

**1928**

**HUDSON**

**Mechanical Specifications  
&  
Information**

**(Part I)**

**1928**

**HUDSON**

**Electrical Specifications  
&  
Information**

**(Part II)**

REVISED JULY, 1927.

## Mechanical Specifications for Hudson Super Six 1928 Model

Car Serial No. 790,399 to \_\_\_\_\_

### ENGINE

Make	Hudson	Piston displacement	288
Model	Super-Six	Suspension	4 Point
No. of Cylinders	6	Type of head	F
Cylinder arrangement	Vertical	Cylinder head	Detachable
Bore	3 1/2"	Cylinders cast	En bloc
Stroke	5"	Crankcase	Separate
Rated H. P.	29.4	Upper half	Aluminum
Firing order	1-5-3-6-2-4	Lower half	Pressed steel

### CAMSHAFT DRIVE

Type of drive	Chain	No. of links	63
Make	Morse	Pitch	2
Type	No. 28	Adjustment	Adjustable eccentric
Width of chain	1-5/8"	Sprocket material	Cast Iron
Camshaft sprocket	42 teeth		

### CAMSHAFT BEARINGS

No. of bearings	4		
No. 1 (front) diameter	2	No. 3 diameter	2-15/16"
No. 1 length	1-5/8"	No. 3 length	1-1/16"
No. 2 diameter	2-11/32"	No. 4 diameter	1-1/2"
No. 2 length	1-1/16"	No. 4 length	1-3/4"

### VALVES

	<i>Inlet Valve</i>	<i>Exhaust Valve</i>
Head material	Silicon steel	Silicon steel
Head diameter (outside)	2-1/32"	1-27/32"
Head diameter (opening)	1-7/8"	1-5/8"
Stem length	6"	6-3/4"
Stem diameter	.373	.371
Stem type of end	Grooved	Grooved
Tappet (type)	Roller	Roller
Tappet clearance	.004-.006	.006-.008
Valve lift	9/32"	15/64"
Valve stem guides	Removable	Removable
Spring pressure	100 lbs.	75 lbs.

### VALVE TIMING

Inlet opens	7° after TDC	Exhaust Opens	55° before BDC
Inlet closes	42° after BDC	Exhaust. Closes	8° after TDC

**CRANKCASE AND CRANKSHAFT**

No. of main bearings	4	Crankpin diameter	2-1/4"
No. 1 (front) diameter	2-1/4"	Main bearing material	Bronze & babbitt
No. 1 length	2-3/8"	Main bearing end play	.006-.012
No. 2 diameter	2-9/32"	Main bearing clearance	.0015-.002
No. 2 length	1-7/8"	End thrust on	Rear center bearing
No. 3 diameter	2-5/16"2-5/16"	Sprocket	21 teeth
No. 3 length	2-1/8"	Material	Steel
No. 4 diameter	2-11/32"		
No. 4 length	3-1/8"		

**CONNECTING ROD**

Material	D. F. steel	Lower end bearing clearance	.0015-.002
Weight	4 lbs.	Length	2-9/32"
Length Center to Center	11.625	Clearance (endwise)	006-.010
Lower end bearing diameter	2.25	Type	Separate
Diameter		Material	Bronze & babbitt

**PISTON**

Type	Slotted skirt	Distance between bosses	1-3/8"
Material	Aluminum with steel struts	Clearance skirt	.003
Weight	20 ounces	Depth of grooves	5/32"
Length	4-1/16"	4 holes	3/32" diameter
Pin center to top	2-1/4"	10 holes	3/32" diameter
Middle groove	Drilled radially		
Lower groove	Drilled radially		

**PISTON RINGS**

Material	Cast iron	No. of rings above pin	3
No. per piston	3	Type of joint	Mitre
Width	1/8"	Gap clearance	.006 .008
No. of comp. rings	1	No. of oil control rings	2

**PISTON PIN**

Type	Floating	Bushing outside diameter	1.283
Diameter	1.0937	Bushing inside diameter	1.0937
Length	2-11/16"	Bushing length	1-1/8"

**LUBRICATING SYSTEM**

Type	Circulating splash
Oil pump type	Plunger
Stroke of pump - plunger idling	Minimum 3/16"
Stroke of pump-plunger high speed	Maximum 5/16"
Capacity-oil reservoir only	7 quarts
Capacity-oil reservoir and troughs	9 quarts
Mesh of screen	50
Oil recommended	Medium heavy-Use low cold test in winter

**COOLING SYSTEM**

Type	Centrifugal pump
Radiator - make	Harrison
Core type	Ribbon cellular
Radiator shutter - type	Pressed steel
Shutter control type	Manual
Capacity of cooling system	5-1/2 gallons
Radiator hose - upper - diameter	1-1/2"
Radiator hose - upper - length	6"
Radiator hose - lower - diameter	1-1/2"
Radiator hose - lower - length	10-1/2"
Fan belt	"V" type
Fan - make	Hudson
Fan bearing type	Plain

**FUEL SYSTEM**

Carburetor- make	Marvel VB-10-669
Carburetor -size	1-1/2
Fuel feed type	Vacuum tank
Make of vacuum tank	Stewart
Air cleaner-type	A. C.
Gasoline tank Capacity	18-3/4 gallons
Method of heating mixture	Hot spot

**EXHAUST SYSTEM**

Muffler - make	Hudson	Exhaust pipe diameter	2-1/4"
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**IGNITION SYSTEM**

Make	Auto-Lite Corporation	Ignition coil make	Auto-Lite
Current source	Battery and generator	Spark plug - make	A. C. Titan
Spark control type	Semi-Automatic	Spark plug - type	Short
Firing order	1-5-3-6-2-4	Spark plug - size	Metric 18 mm, 1.5 mm thread
Timing	10 degrees BDC full advance	Spark plug - gap	.025-.028
Breaker point gap	.020		

Note: Any other information must be obtained from the manufacturer

**STARTER MOTOR**

Make - Auto-Lite Corporation	MUA-4011
Drive type	Manual - sliding gear
No. of teeth on flywheel	118
Width of tooth face	3/4"
Pinion meshes from	Front of flywheel

Note: Any other Information must be obtained from the Manufacturer.

**GENERATOR**

Make - Auto-Lite Corp.	GAB-4008
Normal charging rate - hot	13 amperes
Normal charging rate - cold	17 amperes

Note! Any other Information must be obtained from the manufacturer.

**BATTERY**

Make	Exide	Terminal grounded	Negative
Type	3-X1-15-1-G	Length - overall	10-1/4"
Voltage	6	Width - overall	7-1/8"
No. of plates	15	Height of box	7-7/8"
		Height over terminal	9"

**LIGHTING SYSTEM**

Head side and tail lamps-make	John Brown Lamp Co,
Head side reflector-make	John Brown Lamp Co.
Head and side lamp type	Bullet
Head lamp lens-type	Parabeam
Head lamp lens-diameter	91,
Head lamp dimmer method	Separate filament
Dash and tail lights connected	Separate
Ammeter-make	National Gauge & Equipment Co.
Lighting switch - make	Auto-Lite Corporation
Ignition switch - type	Electrolock

**LAMP BULB SPECIFICATIONS**

	<i>Make</i>	<i>Mazda No.</i>	<i>CP</i>	<i>Base</i>	<i>Voltage</i>
Head	Mazda	1110	21-21	D. C.	6-8
Side	Mazda	63	3	S. C.	6-8
Tail	Mazda	63	3	S. C.	6-8
Dash	Mazda	63	3	S. C.	6-8
Stop	Mazda	87	15	S. C.	6-8
Dome	Mazda	63	3	S. C.	6-8

**HORN**

E. A. Horn	Motor type
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**CHASSIS**

Wheelbase	127-3/8"
Lubricating system	Oil cups - wick
Overall length with bumpers	15' 8"
Location of serial number	Frame rear cross member R. H. end

**TRANSMISSION**

Make	Hudson	Pocket bearing	Bronze bush.
Location	Unit	Reverse idler	Hyatt No, 16820
Speeds	3 forward, 1 reverse	Main shaft - front	N. D. 1308
Gear ratio-low	3.04 to 1	Main shaft-rear	Hyatt No. 16684
Gear ratio- second	1.81 to 1	Countershaft - front	Hyatt No. 16506
Gear ratio- high	1 to 1	Countershaft -rear	Hyatt No. 16506
Gear ratio - reverse	3.69 to 1	Countershaft -rotates	
Type of lubricant	Light transmission oil	Pilot bearing in crankshaft	N. D. No. 1204
Oil capacity (approx.)	1-1/2 quarts		

**CLUTCH**

Make	Hudson	Facing material	Cork inserts
Type	Single disc in oil	Throwout bearing	Nice No. 0210
No. cork inserts	132	Throwout	5/32"
Lubrication	1/4 pt.	Clearance at floor board	3/4"
(Mixture 1/8 pint motor oil and 1/8 pint kerosene)			

**UNIVERSALS**

Front - make	Spicer	Rear - make	Spicer
Front type	Metal	Rear -type	Metal

**TYPE OF DRIVE**

Propulsion through rear springs.

**REAR AXLE**

Make	Hudson	No. of teeth in pinion	11
Type	Semi-floating	No. of teeth in gear	49
Gear ratio	4-5/11 to 1	Pinion Adjustable	
Type of drive	Spiral bevel	Pinion hearing	Adjustable
Min. road clearance	8 1/4"	Oil capacity (approx.)	2 1/2 quarts
Clearance for jack	10 1/4"	Type of lubricant	Differential oil
Differential -make	Hudson	Differential bearing	
Pinion bearing	Front -	Timken 3196 and 3120	
Pinion bearing	Rear -	Timken 439T and 432	
Differential bearing	Right -	Timken 377 and 3720	
Differential bearing	Left -	Timken 377 and 3720	

**FRONT AXLE**

Make	Hudson	Toe in - none - or not over 1-1/8"	
Section type	I-beam	Castor angle	1 degree backward
End type	Rev. Elliott	Min. road clearance	8-1/4"
King pin thrust bearing	Special thrust	Clearance for jack	6-3/4"
King transverse inclination	6-1/2 degrees		
Spindle transverse inclination	2-1/2 degrees		

**STANDARD BRAKES**

Type of standard brakes                      Bendix 4-wheel brakes

**SERVICE BRAKE**

Location	Front and Rear wheels	Lining length per wheel	3 pieces 38-7/32"
Make	Bendix	Width of lining	2"
Type	Internal	Thickness of lining	3/16"
Total braking area	305-3/4 square inches	Clearance of lining	.010
Drum diameter	Front and Rear - 14"	Method of application	Front pedal

**HAND BRAKE**

The hand lever operates the rear wheel brakes independently of the foot pedal and should be used for parking, especially when car is standing on an incline.

**WHEELS**

Type	Wood-steel felloe
Make	Motor Wheel Corp.
Front wheel inner bearing	Timken No. 415 and 412A
Front wheel outer bearing	Timken No. 315 and 312
Rear wheel bearing	Timken No. 458T and 454

**RIMS**

Type	Split	Diameter	19"
Make	Firestone	Width	4½"

**TIRES**

Size	31 x 6 Balloon straight side
Make	Goodyear, U. S. and Miller
Number of plies	(6 on rear of 7-Sedan)
Recommended pressure	Front 35 lbs. Rear 38 lbs.

**STEERING GEAR**

Make	Gemmer
Type	Worm and roller disc
Ratio	18 to 1
Steering wheel turns	2½ (full swing left to right)
Turning radius	21 feet
Lubricant	Heavy bodied gear oil

**SPRINGS**

Front Spring		Rear Spring	
Type	Semi-elliptic	Type	Semi-elliptic
Length	39"	Length	57-11/16"
Width	2-1/4"	Width	2-1/4"
No. of leaves	10	No. of leaves	15
Material	Spring steel	Material	Vanadium steel
Front bushing	11/16" diameter	Front bushing	3/4" diameter
Rear bushing	11/16" diameter	Rear bushing	11/16" diameter
Bushing material	Phosphor bronze	Bushing material	Phosphor bronze
Spring lubrication	Motor oil		
Shackles - type	Adjustable		

**FRAME**

Make	Hudson	Depth	7
Material	Steel	Thickness	3/16"
		Width of flange	2¼"

## HUDSON SUPER SIX

### Gear Ratios and Rules for Comparing Speed in Miles per Hour with Motor R. P. M.

Car Serial No. 790,399 to, \_\_

TO OBTAIN MOTOR R. P. M. FOR ANY DESIRED SPEED IN MILES  
PER HOUR

Note: The following rule No. 1 is good only for a gear ratio of 4 5/11 to one and with wheel diameter of 31 inches.

Rule No. 1 - M. P. H. Multiplied by 48 = Motor R. P. M. (approx.)  
 Example what is the R. P. M. at 40 miles per hour?  
 Answer - 40 multiplied by 48 = 1920 R. P. M. (approx.)

The following rule No. 2 is good only for a gear ratio of 4 1/12 to one and with wheel diameter of 31 inches.

Rule No. 2-M. P. H. multiplied by 44 =Motor R. P. M. (approx.)

TO OBTAIN SPEED IN MILES PER HOUR FOR ANY DESIRED MOTOR R. P. M.

Note: The following rule No. 3 is good only for a gear ratio of 4 5/11 to one and with wheel diameter of 31 inches.

Rule No. 3 - R. P. M. divided by 48 =Speed in miles per hour (approx.)  
 Example-what is the speed at 2400 R. P. M.  
 Answer-2400 divided by 48 =50 M. P. H. (approx.)

The following rule No. 4 is good only for a gear ratio of 4 1 12 to one and with wheel diameter of 31 inches.

Rule No. 4 - R. P. M. DIVIDED by 44 = Speed in miles per hour (approx,)

Gear Ratios ---To obtain the number of revolutions of the motor required for one revolution of the rear wheel, multiply the transmission ratio by the rear axle ratio.

Example-3.04 (low gear ratio) x 4.45 (rear axle ratio) = 13.528. Revolutions of the motor to one revolution of rear wheel.

The following list shows the various motor to wheel ratios worked out as above for Super Six cars:

	Trans. Ratio	Rear Axle Ratio	Motor Revs.	Wheel Revs.
With transmission in low	3.04	4.45	13.528	1
With transmission in second	1.81	4.45	8.05	1
With transmission in high	1.	4.45	4.45	1
With transmission in reverse	3.69	4.45	16.420	1



MODEL 1927 HUDSON SUPER SIX  
STANDARD EQUIPMENT

Car Serial No. 790,399 to -----

	<u>Phaeton</u>	<u>Coach</u>	<u>Brougham</u>	<u>Std 5-Pass. Sedan</u>	<u>7-Pass Sedan</u>
W/S Cleaner - Make	None	Trico	Trico	Trico	Trico
W/S Cleaner - Type	None	Vacuum	Vacuum	Vacuum	Vacuum
Trunk Rack	None	Yes	Yes	No	No
Cowl Ventilator			ALL MODELS		
Engine Heat Indicator	Boyce Motometer		ALL MODELS		
Gasoline Gauge Location	Instrument Board		ALL MODELS		
Gasoline Gauge - Type	King-Seeley Hydrostatic		ALL MODELS		
Wheel - Type	Wood		ALL MODELS		
Sun Visor	No	Yes	Yes	Yes	Yes
Radiator Shutters			ALL MODELS		
Rear Traffic Signal			ALL MODELS		
Comb. Tail & Stop Light	John Brown Lamp Company		ALL MODELS		
Cowl Lights			ALL MODELS		
Rear Vision Mirror	No	Yes	Yes	Yes	Yes
Ignition electrolock			ALL MODELS		
Speedometer - Make	Stewart Warner		ALL MODELS		
Spare Rim	One		ALL MODELS		
Horn - Make E. A.			ALL MODELS		
Headlamps - Make	John Brown Lamp Company		ALL MODELS		
Tire Carrier - Make	Hudson		ALL MODELS		
Storage battery - make	"Exide"		ALL MODELS		

REVISED JULY, 1927

**Hudson Super Six Body Details**

Car Serial No. 790,399 to

	<i>Phaeton</i>	<i>Coach</i>	<i>Brougham</i>	<i>Sid. 5-Pass. Sedan</i>	<i>Custom 5-Pass. Sedan</i>	<i>7-Pass. Sedan</i>
Model	1928					
Wheelbase	127-3/8" - ALL MODELS					
Weight	3565	3505	3660	3620	3870	
No. of doors	4	2	4	4	4	4
No. of passengers	7	5	4	5	5	7
Seat arrangements	Std.	Folding Type	Std.	Std.	Std.	Std/
Gear ratio	4-5/11 to 1 - ALL MODELS					
Make of body	Biddle Smart	Briggs	Biddle & Smart	Briggs	Biddle & Smart	Biddle & Smart
Framework material	Wood	Steel	Wood	Steel	Wood	Wood
Body panel mater.	Aluminum	Steel	Aluminum	Steel	Aluminum	Aluminum
Wheels type	Wood - ALL MODELS					
Tire size	31 x 6 - ALL MODELS					
Tire type front	4 ply - ALL MODELS					
Tire type rear	4 ply	4 ply	4 ply	4 ply	6 ply	6 ply
Smoking set	No	No	Yes	Yes	Yes	Yes

**1928**

**HUDSON**

**Electrical Specifications  
&  
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**(Part II)**

**1928 HUDSON SUPER-SIX**  
**AUTO-LITE GENERATING, STARTING SYSTEM**  
**AUTO-LITE IGNITION**

**BATTERY:** - Prest-O-Lite, Type 6-15-JFK, 6 volt. Starting capacity (20 minute rate) is 120 amperes for 20 minutes. Lighting capacity (5 ampere rate) is 5 amperes for 20 hours. The negative (-) terminal is grounded.

**IGNITION:** - Coil Model CE-4001. Distributor Model IGA-4023 and IGA-4024. Breaker contacts separate .020-.024 inch when new. After 1000 miles of operation contact gap should be set at .018,.020 inch. Resurface contacts whenever necessary with a fine flat contact file or on a medium hard oilstone. Distributor is semi-automatic. Manual advance is 25 degrees (engine). Automatic advance begins at 400 R.P.M. (engine). Maximum automatic advance is 50 degrees (engine) at 3200 R.P.M. Breaker arm spring tension is 18-20 ounces. Distributor is fitted with an Electrolock. When distributor is removed for servicing, the Electroloc must be removed with the distributor.

**Oiling:** - Put 6 or 8 drops of light engine oil in the oiler on the side of the distributor housing every two weeks or each 500 miles if the car is driven more than 500 miles in two weeks. Put one drop of oil in the breaker arm pivot every week or each 250 miles. Place a small bit of vaseline on the face of the breaker cam under the fiber bumper every 5000 miles.

**Timing:** - Breaker contacts begin to separate when the piston entering power stroke reaches a position 1¼ inches (on the flywheel) before top dead center with the spark control lever in the fully advanced position. To set timing, crank engine until piston No. 1 reaches this position. The flywheel mark will then be opposite the indicator visible through crankcase opening.

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

**Spark Plugs:** - Spark plugs are Metric standard. Gaps are .025 inch.

**STARTER:** - Model MUA-4002. Starter is connected to the engine through a sliding gear shift built in the starting switch. Pressing down on the starting pedal meshes the gears and closes the starting switch. When the pedal is released a spring reverses these operations. Starter brush tension should be 1¾-2¼ pounds each. Starter cranks the engine at 110 R.P.M. taking 250 amperes at 5.5 volts.

**Starter Data**

Torque	R.P.M.	Volts	Amperes
0 lb. ft	4200	6	50
2 lb. ft	1500	5.3	130
4 lb. ft	1000	5.0	200
6 lb. ft	600	4.6	275
8 lb. ft	450	4.2	340
22 lb. ft	Lock	3.5	500

**Oiling:** - Starter has oilless graphite-bronze bearings. They require no attention.

**GENERATOR:** - Model GAB-4008. The direction of rotation is counter-clockwise, looking at the commutator end. Generator current regulation is by third brush system. To adjust charging rate, remove commutator cover band and shift the third brush mounting plate by tapping on the mounting lug 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 mounting plate is held in any desired position by the friction between the mounting lug and the generator endplate. Maximum charging rate of 17.5 amperes is reached at 1300 R.P.M. of the generator.

**Generator Data**

Cold Test (72° F.)			Hot Test (206° F.)		
Amps	Volts	R.P.M.	Amps	Volts	R.P.M.
4	6.8	630	4	6.8	750
10	7.4	780	10	7.6	1000
14	7.8	950	13	8.0	1400
17	8.0	1300	11	7.8	2000
13	7.8	1950			

Motoring freely at 355-390 R.P.M. generator draws 4.7-5.2 amperes at 6 volts. Shunt field current is 6.1-6.8 amperes at 6 volts. Tested separately each coil draws 24.4-27.2 amperes at 6 volts. Generator brush tension should 1.0-1.5 pounds.

**Oiling:** - Put 4 or 5 drops of light engine oil in each of the generator bearing oilers every two weeks or each 500 miles if the car is driven more than 500 miles in two weeks.

**RELAY:** - Model CB-4014. Relay is mounted on the generator. Relay contacts close at 545-625 R.P.M. when the generator voltage reaches 7-7.5 volts and open with a discharge current of 0-2.5 amperes. Charging current must not exceed 5 amperes at closing of contacts. Contacts separate .025-.035 inch. Air gap is .010-.030 inch with contacts closed.

**LIGHTING:** - Clum Switch Model 10717. Soreng Manegold Model 2550-A. Switch is mounted at the base of the steering column. Head lights are 6-8 volt, 21-21 ep. (double filament-double contact), Mazda No. 1110. Stop light is 6-8 volt, 21 cp. S.C. Mazda No. 1129. Side, dash and tail lights are each 6-8 volt, 3 cp. S.C. Mazda No. 63.

**FUSES:** - Generator field fuse is 7.5 amperes. Lighting fuse on junction block is 20 amperes.

1928 HUDSON SUPER-SIX  
All Models

