

HARVARD 1920

DYNETO GENERATING, STARTING AND LIGHTING SYSTEM BOSCH IGNITION

BATTERY.—Prest-O-Lite, Type 611-RHN, 6 volt, 120 ampere-hour. The negative (—) terminal is grounded.

IGNITION.—Type DU-4. Breaker contacts separate .014 to .016 inch. When the condition of the contacts affects the ignition, resurface with a fine, flat jeweler's file or worn No. 00 sandpaper.

OILING.—Put 2 or 3 drops of light machine oil in each of the magneto oilers every two weeks. Put a small amount of vaseline on the fiber bumper of the contact arm, applying with a toothpick. If the car is driven more than 500 miles in two weeks, these attentions must be given every 500 miles.

TIMING.—Breaker contacts begin to separate when the piston entering power stroke is on top dead center, spark control lever and breaker assembly in the fully retarded position.

FIRING ORDER.—The firing order is 1, 3, 4, 2.

SPARK PLUGS.—Diameter, $\frac{7}{8}$ inch. Spark gaps are .030 inch.

STARTER.—Model D-366. Starter is connected to the engine through a Bendix drive. When cranking engine, starter takes 130 amperes, armature revolving at 1500 R.P.M.

Starter Data			
Torque	R.P.M.	Amperes	Volts
0.0 lb. ft.	5600	25	6.4
2.5 lb. ft.	1400	150	5.8
5.0 lb. ft.	850	250	5.3
10.0 lb. ft.	250	420	4.6
14.0 lb. ft.	Lock	530	4.0

OILING.—Put several drops of light engine oil in the starter oilers every month.

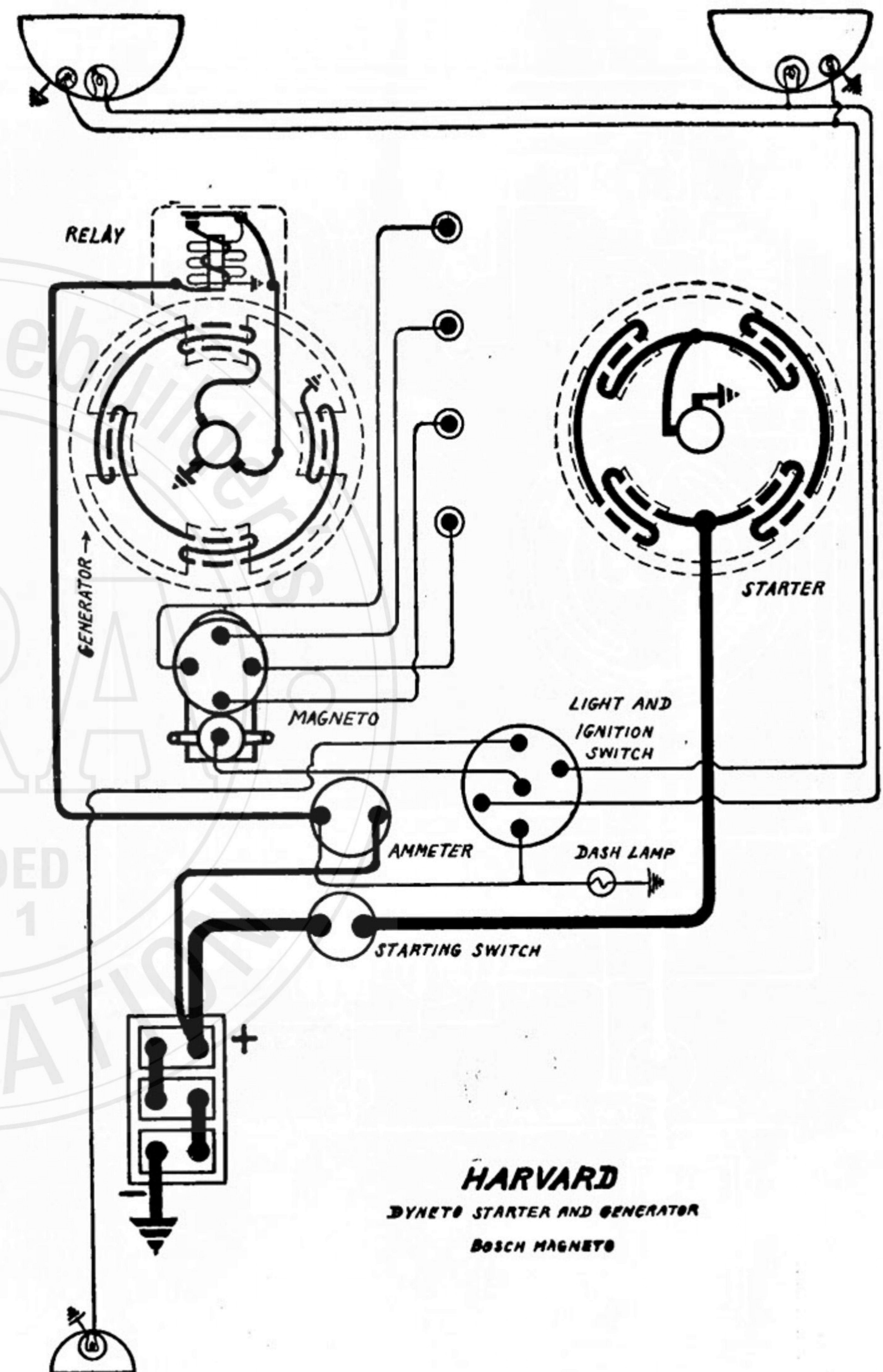
GENERATOR.—Model No. C-306. Generator current regulation is by the third brush system. Maximum current output is 12-15 amperes, reached at 1200 R.P.M. of the armature or 20-25 miles per hour.

Generator Data					
Amperes	Cold Test	R.P.M.	Amperes	Hot Test	R.P.M.
6		600	5		600
13		900	10		900
15		1200	12		1200
13.5		1600	11.5		1600
11.5		2000	10		2000

Shunt field current is 3.5 amperes at 6.5 volts. Charging rate is varied by adjustment of the third brush setting. Remove the leather plug in the commutator end of the generator, loosen the screw exposed and move in the direction of armature rotation to increase the charging rate. Move in the opposite direction to decrease the charging rate. Tighten the adjusting screw and replace the leather plug after adjustment is made.

OILING.—Put 4 or 5 drops of light engine oil in the generator bearing oilers every two weeks. If the car is driven more than 500 miles in two weeks, the oiling must be done every 500 miles.

RELAY.—Relay closes at 8-10 miles per hour or 450-500 R.P.M. of armature, and opens at 6-8 miles per hour or 400-450 R.P.M. of armature. Relay contacts separate $\frac{3}{32}$ inch. Air gap between relay armature and coil core is $\frac{1}{8}$ inch. Clean relay contacts by drawing unglazed paper between them. If badly burned or pitted, resurface with well worn No. 00 sandpaper. Remove all grit. Adjust before again putting into



HARVARD
DYNETO STARTER AND GENERATOR
BOSCH MAGNETO