



# Replacement Instructions Obsolete Manual Leveling

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## CONTENTS

Introduction	1
Control Replacement	2
Manual Operation	3
Jack Retraction	4
Preventative Maintenance	4
Tip Sheets	4

# Replacement Instructions Obsolete Manual Leveling

## Introduction

From 1994 until 2005, some Power Gear leveling systems utilized a manual leveling control system. The original controls were in use from 1994 until 1999, with updated versions of these controls used from 2000 until 2005. These manual controls are now obsolete and replaced with manual leveling control kit # 1010001131. This kit consists of touch pad control # 500731 and harness # 's 1510000099 (8-pin harness) and 1510000098 (6-pin harness).

When installing this kit, some wiring changes are necessary at the pump assembly. This manual will guide you through these changes and the set up and use of the new control. If at anytime during the installation a question arises or further assistance is needed, please call our Technical Support group at 800-334-4712.

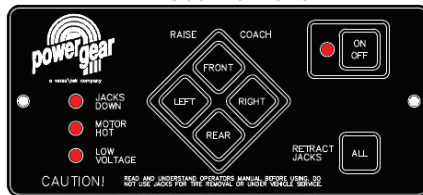


**READ ALL INSTALLATION INSTRUCTIONS BEFORE REPLACING YOUR OBSOLETE CONTROLS.**

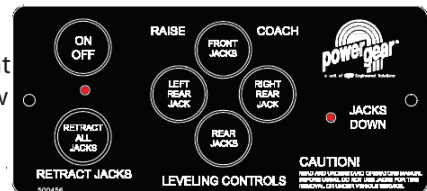


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500210 Front

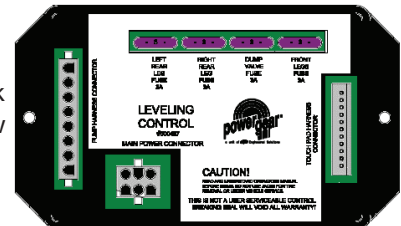
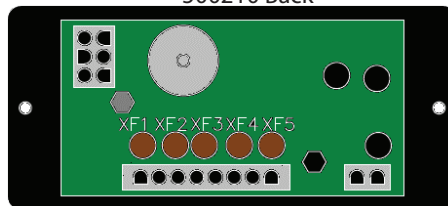


Front View



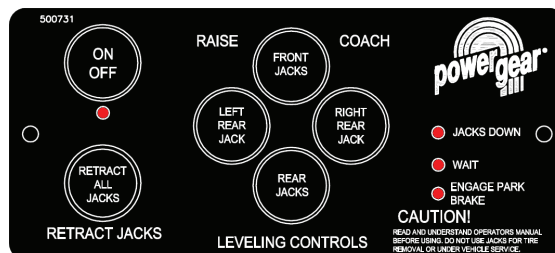
Back View

500210 Back



Updated manual controls 2003-2005

Touch pad 500456 (top),  
Control box 500457 (bottom)



New control # 500731

# Control Kit Replacement



## WARNING

Before starting any repairs, please be sure and disconnect the power cable at the chassis battery. Failure to ensure that power is disconnected could lead to personal injury or even death.

The Power Gear leveling control kit that you have received is a replacement for the leveling controls originally installed in your motor home. The control kit consists of a touch pad controller and harnesses for this component. The control will operate the system in the same manner as the old control(s), however there is a wiring change at the pump assembly that has to be made before the system will operate. This document will guide you through the change to be made. If you are unsure of your ability to make these changes, we strongly suggest that you take your coach to a Recreational Vehicle dealer or repair shop to have the upgrade kit installed. If assistance is needed during the installation process, please contact our technical support group at 800-334-4712.

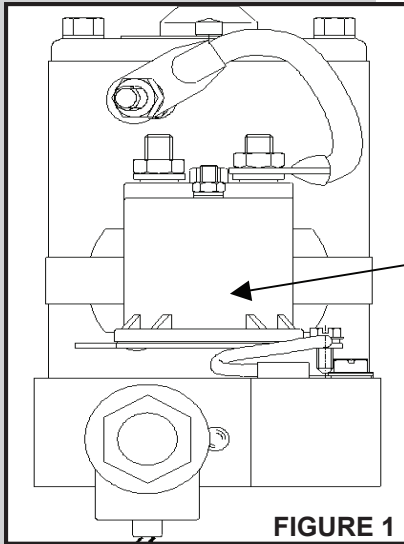


FIGURE 1

### MOTOR SOLENOID

1. At the leveling system pump assembly, find the starter solenoid. It will be a 3 or 4 post solenoid looking similar to the one shown in Figure 1.

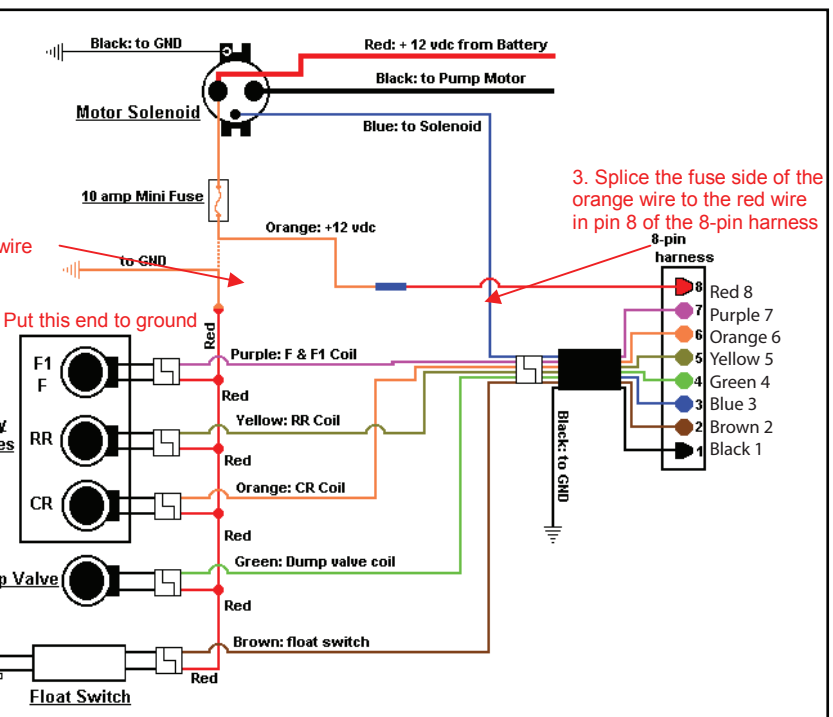
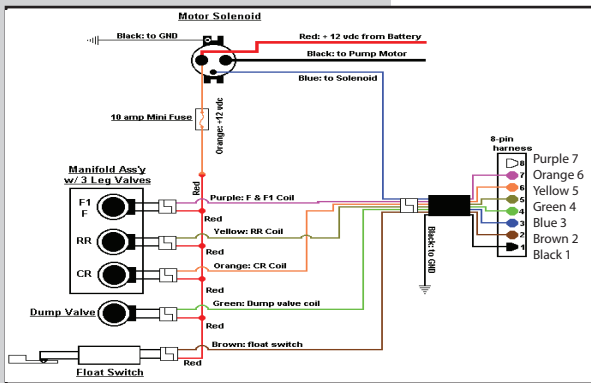
One post of this solenoid will have two wires connected to it. The smaller of the two wires (usually orange in color) currently feeds a constant +12V to the leg valve coils, the dump valve coil, and the float switch (see Figure 2). This voltage is put to ground when system is in operation. The new control you have received operates exactly opposite of this. The coils and float switch need to receive a constant ground signal and then receive a +12V signal from the control when the system is operated. You will need to follow the small, orange wire back until you find the 10 amp inline mini-fuse (you may or may not have to cut into the wiring loom to follow this wire).

2. Cut the orange wire on the pump harness as indicated in Figure 3.

3. Splice the solenoid side of the orange wire to the red wire. The red wire goes to the motor solenoid from the harness supplied by Power Gear.

4. The pump side of the small orange wire needs to be connected to the chassis ground.

*This completes the wiring changes necessary at the pump assembly.*



**NOTE:** 151000098 (6-pin harness) is provided as an extension harness for the 6-pin safety interconnect harness that connects to the back of the new touch pad.

If at anytime during the installation a question arises or further assistance is needed, please call our Technical Support group at 800-334-4712.

**NOTE:** The right and left rear jacks are used to level the coach side to side. Pushing the “LEFT REAR JACK” pad on the control panel will extend the left rear jack. Pushing the “RIGHT REAR JACK” pad on the control panel will extend the right rear jack. The front jacks are designed to provide a pivot point for the chassis, thus there is no individual control of the right or left front jacks on 4 jack systems.

5. Remove the old touchpad. If you have a 500210, unplug all connectors from back of touchpad. If you have a 500456, then you will also need to remove the 500457 control box. Harnesses that used to plug into the 500457 will now plug into the back of the 500731 control. The 500731 is touchpad and control box combined together. Mount the new touchpad in the same location as the old and plug in harnesses. The 4-pin auxiliary harness will most likely not be used. Refer to Tip Sheet 204, page 4.

***In most cases, the new touchpad can be installed in the same location as the old. If not, then utilization of the extension harness to move touchpad location will be necessary.***

**Testing the system**

1. Set the parking brake, make sure that coach is in park or neutral, and start the engine.
2. Press the ON button to power up the touch pad.
3. Push “FRONT JACKS” 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.
4. Push “REAR JACKS” button until jacks contact the ground.
5. If bubble is towards front of coach push “REAR JACKS” button, If bubble is towards rear of coach push “FRONT JACKS” button. Keep button depressed until bubble is centered in vial from front to back, then release.
6. If bubble is towards left of coach push “RIGHT JACKS” button, If bubble is towards right of coach push “LEFT JACKS” button. Keep button depressed until bubble is centered in vial, then release.
7. Repeat steps 2 through 5 if needed.
8. Turn power off to leveling system by pushing “ON/OFF” pad.
9. Visually inspect jacks 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 all the wheels off the ground to level the coach.
10. Energize the system by pushing "ON/OFF" pad on control panel. The "ON/OFF" light will be lit.
11. Push the "RETRACT ALL JACKS" pad. All the jacks will start to retract and return to the full retract position. When all jacks return to full retract position the "JACKS DOWN" light will go out.

**Manual Operation**

1. Push the “ON/OFF” pad on the control panel. The system is now operational on the “ON/OFF” light will be lit.
2. Push “FRONT JACKS” button until the front of the coach rises at least 3” inches. this is important and necessary to allow the coach to pivot when leveling from side to side. If there is insufficient jack stroke to lift the front end, relocate the coach to an area with less front to back slope.
3. Push the “REAR JACKS” button until jacks contact the ground.
4. If bubble is towards front of coach push “REAR JACKS” button. If bubble is towards rear of coach push “FRONT JACKS” button. Keep button depressed until bubble is centered in vial from fornt to back then release.
5. If bubble is towards left of coach push “RIGHT JACKS” button. If bubble is towards right of coach push “LEFT JACKS” button. Keep button depressed until bubble is centerd in vial, then release.
6. Repeat steps 2 through 5 if necessary.

**NOTE: The complete operating instruction manual and tip sheets can be viewed and/or printed off of our website at [PowerGearSolutions.com](http://PowerGearSolutions.com)**



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7. Turn power off to leveling system by pushing "ON/OFF" pad.
8. Visually inspect jacks to ensure all pads are touching the ground. Should one of the rear jacks not be touching, press the corresponding button until it reaches the ground. Never lift the wheels off the ground to level the coach.

### Jack Retraction

1. Energize the system by pushing the "ON/OFF" pad. The "ON/OFF" light will be lit.
2. Push the "RETRACT ALL JACKS" button. All the jacks will start to retract and return to the full retract position. When all jacks return to full retract position, the "JACKS DOWN" light will go out.
3. When the "JACKS DOWN" light goes out, push the "ON/OFF" button on the control panel to de-energize the system. After a brief visual inspection around the coach to verify the jacks are fully retracted, you may proceed to travel.

### Preventative Maintenance

1. Check and/or fill the reservoir with the jacks in the fully retracted position each month. The fluid should be 3/4" onto the dipstick (on models so equipped) or to the bottom of the fill port on models without dipsticks.
2. Inspect and clean all hydraulic pump electrical connections every 12 months.
3. Remove dirt and road debris from jacks as needed.
4. If jacks are down for extended periods, it is recommended to spray exposed leveling jack chrome rods with silicone lubricant every 5 to 7 days for protection.
5. If your coach is located in a slaty environment, it is recommended to spray the rods every 2 to 3 days with a silicone lubricant.
6. Grease the fitting on the bottom of each jack cylinder with Lithium grease every 20-30 uses.



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### T.I.P. Troubleshooting Information on Power Gear

#### MANUAL LEVELING CONTROL SET-UP PROCEDURE

**Note:** The following set-up procedure is for Power Gear control part number 500731

**Note:** The auxiliary connector is a four pin connector on the back of the control that looks like this.



View of Auxiliary Connector

If the control is flashing the ON/OFF light indefinitely, the control is in configuration mode. To exit configuration mode, simply do one of the following:

- If the auxiliary connector is being utilized press the right button three times within 10 seconds
- If the auxiliary connector is not being utilized press the left button three times within 10 seconds

If you want to get back into configuration mode, do the following:

- Turn the ignition ON and make sure the touch pad is OFF.
- Press the "FRONT JACKS" and "REAR JACKS" buttons simultaneously.
- The ON/OFF light will blink for 10 seconds indicating it is in configuration mode.
  - If the auxiliary connector is being utilized press the right button three times within 10 seconds
  - If the auxiliary connector is not being utilized press the left button three times within 10 seconds
  - If nothing is pressed for 10 seconds, it will exit configuration mode and turn off.

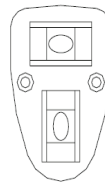


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### T.I.P. Troubleshooting Information on Power Gear

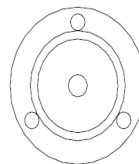
#### HOW TO 'LEVEL' THE BUBBLE LEVEL

##### SYSTEMS PRODUCED 1991-2000



- 1) Level the coach utilizing the power gear leveling system by placing a torpedo or carpenters level on a permanent surface in the galley, such as, the refrigerator, stove or countertop.
- 2) Level the coach until the torpedo or carpenters level in the galley indicates level front to back and left to right.
- 3) Loosen mounting screws that secure two way level, located the drivers area, that is used with the power gear leveling system control pad.
- 4) Add or remove shims between bubble level and mounting surface until bubble level indicates level front to back and left to right. Then secure the bubble level with screws.
- 5) Retract all jacks

##### SYSTEMS PRODUCED 2000 - Present



- 1) Level the coach utilizing the power gear leveling system by placing a torpedo or carpenters level on a permanent surface in the galley, such as, the refrigerator, stove or countertop.
- 2) Level the coach until the torpedo or carpenters level in the galley indicates level front to back and left to right.
- 3) Loosen mounting screws that secure round level, located in the drivers area, that is used with the power gear leveling system control pad.
- 4) Tighten or loosen the three screws until bubble is centered in the circle printed on the level.
- 5) Retract all jacks