

Trouble Shooting Hints for the Starter

Job No.

15-6

Starter shaft fails to turn or rotates too slowly when starter is switched on	
Cause	Remedy
<ol style="list-style-type: none"> 1. Battery discharged. 2. Battery defective. 3. Battery terminals loose, oxidized, or poor ground connection. 4. Starter terminals or brushes are shorted to ground. 5. Carbon brushes of starter fail to make proper contact with commutator, stick in the guides, are worn, broken, oiled-up or fouled. 6. Glow starter switch damaged. 7. Solenoid switch of starter damaged. 8. Excessive loss of voltage in leads, damaged leads, loose connections. 	<ol style="list-style-type: none"> 1. Charge battery. 2. Check battery and if necessary repair or replace. 3. Tighten terminals, clean terminals and pole shoes and grease with acidproof grease. 4. Eliminate short. 5. Check carbon brushes, clean or replace; clean guide of brush holder if necessary. 6. Replace glow starter switch. 7. Replace solenoid switch. 8. Check starter leads and terminals.
Armature rotates, but pinion fails to engage	
Cause	Remedy
<ol style="list-style-type: none"> 1. Pinion fouled. 2. Pinion or ring gear damaged; burrs. 	<ol style="list-style-type: none"> 1. Clean pinion. 2. File off burrs.
When starter is switched on, the armature rotates until pinion is engaged, but then stops	
Cause	Remedy
<ol style="list-style-type: none"> 1. Low battery. 2. Carbon brush pressure is insufficient. 3. Solenoid switch of starter is out of order. 4. Excessive loss of voltage in leads. 	<ol style="list-style-type: none"> 1. Charge battery. 2. Check carbon brushes, clean or replace. 3. Replace solenoid switch. 4. Check leads and terminals.

Starter continues to rotate after starter switch has been released	
Cause	Remedy
Glow starter switch fails to switch off, or solenoid switch is sticking.	Immediately disconnect starter lead at battery or starter. Repair or replace glow starter switch and/or solenoid switch.
Pinion fails to engage, starter freely rotates at high speed	
Cause	Remedy
Teeth of pinion or flywheel ring gear very dirty or damaged; return spring in solenoid switch weak or broken.	Thoroughly clean pinion and ring gear and/or file off burrs on teeth of ring gear and pinion (push vehicle back and forth with gear engaged); replace return spring in solenoid switch.
Pinion engages, starter freely rotates at high speed	
Cause	Remedy
Freewheel coupling is slipping	Replace pinion assembly