



INSTALLATION INSTRUCTIONS

HYFIRE® 6.6 SERIES OF ELECTRONIC IGNITION CONTROL

HYFIRE® 6.6 IGNITION SYSTEM PART NO. 686M

FOR APPLICATIONS TRIGGERED BY POINTS, MALLORY ELECTRONIC IGNITION DISTRIBUTOR (ALL MODELS), ORIGINAL EQUIPMENT ELECTRONIC IGNITION AMPLIFIERS AND MAGNETIC TRIGGER PULSES (MAGNETIC PICKUP DISTRIBUTOR OR CRANK TRIGGER IGNITION). OPTIONAL ADAPTERS ARE AVAILABLE FOR EASY CONNECTION TO EARLY MODEL DELCO/GM HEI SYSTEMS, LATE MODEL GM HEI/EST SYSTEMS, FORD TFI SYSTEMS, AND OEM MAGNETIC PICKUP (NON-COMPUTER; FORD DURASPARK, GM HEI AND MOPAR/CHRYSLER ELECTRONIC SYSTEMS).

NOTE: MALLORY HYFIRE® 6.6 ELECTRONIC IGNITION CONTROLS ARE NOT COMPATIBLE WITH DISTRIBUTORLESS SYSTEMS OR POSITIVE GROUND APPLICATIONS. THE RPM LIMITERS IN THE HYFIRE® 6.6 (PART NO. 686M) WILL NOT WORK PROPERLY WITH ODD-FIRE OR SEMI-EVEN FIRE V6 APPLICATIONS.

PARTS INCLUDED IN THIS KIT:

- 1 HYFIRE® 6.6 Electronic Ignition Control - Part No. 686M
- 1 Ignition Control Harness
- 1 Universal Installation Hardware Kit
- 1 Hand Held Controller

WARNING: USE ONLY SUPPRESSION CORE STYLE SPARK PLUG WIRES WITH THE HYFIRE® 6.6 IGNITION CONTROL.

KEEP ALL IGNITION SYSTEM WIRES AS FAR FROM SPARK PLUG WIRES AS POSSIBLE.

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GENERAL INFORMATION

The HYFIRE®6.6 Ignition System Part Nos. 686M are not for marine use.

The RPM limiters in the HYFIRE® 6.6 is not recommended as an engine speed governor. The use of the RPM limiters is not recommended for applications equipped with a catalytic converter. Similarly, forcing engine RPM past the RPM limiter continuously for long sustained intervals can cause fuel build up in the exhaust system that may adversely affect your application. The RPM limiting systems will not work properly with odd-fire V6 applications.

Ignition Ballast Resistor / Loom Resistance Wire

The performance of the HYFIRE® 6.6 is not affected by the presence of the factory ignition resistors or ignition ballast resistors in the wire from the ignition switch.

Standard Ignition Bypass (Bypass Connector)

The Bypass Connector (supplied) fits into the Ignition Control Harness to convert back to standard ignition. If you use the Bypass Connector, use ignition ballast resistors designed for your vehicle's distributor and coil (see diagrams for more information). This bypass method does not work with magnetic pickup distributor or crank trigger ignition. Racing Applications: It is not necessary to install ignition ballast resistors. However, do not use the Bypass Connector until the ignition ballast resistors are installed in the wire from the ignition switch.

Ignition Coils

The HYFIRE® 6.6 Electronic Ignition Controls are designed to work with most original equipment ignition coils. For optimum performance use the Mallory PROMASTER E Coil Part Number 30440 (Up to 7,500 RPM), Part No. 30625 (Up to 10,000 RPM), PROMASTER® Coil Part No. 29440 (up to 7,500 RPM) or Part No. 29625 (up to 10,000 RPM).

Fuel Injection

Some fuel injection systems need a voltage spike signal from the ignition coil before they will operate properly. This signal changes once HYFIRE® 6.6 Electronic Ignition Controls are installed. The Mallory Fuel Injection and Tachometer Adapters Part Nos. 29074 and 29078 supply the proper signal to the vehicle computer to operate the fuel injection system. Installation procedure and diagrams are supplied with these adapters.

Spark Plug Wires

YOU MUST USE suppression type (carbon core, spiral core, suppression core) spark plug wire. We recommend spiral core ignition wire, such as Mallory PRO SIDEWINDER® Ignition Wire. Suppression type spark plug wires prevent false triggering and possible premature ignition or accessory failures. **DO NOT USE solid core (copper core; stainless steel core) spark plug wire with any electronic ignition system or accessory.**

Spark Plug Gaps

For street applications, use your engine manufacturer's specifications. For racing applications, start with your engine manufacturer's specifications, then experiment with, and closely monitor, various gaps to achieve maximum performance.

Electric Welding

Unplug the Ignition Control Harness from the HYFIRE® 6.6 Electronic Ignition Control and unplug any distributor harnesses (if possible) before any welding is done on the vehicle.

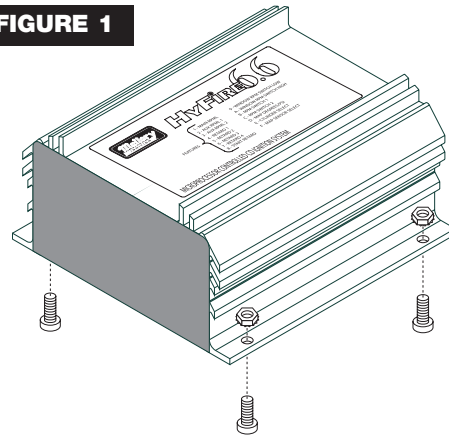
External RPM Limiters

Mallory Proportional RPM Limiter Part Nos. 641-4, 641-6, 641-8, 642, 643 and 644 WILL NOT function with the HYFIRE® 6.6 Electronic Ignition Controls.

MOUNTING PROCEDURE

Step 1

FIGURE 1



Disconnect the battery (-) cable to cut power to the system. Computerized vehicles: Disconnect the battery (-) cable and let the vehicle sit overnight before proceeding. This allows the computer to calibrate for the new ignition.

Step 2

Select a convenient location to mount the HYFIRE® 6.6 Electronic Ignition Control. Keep the unit away from hot engine components or extreme heat such as the exhaust system and manifolds. Also, keep it away from moving devices, such as fans, belts and linkages. The location must be dry. Excessive moisture will damage components inside the unit. Choose a location that will allow easy access to the control port for adjusting the various functions of the ignition.

Step 3

Choose one mounting method listed below for mounting the HYFIRE® 6.6 Electronic Ignition Control (3a, 3b, or 3c).

(3a) Mounting to a flat surface

- Center punch the mounting pattern on the mounting surface using the housing holes to mark locations for drilling mounting holes. Drill holes using a 7/32" drill bit.
- Hold the HYFIRE® 6.6 Electronic Ignition Control in position over the mounting holes.
- From the backside of the mounting surface, insert the 10-32 screws with lock washers through the mounting holes and attach with the 10-32 nuts supplied.

(3c) Mounting to a flat surface with shock mounts (available separately, PN 29069)

- Center punch the mounting pattern on the mounting surface using the housing holes to mark locations for drilling mounting holes. Drill holes using a 7/32" drill bit.
- Install the shock mounts into the side flanges of the HYFIRE® 6.6 and tighten nuts. Hold the unit in position where it will be mounted.
- From the backside of the mounting surface, insert the 10-32 nuts with lock washers onto the shock mount studs. Tighten each nut until snug. When running shock mounts, it is necessary to run a ground wire (10-14 gauge) from the ignition housing to a chassis ground.

BASIC WIRING PROCEDURE

Step 1

Refer to Figure 2

Ensure that your vehicle is equipped with a ground cable between the engine block and firewall (10 gauge or larger is required). Locate the harness with the LONG RED WIRE and one LONG BLACK WIRE at the end plate of the HYFIRE® 6.6 Electronic Ignition Control.

- Connect the LONG RED WIRE to the battery (+) post or battery (+) terminal on the starter solenoid.
- Connect the LONG BLACK WIRE to engine ground or chassis ground.
- Plug into 2-pin connector with red and black wires coming from the end plate on the HYFIRE® 6.6.
- Connect the Ignition Control Harness to the Ignition Control Plug at the end plate of the HYFIRE® 6.6 Electronic Ignition Control.

Step 2

Choose one method listed below for wiring the HYFIRE® 6.6 Electronic Ignition Control (2a, 2b, or 2c)

(2a) Wiring method using Adapters and Harnesses (sold separately)

Special wiring Adapters and Harnesses simplify the installation of the HYFIRE® 6.6 Electronic Ignition Control into newer vehicles. These adapters and harnesses allow you to connect the HYFIRE® 6.6 Electronic Ignition Control between the ignition coil and the factory coil connector. They reduce installation time and wiring errors. Also, converting back to the factory ignition is easy because there is no need to cut the original wiring.

These instructions cover:

PART NO. 29042 – Connecting to GM HEI Systems (coil-in-cap, with OEM ignition module)

PART NO. 29068 – Connecting to Late Model GM HEI/EST Systems (external coil)

PART NO. 29062 – Connecting to Ford TFI Systems.

PART NOS. 29039 and 29040 – Connecting to Ford DuraSpark Systems (non-computer type, without ignition module).

PART NOS. 29040 and 29043 – Connecting to Early Model GM HEI Systems (non-computer type, without ignition module)

PART NO. 29040 – Connecting to Mopar/Chrysler Electronic Systems (non-computer type, without ignition module).

Connecting to: GM HEI Systems (coil-in-cap, with OEM ignition module), use Adapter PART NO. 29042; Late Model GM HEI/EST Systems, use Adapter PART NO. 29068; Ford TFI Systems, use Adapter PART NO. 29062.

Connecting Adapter PART NO. 29042, 29062 or 29068

Refer to Figures 3, 4, and 7 when connecting to GM HEI Systems; Figure 5 when connecting to Late Model GM HEI/EST Systems; Figure 6 when connecting to Ford TFI Systems.

- Match wires by color from the Adapter to the Ignition Control Harness. Crimp all wires together.
- Disconnect the factory harness(es) at the ignition coil. Connect them to the Adapter that has the RED and GREEN WIRES.
- Connect the Adapter that has the YELLOW and BLACK WIRES to the ignition coil. NOTE: When using an aftermarket ignition coil with post type terminals, discard the Adapter that has the YELLOW and BLACK WIRES. Install ring terminals on the Ignition Control Harness YELLOW and BLACK WIRES. Connect the YELLOW WIRE to the ignition coil (+) terminal. DO NOT allow any wire except the YELLOW WIRE to make contact with the ignition coil (+) terminal. Connect the BLACK WIRE to the ignition coil (-) terminal.

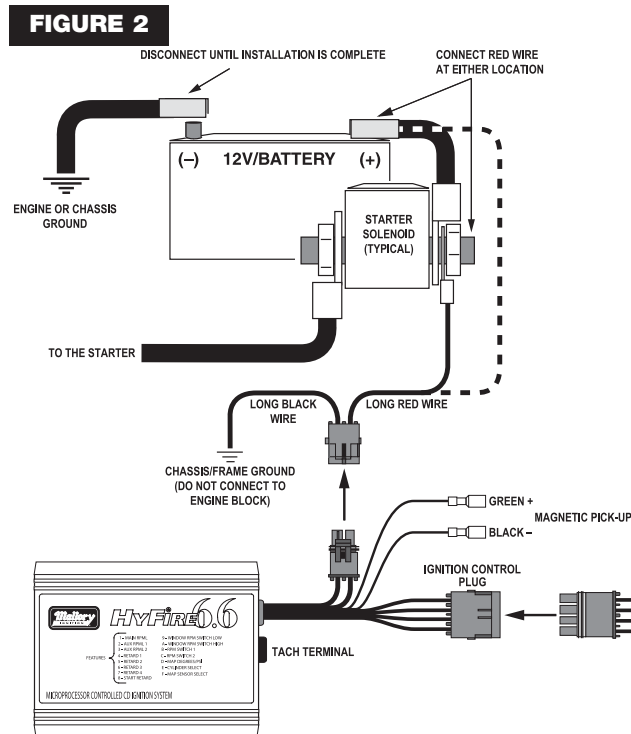


FIGURE 3

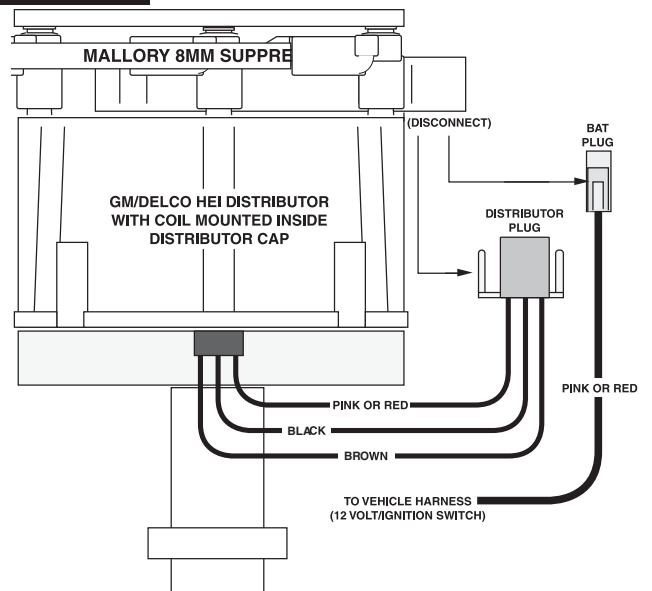


FIGURE 4 GM/DELCO HEI DISTRIBUTOR (WITH COIL MOUNTED INSIDE DISTRIBUTOR CAP)

ADAPTER/HARNESS PART NO. 29042

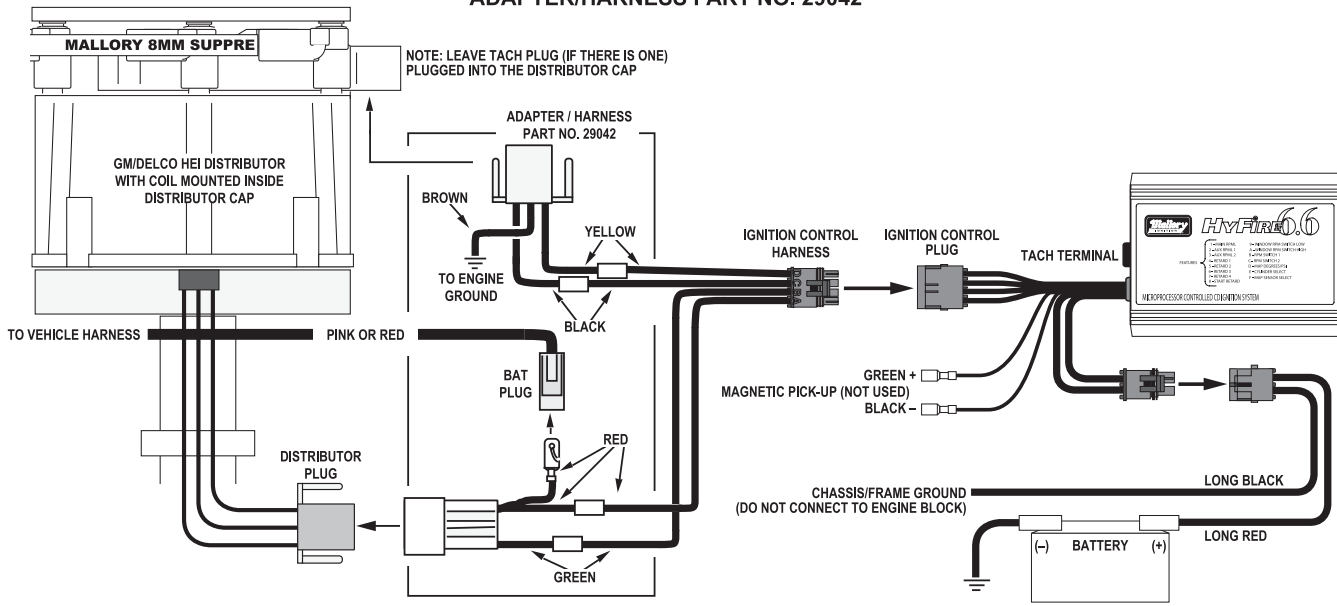


FIGURE 5 GM HEI/EST DISTRIBUTOR - EXTERNAL COIL AND ADAPTER / HARNESS PART NO. 29068

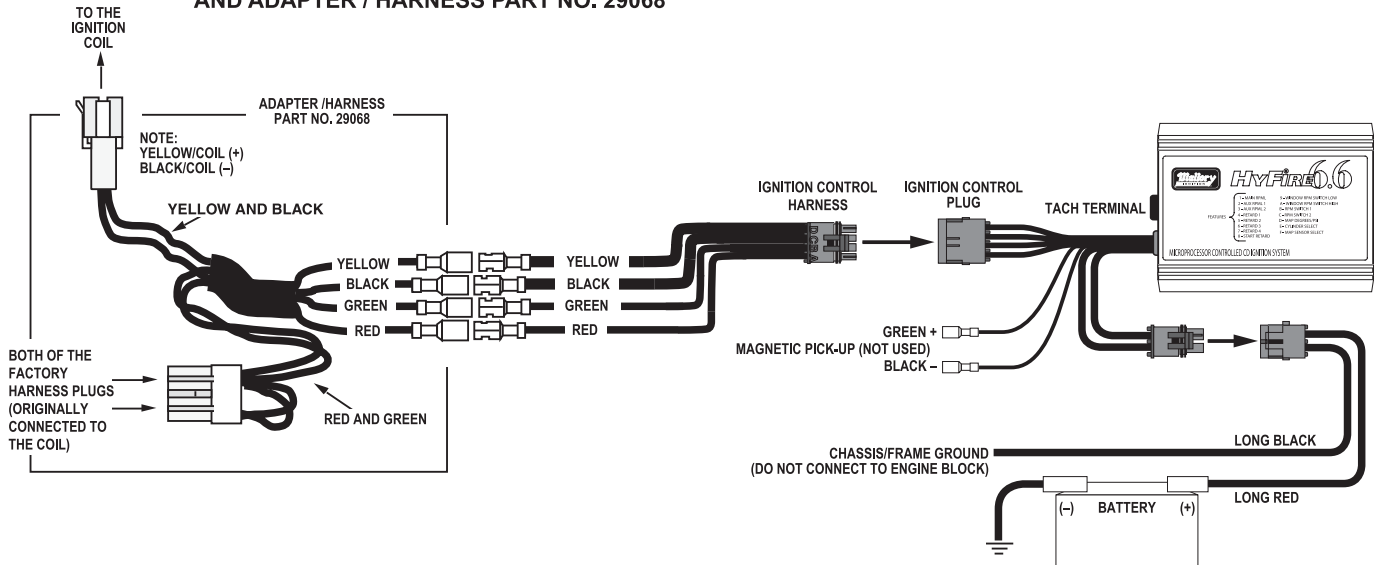


FIGURE 6 FORD TFI SYSTEMS

ADAPTER / HARNESS PART NO. 29062

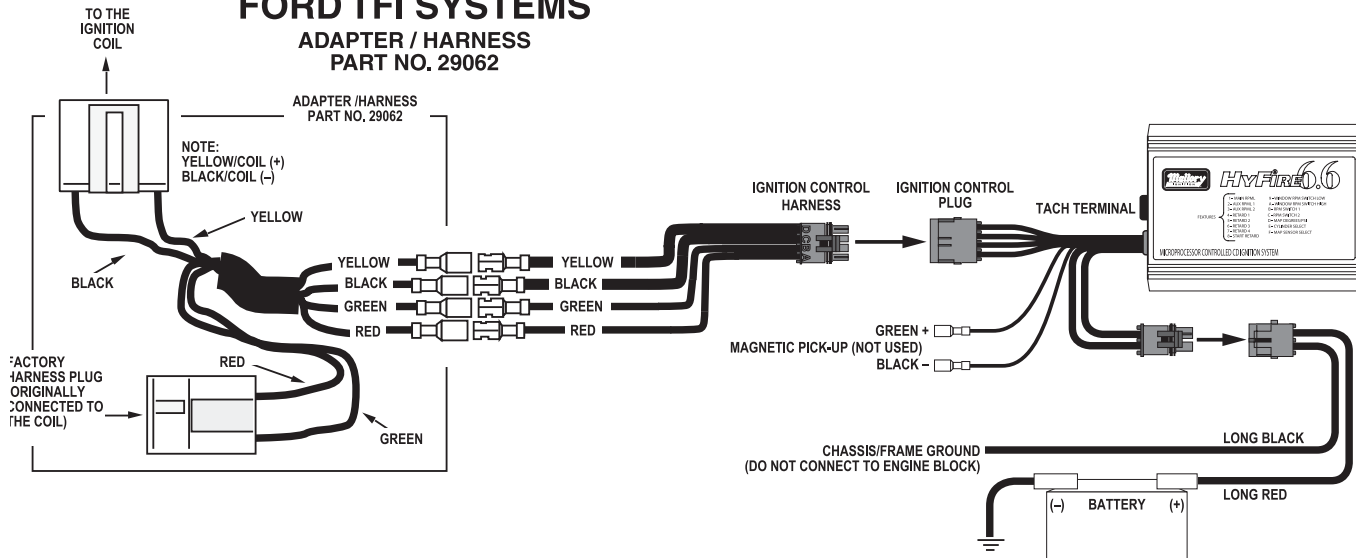


FIGURE 7

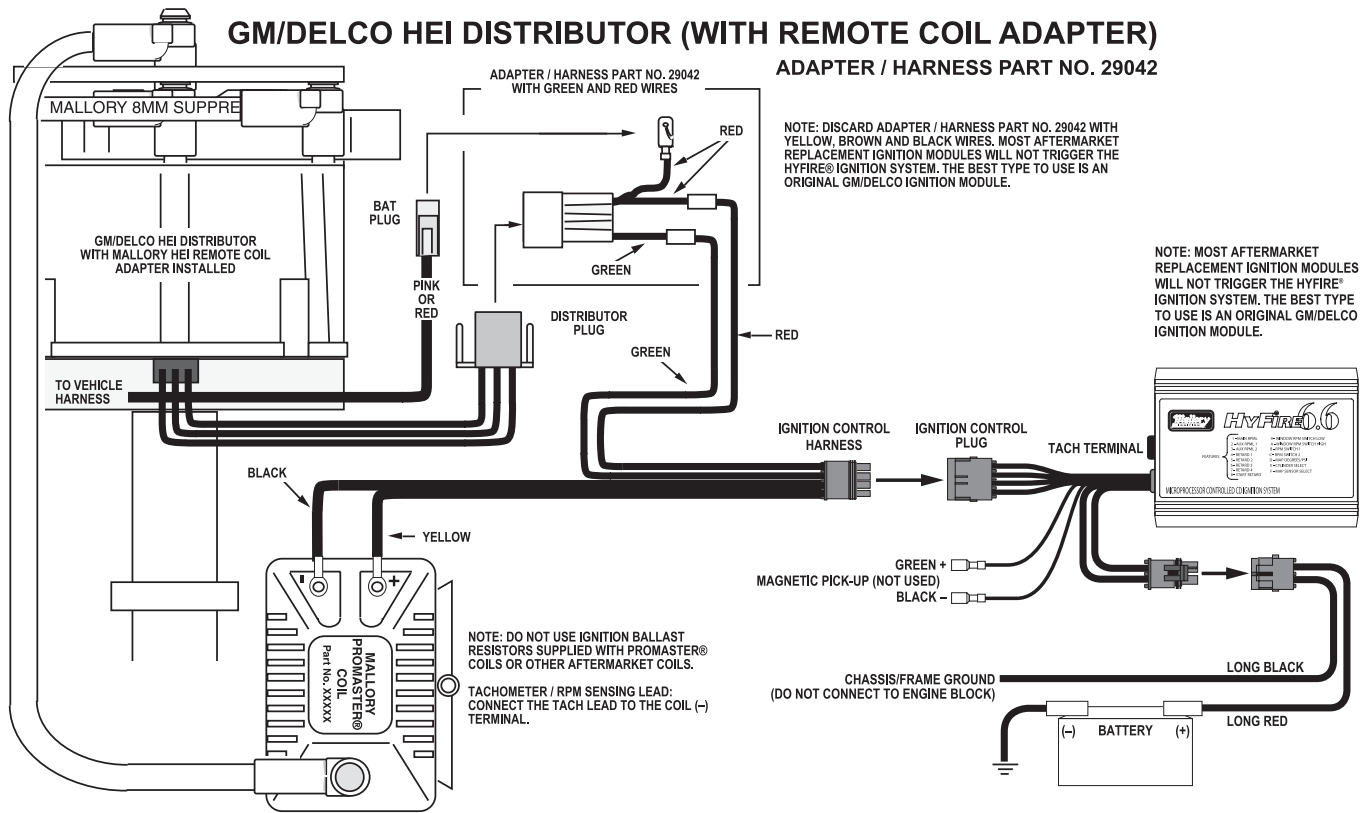


FIGURE 8

FORD AND AMERICAN MOTORS

**MOTORCRAFT DURASPARK (SSI, I AND II),
MALLORY 85 SERIES DISTRIBUTOR ADAPTER
PART NOS. 29039 AND 29040**

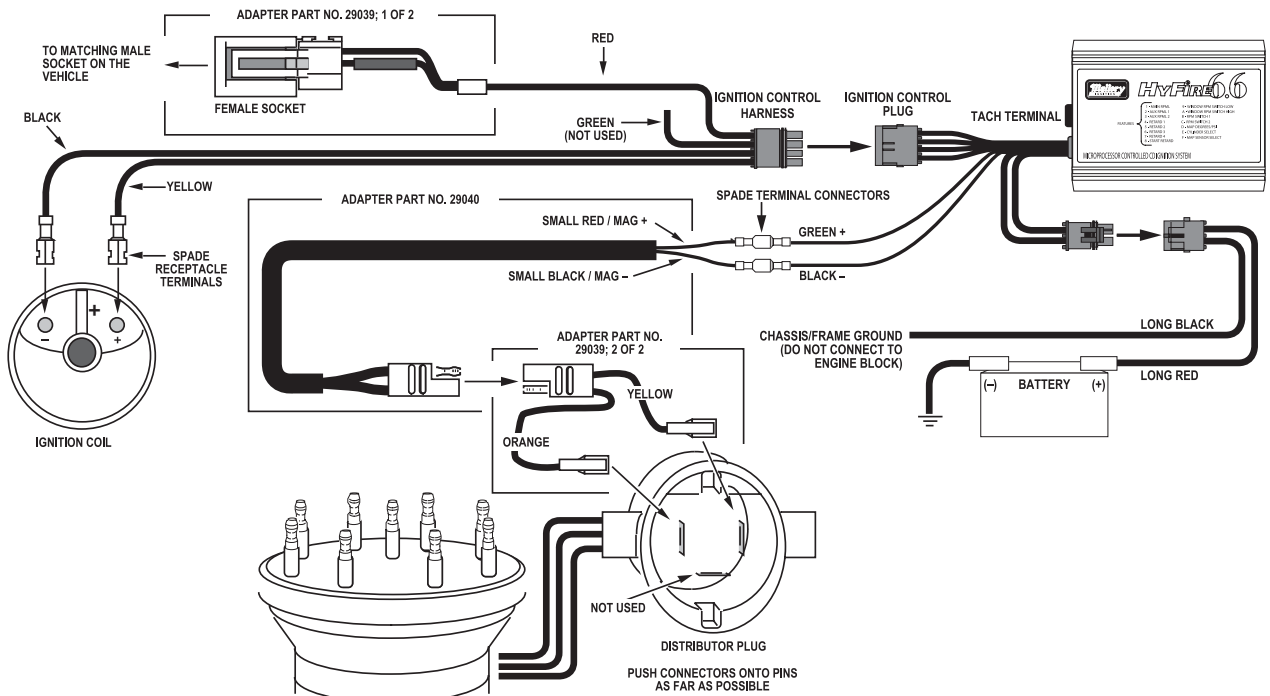


FIGURE 10

GM/DELCO HEI DISTRIBUTOR (WITH COIL MOUNTED INSIDE DISTRIBUTOR CAP)
 ADAPTER/HARNESS PART NOS. 29040 AND 29043

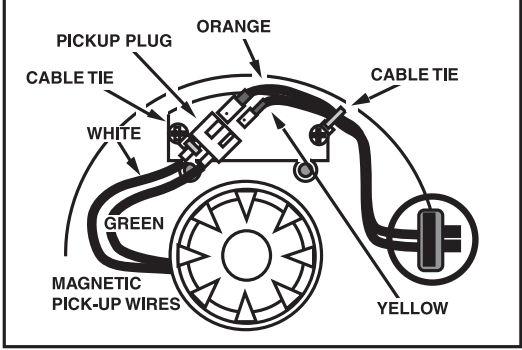
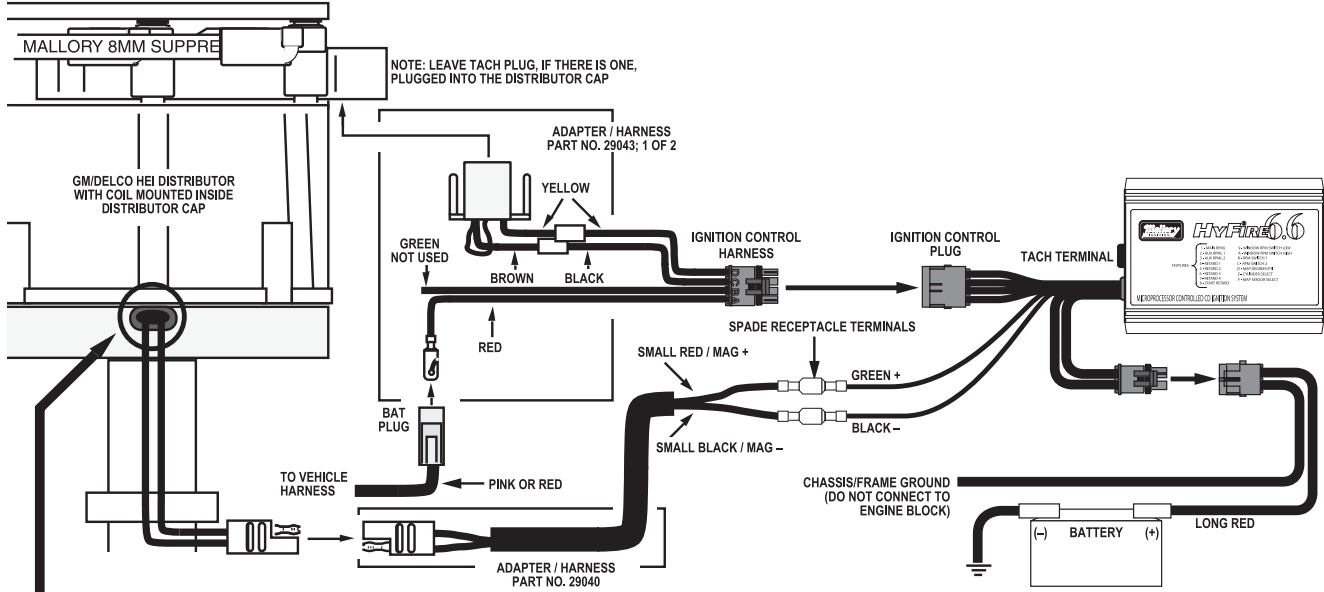


FIGURE 11

GM/DELCO HEI DISTRIBUTOR (WITH REMOTE COIL ADAPTER)
 ADAPTER/HARNESS PART NOS. 29040 AND 29043

NOTE: DISCARD ADAPTER / HARNESS PART NO. 29043 WITH YELLOW AND BROWN WIRES.

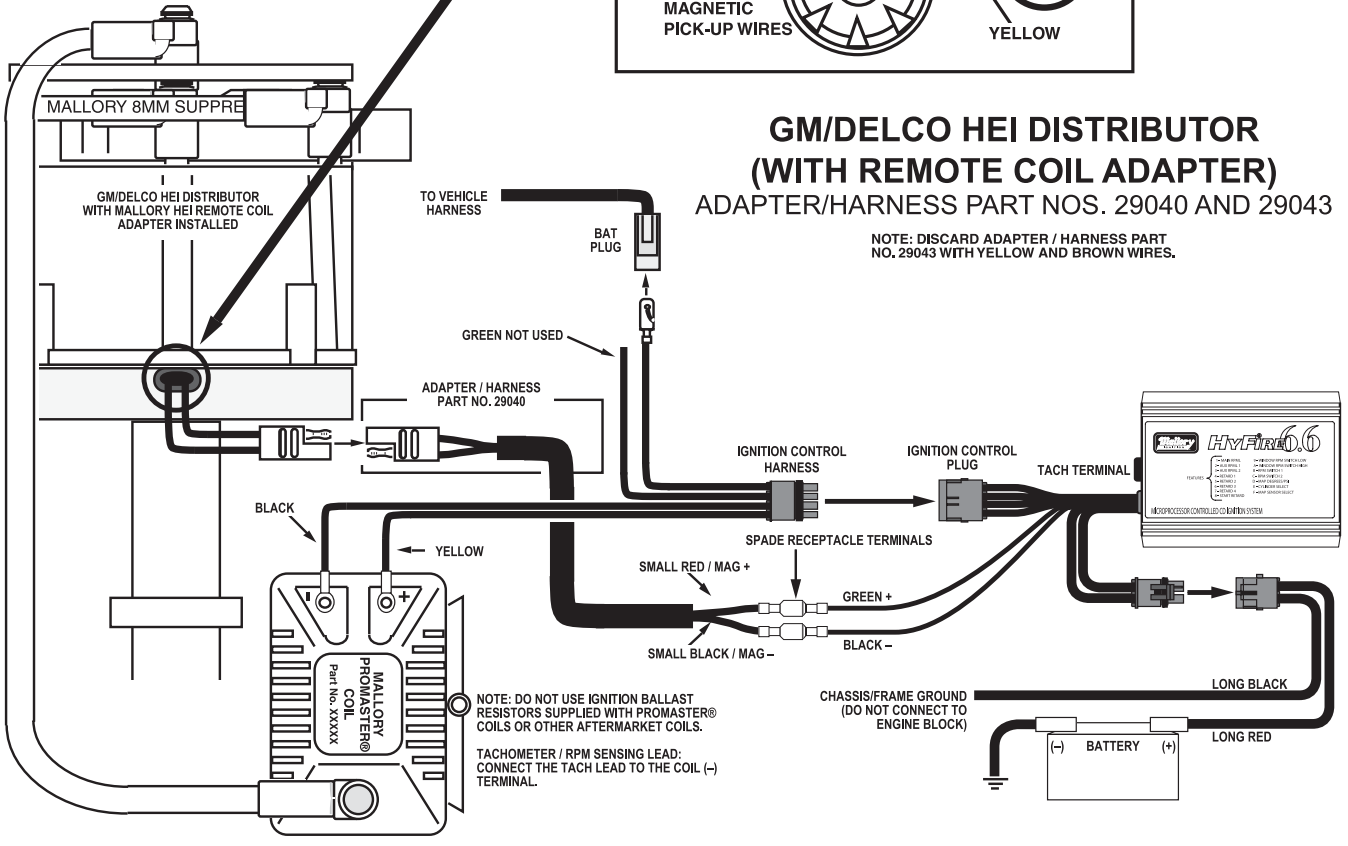


FIGURE 12 MOPAR/CHRYSLER

MOPAR / CHRYSLER ADAPTER PART NO. 29040

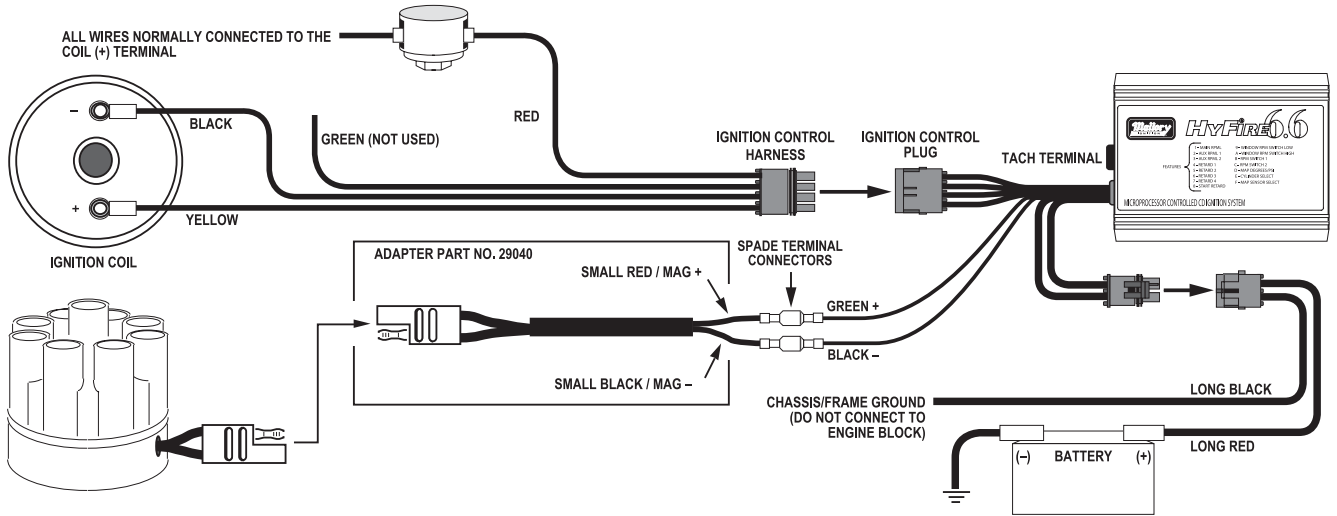


FIGURE 13

MALLORY UNILITE DISTRIBUTORS, MAGNETIC BREAKERLESS DISTRIBUTORS, OR ELECTRONIC ADVANCE DISTRIBUTORS (3-WIRE: RED, BROWN, GREEN)

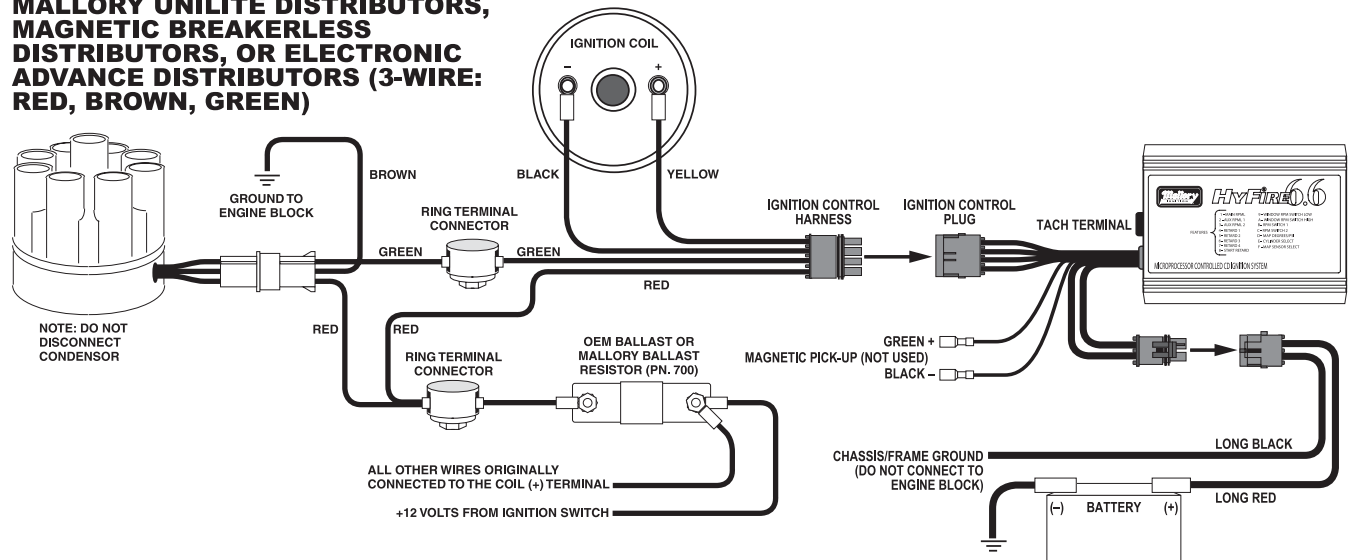


FIGURE 14

OEM IGNITION AMPLIFIER

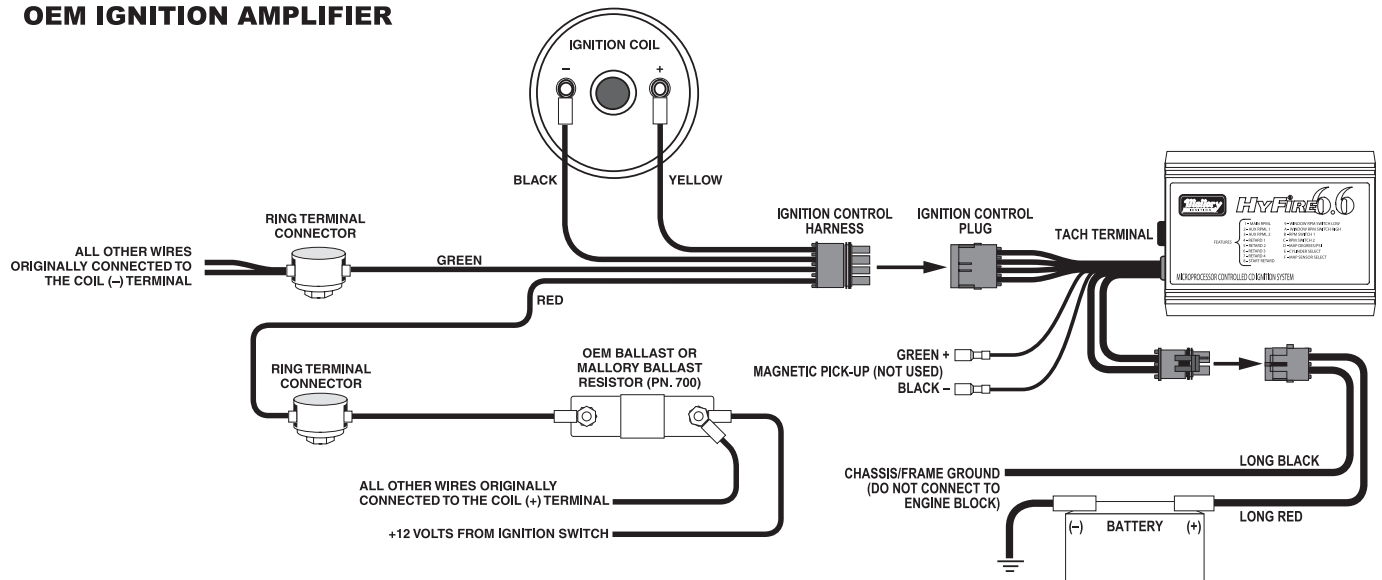
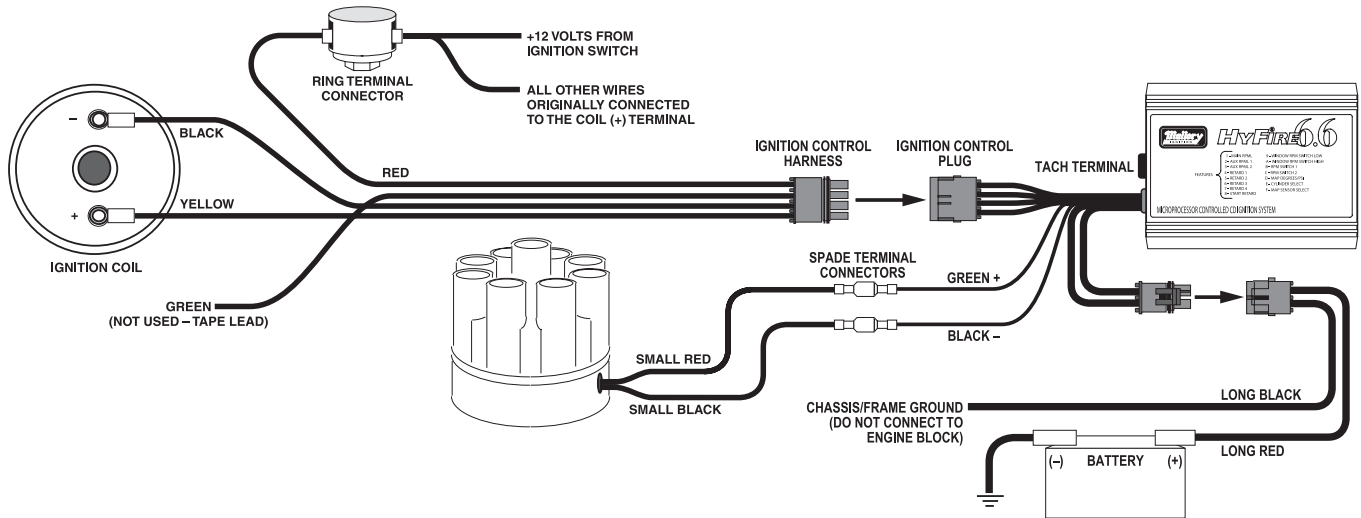


FIGURE 15

MAGNETIC PICK-UP DISTRIBUTOR OR CRANK TRIGGER IGNITION



COMMON COLORS FOR MAG PICKUP WIRES		
<i>Distributor</i>	<i>Mag +</i>	<i>Mag -</i>
Mallory Crank Trigger	Purple	Green
Mallory Billet Competition Distributor, Series Nos. 81 and 84	Orange	Purple
Mallory COMP® 9000 Series Nos. 96-99	Orange	Purple
Mallory Harness P/N 29040	Red	Black
MSD	Orange/Black	Violet/Black
MSD Crank Trigger	Orange/Black	Violet/Black
Ford	Orange	Purple
Accel 46/48000 Series	Orange/Black	Violet/Black
Accel 51/61000 Series	Red	Black
Chrysler	Orange/White	Black

Connecting to Ford DuraSpark Systems (non-computer type) using Adapter PART NO. 29039 and Harness PART NO. 29040 for OEM magnetic pickup

Refer to Figure 8 while performing the following steps.

Connecting Adapter PART NO. 29039:

- Disconnect all connectors at the ignition module, ignition coil and distributor. Remove the ignition module. Remove the distributor and coil harnesses.
- Connect the Adapter ORANGE WIRE to the distributor plug's ORANGE WIRE.
- Connect the Adapter YELLOW WIRE to the distributor plug's PURPLE WIRE.
- Connect the other Adapter female socket to the vehicle's matching male socket. (The matching male socket was originally connected the ignition module.)

Connecting the Harness PART NO. 29040:

- Connect the HYFIRE® 6.6 Electronic Ignition Control's SMALL GREEN WIRE to the Harness RED WIRE.
- Connect the HYFIRE® 6.6 Electronic Ignition Control's SMALL BLACK WIRE to the Harness BLACK WIRE.
- Connect the mating plug of the Harness to the mating plug of the Adapter Part No. 29039 from the distributor.

Connecting the Ignition Control Harness:

- Route the Ignition Control Harness to the coil so that its wires do not make contact with extreme heat, sharp objects or moving devices such as fans, belts and linkages.
- Crimp the Ignition Control Harness RED WIRE to the slice connector on the Adapter Part No. 29039 female socket.
- Crimp a spade receptacle terminal on the Ignition Control Harness YELLOW WIRE. Connect the YELLOW WIRE to the ignition coil (+) terminal. DO NOT allow any wire except the YELLOW WIRE to make contact with the coil (+) terminal.
- Crimp a spade receptacle terminal on the Ignition Control Harness BLACK WIRE. Connect the BLACK WIRE to the ignition coil (-) terminal.
- NOTE: Do not connect the GREEN WIRE of the Ignition Control Harness to anything. Tape the end of the wire to insulate it.
- Go to Step 3, page 11.

Connecting to Early Model GM HEI Systems (non-computer type) using Adapter PART NO. 29043 and Harness PART NO. 29040 for OEM magnetic pick-up. Refer to Figures 11 and 12 while performing the following steps.

Connecting Adapter PART NO. 29043:

For coil-in-cap distributors only

- Disconnect the (RED or PINK) BAT PLUG/wire from the distributor cap.
- Disconnect the tachometer wire from the TACH terminal on the distributor cap.
- Disconnect the distributor plug from the distributor cap. For coil-in-cap distributors and external coil
- Remove the distributor cap.
- Disconnect the pickup plug from the ignition module.
- Remove the ignition module, radio noise filter/capacitor and distributor plug harness.
- Slide the Adapter ORANGE and YELLOW WIRES through the grommet (supplied).
- Connect the Adapter ORANGE WIRE to the pickup plug's WHITE WIRE.
- Connect the Adapter YELLOW WIRE to the pickup plug's GREEN WIRE.
- Position the grommet into the slot on the edge of the distributor housing. Use cable ties and 8-32 screws to hold wires in place.
- Install the distributor cap.

Connecting the Harness PART NO. 29040:

- Connect the HYFIRE® 6.6 Electronic Ignition Control's SMALL GREEN WIRE to the Harness RED WIRE.
- Connect the HYFIRE® 6.6 Electronic Ignition Control's SMALL BLACK WIRE to the Harness BLACK WIRE.
- Connect the mating plug of the Harness to the mating plug of the Adapter Part No. 29043 from the distributor.

Connecting the Ignition Control Harness:

- Route the Ignition Control Harness to the coil so that its wires do not make contact with extreme heat, sharp objects or moving devices such as fans, belts and linkages.
- Crimp a spade terminal on the Ignition Control Harness RED WIRE.

For coil-in-cap distributors only

Refer to Figure 10 while performing the following steps.

- Connect the BAT PLUG/wire to the RED WIRE.
- Crimp the YELLOW WIRE to the YELLOW WIRE of the Adapter Part No. 29043 3-pin connector.
- Crimp the BLACK WIRE to the BROWN WIRE of the Adapter Part No. 29043 3-pin connector.
- Plug the Adapter Part No. 29043 3-pin connector into the distributor cap.
- Note: DO NOT connect the GREEN WIRE of the Ignition Control Harness to anything. Tape the end of it to insulate it.
- Go to Step 3, page 11.

For external coil only

Refer to Figure 11 while performing the following steps.

(Replace the words "spade receptacle terminal" with "ring terminal" when aftermarket coils with post type terminals are used.)

- Disconnect the BAT wire from the ignition coil BAT/(+) terminal. Connect the BAT wire to the RED WIRE.
- Disconnect the tachometer wire from the ignition coil TACH/(-) terminal.
- Crimp a spade receptacle terminal on the Ignition Control Harness YELLOW WIRE. Connect the YELLOW WIRE to the ignition coil BAT/(+) terminal. DO NOT allow any wire except the YELLOW WIRE to make contact with the ignition coil BAT/(+) terminal.
- Crimp a spade receptacle terminal on the Ignition Control Harness BLACK WIRE. Connect the BLACK WIRE to the ignition coil BAT/(-) terminal.
- Discard the adapter plug with the yellow and brown wires from the Adapter PART NO. 29043. It is not used on external ignition coil HEI systems.
- Note: DO NOT connect the GREEN WIRE of the Ignition Control Harness to anything. Tape the end of it to insulate it.
- Go to Step 3, page 11.

Connecting to Mopar/Chrysler Electronic Systems (non-computer type) using Harness PART NO. 29040 for OEM magnetic pickup

Refer to Figure 12 while performing the following steps.

- Disconnect all connectors at the ignition module, ignition coil and distributor. Remove the ignition module. Take notice of a DARK GREEN/RED WIRE connected to the ignition ballast resistor. Remove the distributor and coil harnesses.

Connecting the Harness PART NO. 29040:

- Connect the HYFIRE® 6.6 Electronic Ignition Control's SMALL GREEN WIRE to the Harness RED WIRE.
- Connect the HYFIRE® 6.6 Electronic Ignition Control's SMALL BLACK WIRE to the Harness BLACK WIRE.
- Connect the mating plug of the Harness to the distributor plug.

Connecting the Ignition Control Harness:

- Route the Ignition Control Harness to the ignition coil so that its wires do not make contact with extreme heat, sharp objects or moving devices such as fans, belts and linkages.
- Connect the RED WIRE to the terminal on the ignition ballast resistor that previously had the DARK GREEN/RED WIRE connected to it (or to a 12-volt wire from the ignition switch). NOTE: The RED WIRE must get voltage when the ignition switch is in the START and RUN positions.
- Connect the YELLOW WIRE to the ignition coil (+) terminal. DO NOT allow any wire except the YELLOW WIRE to make contact with the ignition coil (+) terminal.
- Connect the BLACK WIRE to the ignition coil (-) terminal.
- DO NOT connect the GREEN WIRE of the Ignition Control Harness to anything. Tape the end of it to insulate it.
- Go to Step 3, page 11.

(2b) Wiring method without adapters; Mallory Electronic Ignitions (three wire/red, brown, green); OEM electronic ignition amplifiers.

Refer to: Figure 13 for Mallory UNILITE® Distributors, Magnetic Breakerless Distributors or Electronic Advance Distributors (three wire/red, brown, green); Figure 14 for OEM electronic ignition amplifiers

Connecting the Ignition Control Harness

- Route the Ignition Control Harness to the ignition coil so that its wires do not make contact with extreme heat, sharp objects or moving devices such as fans, belts and linkages.
- Disconnect ALL wires located on the ignition coil (+) terminal. These include the wires from the ignition switch/ignition ballast resistor, start/ignition bypass and any other wires normally connected to the ignition coil (+) terminal. Connect these wires to the RED WIRE. NOTE: The RED WIRE must get voltage when the ignition switch is in the START and RUN positions. If you are using a Mallory Electronic Ignition, connect its BROWN WIRE to engine ground and add its RED WIRE to the Ignition Control Harness RED WIRE. Use Ring Terminal Connectors to join wires together (See page 2 - Ignition Ballast Resistor / Loom Resistance Wire and Standard Ignition Bypass).
- Similarly, disconnect ALL wires located on the ignition coil (-) terminal. Connect these wires to the GREEN WIRE. If you are using a Mallory Electronic Ignition, add its GREEN WIRE to the Ignition Control Harness GREEN WIRE. Use Ring Terminal Connectors to join wires together.
- Connect the YELLOW WIRE to the ignition coil (+) terminal. DO NOT allow any wire except the YELLOW WIRE to make contact with the ignition coil (+) terminal.
- Connect the BLACK WIRE to the ignition coil (-) terminal.
- Go to Step 3, page 11.

RING TERMINAL CONNECTORS:

Furnished with the HYFIRE® 6.6 Electronic Ignition Controls are two Ring Terminal Connectors for the convenience of getting a neat installation when the HYFIRE® 6.6 Electronic Ignition Control is added to an existing ignition system. These Ring Terminal Connectors allow the existing ignition system wiring to remain in the area of the ignition coil.

- Move wires onto the stud that is inside the Ring Terminal Connector body.
- Secure these wires to the stud with the nut and washer.
- Install the Ring Terminal Connector cap.

(2c) Wiring Method without adapters for Magnetic Pickup Trigger Pulses (Non-Computer Type); Magnetic Pickup Distributors or Crank Trigger Ignition

Connecting to Magnetic Pickup Distributors and Crank Trigger Ignition – Refer to Figure 17.

- Connect the magnetic pickup (+) wire to the SMALL GREEN WIRE from the HYFIRE® 6.6 Electronic Ignition Control.
- Connect the magnetic pickup (-) wire to the SMALL BLACK WIRE from the HYFIRE® 6.6 Electronic Ignition Control.

Connecting the Ignition Control Harness:

- Route the Ignition Control Harness to the ignition coil so that its wires do not make contact with extreme heat, sharp objects or moving devices such as fans, belts and linkages.
- Connect the RED WIRE to the 12-volt wire from the ignition switch. NOTE: The RED WIRE must get voltage when the ignition switch is in the START and RUN positions. Use a Ring Terminal Connector to join wires together.
- Connect the YELLOW WIRE to the ignition coil (+) terminal. DO NOT allow any wire except the YELLOW WIRE to make contact with the ignition coil (+) terminal.
- Connect the BLACK WIRE to the ignition coil (-) terminal.
- DO NOT connect the GREEN WIRE of the Ignition Control Harness to anything. Tape the end of it to insulate it.
- Go to Step 3, Page 11.

MAGNETIC PICKUP/CRANK TRIGGER COLOR CODES

BRAND/TYPE	MAG+	MAG-
MALLORY CRANK TRIGGER	PURPLE	GREEN
MALLORY BILLET COMPETITION DISTRIBUTOR, SERIES NOS. 81 AND 84	ORANGE	PURPLE
MALLORY COMP 9000® SERIES NOS 96-99	ORANGE	PURPLE
MALLORY HARNESS PART NO. 29040	RED	BLACK
MSD™ CRANK TRIGGER	PURPLE	GREEN
MSD™ CRANK TRIGGER (OLD STYLE)	ORANGE	BLACK
MSD™ DISTRIBUTOR	ORANGE	PURPLE
MOROSO™ CRANK TRIGGER	BLACK	WHITE
ACCEL® CRANK TRIGGER	BLACK	WHITE
CHRYSLER ELECTRONIC DISTRIBUTOR	ORANGE	BLACK
FORD DURASPARK DISTRIBUTOR	ORANGE	PURPLE
DELCO/GM HEI DISTRIBUTOR	WHITE	GREEN

Step 3

Tachometer Operation:

If a tachometer is used, connect tachometer ignition sensing lead to the TACH terminal on the HYFIRE® 6.6 Electronic Ignition Control.

If the tachometer does not work after being connected to the TACH terminal, connect the tachometer ignition sensing lead to the GREEN WIRE from the Ignition Control Harness. If this does not work, your tach is a high voltage trigger tach and will require the Mallory Fuel Injection and Tachometer Adapter Part No. 29074 or 29078 to supply the proper signal for the tachometer to operate.

BYPASS CONNECTOR

The Bypass Connector (standard ignition bypass) fits into the mating plug of the Ignition Control Harness to convert back to standard ignition. If you use the Bypass Connector, use ignition ballast resistors designed for the particular distributor and coil in the wire from the ignition switch. Use the Power Plug to convert back to standard ignition. Also, if you are using a Mallory Fuel Injection/Tachometer Adapter (Part No. 29074), disconnect it (and its diode if used) as part of converting back to standard ignition. The Bypass Connector (standard ignition bypass method to convert back to standard ignition) does not work with magnetic pickup distributors or crank trigger ignition.

Step 4

Secure all wires with cable ties to prevent contact extreme heat, sharp objects or moving devices such as fans, belts and linkages.

Step 5

Recheck all wire and connections to ensure they are correct before applying power.

Step 6

Connect the battery (-) terminal cable. Start engine and check operation of the ignition system.

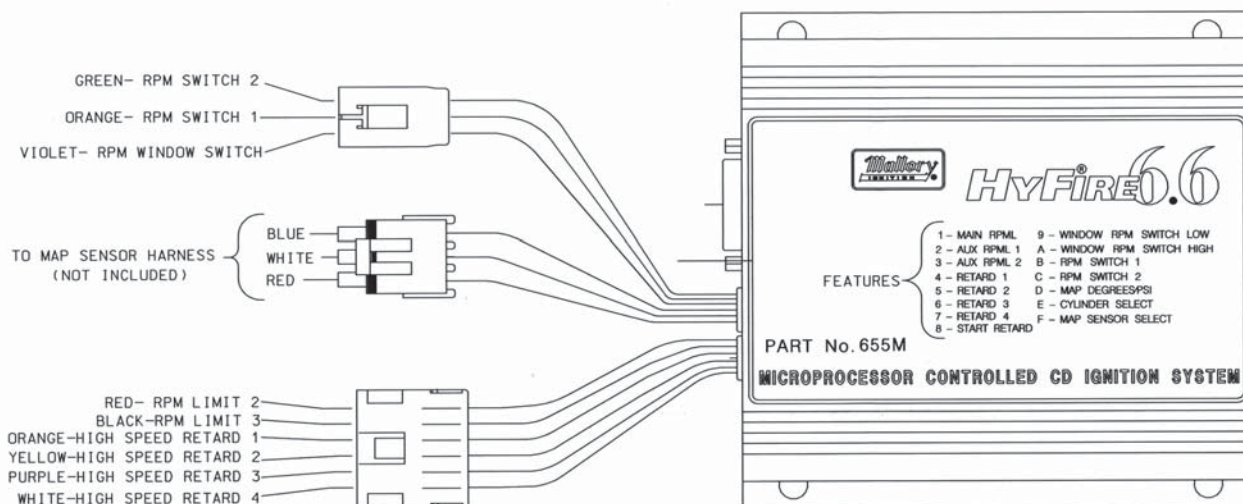
Ignition Control Operation and Features

Mallory HYFIRE® 6.6 686M CD Ignition System

The features of the Mallory HYFIRE 6.6 Ignition System are controlled by using the hand held controller. The "Mode" key controls which feature is being adjusted and the value is changed by using the up and down arrow keys. To use, simply connect the cable provided between the controller and the main unit. When finished, you can either remove the cable and controller for safe storage or leave it connected. The features and their mode numbers are listed below along with appearing on both the controller and the main unit.:

RPM Limiting Modes 1, 2, and 3- Utilize in sequence.

Mode 1 – This is the normal engine protection RPM limit. It is active if no other RPM limit is selected. The range of this limiter is 1000 to 12800 in steps of 100 RPM.

FIGURE 18

Mode 2 – This is the auxiliary RPM limiter, and it is activated when the RED wire coming out of the end panel is grounded. The range is the same as the Mode 1 RPM limiter. This RPML will over-ride the Mode 1 RPML when it is active.

Mode 3 – This is the auxiliary RPM limiter, and it is activated when the BLACK wire coming out of the end panel is grounded. The range is the same as the Mode 1 RPM limiter. This RPML will over-ride the Mode 1 and 2 RPM limiters when it is active.

Retard Stages Modes 4, 5, 6 and 7- Utilize in Sequence.

Mode 4 – This is the first selectable high-speed timing retard. It is selected when the ORANGE wire coming out of the end panel is grounded. The range is .1 to 15 degrees in .1 degree steps.

Mode 5 – This is the second selectable high-speed timing retard. It is selected when the YELLOW wire coming out of the end panel is grounded. The range is .1 to 15 degrees in .1 degree steps.

Mode 6 – This is the third selectable high-speed timing retard. It is selected when the PURPLE wire coming out of the end panel is grounded. The range is .1 to 15 degrees in .1 degree steps.

Mode 7 – This is the fourth selectable high-speed timing retard. It is selected when the WHITE wire coming out of the end panel is grounded. The range is .1 to 15 degrees in .1 degree steps.

Mode 8 – Start retard value. This amount of retard is applied whenever the engine RPM is below 500. The range is .1 to 10 degrees in .1 degree steps.

Modes 9 and A – RPM Window Switch. These two control the built-in RPM activated “window” switch. Mode 9 sets the RPM where the switch activates, and mode A sets the RPM where the switch de-activates. This is useful if, for example, you want to have your nitrous system only work within a certain RPM range. The output wire for the RPM switch is the VIOLET wire coming out of the end panel. It is

connected to ground when the switch is active, and has a maximum current rating of 10 amps. NOTE: The RPM range for this switch is 1000 to 12, 8000 and the off RPM (mode 6) must be at least 100 RPM higher than the on RPM (mode 5).

Mode B – This is RPM Switch 1. It is selected when the ORANGE wire coming out of the end panel is grounded. The range is .1 to 15 degrees in .1 degree steps.

Mode C – This is RPM Switch 2. It is selected when the GREEN wire coming out of the end panel is grounded. The range is .1 to 15 degrees in .1 degree steps.

Mode D – Boost timing retard degrees per PSI of boost. If you have an optional 2 BAR, #716 or 3 BAR, #717 MAP sensor connected, the HYFIRE® 686M will retard the timing as the boost pressure increases. Mode D tells the system how many degrees to retard the timing for each pound of boost. The range is .1 to 4 degrees per pound of boost and adjusts in .1 degree increments. The MAP sensor plugs into the optional harness #29785 which connects to the 3 wire connector that comes out of the front panel. If you don't have a MAP sensor installed, this function has no effect.

Mode E – Cylinder number select. Set this to however many cylinders your engine has. The range is 4 to 12 cylinders, even-fire ONLY!

Mode F – MAP sensor select. There are two MAP sensors available that are compatible with the HYFIRE® 686M. One is a 2 Bar sensor (P/N 716), which is good for about 15 PSI of boost, and the other is a 3 Bar sensor (P/N 717), good for about 30 PSI of boost. You will also need to purchase MAP Sensor Harness 29785. Use mode F to tell the HYFIRE® 686M which sensor you are using. If you don't have a MAP sensor installed, this function has no effect.