



Installation Instructions

Billet Magnetic Trigger Distributors (688-Series)

Parts included:

- 1 - Distributor
- 1 - Ignition Wire Retainer
- 2 - Wire Retainer Screws
- Optional mechanical advance springs

Please read these instructions before installing!

The 688000/1 are a “slip collar” design. This allows for varying deck heights and accurate engagement with the gear on the camshaft. Follow the setup instructions on page 2.

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 gears installed on these distributors are compatible with flat tappet camshafts only. If you are installing a hydraulic or mechanical roller, a steel or bronze distributor gear may be required. See the list at the end of this document for specific shaft sizes.

1. If the distributor to be replaced has not been removed from the engine, remove the 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 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 and distributor 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 spin and move from its position. This is because of the distributor gear (some applications).
6. Install the gasket (if applicable) and lower the new distributor into position. The rotor should be 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 or block. 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.
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. Manually rotate the engine until the distributor drops down into place.
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 that 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 the service manual that covers your particular engine. Re-install the distributor cap.

688-Series distributor wiring

The 688-Series distributors require an ignition box to run, such as an MSD etc.

There are 2 wires coming out of the distributor, terminating with a 2-pin "MSD Style" connector. The wire colors are Black/Orange and Black/Blue. These will plug into the mating 2-pin connector on your ignition box. If the ignition box you are using has a different style connector, it can be changed to another connector such as the WeatherPack (PW#320402) or Molex MLX (PW#320602) (sold separately)

Wire as follows:

Black/Orange: (+) Connect to magnetic trigger "+" on your ignition box (eg. MSD Violet wire on the 2-pin connector)

Black/Blue: (-) Connect to magnetic trigger "-" on your ignition box (eg. MSD Green wire on the 2-pin connector)

Note: Always refer to the ignition box manufacturer's instructions for proper color coding.

Locking Out the Centrifugal Advance

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 distributor gear and remove the gear 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 opposing 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.

Adjusting the slip collar

Before installing the 688000/1 Distributor, the slip collar must be set.

1. Place the gasket on the housing and loosen the slip collar. Install the distributor into the engine until it bottoms out.
2. Then, raise the distributor 0.010" - 0.030", slide the slip collar down and tighten it securely.

Checking gear mesh

Always check for proper mesh between the cam gear and distributor gear.

1. Coat the distributor gear with moly grease and install the distributor.
2. Crank the engine over several times.
3. Remove the distributor and inspect the gear pattern. Proper mesh will leave an even pattern in the middle area of the gear. Adjust the slip collar as necessary.

Checking oil pump to distributor shaft engagement

Proper engagement between the distributor shaft and the oil pump shaft is critical. The slot of the distributor shaft should fit into the groove of the oil pump shaft by at least 1/4".

1. Measure the distance between the base of the slip collar to the tip of the distributor shaft.
2. Using a straight edge, measure the distance from the intake manifold contact flange to the top of the oil pump intermediate shaft.
3. Subtract the two measurement and the difference is the overlap. If there is not enough, or too much clearance, a different intermediate shaft may be required.

Shaft sizes for distributor gears:

688000/688000BK - .500"

688001/688001BK - .500"

688002/688002BK - .467" or .491" (PW #684039 or 686212 gear available)

688003/688003BK - Can not be changed

688004/688004BK - Can not be changed