IGNITOR®
ELECTRONIC IGNITION

12-Volt Negative Ground Installation Instructions

For Part Number: ML-189

CAUTION!!! Before installing, please read the following important information....

1. The Ignitor is designed for 12-Volt negative ground systems.
2. Leaving the ignition “ON” with the engine “OFF” for an extended period could result in permanent damage to the Ignitor.
3. **See Chart on back page for coil recommendations.**
4. Eight cylinder engines require a minimum of 1.5 ohms of primary resistance. Do not remove resistors if the coil primary resistance is less than 1.5 ohms.
5. If your Ignition coil has the recommended primary resistance, remove or bypass all external resistors.
6. The Ignitor is compatible as a trigger for most electronic boxes.

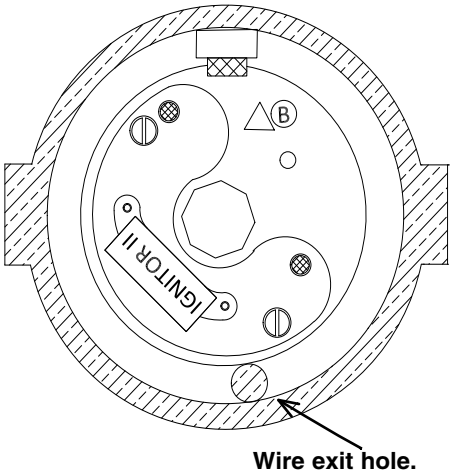
DISASSEMBLY

1. **PRIOR TO INSTALLATION TURN IGNITION SWITCH OFF OR DISCONNECT THE BATTERY**
2. Remove distributor cap and rotor from distributor. Do not disconnect spark plug wires from cap. Examine cap and rotor for wear or damage. Replace as needed.
3. Remove the points wire from the (-) terminal of the Ignition coil.
4. Remove and retain the points and condenser. Installing the Ignitor does not alter the internal configuration of your distributor. Therefore, the points, condenser and hardware can be used as backup.
5. Clean all dirt and excess oil from the point cam.

IGNITOR INSTALLATION

1. Install the Ignitor into the distributor housing, align the Ignitor to the breaker plate as shown in figure 1. Fasten the plate into place using the original screws.
2. Install magnet sleeve over the distributor shaft, onto point cam. Rotate the sleeve until a slight locating position is felt before applying pressure. Press down firmly insuring sleeve is fully seated.
3. Module and magnet sleeve air gap is not adjustable.
4. Insert wires through the wire exit hole in distributor housing. Pull the rubber grommet into place. Make sure wires do not interfere with any moving parts.
5. Reinstall the rotor, and the distributor cap. Make sure all spark plug wires are securely attached.
6. See Wiring Instructions.

FIGURE 1



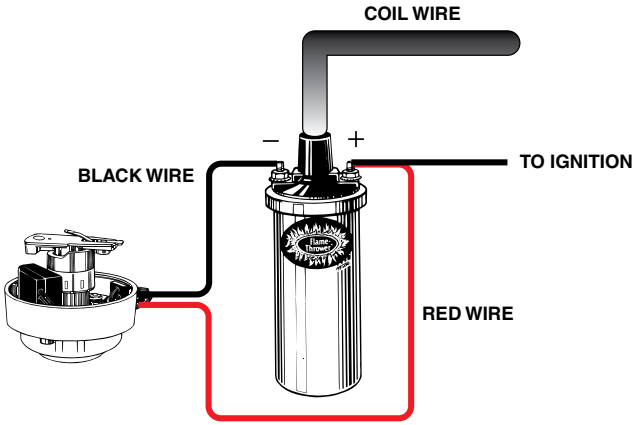
A. Recommended Wiring Installation:

The Ignitor ignition can be used in conjunction with most ignition coils rated at 1.5 ohms of primary resistance on eight cylinder engines and 3.0 ohms on four and six cylinder engines. For optimum performance purchase and install the recommended Flamethrower high performance coil.
Many vehicles came equipped with ballast resistor or resistance wire. To achieve optimum performance from the Ignitor ignition system, we recommend the removal of these components.

- To remove a ballast resistor, (normally white ceramic blocks 3 to 4 inches long), disconnect all wires on both ends of the ballast resistor. Remove the resistor from the vehicle and splice the disconnected wires together at a single point.
- To remove a resistance wire, trace the coil power wire, which was previously connected to the positive coil terminal, back to the fuse block. Bypass this wire with a 12-gauge copper stranded wire.

1. Attach the black Ignitor wire to the negative coil terminal. (See Figure A)
2. Attach the red Ignitor wire to the positive coil terminal. (See Figure A)
3. Check to insure that the polarity is correct, and that all connections are tight.
4. Re-connect the battery.
5. Start the engine and allow it to reach normal operating temperature. Check ignition timing, and adjust to the desired setting.

(FIGURE A)

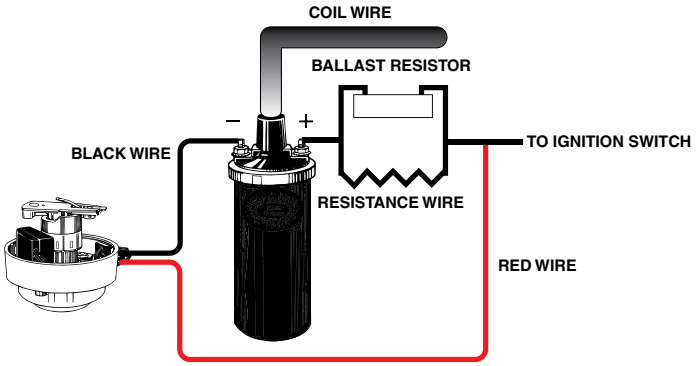


B. Alternative Wiring Installation:

The Ignitor can also be installed in applications retaining the ballast resistor or resistance wire.

1. Attach the Ignitor black wire to the negative coil terminal. (See Figure B)
2. Attach the Ignitor red wire to the ignition side of resistance, or any 12 volt ignition power source. (See Figure B)
3. Check to insure that the polarity is correct, and that all connections are tight.
4. Re-connect the battery.
5. Start the engine and allow it to reach normal operating temperature. Check ignition timing, and adjust to the desired setting.

(FIGURE B)



Ignitor COMMON QUESTIONS AND ANSWERS

Q. What is the first thing I should check if the engine would not start?
A. Make certain all wires are connected securely to the proper terminals.

Q. The engine will not start or runs rough. Are there any tests I can do?
A. Yes, remove the red ignitor wire from the coil. Connect jumper wire from the positive side of the battery to the red ignitor wire just removed from the coil. If the engine starts, then you have a low voltage problem . Remember this is just a test. Not intended for permanent installation.

Q. How can I fix a low voltage problem?
A. First, if you have an external ballast resistor or resistance wire, connect the red ignitor wire to the ignition wire prior to the ballast resistor or resistance wire. Second, if you do not have a an external resistor you must connect the ignitor red wire to a 12-volt source that is controlled by the ignition switch.

Q. Should I remove the starter bypass wire?
A. No, the starter bypass wire is needed to provide voltage while starting (cranking).

Q. What type of coil do I need?
A. The ignitor is compatible only with a "points type" coil. Eight cylinder engines require a minimum of 1.5 Ohms of resistance in the primary circuit. Four & six cylinder engines require a minimum of 3.0 Ohms of resistance (primary).

Q. How do I check my coil for resistance?
A. First you need an ohmmeter. Remove all the wires from the coil. Attach the ohmmeter to both the positive and negative terminals. The reading should be 1.5 Ohms or greater for eight cylinder engines and 3.0 Ohms or greater for six cylinder engines. (Your local auto parts store can do this for you if you don't have an ohmmeter)

Q. What do I do if my coil does not have enough resistance?
A. You may purchase and install a ballast resistor from your local auto parts store. You may also choose to purchase a Flamethrower 40,000-volt coil, which provides resistance internally. Note: Many vehicles come with ballast resistor or resistance wire. These applications do not need an additional resistor.

Q. What happens if you leave the ignition switch on when the engine is not running?
A. This can cause your coil to overheat, which may cause permanent damage to the coil and the ignitor.

Q. May I modify the length of the wires?
A. Yes, you can cut the wires to any length your application may require. You may also add length of wire if needed (20-gauge wire). Please make sure all wire splice are clean and connections are secure.

Q. Will the shift interrupter on an OMC stern drive boat work with the ignitor?
A. The ignitor is compatible with all OMC stern drive applications, when equipped with a "diode fix". If you purchased a kit that does not include the "diode fix" diagram, call our tech line.

Q. How can I get additional help?
A. Call our tech line (909-547-9058) for any further instructions or questions.

POWER & GROUND TESTS

GROUND TESTS

It is imperative that the power and grounds be checked as part of the installation procedure. After installing the Ignitor module and the distributor and with the distributor in the engine, use a digital multi-meter to measure the resistance from the aluminum plate holding the module to battery (-), the net resistance must be less than 0.2 ohms. (Set meter to lowest ohms setting). The net resistance is the meter reading minus the resistance of the meter leads. If the net resistance is greater than 0.2 ohms, the source of the faulty ground must be found and fixed. Usually the source of the bad ground is easily found by holding one probe on an original location and moving the second probe toward the static probe. Where the resistance drops identifies the source.

GROUND TESTS	
Maximum resistance from Ignitor plate to battery negative terminal.	0.2 ohms
EXAMPLE:	
Resistance from Ignitor plate to battery negative (-) terminal.	0.4 ohms
Resistance of meter leads	0.2 ohms
After subtracting meter lead resistance, your net resistance is:	0.2 ohms

VOLTAGE TESTS:

1. (Do not disconnect wires from Ignition coil). Place ignition switch in the "off" position.
2. Connect a jumper wire from negative (-) terminal of the coil to a good engine ground.
3. Connect the voltmeter red lead to the positive (+) terminal of the coil and the black lead to a good engine ground.
4. Turn the ignition switch to the "on" position and note voltage reading on the voltmeter. Quickly read the voltage and turn ignition "OFF". Leaving ignition "ON" for an extended period could result in permanent damage to the Ignitor.
5. SEE CHART BELOW FOR SPECIFICATIONS.

Note: Low voltage can be caused by poor connections, poor contacts in the ignition switch, ballast resistor, and or a resistance wire in the wiring harness (Factory Installed).

VOLTAGE SPECIFICATIONS	Minimum	Maximum
Ignition Switch "ON"	8.0V	N/A
Cranking	8.0V	N/A
Engine Running	N/A	16.0V

FLAME-THROWER COIL APPLICATIONS						
Use with:	System Voltage	Cylinders	Primary Resistance	Recommended Flamethrower Coils		
				Black	Chrome	Epoxy
Ignitor Only	12V	8	1.5 ohms	40011	40001	40111
Ignitor Only	12V	4 & 6	3.0 ohms	40511	40501	40611
	Agricultural & Industrial					
Ignitor Only	12V	1,2,3,4, & 6	2.8 ohms	28010 or 40511, 40501, 40611		
Ignitor Only	12V	8	1.5 ohms	40011	40001	40111
NOTE: REMOVE OR BYPASS EXTERNAL BALLAST RESISTOR OR RESISTANCE WIRE WHEN INSTALLING THE RECOMMENDED FLAME-THROWER COIL.						

LIMITED WARRANTY

Pertronix, Inc. Warrants to the original Purchaser of its solid-state ignition system (product) that the Ignitor, magnet assembly and wiring (components) shall be free from defects in material and workmanship for a period of (30) 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:

1. Promptly Notifies Pertonix, in writing, of such defects.
2. Delivers the defective products product or component to Pertronix (ATTN: Warranty) with proof of purchase date; and
3. Has installed and used the product in a normal and Proper manner, consistent with Pertronix printed instructions.

THE FORGOING LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING AND IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PURPOSE.

THE FURNISHING OF A REPAIR OR REPLACEMENT COMPONENTS SHALL CONSTITUTE THE SOLE REMEDY OF PURCHASER AND THE SOLE LIABILITY OF PerTronix WHETHER ON WARRANTY, CONTRACT OR FOR NEGLIGENCE, AND IN NO EVENT WILL PerTronix BE LIABLE FOR MONEY DAMAGES WHETHER DIRECT OR CONSEQUENTIAL.

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