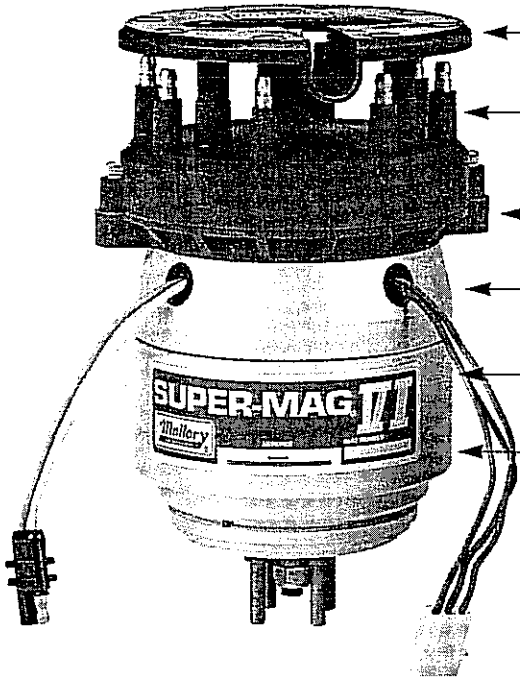




SUPER-MAG® VI ELECTRONIC MAGNETO IGNITION SYSTEM



- ← SCREW MOUNTED SPARK PLUG WIRE RETAINER HOLDS SPARK PLUG WIRES FIRMLY IN PLACE.
- ← POSITIVE LOCKING SCREW-DOWN PRO CAP IS THE LARGEST CONTACT TERMINAL DIAMETER DISTRIBUTOR CAP IN THE PERFORMANCE INDUSTRY AND HAS EXTENSIVE RIBBING TO PREVENT CROSS FIRING.
- ← SPECIALLY DESIGNED, COUNTERBALANCED SCREW-DOWN ROTOR/SHUTTER WHEEL WITH EXTENSIVE RIBBING AND ADAPTER SHIELD INTERLOCK TO PREVENT CROSS FIRING.
- ← INFRARED PHOTO-OPTIC TRIGGER HAS NO MOVING PARTS OR PICKUP TO ADJUST OR WEAR OUT.
- ← NEODYMIUM-IRON-BORON (RARE-EARTH ELEMENTS) MAGNETS THAT DO NOT NEED TO BE RECHARGED ASSEMBLED ON A 0.500" SHAFT WITH UPPER AND LOWER DOUBLE SEALED RADIAL BEARINGS.
- ← CNC-MACHINED 6061-T6 ALUMINUM BILLET HOUSING FOR ADDED STRENGTH AND RELIABILITY.

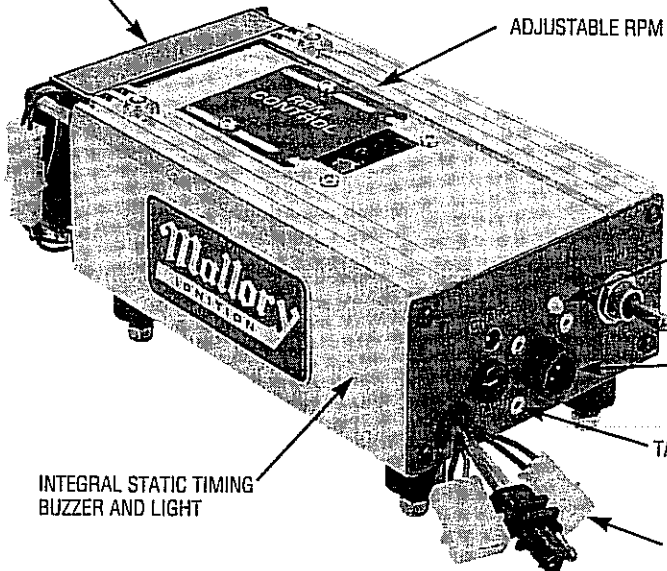
NEW AND IMPROVED OIL FILLED EXTERNAL MOUNTED TRANSFORMER MAKES FOR A MORE EFFICIENT TRANSFORMER AND MORE POWERFUL MAGNETO. OIL COOLS AND INSULATES THE WINDING INSIDE A RUGGED, GLASS-FILLED POLYESTER CASE WITH A SHOCK RESISTANT BRACKET.



INTEGRAL 12-VOLT BATTERY

THE SUPER-MAG® VI ELECTRONIC CONTROL HAS ALL THESE FEATURES AND WEIGHS ONLY 3.3 POUNDS

ADJUSTABLE RPM LIMITER



BATTERY CONDITION INDICATOR LIGHT

OPTIONAL STAGING CONTROL HOOK-UP

TACHOMETER OUTPUT TERMINAL

INTEGRAL STATIC TIMING BUZZER AND LIGHT

12-VOLT OUTPUT CONNECTOR

SUPER-MAG® VI ELECTRONIC MAGNETO IGNITION SYSTEM

Fuel and Alcohol Racing are probably the most exciting displays of unlimited horsepower and performance anyone could witness in all of the motorsports. The ignition system is a critical component for an engine of this type.

In the Spring of 1995, Mallory introduced the new SUPER-MAG® VI Electronic Magneto. This magneto made significant improvements in spark plug current and timing stability at 10,000 RPM and higher for Alcohol Dragster, Alcohol Funny Car and Pro Modified Classes. The SUPER-MAG® VI Electronic Magneto was found to have more secondary current, spark duration and energy than the MSD Pro Mag™ 12 alcohol magneto. In February 1996, dynamometer testing a blown alcohol engine revealed a single SUPER-MAG® VI Electronic Magneto found an average of 40-horsepower more than the MSD Pro Mag™ 12 alcohol magneto.

The SUPER-MAG® VI Electronic Generator's output has increased higher than the SUPER-MAG® III and IV Magnetos. This generator uses Neodymium-Iron-Boron (Nd-FE-B; rare-earth elements) magnets that do not need constant recharging. Also, like the SUPER-MAG® V and X Electronic Magnetos, this generator does not use breaker points. The generator has a rotor/shutter wheel and infrared photo-optic trigger that exceeds RPM capabilities of point trigger magnetos. This combination of rotor/shutter wheel and infrared photo-optic trigger is the same one used in SUPER-MAG® V and X Electronic Magneto Ignition Systems on nitro-burning engines for the past several years. The rotor/shutter wheel and infrared photo-optic trigger have no moving parts or pickup to adjust or wear out.

NEW for 1996...The SUPER-MAG® VI Electronic Control for Alcohol Dragster and Funny Cars has an integral rechargeable 12-volt battery. The battery energizes the electronic control and the infrared photo-optic trigger inside the generator. Accordingly, the generator does not use its power to energize the electronic control and the infrared photo-optic trigger inside the generator. Also, the battery operates the optional Staging Control Part No. 639-4, tachometers, RPM activated switches and shift lights. A battery condition indicator light tells you when the battery needs charging.

NEW for 1996...The SUPER-MAG® VI Electronic Control for Pro Modified classes uses the vehicle battery to energize the electronic control and the infrared photo-optic trigger inside the generator. Accordingly, the generator does not use its power to energize the electronic control and the infrared photo-optic trigger inside the generator.

The SUPER-MAG® VI Electronic Control has a built-in proportional engine protection RPM limiter adjustable from 3,000 to 10,800 RPM set with a DIP switch for easy RPM programming in 200 RPM increments. This protects the engine

from dangerous over revving. Special resistors (chips) are not necessary. The engine protection RPM limiter may be shut-off if you do not want a RPM limiter.

The SUPER-MAG® VI Electronic Control has a socket on the housing for an optional Mallory Staging Control Part No. 639-4 to plug into. This is used when you want a RPM limiter to control the engine RPM while on the starting line. This Staging Control is adjustable from 2,000 to 9,000 RPM in 200 RPM increments.

The SUPER-MAG® VI Electronic Control has a tachometer output terminal that will operate standard ignition tachometers. Also, the tachometer output terminal will operate RPM triggered devices such as the Mallory RPM Activated Switches.

Ignition timing is easier with the electronic control having an integral static timing buzzer. Also, a (timing) light comes ON when the buzzer sounds. If the area you are working is noisy, the light becomes handy when you cannot hear the buzzer.

The electronic control is supplied with specially designed rubber shock mounts to absorb vibration and guard against internal damage.

Problems in the past of kill switches being susceptible to internal arcing or contact wear from the high levels of primary current going to the transformer have been eliminated. With this ignition system, the kill switch wiring is moved to the wire harness between the generator and the electronic control. You may use an inexpensive toggle switch. Remember, a kill switch, or master shut-off switch, is an important safety device in any racing application.

The SUPER-MAG® Transformer Part No. 28900A features oil impregnated windings. The oil cools down the winding and inhibits arcing. Also, the oil filled external mounted transformer makes for a more efficient transformer and more powerful magneto. The winding is inside a rugged, glass-filled polyester case. The transformer comes with brass contact terminals including a spark plug type coil wire terminal for more positive coil wire retention and a shock resistant bracket.

When it comes time to compare magnetos, it is fair to test similar magnetos. Comparing dissimilar magnetos would be like comparing the sophisticated distributorless ignition system to the single point ignition system. Each ignition system was made for a certain purpose. Mallory would not compare or suggest the SPRINTMAG® Series of Magneto Ignition Systems for blown nitro and alcohol engines. Mallory's relentless pursuit to continue to enhance and improve the SUPER-MAG® Series of Magneto Ignition Systems has brought increased speeds and lower elapsed times. Without this leadership in magneto technology, pioneered by Mallory, the awesome performance established in Fuel and Alcohol Racing would not be where it is today.

BLOWN ALCOHOL MAGNETO COMPARISON

Manufacturer's recommended ignition system for Alcohol Dragster,
Alcohol Funny Car and Pro Modified Classes

PARAMETER

MALLORY

MSD

SUPER-MAG® VI

PRO MAG™ 12

ELECTRONIC MAGNETO

(ELECTRONIC) MAGNETO

Transformer used in testing
Generator Inductance

Part No. 28900A	Part No. 8105 (integral)
15.0 Millihenries	3.5 Millihenries

3,000 RPM TEST

Primary Current (at firing point)
Primary Current (average)
Primary Energy
Secondary Current (SAE)
Secondary Current (average)
Secondary Gap Voltage
Secondary Burn Time

Secondary Energy (SAE)

7 Amps	11 Amps
5 Amps	(not tested)
368 Millijoules	211 Millijoules
150 Milliamps	100 Milliamps
58 Milliamps	44 Milliamps
900 Volts	900 Volts
2.8 Milliseconds (50.4° crankshaft rotation)	1.4 Milliseconds (25.2° crankshaft rotation)
189 Millijoules	63 Millijoules

6,000 RPM TEST

Primary Current (at firing point)
Primary Current (average)
Primary Energy
Secondary Current (SAE)
Secondary Current (average)
Secondary Gap Voltage
Secondary Burn Time

Secondary Energy (SAE)

7 Amps	10 Amps
5 Amps	(not tested)
368 Millijoules	175 Millijoules
200 Milliamps	100 Milliamps
64 Milliamps	54 Milliamps
900 Volts	900 Volts
1.50 Milliseconds (54° crankshaft rotation)	.75 Milliseconds (27° crankshaft rotation)
135 Millijoules	34 Millijoules

(NOTE: SAE refers to SAE J973a standard)

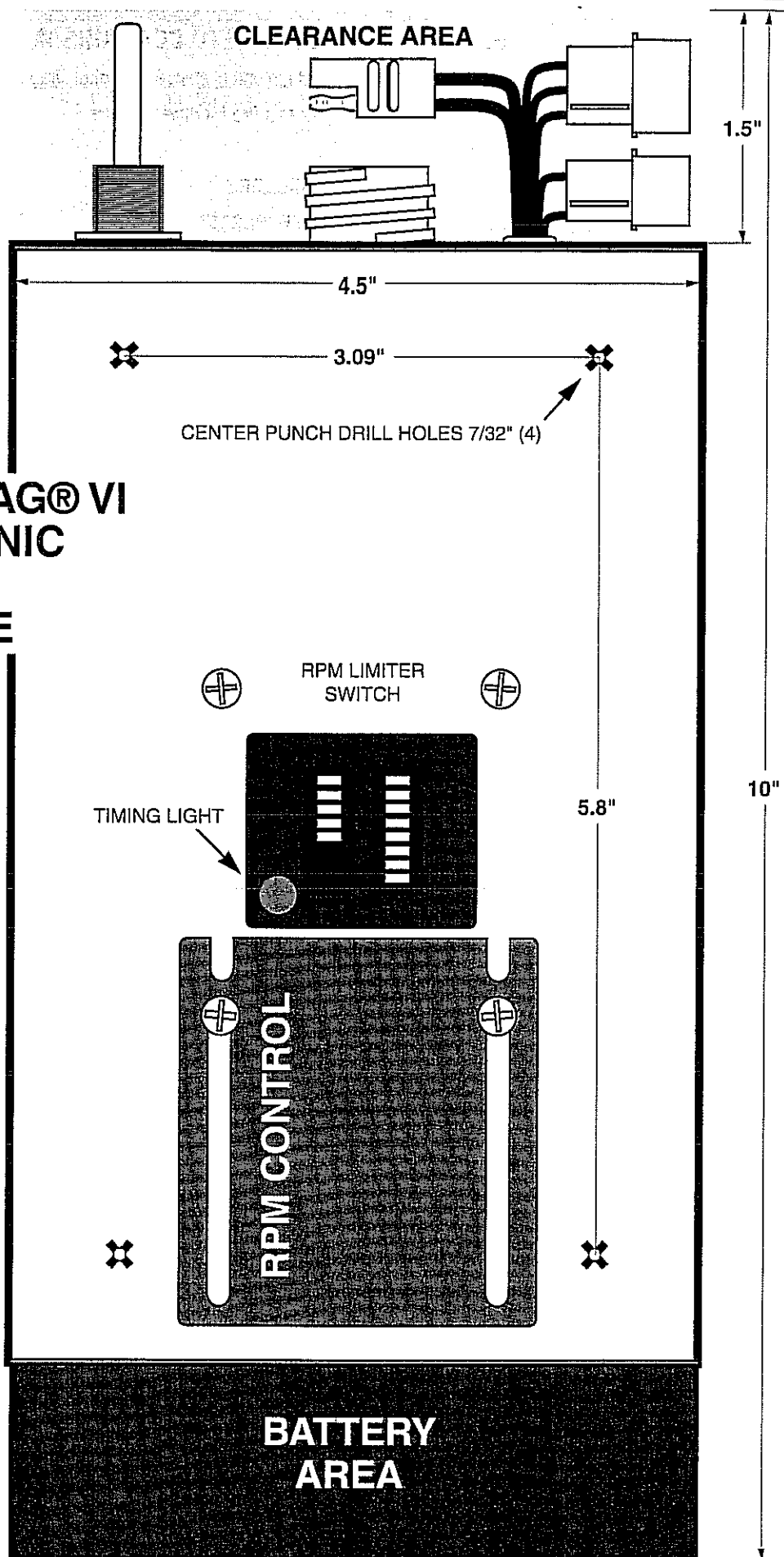
Generator Weight
Electronic Control Weight
Transformer Weight
Total Weight

6.3 Pounds	10.2 Pounds
3.3 Pounds (with battery)	4 Pounds
3.2 Pounds	(inside Electronic Control)
12.8	14.2

Important Performance Advantages

SUPER-MAG® VI ELECTRONIC CONTROL TEMPLATE

HEIGHT: 3.5"



SPECIFICATIONS

Generator Size and Weight

Diameter: Outside diameter of generator housing, 4-1/8 inches;
Outside diameter of the Pro Cap, 5 inches.

Height: 6-7/8 inches from the band clamp to the top of the Pro Cap wire retainer; 3/4 inches higher than SUPER-MAG® III, IV or V Magneto.

Weight: 6.3 pounds with Pro Cap, rotor and drive flange.

Electronic Control Size and Weight

Length: 10 inches with clearance space for switch and harnesses.

Width: 4-1/2 inches.

Height: 3-1/2 inches with shock mounts.

Weight: 3.3 pounds with battery; 2.6 pounds without battery.

SUPER-MAG® Transformer Part No. 28900A

Weight: 3.2 pounds with shock resistant bracket.

GENERAL INFORMATION

Spark Plug Wires:

YOU MUST USE spiral core suppression spark plug wire between the transformer/coil and the distributor cap - *minimum 18" required*. This prevents false triggering and damage to the electronic control and infrared photo-optic trigger inside the generator. Mallory PRO SIDEWINDER® Ignition Wire is highly recommended. When running dual ignition systems, both transformer/coil wires must be spiral core suppression spark plug wire even if the second ignition is not electronic.

Battery Condition Indicator Light:

The light is green light when the electronic control is ON and the battery condition is good. Charge the battery or change the electronic control immediately if the light is OFF.

The light may change from green to red during a run. Do not panic. There is enough voltage in the battery to finish the run, then charge the battery or change the electronic control.

Transformer Mounting:

The transformer must be mounted with the high voltage terminal coming from the bottom and positioned such that it does not come closer than 2.5" from the nearest metallic surface to prevent internal damage.

Spark Plug Gaps:

The SUPER-MAG® Magneto has tremendous output. Experiment and closely monitor spark plugs and spark plug gaps for maximum performance. Set spark plug gap clearances from 0.018" to 0.022".

Primary Wires:

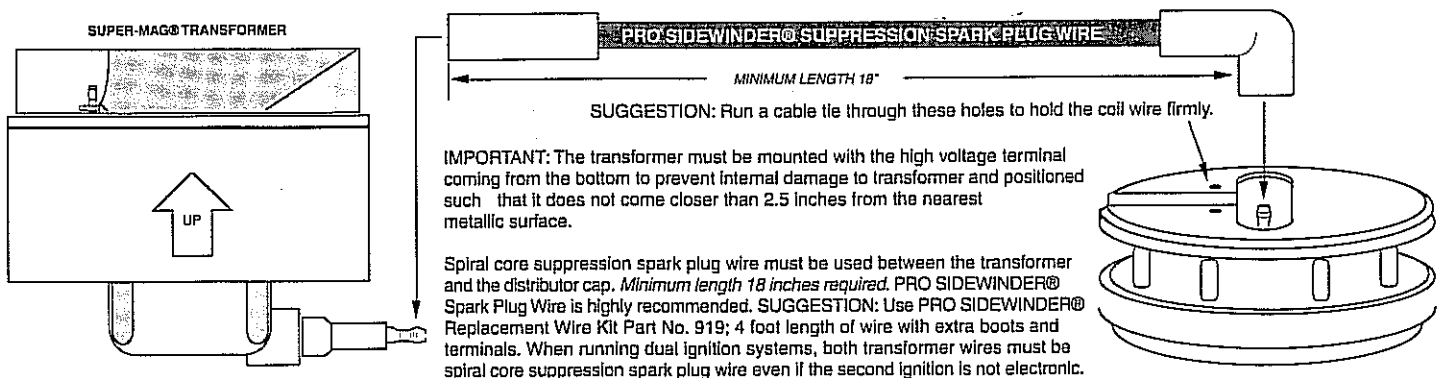
16AWG/600V or larger wire must be used on all wiring. All grounds must be made to the engine block. Do not ground to chassis or anodized surfaces. On dual ignition systems, each ignition system must run independent of the other.

Electronic Control Box Switches:

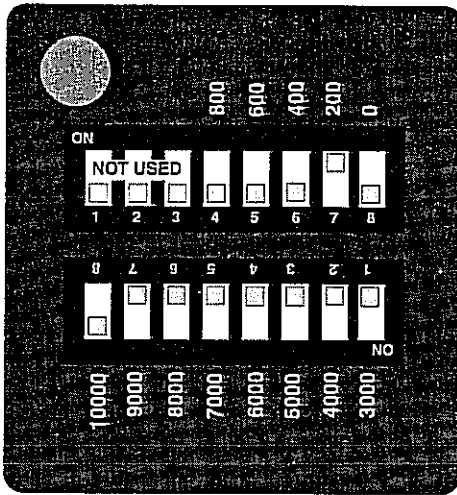
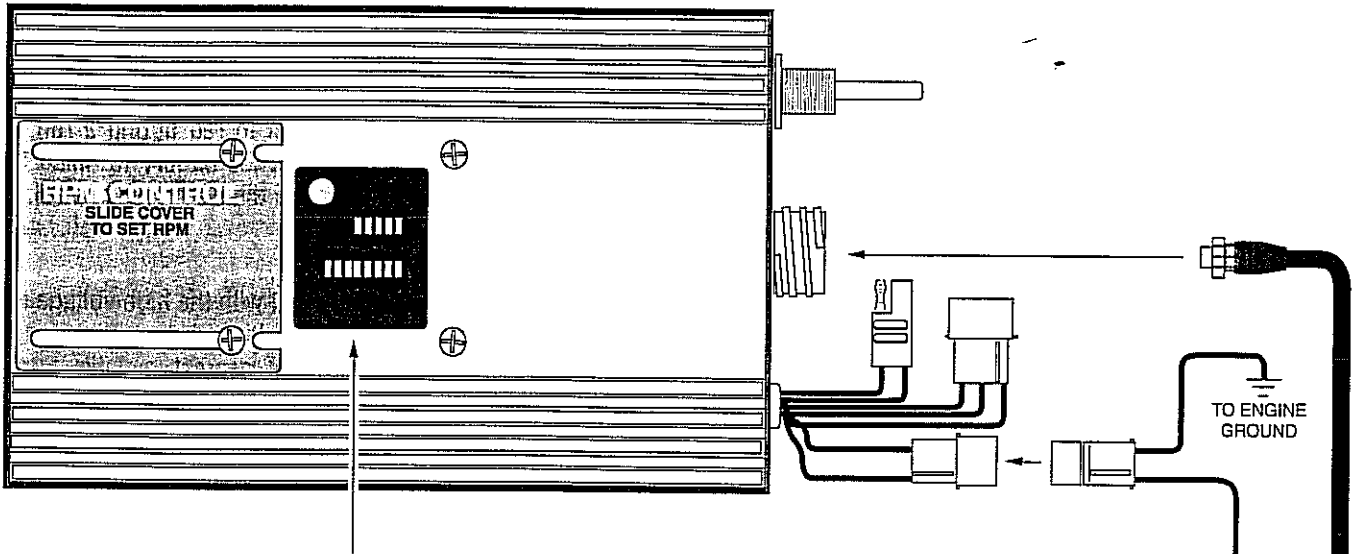
You can turn the electronic control switch OFF while the engine is running to shut-off the engine.

When running dual ignition systems, you can turn one electronic control switch OFF while the engine is running to shut-off that ignition. The engine will remain running on the other ignition. Similarly, put that electronic control switch back to the RUN to resume operation.

SECONDARY WIRING



ENGINE PROTECTION RPM LIMITER SETTING



↑
ON / 100'S

↓
ON / 1000'S

EXAMPLE: ENGINE PROTECTION LIMIT 10,200 RPM

The switches for setting the engine protection RPM limiter is under the slide-back cover on top of the housing. Loosen the four screws and slide the cover to see the switches. You will see two sets of switches. The RPM range is selected by moving certain switches ON. Special resistors (chips) are not necessary. The RPM limiter range is from 3,000 to 10,800 RPM in 200 RPM increments. There are switches labeled from 3000 to 10000 and switches labeled from 0 to 800. Move a switch ON labeled from 3000 to 10000 to select the 1000's of RPM. Move a switch ON labeled from 0 to 800 to select the 100's of RPM.

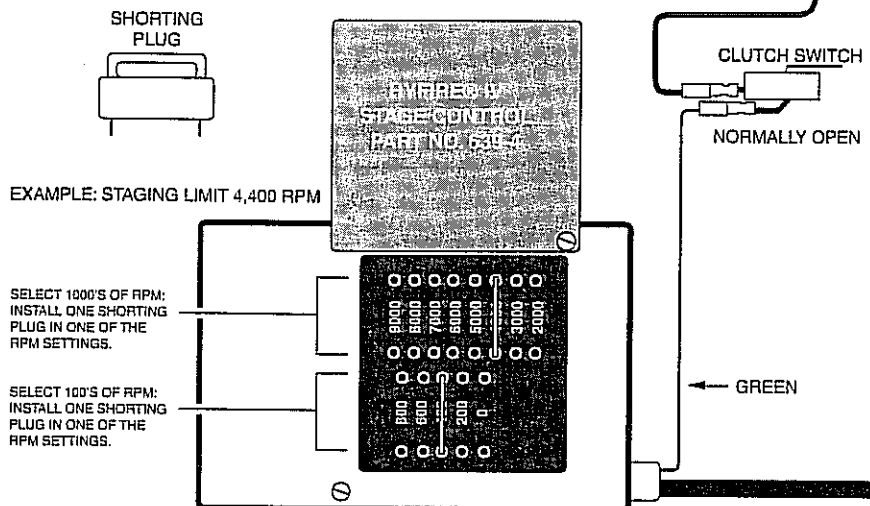
NOTE: Disable the engine protection RPM limiter by not moving any of the switches ON. Therefore, the engine protection RPM limiter will not interfere with the regular operation of the ignition system.

OPTIONAL STAGING CONTROL RPM LIMITER SETTING

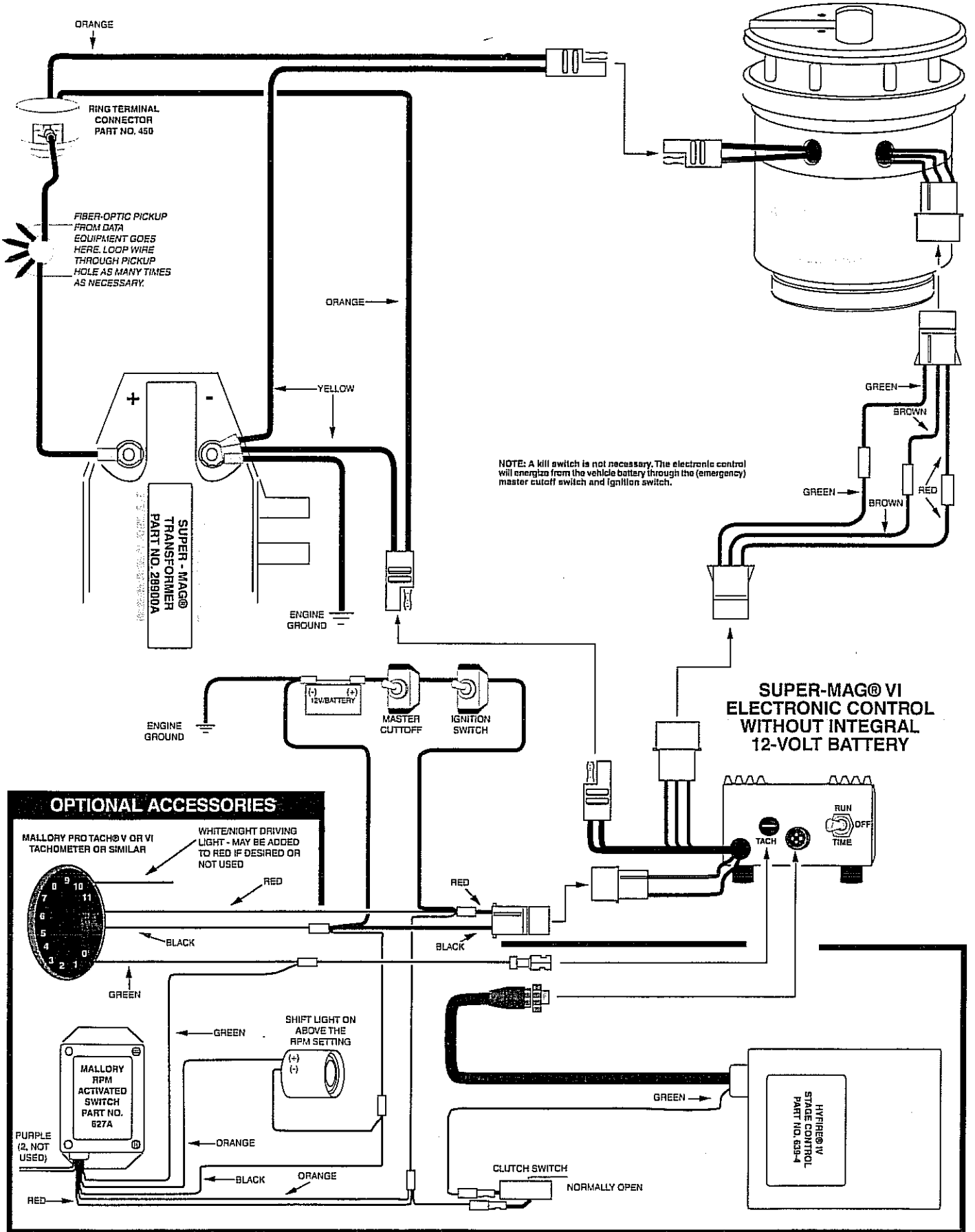
Loosen the two screws to allow the cover to swing aside to access the RPM program section. The RPM range is selected by using two small shorting plugs. Special resistors (chips) are not necessary. The RPM limiter range is from 2,000 to 9,000 RPM in 200 RPM increments. There is a row of jacks labeled from 2000 to 9000 and a row of jacks labeled from 0 to 800. Install the first shorting plug in a jack labeled from 2000 to 9000 to select the 1000's of RPM. Install the second shorting plug in a jack labeled from 0 to 800 to select the 100's of RPM.

NOTE: A piece of wire with bare ends may be used instead of shorting plugs.

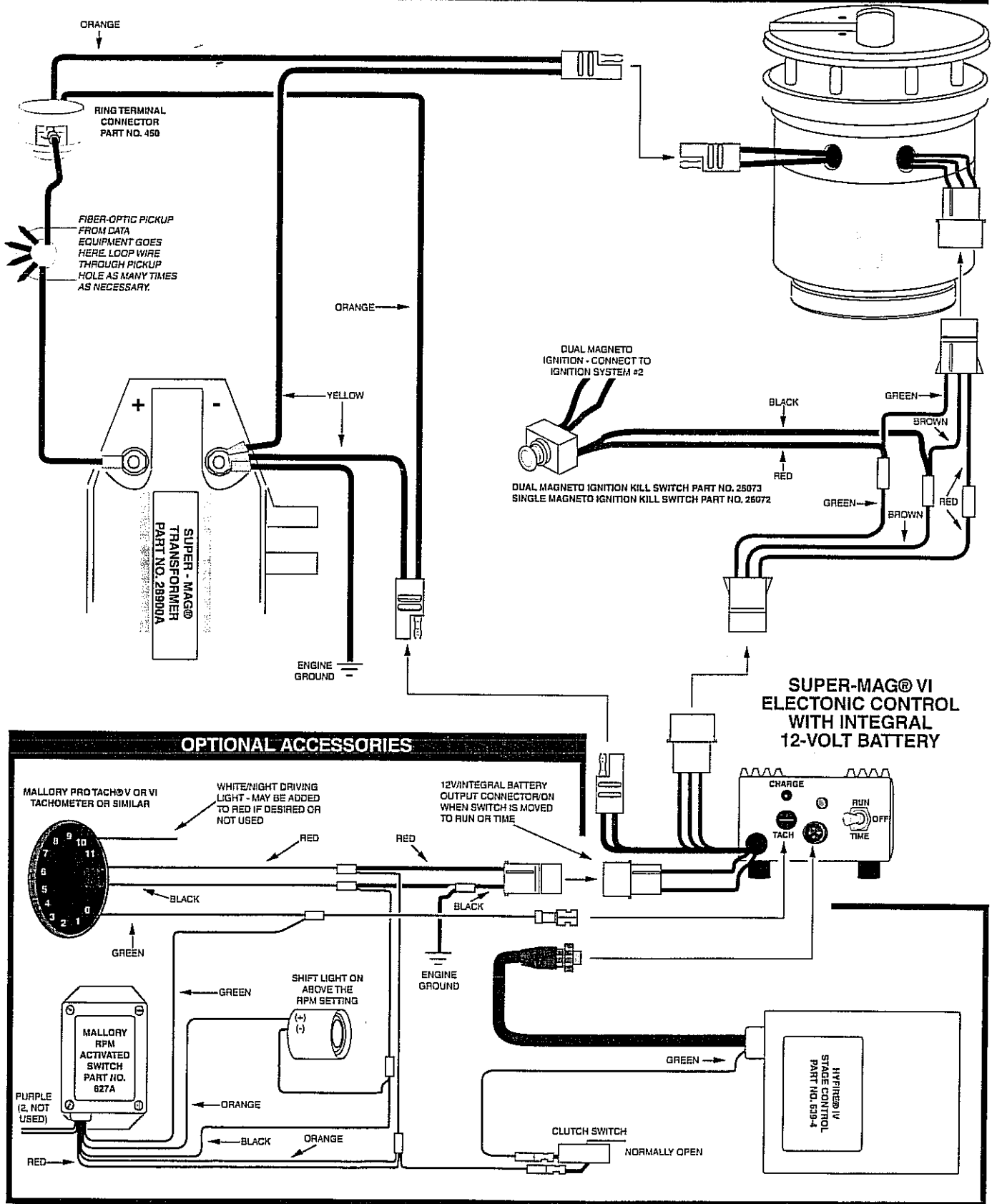
The HYFIRE® IV Staging Control RPM limiter is ON when 12-volts is applied to the green wire.



**PRIMARY WIRING DIAGRAM: SUPER-MAG® VI ELECTRONIC MAGNETO
PRO MODIFIED**



PRIMARY WIRING DIAGRAM: SUPER-MAG® VI ELECTRONIC MAGNETO ALCOHOL DRAGSTER AND ALCOHOL FUNNY CAR



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