CAUTION: READ INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION.

READ THIS BEFORE YOU BEGIN!

Before proceeding with the HI-6 installation, read the introductory material below so that you will understand the basic features and operation of the unit. The installation instructions are organized by application; use the Applications Index to find the appropriate section for your vehicle.

For HI-6 Part Number 6000-6466 or hookup of optional TRC-2 Timing Retard Control Part Number 6000-6425, additional information is provided in the TRC-2 supplement starting on page 21.

CAUTION: READ THE FOLLOWING CAREFULLY:

- Standard HI-6 units (6000-6420, 6000-6421, 6000-6422, and 6000-6423) are sealed for protection against occasional water drips. However, standard HI-6 units MUST NOT be mounted in areas exposed to water splash or sprayed with water. Moisture forced into the HI-6 unit can cause an internal electrical short circuit. This could destroy the HI-6 unit and VOID YOUR WARRANTY!

- If you are mounting a standard HI-6 unit in the engine compartment, direct the cable exit down, so that moisture can drain out. Always cover the HI-6 unit when cleaning the engine compartment.

- Severe automotive environments and race applications require the HI-6R (6000-6400), HI-6DSR (6000-6424), or part number 6000-6466 (HI-6R and TRC-2 kit). Marine applications require the HI-6M (6000-6462). These HI-6 versions are fully encapsulated with urethane and include wire harnesses with Weather Pack connectors.

- Make sure that all original equipment wires are disconnected from coil. GM coil-in-cap HEI: Install black ground wire as shown in Figure 5 or 7.

- Tape up any unused wires after completing the installation. If the magnetic trigger leads are not used, cut short and tape up each lead separately. If the white points trigger wire is not used, tape it up. If unused trigger leads short together or to ground, the HI-6 will not run.

INTRODUCTION

The Crane Cams HI-6 is an advanced capacitive discharge (CD) type ignition system intended for racing and performance street vehicles. The HI-6 is 50 states street legal (California Air Resources Board E.O. D-225-52 and D-225-63 for 1995 and prior non-OBD II vehicles) and can be installed in most vehicles. Trigger sources include:

- Electronic ignition module
- Magnetic pickup distributor
- Crank trigger system
- Points distributor

CAUTION: The HI-6 is not compatible with any odd firing engines or distributorless ignition systems. Use the HI-6DI² (part number 6000-6500) for distributorless ignitions.

APPLICATIONS INDEX

Late Model Computer Controlled Vehicles with Stock Electronic Ignition . . Pg 7
(most 1981 and up vehicles with O.E. electronic ignition and engine control computer, European vehicles with Bosch Hall Effect ignition)

Earlier Electronic Ignition Systems Without Computer Control
(Magnetic Triggered Systems) . . . . . . Pg 12
(most 1974-1980 vehicles with magnetic pickup distributor and any vehicles with aftermarket crank trigger)

Honda and Acura Integra . . . . . . . . . . . . . . Pg 13

Early Vehicles with Points . . . . . . . . . . . . Pg 13

Vehicles with Aftermarket Ignitions . . . . . . . . . . Page 16
(includes Crane XR700, XR3000, and Mallory Unilite points conversion.)

Check our web site for updates: www.cranecams.com
**MULTIPLE SPARK**

Under low RPM cranking conditions, the HI-6 generates up to 12 sparks. This assures quick starting even under the most adverse conditions. At idle and cruise, the number of sparks fired is adjusted to maintain a total spark duration of approximately 20 degrees (crankshaft), assuring smooth idle, improved throttle response, and eliminating the lean surge characteristic of some late model emission controlled vehicles. Above 3,000 RPM, the HI-6 generates a single powerful spark with many times the spark gap current of most competitive systems.

**DIGITAL SEQUENTIAL REV LIMITER**

All HI-6 units have an externally activated stage rev limiter that can be digitally set from 600 to 9,900 RPM in 100 RPM increments via rotary switches. The yellow/white wire (yellow with thin white stripe) is used to activate the stage rev limiter. Since most late model vehicles have onboard engine control computers that set a safe maximum rev limit, the stage limit feature on the HI-6 can be used for selecting a lower rev limit for drag racing.

The HI-6DS (6000-6423) and HI-6DSR (6000-6424) have a two stage rev limiter. An additional set of rotary switches sets the maximum rev limit on the HI-6DS and HI-6DSR from 600 to 9,900 RPM in 100 RPM increments.

The stage limit is activated by applying +12V to the yellow/white wire. If the stage limit is not activated, the maximum rev limit is selected.

The rev limiter can be set to operate with 4, 6 or 8 cylinder engines. Accuracy is +/-30 RPM. The rev limiter is not compatible with any odd firing engines.

The HI-6 utilizes a sequential firing program to equalize cylinder firing at the rev limit. When engine RPM exceeds the rev limit, firing stops. The HI-6 counts the number of cylinder firings that are skipped. Once RPM drops below the rev limit, firing is resumed when the count reaches an odd number. If the engine is held against the rev limit, RPM will stay within a narrow band. All cylinders will be fired equally in rotation. Fuel loading and plug fouling will be greatly reduced. Sequential firing also minimizes harmonics and vibrations that can stress engine and drivetrain parts.

**RETARD CAPABILITY**

All HI-6 units have a timing retard capability. Several retard modes are supported including boost proportional retard. An optional TRC-2 Timing Retard Control module (6000-6425) is required to make use of the timing retard capability. Note that HI-6 part number 6000-6466 is sold as a kit that includes the TRC-2 unit. The TRC-2 attaches to the brown/white wire (brown with thin white stripe). Refer to the TRC-2 supplement starting on page 21 for details.

**TRIGGER RETARD COMPENSATION**

Magnetic pickups have an inherent retard characteristic. The RISC microcontroller within the HI-6 automatically compensates for this retard characteristic and maintains ignition timing constant within +/- .5 degree throughout the entire RPM range.

**TACH TEST FEATURE**

The HI-6 includes a tach test feature that can be used to test tachometers and other RPM activated accessories connected to the HI-6 tach output (green wire). The tach test feature is described in greater detail in the tach hookup section starting on page 18.
**DIAGNOSTICS**

When the ignition switch is turned on, the HI-6 completes an internal diagnostic check and lights up the status LED. When the engine is cranked, the status LED will rapidly blink to indicate that a valid trigger signal is being received.

If certain failure modes occur, the HI-6 will shut off (engine stops running) and the status LED will continuously blink a diagnostic code, similar to a check engine light. The LED will blink a number of times followed by a 2 second pause. The number of blinks indicates the fault mode. Refer to the troubleshooting section starting on page 18.

**COIL COMPATIBILITY**

Most O.E. (original equipment) coils are compatible with the HI-6. We recommend the Crane Cams PS91 or LX91 for street performance and the PS92 or LX92 for professional racing use. The PS92/LX92 are capable of continuous operation at 8,500 RPM and 85 degrees C (185 degree F) ambient temperature. A detailed coil compatibility chart is given on page 24.

**SPARK PLUGS AND WIRES**

Do not use solid core wire, as this can generate electrical noise that may interfere with the HI-6 or other on-board computer and radio equipment. Do not use high resistance carbon wire, as this may burn out from the high energy levels. Optimum wire resistance is 300-800 ohms per foot.

For optimum performance in racing applications use only non-resistor spark plugs. Resistor spark plugs are required for all street applications unless recommended otherwise by vehicle manufacturer. Recommended plug gap is .045" for normally aspirated engines used for off-road racing.

**CAUTION:** Use only low resistance spark plug wires such as Crane FireWire.

**MOUNTING THE HI-6**

Preferred mounting location for the HI-6 is within the passenger compartment. If the HI-6 is mounted within the engine compartment, make sure that the mounting location is away from exhaust system heat, protected from water splash, and has good airflow for cooling. Orient the cable exit downward so that moisture can drain out.

When you have picked a mounting location, make sure that the wire harness will reach and that the rev limit switches are accessible. Use the sheet metal screws provided in the parts bag to mount the unit. Rubber shock mounts are recommended for racing.

**POWER AND GROUND**

**Heavy Red** Connect to Battery+ or battery cable at starter solenoid. Use 3/8” ring terminal supplied.

**Heavy Black** Connect to chassis ground. Scrape off paint to insure good contact. Use 3/8” ring terminal. Do not lengthen this wire.

**CAUTION:** If the heavy red wire must be extended, use 10 or 12 gauge copper wire and read the filter capacitor note on page 20.

**COIL CABLE**

**Orange** Connect to Coil+. Remove all other wires from Coil+ terminal.

**Black** Connect to Coil-. Remove all other wires from Coil-terminal.

**CAUTION:** Route coil cable away from all other wires, especially the trigger inputs.

**WARNING:** High voltage is present at the coil primary and secondary terminals. Do not touch the coil while the engine is running. Do not connect any test equipment to the coil.

**BASIC HOOKUP**

This section provides generic hookup information that can be used for applications not specifically referenced in the Applications Index.

A parts bag with hardware and electrical terminals is provided for your convenience. You will require common hand tools including a proper wire stripping and crimping tool. Do not attempt to use pliers to crimp terminals. All connections must be made with stranded copper wire. Crimp terminals are recommended over soldering for most applications. Soldering can make wires brittle near the solder joint.

Make sure all terminals are clean and free of corrosion. Scrape off paint, dirt, and grease when making connections to chassis ground.

**IGNITION SWITCH**

**Red** Connect to switched +12 volts. Usually this will connect to the O.E. wire that was removed from Coil+. If the O.E. wiring to Coil+ included a ballast resistor, the resistor does not have to be removed.

**CYLINDER SELECT**

**Blue** Refer to Figure 4:

8 cyl: Do not connect. Tape up wire.

6 cyl: Connect to ground with 1/4” ring terminal.

4 cyl: Connect to red ignition switch wire with 3M splice found in parts bag.
Figure 2. Basic Points or Computer Control Hookup

NOTES:
1. Connections to O.E. wire that were removed from Coil – and Coil + are made with two sets of 1/4" male-female quick disconnects.

2. Refer to Figure 4 in for tach, cylinder select and stage limit hookup.

3. O.E. ballast resistor is not required, but can be left connected.

4. Any condenser at points, O.E. module, or coil must be disconnected and removed.

5. Use 3/8" ring terminals for battery and ground connections.

COIL CONNECTIONS MADE WITH TWO 45° MALE TERMINALS AND TWO 1/4" FEMALE QUICK DISCONNECTS

HEAVY BLACK CHASSIS GROUND

MAGNETIC TRIGGER CABLE CUT SHORT AND TAPE UP

O. E. WIRE THAT WAS REMOVED FROM COIL +

THIN RED IGNITION

COIL CABLE

BLACK COIL –

COIL –

ORANGE COIL +

COIL +

HEAVY RED BAT +

+12V

O. E. WIRE THAT WAS REMOVED FROM COIL –

CUT WIRE AND REMOVE CONDENSER IF NECESSARY

CONDENSER

BREAKER POINTS

TRIGGER SOURCE

O. E. ELECTRONIC IGNITION MODULE

WHITE POINTS

SEE NOTE 1

HEAVY BLACK CHASSIS GROUND

START

RUN

BALLAST RESISTOR (not always used)

12 VOLT BATTERY

IGNITION SWITCH

HI-6

MAGNETIC TRIGGER CABLE

CUT SHORT AND TAPE UP

O. E. WIRE THAT WAS REMOVED FROM COIL +
Figure 3. Basic Magnetic Trigger Hookup

NOTES:

1. Refer to Figure 4 in for tach, cylinder select and stage limit hookup.

2. O.E. ballast resistor is not required, but can be left connected.

3. Any condenser at coil must be disconnected and removed.

4. Additional quick disconnects are provided in parts bag to allow easy reconnection of O.E. wires if HI-6 unit is removed.

5. Use 3/8" ring terminals for battery and ground connections.
**STAGE LIMIT INPUT**

**Yellow/White**  
Yellow wire with thin white stripe. Refer to Figure 4. Connect to a normally open switch as shown. When the switch is closed and +12V is applied to the input, the stage rev limit is active.

**RETARD INPUT**

**Brown/White**  
Brown wire with thin white stripe. Unless you are connecting the optional TRC-2 accessory (see page 21), tape up this wire.

**TACH OUTPUT**

**Green**  
Refer to Figure 4. Connect to tachometer using 1/4" male and female quick disconnects. Connect electronic fuel injections and RPM activated systems that require a 12 volt tach signal to this wire. Some tachs may require an adapter. Refer to the Tach Hookup section on page 18 for details.

**TRIGGER INPUTS**

The magnetic trigger cable is used for all magnetic pickup distributors and crank trigger systems. The white "points" trigger wire is used for triggering from ignition modules and points. Twisted pair type cable is used for the magnetic trigger cable to prevent electrical noise. Either the magnetic trigger or "points" trigger input will be used. Do not connect both. Refer to Figures 2 and 3.
POINTS/MODULE TRIGGER INPUT

**White** Connect to output of O.E. electronic ignition module or points. Usually this will connect to one of the O.E. wires that were removed from the Coil-terminal. Tape up if using magnetic trigger.

**MAGNETIC TRIGGER CABLE**

**Violet** Connect to Mag+

**Green** Connect to Mag-

Correct polarity of the magnetic trigger is important. Magnetic pickup distributor: the reluctor tooth should be lined up with the center pole piece when the coil fires. Crank trigger: the magnet or lug should be centered on the pickup. Both systems should remain that way throughout the RPM range. Use the color code chart below for reference, but double check with a timing light. If timing appears off by more than 10 degrees after installing the HI-6, the magnetic pick-up polarity is most likely reversed.

### LATE MODEL VEHICLES WITH O.E. ELECTRONIC IGNITION

Use this hookup for most late model vehicles with O.E. electronic ignition. The only exceptions are GM vehicles with 4 or 5 pin HEI modules (typically 1974-1980 model years and distributor with vacuum advance). GM HEI systems with vacuum advance require triggering the HI-6 directly from the magnetic pick-up. Refer to the Magnetic Triggered Systems section further on.

The HI-6 will be triggered from the output of the O.E. electronic ignition module, using the white “points” trigger input wire. Before starting, remove and identify all O.E. wires to the ignition coil. Most applications will require cutting and terminating the coil primary wires. Use the hookups shown in Figures 5, 6 and 9 for common Ford and GM applications. Refer to Figure 2 for all other applications. Hookup is as follows:

1. Connect HI-6 power and ground wires. Connect blue cylinder select wire as required for your engine. Cut magnetic trigger cable short and tape up leads. Make sure the leads do not short together.
2. Remove O.E. wire(s) from Coil+ terminal. Tie all these wires together and connect them to the white trigger wire from the HI-6.
3. Remove O.E. wire(s) from Coil-terminal. Tie all these wires together and connect them to the white trigger wire from the HI-6.
4. Tach and fuel injection. In some cases, the trigger wires for tach and fuel injection will be connected to the O.E. module output somewhere within the vehicle wire harness and will not be brought out to Coil- as separate wires. Usually these systems will continue to function properly if left connected as is. In this case, just tape up the green tach output wire from the HI-6. If the tach or fuel injection doesn’t work, read the sections on Tach Hookup and Fuel Injection on page 18. You may require a tach adapter or universal trigger adapter.
5. Some O.E. systems may have a condenser at the coil or near the ignition module. Disconnect and remove the condenser.
6. Connect the HI-6 coil wires.

### ADAPTERS FOR LATE MODEL FORD AND GM VEHICLES

Crane offers optional wiring harness adapters for late model Ford and GM vehicles. These adapters facilitate the installations shown in Figures 5, 6 and 9 by eliminating the need to cut any wires. Refer to the Crane Catalog for applications and part numbers.

### VEHICLES WITH HALL EFFECT SYSTEMS

Many late model vehicles, especially European vehicles, have O.E. Hall Effect ignition systems. Use the output of the O.E. electronic ignition to trigger the HI-6 white wire as shown in Figure 2. The Hall Effect pickup cannot directly trigger the HI-6.

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**HOOKUP INSTRUCTIONS FOR SPECIFIC APPLICATIONS**

**CAUTION:** Tape up unused trigger wires. The HI-6 will not fire if the trigger leads are shorted. To prevent misfire, you must route the trigger wires away from the coil wires and spark plug wires. Run them along a frame rail and keep them on opposite sides or far apart as possible.

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>MAG+</th>
<th>MAG-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accel/Crysler dist.</td>
<td>Orange/White</td>
<td>Black</td>
</tr>
<tr>
<td>Accel crank trig.</td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td>Moroso crank trig.</td>
<td>Black</td>
<td>White</td>
</tr>
<tr>
<td>MSD crank trigger</td>
<td>Violet/Orange</td>
<td>Green/Black</td>
</tr>
<tr>
<td>MSD/Ford dist.</td>
<td>Orange</td>
<td>Violet</td>
</tr>
<tr>
<td>GM HEI dist.</td>
<td>White</td>
<td>Green</td>
</tr>
<tr>
<td>GM Magna Pulse</td>
<td>White</td>
<td>Green</td>
</tr>
<tr>
<td>Hayes Stinger</td>
<td>Black/Green</td>
<td>Black</td>
</tr>
</tbody>
</table>

**MAGNETIC TRIGGER COLOR CODES**
Figure 5. GM HEI with Coil-In-Cap Hookup Distributor without Vacuum Advance Mechanism

IMPORTANT! FOLLOW SEQUENCE FOR WIRES

1/4" FEMALE QUICK DISCONNECTS

ORANGE COIL +

BLACK COIL -

COIL CABLE

12" BLACK JUMPER WIRE

WHITE POINTS

USE 1/4" MALE TERMINALS

GREEN TACH

THIN RED IGNITION

USE 1/4" MALE TERMINALS

GM TACH WIRE

GM HEAVY RED OR PINK IGNITION SWITCH WIRE

MAGNETIC TRIGGER CABLE CUT SHORT AND TAPE UP

NOTE:
HI-6 battery and ground connections not shown for clarity.

WARNING:
GM COIL MUST BE GROUNDED WITH BLACK JUMPER WIRE AS SHOWN.

NOTE:
1/4" MALE TERMINALS

TO GM MODULE

BROWN
BLACK
PINK

GM PLUG

12" BLACK JUMPER WIRE
Figure 6. GM HEI with External Coil Hookup Distributor without Vacuum Advance Mechanism

NOTES:
1. HI-6 battery and ground connections not shown for clarity.
2. In most cases tach is wired to GM Coil Connector and will continue to function.

COIL CONNECTOR

1/4" MALE TERMINALS

JUMPER WIRES ACROSS AS SHOWN

THIN RED IGNITION

MAGNETIC TRIGGER CABLE
CUT SHORT AND TAPE UP

COIL CABLE

ORANGE COIL +

BLACK COIL -

1/4" FEMALE QUICK DISCONNECTS

EARLY HEI COIL

LATE MODEL HEI COIL WITH DUAL PLUGS

THIN RED IGNITION

WHITE POINTS

COIL CABLE

TO HI-6 SAME AS ABOVE

CUT GM HARNESS AT COIL PLUGS. USE SIX SETS OF 1/4" MALE-FEMALE QUICK DISCONNECTS. INSTALL JUMPERS AS SHOWN.

TO GM WIRE HARNESS

1/4" MALE QUICK DISCONNECTS INSTALLED TO ALLOW RECONNECTION OF O.E. GM SYSTEM

PINK IGNITION

TO GM DISTRIBUTOR

WHITE COIL -

WHITE TACH

WHITE

PINK IGNITION

PINK

BLACK COIL -

COIL -

ORANGE COIL +

WHITE POINTS

PINK

WHITE
**STEP 1**

**PREPARE HI-6 MAGNETIC TRIGGER CABLE**

- **CABLE GROMMET**
- **WIRE CLAMPS**
- **WIRE**
- **GROMMET**

**3/16” MALE TERMINAL**

**STEP 2**

**REMOVE GM MODULE AND HARNESS**

- **MAGNETIC PICK-UP**
- **GREEN**
- **WHITE**
- **TYPICAL MODULE MOUNTING SCREW**

**STEP 3**

**INSTALL HI-6 MAGNETIC TRIGGER CABLE**

- **GM CABLE HARNESS**
- **GM MODULE**
- **WIRE CLAMPS**

**STEP 4**

**CONNECT HI-6 TO GM COIL-IN-CAP**

- **COIL CABLE**
- **BLACK COIL**
- **ORANGE COIL +**
- **GREEN TACH**
- **THIN RED IGNITION**
- **GM HEAVY RED OR PINK IGNITION SWITCH WIRE**
- **GM TACH WIRE**

**WARNING:**

GM COIL MUST BE GROUNDED WITH BLACK JUMPER WIRE AS SHOWN. GROUND TO HEI MODULE MOUNTING SCREW INSIDE DISTRIBUTOR.

**PICKUP COLOR CODE**

- **GM HI-6**
- **WHITE......VIOLET**
- **GREEN......GREEN**

**WHITE POINTS TAPE UP**

**Figure 7. GM HEI with Coil-In-Cap Hookup Distributor with Vacuum Advance Mechanism**
Figure 8. GM HEI with External Coil Hookup Distributor with Vacuum Advance Mechanism

**STEP 1**
PREPARE HI-6 MAGNETIC TRIGGER CABLE

- CABLE GROMMET
- WIRE CLAMPS
- GREEN MAG –
- VIOLET MAG +
- 3/16” MALE TERMINAL

**STEP 2**
REMOVE GM MODULE AND HARNESS

- MAGNETIC PICK-UP
- WHITE
- GREEN
- GM CABLE HARNESS
- GM MODULE
- TYPICAL MODULE MOUNTING SCREW

**STEP 3**
INSTALL HI-6 MAGNETIC TRIGGER CABLE

- GROMMET
- WIRE CLAMP
- WIRE CLAMP
- WHITE POINTS TAPE UP
- GREEN
- VIOLET

**STEP 4**
CONNECT HI-6 TO HEI COIL

- ORANGE COIL +
- BLACK COIL –
- 1/4” FEMALE QUICK DISCONNECTS
- EARLY HEI COIL
- GM HEAVY RED OR PINK IGNITION SWITCH WIRE
- GM TACH WIRE
- THIN RED IGNITION
- USE 1/4” MALE TERMINALS
- GREEN TACH

**PICKUP COLOR CODE**
GM  Hi-6
WHITE........VIOLET
GREEN........GREEN

**NOTE:**
HI-6 BATTERY AND GROUND CONNECTIONS NOT SHOWN FOR CLARITY.
Use this hookup for all GM vehicles with 4 or 5 pin HEI modules (typically 1974-1980 cars and some trucks up to 1986 using a distributor with vacuum advance). You can use this hookup for most vehicles with O.E. magnetic triggered ignition that do not have engine computers including AMC, Chrysler, Ford, GM Mag Pulse (1968-74 Corvettes) and many imports if the O.E. module is damaged or has been removed. Use this hookup for all crank trigger racing applications.

The HI-6 will be magnetic triggered direct from the distributor pickup or crank trigger using the magnetic trigger cable. The white "points" trigger wire is not used and must be taped up. Before starting, remove and identify all O.E. wires to the ignition coil. The O.E. module must be disconnected from the magnetic pickup and coil, but does not have to be removed. Use the hookups shown in Figures 7 and 8 for common GM applications. Refer to Figure 3 for all other applications. Hookup is as follows:

1. Connect HI-6 power and ground wires. Connect blue cylinder select wire as required for your engine. Tape up white trigger wire which will not be used.

2. All except GM Mag Pulse. Remove O.E. wire(s) from Coil+ terminal. Tie all these wires together and connect them to the red ignition switch wire from the HI-6.

3. GM Mag Pulse system only. Disconnect all O.E. wires from Coil+ terminal and tape up. Trace "run" and "start" wires going from ignition switch to ballast resistor. Disconnect them from the ballast resistor, tie the wires together and connect them to the red ignition switch wire from the HI-6.

4. Remove O.E. wire(s) from Coil-terminal and tape up. If your vehicle has an electronic tach or fuel injection, identify the wires that go to these systems and connect them to the red ignition switch wire from the HI-6.

5. Connect the HI-6 coil wires. GM Mag Pulse system: you must replace the GM coil. Recommended coil is the Crane PS91. Most other coils, including GM external HEI coils, will work.

6. Disconnect O.E. module from magnetic trigger. Connect the HI-6 magnetic trigger cable to the distributor pickup or crank trigger. Refer to the chart on page 7 for Mag+ and Mag- color codes. GM HEI: refer to Figures 7 or 8 for easy hookup within the distributor using supplied terminals.

1972-86 MOPAR VEHICLES WITH 4 OR 5 PIN MODULES

Use the hookup shown in Figure 3. Most Mopar distributors use a 2 pin rubber molded plug for the magnetic pickup connection. Cut the wires going to this plug on the vehicle side of the wire harness. That way you can continue to use the plug. Connect the violet MAG+ wire from the HI-6 to the orange/white Mopar pickup wire. Connect the green Mag- wire from the HI-6 to the black Mopar pickup wire. Tape up the two wires that you cut on the vehicle harness.

You can remove the Mopar ignition module. Tape up the 4 or 5 pin plug on the vehicle harness. You can also remove the ballast resistor. However, if you remove the ballast resistor, you must solder together all the wires going to it.
**HONDA AND ACURA INTegra**

Late model Honda and Acura Integra have either a distributor with internal coil or an external coil. In either case, O.E. coils are not suitable for use with the HI-6 and must be replaced with a Crane LX91 or similar coil. Internal coil distributors can easily be converted to external coil by changing the distributor cap.

**EXTERNAL COIL**

Refer to Figure 10. Hookup is as follows:

1. Connect HI-6 power and ground wires. Connect blue cylinder select wire to thin red ignition wire as shown in Figure 4 (for 4 cylinder engines). Cut magnetic trigger cable short and tape up leads. Make sure magnetic trigger leads do not short together. Also tape up green tach wire which will not be used.

2. Identify and then cut wires off the two plugs on the Honda/Acura O.E. coil. Leave enough wire on the plugs so that they can be reconnected if required at a later date. Remove the Honda coil. Connect the HI-6 as shown. Use terminals and wire supplied in the parts bag. Note that some O.E. coils have only a single plug. Identify wires and connect similar to Figure 10. Most vehicles use blue color code for module output and tach connection to Coil- terminal and black-yellow color code for switched +12V power connection to Coil+ terminal. Connect all O.E. wires to HI-6 white wire. Connect all O.E. black-yellow wires to HI-6 thin red wire.

3. Tach and fuel injection. Usually these systems will continue to function properly if left connected as is. If the tach or fuel injection doesn’t work, read the section on Tach Hookup on page 18. Honda and Acura models generally do not require a tach adapter.

4. Connect the HI-6 coil cable to the LX91 coil. Use the plug supplied with the LX91. Depending on mounting location, you may have to fabricate a longer high voltage cable to the distributor.

**INTERNAL COIL CONVERSION**

Refer to Figure 11. Hookup is as follows:

1. Remove the distributor cap and dust shield. The dust shield is generally not required and can be discarded. Note the O.E. wiring hookup within the distributor. Remove the O.E. coil (held in place with two screws). Install a 2 position terminal block as shown. You can use Radio-Shack P/N 274-656 or similar part available from electronic supply stores. Tie wrap the terminal block to one of the coil mounting holes or fabricate a support bracket from aluminum channel material. Connect the O.E. wires that went to Coi1- and Coi1+ to the terminal block as shown.

2. You will require an external coil distributor cap. You can use Honda P/N 30102-PT3-A12 for most 92-97 Honda and Acura Integra models. Check the Crane web site for availability of cap adapters for other models. Drill a 3/8” wire exit hole in the cap at the location shown in the figure. Install the rubber grommet supplied in the parts bag.

3. Connect HI-6 power and ground wires. Connect blue cylinder select wire to thin red ignition wire as shown in Figure 4 (for 4 cylinder engines). Cut magnetic trigger cable short and tape up leads. Make sure magnetic trigger leads do not short together. Also tape up green tach wire which will not be used.

4. Route the white HI-6 trigger wire and thin red HI-6 ignition (switched +12V) wires through the hole in the new distributor cap and connect to the terminal block as shown using two small ring terminals.

5. Tach and fuel injection. Usually these systems will continue to function properly if left connected as is. If the tach or fuel injection doesn’t work, read the section on Tach Hookup on page 18. Honda and Acura models generally do not require a tach adapter.

6. Connect the HI-6 coil cable to the LX91 coil. Use the plug supplied with the LX91. You will have to fabricate a high voltage cable for use between the coil and new distributor cap.

**EARLY VEHICLES WITH POINTS**

Use this hookup for points distributors, including all aftermarket single and dual points distributors. The HI-6 will be triggered using the white “points” trigger input wire. Before starting, remove and identify all O.E. wires to the ignition coil. Most applications will require cutting and terminating the coil primary wires. Refer to Figure 2. Hookup is as follows:

1. Connect HI-6 power and ground wires. Connect blue cylinder select wire as required for your engine. Cut magnetic trigger cable short and tape up leads. Make sure magnetic trigger leads do not short together.

2. Remove O.E. wire(s) from Coil+ terminal. Tie all these wires together and connect them to the red ignition switch wire from the HI-6.

3. Remove O.E. wire(s) from Coil- terminal. Identify the wire that goes to the breaker points in the distributor. Connect this wire to the white points trigger wire from the HI-6. If your vehicle has an electronic tach, there will probably be an additional wire on the Coil- terminal. Identify any wire going to the tach and connect it to the green tach output wire from the HI-6.

4. Disconnect and remove thecondenser inside the distributor.

5. Connect the HI-6 coil wires.

6. Special note on points. You will no longer be able to use a dwell meter. However, the points gap is not critical when the points are only used for triggering and do not carry any coil current. Use a feeler gauge and set the points gap to .016”.

---

3/99 13 9000-6000C
Figure 10. Honda External Coil Hookup

NOTES:
1. HI-6 Battery and ground connections not shown for clarity. Refer to Figure 4 for cylinder select & stage limit hookup.
2. Cut wires at Honda coil plugs and connect wire harness to HI-6 as shown.
3. Use LX91 coil in place of Honda coil.
NOTES:
1. HI-6 Battery and ground connections not shown for clarity. Refer to Figure 4 for cylinder select & stage limit hookup.

2. Remove internal coil, use LX91 Coil and Honda Cap 30102-PT3-A12 for external coil. Drill hole thru cap for HI-6 wire exit.

Figure 11. Honda Internal Coil Hookup and Conversion to External Coil
AFTERMARKET IGNITIONS

Crane XR700 and XR3000 and other aftermarket points conversion systems such as the Mallory Unilite, are compatible with the HI-6.

Aftermarket magnetic trigger conversion systems such as Accel, Chrysler, and Hayes Stinger: the ignition module sold with these systems is not required. Disconnect and remove the aftermarket ignition module and trigger the HI-6 direct from the magnetic pickup. Refer to the Magnetic Triggered Systems section on page 12.

Aftermarket CD systems such as Accel, Holley, Jacobs, Mallory and MSD-6 units are not compatible with the Crane HI-6. Remove these aftermarket units and then use the HI-6 hookup recommended for the particular vehicle.

VEHICLES WITH CRANE XR700 AND XR3000

Use the hookup shown in Figure 12 if you are adding an HI-6 to a vehicle where the O.E. ignition has been replaced with a Crane XR700 or XR3000 optical trigger conversion. This is highly recommended for older points equipped vehicles, as it eliminates the problems with points bounce and wear. It will also provide more stable timing.

Tach and fuel injection: in most cases the tach and fuel injection (if equipped) wires would originally have been connected to Coil+. Trace out these wires and connect them to the green tach output wire from the HI-6. If this doesn’t work, you may need tach adapter P/N 6000-8910.

FINAL CHECK

Before starting the engine for the first time, double check all electrical connections and set a safe rev limit. Start the engine and check the ignition timing. The timing may change a few degrees after HI-6 installation. Reset timing to manufacturer’s specifications. If a large difference is noted, Mag+ and Mag- may be reversed.

REV LIMITER - ALL EXCEPT HI-6DS AND HI-6DSR MODELS

Select a safe stage rev limit that is less than the red line for your engine. Set the rotary switches on the HI-6 to the selected stage rev limit. Settings are X100 engine RPM (i.e. 22 = 2,200 RPM). The rev limit can be set over the range of 600 to 9,900 RPM. Use the small screwdriver supplied in the parts bag to set the switches. Special switch settings are:

- 00 Disables the internal rev limiter and allows operation above 9,900 RPM.
- 01 Disables multiple spark and internal rev limiter.
- 02 Disables the internal rev limiter and timing retard. Special compatibility mode for external Crane rev limiters and engine controls.
**Tach test step mode.**
Causes tach to step from 1,000 to 10,000 RPM in 1,000 RPM increments.

**Tach test ramp mode.**
Causes tach to slowly ramp from 200 to 10,000 RPM.

**Not used.**

The HI-6 reads rev limit settings when ignition power is first turned on. If you change the rev limit setting, you must turn the ignition switch off momentarily for the new setting to become effective. The exception is when tach test is selected via stage limit setting 03. The tach test mode set on the maximum limit switches can be changed on-the-fly.

If you do not require the stage limit feature, set the desired maximum rev limit, leave the stage limit switches set to 00 and tape up the yellow/white stage input wire.

**TROUBLESHOOTING**

**TACH TEST FEATURE**
Selection of the tach test mode is explained in Rev Limiter section starting on page 16. During tach test mode, the green tach wire is used to output a tach test signal when the ignition switch is turned on. Note that the engine will not run if tach test mode is selected. To leave tach test mode mode, you must change back to normal rev limit switch settings and turn the ignition switch off and then on again.

**REV LIMITER - HI-6DS AND HI-6DSR MODELS**
Select safe stage and maximum rev limits that are less than the red line for your engine. Set the rotary switches on the HI-6 to the selected rev limits. Settings are X100 engine RPM (i.e. 22 = 2,200 RPM). The rev limits can be set over the range of 600 to 9,900 RPM. Use the small screwdriver supplied in the parts bag to set the switches. Special stage rev limit switch settings are:

**00** Disables the internal rev limiter and allows operation above 9,900 RPM.

**01** Disables multiple spark and internal rev limiter.

**02** Disables the internal rev limiter and timing retard.
Special compatibility mode for external Crane rev limiters and engine controls.
All HI-6 units have step and slow ramp tach test modes. The step mode is useful for quickly testing accuracy and transient response of the tach. Slow ramp mode is useful for testing RPM activated accessories such as a shift light. HI-6DS and HI-6DSR models also allow setting a constant RPM tach signal for more precise tests.

The tach test feature cannot be used if an external Crane rev limiter is connected to the blue cylinder select wire. Note that the test feature can only be used if the tach is connected to the HI-6 green tach output wire.

**TACH HOOKUP**

Most factory and aftermarket tachs will work correctly when connected using the instructions given in the previous hookup sections. If you are adding an aftermarket tach or shift light, refer to Figures 14 and 15 for hookup. If your tach will not work:

1. Trace the trigger wire from the tach. This wire was probably connected to Coil- before you installed the HI-6. Connect the tach trigger wire to the green tach output wire from the HI-6.
2. GM vehicles have an inline tach filter (refer to Figure 16). On vehicles with HEI coil-in-cap, trace the wire from the TACH terminal on the distributor cap. All others, trace wires from Coil-. Locate the filter and disconnect it. Then connect the tach as explained in step 1 above.
3. If your tach still does not work, you may require a tach adapter. If your HI-6 is triggered via the white wire from points or the output of an electronic system, you should use P/N 6000-8910. If your HI-6 is triggered via the magnetic pickup cable from a magnetic pickup, or crank trigger, or Crane XR700, you should use P/N 6000-8920.

**FUEL INJECTION AND FUEL PUMP RELAYS**

Some import vehicles are equipped with electronic fuel injection or a fuel pump cut-out relay. These systems require a RPM signal the same as the tach. If the engine will not start, first try installing a tach adapter as described in the previous section.

Japanese vehicles with fuel injection will require a module trigger hookup where the HI-6 white wire is connected to the output of the O.E. electronic ignition. In most cases, the fuel injection will not function unless Crane Tach Adapter P/N 6000-8910 is installed.

Some late model Japanese vehicles and vehicles with OBD II diagnostics may require a special means of triggering the HI-6 from the O.E. coil. These applications will require Crane Universal Trigger accessory, P/N 6000-8950.

**RUNNING ON**

Running on is a condition where the engine continues to run after the ignition switch is turned off. First, verify that the condition is due to the ignition system. Dieseling can cause running on. The engine will run very rough when it is dieseling. This may be due to an overly rich mixture, excessive timing, or heavy carbon deposits. Dieseling can usually be cured by installing colder spark plugs.

With ignition run on, the engine continues to run smoothly, as if the ignition had not been turned off.
Ignition run on is caused from current leaking back to the HI-6 through the charging system indicator. To solve this problem, install the diode supplied in the parts kit on the voltage regulator.

GM or Ford with external voltage regulator: refer to Figure 17. For GM vehicles, install the diode on the #4 terminal. For Ford vehicles, install the diode on the terminal marked "I". GM vehicles with Delcotron alternator and internal regulator: refer to Figure 18. Install the diode in the thin brown wire going to the indicator light.

Installation of the diode may not correct the run on problem on some AMC vehicles. Refer to Figure 19. Use a 1973-76 Chrysler dual ballast resistor (available at most parts stores). Solder a jumper wire across both terminals on one end. Then connect the terminals on the other end to ground and to the red ignition switch wire from the HI-6.

**RADIO NOISE**

A powerful multiple spark system such as the HI-6 will tend to generate more noise than the O.E. ignition. To some extent this is unavoidable, but steps can be taken to reduce the noise level.

Radio frequency (RF) noise is radiated from coil and spark plug wires. RF noise primarily affects AM and CB radios. Conducted noise appears as a whine that follows engine RPM and may affect all systems including tape players and FM radio. Use the following check list to reduce RF noise:

1. Make sure a ground strap is installed between the engine and chassis.
2. Make sure that radio, tape and CB systems are grounded direct to the chassis.
3. Mount the HI-6 unit as far away as possible from the antenna (including windshield antenna) and other electronic devices. Make sure the HI-6 is grounded direct to the chassis. Keep the ground wire short, preferably no more than 6".
4. Replace spark plug wires with spiral core type wire. Replace rotor and cap. Apply a small amount of silicone dielectric grease to the rotor tip and to all high voltage terminals. Use only resistor spark plugs when running on the street.

Conducted noise from the HI-6 is carried through +12 volt power connections. Conducted noise can be reduced by installing a power line noise filter (available at Radio Shack) near the affected radio.

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**Figure 17. Diode Installation on External Regulator**

**Figure 18. Diode Installation on Delcotron Alternator**

**Figure 19. Run-On Fix Using Chrysler Ballast Resistor**
NOISE SUPPRESSION ON STAGE LIMIT INPUT

In some applications the stage input (yellow/white wire) is connected to a switch that also controls a line lock or transmission brake solenoid valve. When the switch opens and current flow to the solenoid is interrupted, electrical transients (up to 500 volts) occur. These transients can lead to glitches in on-board electronics. Arcing also occurs in switch contacts greatly decreasing switch life and possibly resulting in erratic operation. This may cause inconsistent launch and 60 foot times.

The solution is to install the supplied surge absorber. It will limit the maximum voltage to about 40 volts. The surge absorber appears as a small 1/2 inch diameter disk with two wire leads. Solder one lead to the stage switch and the other lead to a terminal that connects to ground as shown in Figure 4.

POWER SUPPLY FILTER CAPACITOR HOOKUP

A filter capacitor on the 12 volt supply is recommended if the HI-6 power wires are extended, the battery is located in the trunk, or solenoid valves drawing more than 10 amps are used. Use a minimum 38,000 microfarad (uF) 16 volt capacitor such as Crane P/N 9000-0014. Install the capacitor across the 12 volt supply (heavy read wire) and chassis ground near the HI-6 unit.

TROUBLESHOOTING HI-6 OPERATION

Did the engine run properly before installation of the HI-6? If not, remove the HI-6, reinstall the O.E. ignition or another known good unit and then find and correct the original problem. Did the HI-6 function correctly before the problem occurred? If the answer is yes, did you change anything that may have affected it? If you connected an external control or changed ignition coils, try going back to the last setup that worked OK to help isolate the problem.

If the engine will not start, or runs rough or intermittently, use the following check list steps:

1. If the status LED lights up when the ignition switch is turned on, the HI-6 has failed. If the engine will not start, recheck coil primary connections or replace coil. The only wires going to the coil primary should be the orange and black wires from HI-6 coil cable. Note: GM internal HEI coils require a ground wire that grounds the secondary and core to the distributor.

2. If the status LED doesn't blink, the HI-6 is not receiving a trigger signal. Recheck trigger signal electrical connections and trigger source. Make sure the magnetic trigger leads are not shorted together or to ground. Make sure the white points trigger wire is not shorted to ground.

3. If the status LED blinks, but engine will not start, recheck coil primary connections or replace coil. The only wires going to the coil primary should be the orange and black wires from HI-6 coil cable. Note: GM internal HEI coils require a ground wire that grounds the secondary and core to the distributor.

ENGINE WILL NOT START

1. If the status LED lights up when the ignition switch is turned on, but the engine will not start, verify that the status LED blinks while the engine is cranking.

2. If the status LED doesn't blink, the HI-6 is not receiving a trigger signal. Recheck trigger signal electrical connections and trigger source. Make sure the magnetic trigger leads are not shorted together or to ground. Make sure the white points trigger wire is not shorted to ground.

3. If the status LED blinks, but engine will not start, recheck coil primary connections or replace coil. The only wires going to the coil primary should be the orange and black wires from HI-6 coil cable. Note: GM internal HEI coils require a ground wire that grounds the secondary and core to the distributor.

4. If the engine momentarily starts and then dies, go back to the Fuel Injection And Fuel Pump Relay section on page 18.

WARNING: High voltage is present at the coil primary and secondary Terminals. Do not touch the coil while the engine is running. Do not connect any test equipment to any coil terminal.
CHECKING FOR SPARK

To crank the engine without starting or to check for spark, use a KD Tools HEI test plug. The test plug comes with an alligator clip that can be attached to chassis ground. Make up a length of spark plug wire to connect the test plug to the coil.

WARNING: Never crank the engine with the coil high voltage wire or any spark plug wire disconnected.

MISFIRE OR INTERMITTENT OPERATION
1. A weak battery may cause misfire or intermittent operation, especially at high RPM, if battery voltage drops below +10 volts. If in doubt, charge or replace the battery.
2. Field experience has shown that misfire at high RPM is usually not an electrical problem within the HI-6. Coil failure, including internal arcing or arcing at the high voltage terminal, is a common cause. Arcing across spark plug boots or the distributor cap is also common.
3. Route all magnetic trigger connections away from any other wiring, especially HI-6 coil cable and any high voltage coil and spark plug wires.
4. Replace spark plugs. Check that spark plugs are proper type, heat range, and gap size.
5. Replace distributor high voltage rotor and cap.
6. Replace spark plug wires. Do not use solid core wires or high resistance wires. Use only spiral core type wires.
7. Check for loose or corroded connections and broken wires at magnetic pickup, HI-6 unit, coil, and distributor cap. Also check distributor for loose, missing, or jamming parts in pickup or advance mechanism (if used). Magnetic pickups and crank trigger: check for proper air gap.

SUPPLEMENT - TRC-2 Timing Retard Control Installation and Operation

NOTE: The brown/white retard input wire on current HI-6 units may be left unconnected if the retard feature is not used. Please note that components from older HI-6TR systems are not compatible with the current HI-6 series. Do not connect any HI-6 or TRC-2 unit with a brown/white retard wire to an HI-6TR series device with a brown retard wire.

INTRODUCTION
The Crane Cams TRC-2 is an accessory for HI-6 systems that provides driver-adjustable retard. The TRC-2 can provide continuous timing retard (0° - 20°), retard using a switch (0° - 20°), or retard proportional to boost (up to 4° per psi) on supercharger or turbocharger installations (with an optional boost sensor, not included).

INSTALLATION
Complete the installation of the HI-6 ignition module prior to installing the TRC-2. Figure 20 shows hookup of the TRC-2 to the HI-6. The red wire from the TRC-2 is connected to a key switched, +12 volt supply. You may splice it into the thin red wire on the HI-6. The yellow wire from the TRC is connected directly to ground for continuous retard control, through a boost/nitrous switch to ground for retard on demand, or taped off when using the optional boost sensor. When using retard on demand, the switch must complete the circuit to ground to activate the retard (use a normally open switch or relay).

The HI-6 uses the brown/white wire as its retard command input. Connect the brown/white wire from the HI-6 to the TRC-2 as shown in Figure 20 (page 23) only. Read these instructions carefully before starting installation.

FINAL CHECK
Before starting the engine for the first time, double check all electrical connections. Set the TRC-2 knob to 0° (fully counterclockwise), then start the engine and check the ignition timing. The timing may change a few degrees after installation. Reset timing to manufacturer’s specs. Upon starting the engine, the LED on the TRC-2 module will be lit only if the yellow wire is grounded.

OPERATION
The TRC-2 module allows you to adjust the amount of retard produced by the HI-6. It also contains an LED that indicates when the retard function is activated. How you use the TRC-2 depends on whether you have connected it for continuous, demand, or boost-proportional retard.

CONTINUOUS RETARD
Refer to Figure 20. Connect the yellow wire from the TRC-2 directly to chassis ground for continuous retard. Since the retard feature is active all the time, the LED on the TRC-2 will be illuminated whenever the key is on. Turning the knob fully counterclockwise (0°) produces no retard. Turning the knob clockwise increases the retard up to 20°. The TRC-2 is approximately linear throughout its range, so half scale is about 10° of retard. For precise retard calibration, you must use a high-quality timing light.
The uses for this type of timing control include adjusting timing to prevent knock because of inferior fuel quality or insufficient octane, altitude adjustments, etc. As you drive, you can apply just the amount of retard required to prevent spark knock and optimize fuel economy. In racing applications the retard control can be used to tune the vehicle to specific track and atmospheric conditions. The TRC-2 also may be used on vehicles with mechanical advance distributor or computer engine controls to change the total ignition timing.

DEMAND RETARD

Refer to Figure 20. Connect the yellow wire from the TRC-2 to a normally open switch or relay that will complete a path to chassis ground when retard is desired. Example: A pressure switch that closes at a certain boost level. The LED on the TRC-2 will light up when the yellow wire is grounded. When the LED is lit, the retard feature is active and the spark is retarded by the amount set on the TRC-2 knob from 0° - 20°. The TRC-2 is approximately linear throughout its range, so half scale is abut 10° of retard. For precise retard calibration, you must use a high-quality timing light. The diagram below shows an example with the knob set for 10° of retard.

This type of timing control is great for nitrous oxide and supercharged applications, or any vehicle that requires adjustable retard. For nitrous applications, Figure 20 shows how a normally-open relay is used to ground the yellow wire when nitrous and fuel solenoids are activated. The pin numbers are for a standard automotive relay such as Radio Shack P/N 275-226. Figure 20 also shows a pressure activated switch designed to retard timing when the boost pressure reaches a pre-set value. NAPA Balkamp offers two adjustable pressure switches: P/N 701-1591 (3-7 psig range) and P/N 701-1603 (1-1.3 psig range).

Demand retard mode is also great for crank-trigger systems where a momentary start retard is required. A manual switch or a normally open relay energized by the starter solenoid can be used to ground the yellow wire during cranking to provide up to 20° of starting retard. Once the switch is released, timing returns to normal.

BOOST PROPORTIONAL RETARD

Refer to Figure 20. An optional boost sensor (Crane P/N 9000-0110) is required for boost proportional retard. This sensor is a rugged unit that can measure pressures up to 15 psi above normal atmospheric pressure. The harness and mating connector are supplied. The yellow wire should be taped up. Use 1/4" I.D. fuel hose to plumb the sensor to your intake manifold.

When the boost sensor is connected, the retard setting on the TRC-2 now refers to a retard slope from 0° to 4° per psi of boost. Simply divide the knob setting by 5 to determine the retard slope (see Figure 20 below). For example, if the knob is set to 5° the retard slope is 1° per psi and at 5 psi of boost the retard is 5°. As boost rises further, the retard increases at this same slope up to a maximum of 20°. If the boost level exceeds 15 psi, the retard levels off as shown in Figure 20 below (sensor damage may occur above 18 psi).

The status LED on the TRC-2 illuminates when retard is being applied. Under most conditions, this occurs between 0.5 and 1.0 psi of boost. As boost rises, retard rises with a slope determined by the knob setting. Note that the retard slope stops rising when the boost reaches 15 psi or the retard reaches 20°. The TRC-2 is approximately linear throughout its range, but for precise retard calibration use a timing light to obtain retard value.

TROUBLESHOOTING

Did the engine run properly before installation of the TRC-2? If not, remove the both the TRC-2 and HI-6 units, reinstall the OEM ignition or another known good unit and then find and correct the original problem. Make sure the HI-6 system functions properly before installing or troubleshooting the TRC-2 accessory. Did the TRC-2 function correctly before the problem occurred? If the answer is yes, did you change anything that may have affected it? If you connected an external control or changed ignition coils, try going back to the last setup that worked to help isolate the problem. Refer to the HI-6 installation instructions for more details, including the use of the HI-6's built-in diagnostic LED located on the ignition module.

If you are not getting the amount of retard you expect, check the LED on the TRC-2 module; it lights up when retard is being applied. If it does not light up in continuous or demand retard modes, check the yellow wire from the TRC-2. It must contact a good chassis ground when retard is needed. Also re-check the brown/white wire connection from the TRC-2 to the HI-6.

In boost retard mode the amount of retard should be proportional to the pressure measured by the optional MAP sensor. The amount of retard may vary in a given application if local atmospheric (barometric) pressure changes significantly. This occurs most often with a change in altitude of 1000 feet or more.

If the TRC-2 settings seem to be off, check the travel of the knob from no-retard (0°) to maximum (20°). Make sure that the pointer is properly aligned when the knob is at each limit.
Figure 20. TRC-2 Hookup

ONLY ONE of these two triggering methods (magnetic or points/module) will be used. Tape up the unused wires individually so no wires can touch any other wire or ground. Refer to the regular HI-6 Installation Instructions for details of the trigger hookups for various applications.

WHITE (POINTS OR ELECTRONIC TRIGGER)

VIOLET (MAG+)

GREEN (MAG -)

OPTIONAL MAP SENSOR PN 9000-0110

THICK BLACK (GROUND)

NITROUS SOLENOID

FUEL SOLENOID

TO NITROUS TRIGGER CIRCUIT

YELLOW WIRE FROM TRC-2 TIMING RETARD CONTROL

NORMALLY OPEN RELAY

TAPE UP WHEN USING BOOST RETARD FEATURE

YELLOW WIRE FROM TRC-2 TIMING RETARD CONTROL MODULE

PRESSURE SWITCH

CONTINUOUS RETARD

Yellow wire permanently grounded

DEMAND RETARD

Yellow wire grounded via switch or relay

BOOST PROPORTIONAL RETARD

Optional MAP Sensor installed.

Yellow wire taped up

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<th>MIN</th>
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<thead>
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SWITCH OR RELAY ACTIVATED

KNOB AT 10°
Coil Compatibility List

Recommended and Compatible Coils for Crane Cams FireBall Ignition Systems

To extract maximum performance from your Crane Cams FireBall ignition system, you must use the recommended Crane Cams ignition coil from the list to the right. Your Crane ignition and the recommended Crane coil have been designed to work as a team to provide the hottest, most powerful spark possible. Coils manufactured by others may be used with Crane ignitions as specified in the chart, but the output of the ignition may be reduced. The symbols used in the chart below are as follows:

R – Required coil. Use no other coil.
✓ – Preferred recommendation.
● – Coil is compatible.
○ – NOT compatible. Do not use.

HELPFUL COIL INFORMATION

1. For street use with the HI-6, the Crane PS91/LX91 coil gives best performance. For racing use, the Crane PS92/LX92 coil is preferred due to its higher peak spark plug gap current.

2. Most domestic and foreign 12-volt coils are compatible with the XR700, XR3000, HI-2000, HI-6500, and HI-6 ignitions. For street performance applications the Crane PS91/LX91 coil is recommended for best results with these systems.

3. The XR700 is the only Crane ignition that requires a ballast resistor. When using an aftermarket coil with the XR700, install any resistor supplied with the coil. Refer to the XR700 instructions for details. In some vehicles the ballast resistor is embedded in the wiring harness.

4. Oil-filled coils, including the Crane PS20, PS40 and PS60 must be mounted with the high-voltage tower pointed upward. Epoxy-filled coils, such as the Crane PS91/LX91, PS92/LX92, and PS93/LX93 can be mounted in any orientation.

WARNINGS ON COIL COMPATIBILITY

1. Use of any coil that is not compatible may damage the Crane ignition module and use of such a coil will void the warranty.

2. Do not try to "cross-reference" this chart. For instance, both the Crane PS92/LX92 and the MSD Blaster 2 coils are compatible with the Crane HI-6 ignition. This does NOT mean these coils are interchangeable. Using a PS92/LX92 coil with the MSD 6A, 6AL, or 6T ignition will damage the MSD module.