TROUBLESHOOTING/FAQ's

Q. HOW DO I WIRE MY SHIFT INTERRUPTER SWITCH.

A. For Mercruiser application no special parts at needed. It will be wired directly to coil negative.

B. O.M.C. stern drive application may require additional parts. We recommending wiring it to coil negative and testing it. If it doesn't function then either a diode fix(see wiring diagram) will need to be installed or an updated shift interrupter will need to be installed.

Q. THE ENGINE WILL NOT START.

A. Check all connections to ensure that they are tight and in the proper locations. Check the engine timing to ensure the distributor was installed correctly. Make sure the firing order is correct on the cap.

B. Make sure the distributor's Red wire is getting full battery voltage with the key "ON" and while cranking. Jumping the Red wire to battery positive is a quick test to assure the red wire is getting full voltage. For detailed voltage test steps please visit: www.PerTronix.com Loaded voltage and ground test

C. Be sure the distributor housing is getting a good ground back to battery negative. The resistance from distributor housing to battery negative should be less than 0.2 ohms.

D. Remove all other wires from the coil negative except the distributor's Black wire. Turn key "ON" and check the coil positive for voltage. If the coil does not have voltage the coil was wired incorrectly. If, coil positive has voltage try starting the engine. If, the engine starts then one of the wires removed from the coil negative terminal is shorted to ground.

Q. THE ENGINE STARTS BUT STOPS AFTER RUNNING. BUT WILL RESTART AFTER SOME TIME(COOLS DOWN) HAS PASSED.

A. This type of problem can happen within minutes of startup or hours later. The most common reason is a voltage issue to the distributor's Red wire. Please go to the loaded voltage test above and download the steps. Do the test on a cold engine then again after the engine is at full operating temperature. The two voltage readings should be within a couple of volts and never go below the minimum voltage. A large(3+volts) change in the voltage reading means a connection in the ignition wire is poor or a resistor is in the ignition line.

B. Try another coil.

Q. HOW CAN I RECEIVE ADDITIONAL HELP OR ALTERNATIVE WIRING DIAGRAMS?

A. Visit our knowledge base at www.pertronix.com Or call our Technicians 909-599-5955Ext. 1 Mon.-Fri. 7AM-4:30PM PST.

LIMITED WARRANTY

PerTronix, LLC. Warranty is to the original Purchaser that its Ignition products shall be free from defects in material and workmanship (normal wear and tear excluded) for the following periods:

Ignitor, Ignitor II, Ignitor III – 30 months

Industrial Distributor – 90 days mechanical/30 months Ignitor

Flame-thrower coils – 90 days

Flame-Thrower HEI distributors – Limited 1 year

Flame-Thrower Billet and Cast distributors – 1 year Mechanical/30 months Ignitor module

Flame-Thrower Spark plug wire – Limited Lifetime

Ignition Boxes (second strike, Rev Limiter, & Digital HP) – Limited 1 year

All warranty periods start on the date of purchase

All returns must have a Return Material Authorization (RMA) number issued to them before being returned. To obtain an RMA number please contact PerTronix Technical Department at (909) 599-5955.

When returning, leave all wires at the length in which they have been installed. Include a copy of receipt, detailed account of the problems experienced and RMA number. All warranties are to be returned prepaid shipping and Pertronix will return the product prepaid.

If within the period of the foregoing warranty PerTronix finds after inspection, it was used in a normal/proper manner, consistent with PerTronix instruction, and the product or any component thereof is defective.

PerTronix will, at its option, repair such products or components or replace them with identical or similar parts.

THE FOREGOING LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE FURNISHING OF A REPAIR OR REPLACEMENT COMPONENT OR COMPONENTS SHALL CONSTITUTE THE SOLE REMEDY OF PURCHASER AND THE SOLE LIABILITY OF PerTronix LLC WHETHER ON WARRANTY, CONTRACT OR FOR NEGLIGENCE AND IN NO EVENT WILL PerTronix LLC BE LIABLE FOR MONEY DAMAGES WHETHER DIRECT OR CONSEQUENTIAL.

PERFORMANCE BRANDS

440 E. Arrow Hwy
San Dimas, CA 91773
909-599-5955

www.pertronixbrands.com

PERTRONIX

IGNITION PRODUCTS

IGNITOR® ELECTRONIC IGNITION

INSTRUCTIONS for Part Number:
1581LS

GENERAL INFORMATION

- **IMPORTANT**: Read all instructions before starting installation
- For 12-Volt **NEGATIVE** ground applications only. Maximum voltage 16V; Minimum voltage 8V.
- **WARNING: DO NOT USE WITH SOLID CORE SPARK PLUG WIRES**
- **INCORRECT WIRING OF IGNITOR RED & BLACK WIRE CAN CAUSE PERMANENT DAMAGE**
- **EIGHT** cylinder engines require a **MINIMUM** of 1.5 ohms of primary resistance. **FOUR** and **SIX** cylinder engines require a **MINIMUM** of 3.0 ohms of primary resistance in the ignition circuit.
- An external resistor is not required when the coil has the minimum primary resistance required for the application.
- The Ignitor can trigger most external ignition systems that can be triggered with a square wave/points trigger. Spark plug gap can be opened .005" over stock.

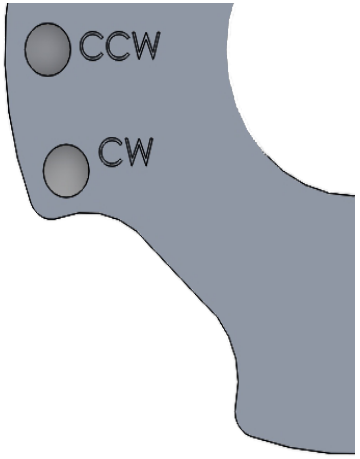
PART LIST

- (1) Plate with Ignitor on plate
- (1) Loose round grommet
- (2) #10 Ring terminerals
- **THIS KIT DOES NOT REQUIRE A MAGNET RING**

INSTALLATION

- Remove the cap and rotor from the distributor. Making sure to not disconnect the spark plug wires from the cap. **NOTE**: Examine the cap and rotor for wear or damage. Replace as needed.
- Disconnect the points wire from the negative terminal of the ignition coil. While leaving all other wires connected to the coil.
- Remove the screws that are holding down the breaker plate assembly. Remove the breaker plate and point wire from the distributor. Note: The points and breaker plate assembly should be saved in a safe location. One of the screws for the breaker plate to be reused during install.
- Clean all dirt, corrosion, and oil from point cam and mounting location of the breaker plate. Make sure the mechanical advance and springs are in good working order. Replace as needed
- Determine which direction the distributor rotor turns.
- Determine the correct grommet for your distributor. If a grommet change is needed slid off the current grommet. Install the round grommet, with the tapered end facing away from the Ignitor module. Note: **A** small amount of silicon or lubricant spray will help the grommet slide on the wires.
- Place the Ignitor plate down into the distributor housing. Line up the cutout in the plate with the wire exit hole of the distributor.

- For a Clockwise rotating rotor slightly turn the plate to line up the "**CW**" hole to the mounting tab below. For Counterclockwise rotating rotor slightly turn the plate to line up the "**CCW**" hole to the mounting tab below.
- Secure the Ignitor plate down, reusing one of the original screws for the breaker plate. **NOTE**: Only one screw is used to secure the Ignitor plate to the distributor housing.
- Place the rubber grommet into the wire exit. Adjust the Ignitor wires so they do not contact any moving parts and do not have an excess amount of wire inside the distributor.
- Recheck the install making sure all is secure and correct. Reinstall rotor and cap. After installing the cap, ensure the spark plug wires are seated securely in the distributor cap.



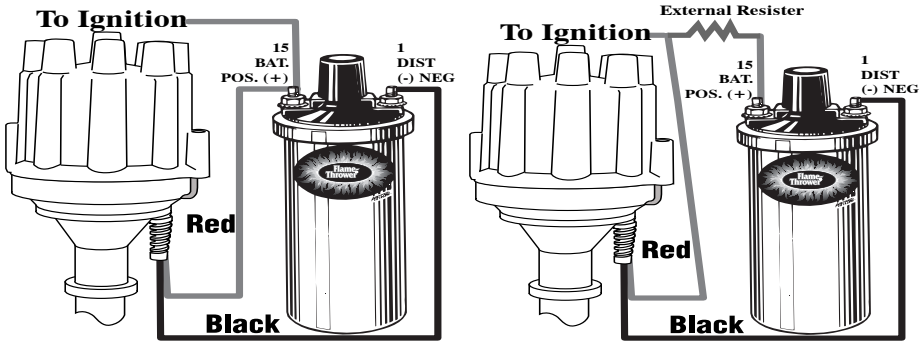
WIRING

- Many vehicles came equipped with a ballast resistor or resistance wire. To achieve optimum performance we recommend the removal of all external resistance, allowing the coil to receive full running voltage. When running a new ignition wire or bypassing a resistor use 12-14 gauge wire. Using power relay **P/N**: 2001 is an easy way to bypass resistors to ensure full voltage.
- With no external resistors, the coil must meet the **MINIMUM** primary resistance **REQUIRED** in the resistance chart. Using a coil with a **LOWER** primary resistance **REQUIRES** an external resistor to bring up the primary resistance to the minimum **OHM** requirements. On applications that use an external ignition box use the coil recommend for the ignition box.

Primary Resistance Specification		
Cylinders	Minimum	Maximum
1-6	3.0 OHMs	4.5 OHMs
8 & 12	1.5 OHMs	3.5 OHMs

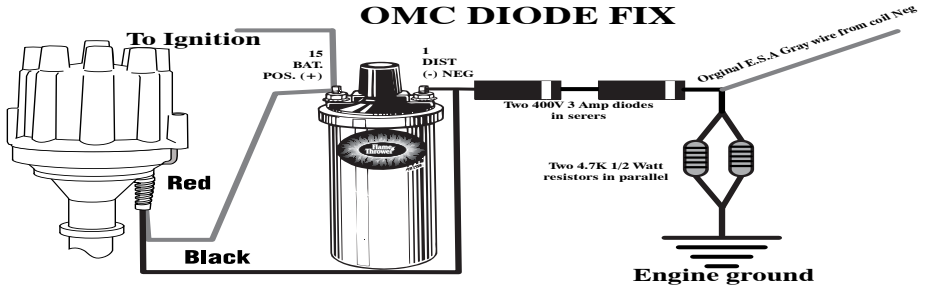
Note: When using an external resistor. Add the primary resistance value of coil and external resistor to know total primary resistance. Exp. 1.5(coil)+1.5(resistor)=3.0 OHMs

- The distributor wires can be Cut or Lengthen for wiring. Use 20 gauge wire for lengthening or use **P/N**: 2005 (Ignition primary wire Extension kit). Wire terminals are included for connecting to the coil.
- To wire the distributor to a coil, follow the wiring diagrams. Tach. wire will hook to the same location as stock. Applications that use an external ignition box use the **BLACK** wire as the trigger wire and hook the **RED** wire to an Ignition controlled voltage source. Make sure the ignition source turns **ON/OFF** with key and has power while cranking.



ONLY OMC SHIFT ASSIST USERS

- This is only for **OMC** Sterndrive Electronic Shift Assist (**ESA**). Mercruiser **ESA** modules hook directly to coil negative.
- The diode fix is needed because of the extra voltage at the coil negative caused by the electronic ignition. The fix is lowering the voltage (0.5V or lower) to allow the **ESA** to ground the coil correctly. An upgraded **ESA** module can be purchased through **CDI** Electronic's that wouldn't require the diode fix.
- To install the fix, remove the original **ESA** gray wire from the coil negative terminal.
- Make the diode fix by following the diagram. Be sure the diode stripes are facing away from the coil. The resistors do not have a direction. Be sure the resistors are connected to a good engine ground.
- Connect diode fix and Ignitor Black wire to coil negative.
- Connect the **ESA** gray wire at the end of the fix after the resistors.



NOTE: Diodes and resistors connections should be sodered and insulated. The diodes and resistors can be found at most electronic stores. We recommend Digikey P/n's:
Diode: 1N5404GDICT-ND and Resistor: CF12JT4K70CT-ND

STARTING ENGINE

- Recheck all the wires and connections to ensure they are correct. Making sure Ignitor **RED** and **BLACK** are wired per the wiring diagram above, making sure the ignition power source is connected to the positive of the coil.
- Start the engine. If the engine fails to start, rotate the distributor in small increments clockwise or counter wise unit engine starts. Note: The Ignitor can move the timing as much as 10° so, even a perfectly timed engine prior to installation might need adjustments.
- Bring the engine to operating temperature. Set initial timing or total timing to the desired setting.