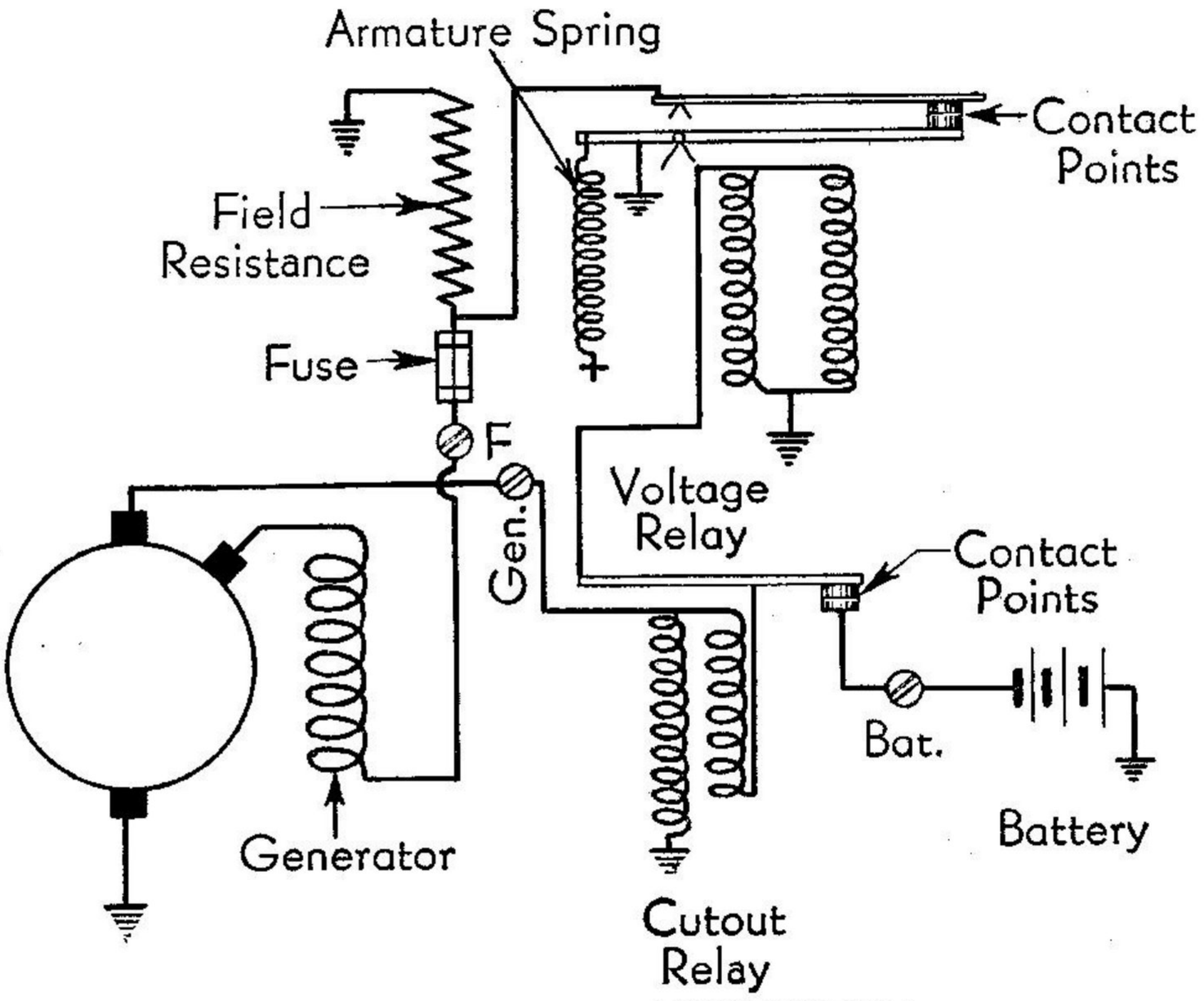
GENERATOR CONTROLS



DELCO-REMY, STEP VOLTAGE CONTROL
Wiring Diagram

the speed of the generator until the output remains constant. Under this condition, the output of the generator will be the amount for which the current regulator is adjusted. It is not absolutely necessary to turn on the lights when checking the current regulator but in case the battery is fully charged, it will prevent excessively high voltage within the electrical system while making the check. The unit is adjusted as described for the current regulator on 1935 Cadillac cars.

AUTO-LITE VOLTAGE REGULATOR

Chrysler, DeSoto, Dodge, Packard 120, Plymouth—1935, 1936. This third brush type of generator is fitted with a cutout relay and a voltage regulator mounted on top of the generator.

Two adjustments are provided for the generator, that for changing the rate of charge and for setting the generator cutout relay.

Before attempting to set the charge rate connect a jumper wire from the fuse cup to the ground. This cuts out the voltage control unit, which is necessary while adjusting the charge rate. Be sure to remove the wire after the charge rate is set.

When adjusting the generator charge rate the generator should be removed from the engine and the commutator band removed so that the exact space between the third brush and the main brush can be observed. The third brush rocker ring can then be rotated and should be adjusted so that there are four commutator bars exposed between the third brush and the main brush nearest the third brush. In no case should the brushes be set closer together than this.

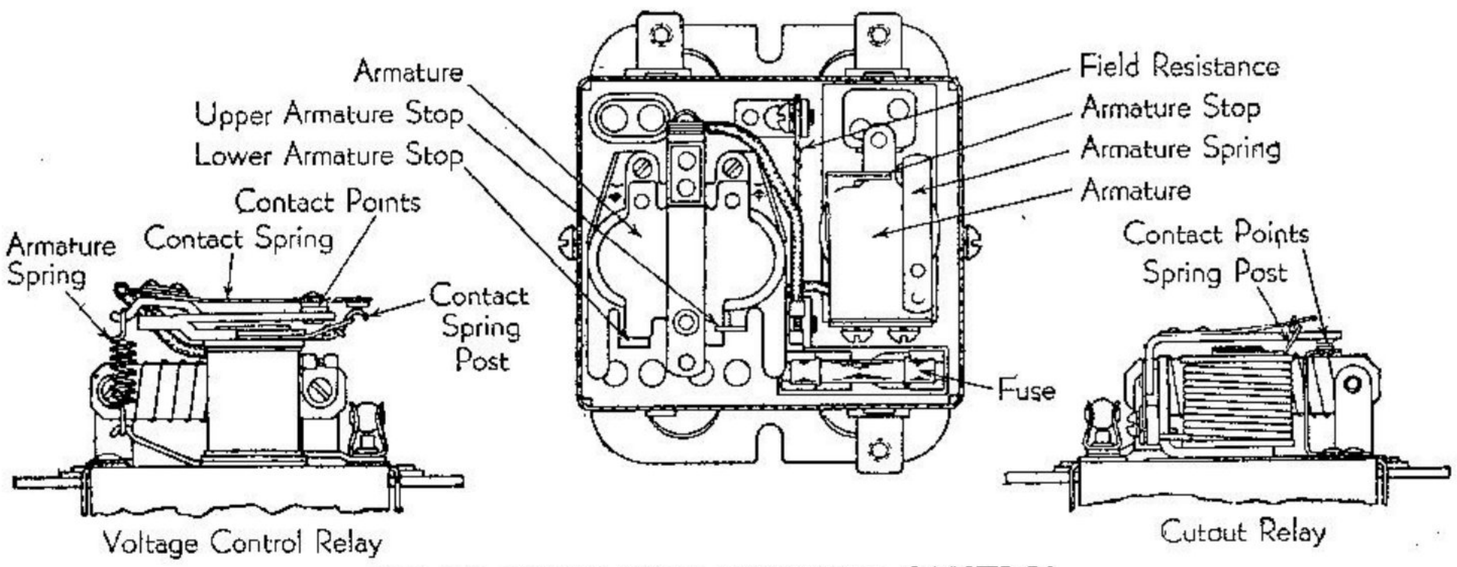
The cutout relay points close at 6.5 to 7.3 volts and open at 0 to 3 amperes discharge current. Align the points and set the point opening between .015" and .025" by bending the armature stop. Adjust the spring post to obtain the correct voltage for closing the contact points. Bending the post to increase tension will increase the voltage at which the points close.

Normally the voltage control relay points are closed and they remain closed when the generator starts to charge the battery. When the battery becomes fully charged and the generator terminal voltage reaches a predetermined high value, the contact points open, thereby automatically connecting a resistance into the field circuit of the generator which decreases the generator charging rate. When the voltage has decreased to its predetermined low value, the contact points will close, shorting out the resistance in the field circuit, causing the generator to again charge at the higher rate. This unit prevents the generator voltage from becoming abnormally high after the battery has reached its fully charged condition, provided the generator third brush is properly set and all connections are clean and tight.

This voltage regulator also regulates the charging rate according to temperature. It permits the generator to charge at higher rates when the temperatures are low and a lower rate when the temperatures are high. The compensation for temperature is accomplished by the use of a magnetic shunt which by-passes part of the magnetic flow when cold and to a lesser degree when hot. In other words, the resistance in the field circuit which weakens the generator charging rate, is included in the circuit for longer periods during warm weather and shorter periods during cold weather.

The voltage regulator also compensates the charging rate for increases in load. If the generator is operating on a low rate and a load slightly greater than the low rate is placed on the circuits, the regulator will immediately go to the higher rate because of the drop in voltage occasioned by the increase in electrical load.

To make adjustments, remove the generator and check it on a test bench. With the armature in the extreme downward position, the contact point opening should be set at .008" to .013". Adjustment is made by bending the upper contact support legs. connect an accurate voltmeter between the terminal marked "BAT" and the ground. With the generator at room temperature, the control relay points should open at 8.3 volts and close at 7.3 volts. Because this control unit is overcompensated for temperature change, the hot opening and



DELCO-REMY STEP VOLTAGE CONTROL