Chevrolet V8 Distributor Installation instructions

**Please read ALL of these instructions before installing.......**

These instructions will help you to install a Chevrolet V8 distributor with Mechanical Advance or Mechanical with Vacuum advance or the RTR™ style distributor. 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.

The drive gear installed on this distributor is melonized and therefore compatible with flat tappet or hydraulic roller camshafts. If this distributor is being used with a mechanical roller camshaft, a bronze or other such compatible gear for a 0.500” shaft, will need to be purchased and installed on this distributor.

**Included with the distributor:**
- 1 - Machined Chevrolet V8 Distributor
- 1 - Distributor Cap & Rotor
- 1 - Wire Retainer with screws
- 1 - Advance Kit
- 1 - Harness (for RTR distributor only)
- 1- Advance lock out kit

**How to Install the Distributor:**

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 at this time.
2. Crank the engine slowly until the rotor blade aims at a fixed point on the engine or firewall. Note this point for future reference.
3. Unplug all external connectors coming from the distributor.
4. Now put the existing cap back on and note and mark which spark plug wire the rotor (blade) is pointing at. Then number the wires according to cylinder and remove the wires. If in doubt you can leave the wires connected to the old cap and transfer them to the new cap later in the process (see point # 9).
5. Loosen and remove the distributor hold-down bolt and clamp. Lift the old distributor out. At this point the rotor may move from its position. Note the direction of movement. The rotor is moving due to the helical cut teeth on the distributor gear.
6. Install the gasket and lower the new distributor into position. Please note that the rotor will move in the opposite direction as when the removing the old distributor. When the distributor is fully seated make sure that the rotor 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 seated firmly against the intake manifold. This indicates that the lower end of the distributor shaft is not properly aligned with the oil pump drive. Do not attempt to force the distributor into position.
7. Either remove the distributor and use a long screwdriver to turn the oil pump shaft until it properly aligns with the distributor shaft, or reinstall the hold-down clamp and thread the bolt just enough to exert a very slight pressure against the distributor. Then manually rotate the engine until the distributor drops down into place. When the distributor is fully seated make sure that the rotor is aimed at the same fixed point as was the rotor from the old distributor.
8. 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.
9. Remove the plug wires one at a time from the old cap and install them in the corresponding positions of the new cap. After all wires have been transferred, verify the wire in the terminal post that is aligned with the rotor, leads to number one cylinder. If you are unsure of cylinder number position or firing order, this information can be found in your service manual. Install the distributor cap.
10. Once the engine is started, use a timing light to verify that the initial timing is set correctly.
Mechanical Advance Stop Bushing

The stop bushing limits the total amount of mechanical advance that the distributor can produce. The distributor comes equipped with a Blue 21° crankshaft degrees advance stop bushing already installed. There are 3 different mechanical advance stop bushings included in the installation hardware kit. If a different amount of total mechanical advance is desired, follow the procedures to change the bushings.

Bushing Sizes:

<table>
<thead>
<tr>
<th>Red</th>
<th>Silver</th>
<th>Blue</th>
<th>Black</th>
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<tbody>
<tr>
<td>28°</td>
<td>25°</td>
<td>21°</td>
<td>18°</td>
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How to change the Mechanical Advance Stop Bushing....
1. Remove the distributor cap and rotor.
2. Remove the locknut and washer on the bottom of the advance assembly.
3. Remove the bushing and install the new one.
4. Install the washer and locknut, the distributor rotor and cap.

How to set up the Mechanical Advance Lock Out....
1. Remove the advance components including the springs, weights and the advance stop bushing from the advance assembly.
2. Remove the roll-pin from the drive gear and remove the gear thrust and spacer washer from the shaft.
3. Slide the shaft two inches out of the housing.
4. Rotate the shaft 180° and insert the advance stop bushing pin into the small hole on the advance plate.
5. Install the locknut and washer to the advance stop bushing pin. This locks the advance in place.
6. Install the drive gear and roll-pin.

Mechanical Advance Curve – Spring Selection

This distributor comes equipped with the Blue medium tension mechanical advance springs installed along with a Blue mechanical advance stop bushing. This produces a mechanical advance curve of approximately 21° crankshaft degrees, beginning at approximately 1000 RPM and all in by approximately 3200 RPM.

In the included installation hardware kit you received two sets of optional mechanical advance springs. The silver-metallic springs are heavy tension and the light silver springs are light tension. The springs can be used in sets or mixed depending on the advance curve you desire. To change the springs you will need needle nose pliers. First remove the distributor cap and rotor. You will find the springs under the rotor. Take the needle nose pliers and carefully lift the springs off their posts (so you can reuse them if needed). Do not lose the spacer bushings under the springs. When installing the new springs make sure that the eyelet of the spring sits completely in the groove on the post. Please see the mechanical advance curve charts to select the curve and springs that will produce the mechanical advance curve best suited for your engine.
Wiring the Mechanical with vacuum advance 2-wire distributor....

A separate ignition system must be installed with this distributor for it to run at all. To install this distributor correctly, please refer to the instructions that come with the ignition control box you choose to use with this distributor. This distributor has the correct color code for the 2 leads coming out of the distributor.

Black wire with Orange tracer = Positive (+)  Black wire with Violet tracer = Negative (-)

Wiring the RTR™ 3-wire distributor......

The RTR 3-wire distributor has an internal ignition module and does not require an external ignition control box to run. There are (3) wires coming out of the distributor, leading into a Weather Pack 3 pin connector. These plug into the mating Weather Pack 3-pin connector on the harness that is in the installation hardware kit. The connection of the ring terminal ends that are attached to the Red, Orange, Black wires on the pigtail harness in the accessory bag, are noted below.

Red: Connect to Coil (+)  Orange: Connect to Coil (-)  Black: Connect to engine, frame or chassis ground

Harness installation connection instructions...

Note: Check to see that your coil location will reach the distributor when wired.

Step 1 Remove the two wires from the positive and negative towers on your old ignition coil. You will not need these wires.

Step 2 Slide the red wire on the harness, with “O” ring terminal over the positive (+) terminal on the coil. Slide the orange wire over the negative (-) terminal of the coil. Put the nuts and lock washers onto the terminals of the coil and tighten (do not over tighten).

Note: A coil with 0.7 Ohms primary resistance or LESS- MUST BE USED - or the RTR board WILL BE DAMAGED and void your warranty.

Step 3 Install the ground or black wire with “O” ring terminal to a nearby solid ground.

Step 4 Plug the two mating Weather Pack connectors together.

Note: Weather Pack connectors will only plug together one way. Make sure the connectors are locked together.

Note: To install with an external ignition control source, please refer to the instructions that come with the ignition control.

Adjusting the Vacuum Advance:

The vacuum advance operates independently from the mechanical advance. If the distributor comes equipped with a vacuum advance canister, it is designed to produce a TOTAL of approximately 10° crankshaft degrees at advance, starting at a vacuum signal of 6” of Hg and all in at a vacuum signal of 18” Hg.

The vacuum canister on this distributor is factory set to produce 5-7° of crankshaft advance at 15” of vacuum. The amount of advance can be adjusted by inserting a 3mm hex head wrench into the hose nipple on the canister.

NOTE: 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.

Turn the wrench clockwise to increase the amount of vacuum advance. If you hear an audible pinging coming from the running motor, rotate wrench counterclockwise until pinging stops.

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

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 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.

How to install the Vacuum Advance Lock-Out....

If for whatever reason the vacuum advance canister needs to be removed from the distributor, there is a vacuum advance lock-out included in the installation hardware kit. This is best done prior to installing the distributor into the engine.

NOTE: If you choose to remove the vacuum canister, make sure to plug the vacuum port.

1. Remove the distributor cap and rotor.
2. Remove the roll-pin from the drive gear and remove the gear thrust and spacer washer from the shaft.
3. Slide the shaft about two inches out of the housing. If this does not yield enough working room, you can remove the shaft assembly from the distributor housing. Please note there are numerous spacers and shim on the shaft that can slide off if you are not careful.
4. Remove the two screws holding the vacuum canister in place.
5. Remove the snap ring that holds the magnetic pickup assembly in place.
6. Carefully lift up on the magnetic pickup plate and remove the vacuum advance canister.
7. Install the Black plastic vacuum advance lock-out in place of the vacuum canister. Secure w/ two screws.
8. Lower magnetic p/u assembly plate back into place. Make sure it is level. Reinstall the snap ring.
9. Lower shaft assembly into housing. Turn the shaft to ensure the reluctor wheel does NOT contact the magnetic pickup.
10. Install the thrust washer, shim, drive gear and roll pin. Install the cap and rotor.

**Engine modifications are required if using O-rings on your distributor**

**O-Ring Installation instructions...**

*Warning!* The installation hardware kit includes two O-rings for use on the lower distributor housing. These O-rings **MUST NOT** be installed on the distributor **unless** the engine block has been specifically machined for their use.

**NOTE:** Most engines were not machined for the use of the O-rings. Installing a distributor with these O-rings in engines that was not machined for their use will damage the O-rings. Debris from the damage O-rings will end up in the crank case and could lodge in oil galleys resulting in severe engine damage.

**GENERAL INFORMATION...**

Some distributors for Chevrolet engines have TWO O-ring grooves on the lower shank. These distributors require the engine block’s distributor hole and oil galley holes to be chamfered approximately 0.060" x 30°. This is to remove the sharp (cutting) edges of the distributor hole and oil galley holes.

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*NITRILE O-RINGS*

OD= 1.165" +/- .020
THICKNESS= .0735" +/- .003

REV 7 (1-18)