



## HEI Distributor Installation Instructions

### GENERAL INFORMATION

1. **IMPORTANT:** Read all instructions before starting installation.
2. Flame-Thrower HEI distributors come with machined steel distributor gears which should not be used in applications with billet camshafts. Consult camshaft manufacturer for distributor gear compatibility.
3. Before the original distributor is removed, several settings should be noted:
  - Base timing should be checked, and noted.
  - Position of vacuum advance canister should be noted.
  - Position of rotor should be noted.
  - Spark plug wires should be labeled with the corresponding cylinder No.
  - If converting from a point style ignition, all primary Ignition resistance should be removed. New HEI style spark plug wires will be necessary.
4. To check base timing, bring the engine up to normal operating temperature.
  - Disconnect and plug the vacuum hose attached to the vacuum advance.
  - Connect a timing light.
  - Start the engine and check the base timing.
  - To insure the Flame-Thrower distributor is installed correctly, note the direction in which the vacuum advance canister points.
5. Remove the distributor cap, and note the position of the rotor. Once the Flame-Thrower distributor is installed the rotor position should match.

### DISTRIBUTOR REMOVAL

1. Disconnect the negative battery cable.
2. Disconnect the vehicle wiring harness, and distributor wiring harness from the distributor cap.
3. Remove the distributor cap, leaving the spark plug wires attached. Set the cap and wires out of the way.
4. Note the position of the distributor's rotor. The vehicle should not be moved, and the engine should not be turned over until the installation is complete.
5. If converting from a point type distributor, label the wires attached to the coil terminals and disconnect them. Remove the coil, and coil bracket from the engine.
6. Remove the vacuum hose attached to the vacuum advance canister.
7. Remove the distributor hold down bolt and hold down.
8. Lift up on the distributor housing while slightly turning the rotor.
9. Check the distributor gear for signs of excess wear, or potential problems.

## DISTRIBUTOR INSTALLATION

1. Disconnect the Flame-Thrower wire harness from the distributor cap. Remove the cap from the distributor housing.
2. Install the distributor gasket over the gear, and up to the distributor collar. (gasket not required on Oldsmobile and Ford applications). A small amount of gasket adhesive will help to hold the gasket in place.
3. Lubricate the Flame-Thrower distributor gear with engine oil.
4. Turn the distributor shaft until the rotor is in the same position that was noted with the old distributor.
5. Place the distributor into the engine. As the distributor drops down, the rotor will turn 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.
6. Turn the distributor housing until the vacuum advance canister points in the same direction as the original.
7. Install the distributor hold down and tighten the hold down bolt slightly. Once the ignition timing is adjusted the hold down bolt should be tightened completely.
8. Install the new Flame-Thrower distributor cap.
9. Starting with the number one spark plug wire, move the spark plug wires from the original distributor cap to the Flame-Thrower cap one by one.
10. If converting from a point type ignition new HEI style spark plug wires should be used (Check with your dealer for Flame-Thrower plug wires).
11. Connect the Flame-Thrower wire harness and vehicle wiring harness into the distributor cap.
12. If converting from a point type ignition, remove any resistance wire, or ballast resistor that may have been previously used.
  - If a resistance wire is present: replace the wire with a 12-gauge copper stranded wire. Most resistance wires begin at the engine compartment side of the fuse block.
  - If a ballast resistor is present: remove the wires attached to both sides of the resistor. Connect all of the wires removed together at a single point. Isolate the connection from any grounds.
  - Plug the Ignition switch wire into the position marked BAT on the distributor cap.
13. If a tachometer is used, connect the tachometer wire into the position marked TACH on the distributor cap.
14. Re-connect the battery.
15. Plug the vacuum hose that attaches to the vacuum advance canister.
16. Check to insure that all spark plug wires are secure and in the correct place.
17. Start the engine, and check the base timing.
18. Check the vehicle manufacture specifications for the correct timing. Rotate the distributor housing to achieve the indicated timing specification.
19. Once the timing is properly adjusted, turn the ignition switch off and tighten the distributor hold down.
20. Re-attach the vacuum hose to the vacuum advance canister.

## PERFORMANCE ADJUSTMENTS

The Flame-Thrower HEI distributors come with a fully adjustable vacuum advance and extra mechanical advance springs for your custom curving needs. The vacuum and mechanical advance are both preset at our factory to meet the California Air Resource Board's requirements for use on highway. Any adjustment of the distributor's advance mechanisms is illegal except for racing vehicles, which may never be driven upon a highway.

### VACUUM ADVANCE

1. Adjustment of the vacuum advance is made through the port on the front of the vacuum canister.
2. The vacuum advance is preset to 16°. Each additional turn in the clockwise direction will add 2° of vacuum advance.
3. Each additional turn in the counter clockwise direction will subtract 2° of vacuum advance.
4. Turning the adjustment in the counter clockwise direction until it stops will lock out the vacuum advance entirely.
5. Re-connect the vacuum hose to the advance canister, and bring the engine up to normal operating temperature.
6. Test the vacuum advance setting by load testing the engine. If pinging is detected than turn the vacuum advance setting counter clockwise until the pinging stops.

### MECHANICAL ADVANCE

1. To adjust the mechanical advance curve, select the appropriate springs from the chart below. The Flame-Thrower distributor is factory equipped with the silver springs.
2. Remove the cap and rotor.
3. Remove the existing springs and install the desired springs.
4. Re-install the rotor. Note: If the Flame-Thrower distributor is used in a high R.P.M. application, replace the metallic rotor retaining screws with the provided Teflon screws and washers. Do not over tighten the Teflon screws.
5. Re-install the distributor cap.

| SPRING         | R.P.M. |      |      |      |      |      |      |
|----------------|--------|------|------|------|------|------|------|
|                | 500    | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 |
| <b>Copper</b>  | 9      | 13   | 19   | 23   | 23   | 23   | 23   |
| <b>Silver</b>  | 0      | 9    | 15   | 19   | 23   | 23   | 23   |
| <b>Natural</b> | 0      | 6    | 11   | 15   | 18   | 20   | 23   |

**Crankshaft Degrees**

### **LIMITED WARRANTY**

PerTronix, Inc. warrants to the original Purchaser of its Flame-Thrower HEI products 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.

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 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 FOREGOING LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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***PERTRONIX PERFORMANCE PRODUCTS***

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