



## BILLET DISTRIBUTOR INSTALLATION INSTRUCTIONS



### COMMON QUESTIONS AND ANSWERS

Q. The engine will not start or runs rough. What is the problem?

A. Check all connections to insure that they are tight, and in the proper location. Visually check and measure all grounds. Remove paint and corrosion from around the distributor hold down bracket. Make sure that the distributor red and black wire are connected properly. The Ignitor III in the Flame-Thrower distributor will shut down if the wires are incorrectly attached. The Ignitor III is designed to sense high current levels. Check all wires for shorts, correct polarity and that the ignition coil's primary resistance level is acceptable. For more detailed information log on to [www.pertronix.com](http://www.pertronix.com) or contact the technical department at (909) 599-5955.

Q. The vehicle will start, but then dies. After waiting, it starts. What is wrong?

A. The Ignitor III in the Flame-Thrower distributor may have a "Low Voltage Problem." If the voltage supplied to the red distributor wire is insufficient, the system may run for a period of time, and then shut down as the voltage drops due to engine heat. The period may vary from minutes to hours depending on available voltage and wiring condition.

Q. How do I check for a "Low Voltage Problem" or determine if I am getting adequate voltage?

A. To quickly test for a "Low Voltage Problem" or for adequate voltage (**Note: This is only a test and is not intended as a permanent fix**) attach a jumper wire from the positive battery terminal to the positive terminal of the coil. Try to start the vehicle. If the vehicle starts, low voltage is present. **Note: If the engine starts. The engine will not turn off unless the jumper wire is removed from the positive battery terminal.** Check connections and insure all external resistors have being removed. For more detailed information on how to locate the source of the voltage drop log on to [www.pertronix.com](http://www.pertronix.com) or contact the technical department at (909) 599-5955.

Q. How do I check my coil for primary resistance?

A. Remove all wires from the coil. Set the ohmmeter to the lowest scale. Attach one lead of the meter to the positive coil terminal. Attach the other lead to the negative coil terminal. The Ignitor III in the Flame-Thrower distributor is compatible with coils having a resistance of 0.32 ohms or greater.

Q. May I modify the length of the wires?

A. Yes, you may cut the wires to any length your application requires. You may also add lengths of wire if needed (20-gauge). Make sure that all wire splices are clean and the connections are tight.

Q. Will the Ignitor III in the Flame-Thrower distributor work with aftermarket capacitive discharge boxes?

A. **We recommend the Ignitor or Ignitor II as a trigger source for a capacitive discharge box.** For more detailed information log on to [www.pertronix.com](http://www.pertronix.com) or contact the technical department at (909) 599-5955.

Q. Will the electronic shift assist in an OMC boat work with the Ignitor III in the Flame-Thrower distributor?

A. The Ignitor III in the Flame-Thrower distributor will work with all OMC stern-drive applications, when our "diode fix" is used. If you've purchased a kit that didn't include the "diode fix" diagram, call our tech line.

Q. How can I receive additional help?

A. Check our web site for current trouble shooting tips and up to date technical information. Log on to [www.pertronix.com](http://www.pertronix.com). You may also contact our tech line at (909-599-5955)

### LIMITED WARRANTY

PerTronix, Inc. warrants to the original Purchaser of its Flame-Thrower billet distributor that the product shall be free from defects in material and workmanship (normal wear and tear excluded) for a period of 12 months from the date of purchase (30 months when Ignitor III is purchased separately).

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 PerTronix, in writing, of such defects.
2. Delivers the defective 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 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 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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### GENERAL INFORMATION

1. See our website ([www.pertronix.com](http://www.pertronix.com)) for latest product information. **IMPORTANT:** Read all instructions before starting installation.
2. **WARNING!!! DO NOT USE WITH SOLID IGNITION WIRES.**
3. The Ignitor III used in our Flame-Thrower Billet distributor may not be compatible as a trigger for other electronic boxes.
4. The Ignitor III Rev-Limiter is preset at 5500 RPM's. The Rev-Limiter can be user set to a minimum 4000 and a maximum 9000 RPM's.
5. All external resistors must be removed to achieve optimum performance from the Ignitor III ignition system.
6. Flame-Thrower Billet distributors come with hardened steel distributor gears which should not be used in applications with a billet camshaft. Consult camshaft manufacturer for distributor gear compatibility (Bronze gears are available).
7. Engines that have been decked, had significant cylinder head milling or oil pump modification should be checked for oil pump bind and proper cam gear engagement prior to installation.

### DISTRIBUTOR REMOVAL

1. Crank the engine until it is positioned at top dead center on a compression stroke. The timing indicator should point to 0.
2. Remove the distributor cap and record the orientation of the rotor relative to the distributor and the engine.
3. Disconnect the battery negative (-) cable.
4. Disconnect all wires and hoses attached to the distributor.
5. Remove the distributor hold down.
6. Remove the distributor by lifting up on the distributor housing while slightly turning the rotor.
7. Check the distributor gear for signs of excess wear, or potential problems.

### DISTRIBUTOR INSTALLATION

1. Remove the Flame-Thrower billet distributor cap.
2. Install the distributor gasket over the gear, and up to the distributor collar. Use a small amount of gasket adhesive to help hold the gasket in place.
3. Lubricate the distributor gear and distributor shaft with clean engine oil.
4. Set the distributor into the engine such that the rotor is pointing in the same direction relative to the engine as was the rotor in the removed distributor. As the distributor drops down, the rotor will turn slightly as it engages with the camshaft gear. Adjust for this rotation by turning the rotor a few degrees prior to the gear engagement. Several attempts

may be necessary to achieve the proper rotor position. The distributor collar should sit completely flat on the intake manifold or block.

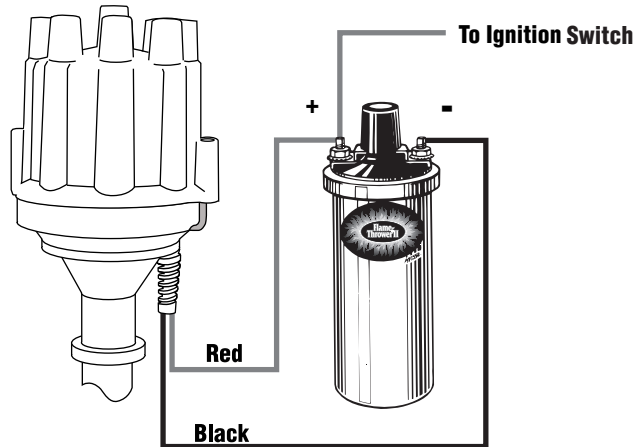
- Turn the distributor housing so that the rotor aligns with the housing as it was aligned with the removed distributor.
- Install the distributor hold down and tighten the hold down bolt slightly. Remove all paint and corrosion from the distributor hold down for proper grounds.
- Place the distributor cap onto the housing. Tighten the cap into place and install the spark plug wires in the proper firing order. The orientation sequence and locations of the spark plug wires are the same as with the removed distributor cap. It is easiest to move one wire at a time from the removed cap to the billet cap.

## WIRING

The Flame-Thrower III billet distributor can be used in conjunction with most ignition coils rated at 0.32 ohms or greater. For optimum performance we recommend our Flame-Thrower III canister style or HC e-core coil.

Many vehicles came equipped with ballast resistors or resistance wires. To achieve optimum performance we recommend removal of these components. Determine the proper wire length, and attach the provided terminals. (Use a wire crimping tool to achieve an adequate connection).

- Attach the **Red** wire to the coil positive terminal or a 12-volt ignition source.
- Attach the **Black** wire to the coil negative terminal.
- Check to insure correct polarity and that all connections are tight.
- Reconnect the battery negative cable.



## FINAL ADJUSTMENTS

- Start the engine and set the initial timing.
- For Vacuum advance distributors:** Locate the vacuum hose that was previously attached to the vacuum advance canister. This hose should originate at a ported vacuum source. Temporarily plug the end of the vacuum hose at the ported end of the hose. Set the timing per the OEM specifications. Securely tighten the hold down bolt. Remove the vacuum plug and reattach hose to the vacuum canister.

### 3. For Non-vacuum advance distributors:

- Remove the vacuum hose and plug the vacuum port. Set the timing per the OEM specifications. Securely tighten the hold down bolt.

## MECHANICAL ADVANCE ADJUSTMENTS

- To adjust the mechanical advance curve, select the appropriate springs from the chart below. The Flame-Thrower billet distributor is factory equipped with the silver springs.
- Remove the cap and rotor.
- Remove the existing springs and install the desired springs.
- Reinstall the rotor and cap.

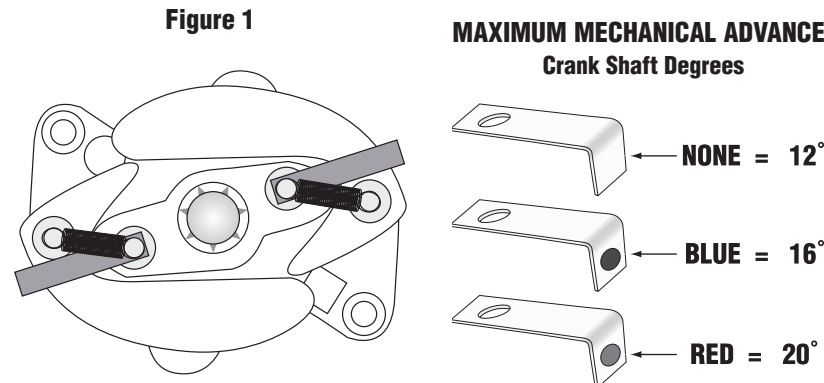
		R. P. M.										
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500
<b>Copper</b>		0	5	16	24	24	24	24	24	24	24	24
<b>Silver</b>		0	0	3	10	16	22	24	24	24	24	24
<b>Bronze</b>		0	0	0	3	7	10	14	18	22	24	24

**Crankshaft Degrees**

## INSTALLATION OF ADVANCE LIMITERS

The Flame-Thrower billet distributor comes with three different sets of advance limiters. These allow the maximum mechanical advance to be limited to 20, 16 or 12 degrees.

- Choose the desired advance limit from the chart below.
- Remove the distributor cap and rotor.
- Remove the advance springs.
- Install one advance limiter on each inner advance pin. (See Figure 1)
- Reinstall the advance springs.
- Reinstall the rotor and cap.
- The advance limiters can be mixed resulting in unique variations of the original advance curve. When combined with mixed advance springs and limiters the mechanical advance can have a maximum of 78 different advance curves.



## REV-LIMITER SETTING PROCEDURE

- Remove distributor cap and rotor.
- Turn the ignition key to the 'ON' position. Do not try starting the engine.
- Turn the Rev-Limit dial clockwise until it stops. Turn the dial counterclockwise until it stops. A slow blinking of the LED indicates that the setting procedure has been initialized and that the Rev-Limit can be set.
- Turning the dial clockwise sets the Rev-Limit. After turning the dial, pause and watch the LED for verification of the Rev-Limit setting. Long flashes indicate 1000 RPM's and short flashes indicate 100 RPM's. For example, 6 long flashes followed by 2 short flashes means the Rev-Limit is 6200 RPM's. Continue turning the Rev-Limit dial until the desired Rev-Limit is reached.  
**NOTE: Leaving the Rev-Limit dial in the full counterclockwise position disables the Rev-Limiter.**
- Let the LED sequence thru at least three complete cycles. This verifies the correct setting and prepares the unit for permanent storage of the Rev-Limit.
- Turn the ignition key off, this signifies to the Ignitor III that the Rev-Limit procedure is complete. **Note: The Ignition key MUST be turned off or the engine will not start.**
- Your rev limit is now set and will not change until you go through this procedure again.
- Re-install cap and rotor.

**NOTE:** Setting the rev limit may be done effectively and easily on a bench or table. Connect the module to a 9-volt battery as shown in figure 2. Then follow the setting procedure outlined above.

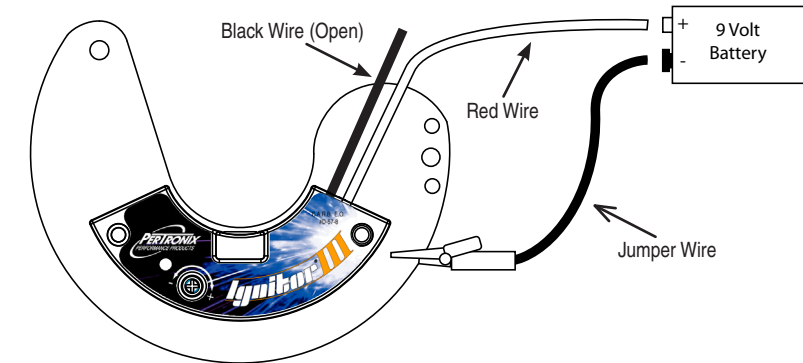


Figure 2

## REV-LIMITER SPECIFICATIONS

Settings	RPM'S
Minimum	4000
Maximum	9000
Factory Setting	5500