

Trouble Shooting Hints for the Starter

Job No.

15—6

Starter shaft fails to turn or turns 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, oxidised, or ground connection bad. 4. Starter terminals or brushes shorting to earth. 5. Carbon brushes not making proper contact with collector, sticking in their guides, worn, broken, oiled-up or fouled. 6. Starter push-button switch damaged. 7. Solenoid switch of starter damaged. 8. Excessive voltage drop in leads, damaged leads, loose contacts. 	<ol style="list-style-type: none"> 1. Charge battery. 2. Check battery and if necessary, repair or replace. 3. Tighten terminals, clean terminals and clamps, and grease with acid-resisting grease. 4. Remove short. 5. Examine carbon brushes, and clean or replace; if necessary, clean guides in brush holder. 6. Replace starter push-button switch. 7. Replace solenoid switch. 8. Check starter leads and their contact terminals.
Armature turns, but pinion fails to engage	
Cause	Remedy
<ol style="list-style-type: none"> 1. Pinion fouled. 2. Mesh damage to pinion or ring gear, burrs. 	<ol style="list-style-type: none"> 1. Clean pinion. 2. File away burrs.
When starter is switched on, armature turns until pinion is engaged, but then stops	
Cause	Remedy
<ol style="list-style-type: none"> 1. Battery insufficiently charged. 2. Carbon brush pressure inadequate. 	<ol style="list-style-type: none"> 1. Charge battery. 2. Examine carbon brushes, and clean or replace.

3. Solenoid switch of starter out of order. 4. Excessive voltage drop in leads.	3. Replace solenoid switch. 4. Check leads and contact terminals.
Starter continues to turn after the starter switch has been released	
Cause	Remedy
Starter push-button switch fails to switch off, or solenoid switch is sticking	Immediately disconnect starter lead at battery or at starter. Repair or replace starter push-button switch or solenoid switch.
Pinion engages, and starter spins freely at high speed	
Cause	Remedy
Pinion or flywheel ring gear either very dirty or damaged; return spring in solenoid switch weak or broken.	Carefully clean pinion and ring gear or file away burrs on ring gear and on pinion (push vehicle backward and forward with gears engaged); replace return spring in solenoid switch.
Pinion engages, and starter begins to slip and race	
Cause	Remedy
Free-wheel coupling slipping.	Replace pinion and coupling as an assembly