

Alternator Regulators

MOTOROLA TRANSISTORIZED

DESCRIPTION

A fully transistorized type voltage regulator. Unit is sealed at the factory and no adjustments are required. If unit does not test to specifications and operation is unsatisfactory, unit must be replaced. Transistorized voltage regulator units are identified by part number R-2-K-1 or TVR-12-W14.

TESTING

NOTE — Make sure alternator is operating properly before testing voltage regulator. See *Motorola Alternators*.

1) With engine off, disconnect output cable from alternator and connect an ammeter (0-60 amperes) in series with output terminal and cable (positive terminal of ammeter connected to output terminal of alternator). Connect a carbon pile load to negative side of ammeter and negative battery terminal. Connect a voltmeter to alternator output terminal and negative battery terminal (positive terminal of voltmeter connected to output terminal of alternator).

2) Start engine and increase load with carbon pile. Increase engine speed if required, to obtain 10 amperes output current. Operate engine for 15 minutes to stabilize temperature, then check ambient temperature of regulator by placing a thermometer 1" from regulator cover.

3) Output terminal voltage must be within limits indicated in table at specified ambient temperature. If voltage is not within limits, replace regulator and repeat test. Increase load with carbon pile and engine speed until rated current output is reached. Voltage at output terminal should be at least 13 volts but should not exceed maximum limits indicated in table.

Voltage Specifications

Ambient Temperature	① Output Voltage	
	Minimum	Maximum
0°F.....	14.60.....	15.40
20°F.....	14.45.....	15.25
40°F.....	14.26.....	15.08
60°F.....	14.13.....	14.92
80°F.....	13.95.....	14.75
100°F.....	13.80.....	14.60
120°F.....	13.65.....	14.45
140°F.....	13.60.....	14.28
160°F.....	13.30.....	14.43

① — With 10 ampere load.

MOTOROLA SOLID STATE

DESCRIPTION

Voltage regulator is a solid state unit. Unit is sealed at the factory and no adjustments are required. If unit does not test to specifications and operation is unsatisfactory, unit must be replaced. Solid State regulators are identified by part numbers 8RB2005, 8RD2001 or 8RH2003.

TESTING

Connect voltmeter to battery, negative to negative and positive to positive. Turn head lights on low beam. Start engine and operate for several minutes to bring regulator up to operating temperature. Set engine at 1000 RPM and note voltage. Reading should be within specifications for temperature of regulator. If not within specifications regulator must be replaced.

Voltage Specifications

Ambient Temperature	① Output Voltage	
	Minimum	Maximum
0°F.....	14.65.....	15.40
20°F.....	14.40.....	15.00
40°F.....	14.20.....	14.70
60°F.....	13.95.....	14.40
80°F.....	13.75.....	14.20
100°F.....	13.60.....	14.05
120°F.....	13.45.....	13.95
140°F.....	13.30.....	13.85
160°F.....	13.10.....	13.75

① — With 10 ampere load.