

HUPMOBILE

MODEL E-2 (1925-26)

AUTO-LITE GENERATING, STARTING AND LIGHTING SYSTEM AUTO-LITE IGNITION

BATTERY.—Willard, Type SJR-6. 6 volt. 155 ampere hour. Starting capacity is 165 amperes for 20 minutes. Lighting capacity is 5 amperes for 31 hours. The positive (+) terminal is grounded.

IGNITION.—Coil Model 2182. Distributor Model 5295. Breaker contacts separate .0225-.0275 inch. Resurface contacts with a fine, flat jeweler's file or on a medium hard oilstone. Breaker uses double contacts with a four-sided cam, contact arms being set at an angle of 45° and opening alternately. Distributor is of the semi-automatic type. Manual advance is 38°. Automatic advance begins at 1600 R.P.M. and reaches a maximum of 21-26° at 3600 R.P.M. The tension of the breaker arm spring is 16-20 ounces.

Oiling.—Put 8 or 10 drops of light engine oil in the oiler on the side of the distributor housing every two weeks or each 500 miles. Wipe out the distributor head with heavy grease, removing all excess and polishing with a soft clean cloth every 5000 miles. Put a small bit of heavy grease on the face of the breaker cam under the fiber bumper of the contact arm every 1000 miles.

Timing.—Breaker contacts begin to separate when No. 8 piston on compression stroke (with both valves closed) reaches top dead center with the manual spark control lever in the half advanced position or midway between the fully retarded and fully advanced position.

Firing Order.—The firing order is 1-5-2-3-8-4-7-6.

Spark Plugs.—Spark plug diameters are $\frac{7}{8}$ inch. Gaps are .022-.025 inch.

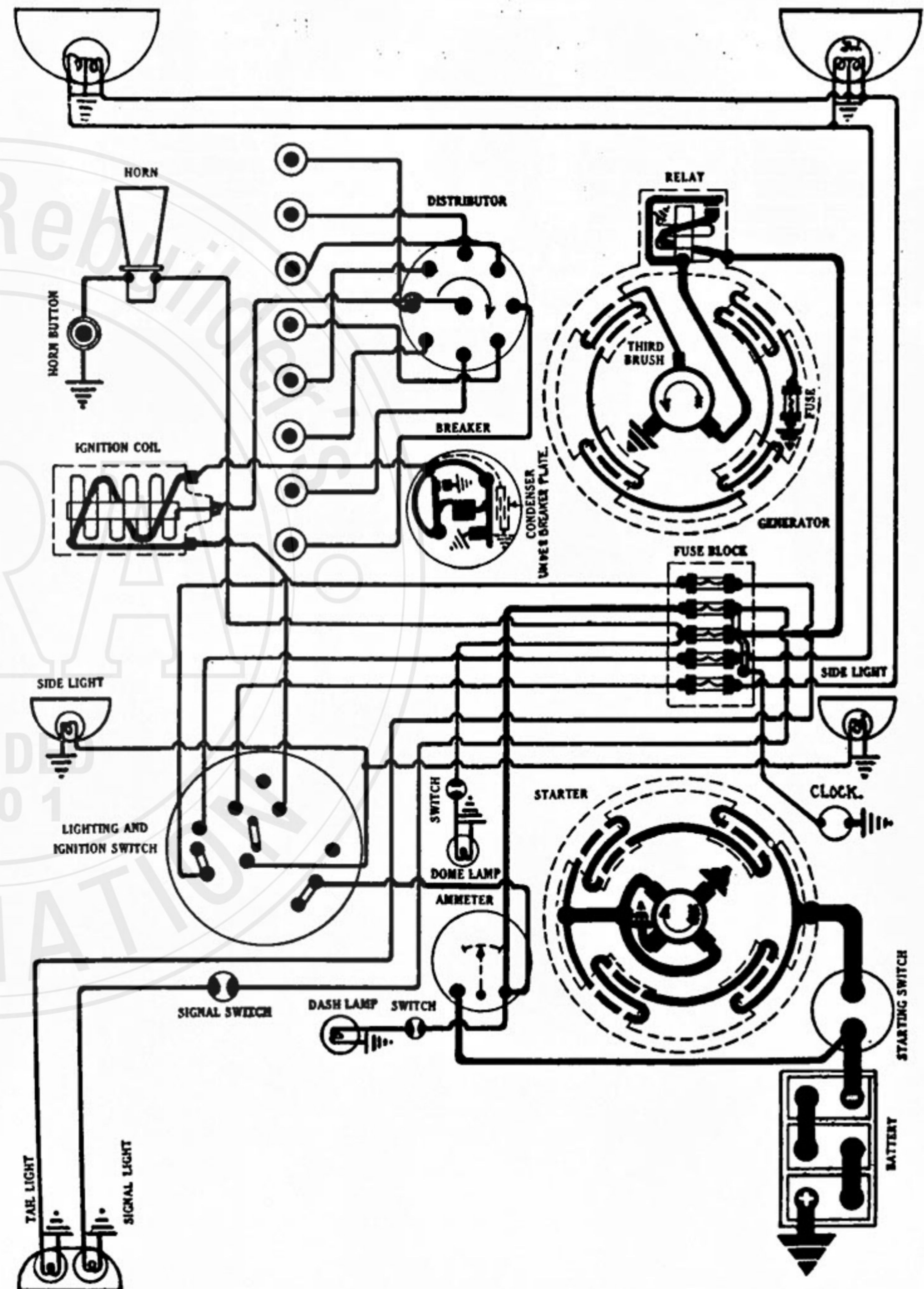
STARTER.—Model MR-4101. Starter is connected to the engine through a Bendix drive. The direction of rotation is counter-clockwise, looking at the commutator end. Starter cranks the engine at 140 R.P.M. drawing 100 amperes at 6 volts. Starter brush tension should be $1\frac{1}{4}$ - $1\frac{1}{2}$ pounds each. Starter switch is Model SW-4001.

Starter Data			
Torque	R.P.M.	Volts	Amperes
0 lb. ft.	Free	5.9	60 (Without Bendix)
0 "	Free	5.8	70 (With Bendix)
1.5 "	1225	5.7	100
6 "	700	5.4	200
12.5 "	450	4.95	300
18.5 "	300	4.5	400
44 "	Lock	4	820

Mounting.—Starter is barrel mounted at rear of flywheel housing at right of engine. To remove starter, remove large taper pointed pilot cap screw and locknut. Then slide starter from place.

Oiling.—Starter bearings are of the oilless type. They require no attention.

GENERATOR.—Model GXB-4101. The direction of rotation is counter-clockwise, looking at the commutator end. Generator current regulation is by the third brush system. To adjust the generator output, remove the commutator cover band and shift the third brush mounting plate by tapping on the third brush mounting stud with a screw driver. Moving the third brush in a counter-clockwise direction increases the charging rate and in the opposite direction decreases the charging rate. The mounting plate is held in any desired position by friction between the third brush mounting stud and the generator end plate. Maximum charging rate is 17 amperes at 8 volts.



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Generator Data

Cold Test				Hot Test			
Amperes	Volts	R.P.M.	M.P.H.	Amperes	Volts	R.P.M.	M.P.H.
2	6.6	550	9.7	2	7.2	620	11
5	7	650	11.4	5	7.4	700	12.4
10	7.3	780	13.1	10	7.7	900	15.9
16	7.7	1200	21.2	14	8.2	1600	28

Motoring freely generator draws 5.3 amperes at 6 volts. Shunt field draws 2.5 amperes at 6.2 volts. Generator brush tension is $1\frac{1}{4}$ - $1\frac{1}{2}$ pounds each.

Mounting.—Generator is flange mounted at right of engine. Slotted holes are provided for the three mounting screws. Adjustment of the drive chain tension is made by shifting the generator in position. Tighten the set screw in the lower mounting slot to retain position after adjusting generator. The chain must not be too tight

or it will crowd the generator bearings causing wear.

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 drive end bearing is oiled by splash from the gear case.

RELAY.—Model CB-4009. Relay is mounted on top of the generator. Relay contacts close when the voltage of the generator reaches 7-7.5 volts and open with a discharge current of .5-2.5 amperes. Contacts separate .025-.035 inch. Air gap between relay armature and coil core is .010-.030 inch, contacts closed.

LIGHTING.—Head and stop lamps are each 6-8 volt, 21 cp. S. C. Dash, dome, side and tail lamps are each 6-8 volt, 2 cp. S. C.

FUSES.—Generator field fuse is 5 amperes. Lighting fuses are 20 amperes.

