SWAY COMMAND®
TOW CONTROL SYSTEM
(FOR TRAVEL TRAILER)
OEM INSTALLATION MANUAL

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Introduction

The Sway Command® Tow Control system is a self-contained trailer stability control module that detects undesirable trailer movement from external sensors and mitigates it by adaptively applying a variable braking voltage to the left and right trailer electric brakes. This system is currently only for use on travel trailers.

The Sway Command® Tow Control system uses sensors to detect excessive trailer sway. The system activates automatically and applies voltage proportional to the amount of sway detected to the electric trailer brakes. This dampens the sway and slows the trailer down. When excessive sway is detected, the light pod will blink red and the tow vehicle operator may feel the trailer brakes activate until the sway is dampened.

Causes of Sway

- **A.** When the tongue weight is less than 10% of the trailer's weight, it has a natural tendency to sway.
- **B.** Improper weight distribution hitch adjustments.
- **C.** Crosswinds.
- **D.** A transfer truck passing from the rear of the trailer.
- **E.** Descending inclines.
- **F.** Towing speeds.
- **G.** Tow vehicle not properly matched for the trailer.
- **H.** Improper loading, overloading and poor weight distribution on the trailer.
- **I.** Incorrect tire inflation.

⚠ CAUTION

Always inflate tires per manufacturer's specifications. In addition to causing sway, improper tire inflation may cause premature tire wear, poor handling, reduced fuel economy or blowouts. Check tire inflation weekly when the tires are cold before operation.

NOTE: If installing Sway Command® on a trailer previously prepped for Sway Command® skip to "Preparation (Prepped Trailer)" and "Installation (Prepped Trailer)" sections.

Preparation (Non-Prepped Trailer)

Resources Required

- Cordless or Electric Drill or Screw Gun
- Appropriate Drive Bits
- 5⁄32" Drill Bit
- #12 x ¾" Hex Head Screws (Corrosion Resistant) With Lock Washers (4)
- #8 x 1" Square Head Wood Screws (2)
- Paint Marker/Grease Pencil
- Torpedo Level

Components Required

- Sway Command® Controller
- Sway Command® Main Wire Harness
- Sway Command® Light Pod
- Sway Command® Light Pod Extension Harness
- Sway Command® Warning Sticker

Installation (Non-Prepped Trailer)

Sway Command® Controller Mounting

NOTE: Never drill into the Sway Command® controller or compromise the pressure equalizer plug hole on the back of the controller. Doing so voids the warranty and could damage the controller.

NOTE: The Sway Command® controller is water-resistant, but not waterproof. Do not spray high pressure water directly at the controller.

NOTE: The controller must be mounted to a frame crossmember between 4 feet and 10 feet behind the hitch point.

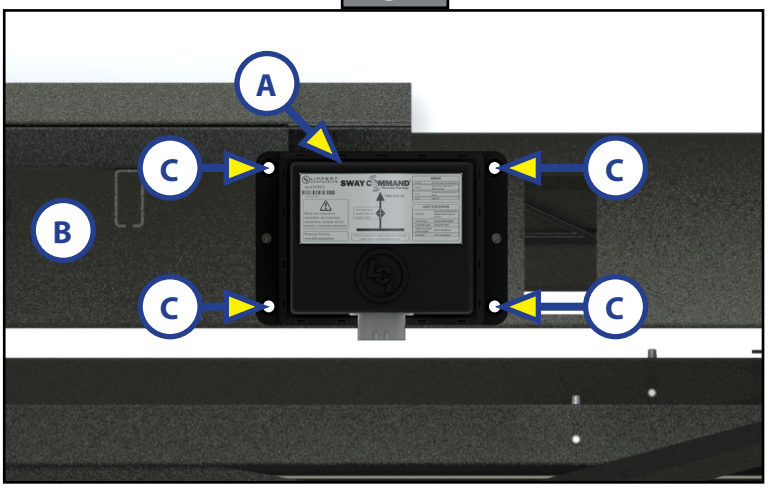
NOTE: The controller must be mounted in a level condition, centered on the crossmember, and according to the orientation arrow on the label (Fig. 2A).

NOTE: The controller will not operate correctly if mounted improperly.

1. Place the Sway Command® warning sticker on the outside of the A-frame of the trailer (Fig. 1).
2. Place the controller (Fig. 2A) on the side face of the crossmember (Fig. 2B). The controller must be mounted with the orientation arrow pointing up towards the floor of the trailer (Fig. 3A). The controller may be mounted facing the front or the rear of the trailer.
3. Using a torpedo level, ensure the controller is level. Mark the screw hole locations on the crossmember (Fig. 2C). Set the controller aside.

Fig. 1

Fig. 2



4. Using a power drill with the 5⁄32" drill bit, drill pilot holes into the crossmember on the 4 marks made during step 3.
5. Using four #12 x ¾" screws with lock washers (Fig. 4A), attach the controller to the crossmember ensuring the orientation is correct (Fig. 4).

Fig. 3

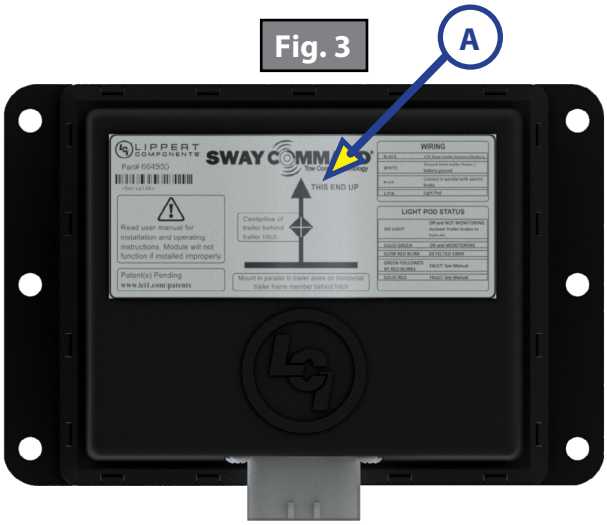
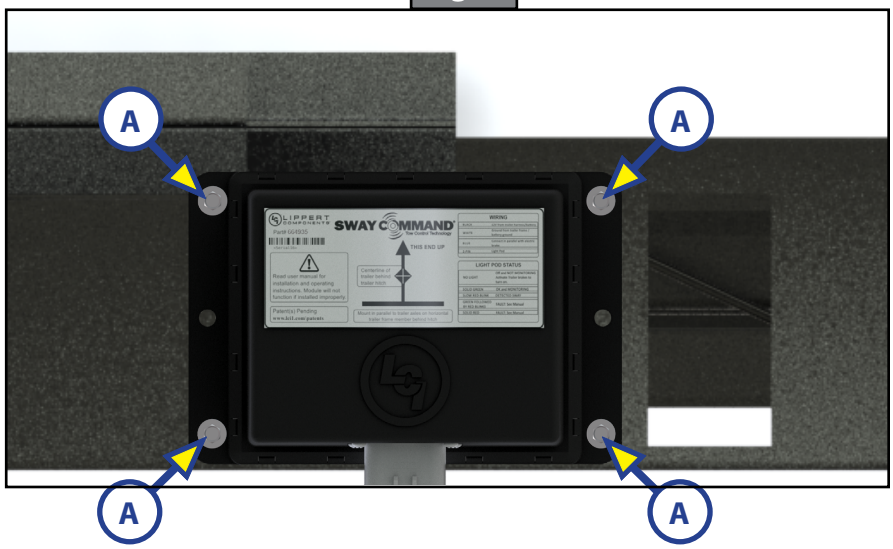


Fig. 4

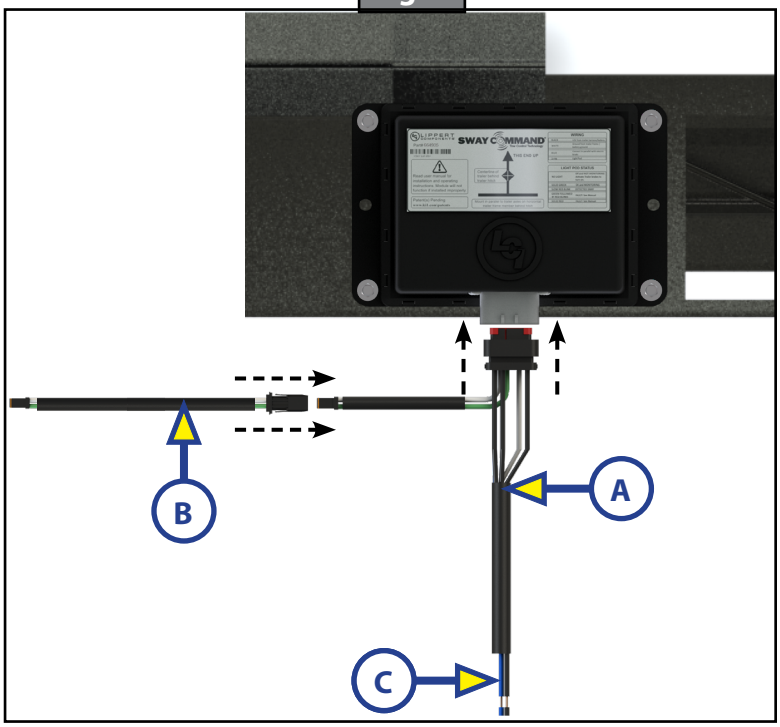


Sway Command® Wiring

1. Connect the Sway Command® main wire harness (Fig. 5A) to the port on the Sway Command® controller.
2. Connect the light pod extension harness (Fig. 5B) to the two-pin connector on the main harness.
3. Connect the loose wires (Fig. 5C) on the main wire harness as described in the table below.

NOTE: All wiring connections should be made at the trailer junction box according to RVIA codes.[1]

Fig. 5



Sway Command® Wire	Connection	Wire Gauge
2 Pin Connector	Light Pod Extension Harness	N/A
Light Pod Extension Harness	Light Pod	N/A
Black[1]	12VDC from tow vehicle/breakaway battery	12AWG
White	Trailer Battery/Frame ground	12AWG
Blue	Electric Brake wire from tow vehicle	12AWG

[1] LCI recommends the use of a 20A user-replaceable/sealed fuse between the junction box power connection and the black Sway Command® power connection.

Sway Command® Light Pod Mounting

NOTE: The light pod (Fig. 6A) should be mounted in a location that can be easily seen by the tow vehicle operator.

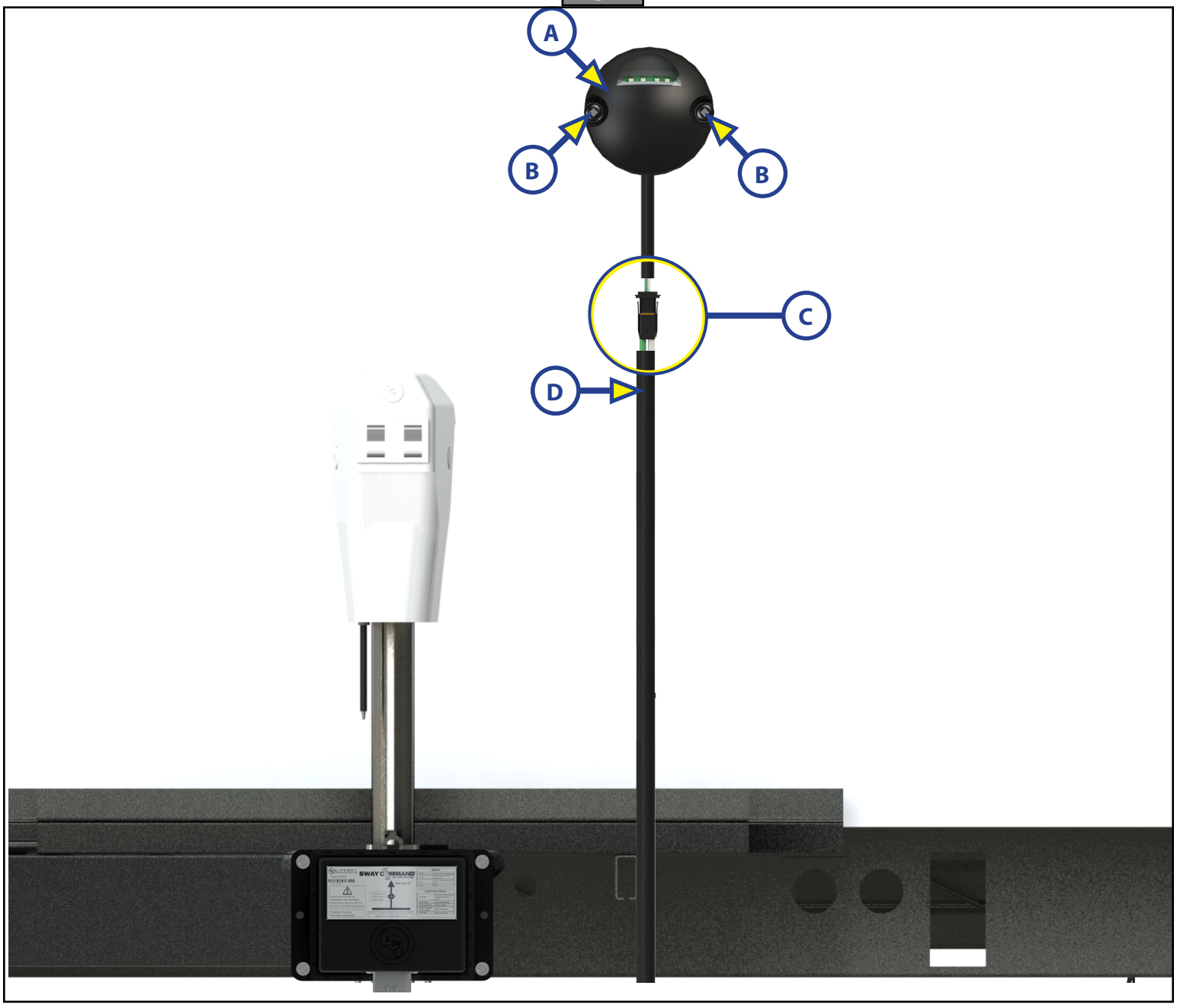
1. Connect the light pod to the extension harness (Fig. 6D) that was previously connected to the Sway Command® main harness.
2. Determine the proper mounting location for the light pod.

NOTE: The light pod wiring and connection point (Fig. 6C) can be coiled into the cavity on the back side of the light pod for a cleaner appearance if preferred.

3. Attach the light pod to the trailer wall with two #8 x 1 screws (Fig. 6B).

NOTE: Be sure to seal any wall penetrations to prevent water infiltration.

Fig. 6



Preparation (Prepped Trailer)

Resources Required

- Cordless or Electric Drill or Screw Gun
- Appropriate Drive Bits
- 5⁄32" Drill Bit
- 3⁄8" Socket and Ratchet
- 3⁄8" Socket For Screw Gun
- 1 1⁄4" Hole Saw
- Wire Crimpers/Strippers
- Hook Tool or Awl With Bent Tip
- Putty Stick
- 1" Wide Butyl Tape x 12" Long
- 1⁄4" Washer HD Lag Screws (4)
- #8 x 1" Phillips HD Screws (2)
- #10 10-12 GA Ring Terminal
- Red Wire Nut

Installation (Prepped Trailer)

1. Place the Sway Control warning sticker on the outside of the A-frame of the trailer (Fig. 1).
2. (Fig. 7) shows the Sway Command® controller and the light pod. Locate the Sway Command® light pod sticker on the front of the trailer (Fig. 8).

NOTE: The Sway Command® controller will be referred to as "the controller" for the remainder of these instructions.

3. The sticker (Fig. 8) identifies the mounting location for the light pod. A 1 1⁄4" hole will need to be drilled in this location.

⚠ CAUTION

Do not drill the hole completely through the front wall. Drill only through the sheet metal/fiberglass and the wood backer immediately behind it.

4. Drill the 1 1⁄4" diameter hole using the center circle on the sticker as your guide (Fig. 9).
5. (Fig. 10) shows the finished hole drilled only partially through the wall. There is a wire and connector inside the front wall that will be damaged by drilling too deep.

NOTE: If the trailer has an outside storage door (on the roadside sidewall) at the front of the trailer, look inside to check for a wire harness with a connector for the light pod. If there is a harness that connects to the light pod, when the hole is drilled in Step 4 (Fig. 9), the hole needs to be drilled completely through the front wall and into the storage compartment.

6. Fish out the wire and connector inside the front wall (Fig. 11) using a hooked tool (such as a bent awl) to

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Fig. 11

reach up in the wall.

7. Prep the back side of the light pod with butyl tape as shown (Fig. 12 and 13).
8. Plug the connector on the light pod to the one fished out of the inside of the wall (Fig. 14).
9. The connector and wiring should be tucked straight up inside the wall, away from the mounting screws for the light pod.
10. Place the light pod over the sticker with LEDs facing upward as shown (Fig. 15). Secure the pod to the front wall using two #8 x 1" screws (Fig. 15).
11. Trim all the excess butyl tape from around the light pod (Fig. 16).
12. The controller should be mounted as high up on the front frame rail as possible, and within 6 inches of the centerline (Fig. 17).

NOTE: In some cases the spare tire is mounted inside the A-frame leaving insufficient space for the controller on the front of the frame rail. A bracket to mount the controller on has been provided behind the front frame rail.

NOTE: The controller should also be mounted in as level a position as possible.

13. Secure the controller with the four ¼" hex head lag screws and the ⅜" socket bit (Fig. 18). Unplug the large harness from the controller.
14. Remove the cover on the junction box next to the A-frame rail (Fig. 19). There is a 20A breaker beside the

Fig. 12

Fig. 13

Fig. 14

Fig. 15

Fig. 16

Fig. 17

Fig. 18

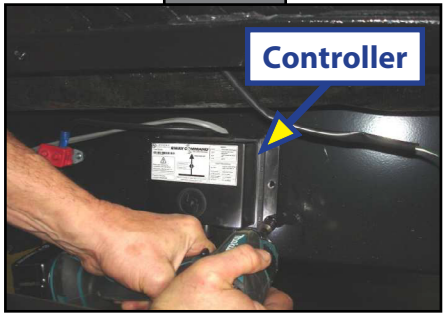


Fig. 19

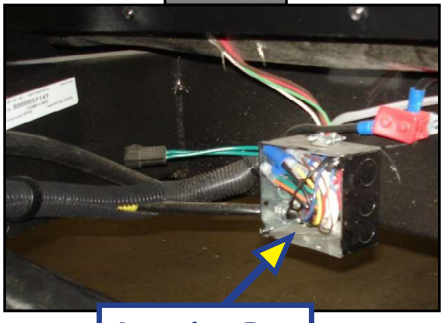
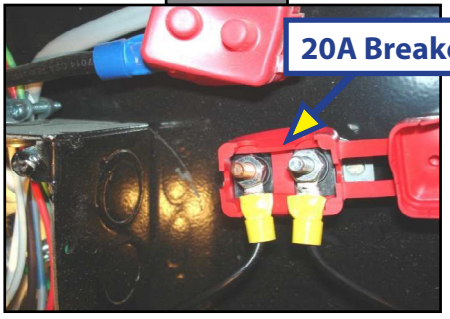


Fig. 20



wire junction box (Fig. 20).

15. There are 3 wires on the controller harness (black, blue and white). Strip back the black wire (¼"), and install a #10 10-12 GA ring terminal on this wire.
16. Attach the black wire to the SILVER stud of the 20A breaker located beside the junction box (Fig. 21). Use a ⅜" socket to remove the nut from the circuit breaker stud and re-tighten it after the terminal is added.
17. Loosen the strain relief on top of the junction box and insert the blue and white wires from the controller harness.
18. Re-tighten the strain relief screws. Remove the large blue wire nut from the bundle of white wires inside the junction box (Fig. 22).
19. Add the white wire (stripped to ¾") from the controller harness to the white wire bundle and re-install the blue wire nut.
20. Locate the group of blue brake wires connected with a copper crimp connector or wire nut (Fig. 23).
21. Cut off the copper crimp connector, strip wires 9/16" and connect with the red wire nut.
22. Attach the blue wire from the controller harness to the group of blue brake wires with the red wire nut (Fig. 24).
23. Tuck the wires inside the junction box and re-install the lid on the junction box. Locate and pull down the small harness under the front of the trailer (Fig. 25).
24. Plug the large harness into the controller and plug the small harness (Fig. 25) into the small connector on the controller harness (Fig. 26).

Fig. 21

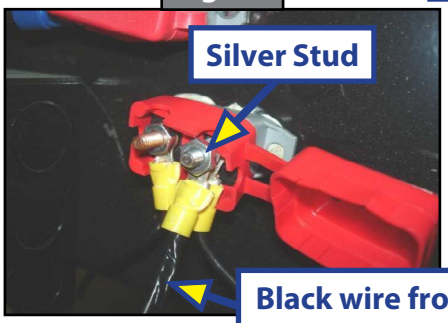


Fig. 22

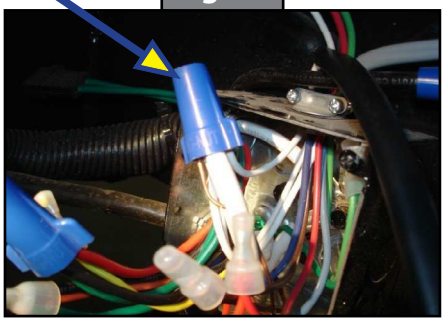


Fig. 23

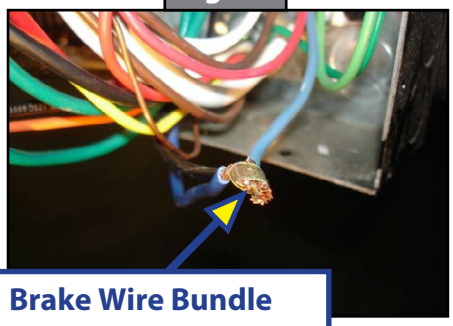


Fig. 24

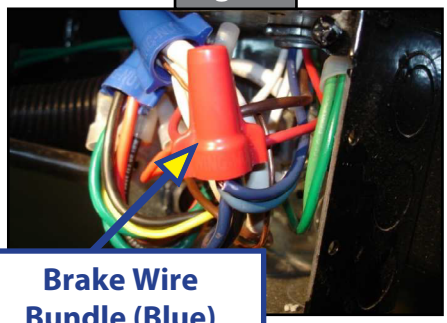


Fig. 25

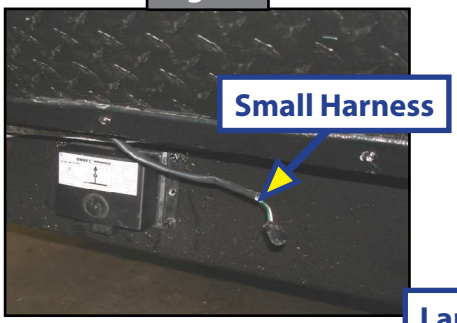
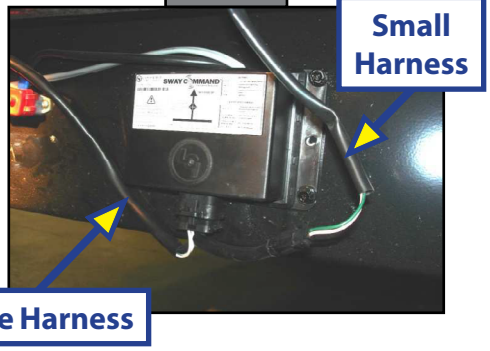


Fig. 26



Sway Command® Compatible Tow Vehicle Brake Control Modules

The tow vehicle brake control module (BCM) applies brakes to the trailer when the tow operator presses on the tow vehicle brake pedal or activates a manual switch on the tow vehicle BCM. A tow vehicle BCM may be OEM factory installed or an aftermarket install.

NOTE: LCI attempts to provide compatibility with aftermarket BCMs and integrated trailer brake control modules (ITBCMs) but is unable to anticipate design changes by other manufacturers. LCI is continually testing BCMs and ITBCMs and advises you to visit www.lci1.com/sway for a complete and updated list as the website listing is periodically revised as further testing is completed and approved.

⚠ WARNING

- The Sway Command system installed on this trailer may be incompatible with certain manufacturers' brake controllers.
- Please refer to the Sway Command owner's manual for a list of brake controllers compatible with Sway Command. The most current list can be found at www.lci1.com/sway. Also, refer to your vehicle owner's manual for any further instructions on your vehicle's brake controller function.
- **Failure to determine compatibility between your brake controller, your tow vehicle and Sway Command may result in the sudden loss of brake controller braking, which can result in a loss of vehicle control and cause serious injury or property damage.**

Prior To Operation

⚠WARNING

Failure to follow the guidelines below may result in death, serious personal injury, or property damage.

1. Sway Command® must be installed as detailed in the Sway Command® Installation section. Sway Command® will not operate correctly if improperly installed.
2. Trailer brakes must be adjusted per OEM specifications to ensure proper trailer braking. The tow operator must ensure trailer brakes are properly adjusted. Sway Command® may not operate properly with improperly adjusted brakes. Discuss brake adjustments with the trailer OEM.
3. Trailer brakes must be burnished to ensure proper trailer braking. New electric brakes may contain a coating to prevent rust during shipping. An unburnished brake will reduce trailer braking capacity. The tow vehicle operator must ensure trailer brakes are properly burnished to ensure brakes are effective in slowing the tow vehicle. Sway Command® may not operate properly with improperly burnished brakes. Discuss brake burnishing with the trailer OEM.
4. Improperly adjusted tire pressure can reduce braking effectiveness and can be a source of sway. Tire pressure must be adjusted to OEM recommended pressure.
5. Tires must have useful tread life left to ensure proper braking. Tire tread below useful life could skid during braking. The tow operator must ensure tires have useful tread left.
6. Improperly loaded trailers can be a source of sway. At higher speeds, if the trailer naturally sways, the tongue weight and/or trailer weight distribution must be adjusted. Sway Command® could activate frequently in this situation causing excessive brake wear. Ensure proper hitch tongue weights are observed for the trailer.
7. The tow operator must ensure Sway Command® is operational by observing the light pod status. Ensure the light pod is illuminated green. See status light codes for status other than green.
8. The operator should operate the tow vehicle safely as driving and weather conditions allow. Sway Command® relies on braking and tire grip to mitigate sway, and overall effectiveness of the system may be reduced or impaired in slippery/icy driving conditions.

Sway Command® Controller Operation

1. When Sway Command® detects excessive sway, the light pod will blink red and the tow operator may feel the trailer brakes activate until the sway is dampened.
2. Sway Command® will "wake up" if it senses external brake activations. During wake up, Sway Command® performs self-checks and alternately flashes the light pod lights green and red.

NOTE: The Sway Command® light pod will be green if no issues are detected. If an issue is detected, the light pod will blink green once, followed by a number of red flashes. See troubleshooting for a description of the various blink codes.

3. Sway Command® will enter a low power mode after 10 minutes when it senses no tow vehicle brake activation or movement. The Sway Command® light pod will turn off when it powers down.

Light Codes and Troubleshooting

Light Flash	Why?	What Should Be Done?
Off	Unit is not powered and not active.	Unit is in low power. Activate tow vehicle brake to wake unit.
		Unit is not connected to DC 12V power supply. Verify wiring.
Green, Red, Repeat	Wake up self-checks in progress.	After a few seconds, the unit will complete self-checks, and set the lights Green if unit is ready, or a flashing code if an issue is found.
Green Solid	Unit is awake and monitoring for sway.	Every 5 seconds, there will be a brief time the Green LED turns off for a fraction of a second. This indicates unit is functional.
Red Blink (½ second on, ½ second off, repeats)	Sway Command® detected sway event and is activating brakes.	After sway subsides, light will return to green.
Green, 2 Red	A short to 12 volt detected.	Verify the break away switch is not activated.
		Verify blue brake wire not shorted to 12 volt.
Green, 3 Red	Not connected to trailer brakes.	Verify the blue brake wire is connected to the trailer brakes.
Green, 4 Red	A short to ground detected.	Verify the blue brake wire is not shorted to ground or trailer frame.
Green, 5 Red	Low voltage detected.	Verify tow vehicle and tow battery are at 12 volts.
Red Solid	Unit is not functional.	Disconnect harness, wait 10 seconds. Connect harness. If light becomes solid red, unplug unit and contact service department.
Red Fast Blink (100ms on, 100ms off, repeats)		

NOTE: In the event a tow vehicle brake controller detects a fault after Sway Command® detects a sway event, manually activate the tow vehicle brake controller a few times to clear the fault.

Notes

LIPPERT COMPONENTS™

Please recycle all obsolete materials.

For all concerns or questions, please contact
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