



***Advanced
Actuation Solutions***

by  Lippert Components®

AUTOMATIC HYDRAULIC LEVELING

OWNER'S MANUAL
(3010001460)

TABLE OF CONTENTS

Introduction	2
Safety	3
Operation	4
Before Operating	4
Automatic Leveling	4
Automatic Retraction of Jacks	5
Manual Leveling	5
Preventative Maintenance	7
General Maintenance	7
Hydraulic Fluid	7
Troubleshooting	8
Notes	9

Introduction

This coach is equipped with a Power Gear® Hydraulic Leveling system that utilizes four power down, spring return jacks, hydraulic pump, controller and touchpad. Please read entire operation manual prior to using the leveling system.

Note: This information was obtained from the Power Gear Owner's Manual 3010001460 Rev. 0D, dated November 2012. This manual discusses the Power Gear Automatic Hydraulic Leveling manufactured from January 2012 to the present. Due to various changes in leveling functionality, this manual does not apply and should not be used as a reference to previous versions of the Power Gear Automatic Hydraulic Leveling.

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.

Google Play™ and Android™ are trademarks of Google Inc.

For information on the assembly or individual components of this product, please visit:

<https://support.lci1.com/power-gear-hydraulic-leveling-system>.

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 LCI 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 tire(s) 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 or contact a professional.

WARNING

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 body near hydraulic leaks. High-pressure oil leaks may cut and penetrate the skin causing serious injury.

WARNING

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

If the coach is equipped with slide-out(s) always level coach first, and then operate the slide out room(s). When retracting the slide(s), always retract the room(s) first then retract the leveling jacks. Following this procedure will produce the least amount of stress on chassis.

CAUTION

Please read the owners' manual from the manufacturer who built and designed the coach for further leveling and slide-out room operating information and safety features.

Operation

Before Operating

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

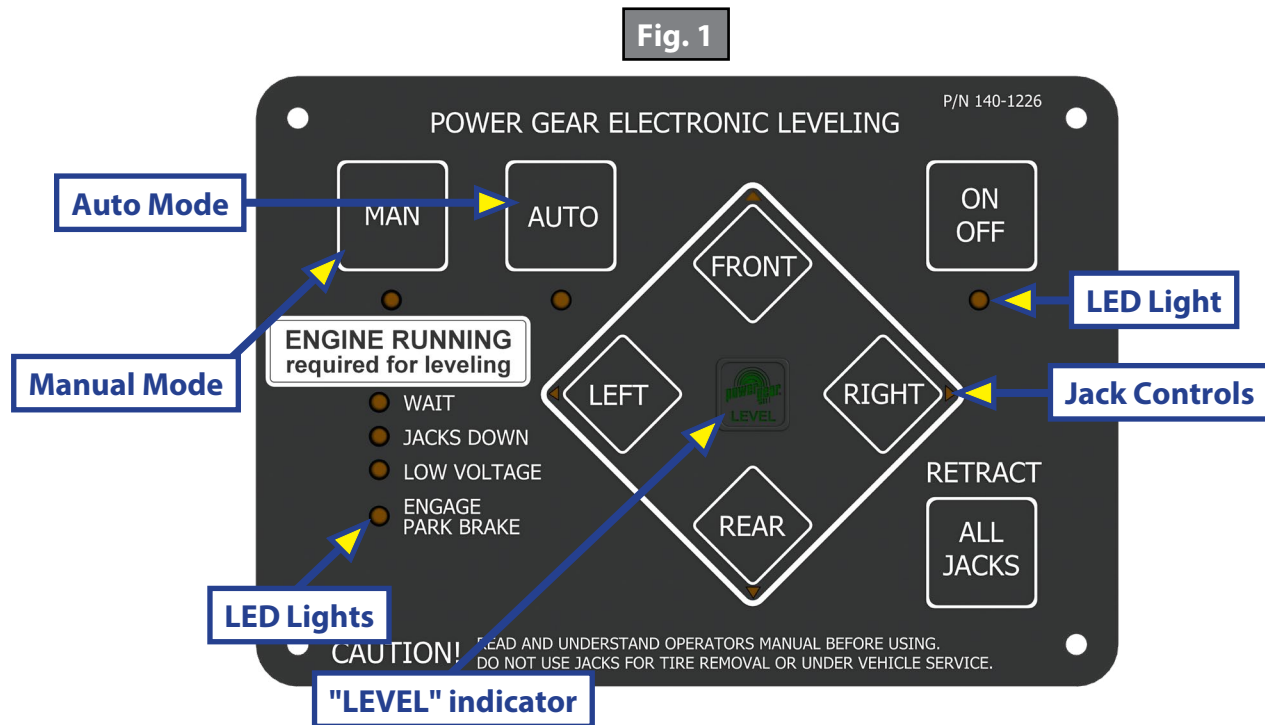
1. Engine must be running.
2. Coach is parked on a reasonably level surface.
3. Coach parking brake is engaged.
4. Coach transmission is in park for a gas coach or neutral for a diesel coach.

Automatic Leveling

1. Start the engine. The leveling control will start self-check sequence indicated by the lights on the panel blinking in rotating pattern. It will turn off when it has finished self-check within a few seconds.
2. Press the ON/OFF button on touchpad (Fig. 1). The system is now operational, the ON/OFF LED will turn on.

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

Fig. 1



3. Make sure that the ENGAGE PARK BRAKE light is not illuminated (Fig.1). If so, engage the parking brake.

4. Press the AUTO button. (Fig 1) The automatic leveling system will begin the leveling procedure.

Note: Avoid movement in the coach during automatic leveling as it can cause errors in operation.

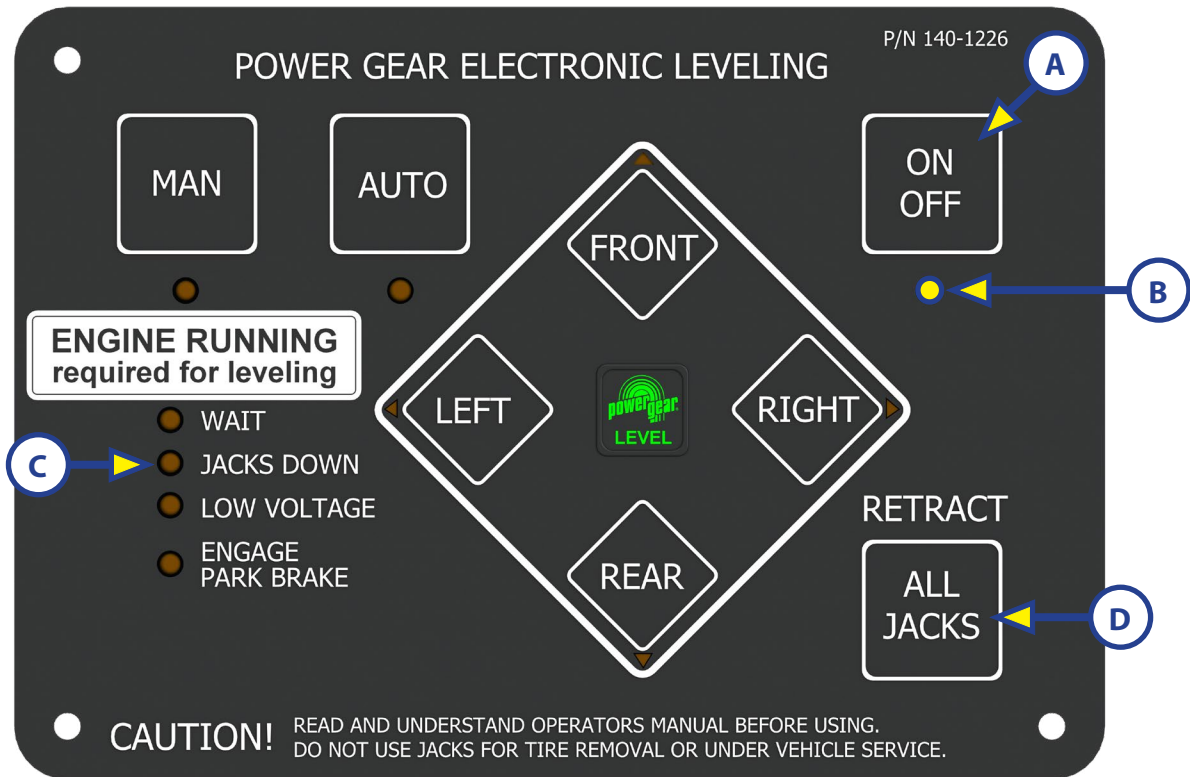
The green LEVEL indicator LED (Fig. 1) will illuminate a solid green when the auto leveling process is complete. Check to make sure that all jacks are on the ground. Also check to make sure that no tire is off the ground. If so, the leveling process is complete. If further adjustments are needed, refer to the Manual Leveling section.

5. Turn the system off by pressing the ON/OFF (Fig. 1) button again.

Automatic Retraction of Jacks

1. Start the engine.
2. Turn on the system by pressing the "ON/OFF" button (Fig. 2A). The system is now operational and the ON/OFF LED (Fig. 2B) will turn on.
3. Press the ALL JACKS (Fig. 2D) retract button. When the jacks are retracted and the JACKS DOWN light turns off (Fig. 2C), visually check to make sure that all jacks have fully retracted. If so, the coach is ready to travel.

Fig. 2



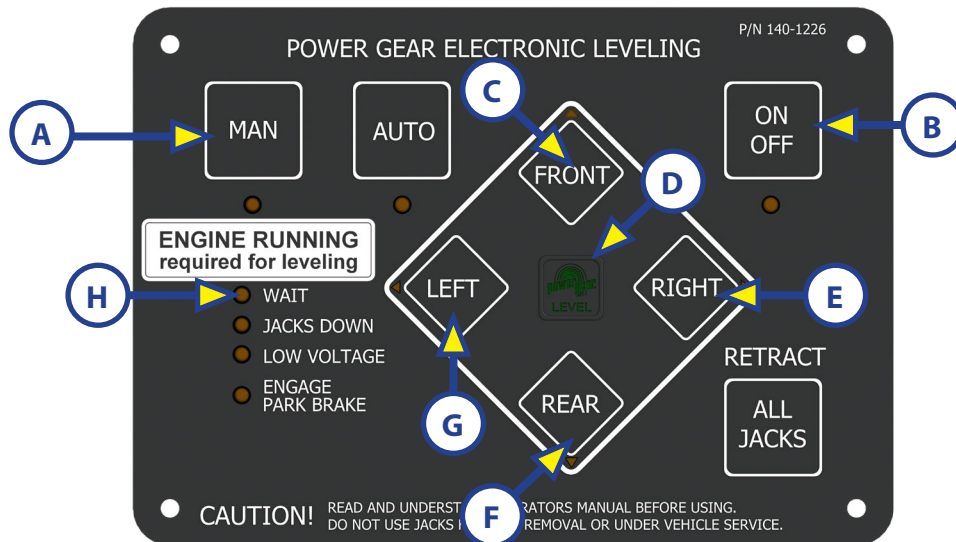
⚠ WARNING

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

Manual Leveling

There are certain conditions where manually leveling the coach may be desirable. Conditions where large amounts of side-to-side leveling is 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.

Note: The right and left rear jacks are used to level the coach side-to-side and can be operated individually. There is no individual control of the right or left front jacks on a 4-jack system. Automatic pressure equalization is built into the system, automatically shifting the front jacks.

Fig. 3

1. Turn on the ignition and start the coach.
2. Press the ON/OFF (Fig. 3B) button to turn on the system.
3. Press and hold the MAN (Fig. 3A) button for 5-7 seconds 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. 3A) button is illuminated.
4. Press FRONT (Fig. 3C) 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", 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 jacks.
5. Press the REAR (Fig. 3F) button until jacks contact the ground.
6. Level the coach from front-to-rear by pressing the REAR (Fig. 3F) button if the light under the REAR (Fig. 3F) button is illuminated. If the light is illuminated above the FRONT (Fig. 3C) button, press the FRONT (Fig. 3C) button. In either case, keep button depressed until the green center LEVEL (Fig. 3D) light is illuminated, or both front and rear lights are dark.
7. Level the coach from side-to-side by pressing the RIGHT (Fig. 3E) button if the light beside the RIGHT (Fig. 3E) button is illuminated. If the light beside the LEFT (Fig. 3G) button is illuminated, press the LEFT (Fig. 3G) button until the LEVEL (Fig. 3D) light is illuminated.
8. Repeat steps 6 and 7 if needed.
9. Turn power off to leveling system by pressing ON/OFF button (Fig. 3B).
10. Visually inspect jacks to make sure all footpads 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.

Note: If the WAIT light (Fig. 3H) is ever flashing by itself, it means the control is busy and cannot operate the jacks. After a short period of time (from 5 to 30 seconds), the WAIT light (Fig. 3H) will go off allowing normal operation to resume.

Preventative Maintenance

General Maintenance

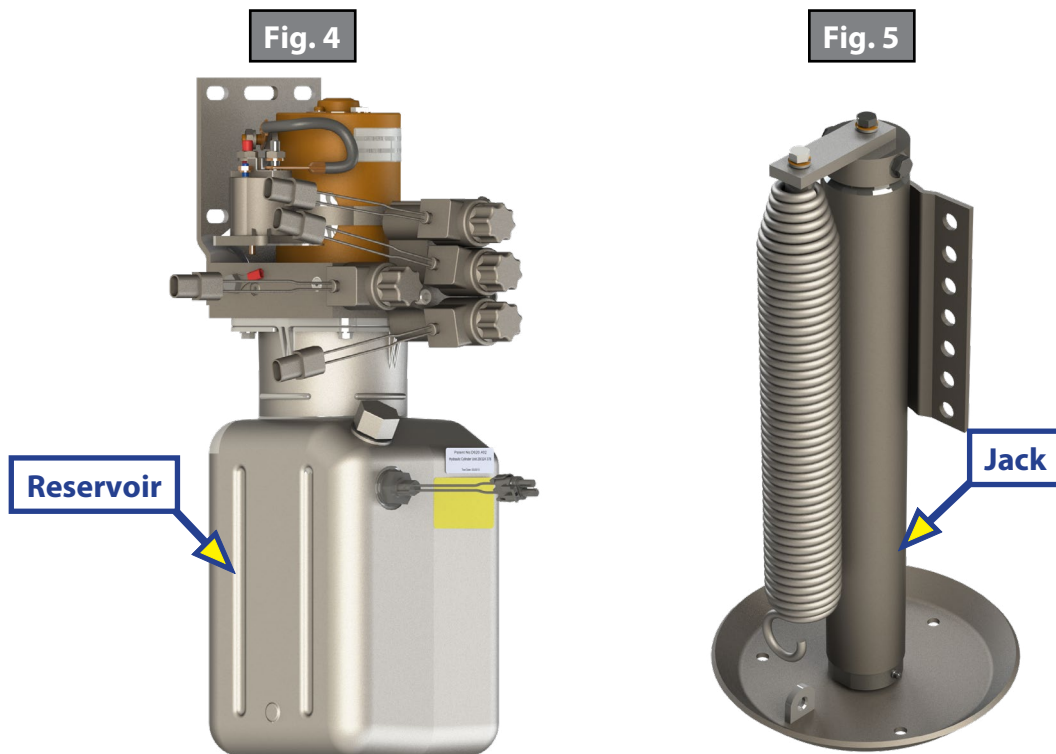
1. Check and/or fill the reservoir (Fig. 5) with the jacks and room(s) in the fully retracted position, each month. Automatic Transmission Fluid should be added to the top of the fill port on the reservoir.
2. Change fluid every 24 months if necessary.
3. Inspect and clean all hydraulic pump electrical connections every 12 months.
4. Remove dirt and road debris from jacks (Fig. 6) as needed.
5. If jacks are down for extended periods, it is recommended to protect 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 areas), 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.
Do not overfill.
8. 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.

Hydraulic Fluid

Your coach is filled with Automatic Transmission Fluid (ATF) from the factory. In most applications, Type A automatic transmission fluid (ATF, Dexron III, etc.,) will work satisfactorily. Mercon V is also recommended as an alternative fluid for Power Gear hydraulic systems (Fig. 5). Do not use hydraulic oil fluids in conjunction with ATF.

If operating in cold temperatures (less than 10°F) the jacks may extend and retract slowly. For cold weather operation, fluid formulated for low temperatures may be desirable. Mobil DTE 11M, Texaco Rando HDZ 15HVI, Kendall Hyden Glacial Blu, or any Mil. Spec. H5606 hydraulic fluids are recommended for cold weather operation. Do not mix ATF and hydraulic oils.

Please consult factory before using any other fluids than those specified here.



Troubleshooting

Locations of breakers, fuses, fuse panels, etc. are coach specific. Consult your coach owner's manual or the coach manufacturer for locations of these components.

The following information will guide you to repairs that may be made on site. For problems not covered here, contact your service center or our website for more extensive troubleshooting information in the service manual.

What is Happening	Why?	What Should Be Done?
System will not turn on, indicator light does not light.	Coach ignition not in run position.	Turn ignition to run position.
	Transmission not in park or neutral.	Place transmission in park or neutral.
	Parking brake not set.	Set brake.
	Control has been left on for more than four minutes, auto shut off.	Press ON/OFF button twice.
Jacks will not extend, pump is not running.	Battery voltage is low.	Recharge battery. Coach must be running.
Jacks will not extend, pump is running.	Fluid level low.	Fill tank to proper level with Dexron III Automatic Transmission Fluid.
ALL jacks will not extract or fully retract.	System overfilled with fluid.	Drain fluid to recommended level.
Any one or two jacks will not retract	Weak or obstructed jack spring(s)	Replace jack spring(s) or remove obstruction.
	Jack rod guide is rusted or dirty.	Clean chrome rod, grease rod guide if equipped with grease fittings. Otherwise lubricate with lithium grease. It may be necessary to reseal jack or replace.
Jack(s) retract very slowly.	Jack rod guide is rusted or dirty.	Clean chrome rod, grease rod guide if equipped with grease fittings. Otherwise lubricate with lithium grease. It may be necessary to reseal jack or replace.
Panel JACKS DOWN light illuminated, jacks are retracted.	Low fluid level.	Fill tank to proper level with Dexron III Automatic Transmission Fluid.
Panel JACKS DOWN light and alarm on while driving, jacks retracted.	Low fluid level.	Fill tank to proper level with Dexron III Automatic Transmission Fluid.

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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