

THE MODEL "T" CHASSIS

Detailed Engineering Specifications -1926-27

General—

Engine—Model T.
Engine Type—"L" Head.
Stroke—4"; Bore—3 $\frac{3}{4}$ ".
Number of Cylinders—4.
N. A. C. C. or S. A. E. Rating—22.5.
Maximum Brake Horsepower—20.
R. P. M. at Maximum H. P.—1600.
Engine Suspension—3 Point.
Engine Firing Order—1, 2, 4, 3.
Cylinders Cast—"EN BLOC."
Piston Displacement—176.7".
Compression Ratio—3.6.
Cylinder Head Bolts, No. of—15.

Valves—

Material—Stem, cold rolled steel; Head, cast iron.
Valve Seat, Angle of—45°.
Valve Lift—.225".

Pistons—

Material—Grey iron casting.
Weight—2 lbs. 1 oz. min.; 2 lbs. 4 oz. max. (with pins and rings)—1 lb. 10 oz. min.; 1 lb. 12 oz. max. (Piston only)
Piston Rings, No. of—3.

Piston Rings—

Material—Cast Iron.
Kind of Ring—One piece split ring, diagonal cut.

Wrist Pin—

Material—Machined seamless steel tubing.
Diameter—.740" to .741".
Length—3 $\frac{1}{2}$ ".

Connecting Rods—

Material—Steel forging (I-beam section).
Length, Center of Bearing to Center of Clamp—7".

Camshaft Bearings—

	Front	Center	Rear
Diameter.....	.748"	.748"	.748"
Length.....	1.776"	2 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "

Camshaft Gear—

Material—Malleable Iron.
Teeth, No. of—48.
Noiseless Spiral Teeth.

TRANSMISSION

Details—

Type—Special Ford Planetary.
Speeds—2 forward, 1 reverse.
Driven Gear—27 Teeth.
Driven Triple Gear—27 Teeth.
Reverse Drum Gear—30 Teeth.
Reverse Triple Gear—24 Teeth.
Low Drum Gear—21 Teeth.
Low Triple Gear—33 Teeth.

Crankshaft—

Material—Drop forging, alloy steel, heat treated.
Length, Overall—25 $\frac{3}{4}$ ".
Weight, Total—14 lbs. 15 oz.
Bearings, No. of—3.
Crankshaft Gear—Steel teeth, 24.

Crankshaft Bearings—

	Front	Center	Rear
Diameter.....	1.248"	1.248"	1.248"
Length.....	2"	2 $\frac{1}{8}$ "	3 $\frac{1}{8}$ "

Fly Wheel—

Location—Integral with magneto.
Material—Cast iron.
Number of Teeth—120.
Ratio of Fly Wheel to Bendix Drive Gear—12 to 1.

Camshaft—

Material—Steel forging heat treated.
Camshaft Speed— $\frac{1}{2}$ that of engine.
Camshaft Bearing Bushings—Cast Iron.

CIRCLE.....38' 6"
RADIUS.....19' 3"
ROAD CLEARANCE.....10 $\frac{1}{4}$ "

The tread for all models of Ford cars and trucks is standard tread—56".

REAR SPRINGS

Type—Transverse.....Semi-elliptic
Spring Length.....43 $\frac{1}{2}$ "
Spring Width.....2"
No. of Leaves.....8
Fordor and Tudor.....9 Leaves

REAR AXLE DETAILS

Type.....Live
Gears, Type.....Straight bevel
Lubricant.....Heavy semi-fluid oil
Quantity.....1 $\frac{1}{2}$ lbs.

HIGH GEAR RATIOS

Model T Special.....3.63 to 1
Special High.....4 to 1

BRAKES—DETAILS

(Hand Emergency)—

Location.....Rear Wheels
Drum Diameter.....11"
Drum Width.....1 $\frac{7}{8}$ "

Foot (Service)—

Location.....Transmission
Lining Length.....23 $\frac{1}{8}$ " to 23 $\frac{1}{2}$ "
Width.....1 $\frac{11}{16}$ "
Lining Material—Cotton.

WHEELS, TIRES AND RIMS

Rim Make—Hayes, Kelsey or Ford.
Tire Makes—U. S., Firestone, Goodyear, Goodrich, Miller, Mason.
Balloon Tires.....29" x 4.40" Front and Rear

THE MODEL "T" CHASSIS

Detailed Engineering Specifications—Continued

Horn—
Type—Vibrator.

FUEL SYSTEM

Carburetor—
Make—Ford.—N. H.
Size—1".

Tank Capacity	Square 9¾ gal.	Cowl 10 gals.	Oval 9½ gal.

COOLING SYSTEM

Thermo Syphon—
Total Capacity—25 pints (1 pint more than old style).
Capacity of Water Jacket and Hose—5 quarts.

Fan—
O. D. Diameter—14"; Number of Blades—4; Speed—1.45 to 1 of engine.
Belt Type—Flat endless.

Radiator—
Tubes, Number of—98.
Fins, Number of—109.

Hose—
Connections, Number of—2.

FRONT AXLE

Description—
Material—Ford alloy steel forging.
Type—Construction, I-beam.
Tensile Strength—125,000 to 145,000 lbs. per square inch.
Tilt of Axle—5½°.

Front Springs—
Type—Transverse semi-elliptic.
Leaves—8.

STEERING APPARATUS

Description—
Type—Planetary.
Steering Wheel, Diameter—17".

Clutch—
Type—Multiple steel disc, operating in oil.
Clutch Spring Tension—90 lbs.
Clutch Pressure in High Gear—324 lbs.
Large Discs, No. of—13.
Small Discs, No. of—12.

LUBRICATION

Types and Capacity—
Motor and Transmission—Constant level circulating splash.
Capacity—1 gal. light engine oil.
Rear Axle—Lubricant—A-1, heavy fluid or semi-fluid oil.
Oiling Points and Grease Cups, No. of—30.

STARTING, LIGHTING AND IGNITION SYSTEM

Starting Motor—
Starter Engagement—Screw type bendix.
Source of Current—Storage battery.
Torque—14 to 16 lbs.

Generator—
Drive—Gear.
Speed—1½ to 1 of engine.

Ignition—
Type—High tension jump-spark.
Magneto Type—Flywheel, 16 magnets, 16 coils, 25 turns on each.
Coil Units—Transforms 8 to 30 volt into secondary current, 8,000 to 30,000.
Spark Plugs—Champion, size ½".

Battery—
Make—Ford or Exide.
Capacity—80 hours.
Charging Rate—10 to 12 amperes.
Plates, No. of—13.
Cells, No. of—3.

Lamps—
Headlight Type—New Ford "H."
Headlight Bulb—21-candle power gas filled double filament.
Headlight Lens Diameter—8½" to 8⅞".
Tail Lamp Bulb—3 c. p.

INSTRUMENT BOARD

Material—Pressed steel.
Finish—Baked enamel.
Equipment—Light switch, ignition switch (battery and magneto), ammeter, carburetor choke rod.

Chassis Equipment—
Front Fenders, Head Lamps, Tail Light, Horn, Jack, Tire Pump, Keys and Set of Tools.

Miscellaneous Standard Equipment (All Models)
Front Mat, Tonneau Mat, Jack, Tire Pump, Keys, Bag of Tools consisting of: Monkey Wrench, End Wrench, Pliers, Spark Plug Wrench, Hub Cap Wrench, Screw Driver (on end of pliers), Tire Irons.

SHIPPING AND ROAD WEIGHT Model T and Ton Truck

Types	Non-Starter	Starter
Model T Chassis.....	1262
Touring Car.....	1728
Roadster.....	1645
Coupe.....	1851
Sedan, 2-Door.....	1961
Sedan, 4-Door.....	1994
Ton Truck Chassis.....	1477	1577

ROAD WEIGHT INFORMATION

To secure road weight add 65 lbs. to weight above which covers weight of 5 gallons of gas, 1 gallon of oil 3¼ gallons of water.
WHEELBASE.....100"

Detailed Engineering Specifications—Continued

Ford License Data

Information usually required in making application for license:

Engine:	
No. of cylinders.....	4
Cylinder bore.....	3 3/4
Stroke.....	4
Piston displacement.....	176.7 cu. inches
Engine number and year stamped on left side of cylinder block.	
Wheelbase.....	100 inches

Finish, Upholstery, Etc.

Model and Capacity	Standard Finish	Upholstery	Body Equipment
Touring 5 passenger and Roadster 2 passenger	Gunmetal Blue or Phoenix Brown 4 Coats	Black Artificial Leather, Pebble Grain	One Man Top Top Irons Ventilating Windshield Side Curtains
Coupe 2 passenger and Sedan Tudor 5 passenger	Fawn Gray or Highland Green or Royal Maroon 6 Coats	Rich Dark Green Wool Fabric, Carpets and Silk Curtains to Match	Ventilating Wind- shield Coupe & Tudor with Visor, Tudor Windows, Crank Operated, Coupe Door Crank Operated, Coupe Quarter Lever Operated
Sedan Fordor 5 passenger	Fawn Gray or Highland Green or Royal Maroon 6 Coats	Rich Dark Brown Wool Fabric, Carpets and Silk Curtains to Match	Ventilating Windshield With Visor, Dome Light Door Windows Crank Operated, Others Lever Operated

Note—

All Models have baked enamel (heat 450°) finish on fenders, splash pans, radiator shells and small body parts.

Miscellaneous Standard Equipment (All Models)—

Front Mat, Tonneau Mat, Jack, Tire Pump, Keys, Bag of Tools consisting of: Monkey Wrench, End Wrench, Pliers, Spark Plug Wrench, Hub Cap Wrench, Screw Driver, Tire Irons.

Chassis Equipment—

Front Fenders, Head Lamps, Tail Light, Horn, Jack, Tire Pump, Keys and Set of Tools.

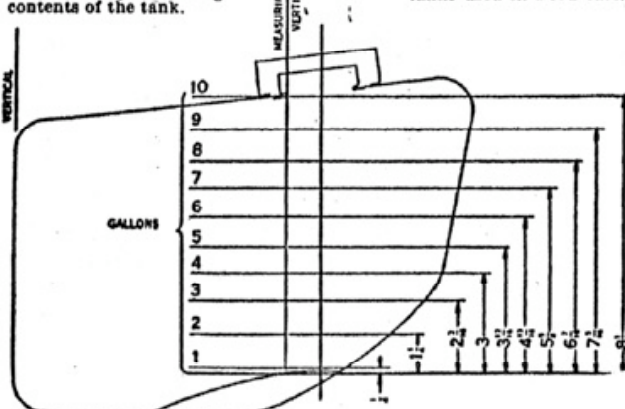
Windshield—Glass Sizes

TOURING AND ROADSTER	COUPE AND TUDOR	FORDOR
Upper Half 9 1/2 x 37 1/2	one Piece 40 3/4 x 15	Upper Half 9 1/2 x 39 1/4
Lower Half 8 1/2 x 37 1/2		Lower Half 6 1/2 x 38 3/4

New Type Gasoline Tank Measurements

The measurements of each gallon gasoline in the new type tank are shown for accurately measuring contents of the tank.

The table below the chart shows the measurements for other type tanks used in Ford cars.



OVAL TANK		SQUARE TANK	
1 Gal.—1 1/2"	5 Gal.—1 1/2"	1 Gal.—1 1/2"	5 Gal.—3 1/2"
2 Gal.—2 1/4"	6 Gal.—1 1/2"	2 Gal.—1 1/2"	6 Gal.—4 1/2"
3 Gal.—2 3/4"	7 Gal.—5 1/2"	3 Gal.—2 1/2"	7 Gal.—5 1/2"
4 Gal.—3 1/4"	8 Gal.—0 3/8"	4 Gal.—2 1/2"	8 Gal.—5 1/2"
9 Gal.—7 1/2"		9 Gal.—6 1/2"	

Engine, Wheel and Car Speeds

The gear ratio of the standard Ford rear axle system is 3.63 to one (4 to 1 gear Coupes and Sedans in mountainous sections), meaning that the Ford engine crankshaft makes 3.63 turns, for each turn of the rear wheels. Now the Ford car is regularly fitted with 30-inch diameter tires, which have a circumference of 94.25 inches.

Since there are 5,280 feet in a mile, then 5,280 feet multiplied by 12, and divided by 94.25 gives 672.3 turns or revolutions of the Ford rear wheels for each mile of distance covered.

One mile per hour is equivalent to 88 feet per minute, so that at a car speed of 20 miles an hour, the car travels 1,760 feet per minute, or one-third of a mile.

Car Speed	Engine Speed	Mountain Fpsd	Wheel Fpsd
1 m. p. h.	41 r. p. m.	45 r. p. m.	11 r. p. m.
5	204	224	56
10	407	448	112
15	610	672	168
20	813	896	224
25	1017	1120	280
30	1220	1399	336
35	1425	1568	392
40	1627	1792	448
45	1832	2016	505
50	2035	2240	560
55	2239	2464	616
60	2440	2689	672

Engine Speeds in Relation to M. P. H. of Car

Car Speed M. P. H.	MODEL T			TON			TRUCK		
	Std. Gears 3.63 to 1			7 1/2 to 1 Ratio			5 1/2 to 1 Ratio		
	High	Low	Rev.	High	Low	Rev.	High	Low	Rev.
1	41	112	103	76	209	305	54	149	217
2	81	224	325	152	419	609	108	299	434
3	122	335	488	228	628	914	163	448	652
4	163	447	651	305	838	1218	217	597	868
5	203	559	813	381	1047	1523	272	747	1086
6	244	671	976	457	1257	1828	326	896	1308
7	285	783	1139	533	1466	2132	380	1045	1520
8	325	895	1301	609	1676	.....	434	1194	1738
9	366	1006	1464	685	1885	.....	488	1344	1955
10	407	1118	1627	762	2094	.....	543	1493	2172
15	610	1677	2440	1142	.....	.....	814	2240	.....
20	813	2238	.....	1523	.....	.....	1086	.....	.....
25	1017	.....	.....	1904	.....	.....	1358	.....	.....
30	1220	.....	.....	.....	.....	.....	1629	.....	.....
35	1423	.....	.....	.....	.....	.....	1901	.....	.....
40	1627	.....	.....	.....	.....	.....	.....	.....	.....

Engine Speed and Gear Ratio Data

	MODEL T		TON TRUCK	
	Standard Gears 3.63 to 1	Mountain Gears 4 to 1	Standard Gears 7 1/2 to 1	Special Gears 5 1/2 to 1
Gear Ratio on high speed	3.63—1	4.—1	7.25—1	5.167—1
Gear Ratio on low speed	9.98—1	10.997—1	19.93—1	14.21—1
Gear Ratio on reverse	14.62—1	15.999—1	29.—1	20.68—1
Revolutions of engine per mile on high speed	2440.34	2689.06	4569.31	3257.92
Revolutions of engine per mile on low speed	6709.25	7303.06	12565.70	8959.34
Revolutions of engine per mile on reverse	9761.36	10756.24	18277.25	13031.68
Ratio of crankshaft to driveshaft on low speed	2.75—1	3.03—1	2.75—1	2.75—1
Ratio of crankshaft to driveshaft on reverse	4.—1	.044—1	4.—1	4.—1

Engineering Specifications of Ton Truck

Explanation—

The following specifications show, in the same detail and arrangement as the specifications covering the Model T. Every specification of the Ton Truck which differs from the standard Model T chassis is covered in detail below.

Wheel Base Measurements

Wheelbase.....123"

Turning Radius and Circle

Radius..... 23'
Circle.....46'

Road Clearance

Clearance.....9"

Tread

The tread for all models of Ford cars and trucks is the standard tread—56 inches.

Frame Details

General Dimensions—

Side Member Length.....123 $\frac{3}{4}$ "
Cross Member, Front.....22 $\frac{3}{4}$ "
Cross Member, Rear.....34 $\frac{1}{2}$ "

Rear Springs

Type—Transverse.....Quarter elliptic
Spring Length (2 pieces)...16 $\frac{1}{2}$ " to 16 $\frac{3}{4}$ "
Spring Width.....3"
No. of leaves.....9

Note—Shape bottom and top of leaves concave to provide for ease of lubrication.

Rear Axle Details

General—

Type.....Semi-floating
Gears, Type.....Worm
Lubricant.....Heavy semi-fluid oil
Quantity.....3 $\frac{1}{2}$ lbs.

Dimensions—

Drive Shaft Length.....71 $\frac{3}{4}$ " to 71 $\frac{3}{4}$ "
Coupling Type.....6 Spline
Drive Shaft Tubing, Length.74 $\frac{3}{4}$ " to 74 $\frac{3}{4}$ "
Thrust Bearing DS.....Ball

Housing—

Length.....24 $\frac{1}{4}$ "
Housing Diameter for Roller
Bearing Sleeves.....2.998" to 3.002"
Bell Diameter, Inside.....11 $\frac{1}{4}$ "
Bell Diameter, Outside.....12 $\frac{1}{2}$ "

Brakes—Detail

Hand (Emergency)—

Location.....Rear Wheels
Drum Diameter.....12"
Drum Width.....2"

Foot (Service)—

Location.....Transmission
Lining Length.....23 $\frac{1}{8}$ " to 23 $\frac{1}{2}$ "
Width.....1 $\frac{5}{8}$ "
Thickness..... $\frac{3}{8}$ " to $\frac{1}{2}$ "
Lining Material.....Cotton

Wheels, Tires and Rims

Wheel Type—Artillery.
Rim Make—Hayes, Kelsey or Ford.
Tire Makes—U. S., Firestone, Goodyear,
Goodrich, Miller, Mason.

Tire Sizes Demountable (Pneumatic)—

Front.....29" x 4.40" Balloons
Rear.....30" x 5" Cord

Weight

Demountable Rims, Starter.....1577 lbs.
Demountable Rims, Non-Starter .1477 lbs.