

# 1930 HUDSON

## Great 8 - Serial Numbers 893,402 Up

### Electrical & Tune-up Specifications

**BATTERY:** - Exide, Type 3-XI-13-1G, 6 volt. The negative (-) 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 the left front seat.

**IGNITION:** - Coil Model CE-4012. Coil is mounted on the front of the engine block. Ignition current is 2 amperes at 6 volts with engine running and 5 amperes at 6 volts with engine stopped. The ignition switch is a Model 9-B Electrolock.

**Distributor Model - IGH-4009.** Breaker contacts separate .020 inch. Set contact gap (first set mounted on stationary base plate) by loosening lock screw on stationary contact mounting plate and turning eccentric adjusting screw until correct gap is secured with breaker arm on lobe of cam. The second set of contacts (mounted on movable sub-plate) are adjusted by loosening lock nut on stationary contact mounting stud and turning up stud to secure correct adjustment. Resurface contacts with a fine flat contact file or on a medium hard oilstone. Breaker arm spring tension is 16-20 ounces. Distributor is full automatic. Automatic advance begins at 800 R.P.M. of engine. Maximum automatic advance is 20 degrees (engine) reached at 4000 R.P.M. of engine. There are two sets of contacts on a four sided cam. Contacts open alternately at intervals of 45 degrees corresponding to the 90 degree firing interval of the engine. The contacts must be synchronized for correct ignition performance. See Timing.

**Mounting:** - Distributor is mounted on the accessory drive bracket at the right of the engine. An Electrolock is used. This must be removed with the distributor as a unit. To remove distributor, first loosen Electrolock from dash mounting. Take off primary lead and remove distributor head with cables intact. Then remove hold-down screw in advance arm and lift distributor from place.

**Oiling:** - Fill the oiler on the side of the distributor shaft with light engine oil every 2000 miles. At the same time remove the distributor head and rotor and put a few drops of oil on each of the breaker arm pivot pins and coat the face of the breaker cam with a light film of vaseline or light cup grease.

**Timing: - Synchronization of Contacts.** The contacts can be synchronized without special equipment after the distributor has been timed to the engine by cranking the engine over 90 degrees from firing position of piston No. 1 when piston No. 6 will reach firing position and the flywheel mark 'DC 3&6' will be opposite the indicator in the inspection hole in the flywheel case. If the second set of contacts do not begin to open at this point, loosen the two lock screws on the movable sub-plate and shift the plate until the contacts begin to open. Tighten the lock screws and check the contact gap. It must be within limits of .020-.024 inch with breaker arm on lobe of cam.

**Timing Distributor to Engine:** Breaker contacts begin to

separate when the piston entering power stroke reaches top dead center with the breaker assembly fully retarded. To set timing, crank engine over until piston No. 1 enters compression stroke. This can be checked by noting valve tappet positions (both valves should be closed) or by removing the spark plug in cylinder No. 1 and cranking engine over until compression is felt when a finger is placed over the spark plug port. Loosen hold-down screw in advance arm and rotate distributor clockwise as far as possible. Then continue to crank engine over until flywheel mark 'DC 1&8' is in line with the indicator in the inspection hole in the front face of the flywheel housing on the right side of the engine. Then loosen advance arm clamp bolt and rotate distributor housing until the set of contacts mounted on the base plate begin to open. Tighten the clamp bolt and check to see that the segment directly opposite the rotor in the distributor head is connected to the spark plug in cylinder No. 1. Connect the remaining spark plugs in order 6-2-5-8-3-7-4 clockwise around the distributor head.

After setting ignition the car should be given a road test and the setting changed slightly to give the best performance. A slight spark knock should be audible when the car is accelerated from fifteen to twenty-five miles per hour with wide open throttle for the best performance. If the knock is too noticeable, loosen the advance arm hold-down screw and retard the spark one division on the scale by rotating the distributor in a clockwise direction. If no knock is heard the spark should be advanced by turning the distributor one division counter-clockwise. Give the car a final road test.

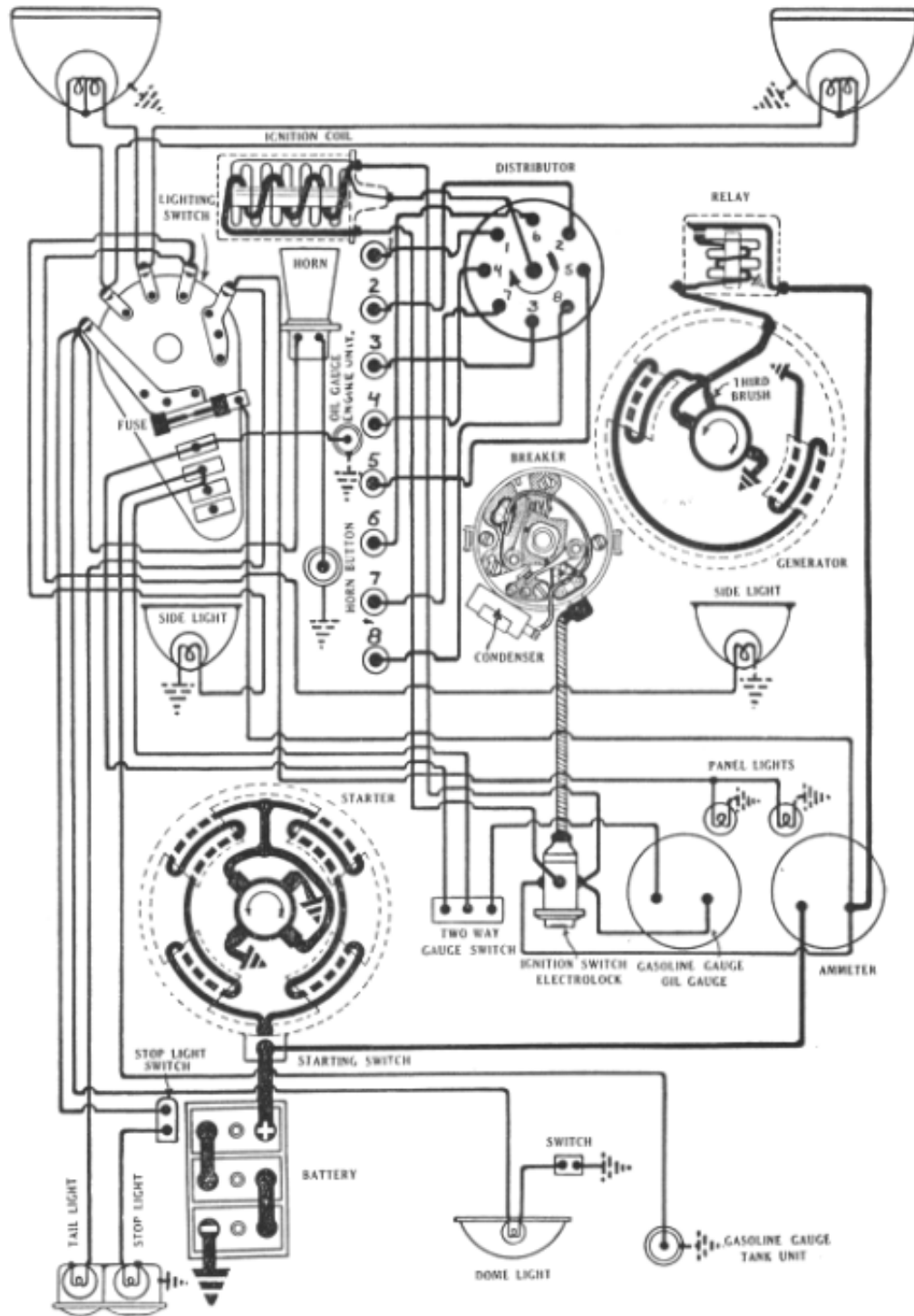
**Firing Order:** - The firing order is 1-6-2-5-8-3-7-4.

**Spark plugs:** - Spark plugs are 18MM. Metric. A.C. Type G-10. Gaps are .020-.022 inch.

**VALVE TIMING: - INLET VALVES:** - Head diameter, 1-1/2 inches. Stem diameter, .3085 inch. Stem length, 5 1/16 inches. Valve lift, .312 inch. Spring pressure, 50 pounds (valve closed). Tappet clearance, .003-.005 inch (hot).

**EXHAUST VALVES:** - Head diameter, 1-3/8 inches. Stem diameter, .3085 inch. Stem length, 5-1/16 inches. Valve lift, .327 inch. Spring pressure, 50 pounds (valve closed). Tappet clearance, .005-.007 inch (hot).

**Valve Timing:**-To check valve timing, first set inlet valve tappet clearance for cylinder No. 1 at proper figure and then turn engine over until the inlet opening mark 'I0' which is slightly past the top dead center mark 'UDC 1&8' is directly in line with the pointer in the inspection hole in the front face of the flywheel housing at the right of the engine. The tappet clearance should be entirely taken up at this point and No. 1 inlet valve should be beginning to open. To set valve timing, install the timing chain so that there are 21 links between the mark on the crankshaft sprocket and the camshaft sprocket with piston No. 1 on top dead center.



1930 Hudson 8  
Wiring Diagram

**STARTER: - Model MAD-4101, MAD-4108.** Starter is connected to the engine through a Bendix drive. The direction of rotation is counter-clockwise, viewed from the commutator end. Starter cranks the engine at 125 R.P.M. drawing 125 amperes at 5.5 volts. Brush spring tension is 28-36 ounces. The starting switch is mounted on the starter field frame and is operated by a flexible control on the dash.

Starter Data			
Torque	R.P.M.	Volts	Amperes
0 lb. ft	Free	6	50
.3 " "	2750	5.5	100
2.8 " "	1360	5.0	200
5.7 " "	800	4.5	300
8.7 " "	400	4.0	400
15.2 " "	Lock	3.6	760

**Mounting:** - Starter is flange mounted at left of engine on forward side of flywheel housing. To remove starter, disconnect cable and ammeter lead and starting switch control. Then take out three flange mounting cap screws. Pull starter forward to clear drive and lift from place.

**Oiling:**-Starter bearings are oilless. They require no attention.

**GENERATOR: - Model GAM-4102.** The direction of rotation is counter-clock wise, viewed from the commutator end. Generator current regulation is by third brush shunt field. To adjust generator output, loosen the commutator cover band and shift the third brush by prying on the brush mounting plate with a screwdriver. Shift the third brush in a counter-clockwise direction to increase the charging rate and In the opposite direction to decrease the charging rate. The brush is held in position by friction between the mounting plate and the end plate. With standard car setting, the maximum charging rate is 14-16 amperes (cold) at 8 volts reached at 1901 R.P.M. or 27 miles per hour.

Generator Data		
Amperes	Volts	R.P.M.
0	6.5	620
2	6.9	710
5	7.1	830
10	7.8	1090
14	7.9	1490
15	8.0	1900

Shunt field current is 6.5 amperes at 6 volts. Generator motoring draws 5.5 amperes at 6 volts. Brush spring tension is 20-24 ounces.

**Mounting:** - Generator is cradle mounted at right of engine and is driven through a flexible hose coupling from the accessory drive shaft. To remove generator, disconnect lead and drive coupling and loosen mounting clamp band. Then slide generator from place.

**Oiling:** - Put 4 or 5 drops of light engine oil in the oiler at each end of the generator every 1000 miles.

**RELAY: - Model CB-4016.** Relay is mounted on the generator end plate. Relay closes at 900 R.P.M. when the generator voltage reaches 7 volts and opens with a discharge current of 0-2.5 amperes. Charging current at closing of contacts is approximately 2 amperes. Relay contact gap is .025-.035 inch. Air gap is .010-.030 inch with contacts closed.

**LIGHTING: - Soreng-Manegold Lighting Switch.** Lighting switch is mounted at the base of the steering column. The junction block is incorporated with the lighting switch. Headlights are equipped with double filament bulbs and use the second 21 cp. filament instead of dimmers. Headlights are 6-8 volt, 21-21 cp. D.C. Mazda 1110. Parking or side lights are 6-8 volt, 3 cp. S.C. Mazda 63. Dash and tail lights are each 6-8 volt, 3 cp. S.C. Mazda 63. Stop light is 6-8 volt, 15 cp. S.C. Mazda 87.

**FUSES:** - Lighting fuse mounted on junction block on switch is 20 ampere capacity.