



*Racing*

# INSTALLATION INSTRUCTIONS

## CT PRO™ IGNITION CONTROL

### PN 6864M

FORM 1666 (Rev A) 01/12

The CT PRO™ Ignition Control features a single stage rev limiting developed especially for the circle track market. It will control the engine RPM precisely, but its operation is smooth enough to eliminate unloading of the chassis at a critical spot on the track.

#### Battery

The CT PRO™ Series Ignition Control operates on any negative ground, 12 volt electrical system with a distributor. It will also work with 16 volt batteries and can withstand a momentary spike of 24 volts in case of jump starts. This system delivers full voltage with a supply of 10-18 volts, and operates with a supply voltage as low as 8 volts. If your application does not use an alternator, allow at least 15 amp/hour for every half hour of operation. If you crank the engine with the same battery or other accessories, such as an electric fuel or water pump, increase the amp/hour rating.

#### Coils

The only coil suitable for use with your CT PRO™ Ignition Control is Mallory's CT PRO™ Coil P/N 30460. During our extensive testing, no other coil from Mallory or any competitor would withstand the stress.

#### Spark Plugs and Wires

High quality, spiral wound wire and proper routing are essential to the operation of the CT PRO™ Ignition Control. This type of wire provides a good path for the spark to follow while minimizing electromagnetic interference (EMI).

**NOTE:** Do not use solid core spark plug wires with the CT PRO™ Ignition Control.

#### Routing

Wires should be routed away from sharp edges, moving objects, and heat sources. Wires that are next to each other in the engine's firing order should be separated. For example, in a Chevy V8 with a firing order of 1-8-4-3-6-5-7-2, the #5 and #7 cylinders are positioned next to each other on the engine as well as in the firing order. Voltage from the #5 wire could jump to the #7 wire. This could cause detonation and engine damage.

For added protection against cross-fire, Mallory offers PRO SHIELD insulated sleeving. Pro Shield is a glass woven, silicone coated protective sleeve that slides over your plug wires. It also helps reduce damage from heat and sharp objects.

#### Welding

To avoid any damage to the CT PRO™ Ignition Control when welding on the vehicle, disconnect the positive (red) and negative (black) power cables of the CT PRO™ Ignition Control. It is also a good idea to disconnect the tachometer ground wire as well.

#### Distributor Cap and Rotor

We recommend installing a new distributor cap and rotor when installing the CT PRO™ Ignition Control. Be sure the cap is clean inside and out, especially the terminals and rotor tip. On vehicles with smaller caps, it is possible for the air inside the cap to become electrically charged causing crossfire which can result in misfire. You can prevent this by drilling a couple of vent holes in the cap. Drill the holes between terminals at rotor height, facing away from the intake. If needed, place a small piece of screen over the holes to act as a filter.

#### CT PRO™ Diagnostic LED

On the end panel of your CT PRO™ Ignition there is a small hole. Behind this hole is a red LED indicator. This serves two purposes: when you first turn on the ignition switch, the LED will flash rapidly 3 times. This indicates that the ignition system has power, and that the microprocessor is running properly. In addition, the LED will flash when receiving a proper trigger signal from the vehicle. If, after a normal power-up, the LED doesn't flash when cranking the engine, you should check your triggering circuit for problems. If the LED flashes when the engine is cranked, but there is still no spark, the problem lies somewhere else.

#### CT PRO™ Cylinder Selection

Your CT PRO™ Ignition comes from the factory set up for 8 cylinder operation. If you want to use this ignition with a 4 or 6 cylinder engine, rotate the "CYL" cylinder select switch to either the 4 or 6 position.

#### Mounting

The CT PRO™ Ignition Control can be mounted in any position. If you mount it in the engine compartment, keep it away from moving objects and heat sources. When you find a suitable location to mount the unit, make sure all wires of the ignition reach their connections. Hold the ignition in place and mark the location of the mounting holes. Use the appropriate size drill to accommodate your mounting hardware.

#### Wiring

The CT PRO™ Ignition Control is designed to be used with the industry standard circle track style 6-Pin Harness. If you are installing the ignition in an application that is not so equipped, we recommend you purchase Mallory Part Number 29605 6-Pin Harness, which is 6 feet long and terminated with the matching connector on one end. A 4 foot power harness is available as Mallory part number 29606.

#### Grounds

A poor ground connection can cause many frustrating problems. When a wire is specified to go to ground, connect it to the chassis. Always connect a ground strap between the engine and chassis. Connect any ground wires to a clean, paint-free metal surface.

## WIRE FUNCTIONS

### Power Leads

The 2 pin connector delivers battery voltage to the ignition:

|             |   |
|-------------|---|
| Heavy Red   | Connects directly to the battery positive (+) terminal or to a positive battery junction. It could also be connected to the positive side of the starter solenoid. NOTE: Never connect this wire to the alternator. |
| Heavy Black | Connects to frame or chassis ground.  |

The 6 pin connector should be wired as follows:

- A - Red - 12V Ignition power
- B - Brown - Tach signal
- C - Black - Coil “-” Minus
- D - Orange - Coil “+” Plus
- E - Green - Mag P/U “-” Minus
- F - Purple - Mag P/U “+” Plus

The 1 Pin Connector is a points input that can be used for a kill switch. Grounding this lead will ground the magnetic trigger input.

### ROUTING WIRES

Route all wires away from heat sources, sharp edges, and moving objects. Route the trigger wires separate from the other wires and spark plug wires. If possible, route them along a ground plane, such as the block or firewall, which creates an electrical shield. The magnetic pickup wires should be routed separately and twisted together to help reduce extraneous interference.

**WARNING:** The CT PRO™ Ignition Control is a capacitive discharge ignition. High voltage is present at the coil primary terminals. Do not touch these terminals or connect test equipment to them.

## COMMON COLORS FOR MAG PICKUP WIRES

|   |              |              |
|---|--------------|--------------|
| Distributor   | Mag +        | Mag -        |
| Mallory Crank Trigger   | Purple       | Green        |
| Mallory Billet Competition Distributor, Series Nos. 81 and 84 | Orange       | Purple       |
| Mallory CT PRO™   | Orange       | Purple       |
| MSD   | Orange/Black | Violet/Black |
| MSD Crank Trigger   | Orange/Black | Violet/Black |
| Ford  | Orange       | Purple       |
| Chrysler  | Orange/White | Black        |

### RPM Limiter Settings

The single stage CT PRO™ Rev Limiter is adjusted by using the pair of switches on the right side on the end plate labeled “RPM LIMIT”. The switch nearest the diagnostic LED, the left hand switch of the pair, is used to adjust in 1,000 RPM increments and the right hand switch is used to adjust in 100 RPM increments. Example - If the left hand switch of the pair is adjusted to the 7 and the right hand switch of the pair is adjusted to the 5, the rev limiter is adjusted to 7,500 RPM.



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