## MOTORCRAFT ELECTRO-MECHANICAL REGULATOR

**Ford**

### DESCRIPTION

Alternator Regulator is composed of two control units, a field relay and a voltage limiter, mounted as an assembly. The field relay serves to connect charging system voltage to field circuit while engine is running. Voltage limiter is double contact unit which controls amount of current supplied to alternator rotating field. The regulator is factory calibrated, has no adjustment and must be replaced if defective.

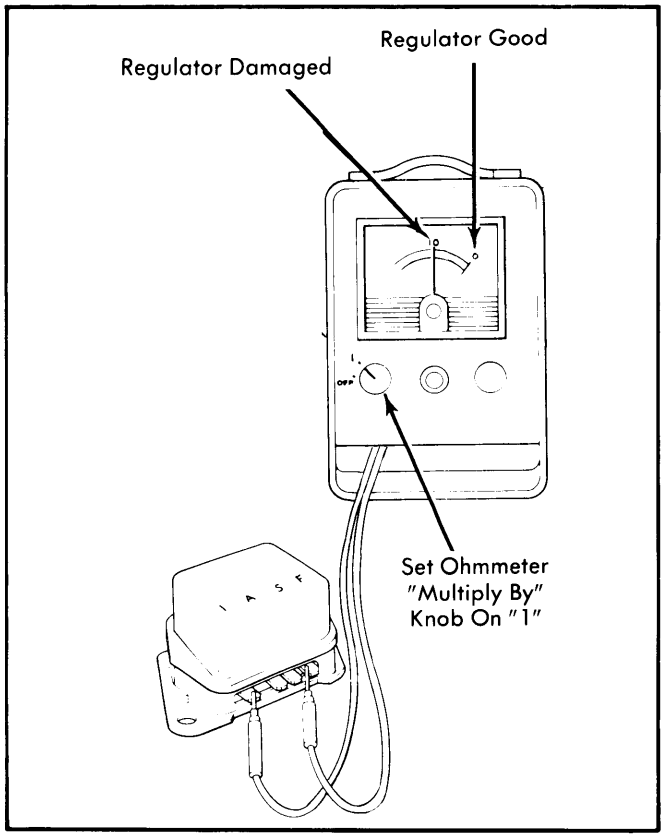


*Fig. 1 Test Connections for Burned or Open Connector Wire*

### TESTING

#### REGULATOR CIRCUIT TESTS

**"S" Circuit With Ammeter** – Connect positive lead of voltmeter to regulator "S" terminal of regulator wiring plug, then turn on ignition switch (do not start engine). Voltmeter should indicate battery voltage. If no voltage is indicated, "S" wire lead from ignition switch is open.

**"S" & "I" Circuit With Indicator Light** – Disconnect regulator wiring plug and install jumper wire between "A" and "F" terminals. With engine idling, connect positive lead of voltmeter to "S" and then to "I" terminals of regulator wiring plug. Voltage of "S" circuit should be about ½ of voltage at "I" circuit. If no voltage is present, repair alternator or faulty wiring circuit. If above tests are satisfactory, regulator requires replacement.

**Regulator Burned Open Wire** – Check for burned open wire is made by connecting suitable ohmmeter from "I" to "F" terminals of regulator. Reading should indicate zero, no resistance. If reading indicates about 10 ohms, connector wire inside regulator is open. Field circuit ground has caused burned condition and must be repaired.

**Regulator Output** – Make certain alternator belt is correctly tensioned, and all charging connections are clean and tight. Connect voltmeter to battery, turn off all electrical loads and note battery voltage. Run engine at 1800-2000 RPM for several minutes and note voltage reading. If voltage reading is 1-2 volts higher than battery voltage, regulator is satisfactory. If voltage reading is not within given range, replace regulator. If reading is satisfactory, turn on headlights, and turn heater blower motor (or air conditioner) to high speed. Voltage should not decrease more than .5 volt. If voltage drop exceeds .5 volt, replace regulator.

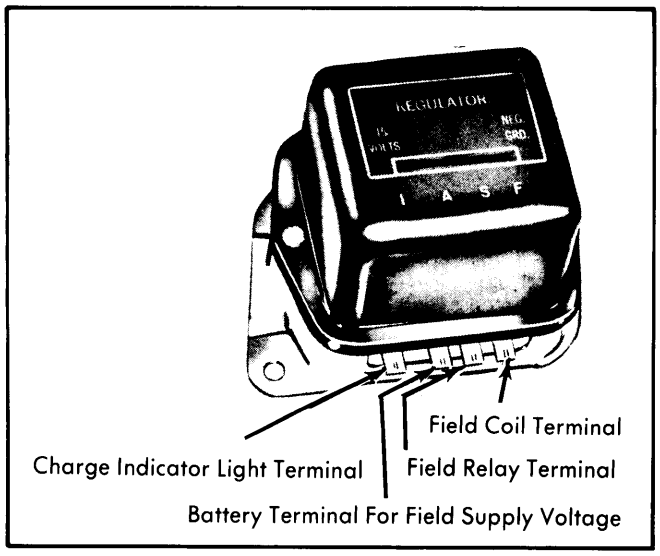


*Fig. 2 Identifying Regulator Terminals*