FIAT

Fiat 124

► CHANGES, CAUTIONS, CORRECTIONS

► *SERVICE PRECAUTIONS* – When replacing regulator, and during bench testing, be careful not to exchange the wire to plug "15" with wire to plug "67" (see illustration). Current passing through contacts would be high enough to melt second stage contacts before fuse in lead "15" would blow.

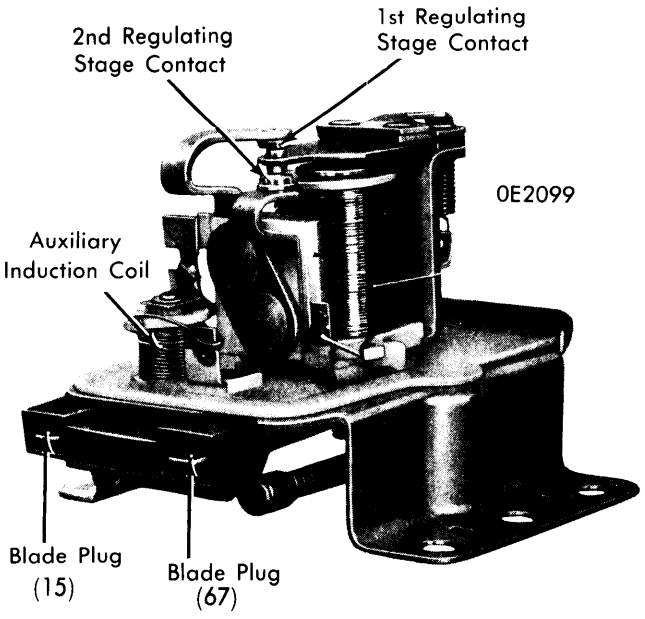
► *HANDLING* – During installation, removal, and handling, protect regulator from blows which might damage the resistors and upset adjustments.

► *GROUNDING* – During checks on vehicle and on bench, see that regulator is well grounded. If grounding is poor or open, alternator voltage will rise to an abnormally high value, which may damage battery and electrical equipment.

► *CAPACITORS* – NEVER install radio noise suppressor on regulator plug "67" as operation of contacts will be adversely affected.

► *COVER GASKET* – Should gasket require replacement, use only a gasket of same original material. Unsuitable gasket could release harmful volatile substances into regulator which will foul contacts.

► *SUPPLY CIRCUITS* – DO NOT connect electrical accessories directly in circuit between alternator and voltage regulator (i.e., cable between terminal "30" of alternator ignition switch, plug "15" of regulator, or cable between ignition switch and voltage regulator), since alternator voltage would rise and affect life of battery and electrical equipment.



FIAT VOLTAGE REGULATOR

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.

SPECIFICATIONS

Application	Data
Fiat Part No.	RC 2/12B
Alternator Test RPM	5000
1st Stage Testing (Amps)	25-35
2nd Stage Testing (Amps)	2-12
2nd Stage Testing (Volts)	14.2±.3
Resistance Values (Ohms)	
Plug "15" & Ground	28±2
Plug "15" & "67" W/ Con. Open	5.65±.3
Armature Air Gap (In.)	.059±.0028

TESTING

BENCH TESTING

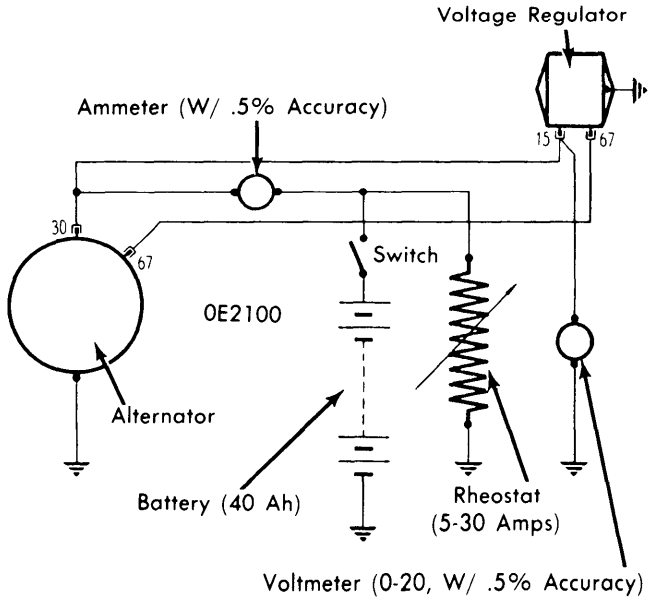
1) Install alternator and regulator on test bench equipped with gradual speed control. Connect ammeter, voltmeter, and rheostat as shown in illustration. Regulator must be placed vertically, with terminals "15" and "67" at base. Regulator must be checked without removing cover.

2) *CAUTION – DO NOT operate regulator with switch "I" open (battery disconnected) since this will damage regulator contacts.* Operate voltage regulator in an ambient temperature of 122±5.4°F for 30 minutes (thermal stabilization). Start with rheostat fully inserted, then adjust current output to one sixth of maximum alternator output. Alternator should be operated slowly at first and then be SLOWLY brought up to 5000 RPM.

3) *NOTE – Suitable thermostatic equipment must be available in order to maintain regulator at specified temperature throughout test.* Operate alternator at 5000 RPM. Adjust rheostat for specified current output. See specifications.

4) Check first stage immediately after second stage, and after ensuring the same conditions of output, speed, etc. At 5000 RPM, adjust rheostat until current output listed (C) is obtained. See specifications. Regulated voltage should be .2-.7 volt less than the voltage recorded above for the second stage. *NOTE – When testing the first and second stages, check that regulated voltage is stable, without any sudden surges or drops.*

FIAT (Cont.)



BENCH TEST CIRCUIT

ADJUSTMENT

NOTE – Ambient temperature must be 122±5°F.

1) With alternator stationary and switch "I" open (see illustration), remove regulator cover. If testing showed a regulated voltage higher than specified, lower the spring pressure on regulator by bending bracket on yoke up a little.

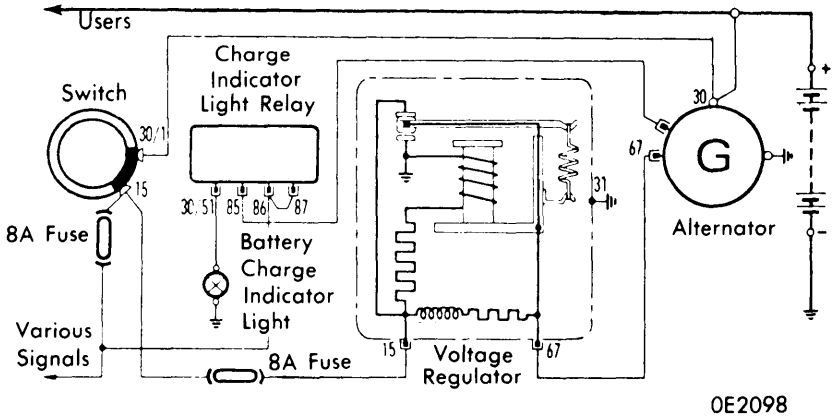
2) Conversely, if recorded regulated voltage is lower than specified, bend bracket down a little to load spring with more pressure.

3) Install cover and repeat testing of second stage. After obtaining correct setting of second stage, check first stage as directed under testing. If voltage value of first stage is .2-.7 volt less than the voltage recorded for the second stage, the adjustment is finished. Otherwise, one of the following two cases may occur:

Voltage Too High – In this case, reduce armature air gap by bending down the first stage stationary contact carrier bracket .004-.008" (.1-.2 mm). Restore original clearance between second stage contacts .018±.004" (.45±.1 mm).

Voltage Too Low – In this case, increase armature air gap by bending the first stage stationary contact carrier bracket up .004-.008" (.1-.2 mm). Restore original clearance between second stage contacts .018±.004" (.45±.1 mm). Be careful to maintain centered and aligned contacts of both stages during these operations. Install cover and check regulator setting (both first and second stages); if necessary repeat specified adjustment operations until final setting is obtained.

CAUTION – Clean cover of any trace of dust, grease, moisture, etc., before installation. To prevent any possibility of moisture being trapped in regulator, cover must be mounted while unit is still warm.



CHARGING SYSTEM SHOWING REGULATOR INTERNAL WIRING