

Mechanical Specifications for the Greater Essex Super Six for 1932

Serial No. 1,281,685 and up
Engine No. 1,360,000 and up

ENGINE

Make	Essex	Actual horsepower	
Model	Essex Super Six	Power dome head	70 at 3200
No. of cylinders	6	Super power dome head	76 at 3200
Cylinder arrangement	Vertical	Firing order	1-5-3-6-2-4
Bore	21-15/16"	Suspension	4 point rubber
Stroke	4-3/4"	Type of head	L
Piston displacement	193	Cylinder head	Detachable
Compression ratio:		Cylinders in block	6
Power dome head	5.5 to 1	Crankcase	Integral
Super power dome head	6.5 to 1	Material	Cast iron
Rated H. P.	20.7	Oil pan	Pressed steel

CAMSHAFT DRIVE

Type of drive	Chain	Generator sprocket	16 teeth
Width	1-1/4"	Material	Steel
Camshaft sprocket	38 teeth	No. of links	57
Sprocket material	Cast iron	Pitch	1/2"
Crankshaft sprocket	19 teeth	Adjustment	Manual
Material	Steel		

CAMSHAFT BEARINGS

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

Valves

	<i>Inlet</i>	<i>Exhaust</i>
Head material	Silicon steel	Silicon chrome alloy steel
Head diameter (outside)	1-3/8"	1-3/8"
Head diameter (opening)	1-1/4"	1-1/4"
Stem length	5-3/32"	5-3/32"
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.	53 lbs.

CRANKCASE AND CRANKSHAFT

No. of main bearings	3	Crank pin diameter	1-15/16
No. 1 (front)—diameter	2-11/32"	Main bearing material	Bronze & babbitt.
No. 1 length	1-5/8"	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	2-13/32"	Sprocket	19 teeth
No. 3 length	1-3/4"	Material	Steel

CONNECTING ROD

Material	D. F. Steel	Lower end bearing clear.	.001"
Weight	1.7 lbs.	Length	1-3/8"
Length C. to C	8-3/16"	Clearance (endwise)	.006"- .010"
Lower end bearing diameter	1-15/16"	Type	Spun
		Material	Babbitt

PISTON

Type	T-slot trunk	Distance between bosses	1-1/8"
Material	Silicon aluminum alloy	Clearance at top of skirt	.0015"- .002"
Weight	9-1/4 ounces	Clearance at bottom of skirt	.0005"- .001"
Length	3-3/16"	Depth of grooves	5/32"
Pin center to top	1-11/16"	Lower grooves (2)	Drilled radially

PISTON RINGS

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

PISTON PIN

Type	Floating	Bushing—outside diam.	15/16"
Diameter	3/4"	Bushing—inside diam.	3/4"
Length	27/16"	Bushing—length	1-15/16"

LUBRICATION SYSTEM

Type	Circulating splash
Oil pump type	Oscillating 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
Core—type	Ribbon cellular

COOLING SYSTEM—Continued

Capacity of cooling system	4-5/8 gallons
Radiator hose, upper, diameter	2-1/4"
Radiator hose, upper, length	7-1/2"
Radiator hose, lower, diameter	2-1/4"
Radiator hose, lower, length	11-3/8"
Fan belt	"V" type
Fan—make	Essex
Fan bearing type	Plain

FUEL SYSTEM

Carburetor—make	Marvel (V-10-997)
Carburetor—size	1 1/4"
Method of heating mixture	Automatic heat control
Make of vacuum tank	Stewart
Gasoline tank capacity	12 gallons
Fuel feed—type	Vacuum tank
Air Cleaner	Flame arrester muffler type

EXHAUST

Muffler—Twin Neutrator	Exhaust pipe diameter—1-3/4" Tail pipe diameter—1-1/2"
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IGNITION SYSTEM

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

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

STARTER MOTOR

Make	Auto-Lite Corporation (MAJ-4025)
Starter control	Starix
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.

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

	<i>Make</i>	<i>Mazda No.</i>	<i>C. P.</i>	<i>Base</i>	<i>Voltage</i>
Head	Mazda	1110	32-32	D. C.	6-8
Side	Mazda	63	3	S. C.	6-8
Tail & Stop	Mazda	1158	2-21	S. C.	6-8
Dash	Mazda	63	3	S. C.	6-8
Dome	Mazda		15	S. C.	6-8
Tell tale	Mazda	64	3	D. C.	6-8
Fuse	30 Ampere				

HORN

E. A. Horn	Motor type
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CHASSIS

Wheelbase	113"
Lubricating system	Alemite
Overall length with bumpers	14'-6- ³ / ₈ "
Location of serial number	On right hand side member—at rear end of front spring.

TRANSMISSION

Make	Essex	Pilot brg. in crankshaft	Ball
Location	Unit	Pocket bearing	Bronze bushing
Speeds	3 forward 1 rev.	Reverse idler	Bronze bushing
Gear ratio—low	2.44 to 1	Main shaft—front	Ball
Gear ratio—sec.	1.62 to 1	Main shaft—rear	Ball
Gear ratio—high	1 to 1	Free wheeling unit bearing	Ball
Gear ratio—rev.	3.26 to 1	Countershaft	Sationary
Type of lubricant	{ Summer—S. A. E. 90 { Winter—S. A. E. 80		

CLUTCH

Make	Hudson	Throwout bearing	Annular & thrust
Type	Single disc in oil	Throwout	⁵ / ₃₂ "
Facing material	Cork inserts	Clearance at F/B	³ / ₄ "
No. of cork inserts	88		

LUBRICATION—½ pint light motor oil

UNIVERSALS

Front	<i>Make</i> Spicer	<i>Type</i> Metal	Rear	<i>Make</i> Spicer	<i>Type</i> Metal
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TYPE OF DRIVE

Propulsion through rear springs.

REAR AXLE

Make	Hudson	Wheel bearing	Timken 415TV and 412A
Type	Semi-floating	Pin. brg.—front	Timken 269V and 2620
Gear ratio	5 4/10 or 5 1/10	Pin. brg.—rear	Timken 3188 and 3120
Type of drive	Spiral bevel	Differential brg.—right	Timken 366 and 3320
Min. road clear.	7-1/2"	Differential brg.—left	Timken 366 and 3320
Clear. for jack	9-1/2"	No. of teeth in pinion	10
Differential—make	Hudson	No. of teeth in gear	54 or 51
Pinion	Adjustable	Oil capacity (approx.)	4 pounds
Pinion bearing	Adjustable	Type of lubricant	Diff. oil

FRONT AXLE

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

STANDARD BRAKES

Type	Bendix 4-wheel brakes
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SERVICE BRAKES

Location	Frnt. and Rr. wheels	Lining length per wheel	2 pieces, 24½"
Make	Bendix	Width of lining	1½"
Type	Internal	Thickness of lining	⁵ / ₃₂ "
Total braking area	47 sq. inches	Clearance of lining	.010"
Drum dia.	11"	Method of application	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	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	19"
Make	Jaxon	Width	4"

TIRES

Size	29" x 5 balloon straight side
Make	Goodyear
Number of plies	4
Recommended pressure	Front 40 lbs., rear 40 lbs.

STEERING GEAR

Make	Gemmer
Type	Worm and sector
Ratio	15 to 1
Steering wheel turns	2½ (full swing left to right)
Turning radius	20 feet
Lubricant	Steam cylinder oil

SPRINGS

Front spring		Rear spring	
Type	Semi-elliptic	Type	Semi-elliptic
Length	36"	Length	54 ⁵ / ₈ "
Width	2"	Width	2"
No. of leaves	8	No. of leaves	7, 8 or 10
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	Thickness	¹ / ₈ "
Material	Steel	Width of flange	2"
Depth	7 ¹ / ₁₆ "		

ESSEX SUPER SIX

**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**

Note: The following rule No. 1 is good only for a gear ratio of 5 4/10 to one and with wheel diameter of 29 inches.

Rule No. 1—M. P. H. multiplied by 62.5 = Motor R. P. M. (approx.)
 Example—What is the R. P. M. of motor at 40 miles per hour?
 Answer—40 multiplied by 62.5—2500 R. P. M. (approx.)

The following rule No. 2 is good only for a gear ratio of 5 1/10 to one and with wheel diameter of 29 inches.

Rule No. 2—M. P. H. multiplied by 59 = 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 5 4/10 to one and with wheel diameter of 29 inches.

Rule No. 3—R. P. M. divided by 62.5 = Speed in miles per hour (approx.)
 Example—what is the speed at 2400 R. P. M.?
 Answer—2400 divided by 62.5 = 38.4 M. P. H. (approx.)

The following rule No. 4 is good only for a gear ratio of 5 1/10 to one and with wheel diameter of 29 inches.

Rule No. 4—R. P. M. DIVIDED by 59 = 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 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 with rear axle gear ratio 5 4/10:

	<i>Trans. Ratio</i>	<i>Rear Axle Ratio</i>	<i>Motor Revs.</i>	<i>Wheel Revs.</i>
With transmission in low	3.244	5 4/10	17.517	1
With transmission in sec.	1.961	5 4/10	10.589	1
With transmission in high	1	5 4/10	5.4	1
With transmission in rev.	4.17	5 4/10	22.518	1

EQUIPMENT	Standard Sedan	Couach	Rumble Coupe	2. Pass. Coupe	Town Sedan	Special Sedan	Special Coupe	Phaeton	Conv. Coupe
<i>INSTRUMENTS</i>									
Free Wheeling Control (On Operating Shift Lever)	ST	ST	ST	ST	ST	ST	ST	ST	ST
Gasoline Gauge (On Instrument Panel)	ST	ST	ST	ST	ST	ST	ST	ST	ST
Generator Signal	ST	ST	ST	ST	ST	ST	ST	ST	ST
Head Lamp Selector Switch (On Toe Board)	ST	ST	ST	ST	ST	ST	ST	ST	ST
Heat Indicator (Engine)	ST	ST	ST	ST	ST	ST	ST	ST	ST
Ignition Switch and Automatic Starter Control	ST	ST	ST	ST	ST	ST	ST	ST	ST
Light Switch (On Instrument Panel)	ST	ST	ST	ST	ST	ST	ST	ST	ST
Oil Level Gauge (On Instrument Panel)	ST	ST	ST	ST	ST	ST	ST	ST	ST
Oil Pressure Signal (On Instrument Panel)	ST	ST	ST	ST	ST	ST	ST	ST	ST
Ride Control (On Instrument Panel)	ST	ST	ST	ST	ST	ST	ST	ST	ST
Speedometer (Aeroplane Type)	ST	ST	ST	ST	ST	ST	ST	ST	ST
<i>INTERIOR</i>									
Adjustable Seats (Front)	ST	ST	ST	ST	ST	ST	ST	ST	ST
Adjustable Seats (Rear)	ST	ST	NE	NE	ST	ST	NE	NE	NE
Arm Rest Ash Tray	ST	NE	NE	NE	NE	ST	NE	NE	NE
Arm Rests—Center	NE	NE	NE	NE	NE	SFR	STF	STF	STF
Arm Rests--Front Doors	NE	NE	NE	NE	NE	ST	ST	ST	ST
Arm Rests—Quarter	ST	ST	NE	NE	ST	ST	NE	NE	NE
Assist Straps	NE	NE	NE	NE	NE	ST	NE	NE	NE
Cigar Lighter	EO	EO	EO	EO	EO	ST	ST	ST	ST
Curtains	3	1	1	1	1	3	1	1	1
Dome Light	ST	ST	ST	ST	ST	ST	ST	ST	ST
Door Pull-To Cords	4	2	2	2	4	4	2	2	2
Foot Rests	ST	NE	NE	NE	ST	ST	NE	NE	NE
Glove Boses	EO	EO	EO	EO	EO	ST	ST	ST	ST
Mirror Clock	EO	EO	EO	EO	EO	EO	EO	EO	EO
Mirror Horn Button	EO	EO	EO	EO	EO	EO	EO	EO	EO
Pockets—Zipper Fasteners	1	1	1	1	1	4	1	1	1
Robe Ropes	1	1	NE	NE	1	1	NE	NE	NE
Visors—Inside	EO	EO	EO	EO	EO	ST	ST	ST	ST
Windshield Toggle Control	ST	ST	ST	ST	ST	ST	ST	ST	ST
<i>MISCELLANEOUS</i>									
Bumpers—Front and Rear	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC
Glass---Shatter Proof—Windshield Only	EO	EO	EO	EO	EO	EO	EO	EO	EO
Glass--Shatter Proof—Windshield and Doors	EO	EO	EO	EO	EO	EO	EO	EO	EO
Hood Clamps	CAD	CAD	CAD	CAD	CAD	CR	CR	CR	CR
Hood Hinge	PB	PB	PB	PB	PB	CR	CR	CR	CR
Horn—Vibrator Type	ST	ST	ST	ST	ST	ST	ST	ST	ST
Lamps—Cowl—Chrome	ST	ST	ST	ST	ST	ST	ST	ST	ST
Lamps--Head—Chrome	ST	ST	ST	ST	ST	ST	ST	ST	ST
Lamps—Tail—Chrome	ST	ST	ST	ST	ST	ST	ST	ST	ST
Radiator Grille—Chrome	EO	EO	EO	EO	EO	EO	EO	EO	EO
Windshield Wiper—Single	ST	ST	ST	ST	ST	ST	ST	ST	ST
Windshield Wiper—Double	EO	EO	EO	EO	EO	EO	EO	EO	EO
<i>TRUNKS AND RACKS</i>									
Trunk Rack	EO	EO	EO	EO	EO	EO	EO	EO	EO
Trunk and Rack Combination	EO	EO	EO	EO	EO	EO	EO	EO	EO
<i>WHEELS--TIRES--CARRIERS</i>									
Demountable Wire Wheels (5)	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
Demountable Wood Wheels--Painted (5)	SO	SO	SO	SO	SO	NE	NE	NE	NE
Demountable Wood Wheels--Natural	EO	EO	EO	EO	EO	SO	SO	SO	SO
Spare Wheel Mount--Rear	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
White Side Wall Tires	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC
Fabric Tire Cover	EO	EO	EO	EO	EO	EO	EO	EO	EO
Metal Tire Cover	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC
Spare Wheel Locks	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC

KEY

CAD - Cadmium Plated
 CR - Chromium Plated
 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
 ST - Standard
 STF - Standard - Front