HUPMOBILE

MODEL R-14 (1925) SERIAL NOS. R-160397 UP.
WESTINGHOUSE GENERATING, STARTING AND LIGHTING SYSTEM
WESTINGHOUSE IGNITION

BATTERY:—Willard Type, CRR-15. 6 volt, 105 ampere hour. The positive (+) terminal is grounded.

IGNITION: — Coil Model Nos. 288,761C and 395,271. Distributor Model No. 395,209. The breaker contacts separate .013-.015 inch. They are made of tungsten. When the condition of the contacts affects the ignition, remove and resurface on a medium hard oilstone. The surface of the contacts must be parallel. The ignition current is approximately 3 amperes.

Oiling.—Place 4 or 5 drops of light engine oil in the oil cup and apply a small amount of vaseline to the cam with a toothpick once to every two weeks. If the car is driven more than 500 miles in two weeks, this care must be given to every 500 miles.

Timing.—Breaker contacts begin to separate when the top dead center mark on the flywheel is 2 inches past the indicator, spark control lever and breaker assembly midway between the fully retarded and fully advanced positions.

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

Spark Plug Gaps.—Spark plug gaps are .020 to .022 inch.

STARTER.—Frame No. 33A.B. Style 298,808. The direction of rotation is counter-clockwise, looking at the commutator end. Running free the starter armature revolves at 3700-4100 R.P.M., taking 70 amperes at 5.5 volts. The torque at 1600 R.P.M. is 1.75 pound-feet, the current being 150 amperes at 5.5 volts. The lock torque is 12 pound-feet at 4 volts, the current being 500 amperes. The pressure of the brushes on the commutator is 1 to 1½ pounds.

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

GENERATOR:—Frame No. 36-DT. Generator current regulation is by the third brush system. The maximum charging rate is 10-12 amperes (generator hot), reached at 1250 R.P.M. of the armature or 20-25 miles per hour. The direction of rotation is counter-clockwise, looking at the commutator end.

Generator Data

Amperes	Cold Test R.P.M.	Amperes	Hot Test R.P.M.
0	450	0	500
8	675	6	725
15-17	1250	10-12	1250
12	840	9	850
10	2000	7- 8	2000

The cold test readings are obtained with a generator temperature under 95°F. The hot test readings are obtained after generator has been operated one hour at 1800 R.P.M., charging a half-charged battery. Shunt field current is 2.8 to 3.25 amperes at 6.0 to 6.6 volts. Operating as a motor the generator takes 5.0 amperes at 6.0 to 6.3 volts.

Oiling.—Put 5 or 6 drops of light engine oil in the commutator end bearing oiler every two weeks. If the car is driven more than 500 miles in two wees the oiling must be done every 500 miles.

RELAY:—Style No. 301210B. Relay closes at 10 M. P. H. or 500 R. P. M. of armature or at 6.5 volts, and opens when there is a discharge of from 0-3 amperes. The contacts separate .030-.035 inch. The air gap between armature of relay and coil core is .005 inch, contacts closed. 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.S.C. Dash, tail, side and dome lamps are each 6-8 volt, 3 cp.S.C.

FUSES.—Lighting circuit fuses are 10 ampere, Generator field fuse is 5 ampere.