

ERSKINE

MODEL 52 (1929)

DELCO-REMY GENERATING, STARTING SYSTEM DELCO-REMY IGNITION

BATTERY:—Willard, Type CWR-13, 6 volt. The positive (+) terminal is grounded. Starting capacity (20 minute rate) is 98 amperes for 20 minutes. Lighting capacity (5 ampere rate) is 5 amperes for 17 hours. Battery is mounted under front floor boards on right frame member.

IGNITION:—Coil Model 528-A. Coil is mounted on the generator. Ignition current is $\frac{1}{2}$ -2 $\frac{1}{2}$ amperes at 6 volts with engine running and 4-5 amperes at 6 volts with engine stopped.

Distributor Model 639-R. Breaker contacts separate .018-.024 inch. Adjust contact gap by loosening lock screw on crescent shaped stationary contact mounting plate and turning eccentric adjusting screw until correct gap is secured with breaker arm on lobe of cam. Resurface contacts when necessary with a fine flat contact file or on a medium hard oilstone. Breaker arm spring tension is 18-21 ounces. Distributor is semi-automatic. Maximum manual advance is 15 degrees (engine). Automatic advance begins at 500 R.P.M. (engine). Maximum automatic advance is 24 degrees reached at 3100 R.P.M. (engine).

Mounting:—Distributor is mounted on rear of generator at right of engine. To remove distributor, disconnect manual advance rod and primary lead and remove distributor head with cables intact. Then loosen clamp bolt on advance plate and lift distributor from place.

Oiling:—Fill the grease cup on the side of the distributor shaft and turn down two turns every six weeks or each 2500 miles. At the same time, remove the distributor head and rotor and put 4 or 5 drops of light engine oil in the wick oiler in the center of the shaft.

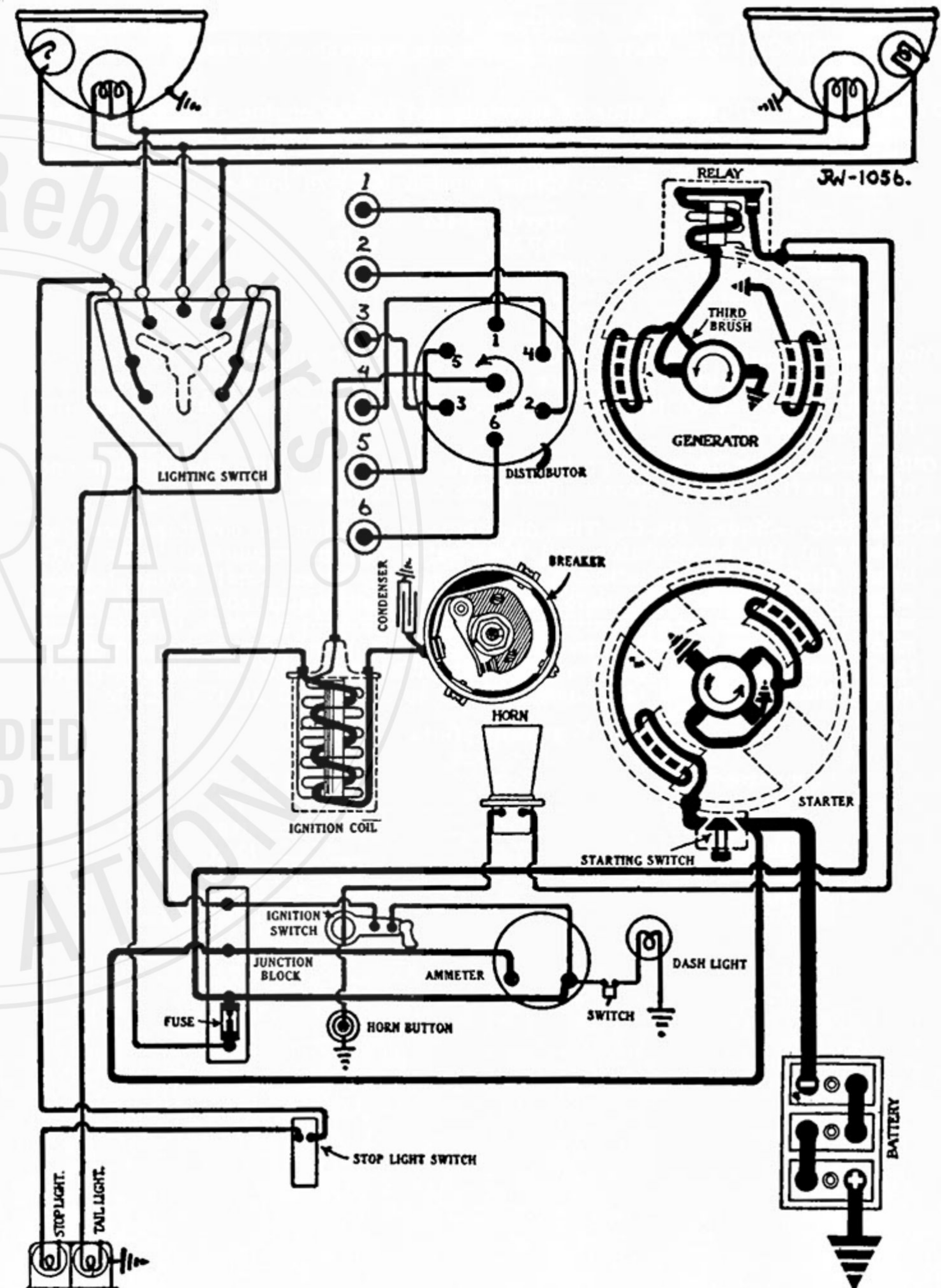
Timing:—Breaker contacts begin to separate when the piston entering power stroke reaches a position $7\frac{1}{2}$ degrees after top dead center with the spark lever in the fully retarded position. To set timing, crank engine over until piston No. 1 enters compression stroke (the up stroke with both valves closed). Continue to crank engine until piston reaches top dead center when the flywheel mark 'TDC 1-6' will be opposite the indicator in the peephole in the rear engine support. Then advance spark lever half way to a position midway between the fully advanced and fully retarded positions. Loosen clamp bolt in advance arm and rotate distributor until contacts begin to separate. Tighten the clamp bolt 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 around the distributor head in a counter-clockwise or left hand direction. Timing can also be set by cranking the engine over until piston No. 1 reaches a position $7\frac{1}{2}$ degrees after top dead center when the flywheel mark 'SP.RE.1-6' will be opposite the indicator. Breaker contacts should open at this point with the spark lever in the fully retarded position.

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

Spark Plugs:—Spark plugs are $\frac{7}{8}$ -18 S.A.E. Standard Champion No. 4. Gaps are .025 inch.

VALVE TIMING:—INLET VALVES:—Head diameter, 1 $\frac{27}{64}$ inches. Stem diameter, $\frac{5}{16}$ inch. Stem length, 5 $\frac{1}{32}$ inches (over all). Valve lift, $\frac{5}{16}$ inch. Spring pressure, 67-73 pounds. Tappet clearance, .008 inch (hot). Inlet valves open 5 degrees after top dead center and close 45 degrees after lower dead center.

EXHAUST VALVES:—Head diameter, 1 $\frac{1}{2}$ inches. Stem diameter, $\frac{5}{16}$ inch. Stem length, 5 $\frac{1}{32}$ inches (over all). Valve lift, $\frac{5}{16}$ inch. Spring pressure, 67-73 pounds. Tappet clearance, .008 inch (hot). Exhaust valves



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open 40 degrees before lower dead center and close 12 degrees after top dead center. The flywheel is marked 'EX.CL.1-6' at point of exhaust closing. Flywheel diameter is 12 $\frac{1}{8}$ inches. Valve stem guides are removable. Oversize valves are not made.

STARTER:—Model 712-H. Starter is connected to the engine through an out-board Bendix drive. The direction of rotation is counter-clockwise, viewed from the commutator end. Brush spring tension is 24-28 ounces. Starter cranks the engine at 185 R.P.M.

Starter Data			
Torque	R.P.M.	Volts	Amperes
0 lb. ft.	5000	5	65
11 "	Lock	3.6	450

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

Oiling:—Put 8 or 10 drops of light engine oil in the oiler on the commutator end of the starter every six weeks or each 2500 miles. The drive end bearing is oilless.

GENERATOR:—Model 940-C. 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 loosen the small round headed screw on the generator end plate. Then shift the third brush by hand in a counter-clockwise direction to increase the charging rate and in the opposite direction to decrease the charging rate. Tighten the screw after making the adjustment. With standard car setting, the maximum charging rate is 16 amperes (cold) reached at 1700 R.P.M. or 24 miles per hour.

Generator Data					
Cold Test			Hot Test		
Amperes	Volts	R.P.M.	Amperes	Volts	R.P.M.
16	7.95-8.15	1400	11-14	7.55-7.85	1700

Motoring, generator draws 5 amperes at 6 volts. Shunt field current is 4.3 amperes at 6 volts. Brush spring tension is 16-18 ounces.

Mounting:—Generator is flange mounted at right of engine on rear of timing chain case. To remove generator, disconnect all ignition wiring or remove coil and distributor. Then back off timing chain adjustment screw and remove two flange mounting cap screws. Pull generator to rear, being careful not to disturb timing chain on sprockets.

Adjustment of Timing Chain:—Timing chain is adjusted by swinging generator away from engine around lower flange mounting cap screw as a pivot. To adjust chain, loosen both flange mounting cap screws and remove inspection cover. Then turn up adjusting screw until there is approximately $\frac{1}{8}$ inch free movement of generator shaft when it is rocked back and forth. Tighten the cap screws. Be careful not to get the chain too tight. With proper adjustment the chain will run noiselessly.

Oiling:—Put 8 or 10 drops of light engine oil in the oiler on the commutator end of the generator every six weeks or each 2500 miles. The drive end bearing is oiled by splash from the gear case.

RELAY:—Model 265-B. Relay is mounted on the generator. Relay contacts close at 800 R.P.M. or 12 M.P.H. when the generator voltage reaches 6.8 volts and open at 9 M.P.H. with a discharge current of 1 ampere. Contacts separate .015-.025 inch. Air gap is .014 inch with contacts closed.

LIGHTING:—Delco-Remy Switch Model 486-F. Lighting switch is mounted at lower end of steering column. Double filament headlights are used instead of dimming. Headlights are 6-8 volt, 21-21 cp. D.C. Mazda 1110. Side lights are 6-8 volt, 3 cp. S.C. Mazda 63. Stop light is 6-8 volt, 15 cp. S.C. Mazda 87. Dash and tail lights are each 6-8 volt, 3 cp. S.C. Mazda 63. Dome light is 6-8 volt, 6 cp. S.C. Mazda 81.

FUSES:—Lighting fuse on front of dash is 20 ampere capacity.