

## FORD MOTOR CO. WITH INTEGRAL REGULATOR

► **SERVICE CAUTIONS**-When testing or servicing alternator or regulator, take the following precautions to avoid damage to components:

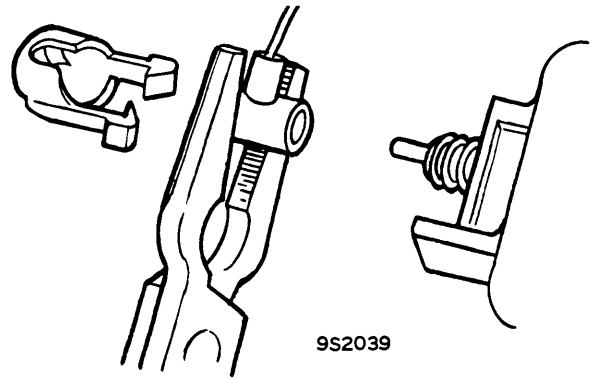
**Battery** - Do not reverse battery connections. Negative terminal must be connected to ground. When charging battery, cables must be disconnected from battery before connecting charger. **DO NOT use charger as a booster for starting engine.** If a booster battery is used to start engine, negative cable of booster battery must be connected to car battery negative terminal. **DO NOT disconnect battery while engine is running or integral voltage regulator may be damaged.**

**Alternator**- DO NOT ground field circuit between alternator and regulator or operate alternator on an open circuit with field winding energized. DO NOT ground output terminal or attempt to polarize alternator as polarization is not required.

**Regulator** - Turn ignition switch off when working on regulator. Use care to prevent a short circuit between voltage regulator relay and regulator base when working on regulator. Use an insulated tool when making adjustments.

► **ERRATIC OPERATION NOTE** - Erratic operation of alternator system may result from poor connection in exciter circuit. A pin type connector linking exciter circuit to alternator regulator may be sprung open on some vehicles. If connector does not fit pin on regulator tightly, squeeze wire connector with pliers to insure good connection (see Illustration).

► **SHORTED ALTERNATOR WIRING** - A plastic coated metal clip used to hold wiring harness to alternator may become chafed causing wiring to short on clip. To prevent possible wiring shorts, replace with a nylon clip.



PIN TYPE EXCITER CIRCUIT CONNECTOR

### TESTING

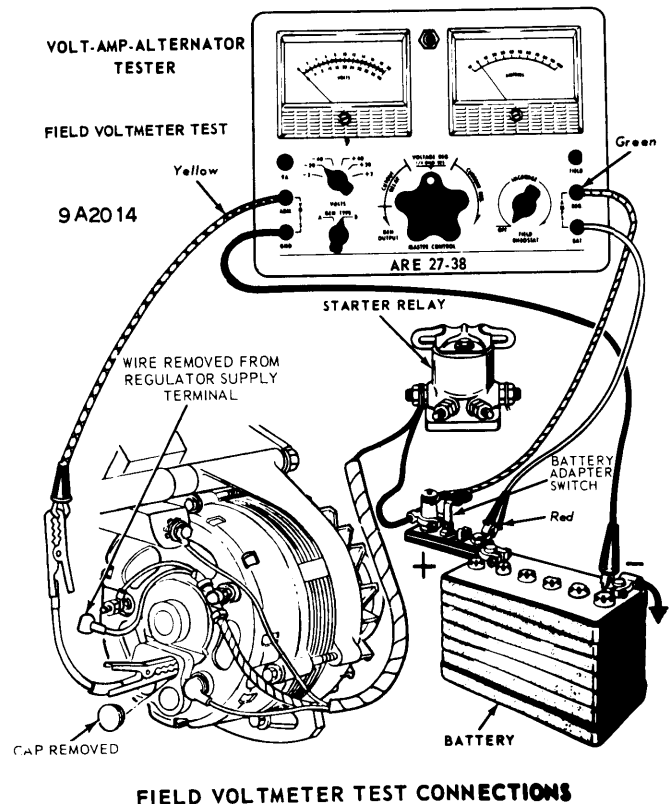
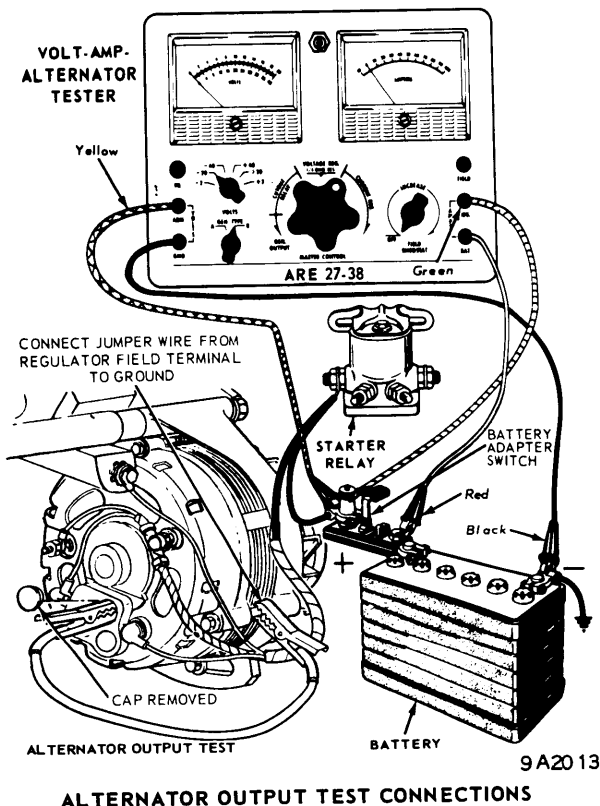
Tests are made with test set illustrated. If other equipment used, follow manufacturer's instructions.

#### Alternator Output

Use care when connecting test equipment to alternator as alternator output terminal is connected to battery at all times. Never connect the regulator battery terminal to the regulator field terminal. This will permanently damage regulator.

**NOTE** - Alternator test connections are made by removing cap, as shown, to gain access to recessed terminal in molded regulator block.

1) Connect test equipment as shown in illustration. Be sure that jumper wire is connected as shown and that it is securely clipped to regulator field terminal. Close battery adapter switch, start engine, then open adapter switch.

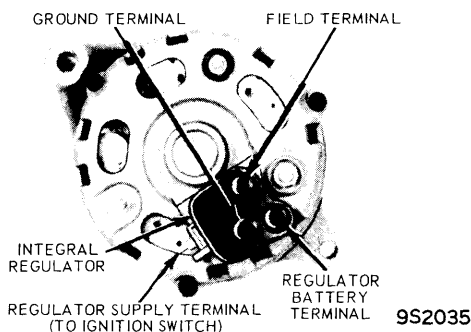


## FORD MOTOR CO. WITH INTEGRAL REGULATOR (Cont.)

The voltage reading must be maintained between 10 and 15 volts. Increase engine speed to 2000 RPM. Turn off all lights and electrical accessories.

2) Turn master control clockwise until voltmeter on tester indicates 15 volts. Observe ammeter on tester. Reading should be between 50 and 57 amperes. Return engine to idle speed before releasing master control knob.

3) **Test Conclusions** - An output of 2 to 8 amperes below minimum specifications usually indicates an open diode rectifier. An output of approximately 10-15 amperes below minimum specifications usually indicates a shorted diode rectifier. An alternator with a shorted diode will usually whine, which will be most noticeable at idle speeds.



ALTERNATOR WITH INTEGRAL REGULATOR

### Specifications

| Alternator No. | Amperes | RPM  |
|----------------|---------|------|
| C8LF-B.....    | 55..... | 4200 |

### Field Voltmeter Test

- 1) Turn ignition switch OFF. Remove wire from regulator supply terminal.
- 2) Connect tester and make knob adjustments as shown in illustration.
- 3) Voltmeter reading should be 12 volts. If there is no voltage reading, the field circuit is open or grounded.

4) If voltmeter reading is more than one volt but less than battery voltage, there is an indicated partial ground in alternator field circuit.

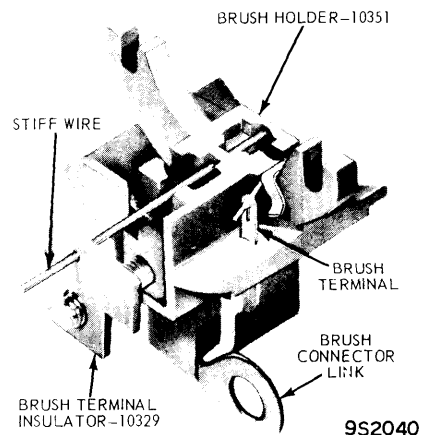
| Alternator Amps. | Field Current | Voltage |
|------------------|---------------|---------|
| 55.....          | 2.8-3.3.....  | 12.0    |

### OVERHAUL

**NOTE** - Overhaul procedure is same as for Ford alternator with separate regulator with exception of the following integral regulator removal and installation.

**Integral Regulator Removal** - Disconnect battery ground cable, loosen alternator mounting bolts, remove belt and swing alternator down so regulator will clear engine. Remove terminal covers from regulator and nuts from alternator studs. Remove regulator from alternator, press on sides of plastic retainer clip and remove regulator voltage supply wire from regulator. **NOTE** - Do not attempt to remove connector by pulling on wire. Do not discard retainer clip.

**Integral Regulator Installation** - Reverse removal procedure. Torque ground and field terminal 15-25 in/lbs. and battery terminal 10-15 in/lbs. **CAUTION** - Do not over torque. Apply pressure on alternator front housing only when tightening belt.



ALTERNATOR BRUSH ASSEMBLY