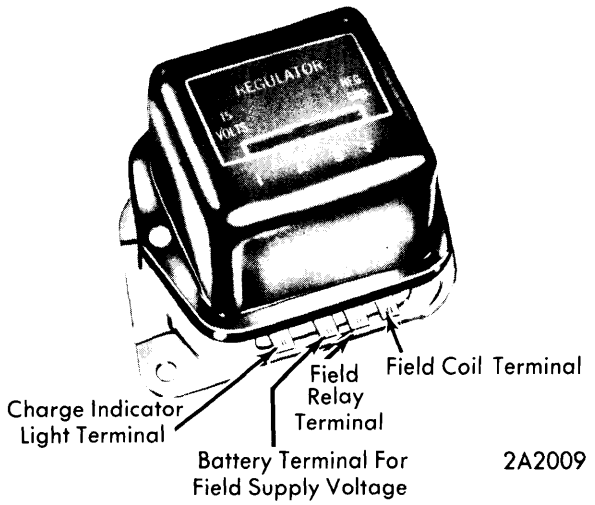
MOTORCRAFT DOUBLE CONTACT REGULATOR

Ford Pantera (1973)

DESCRIPTION

The regulator is composed of two control units, field relay, and a voltage limiter. The electromechanical regulator is factory calibrated and is not to be adjusted. If found not operating within specifications it must be replaced.



REGULATOR TERMINAL IDENTIFICATION

OPERATION

FIELD RELAY

The field relay serves to connect charging system voltage to field current when engine is running.

CHARGE INDICATOR CIRCUIT LIGHT

When ignition switch is closed the charge indicator light, in parallel with a 15 Ohm resistor, supplies starting field current. When alternator builds up enough voltage to close the field relay contacts, full voltage is applied to the field, and charge indicator light goes out.

CHARGE INDICATOR CIRCUIT AMMETER

When ignition switch is closed, field relay is energized. Closing of field relay contacts connects the battery and alternator output to the field through voltage limiter contacts.

VOLTAGE LIMITER

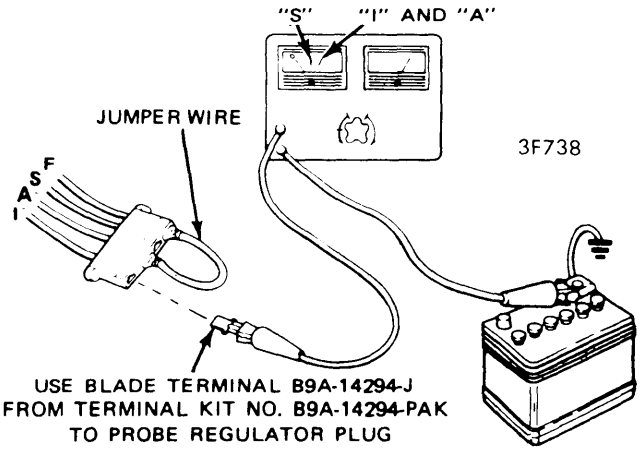
Temperature compensated voltage limiter is a double contact unit. Voltage limiting is accomplished by controlling the amount of current supplied to the rotating field.

TESTING

REGULATOR CIRCUIT TESTS

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

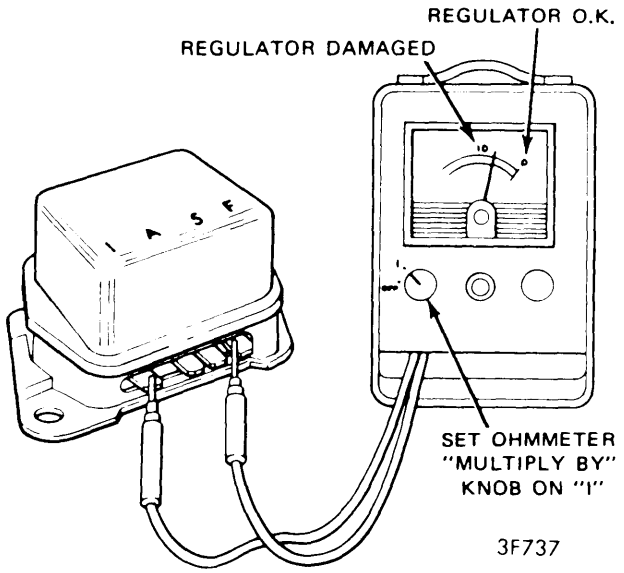
"S" & "I" Circuit With Indicator Light – Disconnect regulator wiring plug, and install a jumper wire between "A" and"F" terminals. With engine idling, connect positive lead of voltmeter to "S" and then to"I" terminal of regulator wiring plug. Voltage of "S" circuit should be about 1/2 of "I" circuit. If no voltage present repair alternator or wiring circuit at fault. If above tests are satisfactory (voltage OK) regulator requires replacement.



Tests at regulator plug for voltage at the "I", "A", and "S" terminals, engine at idle speed (500-600 RPM).

"S" & "I" CIRCUIT TEST

Regulator Burned Open Wire – A check for burned open wire is made by connecting an Ohmmeter from the "I"to "F" terminals of regulator. The reading should indicate 0, no resistance. If reading indicates about 10 Ohms, connector wire inside regulator is open. Field circuit ground caused this condition and must be repaired before installing a new regulator.



BENCH TESTING REGULATOR FOR A BURNED OR OPEN CONNECTOR WIRE

BURNED OPEN WIRE TEST

Regulator Output – Make certain alternator belt is correctly tensioned and that all charging circuit 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 2-3 minutes and note voltage reading. If voltage reading is 1-2 volts higher than battery voltage, regulator is OK. If voltage reading not within this range replace regulator. If reading is OK, turn on headlights and blower motor to high speed. Voltage should not decrease more than 1/2 volt. Replace regulator if voltage drop exceeds 1/2 volt.

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