



by  Lippert Components®

**ELECTRO-HYDRAULIC
LEVELING
OWNER'S MANUAL
(82-L0040-00)**

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Introduction

The PowerGear® leveling system on your coach is designed and built to give you years of trouble-free leveling and stabilizing operation. The PowerGear system reflects state-of-the-art technology in both hydraulic and electric components. Please read and study this manual before you operate the leveling system.

System Description

The PowerGear automatic electro-hydraulic leveling system consists of the following major components:

1. PowerGear supplies spring return jacks rated at a lifting capacity appropriate for your coach. Each jack has a large diameter shoe for maximum surface area on soft surfaces.
2. Each jack is powered from a central 12V DC motor/pump assembly which also includes the hydraulic oil reservoir tank, control valve manifold, and solenoid valves.
3. The system is controlled by the solid state touchpad located near the driver's seat and a dual axis bubble level centrally located in the coach.

Safety

WARNING

Do not use leveling jacks (or air suspension) to support coach while under coach or changing tires. The hydraulic leveling system is designed as a leveling system only. Do not use as a jack or in conjunction with a jack. It is highly recommended that, should a tire change be required, a knowledgeable and trained professional perform it. Attempts to change tires while supporting the coach with the hydraulic system could result in damage to the coach and risk causing serious personal injury or death.

CAUTION

Check that potential jack contact locations are clear of obstructions or depressions before operation.

CAUTION

Keep people clear of coach prior to turning the leveling system on and while leveling system is in use.

CAUTION

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

Park coach on a reasonably solid surface or jacks may sink into ground. On extremely soft surfaces, use load distribution pads under each jack.

CAUTION

Never lift the wheels off the ground to level the coach. Doing so may create an unstable condition.

Operation

Before Operating

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

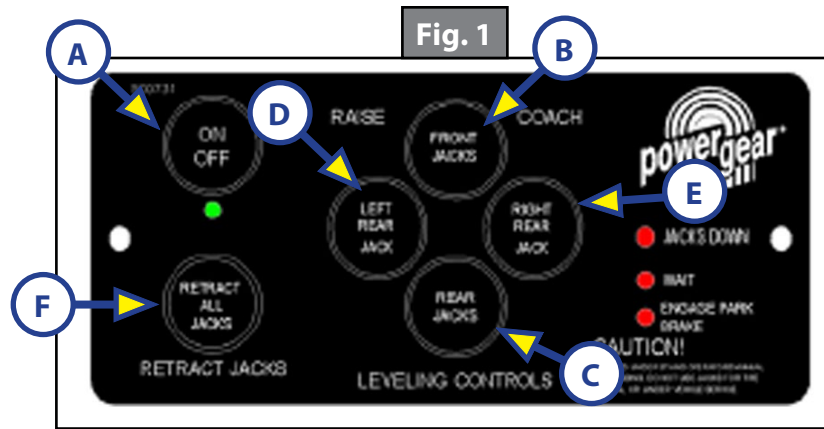
1. The coach is parked on a reasonably level surface.
2. The coach parking brake is engaged.
3. The coach transmission is in park or neutral for a diesel coach.
4. The coach engine is running.

Automatic Safety Shutoff Feature

If the touchpad is left on and inactive for four minutes, it will shut off automatically. To reset the system, the coach ignition must be turned off, then back on. The ON/OFF button (Fig. 1A) must be pressed again.

Driveaway Protection System

If the coach engine is running, the jacks are down, and the operator takes the transmission out of neutral or park or releases the parking brake, all of the LEDs will flash and the alarm beeper will activate. The system will then automatically retract all jacks until they are fully retracted. During this time, the touchpad cannot be turned off.



Leveling Procedure

1. Press ON/OFF button (Fig. 1A) to power on the system. If ON/OFF light is not on, see Before Operating section.
2. Press FRONT JACKS button (Fig. 1B) until jacks make contact with the ground.
3. Press REAR JACKS button (Fig. 1C) until jacks make contact with the ground.
4. Press FRONT JACKS (Fig. 1B) or REAR JACKS (Fig. 1C) buttons until coach is leveled front-to-back.
5. Press LEFT REAR JACK (Fig. 1D) or RIGHT REAR JACK (Fig. 1E) buttons until coach is leveled left-to-right.

NOTE: The left and right rear jacks are used to level the coach side-to-side. Pressing the LEFT REAR JACK button (Fig. 1D) on the touchpad will extend the left rear jack. Pressing the RIGHT REAR JACK button (Fig. 1E) on the touchpad will extend the right rear jack. There is no individual control of the right or left front jacks.

6. Repeat steps 2-5 if needed.
7. Turn power off to leveling system by pressing ON/OFF button (Fig. 1A).
8. Visually inspect jacks to make sure all pads are touching the ground. If either rear jack is not touching the ground, press the corresponding LEFT REAR JACK (Fig. 1D) or RIGHT REAR JACK (Fig. 1E) button to lower the appropriate jack to the ground. Never lift all the wheels off the ground to level the coach.

Retracting Jacks

1. Power on the system by pressing the ON/OFF button on the touchpad. The ON/OFF light will turn on.
2. Press and release the RETRACT ALL JACKS button (Fig. 1F). All jacks will start to automatically retract to their fully retracted position. When all jacks are fully retracted, the JACKS DOWN light will turn off.

NOTE: If you wish to stop the jacks from retracting, turn the system off and back on again by pressing the ON/OFF button twice.

3. When the JACKS DOWN light turns off, press the ON/OFF button on the touchpad to power off the system.
4. Perform a visual check to make sure all jacks are fully retracted before starting to travel. If all jacks did not fully retract, repeat steps 1-3.

Maintenance

1. Check fluid in reservoir every 12 months. If fluid is a clear red color, do not change. If fluid is milky, pink and murky and not clear red in color, drain reservoir and add new fluid. Hydraulic fluid in reservoir should be changed a minimum of every 5 years.

NOTE: Make sure that the hydraulic reservoir is properly filled. An inaccurately filled reservoir can lead to the float switch sending a false trigger to the emergency retract, due to the system not recognizing that the jacks are already retracted.

NOTE: Check the fluid only when all the jacks are fully retracted.

NOTE: When checking the hydraulic fluid, fill to the desired level indicated by the sticker on the system.

2. Inspect and clean all power unit electrical connections every 12 months. If corrosion is evident, spray power unit electrical connections with electrical contact cleaner.
3. Remove dirt and road debris from jacks as needed.
4. If jacks are down for extended periods, it is recommended to spray exposed jack rods with a silicone lubricant every 3 months for protection. If the unit is located in a salty environment, it is recommended to spray the rods every 4 to 6 weeks.

Fluid Recommendation

Automatic transmission fluid (ATF) with Dexron® III or Mercon® V or a blend of both is recommended by Lippert Components, Inc. For a list of approved fluid specifications, see TI-188. To obtain this Technical Information sheet on-line, go to https://www.lci1.com/assets/content/support/technical-information-sheets/TI_188_Hydraulic_Operation_Fluid_Recommendation.pdf

NOTE: 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.

Troubleshooting

What Is Happening?	Why?	What Should Be Done?
System will not turn on and ON/OFF indicator does not light.	Coach ignition not in RUN position.	Turn ignition to run position.
	Transmission not in neutral or park.	Place transmission in neutral or park.
	Parking brake not set.	Set parking brake.
	System has been left on for more than four minutes and auto shutoff has occurred.	Turn ignition key off, then back on.
Touchpad turns on, but turns itself off when leg button is pressed.	Low voltage.	Start coach to charge batteries.
Touchpad turns on, but turns itself off during extension of legs.	Pump motor overheating. Only one button on touchpad should be pressed at a time.	Press ON/OFF button twice. Wait five minutes for pump to cool down.
Jacks will not extend to ground, pump is running.	No fluid or not enough fluid in reservoir.	Fill reservoir with Dexron® III ATF. See Fluid Recommendation section.
	Fuse blown in pump wire harness.	Replace fuse with 10 amp mini-fuse.
One jack will not extend, others will.	Fuse on touchpad is blown.	Replace appropriate fuse in controller with 3 amp fuse.
None of the jacks will retract.	Fuse on touchpad is blown.	Replace dump valve fuse in controller with 3 amp fuse.
Any one or two of the jacks will not retract.	Broken spring(s).	Replace spring(s).
JACKS DOWN lights on the touchpad do not go out when all jacks are retracted.	Low fluid level.	Fill reservoir to proper level with recommended fluid. See Fluid Recommendation section.
Alarm sounds and JACKS DOWN light on dash starts flashing while traveling. The jacks are fully retracted.	Low fluid level.	Fill reservoir to proper level with recommended fluid. See Fluid Recommendation section.

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