



Installation Instructions

P/N 60004-SMALL BLOCK FORD CRANK TRIGGER KIT

This crank trigger kit has been specifically made to fit a Small Block Ford with a maximum diameter crank hub or damper of 7-1/4". The design gives the unique option of mounting the Non-Magnetic Sensor on either the right or left hand sides of the block. If your application is for an engine other than a Small Block Ford, please refer to the Moroso catalog for other applications including; Big Block Ford, Chrysler and Chevrolet crank trigger kits. Please read the instructions completely before installing this kit.

PARTS INCLUDED:

1 - Crank Trigger Wheel Assembly	1 - SBC Mount Arm	2 - 3/8-16 x 1.5" SHCS
1 - Crank Trigger Sensor	1 - Sensor Mount	4 - 3/8-16 x 1" SHCS
6 - Aluminum Spacers	6 - 5/16" Washers	2 - 5/16-24 x 1.5" SHCS
4 - 5/16" Split Lock Washers	4 - 3/8" Washers	4 - 3/8" Split Lock Washers
1 - Connector	2 - Female Sockets	
1 - Mount Support	1 - 1" Hex Jam Nut	4 - 3/8-24 x 1" SHCS
2 - 5/16-18 x 3" SHCS		

NOTE: When mounting any of the specified bolts to the engine, Moroso recommends that they be installed with some type of sealant such as Loctite #242. This is to overcome the high vibration ranges which the components are subjected to. Tightening torque's of 20 ft./lbs. for 5/16" bolts, 30 ft./lbs. for 3/8" bolts and 40 ft./lbs. for 7/16" bolts are recommended. Please refer to the exploded view in Fig 2 for the overall assembly of this crank trigger kit.

INITIAL ENGINE TIMING

Set your engine to the desired timing by turning the engine over until the #1 cylinder is under compression and the desired timing mark on your damper or crank hub is lined up with the T.D.C. pointer (Example: 36° B.T.D.C.). This will be the timing that your Crank Trigger will be initially set to. Do not change this setting until the Crank Trigger is completely installed and your Sensor is correctly aligned. This will be discussed further in the "ENGINE TIMING AND ADJUSTMENTS" section.

CENTRIFUGAL ADVANCE

If your distributor is equipped with centrifugal advance, it must be locked out by either bolting or welding the advance mechanism.

ROTOR PHASING

To check the phasing of your rotor, cut a hole in an old distributor cap so you will be able to see one of the interior terminals. Install it on your engine with all of the correct ignition wires and run your engine at a steady RPM. Connect a timing light to the ignition wire on the terminal you are to examine. All of the terminals should be consistent with each other so there is no need to check all 8. For distributors without vacuum advance, the center of the rotor's tip should align with the center of each distributor cap terminal when the ignition spark occurs. If your distributor has vacuum advance, the rotor tip should be just before the distributor cap terminal with the vacuum advance connected. With the vacuum advance disconnected and plugged, the rotor tip should be just past the distributor cap terminal. If you need to correct any misalignment, rotate the distributor housing the amount needed. This will not effect your timing because that will now be controlled by your crank trigger.

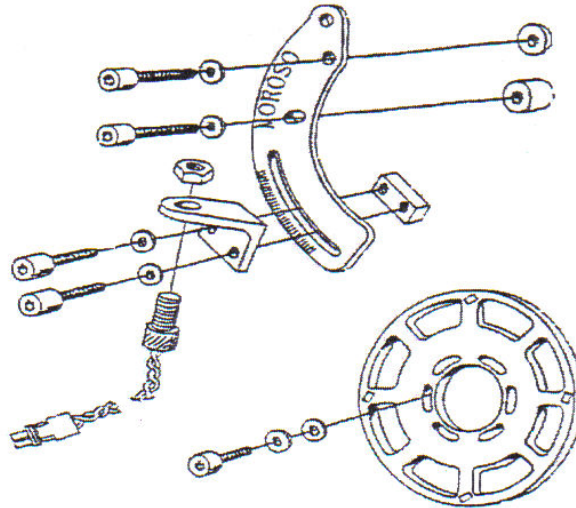


FIGURE #1

MOUNTING THE CRANK TRIGGER WHEEL

Mount the Crank Trigger Wheel on the engine damper using the specified cap screws and washers (See Fig. 1). Both coarse and fine threaded cap screws have been included to match the various damper needs. These fasteners should all be hand tightened and then torqued in a star pattern to avoid binding or warping the wheel. The counter bore on the wheel is designed to center it on the raised center section (register) of the crank hub or vibration damper used. The Crank Trigger Wheel will seem to snap into place on the correct size register.

INSTALLATION OF SENSOR AND MOUNTING HARDWARE

1. Using the Mount Support, the correct cap head screws and washers, attach the Sensor Mount onto the Mount Arm with the notch on the Sensor Mount aligning with the radial notches on the Mount Arm.
2. Thread the 1" Jam Nut onto the Sensor and screw the Sensor into the Sensor Mount towards the center of the Mount Arm's curvature until it slightly protrudes through the opposite side.
3. Attach this Mount Arm assembly onto the engine using the correct bolts, washers and the needed amount of spacers for your type of motor plate. The center of the Sensor should align with the center of the Crank Trigger Wheel's overall thickness. This can be accomplished by adding or subtracting spacers and washers behind each bolt on the mount arm (See Fig. 2).

It is pertinent that the curvature of the Mount Arm aligns radially with the wheel when mounted on either side of the engine. This is done so that when adjustments are made to the Sensor, the distance between it and the magnets remain at a constant. If this is not the case, check the bolt hole pattern for the Mount Arm on the engine to make sure you are using the correct hole combinations. The front face of the Mount Arm should also be parallel to the front face of the Crank Trigger Wheel.

4. Slide the Sensor and Mount Support in the slot until the center of the Sensor is aligned with the trailing edge of the magnet on the wheel. If the magnet is positioned on either edge of the Sensor's range inside the slot or is not within the Sensor's range at all, you will have to remove the wheel and reposition it so that one of the magnets is in the center of the Sensor's range.
5. Screw the Sensor into the Sensor Mount until an air gap $.035 \pm .015$ has been achieved between it and the Crank Trigger Wheel. Once this is completed, hold the hex end of the Sensor with a $3/4"$ wrench and tighten the 1" Jam Nut on the Sensor to lock it into place. Do not over tighten the Jam Nut on the Sensor! Rotate the engine by hand and check the distance to the wheel for all four magnetic lugs. If the distance varies more than $.010"$, you must go back and re-center your wheel on your damper.
6. Run the wires and connector coming off the Sensor to the Ignition Control Unit. To suppress noise from electromagnetic fields which can emit from other ignition components and possibly distort the Sensor's signal, it is preferred to run the wires near the frame or engine if possible. Try to avoid routing the Sensor wires near spark plug wires or any of the wires running from your Ignition Control Unit to your coil. Do not route the Sensor wires through the same hole in the firewall, body, panel, etc. that your coil or ignition wires are going through. Do not route the wires near areas of extreme heat or fluid contamination.

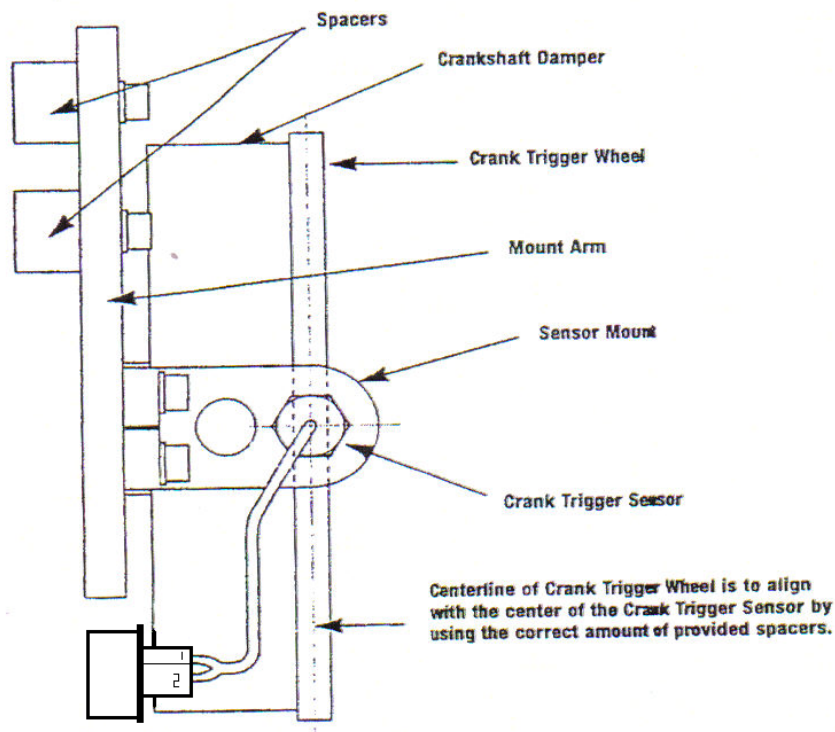


FIGURE #2

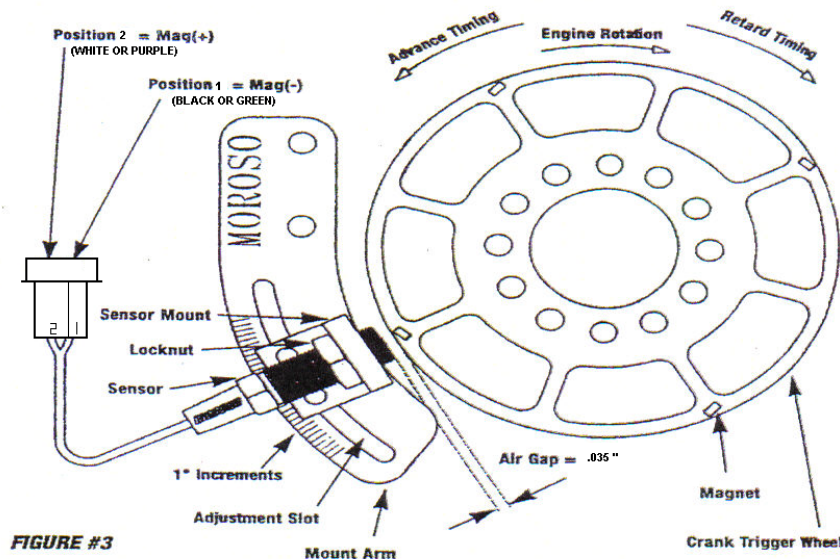


FIGURE #3

NOTE: The connector on the magnetic pickup will attach to most ignition control units. If there are any discrepancies in attachment, the black or green wire is the magnetic pickup negative (-). It should be inserted in position "1". The white or purple wire is the magnetic pickup positive (+). It should be inserted in position "2". Before connecting any wires, please check the manufacturers wiring diagram of your ignition control amplifier for the proper wiring and layout. Also note that a mating connector has been included in this package to mate to the sensor for your convenience.

ENGINE TIMING AND ADJUSTMENTS

Your engine should still be set to it's desired timing discussed in "INITIAL ENGINE TIMING" section. The following steps will show you how to correctly align your Sensor with your Crank Trigger Wheel Magnets and how to adjust the timing with the Sensor.

1. Loosen the bolts on the Sensor Mount and slide it in the Mount Arm slot until the center of one of the closest magnetic lugs on the wheel aligns with the center of the sensor. Tighten the Mount bolts to their correct torque and check the Sensor/Crank Trigger Wheel air gap.
2. Run your engine at idle speed and check the timing on the engine. If it is off more than 10° from your initial timing setting, check the wire connections on the Sensor to make sure they are correct.
3. To advance the timing, Loosen the bolts on the Sensor Mount and slide it in the opposite direction of the Crank Trigger Wheel rotation (Use the 1° radial incrementations on the Mount Arm as a reference). To retard the timing, slide the Sensor Mount in the same direction of the Crank Trigger Wheel Rotation. These adjustments will work whether the sensor is mounted on the left or the right hand side of the engine block.
4. Make sure that your Sensor Mount bolts are correctly tightened after each timing adjustment.

**For Technical Assistance, Call Moroso's Tech Line at
(203) 458-0542, 458-0546 8:30am – 5:00pm Eastern Time**

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