



## INSTALLATION INSTRUCTIONS

|                         |                                    |
|-------------------------|------------------------------------|
| <b>PART NUMBER</b>      | <b>158-8253</b>                    |
| <b>PART DESCRIPTION</b> | <b>CROSSFIRE OMRON PLC UPGRADE</b> |
| <b>REV DATE</b>         | <b>3/10/2012</b>                   |
| <b>MACHINE MODELS</b>   | <b>ALL CROSSFIRE LANE MACHINES</b> |



Basic knowledge of the operation of the lane machine

### TOOLS NEEDED:

Wire Cutters

Flat Screwdriver

Phillips screwdriver



#### TECHNICAL NOTE

Please thoroughly read the instructions prior to performing the installation of this assembly.

To avoid any potential problems, if at any time during the process you have a question, stop and contact our Tech Support department at the numbers listed below.

Please visit our growing library of videos to see if these instructions are available!



[www.youtube.com/user/KegelBowling81](http://www.youtube.com/user/KegelBowling81)



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Take full control of your lane machine at [My.kegel.net](http://My.kegel.net)

**Kegel's Lane Maintenance Central:**  
Within USA - 1-800-280-2695  
Outside USA - +1 863-734-0200  
via e-mail at [LMC@Kegel.net](mailto:LMC@Kegel.net)  
website [www.kegel.net](http://www.kegel.net)



Prior to performing this modification, it will be necessary to write down all of your Crossfire Lane Machine settings. This would include all of the Oil Programs, Distance to end setting, Return travel distance, Current unwind time, End Cleaning distance and any other custom settings currently on the lane machine.

### **TWIDO KEYPAD REMOVAL**

1. Unplug the Keypad cable from the top of the PLC. Carefully cut all of the wire ties that hold the cable in place, all the way back to the Keypad assembly.
2. Next, remove the Keypad and plate assembly by unfastening the mounting hardware. This would be the two screws that hold the plate on to the right side panel, and the two located on the front. Keep the hardware, as this will be used to reinstall the new assembly.

### **TWIDO PLC REMOVAL**

1. With the lane machine unplugged, and setting down in the operating position, open the lid assembly for the Electrical compartment.
2. If the lane machine is equipped with a Cam Indexing Rely (5<sup>th</sup> relay on the right) it will need to be removed along with the PLC. To do this, carefully cut all of the wire ties that lead from the PLC to the Cam Indexing Relay base.
3. Next, take a screwdriver and pull out on the orange tab located at the base of the relay. This will allow you to tilt the base up and out off the din rail assembly.
4. On the left side of the PLC, remove all four plugs coming from the PLC assembly.
5. With a flat blade screwdriver, pull out on the black tab at the base of the PLC. This will tilt up and out much like the relay base did. Set this aside along with the relay base as this will no longer be used.
6. Take a clean towel and clean around the electrical panel prior to installing the new PLC.



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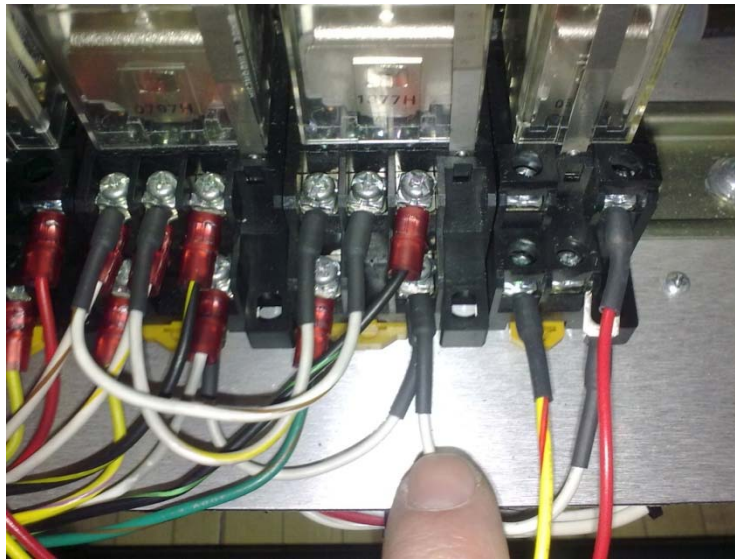
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## OMRON PLC INSTALLATION

1. Locate the new Omron PLC from the kit. This will install onto the dinrail with the plugs to the left side of the lane machine and away from the relays.
2. Match all of the molex plugs with the correct number pins plugs and firmly plug them in.
3. The new Cam Indexing Relay, attached to the PLC, will be installed to the far right of the existing four relays on the dinrail assembly.
4. Once the Cam relay is mounted to the dinrail, attach the loose white wire coming from the new relay base to terminal #10 on the relay base directly left of the Cam Relay. Use the wire ties from the kit and neatly fasten them in place with the existing wires.



## KEYPAD AND PLATE INSTALLATION

1. Remove the Keypad and Plate assembly from the upgrade kit. This will mount directly in place of the old assembly and will fasten to the plate using the same hardware.
2. Next, route the new cable assembly in the same manner as the previous cable. Use the wire ties to attach the cable to the tubing.
3. Plug the cable assembly into the top of the PLC.



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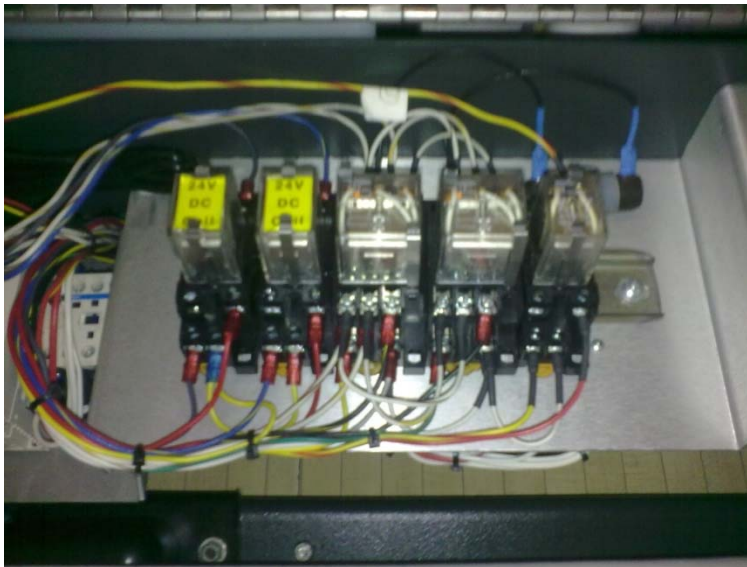


## WIRING OF TRANSFER ROLLER ASSEMBLY

1. Located on the front of the PLC, you will notice a loose green wire with a red wire tied to it. Cut the Red wire away from the green and attach the green wire to the front of the buffer motor contactor on the third terminal directly next to the white wire.
2. Next, take the short red wire with the terminals on the end and this wire on the backside of the buffer motor contactor. This will attach to the first terminal along with the existing red wire and over to the empty slot opposite of the green wire we just installed.

## 24V RELAY INSTALLATION

In the event that the TWIDO PLC that was being used had 13 inputs, then replace the first two LY2 relays from the left with the two 24V relays included with this kit.



Once complete, reenter the all of the information into the PLC using the manual as a guide.



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