MOTORCRAFT REGULATORS

Fiesta

DESCRIPTION

Fiesta models equipped with Motorcraft 40 or 60 amp alternators have an externally mounted regulator. The regulator controls charging rate by switching rotor field current in and out as required.

TESTING

ON CAR TEST

NOTE – *Battery must be charged to at least 1.200 specific gravity before beginning test. All lights and electrical components must be OFF.*

1) Connect voltmeter to battery and note voltage for reference. Connect tachometer to engine and slowly increase engine RPM to about 1500 RPM as engine reaches normal operating temperature. With no electrical load, voltage should increase to at least one but not more than 2 volts higher than reference voltage. This is no-load voltage.

2) If voltage increase is within 1-2 volts, turn heater blower on high and headlights on high beam. Increase engine speed to about 2000 RPM and look for a voltage increase of at least .5 volt. This is load voltage. If both no-load and load voltage increases are within specifications, charging system is operating properly.

3) If no-load voltage increase exceeded 2 volts, clean and tighten all connections between alternator, regulator and engine. If no-load voltage is still excessive, disconnect regulator wiring plug from regulator and recheck no-load voltage increase. If voltmeter now reads battery voltage throughout the test, replace regulator and recheck.

4) If no-load voltage increase in step **3)** is excessive with regulator disconnected, wiring harness between alternator and regulator is shorted and must be repaired. Replace regulator and check that no-load voltage increase is within specifications.

5) If load voltage in step **2)** did not increase or increase was less than .5 volt, check battery voltage at alternator "BAT" terminal and then at regulator plug "A" terminal with plug disconnected. If no voltage present at either terminal, repair open wiring and repeat test. If voltage is present, proceed to step **6)**.

6) Install jumper between "A" and "F" terminals of regulator plug. If field circuit is grounded, spark will occur and jumper will heat when connected. If this happens, check field circuit for ground and regulator for open before continuing. Leave jumper out of plug and check field circuit as follows: Set ohmmeter on low range and check for 4 to 250 ohms between "F" terminal on regulator plug and negative battery cable clamp. If no resistance, field circuit is grounded and alternator must be repaired or replaced.

7) Connect an ohmmeter between "I" and "F" terminal of regulator with plug removed. Ohmmeter should read zero resistance. If ohmmeter reads approximately 10 ohms, regulator has an open curcuit and must be replaced.

8) If field circuit test is satisfactory (step **6)**, leave jumper in place and perform voltage output test. If test results are now satisfactory, replace regulator and retest. If load voltage increase is still less than specified, remove jumper from plug and install between alternator "BAT" and "FLD" terminals. Repeat voltage output test. If test results are now satisfactory, wiring harness is at fault and must be repaired or replaced. If load voltage increase is still less than .5 volt, fault is in alternator.

NOTE – *There are no recommended adjustment procedures for this regulator. If not within specifications, regulator must be replaced.*

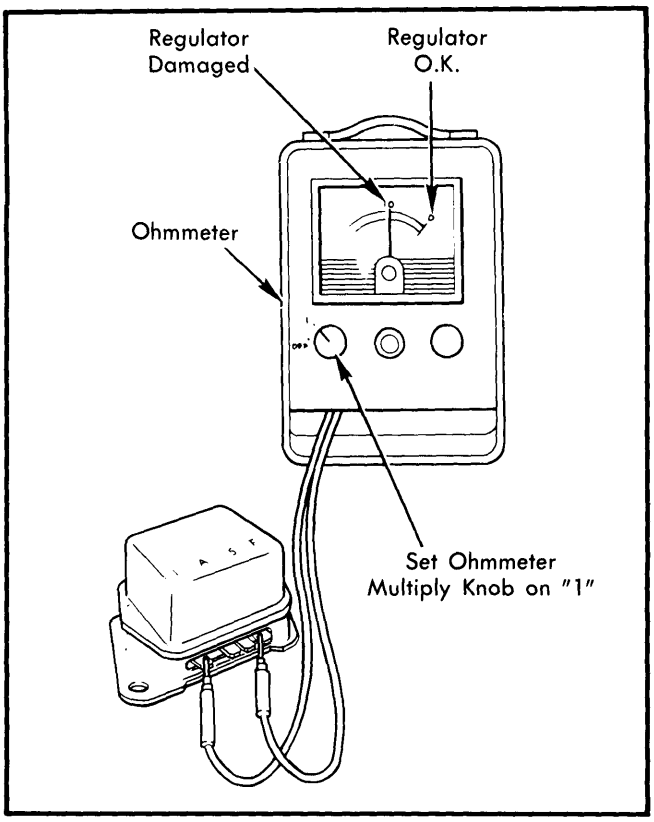

Fig. 1 Regulator Open Wire Test