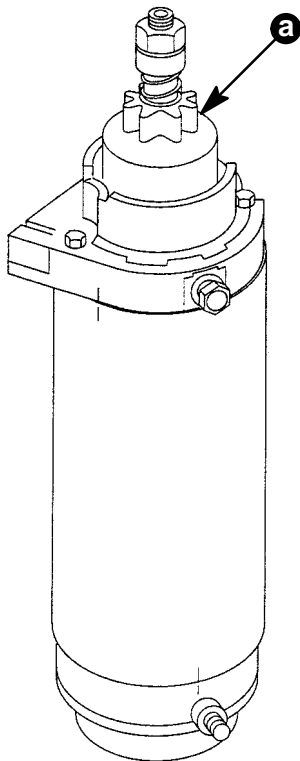


## Starter Motor Failures – 6 thru 250

Failure analysis of warranty returned starters indicates that some complete starters are being replaced because of starter pinion gear drive failure. Symptoms of starter pinion gear drive failure may be:

- starter motor spins but starter pinion gear does not rotate the flywheel.
- starter pinion gear will engage for a short time and then disengage from the flywheel before the engine starts.
- small pieces of rubber coming out of the starter pinion drive between the pinion drive and the starter.

With the starter removed, the starter pinion gear drive can be checked for slip. Hold the bottom of the drive assembly with a wrench and twist the pinion gear by hand. If the pinion gear turns by hand, it should be replaced because the rubber drive bond has failed.



a - Pinion Gear

11648

A new part failure code and a new flat rate code have been activated for starter pinion gear drive failures. These new codes will be incorporated into the next printing of the flat rate charts.

NEW FAILURE CODE

354

FAILURE DESCRIPTION

Starter Pinion Gear Drive

The following flat rate codes will be activated for repair of the starter pinion gear drive assembly:

FLAT RATE CODES

OE48

JE48

CE54

PRODUCT LINES

MERCURY/MARINER  
FORCE OUTBOARDS

SPORT JET

MERCURY/MARINER  
4 CYCLE OUTBOARDS

Time allowed to remove and reinstall the starter varies from model to model. Therefore, the complete time allowed to replace the starter pinion gear drive will be 1/10 of an hour plus the flat rate time to remove and reinstall the starter on each particular model.

Other starter motor failures that are **NOT** covered by Mercury product warranty are:

- brushes or armature burnt **DUE TO** over-cranking the starter.
- failure due to water intrusion.

**WARRANTY**

The normal one year warranty applies. Complete a warranty claim listing:

Outboard serial number

Qty.1 (Pinion gear drive p/n)

Flat Rate Code: (Appropriate code for product line)

Failure Code: 354 33