



Installation Instructions for..... Chrysler Electronic Ignition Style Distributors Part #'s – SUM-851006 (LA), SUM-851007 (B), SUM-851008 (RB)

Notes: This distributor is a HP direct replacement for the Mopar Vacuum Advance Electronic style distributor. This distributor is designed for use with a Mopar style ECU, Wiring Harness, Ballast Resistor, and OEM style coil. This distributor will not work with fuel injection systems.

To familiarize yourself with the procedure of installing this new distributor in your Chrysler, please read ALL of these instructions before installing.

You should always disconnect the battery, negative lead first, before working on the ignition system.
When you are done reconnect the battery installing the positive lead first.

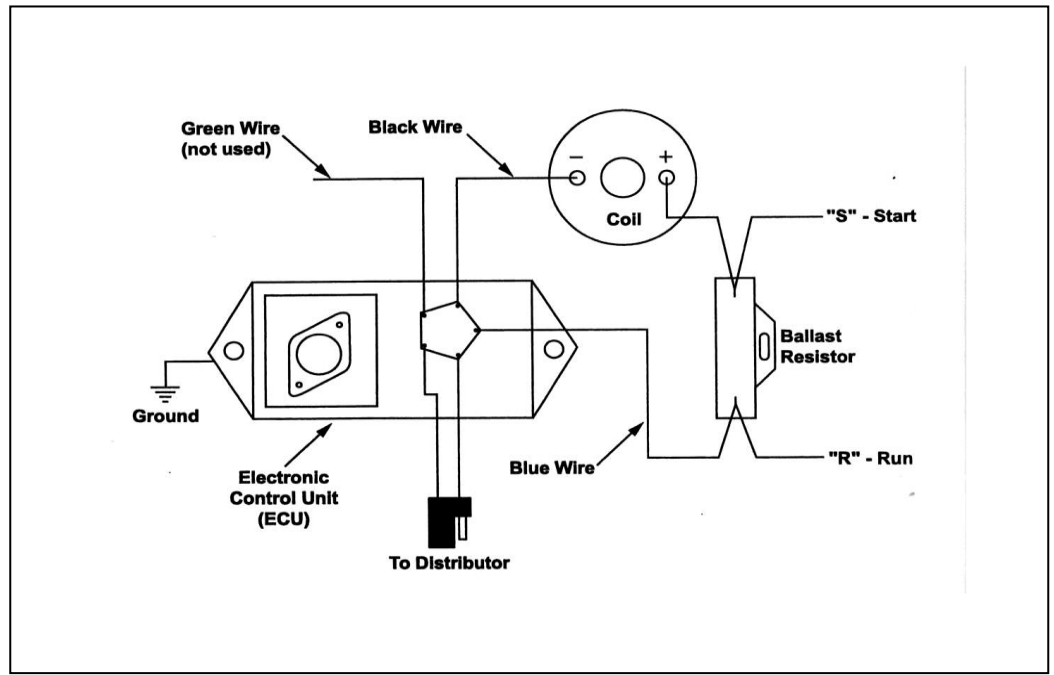
Included with the Distributor:

- 1 - Machined Billet V8 Distributor - w/ 2-pin style harness connector
- 1 - Rotor
- 1 - Distributor Cap
- 1 - Advance Curve Spring Kit with 2 Silver & 2 Black springs

Installation Instructions:

1. If the distributor to be replaced has not already been removed from the engine, remove its cap. Do not remove the spark plug wires from the cap at this time.
2. Crank the engine slowly until cylinder #1 (front cylinder on driver's side of engine) is at TDC. Note where the rotor blade is aimed at a fixed point on the engine (should be aimed at the front of the passenger side valve cover). **Note this point for future reference.**
3. Now put the existing cap back on the distributor. Note and mark which spark plug wire the rotor (blade) is pointing at and make sure that is going to #1 cylinder. Then number all the spark plug wires according to the firing order 1-8-4-3-6-5-7-2 and remove the spark plug wires. **Helpful note:** If in doubt, you can leave the wires connected to the old cap and then transfer them to the new distributor cap later in the process (see point # 9).
4. Unplug all external connectors coming from the distributor. **Note where they are routed and what they are connected to.**
5. Loosen and remove the distributor hold-down bolt and clamp. Lift the old distributor out.
6. Remove the cap from the new distributor. Apply a thin coating of engine oil to the O-ring and lower housing that seats into the block, on the new distributor. Lower the new distributor into position. Make sure the rotor blade is aimed at the same fixed point as was the rotor from the old distributor. After the new distributor has been lowered into place, you may find that it hasn't firmly seated with the rotor pointing at the marked spot. This indicates that the lower end of the distributor shaft is not properly aligned with the oil pump drive shaft inside the motor. You may have to use a screw driver to turn the oil pump drive shaft slightly so that the distributor seats firmly and the rotor lines up to with the mark. **Do not attempt to force the distributor into position.**
7. With the distributor properly seated, reinstall the hold-down clamp and tighten the hold-down bolt just enough so that the distributor is held in place, but can still be rotated with a little effort.
8. Double check the air gap between the reluctor wheel and magnetic pickup assembly with a non magnetic or brass feeler gauge. The air gap should be 0.007 - 0.020" on all eight points of the reluctor wheel. If not, loosen magnetic pickup assembly hold down screw, adjust the air gap accordingly and retighten the screw. Re-install the distributor cap.
9. One at a time, remove the plug wires from the old cap and install them in the corresponding positions on the new cap. **To confirm the spark plug wires have been transferred correctly, verify that the spark plug wire on the terminal post of the cap that the rotor is aligned with, leads to #1 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.
10. Connect the wiring leads from the distributor to the wiring harness as shown on Page 2

**Typical OEM
Wiring for
Muscle Car or
Street Rod
Installation**



Adjusting the mechanical advance & changing advance springs:

NOTES:

The mechanical advance curve in your new distributor is adjustable and can be custom tailored to meet most needs. To gain full access to the mechanical advance to change springs, it is best to have the distributor out of the engine. You can refer to the advance timing charts on [page 4](#).

Please keep in mind that how quickly the mechanical advance comes in, is controlled by the stiffness of the advance springs. Softer springs allow the advance to come in more quickly (low compression street engine)
Stiffer springs delay the advance curve until higher RPM's are reached. (race engine)

This distributor has factory installed the medium blue springs. This will generate a performance ignition advance curve that typically begins at 1200 RPM and generates 22-24° of crankshaft advance. The advance is fully in by 3200-3300 RPM. This mechanical advance curve will work in most street performance engines. Refer to pg. 4 for advance timing charts.

STEPS:

1. Remove the cap and rotor from the distributor. Carefully drive the roll pin out of the stop collar located on the shaft protruding from the bottom of the distributor. Remove the stop collar and thrust washer from the distributor shaft.
2. Disconnect the two wire leads inside the distributor that connect the harness to the magnetic pickup. **NOTE:** The terminals on these leads are designed so that you can't get them crossed when reinstalling the connections. One is male and one is female.
3. Remove the two large screws from either side of the outside of the bowl. These hold the breaker plates in place.
4. Push the shaft assembly upward until the lower advance plates are clear of the bowl – **NOTE:** Be careful as the shaft assembly is now free and can be completely removed from the bowl and lower housing. You can now see and work on the mechanical advance plates and springs. If you need the mechanical advance curve to come in more quickly, swap one or both of the blue springs for the silver springs. If you need the mechanical advance curve to come in more slowly, then swap one or both of the blue springs for the black springs. **DO NOT BEND THE SPRING PERCHES.** For more exact settings, please [refer to pg. 4](#).
5. The amount of mechanical advance is controlled by the two lower advance plates. There are two adjustment screws, one on either side of the advance plates. To adjust the total amount of mechanical advance, loosen the two screws and rotate the two advance plates. **DO NOT BEND THE ADVANCE TABS coming from the lower plate through the holes in the upper plate.** Using the optional Mopar Performance part number P5153446 advance curve key kit key, choose the correct key for the total amount of mechanical advance that is needed. The amount of crank shaft degrees is marked on each key. **Insert the FLAT side of the key toward the advance tab** and rotate the upper plate tightly against the key. Tighten the adjustment screws to 30lbs-inch
6. Reinstall in the reverse order.

Adjusting the Vacuum Advance:

The vacuum advance operates independently from the mechanical advance.

The vacuum advance canister is factory set to produce 5-7° of crankshaft advance at 15" of vacuum.

The amount of vacuum advance can be adjusted by inserting a 3mm hex head wrench into the hose nipple on the canister.

Turn the wrench **clockwise to increase** the amount of vacuum advance or **counter-clockwise to decrease**.

The vacuum advance canister is factory set, closely to the middle of the adjustment range. There are about 5-6 turns of adjustment in either direction.

Depending on your tuning strategy, you can either connect the vacuum advance hose to a manifold or a ported vacuum source.....

>> If you choose to use a **manifold** vacuum source, this will allow for vacuum to advance at **BOTH** idle as well as light load highway cruise.

>> If you choose to use a **ported** vacuum source, this will **ONLY** allow for vacuum advance at light load highway cruise.

Trouble Shooting Tips:

- The OEM style ECU **MUST** be grounded. With sand paper or wire brush, clean the mounting points on both the module and the surface where the module is to be mounted. Use external tooth lock washers & rust free mounting fasteners.

VERY IMPORTANT!!!!

- Use the appropriate ballast resistor and coil combination – **A combined Ω (ohm) rating of the coil's primary resistance and the ballast resistor should not exceed 2.2 Ω (ohms).**

NOTE: A higher total ohm rating will result in poor performance and WILL dramatically decrease the performance and life of the control module.

- Operation without the ballast resistor will damage the ECU & Coil.
- Use an OEM or OEM style Coil. **Do not use a CD style coil!!** This will damage the ECU.
- Make sure all connections are tight and free of corrosion.

• If vehicle has a history of ECU problems.....

1 > Check voltage between Coil (+) and a good ground.

To do so....

Turn key to "Run" position...

Touch the POSITIVE test lead from the voltmeter to the (+) side of the coil

Touch the NEGATIVE test lead from the voltmeter to a good clean ground

..... volt meter should read between 7.0 and 9.0 volts.

If voltage is higher than 7 to 9 volts... **turn key off immediately!**

2 > Check for the following....

ballast resistor resistance too low.

ballast wiring

shorted coil

ignition switch wiring, etc.

- **Quick Wiring Check:** Disconnect either wire coming from the ballast resistor, when engine is at idle. Engine should stall immediately.

TIMING ADVANCE CHARTS

