

# WILLYS-KNIGHT

## MODEL GHF TAXICAB (1925-26)

### AUTO-LITE GENERATING, STARTING AND LIGHTING SYSTEM AUTO-LITE IGNITION

**BATTERY:**—U.S.L., Type 3HVX-8X. 6 volt. The starting capacity is 170 amperes for 20 minutes. The lighting capacity is 5 amperes for 33 hours. The negative (—) terminal is grounded.

**IGNITION:**—Coil Model 4035. Distributor Model IG-4036B. Breaker contacts separate .018 inch contacts fully separated. If condition affects ignition, remove and re-surface on a hard oilstone.

**Oiling:**—Put 4 or 5 drops of light engine oil into timer distributor each week. If the car is driven over 250 miles in a week, this care must be given every 250 miles.

**Timing:**—Breaker contacts just open when flywheel is 12° late on compression stroke, spark control lever and breaker assembly fully retarded.

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

**Spark Plugs:**—Spark plug diameter is 7/8 inch. Gaps are .025 inch.

**STARTER.**—Model MH-4101. Starter is connected to the engine through a Bendix drive. The direction of rotation is counter-clockwise, looking at the commutator end. Starter cranks the engine at 100-200 R.P.M., taking 250-300 amperes at 5 volts.

#### Starter Data.

Torque	R.P.M.	Volts	Amperes
0 lb. ft.	4000	6.	40-60
1.3 lb. ft.	1500	5.5	100
5. lb. ft.	800	5.	200
9. lb. ft.	400	4.5	300
17.5 lb. ft.	Lock	4.	600

**Oiling:**—Pour 7 or 8 drops of light engine oil into starter oiler every two weeks. If car is driven over 500 miles in two weeks, this attention must be given every 500 miles. Keep drive end bearing well lubricated.

**GENERATOR:**—Model GJ-4105. The direction of rotation, looking at the commutator end, is counter-clockwise. The third brush system is used for voltage regulation. Move third brush in counter-clockwise direction to increase the output, and to decrease, in the opposite direction. The maximum charging rate is 12-13 amperes (generator hot) reached at 1700 R.P.M. of the generator armature or approximately 20-25 M.P.H.

#### Generator Data

Cold Test (77°F.)			Hot Test (167°F.)		
Amperes	Volts	R.P.M.	Amperes	Volts	R.P.M.
0	6.8	500	0	6.8	600
4	7	580	4	7.3	740
8	7.6	650	8	7.8	950
12	8	950	11	8	1200
16.5	8.4	1700	12.7	8.2	1700
15	8.3	2400	11.6	8.1	2400
12.6	8.2	3200			

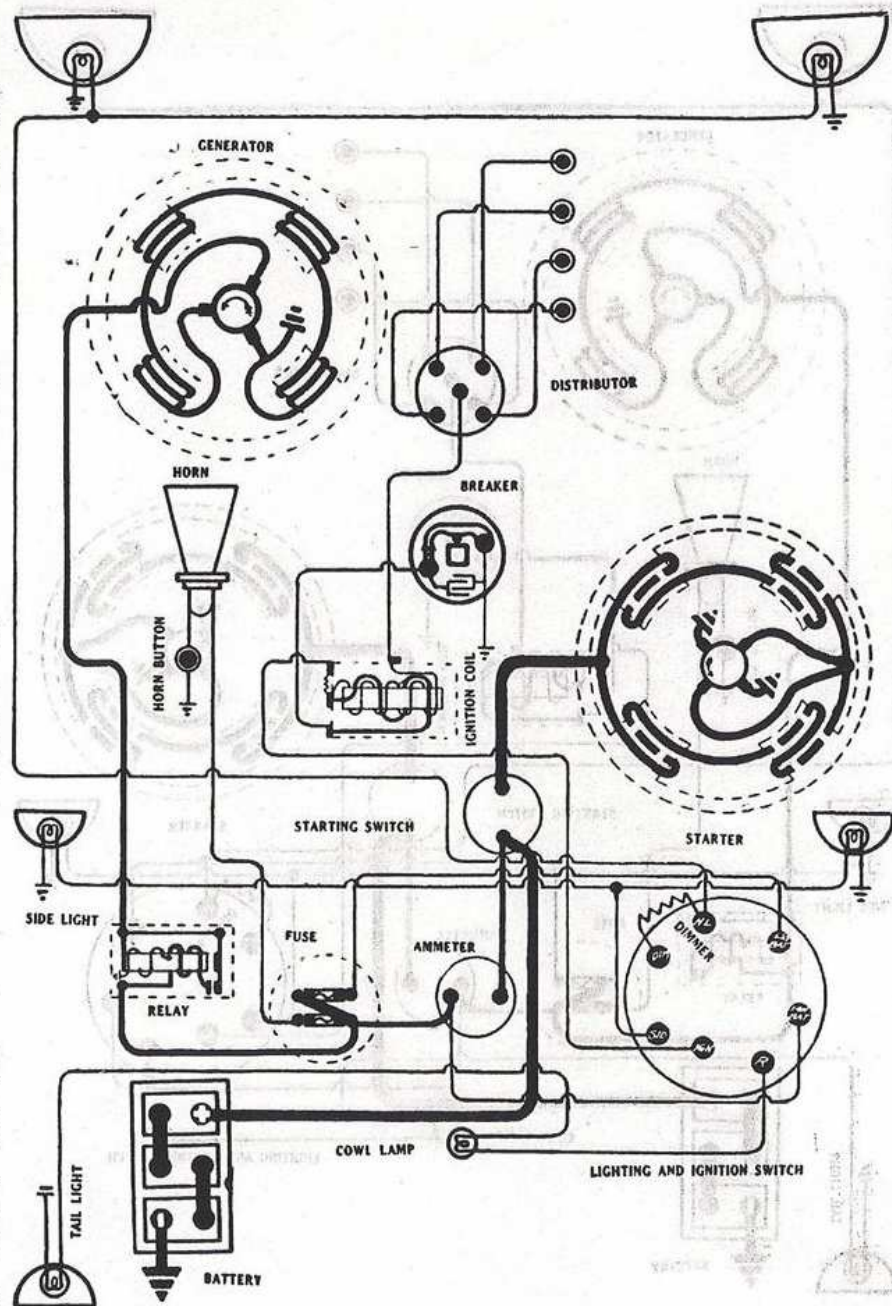
Motoring freely the generator takes 4-5 amperes at 6 volts. The shunt field current is 2.2 amperes at 6 volts. Each coil tested separately draws 8.8 amperes at 6 volts.

**Oiling:**—Pour 7 or 8 drops of light engine oil into generator oiler once a week. If car is driven more than 250 miles in a week, this care must be given each 250 miles.

**RELAY:**—Relay closes at 7-9 M.P.H., 500-550 R.P.M., 7-8 volts, and opens at 5-7 M.P.H., 450-500 R.P.M., 1-2 ampere discharge. Contacts separate, .025-.035 inch; and air gap between relay armature and coil core is .010-.015 inch, contacts closed.

**LIGHTING.**—Briggs and Stratton Switch Model 40072. Head lamps are 6-8 volt, 21 cp. S. C. A dimmer resistance is used. Side lamps are 6-8 volt, 4 cp. S. C. Dash and tail lamps are connected in series. They are each 6-8 volt, 2 cp. S. C.

**FUSES:**—Fuses are 20 amperes.



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