

REVISED JULY 1927

Mechanical Specifications for Essex Super Six - 1928 Model

Car Serial No. 610,276 to _____

ENGINE

Make	Hudson	Piston Displacement	153.15
Model	Essex Super Six	Suspension	4 Point
No of cylinders	6	Type of head	L
Cylinder arrangement	Vertical	Cylinder head	Detachable
Bore	2-11/16"	Cylinders in block	6
Stroke	4-1/2"	Crankcase	Integral
Rated H. P.	17.32	Material	Cast iron
Firing order	1-5-3-6-2-4	Lower half	Pressed steel

CAMSHAFT DRIVE

Type of drive	Chain	No of links	57
Make	Morse	Pitch	1/2"
Type	No. 28	Adjustment	Adjustable eccentric
Width	1-1/4"	Sprocket material	Cast iron
Camshaft sprocket	38 Teeth		

CAMSHAFT BEARINGS

Number of bearings	3	No. 2 Diameter	1-31/32
No. 1 front - diameter	1-1/16"	No. 2 length	1-1/16"
No. 1 length	1-1/16"	No. 3 diameter	1-1/2
		No. 3 length	15/16"

VALVES

	Inlet	Exhaust
Head material	Silicon steel	Silicon steel
Head diameter (outside)	1-3/8"	1-3/8"
Head diameter (opening)	1-1/4"	1-1/4"
Stem length	5-1/32"	5-1/32"
Stem diameter 15/16"	15/16"	
Stem type of end	Grooved	Grooved
Tappet - Type	Roller	Roller
Tappet clearance	.003"-.005"	.005"-.007"
Valve lift	9/32"	19/64"
Valve stem guides	Removable	Removable
Spring pressure	40 lbs.	40 lbs.

VALVE TIMING

Inlet open	7 deg. after T. D. C.	Exhaust opens	55 deg. B. D. C.
Inlet closes	50 deg. after B. D. C.	Exhaust closes	8 deg after T. D. C.

CRANKCASE AND CRANKSHAFT

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

CONNECTING ROD

Material	D. F. Steel	Lower end bearing clear.	.001"
Weight	1-1/2 lbs.	Clearance (endwise)	.006"-.010"
Length C. to C.	8-3/16"	Type	Poured
Lower end bearing diameter	1-13/16"	Material	Babbitt

PISTON

Type	Slotted Skirt	Distance between bosses	1-1/8"
Material	Aluminum Alloy	Clearance skirt	.002"
Weight	8 ounce	Depth of grooves	.156"
Length	3-1/16" "	Lower groove	Drilled radially
Pin center to top	1-11/16"	Number of holes	8
	Diameter of holes	3/32"	

PISTON RINGS

Material	Cast Iron	No. of oil rings	1
No. per piston	3 (above pin)	Type of joint	Mitre
Width	1/8"	Gap clearance	.006 "-.008"
No. of comp. rings	2	Make	Piston Ring Co.

PISTON PIN

Type	Floating	Bushing - outside diameter	15/16"
Diameter	3/4"	Bushing - inside diameter	3/4"
Length	2-3/32"	Bushing – length	15/16"

LUBRICATION SYSTEM

Type	Circulating splash
Oil pump type	Plunger
Stroke of pump	Not adjustable
Capacity - Oil reservoir only	5 quarts
Capacity - Oil reservoir and troughs	6 quarts
Mesh of screen	50
Oil recommended	Medium heavy - Use low cold test in winter.

COOLING SYSTEM

Type	Thermo-syphon
Radiator - make	Harrison
Core - type	Ribbon cellular
Radiator shutter - type	Pressed steel

COOLING SYSTEM - Continued

Radiator shutter - make	Hudson
Shutter control - type	Manual
Capacity of cooling system	4-3/4 gallons
Radiator hose, upper, diameter	2-1/4"
Radiator hose, upper, length	5-1/2",
Radiator hose, lower, diameter	2-1/4"
Radiator hose, lower, length	15-3/16"
Fan belt	V" type
Fan - make	Hudson
Fan bearing type	Plain

FUEL SYSTEM

Carburetor - make	Stewart
Carburetor - size	1
Method of heating mixture	Exhaust stove and hot spot
Make of vacuum tank	Stewart
Gasoline tank capacity	11-1/4" gallons
Fuel feed - type	Vacuum tank

EXHAUST

Muffler - make Hudson	Exhaust pipe diameter 1-3/4"
-----------------------	------------------------------

IGNITION SYSTEM

Make Auto Lite Corporation	
Current source	Battery and generator
Spark control type	Full aromatic
Firing order 1-5-3-6-2-4	
Timing	D. C. (fully retarded)
Breaker point gap	.020
Ignition coil - make	Auto Lite Corporation - CE-4001
Spark plug make	A. C. Titan
Spark plug - type	Short
Spark plug - size	Metric - 18 m. m., 1.5 m.m. thread
Spark plug- gap	.025-.028

Note: Any other information must be obtained from the manufacturer

STARTER MOTOR

Make	Auto-Lite Corporation - MZ-4005
Drive type	Bendix
No. of teeth on flywheel	100
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 - GSM-4101
Normal charging rate - hot	10 Amps.
Normal charging rate - cold	13.5 Amps.

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

BATTERY

Make	Exide	Terminal grounded	Negative
Type	3-X1-13-1-G	Length - overall	9"
Voltage	6	Width overall	7-1/8"
No. of Plates	13	Height of box	7-7/8"
Where mounted	Under driver's seat	Height over terminals	9"

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	Parabeam
Head lamp lens-diameter	8"
Head lamp dimmer method	Separate filament
Dash and tail lights connected	Separately
Ammeter - make	National Gauge & Equipment Co.
Dash light - make	National Gauge & Equipment Co.
Lighting switch - make	Auto-Lite Corporation

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

E. A. Horn Motor type

CHASSIS

Wheelbase	110-1/2"
Lubricating system	Oil cups - wick
Overall length with bumpers	14' 0"
Location of serial number	Rear cross member

TRANSMISSION

Make	Hudson	Pocket bearing	Bronze bushing
Location	Unit	Reverse idler	Bronze bushing
Speeds	3 forward 1 rev.	Main shaft - front	N. D. No. 1207
Gear ratio - low	3.244 to 1	Main shaft - rear	Hyatt No. N. C. 306
Gear ratio - second	1.961 to 1	Countershaft	Stationary
Gear ratio - high	1 to 1	Type of lubricant	Heavy motor oil
Gear ratio-rev.	4.170 to 1	Oil capacity (approx.)	1 quart
Pilot brg. in crankshaft	N D. No 1202		

CLUTCH

Make	Hudson	Lubrication	1 Pt
Type	Single disc in oil	Throwout bearing	Annular & thrust
Facing material	Cork inserts	Throwout	5/32"
No. of cork inserts	72	Clearance at F B	3/4"

LUBRICATION - 8 ounces light motor oil.

UNIVERSALS

Front	<i>Make</i> Spicer	<i>Type</i> Metal	Rear	<i>Make</i> Spicer	<i>Type</i> Metal
-------	-----------------------	----------------------	------	-----------------------	----------------------

TYPE OF DRIVE

Propulsion through rear springs

REAR AXLE

Make	Hudson	Wheel bearing	Timken 415TV and 412A
Type	Semi-floating	Pin. brg. - front	Timken 2691V and 2620
Gear ratio	5.4 to 1	Pin. brg. - rear	Timken 3188 and 3120
Type of drive	Spiral bevel	Differential brg. - right	Timken 336 and 3320
Min. road clearance	9"	Differential brg. - left	Timken 336 and 3320
Clear. for jack	10-1/4"	No of teeth in pinion	10
Differential - make	Hudson	No. of teeth in gear	54
Pinion	Adjustable	Oil capacity (approx.)	1-1/2 quarts
Pinion bearing	Adjustable		

FRONT AXLE

Make	Hudson	Toe in	None - or not over 1/8"
Section - type	I beam	Castor angle	1 1/2 deg. backward
End - type	Elliott	Min, road clearance	9"
King pin thrust brg.	Nice No. 607	Clearance for jack	7-1/4"
King pin transverse Inclination	None	Spindle transverse Inclination	2 deg.

STANDARD BRAKES

Type Two wheel

SERVICE BRAKES

Location	Rear wheel	Lining length per wheel	39-3/8"
Make	Hudson	Width of lining	1-3/4"
Type	External	Thickness of lining	3/16"
Total braking area	138 sq. inches	Clearance of lining	1/64"
Drum dia. (ext.)	14-3/8"	Method of application	Foot pedal

HAND BRAKE

Location	Rear wheels	Lining length per wheel	35"
Make	Hudson	Width of lining	1-1/2"
Type	Internal	Thickness of lining	3/16"
Total braking area	122.5 sq. inches	Clearance of lining	1/64"
Drum dia. (int.)	14"	Method of application	Hand lever

WHEELS

Type	Wood - steel felloe
Make	Motor Wheel Corporation
Front wheel inner bearing	Timken No. 2554 and 2520
Front wheel outer bearing	Timken No. 2382 and 2320

RIMS

Type	Split	Diameter	20"
Make	Jason	Width	4"

TIRES

Size	30 x 5 balloon, straight side
Make	Goodyear, U. S. and Miller
Number of plies	4
Recommended pressure	Front 28 lbs., rear 32 lbs.

STEERING GEAR

Make	Hudson
Type	Worm and wheel wheel
Ratio	7-1/2 to 1
Steering wheel turns	1-3/4 (full swing left to right)
Turning radius	20 feet
Lubricant	Steam cylinder oil

SPRINGS

	<u>Front spring</u>		<u>Rear spring</u>	
Type	Semi-elliptic	Type	Semi elliptic	
Length	36"	Length	54-7/8"	
Width	2"	Width	2"	
No. of leaves	9	No. of leaves	8	
Material	Vanadium steel	Material	Vanadium 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	
Spring lubricant	Motor oil			
Shackles-type	Adjustable			

FRAME

Make	Hudson	Thickness	5/32"
Material	Steel	Width of flange	1-7/8"
Depth	4-1/2"		

ESSEX SUPER SIX

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

Car Serial No. 610,276 to _____

Note: The following rules are good for a gear ratio of 5.4 to one with wheel diameter of 30 inches, and for the former gear ratio of 5.6 to 1 with wheel diameter of 31 inches.

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

Rule - M. P. H. multiplied by 61 = Motor R. P. M. (approx.)

Example What is the R.P.M. of motor at 40 miles per hour?

Answer -40 multiplied by 61 = 2440 R. P. M. (approx.)

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

Rule - R. P. M. divided by 61 = Speed in miles per hour (approx.)

GEAR RATIOS - To obtain the number of revolutions of the motor required for revolution of the rear wheel:

Multiply the transmission ratio by the rear axle ratio.

Example - 3.244 (low gear ratio) multiplied by 5.4 (rear axle ratio) equals 17.517 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 Essex Super Six cars.

	Trans. Ratio	Rear Axle Ratio	Motor Revs.	Wheel Revs.
With transmission in low	3.244	5.4	17.517	1
With transmission in sec.	1.961	5.4	10.589	1
With transmission in high	1	5.4	5.4	1
With transmission. in rev.	4.17	5.4	22.518	1

REVISED JULY, 1927

Essex Super Six-Standard Equipment

Car Serial No. 610,276 to _____

	Speedster	Coupe	Coach	Sedan
Windshield cleaner make Mfg. Co.	None Trico Mfg. Co.	Trico Mfg. Co.		Trico
Windshield cleaner type	None	Vacuum	Vacuum	Vacuum
Trunk rack	None	None	None	None
Cowl ventilator	Yes	Yes	Yes	Yes
Engine heat indicator Boyce motometer	ALL MODELS			
Gasoline gauge location Instrument board	ALL MODELS			
Gasoline gauge type King Seeley hydrostatic	ALL MODELS			
Wheels-type Wood wheels	ALL MODELS			
Sun visor	No	Yes	Yes	Yes
Radiator shutters	Yes - ALL MODELS			
Rear traffic signal	Yes - ALL MODELS			
Comb. tail and top light make	John Brown Lamp Co. - ALL MODELS			
Cowl lights	No	Yes	Yes	Yes
Dome light	No	Yes	Yes	Yes
Speedometer - make	Stewart-Warner - ALL MODELS			
Transmission lock	Yes - ALL MODELS			
Spare rim	One - ALL MODELS			
Horn-make	E. A. - ALL MODELS			
Headlamps - make	John Brown Lamp Co. - ALL MODELS			
Tire carrier - make	Hudson - ALL MODELS			
Storage battery make	"Exide" - ALL MODELS			

REVISED JULY, 1927

Essex Super Six - Body Details

Car Serial No. 610,276 to _____

	Speedster	Coupe	Coach	Sedan
Model	1928	1928	1928	1928
Wheelbase	110-1/2"	110-1/2"	110-1/2"	
2				
Weight	2230	2330	2450	2490
No. of doors	4	2	2	4
No. of passengers	4	2	5	5
Seating arrangement	Std.	Std.	Std.	Std.
Gear ratio	5.4 to 1	5.4 to 1	5.4 to 1	5.4 to 1
Make of body	Briggs Mfg. Co.	Briggs Mfg. Co.	Hudson	Hudson
Frame work material	Wood	Steel	Steel	Steel
Body panel material	Steel	Steel	Steel	Steel
Rear and quarter section material	Steel	Steel	Steel	Steel
Windshield-type	One piece swing type - ALL MODELS			
Windshield - make	Motor products `ALL MODELS			
Wheels-type Wood.	ALL MODELS			
Tires-size 30 x 5	ALL MODELS			