HEI Kit Installation Instructions

For Summit part numbers: SUM-850030, SUM-850031, SUM-850032

Parts Included:
1 – HEI distributor cap with brass terminals
1 – HEI coil w/ silicone washer and carbon contact brush (all installed in cap)
1 – HEI coil dust cover (installed on cap)
1 – HEI distributor rotor
1 – HEI wire retainer
1 – HEI vacuum advance canister (adjustable) with Allen wrench
1 – Set of HEI mechanical advance weights, E-clips, pivot pin washers
1 – HEI 4-pin module, wiring harness and packet of white thermal grease
3 – Sets of mechanical advance springs (HD silver, medium blue, LT silver)

This complete process should be done with the distributor out of the engine.

1. Remove the harness connector from the distributor cap.

2. Remove the distributor cap assembly as a whole unit from the distributor.

3. Remove the rotor from the top of the distributor shaft.

4. Remove the 2 mechanical advance springs from the posts. Remove the 4 “E” clips from the advance weight and cam plate pivot pins. Remove the cam plate. Remove the mechanical advance weights.

   **Note:** Look for washers or bushings under the weights on the pivot pins. Clean and inspect the washers or bushings for wear. You will be reusing them. Clean and inspect the 4 pivot pins for excessive wear.

5. Remove the 2 screws holding the vacuum advance canister in place. Set them aside as you will be reusing them. Rotate the magnetic pick-up assembly enough allow the actuating rod on the vacuum advance canister to clear the support pad on the base of the distributor housing bowl. Use a 1/8” punch or equivalent to push the end of the actuation rod down thought the hole in tab on the magnetic pick up assembly. While holding the rod down, twist the vacuum advance canister to allow its removal.

6. **IMPORTANT:** Check the lateral run out of the shaft assembly in the distributor housing. Make sure the shaft and bushing do not have excessive wear. Ensure that the distributor shaft rotates smooth with no wobble or binding. If any of this is happening, you may need a whole new distributor.
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7. Install the new vacuum advance canister using the same twisting motion you did to remove the old canister. Locate the vacuum advance canister over the threaded mounting holes and secure using the same screws from the original distributor. Make sure the actuating rod is not rubbing against anything on the bowl of the distributor. It takes some effort to move the actuating rod because you are working against the spring loaded diaphragm in the Vacuum Advance canister.

8. Remove the 3 screws that secure the 4-pin module and wiring harness in the distributor bowl. Set the screws aside as you will be reusing them. Unplug the module from the magnetic pickup assembly. Clean the module mounting pad area of the distributor bowl with brake clean to remove any old thermal grease residue.

9. Apply a small amount of clear dielectric grease (not included) onto the 5 female spade terminals of the new harness and into the 4 male spade terminals of the new module. Apply the white Titanium dioxide thermal grease (included) to the bottom metal plate of the module and onto the mounting pad area of the bowl, where the module sits. The purpose of the white thermal grease is to transfer heat from the module into the aluminum distributor housing. **NOTE:** DO NOT use clear dielectric grease on the bottom metal plate of the module.

10. Plug the wiring harness connector into the module spade terminals labeled “B” and “C”. Route the new wiring harness out of the distributor housing in the same path as the old unit. Plug the magnetic pick assembly connector into the module spade terminals labeled “W” and “G”. Mount the module and wiring harness assembly in place using the original screws.

11. Apply a high quality grease to the 4 pivot pins. Install the new cam plate on the inner pivot pins, making sure it is fully seated and secure with the new E-clips. Install the new mechanical advance weights on the outer pivot pins using the old bushings and/or washers. Install E-clips. Check for free rotational movement after installing the E-clips. If you have too much free vertical movement of the advance weights on the pivot pins, you can use the thicker washer supplied in the hardware kit. Re-check for free rotation movement. **It is very important that the advance weights move freely and do not bind.**

12. Select the mechanical advance springs to install by reviewing the mechanical advance curve sheet (page 4) that best matches your engines needs. Install the new mechanical advance springs on the pivot pins.

13. Install the new rotor. **Note:** There is a cutout in the rotor that is to be indexed with the notch on the cam plate. Install the new cap assembly which contains the cap, coil and wiring, silicone seal, carbon brush and coil dust cover onto the distributor housing. There is an alignment tab on the inside edge of the cap that fits into an alignment slot in the distributor bowl. Route the wires from the module harness coming out of the distributor housing and plug the connector into the correct position in the cap. **Note** that there is an alignment tab to make sure that the connector can only plug in one way.
14. Apply a liberal coating of engine oil to the drive gear to insure adequate lubrication during the first startup. Re-install distributor in the engine as per the vehicle service manual instructions. Connect the vehicle wire harness to the distributor cap. You may wish to elect to use the available Summit 1-Piece pigtail harness, part# SUM-G5211 when connecting the distributor to the vehicle harness. Install the ported vacuum line to the vacuum advance canister.

15. Install the spark plug wires to their respective cap terminals and to the spark plugs. Check that the #1 cylinder is correctly located on the cap and that you have maintained the proper firing order of your spark plug wires. Reconnect all vacuum hoses. Snap on wire retainer over wires and onto the cap. There are alignment tabs on the coil dust cover so that the retainer can only be installed one way.

16. Start the engine. **If the engine will not run or idle smoothly, re-check that you have maintained the proper firing order of your spark plug wires.** Connect a timing light per instructions that came with the timing light. Set the initial base timing per the vehicle service manual instructions. Advancing the initial base timing 2 to 4 degrees from the factory setting will usually provide improved performance and fuel economy. **However,** timing advanced beyond factory specifications **may also result in detonation, which can cause engine damage unless you use higher octane fuel.** Test drive the vehicle. If spark knock occurs under load or at full throttle, retard initial timing as required, to eliminate spark knock. You can use stiffer mechanical advance springs included in the kit, to delay the amount of the mechanical advance. Refer to page 4 for timing diagrams.

17. To adjust the vacuum advance canister, shut off engine, remove the vacuum line from the advance chamber. Using the supplied allen wrench, insert it through the vacuum port in the vacuum advance canister, as shown in the picture below. Turn clockwise until it stops, to adjust in the maximum amount of vacuum advance. See drawing below. **NOTE:** You may have to adjust counterclockwise, later, to remove some of the vacuum advance; to achieve the correct advance for you specific engine / vehicle.

18. Re-connect the vacuum hose to the vacuum advance canister. Test drive the vehicle. If spark knock occurs under light load or part throttle cruise, an adjustment to the vacuum advance is necessary. Remove the ported vacuum line to the vacuum advance canister port. Insert the supplied Allen wrench and turn 2 turns counter-clockwise. Test-drive the car and repeat the adjustments until the spark knock is eliminated.

If you are uncertain as to any process, to avoid possible engine damage contact your personal automotive repair person for their assistance. You can also call the Summit Racing Technical Department @ 330-630-0240

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Timing charts for different advance springs

**Timing Curve - 2 LT Silver Springs**

**Timing Curve - 2 Blue Springs**

**Timing Curve - 2 HD Silver Spring**