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Permanent Magnet High Performance Starter Chevrolet Applications

Installation Kit Parts List # 2

Two (2) Rectangular Shims
Two (2) - 4 ½ inch bolts w/flange
One (1) - 2 inch bolt w/flange

Congratulations on buying one of the latest innovations in starter technology. This starter offers high torque, through Planetary Gear Reduction and a compact lightweight size. Installation of this starter is similar to the original OEM starter.

- The PSL100 is designed for use on Chevrolet applications with 153 or 168 tooth ring gears (flywheels).
- This starter is designed for ***12-VOLT systems only!!*** Use of this starter with higher than 12 VOLTS or long periods of cranking will damage starter and void warranty. **Notice: Never operate the starter motor more than 30 seconds at a time without pausing to allow it to cool for at least 2 minutes. Overheating, caused by too much cranking, will damage the starter motor.**
- Depending on the particular application or type of ring gear used it may be necessary to install shims.
- The proper pinion to ring gear clearance and backlash must be obtained before trying to start the engine. ***Damage to either the starter or ring gear will occur if clearance is not set properly.*** Check the pinion to ring gear clearance at three ring gear locations 120° apart around the ring gear. A wide variance in the readings indicates a bent or out of round ring gear. Always wear safety glasses.
- This starter can be indexed to move its solenoid to several different positions to accommodate custom header installations. To do so, remove the 3 Allen screws holding the mounting block in place. Then rotate starter to desired location, then reinstall the three screws. Torque to 2.5ft lbs. – 3.6ft lbs.

INSTALLATION INSTRUCTIONS

1. *REMOVE GROUND CABLE FROM BATTERY.*
2. Remove original starter by disconnecting battery cable, ignition switch wire, and mounting bolts.
3. Remove lower flywheel housing cover.
4. Inspect ring gear for warpage and / or damage.
5. Position new starter on the engine.
6. Install the 2 starter mounting bolts found in installation kit (torque to 31-ft. lbs.)
7. Check ring gear clearance and backlash (figures 1 and 2). Add shims to starter if necessary to obtain proper clearance.
8. Connect wiring (Positive battery cable to B-Terminal, Ignition wire to S-Terminal) to the starter solenoid.
9. Reconnect battery ground cable.
10. Test starter for proper engagement by starting vehicle 4-6 times, listening for proper engagement.
11. If you hear that the starter is not engaging properly, return to step 7 for proper starter adjustment.

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Checking Ring Gear / Pinion Clearance:
With the starter disengaged and mounted in the proper location, the pinion to ring gear clearance should be .100in.+/-.040

Checking Backlash To check the backlash, simply pull pinion as to engage. You should have .010" to .030" clearance between ring gear and pinion gear.
(See figure 1)

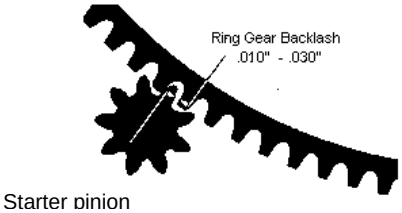

Figure 1

Checking Center of pinion to ring gear distance:
If clearance is too tight, add appropriate amount of shims to obtain proper backlash.
(See figure 2)

Figure 2

SOLENOID HOOK-UP

1. Attach positive battery cable to the B-Terminal (Terminal with no attachments) on the starter solenoid.
2. Connect ignition switch wire to spade terminal on starter solenoid.

(See figure 3)
Note: It may be necessary to splice the ignition switch wire and install the solder less female connector

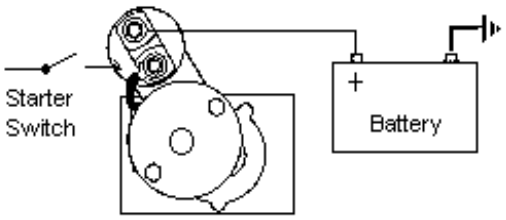

Figure 3

Remote Applications:
1. Connect the battery cable from the remote solenoid to the B-Terminal on the starter.
2. Connect a "jumper wire" (not included) from the B-Terminal to the S-Terminal.
3. Connect another 12 to 14 gauge wire from the remote solenoid to the starter switch.

(See figure 4)

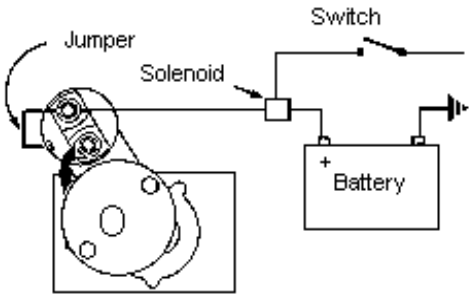

Figure 4