



# GARDNER

MODEL G (1920-21) R, T, S (1922)

WESTINGHOUSE GENERATING, STARTING AND LIGHTING SYSTEM

WESTINGHOUSE IGNITION

**BATTERY.**—Willard, Type SJRN-3, 6 volt, 94 ampere-hour. The positive (+) terminal is grounded.

**IGNITION.**—Type S.C. Coil Model No. 288,761. Distributor Model No. 290,356. Breaker contacts separate .012 to .016 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 oilstone. The bumper on the contact spring is 1/8 inch off center from the line through the centers of the shaft and terminal screw, this offset being opposite to the direction of rotation of the cam. The above adjustment is made by bending the solid arm at the terminal block. A pull of 20 to 25 ounces, applied to the movable contact, is required to separate the contacts .020 inch. The spring pressure is adjusted by bending the solid arm at the point of contact with the contact spring. Resistance of the primary winding of the ignition coil is 1 ohm. Resistance of the secondary winding is 3700-4700 ohms.

**Oiling.**—Put 4 or 5 drops of light engine oil in the oiler at the side of the breaker box every two weeks. If the car is driven more than 500 miles in two weeks, the oiling must be done 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 in the fully retarded position.

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

**Spark Plug Gaps.**—Spark plug gaps are .025 inch.

**STARTER.**—Frame No. 33AB. Style 265,774-C. Rotation is counter-clockwise, looking at commutator end. Starter is connected to the engine through a Bendix drive. The brush tension is 2 to 3 pounds.

### Starter Test Data.—No. 33AB

Torque	R.P.M.	Volts	Amperes
0.00 lb. ft.	3700-4100	5.5	70
1.75 lb. ft.	1600	5.5	150
12.00 lb. ft.	Lock	3.7	500

**Oiling.**—Put 5 or 6 drops of light engine oil in each of the generator oilers every month.

**GENERATOR.**—Frame No. 35-AT. Style No. 331, 328. Rotation is counter-clockwise, looking at commutator end. Generator current regulation is by the third brush system. Maximum current output is 15-16 amperes at 7.5 volts, reached at 1450-1750 R.P.M. of the armature or 15-20 miles per hour.

### Generator Data

Amperes	R.P.M.	Volts
0	575	6.5
8.5-10.5	1000	7-7.5
15.0-16.0	1450-1750	7.5

Shunt field winding takes 3.25 to 4 amperes at 6 to 6.3 volts. Move the third brush in a counter-clockwise direction to increase the charging rate, and in a clockwise direction to decrease the charging rate.

**Oiling.**—Put 5 or 6 drops of light engine oil in 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 in the generator frame. Relay closes at 7 miles per hour or 575-600 R.P.M. of the armature, and opens at 5 miles per hour or 525-575 R.P.M. of the armature. Adjust the spring tension on the relay armature so that the contacts open with a discharge current of 0-3 amperes. Adjust the air gap between the relay armature and coil core so that the contacts close when the voltage of the generator reaches 6.2 to 6.5 volts. Air gap between relay armature and coil core is .005 inch, contacts closed. Contacts separate .030 to .035 inch. Resistance of the shunt coil is 68 ohms. 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, dash and tail lamps are 6-8 volt, 2 cp.

**FUSES.**—Generator fuse is 5 ampere. Lighting circuit fuses are 20 ampere.