

# HOT-SPARK™ IGNITION PRODUCTS

## Trouble shooting

If you can't get the Hot-Spark ignition to fire, try these suggestions:

### Check the wiring:

1. Remove condenser and its wire from distributor.
2. Wire (+12v) from ignition switch to coil's positive ( + or 15) terminal.
3. Hot-Spark black wire to coil's negative ( - or 1) terminal.
4. Hot-Spark red wire to coil's positive ( + or 15) terminal.

NOTE: Reversing the wiring will instantly destroy the Hot-Spark module. Leaving the ignition switch in the ON position, without the engine running, for much longer than a minute can also damage the module.

### Check the Timing:

Set the timing to factory specifications, engine running, using a stroboscopic light. Because the electronic ignition module is mounted in a slightly different position than the points were, the distributor will likely have to be turned as much 20 to 30 degrees from where it was with points. You'll definitely have to reset the timing using a stroboscopic timing light (see also our webshop on [www.hot-spark.eu](http://www.hot-spark.eu)).

### Check the gap between the magnet sleeve and Hot-Spark unit:

The air gap between the Hot-Spark sensor and the magnet sleeve should be set at about 0.8mm (.030 in.). Place the included washers on the upright bolts, screw the included nuts onto the bolts and tighten snugly with a 7mm (5/16") nut driver. (don't over-tighten (5 ft.lbs)).

If there's not a wide enough gap between the magnet sleeve and the ignition sensor, you can, with the ignition module fastened to the distributor's breaker plate, bend the top, red part of the ignition module away from the magnet sleeve slightly, to widen the gap a little. Don't pry against the plastic magnet sleeve - it may break. To increase air gap slightly, hold ignition base plate away from distributor shaft while tightening set screw.

### Check the magnet sleeve vertical alignment:

**Magnet sleeve too high:** If the fit between the distributor shaft and the magnet sleeve is especially tight and you cannot slide the magnet sleeve down onto the distributor shaft until the bottom of the magnet sleeve is flush with the bottom of the Hall sensor's plastic casing, you can place a deep-well 14mm or 15mm socket over the end of the distributor shaft and tap *very gently* on the socket until the magnet sleeve seats firmly onto the distributor shaft, over the distributor cam lobes. Don't tap too hard or you could break the top off of the magnet sleeve.

**Magnet sleeve too low:** If the fit between the distributor shaft lobes and the magnet sleeve is too loose, the distributor shaft may be worn down from years of the points block rubbing, with accumulated dirt and grit, and/or insufficient lubrication, on the distributor cam lobes. If the fit is especially loose, the only solution, short of replacing the distributor, may be to clean the distributor cam lobes thoroughly with alcohol and wrap the lobes with a single wrap of

high-quality electrical tape, before pressing the magnet sleeve down over the lobes. Too loose a fit between magnet sleeve and distributor cam lobes may result in the magnet sleeve's sliding too far down, causing the rotating magnets to be positioned too low to trigger the Hall-effect sensor properly.

**Magnet sleeve too high or too low:** The magnet sleeve might be too high or too low relative to the Hall-sensor in the red Hot-Spark unit caused by a faulty or worn-out vertical alignment of the distributorshaft. Also, due to wear there can axial (up-and-down) play on the distributor shaft, causing the vertical alignment to be out of spec some times. In this case the number or thickness of distributor shaft shims inside the distributor needs to be adjusted. This is done by removing the distributor's dog gear, the breaker plate and shaft, and then add or remove shims from/to the inside of the distributor, and add or remove them to/from just above the dog gear, to correct the rotor height. Some times slightly raising or lowering the magnet sleeve on the axle also works, or raising/lowering the Hot-Spark unit itself.

### **Check the Coil:**

Stock Bosch black coil or Bosch blue coil (00 012) normally have about 3 Ohms of primary resistance, which is plenty. Coil should have 1.5 Ohms or more primary resistance. To measure primary resistance: Label and remove all wires from coil. Measure between coil's + and - terminals with a common digital multimeter, in the 200  $\Omega$  mode. Allow a few seconds for the reading to settle downward until it stabilizes. Subtract about 0.3 Ohms from the reading 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. If you're going to use a low-resistance coil anyway, install an external ballast resistor that has about 1.4 Ohms resistance between the coil's positive terminal and the ignition module.

### **Check the charging system's maximum voltage:**

If the charging system voltage, measured at the coil's positive terminal, is more than 14.2 volts at 2,500+ RPM, the voltage regulator likely needs replacing. Too much voltage can damage the ignition module.

### **Test the vacume advance unit:**

Check to see if the vacuum advance is working properly by sucking on the vacuum canister port. The breaker plate should move smoothly and freely.

**Limited Warranty:** Hot-Spark Ignition Products warrants its electronic ignition conversion kits to be free from defects in material and workmanship under normal use and if properly installed for a period of three years from date of purchase. If found to be defective as mentioned above, it will be replaced or repaired if returned prepaid along with proof of date of purchase. Warranty shall be null and void if it is determined that said electronic ignition conversion kit has been connected improperly, if it is used with an ignition coil which has insufficient resistance in its primary circuit or if the polarity of the electrical wiring of the ignition kit has been reversed.

This shall constitute the sole remedy of the purchaser and the sole liability of Hot-Spark Ignition Products. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representations whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall Hot-Spark Ignition Products be liable for special or consequential damages.

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