Mechanical Specifications for The Greater Hudson Eight for 1932

ENGINE

Make	Hudson	Actual H. P.:	
Model	Greater Eight	Power Dome Head	101 at 3600
No. of cylinders	8	Super Power Dome Head	110 at 3600
Cylinder arrangement	Vertical	Firing order	1-6-2-5-8-3-7-4
Bore	3”	Suspension	4 point rubber
Stroke	4½”	Type of head	L
Piston displacement	254	Cylinder heads (2)	Detachable
Compression ratio:		Cylinders cast	En bloc
Power Dome Head	5.8 to 1	Crankcase	Integral
Super Power Dome Head	7.0 to 1	Upper half	Cast iron
Rated H. P.	28.8	Oil pan	Pressed steel

CAMSHAFT DRIVE

Type of drive	Chain	Generator sprocket	16 teeth
Width of chain	1¼"	Material	Steel
Camshaft sprocket	38 teeth	No. of links	57
Sprocket material	Cast iron	Pitch	½”
Crankshaft sprocket	19 teeth	Adjustment	Manual
Material	Steel		

CAMSHAFT BEARINGS

No. of bearings	5	No. 3 diameter	1-31/32”
No. 1 (frt.) diameter	2-1/32”	No. 3 length	1-1/4”
No. 1 length	1-3/8”	No. 4 diameter	1-15/16”
No. 2 diameter	2"	No. 4 length	1”
No. 2 length	1"	No. 5 diameter	1-1/2”
		No. 5 length	1-1/2”

VALVES

	Inlet Valve	*Exhaust Valve*
Head material	Silicon steel	Silicon steel alloy steel
Head diameter (outside)	1-1/2”	1-3/8”
Head diameter (opening)	1-3/8”	1-1/4”
Stem length	5-1/32”	5-1/32”
Stem diameter	5/16”	5/16”
Stem type of end	Grooved	Grooved
Tappet—type	Roller	Roller
Tappet clearance	003"-.005"	.005"-.007"
Valve lift	11/32”	11/32”
Valve stem guides	Removable	Removable
Spring pressure	53 lbs.	50 lbs.

CRANKCASE AND CRANKSHAFT

No. of main bearings	3	Crank pin diameter	1-15/16
No. 1 (frt.) diameter	2-9/32”	Main bearing material	Bronze & babbitt
No. 1 length	1-5/8”	Main bearing clearance	.006"—.012"
No. 2 diameter	2-5/16”	Main bearing end play	.001"—.0015"
No. 2 length	1	End thrust on	Center bearing
No. 3 diameter	2-11/32”	Sprocket	19 teeth
No. 3 length	1-7/8”	Material	Steel
No. 4 diameter	2-3/8”		
No. 4 length	1-3/8”		
No. 5 diameter	2-13/32”		
No. 5 length	2”		

CONNECTING ROD

Material	D. F. Steel	Lower end bearing clear.	.001"-.015”
Weight	1.84 lbs.	Length	1-3/8”
Length C. to C	8-3/16”	Clearance (endwise)	.006"-.010"
Lower end bearing diameter	1-15/16”	Material	Spun Babbitt

PISTON

Type	T slot trunk	Pin center to top	1-11/16"
Material	Silicon aluminum alloy	Distance between bosses	1-1/8"
		Clearance at top of skirt	.0015"—.002"
Weight	9% ounces	Clearance at bottom of skirt	.0005"—.001"
Length	3-3/16"		
Lower grooves (2)	Drilled radially	Depth of grooves	5/32"

PISTON RINGS

Material	Cast iron	Gap clearance	.009"—.011"
Type of joint	Mitre	No. oil rings	2
No. comp. rings	2	Width upper oil ring	1/8"
Width comp. rings	3/32"	Width lower oil ring	3/16”

PISTON PIN

Type	Floating	Bushing outside dia..	15/16"
Diameter	3/4"	Bushing inside dia..	3/4"
Length	2-7/16"	Bushing length	15/16"

LUBRICATION SYSTEM

Type	Circulating splash
Oil pump type	Oscillating plunger
Oil cooling	Baffling in reservoir
Oil cleaning	Screen and ventilation
Mesh of screen	50
Capacity—oil reservoir only	8 quarts
Capacity—oil reservoir and troughs	9-1/2 quarts
Oil recommended	S. A. E. 30—Use low cold test in winter

COOLING SYSTEM

Type	Centrifugal pump
Radiator make	Harrison
Core type	Ribbon cellular
Capacity of cooling system	4-1/4 gallons
Radiator hose—lower—diameter	1-5/16"
Radiator hose—upper—length	9-3/8"
Radiator hose—lower—diameter	1-1/2”
Radiator hose—lower—length	5-1/2"
Water pump to cylinder hose—diameter	1-1/2"
Water pump to cylinder hose—length	5"
Fan belt	"V" type
Fan make	Hudson
Fan bearing type	Plain

FUEL SYSTEM

Carburetor—make	Marvel - XH-4
Carburetor—size	1-1/2"
Fuel feed—type	Vacuum tank
Make of vacuum tank	Stewart
Air cleaner	Flame arrester silencer type
Gasoline tank capacity	16 gallons
Method of heating mixture	Automatic heat control

EXHAUST

Muffler—Twin Neutratonic	Exhaust pipe diameter—2”
	Tail pipe dia.. 1-3/4”

IGNITION SYSTEM

Make	Auto-Lite Corporation
Current source	Battery and generator
Spark control type	Full-automatic
Firing order	1-6-2-5-8-3-7-4
Timing—Power Dome Head	{Std. fuel—D. C. {Ethyl fuel—1-1/4" before D. C.
Timing—Super Power Dome Head	Ethyl fuel—D. C.
Breaker point gap	.020"
Ignition coil—make	Auto-Lite Corporation
Spark plug—type {Power Dome Head	A. C.—G-8
{ Super Power Dome Head	A. C.—K-12
Spark plug—size { Power Dome Head	18 m/m
{ Super Power Dome Head	14 m/m
Spark plug—gap	.022"

Note: Any other information must be obtained from the manufacturer.

STARTER MOTOR

Make	Auto-Lite Corporation - MAB-4041
Drive—type	Bendix
No. of teeth on flywheel	107
Width of tooth face	3/8”
Pinion meshes from	Rear of flywheel

Note: Any other information must be obtained from the manufacturer.

GENERATOR

Make	Auto-Lite Corporation - GAL-4344
Regulation	Third brush
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-VXA-15-1	Length—overall	10-9/32”
Voltage	6	Width—overall	7
No. of Plates	15	Height of box	7-25/32”
Where mounted	Under drivers seat	Height overall	9-7/32””

LIGHTING SYSTEM

Head and tail lamps—make	John Brown Lamp Company
Head lamp reflector—make	John Brown Lamp Company
Head lamp—type	Bullet
Side lamp—type	Bullet
Head lamp lens—type	Stabilite
Head lamp lens—diameter	$8^{11}/_{16}$”
Head lamp dimmer method	Separate filament
Dash and tail lights connected	Separately
Ammeter—make	Motometer Gauge & Equipment Co.
Dash light—make	Motometer Gauge & Equipment Co.
Lighting switch control	On steering wheel

LAMP BULB SPECIFICATIONS

	Make	*Mazda No.*	*C. P.*	*Base*	*Voltage*
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	12	S. C.	6-8
Dome	Mazda	63	3	S. C.	6-8

HORN

Vibrator Type

CHASSIS

Wheelbase	119"	126”	132”
Lubricating system	Alemite	Alemite	Alemite
Overall length with bumpers	185-3/4”	192-1/4”	198-3/4”
Location of serial number	On right hand side member—at rear end of front spring. On body dash plate.		

LUBRICATION—½ pint light motor oil

TRANSMISSION

Make	Hudson	Pilot brg. in crankshaft	Annular ball
Location	Unit	Pocket bearing	Bronze bush.
Speeds	3 forward 1 rev.	Reverse idler bearing	Bronze bush.
Gear ratio--low	2.44 to 1	Main shaft bearing--front	Annular ball
Gear ratio—second	1.62 to 1	Main shaft bearing—rear	Annular ball
Gear ratio—high	1 to 1	Free wheeling unit bearing	Annular ball
Gear ratio rev.	3.26 to 1	Countershaft gear—front	Bronze bush.
Type of lubricant {Summer—S. A. E. 90		Countershaft gear—rear	Bronze bush.
{Winter —S. A. E. 80		Countershaft	Stationary
Oil capacity (approx.) 3 pounds			

UNIVERSALS

Make	Spicer
Type	Oil-sealed Metal

TYPE OF DRIVE

Hotchkiss Propulsion thru rear springs

REAR AXLE

Make	Hudson		
Type	Semi-floating		
Gear ratio—119" W. B. and 126" W. B.—4.63			
132: W. B.—5.1			
Type of drive	Spiral bevel	Oil capacity (approx.)	4 lbs.
Min. road clearance	7-1/2"	Type of lubricant {Summer—S.A.E. 90	
Clearance for jack		{Winter—S.A.E. 80	
Differential—make	9-1/2"		
Pinion brgs.	Hudson		
Differential brgs.	Taper roller		
	Taper roller		

FRONT AXLE

Make	Hudson	Spindle transverse Inclination	1º
Section—type	I-beam	Toe in	zero to 1/8"
End—type	Rev. Elliott	Castor angle	1"
King pin thrust brg.	Ball thrust	Min. road clearance	8"
King pin transverse inclination 7º		Clearance for jack	8"

STANDARD BRAKES

Type	2 shoe—cable operated—4 wheel
Lining type	Molded

SERVICE BRAKES

Location	Frt. and Rr. wheels	Lining length per wheel	2 pieces, 25"
Make	Bendix	Width of lining	1-3/4"
Type	Internal	Thickness of lining	7/32"
Total braking area	175 sq. inches	Clearance of lining	.014" at adj. screw
Drum dia.	Fr. and Rr. 13"	Method of application	.008" at anchor pin
			Foot pedal

HAND BRAKE

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

WHEELS

Type	Demountable wood or wire
Front wheel bearings	Taper roller
Rear wheel bearings	Taper roller

TIRES

Size	119” W. B. & 126” W. B.—17 x 6.00 132” W. B.—17 x 6.50
Make	Goodyear
Number of plies	4
Recommended pressure	{Average driving—Front 32 lbs., rear 32 lbs. {Fast driving —Front 40 lbs., rear 40 lbs.

STEERING GEAR

Type	Worm and sector
Ratio	17 to 1
Steering wheel turns	2½ (full swing left to right
Turning radius	{119” W. B.—21-1/2’ {126” W. B.—23” {132” W. B.—24-1/2”
Lubricant	Heavy bodied gear oil

SPRINGS

Front spring		Rear spring	
Type	Semi-elliptic	Type	Semi-elliptic
Length	36”	Length	54-1/8 ”
Width	2”	Width	2”
No. of leaves	9	No. of leaves	9
Material	Alloy Steel	Material	Alloy steel
Front bushing	5/8” dia.	Front bushing	5/8” dia.
Rear bushing	5/8” dia.	Rear bushing	5/8” dia.
Bushing material	Phosphor bronze	Bushing material	Phosphor bronze
Shackle.—type	Adjustable		

FRAME

Make	Hudson	Max. depth	8”
Material	Steel	Thickness	3/16”
		Width of flange	2”

THE GREATER HUDSON EIGHT

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

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

Multiply the car speed in miles per hour by 11.6 and the rear axle ratio with which the car is equipped.

Example—What is the motor R. P. M. when a Hudson 8 equipped with 4.63 to 1 rear axle ratio is traveling at a speed of 40 miles per hour.

Answer—40 multiplied by 11.6 x 4.63 = 2148 R. P. M. (Approximately).

TO OBTAIN CAR SPEED IN MILES PER HOUR FOR A GIVEN MOTOR SPEED IN R. P. M.

Divide the motor R. P. M. by 11.6 and the rear axle ratio with which car is equipped.

Example—What is the car speed of a Hudson 8 equipped with 4.63 to 1 rear axle ratio when the motor is turning at 2400 R. P. M.

Answer—2400 divided by (11.6 x 4.63) =44.71 Miles per Hour (approximately).

TO OBTAIN THE NUMBER OF REVOLUTIONS OF THE MOTOR REQUIRED FOR ONE REVOLUTION OF THE REAR WHEEL

Multiply the rear axle ratio by the ratio of the transmission in the gear desired.

Example—How many revolutions does the motor make for one revolution of the rear wheels with a car equipped with 4.63 to 1 rear axle with the transmission in low gear.

Answer—2.44 (low gear ratio) x 4.63 (rear axle ratio) = 11.29 revolutions of motor to one revolution of rear wheels.

T he following tabulation shows the various motor to wheel ratios worked out as above for Hudson Greater Eight cars with 4.63 to 1 rear axle ratio:

Transmission Gear	*Trans. Ratio*	*Rear Axle Ratio*	*Motor Revs.*	*Wheel Revs.*
Low	2.44	4.63	11.29	1
Second	1.62	4.63	7.5	1
High	1	4.63	4.63	1
Reverse	3.26	4.63	15.09	1

EQUIPMENT

	Stand. Sedan	Coach	Rumble Coupe	2. Pass. Coupe	Tour. Sedan	Special Coupe	Conv. Coupe	Subur-ban	Special Sedan	Brou	Tour. Sedan	Club Sedan	Sedan 7-Pass.	Phae. 7-Pass.
INSTRUMENTS														
Free Wheeling Control (On Operating Shift Lever)	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Gasoline Gauge (On Instrument Panel)	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Generator Signal	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Head Lanip Selector Switch (On Toe Board)	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Heat Indicator (Engine)	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Ignition Switch and Automatic Starter Control	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Light Switch (On Instrument Panel)	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Oil Level Gauge (On Instrument Panel)	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Oil Pressure Signal (On Instrument Panel)	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Ride Control (On Instrument Panel)	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Speedometer (Aeroplane Type)	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
INTERIOR														
Adjustable Seats (Front)	ST	ST	ST	ST	ST	ST		ST	ST	ST	ST	ST	ST	
Adjustable Seats (Rear)	ST	ST	NE	NE	ST	NE		ST	ST	ST	ST	ST	ST	
Arm Rest Ash Tray	ST	NE	NE	NE	NE	NE		ST	ST	ST	ST	ST	ST	
Arm Rests—Center	NE	NE	NE	NE	NE	STF		SR	SFR	SFR	SFR	SFR	SFR	
Arm Rests--Front Doors	NE	NE	NE	NE	NE	ST		NE	ST	ST	ST	ST	ST	
Arm Rests—Quarter	ST	ST	NE	NE	ST	NE		ST	ST	ST	ST	ST	ST	
Assist Straps	ST	NE	NE	NE	NE	NE		ST	ST	ST	ST	ST	ST	
Cigar Lighter	EO	EO	EO	EO	EO	ST		ST	ST	ST	ST	ST	ST	
Curtains	3	1	1	1	1	1		1	3	1	3	3	3	
Dome Light	ST	ST	ST	ST	ST	ST		ST	ST	ST	ST	ST	ST	
Door Pull-To Cords	4	2	2	2	4	2		2	4	4	4	4	4	
Foot Rests	ST	NE	NE	NE	ST	ST		NE	ST	ST	ST	ST	ST	
Glove Boses	EO	EO	EO	EO	EO	ST		ST	ST	ST	ST	ST	ST	
Mirror Clock	EO	EO	EO	EO	EO	ST		ST	ST	ST	ST	ST	ST	
Mirror Horn Button	EO	EO	EO	EO	EO	EO		EO	EO	ST	ST	ST	ST	
Pockets—Zipper Fasteners	2	2	2	2	2	2		2	4	3	4	3	4	
Robe Ropes	1	2	NE	NE	1	NE		2	1	1	1	1	1	
Visors—Inside	EO	EO	EO	EO	EO	ST		ST	ST	ST	ST	ST	ST	
Windshield Toggle Control	ST	ST	ST	ST	ST	ST		ST	ST	ST	ST	ST	ST	
MISCELLANEOUS														
Bumpers—Front and Rear	SEC	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC	SEC	SEC	SEC	
Glass---Shatter Proof—Windshield Only	EO	EO	EO	EO	EO	ST		ST	ST	ST	ST	ST	ST	
Glass--Shatter Proof—Windshield and Doors	EO	EO	EO	EO	EO	EO		EO	EO	EO	EO	EO	EO	
Hood Clamps	CR	CR	CR	CR	CR	CR		CR	CR	CR	CR	CR	CR	
Hood Hinge	PB	PB	PB	PB	PB	CR		CR	CR	CR	CR	CR	CR	
Hood Ventilator Doors (Chrome)	EO	EO	EO	EO	EO	EO		EO	EO	EO	EO	EO	EO	
Horn—Vibrator Type	ST	ST	ST	ST	ST	ST		ST	ST	ST	ST	ST	ST	
Lamps—Cowl—Chrome	ST	ST	ST	ST	ST	ST		ST	ST	ST	ST	ST	ST	
Lamps--Head—Chrome	ST	ST	ST	ST	ST	ST		ST	ST	ST	ST	ST	ST	
Lamps—Tail—Chrome	ST	ST	ST	ST	ST	ST		ST	ST	ST	ST	ST	ST	
Radiator Grille—Chrome	EO	EO	EO	EO	EO	EO		EO	EO	EO	EO	EO	EO	
Windshield Wiper—Single	ST	ST	ST	ST	ST	ST		ST	ST	NE	ST	NE	ST	
Windshield Wiper—Double	EO	EO	EO	EO	EO	EO		EO	EO	ST	EO	ST	EO	
TRUNKS AND RACKS														
Trunk Rack	EO	EO	EO	EO	EO	EO		NE	EO	NE	EO	EO	EO	
Trunk and Rack Combination	EO	EO	EO											

EQUIPMENT (Cont'd)

	Stand. Sedan	Coach	Rumble Coupe	2-Pass. Coupe	Tour. Sedan	Special Coupe	Conv. Coupe	Subur-ban	Special Sedan	Brough.	Tour. Sedan	Club Sedan	Sedan 7-Pass.	Phae. 7-Pass.
WHEELS—TIRES—CARRIERS														
Demountable Wire Wheels (5)	ST	ST	ST	ST	ST	ST		ST	ST	ST	ST	ST	ST	
Demountable Wire Wheels (5) (Snap-on Spokes)	EO	EO	EO	EO	EO	ST		ST	ST	ST	ST	ST	ST	
Demountable Wood Wheels—Painted (5)	SO	SO	SO	SO	SO	NE		NE	NE	NE	NE	NE	NE	
Demountable Wood Wheels—Natural	EO	EO	EO	EO	EO	SO		SO	SO	SO	SO	SO	SO	
Spare Wheel Mount—Rear	ST	ST	ST	ST	ST	ST		ST	ST	ST	ST	ST	ST	
Spare Wheel Mount—Fender—1 or 2	EO	EO	EO	EO	EO	EO		EO	EO	EO	EO	EO	EO	
White Side Wall Tires	EO	EO	EO	EO	EO	ST		ST	ST	ST	ST	ST	ST	
Fabric Tire Cover	SEC	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC	SEC	SEC	SEC	
Metal Tire Cover	EO	EO	EO	EO	EO	EO		EO	EO	EO	EO	EO	EO	
Spare Wheel Locks	SEC	SEC	SEC	SEC	SEC	SEC		SEC	SEC	SEC	SEC	SEC	SEC	

KEY

CAD—CADMIUM PLATE
CR—CHROMIUM PLATE
EO—OPTIONAL AT EXTRA COST
NE--NOT EQUIPPED
pB—FINISHED IN BODY COLOR
SEC—STANDARD—EXTRA COST
SFR—STANDARD—FRONT AND REAR
SO—OPTIONAL—NO EXTRA COST
SR—STANDARD REAR
ST—STANDARD
STF—STANDARD FRONT