



GROUND CONTROL[®] 3.0 LCD
TROUBLESHOOTING AND
SERVICE MANUAL

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System

The Ground Control® 3.0 LCD 4-Point and 6-Point systems are leveling systems for 5th Wheel type recreational vehicles. Utilizing level sensing electronics and a series of heavy duty jacks with individual drive motors, the Ground Control® 3.0 System is capable of leveling 5th Wheels throughout the weight spectrum.

NOTE: Images used in this document are for reference only when assembling, installing and/or operating this product. Actual appearance of provided and/or purchased parts and assemblies may differ.

Safety

Read and fully understand all instructions before servicing or troubleshooting this system. 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 LCI limited warranty.

Use of the Ground Control® 3.0 leveling system to support the 5th Wheel 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 5th Wheel such as changing tires or servicing the leveling system. Any attempts to change tires or perform other service while the 5th Wheel is supported by the Ground Control 3.0 leveling system could result in damage to the 5th Wheel and/or cause death or serious personal injury.

WARNING

The "WARNING" symbol above is a sign that a procedure has a safety risk involved and may cause death or serious personal injury if not performed safely and within the parameters set forth in this manual.

WARNING

Failure to follow instructions provided in this manual may result in death, serious personal injury and/or severe product and property damage, including voiding of the component warranty.

WARNING

Trailer MUST be supported per manufacturer's recommendations before working underneath. Failure to do so may result in death or serious personal injury.

CAUTION

The "CAUTION" symbol above is a sign that a procedure has a safety risk involved and may cause personal injury, product and/or property damage if not performed safely and within the parameters set forth in this manual.

CAUTION

Always wear eye protection when performing service, maintenance or installation procedures. Other safety equipment to consider would be hearing protection, gloves and possibly a full face shield, depending on the nature of the task.

NOTICE

All electrical wiring harnesses shall be loomed and secured to prevent possible damage and installed in accordance with RVIA electrical standards.

Preparation

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

- 1. The 5th Wheel is parked on a reasonably level surface.
- 2. Clear all jack landing locations of debris and obstructions. Locations should also be free of depressions.
- 3. When parking the 5th Wheel on extremely soft surfaces, utilize load distribution pads under each jack.

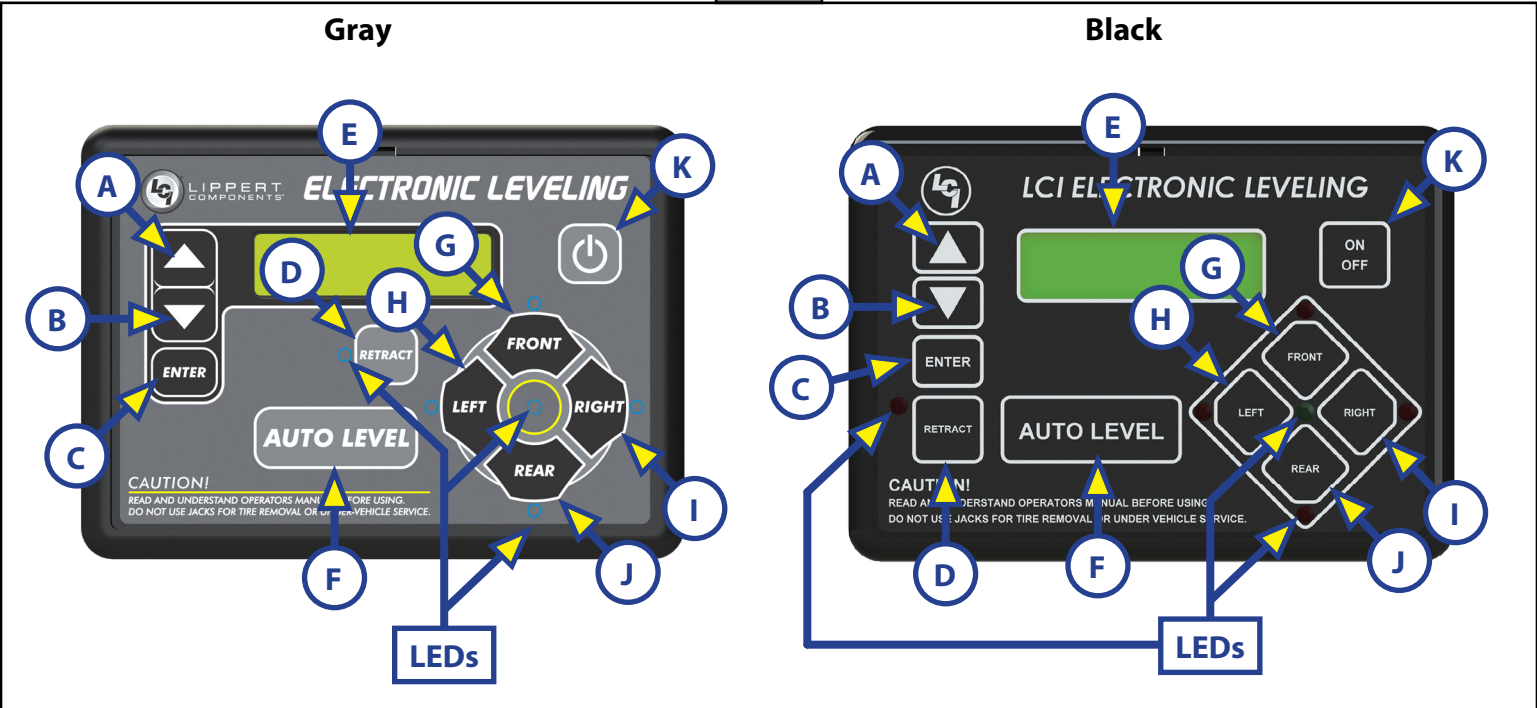
CAUTION

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

- 4. Make sure all persons, pets and property are clear of the 5th Wheel while the leveling system is in operation.
- 5. Make sure battery(ies) are fully charged and test at 12V DC under load.

Touchpad Diagram

Fig. 1



LCD Touchpad Features	
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	RETRACT - Places leveling system into retract mode. - Press and hold down for one second to initiate Auto Retract.
E	LCD Display - Displays procedures and results.
F	AUTO LEVEL - Places leveling system into auto level mode.
G	FRONT Jack Button - Activates front jacks in manual mode.
H	LEFT Jack Button - Activates left jacks in manual mode.
I	RIGHT Jack Button - Activates right jacks in manual mode.
J	REAR Jack Button - Activates rear jacks in manual mode.
K	Power Button - Turns leveling system on and off.

Operation

1. Make sure the 5th Wheel is parked on solid, level ground.
2. Clear all jack landing locations of debris and obstructions. Locations should also be free of depressions.
3. When parking the 5th Wheel on extremely soft surfaces, utilize load distribution pads under each jack.
4. Make sure people, pets and objects are clear of the 5th Wheel while operating the system.

WARNING

Never lift the 5th Wheel completely off the ground. Lifting the 5th Wheel so the wheels are not touching the ground will create an unstable and unsafe condition.

Basic Jack Operation

Landing gear (front jacks) can be operated any time the system is on. Pressing the FRONT button (Fig. 1G), extends both front jacks. Pressing either the FRONT and LEFT (Fig. 1H) or FRONT and RIGHT (Fig. 1I) buttons, the individual front jacks can be extended. If the touchpad is put in the retract mode, indicated by the orange illuminated LED next to the RETRACT button (Fig. 1D), the front jacks can be retracted together by pushing the FRONT button or individually by pressing LEFT or RIGHT buttons while simultaneously pressing the FRONT button.

Middle jacks, if equipped, cannot be extended or retracted in standard mode or manual mode. Middle jacks can only be operated in the special jack error code mode. In order to operate the middle jacks press LEFT (Fig. 1H) and RIGHT (Fig. 1I) buttons simultaneously.

The rear jacks can only be extended when the touchpad is in the manual mode. Once the system is in manual mode, pressing the REAR button (Fig. 1J) will extend both rear jacks at the same time.

1. To extend individual rear jacks, press the LEFT (Fig. 1H) or RIGHT (Fig. 1I) buttons while simultaneously pressing the REAR button, depending on which jack needs to be operated.
2. If the touchpad is put into the retract mode, indicated by the orange illuminated LED next to the RETRACT button (Fig. 1D), the rear jacks can be retracted together by pushing the REAR button or individually by pressing either the LEFT or RIGHT button, while simultaneously pressing the REAR button.

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 5th Wheel.

Unhitching From A Tow Vehicle

NOTE: Prior to unhitching from the tow vehicle, make sure the 5th Wheel is parked on a level surface and the tires are chocked.

1. Extend the inner legs of both landing gear (front jacks) to within 4"-5" of the ground by pulling on the quick-release (pull) pins (Fig. 2).
2. Push the Power button (Fig. 1K). The LCD Screen will light up and display "READY Jacks: Up" (Fig. 3A).
3. Push the Up Arrow button (Fig. 1A) to scroll to "Drop Front Jacks" option on the LCD screen.
4. Red indicator lights (Fig. 3B) may come on, indicating the current disposition of the 5th Wheel. In this case, the front and right sides of the 5th Wheel are low.
5. Push the ENTER button (Fig. 1C). Both front jacks will go to ground and stop.
6. Push the FRONT button (Fig. 1G) extending the front jacks to a sufficient height, to raise the front of the 5th Wheel off of the tow vehicle's hitch plate.
7. Disconnect all electrical and mechanical connections between the tow vehicle and the 5th Wheel.
8. Pull tow vehicle away and park at a safe distance.

Fig. 2

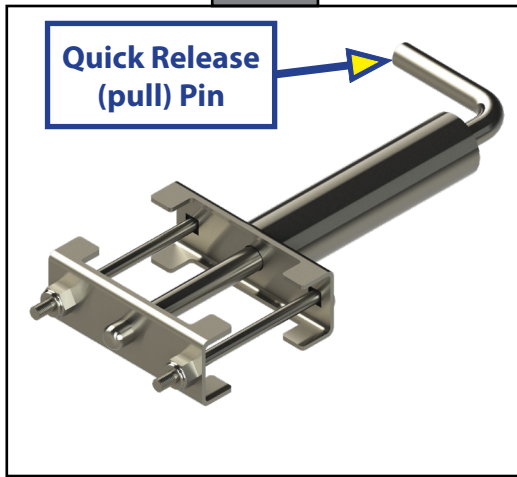


Fig. 3



Auto Level

After unhitching from tow vehicle and parking the vehicle at a safe distance away from the 5th Wheel, press the Power button (Fig. 1K) and then press AUTO LEVEL button (Fig. 1F).

NOTE: Once the automatic leveling cycle has been started, it is important that there is no movement inside the 5th Wheel until the leveling process has been completed. Failure to remain still during the leveling cycle could have a negative effect on the performance of the leveling system.

NOTE: For the hitch recognition feature to function, the auto level sequence must be started with the front of the 5th Wheel above level.

Auto Level Sequence

1. When auto level sequencing begins, the front of the 5th Wheel will lower slightly to a point below level.
2. Rear jacks will be grounded.
3. A side-to-side leveling sequence occurs.

NOTE: On the 6-Point system, the two middle jacks are grounded to stabilize the 5th Wheel. The two middle jacks do not level the 5th Wheel.

4. Each jack will perform a final grounding touch.
5. LCD display will read "AUTO LEVEL SUCCESS" (Fig. 4).
6. LCD display will then read "READY Jacks: Down" (Fig. 5A), and the green LED at the center of the four jack buttons will be illuminated (Fig. 5B).

Fig. 4



Fig. 5

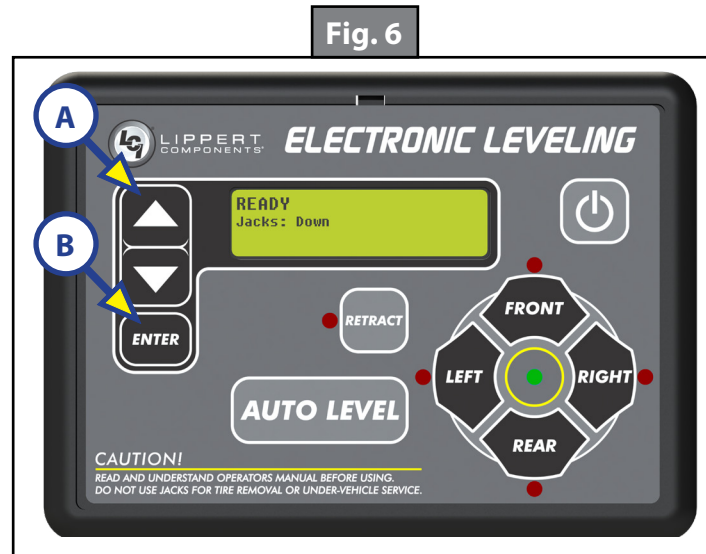


NOTE: If the auto level sequence does not perform as described, place the system in manual mode and test that the jacks operate correctly by pressing their coordinating buttons on the touchpad; i.e., pressing the FRONT button only operates the front jacks.

Hitch Recognition

1. Turn on the touchpad.
2. Push the Up Arrow (Fig. 6A) to scroll to "Auto Reconnect" option on the LCD screen.
3. Push ENTER (Fig. 6B). The rear jacks and middle jacks (if equipped) will retract first, then the front jacks will extend to raise the 5th Wheel to the height where the auto level sequence was started.

NOTE: If the auto level sequence was started with the front of the 5th Wheel in a below-level condition, the Hitch Recognition will not function and the LCD will display "Feature Disabled." For the Hitch Recognition feature to function, the auto level sequence must be started with the front of the 5th Wheel above level.



System Settings

Homing Jacks

When certain components are added or replaced the system will need to be homed.

1. Run the system by pressing FRONT (Fig. 1G). A special jack error code should occur. If not, introduce the special jack error code.
 - A. To introduce an error, disconnect one of the hall effect sensor wires from the controller.
 - I. After attempting to operate the disconnected jack, the touchpad screen will display an error.
 - II. Reconnect the hall effect sensor wire.
 - B. To clear the special jack error code, the jacks need to be homed.
 - C. To "home" the jacks, each jack must be able to retract a minimum of 6".
2. Extend all jacks to reach the 6" of minimum retract needed as follows:
 - A. Press FRONT button (Fig. 1G) to extend the front jacks, if required.
 - B. Press REAR button (Fig. 1J) to extend the rear jacks, if required.
 - C. Press LEFT and RIGHT buttons (Fig. 1H and Fig. 1I) simultaneously to extend the middle jacks, if equipped and required.
3. Press and hold the RETRACT button (Fig. 1D) until all of the jacks begin to retract. The jacks will continue to 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 LCD display. This is typically caused by a wiring interruption.

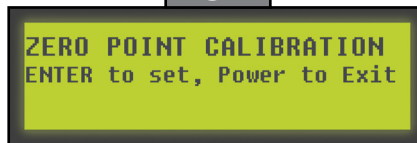
Zero Point Calibration

The "Zero Point" is the programmed point that the 5th Wheel 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 touchpad.

1. In manual mode, run the jacks to level the 5th Wheel. This is best achieved by placing a level in the center of the 5th Wheel and leveling it both front-to-back and then side-to-side. See Basic Jack Operation section for instructions on how to manually operate the system.
2. Once the 5th Wheel is level, turn off the touchpad.
3. With the touchpad off, press and release the FRONT button (Fig. 1G) five times, then press and release the REAR button (Fig. 1J) five times.
4. The touchpad will flash and beep and the display will read "ZERO POINT CALIBRATION ENTER to set, Power to Exit" (Fig. 7).

Fig. 7



5. To set the current position as the zero point, press the ENTER button (Fig. 1C).
6. The LCD display will read "Zero point stability check" (Fig. 8).
7. The LCD display will read "Zero point set successfully" once the process is complete (Fig. 9).

Fig. 8

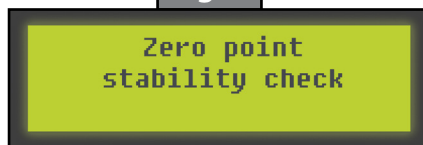
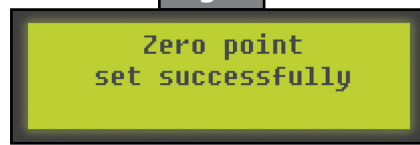


Fig. 9



8. The system will set this point as its level state and the touchpad will turn off.

Troubleshooting

⚠ WARNING

Make sure the 5th Wheel is supported at both the front and rear with jack stands before performing any troubleshooting or service to the 5th Wheel. Failure to do so may result in death, serious personal injury, severe product and/or property damage.

Manual Override

If manual override is necessary, there are two options; Top of Jack Motor Override, Bottom of Jack Motor Override.

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

⚠ WARNING

Do NOT use an impact driver or impact wrench for any manual override procedure. Use of an impact driver or impact wrench will cause product damage, rendering the product inoperable. Use a cordless or pneumatic screw gun for the override procedure.

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.

Top of Jack Motor Override

Resources Required

- 3/8" drive ratchet and extension, no socket

Procedure

1. Find the port on the top of the jack motor (Fig. 10A).
2. Unplug 2-pin motor harness.
3. Remove the rubber plug (Fig. 11A).
4. Insert the 3/8" drive with extension into the port (Fig. 12A).
5. Turn override clockwise until the jack extends or turn counterclockwise until the jack retracts to the desired position.
6. Plug in 2-pin motor harness connector.

NOTE: After any Landing Gear or Hall Effect Jack has been manually overridden, the system will need to be serviced and the jacks will need to be homed. See Homing Jacks section.

Fig. 10

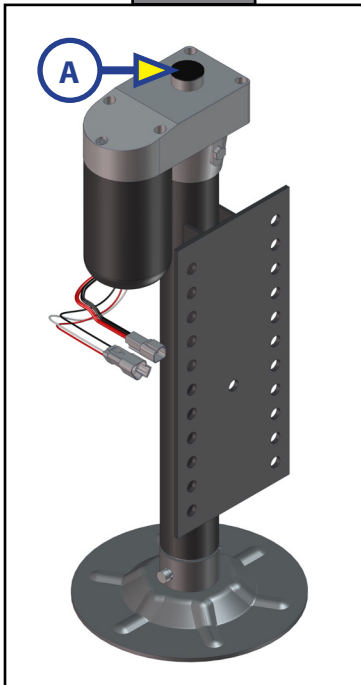


Fig. 11

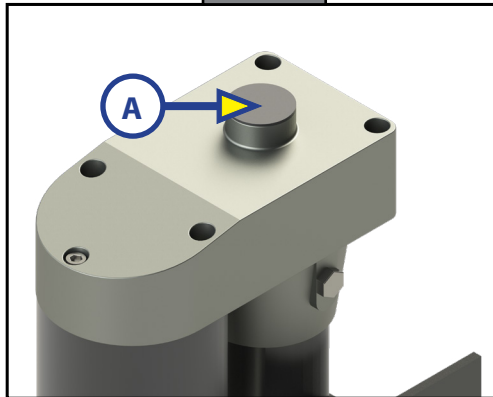
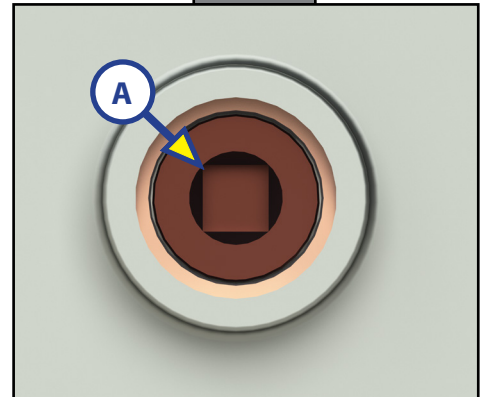


Fig. 12



Bottom of Jack Motor Override

Resources Required

- $\frac{3}{8}$ " drive ratchet and extension
- $\frac{5}{16}$ " socket

Procedure

1. Find the port on the bottom of the jack motor (Fig. 13A).
2. Unplug 2-pin motor harness.
3. Remove the rubber plug (Fig. 14A).
4. Insert the $\frac{5}{16}$ " socket into the port (Fig. 15A).
5. Turn clockwise on override until the jack extends or turn counterclockwise on override until retracts to the desired position.
6. Plug in 2-pin motor harness connector.

NOTE: After any Landing Gear or Hall Effect Jack has been manually overridden, the system will need to be serviced and the jacks will need to be homed. See Homing Jacks section.

Fig. 13

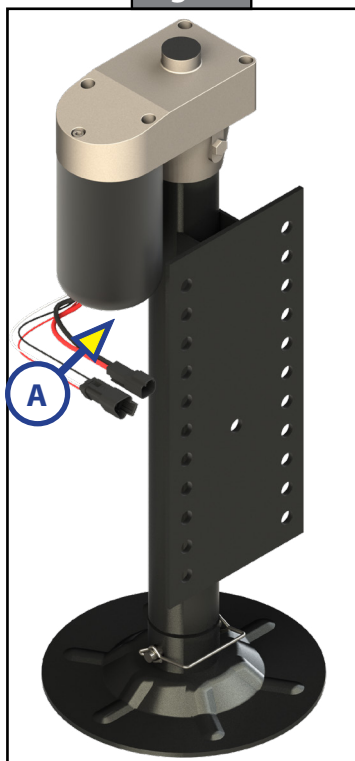


Fig. 14

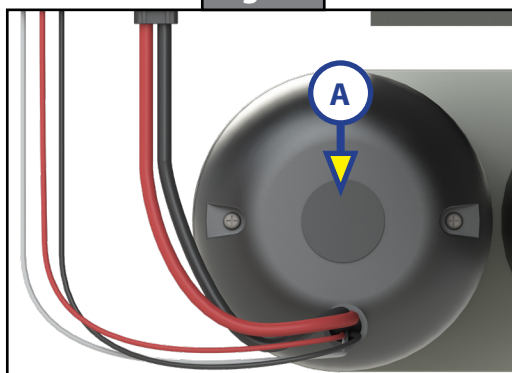
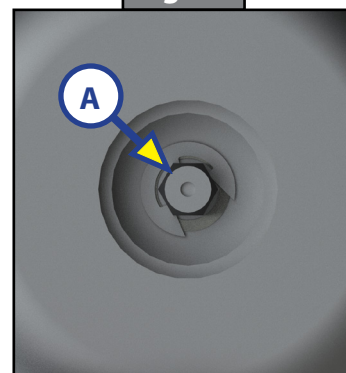


Fig. 15



Touchpad Error Codes

To clear an error code from the touchpad, repair or otherwise correct the issue, then press ENTER. If the error is still present, the message will be displayed again.

Error Codes		
LCD Message	What's Happening?	What Should Be Done?
Excess Angle	Controller not properly secured.	Check and secure controller placement.
	Excessive angle reached during auto operation.	Relocate the 5th Wheel.
Excessive Angle	Controller not properly secured.	Check and secure controller placement.
	Excessive angle reached during manual operation.	Relocate the 5th Wheel.
Feature Disabled	Front of 5th Wheel below level when starting auto level process (only when trying to initiate Hitch Recognition).	Using manual mode on the touchpad, retract rear jacks (which includes the middle, if equipped) and set landing gear (front jacks) to hitch height.
	Touchpad power not cycled between consecutive leveling operations.	Turn touchpad off and then back on to reset the system.
	Zero point not set.	Set zero point.
Low Voltage	Battery voltage dropped below 10.8V DC.	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 5th Wheel.
	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 rear sensor.	Repair or replace connection to rear remote sensor.
Jack Time Out	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 5th Wheel.
	Unable to auto level due to zero point being set incorrectly.	Reset zero point.
Comm Error	Communication between controller and touchpad has been lost.	Check harness for proper connections or damage. Replace if necessary.
Bad Calibration	Sensor calibration values are out of range.	Replace controller.
Internal Sensor	Internal sensor problem.	Replace controller.
Function Aborted	The user pressed a button on the touchpad during an automatic operation.	Restart automatic operation and then refrain from pressing any buttons on the touchpad.
Hall Effect Short	Short circuit detected in one of the hall effect circuits.	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 Special Jack Error Codes table below.
- 2. To clear the special jack error code the jacks need to be homed. To "home" jacks, each jack must be able to retract a minimum of 6". See Homing Jacks section.

Special Jack Error Codes		
LCD Message	What's Happening?	What Should Be Done?
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.
		Check fuses at controller.
		Repair or replace as necessary.

Component Replacement

After replacing any of the following components: Landing Gear, Hall Effect Jacks, Controller, or Jack Motor; jacks will need to be homed. See Homing Jacks section.

Landing Gear Replacement

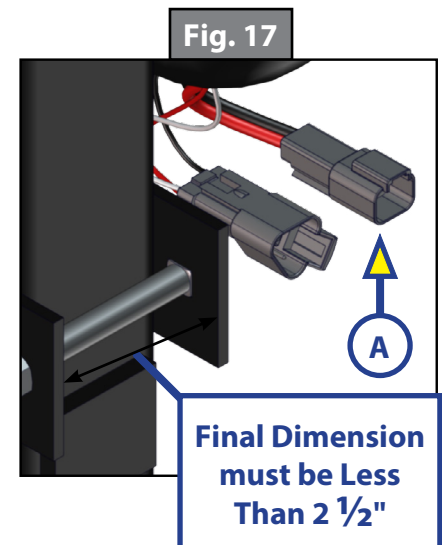
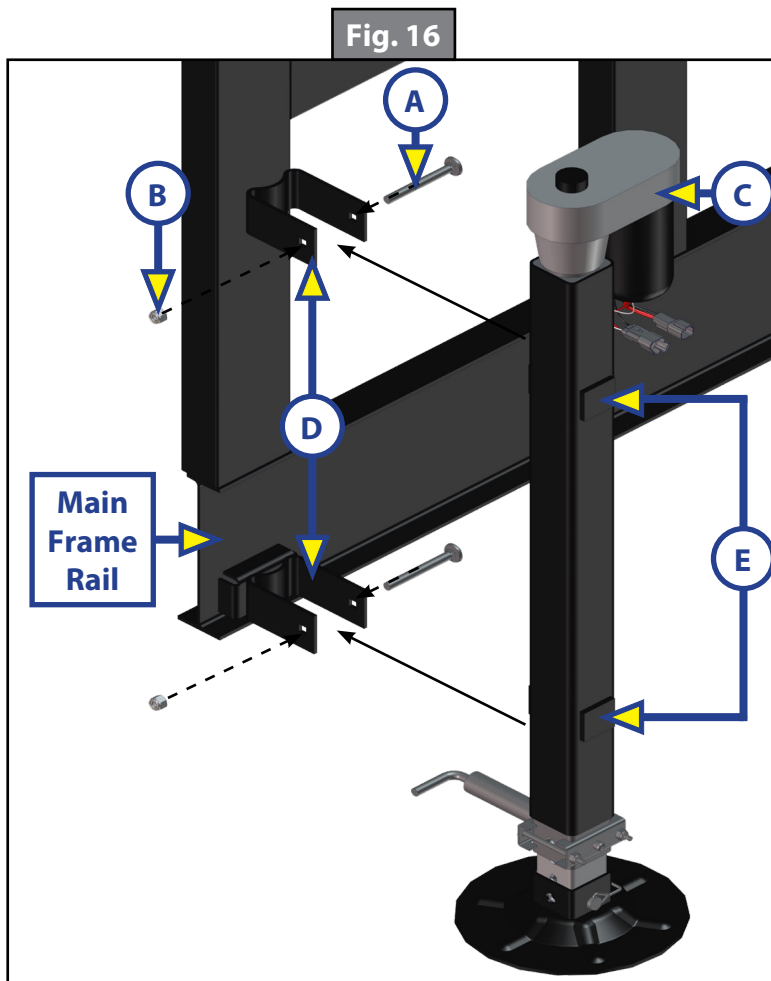
Make sure the motor's cables are disconnected from the system harnesses.

1. Remove the landing gear needing replacement from the 5th Wheel by removing the carriage bolts (Fig. 16A) and nuts (Fig. 16B) holding the landing gear in-place in the brackets (Fig. 16D).
2. Use new carriage bolts (Fig. 16A) and nuts (Fig. 16B) to mount the new landing gear (Fig. 16C) into the mounting brackets (Fig. 16D) so that the tabs (Fig. 16E) on the new landing gear are positioned between the mounting brackets as shown in Fig. 16.
3. Tighten the nuts on the carriage bolts until the bracket opening is less than 2 1/2" (Fig. 17).
4. Reconnect the wire harnesses (Fig. 17A) to the landing gear motor wires.
5. Run the harnesses to the compartment where the controller will be mounted.

NOTE: LCI recommends zip-tying the harnesses tight against the landing gear motors to prevent damage to the harnesses.

When components are added or replaced, the system will need to be homed.

1. Run the system by pressing the FRONT button (Fig. 1G).
 - A. A special jack error code should occur.
 - B. If not, introduce the special jack error code.
 - I. To introduce an error, disconnect one of the hall effect sensor wires from the controller.
 - II. After attempting to operate the disconnected jack, the touchpad screen will display an error.
 - III. Reconnect the hall effect sensor wire.
2. To clear the special jack error code, the jacks need to be homed. See Homing Jacks section.



Hall Effect Jack Replacement

1. Mark mounting location on the bracket of the jack needing replacement.
2. Disconnect jack motor wires from the system's wire harnesses.
3. Remove the jack from its mounting bracket.
4. Install the new jack (Fig. 18C) onto the mounting bracket (Fig. 18B), in the same location previously identified in step 1, using six $\frac{1}{2}$ " - 20 UNF serrated flange Grade 8 bolts (Fig. 18D) and $\frac{1}{2}$ " - 20 UNF serrated flange nuts (Fig. 18A). Torque bolts to 90 ft-lbs.

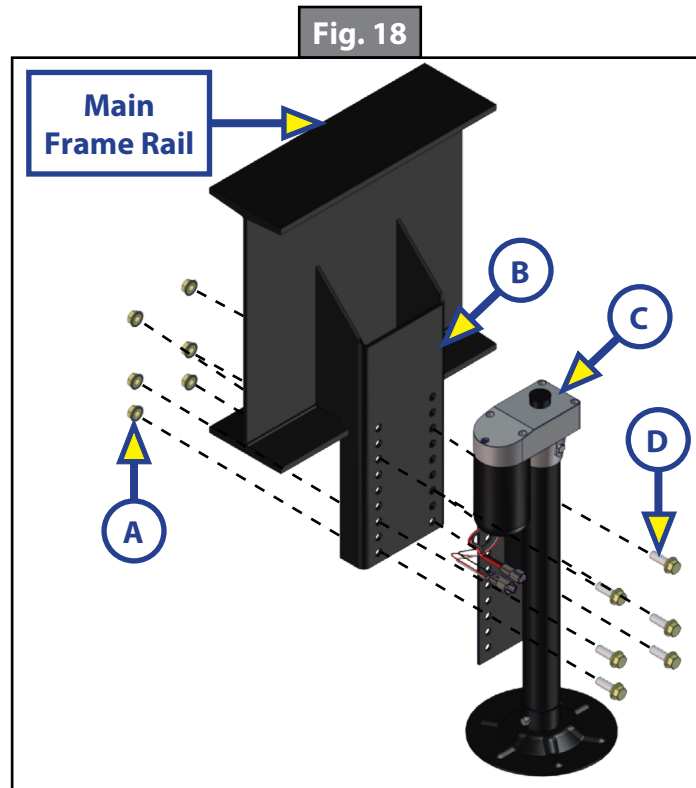
NOTE: Make sure the new jack is mounted in the same location as the old, removed jack (step 3).

5. Reconnect the wire harnesses to the jack motor wires.

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

When components are added or replaced, the system will need to be homed.

1. Run the system by pressing the FRONT button (Fig. 1G).
 - A. A special jack error code should occur.
 - B. If not, introduce the special jack error code.
 - I. To introduce an error, disconnect one of the hall effect sensor wires from the controller.
 - II. After attempting to operate the disconnected jack, the touchpad screen will display an error.
 - III. Reconnect the hall effect sensor wire.
2. To clear the special jack error code, the jacks need to be homed. See Homing Jacks section.



Rear Sensor Replacement

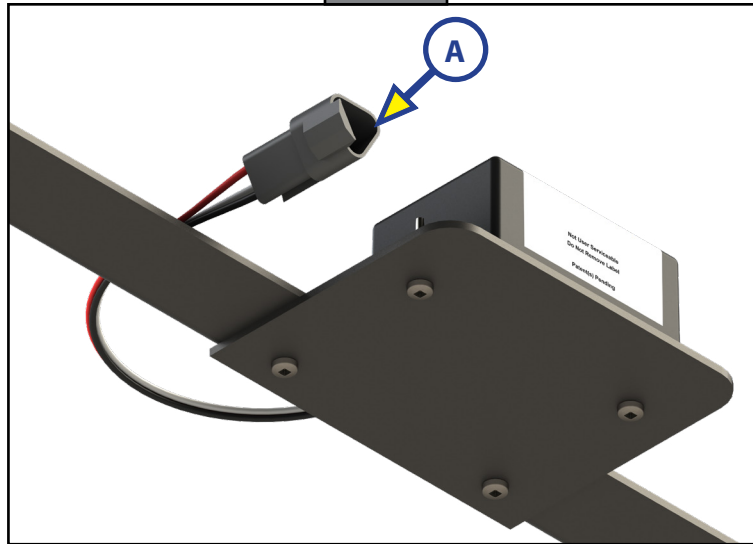
1. Locate the rear sensor in the underbelly of the 5th Wheel.

⚠ CAUTION

Do not cut any hoses or wires that may be installed in the underbelly.

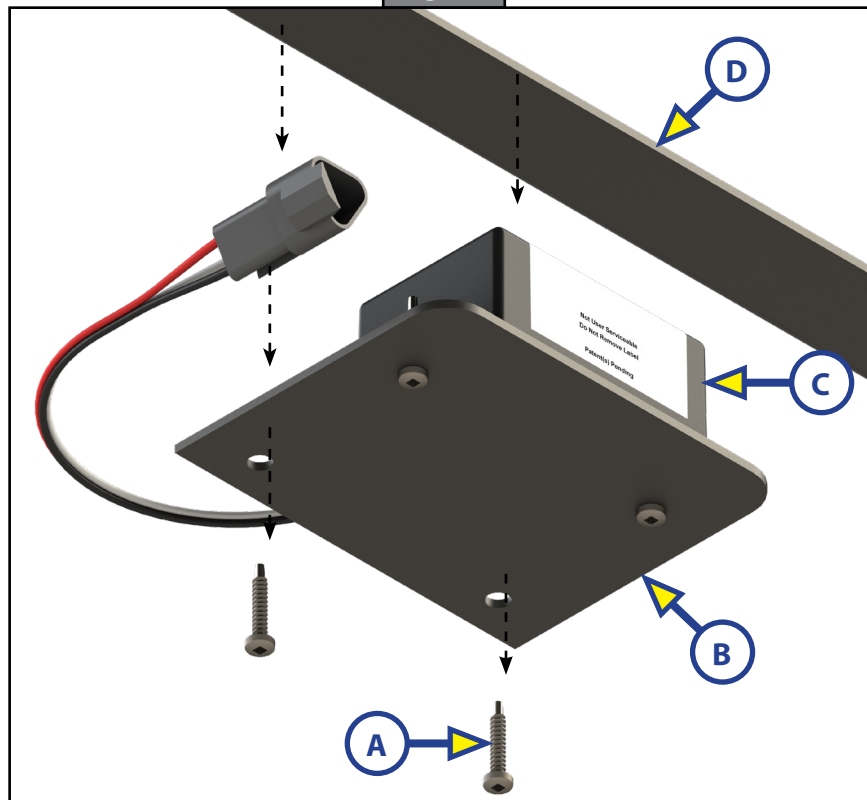
2. Cut an access panel in the underbelly using a knife. The rear sensor should be installed on the crossmember located at the rear of the back axle, centered curbside-to-roadside on the 5th Wheel.
3. Disconnect the rear sensor harness from the rear sensor (Fig. 19A).

Fig. 19

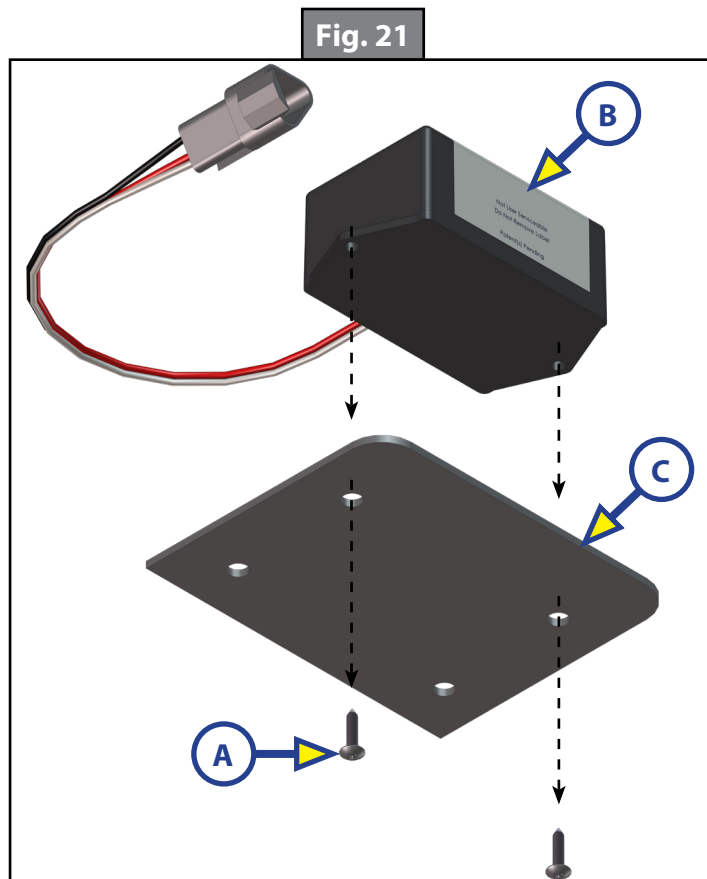


4. Remove the screws (Fig. 20A), mounting plate (Fig. 20B) and sensor (Fig. 20C) from the crossmember (Fig. 20D).

Fig. 20



5. Remove the screws (Fig. 21A) from the rear sensor (Fig. 21B) and mounting plate (Fig. 21C) and remove the old sensor from the mounting plate.

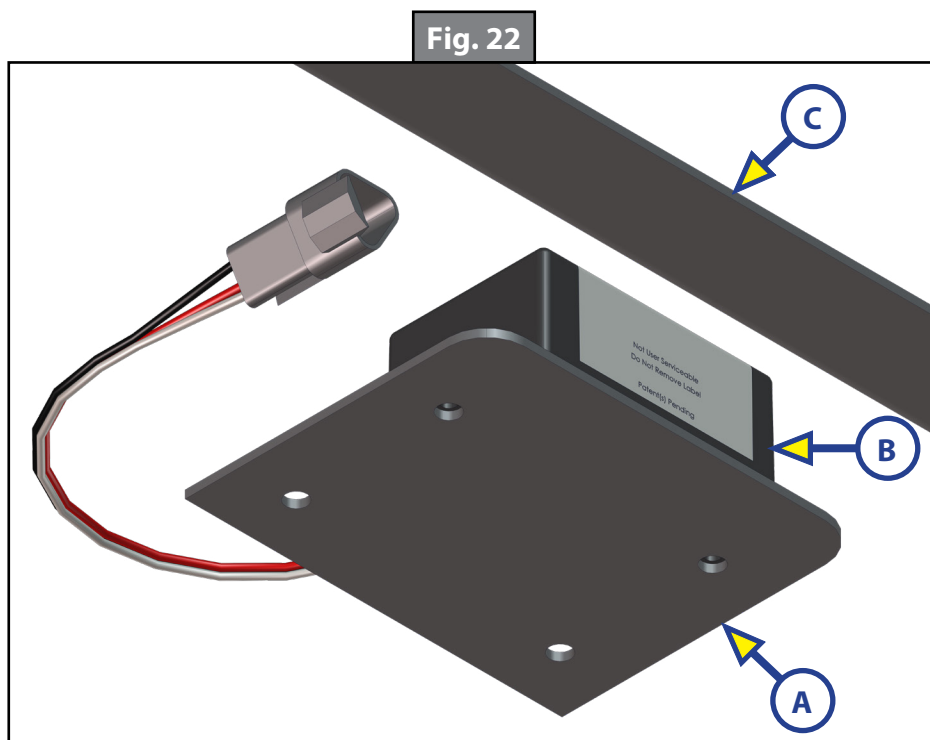


6. When installing a new rear sensor, dry-fit the mounting plate (Fig. 22A) and the new rear sensor (Fig. 21B) to the cross-member (Fig. 21A).

NOTE: The pre-drilled holes in the plate are for mounting the rear sensor to the plate.

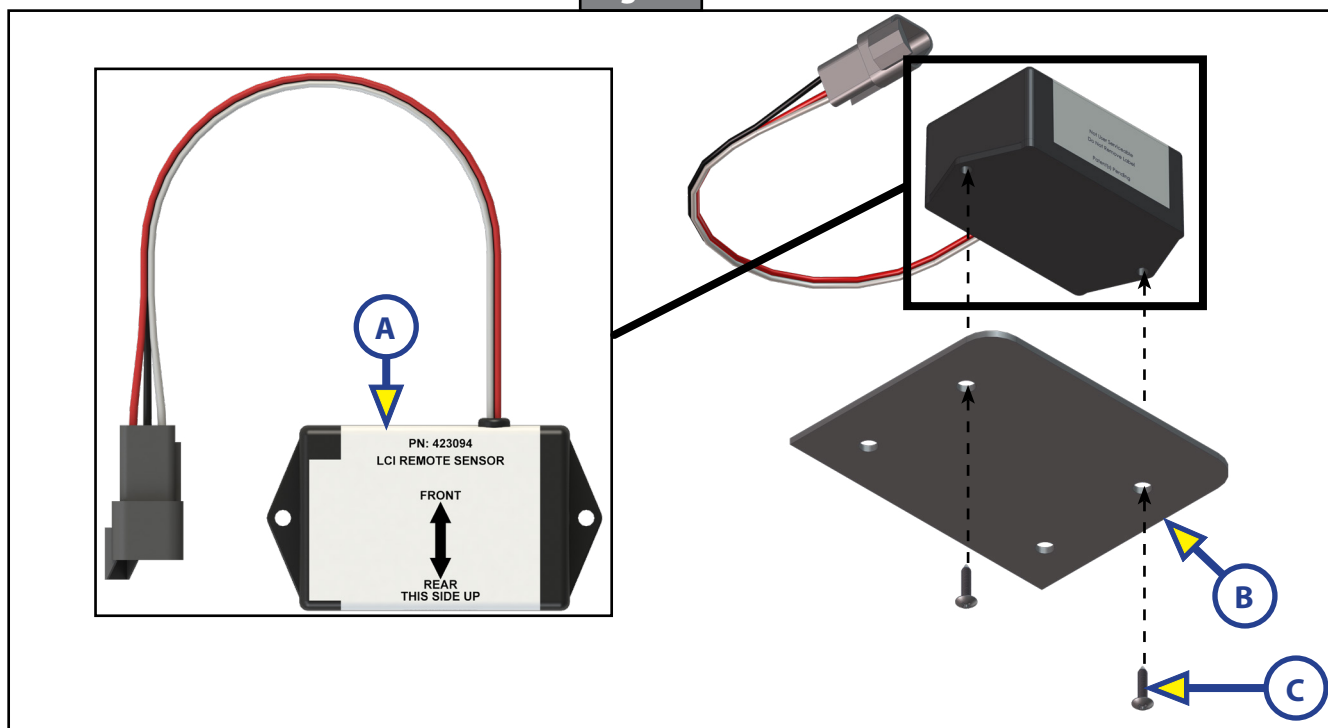
7. Mark on the plate where the rear sensor will set.

NOTE: Space between the sensor and the crossmember must be left so the wire harness will not be pinched.



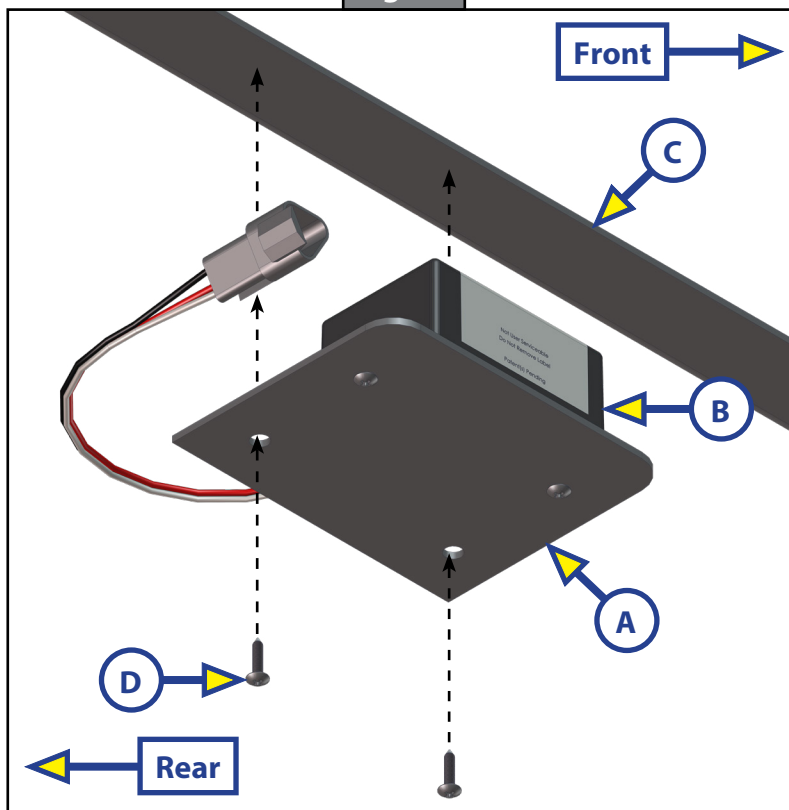
8. Attach the replacement rear sensor (Fig. 23A) to the mounting plate (Fig. 23B) using two $\frac{3}{8}$ " hex head self-tapping screws (Fig. 23C). Proper orientation of the rear sensor is imperative for the correct operation of the leveling system.

Fig. 23



9. Attach the mounting plate (Fig. 24A) and replacement sensor (Fig. 24B) assembly to the crossmember (Fig. 24C) using two $\frac{3}{8}$ " hex head self tapping screws (Fig. 24D). Make sure the mounting plate is centered side-to-side on the frame and that the sensor is oriented properly (Fig. 24).

Fig. 24



10. Reconnect the rear sensor harness to the new rear sensor (Fig. 25A).
11. Run the harness through the frame and up to the compartment where the controller will be mounted.

NOTE: LCI recommends zip-tying the harnesses tight to prevent damage to the harnesses.

NOTE: If the LCD is displaying ERROR EXTERNAL SENSOR (Fig. 26A), this can be cleared by pressing the enter button (Fig. 26B) on the touchpad.

Fig. 25

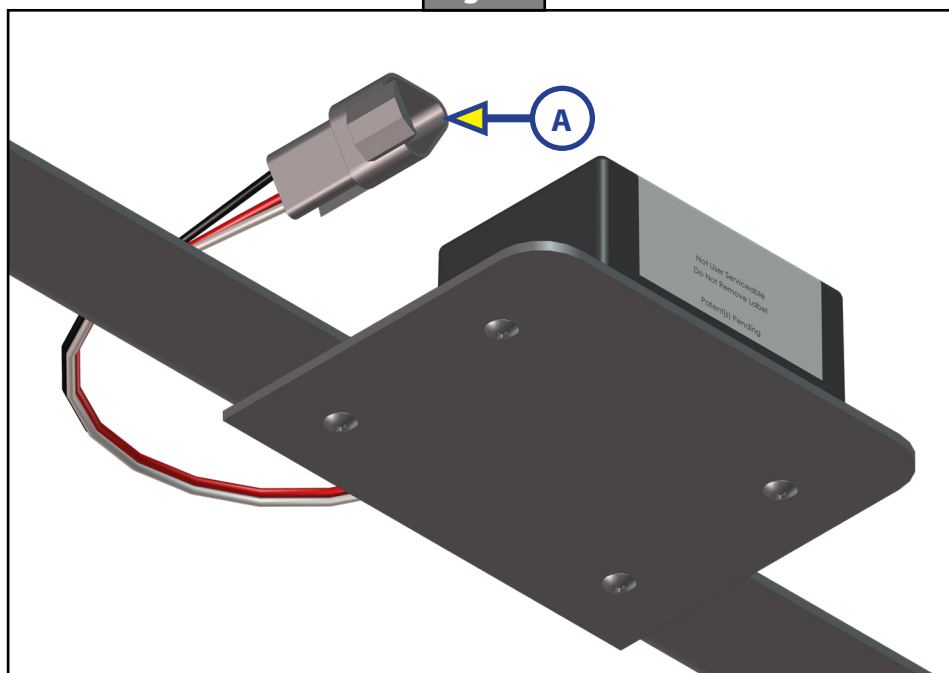


Fig. 26



Controller Replacement

1. Disconnect all jack harnesses from the controller.
2. Disconnect power and ground from the controller.
3. Remove the old controller from the ceiling of the compartment.
4. Using four #8 x 1" wood screws, attach the new controller (Fig. 27A) to the ceiling of the compartment, in the same position as the old, removed controller.
5. Make sure the controller is positioned directly in the center of the 5th Wheel with the arrow on the label of the controller facing the front of the 5th Wheel (Fig. 28A).

NOTE: Some 6-Point controllers do not have orientation arrows for the front of the 5th Wheel. When installing those controllers, make sure that the port labeled LEFT FRONT is pointing to the left-hand (roadside) front of the 5th Wheel. This will ensure proper orientation and function of the controller.

6. Attach the power and ground harness to the corresponding posts on the new 4-point controller or to the red (12V +) and black (ground) pigtail on the new 6-point controller.
7. Reconnect all jack harnesses to the appropriate connectors on the new controller.

NOTE: LCI recommends zip-tying the harnesses tight to prevent damage to the harnesses.

When components are added or replaced, the system will need to be homed.

1. Run the system by pressing the FRONT button (Fig. 1G).
 - A. A special jack error code should occur.
 - B. If not, introduce the special jack error code.
 - I. To introduce an error, disconnect one of the hall effect sensor wires from the controller.
 - II. After attempting to operate the disconnected jack, the touchpad screen will display an error.
 - III. Reconnect the hall effect sensor wire.
2. To clear the special jack error code, the jacks need to be homed. See Homing Jacks section.

Fig. 27

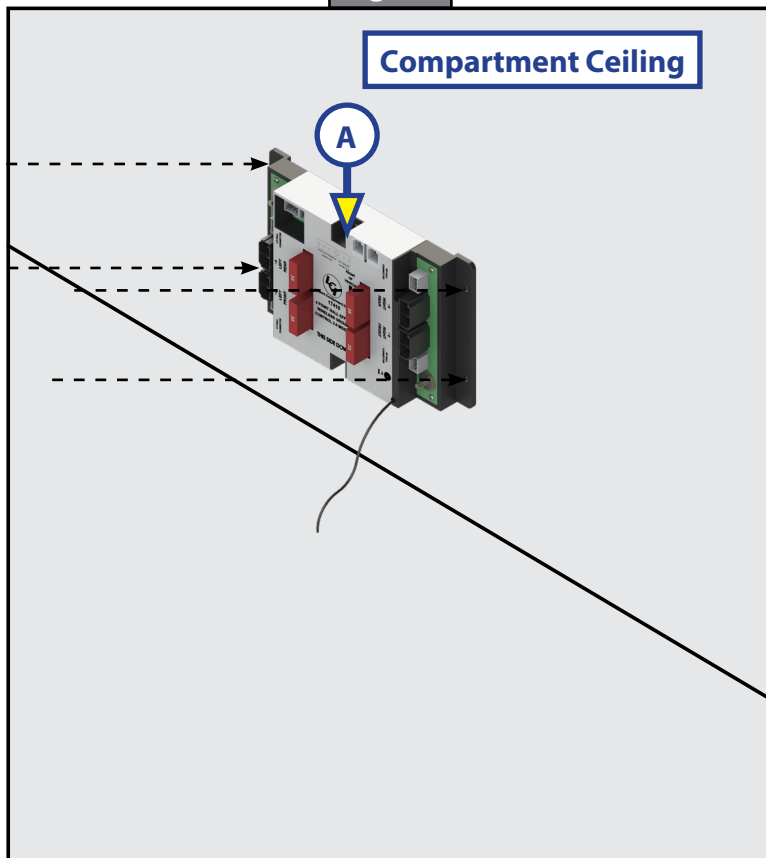
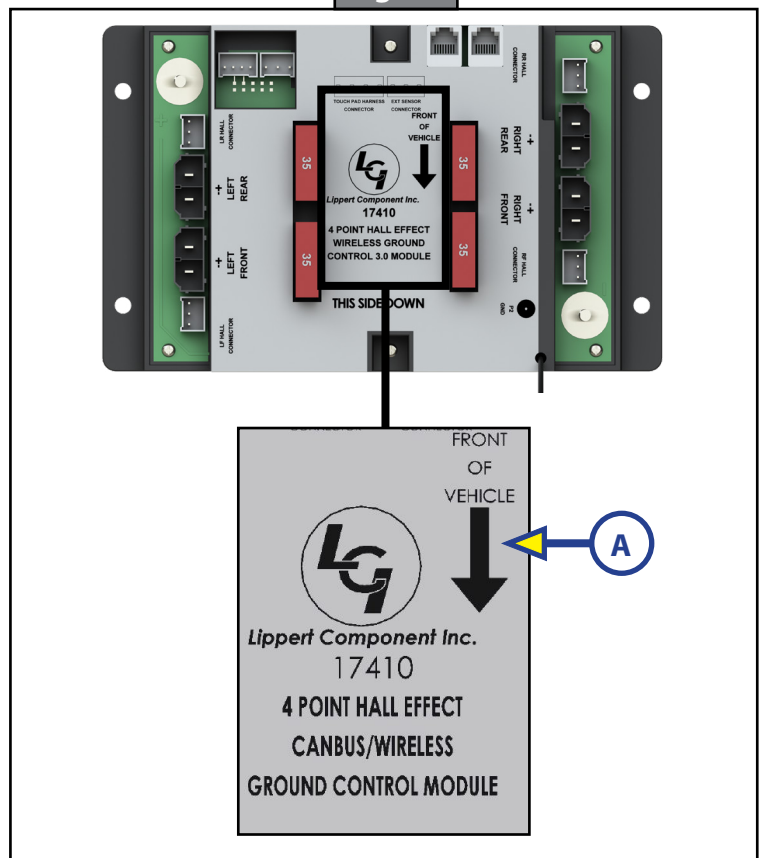


Fig. 28

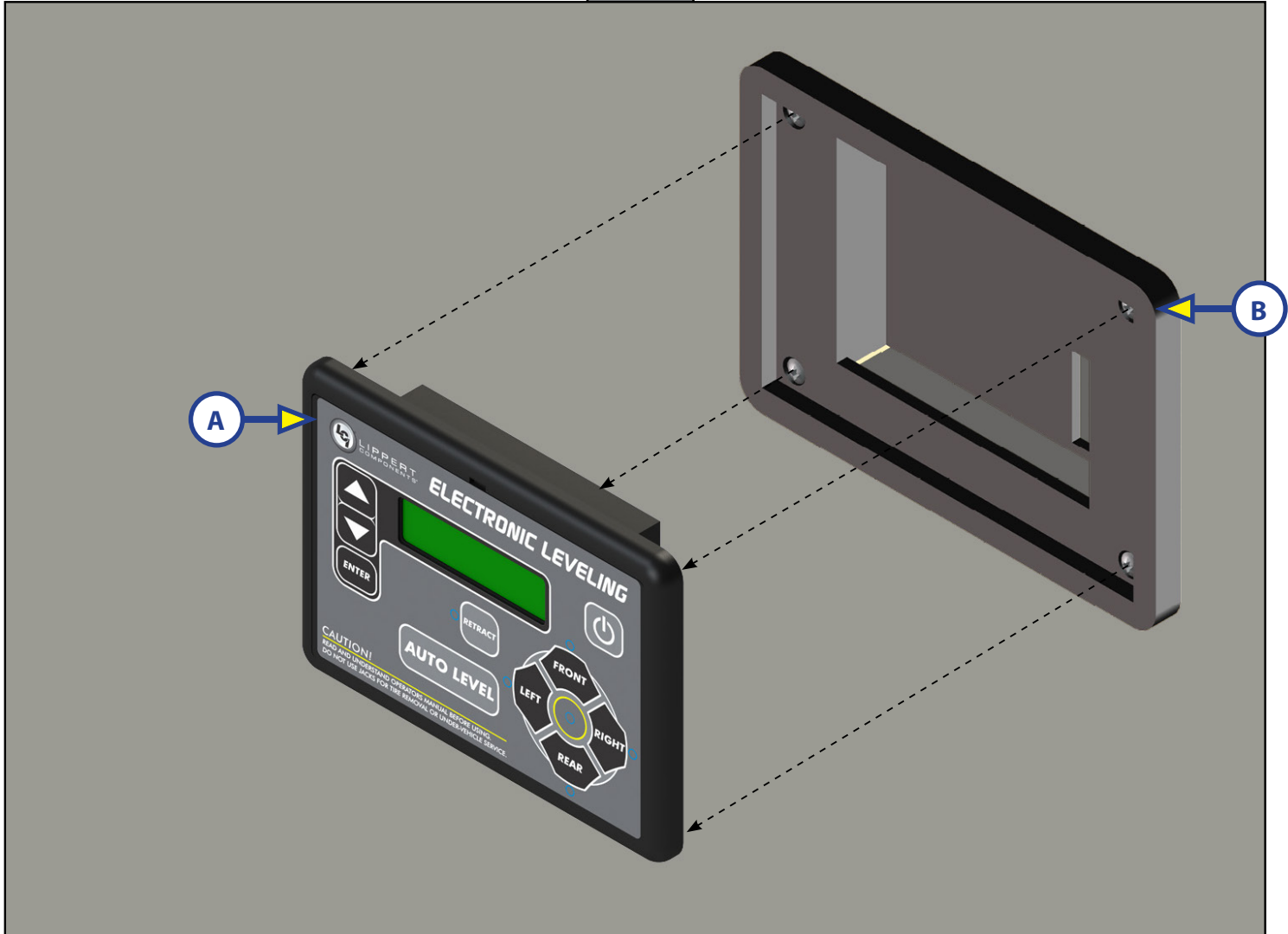


Touchpad Replacement

1. Remove the face plate of the touchpad (Fig. 29A) from the mounting bezel (Fig. 29B).
2. Unplug the harness from the connector on the back of the old touchpad face plate.
3. Plug the touchpad harness into the connector on the back of the new touchpad face plate, then snap the new face plate into the bezel.

NOTE: LCI recommends zip-tying the harnesses tight to prevent damage to the harnesses.

Fig. 29



Jack Motor Replacement

1. Disconnect the motor's cables from the system harness.
2. Using a $\frac{1}{2}$ " socket or wrench, remove the two motor retention bolts from the jack (Fig. 30A).
3. Remove the faulty motor from the top of the jack (Fig. 31).
4. Gently engage the new motor's drive coupler with the jack leg's drive shaft.
5. Reinstall and tighten motor retention bolts.
6. Reconnect system harnesses to the motor's cables.

NOTE: LCI recommends zip-tying the harnesses tight to prevent damage to the harnesses.

When components are added or replaced, the system will need to be homed.

1. Run the system by pressing the FRONT button (Fig. 1G).
 - A. A special jack error code should occur.
 - B. If not, introduce the special jack error code.
 - I. To introduce an error, disconnect one of the hall effect sensor wires from the controller.
 - II. After attempting to operate the disconnected jack, the touchpad screen will display an error.
 - III. Reconnect the hall effect sensor wire.
2. To clear the special jack error code, the jacks need to be homed. See Homing Jacks section.

Fig. 30

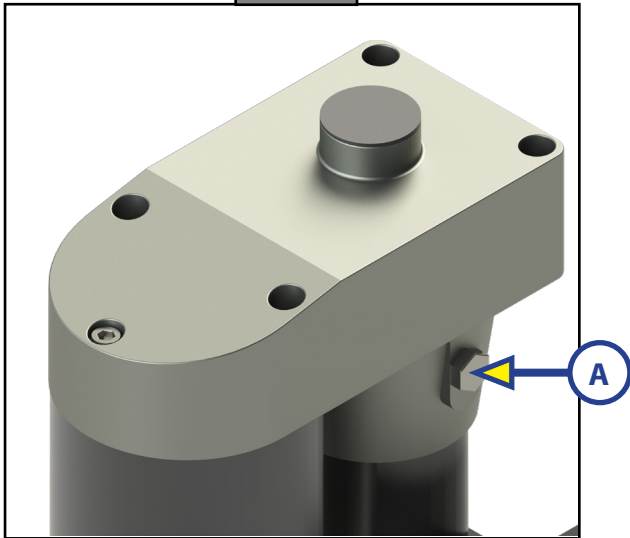
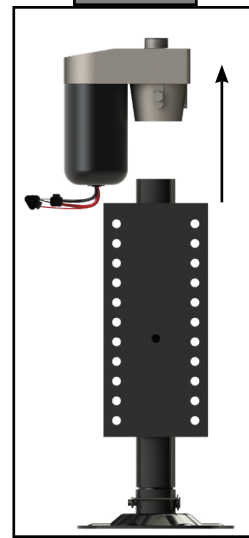


Fig. 31



Troubleshooting

When issues arise during auto sequencing, often the cause is from a component being plugged in wrong—level sensors mounted wrong, jack plugged in wrong at the controller and jack leg. However, these conditions may still auto level correctly when performed on a flat surface.

To ensure a good auto level sequence, do as follows:

1. Reset Zero Point.
2. Operate system in Manual Mode and observe the following:
 - A. Extend and retract front jacks—both jacks move.
 - B. Extend and retract rear jacks—both jacks move.
 - C. Extend and retract left (roadside) jacks—both jacks move.
 - D. Extend and retract right (curbside) jacks—both jacks move.
3. If any jack does not move, then it may be plugged into the wrong position. Correctly plug the inoperative jack into its designated position.

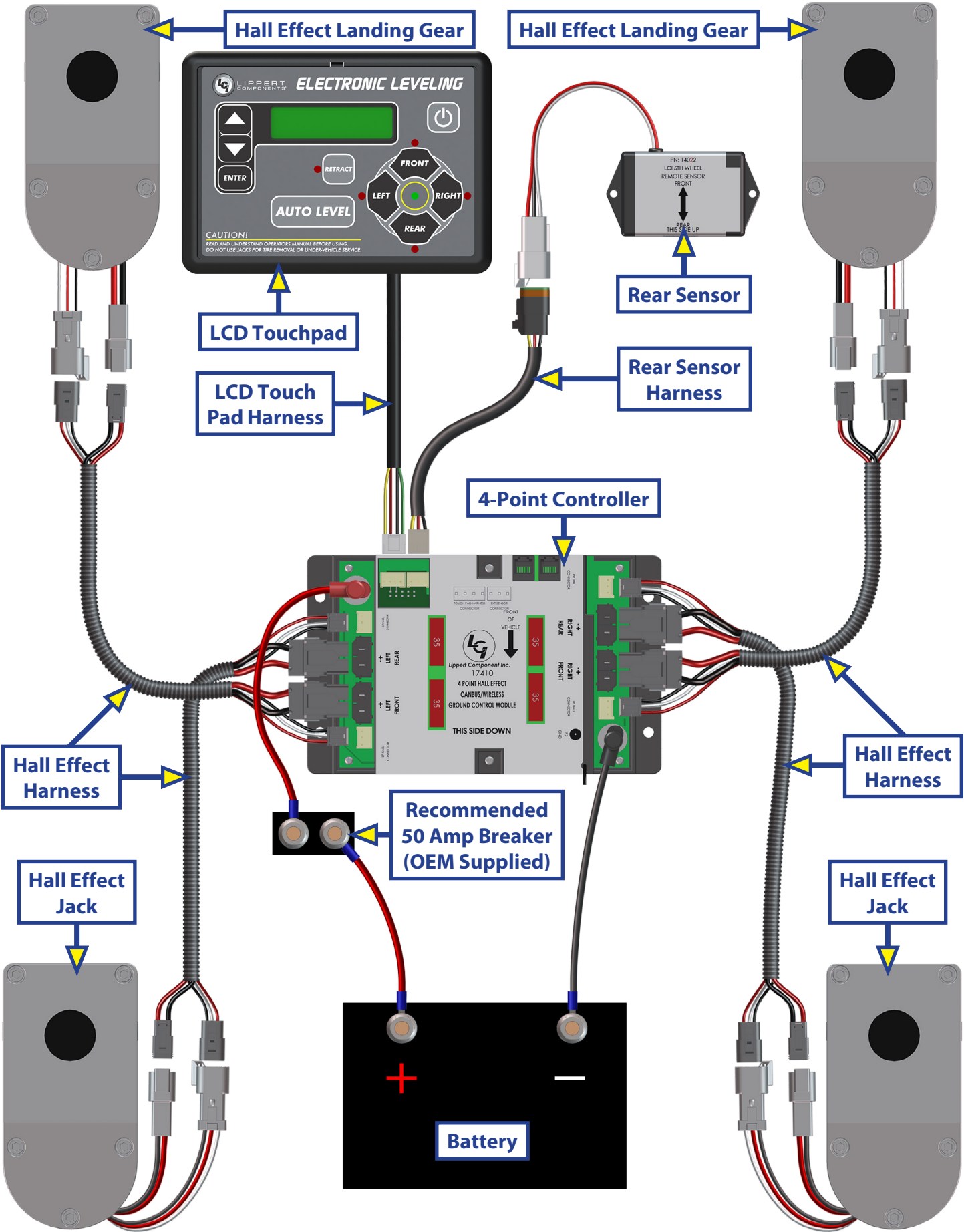
NOTE: A jack can be plugged into the controller correctly, but that does **NOT** mean the jack is plugged into the correct harness.

4. Visually inspect the controller and the rear sensor for secure, proper mounting and orientation.
5. Observe the touchpad's message, "Auto level success" or "Auto level fail."
 - A. A "fail" message simply means auto level was not achieved in the allotted time. Check the following possible causes for the "fail" message:
 - I. Low battery voltage
 - II. Excessive slope
 - III. Leg moving slower than normal
 - B. A "success" message suggests that the jacks touched the ground. Do as follows:
 - I. Again, visually inspect the rear level sensor for secure, proper mounting and orientation.
 - II. If rear sensor is securely and properly mounted in the correct orientation, then replace the sensor.
6. After correcting any of the conditions described in step 5, reset Zero Point. See Zero Point Calibration section.

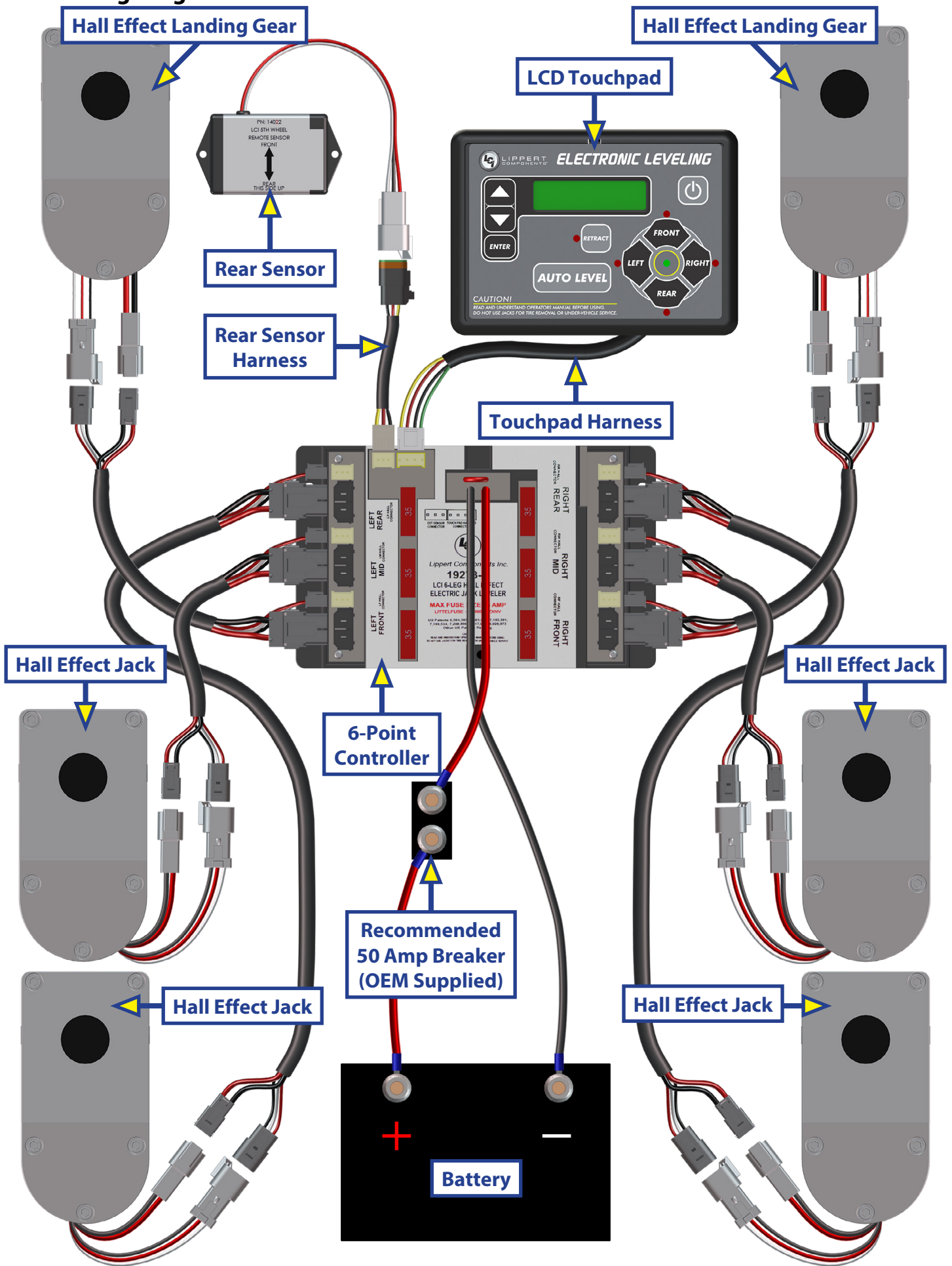
Maintenance

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. Clean, repair or replace terminals or battery as necessary.
3. Remove dirt and road debris from jacks as needed.
4. If jacks are down (extended) for long periods of time, it is recommended to spray exposed leveling jack rods with a silicone lubricant every three months for protection. If the 5th Wheel is located in a salty environment, it is recommended to spray the rods every four to six weeks.

4-Point Wiring Diagram



6-Point Wiring Diagram



[illegible]



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