

SECTION 03-06 Starting System

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VEHICLE APPLICATION

Taurus / Sable.

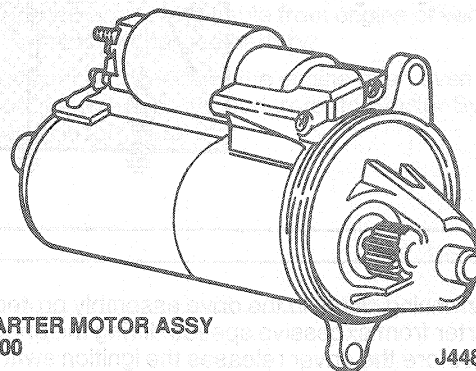
DESCRIPTION AND OPERATION

The function of the starting system is to crank the engine at a speed fast enough to permit the engine to start. Heavy cables, connectors, and switches are used in the starting system because of the large current required by the starter while it is cranking the engine. The amount of resistance in the starting circuit must be kept to an absolute minimum to provide maximum current for starter operation. A discharged or damaged battery, loose or corroded connections, or partially broken cables will result in slower than normal cranking speeds, and may even prevent the starter from cranking the engine.

In case of starting system trouble, the operator may have discharged the battery before calling for assistance. A road service procedure is presented to aid the service technician in such cases of starting trouble. Be sure to follow diagnosis procedures in the Powertrain Control/Emissions Diagnosis Manual¹, in order to locate the cause of the starting difficulty. Road service is not a part of the diagnosis procedures.

The starting system includes the permanent magnet gear-reduction starter motor with a solenoid-actuated drive, the battery, a remote control starter switch (part of the ignition switch), the manual lever position (MLP) sensor (automatic transaxle), clutch pedal position (CPP) switch (manual transaxle) and heavy circuit wiring.

Typical Starter Shown



Vehicles equipped with a manual transaxle have a clutch pedal position (CPP) switch in the starter circuit that prevents operation of the starter unless the clutch pedal is depressed.

Vehicles equipped with an automatic transaxle have a MLP sensor in the starter control circuit, which prevents operation of the starter unless the selector lever is in the NEUTRAL or PARK position.

Sequence of Operation

1. The ignition switch is turned to the START position.
2. The starter solenoid is energized, creating a magnetic field in the solenoid coil.
3. The iron plunger core is drawn into the solenoid coil.
4. A lever connected to the drive assembly engages the drive pinion gear to the flywheel ring gear.
5. When the iron plunger core is all the way into the coil, its contact disc closes the circuit between the battery and the motor terminals.
6. The current flows to the motor, and the drive pinion gear cranks the flywheel and the engine crankshaft.

¹ Can be purchased as a separate item.