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Title: VPG2490 Interlock Relay Retrofit - Field Installation Instructions
Ref Part Numbers: P-0153

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VPG2490 Interlock Relay Kit – Field Retrofit Instructions

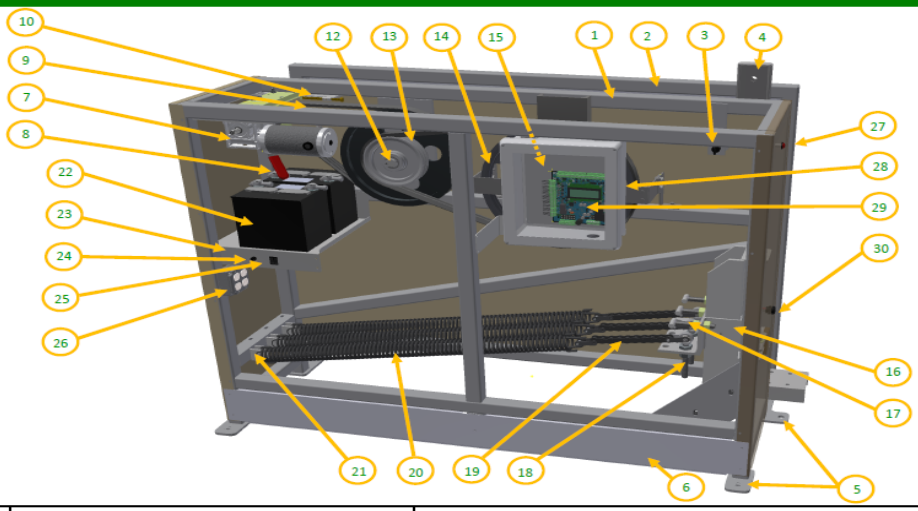
Parts Included in Kit:

- (2x) Zip Ties
- (1x) Crimp on Male Push Tab – Blue
- (1x) Relay Assy w/Harness
- (1x) Tek Self Tapping Screw

Recommended Tools:

- Cordless Drill with a 5/16" socket
- Small Flat Head Screwdriver
- Wire Cutting Tool
- Wire Stripping Tool
- Wire Crimping Tool

OPERATOR DETAILS



1	OPERATOR FRAME	Main operator frame, 2" sq. steel tube construction
2	THROAT	Area between the operator and false panel where the gate opens up
3	TRANSPORT/MAINTENANCE PIN (T/M)	Used for locking the arm in place with or without the gate attached
4	OPERATOR ARM	Main 2" x 4" steel tube where the gate attaches
5	STAINLESS STEEL FOOTPADS	No messy rusty footpads
6	KICK PANEL	Prevents access under the operator and helps keep debris out
7	24VDC 90° RIGHT ANGLE DRIVE MOTOR (RAD)	1/2hp Gear motor drive to ensure safe and smooth operation
8	MANUAL OPERATION REALEASE LEVER	Disengages the coupler and allows the gate to be raised by hand
9	MOTOR DRIVE BELTS	(3) High quality "A" Section cogged belts...
10	MOTOR DRIVE BELT TENSIONER	One shown, total of two
11	GATE BELT TENSIONER (Not shown, behind #12)	Allows you to tighten the belts ***(Not shown behind the Drive Pulley)***
12	INTERMEADITE DRIVE PULLIES	Provides high torque to move the gate
13	GATE DRIVE BELTS	(2) High quality V-belts to move the gate
14	MAIN GATE DRIVE PULLEY	Provides high torque to move the gate
15	LIMIT/POSITION SENSOR (LPS) (behind #28)	Digital Sensor that sets the open and close locations of the gate
16	SLIDE ASSEMBLY	Adjust the balancing up or down on the threaded rod (not pictured)*
17	T-BOLT ASSEMBLY	Fine tuning of the balancing
18	CHAIN TENSIONING BOLT ASSEMBLY	Roller chain attaches here
19	#80 ROLLER CHAIN	Connects the springs to the Chain tension Bolt
20	SPRINGS (Qty. will vary on gate size and weight)	Depending on gate size & weight, you can have 2 to 8 springs
21	REAR SPRING BARS	Attaches the springs, Qty. will vary on the # of springs
22	BATTERIES ((2) required, not supplied)	Min. 7Ah batteries, recommend Group 24 100Amp Marine Starting
23	BATTERY TRAY/POWER SUPPLY (Under Battery tray)	Main Power Supply is mounted under the Battery Tray
24	3Amp AC Fuse	AC Supply fuse
25	AC/DC MAIN ON/OFF SWITCH	Turns on both the AC and DC power in one switch
26	INCOMING AC VOLTAGE JUNCTION BOX	Normally 120Vac, 240Vac compatible
27	FAULT LIGHT	Three flash modes: 1. Fault, 2: DC Power issue, 3: AC power issue
28	CONTROL BOX	Houses the Genesis control board and other accessory items
29	GENESIS CONTROL BOARD	State of the art control board with 4-line digital display
30	UL325 SIREN	Will be activate upon an UL fault
	* See Balancing Instructions for Slide details	

Before beginning, please note that the operator should be properly anchored with the gate mounted and operational before beginning installation *(See Installation and Operation Manual for instructions)*. All power to the operator must be shut off as well. This can be accomplished by flipping both rocker switches on the battery tray to the "off" position.

Note: A wiring diagram has been included with the retrofit kit to be used with these instructions

1. Begin by mounting the included relay wiring harness assembly to the inside of the control box with the included Tek self-tapping screw. See below for recommended mounting location.

   It is strongly recommended that a cloth or covering of some kind be used to cover the circuit board to protect it from metal shavings or debris during the relay installation process.

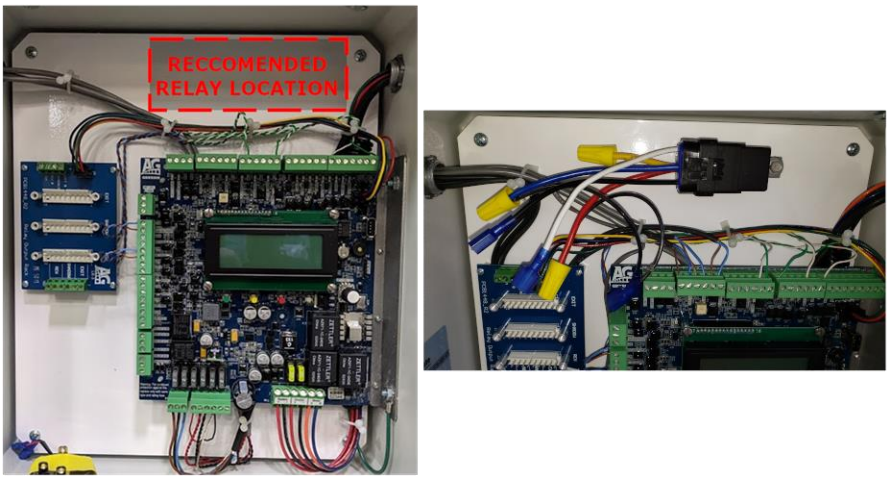


Figure 1: Suggested relay mounting location.

2. Remove the **RED** wire from the terminal labeled "LOCK" on the circuit board. It will be the last terminal on the upper terminal block located on the left-hand side of the Genesis board.

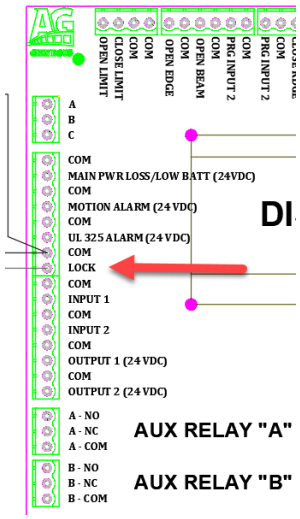


Figure 2: Image showing location of RED "lock" wire to solenoid latch.

3. Crimp the included **MALE** push-on tab connecter onto the end of the **RED** wire from step #2. Lightly tug on the newly crimped connection to ensure proper installation. Connect the newly crimped connector to the **FEMALE** push-on tab that is attached to the **RED** wire coming from the Relay installed in Step #1.

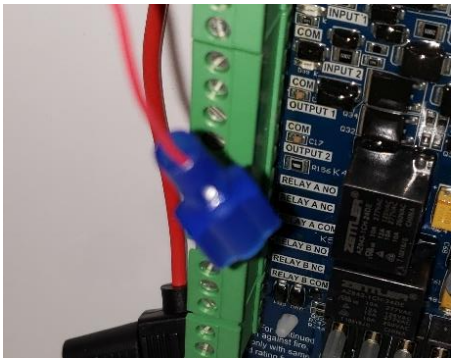



Figure 3: RED wire from solenoid with male push-on tab connector attached (left). Connection between RED solenoid wire and pigtail connection to relay (right).

4. Using the **WHITE** wire from the relay, connect the bare end to the "LOCK" terminal. ***Note:*** The **WHITE** wire will be spliced to a **BLACK** wire for extra length for this connection.

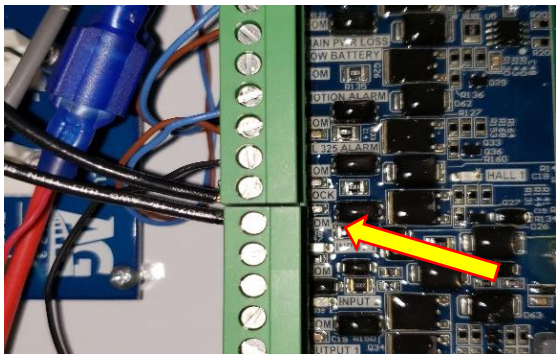


Figure 4: Image showing the BLACK wire from relay connected to "LOCK" terminal.

5. Using the **BLACK** wire coming from the relay, connect it to any common ground terminal labelled "COM" on the Genesis board. (All common ground locations will be marked as "COM" on the board if the wiring diagram is unavailable.)

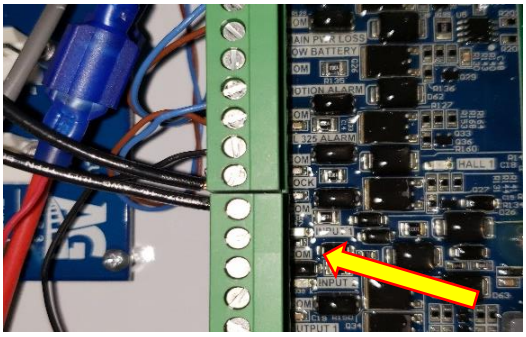


Figure 5: Image showing BLACK wire from relay connected to "COM" terminal.

6. Loosen the screw terminal marked "**BATTERY +**". This terminal is the first terminal in the block at the lower RH corner of the circuit board (There will be a **RED** wire already inserted in this terminal). Insert the bare end of the In-Line Fuse assembly into this terminal with the existing **RED** wire (The In-Line Fuse assembly will be spliced to the BLUE wire of the relay).
Note: It may be necessary to remove the existing **RED** wire in the terminal block and twist the two wires together for insertion. Once both wires are inserted, tighten the terminal set screw, and lightly tug on the wires to ensure proper installation into the terminal.

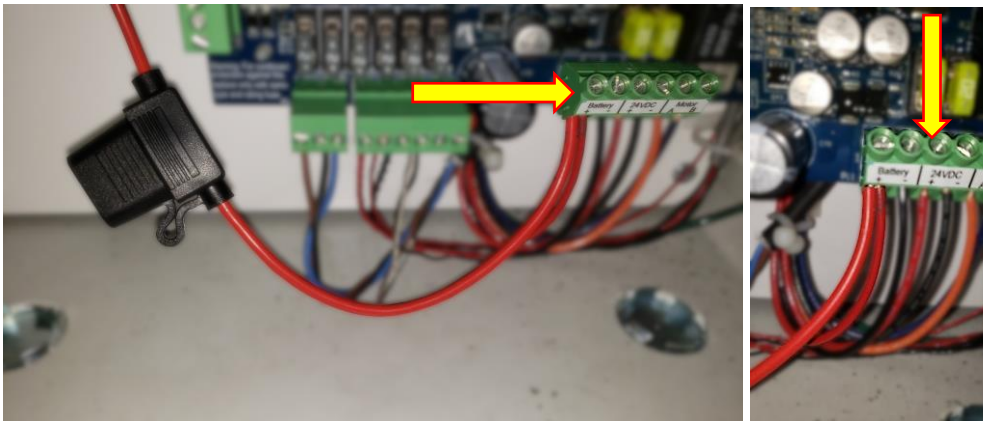


Figure 6: Images showing inline fuse connected to "Battery +" terminal.

7. **(Optional)** The wiring for the retrofit is now complete, you may use the included zip-ties to organize the wiring within the cabinet.

8. ***Before returning the gate to service, it is recommended that the gate be cycled several times to ensure proper functionality of the solenoid latch.*** To do this, the system may be re-energized by switching both **AC** and **DC** power switches to the **ON** position. The system may be fully cycled by pressing the **GREEN** **"Open"** button once below the display on the Genesis board. The gate will open and then automatically close to compete the cycle. If the gate **"CLOSE TIMER"** is not turned on, use the **YELLOW** button to close the gate.

Figure 8: Image showing the location of the GREEN "Open", YELLOW "Close", RED Stop, Reset and Jog Select buttons on the Genesis board.

9. Once the Interlock mechanism has been verified that it is working properly, securely close door to the control box. Close and lock the operator doors to complete the installation process.