

STARTING SYSTEM

Component Index

- Fuse Block-Underhood
- Ignition Switch
- Park/Neutral Position (PNP) Switch
- Powertrain Control Module (PCM) (4.2L)
- Powertrain Control Module (PCM) (5.3L)
- Starter (4.2L)
- Starter (5.3L)
- Starter Relay 47

STARTING SYSTEM

Circuit Operation

The PG-260L is a non-repairable starter motor. It has pole pieces that are arranged around the armature within the starter housing. When the solenoid windings are energized, the pull-in winding circuit is completed to ground through the starter motor. The hold-in winding circuit is completed to ground through the solenoid. The windings work together magnetically to pull in and hold in the plunger. The plunger moves the shift lever. This action causes the starter drive assembly to rotate on the armature shaft spline as it engages with the flywheel ring gear on the engine. At the same time, the plunger closes the solenoid switch contacts in the starter solenoid. Full battery voltage is then applied directly to the starter motor and it cranks the engine.

As soon as the solenoid switch contacts close, current stops flowing thorough the pull-in winding as battery voltage is now applied to both ends of the windings. The hold-in winding remains energized; its magnetic field is strong enough to hold the plunger, shift lever, starter drive assembly, and solenoid switch contacts in place to continue cranking the engine. When the engine starts, the pinion gear overrun sprag protects the armature from excessive speed until the switch is opened.

When the ignition switch is released from the CRANK position, voltage is removed from the starter solenoid S terminal. Current flows from the motor contacts through both windings to ground at the end of the hold-in winding. However, the direction of the current flow through the pull-in winding is now in the opposite direction of the current flow when the winding was first energized.

The magnetic fields of the pull-in and hold-in windings now oppose one another. This action of the windings, along with the help of the return spring, cause the starter drive assembly to disengage and the solenoid switch contacts to open simultaneously. As soon as the contacts open, the starter motor is turned off.

STARTING SYSTEM

Component Location Index

(Refer to Section 201 for photographs.)

<u>Component</u>	<u>Photo No.</u>
Fuse Block-Underhood	Left side of engine compartment 3
Ignition Switch	In right side of steering column 66
Park/Neutral Position (PNP) Switch	Left side of transmission 40
Powertrain Control Module (PCM) (4.2L)	Left front of engine 5
Powertrain Control Module (PCM) (5.3L)	Left front of engine compartment 25
Starter (4.2L)	Left rear of engine
Starter (5.3L)	Right rear of engine
Starter Relay 47	In the Underhood Fuse Block 49
Connector	
C201 (17-BLK), (18-BLK), and (13-GRY)	At base of steering column 120
Ground	
G101	Left side of engine compartment 4
G106	Left front wheel well 34
G110 (4.2L)	Lower left side of engine 37
G110 (5.3L)	Lower left side of engine 38