LEECE-NEVILLE

►CHANGES, CAUTIONS, CORRECTIONS

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

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

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. Do not ground regulator "F" terminal, nor connect "F" and "G" terminals together when checking for maximum output or regulator contacts will be fused together.

DESCRIPTION

Two unit type has a load (field) relay and a voltage regulator. All units are of the conventional vibrating contact design with the voltage regulator having an upper and lower set of contacts for more precise control under varying load conditions. Load (field) relay has a single core winding and a single set of contacts.

TESTING

NOTE - Regulator is "temperature compensated" type. Make the following tests after regulator is heated and stabilized after 30 minutes operation with 10 ampere load.

Load (Field) Relay

Connect a carbon pile rheostat from battery positive post to regulator IGN terminal, and a voltmeter positive lead also to regulator IGN terminal with voltmeter negative lead grounded. Turn full resistance into the circuit and slowly decrease resistance until relay contacts close. Closing voltage should be as specified. To adjust, bend armature spring lower hanger down to increase voltage, up to decrease voltage.

Voltage Regulator

Either Test 1 or Test 2 may be used.

Test 1 - 1) Disconnect battery ground cable and disconnect battery wire at regulator BAT terminal. Connect ammeter positive lead to regulator BAT terminal and negative lead to wire which was disconnected from regulator. Connect voltmeter positive lead to regulator BAT terminal and negative lead to ground. Connect a carbon pile rheostat across battery. Reconnect battery and bring engine speed to 750 RPM and adjust rheostat to obtain 15-20 amperes charging current. Voltage reading should be as specified for operation on upper contacts. To adjust, bend armature spring lower hanger up or down as required.

2) Slowly increase engine speed and note voltage rise. Maximum voltage should be as specified and will occur just before regulator starts to operate on lower contacts. This is the "transfer voltage". *NOTE - Make this test with all resistance turned out of circuit and no other load other than the ignition system. With fully charged battery, there should be no more than 7 amperes charging rate.* If voltage setting for upper contact operation was correct, transfer voltage will be correct.

3) Increase engine speed to 2000 RPM and note voltage reading. If not as specified, adjust regulator air gap. Regulator will be operating on lower contacts, and this is known as the "operating voltage".

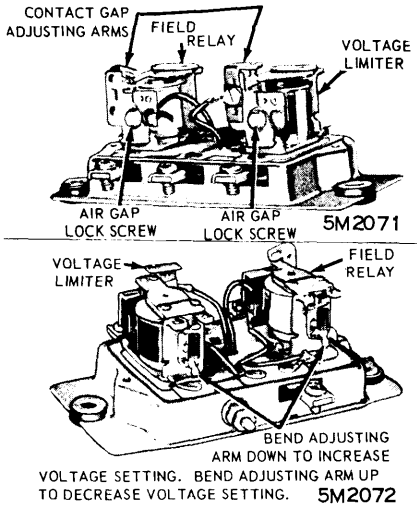
Test 2 - 1) Connect an ammeter in series with battery lead to regulator and a voltmeter between BAT and G regulator terminals. Connect a set of earphones (not less than 1000 ohms resistance) to F and G regulator terminals. Start engine and slowly increase speed. Listen with earphone for start of vibration of regulator contacts and note voltage reading. Regulator is operating on upper contacts. If voltage not as specified, bend armature spring lower hanger up or down as required.

2) Slowly increase speed past vibration on upper contacts and note voltage when vibration stops. Vibration stops immediately before regulator operates on lower contacts. This maximum voltage is "transfer voltage" and must be as specified. Adjust by bending armature spring lower hanger up or down as required.

3) Increase speed slowly past "transfer voltage" point and note start of vibration on lower contacts. If not as specified, adjust voltage regulator air gap.

ADJUSTMENT

Refer to illustrations.



REGULATOR ADJUSTMENT POINTS (2-UNIT TYPE SHOWN - 3-UNIT TYPE SIMILAR)

LEECE-NEVILLE ALTERNATOR REGULATOR SPECIFICATIONS

	LOAD (FIELD) RELAY				VOLTAGE REGULATOR				
					Operating Voltages				
Car Model	Closing Volts	Point Gap ①	Air Gap ②	Hinge Gap	Upper	Transfer	Lower	Point Gap ④	Air Gap ④
Ford Motor Co. 53,60,65 Amp.⑤	6.2-7.2	.024-.026"	.011-.013"	Preset	.....	.....	13.9-14.9⑥	.018-.020"	.042-.052"
53 Amp. ③	1.6-2.6	.018-.020"	.009-.011"	Preset	.....	.....	13.9-14.9⑥	.018-.020"	.042-.052"
Rambler R0013703RA	6.8-7.0	.024-.026"	.011-.013"	Preset	14.1-14.5	14.8	14.1-14.5⑦	.018-.020"	.031-.039"

① - Contacts open. ② - Contacts closed. ③ - With indicator light. ④ - Lower contacts closed. ⑤ - With Ammeter.
⑥ - 1967-69 Models 13.9-14.9; Others 14.1-14.9. ⑦ - 1967-69 Models 14.1-14.5; Others 13.6-14.0.