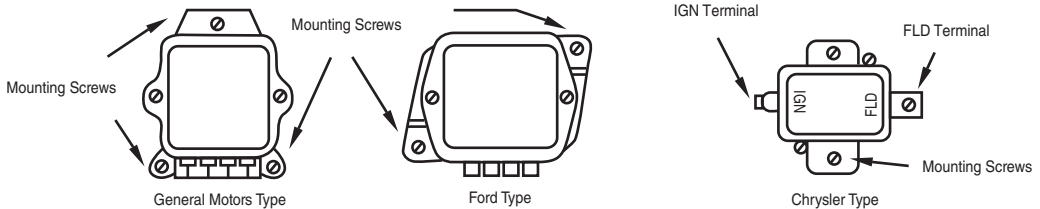


VOLTAGE REGULATOR INSTALLATION INSTRUCTIONS FOR ALL VEHICLES WITH ALTERNATORS



REMOVAL

1. Turn ignition key off.
2. Disconnect battery cable at negative battery terminal.
3. **GENERAL MOTORS** and **FORD TYPE**: Disconnect wiring harness plug at the regulator. **CHRYSLER TYPE**: Remove push-on connector from IGN terminal and the lead connected to terminal marked FLD.
4. If a wire is connected to the ground screw or mounting screw, observe connections for reconnecting in the same manner on the new installation.
5. If a condenser is installed, observe connections for reconnecting in the same manner on the new installation.
6. Remove the regulator mounting screws and save for mounting the new regulator. **NOTE**: Remember which direction the regulator terminals are pointing.*
7. Remove the old regulator.

INSTALLATION

1. Check to be sure ignition is in off position.
2. Place the new regulator over the mounting holes in same position as the old regulator.
3. Install the mounting screws that were saved when removing the old regulator.
4. Reconnect wiring harness plug or wires.
5. Reconnect battery cable to the battery terminal.
6. **CAUTION: DO NOT ATTEMPT TO POLARIZED THE CHARGING SYSTEM**
7. Regulator installation is complete.
8. Turn ignition key on and start the car engine. Turn on the headlights and accessories for 1-2 minutes, then turn them off. Press down on the accelerator pedal, the red indicator light should stay off. If your car is equipped with an ammeter, it should show a deflection of the needle to the right of the 0 center position. The amount of deflection depends on the amount of charge your battery has. (Less deflection for a better charged battery.)

9. If the conditions of step 8 above are not met, we recommend you consult a qualified electrical systems mechanic. Your car may have other problems which could cause extensive electrical damage.

IMPORTANT NOTICE: A low charge battery, or a battery that has shorted plates and is not capable of being charged to a normal voltage, can cause a good voltage regulator to appear defective. The reason is that it may demand a greater charging rate than the generator can supply at the voltage setting of a good regulator. As a result, the voltage output would appear low, when in fact the voltage has never come up to the regulator's setting.

MECHANIC'S SERVICE TIPS (MECHANICAL VOLTAGE REGULATORS)

TEMPERATURE COMPENSATION FEATURES

All VRs are designed to compensate for changes in temperature, matching the output voltage to the needs of the battery. They produce higher voltage in cold weather and lower voltage in warm weather, especially the electromechanical type. This in turn affects the voltage calibration, therefore you should always operate a voltage regulator for 20 minutes to stabilize the internal heating effects before checking the voltage setting. Voltage specifications of regulators after 20 minutes warm up (at 70 °F) are 13.5 - 15.0 volts for alternator output currents between 3 - 21 amp.

SERVICE TIPS

1. Always measure voltage regulator output with the cover on. The steel cover is part of the magnetic circuit and its removal will affect the calibration of the voltage output.
2. Never adjust the contacts to calibrate a voltage regulator. Changing the air gap between the contacts will cause the armature to stay closer to one contact. Calibration should always be done by bending the lower retaining hook for the spring. Decreased spring tension will lower voltage while increasing the tension will increase voltage. **Note**: This is a sensitive adjustment and it is not recommended that any adjustments be made in the field.
3. In case of overcharging, check for missing or improper ground straps. Without proper ground, the regulator will sense only part of the alternator voltage, which causes the alternator to overcharge to compensate for lost voltage. These problems are often intermittent since accelerator linkages and speedometer cables can provide partial yet unreliable engine-to-chassis ground paths.
4. New electromechanical regulators may smoke for the first 30 minutes of operation. The resistors under the regulators are varnished to keep the windings in place during manufacture. When the regulator is first turned on, the varnish burns off, occasionally giving off smoke.
5. Frequent replacement of regulators indicated alternator shorts. A partial short in the alternator field windings will overload the regulator contacts and result in premature failure. Shorts are often intermittent and difficult to detect. (Blown fuses on regulators are an indication of a shorted field. **DO NOT** install fuses rated more than 6 amps.) A bare spot in the field wire can ground intermittently and cause these problems.
6. In case of undercharging, check for loose fan belts. Loose fan belts will slip at high loads, reducing alternator output. Make sure the alternator can supply the rated current before condemning the regulator.