

# PROFESSOR MOTOR SLOT RACING CONTROLLERS

Instructions for transistor replacement in any "Platinum Series" Electronic Slot Racing Controller

Make sure that you have the right model transistor for your controller - PMTR2022 is **NEGATIVE POLARITY** and is for Home Set Controllers or PMTR2112 - PMTR2021 is **POSITIVE POLARITY** for other controllers

This Power Transistor can be damaged for a number of reasons and the damage usually results in one of 2 symptoms - the car will run by itself without the trigger being depressed or the transistor itself will show evidence of mechanical damage such as distortion or cracks in the plastic case

To remove the transistor unscrew the mounting screw and cut the leads of the transistor near the plastic case.

A substantial soldering iron is needed for this operation and we would recommend not less than 45 watts and 750 degrees Fahrenheit (. model features the following high quality features

- **Recommended operating voltage range 10 to 15 volts DC**
- Wired for **POSITIVE** polarity tracks (not for direct connection to home set power base)
- Variable Braking System (high quality wire wound pot to vary brake performance)
- Variable Sensitivity System (high quality single wire wound pot to adjust sensitivity setting)
- Electronic "Platinum Series" transistor design with wide range of control & ultra precise adjustments
- Fault tolerant robust circuit design to protect against overload or short circuit damage
- Internal handle-protected aluminum heat sink
- Fully functional in 2 wire (non-brake) applications
- Power pilot light system for power and polarity indication
- Extra long, heavy duty 13 gage super flexible, high temp silicone controller leads
- Solid copper alligator clips with color coded vinyl insulating boots
- High impact polycarbonate plastic molded handle, Stainless steel hardware throughout
- Low friction silver alloy wiper button with ultra hard nickel plated contact surface

## Use & Care Instructions

- Brake Adjust – Adjust the red color-coded knob with the white line "up" for **MAXIMUM** braking effect. Turn that knob counter-clockwise to reduce braking effect.
- Sensitivity Adjust - Adjust the silver color-coded knob with the white line "up" for **MINIMUM** sensitivity. Turn that knob counter-clockwise to increase the sensitivity (provide more power to the car on initial application of the throttle).

- **Caution ! : Regular maintenance is required** to keep the controller contacts clean and free from foreign objects & debris. Failure to properly clean, lube and maintain the contacts will cause the controller to fail, will allow the car to be driven without the throttle being depressed and can result in the wire wound pots used for brakes & sensitivity control becoming short circuited & damaged. Please take this warning seriously and follow this process to keep the contacts clean & properly lubricated :

1. Remove the front half of the controller case by loosening the three bolts
2. Clean all debris from the nickel-plated contacts and surrounding area with a Q-Tip and lighter fluid
3. The sliding contacts **MUST** be **CAREFULLY** lubricated to reduce contact wear and provide a smoother controller action. To lube, do so as follows :
  - a. Place a **SMALL** amount of Super Lube PTFE lube on the end of a Q-Tip & apply to the nickel contacts in the area where the silver alloy contact travels
  - b. Cycle the trigger a few times
  - c. Use a Q-Tip with lighter fluid to remove any excess lube outside of the area where the contacts meet (remove 90% of the lube you just applied)
  - d. Examine the contact area to insure that cotton fibers from the Q-Tip are removed and that residual lube is minimal & barely visible
4. Repeat this whole cleaning / lube process on a frequent basis (every 1-2 weeks) for best results.

- Periodic Maintenance – lube the trigger pivot bushing with plastic compatible oil

## Optional Upgrade

- Power Relay System PMTR2037 – provides a more positive low resistance path at Wide Open Throttle

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