

BUICK

MODEL 21-SIX (1921) AND 22 SIX (1922) DELCO GENERATING, STARTING AND LIGHTING SYSTEM DELCO IGNITION

BATTERY:—(21SIX) Willard, Type SJWH-4 (22-SIX) Exide, Type 3-XC-15-1 6 volt 100 ampere hour. The negative (—) terminal is grounded. The starting capacity is 98 amperes for 20 minutes. The lighting capacity is 5 amperes for 17 hours.

IGNITION:—Coil Model No. 2159. Distributor is integral with the motor-generator. Breaker contacts separate .020 inch. They are made of tungsten. When the condition of the contacts affects the ignition, they must be removed and resurfaced with fine emery cloth or against the flat side of an emery wheel, finishing on a hard oil stone. The condenser is mounted within the breaker housing, and the resistance unit on the side of the housing.

Oiling:—Apply a small amount of grease on the distributor track two or three times during the first 2000 miles. After this it will be necessary to keep the glazed surface wiped with a clean cloth. Apply a small amount of vaseline on the breaker cam each 1000 miles. See also starter-generator oiling.

Timing:—Breaker contacts begin to separate when the seven degree mark on the flywheel (which is approximately one inch after top dead center) is at the indicator spark control lever and distributor drive shaft in the fully retarded position.

Firing Order:—The firing order is 1-4-2-6-3-5.

Spark Plugs:—Diameters $\frac{7}{8}$ inch. Gaps are .030 inch.

STARTER-GENERATOR:—No. 184. Starter and generator are combined into one unit. Depressing the starting pedal meshes the reduction gears, opens the generator circuit, and allows the motor brush to come in contact with the commutator, closing the starter circuit and cranking the engine. When the pedal is released, a spring reverses these operations. Direction of rotation is counter-clockwise, looking at commutator end. The pressure of the upper brush on the commutator should be $4\frac{1}{2}$ to 5 pounds and $2\frac{1}{4}$ to $2\frac{3}{4}$ pounds on the lower brush.

Starter Data

Torque	R.P.M.	Volts	Amperes
0 lb. ft.	Free	6	75
8	Lock	3.1	—

Regulation and Output.—Generator current regulation is by the third brush system.

Generator Data. Motor-Generator No. 184

Amperes	Cold Test	R.P.M.	Amperes	Hot Test	R.P.M.
Neutral	500	Neutral	520		
8.0-9.5	825	7.5-8.5	825		
12.5-16.0	1500	12.0-15.0	1500		
11.0-14.5	1800	11.5-14.5	1800		

To adjust the charging rate, loosen the two screws on the bottom of generator frame and move the slotted plate which carries the third brush holder to the left (looking at commutator end) to increase charging rate, and to the right to decrease it.

Motoring freely with over-running clutch, taking a current of 5.5 amperes, 6 volts. Field current is 2.5 amperes.

Oiling:—Put 4 or 5 drops of light engine oil in oiler provided for lubricating the rear armature shaft bearing every two weeks. Remove the front end cover over the commutators and put 3 or 4 drops of light engine oil in the exposed oil hole. Put 4 or 5 drops of light engine oil in the upper distributor shaft bearing oiler. If the car is driven more than 500 miles in two weeks, these attentions must be given every 500 miles. Refill the starting gear grease cup with soft cup grease and turn down two turns every month. Every six months, remove the plate on the side of the distributor housing and refill with soft cup grease to a level just above the manual advance ring.

RELAY:—There is no relay. The circuit between the generator and the battery is controlled by the ignition switch. The overrunning clutch at the driving end allows generator to operate as a motor when battery's pressure is above that of generator. If engine is killed when stopping, the noise made by the clutch serves to attract the operator's attention to open the ignition switch.

LAMPS:—Head lamps are 6-8 volt, 21 cp. Dash, tail, dome and side lamps are each 6-8 volt, 2 cp. On the 21-Six dimmer lamps connected to No. 6 terminal of the switch are used instead of the resistance. Head lamps are 6-8 volt, 17 cp. Dimmer lamps are 6-8 volt, 5 cp.

COMBINATION SWITCH:—Model No. 1159. A vibrating circuit breaker, mounted on

