

****SPARK PLUG WIRES****

Choice of spark plug wires is an important consideration when using an electronic ignition system. You must use carbon core resistor spark plug wires. Solid or Spiral wound wires will damage the ignition module and void the warranty!

****SPARK PLUGS****

You must use a resistor spark plug with electronic ignitions. Stock spark plugs are resistor type plugs and will work. Spark plug gap should be limited to as small as possible, while still maintaining performance.

A wide spark plug gap can cause the following problems: Hard cold starting, misfires during rich or lean fuel conditions, and reduction of upper rpm range performance.

Initial settings for spark plug gaps are:

Single plug Multi-Spark	0.028-0.032
Dual plug Multi-Spark	0.025-0.030

Many things effect spark plug gap settings:

Compression Ratio: The higher the engine compression, the more voltage required to fire the plug, and the narrower the plug gap should be.

RPM: The higher the rpm's the less time the coil has to charge to break over voltage or complete saturation. A narrower spark plug gap will help high rpm stability.

Multi-Spark(*twice on compression*): To maintain a good secondary spark within a wider rpm range it is wise to run a narrower spark plug gap. It is better to precisely place two stable, consistent sparks than to fire one wider spark that may cause misfires in rich or lean conditions, or from any of the above reasons.

Tech Tips/Trouble Shooting

How the Curve Works-When using the Quick Time Method the typical start-up (static timing) is set at 5° BTDC, the ignition starts at 5° retarded then after approximately 5 revolutions of the crank the ignition advances to 25°. As set from the factory the ignition will advance to 35° at 2100 RPM's. If the static timing is set at 0° then after approximately 5 revolutions of the crank the ignition advances to 20°. As set from the factory the ignition will advance to 30° at 2100 RPM's. The curve when set at 5° retarded startup is designed for Big Twins. The curve when set at 10° retarded start-up is designed for Sportsters.

Advance Adjustment-This last step of advance can be modified by turning the advance adjuster screw (¼ turn 500 RPM) CCW to raise the RPM at which the final step of advance occurs.

Starting: If you experience kick back on the starter you are to far advanced at startup-retard the trigger plate CCW or check the Advance Adj. to see if it is set at 2100 RPM's or higher. If engine starts hard & idle is low you may be to far retarded at startup and may need to advance the module CW. Remember 1/16" rotation of the trigger plate = 5°.

Jetting-The SPYKE Ignition burns more fuel more efficiently than other ignitions because of the multiple-spark. Usually you should increase the intermediate and main jet by one to two sizes. Symptoms of being too lean are stuttering, hesitation, and backfiring.

Pinging-If you experience pinging in the midrange retard the module or raise the last step of the advance curve to a higher RPM by turning the Advance Adj. set screw CCW (¼turn=500 RPM), the LED will light indicating your total advance. You must tune this by trial and error.

Hot Pipes-You are too far retarded.

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SPYKE INC.
15507 Douglas Pky.
Urbandale, IA 50323
(515)987-1833

THE FOLLOWING CUSTOMER ACTIONS AUTOMATICALLY VOIDS THE WARRANTY

1) Use of any other spark plug wires other than resistor type wires. 2) Use of non-resistor spark plugs. 3) Drilling or cutting of any kind into the ignition. 4) Incorrect wiring of the module. 5) Use of module on systems with defective charging systems. 6) Use of defective coils. 7) Directly shorting the coil output wires to +12 VDC. 8) Physical damage to the ignition. 9) Any other items covered in the warranty.

LIMITED WARRANTY

Spyke Inc. warrants to the original retail purchaser of a Spyke ignition that it will, free of charge, repair or replace at its own option, the product if returned to Spyke Inc. within 6 months after purchase and if found by Spyke Inc. to be defective in material or workmanship. This warranty is not transferable by the purchaser and shall be voided: if alterations not authorized by Spyke Inc. are made in the equipment or if the serial number or date of manufacture has been altered, defaced or removed. Nor does this warranty apply: if the equipment has been subjected to accident, misuse, improper hookup, damaged by flood, fire, or act of God. If the equipment is found to be defective but is due to customer misuse (as described in warranty) Spyke Inc. will notify the customer and if the customer wants the defective equipment returned Spyke Inc. will return the equipment C.O.D. freight.

Any module returned under the warranty must include note of explanation of failure and be accompanied by a dated bill of sale. Warrantied items must be taken up directly with Spyke Inc. by the individual user. Failure to do so will void Spyke Inc. of any obligation to repair or replace the ignition.

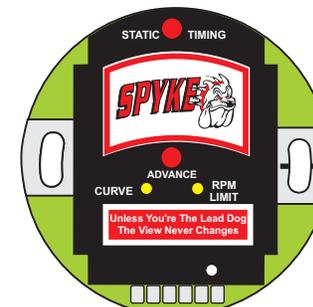
Spyke Inc. warranty obligations are limited to those set forth herein and no other obligations, expressed or implied, are assumed by Spyke Inc.

Some states do not allow the exclusions or limitations of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



**Unless You're The Lead Dog,
The View Never Changes!**

SPIG
MULTI-SPARK
SINGLE OR DOUBLE FIRE w/ VOES
ELECTRONIC IGNITION SYSTEM FOR
HARLEY-DAVIDSON MOTORCYCLES



- SINGLE OR DOUBLE FIRE OPERATION
- ADJUSTABLE ADVANCE CURVE
- EXTREME SPARK STABILITY
- MULTI-SPARK OPERATION
- COIL SHUTOFF SAFETY FEATURE
- COIL SATURATION CONTROL
- LED STATIC TIMING INDICATOR
- CORRECTED TACHOMETER OUTPUT
- EASY INSTALLATION
- CONE MOUNT

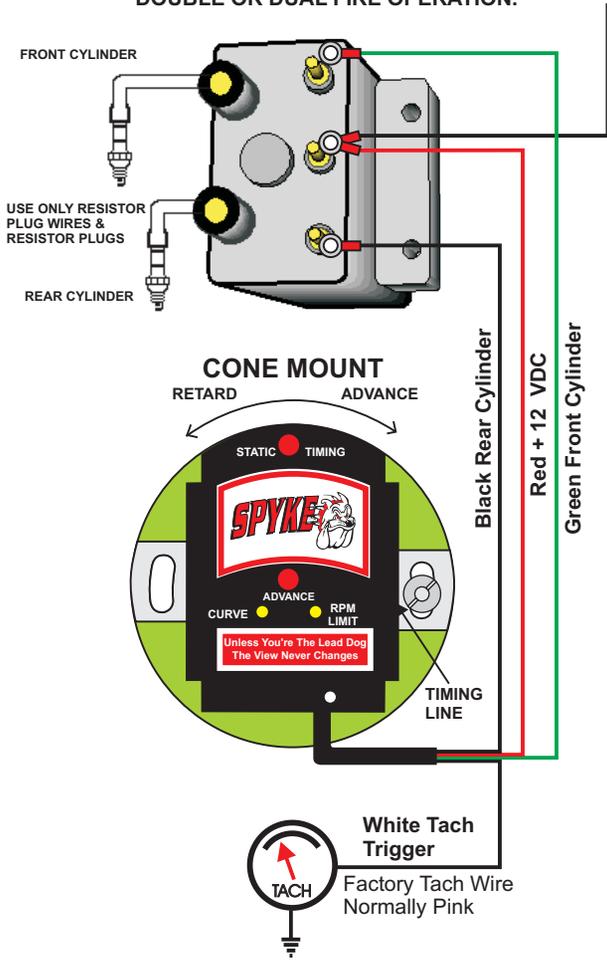
SPYKE INC.
11258 Regentview Ave.
Downey, CA 90241
Phone (562) 869-9333 Fax (562) 869-9323

(Do not call the tech number unless you have thoroughly read these instructions and already consulted a certified mechanic for assistance!)

Further information available at
spykeinc.com

SEE COIL WIRING DIAGRAM FOR DOUBLE OR DUAL FIRE OPERATION.

To +12 VDC FROM IGNITION OR KILL SWITCH, USUALLY WHITE WITH BLACK STRIPE



Rev. limiter preset at 6300 RPM's, turn CCW 1/4=500 RPM's to raise activation point & CW 1/4=500 RPM's to lower.

Module hits full advance when LED lights. It is preset to advance at 2100 RPM's.

USE ONLY RESISTOR (CARBON CORE) SPARK PLUG WIRES & RESISTOR SPARK PLUGS.

DO NOT USE SPIRAL WOUND SUPPRESSION OR SOLID TYPE SPARK PLUG WIRES!

STOCK SPARK PLUG WIRES ARE CARBON CORE WIRES & WILL WORK.

IF THIS IS NOT DONE IT WILL DAMAGE THE IGNITION MODULE OR COIL.

INSTALLATION INSTRUCTIONS

WARNING: DO NOT TOUCH COIL OUTPUT WIRES (GREEN & BROWN) TO +12 VDC. DO NOT USE SOLID OR SPIRAL WOUND SUPPRESSION SPARK PLUG WIRES, USE RESISTOR WIRES ONLY. FAILURE TO OBSERVE THESE PRECAUTIONS WILL DAMAGE MODULE & VOID THE WARRANTY.

IMPORTANT: Disconnect battery ground during installation. Do not hook up the coils until the very last thing.

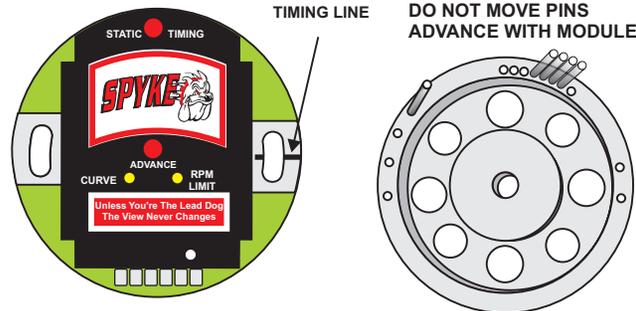
1. Remove all components from the ignition cone cam cover area, exposing the cam shaft end. Install the rotor cam shaft end, aligning the notch on rotor with cam notch & attach with supplied washer & screw. If you have a stock module leave it mounted in place, but disconnect it from the coil, tachometer and ignition switch wire.
2. Pull ignition wire through wire hole & rock ignition into cone. The the LED at top & quick time arrow pointing forward at hold down screw. In the case of a sportster everything is rotated 90° clockwise with LED facing forward and hold down screws in the vertical position.
3. Insert the rear lock down screw, point the arrow on ignition as shown in the Quick Time method.
4. Hook ignition positive (red) wire to the ignition supply, usually at the coil positive (center terminal) is best with the kill or ignition switch wire.
5. Hook the white ignition wire to the tach trigger wire of motorcycle (usually pink) if used.
6. Hook the green front cylinder wire to the front coil & the brown wire to the rear cylinder coil. If you wish to use the ignition in the dual fire mode with a dual fire coil, connect the green & brown wire together and hook to the coil trigger (see dual fire wiring diagram).
7. Hook the blue VOES wire to the VOES switch. It is recommended that you use a VOES switch if one was on your motorcycle or you should add one if you have a high performance, heavy bike or have a wide engine load variations. If you did not have a VOES ground the blue wire.
8. Reconnect battery ground.

QUICK TIME METHOD:

Place timing line as shown in drawing below so that it points to dead center of the front hold down screw. The timing will be set at approximately 5° BTDC static 35° total timing. If pointed approximately 1/16" below (clockwise) of dead center of front hold down screw, timing will be set at approximately 10° BTDC static and 40° of total timing. In the case of Sportsters everything is rotated 90° clockwise with the LED facing forward and hold down screws in the vertical position.

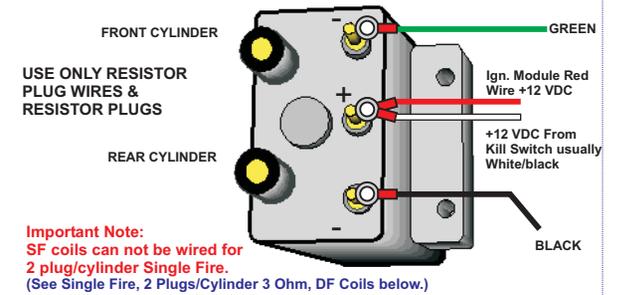
TOP DEAD CENTER TIMING METHOD:

Turn the engine over to the TDC mark of the compression stroke on the fly wheel. With the power on (+12 VDC), rotate the trigger plate all the way clockwise. Next, rotate the trigger plate (CCW) counterclockwise until the red LED static timing light on the #1 (front cylinder) trigger just begins to light. Lock down the trigger plate hold down screws. Recheck engine TDC mark to make sure no movement has occurred. Peg #1 will be set at approximately 8° BTDC. Additional adjustments may be made to meet your engines specific requirements.

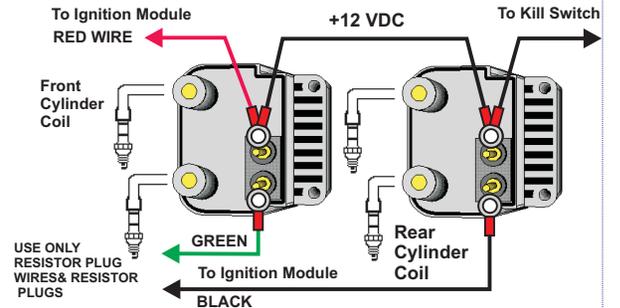


COIL HOOKUP DRAWINGS

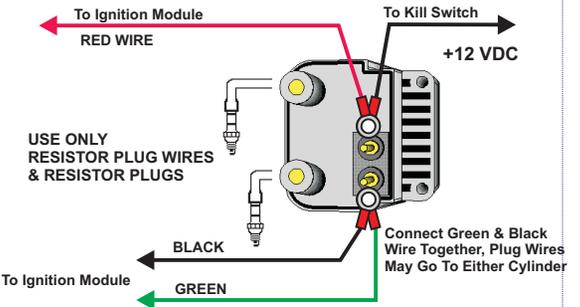
Single Fire, 1 Plug/Cylinder, 3 Ohm, SF Coil



Single Fire, 2 Plugs/Cylinder, 3 Ohm, DF Coils



Dual Fire, 1 Plug/Cylinder, 3 Ohm, DF Coil



COIL HOOKUP GUIDELINES

1. Use only resistor plugs & resistor plug wires.
2. Do not touch the green or brown coil output wires to +12 vdc.
3. A total of 2.8 ohms is the minimum allowable coil resistance.
4. Do not hook up coils with power (12 vdc) applied to the coils & ignition module.
5. Be sure the coil used does not require a ballast resistor, if it does, it must be used.
6. Make sure not to run wiring near high heat areas of the motorcycle, such as the exhaust system..
7. Use only new or known to be good coils.