

## FORD MOTOR CO. INTEGRAL REGULATORS

### DESCRIPTION

Alternator has been equipped with an integrated-circuit regulator. Alternator is same as standard unit except for rear housing which has been machined to provide a smooth flat mounting surface for regulator. The regulator contained in alternator is a hybrid unit consisting of solid state devices. The circuitry inside regulator is not repairable or adjustable. If regulator is not operating properly, it must be replaced. The regulators size is determined by need for connections to alternator. Terminals built into regulator housing furnish the circuit connecting points. The ignition switch connection provides power for energizing integrated circuit, which in turn controls alternator field circuit and regulates the alternator voltage.

### TESTING

**NOTE -** The regulator is factory calibrated and is not to be adjusted or disassembled. If regulator is determined defective it must be replaced.

#### Voltage Regulation Test

**NOTE -** For testing a fully charged battery (1.250-1.280 specific gravity) must be used. Turn all lights and accessories off. Make certain the ignition switch is OFF. Connect ARE 27-38 tester, and make tester knob adjustments as shown in "Voltage Regulation Test". Open battery adapter switch. Ammeter should show zero amperes. A 2 amp. discharge indicates a malfunction in alternator field coil or in regulator. If ammeter shows zero amperes, proceed as follows:

1) Place transmission in neutral or park. Place master control on tester at the "Voltage Reg. 1/4 Ohm Res." position.

2) Close battery adapter switch and start engine. Open adapter switch.

3) Operate engine at approximately 2000 RPM for 5 minutes.

4) Read voltmeter on tester. If voltage is between 13.3 and 15.3 volts, regulator is functioning normally.

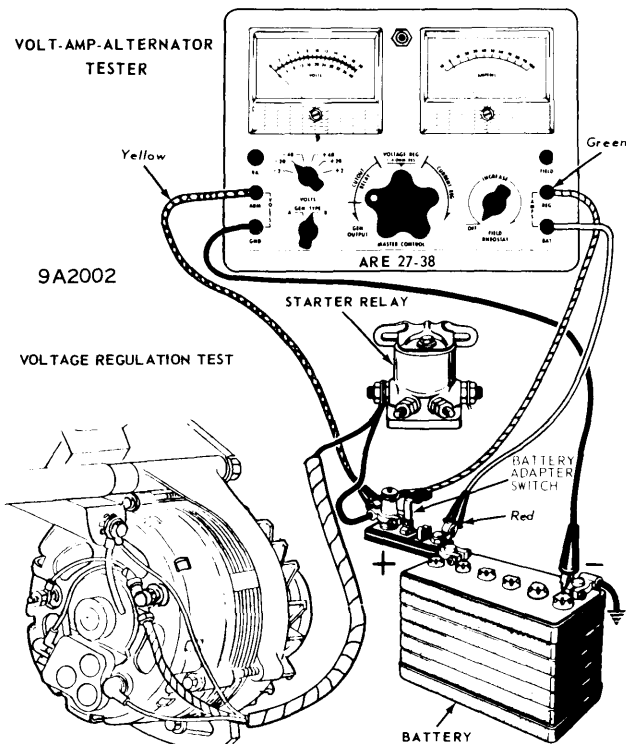
5) If voltage does not rise above battery voltage, perform Regulator Supply Voltage Test. If voltage exceeds 15.3 volts, see Ford "Alternator with Integral Regulator" data, and perform the Field Circuit Tests.

### Regulating Voltages

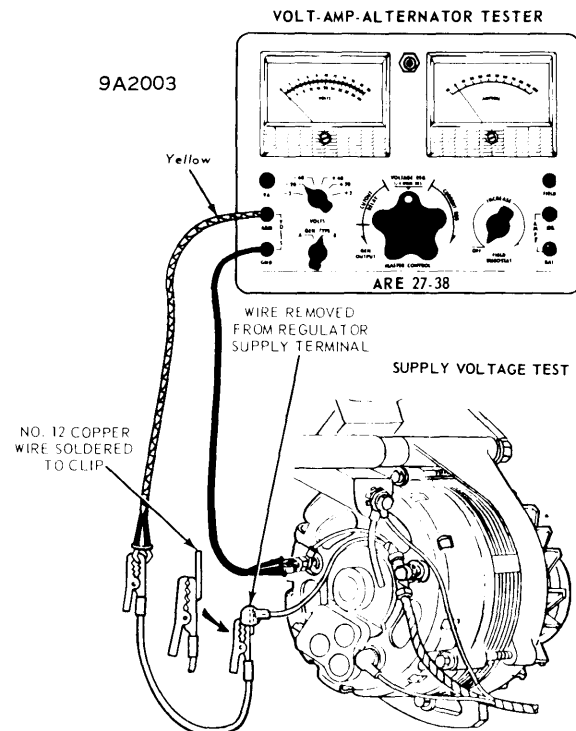
	Volts
All Regulators .....	13.3-15.3

#### Regulator Supply Voltage Test

**NOTE -** Alternator regulator is turned on by application of battery voltage from ignition switch. A 10-ohm resistor wire is in series with this supply circuit. If this circuit is disconnected or defective there will be no regulator action and no alternator output. Connect a 12-volt test light or voltmeter between regulator supply lead and ground. Turn ignition switch ON. Test light should glow or voltmeter should show voltage. If no voltage is indicated, the supply circuit is broken or disconnected. If there is voltage at terminal, see Ford "Alternator with Integral Regulator" data and perform an Alternator Output Test to determine whether the regulator or alternator is faulty.



VOLTAGE REGULATION TEST



SUPPLY VOLTAGE TEST