MARELLI ALTERNATORS

Fiat
Strada

DESCRIPTION

Marelli alternators are conventional 3-phase, self-rectifying type alternators. The externally mounted rectifier contains a silicon diode pack connected to form a full-wave, 3-phase rectifying bridge. An integral voltage regulator, also mounted on the rear of the alternator, controls charging rate.

APPLICATION

Model	Type
Strada (W/O Air Cond.)	A125/14V/55A

TESTING

NOTE – *Prior to performing any testing, ensure that alternator drive belt tension is properly adjusted and that battery condition, water level and connections are good. Some testing is done as part of Overhaul procedure.*

ENGINE CRANK TEST

Disconnect distributor connector and connect voltmeter to battery. Crank engine 3 to 4 seconds and note voltmeter reading. A reading of less than 9 volts indicates possible faulty battery.

VOLTAGE TEST

Set engine speed at 2500 RPM with headlights on and heater fan on high speed. Voltmeter should read at least 12.5 but no more than 15.0 volts.

REGULATOR/ALTERNATOR CHECK

If voltage is not as specified, disconnect battery ground cable and remove regulator from alternator. Install known good voltage regulator, connect battery and repeat voltage test. If voltage is now within specifications, original regulator is defective. If voltage still is below specifications, repair or replace alternator.

MOUNTING CHECK

Remove rear shield and check that mounting screws for voltage regulator and brush holder are tight and free of corrosion.

EXCITOR SYSTEM CHECK

Turn ignition switch "ON" and check for charge indicator light. If no light, check bulb, wiring or alternator brushes. If indicator lights, start engine and check that light goes out. If light remains ON, check for short in excitor system wiring.

OVERHAUL

DISASSEMBLY

1) Disconnect battery ground cable and remove rear shield from alternator. Mark electrical leads for identification and disconnect from alternator. Remove alternator from vehicle. Remove voltage regulator and brush holder. Remove pulley, fan, spacers and key.

2) Remove through bolts and separate front frame from rear frame. Remove rectifier cover and disconnect 3 stator wires. Remove rectifier assembly and separate stator assembly from rear frame. Remove screw and lift out condenser.

TESTING (OFF CAR)

With alternator disassembled, perform rotor and stator open, shorts and continuity tests. See *General Servicing in this section*. Disconnect stator leads from rectifier board. Using ohmmeter set to X1 scale, touch one lead to a diode junction and the other to heat sink and note reading. Reverse leads and note reading, then repeat for other diodes. One high and one low reading should be obtained for each diode. Replace diode plate if proper readings are not obtained.

REASSEMBLY

If brushes are worn replace brushes and holder as a complete assembly. Reverse removal procedure and install alternator on vehicle. Adjust belt tension.

SPECIFICATIONS

Application	Test Data
Cut-in Speed	900±50 RPM
Current Flow	55 amps. @7000 RPM
Resistance Across Slip Rings	3.1±.1 ohm①
Alternator-to-Engine RPM Ratio	1.75:1
Regulating Voltage	13.8-14.2 volts①

① – At 77°F (25°C).

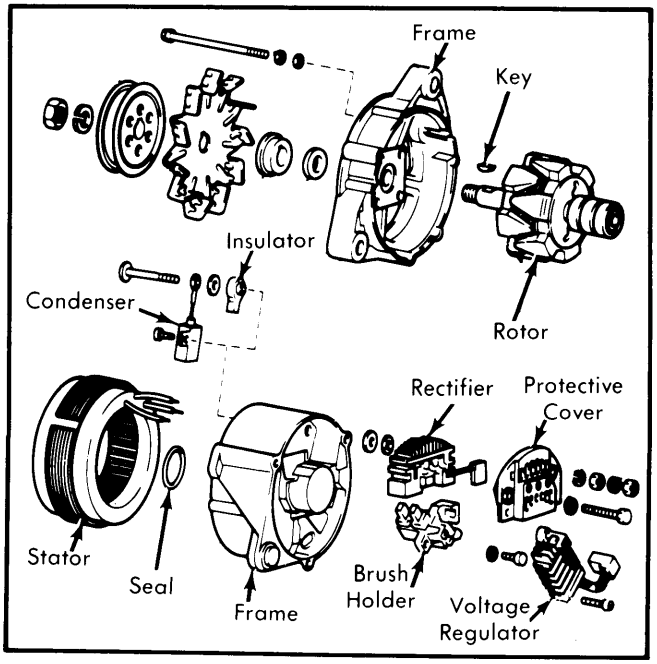

Fig. 1 Disassembled View of Marelli Alternator