1934 Hudson Eight
Tune-up and Electrical

SERIAL NUMBER: - Stamped on plate on engine side of dash (under hood).

First number, Model LL - 252,000, Model LT - 950,000.

COMPRESSION: - Ratio - 5.75-1 standard cast-iron head; 6.25-1 standard aluminum composite head.

Pressure - 5.75-1 CI head 80 lbs. at 125 R.P.M., 116 lbs. at 219 R.P.M. Al 6.25-1 head. All spark plugs must be removed and throttle wide open for readings.

VACUUM READING: - Gauge should show steady reading of 18-20" with engine idling.

IGNITION: - Coil Model CE-4304. Lock coil type. Resistor mounted on distributor.

Ignition Current - 2.5 amperes (running), 4.5 amperes (stopped).

Distributor Model IGP-4001-A. Single breaker, lobe cam, full automatic advance type. No synchronization required.

Breaker Gap - Set gap at .020'. Limits, .018-.020".

Breaker Arm Spring Tension - 18 ounces (minimum), 20 ounces (maximum).

Cam Angles - Closed 27.5º. Open 17.5º (distributor)

Automatic Advance

Distributor		Engine	
Degrees	R.P.M.	Degrees	R.P.M
Start	400	0	800
4	760	8	1520
8	1120	16	2240
12	1500	24	3000
17.5	2000	35	4000

IGNITION TIMING: - Flywheel Degs. Piston Posit.
Initial Setting (all engines) at TDC .0000" TDC

Timing (Initial Setting): - With #1 piston on compression, turn engine over until piston reaches top dead center, stop when flywheel mark 'U.D.C' registers with pointer in inspection hole (left hand front face of flywheel housing above starter), loosen hold-down screw in advance and rotate distributor clockwise to limit of advance arm slot, then rotate distributor slowly counter clockwise until contacts begin to open, tighten hold-down screw, check rotor position and spark plug connections (see diagram). This top dead center setting should be checked by road-testing car and spark advanced as much as operating conditions and fuel rating will allow (see below).

Timing (Final Setting): - With engine at normal operating temperature and running at 8 M.P. in high gear on level road, accelerate engine rapidly and note performance from 10 to 15 M.P. With correct setting a slight spark knock should be noticed. If no knock is heard, loosen hold-down down screw in advance arm and rotate distributor one graduation counter-clockwise. If knock is too severe, rotate distributor one graduation clockwise. Final setting must not be beyond maximum advance mark on flywheel (3/4" before top dead center mark ('U.D.C.').

Firing Order: - 1-6-2-5-8-3-7-4 (see diagram)

Spark Plugs: - -Champion, Type J-7. 14 MM. metric.

Spark Plug Gap - .022".

CARBURETION: - (Fuel System).

Carburetor:--Carter, Model 282-S (LL, LT, LU, LLU), 299-S (LTS) – 1-1/4" plain tube, downdraft type.

Automatic Choke - Carter Climatic Control (282-S).

Fuel Pump: - A.C., Type R..

Gasoline Gauge: - Motometer, electric type.

LUBRICATION: - Duo-flow (splash) system with positive pump feed to oil troughs and timing gears by oscillating plunger type pump. Pump mounted on right hand side of crankcase.

Normal Oil Pressure - 3 pounds.

Oil Pressure Relief Valve - Operates at 3 lbs. Located on right hand side of crankcase at rear (combined with oil pressure signal light switch).

Capacity and Oil - 9 quarts (dry), 7 quarts (refill). Use SAE #30 (above 40º F.), #20-W (40º to Oº F.).

VALVE TIMING: - To Check Timing - Set tappet clearance #1 Intake valve at .010". This valve should open with piston 10º 40' or .0494" before top dead center when a point on the flywheel approximately 3.97 teeth before the dead center mark 'U.D.C.' lines up with the indicator on the housing. Reset tappet clearance at .006" with engine hot.

Tappet Clearance: - .006" Intake, .008" Exhaust, engine hot.

Valve Spring Pressure: - 44 lbs. at 21, (valve closed), 102 lbs. at 1-21/32" (valve open).

LUBRICATION: - Normal Oil Pressure - 3 pounds.

BATTERY: - Exide, Type XTL-19-17F, 6 volt, 19 plate, 120 ampere hour capacity.

Starting Capacity - 106 amperes for 20 minutes.

Grounded Terminal - Positive (+) terminal.

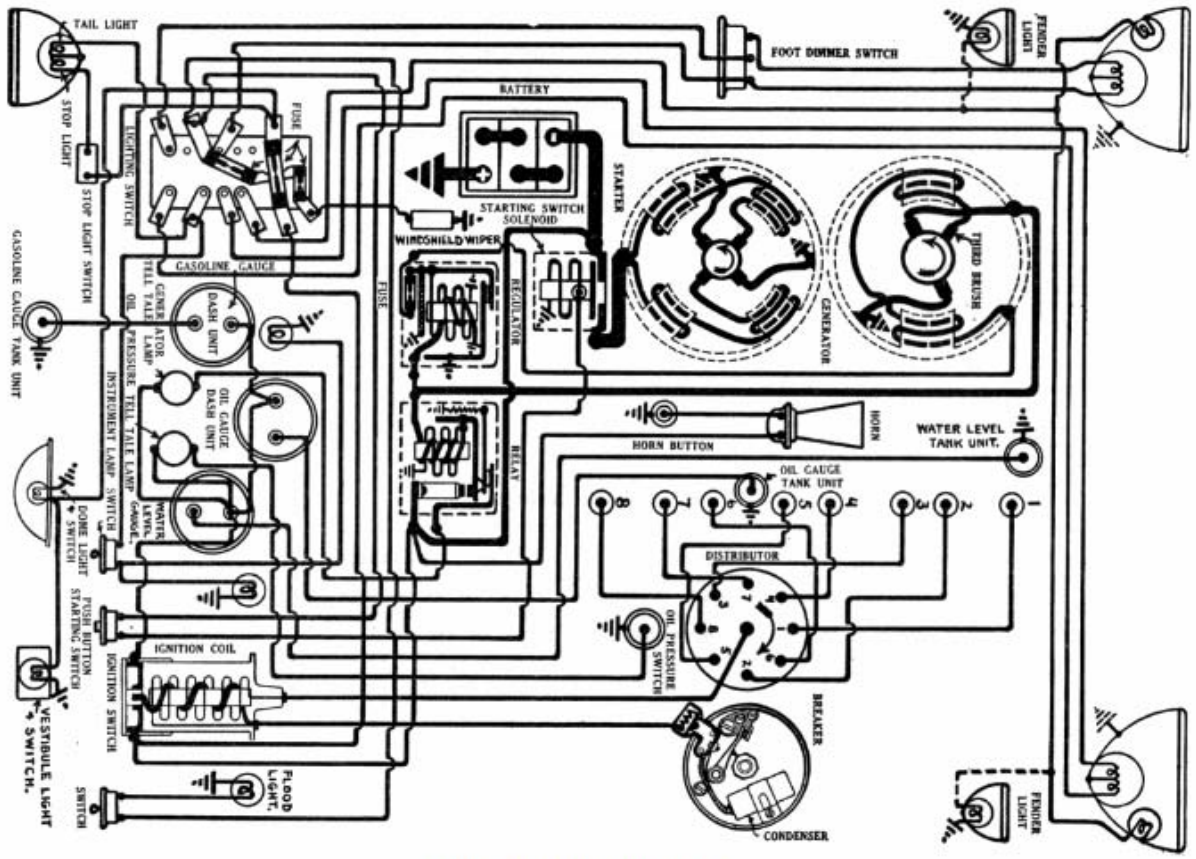
Location - Under front floor boards, left hand side.

STARTER: - Model MAB-4061. Armature No. MAB-2113. Starter drive - Inboard Bendix.

Rotation - Counter-Clockwise at commutator end.

Brush Spring Tension - 44-56 ounces (new brushes).

Cranking Engine - 150 R.P.M., 120-125 amperes, 5 volts.



1934 Hudson 8 - All Models

Performance Data

Torque	R.P.M.	Volts	Amperes
0 ft. lbs.	3700	5.5	60
.6 "	1910	5.5	100
3.4 "	1100	5.0	200
6.6 "	695	4.5	300
10.15 "	420	4.0	400
15.8 "	Lock	3.0	582
22.5 "	Lock	4.0	775

NOTE: - Lock torque figures correct without switch.
Starting Switch: -Type SS-4001. Solenoid type switch mounted on starter field frame and controlled by pushbutton switch on instrument panel.
Mounting:-Flange mounted on left hand front face of flywheel housing. To remove, take out two flange mounting bolts.
GENERATOR: - Model GBK-4602. Armature No. GBK-2055. Ventilated, third brush control type with external voltage regulator.

Charging Rate Adjustment: - Use test meters to check generator output. Short out voltage regulator by connecting short jumper *wire from 'F' terminal on generator to ground. Take off commutator cover band, shift third brush by hand counter-clockwise to increase, or clockwise to decrease charging rate. Remove jumper wire.

Maximum Charging Rate - 22 amperes (cold), 8.0 volts, 2400 R.P.M. or 28 M.P.H.

Performance Data

	Cold-Regulator Inoperative-Hot				
Amperes	Volts	RPM	Amperes	Volts	RPM
0	6.4	800	0	6.4	840
4	6.7	980	4	6.8	1025
8	7.0	1085	8	7.15	1200
12	7.3	1300	12	7.5	1450
16	7.55	1500	16	7.85	1760
22	8.0	2200	18	8.0	2400

Generator (Cont'd)

Rotation-Counter - clockwise at commutator end.

Brush Spring Tension - 18-22 ounces.

Field Current - 3.75-4.15 amperes at 6.0 volts.

Motoring - 4.46-4.94 amperes at 6.0 volts.

Field Fuse - 7-1/2 ampere capacity in knurled cup under regulator case.

Mounting: - Pivot mounted at left front of engine. Driven by fan belt. To remove, take out two pivot bolts and one clamp bolt.

Belt Adjustment - Loosen pivot bolts and clamp bolt, swing generator out or away from engine until slight pull is felt on belt, tighten clamp bolt before slacking off on generator, tighten pivot bolts.

CUT-OUT RELAY: - Model CBA-4002. Mounted on dash. Relay has extra set of contacts above armature for charge tell-tale light control.

Cuts in - 6.4 volts, 750 R.P.M. or 8 M.P.H. Limits, 6.5-7.25 volts.

Cuts out - .5-2.5 ampere discharge.

Contact Gap - .025-.035" with upper contacts closed.

Air Gap - .010-.030" with contacts closed.

VOLTAGE REGULATOR: - Model TC-4102A. Two Charge Regulator mounted on engine side of dash.

Contacts Open - 7.86-8.27 volts at 70º F.

Contacts Close - 6.46-6.86 volts at 70º F.

Contact Gap - .005" minimum.

Core Gap - .030" plus or minus .001" with contacts closed.

LIGHTING: - Soreng-Manegold Switch, Model 5640-A, C-5640-A (without windshield wiper fuse). Soreng Manegold Foot Control Switch. Foot control switch provides asymmetric 'meeting' beam (lower beam left hand headlight, upper beam right hand headlight). Operative only with lighting switch In 'Country Driving' position. Headlight bulbs are pre-focused type.

Bulb Specifications

Lamp	C.P.	Mazda No.
Headlights	32-21	2320-C
Parking, Instrument, Flood	3	63
Dome, Vestibule	15	87
Stop and Tail	21-2	1158
Signal	3	64 (DC.)

SIGNAL LIGHTS: - Battery charge tell-tale and oil pressure tell-tale light mounted on instrument panel. Light bulbs are standard 3 cp. DC. bulbs, Mazda No. 64. To remove bulbs, turn light counter-clockwise slightly to release bayonet socket pin.

Battery Charge Tell-tale - At left of instrument cluster. Tell-tale should light with ignition turned on and should go out when generator begins to charge battery (relay contacts closed). If telltale does not burn when ignition turned on, check bulb by grounding tell-tale terminal on relay to generator field frame. If tell-tale does not light, replace bulb. If lamp lights, check auxiliary contact spring, contacts and ground resistor. See that auxiliary contacts are closed with main contacts open. If tell-tale lights at speeds above idling (8 M.P.H.), generator or relay is defective.

Oil Pressure Tell-tale. - At right of instrument cluster. Tell-tale should light with ignition turned on but should go out when engine is operated (light should flash at idling speeds). Tell-tale should not light or flash at speeds above idling. If tell-tale does not light when ignition is turned on, check bulb by grounding terminal on oil pressure check valve (right side of crankcase) to engine. If tell-tale does not light, replace bulb. If tell-tale does not flash at idling speeds, disassemble check valve and clean out by-pass hole behind plunger, see that terminal pin is straight and clean, and that plunger is free.

FUSES: - Lighting - Two 20 ampere capacity fuses on back of lighting switch.

Windshield Wiper - 7-1/2 ampere capacity fuse on lighting switch (not used on all cars).

Generator Field - 7-1/2 ampere capacity.