



# Blueprint Electronic Distributors

## Installation Instructions

Accel Blueprint Distributors are direct bolt-in replacement but offer improved performance and fuel economy potential. Although installation is easy, reading these instructions **BEFORE STARTING THE INSTALLATION** will assure that you'll be able to take maximum advantage of all the performance your Accel Blueprint Distributor was designed to deliver.

**Step 1** — After unpacking the distributor and checking it for any damage that might have occurred during shipping, remove the cap.

**Step 2** — On Chrysler distributors, the air gap between the reluctor and magnetic pickup must be adjusted. Loosen the two screws that hold the pickup to the mounting plate and rotate the distributor shaft until a reluctor tooth is aligned with the pickup. Using a brass feeler gauge, set the air gap to .008" on 1976 and earlier engines; for 1977 and newer engines, air gap should be set to .006". Air gap is easily set by inserting a screwdriver in the adjustment slot in the mounting plate and rotating the pickup until the desired gap is established. Recheck the gap after the screws have been tightened.

**Step 3** — If the distributor to be replaced has not already been removed from the engine, pull the cap off. On GM HEI distributors, unplug the pickup-to-coil harness from the cap. Do not remove the plug wires at this time. Crank the engine slowly until the rotor blade is pointed at a fixed point on the engine or firewall.

**Step 4** — Locate the connector in the wiring from the distributor to the ignition switch and unplug it.

**Step 5** — Note the position of the vacuum advance canister. Put a reference mark on the engine or firewall so that the new distributor may be easily installed in the same position.

**Step 6** — Loosen and remove the distributor hold-down bolt and clamp. Lift the distributor out. If the engine had been running within the past few minutes, the distributor housing may be hot and coated with hot engine oil. Wrap a shop towel around the distributor to avoid burning your hands and dripping oil.

**Step 7** — Lower the new distributor into position. The rotor should be pointing at the same fixed point as the discarded distributor and the vacuum canister aligned with the reference mark. After the distributor has been lowered into place, you may find that it hasn't seated firmly against the support boss. This indicates that the lower end of the distributor shaft is not properly aligned with the oil pump drive rod. Do not attempt to force the distributor into position.

**Step 8** — Reinstall the hold-down clamp and thread the bolt in just enough to exert a very slight pressure against the

distributor. If the distributor is not firmly seated, rotate the engine until it drops down into place.

**Step 9** — With the distributor properly seated, tighten the hold-down bolt just enough so that the distributor is held in place, but can still be rotated with a little effort. Again, make sure that the vacuum canister is aligned with the reference mark.

**Step 10** — Remove the plug wires one at a time from the old cap and install them in the corresponding positions of the new one. (On GM HEI distributors, it will also be necessary to transfer the coil and coil cover from the old cap to the new one.) After all wires have been transferred, verify that the wire in the terminal post that is aligned with the rotor does lead to number one cylinder. If you are unsure of cylinder number position or firing order, this information can be found in the service manual that covers your particular engine. Install the distributor cap.

**Step 11** — Reconnect the distributor-to-ignition switch wiring. On GM HEI distributors, plug the pickup lead connector into the new distributor cap.

**Step 12** — Connect a timing light. Start the engine and allow it to warm up sufficiently to idle smoothly. It may be necessary to rotate the distributor (either clockwise or counter-clockwise) before a smooth idle can be achieved. If the engine will not idle smoothly, the firing order may be incorrect or the rotor may not have been properly aligned during installation. Consult a service manual for corrective procedures.

**Step 13** — Consult the appropriate service manual to determine the factory recommended initial timing and idle speed. Set initial spark timing with the vacuum advance line disconnected and plugged. Advancing timing two to four degrees from the factory setting will usually provide improved performance and fuel economy. However, timing advanced beyond factory specifications may result in detonation, which can cause engine damage. Listen carefully — if you hear the engine knocking or pinging, retard initial timing as required to eliminate it.

**Step 14** — Insert the supplied 3/32" hex wrench in the vacuum canister nipple and rotate the adjusting screw counter-clockwise until it bottoms against its stop, then turn four complete turns clockwise. This is approximately 7° dist. (14° eng.) at approximately 12" vacuum. This is a starting point for the vacuum advance adjustment. If surging or pinging is noticed at cruise RPM turn the adjustment counter-clockwise until condition is no longer noticed. If more advance is needed turn adjustment clockwise. **NOTE: Ford retard chamber is not applicable on Accel "Blueprint Distributors." Block unused port.**

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## **Tips for Increased Performance and Gas Mileage**

Most distributors are equipped with two spark advance mechanisms. Centrifugal or mechanical advance is controlled by engine speed — as engine rpm increases, so does mechanical advance, up to a point. The total amount of mechanical spark lead (which varies according to the engine) is limited by a stop in the advance mechanism.

Vacuum advance is regulated by manifold vacuum which is a function of the load placed on the engine. Under light loads, such as when cruising at a steady speed on the highway, an engine can tolerate more spark advance than it can when under a heavy load such as when climbing a hill or accelerating at wide open throttle.

To optimize full throttle acceleration, a relatively rapid mechanical advance rate is required. This may be accomplished by replacing the existing springs with lighter ones. When experimenting with mechanical advance rates, first disconnect and plug the vacuum advance line. Then determine which combination of springs provides the quickest curve, yet allows

full throttle acceleration in high gear without pinging or knocking. You may find it necessary to mix spring rates.

Once the optimum mechanical advance rate is established, vacuum advance rate may be adjusted. Again, the procedure is to run as much advance as the engine will tolerate without detonating. To increase the vacuum advance rate, insert the supplied 3/32" hex wrench in the canister nipple and rotate it clockwise. Road test the car by accelerating at different rates, using part throttle in high gear. (High gear is suggested because lacking the torque multiplication of the lower gears, engine load is highest.)

If the engine does not ping or surge, insert the hex wrench in the canister nipple and rotate the adjusting screw in the clockwise direction. Road test the car again. If detonation is still not evident, repeat the adjustment/road test procedure until it is. Then slow down the vacuum advance rate by rotating the adjusting screw counter-clockwise, one turn at a time, until evidence of surge disappears.

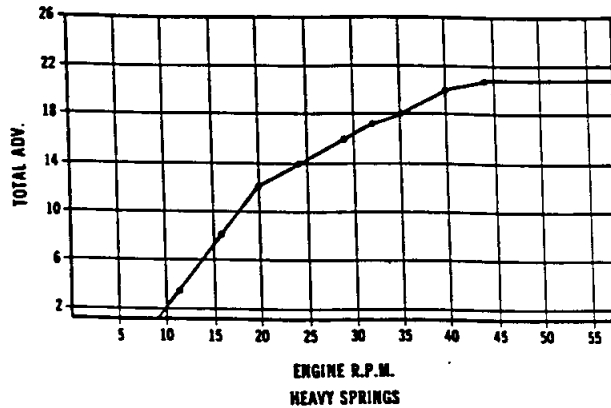
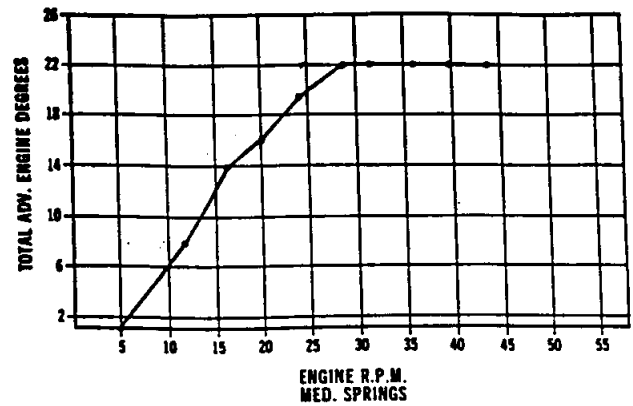
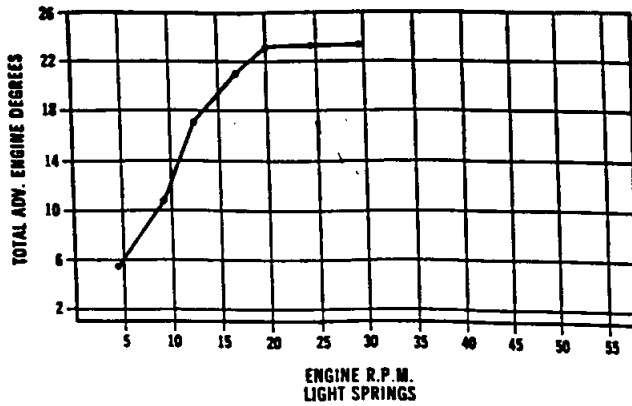
Your Accel Blueprint distributor is now calibrated to provide the optimum combination of performance and fuel economy.

**Insist on quality Accel parts for all your starting, charging  
and ignition system needs.**

**For further information on installing and adjusting this distributor - contact:**

**ACCEL Tech Services**

## ADVANCE CURVE CHARTS



The curves listed above represent only approximate curves. Variations could be caused by a variety of things. i.e. lack of lube - rust, or other than stock advance weights.

For optimum performance retain the stock HEI advance weights.

Recommended advance spring usage:

Tensions	Usage
Light .....	All drag racing
Medium .....	All V6 and small block V8 street engines, all round trackers
Heavy .....	All big block V8 street engines