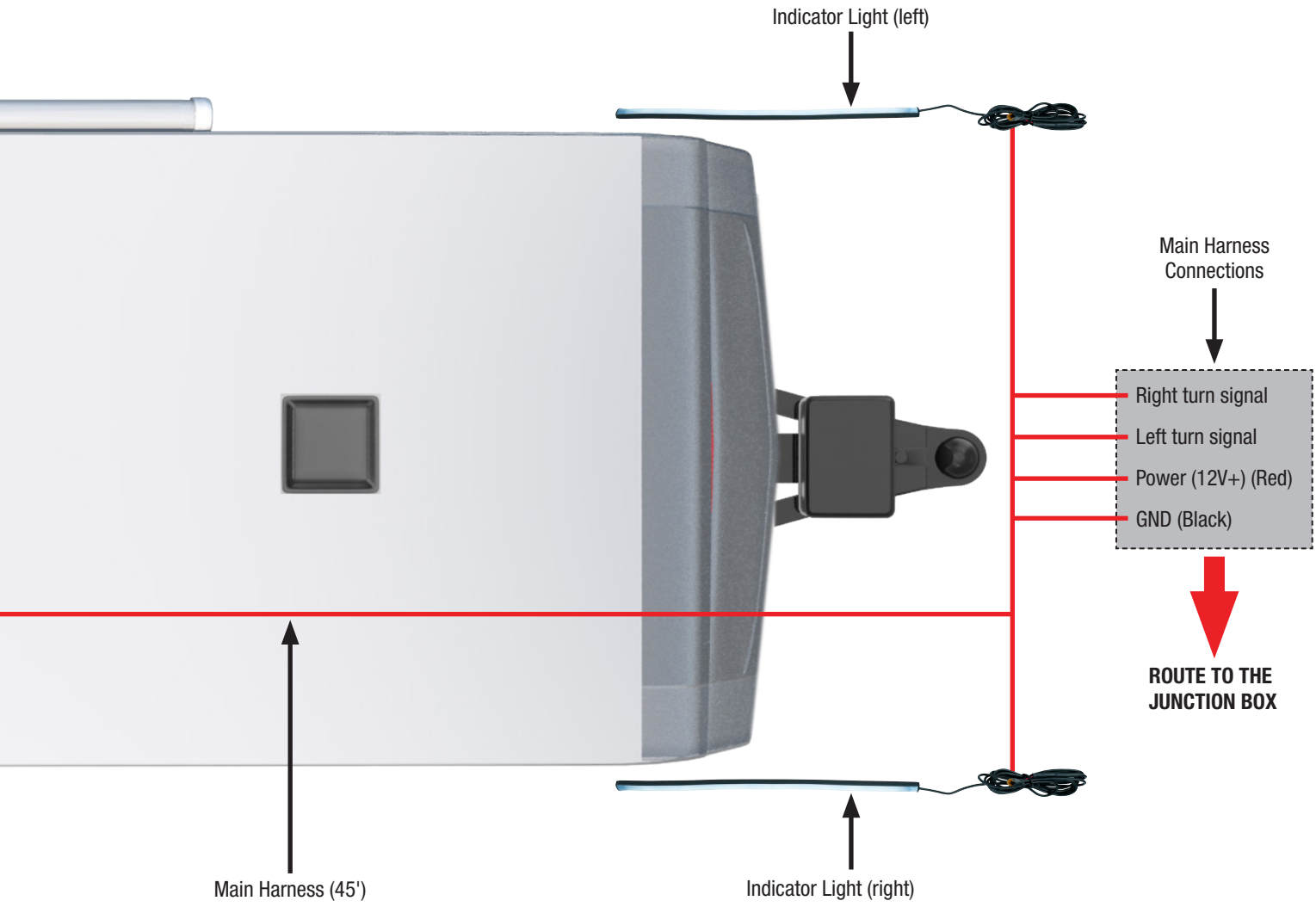


Fig. 14



NOTE *Use a multi-meter for identifying wires in the junction box if they are not labeled.*

NOTE *If there is no junction box, check the connections to identify turn signals and other 7-way wiring such as brake lights, ground, 12V charging, etc.*

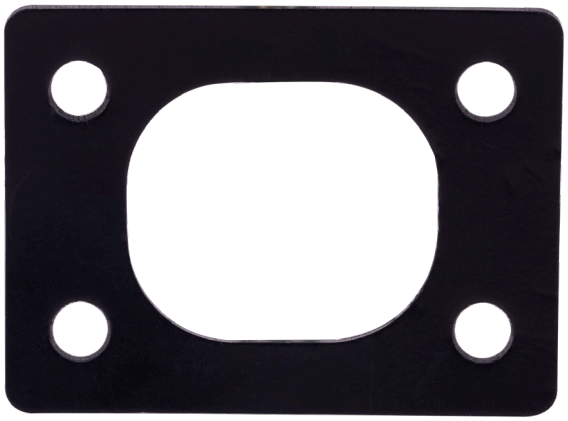
MOUNT THE LANEGUARD SENSOR

CAUTION

BE AWARE OF WHAT IS ON THE OTHER SIDE OF THE SURFACE BEING DRILLED. CONFIRM THERE IS ROOM TO ROUTE CABLES BEFORE DRILLING.

1. Use a punch or scribe to mark locations where the LaneGuard Sensor unit (Fig. 15) will be mounted to the trailer by using the Sensor Mounting Gasket (H) as a template (Fig. 16). Mark close to center for each location.
2. Drill (4) 1/16" pilot holes as marked in step 1 (Fig. 17). Drill to a depth of no more than 3/4".
3. For the Sensor Harness pass-through hole, measure 2" down and center from the bottom (2) mounting holes (Fig. 17). Use a punch or scribe to mark this location.
4. Drill a 1/16" pilot hole as marked in step 3.
5. For the Sensor Harness Pass-through hole, use either a 3/16" – 1 3/8" Step-Drill bit or 9/16" drill bit to create sufficient clearance for the smaller of the two Sensor Harness connectors to pass through.
6. Deburr the edges of the hole before inserting the Sensor Harness.
7. Remove the LaneGuard Sensor (B) from the Sensor Holder (A) (Fig. 18).

Sensor unit *Fig. 15*



Sensor Mounting Gasket (not to scale) *Fig. 16*

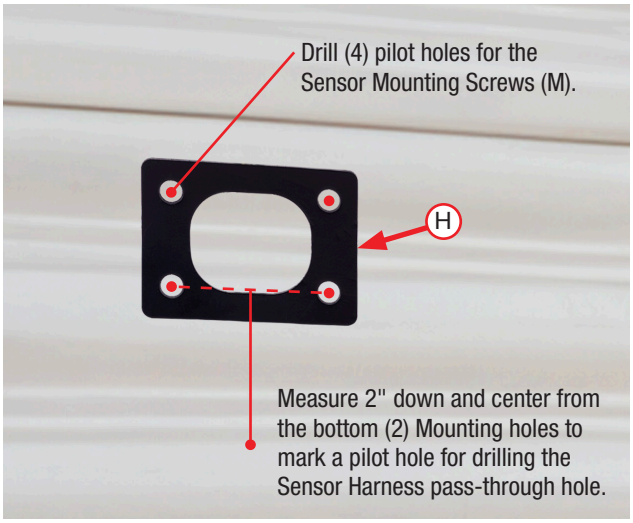


Fig. 17

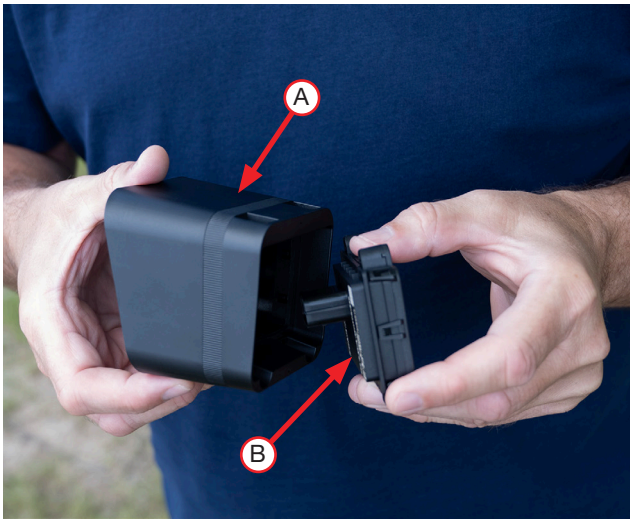


Fig. 18

8. Remove the adhesive release paper from the back of the Sensor Mounting Gasket (H) and apply it to the back of the Sensor Holder (A), aligning the mounting holes on both components (Fig. 19). Hold firmly in place for about 20 seconds to ensure the adhesive holds.

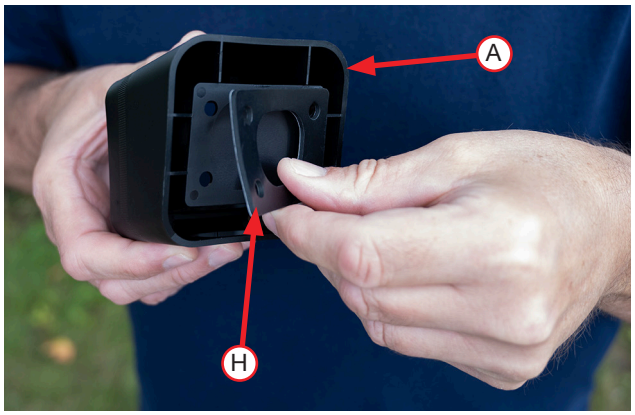


Fig. 19

9. With the Sensor Holder and Sensor Mounting Gasket now attached to one another, carefully begin mounting the Sensor Holder to the trailer wall utilizing the pilot holes created in step 2 and (4) self-tapping screws (M) (Fig. 20). Leave all (4) self-tapping screws slightly loose for the time being.

10. Ensure that the Sensor Holder is parallel to the ground with a level. Once level, tighten the self-tapping screws to mount the Holder firmly in place.

11. Feed the Sensor Harness connector through the bottom access point of the Sensor Holder. Connect the harness to the Sensor (Fig. 21). There will be an audible click when properly connected.

12. Reinsert the Sensor into the Holder and fasten securely using the Sensor Mounting Screws (L) (Fig. 22).

13. Slide the weatherproof plug located on the Sensor Harness up to the Sensor Holder access point (shown below). Firmly press the plug into the access point to create a weatherproof seal. The plug should be flat, with a slight lip exposed, if installed properly.

14. Feed any extra length of Sensor Harness through the Sensor Harness Pass-through hole to the trailer's interior (Fig. 22).

15. Create a watertight seal by applying silicone sealant to the Sensor Harness Pass-through hole.

Fig. 20

Fig. 21

Fig. 22

ROUTE THE SENSOR HARNESS

NOTE

Please keep in mind that each installation will be unique. The primary objective when routing the Sensor Harness is to ensure it is as unobtrusive as possible while still allowing for easy access.

1. Enter the trailer and locate the Sensor Harness (F) (Figs. 23 & 24) that was fed through the cavity wall from the outside, as described in the *Mount the LaneGuard Sensor* section.
2. Route the remaining length of Sensor Harness to the location where the Control Unit will be installed (Fig. 24). Utilize a path that hides the Sensor Harness and keeps it from obstructing other key elements of the trailer.

CAUTION

AVOID PINCH POINTS, SLIDE-OUTS, SKIRTS, JACK SYSTEMS, ETC. WHEN ROUTING THE SENSOR HARNESS OR DAMAGE MAY OCCUR.

Fig. 23

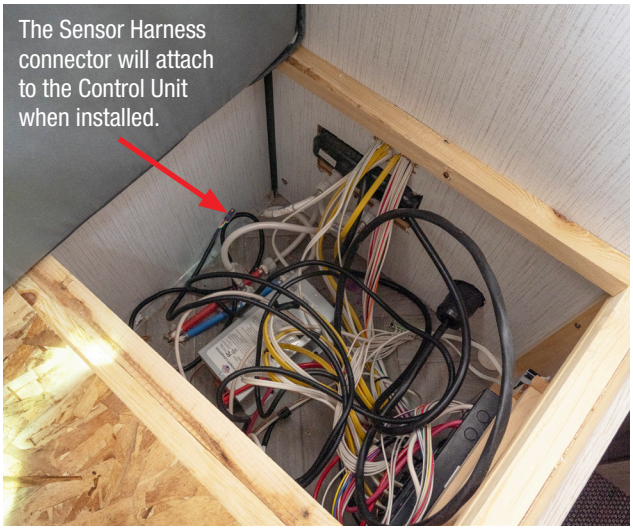


Fig. 24

ROUTE THE MAIN HARNESS

NOTE

Please keep in mind that each installation will be unique. The primary objective when routing the Main Harness is to ensure it is as unobtrusive as possible while still allowing for easy access.

1. Determine the best cable routing option from the Junction Box (7-way wiring connection location identified) to both Indicator Lights, and also to where the Control Unit will be located toward the rear of the trailer. Please refer to the *LaneGuard Wiring Diagram* (Fig. 14).

CAUTION

AVOID PINCH POINTS, SLIDE-OUTS, SKIRTS, JACK SYSTEMS, ETC. WHEN ROUTING THE LANEGUARD MAIN HARNESS OR DAMAGE MAY OCCUR.

2. Lay out the Main Harness (E).
3. Ensure that you have sufficient slack in the Main Harness for routing and wiring to the junction box (shown in the *7-Way Wiring Electrical Connections* section).

CAUTION

BE AWARE OF WHAT IS ON THE OTHER SIDE OF THE SURFACE BEING DRILLED. CONFIRM THERE IS ROOM TO ROUTE CABLES BEFORE DRILLING.

4. Begin routing the Main Harness to the Indicator Light connectors (Fig. 25) as well as to the location where the Control Unit will be installed (Fig. 26). Depending on the application, the most direct route could either be underneath the trailer or directly through the interior.
5. Remove cavity wall hardware if needed to gain access. It is recommended that this routing path not obstruct the use of other trailer features or be an obstacle. Utilize the provided zip ties (K) to help secure the harness in place for the chosen route.
6. Utilize cutouts and pass-throughs already present on the trailer to ease installation.
7. Connect the Main Harness to the Indicator Light connection points shown in Figure 27.
8. Once the system installation is complete, reattach the cavity wall (if removed) using the existing hardware from an earlier step.

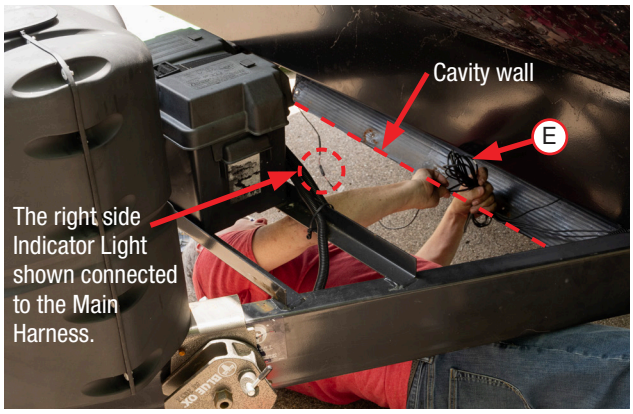


Fig. 25

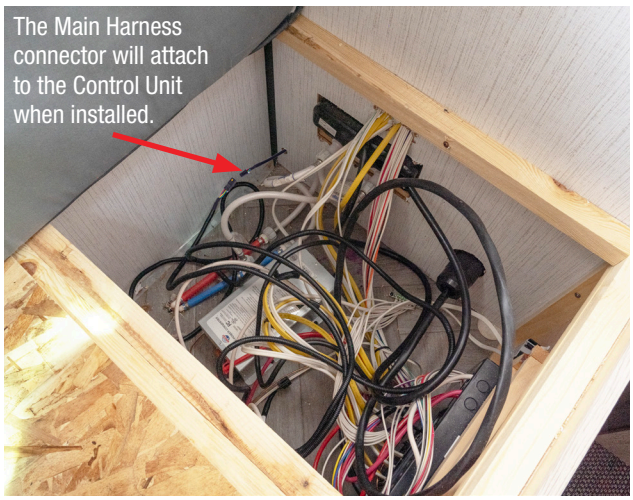


Fig. 26

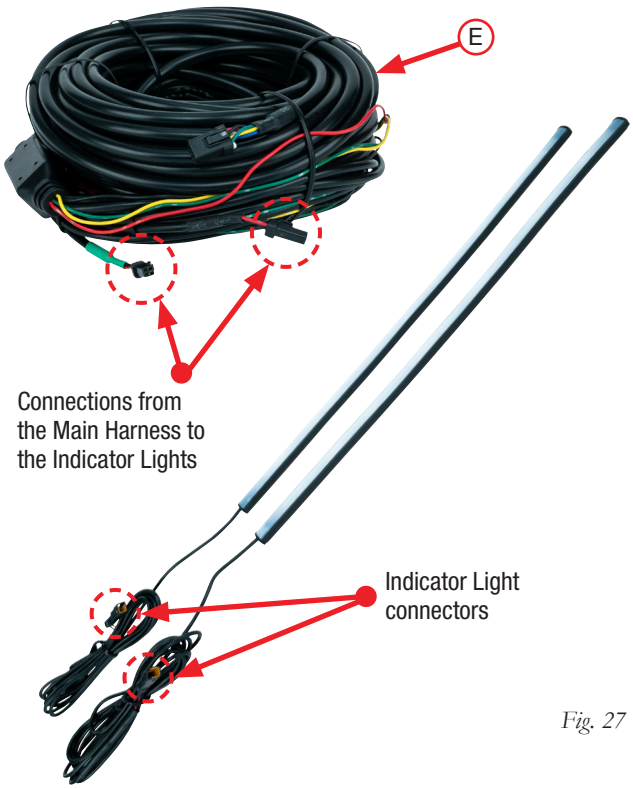


Fig. 27

INSTALL THE CONTROL UNIT

1. Confirm the identified location to install the Control Unit (C) is within reach of the Sensor Harness connector and Main Harness connector routed in the two previous sections of this installation guide.

2. Connect the Sensor Harness (F) to the Control Unit (Figs. 14 & 28).

Fig. 28

3. Connect the Main Harness (E) to the Control Unit (Figs. 14 & 29).

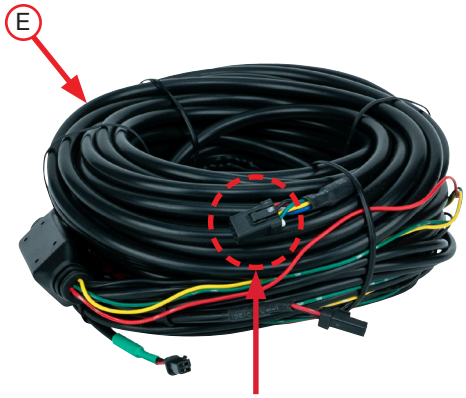


Fig. 29

4. Use (4) Self-tapping Screws (N) to mount the Control Unit firmly in place. Alternatively, the Control Unit can be tucked into the chosen location due to its small size and weight if this suits the installation criteria (Fig. 30).

NOTE *The Control Unit has already been calibrated, therefore, ease of access to the device is not critical for the installation.*

NOTE *The Control Unit is completely waterproof, so it is safe to install on the exterior of the trailer if that is a necessary requirement of the installation*

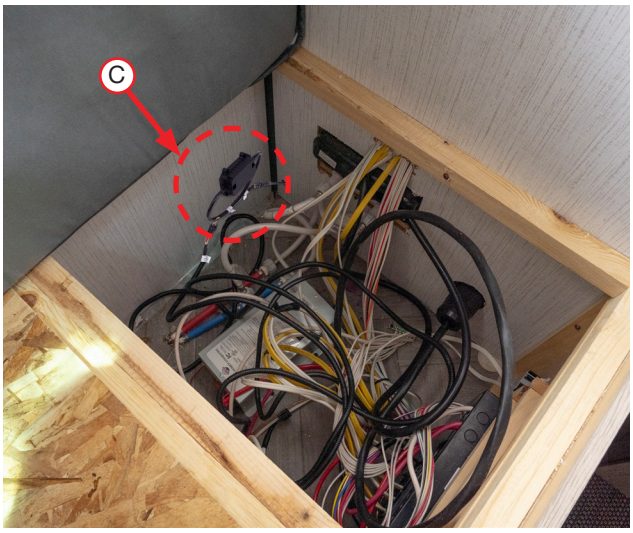


Fig. 30

5. Once the system installation is complete, reattach the cavity wall (if removed) using the existing hardware from an earlier step.

7-WAY WIRING ELECTRICAL CONNECTIONS

1. Remove the cover to the junction box which is typically under the front of the trailer (Fig. 31).

NOTE

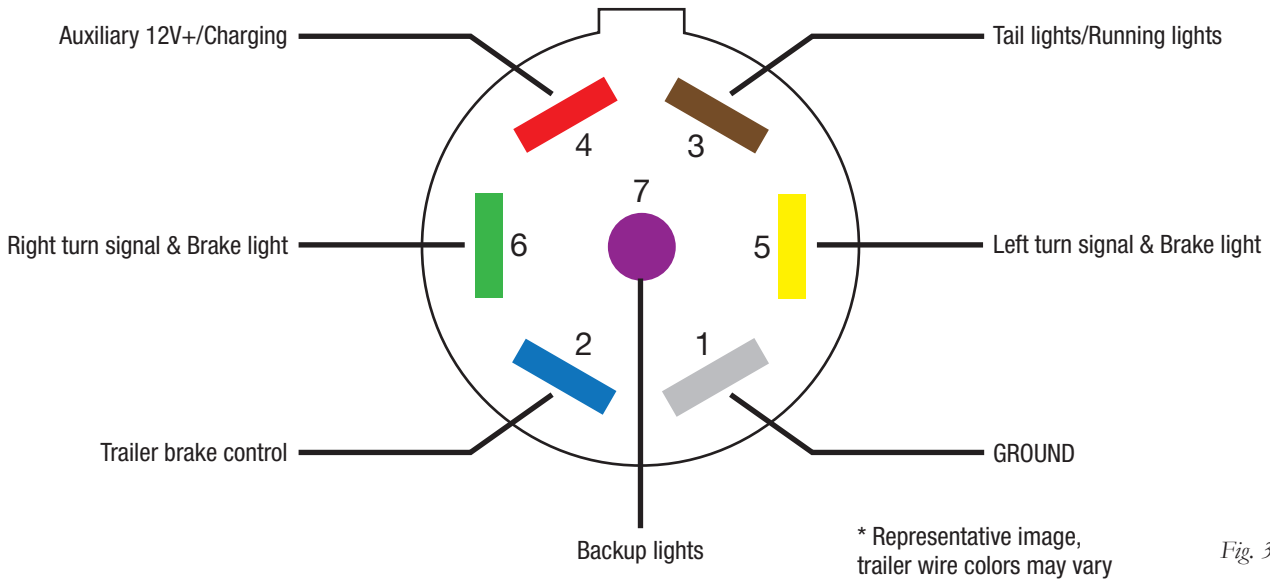
If there is no junction box, check the connections to identify turn signals and other 7-way wiring such as brake lights, ground, 12V charging, etc.

Fig. 31

2. Confirm that the signal wires from the junction box all come from the correct sources. Use a multi-meter for identifying wires in the junction box if they are not labeled (Figs. 31 & 32).

Fig. 32

3. The trailer connector 7-way pin-out diagram* (male connector, female pins) is shown in Figure 33.



* Representative image, trailer wire colors may vary

Fig. 33

4. Connect the 7-way connector from the trailer (Fig. 33) to the towing vehicle to confirm appropriate connections are being made during the installation.

5. Connect each of the labeled Main Harness wires to the appropriate wires in the junction box using the provided hardware, Waterproof Crimp Connectors (I) and #10 Ring Terminals (J). Wiring connections include the left turn signal, right turn signal, reverse, power and ground, testing each as they are completed (Fig. 34).

Fig. 34

6. Replace the junction box cover when finished (Fig. 35).

Fig. 35

NOTE *Please refer to the included User Guide (Fig. 36) for complete details on using the system after installation.*

Fig. 36

Statements

FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and the human body.

ISED STATEMENT

This device contains license-exempt transmitter(s) that comply with Innovation, science and economic development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference,

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur exempt de licence contenu dans le présent appareil est conforme aux cnr d'innovation, sciences et développement économique canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) L'appareil ne doit pas produire de brouillage;

(2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IMPORTANT NOTE: IC RADIATION EXPOSURE STATEMENT

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipe¬ment doit être installé et utilisé avec un minimum de 20cm de distance entre la source de rayonnement et votre corps.

Limited Warranty and Return Policy

Air Lift Company provides a 2-Year Limited Warranty* to the original purchaser of the Towtal View LaneGuard (single sensor) system, from the date of original purchase, that the products will be free from defects in workmanship and materials when used on cars and trucks as specified by Air Lift Company and under normal operating conditions, subject to the requirements and exclusions set forth in the full Limited Warranty and Return Policy.

Warranty coverage does not apply to any damage caused to the Towtal View LaneGuard (single sensor) system due to incorrect installation, use or weather conditions affecting the mounting surface of any of the installation options.

*Full Limited Warranty and Return Policy are available at https://www.airliftcompany.com/support/warranty/ and are subject to change.

WARRANTY REGISTRATION & CLAIMS

- To register your warranty, please visit https://www.airliftcompany.com/support/warranty/register/
- To submit a warranty claim, please visit https://www.airliftcompany.com/support/warranty/submit-claim/

Thank you for purchasing Air Lift Products!

Need Help?

Contact Air Lift Company Customer Service at (800) 248-0892 or email service@airliftcompany.com.

For calls outside the U.S. or Canada, dial +1 (517) 322-2144.

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