FORD MOTOR CO. TRANSISTORIZED REGULATOR

DESCRIPTION

This unit is a fully transistorized voltage regulator using transistors and diodes to regulate the alternator field current and control alternator output. It is used optionally with the conventional double contact voltage regulator and can be identified on sight (see illustration). An adjustment is provided (40-ohm adjustable resistor on bottom of regulator case) by which regulator performance can be adjusted to provide correct operating voltages. This regulator is used with a conventional field relay (separate unit) and wiring is different on cars using an ammeter instead of a charge indicator light (see wiring diagrams).

TESTING

► *SERVICE PRECAUTIONS: When testing or servicing alternator or regulator, observe the following precautions to avoid damage to components:*

Alternator - DO NOT ground field circuit between alternator and regulator nor operate alternator on open circuit with field winding energized. DO NOT ground output terminal and ALWAYS disconnect battery negative terminal before removing the wire from alternator output terminal. Do not attempt to polarize alternator. Polarization is not required and any attempt to polarize the alternator will damage voltage regulator and wiring.

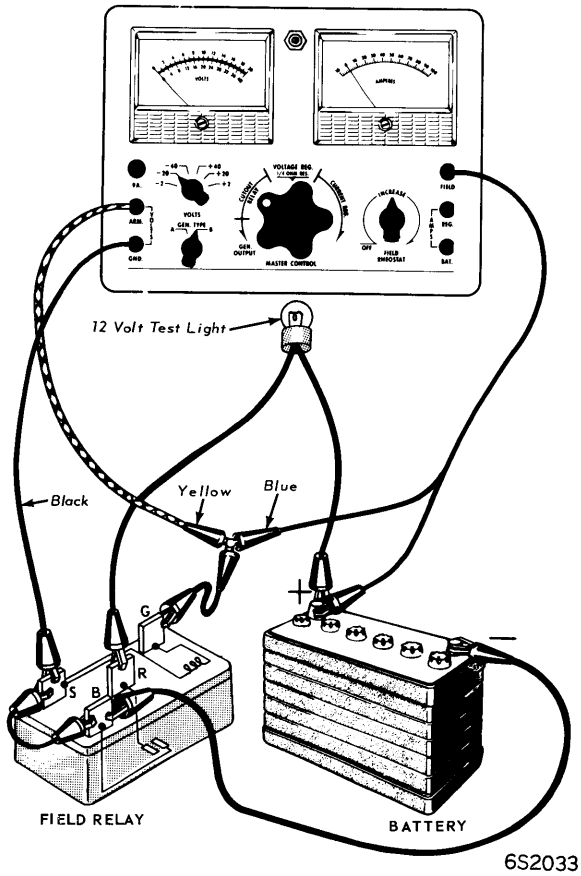
Regulator - Turn ignition switch off when working on regulator or field relay. Use care to prevent short circuits between regulator and relay circuits and case or base when working on these units. Use insulated tools when making adjustments.

Field Relay

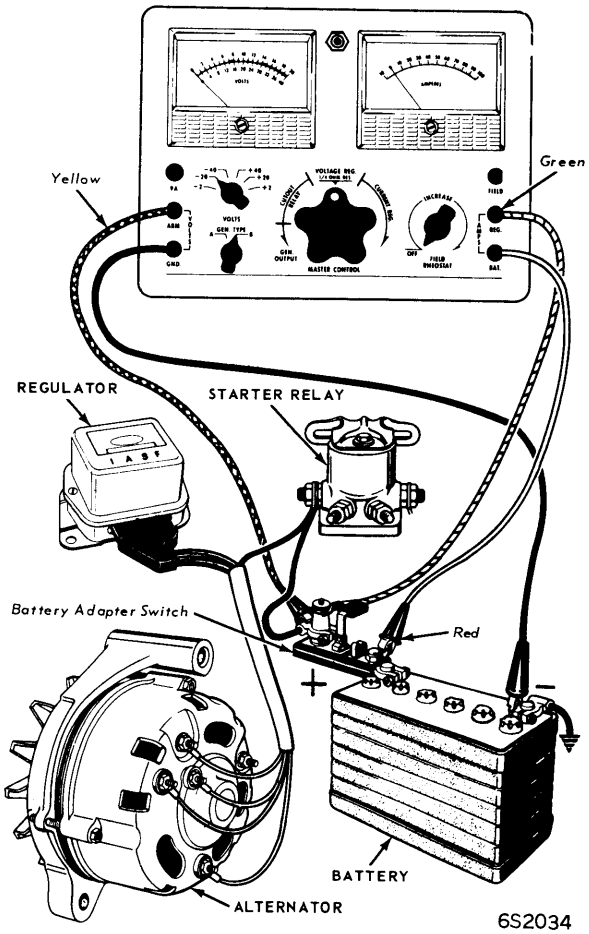
With relay disconnected from alternator and regulator circuits, make test connections as shown in illustration. With field rheostat control in maximum counterclockwise position, slowly rotate control clockwise until test light comes on, note voltmeter reading at this point *(CAUTION - If relay closes immediately and test light comes on with rheostat close to maximum counterclockwise position, press red button between meters and repeat test. If closing voltage is not within limits (see Specifications), replace relay.*

Voltage Regulator

NOTE - Battery must be fully charged (1.225 or higher) and regulator must be at normal operating temperature (20 minutes of operation on car with hood down) before making tests.



FIELD RELAY TEST CONNECTIONS



VOLTAGE REGULATOR TEST CONNECTIONS

Copyright (c) 2003 Mitchell Repair Information Company

FORD MOTOR CO. TRANSISTORIZED REGULATOR (Continued)

Make test connections to battery as shown in illustration. Turn all accessories off (dome light must not be on). Close battery adapter switch and start engine, then open adapter switch. Secure voltage regulator thermometer to regulator cover and operate engine at approximately 2000 RPM for 5 minutes. When voltage regulator temperature stabilized, ammeter should indicate less than 10 amperes charging current with control set at "¼-Ohm" position. Note voltmeter reading and thermometer reading. Voltage reading should be correct for ambient temperature noted (see Specifications). If regulated voltage not within specified limits, adjust regulator as directed below.

Voltage Limiter Specifications (1966 Models)

Ambient Temp.	Setting (Volts)	Ambient Temp.	Setting (Volts)
50° F	14.3-15.1	125° F	13.8-14.6
75° F	14.1-14.9	150° F	13.6-14.4
100° F	13.9-14.7	175° F	13.5-14.3

Voltage Limiter Specifications (1967-68 Models)

Ambient Temp.	Setting (Volts)	Ambient Temp.	Setting (Volts)
50° F	14.1-15.1	125° F	13.6-14.6
75° F	13.9-14.9	150° F	13.4-14.4
100° F	13.7-14.7	175° F	13.3-14.3

Field Relay Specifications

Closing Voltage - 2.5-4.0 volts.

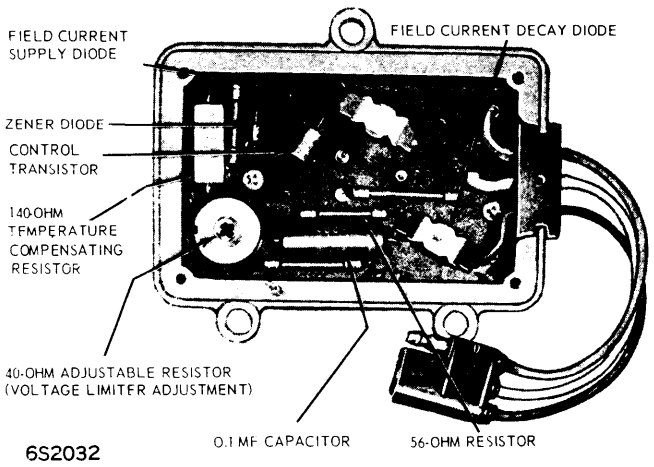
ADJUSTMENT

Field Relay

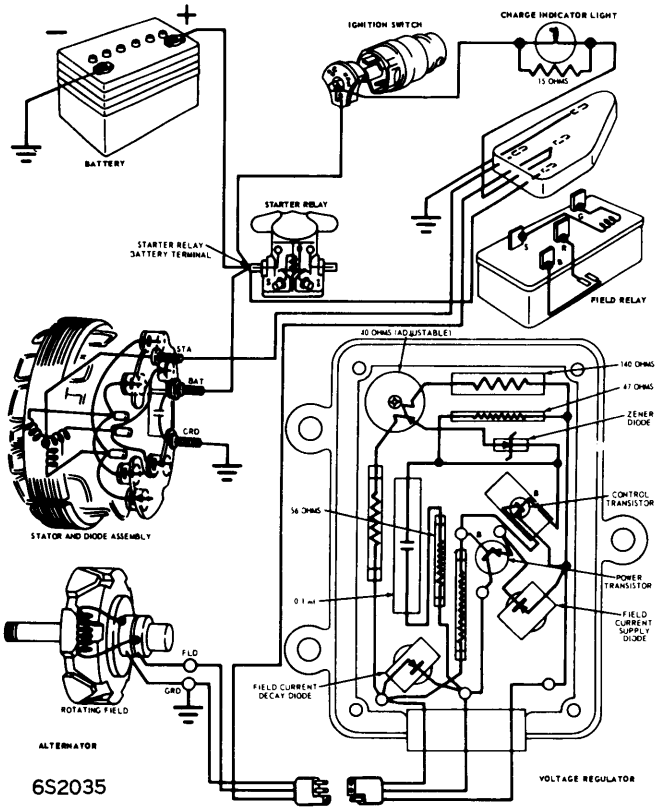
Adjustments not recommended (replace relay if performance not in accordance with specifications).

Voltage Regulator

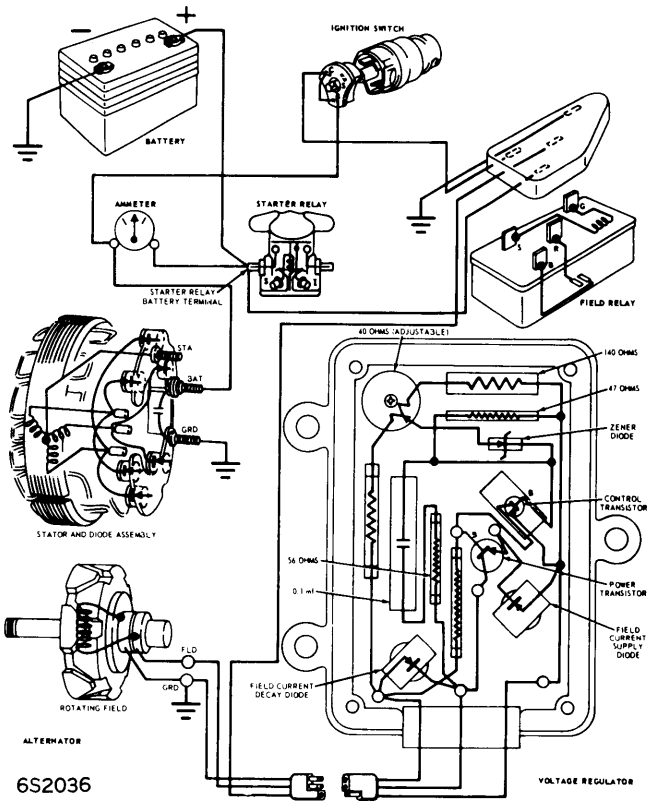
Remove regulator mounting screws and remove bottom cover from regulator case. Turn adjusting screw on 40-ohm adjustable resistor (see illustration). Install bottom cover and repeat voltage regulator test.



FORD MOTOR CO. TRANSISTORIZED REGULATOR



ALTERNATOR & TRANSISTORIZED REGULATOR WIRING (WITH INDICATOR LIGHT)



ALTERNATOR & TRANSISTORIZED REGULATOR WIRING (WITH AMMETER)

Copyright (c) 2003 Mitchell Repair Information Company