

REVISED MARCH 1927,

Mechanical Specifications for Essex Super Six  
Car Serial No. 500,001 to -----

ENGINE

Make	Hudson	Piston Displacement	144.67
Model	Essex Super Six	Suspension	4 point
No. of cylinders	6	Type of head	L
Cylinder arrangement	Vertical	Cylinder head	Detachable
Bore	2-11/15	Cylinders in block	6
Stroke	4-1/4	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	#2 Diameter	1-31/32"
#1 Front - Diameter	2"	#2 Length	1-1/16"
#1 Length	1-1/16"	#3 Diameter	1-1/2"
		#3 Length	15/16"

VALVES

	<u>INLET</u>	<u>EXHAUST</u>
Head Material	Tungsten Steel	Silicon Steel
" diameter (outside)	1-3/8"	1-3/8"
" " (opening)	1-1/4"	1-1/4"
Stem length	5-1/32"	5-1/32"
" diameter	5/16"	5/16"
type of end	Grooved	Grooved
tappet - type	Roller	Roller
" clearance	.003 - .003	.005 - .007
Valve Lift	9/32"	19/64"
" stem guides	Removable	Removable
Spring pressure	40 lbs.	40 lbs.

VALVE TIMING

Inlet opens	7° after T.D.C.	Exhaust opens 55° before B.D.C.
closes	50° 11 B.D.C.	Exhaust closes 8° after T.D.C.

CRANKCASE AND CRANKSHAFT

No. of main bearings	3	Crank pin diameter	1-13/16'
No. 1 (front) - diameter	2-7/32"	Main bearing material	Bronze & babbitt
" 1 length	1-9/16"	" " clearance	.001
No. 2 diameter	2-1/4"	" " end play	.007 - 011
" 2 length	1-3/4"	End thrust on	Center bearing
No. 3 diameter	2-9/32"	Sprocket	19 teeth
" 3 length	1-3/4"	Material	steel

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### CONNECTING ROD

Material	D. F. Steel	Lower end bearing clearance	.001
Weight	1-1/2 lbs.	Clearance (endwise)	.006 - .010
Length C. to C.	6-5/16"	Type	Poured
Lower end bearing material	Babbitt		
Diameter	1-13/16"		

### PISTON

Type	Slotted Skirt	Distance Between Bosses	1-1/8"
Material	Aluminum Alloy	Clearance - skirt	.002
Weight	8 ounces	Depth of grooves	.156
Length	3-1/16"	Lower groove	Drilled radially
Pin center to top	1-1/16"	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 Compression Rings	2	Make	Piston Ring Co.

### PISTON PIN

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

### LUBRICATION SYSTEM

Type	Circulating splash	Capacity Oil Reservoir & troughs	6
Oil Pump Type	Plunger	Mesh of screen	50
Stroke of Pump	No t Adjustable	Oil Recommended	Medium heavy - Use low cold test in winter.
Capacity - Oil Reservoir Only	5 quarts		

### COOLING SYSTEM

Type	Thermo-syphon
Radiator make	Harrison
Core - type	Ribbon cellular
Radiator shutter - type	Pressed steel
Radiator shutter - make	Hudson
Shutter control - type	Manual
Capacity of Cooling System	4-3/4 Gallons
Radiator hose, upper, diameter	2-1/4"
" " " length	5-1/2"
" " lower, diameter	2-1/4"
" " " length	15-3/16"
Fan belt type	Flat
" " width	1"
" " length	35-7/8"
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	11-1/2 Gallons
Fuel Feed - Type	Vacuum Tank

### EXHAUST

Muffler - make	Hudson	Exhaust Pipe Diameter – 1-3/4"
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### IGNITION SYSTEM

Make	Auto-Lite Corporation	Ignition Coil - make	Auto-Lite Corporation
Current source	Battery and Generator	Spark plug - make	A. C. Titan
Spark control type	Full Automatic	“ “ - type	Short
Firing order	1-5-3-6-2-4 ”	“ “ - size	Metric - 18 m/m
Timing D.C.	(Fully retarded)	“ “ - gap	.025 - .029
Breaker Point Gap	.020		

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

### STARTER MOTOR

Make – Auto-Lite Corporation	MUA-4001A <sup>1</sup>
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

<sup>1</sup> MUA-4001A – late 1926, early 1927; MA-4005 – late 1927, early 1928

### GENERATOR

Make - Auto-Lite Corporation	GAA-4001 <sup>1</sup>
Normal charging rate - Hot	10 Amps.
“ “ “	- cold 13.5 Amps.

Note: Any other information must be obtained from the manufacturer

<sup>1</sup> GAA-4001 – Late 1926, early 1927 Essex; GAA-4005 – Late 1927

### BATTERY

Make	Prest-O-Lite	Terminal Grounded	Negative
Type	6-13 J.F.K.E.	Length overall	9”
Voltage	6	Width overall	7”
No. of Plates	13	Height of box	7-7/8” (inc. handle 9-1/2”
Amp. Hours Cap.	105		
Where mounted	Under drivers seat	Height over terminals	8-3/4”



"Hotchkiss" - Propulsion through rear springs.

REAR AXLE

Make	Hudson	Wheel Bearing	Timken 415TV & 412A
Type	Semi-floating	Pinion Bearing - Front	" 2691V & 2620
Gear Ratio	5.6 to 1	" " - Rear	" 3188 & 3120
Type of Drive	Spiral bevel	Differential Bearing - Right	" 336 & 3320
Minimum Road Clearance	9"	" " - Left	" 336 & 3320
Clearance for Jack	10-1/4"	No. of teeth in pinion	10
Differential - make	Hudson	" " " " gear	56
Pinion	Adjustable	Oil Capacity (approx.)	1-1/2 quarts
Pinion Bearing	"		

FRONT AXLE

Make	Hudson	Toe in - None or not over 1/8"	
Section - type	I	Castor Angle	1-1/2° Backward
End - type	Elliott	Minimum Road Clearance	9"
King pin thrust bearing	Nice #607	Clearance for jack	7-1/4"
" " transverse inclination	None	Spindle transverse	2°

STANDARD BRAKES

Type Two wheel

SERVICE BRAKE

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

HAND BRAKE

Location	Rear wheels	Lining length per wheel	39-3/8"
Make	Hudson	Width of lining	1-1/2"
Type	Internal	Thickness of lining	3/16"
Total braking area	122.5 square inches	Clearance of "	1/64"
Drum diameter (Internal)	14"	Method of application	Hand lever

WHEELS

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

RIMS

Type	Split	Diameter	21"
Make	Jaxon	Width	4"

TIRES

Size	31 x -5 Balloon, Straight side	Number of plies	4
Make	Goodyear and U. S.		
	Recommended pressure	Front 28 lbs., rear 32 lbs.	

STEERING GEAR

Make	Hudson
Type	Worm and wheel
Ratio	7-1/2 to 1
Steering wheel turns	1-3/4 (full swing left to right)
Turning diameter	40 feet
Lubricant	Steam cylinder oil

SPRINGS

Front spring

Type	Semi-elliptic
Length	36"
Width	2"
No. of leaves	9
Material	Vanadium Steel
Front bushing	5/8" diameter
Rear "	5/8" diameter
Bushing material	Phosphor Bronze
Spring Lubricant	Motor Oil

Rear spring

Type	Semi-elliptic
Length	54-7/8"
Width	2"
No. of leaves	8
Material	Vanadium Steel
Front Bushing	5/8" diameter
Rear "	5/8" diameter
Bushing material	Phosphor Bronze
Shackles - type	Adjustable

FRAME

Make	Hudson
Material	Steel
Depth	4-1/2"

Thickness	5/32"
Width of flange	1-7/8"

ESSEX SUPER SIX - STANDARD EQUIPMENT

CAR SERIAL NO. 500,001 TO ----

	SPEEDSTER	COUPE	COACH	SEDAN
Windshield Cleaner Make	None	Trico Mfg. Co.	Trico Mfg. Co.	Trico Mfg. Co.
Windshield Cleaner Type		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			
Combination Tail & Stop 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			

Model 1927 ESSEX SUPER SIX  
 Car Serial #500,001 to ---  
 GEAR RATIOS AND RULES FOR COMPARING  
 SPEED IN MILES PER HOUR

Note: The following rules are good only for a gear ratio of 5.6 to one and with wheel diameter of 31 inches.

TO OBTAIN FOR ANY DESIRED SPEED IN MILES PER HOUR

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

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

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

TO OBTAIN SPEED IN MILES PER HOUR FOR ANY 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 one revolution of the rear wheel.

Multiply the transmission ratio by the rear axle ratio.

Example - 3.244 (low gear multiplied by 5.6 (rear axle ratio) equals revolutions of the motor to one revolution of the rear wheel.

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

	<u>TRANS. RATIO</u>	<u>REAR AXLE RATIO</u>	<u>MOTOR REVS.</u>	<u>WHEEL REVS.</u>
With transmission in low	3.244	5-6	18.166	1
“ “ “ second	1.961	5.6	10.981	1
“ “ “ high	1	5.6	5.6	1
“ “ “ reverse	4.17	5-6	23.352	1

ESSEX SUPER SIX -- BODY DETAILS

CAR -SERIAL NO. 500,001 TO ----

	<u>SPEEDSTER</u>	<u>COUPE</u>	<u>COACH</u>	<u>SEDAN</u>
Model	1927	1927	1927	1927
Wheelbase	110-1/2"	110-1/2"	110-1/2"	
Weight		2340	2450	Bucket Seat Type 2510 Bench 2530
No. of doors	4	2	2	4
No. of passengers	4	2	5	5
Seating arrangement	Std.	Std.	Std.	(Opt. Bench or Bucket)
Gear Ratio	5.6 to 1	5.6 to 1	5.6 to 1	5.6 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 & Quarter sect. 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	31 x 5		--- ALL MODELS	