INSTALLATION INSTRUCTIONS

COMPU-FIRE® ELITE 1 SERIES ELECTRONIC ADVANCE
Ignition Modules for Big Twin®, Sportster®, and Buell®

INSTRUCTION COVERS THE FOLLOWING:

P/N	DESCRIPTION
20500	Dual Fire, Single Plug
20550	Single Fire, Dual or Single Plug

READ THESE INSTRUCTIONS COMPLETELY BEFORE BEGINNING INSTALLATION!

Check the contents of the kit:

Electronic Advance Ignition Module
Trigger rotor
3x Spade Terminal
Magnet
Spacer kit

STEP #1: <u>REMOVE STOCK IGNITION COMPONENTS</u>

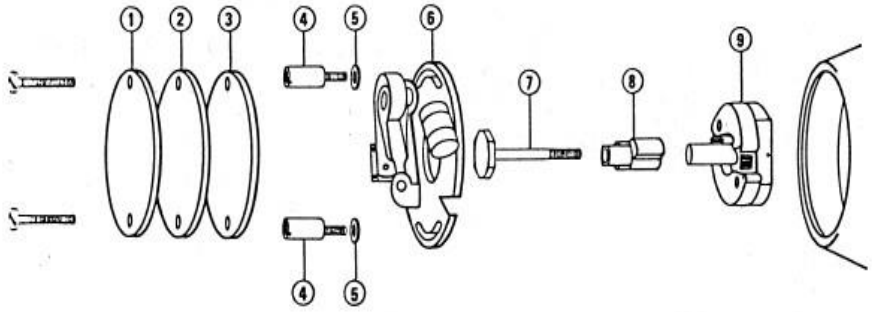
CAUTION: MAKE SURE IGNITION SWITCH IS OFF AND BATTERY GROUND (-) CABLE IS REMOVED FROM THE BATTERY DURING ANY OF THE FOLLOWING PROCEDURES.

Refer to Figure 1.

1. Remove the optional cover (1), the ignition side cover (2) and gasket (3).

2. Remove the two standoffs (4) and washers (5) that secure the points plate (6) to the ignition Housing. Disconnect the wire going to the points and remove the plate assembly.
3. Remove the bolt (7) and the advance assembly (8) and (9) from the engine.

Points Ignition FIG. 1

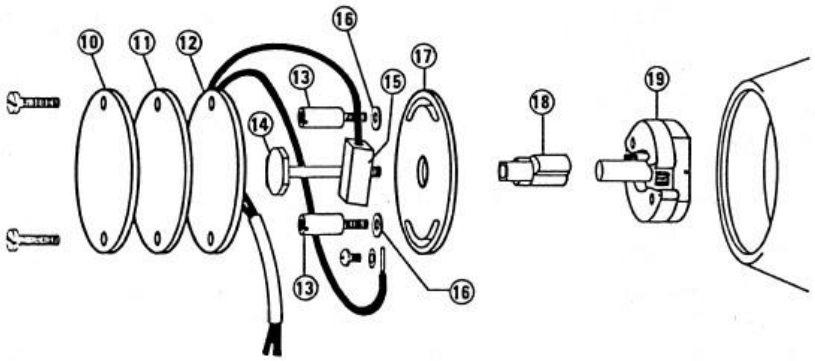


POINTS IGNITION

CONVERTING LATE 1978-1979 OEM ELECTRONICS TO COMPU-FIRE® IGNITION
Refer to Fig. #2

1. Remove the ignition side cover (10), gasket (11) & ignition module (12). Remove the timing plate (17). Remove hex head bolt (14) the advance assembly (18) and from the engine (19).

Late 1978-1979 OEM Electronics FIG.2



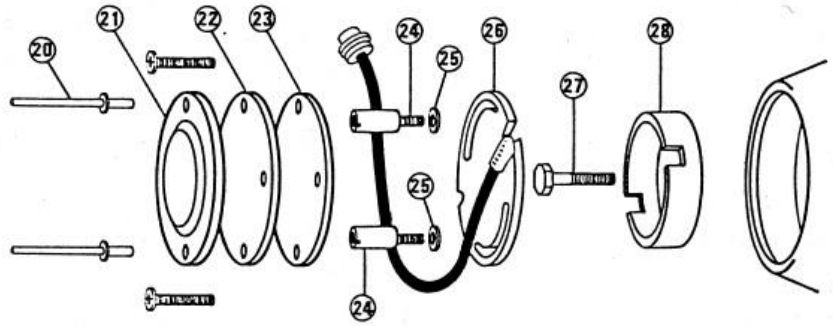
LATE 1978-1979 OEM ELECTRONICS

CONVERTING 1980 and LATER OEM ELECTRONICS TO COMPU-FIRE® IGNITION
Refer to Fig. #3

1. Drill out the rivets (20) in the outer cover (21) with a 3/8” drill bit and remove the cover.
2. Remove the inner cover (22) and gasket (23).
3. Remove the two standoffs (24). Disconnect the sensor wire connector housing. This allows the terminals to pass through the hole in the ignition housing when the sensor plate is removed.

4. Remove the sensor plate (26).
5. Remove the bolt (27) securing the rotor (28).
6. Remove the rotor (28).

1980 and Later OEM Electronics FIG. 3



1980 AND LATER OEM ELECTRONICS

Step #2. **COMPU-FIRE® IGNITION MODULE INSTALLATION**

COMPU-FIRE IGNITION MODULES ARE INSTALLED WITH THE ENGINE AT T.D.C.

Note: **Do not** use the washers in Fig. #1 (5), Fig. #2 (16), or Fig. #3 (25).

1. Clean out the ignition cavity in the cam cover. Replace the oil seal if necessary.
2. Refer to Fig. #4. Secure Compu-Fire 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.

FIG. 4

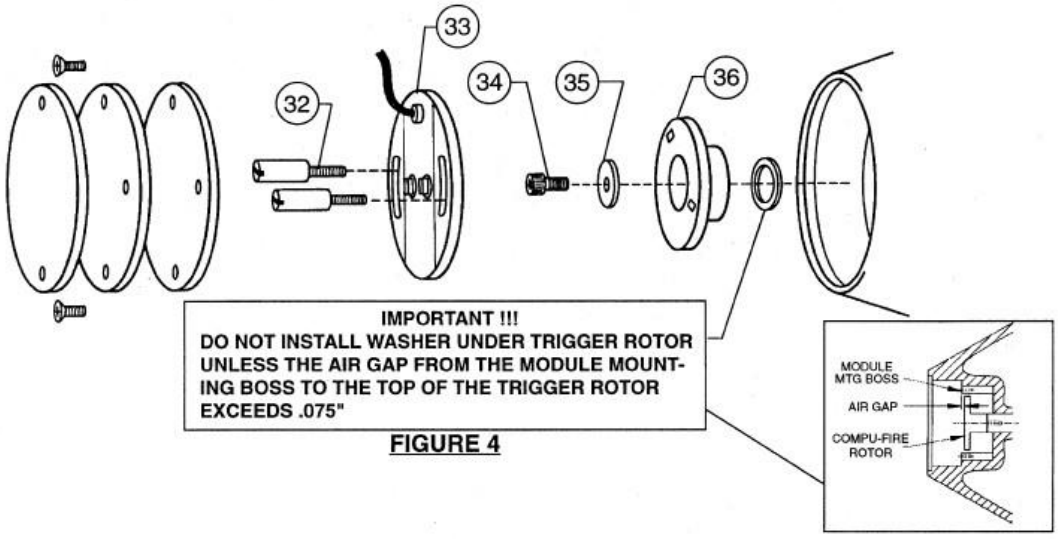


FIGURE 4

3. 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 (Fig. #5) is

in the center of the hole. See Fig. #6. Observe the position of the magnets and the locating pin in the Compu-Fire trigger rotor. For Big Twins® the locating pin will be positioning at 7 o'clock as shown in Fig. #6A or Fig. #6B. Fig. #6A is the correct position. If the locating pin is in the wrong position (Fig. #6B), rotate the engine one more revolution which will bring the trigger rotor to the position shown in Fig. #6A. For Sportster® follow the same procedure using Fig. #7A and Fig. #7B.

DO NOT MOVE THE ENGINE POSITION UNTIL THE TIMING PROCEDURE IS COMPLETE

4. Install the COMPU-FIRE® ignition module (33) Fig. #4 using the two standoffs (32) just tight enough so the module can be rotated to set the timing. Locate the module with the V-notch in the module over the V-grooved area in the housing. The groove is at approx. the 7 o'clock position on Big Twins® and the 11 o'clock position on Sportsters®. Refer to Fig. #8.
5. Carefully route the cable from the COMPU-FIRE® ignition module through the hole in the housing. Leave enough cable to form a neat loop inside the housing to allow for timing adjustment.

FIG. 5

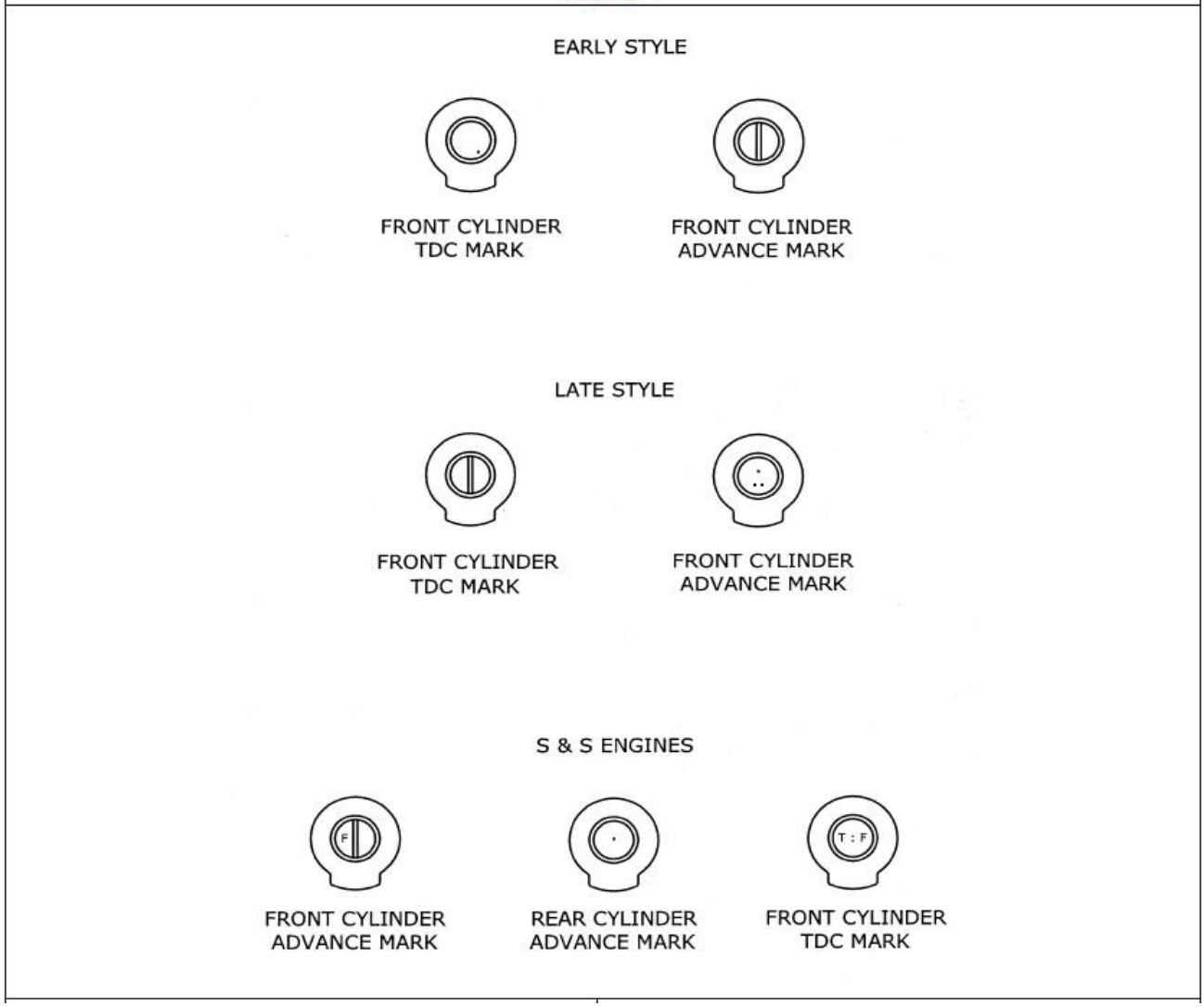


FIG. 6	FIG. 7
 LOCATING PIN POSITION AT T.D.C. FOR BIG TWINS	 LOCATING PIN POSITION AT T.D.C. FOR SPORTSTERS

Step #3 **IGNITION TIMING**

NOTE: Your new COMPU-FIRE® ignition module has a built in ACCU-RAY timing light and does not require the use of a standard timing light. In fact, a standard timing light is not recommended. Especially a dial-back light as the Harley Davidson® engine fires asymmetrically and will give an incorrect readout.

1. With the ignition switch in the off position and reconnect the battery ground cable.
2. Carefully slit the cable jacket about one inch to expose the inner wires. Remove the excess jacket and strip the red wire only at this time. Temporarily connect the red wire to battery pos. (+). Rotate the ignition module counterclockwise to the full retard position. The ACCU-RAY timing light mat be on or off. Use the disk magnet stack supplied in the hardware kit to turn this light on and off to get familiar with it.
3. To do so, place the magnet against the module in the area shown in Fig. #9. When the side of the magnet with the orange dot is facing you, the light will turn off. Turning the magnet over will turn the light on. Leave the light in the off position.
4. Slowly rotate the module clockwise until the ACCU-RAY light turns on. Steps # 3 & 4 may be repeated to insure accurate timing. Tighten standoffs (32) Fig. #4 at this time.
5. The ignition system is now properly timed.
6. Re-install the spark plugs.
7. Disconnect the red wire from the battery.
8. Route the cable to the coil(s) making sure it does not touch hot surfaces. Cut the cable to length. Tighten the cable clamp.
9. Re-install the timing plug into the observation hole.

Step #4 **WIRING HOOK-UP**

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

COMPU-FIRE® ignition modules are compatible with all stock and aftermarket ignition coils with a primary resistance with 2.5 to 3.5 ohms. Coils with higher than 3.5 ohms of primary resistance may be used, however, ignition energy will be greatly reduced. For dual plug applications, use two dual tower coils.

ALL MODELS	SINGLE PLUG	DUAL PLUG
DUAL FIRE	FIGURE 10	-
SINGLE FIRE	FIGURE 11*	FIGURE 12

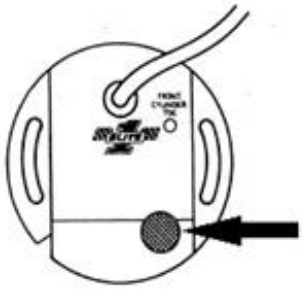
*Note: for applications with two single tower coils, see diagram 11B.

Note: For tach operation in Single Fire – use COMPU-FIRE P/N 51105 tach adapter. Dyna tach adapters are not compatible with COMPU-FIRE modules and must not be used.

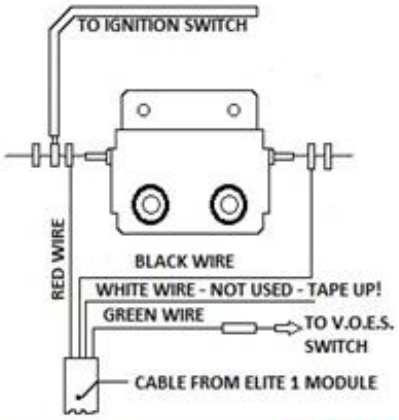
FIG. 8

V NOTCH IN 7 O'CLOCK POSITION

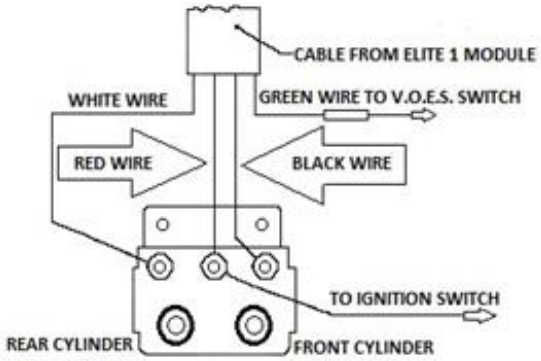
FIG. 9



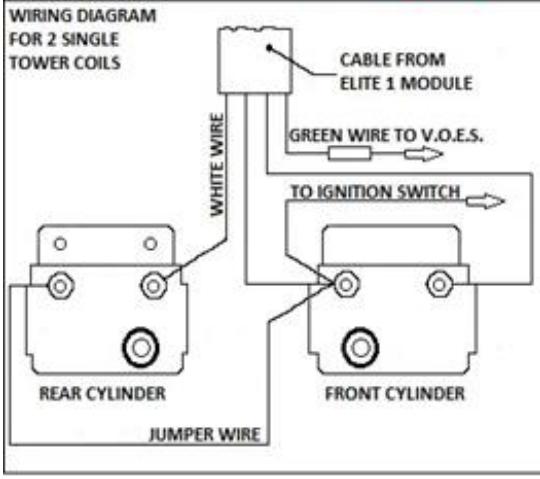
Dual Fire Single Plug FIG. 10



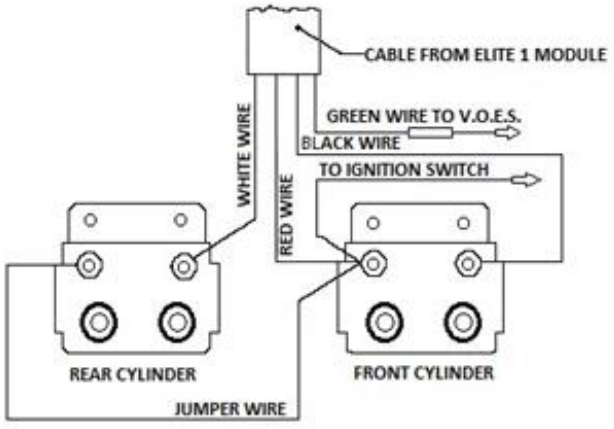
Single Fire Single Plug FIG. 11



Single Fire Single Plug FIG. 11B



Single Fire Dual Plug FIG. 12



Ignition timing is set to:
35° Total Advance @ 2250 RPM.

RPM Limiter is set to:
5800 RPM

TROUBLE SHOOTING

To determine if the ignition module is switching properly, using a 12 Volt test light, ground the test light to a good ground and put the probe end of the test light to the negative (-) side of the coil. While cranking the engine, the test light should be pulsating. If the test light stays lit (on) or does NOT come on at all, the ignition is not switching the coil and is not functioning properly. On Single Fire applications repeat the test for the other cylinder.

For technical assistance call 909/547-9058

PerTronix, LLC.
440 E. Arrow Hwy.
San Dimas, CA 91773

LIMITED WARRANTY

PerTronix, LLC. Warrants to the original Purchaser of its solid-state ignition system (product) that the module, trigger rotor and wiring (components) shall be free from defects in material and workmanship for a period of (12) months from the date of purchase.

If within the period of the foregoing warranty PerTronix finds, after inspection, that the product or any component thereof is defective, PerTronix will, at its option, repair such products or component or replace them with identical or similar parts PROVIDED that within such period Purchaser Promptly Notifies PerTronix, in writing, of such defects.