

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

To prevent damage to alternator and regulator components when using a Quick Charger, disconnect both battery cables.

BATTERY BOOST FOR ENGINE START

Do NOT use a Quick Charger to provide starting voltage. Connect booster battery's negative lead to negative terminal of vehicle battery; its positive lead to positive terminal of battery.

ON-VEHICLE TESTING

Perform tests at normal operating temperatures. Accelerate engine gradually to desired testing RPM, and return it 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 also be properly grounded.

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 also 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

For proper orientation when reassembling, case halves and stator should be scribed prior to separation.

DIODE TEST & 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 & STATOR TESTING

Continuity with minimum resistance should be noted between slip rings. See Fig. 1. No continuity should exist between either slip ring and rotor core or shaft. See Fig. 2. Stator conduction is normal when there is continuity between leads of stator coil. See Fig. 3. Stator conduction is NOT normal between stator coil leads and stator core. See Fig. 4.

Fig. 1: Rotor Coil Continuity Test

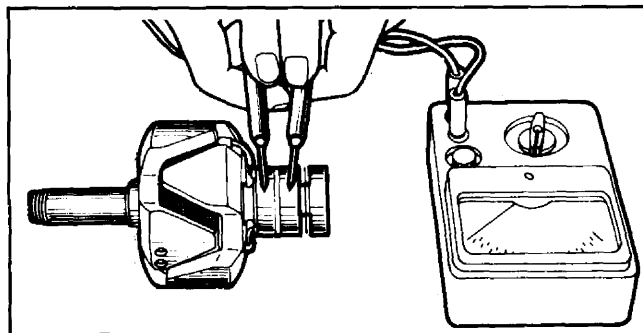


Fig. 2: Rotor Coil Ground Test

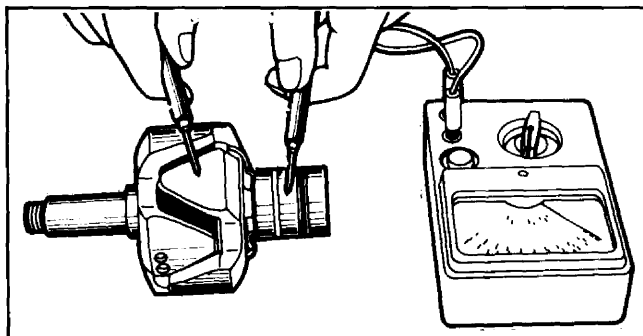


Fig. 3: Stator Coil Continuity Test

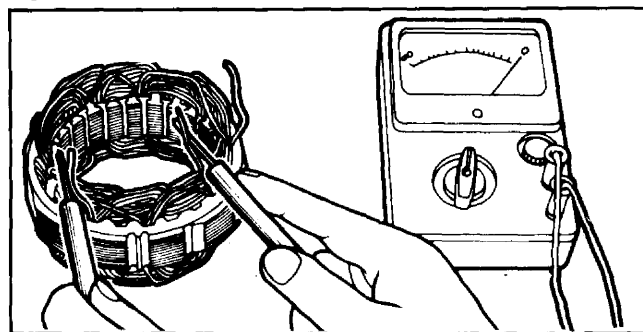


Fig. 4: Stator Coil Ground Test

