MARELLI REGULATORS

Fiat
128

DESCRIPTION

Fiat voltage regulators are of the dual stage vibrating contact type. An induction auxiliary coil, considerably smaller than the magnetizing coil, is mounted near contact side of the yoke. In addition to two regulating resistors, an additional resistor works in series with the main voltage coil. The regulator is grounded through the mounting flanges. Resistors are protected from impacts by a metal shield secured to mounting flange.

APPLICATION

Model	Type
128 Sedan & Station Wagon	RC 2/12 E

SPECIFICATIONS

Application	Specification
Alternator Test RPM	4000 to 5000
1st Stage Testing (Amps)	40-45
2nd Stage Testing (Amps)	10-14
2nd Stage Testing (Volts)	14.2±.3

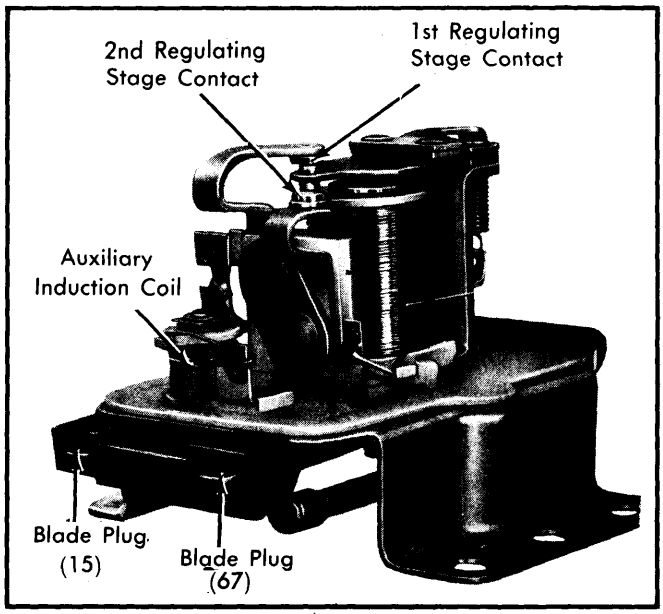

Fig. 1 Marelli Voltage Regulator

TESTING

BENCH TESTING

1) Install alternator and regulator on test bench equipped with gradual speed control. Connect ammeter, voltmeter, and rheostat as shown in illustration. Regulator must be placed vertically, with terminals "15" and "67" at base. Regulator must be checked without removing cover.

CAUTION – *DO NOT operate regulator with switch "I" open (battery disconnected) since this will damage regulator contacts.*

2) Operate voltage regulator in an ambient temperature of 122±5.4°F for 30 minutes to stabilize. Start with rheostat fully inserted, then adjust current output to one sixth of maximum alternator output. Alternator should be operated slowly at first, then be gradually brought up to 5000 RPM.

3) Ensure that suitable thermostatic equipment is available to maintain regulator at specified temperature. Operate alternator at 5000 RPM and adjust rheostat to specified current output.

4) Check first stage immediately after second stage and ensure that conditions specified in step 2) are met. At 5000 RPM, adjust rheostat until specifications are met for 1st stage testing. Regulated voltage should be 0-.5 volts less than recorded for 2nd stage.

NOTE – *When testing the 1st and 2nd stages, check that regulated voltage is stable without any sudden surges or drops.*

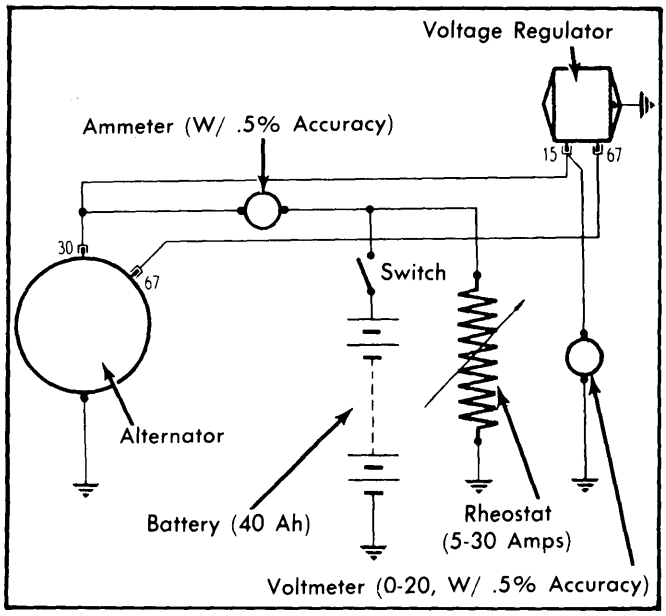

Fig. 2 Circuit for Conducting Bench Test

ADJUSTMENT

VOLTAGE REGULATOR

1) Disconnect positive battery cable and remove dust cover on regulator. Inspect contact points for pitting and burn marks, then clean minor pitting and burn marks. Points which are excessively burned or pitted will require regulator replacement.

2) Install cover and connect battery cable. Connect voltmeter and run engine until normal operating temperature is reached. Voltmeter should read 13.9-14.5 volts at 2500 RPM with all electrical components OFF. If reading is not within specifications, carefully apply slight pressure to lower spring bracket to adjust. Bending bracket down increases voltage while bending bracket up decreases voltage.