GRAY

MODEL N (1922-23) O (1924-25)
WESTINGHOUSE GENERATING, STARTING AND LIGHTING SYSTEM
WESTINGHOUSE IGNITION

BATTERY.—U. S. L., Type CDX-311-X, 6 volt, 84 ampere hour, The starting capacity is 96 amperes for 20 minutes The lighting capacity is 5 amperes for 17 hours. The positive (+) terminal is grounded.

IGNITION.—Type SC. Breaker contacts separate .012-.016 inch, fully separated. The are made of tungsten. If the condition of the contacts affects the ignition, remove and resurface on a medium hard oilstone.

Oiling.—See generator oiling.

Timing:—Breaker contacts begin to separate when piston No. 1 is 7/32 inch before top dead center entering power stroke with the spark control lever and breaker assembly in the fully advanced position.

Resistance of primary coil is 1 ohm. The distance from the distributor arm to carburetor bowl should not be less than 1/4 of an inch.

Firing Order.—The firing order is 1, 3, 4, 2.

Spark Plugs: — The spark plug diameters are 7/8 inch. The gaps are .030 inch.

STARTER.—Frame No. 33-AB. The starter is connected to the engine through a Bendix drive. The direction of rotation is counter-clockwise, looking at the commutator current of 35-45 amperes, 5.5 volts. Cranking the engine at 100-150 R.P.M., takes end of the motor. Motor running free at 4100-4700 R.P.M. of armature takes a current of 150-200 amperes, 5-5.5 volts. The lock torque is 12 pound-feet, the current being 474 amperes, 4 volts.

Oiling.—Place 4 or 5 drops of light engine oil into each of the starter oilers once a month. If the car is driven more than 1000 miles in a month, this care must be given every 1000 miles.

GENERATOR.—Frame No. 34-ATI. The direction of rotation is counter-clockwise, looking at commutator end. The generator motoring freely takes 3-4 amperes at 6-6.3 volts. The shunt field current is 2.5-3.2 amperes, 6-6.3 volts. The third brush system is used for current regulation. To increase the generator output, loosen the screws on the rear end of generator bracket, and move the third brush in the direction of armature rotation (counter-clockwise). Move against the direction of rotation or in clockwise direction to decrease the charging rate.

Generator Test Data

Hot Test			Cold Test		
Amperes	R.P.M.	Volts	Amperes	R.P.M.	Volts
0	650	6.5	0	600	6.5
8-11	1500	7.5	12-14	1400-1600	7.5
7- 9	2500	7 -7.5	9-11	2500	7.0-7.5

Oiling:—Put 4 or 5 drops of light engine oil in the oiler on the commutator end of the generator every two weeks or each 500 miles. The bearing on the drive end of the generator is oiled by the splash from the gears.

RELAY.—Relay closes at 500-550 R.P.M. of armature, or 7 to 9 miles per hour, or 6-5 volts, and opens at 450-500 R.P.M. of armature, or 5 to 7 miles per hour, or 0-2 amperes discharge. Relay contacts separate .030 inch. The air gap between the relay armature and coil core is .012-.015 inch. The shunt coil resistance is 68 ohms.

LIGHTING.—Head lamps are each 6-8 volt, 21 cp. Dash, dome, tail and stop lamps are each 6-8 volt, 2 cp. All lamps have the single contact base.

FUSES.—The generator fuse is 5 amperes. Lighting fuse is 20 amperes.