

ELCAR

MODEL 8-78 (1928)

DELCO-REMY GENERATING, STARTING SYSTEM DELCO-REMY IGNITION

BATTERY:—U.S.L. Type 3-CVX-6X. 6 volt. The negative (—) terminal is grounded. Starting capacity (20 minute rate) is 115 amperes for 20 minutes. Lighting capacity (5 ampere rate) is 5 amperes for 21 hours.

IGNITION:—Coil Model 525-C. Distributor Model 658-B. Breaker contacts separate .022 inch. Resurface contacts with a fine flat contact file or on a medium hard oilstone. Distributor is semi-automatic. Manual advance is 15 degrees. Automatic advance begins at 600 R.P.M. and reaches a maximum of 17.5 degrees at 2000 R.P.M. Breaker arm spring tension is 17-21 ounces. Double breaker contacts are used. They operate on a four sided cam and open at intervals of 45 degrees corresponding to 90 degrees of crankshaft rotation. It is very important that the firing interval be correctly set. See Timing.

Mounting:—Distributor is mounted in well on top of cylinder head. To remove distributor, disconnect manual advance rod and breaker lead. Remove distributor head with high tension cables attached. Remove manual advance stop screw and lift distributor out.

Oiling:—Refill the grease cup under the distributor head with medium cup grease and turn down one turn every two weeks or each 500 miles. Every 5000 miles remove the rotor button and saturate wick oiler with light engine oil. Put a small bit of vaseline on the face of the breaker cam under the fiber bumper of the contact arm.

Timing:—Breaker contacts begin to separate when the piston entering power stroke reaches top dead center with the spark control lever in the fully retarded position. To set timing, fully retard spark, crank engine until piston No. 1 reaches top dead center on compression stroke. Loosen distributor clamp screw and rotate distributor until stationary contacts begin to separate. Tighten the clamp screw. To check second set of contacts use special tool issued by Delco-Remy Corporation, or crank engine over 90 degrees after setting timing in cylinder No. 1 when piston No. 6 will be on top dead center entering power stroke. The contacts on movable plate should open at this point. If they do not, loosen the lock screws and turn eccentric adjusting screw on breaker plate until contacts begin to separate. Tighten the lock screws and check the contact gap with the breaker arm on lobe of cam. If it is not within the limits of .018-.024 inch, reset at .022 inch and repeat synchronizing operation.

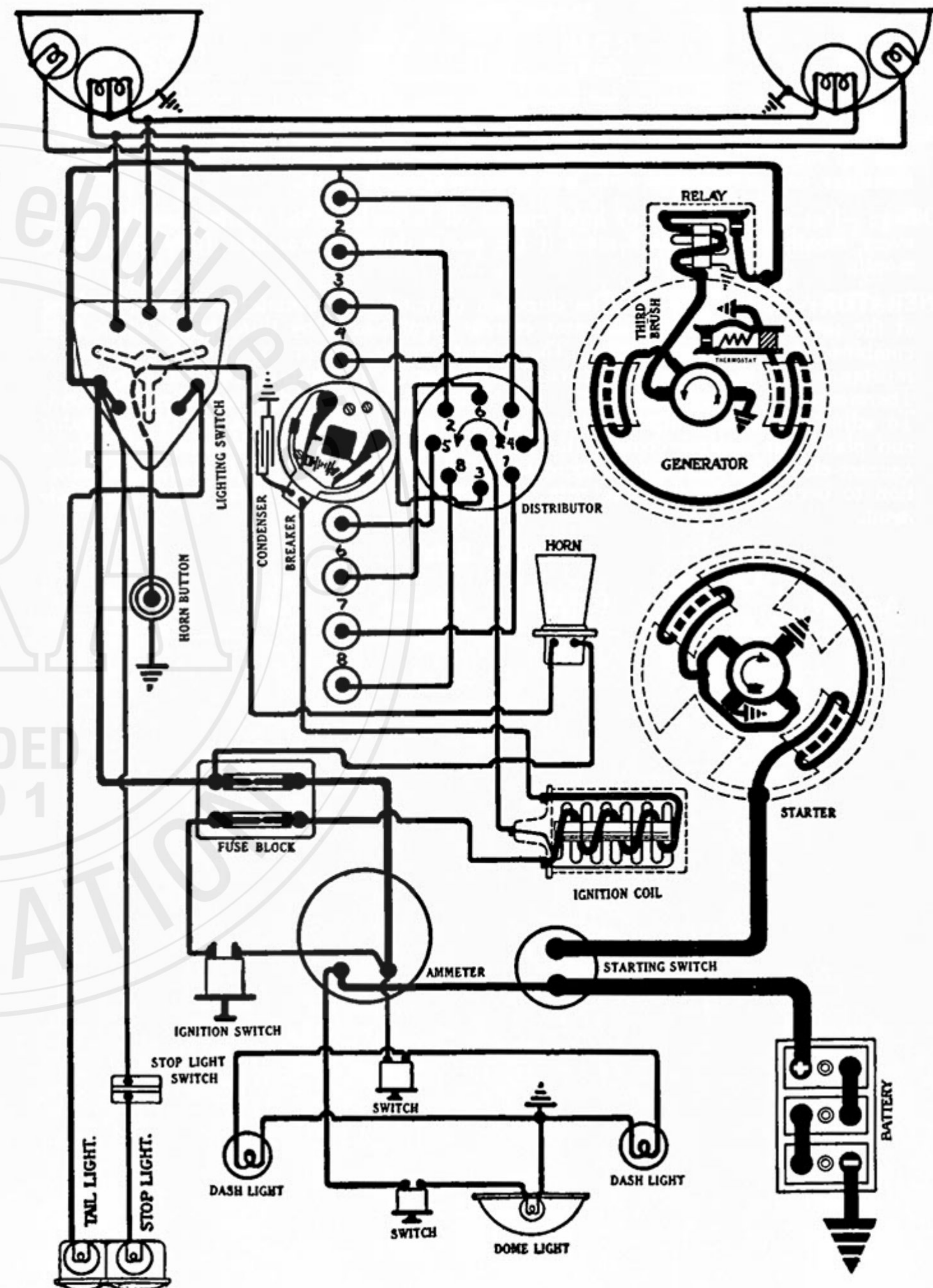
Firing Order:—The firing order is 1-6-2-5-8-3-7-4.

Spark Plugs:—Spark plugs are 7/8 Standard A.C. Gaps are .027 inch.

VALVE TIMING:—INLET VALVES:—Head diameter is 1 1/2 inches; stem diameter is 11/32 inch. Tappet clearance is .006 inch (hot). Inlet valves open at top dead center and close at 35 degrees after lower dead center.

EXHAUST VALVES:—Head diameter is 1 3/8 inches; stem diameter is 11/32 inch. Tappet clearance is .008 inch (hot). Exhaust valves open at 42 degrees before lower dead center and close at 5 degrees after top dead center.

STARTER:—Model 716-A. Starter is connected to the engine through a Bendix drive. The direction of rotation is clockwise, looking at the commutator end. Brush spring tension is 24-28 ounces.



Starter Data

Torque	R.P.M.	Volts	Amperes
0 lb. ft.	6000	5	70
15 lb. ft.	Lock	3.7	450

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Mounting:—Starter is mounted at right of engine on forward side of flywheel housing. To remove starter, disconnect cable and starting pedal rod. Then remove cap screws on flange and lift starter forward and out.

Oiling:—Put 4 or 5 drops of light engine oil in the starter bearing oilers every month or each 1000 miles.

GENERATOR:—Model 949-C. The direction of rotation is counter-clockwise, looking at the commutator end. Generator current regulation is by third brush shunt field and thermostat. Thermostat contacts open at 150 degrees F. cutting a resistance into shunt field circuit and reducing output 40%. To adjust generator output, remove commutator cover band and loosen small round headed screw on generator end plate. Shift third brush in a counter-clockwise direction to increase the charging rate and in the opposite direction to decrease the charging rate. Tighten screw after adjustment.

Generator Data

Cold Test			Hot Test		
Amperes	Volts	R.P.M.	Amperes	Volts	R.P.M.
19-21	8.5	1450	9-12	7.5	2000

Shunt field current is 4 amperes at 6 volts. Spring tension is 24-28 ounces each. Generator motoring, draws 5 amperes at 6 volts.

Mounting:—Generator is flange mounted at right of engine on rear of timing chain case. To remove generator, loosen mounting bracket screws. Push generator and water pump towards crank case and pry off belt. Remove water connections to pump, take out generator mounting screws, and lift out generator and pump assembly. Radiator must be drained before the pump can be removed.

RELAY:—Model 265-B. Relay is mounted on the generator. Contacts close when the voltage reaches 6.75-7.5 volts and open with a discharge current of 0-2.5 amperes. Contact gap .015-.025 inch. Air gap .014-.021 inch with contacts closed.

LIGHTING:—Switch Model 1303. Switch is mounted at the base of the steering column. Head lights are 6-8 volt, 21-21 cp. (double filament-double contact). Mazda 1110. Auxiliary lights are 6-8 volt, 6 cp. S.C. Mazda 81. Dash and tail lights are 6-8 volt, 3 cp. S.C. Mazda 63. Stop light is 6-8 volt, 15 cp. S.C. Mazda 87.

FUSES—Fuses are 20 ampere capacity.

