



LIPPERT COMPONENTS, INC.

LCI LEVEL-UP WITH AUTOMATIC LEVELING

OPERATION AND SERVICE MANUAL

WARNING!

FAILURE TO ACT IN ACCORDANCE WITH THE FOLLOWING MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

THE USE OF THE *LCI LEVEL-UP WITH AUTOMATIC LEVELING SYSTEM* TO SUPPORT THE UNIT 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 COACH SUCH AS CHANGING TIRES OR SERVICING THE LEVELING SYSTEM.

LIPPERT COMPONENTS, INC. RECOMMENDS THAT A TRAINED PROFESSIONAL BE EMPLOYED TO CHANGE THE TIRE ON THE UNIT. ANY ATTEMPTS TO CHANGE TIRES OR PERFORM OTHER SERVICE WHILE UNIT IS SUPPORTED BY THE *LCI LEVEL-UP WITH AUTOMATIC LEVELING SYSTEM* COULD RESULT IN DAMAGE TO THE 5TH WHEEL AND/OR CAUSE SERIOUS INJURY OR DEATH.

WARNINGS!

- > BE SURE TO PARK THE UNIT ON SOLID, LEVEL GROUND.
- > CLEAR ALL JACK LANDING LOCATIONS OF DEBRIS AND OBSTRUCTIONS. LOCATIONS SHOULD ALSO BE FREE OF DEPRESSIONS.
- > WHEN PARKING THE UNIT ON EXTREMELY SOFT SURFACES, UTILIZE LOAD DISTRIBUTION PADS UNDER EACH JACK.
- > PEOPLE AND PETS SHOULD BE CLEAR OF UNIT WHILE OPERATING LEVELING SYSTEM.
- > BE SURE TO KEEP HANDS AND OTHER BODY PARTS CLEAR OF FLUID LEAKS. OIL LEAKS IN THE LIPPERT LEVELING SYSTEM MAY BE UNDER HIGH PRESSURE AND CAN CAUSE SERIOUS SKIN PENETRATING INJURIES.
- > NEVER LIFT THE UNIT COMPLETELY OFF THE GROUND. LIFTING THE UNIT SO THE WHEELS ARE NOT TOUCHING GROUND WILL CREATE AN UNSTABLE AND UNSAFE CONDITION.

BASIC JACK OPERATION

1. Front jacks or Landing gear jacks.
2. Level-Up jacks.

Landing gear jacks can be operated any time the system is "ON" but NOT in the "AUTO MODE." By pushing the "FRONT" button, both front or landing gear jacks can be extended. If the touch panel is put in the "RETRACT" mode, indicated by the orange illuminated LED next to the "RETRACT" button, the front jacks can be retracted together by pushing the "FRONT" button.

The Level-Up jacks operate when the "AUTO MODE" is activated or the touch panel is in the "MANUAL MODE." Once system is in "MANUAL MODE," pressing the "REAR" button will extend all Level-Up jacks at the same time. Press the "LEFT" or "RIGHT" buttons to operate Level-Up jacks to move on the left or right side of the coach, respectively.

PRIOR TO OPERATION

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

1. The unit is parked on a reasonably level surface.
2. Be sure all persons, pets and property are clear of the coach while LCI Level-Up Automatic System is in operation.

DROPPING OFF UNIT

1. Push touch panel "ON/OFF," Fig. 2(A) to turn system on. LCD Screen lights up, Fig. 2(B).

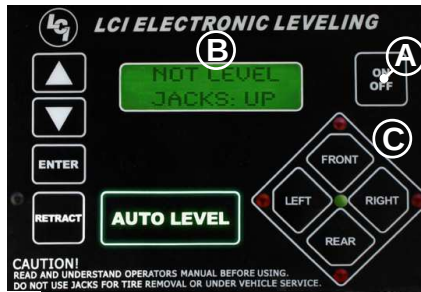


Fig. 2 - Touch Panel

2. LCD will display status ... "NOT READY JACKS: UP"

NOTE: Orange arrow lights, Fig. 2(C) may come on, indication the current disposition of the unit, in this case the FRONT and RIGHT sides of the unit are low.

3. Push "FRONT BUTTON" to extend landing gear jacks and lift front of vehicle to take the weight of the 5th wheel off of the hitch.
4. Uncouple the fifth wheel connection on the tow vehicle.
5. Pull tow vehicle away and park at a safe distance.
6. Push "AUTO LEVEL." The unit will commence to auto level by setting the landing gear jacks close to level. The driver side rear jack will then extend and touch the ground, followed by the passenger side rear jack. There may be several level checks from the system at this time.
7. When auto level is complete, LCD indicates "READY - Jacks: Down" and the green light in the middle of the jack buttons will light Fig. 3(D).
8. Push "ON/OFF" button to turn system off or system will time out and shut off automatically.



Fig. 3 Touch Panel - Unit Level

RECONNECTING THE UNIT TO A TOW VEHICLE

1. Be sure main power switch "ON."
2. LCD display will indicate "READY: JACKS DOWN."
3. Push "LEFT" and "RIGHT" buttons at the same time.
4. Unit will raise up to the point where the AUTO LEVEL was started, (normal starting point from where it was disconnected from the tow vehicle).
5. Connect tow vehicle and make sure 5th wheel and pin are connected and locked.
6. Push "UP" arrow until "AUTO RETRACT" appears in LCD screen.
7. Push "ENTER." System will immediately retract all jacks.

MANUAL OPERATION, HYDRAULIC

1. Front jacks

NOTE: The front jacks will operate manually any time system is "ON" except "AUTO MODE."



Fig. 4



Fig. 5

- 1) Push "ON/OFF" to turn system on.
 - 2) Push "UP" ARROW once or until screen reads "MANUAL MODE."
 - 3) Push "ENTER" once while screen reads "MANUAL MODE."
 - 4) Push "FRONT" to extend front landing gear legs.
 - 5) Push "RETRACT" and orange LED, Fig. 6, comes on.
 - 6) Push "FRONT" to retract front landing gear legs:
- NOTE:** If orange LED is on legs will retract
If orange LED is off legs will extend
- 7) Push "ON/OFF" to turn system off.
 - 8) After 3 minutes system will turn off by itself.



Fig. 6

2. Level-Up jacks - EXTEND

- a. Turn "ON/OFF" button "ON."
- b. Push scroll arrow to display "MANUAL MODE," see Fig. 4
- c. Push "ENTER," see Fig. 4. "MANUAL MODE" displayed, Fig. 5

Level-Up jacks - RETRACT

- e. To retract , push "RETRACT" (orange LED lights up), see Fig. 6
- f. Push "REAR" to retract all Level-Up jacks.
- g. To extend, the "RETRACT" light should be "OFF."

NOTE: By pushing "RIGHT," both passenger side Level-Up jacks operate; pushing "LEFT," both driver's side Level-Up jacks operate and so on.

NOTE: The side to side movement in manual mode is limited to 5° of tilt.

ZERO SETTING THE CONTROL

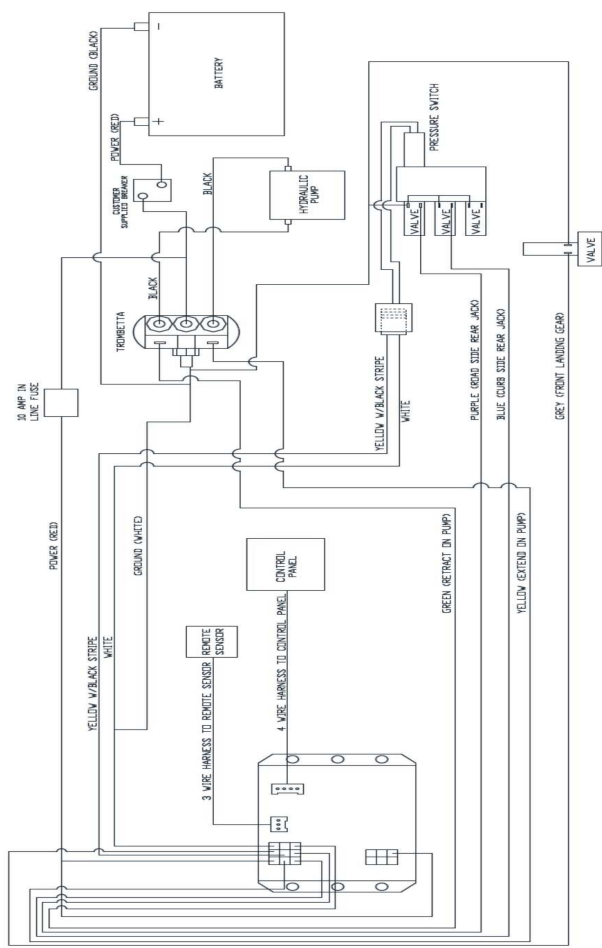
1. Turn "ON/OFF" button "OFF"
2. Push "FRONT" button 10 times,
3. Push "REAR" button 10 times
4. Control will flash and beep, LCD says "ZERO POINT CALIBRATE"
5. To memorize this level condition , press "ENTER"
6. LCD says "ZERO POINT STABILITY SUCCESSFULLY SET"
7. The control will then turn off.
8. Turn "ON/OFF" on to commence operation.

REPLACEMENT COMPONENTS

- 195860 - LEVEL-UP JACK
- 177094 - CARTRIDGE VALVE
- 176954 - SPADE COIL
- 194712 - 4-WAY MANIFOLD
- 241314 - TOUCH PAD HARNESS
- 241318 - 9 PIN HARNESS
- 241317 - CONTROLLER TO SATELLITE HARNESS
- 234802 - TOUCH PAD
- 232201 - SATELLITE LEVEL SENSOR
- 241129 - LEVEL-UP CONTROLLER
- 142927 - PSI SWITCH
- 118246 - TROMBETTA MOTOR SOLENOID
- 138421 - RED RESTRICTED FLOW BLOCK

WIRING SCHEMATIC

Fig. 7



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.

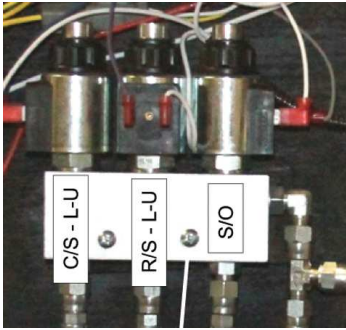
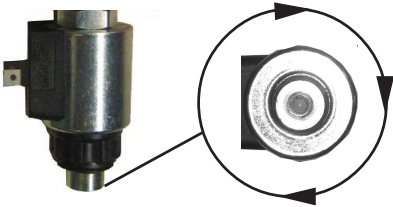


Fig. 8



1. Locate the blocking valves the jacks to be operated. See Figs. 7 & 8 for location of leveling, slideout and landing gear jacks.
2. Using a 5/32" Allen wrench, manual open the valve by turn the manual override set screw in the end of the valve clockwise.



5. Insert hex bit into coupler found under protective label, Fig. 10.
6. Run drill forward or clockwise to extend jacks and in reverse or counterclockwise to retract jacks.

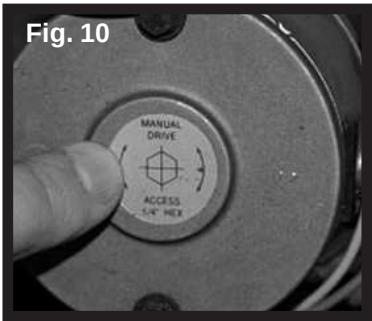
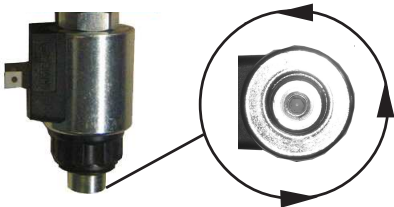


Fig. 10

3. Remove protective label, See Fig 10.
4. Using a standard hex bit, insert into auxiliary drive device, i.e. cordless drill or power drill



7. Be sure to turn manual override set screw back to the counterclockwise position after extending or retracting landing gear.

WIRING DIRECTIONS

241314 - 3-position harness - Controller to Satellite



241318 - 9-position harness - Controller to Pump Connections

Deutsch Connector to PSI Switch

Grey Wire to Hydac Valve on Hydraulic Landing Leg

Purple Wire to R/S Level-Up Hydac Valve

Blue Wire to C/S Level-Up Hydac Valve

Red Wire to Power(+)

White Wire to Ground(-)

Green to Retract Spade Connector on Pump Motor Solenoid.

Yellow to Extend Spade Connector on Pump Motor Solenoid.



241316 - 4-position harness - Controller to Touch Panel



ERROR DISPLAY IN LCD

1. If an error occurs before or during operation, the error will be displayed in the LCD and a "buzzer" will sound
2. The errors that will be displayed are.
 - a. "EXCESS ANGLE" > relocate the unit.
 - b. "BAD CALIBRATION" > bad zero point.
 - c. "FEATURE DISABLE"
 - d. "LOW VOLTAGE"
 - e. "OUT OF STROKE" > relocate the unit.
 - f. "EXTERNAL SENSOR" > bad connection to rear remote sensor.
 - g. "JACK TIME OUT" > system could not level in expected time, check for obstructions, leaks, fluid level and voltage to pump motor under load.
 - h. "AUTO LEVEL FAILURE" > retry.
 - i. "STABILIZER TIME"> rear stabilizers ran too long ... bad motor or connections.
 - j. "NOT CONFIGURED" > unit was not zeroed properly.
 - k. To clear error, push "ENTER" > if error remains, it will appear again.

FLUID RECOMMENDATION

The *Lippert Hydra-Electric 5th Wheel Leveling System* is pre-filled, primed and ready to operate direct from the manufacturer. Please consult with the manufacturer of your unit for the fluid type in your hydraulic unit.

PREVENTATIVE MAINTENANCE PROCEDURES

1. Change fluid in **RESERVOIR ONLY** every 36 months.
 - a) Check fluid only when jacks are fully retracted.
 - b) Always fill the reservoir with the jacks in the fully **retracted** position. Filling reservoir when jacks are extended will cause reservoir to overflow into its compartment when jacks are retracted.
 - c) When checking fluid level, fluid should be within $\frac{1}{4}$ " of fill spout lip.
2. Check the fluid level every month.
3. Inspect and clean all Pump Unit electrical connections every 12 months. If corrosion is evident, spray unit with WD-40 or equivalent
4. Remove dirt and road debris from jacks as needed.
5. If jacks are down for extended periods, it is recommended to spray exposed leveling jack rods with a silicone lubricant every seven days for protection. If your coach is located in a salty environment, it is recommended to spray the rods every 2 to 3 days.

WARNING:

Your coach should be supported at both front and rear axles with jack stands before working underneath. Failure to do so may result in personal injury or death.

6. If jacks are down for extended periods, it is recommended to spray exposed leveling jack rods with a silicone lubricant every seven days for protection. If your coach is located in a salty environment, it is recommended to spray the rods every 2 to 3 days.

**IF YOU HAVE ANY PROBLEMS OR QUESTIONS CONSULT YOUR LOCAL AUTHORIZED
DEALER OR CALL LIPPERT AT:
(866) 524-7821.**

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