

INSTALLATION INSTRUCTIONS

COMPU-FIRE® PLUG N PERFORMANCE IGNITION MODULE

NOTE: NOT for KICKSTART APPLICATIONS

THESE INSTRUCTIONS COVER THE FOLLOWING:

| <u>P/N</u> | <u>MODULE</u> | <u>DESCRIPTION</u> |
|------------|----------------|--|
| 25000 | PLUG IN MODULE | 1991 - 1993 BIG TWINS® with 7 PIN "D" CONN. |
| 25010 | PLUG IN MODULE | 1994 - PRESENT BIG TWINS® with "DEUTSCH" CONN. (except F .I. & Twin Cam) |
| 25020 | PLUG IN MODULE | 1991 - 1993 SPORTSTERS® with 7 PIN "D" CONN. |
| 25030 | PLUG IN MODULE | 1994 - PRESENT SPORTSTERS® with "DEUTSCH" CONN. (Except with O.E. Single Fire) |

NOTE: Use Compu-Fire® Adapter Harness, P/N 25050 for 1984 - 1990 BIG TWINS® and 1986 - 1990 SPORTSTERS®.

NOTE: The Compu-Fire® ignition module P/N 25000 and 25020 may be installed on pre - 1991 BIG TWINS® or Sportsters® by using Timing Cup, H -D P/N 32402-83 and Sensor Assembly, H-D P/N 32400-80A.

READ THESE INSTRUCTIONS COMPLETELY BEFORE BEGINNING INSTALLATION

Step #1. STOCK IGNITION MODULE REMOVAL

CAUTION: MAKE SURE IGNITION SWITCH IS OFF AND THE BATTERY GROUND (-) CABLE IS REMOVED FROM THE BATTERY

The O.E. ignition module is usually located under the seat, under a side cover, or on the frame below the handle bars. Unplug the stock ignition module and remove the two mounting bolts.

Note: There are two types of ignition module harness connector plugs used. Make sure the plug on the module removed matches the plug on the COMPU -FIRE® module.

Step #2. COMPU-FIRE® IGNITION MODULE INSTALLATION

1. Bolt the COMPU-FIRE® ignition module to the frame in the stock location using the original hardware.
2. Plug the wire harness connector to the mating plug on the wiring harness. The two extra wires are for single fire applications. (see wiring hook -up)
3. See Diagram 5, 6, 6A or 6B if using adapter harness P/N 25050.

COIL SELECTION

COMPU-FIRE® ignition modules are compatible with all stock and aftermarket ignition coils with a primary resistance of 2.0 ohms or greater. Coils with higher than 3.0 ohms of primary resistance may be used, however, ignition energy will be greatly reduced. For dual plug applications, use two dual tower coils.

Step #3. **WIRING HOOK-UP**

CAUTION: Incorrect wiring hook-up may damage the COMPU-FIRE® module or other electrical components on the motorcycle.

DUAL FIRE OPERATION

1. If the motorcycle will remain in Dual Fire configuration, the installation is now complete. Skip down to initial switch settings. Refer to Drawing #1 or #3.
2. Re-connect the battery ground (-) cable.

SINGLE FIRE OPERATION

1. Remove the stock dual fire coil. Install a single fire coil (or coils) using the appropriate hardware kit or mounting system. Designate one coil for front cylinder operation and the remaining coil for rear cylinder.
2. Attach the two white (or one white/black striped wire) wires from the original coil (+12 volts) to the (+) terminal on the front coil. When using two separate coils install the supplied jumper wire to connect the (+) terminal of the front coil to the (+) terminal of the rear coil. (See drawing #2, 2A, 2B, 4, 4A or 4B)
3. Attach the pink wire from the original module to the (-) terminal of the front coil. Using the 36" blue wire supplied, connect the short blue wire at the harness connector to the (-) terminal of the rear coil.
4. Connect the tach wire (pink) to the short green wire at the harness connector using the 36" green wire supplied.
5. Reconnect the battery (-) cable.

INITIAL SWITCH SETTINGS

Set the advance curve switch to position 8 for the correct coil set-up, ie: SINGLE FIRE or DUAL FIRE. Set RPM limiter to position 8 in 50% V.O.E.S. mode.

| SWITCH POSITION | COMP RATIO | | ENG DISP | TOTAL ADVANCE | MAX ADV @RPM |
|-----------------|------------|-----------------|----------|---------------|------------------|
| 1 | 8.5:1 | MOST AGGRESSIVE | 80 CI | 35° | 2500 |
| 2 | | | | 35° | 3000 |
| 3 | | | | 35° | 3250 |
| 4 | | | | 32° | 3000 |
| 5 | | | | 32° | 3250 |
| 6 | | | | 32° | 3500 |
| 7 | | | | 30° | 3750 |
| 8 | | | | 11.1 | LEAST AGGRESSIVE |

| SWITCH POSITION | SPORTSTER® | TOTAL ADVANCE | MAX ADV @RPM |
|-----------------|-----------------|------------------|--------------|
| 1 | MOST AGGRESSIVE | 35° | 2500 |
| 2 | | 35° | 3000 |
| 3 | | 35° | 3250 |
| 4 | | 32° | 3000 |
| 5 | | 32° | 3250 |
| 6 | | 32° | 3750 |
| 7 | | 30° | 5000 |
| 8 | | LEAST AGGRESSIVE | 28° |

Test ride the bike and note engine operation. **NOTE: WHEN CHANGING SWITCH SETTINGS, THE IGNITION SWITCH MUST BE TURNED OFF.**

Select the next more aggressive curve (switch position 7). 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 setting.

This is the **IDEAL IGNITION ADVANCE** curve for your bike.

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.**

SELECTING V.O.E.S. MODE

For Dressers or riding double, position RPM limit switch in 50% V.O.E.S. mode. For lighter bikes, riding solo, and using premium fuel, use the 100% V.O.E.S. mode. If engine knock occurs, reposition RPM limit switch to 50% V.O.E.S. mode or select a less aggressive advance curve. **NOTE:** If V.O.E.S. is not used, the RPM limiter will still function. The Purple/White wire from the V.O.E.S. switch must be disconnected and taped off so it does not touch ground.

Re-install seat and any side covers that were removed.

TROUBLE SHOOTING

To determine if the ignition module is switching properly connect a 12V test light from coil negative (-) to a good ground. Turn the ignition switch on and the light should lite. This tells you that you have voltage available to the coil and that the coil primary winding is not open. Then crank the bike and observe the light. After the first two revolutions the light should flash on and off. This tells you that the ignition module is working properly. On single-fire applications repeat this test for the other cylinder.

CHECKING for SPARK

Check for spark to the plug by using a KD tools test plug (or similar) while cranking the bike. If spark is visible, the ignition system is operating.

PLUG WIRE RECOMMENDATION

Use a top quality spiral core wire with quality silicone jacket and inner silicone insulation.

SPARK PLUG RECOMMENDATION

Due to the special design of the CompuFire® ignition module it is not necessary to run resistor spark plugs. Use a quality brand spark plug gapped at .045" if engine compression and air/fuel combination permits.

