



LIPPERT
COMPONENTS®

LEVEL UP™



Level-Up® Aftermarket Manual

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Quoting Level Up Systems

Manufacturer _____ Model _____ Length _____

Vin _____ Year _____

Chassis Construction Beam Tube Size (8", 10", etc.) _____

Drop Frame Yes No

of Axles _____

Alaska Ready Yes No

Hydraulic Rooms/ # Yes # _____ No

Landing Gear, Power Hydraulic Electric

Landing Gear Type Pin Pin-less

Landing Gear Construction Round Square

Landing Gear Location on Frame
Inside Outside

Generator Yes No

Generator Ready Yes No

Battery Placement _____

Power Unit Placement _____

Circuit Breaker Size _____ amp

Two Color Hose Yes No

Type of Controls Manual Electric

Power Unit Requirements ASSESSMENT
Vertical/Horizontal _____

Manifold Requirements _____

Valve Requirements _____

Electrical Requirements _____

Hose Requirements _____

Harness Requirements _____

Location Requirements _____

Hardware Requirements _____

Preparation

System Information

The patented six-point Level Up hydraulic leveling system levels an RV in less than a minute using a one-touch auto-leveling feature, and includes an auto re-hitch memory function that remembers the exact height at which the RV was unhitched. Uneven ground can cause a lot of problems and other leveling systems can stress and twist the chassis, damaging slide systems, sidewalls and windows. Level Up's patented design won't put undue stress on the chassis —Level Up's six-point leveling system incorporates leveling jacks before the front axle and behind the rear axle maintaining the integrity of the RV at all times.

Quick Facts

- One-touch automatic leveling
- Lightning-fast hydraulics
- Lightweight aluminum jacks
- Rock-steady, disturbance-free camping
- Wireless remote options available



Moving parts can pinch, crush, or cut. Keep clear at all times.



Ensure the coach is supported at all four corners according to manufacturer's specifications. Lift the coach by the frame and never the axle or suspension. Do not go under the coach unless it is properly supported. Unsupported coaches can fall causing death or serious injury.



1. Use the checklist on the previous page to provide a guideline for setting up the Level Up install.

2. Determine how and where the leveling jack brackets will be welded to the frame of the coach.

NOTE: The rear Level Up jacks should be mounted approximately 12 - 18 inches behind the rear tires, within the plane of the departure angle (Fig. 1), and aligned with each other. The front Level Up jacks should be mounted approximately 1 foot in front of the front tires. Front jacks can be offset up to 24 inches to clear obstructions, i.e. entry steps. Determine the location of the current power unit (if one is already on the coach) or where the new power unit and valve manifolds will be mounted.

3. Check for any obstructions that will require modification of the brackets prior to welding (slide-out cross shafts, outriggers, or manual override connections for slide-outs).

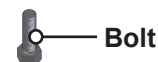
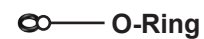
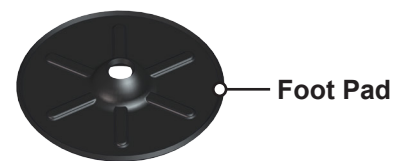
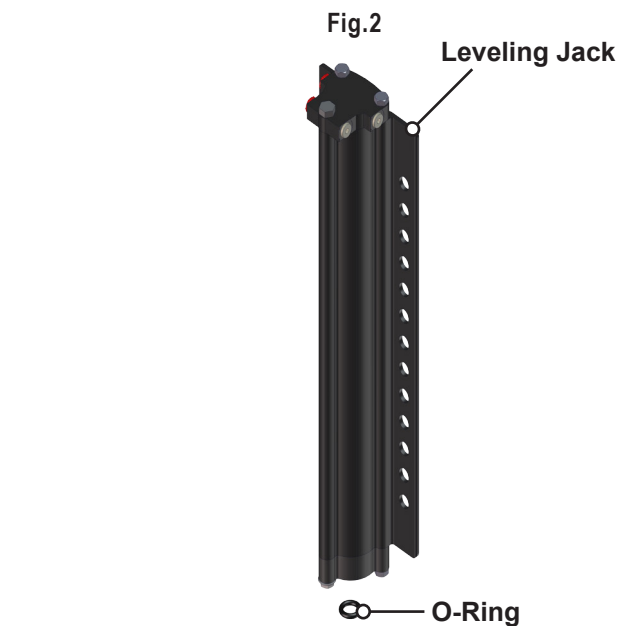
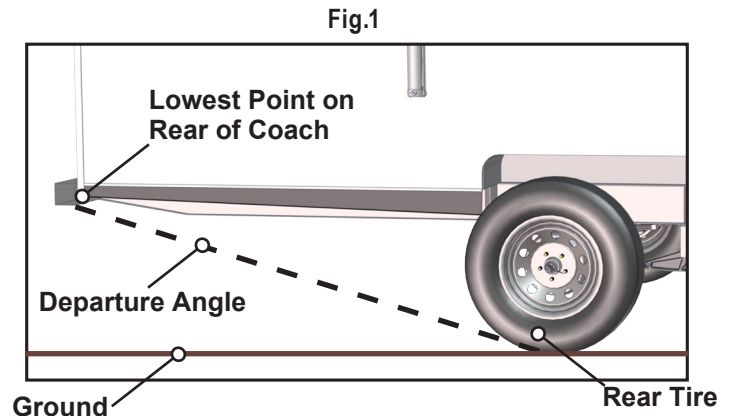
4. Extend all slide-out rooms. This will clear space for welding the Level Up brackets by moving the fender skirts out of the way.

5. Drop the underbelly from the outside edge of the unit. Start on the side closest to where the pump will be located and un-bolt the underbelly from the front of the unit to approximately 2 feet beyond the rear tire. On the opposite side of the unit, un-bolt the underbelly from approximately 2 feet behind the rear tire to approximately 2 feet in front of the front tire. Do not remove any bolts from the center of the underbelly. Do not drop the entire underbelly. Attaching and aligning the entire underbelly will be more difficult than working around the underbelly.

6. Locate and move any wires, hoses, etc. that could be damaged while welding the jack brackets to the frame. Check both inside and outside of the frame. Shields made of metal or wood can be used to push wires and hoses away from the frame area where welding is to be done.

7. Bolt the footpads to the jacks and torque to 132 ft-lb. Make sure to use Loctite® on the footpad bolts. See bolt in (Fig. 2) assembly for reference.

NOTE: Do not try to remove the bolt once it is tightened. Removing the bolt could result in damage to the cylinder.





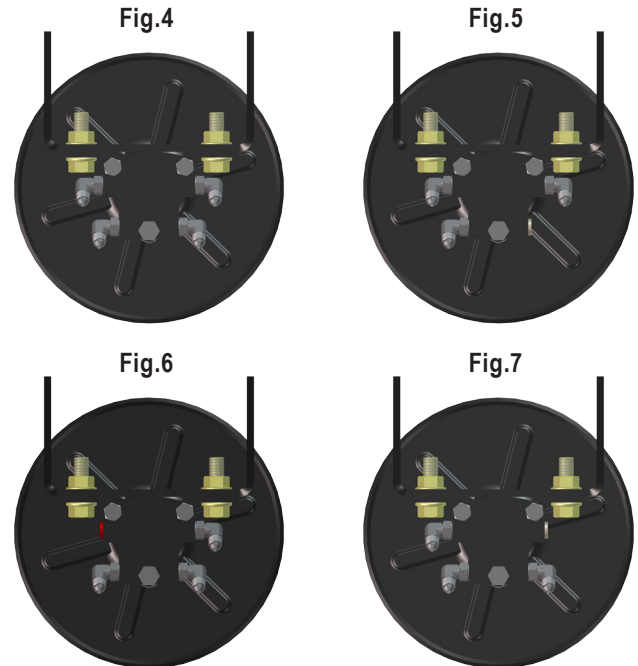
Installation

Rear Jacks

1. When fully retracted, the rear jacks **MUST** be mounted to achieve a minimum ground clearance equal to the departure angle (Fig. 1) 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.
2. Bolt the leveling jacks to the mounting brackets to achieve proper ground clearance. Make sure the bolts are tightened to the proper torque (52-64 ft/lbs). (Fig.3).



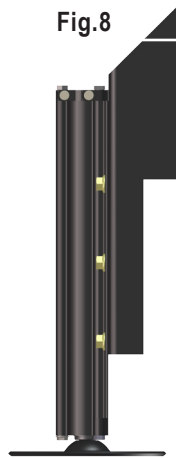
3. Identify power unit mounting location. This will determine the orientation of the hydraulic fittings. If the power unit is, or will be, mounted on the driver's side of the front compartment, the driver's side front leveling jack will be the first jack in the system.
4. Install hydraulic fittings to leveling jacks. See (Figs. 4-7) for details of fitting placement.
5. If no modifications to the jack brackets are necessary, skip to Step 9.



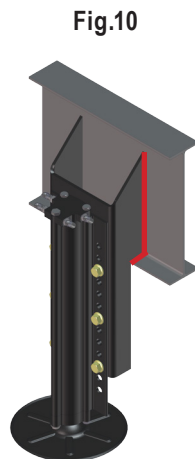
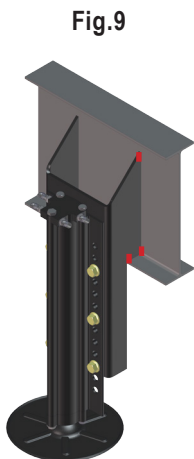
6. Dry fit the jack brackets to the chassis of the coach frame. The rear jacks must be mounted within the departure angle, should be aligned with each other from side to side, and mounted 12"-18" behind the rear tires on a tandem axle coach and right at the wheel on a tri-axle coach. The front jacks can be offset from each other side to side by up to 24" in order to fit the jacks around steps or other obstructions. The universal mounting brackets are designed to fit a 12" I-Beam with no modifications. However, the frame on the coach may not be 12" or there may be obstructions where the jacks are to be mounted. If that is the case, measure for the modifications you need to make to the jack brackets.



- 7. Mark the needed modifications on the jack brackets (Fig. 8).
- 8. Using a cutting torch or plasma cutter, cut the material from the bracket, being careful not to damage the leveling jack or fittings attached to it.

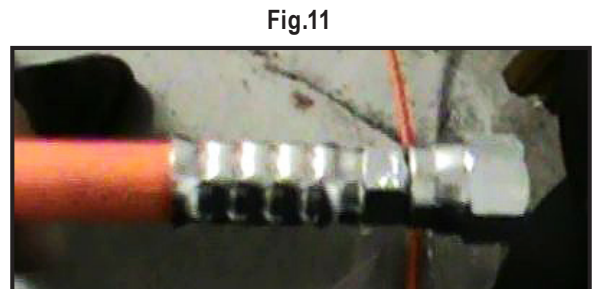


- 9. Fit the mounting bracket against the I-Beam, making sure that the bottom edge of the mounting flange is flush with the bottom lip of the I-Beam.
- 10. Tack weld the top and bottom corners of each side of the mounting flange (Fig. 9).
- 11. By implementing a 1/4" weld bead, fully weld the bracket to the I-Beam from top to bottom on both sides of the bracket (Fig. 10). Make sure to avoid any hoses or wiring that may be in the welding area.



- 12. Repeat this welding process for the remaining 3 leveling jacks.
- 13. Paint the mounting brackets and welded frame areas black.
- 14. Measure and make the hydraulic hoses (orange for extend, black for retract) (Fig. 11). Measure from the rear leveling jack to the front leveling jack. Add 3 feet to this measurement to ensure that there will be enough hose material to mount between jacks and prevent kinking. This will be the measurement for the extend and retract hoses between the two jacks on either side. For example, if the measurement is 9 ft., two 12 ft. orange hoses and two 12 ft. black hoses would be made. One 9 ft. black hose will need to be made to connect the two rear jacks on the retract plumbing.
- 15. Measure from the power unit location to the front leveling jack on the side of the coach closest to the power unit location. Add 3 feet to this measurement. This will be the length of the retract and extend hoses from the power unit to the front leveling jack on the side of the coach closest to the power unit. Add 6 feet to that length and make one extend hose to run from the power unit to the front leveling jack on the opposite side of the coach. All hoses must be run on top of the foil insulation inside the underbelly and over the top of any frame crossmembers. See the plumbing diagram for full details on the measuring, making, and installation of these hoses.

NOTE: When running the hoses from the power unit to the rear leveling jacks, bundle them together with the harness for the rear sensor and run them all at once.



Proper hose crimping example



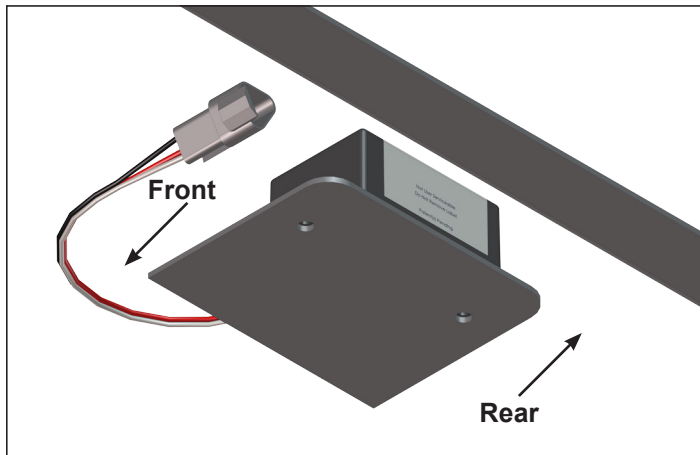
16. Secure all hoses to the proper fittings on each jack. Orange hoses connect to the fittings closest to the frame. Black hoses connect to the fittings farthest away from the frame. See also the plumbing diagram for a color coded illustration of the hose orientation.

Rear Sensor

The rear sensor must be installed on the crossmember to the rear of the back axle, centered from curbside to roadside on the unit with the arrows on the top of the sensor pointing the correct direction. Orientation is imperative for the correct operation of the leveling system (Fig. 12).

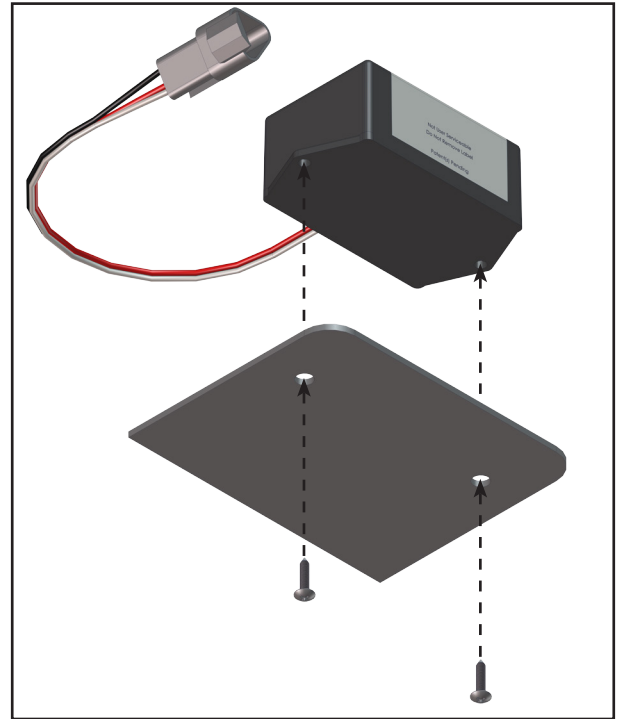
1. Dry fit the mounting plate and the rear sensor to the crossmember. The pre-drilled holes in the plate are for mounting the rear sensor to the plate. Space between the sensor and the crossmember must be left so the wire harness will not be pinched.

Fig.12



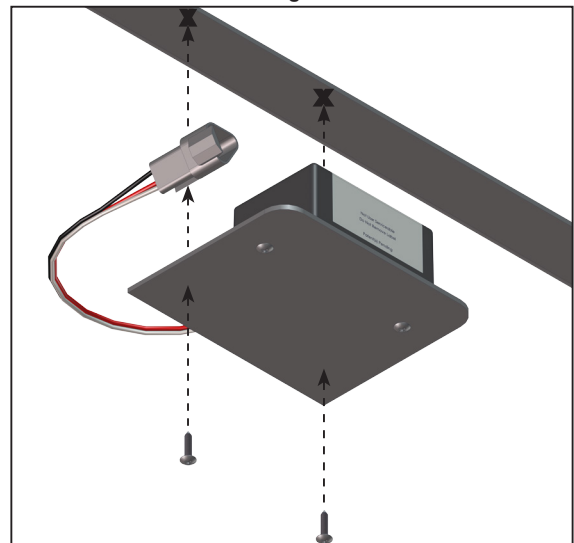
2. Attach the rear sensor to the mounting plate using two #8 x 1" self tapping screws (Fig. 13).

Fig.13



3. Attach the mounting plate and rear sensor assembly to the crossmember using two 3/8" hex head self tapping screws. Ensure that the plate is centered side to side on the frame and that the sensor is oriented properly (Fig.14).

Fig.14





4. Connect the rear sensor harness to the connector on the rear sensor and run the harness through the frame and up to the compartment where the controller will be mounted.

Front Landing Gear

1. Remove old landing gear. If necessary, cut holes in the floor pan of the front compartment to create more clearance to install the new landing gear. Cover plates are included in the parts kit to cover the holes.
2. Weld mounting bracket to I-beam (Fig. 15).

NOTE: When installing this system on a smaller frame, tack welding the nuts on the backside of the mounting bracket prior to welding the bracket to the frame will simplify tightening the bolts when mounting the jacks.

3. Paint the mounting brackets and welded frame areas black after the welds have cooled.
4. Slide the jacks into position on the mounting brackets. On a straight frame, the jack should be positioned as low as possible while maintaining at least 12" of ground clearance when in the retracted position. On a drop frame, the jack should be placed as high as possible in order to maintain at least 12" of ground clearance. Use six bolts and nuts to attach the jack to the mounting bracket (Fig. 16).

Fig.15

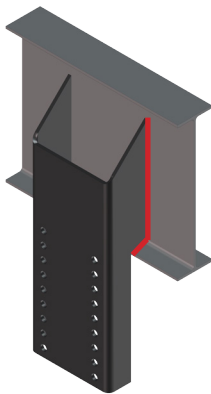


Fig.16



NOTE: Be sure to not cross thread the bolts and nuts.

5. Install the JIC hydraulic fittings into the landing gears. (See Plumbing Diagram for orientation).
6. Install the cartridge valve and spade coil assembly into the lead landing gear (Fig. 17).

NOTE: A sparkproof valve coil (Fig. 17 Detail) may be required if the landing gear is installed in an LP compartment.

Fig.17

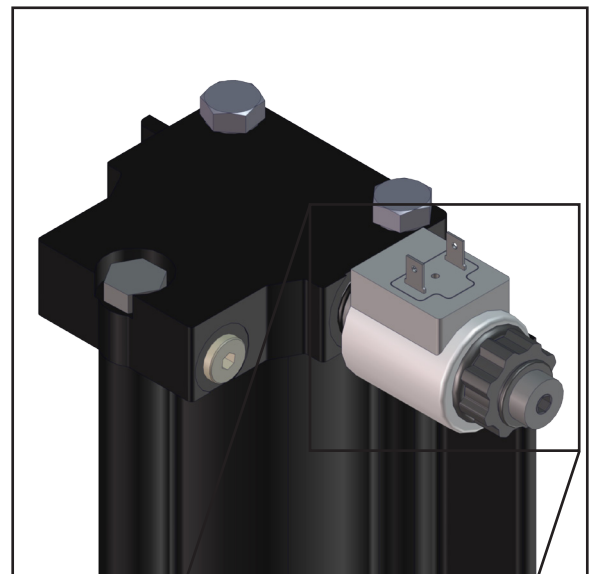
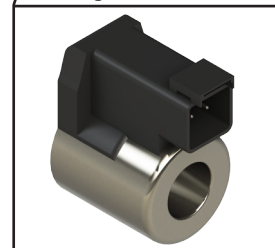


Fig. 17 Detail

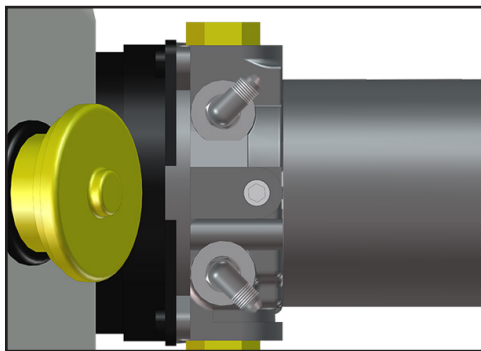




Power Unit

1. The power unit mounting location was determined when the coach was first inspected. Mount the power unit to the back or side wall of the front compartment in the position you previously determined using six (6) self tapping screws.
2. Install hose fittings into the power unit (Fig. 18). The two ports are marked DN and UP. DN = Extend. UP = Retract.

Fig.18



Fittings installed in power unit

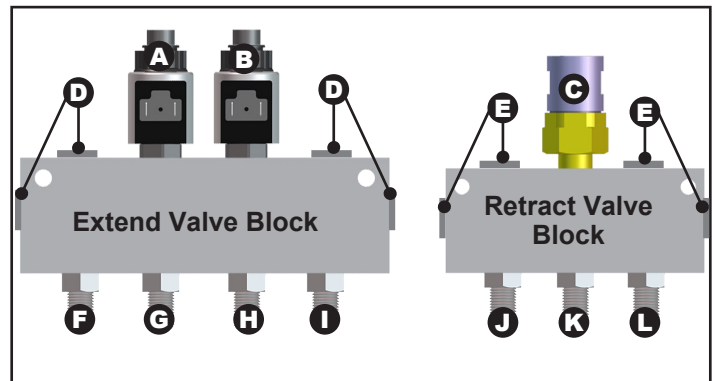
Assembling and Mounting the Valve Blocks

1. Install two valve and coil assemblies in the Extend Valve block (Fig. 19A & 19B) in the two center ports.
2. Install 4 straight JIC (Fig. 19F, G, H, I) adapters into the 4 ports across from the two valves you previously installed. Install plugs (Fig. 19D) (removed from leveling jacks) into the remaining ports.
3. Install the Pressure Switch (Fig. 19C) in the center port of the retract valve block. Install 3 straight JIC fittings (Fig. 19J, K, L) into the 3 ports across from the pressure switch you previously installed. Install plugs (Fig. 19E) (removed from leveling jacks) into the remaining ports.
4. Cut a piece of 3/4" thick plywood into a rectangle large enough to mount both valve blocks.

5. Mount the valve blocks to the plywood using 3" screws. Only drive the screws far enough into the plywood to hold the valve blocks in place. Do not pierce the back side of the plywood. Mount the plywood to the back or side wall of the front compartment next to the pump assembly using the screws already holding the valve blocks in place.

NOTE: Do not overtighten mounting screws. Overtightening may deform or damage the valve blocks causing them to malfunction or leak.

Fig.19

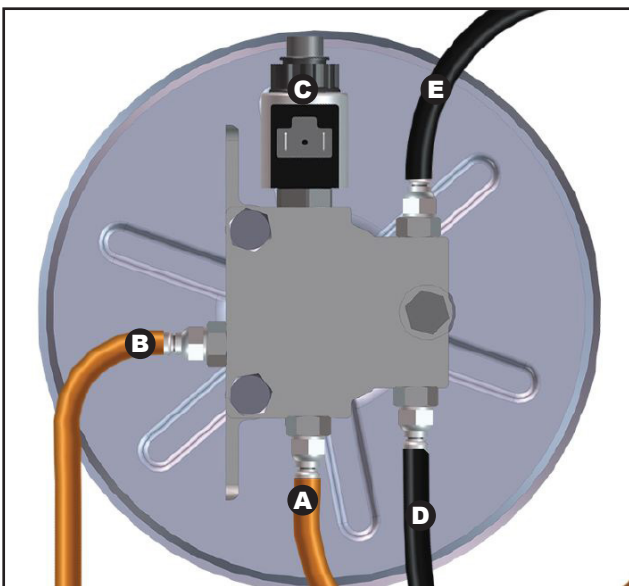


Hydraulic Hoses

1. Connect the rear extend hoses (orange) to the JIC fitting in the extend valve block directly opposite of the two valves, (Figs. 19G & 19H). Orientation is not critical at this point, the valve coil wires can be switched to correct the function.
2. Connect the rear retract hose (black) to the JIC fitting in the retract valve block directly across from the pressure switch, (Fig. 19K).
3. Make hoses to connect the power unit to the valve blocks. 3' lengths should be sufficient; one (1) extend (orange) hose, and one (1) retract (black) hose.
4. Connect the extend hose to the extend (DN) side of the power unit, and then to the JIC fitting on the extend valve block closest to the power unit, (Fig. 19F).
5. Connect the retract hose to the retract (UP) side of the power unit, and then to the JIC fitting on the retract valve block closest to the power unit, (Fig. 19J).

6. Make hoses to connect the valve blocks to the lead landing gear. Six-foot lengths should be sufficient; one (1) extend (orange) hose and one (1) retract (black) hose.
7. Connect the extend hose to the final JIC fitting on the extend valve block, (Fig. 19I) to the JIC fitting directly across from the cartridge valve and coil assembly that is installed on the lead landing gear, (Fig. 20A).
8. Connect the retract hose to the final JIC fitting on the retract valve block (Fig. 19L) to the JIC fitting in the retract port on the lead landing gear (Fig. 20D).
9. Make hoses to connect the lead landing gear to the follow landing gear. Nine-foot lengths should be sufficient: one (1) extend (orange) hose, and one (1) retract (black) hose.
10. Connect the extend hose to the JIC fitting in the rear of the lead landing gear (Fig. 20B) and then to the JIC adapter in the extend port of the follow landing gear.
11. Connect the retract hose to the JIC fitting in the other retract port of the lead landing gear (Fig. 20E) and then to the fitting in the retract port of the follow landing gear.

Fig.20



Wiring the System

NOTE: Refer to the wiring diagram (Page 17, Fig. 40) throughout this section.

NOTE: The Level Up system wiring is basically a plug and play system. Your kit should include harnesses for the entire system. If it does not, contact Lippert Components to have the proper harnesses shipped to you.

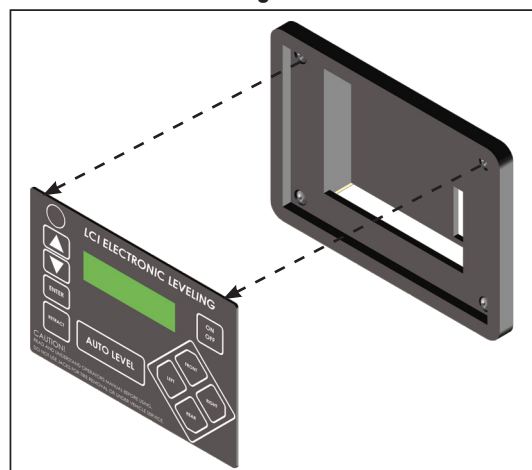
1. Install the controller to the ceiling of the front compartment. It must be centered side to side, and oriented according to the arrows on the controller label.
2. Connect the rear sensor harness to the matching port on the controller.

NOTE: Each connector on the controller is a different shape and has a different number of pins. Each harness that connects to the controller can only be connected in one specific way. This prevents the installation of the wrong harness in the wrong connector.

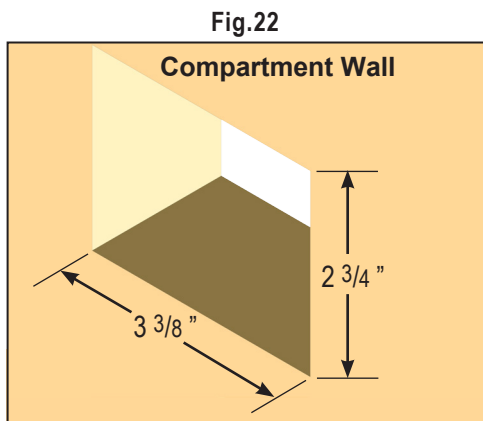
Touch Pad

1. Determine where to mount the touch pad. The touch pad should be mounted in a compartment on the side of the unit so the operator will have a view of the hitch pin while using the touch pad.
2. Remove the face plate of the touch pad from the mounting bezel (Fig. 21).

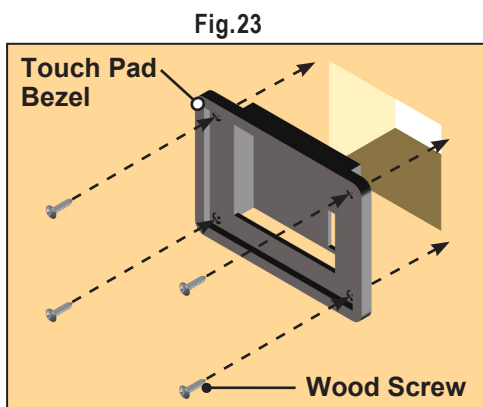
Fig.21



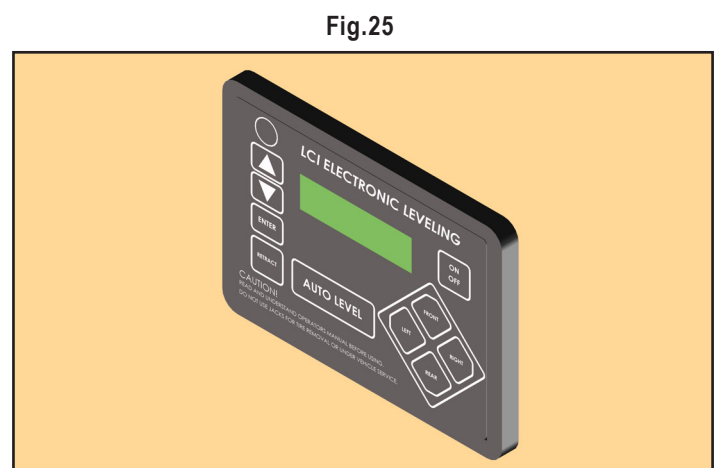
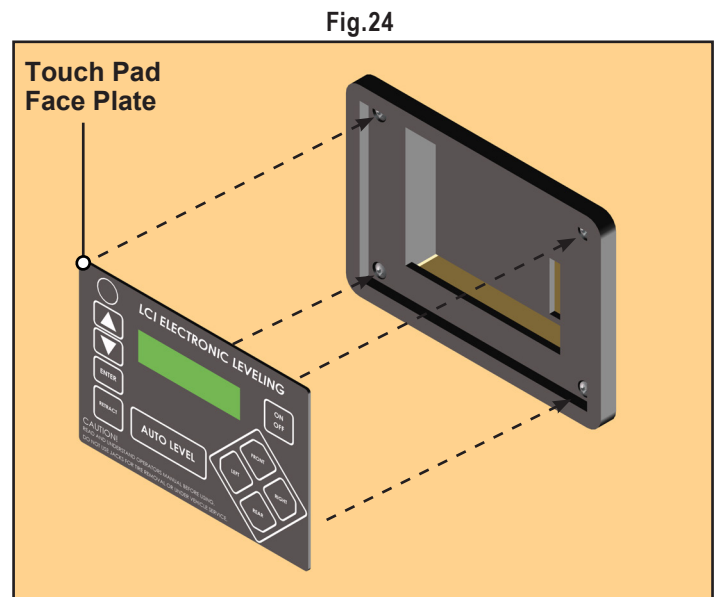
- Cut a hole in the wall of the compartment 3 3/8" wide by 2 3/4" high so the top and bottom horizontal cuts are parallel to the floor of the compartment (Fig. 22).



- 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.
- Insert the touch pad bezel into the cutout and attach it with four #8x1" wood screws with sufficient length to thread into the compartment wall (Fig. 23).



- Plug the touch pad harness into the connector on the back of the touch pad face plate and snap the face plate into the bezel (Figs. 24 and 25).



- The last harness to connect is the one that powers and controls the system. One end will have two connectors that plug into the controller, a 9-pin and a 6-pin, and the other will have eight color coded wires.
- Connect the 9-pin and 6-pin connectors to the proper ports on the controller.



9. Connect a ground wire from each of the valve coils to the ground post on the dual polarity solenoid.
10. Connect a ground wire from the ground post on the dual polarity solenoid, to a grounding bolt on the frame of the coach. This will ground the entire system.

NOTE: These grounding wires are installer supplied.

11. Connect a power wire to the center post of the dual polarity solenoid. Mount an 80 amp circuit breaker to the back wall of the front compartment. Connect the power wire from the dual polarity solenoid to the AUX end of the 80 amp breaker. Connect another power wire to the BAT side of the 80 amp breaker and run that to the battery or buss breaker battery hookup.

NOTE: Shore power (plugged in) does not operate the Level Up System as shore power is alternating current. The unit must be connected to a 12V battery, the correct source of direct current for the power unit.

Purging the System

NOTE: Refer to the Plumbing Diagram (Page 18, Fig. 41) throughout these instructions.

1. Fill the pump reservoir with recommended fluid to about 3/4 full. Make sure the unit is supported at the hitch pin, and remove the corner supports. Be sure any stabilizer jacks have been retracted.
2. Disconnect hoses A and B from the lead landing gear.
3. Remove hoses C and D from the valve blocks and connect C to where A was removed and D to where B was removed from the lead landing gear. You have now connected the power unit directly to the lead landing gear. This will allow you to purge air from the two landing gear jacks without pushing the air into the leveling jacks.
4. Manually extend the landing gears until they just touch the ground. Do not try to lift the unit at this point. Manually retract the jacks fully.

5. The fluid in the reservoir will now be full of air and there will be foam rising to the top of the fluid. Leave the fill cap off of the reservoir to allow the air to escape from the fluid. Do not try to activate the system again until the fluid in the reservoir has returned to its normal condition.
6. Manually extend the landing gear again, this time to their full stroke.
7. With the landing gear fully extended, remove the retract hose from the landing gear and reattach it to the valve block. Reattach the retract hose you removed in Step 2 to the landing gear.
8. Fully retract the landing gear and then remove the extend hose from the lead landing gear and reattach it to the valve block. Reattach the extend hose you removed in Step 2 to the landing gear.
9. Manually extend the landing gear until they just touch the ground. Do not try to lift the unit at this point. Repeat this process for the left and right leveling jacks. Again, do not try to lift the vehicle.
10. Add fluid to the reservoir until it is half full.
11. Scroll up on the interface until you see "AUTO RETRACT Press Enter to begin." Press Enter.
12. This will retract all the jacks and landing gears. You will hear many popping sounds as air is being flushed from the jacks.
13. The display should read "READY: JACKS UP" at this point.
14. The fluid in the reservoir will now be full of air. Leave the fill cap off of the reservoir to allow the air to escape from the fluid.
15. While that is happening, you can reattach the underbelly to the frame, being sure not to pinch or screw through any of the hydraulic hoses.
16. Once the fluid has returned to its normal color (red), add more fluid to the reservoir until the level is about 1/2" below the fill cap.



17. Manually extend the landing gear until they just touch the ground. Do not try to lift the unit at this point. Repeat the process with the left and right leveling jacks. Again, do not try to lift the unit with the jacks at this point.
18. Scroll up on the interface until you see "AUTO RETRACT Press Enter to begin." Make sure the front of coach is properly supported. Press Enter. This will retract all the jacks and landing gear. You may hear more popping sounds as air is still being flushed from the jacks.
19. The display should read "READY: JACKS UP" at this point.
20. The fluid in the reservoir will again be full of air. Leave the fill cap off of the reservoir to allow the air to escape from the fluid.
21. While this is happening, use zip ties to secure the wiring and hydraulic hoses in the front compartment in a neat and orderly manner.
22. Repeat the manual extend and auto retract steps at least one more time. The end goal is that when the jacks retract, no air will be present in the reservoir.

Zero Point Calibration

The "Zero Point" is the programmed point that the unit 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. Manually run the jacks to level the unit. This is best achieved by placing a level in the center of the unit 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 unit is level, turn off the touch pad.
3. With the touch pad off, press and release the "FRONT" button ten (10) times and then press and release the "REAR" button ten (10) times.

4. The touch pad will flash and beep and the display will read "ZERO POINT CALIBRATION ENTER to set, Power to Exit" (Fig. 26).
5. To set the current position as the zero point, press the "ENTER" button.
6. LCD display will read "Zero Point stability check" (Fig. 27).
7. LCD display will read "Zero point set successfully" once process is complete (Fig. 28).
8. The system will set this point as its level state and the touch pad will turn off.

Fig.26

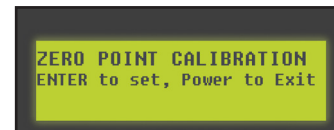


Fig.27

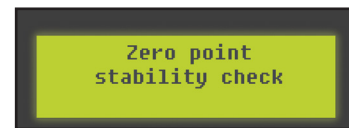
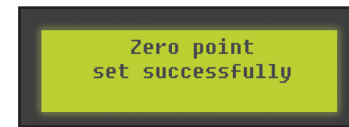


Fig.28





Operation

Unhitching from Tow Vehicle

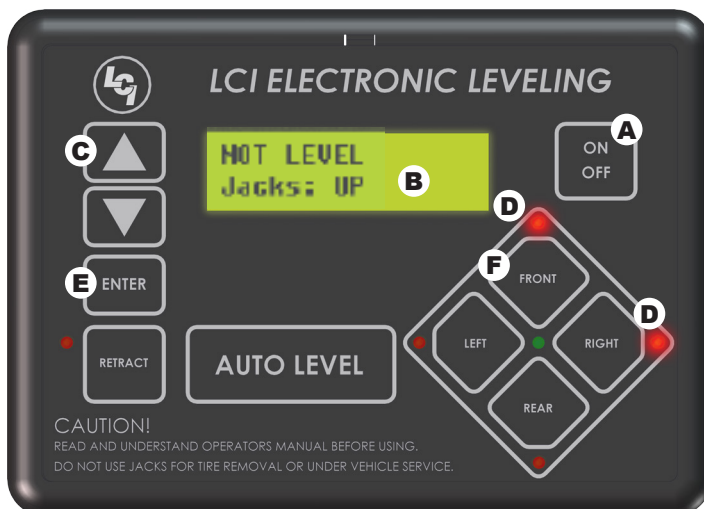
NOTE: Prior to unhitching from the tow vehicle, ensure unit is parked on a level surface and be sure to chock the tires of the unit.

1. Push "ON/OFF" (Fig. 29A). LCD Screen will light up and display "NOT LEVEL JACKS: UP" (Fig. 29B).

NOTE: Red indicator lights (Fig. 29D) may come on, indicating the current disposition of the unit. In this case, the front and right sides of the unit are low.

2. Push the "FRONT" button (Fig. 29F) extending the front landing gear to a sufficient height, which raises the front of the unit off of the tow vehicle's 5th wheel hitch plate.
3. Uncouple from the tow vehicle. Pull tow vehicle away and park at a safe distance.

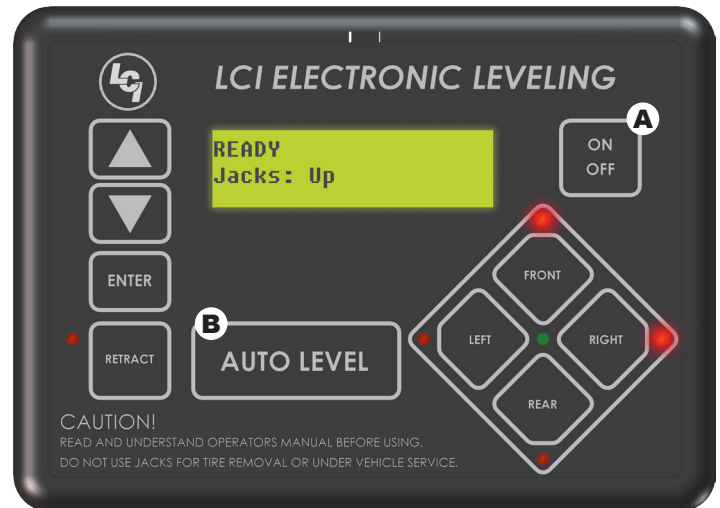
Fig.29



Auto Level

1. After unhitching from tow vehicle, and parking the vehicle at a safe distance away from the unit, press the "ON/OFF" button (Fig. 30A) and then press "AUTO LEVEL" (Fig. 30B).

Fig.30



NOTE: Once the automatic leveling cycle has been started, it is important that there is no movement in the coach until the unit 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: In order for the hitch recognition feature to function, the auto level sequence must be started with the front of the unit above level.

Auto Level Sequence

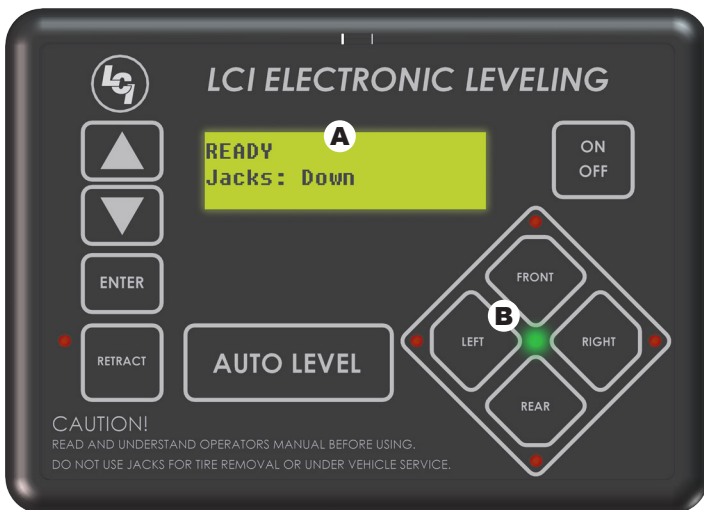
1. When Auto Level Sequence begins, the front of the unit will lower slightly to a point below level. The coach will then stop and raise up to the point where it is level from front to rear.
2. Rear leveling jacks are grounded.
3. A side to side leveling sequence occurs.
4. Each jack will perform a final grounding touch.
5. LCD will read "AUTO LEVEL SUCCESS" (Fig. 31).
6. LCD will then read "READY JACKS: Down" (Fig. 32A), and



Fig.31



Fig.32



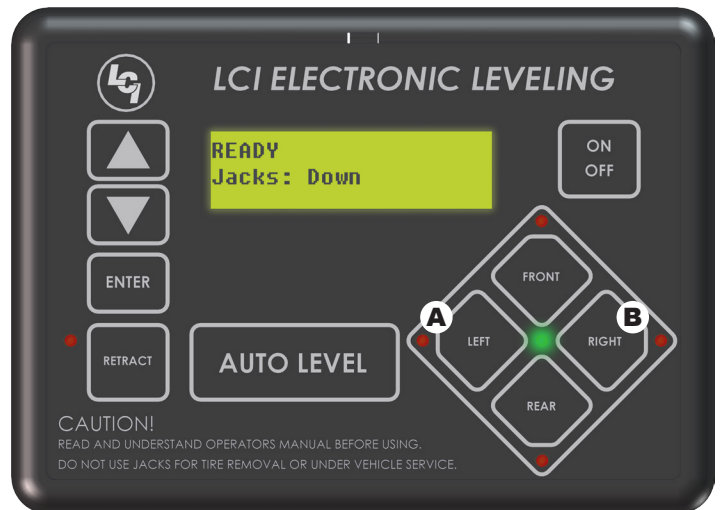
the green LED at the center of the four jack buttons will be illuminated (Fig. 32B).

NOTE: If the auto level sequence does not perform as described, place the system in the 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.

Hitch Recognition

1. Turn on touch pad.
2. Press the left and right buttons simultaneously (Fig. 33A and 33B).

Fig.33



3. The front of the unit will raise to the height where the auto level sequence was started.

NOTE: If the auto level sequence was started with the front of the unit in a below-level condition, the Hitch Recognition will not function and the LCD will display "Feature Disabled." In order for hitch recognition feature to function, the auto level sequence must be started with the front of the unit above level.

4. Connect tow vehicle and make sure 5th wheel and hitch are connected and locked.
5. Push "UP" arrow until "AUTO RETRACT" appears in LCD screen.
6. Push "ENTER". System will immediately retract all jacks.



Troubleshooting - Touch Pad Standard 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's 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 coach.
****ERROR**** Excessive Angle	Controller not properly secured.	Check and secure controller placement.
	Excessive angle reached during manual operation.	Relocate the coach.
****ERROR**** Feature Disabled	Front of coach below level when starting Auto Level process (only when trying to initiate Hitch Recognition).	Push the "FRONT" button to raise the coach up to hitch height and connect to tow vehicle.
	Touch pad power not cycled between consecutive leveling operations.	Turn touch pad off and then back on to reset the system.
	Zero point not set.	Set zero point.
****ERROR**** Low Voltage	Battery voltage dropped below 9.5V.	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 coach.
****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 coach.
	Unable to auto level due to zero point being set incorrectly.	Reset zero point.
****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**** Comm Error	Communication between controller and touch pad has been lost.	Check harness for proper connections or damage. Replace if necessary.



Preventive Maintenance

1. Remove dirt and road debris from jacks and stabilizer struts (if equipped) as needed.
2. If jacks are down for extended periods, it is recommended to spray exposed leveling jack tubes with a spray lubricant every 3 months for protection. If the coach is located in a salty environment, it is recommended to spray the rods every month.



Ensure the coach is supported at both the front and rear with jack stands before performing any troubleshooting or service to the unit. Failure to do so may result in death or personal injury.

Manual Override

The LCI Level-Up® Automatic Leveling System can be manually operated with an electric drill. In the event of electrical or system failure, this manual method of extending and retracting the jacks can be used. See the instructions below.

NOTE: Unhook the power unit motor from the power source prior to attempting the manual override procedure.

1. Locate the valves that are paired with the landing gear or leveling jack to be manually overridden.
 - A. Landing Gear - Valve located on the lead landing gear (Fig. 34).
 - B. Leveling Jacks - Valve located on valve block (Fig. 35).
2. Using a 5/32" hex wrench, open the valve by turning the manual override set screw clockwise (Fig. 36).
3. Remove protective label from power unit motor to reveal the manual override coupler (Fig. 37).
4. Using an electric drill with a 1/4" hex bit, insert the hex bit into the manual override coupler to manually operate the Level-Up system (Fig. 38).

A. Run the drill forward (clockwise) to retract the landing gear or leveling jack.

B. Run the drill in reverse (counterclockwise) to extend the landing gear or leveling jack.

5. Be sure to turn the manual override set screw on the valve back to the counterclockwise position after extending or retracting the landing gear or leveling jack (Fig. 39).

Fig.34

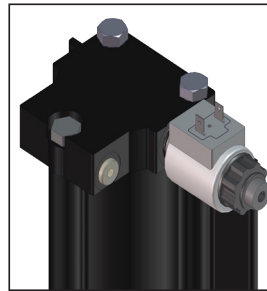


Fig.35

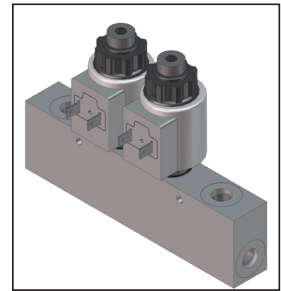


Fig.36

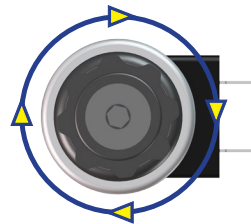


Fig.37



Fig.38

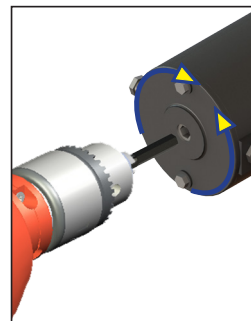
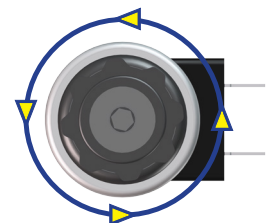
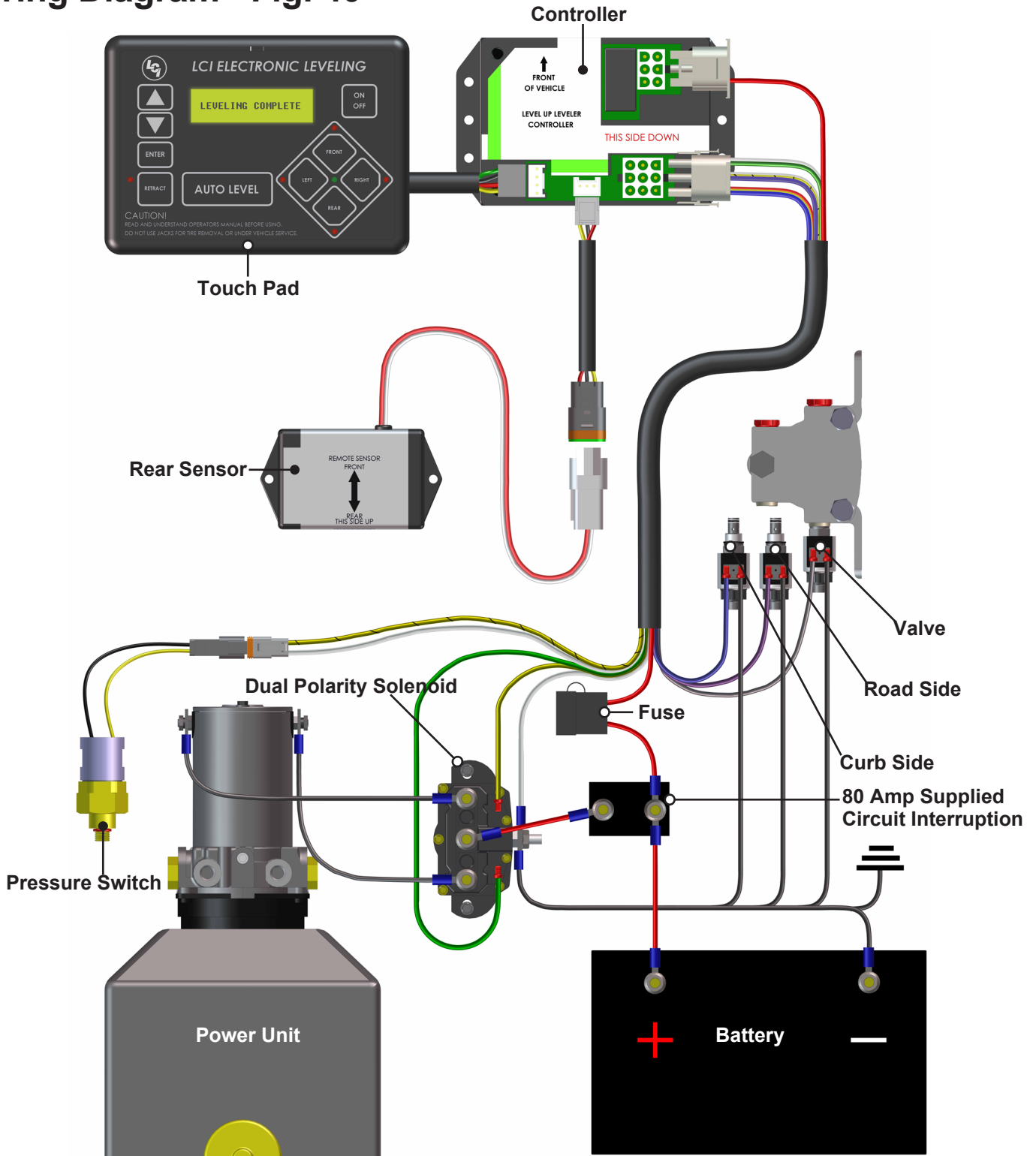


Fig.39





Wiring Diagram - Fig. 40





Plumbing Diagram - Fig. 41

