



# PROFESSOR MOTOR CONTROLLERS

## Power Relay System Installation Instructions (PMTR2037) for “Silver Series” Controllers

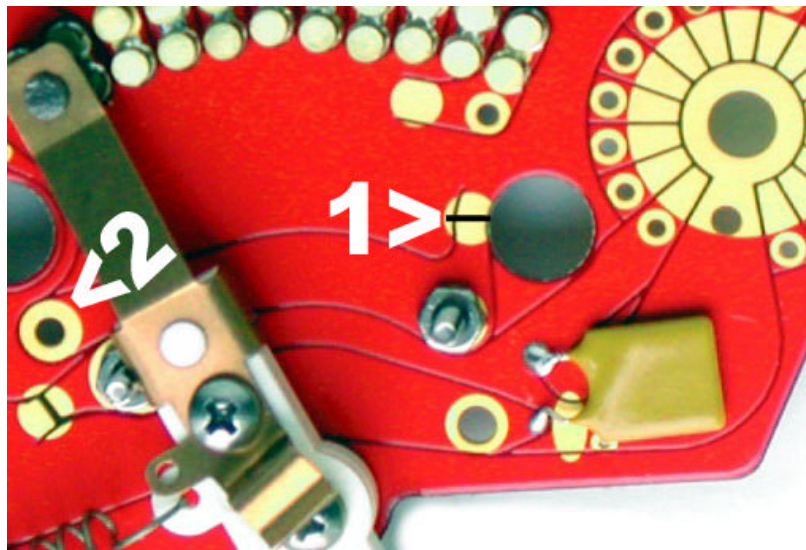
**Step 1** – With a Dremel cut through the circuit board trace as noted in #1 in the picture below - **Do this on BOTH sides of the circuit board**. Make sure all the copper is removed between the vertical black lines inside the gold colored circle. **If using the controller with high power supply voltages between 14 and 20 volts then the enclosed resistor must be installed in-line in the small lead wire that goes to the relay circuit #85 (failure to do this can cause the relay to fail !).**

**Step 2** – Using the lead wire provided in the kit, strip and solder the wire to the location as noted in #2 in the picture below. For best results the wire should be on the back face of the circuit board with only the bare copper extending through the front side of the circuit board in the location indicated. Solder the wire in using a good grade of rosin core electrical solder & use lighter fluid & a Qtip to clean up any flux residue after soldering. **Do not** use acid flux or a solder with an acid flux core.

**Step 3** – Route the lead wire out the bottom of the controller handle through a notch cut with a Dremel. You can then close up the handle and tighten the screws.

**Step 4** – Trim the relay brass tabs with a Dremel to make them about 3/16” high. Solder the relay supplied into the controller wires using the circuit numbers as marked on the relay as noted below. Again, be sure to only use rosin core electrical solder for these connections. Ideally the relay should be located about 4-6” from the end of the wire alligator clips. Wire per the relay circuit numbers and wires : Lead wire from controller (& resistor if used) - #85, Black - #87 (either one), White - #30, Red - #86.

**Step 5** – Cover the relay with the heat shrink tubing and shrink in place using a heat gun. When complete it should look like the picture below.



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