



POWER GEAR®
AUTOMATIC LEVELING
WITH TOUCH PAD 140-1229
OWNER'S MANUAL
(82-L0379)

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Introduction

"The Power Gear Electronic Leveling System is an electric/hydraulic system. A 12V DC electric motor drives a hydraulic pump that moves fluid through a system of hoses, fittings and jacks to level and stabilize the coach.

The use of the Power Gear Electronic Leveling System to support the coach for any reason other than which it is intended is prohibited by Lippert's limited warranty. The Power Gear 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.

Note: This information was obtained from Power Gear manual 82-L0379 Rev OE and manual updates dated April 2005 through May 2012.

Owner's/TSM Specific

Additional information about this product can be obtained from lci1.com/support or by downloading the free myLCI app. The app is available on iTunes® for iPhone® and iPad® and also on Google Play™ for Android™ users.

iTunes®, iPhone®, and iPad® are registered trademarks of Apple Inc.

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For information on the assembly or individual components of this product, please visit:
<https://support.lci1.com/hydraulic-leveling-support-motorized-leveling>.

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 understand all instructions before installing or operating this product. Adhere to all safety labels.

This manual provides general instructions. Many variables can change the circumstances of the instructions, i.e., the degree of difficulty, operation and ability of the individual performing the instructions. This manual cannot begin to plot out instructions for every possibility, but provides the general instructions, as necessary, for effectively interfacing with the device, product or system. Failure to correctly follow the provided instructions may result in death, serious personal injury, severe product and/or property damage, including voiding of the Lippert limited warranty.

WARNING

The "WARNING" symbol above is a sign that a 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

This is a leveling system only and is not intended to lift your coach's tire or tires completely off the ground. Attempting to lift your coach completely off the ground (for example to use this leveling system to change a tire) could cause damage to the system and serious injury to the parties involved. If a tire should require changing please have the proper equipment and contact a professional. Do not use a high pressured wash/rinse system on any of the components associated with the leveling system. This includes the pump, pump motor, wiring harness, control, and touchpad. The use of a high pressure wash/rinse system will void the warranty.

CAUTION

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

CAUTION

Keep people clear of coach prior to turning the leveling system on and while leveling system is in use. Never expose hands or other parts of the body near hydraulic leaks. High-pressure oil leaks may cut and penetrate the skin causing serious injury.

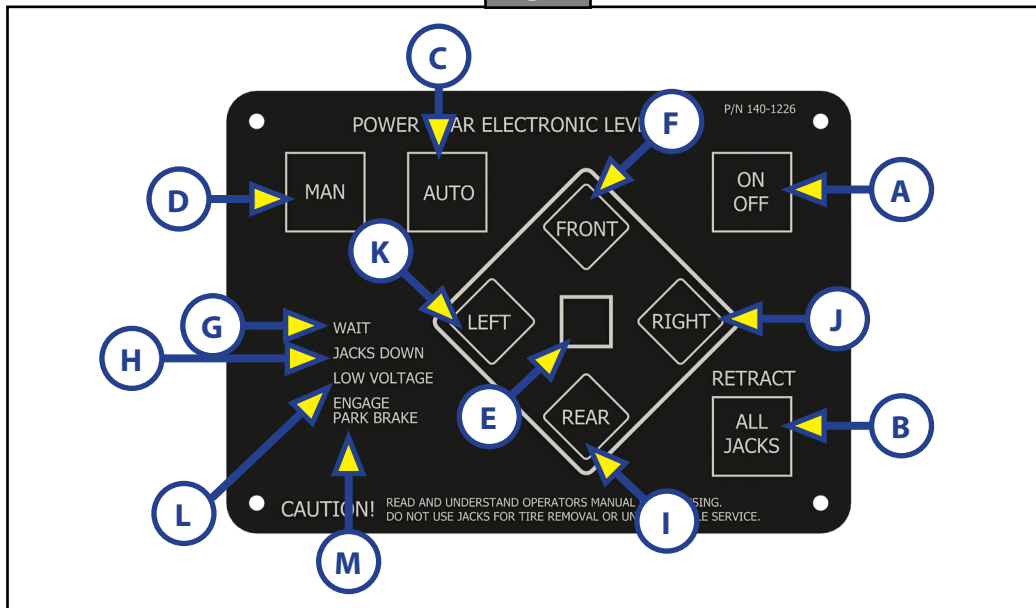
CAUTION

Please read the owners manual from the manufacturer who built and designed your motor home for further leveling and slide out room operating information and safety features.

Preparation

1. Engine must be running, the park brake must be set, and the transmission in "park" ("neutral" for diesel coaches) for the jacks to operate.
2. Check leveling site to make sure obstructions have been cleared away for proper jack operation.

Fig. 1



Operation

Leveling Coach

1. Turn on the ignition and start the coach. Your leveling control will start a self check sequence indicated by the lights on the panel blinking in a rotating pattern. It will turn off when it has finished its self check.
2. Push the ON/OFF (Fig.1A) button on the control panel. The system is now operational and ON/OFF (Fig.1A) LED will turn on. (On some controls, there will be a 10 second wait period before operation is allowed. During this time, the WAIT LIGHT (Fig. 1G) will flash.

Note: Check to see that the LOW VOLTAGE (Fig. 1L) light is not illuminated. If so, start the engine and wait a few minutes to ensure that the battery voltage is good. The engine must be running for the jacks to operate.

3. Check to see that the ENGAGE PARK BRAKE (Fig. 1M*) light is not illuminated. If so, engage the parking brake. (Your coach will have to be in neutral or park to operate the system.)
4. Push the AUTO (Fig.1C) button. The automatic leveling system will begin its leveling procedure. Please avoid movement in the coach during automatic leveling as it can cause errors in the results. It will signal that it has completed the process by illuminating the center green Power Gear LEVEL (Fig.1E) light. Check to make sure that all jacks are on the ground. Also check to make sure that no tire is off the ground. If so, your leveling process is complete. If further adjustments are needed, or one or more tires are off the ground, retract all jacks and refer to the "Manual Operation" section of this manual.
5. You can then turn the system off by pushing the ON/OFF (Fig.1A) button again.

Retracting Leveling Jacks

1. Turn on the ignition and start the coach.
2. Turn on the system by pushing the ON/OFF (Fig.1A) button. The system is now operational and the ON/OFF (Fig.1A) LED will turn on.
3. Push the RETRACT-ALL JACKS (Fig.1B) button. When the JACKS DOWN (Fig.1H) light turns off, visually check to make sure that all jacks have fully retracted. If so, your coach leveling system is ready to travel.

Manual Operation

Leveling Coach

There are certain conditions where manually leveling your coach may be desirable. Conditions where large amounts of side to side leveling are necessary or when one or more tires are off the ground at the end of the auto-level sequence, it may work better using the manual leveling procedures that follow:

1. Turn on the ignition and start the coach.
2. Push the ON/OFF (Fig.1A) button to turn on the system.
3. Push and hold the MAN (Fig.1D) button for 5-7 seconds in order for the system to switch to the manual mode. It will signal that it is in the manual mode when the light under the MAN (Fig.1D) button is illuminated.
4. Push FRONT (Fig.1F) button until the front of the coach rises at least 3". This is important and necessary to allow the coach to pivot when leveling side to side. If there is insufficient jack stroke to lift the front of the coach at least 3 inches, the coach will have to be moved to an area with less front to back slope, or a weight distribution block will have to be placed under the jack.
5. Push the REAR (Fig.1I) button until jacks contact the ground.
6. Level the coach from front to rear by pushing the REAR (Fig.1I) button if the light under the REAR (Fig.1I) button is illuminated. If the light is illuminated above the FRONT JACKS button, push the FRONT (Fig.1F) button. In either case, keep button depressed until the green center LEVEL (Fig.1E) light is illuminated, or both front and rear lights are dark.

Note: The right and left rear jacks are used to level the coach side to side. Pushing the LEFT (Fig.1) button on the control panel will extend the left rear jack. Pushing the RIGHT (Fig.1) button on the control will extend the right rear jack.

7. Level the coach from side to side by pushing the RIGHT (Fig.1) button if the light beside the RIGHT (Fig.1) button is illuminated. If the light beside the LEFT (Fig.1) button is illuminated, push the LEFT (Fig.1) button until the LEVEL (Fig.1) light is illuminated.
8. Repeat steps 6 and 7 if needed.
9. Turn power off to leveling system by pushing ON/OFF (Fig.1A) button.

Note: If the Wait (Fig.1G) LED is ever flashing by itself, it means the control is busy and you cannot operate the jacks. After a short period of time (from 5 to 30 seconds), the WAIT (Fig.1G) LED will go off again, and you can resume operation as normal.

10. Visually inspect jack to ensure all pads are touching ground. Should one of the rear jacks not be touching the ground, press the corresponding left or right rear jack buttons to lower the appropriate jack to the ground. Never lift the wheels off the ground to level the coach. This can lead to an unsafe condition and damage to the leveling system or coach.
11. If a level condition cannot be reached or one or more tires are off the ground at the completion of leveling, retract the leveling jacks and move the coach to a different location or change its orientation to achieve a more level starting position and repeat steps 1 through 10.
12. If a level condition cannot be obtained with the previous steps, level the coach as much as possible while maintaining tire contact with the ground.

Manual Override

⚠ WARNING

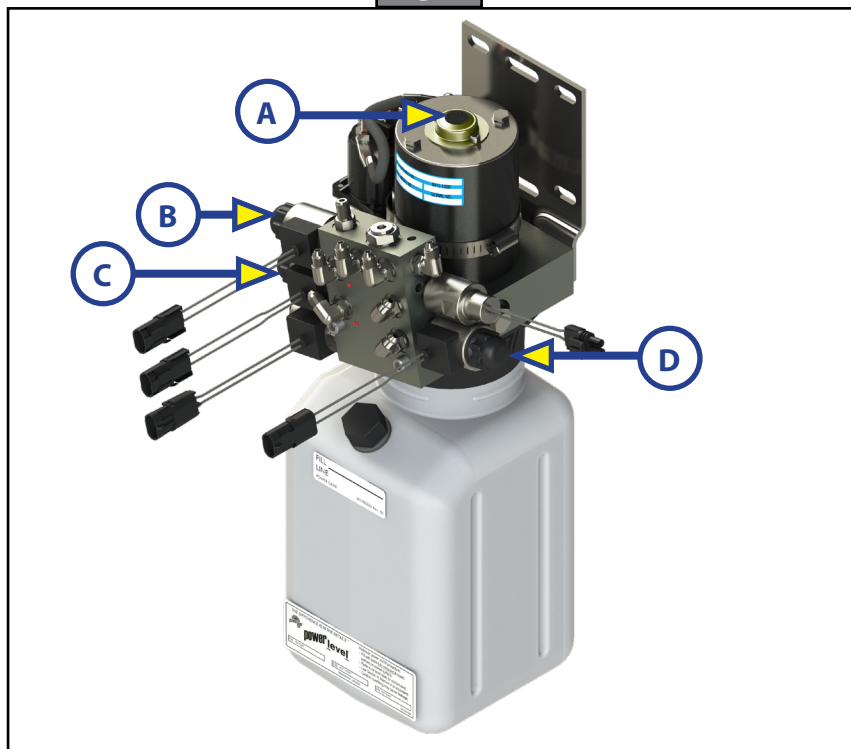
Care must be taken during the manual retraction of jacks to prevent bodily injury or death. The next steps will allow fluid to transfer from the legs to the reservoir. This procedure will allow the coach to descend. Keep all personnel and equipment clear of the coach. Make sure no one is under the coach prior to this procedure. Do not have any body parts or equipment positioned such that the coach

In case of a loss of power at the pump assembly, the manual override valves (MOV's) can be used to retract the leveling jacks. Not all Power Gear leveling system pumps have manual override valves. Power units for double acting systems that have manual override valves have flexible rubber caps on the valves and a hex override nut under the plastic cap on the electric motor.

To use the MOV's:

1. Remove the PLASTIC CAP (Fig. 2A) from the end of the electric motor. You should now see a 7/16" override nut on the end of the electric motor shaft.
2. After verifying all personnel and tools are clear of the press the rubber cap on the valve for the FRONT LEG VALVE (Fig. 2B) The front end of the coach will start to descend. Allow coach to descend 2 inches.
3. Push and hold rubber cap on the ROADSIDE REAR VALVE. (Fig. 2D) Allow coach to descend 2 inches.
4. Push and hold rubber cap on the CURBSIDE REAR VALVE (Fig. 2C) Allow coach to descend 2 inches.
5. Repeat procedures 2-4 until the weight of the coach is transferred off the jacks and onto the suspension and tires.
6. This procedure will retract the front legs. Using a 7/16" socket attached to a drill, spin the override nut clockwise while holding the button on the FRONT LEG VALVE (Fig. 2B). Stop when the legs are fully retracted.
7. This procedure will retract the roadside rear leg. After the front legs are retracted, press the button on the ROADSIDE REAR VALVE (Fig. 2D) and spin the override nut clockwise. Stop when the leg is fully retracted.
8. This procedure will retract the curbside rear leg. After the front legs are retracted, press the CURBSIDE REAR VALVE (Fig. 2C) and spin the override nut clockwise. Stop when the leg is fully retracted.
9. Replace the PLASTIC CAP (Fig. 2A) on the electric motor.

Fig. 2



Maintenance

Preventative

1. Check and/or fill the reservoir with the jacks in the fully retracted position, each month. The fluid should be one inch onto the dipstick (on models so equipped) or to the bottom of the fill port on models without dipsticks.
2. Change fluid every 24 months.
3. Inspect and clean all hydraulic pump electrical connections every 12 months.
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 chrome rods with a silicone lubricant every 5 to 7 days for protection.
6. If your coach is located in a salty environment (within 60 miles of coastal), it is recommended to spray the rods every 2 to 3 days with a silicone lubricant.
7. Grease the fitting on the bottom of each jack cylinder with Lithium grease every 20-30 uses.
8. Do not use a high pressured wash/rinse system on of the components associated with the leveling system. This includes the pump, pump motor, wiring harness, control, and touchpad. The use of a high pressure wash/rinse system will void the warranty.

Hydraulic Fluid Recommendation

The Power Gear Electronic Leveling System is pre-filled, primed and ready to operate direct from the manufacturer. Type "A" Automatic Transmission Fluid (ATF) is utilized and will work. ATF with Dexron III® or Mercon 5® or a blend of both is recommended by Lippert Components, Inc.

In colder temperatures (less than 10° F) the jacks may extend and retract slowly due to the fluid's molecular nature. For cold weather operation, fluid specially formulated for low temperatures may be desirable. For a list of approved fluid specifications, see TI-188.

Troubleshooting

The following chart contains troubleshooting tips if your system is not operating properly, and the touch pad is not giving you a trouble code.

Description	Probable Cause	Corrective Action
Touch Pad will not turn ON	Coach ignition not in run position	Turn on the ignition and start the coach. The engine must be running for the jacks to operate.
	Blown fuse or tripped circuit breaker	Replace fuse or reset breaker
	Auto Shut Off	Push On/Off button to turn the control back ON.
Jacks will not extend. Pump is not running	Blown fuse or tripped circuit breaker	Replace fuse or reset breaker
	Batteries are weak	Turn on the ignition and start the coach. Wait a few minutes to allow the batteries some time to charge. The engine must be running for the jacks to operate.
Jacks will not extend (or are extending slowly), pump is running	Fluid level low	Fill tank to proper level with automatic transmission fluid, see tip sheet 140.
	Batteries are weak	Turn on the ignition and start the coach. Wait a few minutes to allow the batteries some time to charge. The engine must be running for the jacks to operate.
Jacks will not retract fully	Air in the system	Check for coils in hose. Remove the coil if present then extend all jacks to full extension, then retract fully. Repeat 4 cycles waiting a few minutes between cycle

Normal Operation: Indicator Light Descriptions

The following chart contains information about the flashing lights during normal operation.

Flashing Lights	Mode	Description of Operation	Reason
Wait	Wait	Will not allow operation while the wait light is flashing	The system is busy. The wait light will go out within one minute. At that time, operation can be resumed.
Power Gear logo	Already Level	The Power Gear logo is flashing indefinitely	The coach is already level in its current state. Leveling can still be completed as normal (to stabilize coach)
Any combination: Front, Right, Rear or Left	Not Level	These two light could be ON solid or flashing	Normal operation anytime the coach is not already level. Arrows indicate side of coach that needs to be raised for level, if manual mode is used
Left, Right, Front, Rear AND Power Gear logo	Diagnostic Check	For approximately five seconds, the Front, Right, Rear and Left lights flash in a clockwise pattern, along with the Power Gear logo	Normal operational diagnostic check, activated when ignition is turned ON. Control will turn off after diagnostic check or a trouble code will flash.
All lights flashing	Emergency Retract	All of the lights are flashing, and the jacks are retracting. A buzzer sounds for the first 10 seconds of retract	While jacks were extended, parking brake was released or transmission was placed in gear. This is normal operation and is a designed safety feature. It prevents possible damage to coach or leveling system, due to moving coach with jacks extended.
All lights flashing	Program Mode	All of the lights are flashing indefinitely. No buzzer is sounding	Mode was intentionally entered and cannot be entered by accident. See TIP sheet 82-L0317 for description of operation in Program Mode.

Diagnostic Troubleshooting Codes: Indicator Light Descriptions

The following chart contains troubleshooting tips if system is not operating properly, but the touch pad is supplying a trouble code.

Flashing Lights	Fault Code	Description of Operation	Probable Cause	Corrective Action
Low Voltage	Low Voltage	Low Voltage light ON, solid or flashing. May/not all operation	Batteries are low	Ignition ON, start coach. Allow batteries to charge. Engine must be running to operate jacks
On/Off and Wait	Trans.	Will not allow operation	Transmission is in gear	Place transmission in Park, or Neutral for diesel coach
Parking Brake	Parking Brake	Will not allow operation	Parking brake NOT engaged	Engage parking brake
Left, Right, Front, Rear AND Power Gear logo	Excess Slope	Lights flash constantly, leveling is possible	1) Too steep/uneven terrain 2) Control improperly programmed	1) Move coach to level ground 2) See TIP sheet 82-L0317 to reprogram control
Jacks Down and Wait	Pressure Loss	Will not allow operation	System has leak and needs serviced	Take coach to authorized service center for repair. Note: ONLY hydraulic system needs serviced.
On/Off, Jacks Down and Parking Brake	Comm. Error	Will not allow operation	Faulty wiring, poor connection or faulty component	Check connections. Cycle ignition to reset. Replace components individually in following order: 1. Touch pad harness 2. Touch pad 3. Control box
All Lights On, Constant	Internal Error	Will not allow operation	Internal error	New Control box needed. Touch pad is good.
Left, Right, AND Power Gear logo	Timeout Error	Leveling operation aborted. Internal timers could have tripped. Built-in timers protect hyd. pump and/or damage to coach. Common errors: - jacks took too long to retract - jacks took too long to auto level	Batteries are low	Ignition ON, start coach. Allow batteries to charge. Engine must be running to operate jacks
			Too steep/uneven terrain	Move coach to level ground
			Thick hydraulic fluid due to low temperature	See section: Hydraulic Fluid Recommendation
			Air in system	Check for coils in hose. Remove coil if present and extend all jacks

Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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