

**GROUND CONTROL[®]
TT LEVELING WITH
LCD TOUCH PAD
OEM INSTALLATION MANUAL**

**LIPPERT
COMPONENTS[®]**

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Safety Information

NOTE: Lippert Components, Inc. (LCI) recommends that the following installation procedures should only be performed by qualified and trained personnel. Please read all Safety Information and instructions prior to starting this procedure. Lippert Components also recommends the use of appropriate Personal Protective Equipment (PPE) while performing any portion of this installation.

WARNING

Failure to act in accordance with the following may result in death, serious injury, trailer damage or voiding of the component warranty.

NOTE: The Ground Control ® TT Leveling OneControl™ Touch Panel is specific to travel trailer applications only.

CAUTION

Moving parts can pinch, crush or cut. Keep clear and use caution.

NOTE: The images in this manual are designed to illustrate the installation procedure only and may not represent the exact trailer being worked on. The appearance of some components may vary from trailer to trailer.

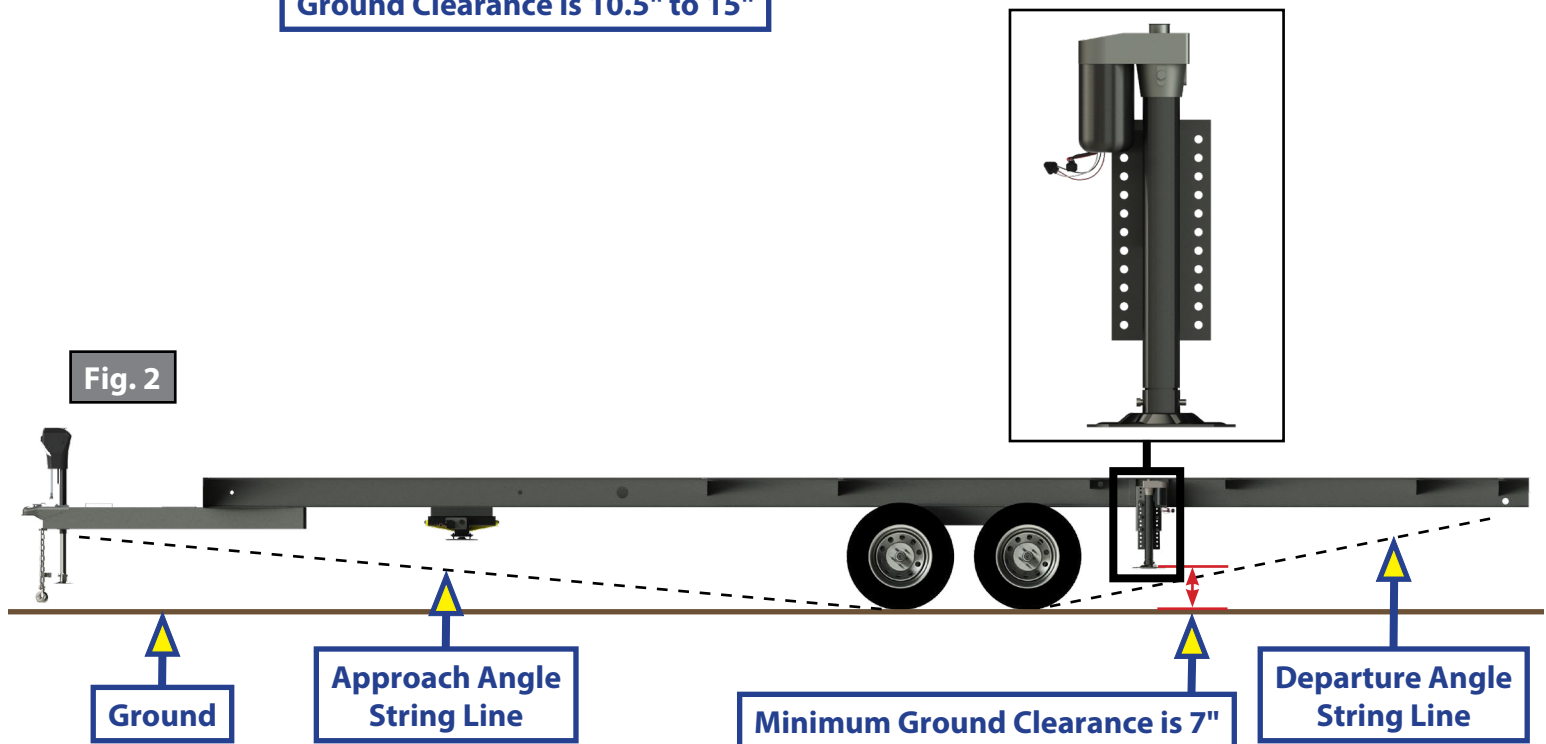
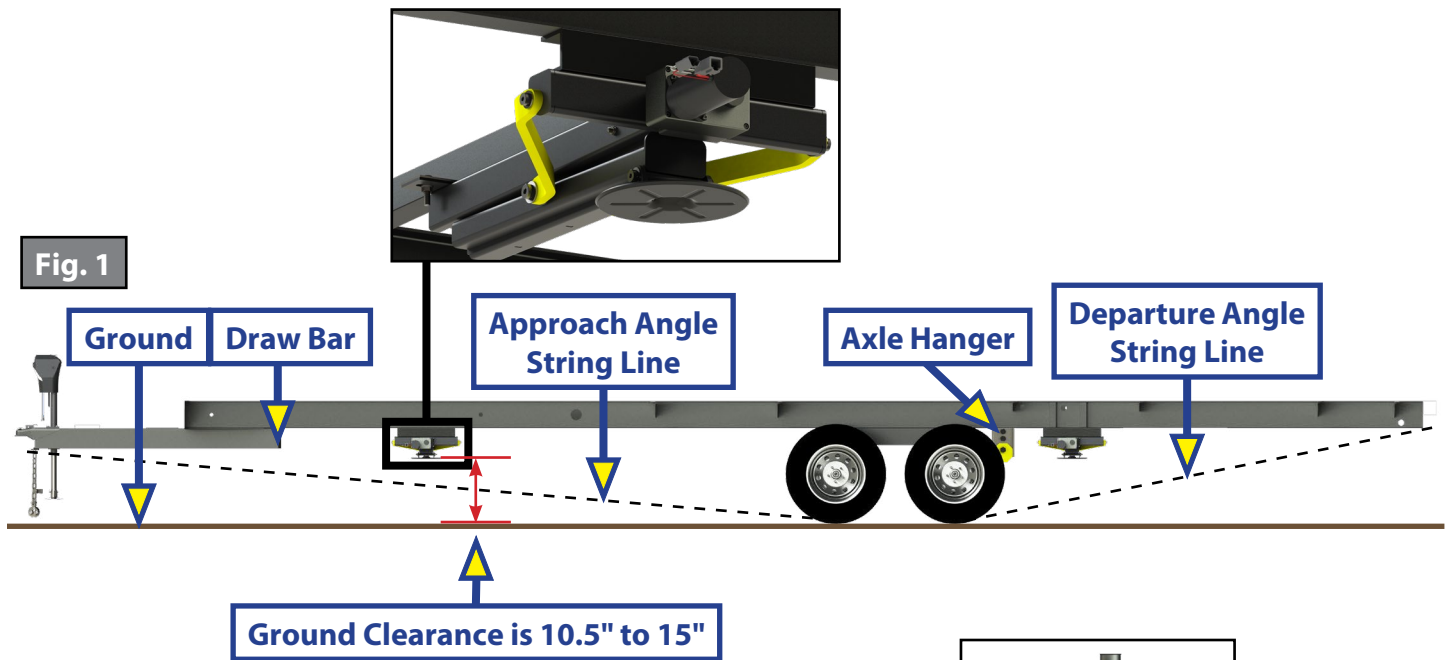
Resources Required

- Cordless or Electric Drill or Screw Gun
- Appropriate Drive Bits
- 5/16" Drill Bit
- 1/2" Ratchet
- Deep Well Socket
- 9/16" Open Face Wrench
- String
- Silver or White Paint or Permanent Marker
- 2 Clamps

Measuring Departure and Approach Angle

Departure and approach angles are measured by running a string line from the meeting point of the tire and ground up at an angle to the lowest point on the front or rear of the trailer. These string lines are shown as dotted lines (Fig.1 and Fig. 2).

NOTE: C-Jacks shown for reference only to mark proper locations.



Installation

⚠ WARNING

The trailer MUST be supported per manufacturer's specifications before working underneath. Failure to do so may result in death of serious injury

NOTE: Before checking ground clearance, make sure the trailer is parallel to the plain of the ground and level front to back.

For the 2K and 3K C-jack Leveling System, follow steps 1-4 for the front and the rear jacks. If installing 5K Jacks in the rear follow the 5K Jacks section.

NOTE: The height specifications for the C-jack Leveling System is a minimum of 10.5" and maximum 15" (measured from the bottom of the foot pad to the ground).

2K and 3K C-Jack

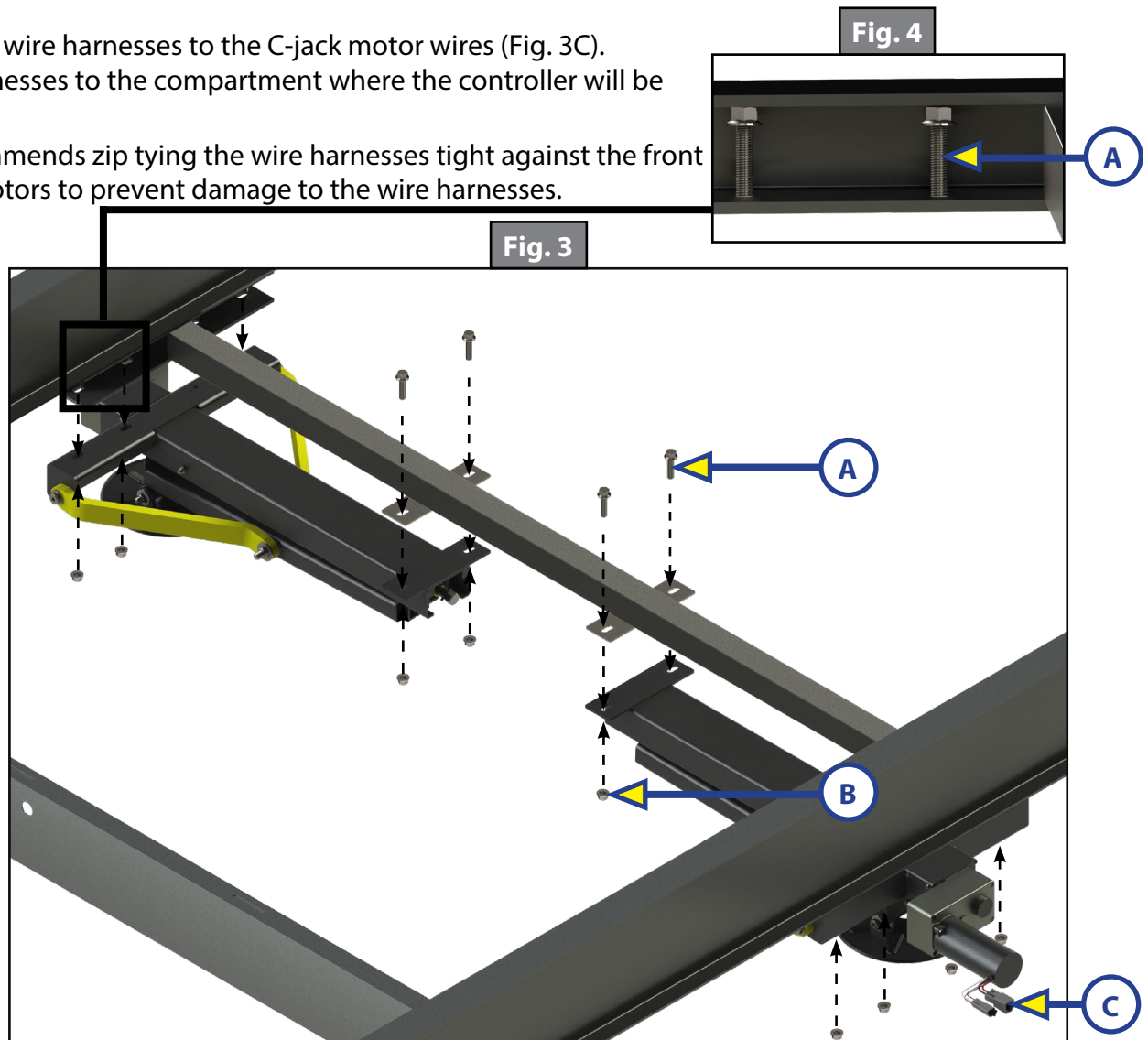
NOTE: Figure 3 depicts C-jacks installed onto an OEM cross-member.

1. Align the jack assembly mounting holes with the holes on the mounting bracket assembly across the chassis road-side to curb-side.
2. Insert six $\frac{3}{8}$ " - 16 x 1 $\frac{1}{2}$ " bolts (Fig. 3A) through each set of aligned mounting holes.
3. Secure the bolts with a $\frac{3}{8}$ " - 16 nut (Fig 3B).

NOTE: Figure 4 illustrates the $\frac{3}{8}$ " - 16 x 1 $\frac{1}{2}$ " bolt (Fig. 4A) within the C-channel of the mounting bracket assembly.

4. Connect the wire harnesses to the C-jack motor wires (Fig. 3C). Run the harnesses to the compartment where the controller will be mounted.

NOTE: LCI recommends zip tying the wire harnesses tight against the front C-Jack motors to prevent damage to the wire harnesses.



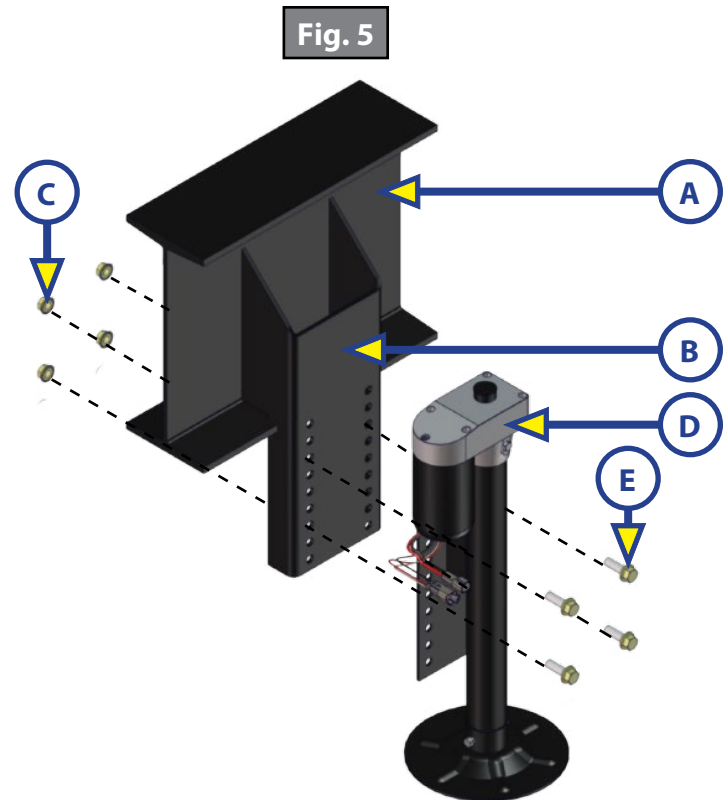
5K Jacks

1. Align the rear jack mounting plate holes with the holes in the rear jack mounting brackets (Fig. 5B) on the main frame rail (Fig. 5A). Set the rear jacks (Fig. 5D) at the proper height to ensure the rear jack foot panel is within the departure angle of the trailer.
2. Bolt the rear jacks (Fig. 5D) to the rear jack mounting brackets (Fig. 5B) using four $\frac{3}{8}$ " - 16 x 1 $\frac{1}{2}$ " bolts (Fig. 5E) and four $\frac{3}{8}$ " - 16 nuts (Fig. 5C) per jack. Tighten the bolts to 90 ft-lb of torque.
3. Connect the wire harnesses to the rear jack motor wires and run the harnesses to the compartment where the controller will be mounted.
4. Repeat steps 1-3 for the other side.

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

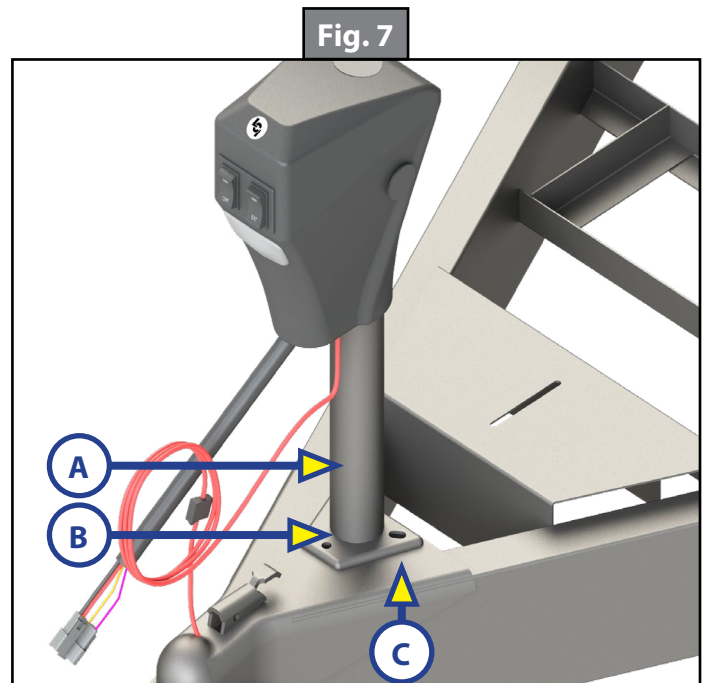
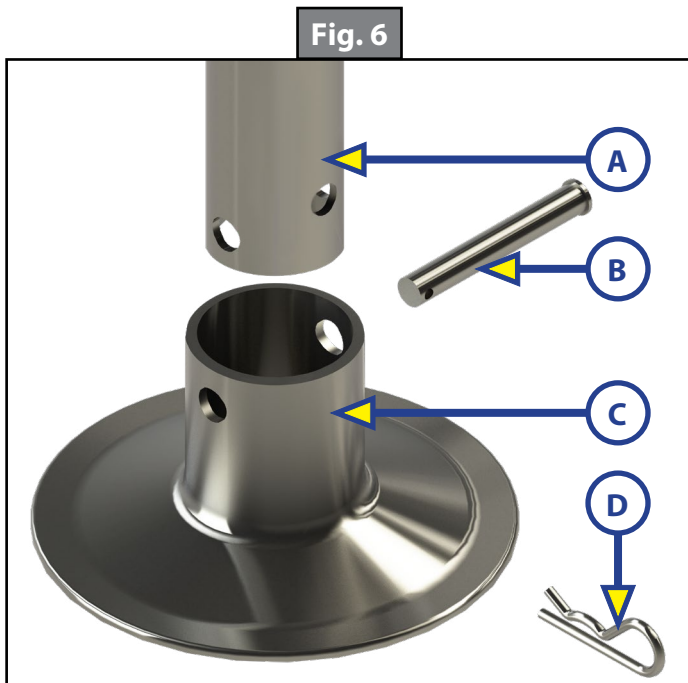
⚠ WARNING

The trailer MUST be supported per manufacturer's specifications before working underneath. Failure to do so may result in death or serious injury



Power Tongue Jack

1. Remove the foot pad from the Power Tongue Jack, if necessary.
 - A. Remove the hairpin cotter pin (Fig. 6D) and clevis pin (Fig. 6B) holding the foot pad (Fig. 6C) to the jack leg (Fig. 6A). Set the pins and the foot pad aside.
2. Support the trailer according to manufacturer's instructions. Remove fasteners from the Power Tongue Jack.
3. Carefully slide the jack leg (Fig. 7A) through the hole in the coupler (Fig. 7B) on the trailer A-frame (Fig. 7C).



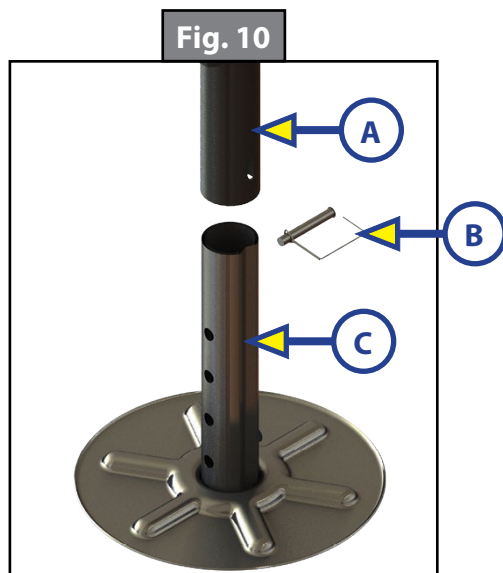
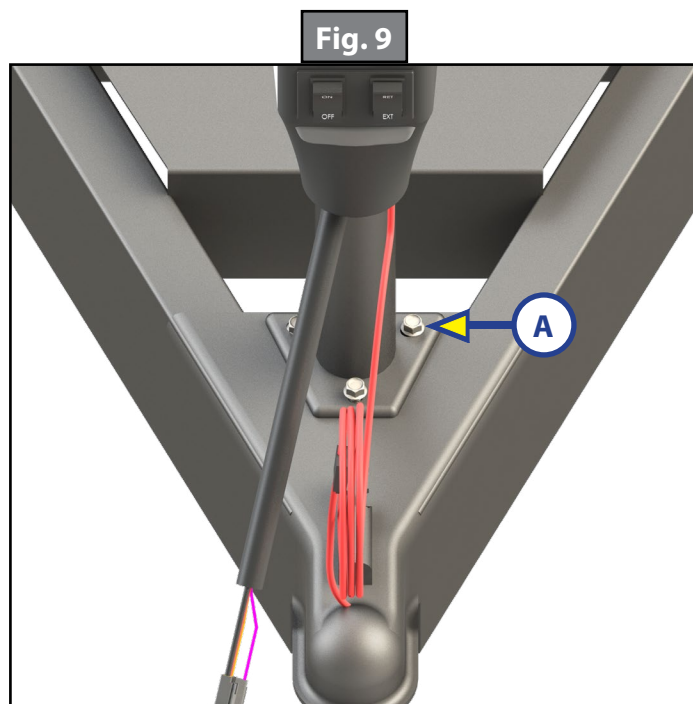
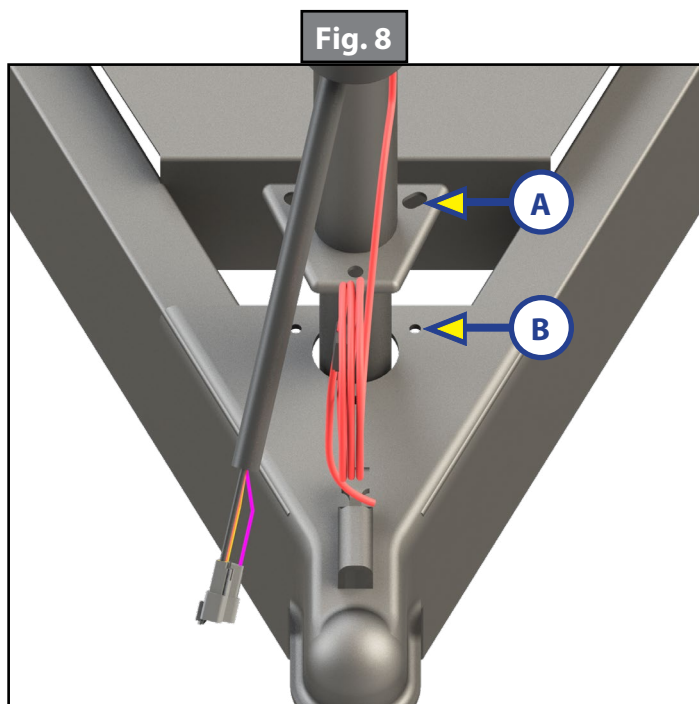
4. Align the 3 holes in the Power Tongue Jack mounting plate (Fig. 8A) with the 3 holes in the coupler (Fig. 8B).
5. Secure the Power Tongue Jack to the coupler plate with three $\frac{3}{8}$ " - 16 x 1" serrated flange Grade 5 Zinc coated bolts (Fig. 9A).
6. Connect the two Deutsch Connectors from the jack to the Tongue Jack Harness.
7. Connect the power wire from the Power Tongue Jack to a 30 amp fuse, then to a grounded 12V power supply on the trailer.

NOTE: The Power Tongue Jack has an option to replace the foot pad or attach the Drop Leg foot pad.

8. Reattach the foot pad to the jack leg by sliding the foot pad back over the bottom of the jack leg. Secure it with the clevis pin and cotter pin which were previously removed (Fig. 6).

NOTE: The Power Tongue Jack has an option to replace the foot pad with the Drop Leg foot pad.

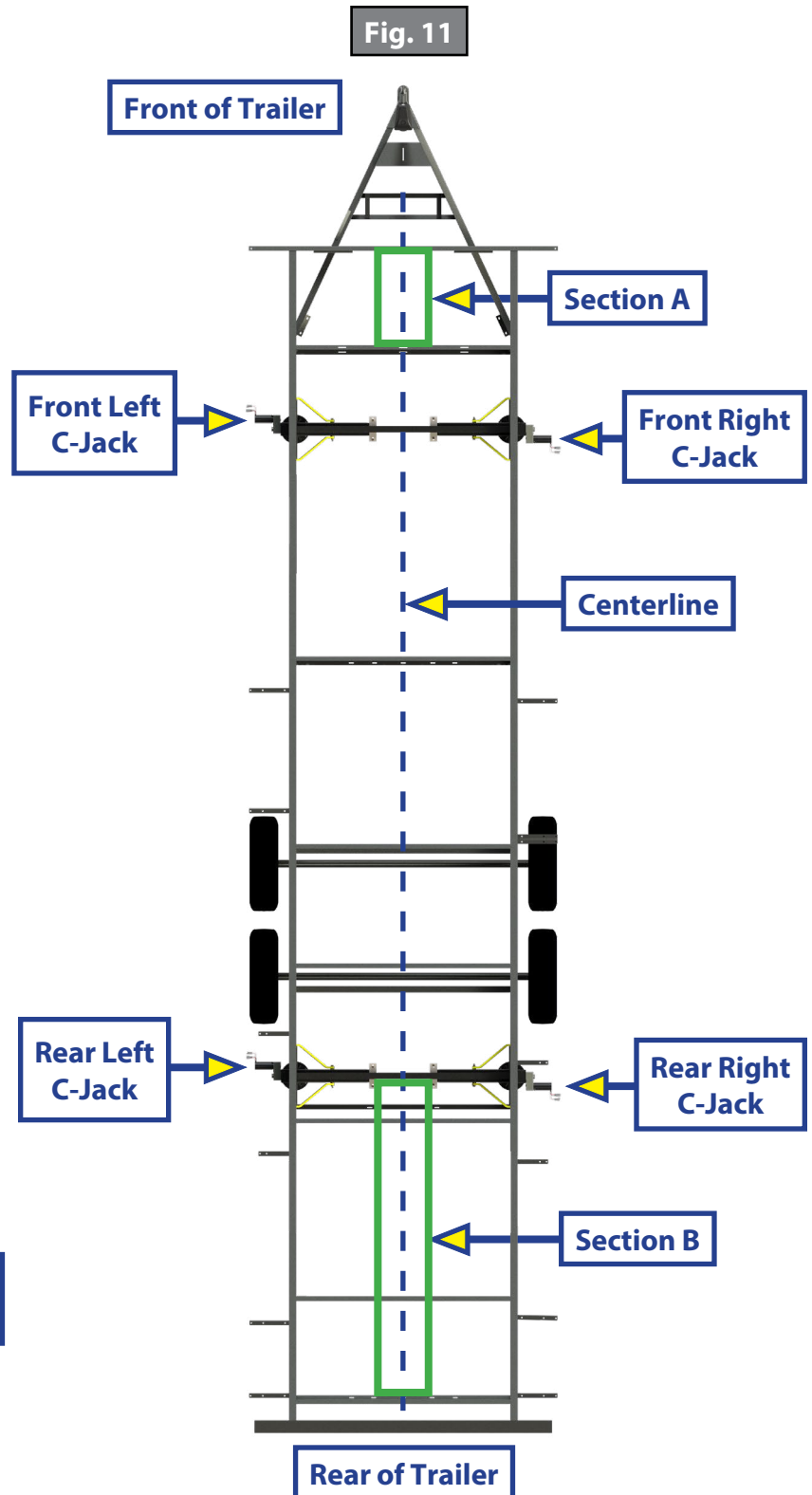
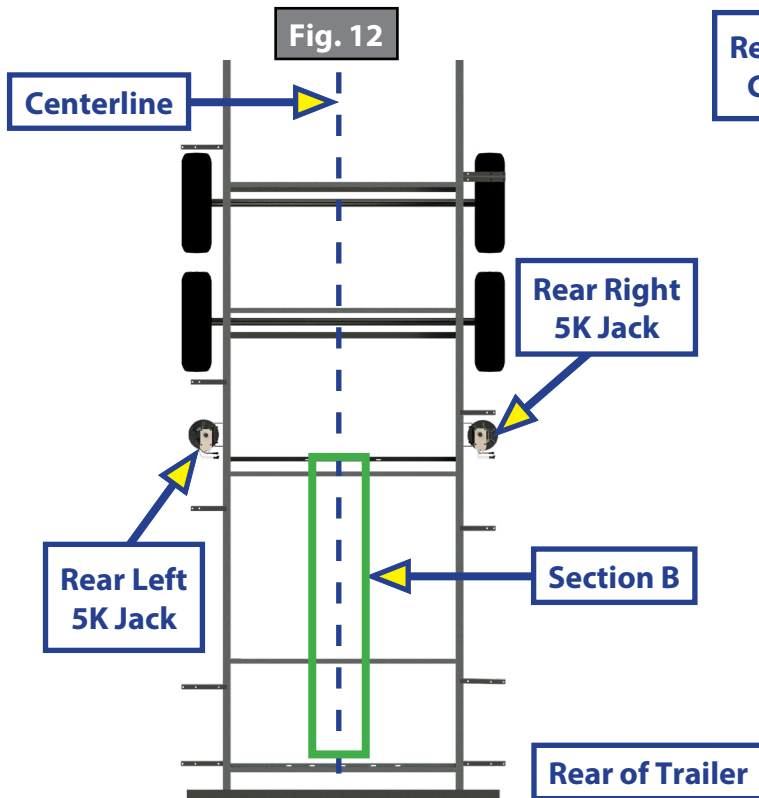
9. If using the Drop Leg foot pad, attach the foot pad (Fig. 10C) to the jack leg (Fig. 10A). Secure it with the snapper pin (Fig. 10B).



Determining the Mounting Position and Installing Leveling Sensors

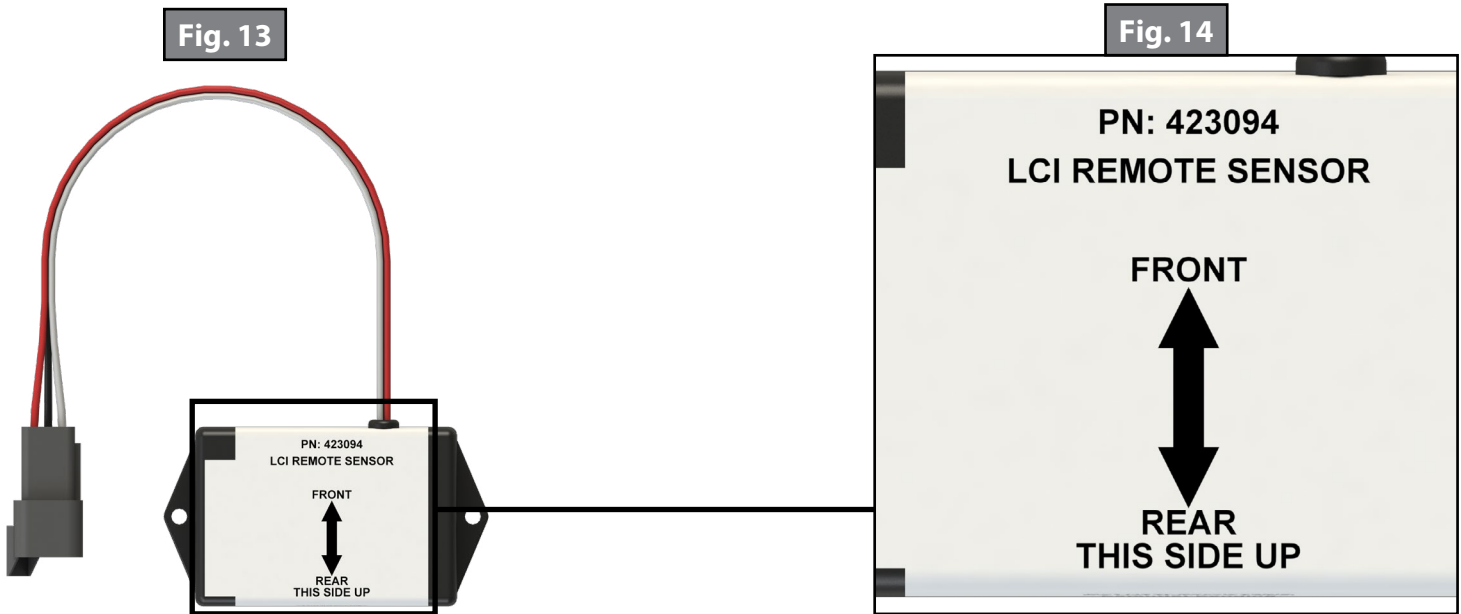
Mounting Position of Leveling Sensors

The leveling sensors have a limited mounting area for proper performance. The front sensor must be within 36" from the front of the frame as signified by Section A in (Fig.11). Ensure that the front sensor is mounted in front of the front leveling jacks. The rear sensor must be in line with or behind the rear leveling jacks, as signified by Section B in (Fig.11 and Fig. 12). Both the front sensor and the rear sensor must also be mounted in line with the center of the frame, as signified by the dotted blue centerline in (Fig.11 and Fig. 12).



Installing Leveling Sensors

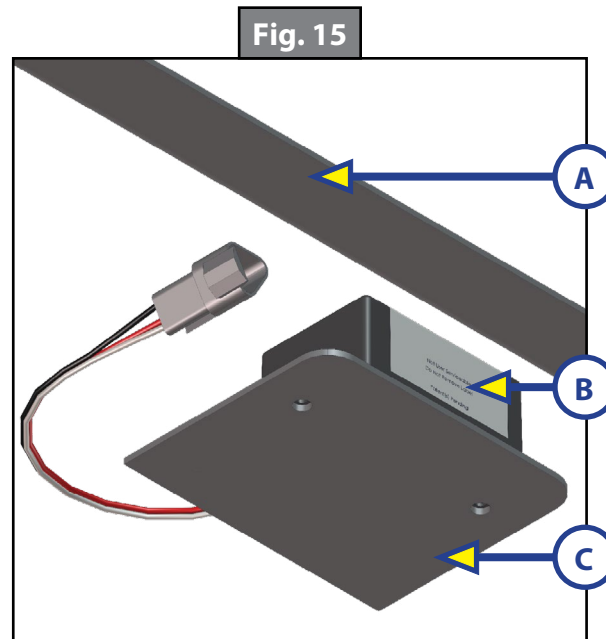
The Leveling Sensors (Fig. 13) must be installed on cross-members in line with or behind the rear jacks, and in line with, or in front of, the front jacks, centered curbside to roadside on the trailer with the arrows on the top of the sensor pointing the correct direction (Fig. 14). See (Fig. 11), Sections A and B and Figure 12, Section B for location clarification.



NOTE: The following process will be repeated for both sensor installations.

NOTE: Leveling sensor mounting plate might be pre-installed by LCI, if so perform step 2 and step 4.

1. Dry fit the mounting plate (Fig. 15C) and the leveling sensor (Fig. 15B) to the cross-member (Fig. 15A). The pre-drilled holes in the plate are for mounting the sensor to the plate. Mark on the plate where the sensor will set.



NOTE: Leave space between the sensor (Fig. 15B) and cross-member (Fig. 15A) so the wire harness will not be pinched.

NOTE: The wire harness must be oriented towards the front of the trailer (Fig. 11 and Fig. 12). Proper orientation of the wire harness is imperative for correct operation of the leveling system.

2. Attach the sensor (Fig. 16A) to the mounting plate (Fig. 16B) using two #12 - 14 x 1" hex head self-drilling screws (Fig. 16C).

NOTE: To avoid cracking the mounting sensor housing, do not over-tighten the screws.

3. Attach the mounting plate and sensor assembly (Fig. 17B) to the cross-member (Fig. 17A) using two #12 - 14 x 1" hex head self-drilling screws (Fig. 17C). Ensure that the plate is centered side to side on the frame and that the sensor is oriented properly. See (Fig. 11 and Fig. 12) Sections A and B for location clarification.
4. Connect the sensor harness to the 3-Pin connector on the sensor (Fig. 18A) and run the harness through the frame and up to the compartment where the controller will be mounted.

Fig. 16

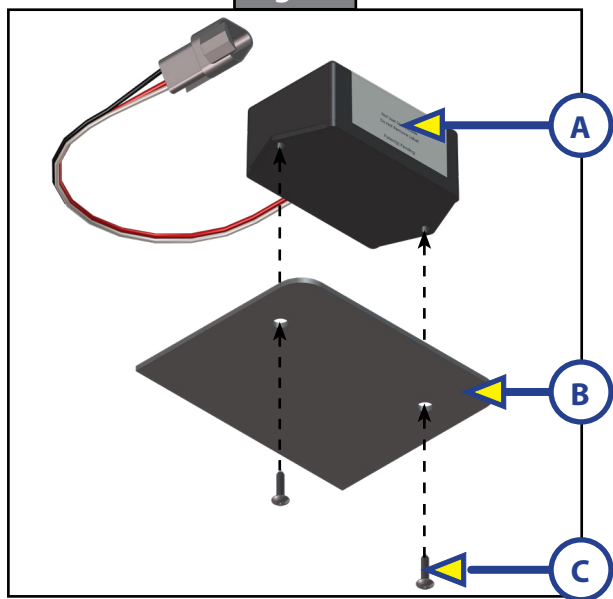


Fig. 17

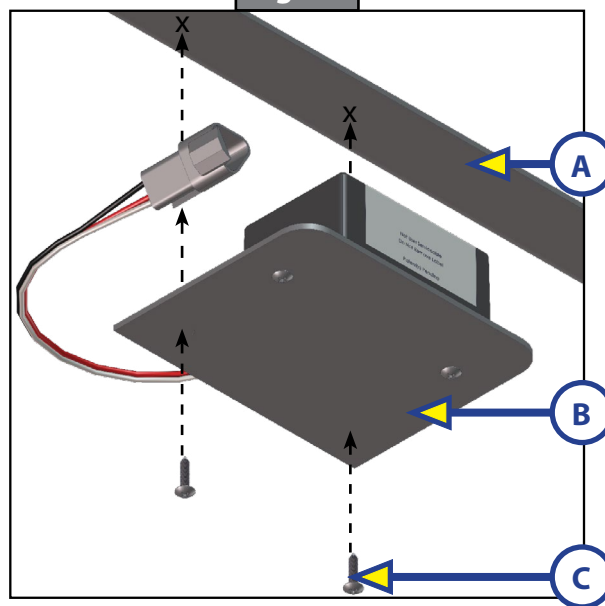
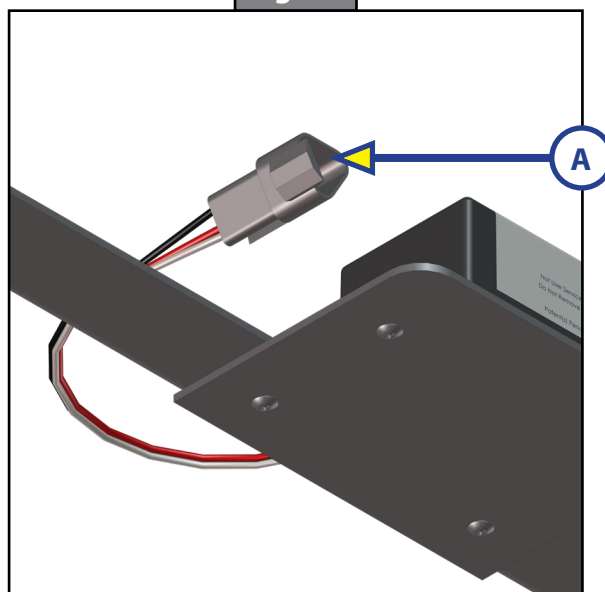


Fig. 18



Installing the Controller

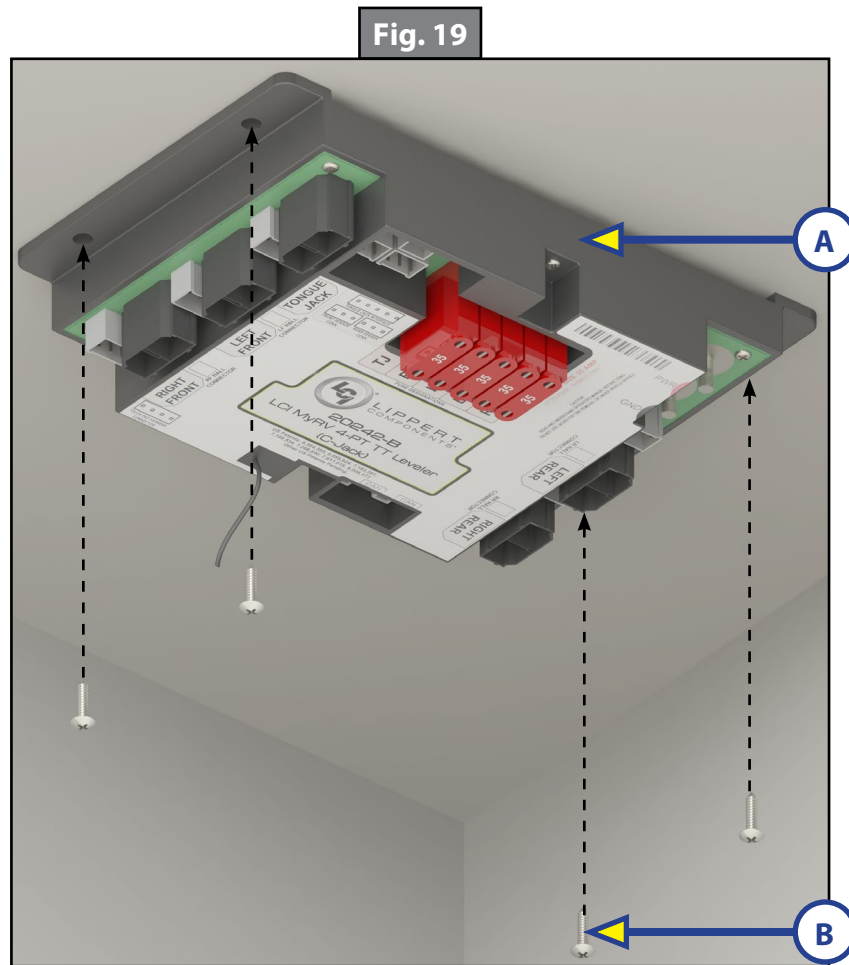
NOTE: Prior to starting this portion of the installation, double check that all of the harnesses are properly and securely connected to the leveling jacks, Power Tongue Jack, and leveling sensors.

NOTE: The compartment where the controller will be installed must be protected from the elements and the controller **MUST** be installed in compliance with Recreational Vehicle Industry Association (RVIA) Gas Codes, since the controller connections are not spark-proof.

Controller Options

There are four different options for the controller depending on the installed leveling jack configuration.

- A. Install Gray Controller (P/N 694815) for a two 2K C-Jack and two 3K C-Jack configuration (Fig. 1) using the LCI Electronic Leveling Touch Pad.
 - B. Install Salmon Controller (P/N 672953) for a four 3K C-Jack configuration (Fig. 1) using the LCI Electronic Leveling Touch Pad.
 - C. Install Brown Controller (P/N 694816) for a two 2K C-Jack and two 5K Jack configuration (Fig. 2) using the LCI Electronic Leveling Touch Pad.
 - D. Install Yellow Controller (P/N 421483) for a two 3K C-Jack and two 5K Jack configuration (Fig. 2) using the LCI Electronic Leveling Touch Pad.
1. Using four #8 x 1" wood screws (Fig. 19B), attach the controller (Fig. 19A) to the compartment wall or ceiling.



2. Attach the power and ground electrical cables to the corresponding posts on the controller, then connect them to the correct posts on the trailer battery.
3. Connect all jack wire harnesses to the appropriate connectors on the controller. See appropriate Wiring Diagram section.

LCI Electronic Leveling Touch Pad

1. Determine where to mount the touch pad. The touch pad should be mounted in a compartment on the side of the trailer so the operator will have a view of the coupler while using the touch pad.
2. Remove the faceplate of the touch pad (Fig. 20B) from the mounting bezel (Fig. 20A).
3. Cut a hole in the wall of the compartment $3 \frac{3}{8}$ " wide by $2 \frac{3}{4}$ " high (Fig. 21) so the top and bottom horizontal cuts are parallel to the floor of the compartment.
4. Feed the touch pad harness through this hole and run it to the compartment where the controller is mounted. Plug the harness into the appropriate connector on the controller.
5. Insert the touch pad bezel (Fig. 22A) into the cutout and attach it with four #8 x 1" wood screws (Fig. 22B) with sufficient length to thread into the compartment wall.
6. Plug the touch pad harness into the connector on the back of the touch pad faceplate and snap the faceplate into the bezel (Fig. 23).

Fig. 20

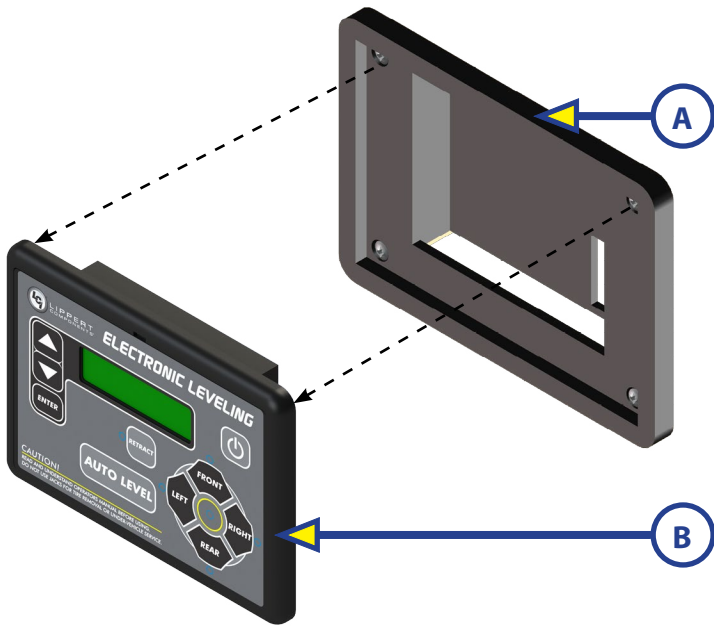


Fig. 21

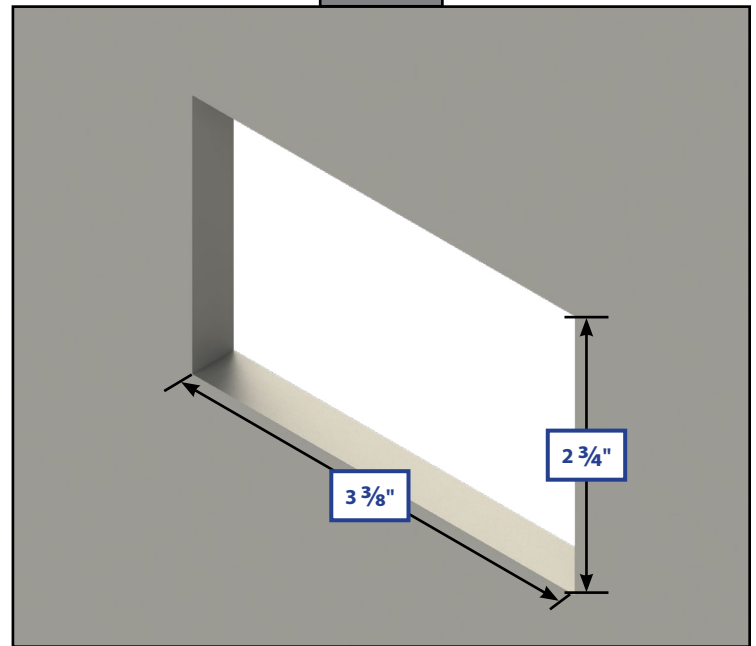


Fig. 22

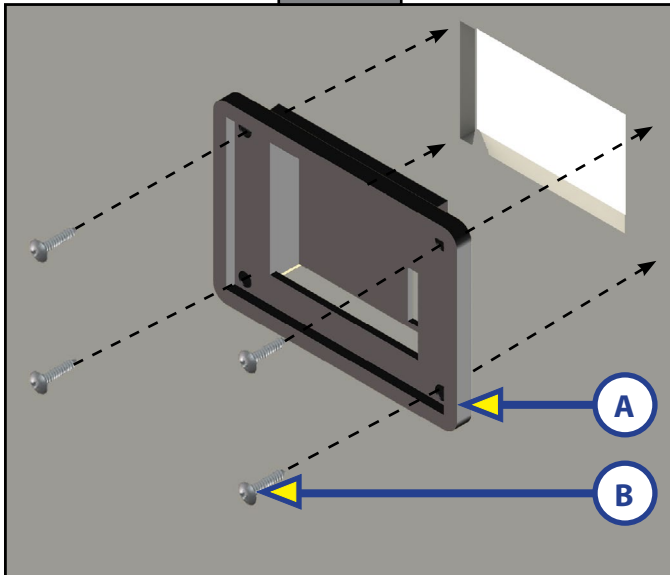
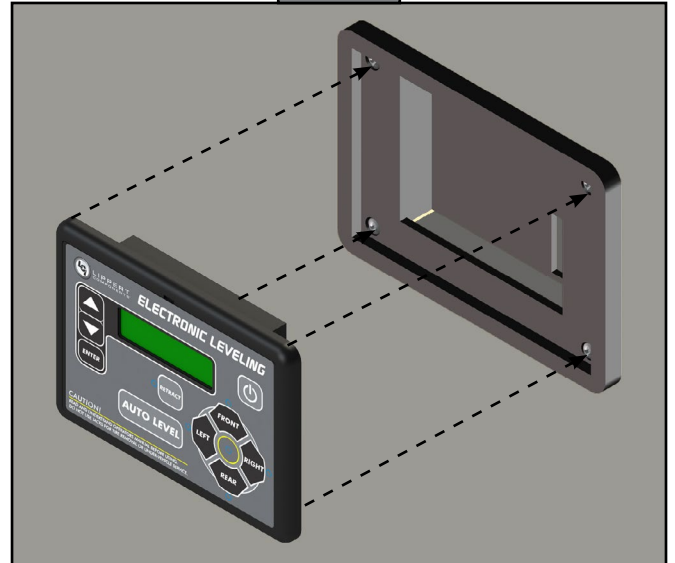


Fig. 23



Prior to Operation

- 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



Callout	Description
A	Up Arrow - Scrolls up through the menu on LCD.
B	Down Arrow - Scrolls down through the menu on LCD.
C	Enter - Activates modes and procedures indicated on LCD.
D	LCD Display - Displays procedures and results.
E	Retract - Places leveling system into retract mode.
F	Auto Level - Places leveling system into auto level mode.
G	Power Button - Turns leveling system on and off.
H	Front Jack Button - Activates front jacks in manual mode. Front Jack Button - Activates tongue jack in standard mode.
I	Left Jack Button - Activates left jacks in manual mode.
J	Right Jack Button - Activates right jacks in manual mode.
K	Rear Jack Button - Activates rear jacks in manual mode.

Basic Jack Operation

WARNING

Be sure to park the trailer on solid and level ground. Prior to operation, clear all jack landing locations of debris and obstructions. The locations should also be free of surface depressions and moisture. When parking the trailer on extremely soft surfaces, utilize load distribution pads under each jack.

CAUTION

People and pets should be clear of the trailer while the leveling system is operated. 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.

NOTE: The "On" and "Off" switch (Fig. 28A) controls the Power Tongue Jack's light only. If left on for an extended period of time, the light will drain the trailer's battery.

NOTE: The Power Tongue Jack is designed for vertical movement of the trailer only.

The Power Tongue Jack can be operated at any time using the buttons on the front of the tongue jack motor enclosure or by using the LCI Electronic Leveling Touch Pad "FRONT" button while in standard mode.

The leveling jacks can only be extended when the touch pad is in the manual mode. Once in manual mode, pressing the "FRONT" button (Fig. 24H) will extend both front jacks at the same time. By pushing the button combination of the "FRONT" and "LEFT" (Fig. 24I), or "FRONT" and "RIGHT" (Fig. 24J) buttons, the individual front jacks can be extended. Pressing the "REAR" button (Fig. 24K) will extend both rear jacks at the same time. To extend individual rear jacks, press the button combination of "REAR" and "LEFT" (Fig. 24I), or "REAR" and "RIGHT" (Fig. 24J) buttons, depending on which jack needs to be operated.

If the touch pad is put in the retract mode, which is indicated by the orange illuminated LED next to the "RETRACT" button (Fig. 24E), both front jacks can be retracted together by pushing the "FRONT" button (Fig. 24H). Front jacks can be retracted individually by pushing the combination of the "FRONT" and "LEFT" (Fig. 24I), or "FRONT" and "RIGHT" (Fig. 24J) buttons. Similarly, the rear jacks can be retracted together by pushing the "REAR" button (Fig. 24K), or individually by pushing the combination of the "REAR" and "LEFT" (Fig. 24I) or "REAR" and "RIGHT" (Fig. 24J) buttons.

NOTE: If the leveling 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.

System Settings

Homing Jacks

1. Run the system by pressing "FRONT" (Fig. 24H). A special jack error code should occur. If not, introduce the special jack error code.

NOTE: To introduce an error, disconnect 1 of the hall effect sensor wires from the controller. After attempting to operate the disconnected jack, the touch pad screen will display an error. Reconnect the hall effect sensor wire.

NOTE: In order to clear the special jack error code the jacks need to be "homed." In order to "home" jacks, each jack must be able to retract a minimum of 6".

2. Extend all jacks to reach the 6" of minimum retract needed.
 - A. Press "FRONT" (Fig. 24H) to extend the front jacks (if required).
 - B. Press "REAR" (Fig. 24K) to extend the rear jacks (if required).
 3. Press and hold the retract button until all of the jacks begin to retract. 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 display on the touch pad screen. This is typically caused by wiring interruption.

Zero Point Calibration

The "Zero Point" is the programmed point that the trailer will return to each time the Auto Level feature is used. The "Zero Point" must be programmed prior to using the Auto Level feature to ensure the proper operation of the system.

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. 24H) 5 times and then press and release the "REAR" button (Fig. 24K) 5 times.
4. The touch pad will flash and beep and the display will read "ZERO POINT CALIBRATION ENTER to set, Power to Exit" (Fig. 25).
5. To set the current position as the zero point, press the "ENTER" button (Fig. 24C).
6. LCD display will read "Zero point stability check" (Fig. 26).
7. LCD display will read "Zero point set successfully" once process is complete (Fig. 27).
8. The system will set this point as its level state and the touch pad will turn off.

Fig. 25

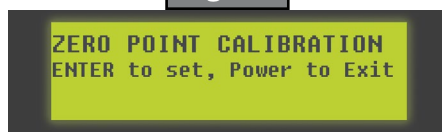


Fig. 26

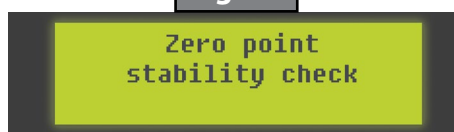
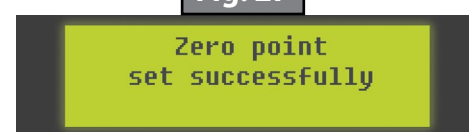


Fig. 27

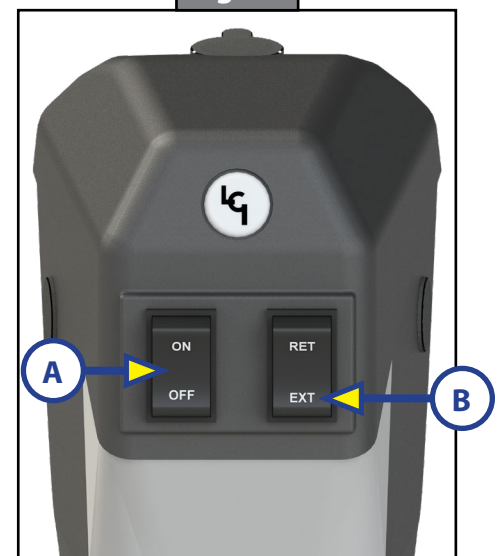


Operation

Unhitching From Tow Vehicle

1. Be sure the ground surface under the Power Tongue Jack is firm and level.
2. Be sure the footpad of the Power Tongue Jack is pinned securely in place with the clevis pin and hairpin cotter pin.
3. Chock all tires of the trailer.
4. Disconnect any wires, chains, or sway control that may be equipped between the tow vehicle and the trailer. Unlatch the trailer coupler.
5. Press and hold the "EXT" button (Fig. 28B) on the Power Tongue Jack or press the "FRONT" button (Fig. 24H) on the touch pad in standard mode to extend the Power Tongue Jack until the footpad touches the ground and the coupler clears the hitch ball.
6. Once the coupler is clear of the hitch ball, move the tow vehicle a safe distance away from the trailer.

Fig. 28



Auto Level

1. Prior to auto leveling, make sure the trailer is unhitched from the tow vehicle and the tow vehicle is parked a safe distance away from the trailer.
2. Press the "ON/OFF" button (Fig. 29A) and then press "AUTO LEVEL" (Fig. 29B).

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.

NOTE: Pressing any button during an Auto Level sequence will abort the auto leveling cycle.

NOTE: Auto Leveling sequence may vary slightly based on the height of the trailer coupler prior to leveling.

NOTE: Sequence may vary slightly based on the height of the trailer coupler prior to leveling.

3. When the Auto Level sequence begins:
 - A. The system checks that the rear jacks are retracted.
 - B. The Power Tongue Jack may adjust depending on the orientation of the trailer.
 - C. Front jacks will extend until movement of the trailer is sensed.
 - D. The Power Tongue Jack will then retract.
 - E. The front jacks will extend/retract near level.
 - F. Rear jacks will extend and ground.
 - G. Trailer will level front-to-rear and then side-to-side.
 - H. The Auto Level sequence will ground all jacks to ensure all foot pads are on the ground. Once this has been completed the LCD screen will read "AUTO LEVEL SUCCESS."
4. The LED screen will then read "READY" followed by the current battery voltage. The green LED in the center of the four leveling jack buttons will be illuminated (Fig. 30A).

NOTE: If the "AUTO LEVEL" sequence does not perform as described above, 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. If the jack functions are incorrect, check that the correct jack wiring harnesses are plugged into the correct ports on the controller.

Fig. 29



Fig. 30



Reconnecting To Tow Vehicle

1. Press the "ON/OFF" button to turn panel on (Fig. 31B).
2. Press the "UP ARROW" (Fig. 31A) button on the touch pad until "AUTO HITCH HGT, ENTER TO BEGIN" is displayed on the LCD. Press the "ENTER" button (Fig. 31C).
3. The rear leveling jacks will retract, followed by the tongue jack extending to the ground, then followed by the front leveling jacks retracting. The tongue jack will then adjust the height of the front of the trailer coupler to the point at which the "AUTO LEVEL" button was most recently pressed.
4. Press the "ON/OFF" button to turn system off (Fig. 31B).
5. Back the tow vehicle into position to align the tow vehicle hitch and trailer coupler with each other.
6. Press and hold "RET" on the tongue jack to retract the tongue jack (Fig. 32A) until the coupler sets into position on top of the tow vehicle hitch.
7. Latch the tow vehicle hitch and connect any wires, chains or sway control that may be equipped between the tow vehicle and trailer.
8. Press the "RET" button (Fig. 32A) twice and then press and hold the "RET" button for 3-5 seconds to engage the tongue jack's auto retract feature.

NOTE: The "RET" button (Fig. 32A) can also be pressed and held until the jack is fully retracted.



Troubleshooting

Touch Pad 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.

Touch Pad Error Codes		
LCD Error Codes	What's Happening?	What Should Be Done?
Excess Angle	Excessive angle reached during auto operation.	Relocate the trailer.
Excessive Angle	Excessive angle reached during manual operation.	Stop manual operation and reset jacks to a more level state. The code will self clear, there is no need to hit "ENTER."
Feature Disabled	Hitch recognition requested but no hitch height set.	Perform "AUTO LEVEL" sequence to establish hitch height.
	Zero point not set.	Set zero point.
Low Voltage	Battery voltage dropped below 9.5V.	Check wiring - repair or replace.
		Test battery voltage under load - charge or replace.
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.
External Sensor	Bad connection or wiring from the controller to the leveling sensor.	Replace or repair connection to leveling sensor.
Jack Timeout	Time limit exceeded for the requested auto operation.	Check disposition of jacks.
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.
Comm Error	Communication between controller and touch pad has been lost.	Check harness for proper connections or damage. Replace if necessary.
Bad Calibration	Sensor calibration values are out of range.	Replace controller.
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.
Hall Power Short	Short circuit detected in one of the hall effect power wires.	Test for short and repair or replace.

Special Jack Error Codes

To clear one of the error codes listed below:

1. Correct or otherwise repair the issue (see the table below).

NOTE: In order to clear the special jack error code the jacks need to be "homed." In order to "home" jacks, each jack **MUST** be able to retract a minimum of 6".

2. Extend all jacks to reach the 6" of minimum retract needed.
 - A. Press "FRONT" (Fig. 24G) to extend the front jacks (if required).
 - B. Press "REAR" (Fig. 24J) to extend the rear jacks (if required).
3. Press and hold the retract button until all of the jacks begin to retract. 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 display on the touch pad screen. This is typically caused by wiring interruption.

Special Leveling Jack Error Codes		
LCD Error Codes	What's Happening?	What Should Be Done?
LF Jack RF Jack LR Jack RR Jack Tongue Jack	Error at a specific jack (left front, right front, left rear, right rear, tongue jack). • 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. Check fuses at controller. Repair or replace as necessary.

Troubleshooting

⚠ CAUTION

Moving parts can pinch, crush or cut. Keep clear and use caution.

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 for each style of jack.

NOTE: If the travel trailer is equipped with 4 C-Jacks the override procedure is the same for the front and rear.

2K or 3K C-Jack Motor Override:

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

1. Find the port on the top of the jack motor (Fig. 33A).
2. Remove the rubber plug (Fig. 34A).
3. Insert the $\frac{3}{8}$ " drive into the port.
4. Turn the override until the jack extends or retracts to desired position.

2K or 3K C-Jack Manual Override Nut:

Tools needed: $\frac{3}{4}$ " socket and ratchet

1. Locate the manual override nut (Fig. 33B).
2. Place $\frac{3}{4}$ " socket and ratchet over the manual override nut (Fig. 35A) and turn the override nut until the jack extends or retracts to desired position.

Fig. 33



Fig. 34

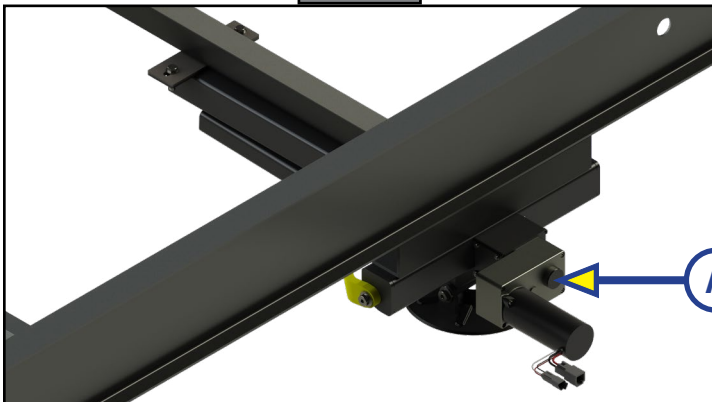
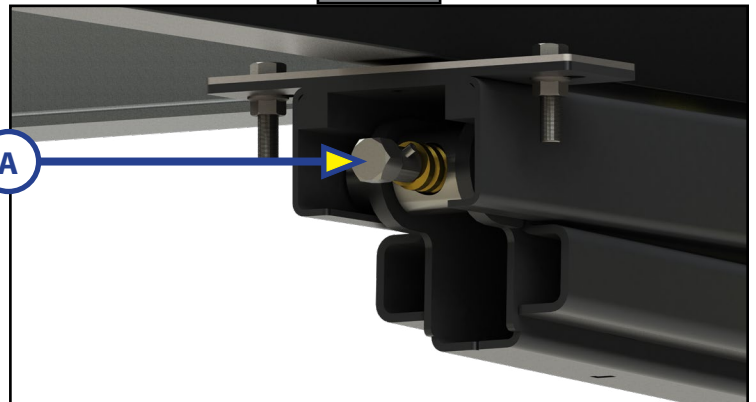


Fig. 35



5K Jack - Top of Jack Motor Override:

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

1. Find the port on the top of the jack motor (Fig. 36A).
2. Remove the rubber plug (Fig.37A).
3. Insert the $\frac{3}{8}$ " drive ratchet into the port (Fig. 38).
4. Turn the override until the jack extends or retracts to desired position.

5K Jack - Bottom of Jack Motor Override:

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

1. Find the port on the bottom of the jack motor (Fig. 36B).
2. Remove the rubber plug (Fig. 39A).
3. Insert the $\frac{5}{16}$ " socket into the port and onto the nut (Fig. 40A).
4. Turn the override until the jack extends or retracts to desired position.

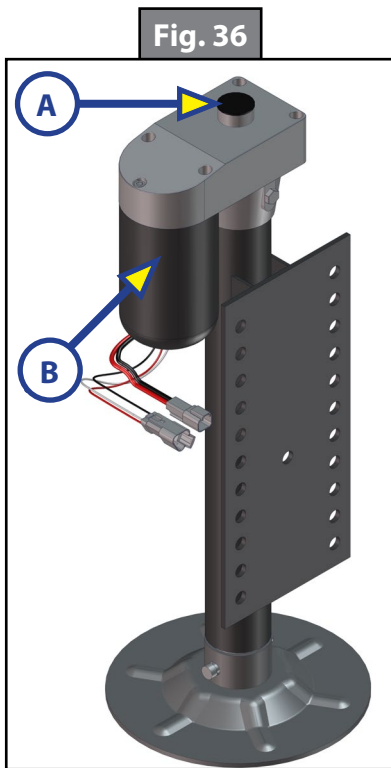


Fig. 36

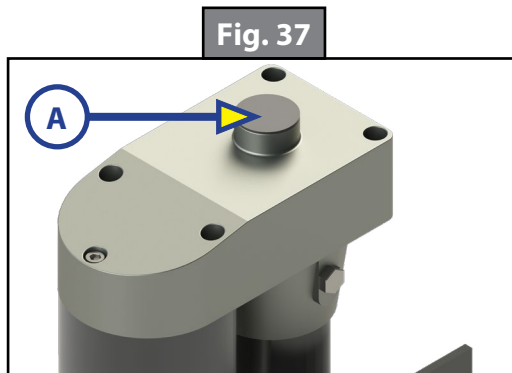


Fig. 37

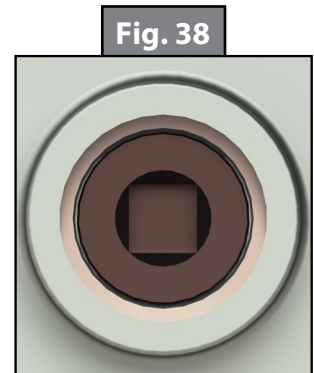


Fig. 38

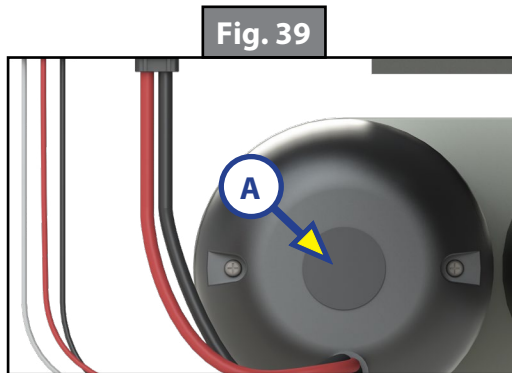


Fig. 39

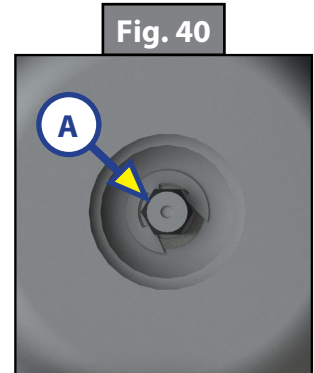
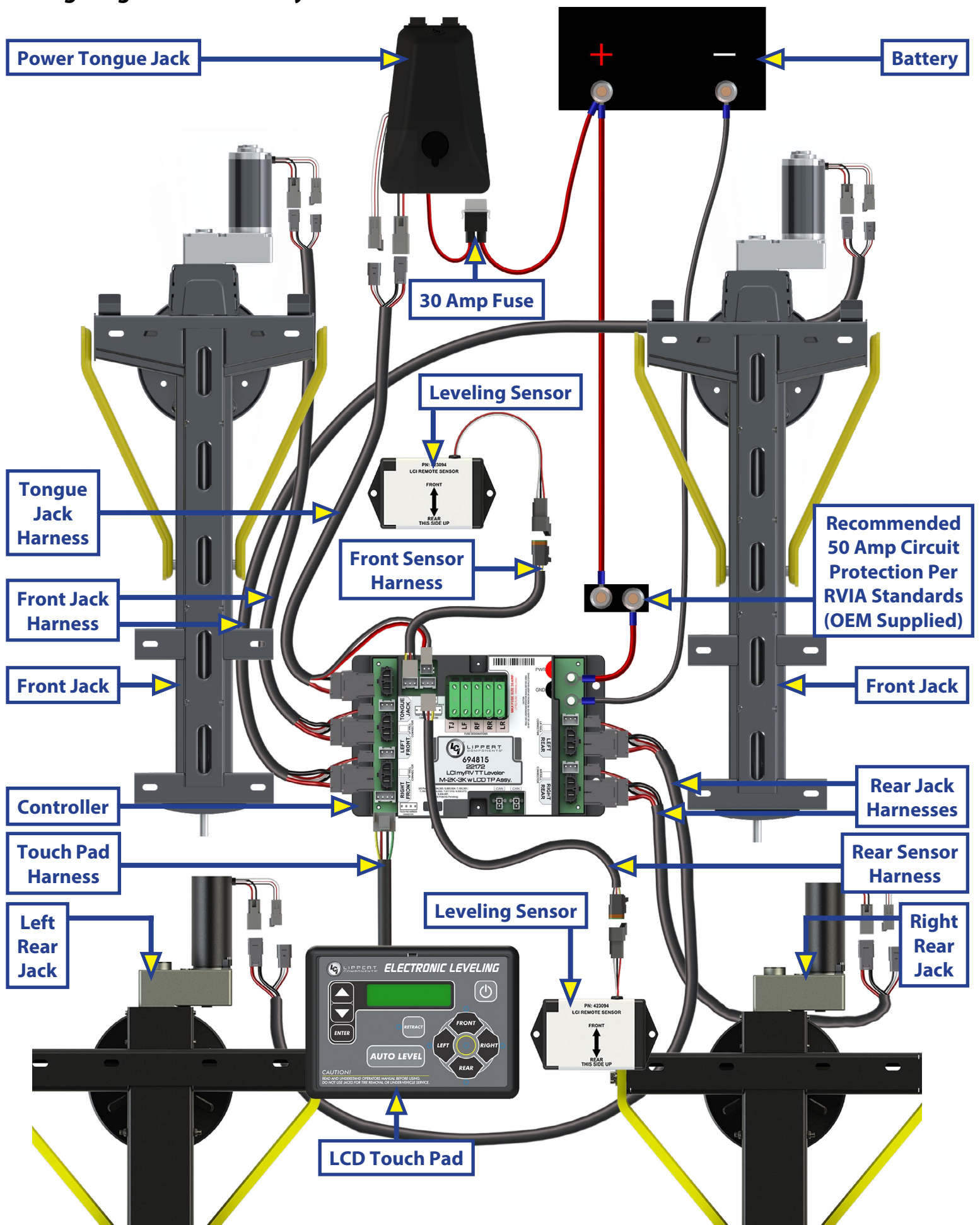


Fig. 40

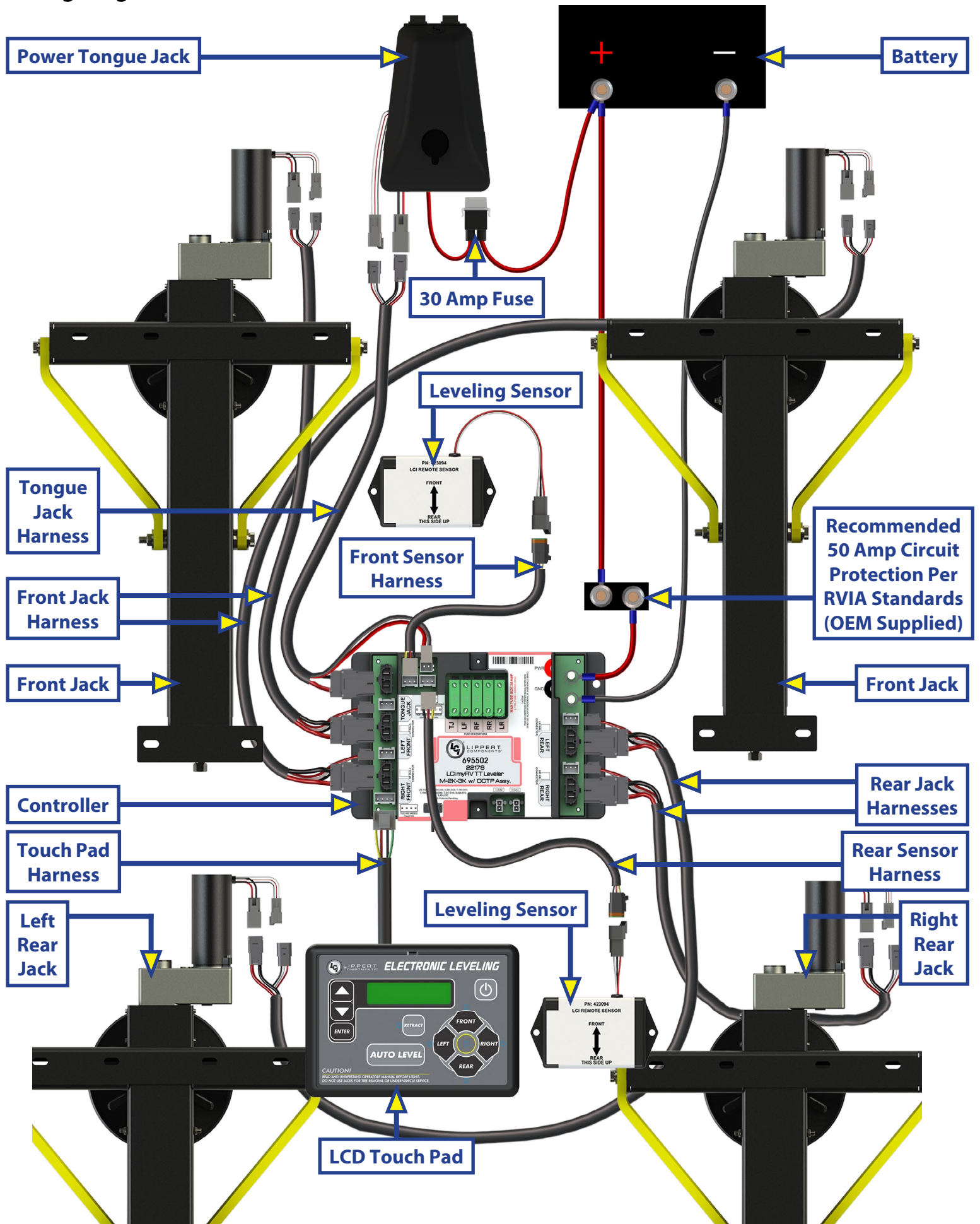
Preventive Maintenance

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 coach is located in a salty environment, it is recommended to spray the rods every 4 to 6 weeks.

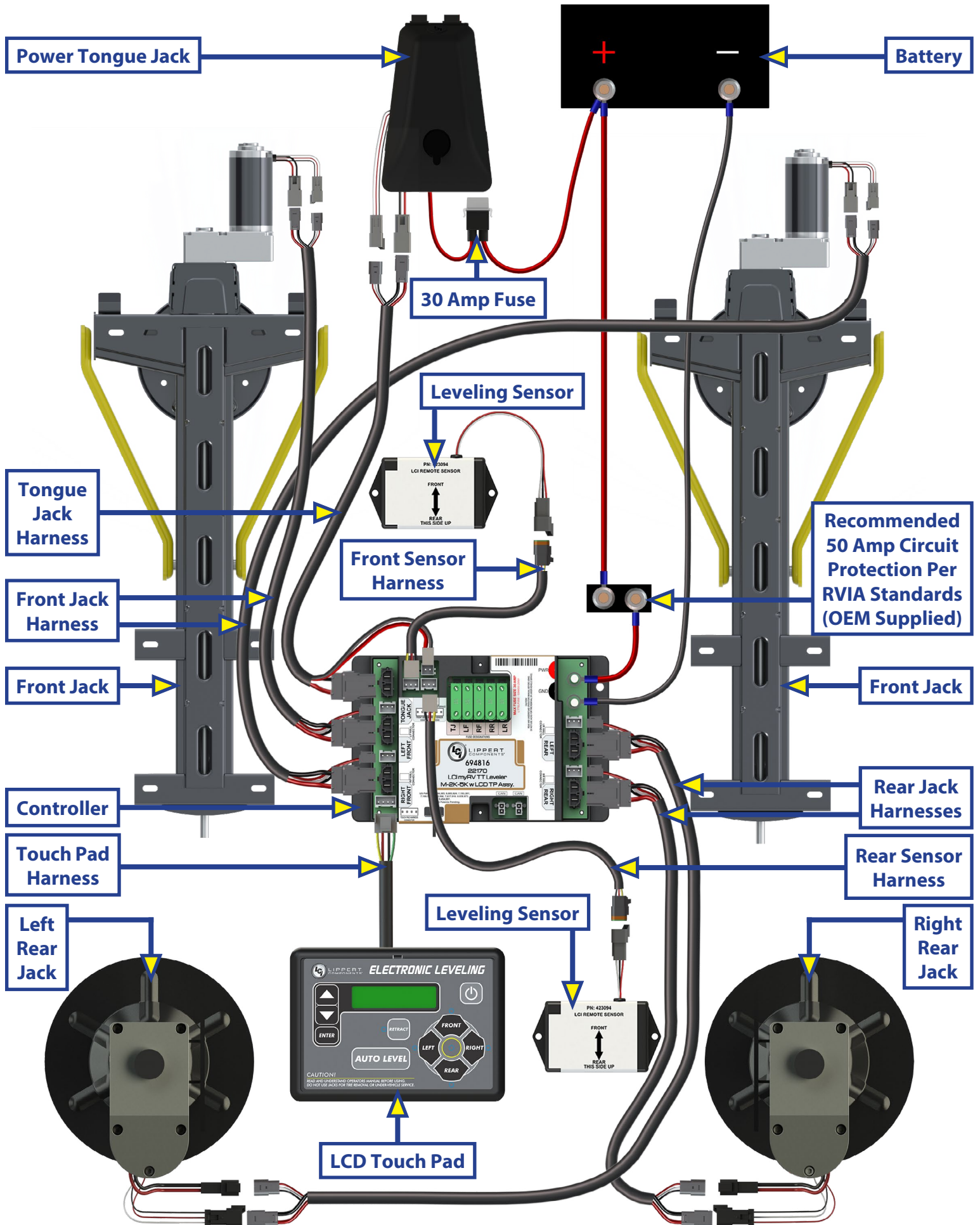
Wiring Diagram - 2K/3K Gray Controller



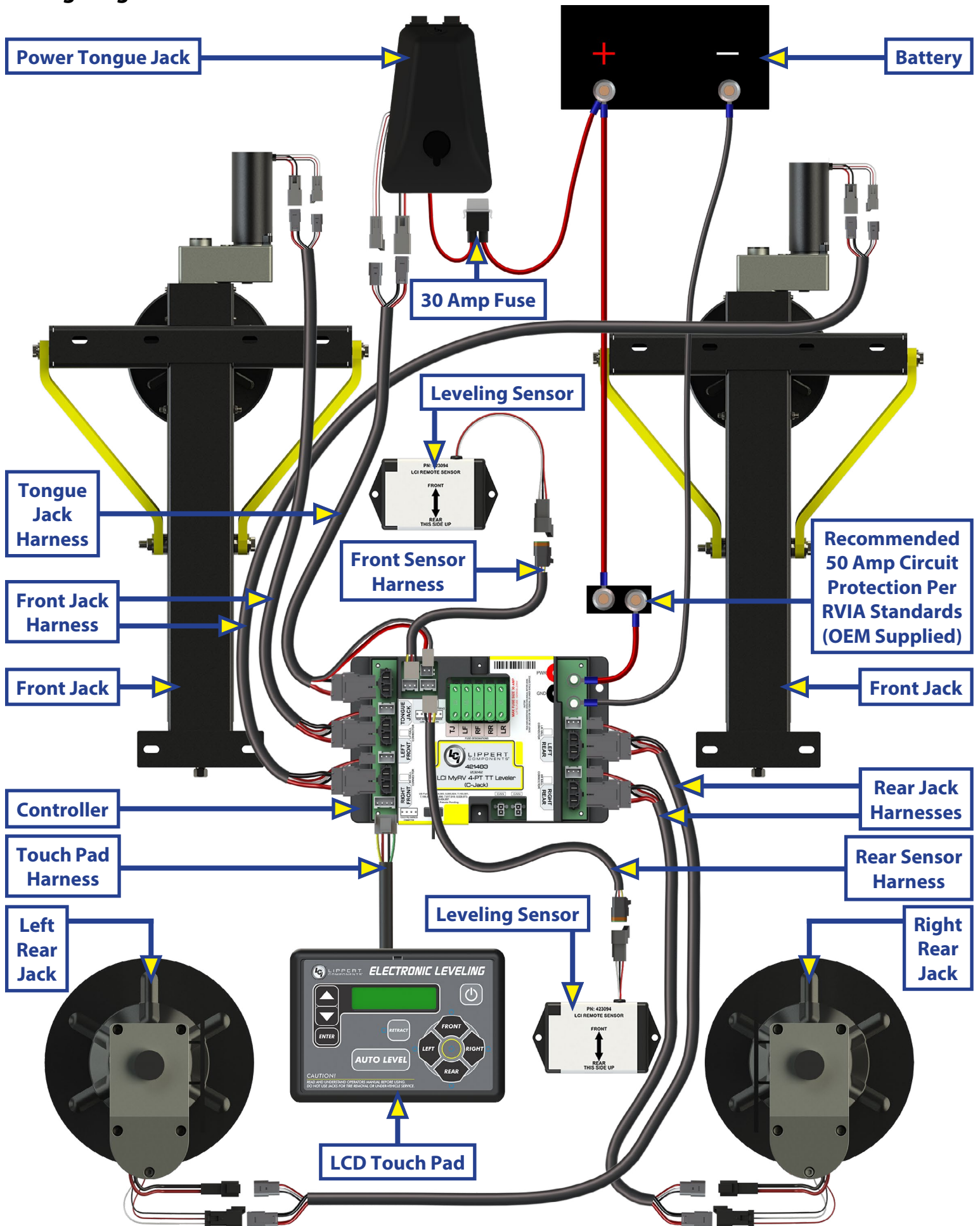
Wiring Diagram - 3K/3K Salmon Controller



Wiring Diagram - 2K/5K Brown Controller



Wiring Diagram - 3K/5K Yellow Controller





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