

KISSEL

MODEL 8-95, SERIAL NOS. 95-1000 UP
PRODUCTION STARTED AUGUST 15, 1928
DELCO-REMY GENERATING, STARTING SYSTEM
DELCO-REMY IGNITION

BATTERY:—Willard, Type SJWR-4, 6 volt. The positive (+) terminal is grounded. Starting capacity (20 minute rate) is 125 amperes for 20 minutes. Lighting capacity (5 ampere rate) is 5 amperes for 22 hours. The battery is cradle mounted under the front seat.

IGNITION:—Coil Model 528-C. Distributor Model 658-L. Breaker contacts separate .018-.024 inch with breaker on lobe of cam. Resurface contacts with a fine flat contact file or on a medium hard oilstone. Set contact gap by loosening the set screw on the stationary contact plate and turning the eccentric adjusting screw until proper contact is secured. Breaker arm spring tension is 17-21 ounces. Breaker uses two sets of contacts on a single four sided cam. Contacts open alternately at intervals of 45 degrees corresponding to 90 degrees of crankshaft rotation. This is the correct firing interval for the Kissel engine and breaker must be accurately set. See Timing. Distributor is semi-automatic. Manual advance is 15 degrees. Automatic advance begins at 400 R.P.M. Maximum automatic advance is 22 degrees reached at 3000 R.P.M. of engine.

Mounting:—Coil is mounted on the dash. Distributor is mounted on the cylinder head with a SAE Type B mounting. To remove the distributor, disconnect primary lead and manual advance rod. Remove distributor head with high tension cables intact. Loosen mounting stud clamp screw and lift distributor from place.

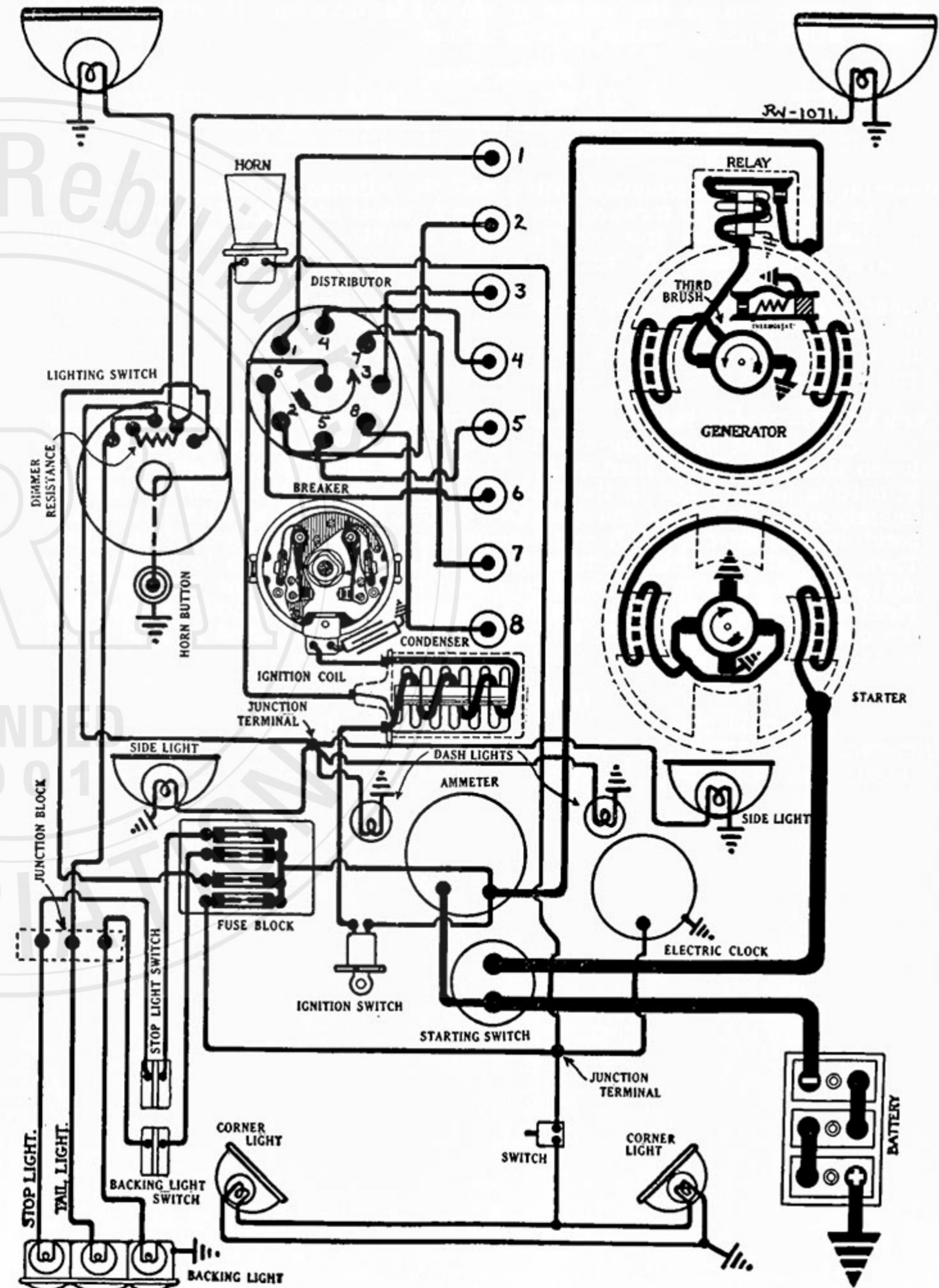
Oiling:—Fill the grease cup on the side of the distributor shaft with medium cup grease and turn down one turn every 500 miles. Put a small bit of vaseline on the face of the breaker cam and a drop of light engine oil on the breaker arm pivot every 1000 miles. Put a few drops of light engine oil in the wick oiler under the rotor every 2000 miles.

Timing:—**Synchronization of Contacts:**—Use Delco-Remy Tool, Part No. 820738 and follow directions on Page S-25 to synchronize contacts. Synchronization can also be checked after distributor is timed to engine by cranking engine over 90 degrees from firing position of piston No. 1 when piston No. 6 will enter power stroke. If second set of contacts do not separate at this point with manual advance rod in the fully retarded position, loosen lock screw on breaker plate and turn eccentric adjusting screw until contacts open. Check contact opening after synchronization. If not within the limits of .018-.024 inch, reset at .022 inch and repeat synchronizing operation.

Timing Distributor to Engine:—Breaker contacts begin to separate when piston entering power stroke reaches a position 10 degrees past top dead center (measured on the flywheel) with the manual advance control in the fully retarded position. To set timing, crank engine over until piston No. 1 is coming up on the compression stroke. This is the up stroke with both valves closed. Fully retard the spark. Continue to crank engine until the ignition mark '1&8' is $\frac{3}{4}$ inch or 10 degrees after top dead center on the flywheel when the mark 'Time' will be opposite the indicator on the flywheel housing. Breaker contacts should separate at this point. If they do not, loosen the advance arm clamp screw and rotate distributor until contacts separate. Tighten the clamp screw and make certain that the rotor is opposite the segment connected to the spark plug in cylinder No. 1 and connect the remaining plugs in order 6-2-5-8-3-7-4 around the distributor head.

Firing Order:—The firing order is 1-6-2-5-8-3-7-4. No. 1 cylinder nearest the radiator.

Spark Plugs:—Spark plugs are $\frac{7}{8}$ -18 Long. Gaps are .030 inch.



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VALVE TIMING:—INLET VALVES:—Head diameter, 1 17/32 inches. Stem diameter, .342 inch. Stem length, 5 15/16 inches. Tappet clearance, .008 inch (hot). Spring pressure, 85 pounds. Valve lift, 11/32 inch. Inlet valves open at top dead center and close at 45 degrees after lower dead center.

EXHAUST VALVES:—Head diameter, 1 13/32 inches. Stem diameter, .342 inch. Stem length, 5 15/16 inches. Tappet clearance, .008 inch (hot). Spring pressure, 85 pounds. Valve lift, 11/32 inch. Exhaust valves open at 50 degrees before lower dead center and close 10 degrees after top dead center. Valve stem guides are removable. Oversize valves are not made.

STARTER:—Model 716-A. Starter is connected to the engine through a Bendix drive. The direction of rotation is clockwise, viewed from the commutator end. Starter cranks the engine at 150 R.P.M. drawing 175 amperes at 4.5 volts. Brush spring tension is 24-28 ounces.

Starter Data			
Torque	R.P.M.	Volts	Amperes
Free	3000	5.0	70
15 lb. ft.	Lock	3.7	450

Mounting:—Starter is mounted with a SAE No. 1 flange mounting on the right of the engine on the forward side of the flywheel housing. To remove starter, disconnect cable and remove flange mounting cap screws. Then pull starter forward and lift from place.

Oiling:—Put 8-10 drops of light engine oil in the oiler on the commutator end of the starter every 1000 miles. The drive end bearing is oilless and requires no attention. Every six months remove the plug in the reduction gear case and repack the gear compartment with graphite grease.

GENERATOR:—Model 955-H. The direction of rotation is counter-clockwise, viewed from the commutator end. Generator current regulation is by third brush shunt field and thermostat. Thermostat contacts open at 160 degrees F. cutting a resistance in the field circuit and reducing the output approximately 40%. To adjust the generator output, remove the commutator cover band and loosen the small round headed screw on the generator end plate. Then shift the third brush 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 18-19 amperes (cold) reached at 1450 R.P.M. or 25-26 M.P.H.

Generator Data

Cold Test			Hot Test		
Amperes	Volts	R.P.M.	Amperes	Volts	R.P.M.
19-21	8.35-8.5	1450	9-12	7.35-7.65	1800-2000

Motoring freely, generator draws 5 amperes at 6 volts. Shunt field current is 4-6.1 amperes at 6 volts. Brush spring tension is 14-18 ounces.

Mounting:—Generator is mounted at right of engine on special swinging bracket and is belt driven from the engine crankshaft. The water pump is mounted directly on the rear of the generator and is driven by the generator shaft. To remove generator, first drain the radiator and remove the water pump hose connections. Then take out adjustment clamp bolt and swing generator toward the engine. Slip off the drive belt. Take out two bolts mounting generator on bracket and lift generator and water pump from the engine.

Belt Adjustment:—To adjust belt tension, loosen the adjustment clamp screw and swing generator away from the engine until the correct belt tension is secured. Tighten the clamp bolt. Do not tighten the drive belt more than is necessary or it will crowd the generator bearings.

Oiling:—Put 8-10 drops of light engine oil in each of the generator oilers every month or each 1000 miles.

RELAY:—Model 265-B. Relay is mounted on top of the generator. Relay closes when the voltage of the generator reaches 7-7.5 volts and opens with a discharge current of 0-2.5 amperes. Charging current at closing of contacts is approximately 3 amperes. Relay contacts separate .015-.025 inch. Air gap between relay armature and coil core is .012-.017 inch.

LIGHTING:—Briggs and Stratton Switch. Switch is mounted at the lower end of the steering column on the frame. Dimming is by resistance. Headlights are 6-8 volt, 32 cp. S.C. Mazda 1133. Side lights are 6-8 volt, 3 cp. S.C. Mazda 63. Dash, dome and corner lights are 6-8 volt, 3 cp. D.C. Mazda 64. Tail, stop and backing lights are 6-8 volt, 3 cp. S.C. Mazda 63.

FUSES:—Fuses are mounted on the dash. They are 10 ampere capacity.