

Instructions

B&M StarTek Starter

(see www.bmracing.com for the latest vehicle fitment applications and model years)

Part Number 77103, Big Block Ford V8, 390, 427, 428

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Proper installation of your *StarTek* Starter is essential to trouble free operation. Correct alignment and spacing is required. Please read all instructions before installing your new high performance starter.

INTRODUCTION

This starter can be installed in about an hour by carefully following the instructions. It is suggested that the vehicle be allowed to cool off for a few hours to avoid burns from hot parts, especially any exhaust which might be near the starter. The vehicle should be off the ground for ease of installation - jack stands, wheel ramps or a hoist will work fine. **MAKE SURE VEHICLE IS FIRMLY SUPPORTED - DO NOT WORK UNDER A VEHICLE IF IT IS SUPPORTED BY ONLY A JACK!** Try to raise the vehicle 1-2 feet so you will have plenty of room to work.

INSTALLATION

STEP 1. Disconnect the battery cables, removing the negative cable first.

STEP 2. Remove the old starter, and make sure the mounting flange is clean and burr free.

STEP 3. Before mounting your new starter, measure the distance from the front (or engine side) of the ring gear to the starter mounting surface.

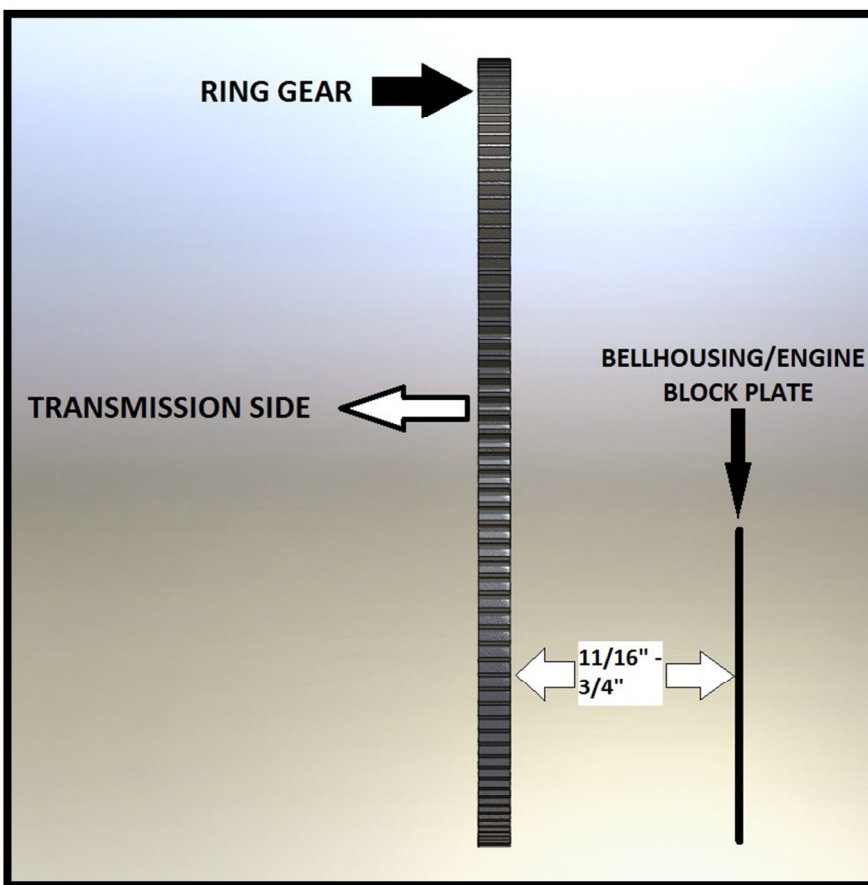


Figure 1: Measuring Bellhousing to Ring Gear

(See Figure 1.) For this starter application, the distance should be 11/16" to 3/4".

If the distance is less than 11/16": Remove the three front mounting block bolts and remove the block. Install the outer shim and shim ring. This will move the

pinion away from the ring gear by approximately .060", or 1/16". Re-Torque bolts to 8 ft-lbs. (See Figure 2.)

If the distance is greater than 3/4":

The application is incorrect for the

starter being used.

STEP 4. Mount the starter. With the starter in position, make sure the solenoid housing has maximum clearance from heat sources and other components. The starter can be clocked in three different locations on the mounting block to obtain the best position. To re-clock the starter, first remove the starter, then remove the mounting block bolts and re-position accordingly. Re-Torque to 8 ft-lbs. Please see Figure 3.

STEP 5. Connect the solenoid switch wire. With the amperage being considerable (~30A) to pull the bendix, B&M recommends 12 Ga. wire as a minimum. Figure 4 shows wiring without a remote solenoid, Figure 5 shows wiring with a remote solenoid. While your B&M starter does not require a remote solenoid, it is generally easier to keep as much of the original wiring as possible. **Note:** If your original starter had a second terminal, or “R” terminal, this can generally be omitted. Please see trouble shooting information at the end of this procedure for further information.

STEP 6. Connect the main cable to the starter. Please see Figures 4 and 5 for reference. Because of the high amperage required to turn the starter motor, it is important to size the wire in accordance to its length. Keep in mind to size all ground wires accordingly also, these are carrying equal current. Please see Table 1 for cable length versus gage recommendations.

STEP 7. Reconnect the battery terminals, starting with the positive and ending with the negative.

STEP 8. Start the engine. In order to not exceed the duty cycle of the starter, please do not operate the starter for more than 30 seconds at a time. Allow the starter to cool at least two minutes between repeated cycles.

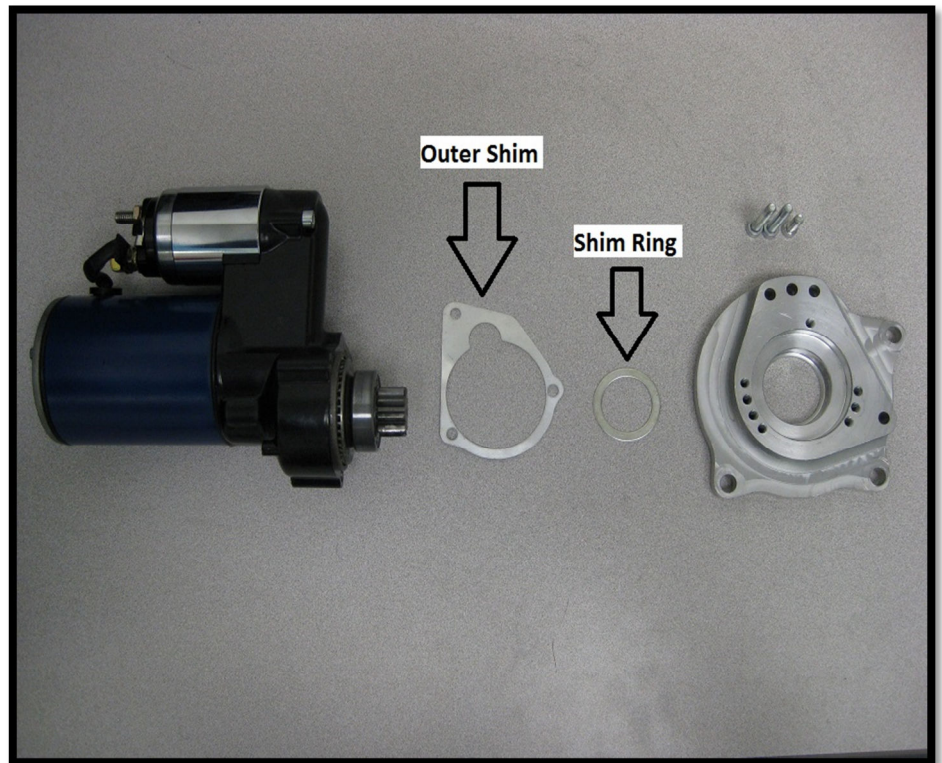


Figure 2: Starter Shim Assembly, (If Required)

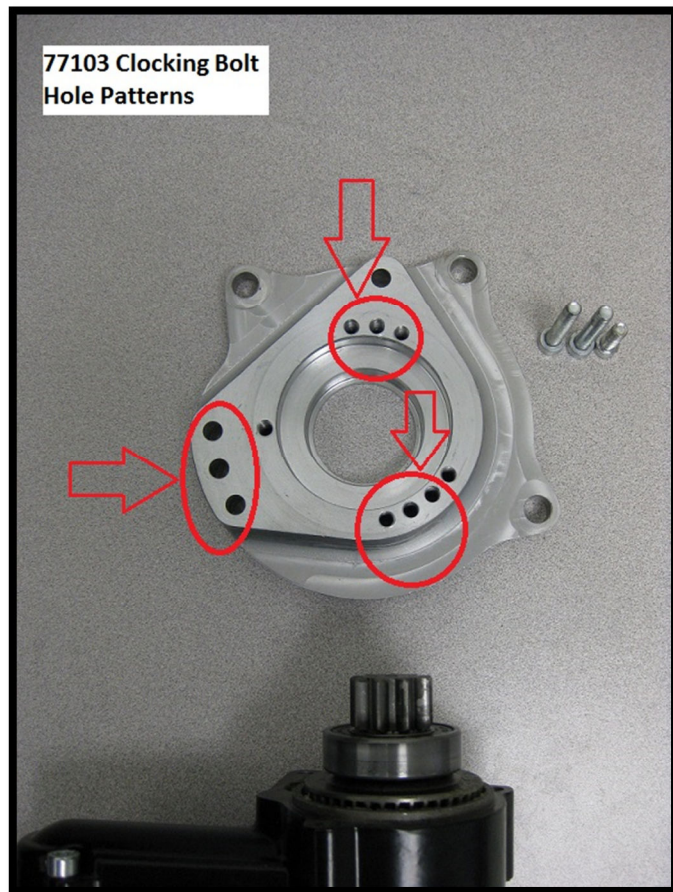


Figure 3: Re-Clocking the Starter for Clearance

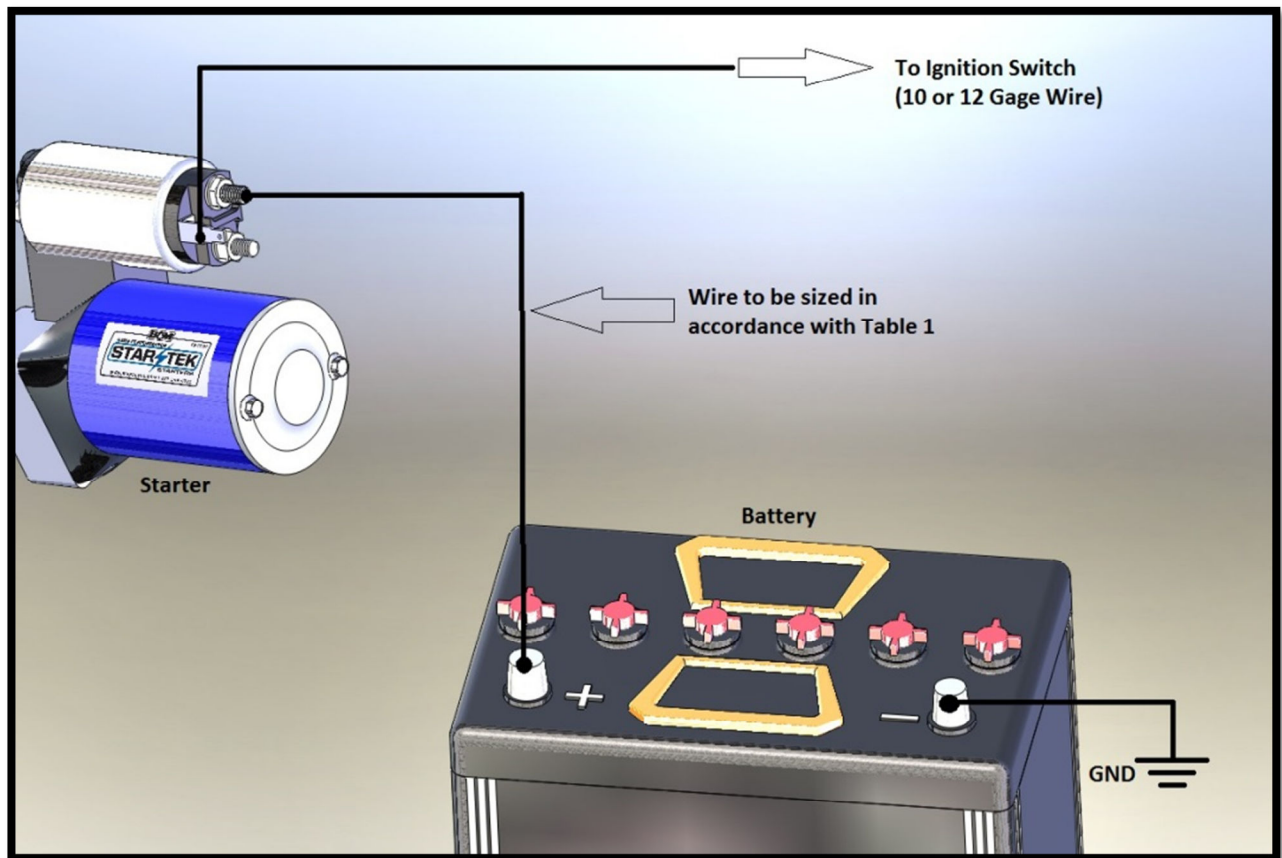


Figure 4: Starter Wiring Without Remote Solenoid

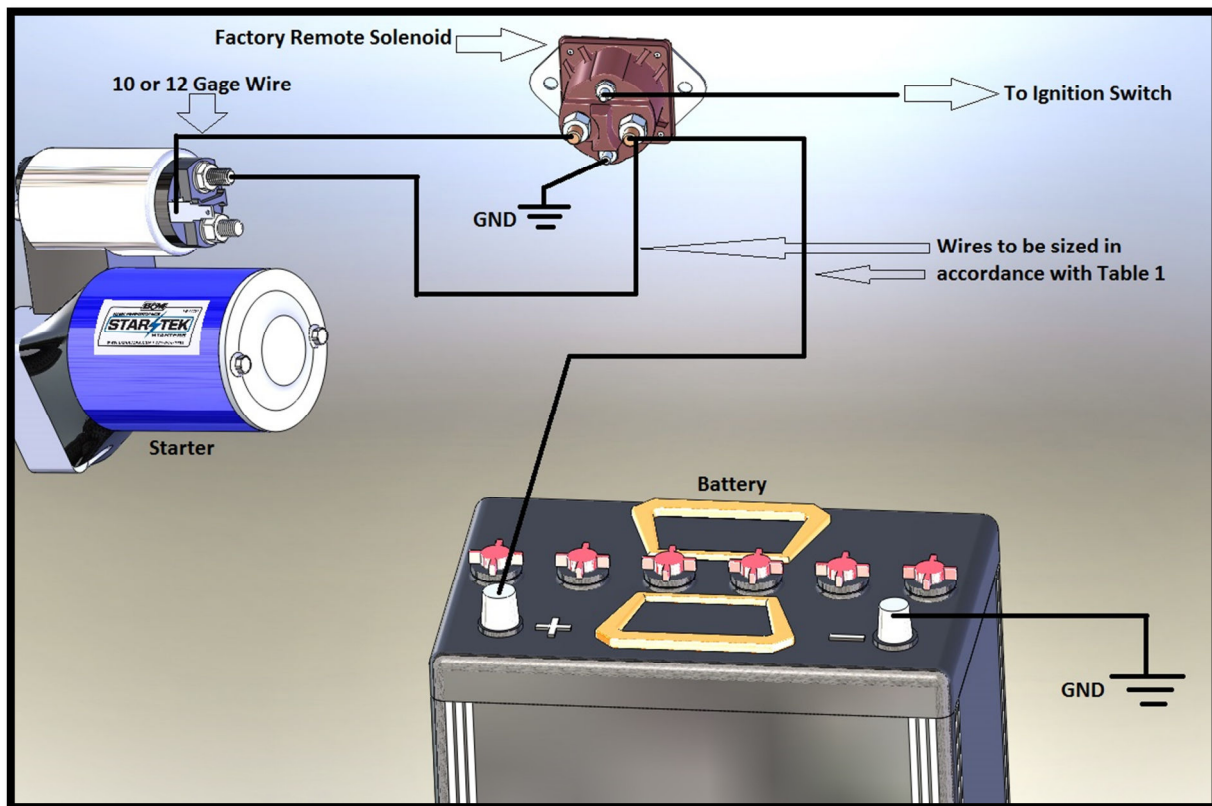


Figure 5: Starter Wiring With Remote Solenoid

Table 1: Cable Gage Chart

Starter Cable Length vs. Gage					
Length	3'	5'	7'	10'	10+'
AWG	4	2	1	0	00

Trouble Shooting Information:

Slow Cranking: Generally this can be attributed to low voltage at the starter. The battery should be checked, as well as wire size, terminals, and switches. ***Keep in mind any switches (such as master kill switches used in race cars) must have very high amperage ratings, between 400 to 700 amps.***

R-Terminal: On older vehicles with point type ignition systems, there was an extra terminal and wire on the original starter. This fed 12V during cranking directly to the ignition coil when cranking, serving as a ballast resistor by-pass. Your B&M StarTek starter does not have this terminal, as most modern ignition systems do not require it. If it is found that your ignition system has low or no voltage during cranking, connect a 10A/250V diode in-line with the starter motor connection to the positive on the coil. The banded end of the diode goes away from the starter. This acts as a check valve, allowing current to travel from the starter to the coil during cranking, and not allowing current to feed back to the starter while the engine is running.

Gear Mesh: The gear mesh, or radial distance between gears is not adjustable on this application. Please make sure that all parts are correct for the application, and that the starter is mounted properly on the block plate.

Parts List

- (1) B&M StarTek Starter
- (1) Shim Ring
- (1) Outer Shim

Tools List

Jack & Jack Stands
Work Light
5mm Allen
3/8" Drive Std. Socket Set
3/8" Drive Ratchet
1/2" Wrench
9/16" Wrench



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Phone: 707-544-4761***

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