



Sway Command[®] 1.5 (AU) BY TRAILAIR

Installation and Owner's Manual

(For Aftermarket Applications)

Sway Command Kit	
Kit Part #	Description
2020122271	Sway Command Kit



The use of Sway Command[®] is only supported/allowed for use on caravans meeting product specifications and caravans with approved brake control modules (BCMs) and integrated caravan brake control modules (ICBCMs). See caravan requirements and approved BCM and ICBCM Lists at: www.lippert.com/sway-command

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⚠ WARNING

- The Sway Command system installed on this caravan may be incompatible with certain manufacturers' brake controllers.
- Please refer to the website www.lippert.com/sway-command for the most current list of brake controllers compatible with Sway Command. 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.
- Do not submerge the controller. The Sway Command is not designed to be submerged under water (Water Crossing). Submersion will cause unwarrantable damage.



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Introduction

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

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

Causes of Sway

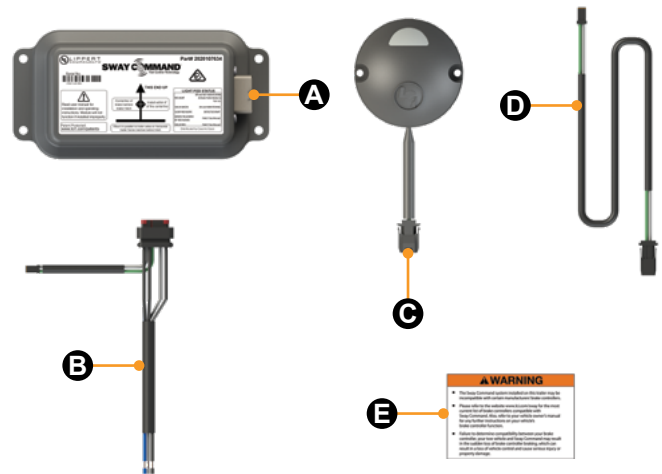
- When the tongue weight is less than 10% of the caravan's weight, it has a natural tendency to sway.
- Improper weight distribution hitch adjustments.
- Crosswinds.
- A transfer truck passing from the rear of the caravan.
- Descending inclines.
- Towing speeds.
- Tow vehicle not properly matched for the caravan.
- Improper loading, overloading and poor weight distribution on the caravan.
- Incorrect tyre inflation.

CAUTION

ALWAYS INFLATE TYRES PER MANUFACTURER'S SPECIFICATIONS. IN ADDITION TO CAUSING SWAY, IMPROPER TYRE INFLATION MAY CAUSE PREMATURE TYRE WEAR, POOR HANDLING, REDUCED FUEL ECONOMY OR BLOWOUTS. CHECK TYRE INFLATION WEEKLY WHILE THE TYRES ARE COLD BEFORE OPERATION.

NOTE: The Sway Command System is not a replacement for using sway control bars when towing a caravan. Sway control bars should be used in conjunction with the Sway Command System.

Parts List



Sway Command Kit - 2020122271

Letter	Part#	Description
A	2020107634	Sway Command Controller
B	389951	Sway Command Main Harness
C	380597	Sway Command Light Pod
D	390066	Sway Command Light Pod Extension Harness
E	671639	Sway Command Warning Sticker

NOTE: Part numbers are shown for identification purposes only. Not all parts are available for individual sale. All parts with a link to the Lippert Store can be purchased.

Resources Required

- #14 - 10 x 25 mm self-drilling hex screw (corrosion resistant) (4)
- M6 x 11.0 x 0.7 serrated external lock washers (corrosion resistant) (4)
- Cordless or electric drill or screw gun
- Impact driver
- Torque wrench (Nm)
- M8 x 25 mm square head wood screws (2)
- M8 x 18 x 12 mm self-tapping hex head screws (2)
- Paint marker/grease pencil
- Appropriate drive bits
- 5.5 mm drill bit

Installation

Mounting Controller

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.

⚠ WARNING

IF THE CONTROLLER IS FITTED TO A CHASSIS SHORTER THAN 101.6 MM (4") IN HEIGHT, A PROTECTIVE BRACKET/SHIELD MUST BE FITTED TO PROTECT THE CONTROLLER FROM DAMAGE THAT MAY BE CAUSED BY EXCESS WATER SPRAY AND ROAD DEBRIS. SEE SHORT CHASSIS MOUNTING INSTRUCTIONS AND FIGURE 3.



Fig.1

NOTE: The provided Sway Command controller module (Fig.1A) will be fitted to the right side of the center rail on the chassis, at the front of the chassis frame.

NOTE: The controller must be mounted to a frame crossmember between 1219 mm - 3048 mm (4 ft - 10 ft) behind the hitch point.

Standard Chassis Mounting

1. 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 **MUST** be mounted facing the rear of the caravan. The controller will not operate correctly if mounted improperly.

2. Place the controller against the mounting surface. Use a paint marker or grease pencil to locate the four mounting holes for the Sway Command module (Fig.2B).

3. Using a drill with the 5.5 mm drill bit, drill pilot holes through the crossmember at the four previously marked locations. Clear all chips from the mounting surface.

4. After the holes have been drilled, insert M6 x 11.0 x 0.7 serrated external lock washers over each #14 - 10 x 25 mm self-drilling hex screw.

5. Insert assembled screws into the module as follows:

A. Insert one screw into the module and tighten half way to hold the module in place.

B. Insert a second screw into the opposite corner from the previously installed screw and tighten half way into the module to hold the module in place.

C. Insert a third screw into the open hole on the opposite end from the previously installed screw and tighten half way into the module.

D. Insert the fourth screw into the remaining open hole and tighten half way into the module.

6. Using an impact driver, securely fasten all screws using a crisscross pattern (Fig.2) until screw heads are nearly flush against the lock washers.

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CAUTION

**DO NOT EXCEED RECOMMEND TORQUES VALUES.
EXCEEDING RECOMMENDED TORQUE VALUES CAN
RESULT IN PRODUCT DAMAGE.**

7. Torque screws 10 - 12 Nm in the crisscross pattern shown in figure (Fig.2).

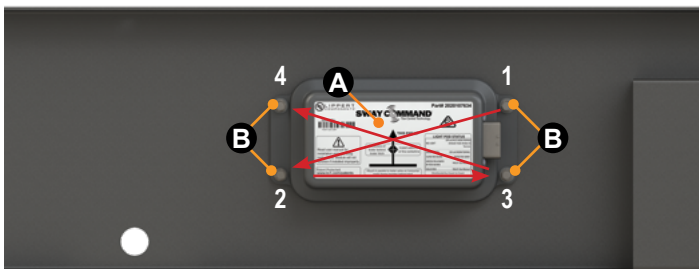


Fig.2

8. Make sure the controller is level (parallel) with the front crossmember of the caravan frame.

9. Make sure controller orientation is correct (Fig.2).

Short Chassis Mounting

If mounting the controller to a shorter chassis, 101.6 mm (4") or less, do as follows:

1. Install a protective bracket, which is **NOT** part of this kit or supplied by LCI, large enough to mount the controller to and then onto the shorter crossmember.

2. Place the controller on top of the protective bracket.

A. Align the top of the controller with the top of the bracket, then center align the two items.

B. Place the bracket and controller on the side face of the crossmember with the tops of the bracket and controller aligned with the top of the crossmember.

C. Mark the screw hole locations on the protective bracket using the controller as a template.

D. Set the controller aside.

3. Using a drill with the 5.5 mm drill bit, drill pilot holes through the bracket and crossmember at the four locations made in step 2.

4. Insert M6 x 11.0 x 0.7 serrated external lock washers over each #14 - 10 x 25 mm self-drilling hex screw, then attach the controller (Fig.3A) and protective bracket (Fig.3B) to the crossmember (Fig.3C) with the four hex screws in accordance with steps 5 - 7 and figure 2 of the Standard Chassis Mounting procedure.

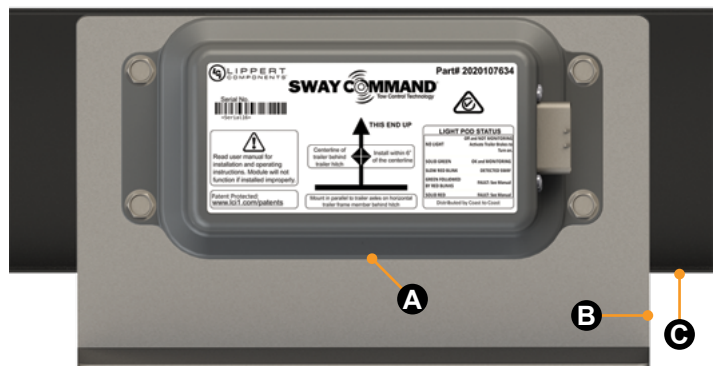


Fig.3

Sway Command Wiring

1. Connect the Sway Command main wire harness (Fig.4A) to the port on the Sway Command controller.

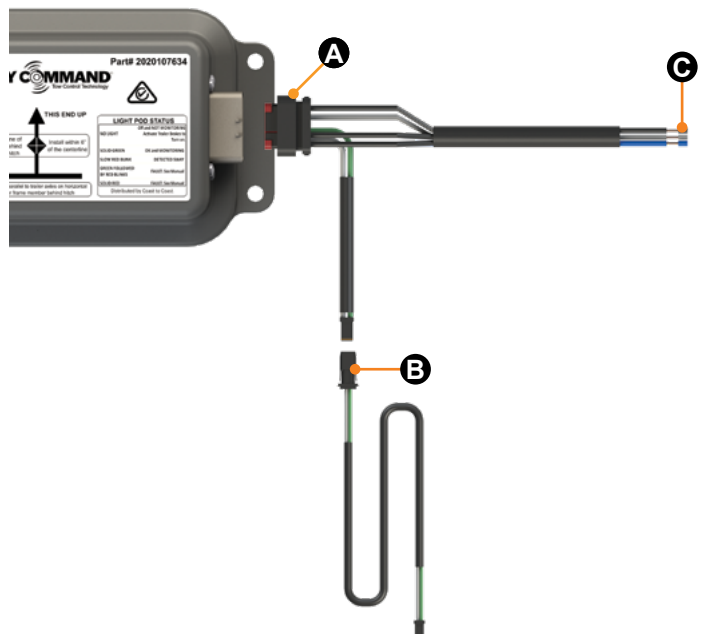


Fig.4



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2. Connect the light pod extension harness (Fig.4B) to the two-pin connector on the main harness.

3. Connect the loose wires (Fig.4C) on the main wire harness as described in the following table.

NOTE: All wiring connections should be made at the caravan junction box according to local codes.

NOTE: 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 Wire	Connection	Gauge
2-Pin Connector	Light Pod Extension Harness	N/A
Light Pod Extension Harness	Light Pod	N/A
Black	12V DC from tow vehicle / breakaway battery	12 AWG
White	Caravan Battery / Frame ground	12 AWG
Blue	Electric Brake wire from tow vehicle	12 AWG

Sway Command Light Pod Mounting

The light pod should be mounted in a location that can be easily seen by the tow vehicle operator. If the light pod is mounted to the A-frame of the caravan (Fig.5), make sure it is mounted on the driver's side of the caravan for clear visibility. Optionally, the light pod can be mounted to the outside, front wall of the caravan (Fig.6) and positioned for visibility by the tow vehicle operator.

NOTE: The light pod can be fastened to the A-frame at any time, but can only be connected after the A-frame loom has been routed.

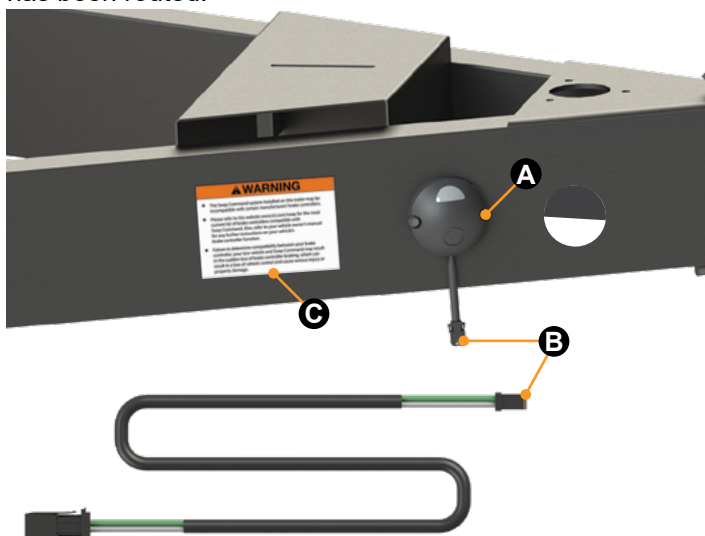


Fig.5

Mounting the light pod on the A-frame:

1. Determine the proper mounting location for the light pod.
2. Fasten the light pod in place next to the A-frame loom hole with two M8 x 18 x 12 mm self-tapping screws (Fig.5A).
3. Connect the light pod to the extension harness (Fig.5B) that was previously connected to the Sway Command main harness.

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

4. If the light pod is lit green, and no error codes are detected, place the Sway Command warning sticker (Fig.5C) on the outside of the caravan's A-frame next to the light pod.

Mounting the light pod on a caravan wall:

1. Determine the proper mounting location for the light pod.
2. Attach the light pod to the caravan wall with two M8 x 25 mm square head wood screws (Fig.6A).
3. Connect the light pod to the extension harness (Fig.6B) that was previously connected to the Sway Command main harness.
4. Make sure all wall penetrations are sealed to prevent water infiltration.



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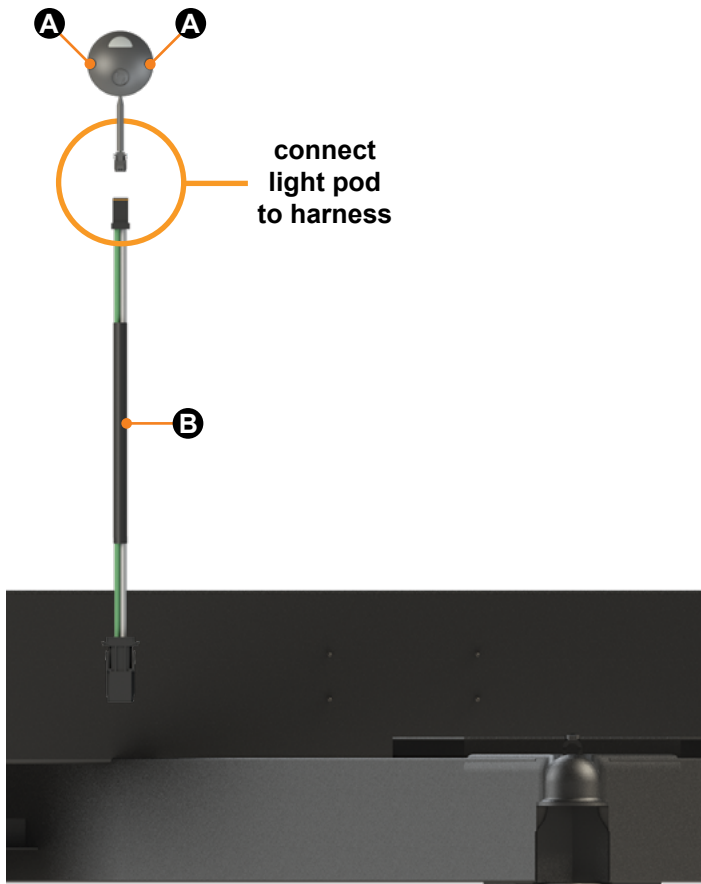


Fig.6

Sway Command Compatible Tow Vehicle Brake Control Modules

The tow vehicle brake control module (BCM) applies brakes to the caravan 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: The following WARNING safety label reads and appears as shown here and as included in the kit.

⚠ WARNING

- The Sway Command system installed on this trailer may be incompatible with certain manufacturers' brake controllers.
- Please refer to the website www.lci1.com/sway for the most current list of brake controllers compatible with Sway Command. 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.

NOTE: LCI attempts to provide compatibility with aftermarket BCMs and integrated caravan brake control modules (ICBCMs) but is unable to anticipate design changes by other manufacturers. LCI is continually testing BCMs and ICBCMs 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.

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. Caravan brakes must be adjusted per OEM specifications to ensure proper caravan braking. The tow operator must ensure caravan brakes are properly adjusted. Sway Command may not operate properly with improperly adjusted brakes. Discuss brake adjustments with the caravan OEM.



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3. Caravan brakes must be burnished to ensure proper caravan braking. New electric brakes may contain a coating to prevent rust during shipping. An unburnished brake will reduce caravan braking capacity. The tow vehicle operator must ensure caravan 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 caravan OEM.

4. Improperly adjusted tyre pressure can reduce braking effectiveness and can be a source of sway. Tyre pressure must be adjusted to the tyre manufacturer's recommended pressure.

5. Tyres must have useful tread life left to ensure proper braking. Tyre tread below useful life could cause the caravan to skid during braking. The tow operator must ensure tyres have useful tread left.

6. Improperly loaded caravans can be a source of sway. At higher speeds, if the caravan naturally sways, the tongue weight and/or caravan 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 caravan.

7. The tow operator must ensure Sway Command is operational by observing the Sway Command light pod status. Ensure the light pod is illuminated green. See Sway Command Status light for status other than green.

8. The operator should operate the tow vehicle as safely as driving and weather conditions allow. Sway Command relies on braking and tyre 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 caravan 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.

4. The Sway Command light pod will turn off when it powers down.

Light Codes and Troubleshooting

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.



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Light Flash	Why?	What Should Be Done?
Off	Sway Command is not powered and not active.	Sway Command is in low power. Activate tow vehicle brake to wake Sway Command.
		Sway Command is not connected to 12V DC power supply. Verify wiring.
Green, Red, Repeat	Wake up self-checks in progress.	After a few seconds, the Sway Command will complete self-checks, and set the lights green if Sway Command is ready, or a flashing code if an issue is found.
Green Solid	Sway Command is awake and monitoring for sway.	Every five seconds there will be a brief time the green LED turns off for a fraction of a second. This indicates Sway Command is functional.
Red Blink (1/2 second on, 1/2 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 volts.
Green, 3 Red	Not connected to caravan brakes.	Verify the blue brake wire is connected to the caravan brakes.
Green, 4 Red	A short to ground detected.	Verify the blue brake wire is not shorted to ground or caravan frame.
Green, 5 Red	Low voltage detected.	Verify tow vehicle and tow battery are at 12 volts.
Red Solid	Sway Command is not functional.	Disconnect harness, wait 10 seconds. Connect harness. If light comes on solid red, unplug Sway Command and contact service department.
Red Fast Blink (100ms on, 100ms off, repeats)		

Notes



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