GENERAL SERVICING

TESTING

In order to properly diagnose charging system performance, the following conditions and precautions should be observed:

Battery Voltage – Battery must be fully charged before conducting alternator test. Charge or replace battery as necessary.

Battery Charging – Both battery cables should be disconnected if using a Quick Charger in order to prevent damage to alternator and regulator components.

Battery Boost (For Engine Start) – Do NOT use a Quick Charger to provide starting voltage. Booster battery must be connected with negative lead to negative terminal of vehicle battery and positive lead to positive terminal of battery.

On Car Testing – Perform tests at normal operating temperatures. Engine should be accelerated gradually to desired testing RPM and returned to lower RPM as soon as possible. Do NOT race engine.

CAUTION – *Never disconnect battery or alternator leads while alternator is running. Reverse polarity or excessive voltage will severely damage the charging system.*

Electrical Connections – All electrical connections must be clean and snug for proper system operation. It is recommended that battery cables be disconnected, cleaned and tightened whenever performing charging system maintenance. Regulator must be properly grounded also.

Component Replacement – In order to prevent stray voltage or shorts, always disconnect battery prior to alternator or regulator removal.

Drive Belt – Drive belts must not be cracked, glazed or oily, and must be set at proper tension. A glazed belt may slip even though belt is not loose.

NOTE – *Excessive drive belt tension can cause bearing or case failure. Do NOT overtighten to correct for slippage.*

Disassembly – Case halves and stator should be scribed prior to separation for proper orientation when reassembling.

Diode Test and Replacement – Never use a high voltage source to test diodes. Use a low voltage source to check for one-way current flow. If replacement is required, soldering operations must be performed quickly to prevent diode damage. Diode lead should be pinched with pliers to prevent heat transfer to diode.

Rotor and Stator Testing – Continuity with minimum resistance should be noted between slip rings. No continuity should exist between either slip ring and rotor core or shaft. Stator conduction is normal when there is continuity between leads of stator coil but NOT between stator coil leads and stator core.

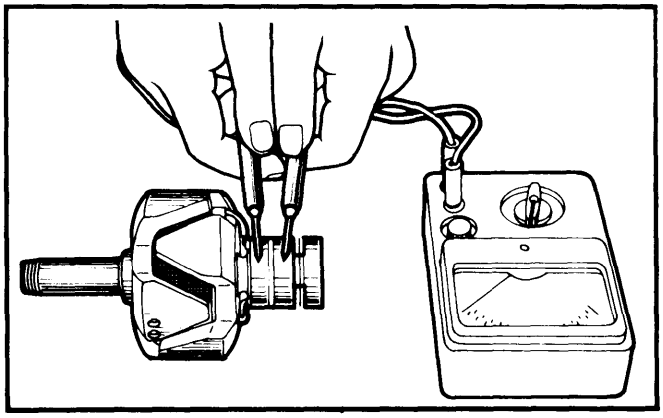

Fig. 1 Rotor Coil Continuity Test

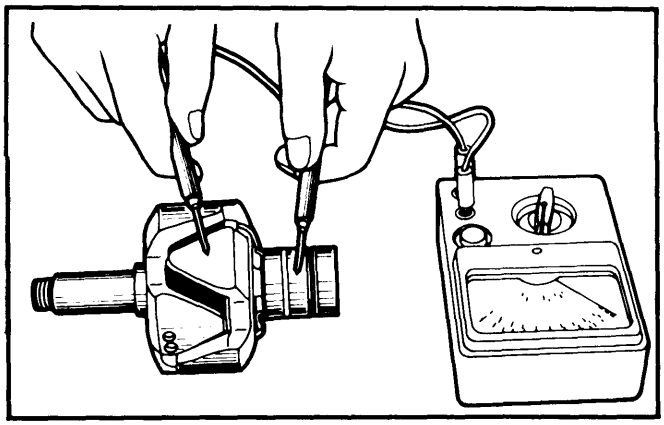

Fig. 3 Rotor Coil Ground Test

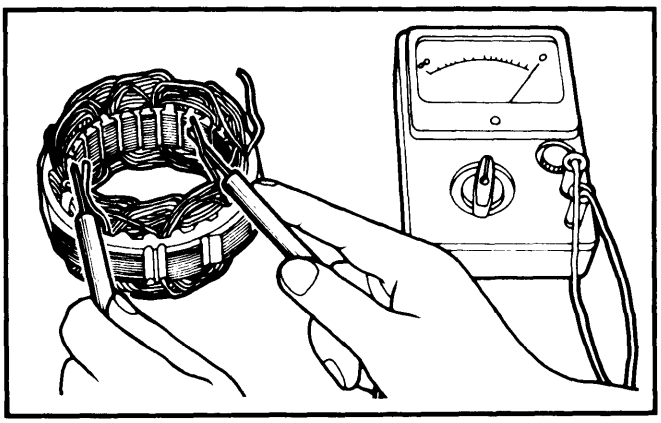

Fig. 2 Stator Coil Continuity Test

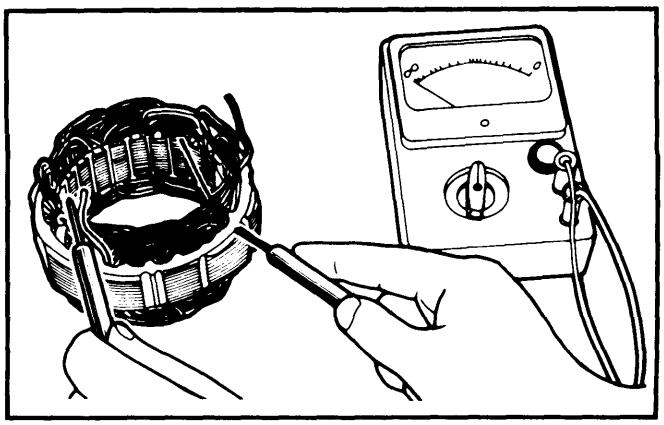

Fig. 4 Stator Coil Ground Test