

The background of the cover is a black and white photograph of a truck's engine compartment. A hand is visible in the lower left, reaching towards the engine. The engine block has 'ROSS' embossed on it. In the upper right, there are three large circular air filters with 'LINCOLN' and 'RIDGID' branding. A red MSD Pro-Mag battery pack is the central focus, featuring three red cylindrical cells with 'MSD' labels. A red banner is overlaid on the left side of the image.

**MSD**  
**PRO-MAG**  
2015 CATALOG

# INTRODUCTION

Total performance is what sets the MSD Pro-Mag® apart from all other magnetos. The Pro-Mag delivers unequalled power with the most accurate triggering and timing control in the business! The Pro-Mag generates the highest current possible and precisely controls its delivery to the coil and plugs with perfect consistency. The Pro-Mag will allow you to maximize the power production of your engine!

MSD has not only revolutionized the power output of the magneto, but has also taken reliability to a level not seen before. The Pro-Mag is the only maintenance-free magneto available. Our generator never needs to be recharged, the pickup never needs adjustment, nor do batteries ever need to be replaced. Additionally, the Pro-Mag allows you the option of running timing controls, the ability to set a rev limit, or utilize a crank trigger for the utmost in timing accuracy. As if that isn't enough, the list of features is constantly evolving.

Never content to rest on our laurels, MSD engineers are continually pushing the performance envelope in search of more power and better consistency. Research & Development is a constant at MSD. We actively solicit feedback from top race teams and incorporate their suggestions into all of our components. This candid communication led directly to sprint car Crank Trigger components as well as the digital programmable retard controller for Top Fuel.

Take a walk through the pits at any professional race and note the dominance of MSD Pro-Mag components. This is proof positive of MSD's superior performance. MSD is truly the epitome of performance ignition!

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# THE PRO-MAG ADVANTAGE



The Pro-Mag 12 is available with a band clamp mount, as well as special lightweight housings for Chevrolet, Ford and Chrysler engines. A separate Electronic Points Box with an integrated coil is used to handle the generator's output, plus there is even a built-in rev control.



The Pro-Mag 44 is available only with a band clamp mount for clockwise or counter-clockwise rotation. The 44-amp uses an Electronic Points Box and a severe duty coil to handle the generator's 44 amps of primary current.

MSD Pro-Mags® are the most powerful magnetos available. But did you know they're also practically maintenance-free? You'll never have to worry whether the magnets are fully charged because the Pro-Mag is always at full power. This allows you to concentrate on your tune-up and the race!

The Pro-Mag is available in three series: the Pro-Mag 12 for sprint cars and alcohol-burning engines, the 20 amp for blown alcohol race engines and the Pro-Mag 44 for nitro-methane applications. Each series' spark output and electronic controls are optimized for their specific application.

Each housing is machined on state-of-the-art CNC machines to the exact tolerances that hardcore racing demands. Sealed ball-bearing assemblies support a 0.500" hardened steel shaft that drives the unique power-producing center. The generator assembly is comprised of 16 rare earth magnets and unique current-producing windings. Mounted at the base of each generator is a race-proven magnetic pickup. The magnetic pickup accurately triggers the Electronic Points Box, which sends the Pro-Mag's energy to the spark plugs to ignite the fuel mixture!

## No Points to Adjust or Replace:

The Pro-Mags use a high output magnetic pickup to trigger the ignition.

## No Batteries to Replace:

The Pro-Mag creates and uses its own power to run the Electronic Points Box.

## Magnets Never Need to be Charged:

Powerful Rare Earth magnets never lose their charge so the mag is always at full output.

*Optional Rev Limiter Available!*

# COILS & POINT BOXES

## Pro-Mag 44 Amp Coil

It takes a specially-engineered coil to handle the 44 amps supplied by the Pro-Mag generator. The coil steps up the current to as much as 45,000 volts while sending over one amp across the plug gap. This high voltage is required to initialize the spark when it's up against nitro and extreme boost pressures.

The Pro-Mag 44 Coil is hand assembled in-house and features over a pound of copper, carefully wound around a unique bobbin molded from DuPont® Rynite™. These windings and internals of the coil are completely encased in epoxy for protection against vibration damage and ensure the ultimate in reliability. The entire assembly is housed in a tough, molded plastic shell with extremely high voltage isolation characteristics. Brass primary and secondary terminals ensure full-voltage delivery. Heavy-duty vibration mounts are also included.

**Pro-Mag 44 Coil Red** \_\_\_\_\_ **PN 8142**  
**Pro-Mag 44 Coil Black** \_\_\_\_\_ **PN 81423**

*Note: Not for use with the Pro-Mag 12/20*



PN 81423

PN 8142

### PRO-MAG 44 AMP COIL

Dimensions	Weight
5.5" L x 4.9" W x 5.4" H	4.9 lbs

## Electronic Points Boxes for Pro-Mag 44

The Electronic Points Box is responsible for controlling the Pro-Mag 44's energy. The magnetic pickup in the generator delivers the trigger signal while the Box takes care of the rest: namely the long duration spark and quick rise time.

The MSD electronic circuitry releases the power of the generator to the coil instantly and at full power. No other magneto can match the Pro-Mag in rise time! The coil instantly produces an incredible shot of voltage to ionize the plug gap. The current then takes over, ensuring that the nitro-methane is ignited! The Electronic Points Box keeps the electricity flowing across the plug for a full 26° of crankshaft rotation, ensuring complete combustion.

A strong cast aluminum housing provides a solid mounting foundation for the electronics, as well as an excellent heat sink. For protection against 300-mph vibrations, the circuits receive a heavy-duty coating of Humi-Seal compound.

**Pro-Mag 44 Electronic Points Box,**  
**Standard Red Box** \_\_\_\_\_ **PN 8145**  
**Standard Black Box** \_\_\_\_\_ **PN 81453**  
**with Rev Limiter Red Box** \_\_\_\_\_ **PN 8147**  
**with Rev Limiter Black Box** \_\_\_\_\_ **PN 81473**

*Note: Not for use with the Pro-Mag 12/20*

*RPM Modules must be purchased separately*



PN 81453

PN 8145

### STANDARD 44 AMP BOX

Dimensions	Weight
6" L x 3.5" W x 1.75" H	1.9 lbs



PN 81473

PN 8147

### 44 AMP BOX WITH REV LIMITER

Dimensions	Weight
8.75" L x 4" W x 2.25" H	2.5 lbs

# CRANK TRIGGERS



## Blower Hub Crank Triggers

## Flying Magnet™ Crank Trigger Kits

An MSD Flying Magnet Crank Trigger incorporates a trigger wheel that has four rare earth magnets mounted 90° apart. A special non-magnetic pickup is mounted near this wheel on a billet aluminum bracket. As each magnet passes it creates a trigger signal. Since only the magnets can trigger the pickup, the system cannot be false triggered. This all adds up to the most accurate and reliable way to fire your Pro-Mag.

These kits are designed for stock and replacement Chevrolet balancers. Each kit is supplied with a non-magnetic pickup, trigger wheel, brackets and hardware.

<b>Small Block</b>	<b>6.25" Balancer</b>	_____	<b>PN 8600</b>
<b>Small Block</b>	<b>7" Balancer</b>	_____	<b>PN 8610</b>
<b>Small Block</b>	<b>8" Balancer</b>	_____	<b>PN 8615</b>
<b>Big Block</b>	<b>8" Balancer</b>	_____	<b>PN 8620</b>
<b>Chrysler Big Block</b>		_____	<b>PN 8636</b>
<b>Universal Kit,</b>			
<b>4-12 cyl</b>	<b>7" Wheel</b>	_____	<b>PN 8655</b>

### Replacement Wheels

<b>SB Chevy</b>	<b>7" Balancer</b>	_____	<b>PN 8611</b>
	<i>Wheel Only</i>		
<b>BB Chevy</b>	<b>8" Balancer</b>	_____	<b>PN 8621</b>
	<i>Wheel Only</i>		

## Non-Magnetic Pickups

Each pickup is wound on special bobbins and terminated to our tinned conductor, Teflon-jacketed wiring. A strain relief protects the wiring where it leaves the threaded housing. Once assembled, the wiring is placed in a vacuum chamber and the windings are potted in a fracture resistant epoxy compound for durability in extreme conditions.

The Non-Magnetic Pickups are available in two housing sizes. The 3/4" diameter model is for use with MSD's Flying Magnet Crank Trigger Kits. The 3/8" diameter model is for use with MSD's Sprint Car Crank Trigger systems, as well as the aftermarket kits from RCD and PSI.



<b>Large Pickup</b>	_____	<b>PN 8276</b>
	<i>3/4" x 12 x 2.25"</i>	
<b>Small Armor Braided 32"</b>	_____	<b>PN 8154</b>
	<i>3/8" x 24 x 1.5"</i>	
<b>Small Pickup 36"</b>	_____	<b>PN 8159</b>
	<i>3/8" x 24 x 1.5"</i>	

matcotools

MAKING POWER



PRO-MAG or NO MAG!

# PRO-MAG 44

The Pro-Mag 44® is the King of all magnetos! Producing an amazing 44 amps of primary current, it's no wonder that the Pro-Mag 44 is the choice of top fuel dragster and funny car teams!

The 44 utilizes a proprietary combination of rare earth magnets and windings to produce its incredible energy. A magnetic pickup is mounted in the lower base of the generator to accurately trigger the eight precision paddles on the reluctor. The pickup is far superior to weak and inaccurate points and never requires adjustment or replacement. The assembly spins on a 0.500-inch shaft with sealed ball bearings for long life.

When the pickup is triggered, the signal is sent to the Electronic Points Box where the spark duration is controlled and directed to the 44's Coil. Each coil winding contains over a pound of copper wire that is hand-wound for accuracy. The voltage is immediately stepped up and sent to the mag's cap where it gets accurately distributed to the correct spark plugs, maximizing the explosion of heat and energy in the cylinder.

Versatility is the name of the game with the Pro-Mag 44. Its design allows you to incorporate optional accessories such as a crank trigger, for the ultimate in ignition precision. Other possibilities include a Timing Retard Control or a rev limiter for improved consistency and safety.

The Pro-Mag 44 generator is available in both clockwise and counterclockwise rotation models, with band clamp housings. The 44 utilizes a cross drive and comes with a five-inch diameter cap, a rotor, and a wire retainer.

## Pro-Mag 44 Generators

### CW Rotation

- Standard Cap, Red \_\_\_\_\_ PN 8130
- Standard Cap, Black \_\_\_\_\_ PN 81303
- Pro Cap, Red \_\_\_\_\_ PN 81305
- Pro Cap, Black \_\_\_\_\_ PN 81307

### CCW Rotation

- Standard Cap, Red \_\_\_\_\_ PN 8140
- Standard Cap, Black \_\_\_\_\_ PN 81403
- Pro Cap, Red \_\_\_\_\_ PN 81405
- Pro Cap, Black \_\_\_\_\_ PN 81407

- Chevy Drive, Standard Cap, Red \_\_\_\_\_ PN 8139

Primary Current: **44 Amps**

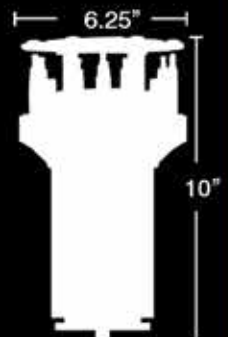
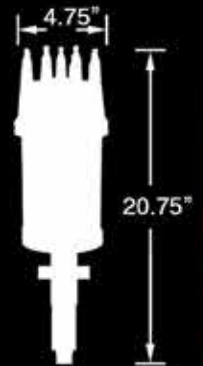
Spark Energy: **800 millijoules (at the gap)**

Secondary Voltage: **50,000 Volts**

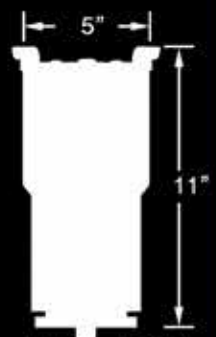
Secondary Current: **1.2 Amps**

Spark Duration: **26° Crankshaft Rotation**

RPM Rating: **Through 12,000 rpm**



Weight: 10.4 lbs



Weight: 10.4 lbs

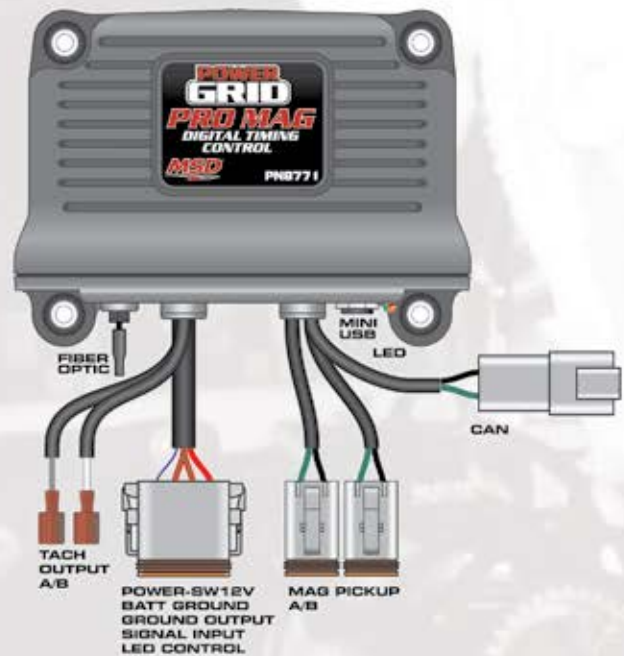
# PROGRAMMABLE CONTROLS

## Dual Channel Power Grid

The new Dual Channel Power Grid for Top Fuel Dragsters and Funny cars is the next evolution of our Pro Mag Digital Retard Control. The Dual Channel Power Grid incorporates a high speed 32 bit microprocessor and PC software, called MSD View via a USB Bluetooth™ wireless. It includes a high speed data acquisition recording engine RPM, timing, dual Tach signal, launch / WOT with sample rates of 100 samples per second or 10 milli seconds. It also includes a CAN-Bus connection, sending the recording to the RacePak data logger.

The MSD View software will program Timing curves with up to 30 points at 0.1 increments down to 0.01 seconds intervals. Multiple timing curves can be overlaid to choose the right one at the last minute. Other unique programs include a throttle lift timing retard, throttle inhibit timing retard and an auto pickup signal selector. This means that in the case of a crank trigger pick up failure, it will trigger the dead channel running both magnetos seamlessly.

The MSD View software includes a virtual dash board that can be configured to display engine RPM, Timing, Timing Retard, WOT, Timing Reset, Crank Trigger inputs and Output Triggers



## Dual Channel Power Grid NHRA T/F Dragster / Funny Car \_\_\_\_\_

PN 8771



### MANDATED NHRA SPEED LIMITER

The Digital Retard Controller has a built-in speed limiter that is mandated to NHRA specs for Top Fuel classes. Due to the speed limiter spec, this controller is not recommended for Alcohol classes or engines revving over 8000 rpm.

- **Mandated in NHRA / IHRA Top Fuel Dragster & Funny Car**
- **Provides a programmable time based timing curve with up to 32 points**
- **Stores different timing maps**
- **Easily transfer or change timing maps while in the staging lanes**

## Power Module

The Power Module has four high solid state switches that can be configured independently or in conjunction by Time, RPM and temperature switching On /OFF as well as by percentage for NOS systems. Each channel is capable of handling 20 amps of current without the use of a relay. It can be used to activate a fan, fuel pump, a NOS system, Throttle stop, the possibilities are endless. When connected to the Power Grid it will data log all the functions including Time from Launch, time or rpm of activation and deactivation.

## Power Module \_\_\_\_\_ PN 7764





# POWER GRID



## Power Grid Programming Features:

- USB connection for ease of programming
- Timing based on engine rpm and gear value
- Advanced individual cylinder timing based on gear or time
- Five retard stages for nitrous
- Four steps of rpm limits for burnout, spool, launch and overrev
- Output switch set on rpm, pressure or time
- Shift light settings for each gear
- Ignition data acquisition accepts multiple runs

The Power Grid Ignition System is the next evolution of our Programmable 7-Series Ignition Controls. The Grid incorporates an efficient 32 bit microcontroller and an all new software program, called MSD View, and is USB compatible. The Windows based software is designed with tabs to help racers easily select different programming windows and parameters. Also, the data acquisition files of the ignition are now captured on a micro SD card for ease of storage and reviewing.

The Power Grid Ignition incorporates CAN-Bus technology which reduces the amount of wiring and simplifies the addition of accessory modules.

**Power Grid Ignition System™:**  
**Controller** \_\_\_\_\_ **PN 7730**

**Replacement Harness**  
**for PN 7730** \_\_\_\_\_ **PN 7780**

**CAN-Bus Extension Harnesses:**

**2 feet** \_\_\_\_\_ **PN 7782**

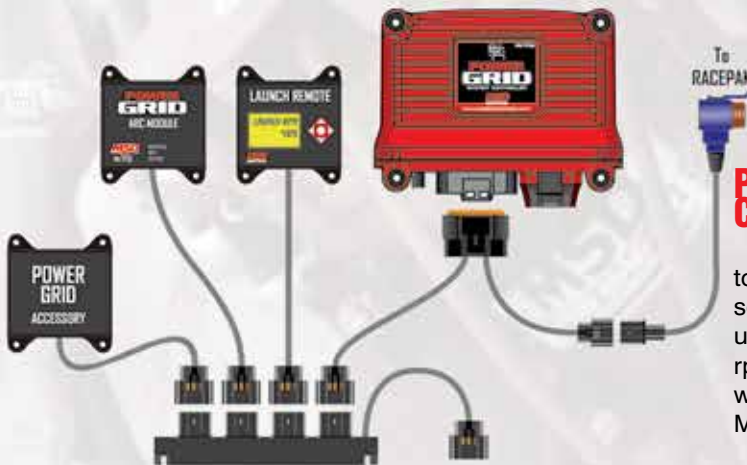
**4 feet** \_\_\_\_\_ **PN 7784**

**6 feet** \_\_\_\_\_ **PN 7786**

**Harness Adapter, PN 7730 to**  
**Digital-7 Programmable** \_\_\_\_\_ **PN 7789**

**Spark Plug Wire Sync Kit** \_\_\_\_\_ **PN 7555**

PN 7780



## PROGRAMMABLE SHIFTER CONTROLLER

This Programmable Shifter Controller allows you to program different rpm points to trigger the shift solenoids. Any transmission configuration may be used up to a six speed transmission. Programming the rpm and options of the Shift Controller can be done with MSD's Hand Held Monitor, PN 7550, or with the MSD Pro-Data+ Software on a Windows based PC.

**Programmable Shifter Controller**  
**PN 75591**



*For Additional Henco Hardware contact Snyder Motorsports, 219-987-2921.*

# POWER GRID

## 4 Connector Hub - PN 7740

This hub allows you to expand the Power Grid system with up to four accessory modules.

## PN 7751 Can-Bus Termination Cap - 7741

Loose your cap? Here's the one you need.

## Manual Launch Control - PN 7751

Change the launch rpm limit (2-Step) on the fly to adjust for changing track conditions.

## Programmable 3 Stage Delay Timer - PN 7760

This timer will activate up to three individual outputs based on time. Outputs can trigger a relay to activate a shifter, nitrous, etc. When the clutch/transbrake is released the Power Grid will start the timers through the CAN-Bus Connection. It can also display live ignition timing. Features an adjustable contrast and rotating screen.

## Arc Module - PN 7761

This module gives you the ability to program a timing and/or rpm limiting map throughout the run down the track based on a Racepak driveshaft sensor. This is an extremely important and useful tuning tool for small tire cars with over-the-top power. The Slew rate rev limit allows you to set a rate of acceleration which is controlled through retarding the timing or rev limiting. One of the most important features of the ARC is the high-speed data logger giving feedback from a driveshaft sensor, to map your parameters for the next run. (Sensor and collar available from Racepak)

## Boost Retard Control - PN 7762

This Power Grid module does exactly as its names suggests; retards the ignition timing in relation to boost pressure. The software provides a timing map that allows you to program a timing curve based on the built-in 3-BAR sensor. It also has an output wire that can be used to activate another device based on boost pressure, as well as an overboost shut-down feature that will shut the ignition off if boost exceeds the overboost target.

## Boost Controllers

Following suit in names and descriptions, the PN 7763 and PN 77631 allow you to control the amount of boost that is forcing air into the engine. Combined with boost control, you can also create a timing map based on boost pressure. Through the advanced View software, you can create a boost map for the entire run. Values are based on pressure sensors including a 4-BAR internal (good through 43.5 psi) PN 7763 and dual 75 psi sensors PN 77631. There is also a boost pressure activation output and a safety overboost shut-down feature. PN 77631 has an additional feature that can retard timing in order to help spool the turbos. Two Controllers are available:

4-Bar, up to 43.5 PSI \_\_\_\_\_ **PN 7763**

6-Bar, up to 75 PSI \_\_\_\_\_ **PN 77631**



# HIGH SPEED STARTERS



**Additional 25% cranking speed!**



The DynaForce mounting block can be positioned in different locations to help clear suspension parts, the oil pan and exhaust systems.

Anyone who struggles to crank their Chevy race engine reliably because the starter can't keep up needs to check out the new High Speed DynaForce Starter. This starter was designed for race engines using magnetos that require higher cranking speed. Its 25% extra speed will start the most stubborn of motors. Plus, the extreme durability built into these starters ensures they can handle the abuse racers dish out.

**Chevy High Speed Starter**  
153/168 tooth \_\_\_\_\_ **PN 50952**

**Chevy High Speed Starter**  
10 Pitch/139 tooth \_\_\_\_\_ **PN 50953**

**Ford SB High Speed Starter**  
289, 302, 351W \_\_\_\_\_ **PN 50902**

**Ford BB High Speed Starter**  
351C, 400, 429, 460 \_\_\_\_\_ **PN 50922**

**Chrysler High Speed Starter**  
318-440 \_\_\_\_\_ **PN 50982**

- For use with any engine requiring higher cranking RPM
- Perfect for magneto applications
- 3.73:1 gear reduction
- Heavy duty high temp solenoid for 12-16 volt systems
- Plated disc and contacts reduce arcing and increase continuity
- Billet aluminum adjustable mounting block

**Replacement Solenoid** \_\_\_\_\_ **PN 5087**



# PRO-MAG 12 & 20

There are two other Pro-Mags available; a 12 amp and 20 amp version. The 12 amp is designed for sprint cars, jr. fuelers and injected engines. The 20 amp design is a favorite of top sportsman and quick-8 racers. Both share the same points/coil controller as well.

To ensure the Pro-Mag's fire reaches the spark plugs at the correct instant, our engineers did away with mechanical points in favor of our race-proven magnetic pickup. This pickup is far more accurate and never requires adjustment or replacement. A precision-manufactured reluctor attached to the Mag's shaft triggers the mag pickup at the correct time.

The trigger signal is routed to the Electronic Points Box, which also houses the coil and rev-limiting functions of the Mag. Here, the generator's spark energy is controlled through unique electrical circuits and ultimately delivered to the epoxy-filled coil where the voltage is stepped up through specially-designed windings.

## Pro-Mag 12 and 20 Points Box

The Points Box controls the spark duration and the unique full power firing of the Pro-Mag 12 and 20. The energy from the generator is controlled with Field Effect Transistor (FET) technology, which is far superior to mags still using points as a trigger source. FETs are much more accurate, durable and capable of handling much more current. This is why the Pro-Mag is capable of delivering full energy sparks throughout the entire rpm range of the engine, while conventional magnetos fall short of full power at high rpm. Plus, the Electronic Points Box keeps each spark glowing for up to 26° of crankshaft rotation.

Another unique feature of the Pro-Mag 12 is a built-in Soft Touch Rev Control. The rpm limit is adjusted with plug-in modules and will save your expensive engine in the event of driveline failure or missed shift. This system provides a smooth, backfire-free limit. Plus, you can plug in an MSD Two or Three Step Module Selector to provide multiple rpm limits that can be used during warm-up laps or for consistent hole shots.

The cast aluminum housing of the Points Box provides a strong mounting foundation for the electronics and coil. All of the circuits receive a heavy-duty coating of Humi-Seal for protection against vibration and moisture.

**Electronic Points Box - Red \_\_\_\_\_ PN 8106**

**NEW Electronic Points Box - Black \_\_\_\_\_ PN 81063**



The 12 Amp Points Box has a built-in Soft Touch Rev Control that is adjusted with plug-in rpm

# PRO-MAG 20

## 20 AMP Generators

The increased output of the 20 Amp Pro-Mag was born of racers being racers; always asking for more power. This stemmed from drag racers that were using a 12 Amp system, but just didn't require a 44 Amp system. The engineers at MSD found that with a few changes to the internals of the generator it would deliver the increased current through the same Electronic Points Box, PN 8106.

The 20 Amp magneto is a favorite in alcohol slurping engines such as Sportsman Dragsters and Quick-8 racers. There are three different generators available; a band clamp design in both CW and CCW rotation, plus a model built on a Chevy distributor base. All three require the PN 8106 Electronic Points Box. The band clamp versions are equipped with a large Ford style cap while the Chevy version uses a 4-inch cap and both are topped with heavy duty retainers.

- 20 Amp, Band Clamp, CW Rotation** \_\_\_\_\_ **PN 81502**
- 20 Amp, Band Clamp, CCW Rotation** \_\_\_\_\_ **PN 81602**
- 20 Amp, Chevy Drive** \_\_\_\_\_ **PN 81392**

Primary Current: 20 Amps  
Spark Energy: 240 millijoules (at the gap)  
Secondary Voltage: 40,000 Volts  
Secondary Current: 300 MilliAmps  
Spark Duration: 26° Crankshaft Rotation  
RPM Rating: through 14,000 rpm

## Pro-Mag 20 Replacement Parts

- For PN 81502, PN 81602**
- Large Cap and Rotor Kit** \_\_\_\_\_ **PN 8119**
  - Cap Only** \_\_\_\_\_ **PN 8408**
  - Rotor Only** \_\_\_\_\_ **PN 7920**
  - Black Ring** \_\_\_\_\_ **PN 8120**
  - Cap/Wire Retainer** \_\_\_\_\_ **PN 8121**
  - Pro Cap Kit for Band Clamp Pro-Mag** \_\_\_\_\_ **PN 7455**
  - Band Clamp, Heavy-duty** \_\_\_\_\_ **PN 8148**

- For PN 81392**
- 4" Cap and Rotor Kit** \_\_\_\_\_ **PN 7919**
  - Cap/Wire Retainer** \_\_\_\_\_ **PN 8121**



# PRO-MAG 12



## Chevrolet

Two taller, one-piece housings are available for Chevrolet engine blocks with taller deck heights. Each generator features an adjustable slip collar that provides easy adjustment of the magneto and cam gear alignment. This is critical for engines with varying deck heights, custom heads and modified intakes.

### Chevrolet Tall Block \_\_\_\_\_ PN 8139

*Note: Supplied with a cap, rotor, wire retainer, bronze gear and a Billet Hold-Down Clamp.*

## Pro-Mag 12 Replacement Parts

For PN 8150, PN 8160, PN 81392

Large Cap and Rotor Kit _____	PN 8119
Cap Only _____	PN 8408
Rotor Only _____	PN 7920
Black Ring _____	PN 8120
Cap/Wire Retainer _____	PN 8121
Pro Cap Kit for Band Clamp _____	
Pro-Mag _____	PN 7455
Band Clamp, Heavy-duty _____	PN 8148

For PN 8139

4" Red Cap and Rotor Kit _____	PN 7919
4" Black Cap and Rotor Kit _____	PN 79193
Cap/Wire Retainer _____	PN 8121
Adjustable Slip Collar _____	PN 8539

## Getting Started

The following are the parts you must have to get started with a 12 or 20 Amp System.

### 12 Generator

PN 7908, PN 7915, PN 8150 CW, PN 8160 CCW, PN 8139

### Electronic Points Box

PN 8106

### 8.5mm Super Conductor Plug Wires

Spark Plug Wires

## Cross-Over Switch

This switch allows you to start the car and toggle between pickups, so the engine only needs to be started once to get the timing dialed in. Also, by setting the generator slightly retarded over the crank trigger, the driver could switch pickups and utilize two timing settings.

### Crank Trigger to Generator

Cross-Over Switch \_\_\_\_\_ PN 7990





**▲WARNING**

\* MSD Pro Mag 12 LT PN 79081 and PN 79082 are designed to work in RAISED CAM ENGINE BLOCKS using a DRY SUMP OILING SYSTEM only. They will work in engine blocks with 50mm, 55mm and 60mm cam tunnels. Installation of PN 79081 or PN 79082 in any other application is not recommended and can result in engine damage.



# PRO-MAG 12LT

Designed with Sprint cars in mind, the Pro-Mag 12LT is almost 30% lighter than the original Pro-Mag, but still produces the same incredible power. The compact housing sits an inch lower for improved clearance of the fuel injection, and it features a band clamp mount for easier timing adjustments.

MSD has also designed a new cap and rotor specifically for the 12LT series. The cap is injection molded from DuPont Rynite material, which possesses high dielectric properties and incredible strength. The innovative rotor design clamps to the shaft with a retaining bolt assembly and is also molded from Rynite.

Each Pro-Mag 12LT is supplied with a bronze gear, band clamp, cap and rotor.

*Note: A 12LT Generator cannot be upgraded to a 20 Amp Pro-Mag.*

**NEW**  
Chevy Short Mag  
.75" Shorter than  
standard mag

## Specifications

Primary Current:	12 Amps
Spark Energy:	120 millijoules (at the gap)
Secondary Voltage:	40,000 Volts
Secondary Current:	150 MilliAmps
Spark Duration:	26° Crankshaft Rotation
RPM Rating:	through 14,000 rpm

## Pro-Mag 12LT Replacement Parts

Red 4" Cap and Rotor Kit	_____	PN 7919
<b>NEW</b> Black 4" Cap and Rotor Kit	_____	PN 79193
Hold down clamps Ford	_____	PN 8010
Chevy	_____	PN 8110
Band Clamp, Heavy-Duty	_____	PN 8148

## Getting Started & Common Accessories

The following are the parts you must have to get started with a 12LT System. **See warning on page 16 for PN 79081 and PN 79082.**

12LT Generator		
Chevy	_____	PN 7908
<b>NEW</b> Chevy Black, No Drive	_____	PN 7904
Chevy Black	_____	PN 79083
Chevy Short	_____	PN 79081*
Chevy Short Black	_____	PN 79082*

Electronic Points Box Red	_____	PN 8106
<b>NEW</b> Electronic Points Box Black	_____	PN 81063
Points Box Mounting Kit	_____	PN 8102

8.5mm Super Conductor Plug Wires - See Page 25

See Page 16 for additional information on PN 79081 and PN 79082.



**NOW  
AVAILABLE  
IN BLACK!**

PN 7904

	Part No.	A	B	C	Weight
Chevy	PN 7908	4.75"	11.12"	7.75"	7.55 lbs.
Chevy, No Drive	PN 7904	4.75"	11.12"	N/A	
Chevy Short	PN 79081	4.75"	11.12"	7.00"	7.55 lbs.



# CAPS, ROTORS & RETAINERS

## 12LT Replacement Cap and Rotor Kit

This replacement cap and rotor is injection-molded from DuPont Rynite material for high voltage isolation characteristics with heavy-duty construction. Inside the cap there are thick vanes to help agitate the air to prevent the chance of crossfire. Stainless terminals are used for resistance to corrosion caused by ozone in the cap. The rotor is also molded out of Rynite and features a brass/stainless steel rotor tip plus has a lock screw for secure mounting to the Mag's shaft.

Replacement 4" Cap and Rotor — **PN 7919**  
Black 4" Cap and Rotor — **PN 79193**



## Pro-Mag 44 Replacement Cap and Rotor

This Cap and Rotor Kit is the replacement for the 44-amp, 20-amp and 12-amp Band Clamp models. The Cap is now molded from DuPont Rynite material with excellent high-voltage isolation characteristics. Spark plug-style terminals are used for solid connections and a firm grip to the plug wire terminal. The Rotor is also injection molded from Rynite and features a brass/stainless steel rotor tip that is screwed into the rotor ensuring long life at high rpm.

Large Cap and Rotor Kit — **PN 8119**  
Replacement Cap Only — **PN 8408**  
Rotor Only — **PN 7920**



## Replacement Black Ring

Known simply as "the black ring" this is a replacement spacer that comes on full-size, band clamp Pro-Mags (PN 8130, PN 8140, PN 8150, PN 8160 Generators).

Replacement Cap Ring — **PN 8120**



## Cap/Wire Retainer

Racing produces high winds and severe vibrations that can actually "whip" a plug wire causing it to fall off. With an MSD Wire Retainer this is impossible! These Retainers will securely hold the Pro-Mag's cap in place while locking the spark plug wires to the terminal.

Band Clamp Mount Pro-Mags and the  
PN 8123 Cap-A-Dapt — **PN 8121**



# CAP & ROTOR OPTIONS



PN 7455



PN 7423

MSD Pro-Mags are engineered for a wide variety of racing applications. Each Mag is supplied with a durable cap and rotor that has been tested for performance. When space permits, upgrading to a larger diameter magneto cap can further prevent chances of crossfire. Also, if you're using a timing control to retard the timing, a Cap-A-Dapt is highly recommended because the retard affects the rotor phasing.

Increasing the distance between the terminals lessens the chance of spark scatter as well as the build-up of ozone inside the cap. MSD offers a full line of Cap-A-Dapts for all Pro-Mags.

## Pro-Cap™

To go with the huge power of the Pro-Mag 44, MSD developed a huge cap and rotor, the Pro-Cap! The Cap has a big 5" terminal-to-terminal diameter, which ensures spark delivery and prevents the chance of spark scatter occurring inside the cap. The entire assembly is injection molded from DuPont Rynite material for incredible strength and high dielectric properties. The Rotor features a deep skirt and thick vanes to create turbulence inside the cap. Even the rotor screws are over molded with Rynite for increased spark isolation. The top of the Pro-Cap is crowned with a screw-down retainer to keep all plug wires firmly attached to each terminal.

The Pro-Cap is supplied with everything you need to convert your band clamp mount Pro-Mag including an aluminum base, spacer, rotor, cap, retainer and hardware.

**Pro-Cap for Band Clamp Pro-Mag PN 7455**  
(for conversion from standard to Pro-Cap)

## Replacement Pro-Cap Parts

	RED	BLACK
Cap	PN 7408	PN 74083
Rotor	PN 7423	
Rotor Terminal Kit (4 Blades)	PN 7411	
Retainer	PN 7409	PN 74093
Spacer	PN 7456	PN 74563



PN 7411

PRO CAP  
PN 7408



5"

FORD STYLE  
PN 8408



4"

# PRO-MAG GEARS

The magneto's drive gear is critical to the performance of your engine. MSD has put a great deal of effort into researching and testing a variety of metallurgical compositions, heat treating and coatings in order to provide you with the strongest and most accurate gear available.

MSD engineers built a "gear dyno" and spent thousands of hours testing and evaluating the metallurgy of our gears. The result is a special iron alloy gear that is treated to a low friction coating process. For you, this means a short break-in period, long service life, and reliable performance!

## Bronze Gears

MSD Bronze Pro-Mag Gears are machined from quality AMPCO 45 aluminum bronze containing 5% nickel. This special combination creates high strength gear teeth that are less prone to wear.

### Standard Bronze Gears

Chevrolet \_\_\_\_\_ 0.500" ID \_\_\_\_\_ **PN 8471**

Ford, 351C/M, 400,  
429, 460, FE, \_\_\_\_\_ 0.530" ID \_\_\_\_\_ **PN 8581**

Ford, 351W \_\_\_\_\_ 0.530" ID \_\_\_\_\_ **PN 8585**

## Oversize Bronze Gears

Absolute timing accuracy cannot be achieved until every mechanical detail is attended to. MSD's Oversized Bronze Gear helps obtain perfect timing by minimizing clearance with the cam gear to achieve proper meshing.

Chevrolet +0.006" (.500" ID) \_\_\_\_\_ **PN 8472**

## Iron Gears

MSD's Iron Gears are made from a proprietary formulated ductile iron with an increased outer hardened layer thickness (RC 55-60). They also feature a micro-polished surface and a Melonite QPQ coating for friction reduction.

Chevrolet, Standard (.500" ID) \_\_\_\_\_ **PN 8531**

Ford, 351C/M, 400, 429,  
460, FE, 0.531" ID \_\_\_\_\_ **PN 85812**

Ford, 351W, 0.531" ID \_\_\_\_\_ **PN 85852**

## GEAR TEST DYNO

This Gear Test Dyno features variable rpm and oil pressure control allowing MSD engineers the ability to maintain the exact conditions that they want for gear tests. Severe loads can be placed on the gear and the fixture can spin up to 10,000 rpm (crankshaft). Equipment and quality procedures like this are a big advantage to MSD and our customers.



# RPM ACCESSORIES



## 2 and 3-Step™ Module Selectors

The built-in Soft Touch Rev Control on the MSD Pro-Mag 12 gives you the opportunity to use an MSD RPM Selector Module. These selectors give you the ability to set two or three different rpm limits that can be activated at different times. The Module Selectors install easily and plug into the rpm socket on the Electronic Points Box. The rpm limits are adjustable with plug-in modules.

**2-Step Module Selector \_\_\_\_\_ PN 8739**

**3-Step Module Selector \_\_\_\_\_ PN 8737**

*Notes: Must be used with an MSD Rev Control. Requires a 12 volt source. RPM Modules must be purchased separately.*

## Launch Control Module Selector

To help drag racers achieve even more consistency, our engineers have incorporated an adjustable low-rpm stage into a Three Step Module Selector! This allows you to make adjustments in 100 rpm increments from the driver's seat!

The Launch Control Module features a shielded harness for increased protection against EMI so it can be mounted within easy reach of the driver. This way, as track conditions change while you're waiting in the staging lanes you can easily compensate by adjusting the launch rpm.

The Launch Control also features two other rpm limits; one for top end overrev protection and another to use during the burnout to achieve consistent tire temperatures. These limits are adjustable with MSD's plug-in modules. No rpm modules are supplied.

**Launch Control Module Selector \_\_\_\_\_ PN 8735**

## RPM Activated Switch

This switch can be used to activate a solenoid, light or even an air shifter. The rpm activation point is set with MSD's rpm modules. This switch provides two options to activate a circuit: one to provide a ground path and one to open a circuit.

**RPM Activated Switch \_\_\_\_\_ PN 8950**

*Notes: Must be used with the MSD PN 8132 or PN 8918 Tach Converter or PN 8168 Retard Control. Requires a 12 volt source. RPM Modules must be purchased separately.*

## RPM Window Switch

This switch has the same activation capabilities as the PN 8950, plus you can set another rpm point to deactivate the same circuit.

**RPM Window Switch \_\_\_\_\_ PN 8956**

*Notes: Can only supply a ground to activate a circuit. Must be used with MSD PN 8132 or Tach Converter or PN 8168 Retard Control. Requires a 12 volt source. RPM Modules must be purchased separately.*

# RPM ACCESSORIES

## RPM Module Kits

MSD RPM Modules can be used with MSD Rev Controls, Shift Lights, RPM Switches and Module Selectors. Each RPM Module Kit includes five modules within a 1,000 rpm range in 200 rpm increments.

3,000 - 3,800	PN 8743	3,100 - 3,900	PN 87431
4,000 - 4,800	PN 8744	4,100 - 4,900	PN 87441
5,000 - 5,800	PN 8745	5,100 - 5,900	PN 87451
6,000 - 6,800	PN 8746	6,100 - 6,900	PN 87461
7,000 - 7,800	PN 8747	7,100 - 7,900	PN 87471
8,000 - 8,800	PN 8748	8,100 - 8,900	PN 87481
9,000 - 9,800	PN 8749	9,100 - 9,900	PN 87491
10,000 - 10,800	PN 8750		
11,000 - 11,800	PN 8751		

## Retard Modules

0°	PN 8773
1°-5°	PN 8777
5°-10°	PN 8776
11°-15°	PN 8774
16°-20°	PN 8775



## RPM Module Selectors

These Selectors allow you to choose from 12 different rpm limits simply by turning a knob! They are designed to be mounted within easy reach of the driver so last minute rpm limits can be dialed-in. Six models are available.

3,000 - 5,200	PN 8670	4,600 - 6,800	PN 8671
6,000 - 8,200	PN 8672	7,600 - 9,800	PN 8673
9,000 - 11,200	PN 8674		



PN 8672

## Adjustable Shift Light

A bright cluster of LEDs illuminates bright enough to be easily seen in daylight. The shift point is easy to adjust with plug-in rpm modules.

### Adjustable Shift Light \_\_\_\_\_ PN 8952

Notes: Must be used with the MSD PN 8132 Tach Converter or PN 8168 Retard Control. Requires a 12 volt source. RPM Modules must be purchased separately.



PN 8952

## Digital Shift Light

The tiny digital controller inside the compact housing gives you the ability to perform the rpm activation points through the easy to view LED panel and two programming buttons. When the engine reaches the activation rpm, the six red LEDs illuminate bright enough to alert your senses into throwing the shifter at the exact rpm. You can even program up to four different rpm values for different gears!

### Digital Shift Light \_\_\_\_\_ PN 89631



PN 89631

## Adjustable Intensity Shift Light

Easily control the intensity of the LED in this simple and small shift light. Connects to the shift light output of the Programmable Pro-Mag Control, PN 8973

### Adjustable Intensity LED Shift Light PN 7542

Notes: Requires 12 volts and an RPM Activated Switch.



PN 7542

# RPM ACCESSORIES



PN 8134

**TECH TIP:** PN 8134 can also be used in conjunction with a master cut off switch to "kill" the magneto - MSD or Mallory.



PN 8111



- 2-Pin 18-Gauge **PN 8183**
- 6-Pin 18-Gauge **PN 8180**
- 4-Pin 18-Gauge **PN 8181**
- 8-Pin 18-Gauge **PN 8185**
- 12-Pin 18-Gauge **PN 8186**
- 2-Pin 12-Gauge **PN 8184**
- 4-Pin 12-Gauge **PN 8187**



PN 8918

## Kill Solenoid

This heavy-duty solenoid is designed to handle the high current of the Pro-Mag 44 as well as the vibrations and harsh conditions of Top Fuel racing. The solenoid is normally closed, but when you apply 12 volts, it opens the ground path allowing the engine to run. Once the 12 volts is removed the solenoid closes to ground shutting off the magneto's power. One per magneto is required.

**44 Amp Kill Solenoid \_\_\_\_\_ PN 8134**

## SPST Kill Switch, for single Mag Systems

This heavy-duty single-pole, single-throw switch will stand up to the abuse of racing. The switch is rated at 15 amps so it can handle the power of the Pro-Mag 12. The housing is designed to survive high impacts and features a molded-in elastomer seal between the toggle lever and bushing. The beefy aluminum housing provides a secure mount to withstand extreme racing conditions. (Supplied with the PN 8106 Electronic Points Box.)

**SPST Kill Switch, 12 Amp Mag Only \_\_\_\_\_ PN 8111**

*Note: Not for use with the Pro-Mag 44.*

## Extension Harness, Points Box to Mag

If your application leaves the Mag cables short of reaching the Electronic Points Box, these extension harnesses should do the trick. Both feature matching connectors and wiring for their application.

**44 Amp Mag, Two Feet \_\_\_\_\_ PN 8143**

## Deutsch Connectors

Deutsch connectors are used on all of the Pro-Mags and their accessories. Each housing is indexed to prevent mismatching the terminals and are molded from a durable plastic material that will not harden over time. The connectors are protected with thick seals that will keep water, mud and debris away from the contacts. The Deutsch terminals also handle more current than conventional connectors and do not require special tools to disassemble. Each Connector is supplied with the necessary terminals, seals and housings.

## Tach Signal GMR Pickup

Just think of things you can easily accomplish with our GMR Pickup! This little device simply attaches, no splicing or cutting, to a current-carrying wire and turns that information into a 12-volt rpm signal. This signal can be used to activate a shift light, rpm activation switch or a tachometer.

**Tach Signal GMR Pickup \_\_\_\_\_ PN 8918**

# RPM ACCESSORIES

## Tach Converter

The output signal that is used to trigger magnetos differs from a conventional electronic ignition system. The Tach Converter is a compact device that converts the Pro-Mag's coil signal into a 12 volt square wave signal, so common tachometers designed for electronic ignitions can be used with the Pro-Mag. The Converter is less than three inches in length and its circuits are encased in epoxy for water and vibration resistance.

### Pro-Mag Tach Converter ——— PN 8132

*Note: Requires a 12 volt source. Also operates with Mallory and Vertex magnetos.*



PN 8132

## Noise Filter/Capacitor

Whenever an accessory such as a Timing Control is wired into a Pro-Mag system, installation of this capacitor is recommended. Not only does it act as a filter and add protection from voltage spikes, but it will also provide power to the accessory even if the circuit is accidentally opened or a switch fails. The Capacitor will store enough power to keep an accessory activated for approximately four seconds.

### Noise Filter/Capacitor 26 KFUD ——— PN 8830



PN 8830

## Timing Tapes

These tapes are to be placed on the generator housing. Then, with a fabricated pointer, you can more accurately change the ignition timing by moving the housing.

### Timing Tape for 44 Amp/ Band Clamp 12 Generators ——— PN 8126



PN 8126

## MSD Timing Light

An accurate timing light is mandatory when tuning your engine. The Self Powered Timing Light is perfect for engines using the Pro-Mag because it doesn't require a 12-volt source. Instead, it uses six AAA batteries for power!

### Self Powered Timing Light ——— PN 8991 Replacement Cable ——— PN 89911



PN 8991

### External powered timing light. Timing Light ——— PN 8992 Replacement Cable ——— PN 89921



PN 8992



# 8.5mm SUPER CONDUCTOR SPARK PLUG WIRES



## DUAL CRIMP

The Super Conductor Wires feature a special stainless steel Dual Crimp terminal. One crimp securely grasps the sleeve of the wire creating a secure crimp, while there is a separate crimp for the conductor. This way the conductor does not have to be bent over and squished between the terminal and sleeve. The result is a stronger and lasting conductor crimp.

The most powerful magnetos demand the best spark plug wire: the 8.5mm Super Conductor! Our 8.5mm wire features a helically-wound copper alloy conductor which has only 40 - 50 ohms of resistance per foot. The special copper alloy conductor is strong enough to handle the high current and voltage of the magneto, plus is a much better conductor than stainless steel. Even with its low resistance, the Super Conductor retains extremely high Electro Magnetic Interference (EMI) suppression abilities. By tightly winding the conductor around a ferro-magnetic impregnated center core, the wire creates an EMI "choke" holding the noise inside the wire while delivering the strongest spark possible.

The sleeve is a proprietary compound of silicone and synthetic material making it resistant to high heat as well as tough against abrasions.

## Chevy Sprint Car Wire Sets

Red Tight Fit/90° plug/90° cap — **PN 31549**

Black Tight Fit/90° plug/90° cap — **PN 31543**

Red Loose Fit/90° plug/90° cap — **PN 31579**

## Universal Kits

The MSD Universal Kits come with the spark plug terminal and boot installed on an extra-long wire. The terminals and boots for the magneto cap are supplied along with a special Mini-Stripper-Crimper tool to aid in their installation.

	Spark Plug	Magneto Cap	Red	Black
MA/Straight	90°	HEI	<b>PN 31189</b>	<b>PN 31183</b>
90°	90°	HEI	<b>PN 31229</b>	<b>PN 31223</b>
MA/Straight	90°	Socket/HEI	<b>PN 31199</b>	<b>PN 31193</b>
90°	90°	Socket/HEI	<b>PN 31239</b>	<b>PN 31233</b>

## Universal Hemi Kits

Single Plug Hemi Kit	Spark Plug	Magneto Cap	
Red Hemi Tubes/Red Wires	90°	HEI	<b>PN 31529</b>
Black Hemi Tubes/Black Wires	90°	HEI	<b>PN 31523</b>

## Replacement Spark Plug Wires

18", Red Wire, 90° On Each End \_\_\_\_\_ **PN 84039**

48", Black Wire, Multi/HEI \_\_\_\_\_ **PN 34063**

48", Red Wire, Multi/HEI \_\_\_\_\_ **PN 34069**

## Spark Guard

The dielectric grease eases crimping and boot installation, prevents moisture buildup inside the boots and helps stop voltage leaks. Spark Guard will not dry up or harden.

Spark Guard \_\_\_\_\_ **PN 8804**



# SPARK PLUG WIRE ACCESSORIES

## Pro-Crimp Tool

A hardened steel frame sports comfortable molded hand grips while a slick ratchet action provides secure factory style crimps consistently. The Tool is supplied with crimp/strip jaws for MSD's 8.5mm Dual Crimp Terminals only. It also accepts interchangeable jaws allowing for a variety of different style crimps with one heavy duty tool.



**Pro-Crimp Tool** \_\_\_\_\_ **PN 35051**

*Note: See page 24 for replacement dies.*

## Replacement Dies

Pro-Crimp Jaws for use with the Pro-Crimp Tool only.



**Amp Pin Terminal Jaws** \_\_\_\_\_ **PN 3506**

**Amp Lug Terminal Jaws** \_\_\_\_\_ **PN 3507**

**Plug Wire Terminal Jaws** \_\_\_\_\_ **PN 3508**

**Weathertight Connector Terminal Jaws** \_\_\_\_\_ **PN 3509**

**Deutsch Connector Terminal Jaws** \_\_\_\_\_ **PN 351**

## Bulk Wire, Boots and Terminals

**100 90° MSD Boots** \_\_\_\_\_ **PN 34515**

**100 90° Retainer Boots** \_\_\_\_\_ **PN 34555**

**100 Multi-Angle Boots** \_\_\_\_\_ **PN 34565**

**50 Hemi Boots (for tubes)** \_\_\_\_\_ **PN 3467**

**50 Non-Logo Coil Boots** \_\_\_\_\_ **PN 34575**

**100 Multi-Angle Terminals for Hemi Boots** \_\_\_\_\_ **PN 34605**

**100 90° Terminals** \_\_\_\_\_ **PN 34615**

Wire Length	Red	Black
6 Feet	PN 34039	PN 34033
25 Feet	PN 34019	PN 34013
100 Feet	PN 34049	PN 34043
300 Feet	PN 34059	PN 34053

## MSD Hemi Tubes

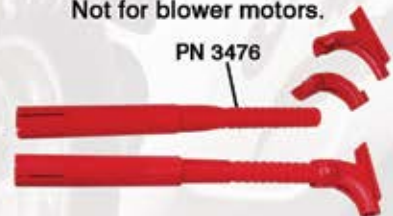
MSD worked closely with Top Fuel racers to design our Hemi Tubes. They are molded from Rynite material for its high dielectric properties and are very durable for severe racing conditions.

**Hemi Tubes, Set of 8**  
**PN 34759 - Red**  
**PN 34753 - Black**

## Pro Stock Hemi Tubes

New for Ford and Chrysler Hemi style pro stock heads. **Pro Stock Hemi Tubes, Set of 8, Red**  
**PN 3476**

Not for blower motors.



## PROFESSIONAL RACING BOOTS

These spark plug boots are designed for extreme racing applications. Using a proprietary blend of materials, the boots can handle much higher temperatures over an increased amount of time. Three designs are available.

### 90° Pro Temp Boots

**2 PER CARD** \_\_\_\_\_ **PN 3325**

**PACK OF 8** \_\_\_\_\_ **PN 8852**



### Straight Pro Temp Boots

**2 PER CARD** \_\_\_\_\_ **PN 3327**

**PACK OF 8** \_\_\_\_\_ **PN 8854**



### 115° Pro Race Boots

**2 PER CARD** \_\_\_\_\_ **PN 3326**

**PACK OF 8** \_\_\_\_\_ **PN 8853**



# SPARK PLUG WIRE ACCESSORIES



## Pro-Boot Guard

MSD Pro-Heat Boot Guard will protect the spark plug boot from extreme exhaust temperatures. The Boot Guard is a thick, glass-woven sleeve with a heavy silicone coating that provides protection against heat and abrasion.

**Pro-Boot Guard, Six feet \_\_\_\_\_ PN 3412**

## Pro-Heat Sleeve

When header clearance is tight, the MSD Pro-Heat Sleeve gives you extra insurance. This tough sleeve is made of a thick glass woven core that resists temperatures up to 1,000°F. A silicone rubber coating adds extra protection against abrasion and tearing. The sleeve simply slides over the plug wire for easy installation.

**Pro-Heat Sleeve, 25 feet \_\_\_\_\_ PN 3411**

## Shrink Sleeve

This sleeve will seal the Pro-Heat Sleeve to the plug wire or boot. It will not split and is designed to withstand high underhood temperatures.

**Shrink Sleeve,  
Set of 18 for Pro-Heat Sleeve \_\_\_\_\_ PN 3407**

## Cylinder Markers

Marking the cylinder number of each plug wire can save you time and ensure that the wire is installed in the right place. MSD offers a set of numbers that grip onto each sleeve or Heat Shrink sleeves with numbers.

**Cylinder Markers \_\_\_\_\_ PN 3414  
Shrink Sleeve Cylinder Numbers \_\_\_\_\_ PN 3415**

## Pro-Clamp Separators

This kit will keep the plug wires in the proper order and secure from engine heat sources. Each assembly features secure grooves for each wire and a top bracket that snaps in place for a firm grip. Each Pro-Clamp can be free standing or bolted to a bracket. The kit is supplied with two 4-wire assemblies, two 3-wire assemblies and four 2-wire assemblies.

**MSD Pro-Clamp Kit \_\_\_\_\_ PN 8843**

## Dual Wire Separators

These Separators are molded from strong, heat resistant polyacetal that will not crack or harden. Designed for easy removal and installation, the Separators firmly hold the wires away from the hot engine and moving components.

**Up to 8.8mm, Set of 16 \_\_\_\_\_ PN 8841  
Wires w/Sleeving, Set of 16 \_\_\_\_\_ PN 8842**

# ACCESSORIES

## TYPICAL BULK HEMI WIRE KIT

Bulk Wire	Red	Black
25 ft.	<b>PN 34019</b>	<b>PN34013</b>
100 ft.	<b>PN 34049</b>	<b>PN34043</b>
300 ft.	<b>PN 34059</b>	<b>PN34053</b>



## STAINLESS STEEL TERMINALS

HEMI Spark Plug

Generator (Cap)

**PN 34605**  
100 Each

**PN34615**  
100 Each



PN 34605



PN 34615

## REPLACEMENT BOOTS

HEMI Spark Plug

Generator (Cap)

Coil

**PN 3467**  
50 Each

**PN34555**  
100 Each

**PN 34575**  
50 Each



## REPLACEMENT BOOTS

Hemi Tubes, 8 Red/8 Black

**PN 3475**



# ACCESSORIES

## Dunn Cross Drives



All of the MSD band clamp style Pro Mags are supplied with a standard "Dunn Cross Drive" The MSD Dunn Drive is CNC-machined from 1018 steel then receives a corrosion resistant QPQ coating. The replacement drive mechanism is supplied with a new locknut for installation.

**Cross Drive for Band Clamp  
Pro Mags 0.900"**

PN 8107

## Hold Down Clamps



These clamps are CNC-machined from chrome-moly steel to produce maximum strength without excessive bulk. The clamp features a unique three-point mounting system that "bites" into the housing ensuring a firm hold. Each clamp is supplied with a mounting stud, lock washer and stainless nut.

**Chevy**  
**Ford**

PN 8110

PN 8010

## 12LT Chevy Slip Collar & Clamp



The Chevrolet Pro Mag 12LT features a unique Slip Collar and Anti-Rotation Clamp assembly. The clamp features MSD's three-point clamp design plus its straight edges match to the Slip Collar, completely eliminating rotation.

**Anti-Rotation Clamp Steel, .22 lbs**

PN 7905

## Band Clamp



This extra strong, locking band clamp is required when using a Band Clamp magneto mount. The stainless steel clamp tightly locks and holds the generator to its drive housing.

**Band Clamp**

PN 8146

**Heavy-Duty Band Clamp**

PN 8148

## Points Box Vibration Mounts



Racing produces a tremendous amount of vibration. Tire shake and engine power, not to mention the occasional bump and grind in the corners all contribute to shortened component life. These Vibration Mounts are just the thing to help isolate severe racing vibrations from the Pro Mag Points Box or other accessories. Four mounts and hardware are included in each kit.

**Vibration Mounts, 12 and 44 Amp Points Box**

.75" x .63" - 4 each (recommended for use in oval track racing) PN 8823

**Vibration Mounts, 44 Amp Coil .79"x 1.0" - 4 each**

(recommended for use in drag racing) PN 8822

# TECH TIPS

The following information will address some of the questions you may come across concerning the Pro-Mag.

## CONVENTIONAL TIMING VS. THE PRO-MAG

When converting from a "conventional" (non-MSD) magneto to a Pro-Mag, it may be necessary to review your tune up. It is common for the ignition timing to accept a few degrees of retard or an increase in fuel to prevent lean mixtures. Taking the time to test and tune with small incremental changes will prove very beneficial.

## INITIAL TIMING SETUP

A traditional "Buzz Box" cannot be used to set the timing of a Pro-Mag because there are no mechanical points. The Pro-Mag incorporates a high output magnetic pickup that ensures accurate timing and never requires adjustment. MSD offers a Timing Setup Tool to assist in setting the timing prior to starting the engine. The PN 8122 is for use on generators with the Ford-style cap while PN 7405 is for use with the Pro-Cap. You can also follow these steps:

1. Position the crankshaft to your desired timing.
2. Position the generator in the engine with the rotor tip leading into the #1 terminal of the cap.
3. Start the engine and verify the timing with a quality timing light such as MSD's PN 8991 and adjust the timing as needed.

## SPARK PLUG GAP

Spark plug gaps should be kept to a minimum. The chart to the right shows average plug gaps for different applications.

### Spark Plug Gap

Cylinder Pressure	High	Low
Normally aspirated Gasoline	.030"	.035"
Normally aspirated Alcohol	.025"	.030"
Supercharged Alcohol	.015"	.017"
Supercharged Nitro	.012"	.016"

## CRANKING RPM

MSD Pro-Mags require a minimum cranking speed of 250 RPM to start (at the crank). If a block-mounted starter is used, a 16-volt battery will be required to produce reliable starting rpm. Aircraft starters may require 48 volts on Alcohol applications due to pulley drive ratios. Most 12-volt starters will not achieve the required cranking rpm. Many Pro Mod engines are using up to 32-volt systems just during cranking.

## SPARK PLUG WIRES

MSD recommends use of our 8.5 Super Conductor spark plug wire. This wire features a copper-alloy conductor with a low resistance of 40 to 50 ohms per foot. The core and winding of the conductor produce a highly effective Electro Magnetic Interference (EMI) choke, so it also has extremely high EMI suppression capabilities.

Your spark plug wires should be inspected for cuts, abrasions, resistance and continuity. Note that spark plug wires are maintenance items of the ignition system and should be replaced at least three times per season (in drag racing applications). Short circle track racers should change wires after 15 - 25 events and every 5 - 10 races for long courses. Note that the coil wire should be replaced more frequently than the entire wire set as it handles eight times the work.

To ensure a quality crimp when building spark plug wire sets, use the MSD Pro-Crimp Tool, PN 35051. This Crimp Tool is supplied with the correct crimp dies for the Dual Crimp terminals of the 8.5mm Wire.

## CAP AND ROTOR MAINTENANCE

Due to the spark energy that MSD Pro-Mags produce, it is recommended to inspect the cap, rotor and spark plug wires at closer intervals. The components that are supplied with the Pro-Mags are designed for strength and reliability but still require routine maintenance. Visually inspect for excessive wear or carbon tracking. Cap and rotors are available as a kit from your MSD Dealer.

## CROSS DRIVES

Band clamp style Pro-Mag generators are equipped with cross drives for their superior strength, but existing two- and four-pin drives can be interchanged. If the drive is replaced, we recommend replacement of the lock nut. Also use blue Loc-Tite and torque to 20 lbs-ft.

## TACHOMETERS AND ACQUISITION

Most tachometers and data acquisition systems require either a 12-volt square wave signal or a current-style inductive pickup. MSD has components that can provide both signal types:

## TACH CONVERTER

The MSD Tach Converter, PN 8132 and GMR pick-up, PN 8918, converts the Pro-Mag's signal to a 12-volt square wave with a 20% duty cycle. It will work on all Pro-Mag systems and requires a 12-volt battery source. See page 30.

## Kill Switches

### 12 AND 20 Amp Pro-Mags

Kill switches are supplied with the Electronic Points Boxes for the 12 and 20 Amp Pro-Mags. Each Points Box requires a Kill Switch. Never use one kill switch for two Points boxes. MSD Switches, PN 8134 and PN 8111, are the only Kill Switches recommended for use with the Pro-Mag 12 and 20.

### MSD 44-Amp Pro-Mags

For the MSD 44-amp Pro-Mags, there are two Kill Switches. The PN 8134 is a heavy-duty solenoid that can be operated from a dash-mounted switch and is recommended for pullers that require a breakaway switch. See page 6 for more information. Jumper wires across the coil terminals are required when starting the engine.

## GENERATOR SUPPORT

In some applications, it is recommended that a generator support bracket be fabricated. Due to the variety of mounting applications, MSD does not offer a single mag bracket.

## WIRING AND CONNECTORS

MSD uses Deutsch connectors with the Pro-Mag. These connectors should be inspected due to frequent disconnecting. Lightly pulling on the wires near the connector will make certain they have not worked loose. It is recommended to have your magnetos returned to MSD where the wiring can be repaired completely. The connectors can be disassembled as follows:

1. Remove the orange wedge lock with a small flat blade screwdriver.
2. Pry the spring lock back to unlock the wire, and pull it through.
3. Inspect the wire crimps and reassemble.

Note that the connectors have numbered terminal locations. Match the color wire with the position as shown.

### 12 and 20 Amp

Violet #1  
Green #2  
Black #3  
Yellow #4

### 44 Amp

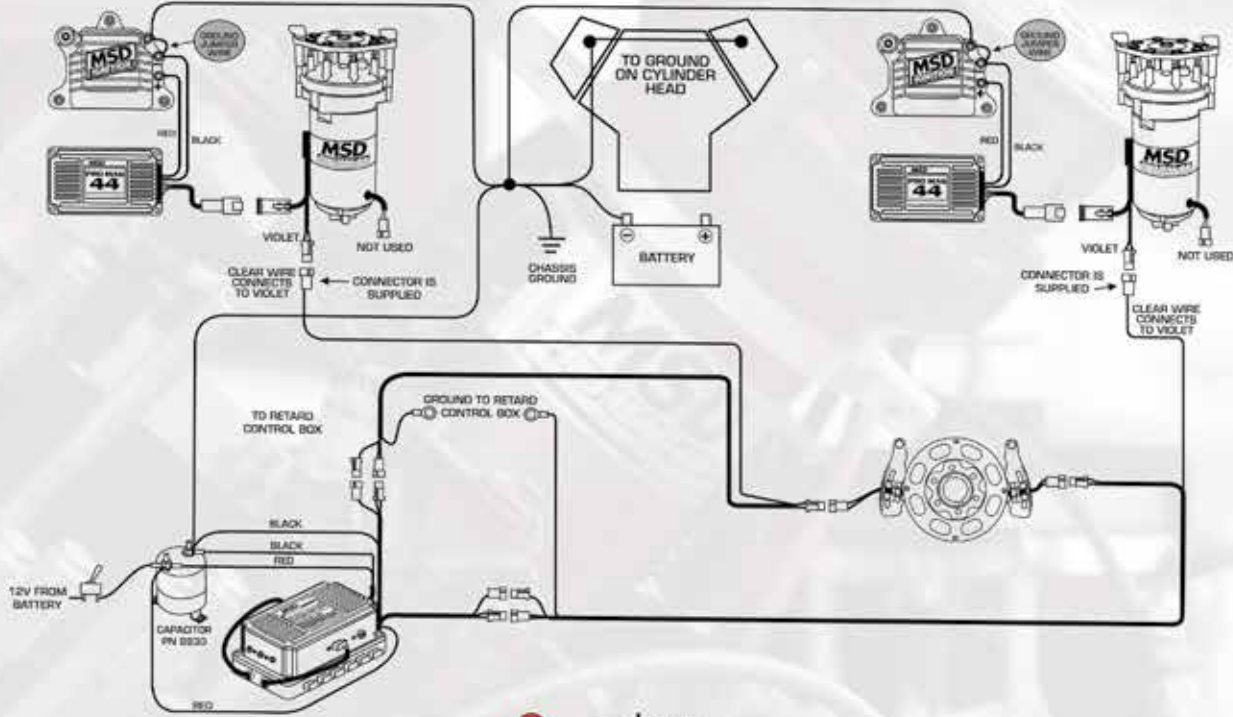
Violet #1  
Green #2  
Black #3  
Red #4



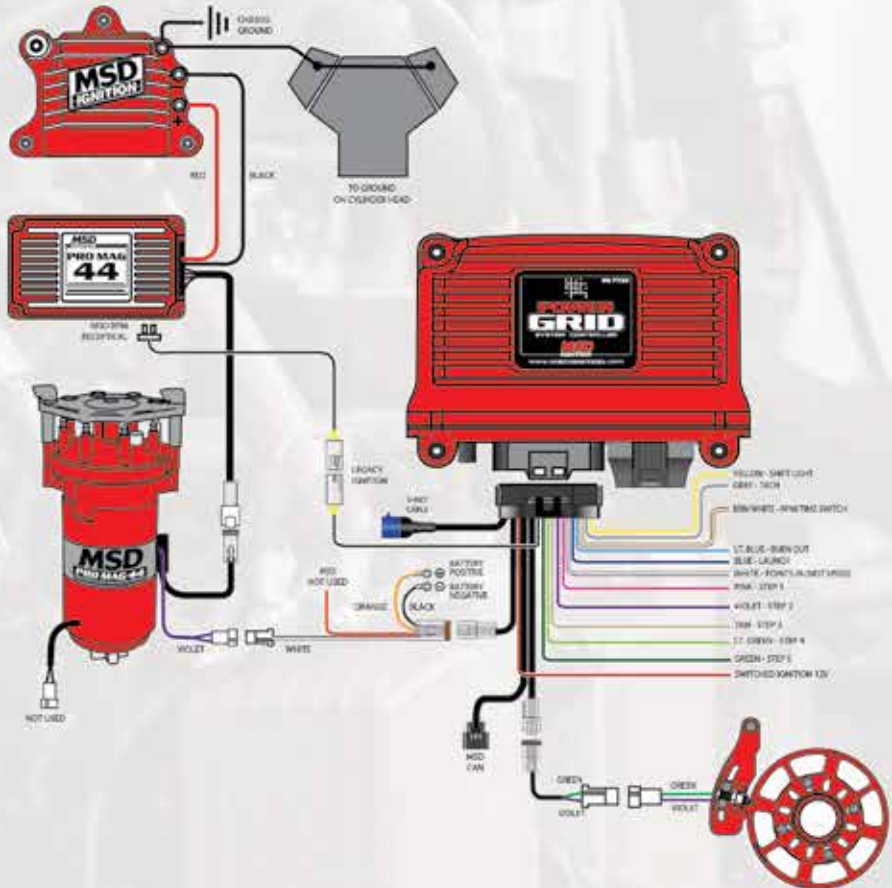
# TECH TIPS

## 44-AMP GROUND PATH

When running a complete Pro-Mag 44-amp system, proper grounding of the system is imperative to proper operation. Check the diagram below for the recommended ground path. Both heads must be grounded to a point on the chassis that is shared with the negative coil terminals. The Points Boxes should share ground with the PN 8158 Retard box (if used), which is also grounded to the battery and chassis.



## PRO-MAG TO POWER GRID





Below are the Pro-Mag components used in typical racing applications.

## TYPICAL DUAL PLUG 12 OR 20 AMP MAG FOR ALCOHOL DRAG RACING

Part Number	Description
2 - PN 8160 (CCW)	12 Amp Band Clamp Generator (or PN 81602, 81502)
2 - PN 8106	Points Box w/Built-in Rev Limiter
1 - PN 8122	Pro Set Up Cap, Tool
1 - PN 35051	Pro-Crimp Tool
1 - PN 31559	Universal Wire Set Dual Plug Hemi Set.

## TYPICAL DUAL PLUG 44 AMP MAG FOR FUEL

Part Number	Description
2 - PN 8140 (CCW)	44 Amp Band Clamp Generator (or PN 8130, CW)
2 - PN 8142	44 Amp Coil
2 - PN 8145 or PN 8147	44 Amp Points Box with Built-In Rev Limiter
1 - PN 8122	Pro Set Up Cap, Tool
1 - PN 35051	Pro-Crimp Tool
1 - PN 31559	Universal Wire Set Dual Plug Hemi Set
1 - PN 8134	44 Amp Kill Switch

## OPTIONAL ACCESSORIES

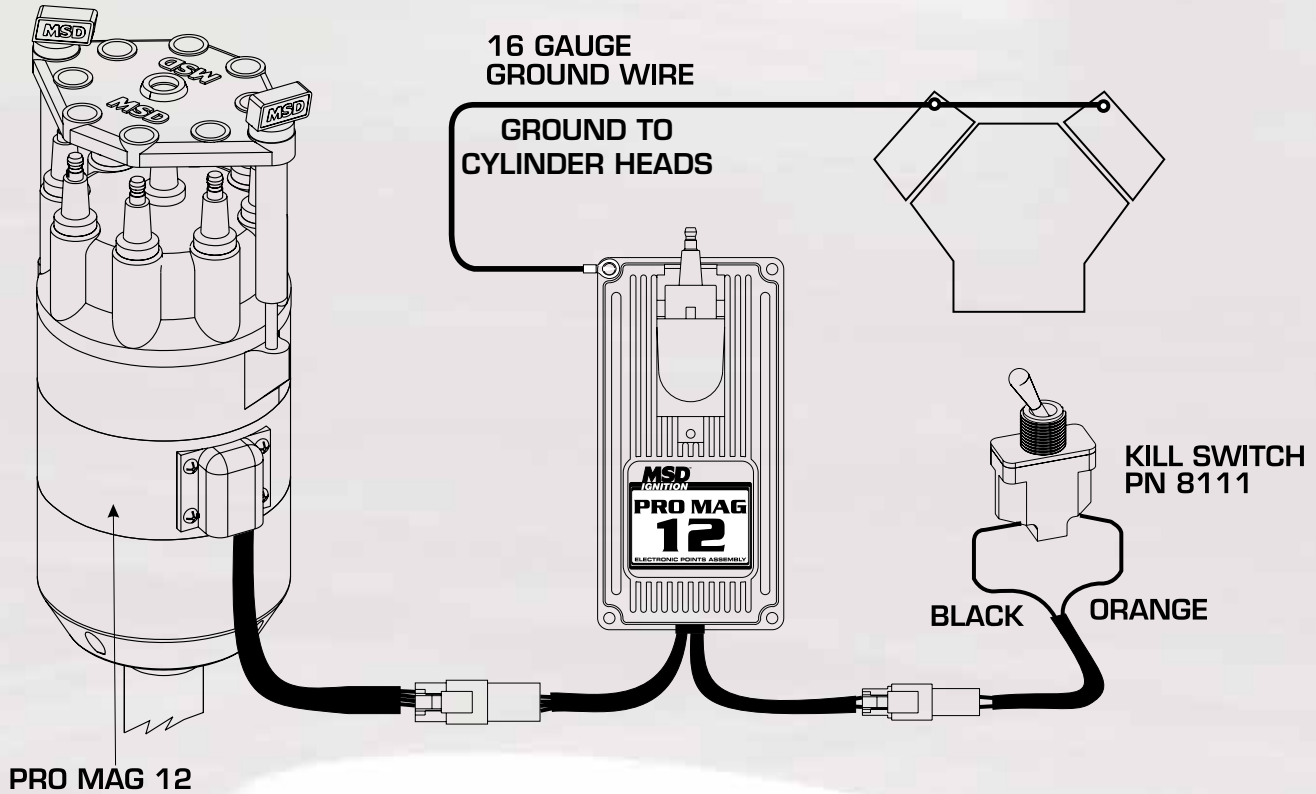
Part Number	Description
1 - PN 8168	Pro-Mag Timing Control (Dual Channel)
1 - PN 8158	Six Shooter (Module Selector)
1 - PN 8973	Pro-Mag Controller
1 - PN 8971	Digital Retard and Interface
1 - PN 8830	Capacitor
1 - PN 7455	Pro-Cap Kit (1 Per Generator)
1 - PN 8159	Crank Trigger Pickup (For RCD or PSI Crank Triggers)
1 - PN 8134	44 Amp Kill Switch

## TYPICAL 12 AMP CIRCLE TRACK

Part Number	Description
1 - Generator 12LT:	
PN 7908	Chevy
PN 7915	Ford
1 - PN 8106	Points Box w/ Rev Limiter
1 - PN 31549	Wire Set Chevy
or PN 31229	Wire Set Universal
1 - PN 8102	Quick Release Mounting Panel Kit

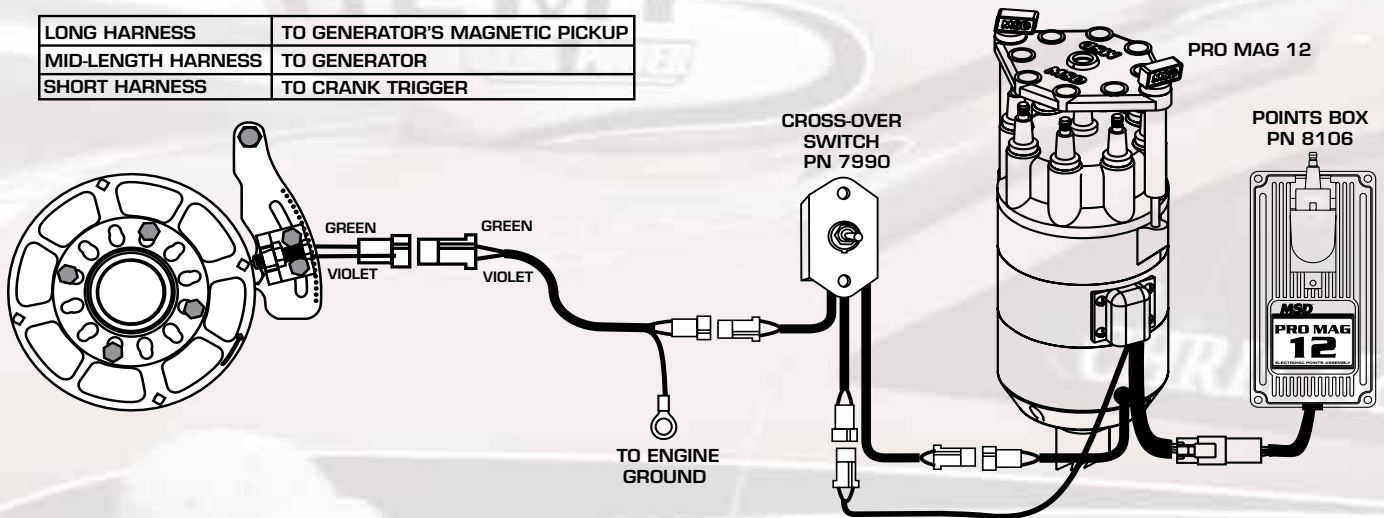
# TECH TIPS

## WIRING THE 12 AMP PRO MAG



## WIRING THE CROSS-OVER SWITCH

LONG HARNESS	TO GENERATOR'S MAGNETIC PICKUP
MID-LENGTH HARNESS	TO GENERATOR
SHORT HARNESS	TO CRANK TRIGGER



# Racepak<sup>®</sup>

An **MSD** Brand

Solving the wiring complexity of the modern race car, the Racepak SmartWire is a fully programmable power control module. While traditional wiring provides control of vehicle electronic components through the routing of wiring to single or multiple fuses, relay and circuit breaker panels, the Racepak Smartwire functions as a central “command center” for all vehicle wiring.



Based on Racepak’s exclusive single cable V-Net technology, the Racepak SmartWire module is the electronic “starting point”, with a direct main power connection from the vehicle battery to the module. Each input/output is then user defined, both in function, power requirements and current exceeding limits via a USB connection to the user’s PC. The design of the module functions to both reduce overall installation weight / clutter, while providing a quicker reacting electronic system, through the solid state switching design.

The V-Net compatibility insures a seamless integration with existing Racepak data logger or displayed equipped vehicles, while also providing a future upgrade path for additional inputs, control modules and instrumentation, when utilized as a standalone power control module.

**BACK**



## PRO-MAG SHIRT

Medium	_____	<b>PN 95117</b>
Large	_____	<b>PN 95127</b>
X-Large	_____	<b>PN 95137</b>
XX-Large	_____	<b>PN 95147</b>

**FRONT**



*Larger images shown on back cover.*

