

# Alternator Regulators

## CHRYSLER CORP. DOUBLE CONTACT

### DESCRIPTION

Regulates electrical system voltage by limiting output voltage generated by alternator. Voltage regulator is connected in field circuit between battery and field terminal of alternator. Unit is a temperature compensated, vibrating type voltage regulator with two sets of contacts using a common armature. Upper and lower stationary contacts are mounted on a plastic bracket which is attached to regulator frame. Upper contact bracket is connected to "IGN" terminal by a fusible wire and lower contact bracket is connected to ground by another fusible wire. Armature is connected to the insulated "FLD" terminal. Regulator operates on either upper or lower contacts depending on load and battery requirements.

### TESTING

#### UPPER CONTACTS

- 1) With engine at normal operating temperature and ignition switch off, disconnect wire at "IGN" terminal of regulator and install an on-off switch and wire in series with voltage regulator and wire disconnected from regulator (see illustration). Connect positive lead of a voltmeter to on-off switch and negative lead of voltmeter to a good ground.
- 2) Disconnect lead at alternator "BAT" terminal and connect an 0-50 ampere scale D.C. ammeter in series between terminal and disconnected wire. **CAUTION** — If field circuit is grounded on "FLD" terminal of regulator when removing or installing lead while ignition is on, fuse wire in regulator circuit will be blown and regulator damaged.
- 3) Connect carbon pile between battery posts, then start and operate engine at 1250 RPM. Adjust carbon pile to obtain a 15 ampere output on ammeter. No current reading on ammeter will indicate a low set regulator or a blown fuse wire between upper stationary contact and "IGN" terminal. Correct as necessary, then operate engine for 15 minutes to ensure system temperature is normalized.
- 4) With engine operating at 1250 RPM and carbon pile adjusted to maintain 15 amperes, measure temperature at regulator by holding a thermometer 1/4" from regulator cover.

Cycle voltage regulator circuit by momentarily opening and closing the on-off switch several times. Voltmeter will now indicate setting of upper contacts. If regulator operates within specifications, proceed to test lower contacts. If reading is not within specifications, remove regulator cover and adjust voltage setting as outlined. See *Upper Contact Voltage Setting*.

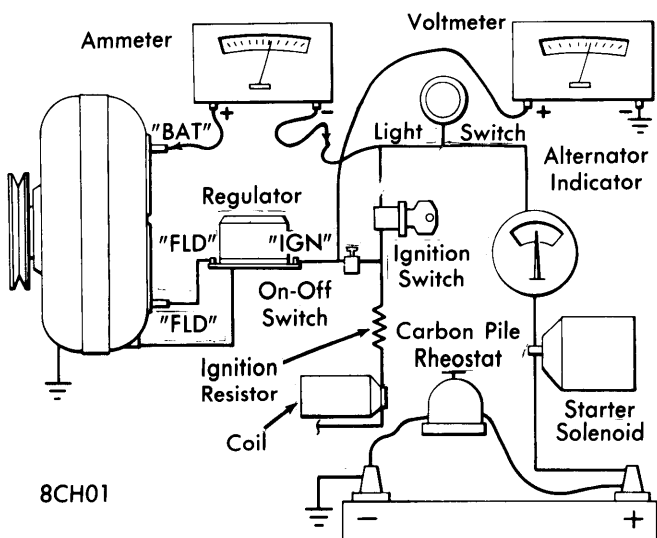
### Specifications

Ambient Temperature	Voltage Range
47°F.....	13.6-14.6
70°F.....	13.5-14.5
93°F.....	13.4-14.4
117°F.....	13.3-14.3
140°F.....	13.2-14.2
163°F.....	13.1-14.1

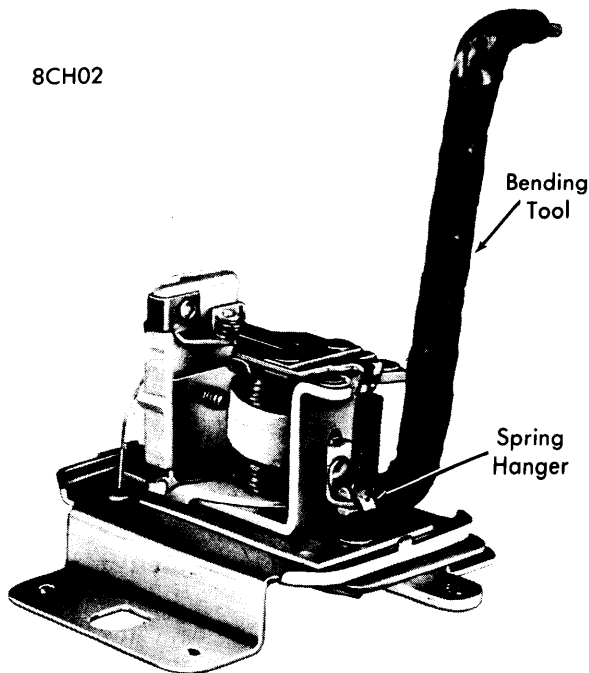
#### LOWER CONTACTS

**CAUTION** — Be sure negative post of battery is always connected to ground. Incorrect battery polarity may result in wiring harness damage and may damage alternator rectifiers. Do not ground alternator field circuit, as this may damage regulator.

- 1) Increase engine speed to 2200 RPM. Adjust carbon pile to decrease current load to seven amperes and measure temperature at regulator cover to ensure it is the same as for upper contacts test. Cycle regulator circuit by momentarily opening and closing the on-off switch several times.
- 2) Voltmeter will now indicate setting of upper contacts. Voltage increase should be .2-.7 volts above that obtained with regulator operating on upper contacts. If voltage increase is not within limits, air gap and/or contact clearance is out of specification limits and must be adjusted. See *Adjustments*.



VOLTAGE REGULATOR TEST CONNECTIONS



ADJUSTING SPRING TENSION

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## CHRYSLER CORP. DOUBLE CONTACT (Cont.)

### ADJUSTMENT

#### UPPER CONTACT VOLTAGE SETTING

1) Remove regulator cover and use a suitable tool (insulated) to adjust setting. Bend regulator lower spring hanger down to increase voltage setting and up to decrease setting. Regulator must be installed, correctly connected and retested after each adjustment.

2) If repeated readjustment is necessary, it is permissible to use a jumper wire to ground regulator base to fender splash shield for testing in place of reinstalling regulator each time. Cover must be reinstalled, regulator connections properly connected and regulator insulated by fender cover to prevent grounding regulator terminals or resistance units.

#### LOWER CONTACT POINT GAP

Remove regulator cover and measure lower contact point gap. Gap must be  $.014 \pm .002$ ". Adjust lower contact gap as necessary by bending lower stationary contact bracket, making sure contacts are in alignment. If lower contact gap is correct and voltage regulator setting is still outside .2-.7 volt increase, adjust air gap.

### AIR GAP ADJUSTMENT

1) Connect a small dry cell test lamp in series with "IGN" and "FLD" terminal of voltage regulator. Insert a .048" wire gauge between regulator armature and core of voltage coil next to stop pin on armature. Press down on armature until armature contacts wire gauge. Upper contacts should just open and test lamp should be dim.

2) Insert a .052" wire gauge between armature and voltage coil core, next to stop pin on armature. Press down on armature until it contacts wire gauge. Upper contacts should remain closed and test lamp should remain bright.

3) To adjust air gap, loosen stationary contact bracket screw and move bracket up or down as necessary to obtain proper air gap setting as follows: If voltage difference was above .7 volt, reduce air gap to a minimum of .045" with contacts open and test lamp dim. At .048", contacts should close and test lamp should be bright.

4) If voltage difference was below .2 volt, increase air gap to maximum of .055" with contacts closed and test lamp bright. At .052", contacts should be open and test lamp should be dim. *NOTE — Air gap must be checked with stationary contact bracket attaching screw fully tightened.*