READ THROUGH THESE INSTRUCTIONS COMPLETELY BEFORE BEGINNING INSTALLATION

STEP#1: REMOVE STOCK IGNITION COMPONENTS
STEP#2: INSTALL THE HEAD QUARTERS IGNITION COMPONENTS

NOTE: DO NOT use the washers under the standoffs.

1. Clean out the ignition cavity in the cam cover. Replace oil seal if necessary.
2. Refer to FIGURE 1. Secure Head Quarters Trigger Rotor (36) with the socket head screw (34) and flat washer (35) using blue Loc-Tite to prevent loosening. Align the locating pin with the notch in the cam. Torque screw to 25 inch pounds. Remove the timing plug from the observation hole. Remove the spark plugs. With the transmission in top gear, roll the bike until the front cylinder TDC timing mark is entering the rear of the hole or 5° BTDC. This will be the last mark to pass through the hole. Some TDC marks maybe a dot or a line, determine which is yours. Observe the position of the magnets and the locating pin in the Trigger Rotor. For Big Twins the locating pin will be positioned as shown in either FIGURE 2A or FIGURE 2B. 2A shows the correct position. If the locating pin is in the wrong position (2B), rotate the engine one more revolution which will bring the trigger rotor to the position shown in 2A. For Sportsters follow the same procedure using FIGURE 3A and FIGURE 3B.

3. Install the Head Quarters ignition module (33) FIGURE 1 using the two standoffs (32) just tight enough so that the module can be rotated to set timing. Locate the module with the V notch in the module over the V groove area in the housing. This groove is at approximately at the 7 o’clock position on Big Twins and the 11 o’clock postion on Sportsters (FIGURE 4).

4. Carefully thread the cable from the Head Quarters ignition module through the hole in the housing. Leave enough cable to form a neat loop inside the housing to allow for timing adjustmer

STEP#3: SET THE IGNITION TIMING

AT THIS POINT THE HEAD QUARTERS IGNITION MODULE STATIC TIMING IS SET USING THE ACCU-RAY FRONT CYLINDER TDC LIGHT. Read steps 5-13 completely.

5. MAKE SURE the ignition switch is off. RECONNECT BATTERY GROUND CABLE.
6. The RED wire from the Head Quarters module must now be temporarily connected directly to the positive (+) battery terminal. BE CAREFUL NOT TO SHORT THE BATTERY TO GROUND. Connect the red wire to the positive (+) battery terminal. DO NOT strip any of the other wires.
7. Rotate the Head Quarters module counterclockwise to the full retard position. The ACCU-RAY (FIGURE 5) timing light may be on or off. Use the large disk magnet stack supplied in the hardware kit to turn this light on and off to get familiar with it. Place the magnet against the module in the area shown in FIGURE 6. When the side of the magnet with the orange dot facing, is facing you the light will turn off. Turning the magnet over will turn the light on. Leave the light in the off position.
8. Slowly rotate the Head Quarters module clockwise until the ACCU-RAY front cylinder TDC light just turns on. Steps 7 & 8 may be repeated to insure accuracy. Tighten standoffs at this time. The gap between the top of the slot and standoff should be approxi mately .500” See FIGURE 7. If not, recheck that you are on the TDC mark, not the BTDC 35° mark.

9. The ignition system is now statically timed.
10. Re-install the spark plugs.
11. Disconnect the RED wire from the battery.
12. Route the cable to the coil(s) making sure it does not touch hot surfaces. Cut the cable to length. Tighten the cable clamp.
13. Re-install the timing plug into the observation hole.
STEP#4: CONNECT WIRES TO THE COIL(S)

CAUTION! CONNECTING THE WIRES INCORRECTLY CAN DAMAGE THE ELECTRONIC MODULE.

Head Quarters Ignition Systems may be used with any high quality coil with 2 or 3 ohms of primary resistance. Coils with higher resistance may be used, but the ignition energy will be drastically reduced.

The Coil Hook-up is shown in the following figures.

<table>
<thead>
<tr>
<th>HEAD QUARTERS MODEL</th>
<th>SINGLE FIRE</th>
<th>DUAL PLUG</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUAL FIRE</td>
<td>FIGURE 8</td>
<td>FIGURE 9</td>
</tr>
<tr>
<td>SINGLE FIRE</td>
<td>FIGURE 10</td>
<td>FIGURE 11</td>
</tr>
</tbody>
</table>

NOTE: For tach operation in Single Fire - use our tach adapter, HQ-51105. Other manufacturers tach adapters are not compatible with Head Quarters Module and must be removed.

Figure 8

Figure 9

Figure 10

Figure 11

STEP#5: SELECTING THE ADVANCE CURVE AND SETTING THE RPM LIMITER.

INITIAL SWITCH SETTINGS

Set the advance curve switch to position 3 for the correct coil set up. ie: single fire or dual fire. Set RPM limiter to position 4 in 50% VOES mode.

<table>
<thead>
<tr>
<th>SWITCH POSITION</th>
<th>MAX ADV @ RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1500</td>
</tr>
<tr>
<td>2</td>
<td>2000</td>
</tr>
<tr>
<td>3</td>
<td>2250</td>
</tr>
<tr>
<td>4</td>
<td>2500</td>
</tr>
<tr>
<td>5</td>
<td>2750</td>
</tr>
<tr>
<td>6</td>
<td>3000</td>
</tr>
<tr>
<td>7</td>
<td>3250</td>
</tr>
<tr>
<td>8</td>
<td>3500</td>
</tr>
</tbody>
</table>

EXTREMELY IMPORTANT!

When choosing an advance curve, pick one that will have all the timing in by the time the motorcycle hits cruising RPM in 5th gear. Example: curve 5 will take last advance step at 2750 RPM. If the motorcycle will be cruising at 2700 RPM, then curve 4 would be the better choice, as its last step comes in at 2500 RPM. Failure to select the improper curve can result in overheating and severe engine damage.

Test ride the bike and note engine operation.

NOTE: WHEN CHANGING SWITCH SETTINGS, THE IGNITION SWITCH MUST BE TURNED OFF.

Select the next most aggressive curve (switch position 2). Test ride the bike again and note engine operation. If engine knock occurs go back to the previous setting. If engine does not knock, increase MAXIMUM ADVANCE (see chart) again until pinging occurs. When pinging occurs, switch back to the previous switch setting.

This is the IDEAL IGNITION ADVANCE curve for your bike. **We recommend only using advance curve 2 or 3.**

Set the RPM limiter to an appropriate setting for your engine. **NOTE: ONLY MODIFIED ENGINES WITH IMPROVED VALVE TRAIN SHOULD BE OPERATED PAST 6500 RPM.**

VOES MODE - We do not recommend using VOES.

NOTE: If VOES switch is not used, RPM limiter will still function. The green wire must be taped off so it does not touch ground.

Re-install the ignition side cover(s). The installation is now complete.

WARRANTY

All Engine Electronics, Inc. products are guaranteed against defects in material and workman ship, for a period of twelve (12) months from date of purchase. If within the period of the foregoing warranty Engine Electronics, Inc. finds, after inspection, that the product or any other component thereof is defective, Engine Electronics, Inc. will at its option, repair such product or component or replace them with identical or similar parts PROVIDED that within such period Purchaser:

1. Promptly notified Engine Electronics, Inc. in writing of such defect
2. Delivers the defective product or component to Engine Electronics, Inc. with proof of purchase date; and
3. Has installed and used the product in a normal manner consistent with Engine Electronics, Inc.’s printed instructions.

THE FOREGOING LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE FURNISHINGS OF A REPAIR OR REPLACEMENT PRODUCT OR COMPONENT SHALL CONSTITUTE THE SOLE LIABILITY OF ENGINE ELECTRONICS, INC. WHETHER ON WARRANTY, CONTRACT OR FOR NEGLIGENCE AND IN NO EVENT WILL ENGINE ELECTRONICS, INC. BE HELD LIABLE FOR MONEY DAMAGES WHETHER DIRECT OR CONSEQUENTIAL.
Dual Fire
Single Plug

Single Fire
Single Plug

Dual Fire
Dual Plug

Single Fire
Dual Plug