



PowerStar Starter Installation Instructions

For Installing:

Chevy PowerStar Starters – 51101 & 51102

General Information

Your new PowerStar starter is designed to be a direct replacement for the standard field coil versions. It may be smaller in size and weight but its performance will be equal to or better than the original. This permanent magnet starter will be very durable and have longevity, but can be easily damaged if dropped.

Note; the 51101 starter is for a 168 tooth flywheel and the 51102 is for the 153 tooth flywheel. The 153 tooth is 12.85" in diameter and the 168 tooth flywheel is 14.125" in diameter.



Added Features

- Permanent magnet design
- Light weight
- Smaller overall size

Installation Instructions

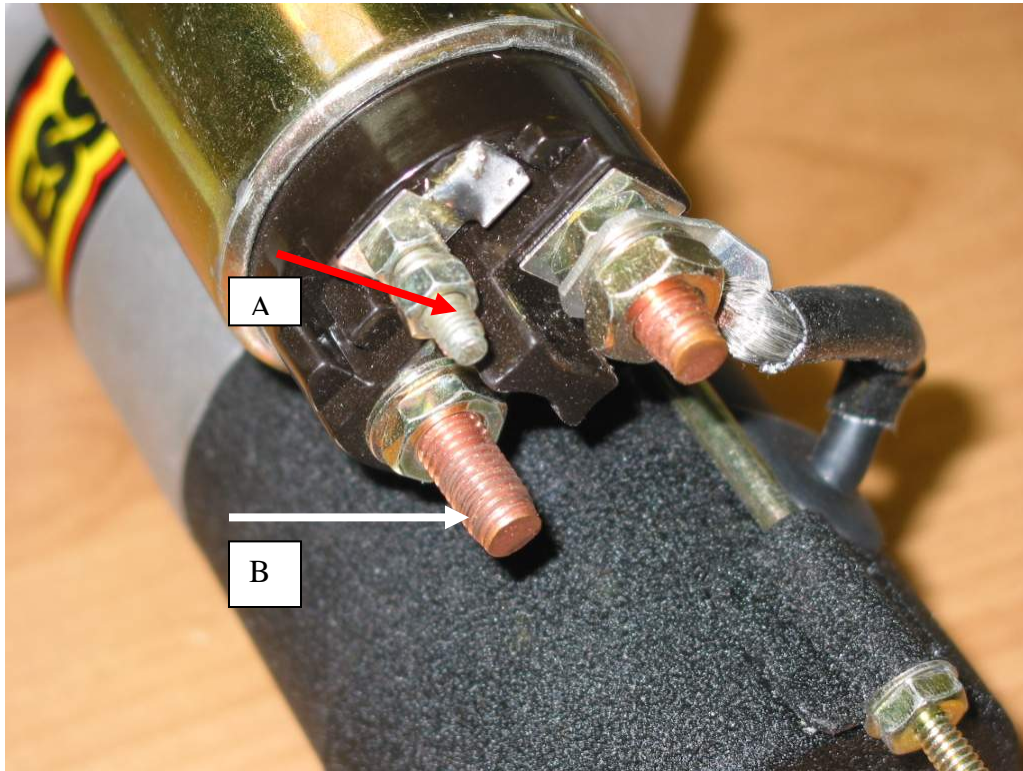
Disconnect the battery by removing one of the cables.

Remove the old starter and retain the mounting hardware.

Install the new PowerStar starter onto the engine using normal hardware. Once the starter is mounted, attach the chassis harness activation wire (from the ignition switch) to the activation post on the solenoid. *See illustration A*

Install the positive battery cable onto the main post of the solenoid. *See illustration B*

Caution; do not over tighten the nut on the solenoid; damage to the internal windings could result.



Starter solenoid close-up; A is for activation and B is for the positive battery cable



Figure 1

Check Pinion Engagement

Pull pinion out to engage ring gear. This can be done by using a tool to pry the pinion out of the starter or connect 12 VDC to the “Switch” terminal ONLY (DO NOT CONNECT battery cable to “BAT” terminal on the starter solenoid). This engages the solenoid but does not spin the starter. CAUTION: Do not leave the solenoid engaged like this for more than 30 seconds at a time as the solenoid will overheat.

PEASE NOTE: After releasing the solenoid, the pinion may stay engaged in the ring gear until the engine is started. This is normal for gear reduction starters and does NOT require shimming to correct.

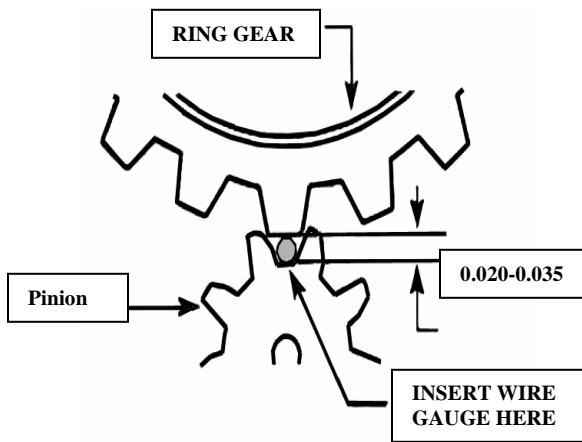


Figure 2

Insert a wire gauge to check for proper clearance between the ring gear and starter pinion. (figure 2) There should be a .020" to .035" clearance measured from the valley of the starter pinion to the tip of the ring gear tooth.

Note; a # 1 standard paper clip is usually about .035" in diameter and makes an easy to get tool. (figure 1)

Check clearance at least three places on the ring gear. If the clearance is too small, add one shim at a time between the starter and the engine block to bring it into specifications. In most cases, no shims will be necessary.

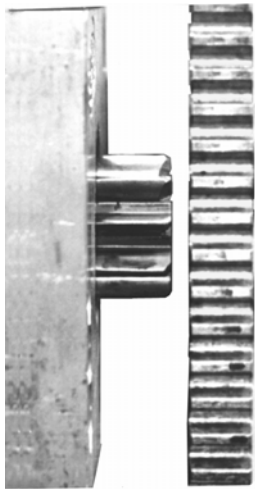


Figure 3

Checking Pinion Clearance

There should be 1/16" minimum from the back of the ring gear to the front edge of the teeth on the starter pinion. Check in at least three locations (Figure 3). If not in specifications, verify that the ring gear runs true and is properly mounted.

Warning; Starters filled with oil, mud or other contaminates will void warranty.

PowerStar Limited Warranty

Painless Performance will repair or replace defective products without charge during the first 12 months from the purchase date. No products will be considered for warranty without a copy of the purchase receipt showing the sellers name, address and date of purchase. You must return the product, either UPS or Fed-Ex, to the following address.

Painless Performance
1833 Downs Drive
W. Chicago, IL 60185

An RGA Number must be requested from Painless Performance by calling 1-800-423-9696 during normal business hours 8 am – 5 pm, central time, Monday thru Friday. This number must be written on the outside of the shipping box.

Once received, someone from our warranty center will contact you on the status of your return. For questions regarding the status of the repair or replacement, call 1-630-957-4019.