



Ground Control[®]

5th Wheel Leveling Prepped Unit to Full Automatic Leveling Installation and Owner's Manual

(For Aftermarket Applications)

Ground Control Aftermarket Kit

Part #	Description
2021106810	Conversion to Full Ground Control 5th Wheel LCD Leveling System

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Installation and Owner's Manual

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Introduction

Ground Control is an intelligently-designed system that includes leveling jacks driven by the power of Hall Effect technology, which measures the jack leg's motor revolutions, instead of amps, ensuring more accurate leveling for your 5th wheel RV. It also comes with an auto-level feature that provides you with the easiest, most efficient way to level your rig. And an automatic re-hitch memory functionality that stores your RV's position when you unhook from your tow vehicle so that it can automatically return to that position when you're ready to hitch back up again. Saving you even more time and hassle.

Quick Facts

- System can be easily integrated with the pre-installed Ground Control 5th wheel landing gear.
- 6-point electric leveling system.
- Hall Effect technology measures revolutions, not amps, ensuring more accurate leveling.
- Hitch Recognition Memory Function.
- Adjustable inner legs on the rear jacks help leveling on different terrains.
- Level trailers function more efficiently than non-level trailers.
- Saves time setting up camp.

Additional information about this product can be obtained from lci1.com/support or by using the LippertNOW app. Replacement kits can be ordered from <https://store.lci1.com/> or by using the LippertNOW app.

The LippertNOW app is available for free on Apple App Store[®] for iPhone[®] and iPad[®] and also on Google Play[™] for Android[™] users.

App Store[®] and iPad[®] are registered trademarks of Apple Inc. Google Play[™] and Android[™] are trademarks of Google Inc.

For additional support on this product, scan this QR code or go to: <https://support.lci1.com/ground-control-leveling-lcd-touch-pad>



Safety

Read and fully 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 SAFETY RISK IS INVOLVED AND MAY CAUSE DEATH, SERIOUS PERSONAL INJURY AND/OR SEVERE PRODUCT OR PROPERTY DAMAGE IF NOT SAFELY ADHERED TO AND WITHIN THE PARAMETERS SET FORTH IN THIS MANUAL.

WARNING

ALWAYS WEAR EYE PROTECTION WHEN PERFORMING SERVICE OR MAINTENANCE TO THE TRAILER. OTHER SAFETY EQUIPMENT TO CONSIDER WOULD BE HEARING PROTECTION, GLOVES AND POSSIBLY A FULL FACE SHIELD, DEPENDING ON THE NATURE OF THE SERVICE.

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

MOVING PARTS CAN PINCH, CRUSH OR CUT. KEEP CLEAR AND USE CAUTION.



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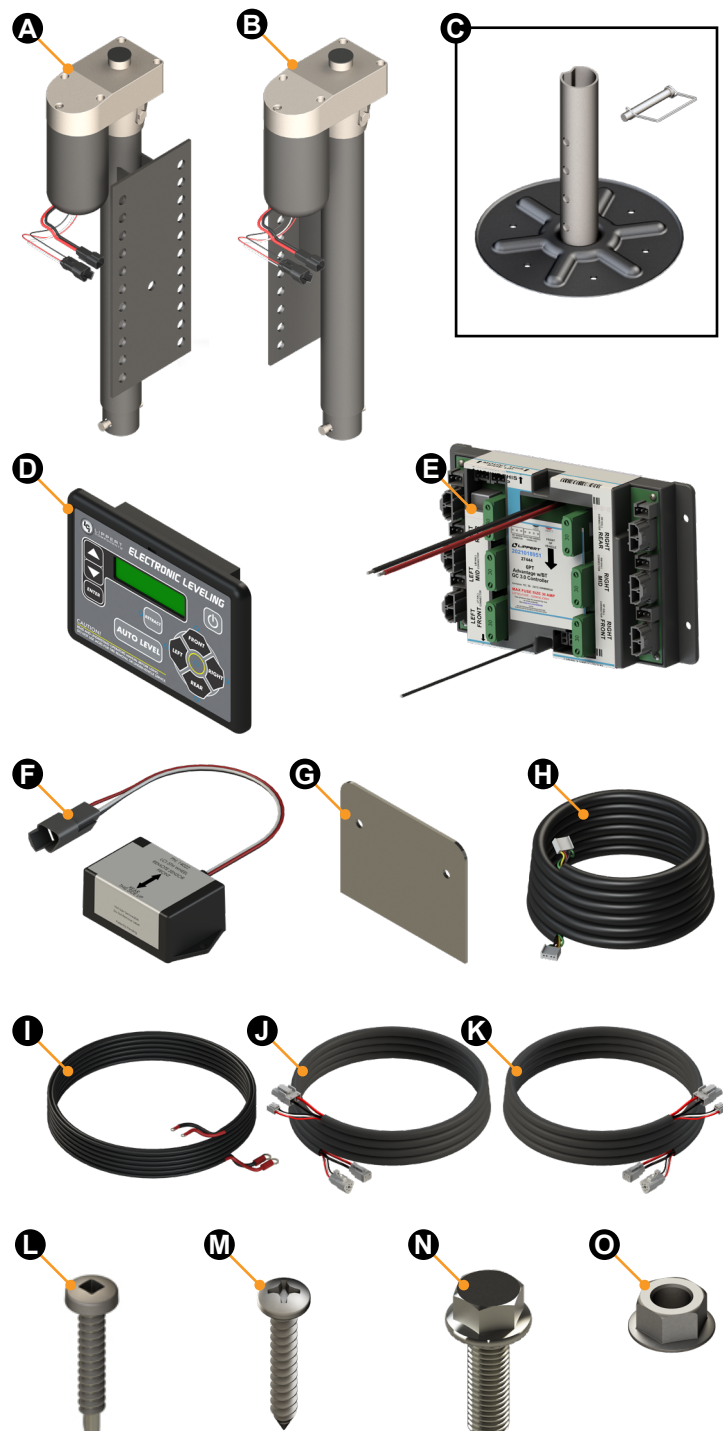
Parts List

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.

Ground Control 5th Wheel Leveling Prepped to Full Automatic Leveling - 2021106810			
Letter	PN	Description	Qty
A	435868	Driver's Side (LH) Mid/Rear Leveling Jack	2
B	435867	Passenger's Side (RH) Mid/Rear Leveling Jack	2
C	405217	Adjustable Inner Footpad Kit	4
D	421484	Electric Leveling Touch Pad	1
E	803279	Ground Control - 6 Point Controller	1
F	232201	Auto Level Remote Rear Sensor	1
G	231775	Rear Sensor Mounting Plate	1
H	241316	Touch Pad Harness	1
I	306176	Power and Ground Harness	1
J	307489	Landing Gear Harness Right Front	1
K	307490	Landing Gear Harness Left Front	1
L	241940	Screw, #8 x 18 x 1" Square Self-Drilling	8
M	690759	Screw, 8 x 1" Pan Phillips Zinc	4
N	118076	Flange Bolt; 1/2" - 20 x 1 1/2"	24
O	178210	Flange Nut; 1/2" - 20	24

Resources Required

- Cordless or electric drill or screw gun
- Appropriate drive bits
- Torque wrench
- Measuring tape
- Non-permanent marking tool
- Appropriate wire connectors
- String



Preparation

1. Remove all loose items from the front storage compartments of the trailer.
2. Support the trailer at all four corners with jack stands (or other adequate supports).

Mounting Position of Components

1. Controller: should be mounted to the ceiling of the front-most storage compartment in the center of the trailer, within reach of OEM prepped harness. The controller has a limited mounting area for proper performance. At the center of the frame (side to side) and at the center of the landing gear (front jacks) is a center point. From this center point, the controller can be mounted 12" out on either side and up to 3' in front of or behind the center point. This area is outlined in a green dotted box (Fig. 1A).

NOTE: The controller **MUST** stay mounted inside a compartment that is protected from the elements and in compliance with RVIA Gas Codes, as the controller connections are not spark-proof.

2. Touch Pad: will be mounted where the existing rocker switches are located for the front landing gear. The touch pad must also be protected from the elements.

3. Rear Sensor: has a limited mounting area for proper performance, and must be installed within reach of the OEM prepped harness. The rear sensor must be in line with or behind the rear leveling jacks (Fig.2), as well as in line with the center of the frame. This area is outlined in a green dotted line (Fig. 2A).

4. Make sure coach is on a solid level surface and is level from front to back before proceeding with installation.

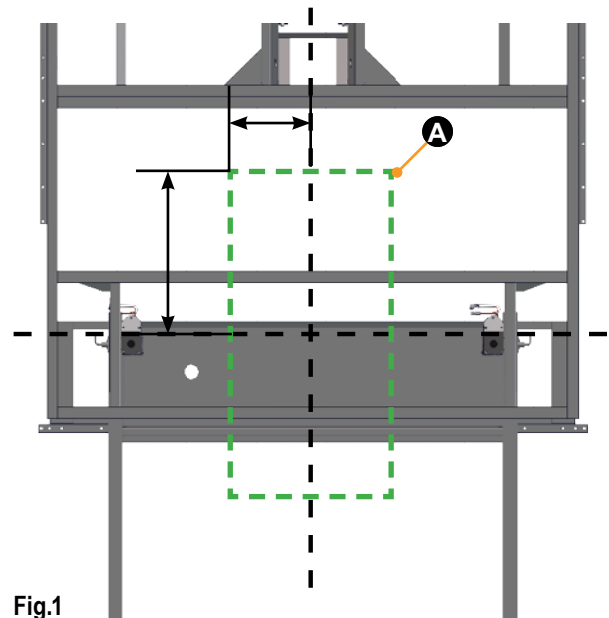


Fig.1

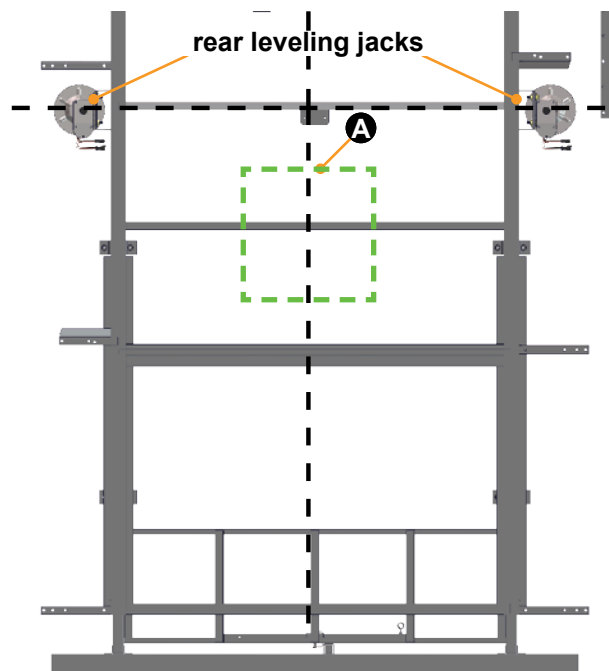
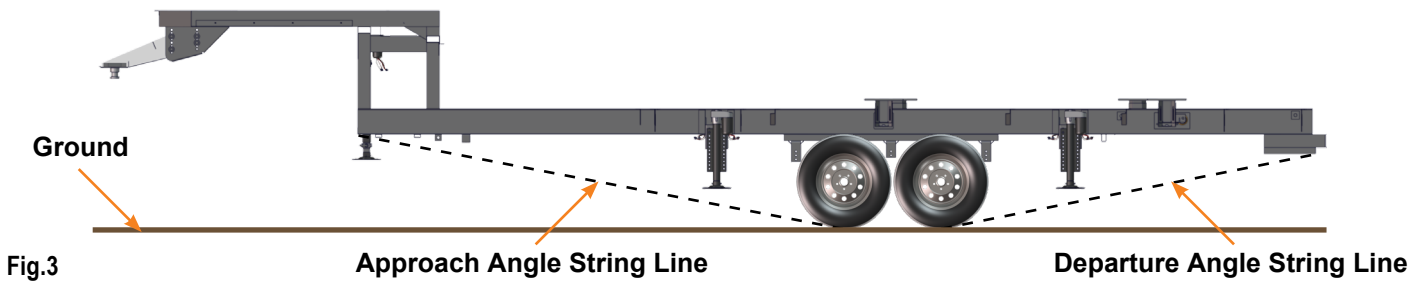


Fig.2

Measuring Approach and Departure Angle

To measure the approach and departure angles, run a string line from the meeting point of the tire and the ground up at an angle to the lowest point on the front and rear of the trailer. These string lines are shown as dotted lines (Fig.3).



NOTE: When fully retracted, the rear and middle jacks should be mounted to achieve a ground clearance equal to the approach or departure angle or a minimum of 7" to enable maximum level correction. Any additional ground clearance added to the jack location will decrease the amount of level correction available to the system.

Installation

Mid/Rear Jack Installation

1. Bolt the rear and middle jacks (Fig.4A) to the mounting brackets (Fig.4B) using six bolts (Fig.4C) and nuts (Fig.4D) per jack on both sides of the trailer.
2. Tighten the bolts to 90ft-lbs of torque.

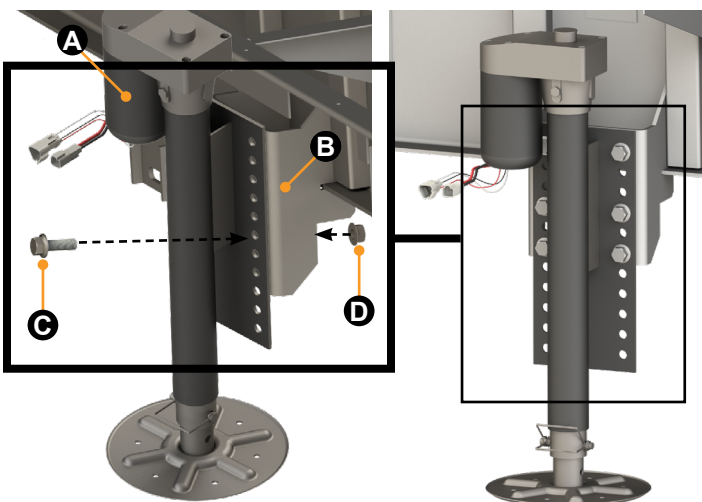


Fig.4

3. Remove the seal foam holding the jack wire harness in place at the four chassis penetration locations (Fig.5A).

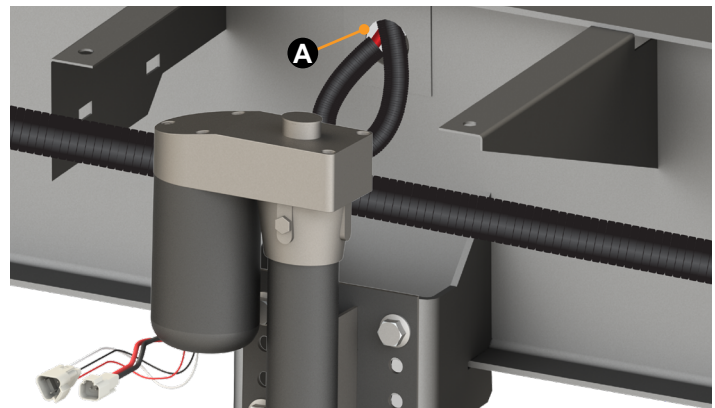


Fig.5

4. Connect the jack motor wires (Fig.6A) to the jack wire harnesses (Fig.6B) from the chassis for all four jacks.

NOTE: Lippert recommends zip-tying the wire harnesses tight against the rear jack motors to prevent damage to the wire harnesses.

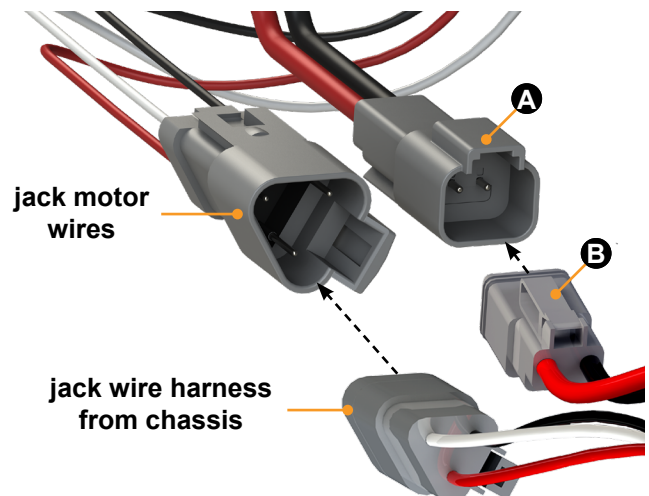


Fig.6

Rear Sensor Installation

NOTE: The rear sensor (Fig.7) **MUST** be installed on a crossmember in line with or behind the rear jacks, centered curbside to roadside on the trailer with the arrows on the top of the sensor pointing in the correct direction (Fig.7A), and in reach of OEM prepped harness.

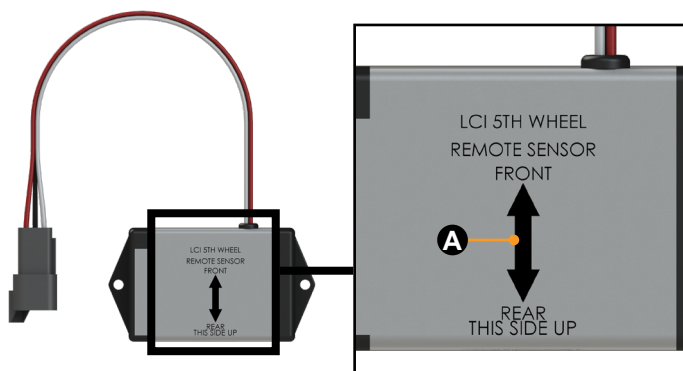


Fig.7

1. Dry fit the mounting plate (Fig.8B) and the rear sensor (Fig.8C) to the crossmember (Fig.8A). The pre-drilled holes in the plate are for mounting the rear sensor to the plate. Mark on the plate where the rear sensor will set. Space between the sensor and the crossmember **MUST** be left so the wire harness will not be pinched.

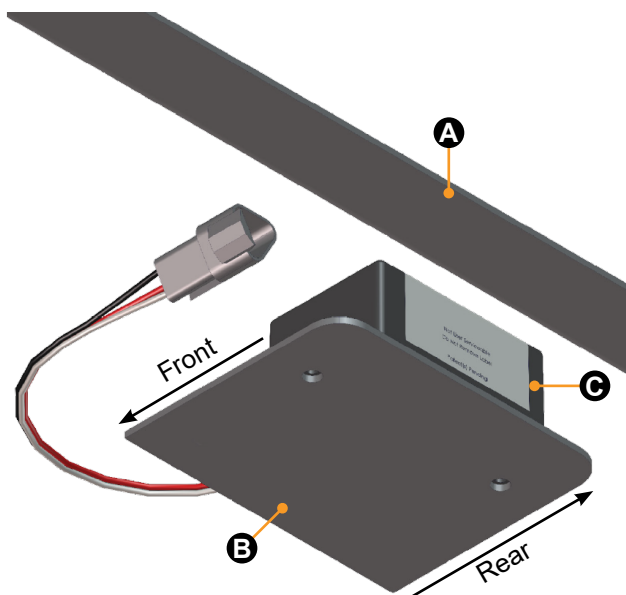


Fig.8

2. Underneath near the back of the trailer, locate the rear sensor harness (Fig.9A), sticking out from the underbelly of the trailer.

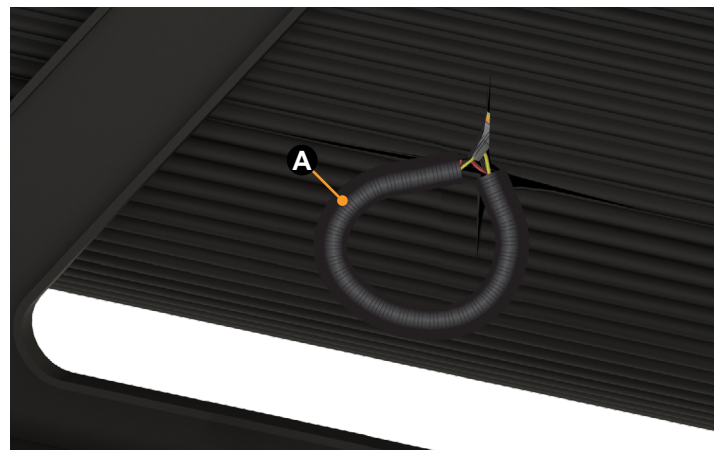


Fig.9

3. Pull the rear sensor harness connection (Fig.10A) end out from the slit in the underbelly of the trailer (Fig.10B). Make sure the rear sensor harness connection will reach the location of the rear sensor installation from step 1.

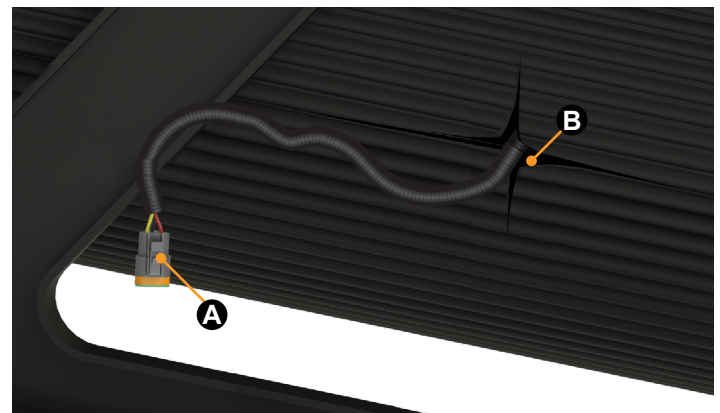


Fig.10

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4. Attach the rear sensor (Fig.11A) to the mounting plate (Fig.11B) using two #8 - 18 x 1" self-drilling screws (Fig.11C). Orientation of the rear sensor is imperative for the correct operation of the leveling system.

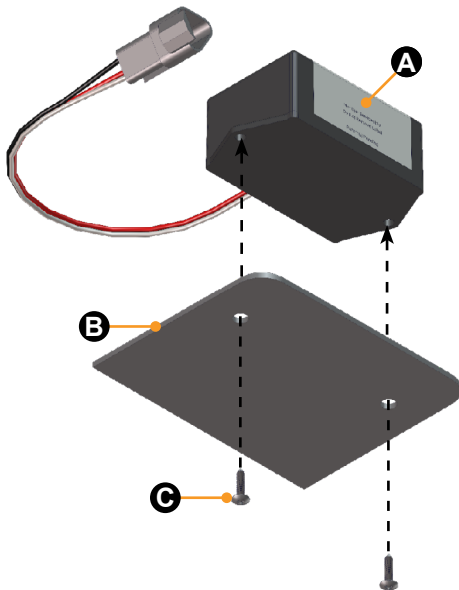


Fig.11

5. Attach the rear sensor and the mounting plate (Fig.12B) to the crossmember (Fig.12A) using two #8 - 18 x 1" self-drilling screws (Fig.12C). Orientation is imperative for the correct operation of the leveling system.

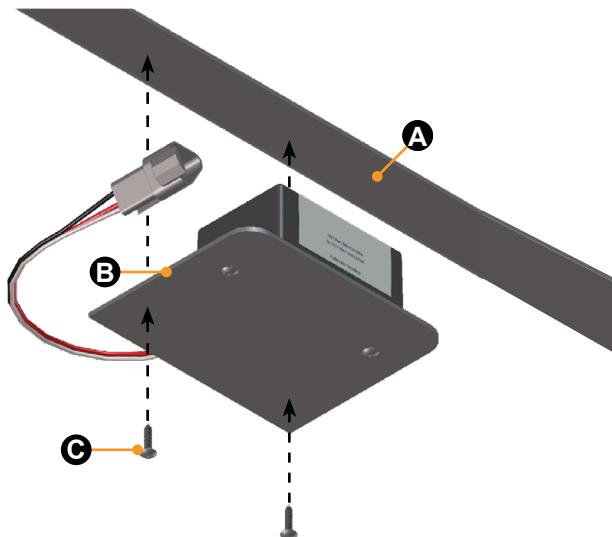


Fig.12

6. Connect the rear sensor (Fig.13A) to the connector on the rear sensor harness (Fig.14A).

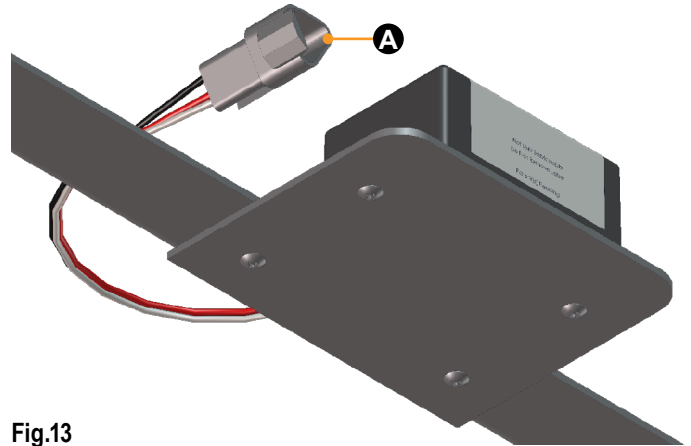


Fig.13

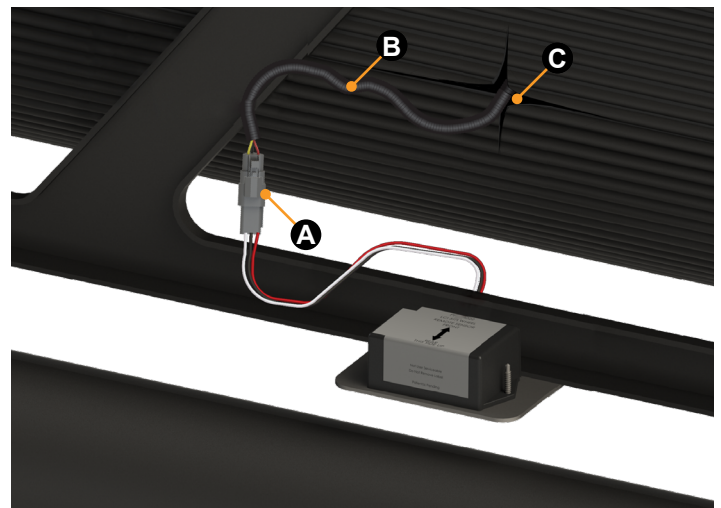


Fig.14

7. Push any slack in the rear sensor harness (Fig.14B) and connection of the rear sensor (Fig.14A) back through the slit in the underbelly (Fig.14C).

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LCD Touchpad Installation Removal of Switch Panel

Prior to the touchpad installation the old switch panel for the front jacks and wiring will need to be removed and the LCD touchpad installed in its place.

NOTE: Save the screws from the switch panel to reinstall for the LCD touchpad.

1. Remove the screws (Fig.15A) holding the switch panel to the trailer wall.

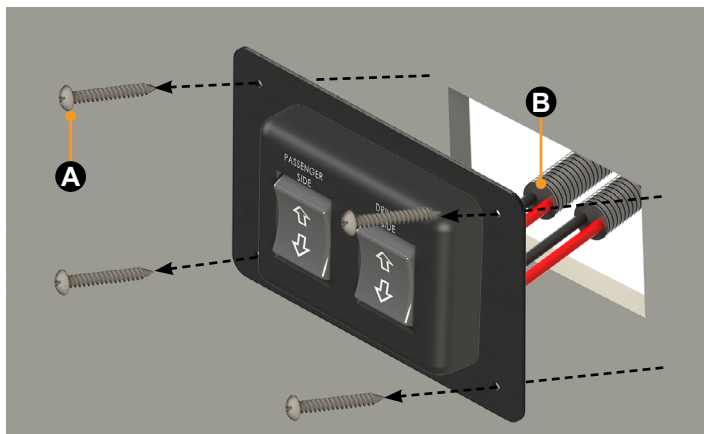


Fig.15

2. Remove the switch panel and all wiring:

A. Unplug all harnesses from the back of the switch (Fig.15B or 16A).

B. Disconnect the switch panel's power wires from the 30 amp circuit breaker (Fig.16B) and ground from the grounding source (Fig.16C).

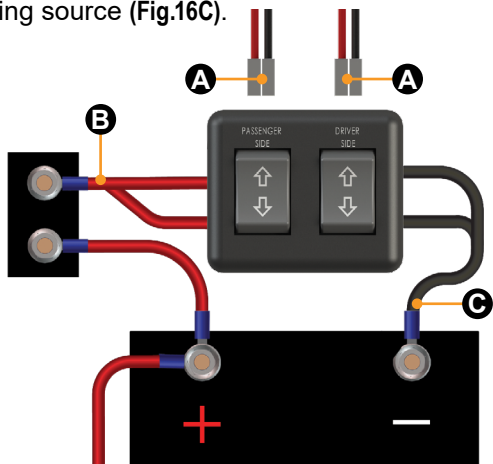


Fig.16

Installation of LCD Touchpad

1. Remove the face plate of the touch pad from the mounting bezel (Fig. 17).

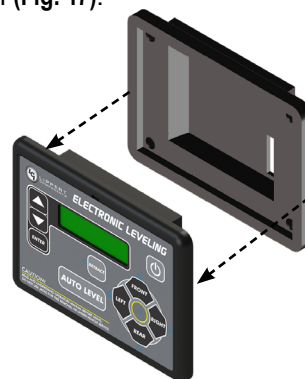


Fig.17

2. Feed the touch pad harness (Fig.18C) through the same cutout in the wall where the switch panel was located (Fig.18B) and into the cutout in the touchpad bezel (Fig.18D). Run the opposite end of the touchpad harness to the location where the controller will be mounted.

3. Insert the touch pad bezel (Fig.18A) into the same cutout in the wall where the switch panel was installed (Fig.18B). Attach the bezel to the wall with the same four #8 x 1" screws (Fig.18E) used in the switch panel removal or screws with sufficient length to thread into the compartment wall.

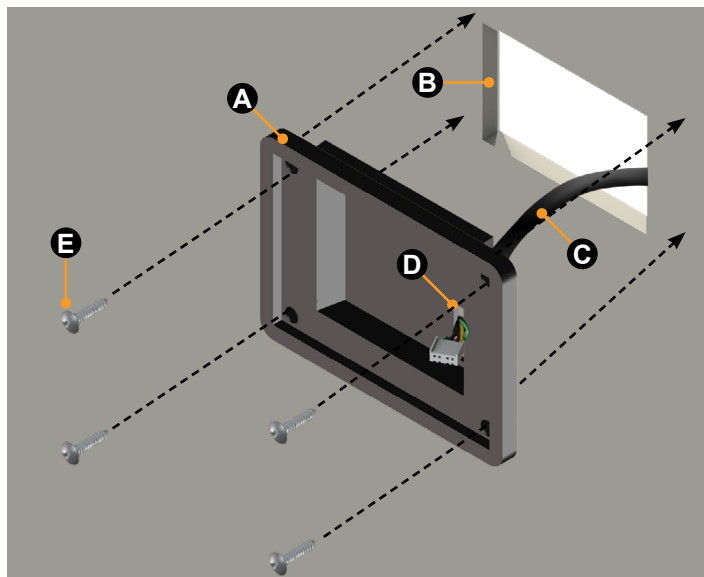


Fig.18



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4. Plug the touch pad harness (Fig.19A) into the connector on the back of the touch pad face plate (Fig.19B) and snap the face plate into the bezel (Fig.20).

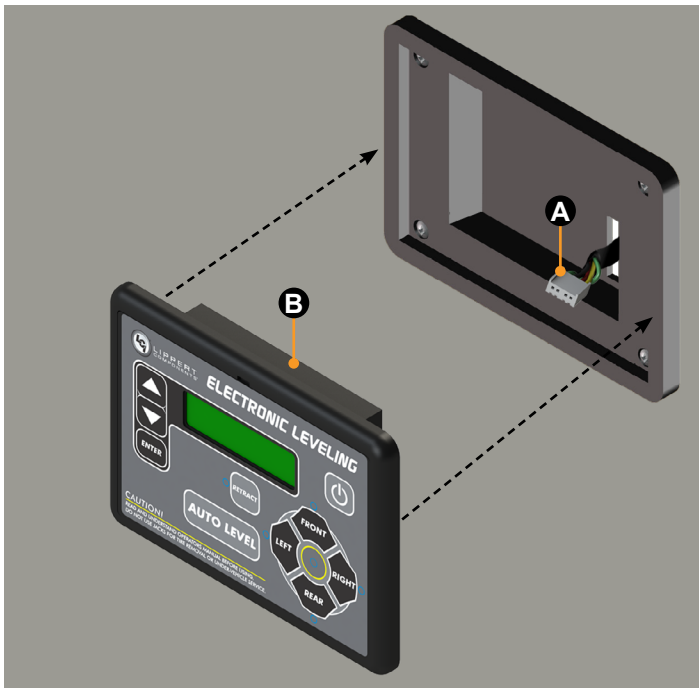


Fig.19

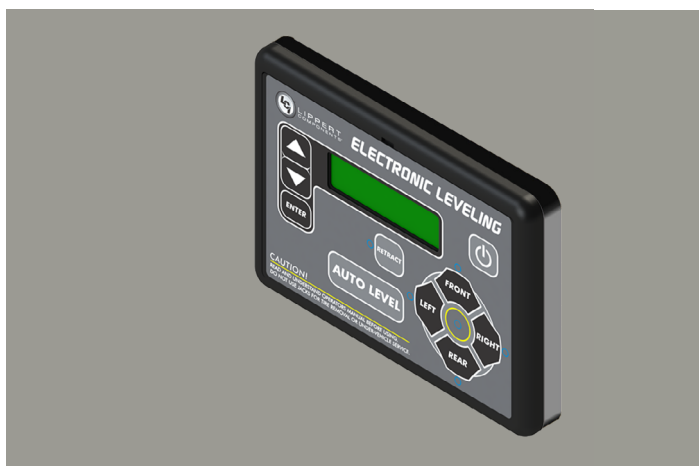


Fig.20

Controller Installation

NOTE: The controller will be installed in the same compartment as the LCD touchpad and should be as far forward on the trailer as is possible. The controller must be installed in compliance with RVIA Gas Codes, as the controller connections are not spark-proof.

NOTE: For optimal performance, the controller should be positioned directly in the center of the trailer, but may be offset if necessary (Fig.21). The arrow on the label of the controller must point to the front of the trailer (Fig.21A).

NOTE: Two different types of fasteners are included in the kit for the controller installation. Use four of the self-tapping screws for metal installation, or four of the wood screws for wood/fiberglass installation.

1. Measure to the center of the trailer from inside the compartment where the controller will be placed, and mark the center point on the ceiling. The controller must be positioned directly in the center of the trailer with the arrow on the label of the controller facing the front of the trailer. (Fig.21).

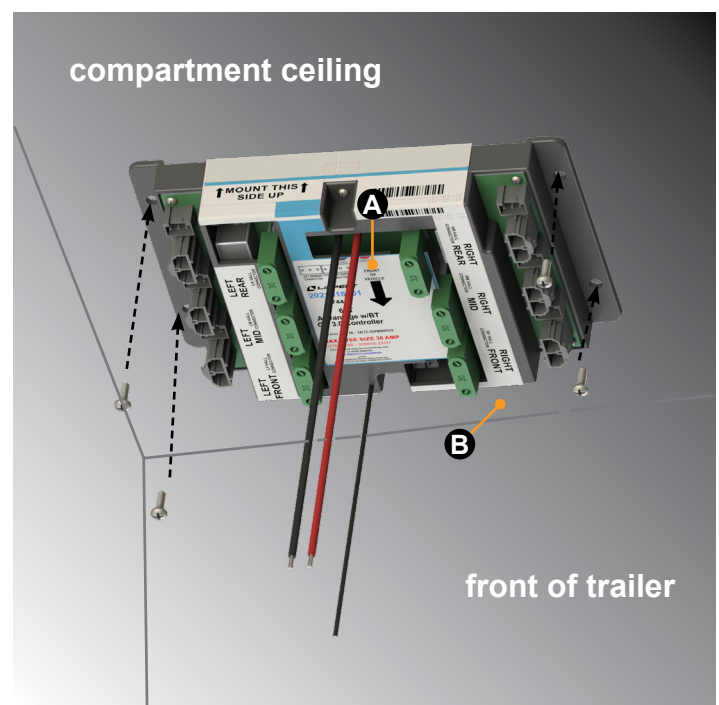


Fig.21

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2. Using four #8 x 1" fasteners (Fig.21B), attach the controller to the ceiling of the compartment, centered over the marked centerline in the compartment.

NOTE: Refer to the Wiring Diagram section near the back of the manual, to aid in the installation of the following wire harnesses.

3. Connect the power and ground to the controller:

A. Connect the red pigtail wire on the controller to the green prepped wire (Fig.22B) that is provided in the unit.

B. The green prepped wire is connected to a 50 amp circuit breaker (Fig.22A) and will have a bell cap style wire connector (Fig.22C) on the end that will need to be cut off before connection to the red pigtail wire is made. See the Wiring Diagram section.

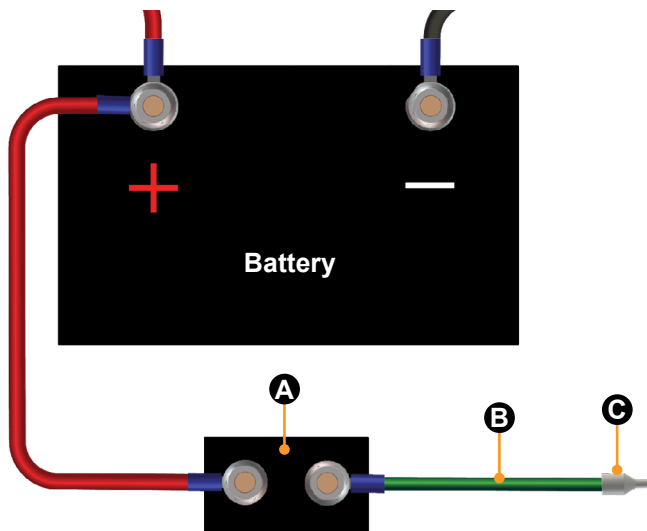


Fig.22

C. Crimp a ring tongue connector onto the end of the black pigtail wire on the controller and connect to a proper grounding location. See Wiring Diagram.

NOTE: If more wire is needed to make these connections, use the supplied 9' power wire harness.

NOTE: Be sure to properly scrape away any paint on a metal surface where ground is made.

4. Connect all jack harnesses to the appropriate connectors on the controller.

NOTE: Jack harnesses are labeled for proper identification: L and R for Left side (driver's side) and Right (passenger's side) and F, M, and R for Front, Middle, and Rear jacks.

5. Connect the rear sensor harness to the appropriate 3-pin connector on the controller.

6. Connect the touchpad harness to the appropriate 4-pin connector on the controller.

Front Landing Gear Wire Harness Installation

1. Completely remove and discard the old harnesses for the left and right landing gear to the old switch panel.

NOTE: The new harnesses are marked LF (left front) and RF (right front), left is for the driver's side landing gear jack and right is for the passenger's side landing gear jack. Refer to the Wiring Diagram section to aid in the installation of the landing gear wire harnesses.

2. Install the new left and right wire harnesses (Fig.23A) from the landing gear jacks to the appropriate connectors on the controller.

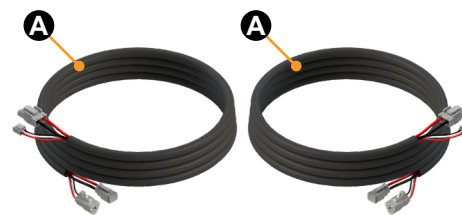


Fig.23



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Zero Point Calibration - Initial Setting

The "Zero Point" is the programmed point that the trailer will return to each time the Auto Level feature is used.

NOTE: Prior to starting this procedure, double check all connections on the controller, jacks, and touch pad.

1. When the system is powered up for the first time, the LCD display will read ZERO POINT CALIBRATION ENTER to set, Power to Exit (Fig.24) indicating that the controller is in zero point calibration mode. In this mode, the jack can be activated to level the unit by pressing the FRONT, LEFT, RIGHT, and REAR buttons (Fig.28G-J).



ZERO POINT CALIBRATION
ENTER to set, Power to Exit

Fig.24

NOTE: The middle jacks are not used in the manual leveling process.

2. In zero point mode, run the jacks to level the trailer. This is best achieved by placing a level in the center of the trailer and leveling it both front to back and then side to side. See Basic Jack Operation, for instructions on how to manually operate the system.

3. To set the current position as the zero point, press the ENTER button (Fig.28C).

4. LCD display will read, Zero point stability check (Fig.25).



Zero point
stability check

Fig.25

5. LCD display will read, Zero point set successfully, once process is complete (Fig.26).



ZERO POINT
set successfully

Fig.26

6. The system will set this point as its level state and the touch pad will return to a READY state and show the current battery voltage (Fig.27).



READY 12.4V

Fig.27



Operation

Prior to Operation

⚠ WARNING

FAILURE TO ACT IN ACCORDANCE WITH THE FOLLOWING MAY RESULT IN DEATH OR SERIOUS PERSONAL INJURY. THE USE OF THE GROUND CONTROL® LEVELING SYSTEM TO SUPPORT THE TRAILER FOR ANY REASON OTHER THAN WHICH IT IS INTENDED IS PROHIBITED BY LIPPERT'S LIMITED WARRANTY. THE LIPPERT LEVELING SYSTEM IS DESIGNED AS A LEVELING SYSTEM ONLY AND SHOULD NOT BE USED TO PROVIDE SERVICE FOR ANY REASON UNDER THE TRAILER SUCH AS CHANGING TIRES OR SERVICING THE LEVELING SYSTEM. ANY ATTEMPTS TO CHANGE TIRES OR PERFORM OTHER SERVICE WHILE TRAILER IS SUPPORTED BY THE GROUND CONTROL® LEVELING SYSTEM COULD RESULT IN DEATH, SERIOUS INJURY OR DAMAGE TO THE 5TH WHEEL.

⚠ WARNING

BE SURE TO PARK THE TRAILER ON SOLID, LEVEL GROUND. CLEAR ALL JACK LANDING LOCATIONS OF DEBRIS AND OBSTRUCTIONS. LOCATIONS SHOULD ALSO BE FREE OF DEPRESSIONS. WHEN PARKING THE TRAILER ON EXTREMELY SOFT SURFACES, UTILIZE LOAD DISTRIBUTION PADS UNDER EACH JACK. PEOPLE AND PETS SHOULD BE CLEAR OF THE TRAILER WHILE OPERATING LEVELING SYSTEM. NEVER LIFT THE TRAILER COMPLETELY OFF THE GROUND. LIFTING THE TRAILER SO THE WHEELS ARE NOT TOUCHING THE GROUND WILL CREATE AN UNSTABLE AND UNSAFE CONDITION.

⚠ WARNING

DO NOT EXCEED GVWR OR SEVERE DAMAGE TO PRODUCT OR PROPERTY MAY OCCUR.

⚠ CAUTION

MOVING PARTS CAN PINCH, CRUSH OR CUT. KEEP CLEAR AND USE CAUTION.

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The leveling system should only be operated under the following conditions:

1. The trailer is parked on a reasonably level surface.
2. Be sure all persons, pets, and property are clear of the trailer while the leveling system is in operation.
3. Make sure battery(ies) are fully charged and test at 12+VDC under load.

Touch Pad Diagram



Fig.28

Letter	Description
A	Up Arrow - Scrolls up through menu on LCD
B	Down Arrow - Scrolls down through menu on LCD
C	Enter - Activates modes and procedures on LCD
D	Retract - Places system into retract mode (Press and hold down for 1 second to initiate Auto Retract)
E	LCD Display - Displays procedures and results
F	Auto Level - Places system into auto level mode
G	Front Button - Activates both front jacks
H	Left Button - Activates left jack(s)
I	Right Button - Activates right jack(s)
J	Rear Button - Activates rear jacks
K	Power Button - Turns system on and off

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Basic Jack Operation

Landing gear (front jacks) can be operated any time the system is "ON". By pushing the "FRONT" button (Fig.28G), both front jacks can be extended. By pushing either the "FRONT" and "LEFT" (Fig.28H) or "FRONT" and "RIGHT" (Fig.28I) buttons, the individual front jacks can be extended. If the touch pad is put in the retract mode, indicated by the orange illuminated LED next to the "RETRACT" button (Fig.28D), the front jacks can be retracted together by pushing the "FRONT" button (Fig.28G) or individually by pressing "LEFT" (Fig.28H) or "RIGHT" (Fig.28I) buttons, while simultaneously pressing the "FRONT" button (Fig.28G).

Middle jacks, can not be extended or retracted in standard mode or manual mode. Middle jacks can only be operated in the special jack code error mode. In order to operate the middle jacks press "LEFT" (Fig.28H) and "RIGHT" (Fig.28I) buttons simultaneously while in special jack error mode.

The rear jacks can only be extended when the touch pad is in the manual mode. Once system is in manual mode, pressing the "REAR" button (Fig.28J) will extend both rear jacks at the same time. To extend individual rear jacks, press the "LEFT" (Fig.28H) or "RIGHT" (Fig.28I) buttons while simultaneously pressing the "REAR" button (Fig.28J), depending on which jack needs to be operated. If the touch pad is put in the retract mode, indicated by the orange illuminated LED next to the "RETRACT" button (Fig.28D), the rear jacks can be retracted together by pushing the "REAR" button (Fig.28J) or individually by pressing either the "LEFT" (Fig.28H) or "RIGHT" (Fig.28I) buttons, while simultaneously pressing the "REAR" button (Fig.28J).

NOTE: If the rear jacks will not operate individually using the method described above, but they operate properly when Auto Level is performed, the Twist Prevention Protection system has locked out the operation to prevent damage to the frame of the trailer.

Unhitching from a Tow Vehicle

NOTE: Prior to unhitching from the tow vehicle, ensure the trailer is parked on a level surface and be sure to chock the tires of the trailer.

1. Extend the inner legs of both landing gear (front jacks) to within 4-5 inches of the ground by pulling on the quick release pins

NOTE: To utilize the drop foot pad, the middle and rear leveling jack footpads (Fig.29B) can be lowered by unpinning (Fig.29A), lowering (Fig.29D), and re-pinning (Fig.29C).

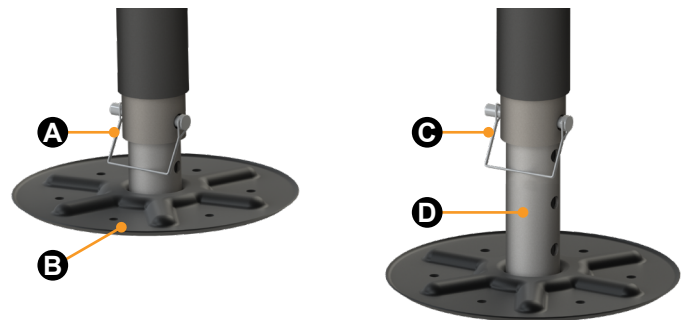


Fig.29

2. Push "ON/OFF" (Fig.30B). LCD Screen will light up and display, READY and the current battery voltage. (Fig.30A).



Fig.30

3. Red indicator lights (Fig.30C) may come on, indicating the current disposition of the trailer. In this case, the front and right sides of the trailer are low.



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4. Push the "FRONT" button (Fig.30D) extending the front jacks to a sufficient height, which raises the front of the trailer off of the tow vehicle's 5th wheel hitch plate.
5. Pull tow vehicle away and park at a safe distance.

Auto Level

1. After unhitching from tow vehicle and parking the tow vehicle at a safe distance away from the trailer, press the "ON/OFF" button (Fig.28K) and then press "AUTO LEVEL" (Fig.28F).

NOTE: Once the automatic leveling cycle has been started, it is important that there is no movement in the trailer until the trailer has completed the leveling process. Failure to remain still during the leveling cycle could have an effect on the performance of the leveling system.

Auto Level Sequence

1. When Auto Level Sequence begins, the controller will verify that the front landing gear are contacting the ground.
2. The control will then bring the front of the coach to a point near level from front to back.
3. The rear jacks will then be extended until ground contact is made.
4. A side to side leveling sequence will occur.
5. The LCD display will read, AUTO LEVEL SUCCESS (Fig.31) and then proceed to finish stabilizing the unit.



Fig.31

6. The controller will then extend the middle jacks until ground contact is made to assist in stabilizing the unit.
7. The control will do a final grounding check to make sure that each leveling jack is contacting the ground. When finished, the control will read, READY and the current battery voltage will be displayed (Fig.32).



Fig.32

NOTE: If the AUTO LEVEL sequence does not perform as described, place the system in manual mode and test that the jacks operate correctly by pushing their coordinating buttons on the touch pad; i.e., FRONT button operates only the front jacks, etc.



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Hitch Recognition

1. Turn on the touch pad.

NOTE: Auto Hitch feature can be activated by pressing LEFT and RIGHT buttons simultaneously at this point or using the steps outlined below.

2. Push the UP or DOWN arrow (Fig.33A) to scroll to, Auto Hitch option on LCD screen.

NOTE: If the Auto Hitch function is not available the LCD display will read AUTO HITCH UNAVAILABLE.

3. Push ENTER (Fig.33B). The rear jacks and middle jacks will retract first, then the front jacks will extend to raise the trailer to the height where the auto level sequence was started.

NOTE: If the auto level sequence was started with the front of the trailer in a below-level condition, the Hitch Recognition feature will retract the rear and middle jacks first, and leave the front of the unit in the current position.



Fig.33

Troubleshooting

⚠ WARNING

MAKE SURE THE TRAILER IS SUPPORTED AT BOTH THE FRONT AND REAR WITH JACK STANDS BEFORE PERFORMING ANY TROUBLESHOOTING OR SERVICE TO THE TRAILER. FAILURE TO DO SO MAY RESULT IN DEATH OR PERSONAL INJURY.

Manual Override

NOTE: For ease of manual override it is recommended to unplug the power harness to the motor prior to performing the manual override procedure.

NOTE: Use of a 12-18 volt cordless screw gun or pneumatic screw gun is acceptable to manually override the jacks. Do not use an impact screw gun to perform any of the override procedures, as this may damage the motor. If manual override is necessary there are two options.

Top of Jack Motor Override

Resources Required: $\frac{3}{8}$ " drive ratchet and extension (no socket)

1. Find the port on the top of the jack motor (Fig.34A).
2. Remove the rubber plug (Fig.35A).
3. Insert the $\frac{3}{8}$ " drive into the port (Fig.36A).
4. Turn override until the jack extends or retracts to desired position.

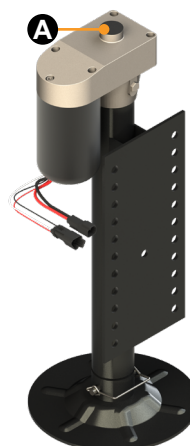


Fig.34

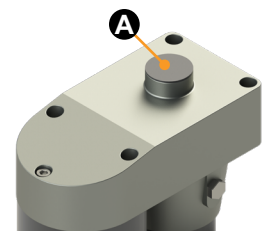


Fig.35

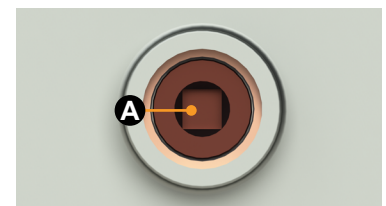


Fig.36

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Bottom of Jack Motor Override

Resources Required: $\frac{3}{8}$ " drive ratchet and extension, $\frac{5}{16}$ " socket

1. Find the port on the bottom of the jack motor (Fig.37A).
2. Remove the rubber plug (Fig.38A).
3. Insert the $\frac{5}{16}$ " socket into the port (Fig.39A).
4. Turn override until the jack extends or retracts to desired position.

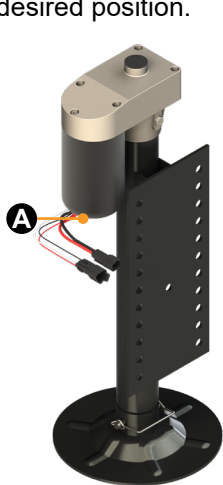


Fig.37

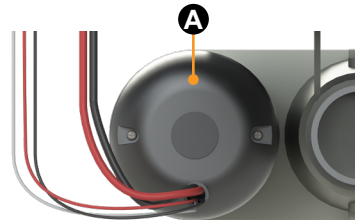


Fig.38

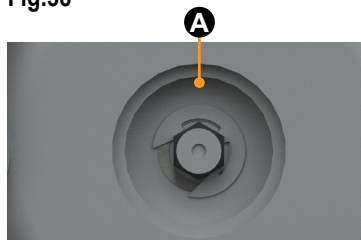


Fig.39

Special Jack Error Codes

To clear one of the error codes listed below:

1. Correct or otherwise repair the issue see Figure 40.

NOTE: In order to clear the special jack error code the jacks need to be "homed."

2. While in, "special jack error" mode, the jacks can be extended or retracted as necessary to verify operation.

- A. Press, FRONT (Fig. 28G) to operate both front jacks.
- B. Press, REAR (Fig. 28J) to operate both rear jacks.
- C. Press, LEFT and RIGHT (Fig. 28H and Fig. 28I) simultaneously to operate both middle jacks.

3. Press and hold the retract button until all of the jacks begin to retract, then release the button. The jacks will retract until they reach the hard current limit.

4. The jacks are now "homed" and the special jack error code will be cleared.

NOTE: If the jacks do not retract, an error should show on the LCD display. This is typically caused by wiring interruption.

LCD Message	What's Happening?	What Should Be Done?
ERROR LF Jack RF Jack LM Jack RM Jack LR Jack RR Jack	Error at a specific jack (left front, right front, left middle, right middle, left rear, right rear). Hall signal issue (open, short, malfunction or loss of communication); open or short circuit between controller and motor.	Check harness connections at controller and at jack.
		Check harness for damage.
		Repair or replace as necessary.
		Check fuses at controller.
		Repair or replace as necessary.

Fig.40



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Zero Point Calibration - Reset

The "Zero Point" is the programmed point that the trailer will return to each time the Auto Level feature is used.

NOTE: Prior to starting this procedure, double check all connections on the controller, jacks, and touch pad.

1. In manual mode, run the jacks to level the trailer. This is best achieved by placing a level in the center of the trailer and leveling it both front to back and then side to side. See Basic Jack Operation, for instructions on how to manually operate the system.

2. Once the trailer is level, turn off the touch pad.

3. With the touch pad off, press and release the, FRONT button (Fig.28G) five times and then press and release the, REAR button (Fig.28J) five times.

4. The touch pad will flash and beep and the display will read, ZERO POINT CALIBRATION ENTER to set, Power to Exit (Fig.41).



Fig.41

5. To set the current position as the zero point, press the ENTER button (Fig.28C).

6. LCD display will read, Zero point stability check (Fig.42).

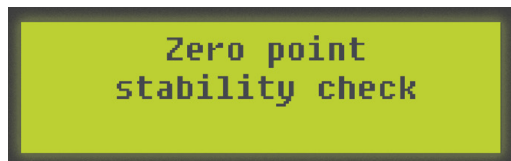


Fig.42

7. LCD display will read, Zero point set successfully, once process is complete (Fig.43).



Fig.43

8. The system will set this point as its level state and the touch pad will return to a READY state and show the current battery voltage (Fig.44).



Fig.44

Maintenance

1. For optimum performance, the system requires full battery current and voltage. The battery must be maintained at full capacity.

2. Check the terminals and other connections at the battery, the controller, and the jacks for corrosion, and loose or damaged connections.

3. Remove dirt and road debris from jacks as needed.

4. If jacks are down for extended periods, it is recommended to spray exposed leveling jack rods with a silicone lubricant every three months for protection. If the trailer is located in a salty environment, it is recommended to spray the rods every four to six weeks.



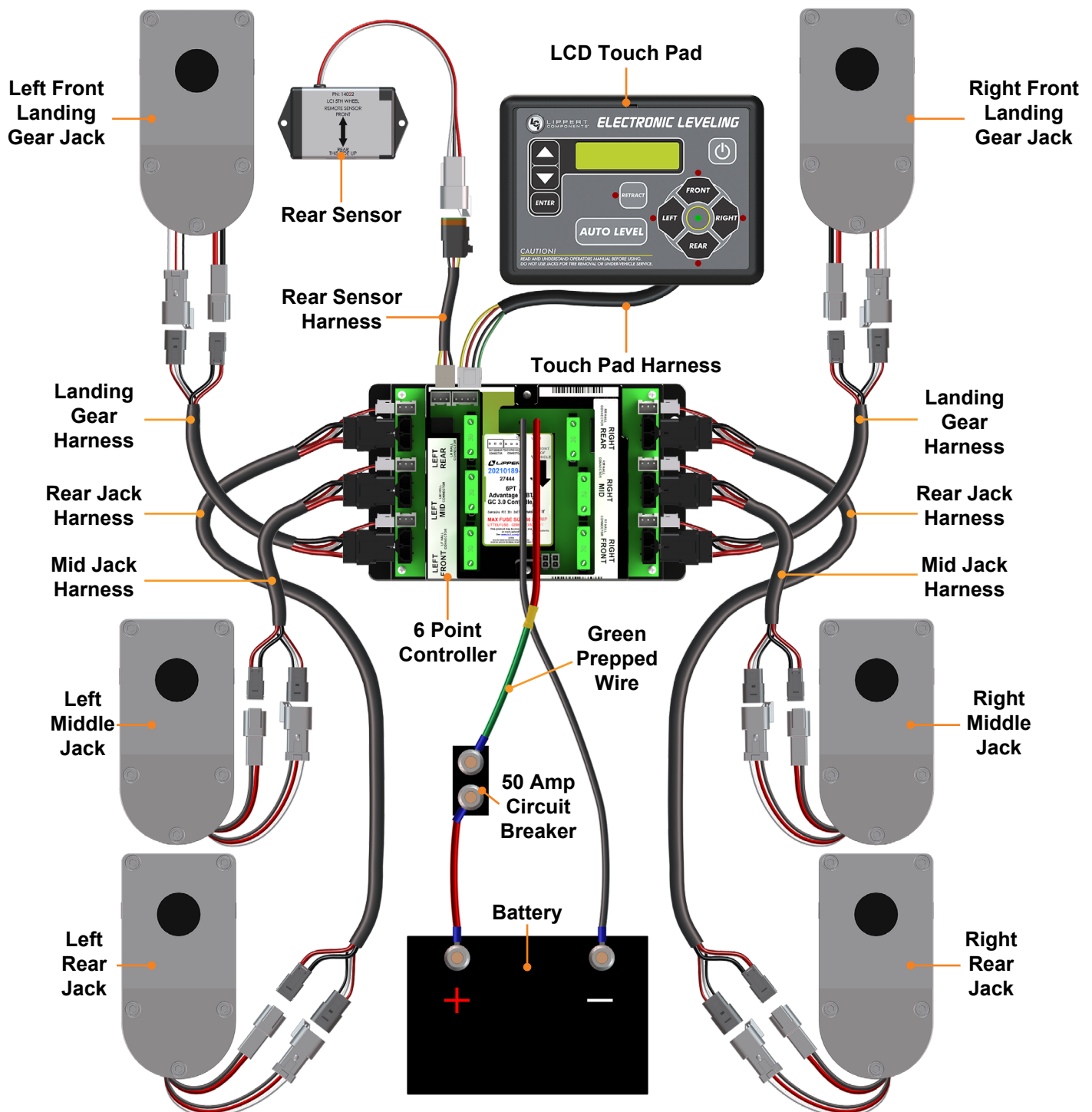
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LCD Error Codes

NOTE: To clear an error from the touch pad, repair or otherwise correct the issue, then press “ENTER”. If the error is still present, the message will be displayed again.

LCD Message	What is happening?	What should be done?
****ERROR**** Excess Angle	Controller not properly secured.	Check and secure controller placement.
	Excessive angle reached during auto operation.	Relocate the trailer.
****ERROR**** Excessive Angle	Controller not properly secured.	Check and secure controller placement.
	Excessive angle reached during manual operation.	Relocate the trailer.
****ERROR**** Low Voltage	Battery voltage dropped below 10.8V.	Check wiring - repair or replace.
		Test battery voltage under load - charge or replace.
****ERROR**** Out Of Stroke	Jack has reached maximum stroke length and is unable to lift.	Check disposition of jacks. Relocate the trailer.
	Unexpected high amp current stall.	Check jacks in manual mode or perform manual override procedure. Repair or replace as needed.
		Check for bent or damaged jacks. Repair or replace as needed.
****ERROR**** External Sensor	Bad connection or wiring from the controller to the rear sensor.	Replace or repair connection to rear remote sensor.
****ERROR**** Jack Time Out	Time limit exceeded for the requested auto operation.	Check disposition of jacks.
****ERROR**** Auto Level Fail	Unable to auto level due to uneven ground.	Check disposition of jacks. Relocate the trailer.
	Unable to auto level due to zero point being set incorrectly.	Reset zero point.
****ERROR**** Comm Error	Communication between the controller and touch pad has been lost.	Check harness for proper connections or damage. Repair or replace as needed.
****ERROR**** Bad Calibration	Sensor calibration values are out of range.	Replace controller.
****ERROR**** Internal Sensor	Internal sensor problem.	Replace controller.
PANIC STOP Function Aborted	The user pressed a button on the touch pad during an automatic operation.	Restart automatic operation and then refrain from pressing any buttons on the touch pad.
ERROR* Hall Effect Short	Short circuit detected in one of the hall effect circuits.	Test for short. Repair or replace as needed.

Wiring Diagram





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Notes



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