

HUPMOBILE

CENTURY SIX MODEL A (1929)

AUTO-LITE GENERATING, STARTING SYSTEM AUTO-LITE IGNITION

BATTERY:—Willard, Type RSB-15, 6 volt. The positive (+) terminal is grounded. Starting capacity (20 minute rate) is 114 amperes for 20 minutes. Lighting capacity (5 ampere rate) is 5 amperes for 20 hours. Battery is mounted under the left front seat.

IGNITION:—Coil Model IG-4065. Coil is mounted on the dash. Ignition current is 1-3 amperes at 6 volts with engine running and 3.4-5 amperes at 6 volts with engine stopped.

Distributor Model IGC-4003. Breaker contacts separate .018-.020 inch. Set contact gap by loosening lock nut on stationary contact mounting stud and turning up stud until correct gap is secured with the breaker arm on lobe of the cam. Resurface contacts with a fine flat contact file or on a medium hard oilstone. Breaker arm spring tension is 16-20 ounces. Distributor is semi-automatic. Maximum manual advance is 30 degrees (engine). Automatic advance begins at 1000 R.P.M. of engine. Maximum automatic advance is 16 degrees reached at 3600 R.P.M. An Electrolock ignition switch is standard equipment.

Mounting:—The Electrolock must be removed as a unit with the distributor whenever the distributor is taken off the car. The Electrolock can then be removed by taking off the nut on the terminal stud inside the distributor case and pulling out the Electrolock cable, ferrule and stud assembly. To remove distributor, disconnect Electrolock at dash and remove distributor head with cables intact. Then take out mounting screw and lift distributor from place.

Oiling:—Put 4 or 5 drops of light engine oil in the oiler on the side of the distributor every two weeks or each 500 miles of operation. Every 1000 miles remove the distributor head and rotor and put a small bit of vaseline on the face of the breaker cam.

Timing:—Breaker contacts begin to separate when the piston entering power stroke reaches top dead center with the manual spark control fully retarded. To set timing, crank engine over until piston No. 1 enters compression stroke (the up stroke with both valves closed). Fully retard spark control lever. Continue to crank engine until piston reaches top dead center. Then loosen the advance arm clamp screw and rotate distributor until the contacts begin to open. Tighten the clamp screw and connect the segment opposite the rotor to the spark plug in cylinder No. 1. Connect the remaining spark plugs in order 5-3-6-2-4 counter-clockwise around the distributor head.

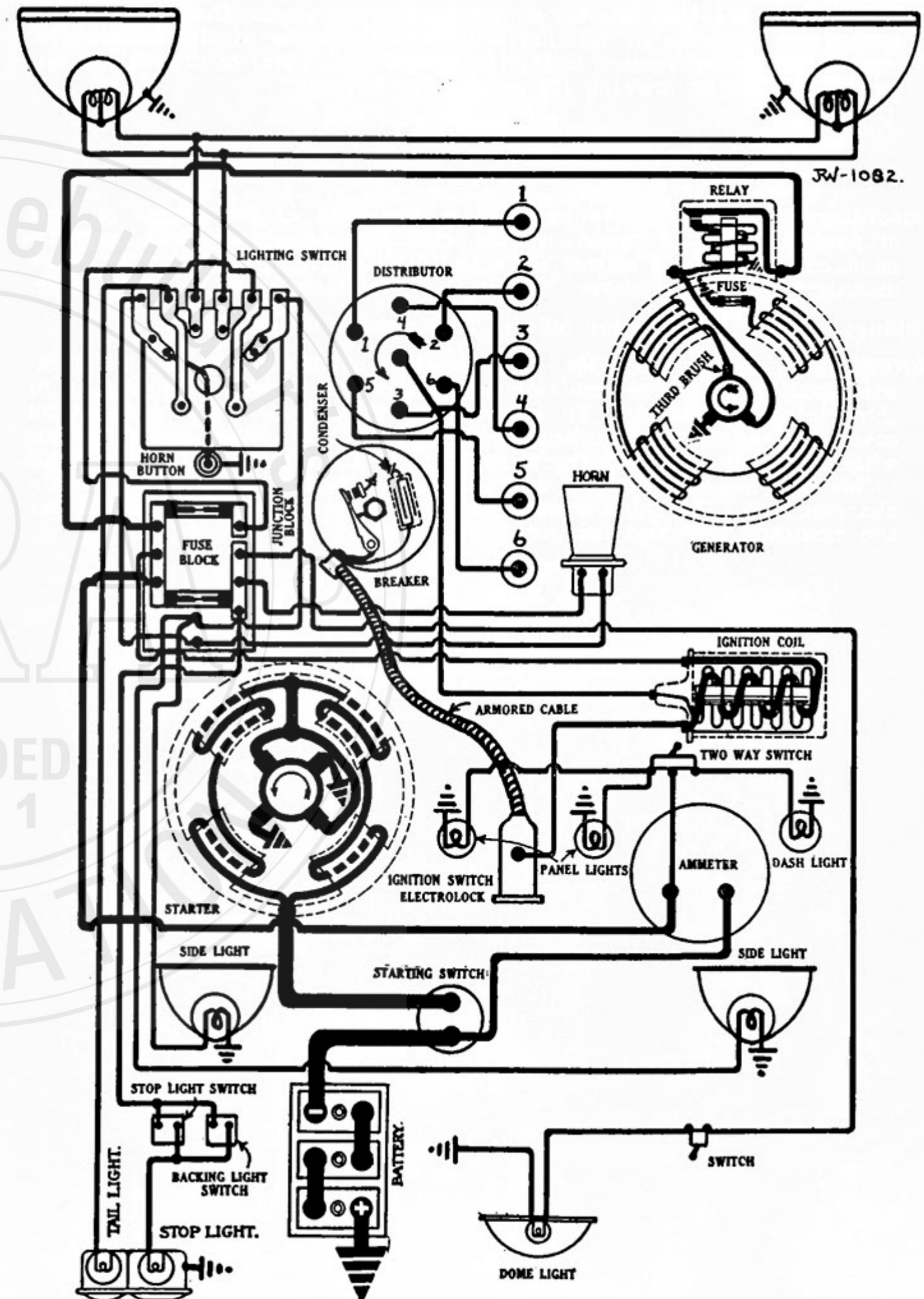
Firing Order:—The firing order is 1-5-3-6-2-4.

Spark Plugs:—Spark plugs are $\frac{7}{8}$ -18 S.A.E. Long. Gaps are .025 inch.

VALVE TIMING:—Specifications:—Head diameter, $1\frac{1}{2}$ inches. Valve lift, $\frac{5}{16}$ inch. Tappet clearance, .005 inch (inlet) and .006 inch (exhaust).

Timing:—Inlet valves open 4 degrees after top dead center and close 51 degrees after lower dead center. Exhaust valves open 47 degrees before lower dead center and close at top dead center.

STARTER:—Model MN-4109. Starter is connected to the engine through an in-board Bendix drive. The direction of rotation is counter-clockwise, viewed from the commutator end. Brush spring tension is $1\frac{1}{4}$ - $1\frac{1}{2}$ pounds. Starter switch is Model SW-4002.



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Starter Data

Torque	R.P.M.	Volts	Amperes
0 lb. ft.	Free.....	5.5.....	50
.7 "	2800.....	5.5.....	100
2.9 "	1500.....	5.0.....	200
5.5 "	850.....	4.5.....	300
8.2 "	420.....	4.0.....	400
12.5 "	Lock.....	3.0.....	550

Mounting:—Starter is flange mounted at left of engine on forward side of flywheel housing. To remove starter, disconnect cable and remove three flange mounting cap screws. Then pull starter forward and lift from place.

Oiling:—Put 4 or 5 drops of light engine oil in the oiler on the commutator end of the starter every month or each 1000 miles of operation.

GENERATOR:—Model GAJ-4106. The direction of rotation is counter-clockwise, viewed from the commutator end. Generator current regulation is by third brush shunt field. To adjust generator output, remove the commutator cover band and shift the third brush by tapping on the mounting stud with a screwdriver. Shift the third brush in a counter-clockwise direction to increase the charging rate and in the opposite direction to decrease the charging rate. The third brush is held in position by friction between the mounting stud and the end plate. With standard car setting the maximum charging rate is 15 amperes at 8 volts reached at 1600 R.P.M.

Generator Data

Cold Test			Hot Test		
Amperes	Volts	R.P.M.	Amperes	Volts	R.P.M.
4	6.8.....	780			
12.4.....	7.6.....	1200	11.9.....	8.0.....	1800
15	8.0.....	1600			
14.4.....	7.8.....	2000			

Brush spring tension is 2¼-2¾ pounds. Motoring, generator draws 5.5 amperes at 6 volts. Shunt field current is 3 amperes at 6 volts. A five ampere fuse is connected in the field circuit.

Mounting:—Generator is mounted at right of engine on rear of timing chain case. To remove generator, disconnect lead and back off timing chain adjustment set screw. Then take out flange mounting cap screws and pull generator to the rear, being careful not to disturb the timing chain.

Timing Chain Adjustment:—Timing chain is adjusted by shifting the generator. To take up timing chain, loosen the generator flange mounting screws and turn up the adjustment set screw until the chain begins to hum with the engine running. Then back off adjustment screw until chain runs noiselessly and tighten mounting screws. With proper adjustment there should be one-half inch up and down play in the chain.

Oiling:—Put 4 or 5 drops of light engine oil in the generator bearing oiler every two weeks or each 500 miles of operation.

RELAY:—Model CB-4012. Relay is mounted on the generator. Relay closes at 650 R.P.M. when the generator voltage reaches 7-7.5 volts and opens with a discharge current of .5-2.5 amperes. Charging current at closing of contacts is approximately 2 amperes. Relay contact gap is .025-.035 inch. Air gap is .010-.030 inch with contacts closed.

LIGHTING:—Briggs and Stratton Switch. Lighting switch is mounted at base of steering column. Double filament headlights using a second 21 cp. filament instead of dimmers are standard equipment. Headlights are 6-8 volt, 21-21 cp. D.C. Mazda 1110. Stop and backing light is 6-8 volt, 15 cp. S.C. Mazda 87. Side, dash, dome and tail lights are each 6-8 volt, 3 cp. S.C. Mazda 63.

FUSES:—Generator field fuse is 5 ampere capacity. Lighting fuses on junction block are 15 ampere capacity.