H. C. S.

SERIES 1,2,3, AND 4 (1920-21-22-23)

DELCO GENERATING, STARTING AND LIGHTING SYSTEM

DELCO IGNITION

BATTERY.—Willard, 6 volt, 80 ampere-hour. The negative (—) terminal is grounded.

IGNITION.—Coil Model No. 2170. Distributor Model No. 5246. Breaker contacts separate .018 inch. They are made of tungsten. When the condition of the contacts affects the ignition, remove and resurface with fine emery cloth or against the flat side of an emery wheel, finishing on a hard oil stone.

OILING.—Put 4 or 5 drops of light engine oil in the distributor shaft bearing every two weeks. If the track of the rotor button in the distributor head is not well polished, apply a small amount of vaseline with a soft cloth. If the car is driven more than 500 miles in two weeks, these attentions must be given every 500 miles.

TIMING.—Breaker contacts begin to separate when the piston entering power stroke is on top dead center, spark control lever and breaker assembly one-third advanced.

SPARK PLUGS.—Diameter, 7/8 inch. Spark gaps are .030 inch.

FIRING ORDER.—The firing order is 1, 3, 4, 2.

STARTER:—Model No. 187 or 185. The direction of rotation is counter-clockwise looking at the commutator end. Starter is connected to the engine through a Bendix drive. The lock torque is 14 pounds-feet.

OILING.—Put 5 or 6 drops of light engine oil in the starter oilers every month.

GENERATOR.—Model No. 186. Rotation is counter-clockwise, looking at the commutator end. Generator current regulation is by the third brush system. Maximum charging rate is 14 amperes, reached at 1000 R.P.M. of the armature, or 16-20 miles per hour.

Amperes	Generator Data	R.P.M.
Neutral		285
9.5		500
14		1000
12.5		1400
10		2000

Charging rate is varied by adjustment of the third brush setting. To vary the charging rate, first loosen the clamp nut on the front end of the generator one or two turns. Then turn the third brush adjusting screw in a clockwise direction to increase the charging rate or in a counter-clockwise direction to decrease the charging rate. Tighten the clamp nut and reseat the brush after adjusting position. Maximum charging rate must not exceed 16 amperes.

OILING.—Put 4 or 5 drops of light engine oil in each of the generator bearing oilers every two weeks. If the car is driven more than 500 miles in two weeks, the oiling must be done every 500 miles.

RELAY.—Relay is mounted on the generator frame. Relay closes at 285-300 R.P.M. of the armature or 7-8 miles per hour, and opens at 250-285 R.P.M. of the armature or 5-6 miles per hour. Relay contacts separate .046 to .062 inch. Air gap beween relay armature and coil core is .020 to .035 inch, contacts closed. To adjust relay, connect a voltmeter between the positive (+) generator brush and the ground. Then slowly speed up the generator and adjust the relay spring tension by bending the slowly speed up the generator and adjust the relay spring tension by turning the thumb nut, until the contacts close when the voltmeter indicates 7.5 volts. Clean relay contacts by drawing unglazed paper between them. If badly burned or pitted, resurface with well worn No. 00 sandpaper. Remove all grit. Adjust before again putting into service.

LAMPS:—Head lamps are 6-8 volt, 21 cp. Dimmer lamps are 6-8 volt, 4 cp. Dash and tail lamps are 6-8 volt, 2 cp. On 1920 and 1921 cars head lamps are 6-8 volt, 15 cp.

CIRCUIT-BREAKER.—A vibrating circuit-breaker mounted on the back of the switch takes the place of fuses. It requires a current of 25-30 amperes to start this device vibrating. While vibrating, the current is 10-15 amperes.