

## Installing the Hot-Spark Electronic Ignition Conversion Kits and Distributors

### Latest On-Line Electronic Ignition Conversion Kit Installation Instructions:

Bosch Distributors: [www.Hot-Spark.com/Installing-Hot-Spark-Bosch.pdf](http://www.Hot-Spark.com/Installing-Hot-Spark-Bosch.pdf)

Volvo-Penta (Bosch) Distributors: [www.Hot-Spark.com/Installing-Hot-Spark-Volvo-Penta.pdf](http://www.Hot-Spark.com/Installing-Hot-Spark-Volvo-Penta.pdf)

Ford (non-Bosch) Distributors (3FOR4V3, 3FOR6U1, 3FOR8U1): [www.Hot-Spark.com/Installing-Hot-Spark-Ford.pdf](http://www.Hot-Spark.com/Installing-Hot-Spark-Ford.pdf)

Delco Distributors (3DEL4U1, 3DEL6U1): [www.Hot-Spark.com/Installing-Hot-Spark-Delco.pdf](http://www.Hot-Spark.com/Installing-Hot-Spark-Delco.pdf)

Ducellier Distributors (3DUC4U1): [www.Hot-Spark.com/Installing-Hot-Spark-Ducellier.pdf](http://www.Hot-Spark.com/Installing-Hot-Spark-Ducellier.pdf)

Hitachi Distributors (3HIT4U1): [www.Hot-Spark.com/Installing-Hot-Spark-Hitachi.pdf](http://www.Hot-Spark.com/Installing-Hot-Spark-Hitachi.pdf)

Lucas Distributors (3LUC4-25D, 3LUC4-45D, 3LUC6-22D, 3LUC8-35D): [www.Hot-Spark.com/Installing-Hot-Spark-Lucas.pdf](http://www.Hot-Spark.com/Installing-Hot-Spark-Lucas.pdf)

Mallory 8-cylinder Marine Distributor: (3MAL8U1): [www.Hot-Spark.com/Installing-Hot-Spark-Mallory.pdf](http://www.Hot-Spark.com/Installing-Hot-Spark-Mallory.pdf)

Nippondenso Distributors (3ND4U1, 3ND6U1): [www.Hot-Spark.com/Installing-Hot-Spark-Nippondenso.pdf](http://www.Hot-Spark.com/Installing-Hot-Spark-Nippondenso.pdf)

Prestolite Distributors (3PRE8U1, 3PRE8U2, 3PRE6U2): [www.Hot-Spark.com/Installing-Hot-Spark-Prestolite.pdf](http://www.Hot-Spark.com/Installing-Hot-Spark-Prestolite.pdf)

Autolite Distributors (3AUT4U1, 3AUT4U2, 3AUT6U1, 3AUT6U2): [www.Hot-Spark.com/Installing-Hot-Spark-Autolite.pdf](http://www.Hot-Spark.com/Installing-Hot-Spark-Autolite.pdf)

Installing SVDA 034 Distributor (also Bosch SVDA 034): [www.Hot-Spark.com/Installing-SVDA-034.pdf](http://www.Hot-Spark.com/Installing-SVDA-034.pdf)

Installing 009 Distributor: [www.Hot-Spark.com/Installing-009-3BOS4U1.pdf](http://www.Hot-Spark.com/Installing-009-3BOS4U1.pdf)

Installing HSDUC4 4-cyl Ducellier Distributor: [www.Hot-Spark.com/Installing-HSDUC4-Distributor.pdf](http://www.Hot-Spark.com/Installing-HSDUC4-Distributor.pdf)

Installing HS45D4 (Lucas) 45D4 4-Cyl Distributor: [www.Hot-Spark.com/Installing-HS45D4-Distributor.pdf](http://www.Hot-Spark.com/Installing-HS45D4-Distributor.pdf)

**Coil: 4-Cylinder:** Coil must have a minimum of 3 Ohms primary resistance. **6- and 8-cylinder:** Coil must have a minimum of 1.5 Ohms primary resistance. To measure primary resistance: Label and remove all wires to coil ( + or - ). Using a common digital multimeter in the 200  $\Omega$  mode, cross the red and black leads of the Ohmmeter. Allow a few seconds for the reading to settle and write down the reading.

Still in the 200 Ohm mode, measure between coil's + and - terminals. Allow a few seconds for the reading to settle, until it stabilizes. Subtract the previous reading, taken with the leads crossed, to compensate for multimeter's inherent resistance. Do not use a low-resistance coil, such as the MSD or Accel coil; they don't have enough primary resistance for this application.

**Using a coil with too little primary resistance can cause the ignition module to overheat and misfire until it cools down again or fails, voiding the warranty.**

Check the voltage reading at the coil's + terminal, engine running, at 2,500+ RPM. If the voltage measures more than +14.2 volts, you'll need to replace the voltage regulator, install a coil with 3 Ohms or more internal primary resistance or install a 1.4 Ohm external ballast resistor between the ignition switch and the coil's + terminal.

For best performance, the coil should also have a 7,000 Ohms or more secondary resistance (measured from coil's + or - terminal to center high tension terminal, in the 20K  $\Omega$  mode of the Ohmmeter).

**Included: Packet of thermal grease.** Clean distributor's breaker plate spotlessly clean. Apply a thin layer of thermal grease to bottom of ignition module to ensure better cooling of ignition module.

## **Wiring Installation Basics:**

### **TDC = 0 degrees or Top Dead Center, BTDC = Before Top Dead Center**

1. Remove points, condenser and condenser wire from the vehicle.
2. Attach the red lead of a voltmeter to the coil's positive ( + ) terminal. Attach the voltmeter's black lead to engine ground. With the ignition switch on, engine not running, measure the voltage at the coil's positive ( + ) terminal. The reading should be somewhere around +11 to +13 volts. If voltage is too low or there's no reading, the battery's terminals or ground connection may be corroded and need cleaning. Some vehicles have a resistor wire running from the ignition switch to the coil's + terminal. If this resistor wire drops the voltage below 9 volts or so, you may need to run a non-resistor wire from the ignition switch to the coil's + terminal or run a +12V wire directly from the ignition switch to the red Hot-Spark ignition wire. Make sure that the ignition switch terminal to which you connect this wire has power only when the ignition switch is in the ON position.

To get the ignition running initially, only these wires should be attached to the coil's + and - terminals:

- A. +12 volts from the ignition switch to the coil's + terminal
- B. Red Hot-Spark wire to the coil's + terminal
- C. Black Hot-Spark wire to the coil's - terminal. **DO NOT connect any +12-volt wire to the coil's - terminal. Connect only the black Hot-Spark ignition wire to the coil's - terminal.**
- D. The automatic choke and fuel shut-off valve may also need to be attached to the coil's + terminal.
- E. Generally, only the black Hot-Spark wire is attached to the coil's - terminal. If a tachometer wire is usually attached to the coil's - terminal, don't attach it until the timing has been set and engine is running properly. No other wires should be connected to the coil's + and - terminals at this time.
- F. Attach a stroboscopic timing light to the spark plug wire of Cylinder number 1. With engine rotated to TDC (0 degrees) on the firing stroke of Cylinder number 1, ignition switch ON, turn the distributor until the timing light flashes. You may need to turn the distributor left or right, a little at a time, until the engine will stay running, so that you can set the timing with the engine running, using a stroboscopic timing light, according to factory specifications.
- G. For testing purposes, no other wires should be attached to the coil terminals, except for the center high-tension lead to the distributor cap.

Attach a stroboscopic timing light to the spark plug wire of Cylinder number 1. With engine rotated to TDC on the firing stroke of Cylinder number 1, ignition switch ON, slowly turn the distributor clockwise or counter-clockwise until the timing light flashes. Tighten the distributor clamp a little, so that you can still turn the distributor by hand, but the distributor won't turn on its own. The rotor should be pointing to number 1 cylinder's spark plug wire.

Start the engine. You may need to turn the distributor left or right a little, until the engine will stay running, so that you can set the timing with the engine running, using a stroboscopic timing light, according to factory specifications.

**Troubleshooting/FAQ: Having installation problems? Click [here](#)**

**Email Us: [info@Hot-Spark.com](mailto:info@Hot-Spark.com)**

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