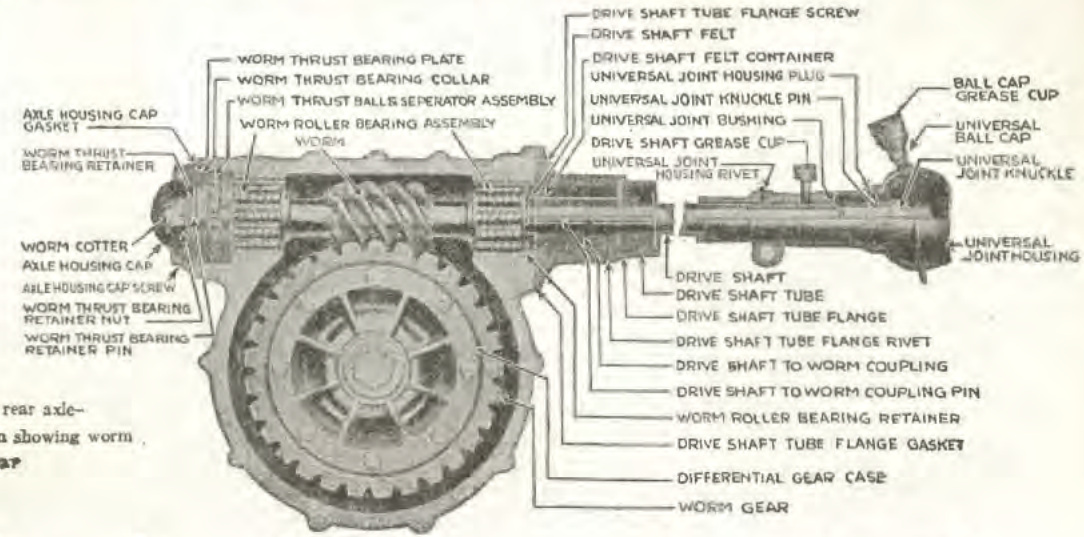
FordeX
Sales and Service Data

Truck

truck

The differential gears fit on splines cut on the axle shaft. They are held in place by means of two half-rings which fit into a groove cut in the axle shaft. *To remove,* force them toward the wheel end of the axle shaft, and drive out the two half-rings. Then force the gear off the differential end of the shaft.



Ford truck rear axle—
—cross-section showing worm and worm gear

Worm Gear for Trucks and Tractors

Its Advantages Over the Bevel Gear

The Worm Gear for Smooth Action.

The worm gear is designed primarily to give smoother action and more driving surface, overcoming a greater resistance with less engine power. There are always several teeth in mesh at one time, so that the work is divided, consequently reducing vibration to a minimum, and the possibility of crystallization due to vibration is almost nil.

Bevel Gear Noisy on Trucks.

The bevel gear is quite noisy as a rule, for there is only one tooth in mesh at one time to take the entire load. Due to this, when the transfer of resistance is made to the next tooth, a light tapping often is noticeable, this increasing with time as the gear wears till the tapping becomes a hammering and the vibration on the shaft very often results in a crystallization of the steel. Bevel gears also have a tendency to cramp when the slightest bit out of line, throwing the strain to the corners of the teeth, the weakest part of the gear, many times fracturing these corners.

Worm Gear Construction—Added Strength.

The worm gear carries its work thrust in the center of the gear, never on the edge. Another important factor is that the worm gear, on a comparative scale, can be made much stronger than the bevel gear required for the same work, owing to its elongated construction.

Bevel Gear Construction—Strength Lost.

The bevel gear, were it made in proportionate strength to the worm gear, would be very much too large and clumsy, requiring a great deal of space in the rear axle housing.

Tooth Comparisons.

The chordal thickness of the teeth on the worm gear remains the same, while the pitch changes on the bevel gear, weakening the teeth.

Worm Gear Compact.

It is obvious in considering the size of the Ford Truck rear axle housing that the worm gear is simple and compact.

Greater Speed Reduction in Less Space.

Another feature of the worm gear is the small space required for greater speed reduction. No material difference is made in the transmission. An idea of its additional strength can be obtained by considering the power of the small worm drive jack, and the almost unbelievable weight you or anyone can lift with very little effort.

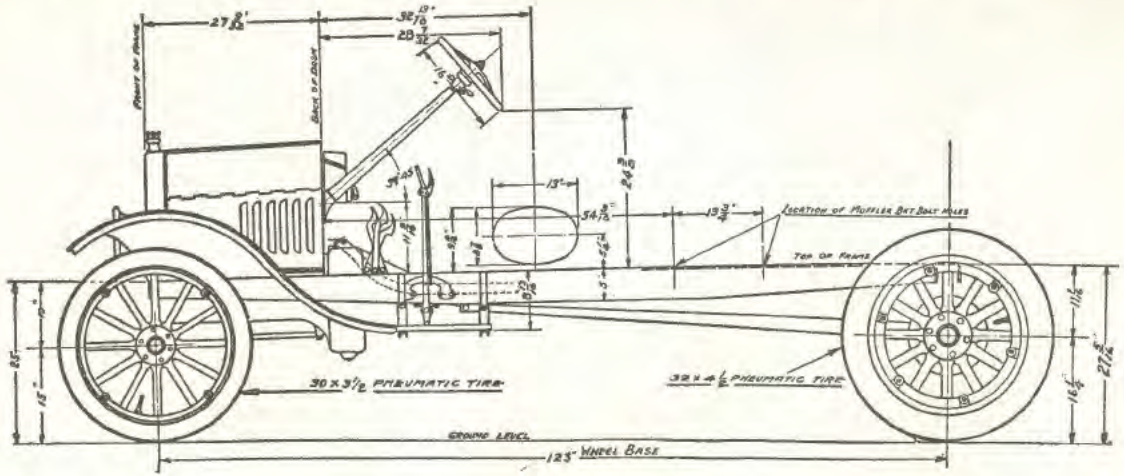
Comparative Prices of One-Ton Trucks

Prices shown are for chassis only and are as of June 1924—specifications taken from 1924 issue of "Motor Age"

Trade Name and Model	Chassis Price	Bore and Stroke	N.A.C.C. H. P.	Chassis Wt. (Stripped)	Wheelbase	% Above Ford
Bethlehem KN	1595	3 1/2 x5	19.6	2650	125	266.66
Betz J-3	1850	3 3/4 x5 1/2	22.3	3150	140	325
Casco Model A	1700	3 3/4 x5 1/2	22.4	3200	130	291
Chevrolet Sup. Util. Exp.	495	3 1/2 x4	21.7	1830	120	14
Dorris K-2	2490	4 x5 1/2	25.6	2000	Op.	472.5
Fulton A	1495	3 3/4 x5 1/8	22.5	2800	130	243.6
Garford 15	1590	3 1/2 x5 1/8	21	3500	132	265.6
G. M. C. K-16	1475	3 1/2 x5 1/2	19.6	3435	132	242.5
Gotfredson 20	1695	3 3/4 x5 1/2	22.5	3250	131	290
Graham Brothers BA	1265	3 1/2 x4 1/2	24	2835	140	181
Gramm-Pioneer 10-SpT	1365	3 3/4 x5	22.5	2370	129	214
Grass-Premier 40	1475	3 3/4 x5	22.5	2600	122	220
Gray	575	3 1/2 x4	21	1510	120	32
Kearns H	1150	3 1/2 x5	19.6	2000	118	164.5
King Zeitler	1950	3 3/4 x5	22.5	3750	134	348.5
Luedinghaus C	1695	3 1/2 x4 1/2	19.6	2850	130	290
Menominee Hurryton	1650	4 x5	25.6	3500	132	279.5
Moreland R-R	1800	4 x5	25.6	3335	130	314
Moreland RC-Bus	2280	4 x5	25.6	3850	180	424
Nash 2018	1595	3 3/4 x5 1/2	22.5	3400	130	267
Noble A-75	1525	3 3/4 x5 1/8	22.5	3300	130	251
Parker B-23	1400	3 3/4 x5 1/8	22.5	2700	131	222
Patriot 7R	1350	3 3/4 x5	22.5	2900	128	210.5
Penn	750	3 1/2 x4	19.6	2175	122	72.5
Pioneer AA (Chicago)	1550	3 3/4 x4 1/4	22.5	2500	132	256.5
Stewart 16	1195	3 3/4 x5	22.5	2480	130	175
Triangle AA	1285	3 1/4 x5	16.9	2600	123	195.50
Wachussett S	2400	3 1/2 x4 1/2	27.3	3300	152	452
Walker Johnson L	2500	3 3/4 x5 1/4	22.5	3600	134	475
Wichita K	1875	3 3/4 x5 1/4	22.5	3650	144	331

Without Starters—Listed Below

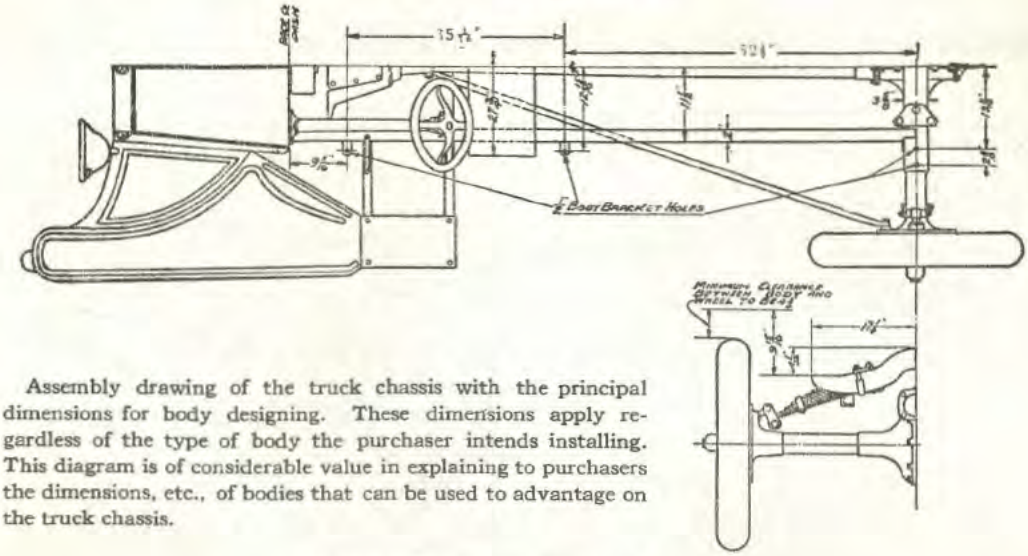
Trade Name and Model	Chassis Price	Bore and Stroke	N.A.C.C. H. P.	Chassis Wt. (Stripped)	Wheelbase	% Above Ford
Auto Car F	2200	4 3/4 x4 1/2	18.1	3800	97	494.5
Auto Car G	2300	4 3/4 x4 1/2	18.1	3900	120	521.5
D-Olt-A-1	1695	3 1/2 x5	19.6	3400	138	357.75
Ford T	370	3 3/4 x4	22.5	1520	124	.....
Gary W	1875	3 3/4 x5 1/2	22.5	3400	130	407
Hawkeye	1550	3 3/4 x5 1/8	22.5	3250	136	319
Independent J (Ia.)	1450	3 3/4 x5 1/8	22.5	3480	135	292
Kissel Express	1585	3 1/2 x5 1/2	24.1	3780	140	328.5
Rainier R-29	2150	3 3/4 x5	22.5	2700	133	481
Sandow GA	1795	3 3/4 x5	22.5	3000	120	358
Wilcox AA	1900	3 3/4 x5 1/8	22.5	3600	130	413.6



Assembly drawing of Truck Chassis showing principal dimensions for body designing

(See reverse side for additional drawing)

The Truck Chassis

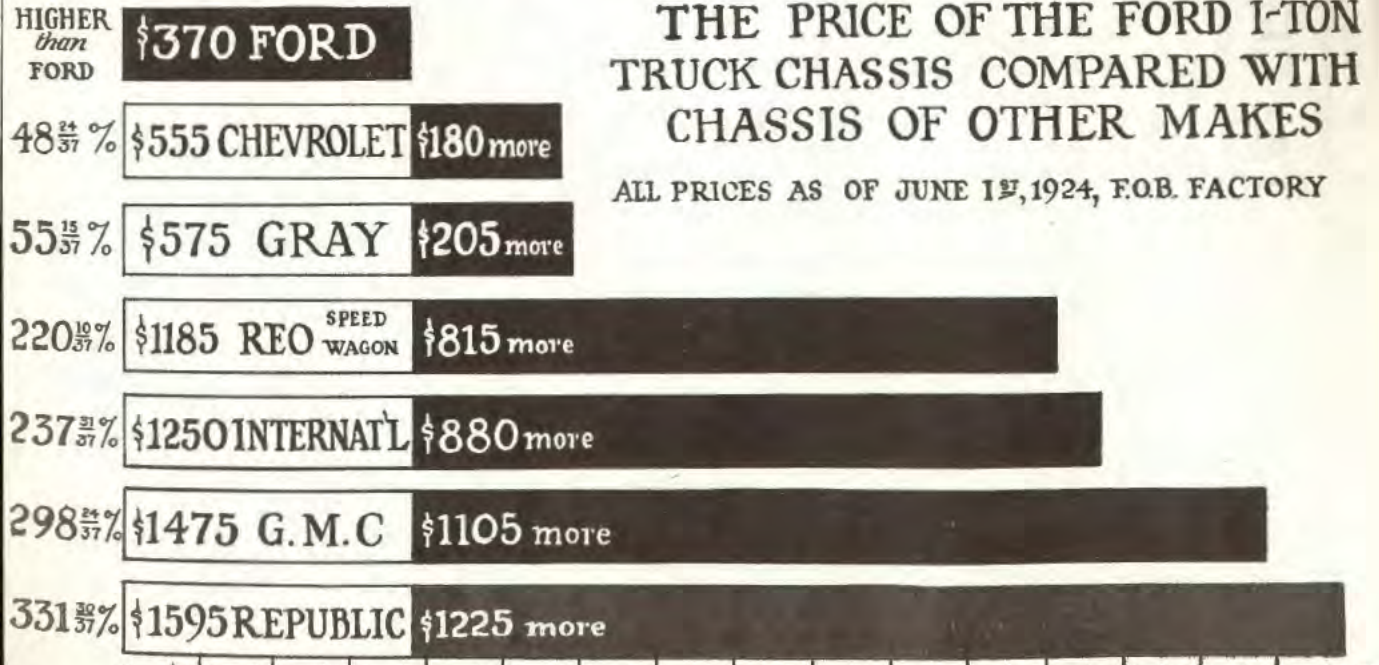


Assembly drawing of the truck chassis with the principal dimensions for body designing. These dimensions apply regardless of the type of body the purchaser intends installing. This diagram is of considerable value in explaining to purchasers the dimensions, etc., of bodies that can be used to advantage on the truck chassis.

(See reverse side for additional drawing)

THE PRICE OF THE FORD 1-TON TRUCK CHASSIS COMPARED WITH CHASSIS OF OTHER MAKES

ALL PRICES AS OF JUNE 1ST, 1924, F.O.B. FACTORY



FORD ONE-TON TRUCK

Steel Body and Cab	*Chassis Only*	*Screen Sides Canopy Top*

Body equipment produced by the Ford Motor Company, for use on the Standard one-ton Chassis, includes the all-steel body and cab, screen sides and canopy top. The body itself is of open express type and so constructed that it can readily be converted into various combinations by the use of stakes, side-boards, etc. The Ford truck is a low cost, utility haulage unit of maximum durability.

SPECIFICATIONS

Inside Back of Seat		Panel	WEIGHT
Length	Width		Cab 260 lbs.
86 inches	48 inches	12½ inches	Body 373 lbs.
Loading Space	7 feet 2 inches, Length 4 feet, width		Complete 633 lbs.
Screen Sides	Loading Space 114 cubic feet		Loading Height 4 feet

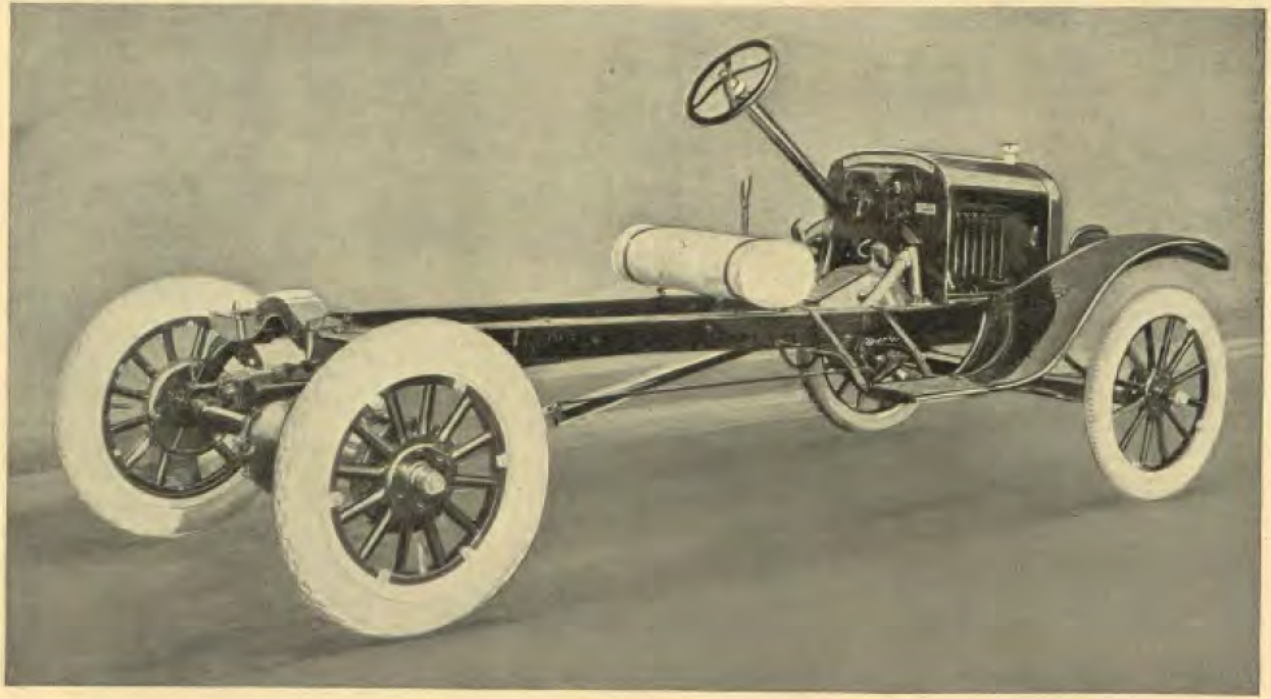
Steel Body and Cab

Standard equipment of the new body includes floor boards, fenders, end gate with heavy securing chains, close fitting curtains, which open with the door, large window in back of cab for rear vision and two seat cushions on four-inch springs which are comfortable for the driver.

Screen Sides and Canopy Top

The screen sides are of heavy mesh in strong frames, securely bolted to the cab and body. The top is covered with weather-proof material, similar material being used for side and end curtains which are rolled up and held in place by straps.

The end doors afford complete enclosure and protection for the load. They are swung on sturdy hinges and held with a double locking device which may be padlocked.



Ford One Ton Chassis

New Ford Steel Body on One Ton Chassis

New Ford Steel Body on One Ton Chassis

Ford Steel Body with new Canopy Top and Screens

FORD TRUCK PRICES

As of June, 1924

Type	F. O. B. Factory	Frt. & Del.	Tax	Del'd Price
TON TRUCK CHASSIS				
Pneu. Reg	$370	.....	.....	.....
Pneu. SS	435	.....	.....	.....
Sol. Reg	370	.....	.....	.....
Sol. SS	435	.....	.....	.....
FORD TRUCK CHASSIS AND BODY PRICES With				
Cab Only	$435	.....	.....	.....
Body Only	425	.....	.....	.....
Cab and Body Only	490	.....	.....	.....
Body and Roof Only	455	.....	.....	.....
Cab, Body and Roof	520	.....	.....	.....
Body, Roof and Screens	480	.....	.....	.....
Cab, Body, Roof and Screens	545	.....	.....	.....

These Prices do not include Starter

TON TRUCK BODY PRICES

Complete	$130	.....	.....	.....
	Crating $12.50 Extra			
Cab Only	65	.....	.....	.....
	Crating $7.50 Extra			
Body Only	55	.....	.....	.....
	Crating $5.00 Extra			
Top Only (Stakes Included)	30	.....	.....	.....
	Crating $4.00 Extra			
Screens Only	25	.....	.....	.....
	Crating $2.00 Extra			

—NOTE—

Ford Ton Truck Prices have been consistently lower, year by year, from 1917 up until the present time.

TON TRUCK COMMERCIAL BODIES

MODEL NO.	TYPE AND DESCRIPTION	BODY PRICE MOUNTED		DELV'D PRICE WITH CHASSIS	
	METAL PANEL (Open)				
	METAL PANEL (Vestibule)				
	SUBURBAN				
	SUBURBAN				
	6 POST EXPRESS (Body with Top)				
	EXPRESS (Cab Top)				
	EXPRESS (No Top)				
	8 POST EXPRESS (Wide Body with Top)				
	EXPRESS (High Side with Top)				
	EXPRESS (High Side-Cab with Top)				
	EXPRESS (High Top-Cab)				
	EXPRESS (Spec. Wide with Cab)				
	PLATFORM (Closed Stake)				
	PLATFORM (Open Stake High)				
	PLATFORM				
	DUMP				
	DUMP				

ACCESSORIES

	WINDSHIELD				
	REAR COM. FENDERS				
	FLOOR BOARDS				
	DUMMY DOORS				
	STORM CURTAINS				
	SCREENS (All Sides)				
	OPEN CAB				
	OPEN CAB (With Windshield)				
	VESTIBULE CAB				

SPECIFICATIONS		
Inside Back of Seat		Panel
Length	Width	

NET WEIGHT	

PRICES	
Body Mounted	
Windshield	
Fenders	
Excise Tax	
Chassis	
Total	

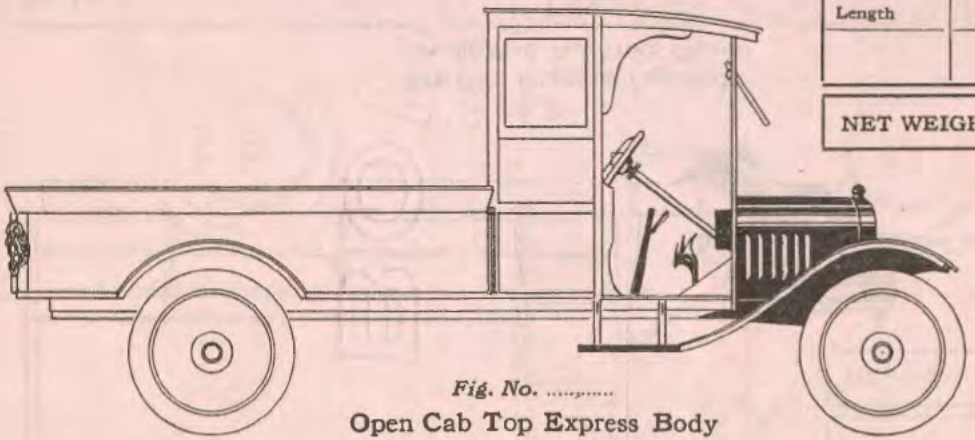


Fig. No. .....

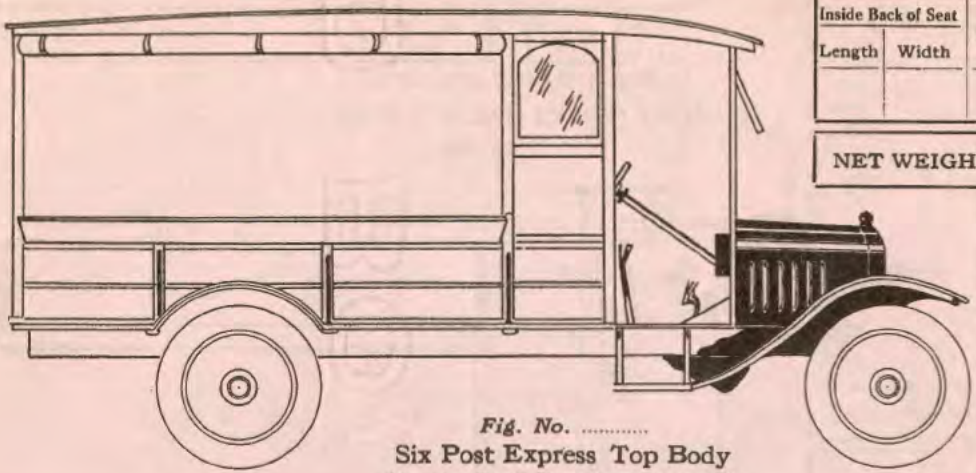
Open Cab Top Express Body

(On the Ford Ton Truck Chassis)

Mfg. by		Paint		Style No.	

Open express body for service not requiring protection for the load can be supplied with either open front or vestibule driver's compartment. The cab is provided with a drop curtain in the rear of the driver and drop curtains at the seat windows of the open front.

Regular Equipment—Windshield; flare boards, drop end-gate with chains; spring cushion; toe boards.



SPECIFICATIONS				
Inside Back of Seat		Panel	Height of Top	
Length	Width		Floor to Roof	Rear Opening

NET WEIGHT	

PRICES	
Body Mounted	
Windshield	
Fenders	
Excise Tax	
Chassis	
Total	

Fig. No. .....

Six Post Express Top Body

(On the Ford Ton Truck Chassis)

Mfg. by		Paint		Style No.	

Six-post express body with top, equipped with drop curtains around the rear compartment, giving ample protection to the load. Strongly braced, floor and flare boards, well protected hy heavy ironing. Regular Equipment—Windshield; drop curtains; drop end-gate with chains; flare boards; spring cushion; toe boards. Extra Equipment—Driver's storm curtains and sash and glass at seat sides are supplied at additional charges.

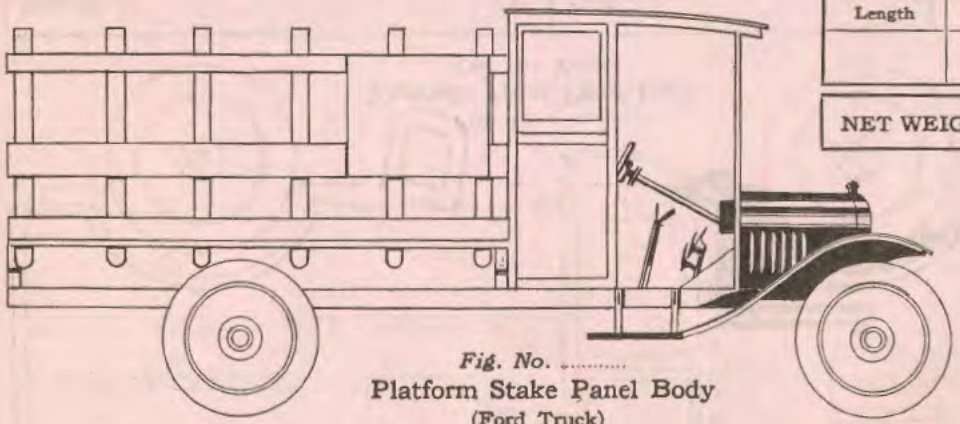


Fig. No. .....

Platform Stake Panel Body

(Ford Truck)

SPECIFICATIONS		
Inside Back of Seat		Height of Stakes
Length	Width	

NET WEIGHT	

PRICES	
Body Mounted	.....
Windshield	.....
Open Cab	.....
Excise Tax	.....
Chassis	.....
Total	.....

Mfg. by		Paint		Style No.	

The platform stake body is equipped with removable stake sections on each side. For general hauling this body makes an ideal equipment. The platform is of heavy lumber, ironed to resist the wear of loading. Regular Equipment—Open cab with windshield; paneled front stake sections as shown; spring cushion and spring lazy back; toe boards. Extra Equipment—Driver's storm curtains, when ordered, are supplied at an additional charge.

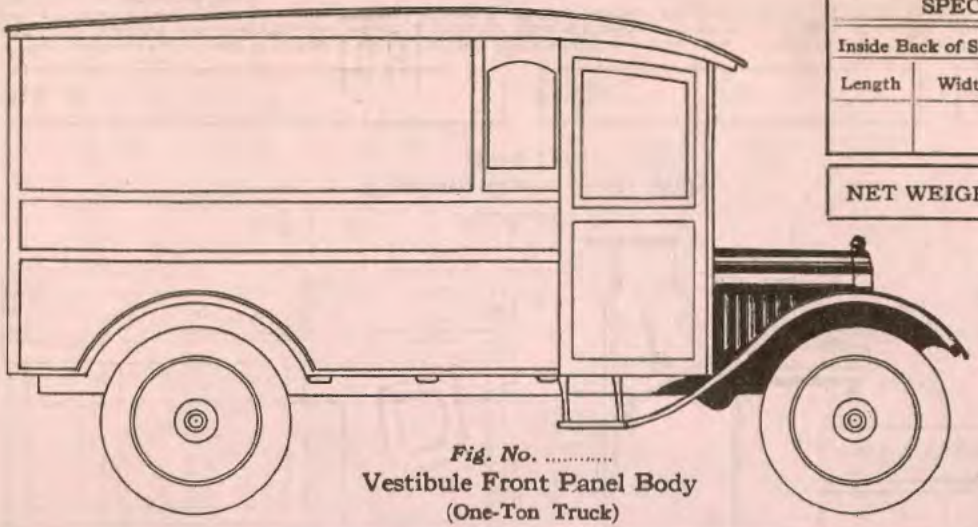


Fig. No. .....

Vestibule Front Panel Body

(One-Ton Truck)

SPECIFICATIONS			
Inside Back of Seat		Height of Top	
Length	Width	Floor to Roof	Rear Opening

NET WEIGHT	

PRICES	
Body Mounted	
Windshield	
Fenders	
Excise Tax	
Chassis	
Total	

Mfg. by		Paint		Style No.	

Vestibule front, panel body for all-season protection for the driver. A rain-proof, dust-proof body for transporting commodities requiring full protection from the weather. Regular Equipment—Windshield; sash and glass at seat side windows; double doors in rear; spring cushion; toe boards.

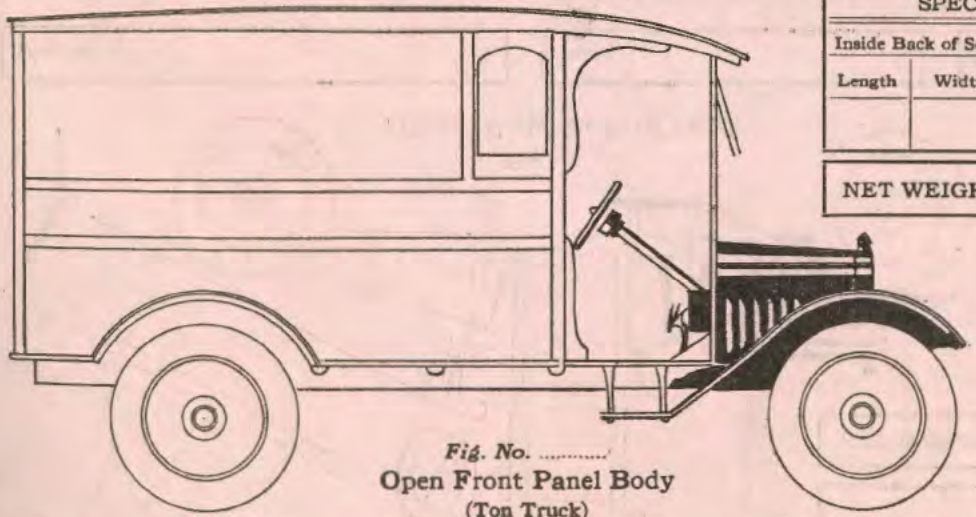


Fig. No. .....

Open Front Panel Body
(Ton Truck)

SPECIFICATIONS			
Inside Back of Seat		Height of Top	
Length	Width	Floor to Roof	Rear Opening

NET WEIGHT	

PRICES	
Body Mounted	.....
Windshield.	.....
Fenders	.....
Excise Tax.	.....
Chassis	.....
Total	.....

Mfg. by	

Paint	

Style No.	

The open front cab is especially designed for mild climates or summer uses.
Regular Equipment—Windshield; sash and glass at seat side windows; spring cushion and spring lazy back for driver; toe boards.
Extra Equipment—Driver's storm curtains are supplied at additional charges.

Cubic Ft. Capacity	

SPECIFICATIONS		
Inside Back of Seat		Height of Sides
Length	Width	

NET WEIGHT	

PRICES	
Body Mounted	
Windshield	
Excise Tax	
Chassis	
Total	

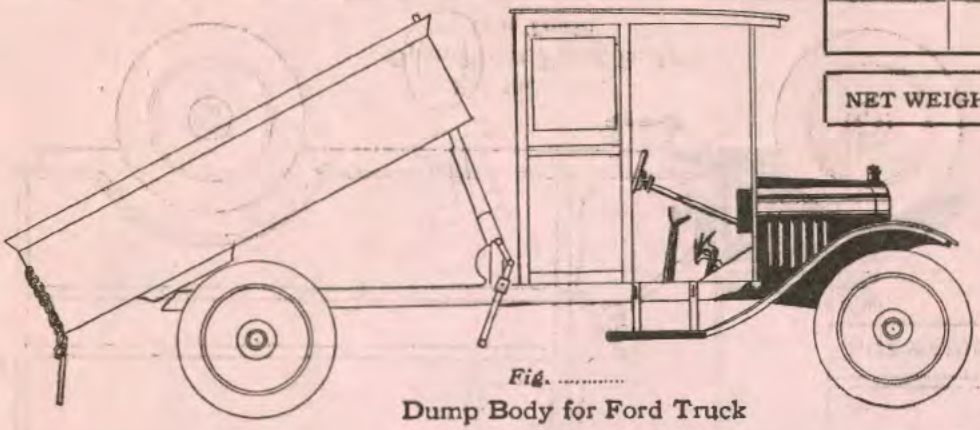


Fig. .....

Dump Body for Ford Truck

Mfg. by	

Paint	

Style No.	

Ideal for handling and dumping coal, sand, gravel, cement, crushed stone, wood, sawdust, rubbish, garbage, snow and other loose materials.

Tractor

Tractor

Fordson Tractor

For Thirty-Five Years Henry Ford,

a farmer's boy, has been working on the problem of a successful tractor for the farm, and, for the past fourteen years, has devoted much time, and a vast amount of money, to the development of the present Fordson tractor. In the usual Ford way it grew into shape through constant experimentation, not alone in the workshop but on the farm, and that he might get the experiences from various soils and conditions which face the farmer, he gradually acquired a farm numbering several thousand acres, and here the Fordson tractor, under the guidance of his genius, was developed. From the records it has made in all parts of the civilized world, it comes the nearest to being the all-around satisfactory tractor for the farm. This fact is strengthened in the knowledge that while 350,000 tractors were on farms in the United States (Oct. 1921), there have been more than 200,000 Fordson tractors made and sold in the past four years.

What It Is

The Fordson Power and Transport Unit is a most economical four-cylinder, four-cycle power plant. It delivers power up to its capacity (18 H. P.) when and where required.

The unit will also transport itself and any number of trailers carrying a total load up to 15 tons.

Easy Operation

A boy can run and operate the Fordson Power and Transport Unit. Its simplicity makes unnecessary any special skill. The automobile type drive is quickly mastered, and enables the driver to turn in a 21-ft. circle.

Built For Constant Service, This Unit Will Deliver its Rated Horsepower—24 Hours a Day.

Low Fuel Cost

The fuel consumption is about one pint of kerosene per brake horsepower per hour; and for plowing about 2½ gals. per acre are required, depending on load and soil conditions.

General Dimensions

Overall length, 102 inches. Width 61½ inches. Height 55⅛ inches. Wheel base 63 inches. Tread of wheels 49½ inches. Total weight 2.562 lbs. Total weight including water, oil, gasoline and kerosene 2977 lbs.

Mechanical Details

The cylinder bore is 4 ins., the piston stroke 5 ins. It has dependable magneto ignition, a multiple-disc clutch running in oil. Constant mesh selective type transmission, three speeds forward and one

Mechanical Details (Cont'd)

reverse. Ball bearings. Three point suspension. Splash system of lubrication. Thermo-syphon cooling system. Gravity fuel system. Worm and worm-wheel drive. All gearing entirely enclosed and running in oil.

What it Does as a Power Unit

As a stationary power plant, for either permanent or emergency work, the Fordson Power and Transport Unit will deliver 18 H. P. to any machine driven through shaft, belt, gears or chain. It will do this at an engine speed of 1,000 revolutions per minute. A governor can be attached where power requirements are either intermittent or disposed to fluctuate.

What it Does as a Transport Unit

When through operating as a power unit, it can be used as a transport or haulage unit and driven under its own power to the next job, trailing behind it at a speed of 6 to 12 miles per hour, over ground none too good, whatever material or equipment is desired. Two or four-wheel trailers may be used, and even though the load is 10 to 15 tons, it will pull up a 15 per cent grade.

Industrial Applications

Practically every industry can use the Fordson Power and Transport Unit, because it does more work, more economically, in a shorter time.

Merchants use the Fordson for hauling lumber, coal, brick and other material, and for switching loaded freight cars.

Manufacturers use it for transporting trailers loaded with stock or refuse.

Cities, villages and counties build roads and parks, haul garbage wagons, clean streets and remove snow from sidewalks and streets with the Fordson.

Contractors have put it into service for excavating, hauling equipment and construction material, operating stationary machinery and pulling big trucks out of excavations.

The Fordson is being used as an industrial locomotive, and with runners replacing the front wheels it has supplanted horses for sledding timber over the snow.

On the golf course or athletic field, the Fordson pulls the lawn mower, roller or other equipment necessary to keep the ground in good condition.

It Pays for Itself

As the daily fuel cost is only about three dollars and the interest on the investment, depreciation and upkeep cannot exceed another dollar, or four dollars in all, it will readily be seen that it cannot take very long for the Fordson Power and Transport Unit to pay for itself —more particularly because of the great saving effected in labor and time.

Low Initial Cost

The first cost of the Fordson and Transport Unit is surprisingly low, being only about one-fifth the cost of the average five-ton truck.

Fordson Superiority

Design and Construction

In designing the Fordson Tractor the engineers have worked with the idea of obtaining maximum efficiency with the minimum number of parts. This simplicity of design and construction, together with accurate workmanship in the making of the various parts, gives the Fordson Tractor the following superior features:

A—More rigid construction.

B—Elimination of frame, radiator hose, hose clamps and connections, adjusting collars for ball bearings and valve tappet adjustments.

C—Light weight.

D—Fewer parts to get out of order.

E—Less parts to assemble and adjust.

F—Less time required to make repairs.

Motor

4-cylinder bore 4″, stroke 5″. Heavy duty type motor designed to work at its full capacity for long continued periods with a minimum amount of wear.

Large bearings.

High safety factor of all parts to insure against wear and breakage.

Starts on gasoline, operates on kerosene.

Clutch

Multiple disc operating in oil. No facings to wear out and does not require adjustments.

Transmission

Constant mesh selective type transmission possessing these advantages:

A—Very compact design considering the number of gear ratios obtained. This combines strength with light weight.

B—Practically eliminates possibility of stripping teeth of the gears, as instead of meshing a couple of teeth as is common in some sliding gear transmission engagement is provided for all teeth by means of internal gears constructed solely for that purpose.

C—Three forward speeds, one reverse.

Three forward speeds instead of two as in the case of many tractors give the Fordson greater flexibility to working conditions.

D—Power transmitted through but one pair of gears in high and plowing speeds. This with the worm driven axle makes but two reductions between engine and wheels which means a comparatively low power loss and insures higher operating efficiency.

Worm Drive

Gives compactness, simplicity, and strength in construction. Reduces wear.

Water Type Air Washer

One of the most important features of the Fordson is the air washer which removes all dust and solid matter from the air before it enters the cylinders; thus preventing excessive wear to the pistons and cylinder walls. Also, it moistens the air in its passage through the water, reducing carbonization and pre-ignition. This is a decided improvement over the dry type air washer.

Advanced Design of Radiator

The radiator lines up with and is bolted to the engine; thus greatly increasing its structural strength. This also reduces possibility of water leakage and eliminates the trouble connected with replacing hose, which clog up and deteriorate. Large water openings insure better cooling.

Three Point Suspension

Reduces strain on the separate units and adds to the flexibility of the tractor.

Easily Manoeuvered in Field

Because of light weight, short wheel base, small turning radius, and direct acting steering mechanism.

Industrial Uses of the Fordson

Because of its general utility and its economy of operation, the Fordson tractor, though primarily built for the farm, has proved practical for hundreds of uses in the city. It supplies traction power for hauling and belt power for operating machinery—it is an all-around power plant.

The Fordson is Being Successfully Used for

Cable stretching
Concrete mixing
Excavating
Freight car towing
Golf course maintenance
Grading
Grass cutting
Hauling
Hoisting
Industrial locomotive
Land clearing
Lighting plant operation
Machine shop operation
Moving buildings
Oil well drilling
Operating Ferris wheel
Pile driving
Pulling snow plow
Pumping
Race track maintenance
Road grading
Rock drilling
Rock crushing
Rolling
Sand loading
Saw mill operation
Street cleaning
Terracing

Fordson Service

There are no orphans among Ford products.

The Ford Motor Company never loses sight of the fact that every purchaser of one of their motor units has a right to expect that the company shall always be in a position to keep them running.

It is this assurance that has put Ford products in a class by themselves. Notice how the confidence of the automobile buying public in the Lincoln car returned as soon as it was known that Mr. Ford had bought it? That announcement meant that every buyer of a Lincoln car was assured of full value by never finding himself unable to get service on it at a reasonable price. It is the service that has helped to make the Fordson Tractor stand first all over the world.

Tractor Gear Ratios

The ratio of engine to rear axle is as follows:

Low Speed	81.9
Intermediate (Plowing) Speed	44.5
High Speed	17.17
Reverse	46.4

The following table gives the revolutions of the rear wheels and worm gear per minute and the road speed in miles per hour, in low, intermediate, high and reverse gears:

	Low	Intermediate	High	Reverse
RPM Wheels	12.23	22.49	56.36	21.56
RPM Worm	207.7	382.3	958.3	366.4
MPH Road Speed	1.53	2.81	6.93	2.69

Horse and Horseless Farming

The harness and whiffletrees for an eight-horse team cost more than a Fordson Tractor. Yet the eight won't do more work.

The eight horses cost double the price of the Fordson, and that at the low price of horses.

Grooming eight horses once a day at 15 minutes a horse takes two hours. Watering and feeding, another hour. Harnessing and unharnessing, hitching up and unhooking, leading from barn to implement, etc., take yet another hour. Four hours' work has been lost without expenditure of any energy in productive work.

A Fordson can be filled with water, fuel and oil, and thoroughly gone over in half an hour.

A Fordson can be worked continuously day and night through all the seasons of plowing, seeding, haying, harvesting.

Horses cannot be humanely worked more than eight hours in the heavier operations or ten in the lighter.

Fordsons are not troubled with flies, heat or hard ground. Horses suffer terribly and die in appalling numbers when hard worked on hard land in hot weather.

A Fordson can do all that horses can do, as well as horses can do it and belt work besides.

It takes a few hours to make a Fordson.

It takes three years' time and three years' care (some horsemen say five years) to make a work horse. At any time in those three years the colt may die and be a total loss.

A Fordson eats only when it is engaged in productive work.

Horses eat 365 days a year.

A Fordson makes every acre of the farm a source of profit.

An eight-horse team withdraws 40 acres from the farm's return to feed itself.

Plowing Acreage and Speed Data

One mile equals 5,280 feet.

One square mile equals 27,878,400 sq. feet or 640 acres.

One furrow, 28 inches wide and 1 foot long, equals 2-1/3 square feet.

One acre of 28 inch furrows equals 43,560 square feet divided by 2-1/3 or 18,695 feet long or about 3½ miles.

To find the number of feet of furrow plowed per minute, divide 5,280 (the number of feet in one mile) by 60 (the number of minutes in one hour) which gives 88. Then multiply 88 x 2¾ (the proper plowing speed for Fordson tractors) and the quotient, 242, is the number of feet plowed per minute.

To find plowing time for one acre, divide 18,696 (the number of feet of 28" furrow in one acre) by 242 (the number of feet of progress per minute) and the quotient 78 9/10 is the number of minutes (1 hour and 19 min.) required to plow one acre.

To find the number of acres to be plowed in one day of ten hours, divide 600 (the number of minutes in a 10 hour day) by 78-9/10 (the number of minutes required to plow one acre) and the quotient, 7-3/5 is the number of acres plowed in one day of ten hours.

The above data is based on a driving speed of 2¾ miles per hour—the proper plowing speed for a Fordson Tractor.

Soils Differ in Draft Required

The following table shows the draft per square inch of cross section of furrow for various soil conditions. This data, of course, is approximate but it shows the wide range of draft.

In Sandy Soil	2 to 3 lbs. to sq. inch
In Corn Stubble	3 lbs. to sq. inch
In Wheat Stubble	4 lbs. to sq. inch
In Blue Grass Sod	6 lbs. to sq. inch
In June Grass Sod	7 lbs. to sq. inch
In Clover Sod	8 lbs. to sq. inch
In Prairie Sod	15 lbs. to sq. inch
In Virgin Sod	15 lbs. to sq. inch
In Gumbo	20 lbs. to sq. inch

The variation in draft in different soils is shown by the following example: Take a plow with two 14" bottoms plowing at a depth of 6".

The cross section of each plow is 14 x 6, or 84" square.

Twice this for two bottoms gives 168 sq. ins.

Then 168 x 3 lb.—504 lb. draft in sandy soil.

Likewise—168 x 7 lb.—1,176 lbs. draft in clover sod.

Likewise—168 x 8 lb.—1,344 lbs. draft in clay soil.

Size of Belt Pulleys

The standard Fordson belt pulley is 9½" in diameter with a 6" face. Special pulleys are not furnished, as the belt pulley attachment was designed to accommodate a pulley. In order to determine the size of pulley to be used on any implement connected up with Fordson Tractor first ascertain the speed at which the pulley on the implement is to be driven. The following table shows the size of pulley to use on the implement in order to obtain various speeds from 475 to 1900 R. P. M.

Speed on Fordson Tractor Pulley—1000 R. P. M.

R. P. M. Implement	Size of Pulley
475	20 inch
487	19½ inch
500	19 inch
513	18½ inch
527	18 inch
543	17½ inch
559	17 inch
575	16½ inch
594	16 inch
613	15½ inch
634	15 inch
655	14½ inch
679	14 inch
704	13½ inch
731	13 inch
760	12½ inch
782	12 inch
826	11½ inch
863	11 inch
926	10½ inch
950	10 inch
1000	9½ inch
1055	9 inch
1118	8½ inch
1187	8 inch
1268	7½ inch
1357	7 inch
1462	6½ inch
1583	6 inch
1727	5½ inch
1900	5 inch

Belt Lengths

The most satisfactory lengths of belts for use on various machines, and the lengths recommended, are as follows:

Separator	75 or 100 foot belt
Silo Filler	75 or 100 foot belt
Husker	75 or 100 foot belt
Shredder	75 or 100 foot belt
Baler	75 or 100 foot belt
Grinder	50 or 75 foot belt
Pump	50 or 75 foot belt
Saw	50 or 75 foot belt

Unlimited Uses for the Fordson

***Indicates Belt Uses**

Alfalfa Cutting
Beet Pulling
Binder Hauling
Building Moving
Canal Boat Hauling
*Churning
*Cider Press Operation
*Clover Hulling
Combination Harvester Hauling
*Concrete Mixing
Corn Cutting
Corn Listing
Corn Loading
*Corn Shelling
*Corn Shredding
*Cotton Ginning
*Cream Separator Operation
Cultivating Corn
Cultivating Sugar Beets
Cultivating Sugar Cane
Cultivating Orchards
Cultivating Vineyards
Dilsing
Discing
Ditching
*Drainage Pump Operation
*Ensilage Cutting
Excavation Work
*Feed Cutting
*Feed Grinding
Fence Stretching
*Ferris Wheel Operation
Fertilizer Spreading
Freight Car Towing
*Grist Mill Operation
Harrowing
Hauling (General)
*Hay Baling
Hay Loading
Hay Raking
Hay Sling Operation
Hay Tedding
Hedge Pulling
*Hoisting
*Ice Conveyor Operation
*Ice Cream Plant Operation
Ice Cutting
Ice Hauling
Industrial Locomotive
*Irrigation Pump Operation
Land Clearing
Land Grading
Land Rolling
Levee Building
*Lighting Plant Operation
Lime Spreading
Log Hauling
*Machine Shop Power
Manure Spreading
*Merry-Go-Round Operation
*Milking Machine Operation
Mowing
*Oil-Well Drilling
*Peanut Blancher Operation
Peanut Digging
*Pile Driver Operation
*Planing Mill Power Plant
Plowing
Post Pulling
Potato Digging
Potato Planting
*Printing Press Power Plant
Produce Hauling
Pulverizing
*Pumping Oil
*Pumping Water
*Quarrying
Raking
Road Grading
Road Oiling
Road Sprinkling
*Rock Crushing
Rock Dragging
*Rock Drilling
Sand Loading
Saw Mill Operation
Seeding
*Sheep Shearing Equipment
*Silo Filling
Snow Plowing
*Spraying
Street Cleaning Equipment
Stump Pulling
Sub Soiling
Terracing
*Threshing Grains
*Threshing Rice
Wagon Hauling
*Washing Machine Operation
*Well Drilling
*Wood Sawing

Specifications—Fordson Tractor

Motor.

Four-cylinder, four-cycle, cylinders cast en bloc. Cylinder bore is four inches; piston stroke five inches. Firing order of cylinders is 1, 2, 4, 3. There are three main bearings two inches in diameter by three inches long. Connecting rod bearings are two inches in diameter by 2¼ inches long. Piston displacement, 251.3 cubic inches; piston clearance: top .0150, bottom .0045. Valves have a $\frac{1}{16}$″ lift. Inlet opens 10° past upper dead center with piston 1/64″ above top of cylinder; inlet closes 40° past lower dead center with piston 4½″ to 4$\frac{15}{32}$″ below top of cylinder. . Exhaust opens 30° ahead of lower dead center with piston 4$\frac{11}{16}$″ to 4¾″ below top of cylinder; exhaust closes on upper dead center with piston $\frac{1}{16}$″ to $\frac{1}{64}$″ above top of cylinder. Tappet clearance is .007 to .022.

Lubrication.

Splash system. The oil circulation is maintained by oil thrown off the fly-wheel by centrifugal action. Capacity 2¼ gallons, heavy gas engine oil. Oil temperature when pulling steady maximum load 150° to 200° Fahr.

Ignition.

Type—High tension jump-spark. (Same as Model "T").

Cooling.

Thermo-syphon system. The very large water jackets and radiator tanks used with a vertical tube radiator insure a continuous flow of water and efficient cooling. This works in connection with a belt-driven ball bearing fan delivering 1700 cubic feet of air per minute. Water capacity of cooling system, 12 gallons. Cylinder water inlet is 3¾″ diameter; outlet approximately 4″ diameter.

Fuel.

Supplied by gravity from a 21-gallon overhead tank.

Air Washer.

Float type, 7 quarts capacity. The air supply is drawn through water, which removes all dust, thus reducing wear on cylinder walls.

Transmission.

Constant mesh selective type, three speeds forward and one reverse. All shafts run on ball bearings.

Transmission Gears.

Speeds based on 1000 R. P. M. of engine.

Gear	Final Ratio	Worm Speed	Axle Speed	Tractor Speed
Low	81.87	207.7	12.23	1.53 M. P. H.
Intermediate	44.46	382.3	22.49	2.81 M. P. H.
High	17.74	958.3	56.36	6.93 M. P. H.
Reverse	46.39	366.4	21.56	2.69 M. P. H.

Clutch.

Multiple disc, 17 hardened discs running in oil. Lubrication—heavy fluid gear oil, capacity 3¾ gallons. Oil temperature when pulling steady maximum load 175° to 250° Fahr.

Rear Axle.

Semi-floating, four-pinion, differential running on ball bearings.

Front Axle.

Drop-forged and heat-treated. It is attached in the center directly to the front of the motor, giving a three-point suspension to the tractor.

Wheels.

Front wheels have steel spokes cast in the hub and riveted to rim; they are mounted on adjustable roller bearings. Rear wheels have spokes cast in the hub and riveted to the rim.

Weights.

Weight of tractor less driver, water, oil and lugs, 2425 pounds. Total weight of tractor, including all liquid supplies and 150 pounds driver 2920 pounds. Distribution of above weight: front wheels 1063 pounds; rear wheels, 1857 pounds. Weight of engine with vaporizer and coils, 661 pounds.

Dimensions.

Wheelbase 63″; distance between front rims 40⅛″; distance between rear rims 37⅜″; width of front rim 5″; diameter of front rim 28″; width of rear rim 12″; width of extension rim 7″; diameter of rear rim 42″; (3″ cleats riveted on rim); overall length of tractor, 102″. Overall width of tractor 61⅜″; overall height of tractor 54¾″; ground clearance 11⅝″; height of draw bar from ground 12″; adjustment—lateral 7″; vertical—none.

Belt Pulley.

Width 6½″; diameter 9½″. Gears, spiral bevel type. Speed, 1000 R. P. M. Belt speed 2480 feet per minute.

Performance.

Size of thresher 20″ x 36″; plows, 2—14″. Average work six acres in 10 hours. Turning circle, 21 feet.

Tractor Gear Ratios.

The ratio of engine to rear axle is as follows:

Low Speed	81.9
Intermediate (Plowing) Speed	44.5
High Speed	17.17
Reverse	46.4

The following table gives the revolutions of the rear wheels and worm gear per minute and the road speed in miles per hour, in low, intermediate, high and reverse gears:

	Low	Intermediate	High	Reverse
R. P. M. Wheels	12.23	22.49	56.36	21.56
R. P. M. Worm	207.7	382.3	958.2	366.4
M. P. H.	1.53	2.81	6.93	2.69

Tractor Speeds.

Running at 1000 revolutions per minute the four gear changes give the tractor the following speeds:

Low: 1½ miles per hour.
Intermediate (plowing): 2¾ miles per hour.
High: 6¾ miles per hour.
Reverse: 2½ miles per hour.

The speed can be judged by observing the number of complete turns made by the rear wheels in one minute: In low gear the rear wheels turn 12 times per minute. In intermediate gear the rear wheels turn 22 times per minute.

In high gear the rear wheels turn 54 times per minute. In reverse gear the rear wheels turn 21 times per minute.

Tractor Power Rating

All tractors are given a double power rating—one for the draft, the other for the belt pulley. The Fordson is a 9-18, that is, at 1000 R. P. M. of the engine the tractor develops a drawbar horse-power of 9 at the drawbar cap, and a brake horse-power of 18 at the belt pulley.

The brake horse-power is measured by a dynamometer and figured in the regular way.

The drawbar horse-power is figured from the pounds pull at the drawbar cap times the distance traveled in feet per minute, divided by 33,000.

$$\frac{\text{(Draft x Ft. Per Min.)}}{33{,}000}$$

To obtain the draft (pounds pull at the drawbar cap) a spring scale is attached between the drawbar cap and the load; the distance traveled in feet per minute is measured by a cyclometer and a stop watch or by measuring directly on the ground.

U. S. Tractor Fuel Tank Gauge

In the United States, the Old English Wine Gallon containing 231 cubic inches is standard. In Canada, the British Imperial gallon of 277.274 cubic inches, is used. This means that an Imperial is equal to practically 1— U. D. gallons.

Since the gallons are different, we are giving a table of gasoline tank measurements, showing number of gallons per inch:

The following table gives the dimensions for making a measure stock for the tractor fuel tank:—

U. S. Tractor Fuel Tank Gauge

Gallons	1	2	3	4	5
Inches	15/16	1 7/16	1 13/16	2 1/16	2 9/16
Gallons	6	7	8	9	10
Inches	2 1/16	3 5/16	3 5/8	3 15/16	4 1/4
Gallons	11	12	13	14	15
Inches	4 7/16	4 3/4	5 1/16	5 3/8	5 3/4
Gallons	16	17	18	19	20
Inches	6 1/8	6 1/2	6 7/8	7 1/4	7 3/4

Canadian Fordson Tractor Fuel Gauge
(Imperial Gallons)

Gallons	1	2	3	4	5
Inches	1 11/64	1 51/64	2 17/64	2 27/64	3 13/64
Gallons	6	7	8	9	10
Inches	3 43/64	4 9/64	8—	4 59/64	5 5/16
Gallons	11	12	13	14	15
Inches	5 35/64	5—	6 21/64	6—	7—
Gallons	16	17	18	19	20
Inches	7—	8—	8—	9—	9—

Road Speed Data

The following table shows a comparative approximate of the engine speed, revolutions of the rear wheels and the distance traveled by the tractor when being driven in high gear.

1000	54	594	6 3/4
1185—1/6	64	704	8
1333—1/3	72	792	9
1481—1/2	80	880	10

Tractor Motor Numbers

The motor numbers of Fordson tractors will be found stamped on the right-hand side of the cylinder block near the front end of the engine. But the motor numbers of Fordson tractors do not run in the same smooth sequence as the motor numbers of Ford cars, due to the fact that some of the tractors have been assembled in the "overseas" factory at Cork, Ireland, while other tractors have been assembled at the various branches.

Serial Numbers of Tractors Shipped Each Month from October 1, 1917, to October 31, 1920

	Motors assembled at Home Plant
1917	
October	1 to 75
November	
December	76 to 259
1918	
January	260 to 616
February	617 to 1731
March	1732 to 3082
April	3083 to 3900 6901 to 7608
May	7609 to 9580
June	9581 to 11937
July	11938 to 15225

	Motors assembled at Home Plant
1918	
August	15226 to 18637
September	18638 to 22247
October	22248 to 26287
November	26288 to 29978
December	29979 to 34426
1919	
January	34427 to 39554
February	39555 to 44782
March	44783 to 50961
April	50962 to 53079
May	53080 to 53110
June	53111 to 55304

	Motors assembled at Branches	Motors assembled at Cork, Ireland	Motors assembled at Home Plant
1919			
July		C 1001 to C 1009	55305 to 60864
August		C 1010 to C 1068	60865 to 63000 63201 to 65000 65501 to 68055
September		C 1069 to C 1080 63001 to 63003	68056 to 74809
October		63004 to 63063	74810 to 81363
November		63064 to 63177	81364 to 88465
December		63178 to 63200	88466 to 92113

Tractor Motor Numbers—Continued

1920	Motors assembled at Branches	Motors assembled at Cork, Ireland	Motors assembled at Home Plant
January	100001 to 100192	105025 to 105049 65001 to 65240	92114 to 96973
February	100193 to 102294	105050 to 105290	96974 to 100000
March	102295 to 104759	105291 to 105704	110001 to 111500
April	104760 to 105000 120001 to 121591	105705 to 105893	111501 to 117133 117134 to 120000
May	121592 to 124731	105894 to 106269	125001 to 125036
June	124732 to 125000 135001 to 138086	106270 to 106635	125037 to 129104 129105 to 134622
July	138087 to 140000 150001 to 151504	106636 to 106871	134623 to 135000 140001 to 146097
August	151505 to 154890	106872 to 107199	146098 to 150000
September	154891 to 158177	107200 to 107303 65321 to 65500	160001 to 163426 163427 to 169258
October	158178 to 158322	107304 to 107640	169259 to 169583
November		107641 to 107954	
December		107955 to 108229	
1921			
January		108230 to 108243	
February		108244 to 108271	169584 to 169840
March	158312 to 158326	108272 to 108386	169841 to 170000
April	158327 to 158970	108387 to 108456	172001 to 175687
May	158971 to 159453	108457 to 108653	175688 to 181313
June		108654 to 108680	181314 to 187794
July	159454 to 159887	108681 to 108744	187795 to 193985
August	159888 to 160000 170001 to 170243	108745 to 108902	193986 to 198363 198364 to 200018
September		108903 to 109208	200019 to 200431
October	170244 to 170394	109209 to 109397	200432 to 200942
November	170395 to 170890	109398 to 109575	200943 to 201025
December	170891 to 170957	109576 to 109672	

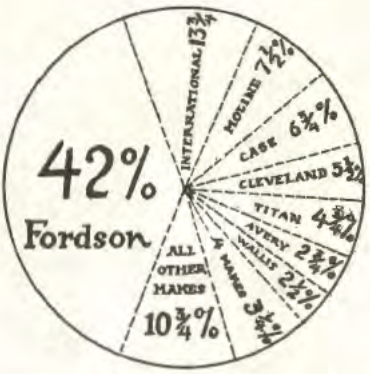
Tractor Motor Numbers—Continued

	Motors assembled at Branches	Motors assembled at Cork, Ireland	Motors assembled at Home Plant
1922			
January		109673 to 109784	..... to .....
February		109785 to 109891	201026 to 202521
March		109892 to 110209	202522 to 208632
April		110210 to 110430	208633 to 216080
May		171290 to 171444	216081 to 225028
June		171445 to 171742	225029 to 234355
July		171743 to 171962	234356 to 244016
August		171963 to 172000 250001 to 250099	244017 to 252532
Sept.		250100 to 250300 253001 to 253010	252533 to 252761
Oct.		253111 to 253290	252762 to 257907
Nov.		253291 to 253479	257907 to 262824
Dec.		253480 to 253562	262825 to 268582
1923			
Jan.			268582 to 276349
Feb.			276349 to 284254
March	284255 to 295531	109892 to 110209	202522 to 208632
April	295532 to 306914	110210 to 110430	208633 to 216080
May	306915 to 318010	171290 to 171444	216081 to 255028
June	318011 to 327011	171445 to 171742	225029 to 234355
July	327012 to 333681	171743 to 171962	234356 to 244016
August	333682 to 342099	171963 to 172000 250001 to 250099	244017 to 252532
September	342100 to 349496	250100 to 250300 253001 to 253010	252533 to 252761
October	349497 to 357849	253111 to 253290	252762 to 257907
November	357850 to 365191	253291 to 253479	257908 to 262824
December	365192 to 370354	253480 to 253562	262825 to 268582
January			268583 to 370351
February			370352 to 375191

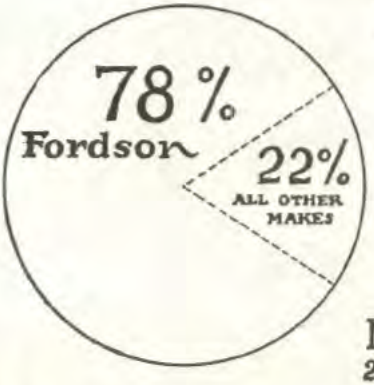
FARM TRACTORS *in* ACTUAL USE *by* MAKES

Entire United States January 1st 1921 Also Showing Growth in Use of Tractors Since Then

WHY ?

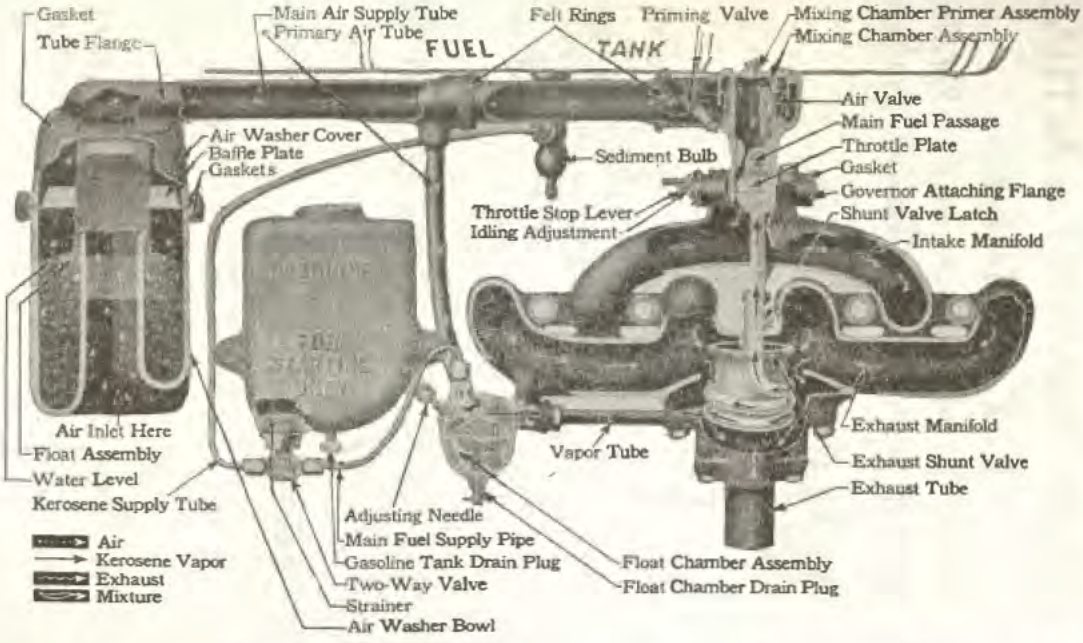


JAN.-1-1921

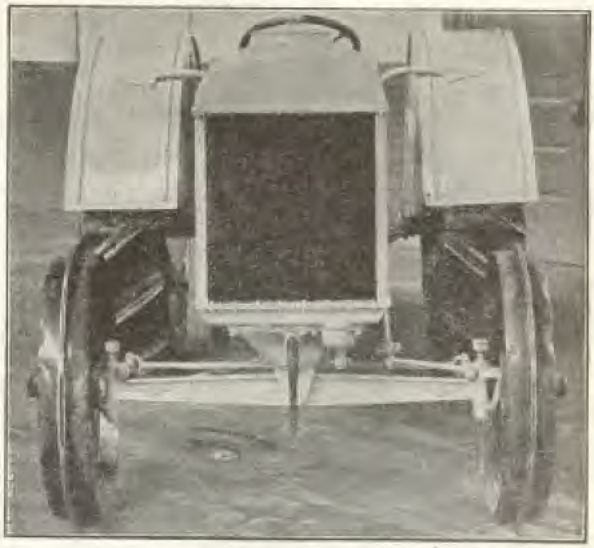


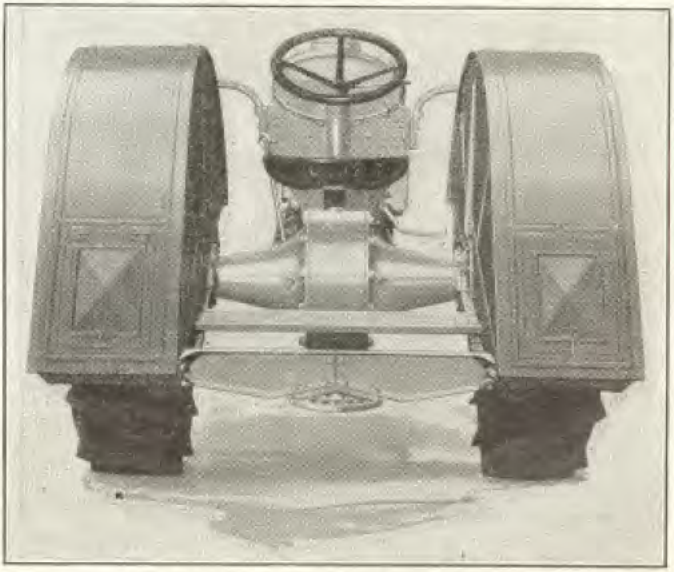
MAY-1-1923

28 Months later


Gasket
Tube Flange
Main Air Supply Tube
Primary Air Tube
FUEL
Felt Rings
Priming Valve
TANK
Mixing Chamber Primer Assembly
Mixing Chamber Assembly
Air Valve
Main Fuel Passage
Throttle Plate
Gasket
Governor Attaching Flange
Shunt Valve Latch
Intake Manifold
Air Washer Cover
Baffle Plate
Gaskets
Sediment Bulb
Throttle Stop Lever
Idling Adjustment
Air Inlet Here
Float Assembly
Water Level
Kerosene Supply Tube
Vapor Tube
Exhaust Manifold
Exhaust Shunt Valve
Exhaust Tube
Adjusting Needle
Main Fuel Supply Pipe
Gasoline Tank Drain Plug
Two-Way Valve
Strainer
Air Washer Bowl
Float Chamber Assembly
Float Chamber Drain Plug
Air
Kerosene Vapor
Exhaust
Mixture

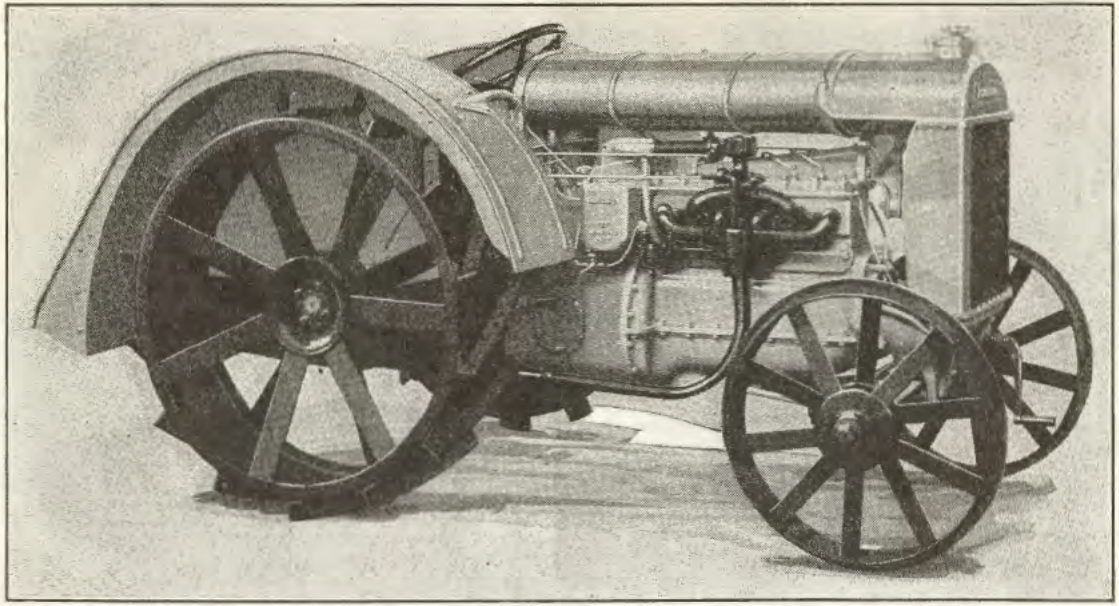
NEW FENDER EQUIPMENT
FOR
FORDSON TRACTOR





Rear View Showing Runningboard

Full Right Side View



FORDSON TRACTOR PRICES

February, 1924

Tractor	List	Tax	Freight and Delivery Charges	Delivered Price
Stand. Wheels 420	....	....		.....
Solid Tires..	...	....	....	.....
Pneu. Tires..	...	....	....	.....

STANDARD TRACTOR PULLEY

Fordson Belt Pulley	Price
9" dia. 6" face.....	.....

NOTE: The following allowances are made on new tractor wheels of standard type.

Set of 4-wheels.....

Two rear wheels.....

Two front wheels.....

OPTIONAL EQUIPMENT Price

Fenders.....

Rims.....

Pneumatic Tires

Pneumatic tires and wheels for the Tractor can be procured. The front rims take any standard 30 x 3½ clincher tire, 40 x 8 or 42 x 9 straight-side cord tires are used on the rear.

Cushion Tired Wheels

Cushion tired wheels possessing some of advantages of pneumatics and none of the disadvantages can be procured for the Fordson. Extension rims can be used with them, too.

Definition of Mechanical Tractor Terms

Air Cleaner

A device for removing dust from air passing through the carburetor and into the engine.

Belt Pulley

A pulley driven by the engine and used for driving stationary machinery.

Break Pin

A wooden pin in the hitch connecting the tractor to the implement hauled which breaks if the implement strikes an immovable object, and so prevents damage.

Bottom

The lower part of a plow. The term "a tractor will haul so many bottoms" is very frequently heard.

Extension Rims

Steel rings for widening or expanding the driving wheel rims.

Gang

Several plows or other implements hauled at one time.

Ground Pressure

The pressure of the tractor wheels on the ground, expressed in pounds per square inch.

Grousers

Bars or cleats on the driving wheel rims to prevent slipping.

Heater

Some form of fuel and air heating apparatus is used in all kerosene-burning tractors to vaporize the heavy fuel. The heat is taken from the exhaust gases.

Hitch

Means by which the implement is connected to the tractor drawbar.

Non-Slip Rings or Ribs

Front or steering wheels are ribbed; each wheel has one rib running around it at the center of the rim.

Power Lift

Tractor plows are often arranged to lift out of the ground automatically for turning, etc. The tractor driver operates the lift by pulling a cord to set the lifting mechanism in motion.

Power Rating

Tractors are given a double rating, 12-20 horsepower. This means that twelve horsepower is delivered at the drawbar and twenty horsepower at the belt pulley. The drawbar is the full rated power of the engine. The drawbar or pull is less than the full power because of the power used in moving the tractor itself, which is usually nearly or quite half the engine power. Engines are usually rated several horsepower under their full actual power, providing power for emergencies.

Water Injection

Some kerosene tractors have devices for injecting a fine spray of water into the cylinders along with the fuel. Minimizes carbon formation and heating and improves smoothness of running. Not used with gasoline. Works automatically.

Lincoln

A Ford Product

On February 4, 1922, the Lincoln Motor Company became a part of the Ford organization and, although it retains its own corporate name, it is now a division of the Ford Motor Company.

As the Lincoln takes its place among Ford products it acquires all of the stability and strength of the Ford organization, and its distribution becomes world-wide. No other high-priced car in the world has so many dealers and points of contact with the motoring public.

Lincoln History

The Lincoln Motor Company was organized August 29, 1917, by Henry M. Leland and his son, Wilfred C. Leland, acting as president and vice-president respectively.

Henry Leland was one of the pioneers in the manufacture of gasoline marine engines; he withdrew from that to devote himself to the building of motor cars while the automobile industry was still in its infancy.

Over twenty years ago, he, with Wilfred C. Leland, and their associates, brought out an automobile, one of the first practical and enduring cars whose production ran into numbers.

That was followed by other cars—each embodying greater comforts and conveniences. But Henry Leland continued striving for a car of surpassing quality.

It was during the latter part of 1914 that he brought out a motor car with the first eight-cylinder, V-type, high speed, high efficiency engine. It was a notable achievement, but, a little later was to come the Lincoln.

Then, in 1917, the Lincoln Motor Company was formed. At the time, the government was developing the Liberty motor, and to aid in this work the entire plant and facilities of the new Lincoln Company were turned over to the government for the building of Liberty Aircraft Motors.

In this work, Ford and Lincoln officials often conferred, both exerting supreme energy to meet the government's requirements for motors, and both piling up enviable records in their achievements. It will be recalled that both received the highest commendation, as well as citations from the War Department, and that the NC-4 in its famous flight across the Atlantic was propelled by Liberty motors made in the Ford shops.

After completing its contract with the government the Lincoln organization began experimental work. About seventeen months elapsed between the time that the Lincoln Motor Company started to design, perfect and build a motor car and the time this car was announced to the public. It is Henry Leland's greatest achievement.

The Lincoln won the instant approval of its very first purchasers. They marveled at its mechanical perfection—at its power and beauty. To drive it, or to ride in it, was to be captivated by its charm.

"The Finest Motor Car in the World"

Both Mr. Henry Ford and Mr. Edsel Ford have avowed their intention not only to perpetuate in the Lincoln car those characteristics which make it stand out pre-eminent as the leader in its class, but, by throwing behind it the vast resources of the Ford Motor Company, to go even further in its development, its manufacture, its distribution and its service.

There is but one ideal behind the policy which shall govern the Lincoln—to produce the finest motor car in the world, backed by the greatest service organization in the world.

Dealers' Inspection Service on Lincoln Cars

The efficiency of any car depends largely upon the care it receives during the first few months following delivery. Systematic attention to lubrication and mechanical adjustments will insure that excellence of performance that is a feature of all Lincoln cars.

For a period of four months from date of delivery, every purchaser of a Lincoln car is entitled to free inspection and service, both as to material and labor, as outlined below:

1—Change oil in motor at the end of first 400 miles and each 750 miles thereafter.
2—Oil and grease car (including lubricator connections, oil, and grease cups).
3—Examine lubrication of transmission and rear axle.
4—Check correctness of oil pressure at idling and maximum engine speeds.
5—Does oil indicator level register correctly?
6—Is gasoline fuel strainer clean?
7—Gasoline gauge on tank—check for accuracy.
8—Battery—check for water, gravity and connections.
9—Generator—does it charge properly?
10—Starting Motor—check oiling, brush contacts and commutator.
11—Distributor—check all adjustments.
12—Check condition of all lights.
13—Brakes—check adjustments, both internal and external.
14—Front wheels—check alignment and bearing adjustment.
15—Wheel rims—check for true running.
16—Springs—tighten clips and oil.
17—Carburetor—check all adjustments.
18—Radiator—do sylphon and shutters function properly?
19—Timing chain—check adjustments.
20—Clutch—see that all adjustments are properly set.
21—Clean carbon if necessary.
22—Tighten body bolts.

It is advisable that the car be returned to the dealer at the end of the first 400 miles, and thereafter at the end of each 750 miles traveled. After a period of four months a nominal charge may be made for this service.

It is recommended that dealers call Lincoln owners' attention to the advantages of this periodical service to insure their cars being maintained in first class condition.

Free inspection is not expected to cover repairs or labor occasioned by accident, misuse, or neglect.

Lincoln License Data

Information usually required in making application for a license:

Engine

Number of cylinders	8
Cylinder bore	3⅜ in.
Stroke	5 in.
Piston Displacement	357.8 cu. in.
Horse-power (S. A. E. rating)	36.4

Car Number

A plate showing the number of the car is attached to the front of the dash.

The engine number is stamped on the left side of the crankcase between the first and second cylinders.

Wheelbase

136 inches.

License Plates

Care should be taken in attaching the front license plate to see that the long arm of the license brackets extends upward instead of hanging down. When the plate is attached the tie rod between the headlamps will be approximately in the center of the plate. This will allow clearance for hand cranking the engine in an emergency. If the plate is attached so that it hangs lower than noted above, there will not be sufficient clearance for hand cranking and the operator may suffer injury through striking the plate.

Lincoln Standard Warranty

The Lincoln Motor Co. warrants each new motor vehicle manufactured by it whether passenger car or commercial vehicle, to be free from defects in material and workmanship under normal use and service, its obligation under this warranty being limited to making good at its factory any part or parts thereof which shall, within ninety (90) days after delivery of such vehicle to the original purchaser, be returned to it with transportation charges prepaid, and which its examination shall disclose to its satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on its part, and it neither assume nor authorize any other person to assume for it any other liability in connection with the sale of its vehicles.

This warranty shall not apply to any vehicle which shall have been repaired or altered outside of The Lincoln Motor Company's factory in any way so as, in its judgment, to affect such vehicles stability or reliability, nor which has been subject to misuse, negligence, or accident, nor to any commercial vehicle made by it which shall have been operated at a speed exceeding the factory rated speed, or loaded beyond the factory rated load capacity.

The Lincoln Motor Company makes no warranty whatever in respect to tires, rims, ignition apparatus, horns, or other signaling devices, starting devices, generators, batteries, speedometers or other trade accessories, inasmuch as they are usually warranted separately by their respective manufacturers.

Paint and Upholstering

The colors in which standard Lincoln cars are delivered are as follows:

COLOR	STRIPE
Cobalt Blue	Champagne
Brewster Green	Pale Yellow
Orriford Lake	Carmine

Upholstering

Upholstery has been selected so as to harmonize with the finish of the car.

Open cars are upholstered in black, bright finish, hand buffed, long grain leather.

Purchasers of enclosed cars may have the option of specifying either velour or broadcloth.

The Open Drive Limousine and Town Car are special custom built jobs designed and built by Brunn and Company, Inc., Buffalo, N. Y. Purchasers of these cars may specify upholstery material from a wide range of the finest fabrics available and have the option of many special colors of paint, without extra charge.

Lincoln Car Production Figures

The following table shows the production date of Lincoln cars by car number (by 500 cars):

Car Number	*Production Date*
1	September 14th, 1920
500	November 17th, 1920
1,000	March 8th, 1921
1,500	April 29th, 1921
2,000	June 23rd, 1921
2,500	September 10th, 1921
3,000	October 27th, 1921
3,500	March 15th, 1922
4,000	April 17th, 1922
4,500	May 2nd, 1922
5,000	June 2nd, 1922
5,500	June 22nd, 1922
6,000	July 14th, 1922
6,500	August 10th, 1922
7,000	August 30th, 1922
7,500	October 13th, 1922
8,000	November 20th, 1922
8,500	December 19th, 1922
9,000	January 13th, 1923
9,500	February 20th, 1923
10,000	April 4th, 1923
10,500	April 24th, 1923
11,000	May 19th, 1923
11,500	June 4th, 1923
12,000	June 25th, 1923
12,500	July 16th, 1923
13,000	August 1st, 1923
13,500	August 18th, 1923
14,000	September 5th, 1923

Lincoln Motor Numbers

September	14068-14850
October	14851-15774
November	15775-16229
December	16230-16434
January	16435-16994
February	16995-17381

Power Plant

Unit type. Three-point suspension. The engine, clutch and transmission form a single compact rigid unit of unusually clean design. All working parts, including the flywheel and clutch, are completely enclosed, and therefore thoroughly protected from dirt and dust; insuring long life of all working parts.

The transmission case encloses the clutch and forms part of the flywheel housing. It is piloted in and securely fastened to the crankcase, thereby insuring clutch and transmission alignment with the engine.

The three-point suspension is of unique design. A spherical bearing mounted on the front cross member forms the front support. The two rear supports are the projecting side arms of the crankcase, into which are inserted steel trunnions which fit into saddle blocks which are supported on brackets securely riveted to the frame. A shoulder screw and spring washer hold the trunnions in each saddle.

The power plant can be removed from the car intact.

Engine

Eight-cylinder, V-type, 4-cycle with cylinders set at an included angle of 60°. The firing order is shown in diagram below.

Power impulses occur at irregular intervals of 60° and 120° in the revolution of the crankshaft. All eight cylinders fire in two complete revolutions of the crankshaft.

Bore, Stroke and Horse Power

Bore, 3⅜", stroke 5"; piston displacement 357.8 cubic inches; horse power 36.4 S. A. E. rating.

The compression pressure is 85 to 90 pounds per square inch.

Cylinders

L-head type, fine grain, hard cast iron, cast in two blocks of 4 cylinders each. This construction secures lightness, and compactness, and also liberal water jackets for a more uniform water circulation. It also gives accurate alignment, as all 4 cylinders in each block are machined in one operation. The quality of the cast iron, and an accurately ground and honed cylinder bore, add greatly to the life of the engine.

The cylinder blocks are interchangeable and are tested for defects in casting under heavy water pressure.

Ten bolts securely fasten each cylinder block to the crankcase.

Cylinder Heads

Removable type, allowing access to pistons and valves, facilitating valve grinding and removal of carbon. The combustion chambers in each of the cylinder heads are accurately machined to insure uniform compression and power for each of the 8 cylinders. Liberal water space surrounds the combustion chambers, which connects with water passages in the gas intake manifold. The cylinder heads, like the cylinder blocks, are interchangeable.

The bottom of each cylinder head and corresponding surface of cylinder is ground to insure perfect joint on the copper asbestos gasket which is between them.

Twenty-two studs and nuts securely fasten each cylinder head to the cylinder block.

Each cylinder head is tested for defects in casting under heavy water pressure.

Crankcase

Aluminum alloy; box type, giving rigid and compact construction, with heavy stiffening webs which support crankshaft and camshaft bearings. The crankshaft bearing bolts screw into cylindrical steel nuts, inserted into a reinforced section of the webs immediately above each bearing. This eliminates the stripping of threads when tightening the bearings and also localizes the tightening strains in the bearings thus insuring bearing alignment.

The crankshaft bearing caps are milled with projecting tongues that fit in corresponding grooves in the crankcase; further insuring alignment of crankshaft bearings.

The pipes, cast integrally with the crankcase through which oil or water flow, are of material other than the aluminum; steel being used for oil and copper being used for water. This insures positive delivery without leakage.

Pistons

Heat treated alloy; light and strong; fitted with three extra hard, one-piece cast iron rings; all above the piston pin. Rings, individually tested for required tension; roundness and width. Piston rings grooves in pistons machined with unusual care to insure smooth surface, thus permitting ring to function with least effort. Upper end of piston tapered to allow for expansion of piston head. Pistons and rings lubricated by spray from crankshaft and connecting rod bearings. Provision is made at bottom of third ring to return the excess of cylinder oil to the reservoir thus reducing carbonization and oil consumption.

Piston Pins

Hardened and ground steel, $\frac{7}{8}$" diameter; locked securely in piston; the upper connecting rod bearing of phosphor bronze $1\frac{5}{8}$" long, which is drilled to receive oil, oscillates on the piston pin.

Connecting Rods

Drop forged steel; plain and forked type, "I"-beam section, light and stiff; machined all over. Both rods are assembled on one large crank pin bearing. Length of rod from center to center, $12\frac{1}{2}$". Forked rod clamps on bronze-backed, babbitt-lined bearing, and operates piston in the left hand block. The plain rod oscillates on the outside diameter of the same bearing, and operates the piston in the right hand block. The upper end of each rod carries a large phosphor bronze piston pin bearing, which is drilled to receive oil for lubrication.

Crankshaft

Drop forged from a solid bar of steel; all bearings ground to very close limits and carefully polished to remove grinding wheel marks. The connecting rod bearings are 2" in diameter, and 2½" long, giving a gross bearing area of approximately 15.7 square inches for each rod. The 5 bronze-backed babbitt-lined crankshaft bearings are precisely fitted to the crankshaft to prevent undue initial wear and to insure a proper film of oil. Variation in alignment of the 5 bearings is kept within exacting limits thereby reducing friction to a minimum. The conventional practice is to fit the crankshaft bearings tightly and limber them up with a belting-in machine. In the Lincoln engine unusual stiffness of the crankcase and the precision of alignment permit the crankshaft of a new engine to be spun easily with the fingers. The design provides a liberal bearing on each side of every crank throw, and a total gross bearing surface of approximately 72¼ square inches.

The over-all length of the crankshaft is 32⅛".

Crankshaft bearing sizes, beginning with the front bearing, are:

No. 1	2¾" long
No. 2	1½" long
No. 3	2¼" long
No. 4	1½" long
No. 5	3½" long

All bearings 2" in diameter (including connecting rod bearings).

Note

These liberal bearings tend to eliminate vibration and to reduce wear to a minimum. Crankshaft has oil ducts, through which oil is forced to the connecting rod bearings. The crankshaft is put in running balance and the assembled crankshaft flywheel and clutch ring are put in static balance.

Flywheel

Drop forged steel, machined all over, 16" diameter, with teeth cut around periphery for meshing with starting gears. The crankshaft, which has previously been put in running balance and the flywheel, which has previously been put in static balance, are bolted together, doweled and finally put in static balance.

Valves

Sixteen chrome silicon alloy steel, poppet type, entirely enclosed with readily removable valve covers. Valves set at an included angle of 60° and operated by one camshaft having an individual cam for each valve.

Diameter of intake and exhaust valves 1¾"; lift, $\frac{5}{16}$".

Valves operate in specially hard fine grain cast iron guides, having a gross bearing surface of 5.3 sq. in.

Valve springs are of special alloy steel, scientifically heat treated and tempered, and are individually tested for the proper compression.

End of valve stem has an accurately ground plane surface for proper contact with the adjustment screw in the valve lifter.

Valves (Cont'd)

Valve lifter operating the valve is removable and is of the roller type, thoroughly lubricated by the spray in the crank case. It combines a specially designed roller construction and exceptionally ample bearing surfaces and operates in steel guides which are accurately ground to receive them, and have a gross bearing surface of 9 sq. in.

Adjustment for valve clearance is provided in Valve Lifter by hardened adjustment screw, the head of which is ground accurately to a very slight radius for contact with the plane surface on end of valve stem, to insure continuance of proper contact as adjustments are made. Provision is made to lock this adjustment by a check nut.

Camshaft

The camshaft is driven by a silent chain from the crankshaft sprocket.

The over-all length of camshaft is 32¼" approximately.

It is fabricated from solid bar of steel, and drilled its entire length to provide for oil supply under pressure to each bearing.

The weight of the rough bar of steel from which the camshaft is made is 37 pounds. After the 54 operations involved in its making have been completed, the finished camshaft weighs 10 pounds approximately.

Cams and bearings hardened, accurately ground to exact dimensions and polished to remove wheel marks. The camshaft operates the 16 valves. This is accomplished by setting the right cylinder block ahead of the left cylinder block 1/8" thereby providing a cam for each valve, without affecting the interchangeability of the cylinders or any valve mechanism parts. The camshaft has 6 unusually ample bearings, which run in phosphor bronze bushings, insuring long life, without adjustment. Beginning at the front, or No. 1 bearing, the sizes are as follows:

	Diameter
No. 1	1¼"
No. 2	2"
No. 3	2"
No. 4	2"
No. 5	2"
No. 6	1 3/16"

The total gross bearing surface is 49¼ square inches approximately.

Timing Sprockets and Chain

Sprockets, with accurately cut teeth to insure quietness; driven by silent chain from crankshaft; chain is provided with exterior adjustment actuating an eccentric bearing by which any wear in chain can be compensated for. A conveniently located opening permits inspection of the silent chain without removing the cover. The chain, sprockets and driver for water pump generator shaft are lubricated by oil forced under pressure. Oil vapor from the crank case also assists in lubrication of the sprockets and chain.

The silent chain is driven by the crankshaft sprocket, and drives the camshaft and water pump generator shaft. The silent chain construction is conceded to be quieter than gears, also wear can be compensated for. Driving strains are more uniformly distributed.

Cooling System (Cont'd)

drains the entire cooling system, except condenser tank, which has a drain plug in its front water connection.

The capacity of the cooling system is approximately 7¾ gallons.

Fan

A six-blade fan, 20" in diameter, mounted on ball bearings, and driven by a belt from a pulley keyed to the camshaft provides air to cool the water passing through the radiator. An adjustment for tightening the belt is provided.

The leather fan belt permits slippage of the fan at high engine speeds, thereby conserving H. P. It is estimated that 9 H. P. would be required to drive the fan at the highest engine speeds, without any beneficial results. Under ordinary driving condition the fan consumes about 2 H. P.

Condenser

The condenser is connected to the radiator overflow pipe, and is located at the left side of the frame underneath the front floor boards, where air currents can quickly cool the liquid contained in it. Cooling liquid, which has evaporated in the upper radiator tank and would otherwise be lost as vapor passes into and through the cooler liquid in the condenser reducing it to liquid again, thus preventing the loss of expensive anti-freeze solutions. Upon cooling a partial vacuum is formed in the radiator whereby the liquid in the condenser is automatically drawn back into the radiator for re-circulation.

Thermostatically-Controlled Radiator Shutters

Horizontal radiator shutters are automatically controlled by a thermostat consisting of a flexible metallic bellows which is actuated by chemicals which vaporize and condense with changes of temperature.

When the cooling liquid in the radiator reaches a temperature of approximately 165° the chemical which is contained in the outer shell of the thermostat vaporizes and the consequent pressure actuates the metallic bellows which resembles an accordion and through a suitable leverage opens the horizontal shutters. This thermostat is capable of exerting a pressure of approximately 90 lbs. When the temperature of the cooling medium drops to approximately 145° the pressure produced by the vaporized chemical is materially reduced due to condensation of the chemical vapor and a reacting spring tends to close the shutters proportionately.

Fuel System

Carburetor 1½" opening, mounted on intake manifold between cylinder blocks. Plain tube type; eliminates spring operated air valves, making action positive. Vacuum tank specially large size, attached to dash. Main tank carried at rear of chassis by 3 strong brackets, 20 gallons capacity, including 2 gal. reserve and equipped with gauge. Transfer valve for reserve is arranged in such a manner that on refilling main tank a reserve is assured without voluntary action on part of driver. Tank made of terne plate with baffle plates, and can be filled without marring body. Suction of the pistons draws the fuel from the main tank to the vacuum tank. The fuel then feeds by gravity from the vacuum tank to the carburetor; fuel shut-off valve provided in gasoline line behind dash between vacuum tank and carburetor. Drain valve and settling chamber provided between the main tank and the vacuum tank. Carburetor fitted with drainage tubes, carrying any excess fuel away from the engine if the carburetor is flooded.

Electro-Fog Generator

During the development of the Electro-Fog Generator, it was discovered that continual cranking of the engine either in warm or cold weather permits a large volume of raw gasoline to work by the pistons into the engine oil in the reservoir, diluting it and causing it to lose its viscosity or life. As a result the bearings, cylinders and in fact all working parts of the engine are subjected to unusual wear. It was found that continual cranking soon ran down the battery, making it necessary to resort to cranking by hand to start the engine. With the Electro-Fog Generator, the Lincoln engine starts quickly in cold weather. It conserves the battery energy, it eliminates dilution of the engine oil, and the owner is not annoyed because of continual cranking and failure to start when he is in a hurry to get away.

Description and Operation of Electro-Fog Generator

The Electro-Fog Generator consists of a heating element attached directly to the carburetor and a thermostatic switch mounted on the intake manifold. This switch is connected with the choke button on the instrument board. The lower floor of the carburetor is always filled with little puddles of gasoline. The Electro-Fog retort which carries the heating element consists of a coil made of chromium nickel wire and mineral wool which is packed around this coil of wire. The mineral wool is held in place and protected by a fine mesh screen. The heating element is insulated from the retort with the exception of one end. This is grounded on the retort and the other end is connected to the thermostatic switch on the intake manifold, and the switch in turn is connected to the battery.

The thermostatic switch is operated by the carburetor choke button and consists of a thermostatic strip of metal. When the carburetor choke is pulled out for starting in moderate weather, the Electro-Fog generator does not function, but when the weather is very cold the carburetor choke must be pulled all the way out to the fixed stop in order to make contact in the thermostatic switch so that the current from the battery will flow through the thermostatic switch and to the heating element in the retort.

This generates a highly combustible fuel fog and starts the engine quickly in cold weather. The metal thermostatic strip automatically breaks contact after the current has flowed through the heating element for ten to fifteen seconds, and if the choke button is left out the thermostatic switch will act as a circuit breaker and will automatically stop the flow of current to the heating element to conserve battery energy.

Choke button on instrument board enriches mixture, for cold weather starting.

Ignition System

Specially designed distributor with condenser located inside and high tension distributor head located on top of the breaker compartment; driven from a vertical shaft; individual ignition coil for each cylinder block; coils located under cowl. For all ordinary driving, the spark is automatically controlled. A manual spark control on steering wheel is provided for extremely high or low speed. High tension wiring enclosed in manifold.

All electrical fittings are carefully designed to be the best for their individual requirements.

All circuits protected by automatic re-setting circuit breakers.

Clutch

Multiple dry disc type, with ample friction surface; fully enclosed; self-contained; mounted on annular ball bearings; 7 driving discs, lined with friction fabric; 8 plain driven discs of saw blade steel. Clutch engagement made through ball thrust bearing operated by forked lever on clutch pedal shaft. Simple exterior adjustment for compensating clutch wear. The driving discs slide on teeth cut on the inside diameter of the clutch ring. The driven discs slide on teeth cut on the outside diameter of the clutch drum. One of the driving discs is provided with a series of compensating teeth thus insuring noiseless operation with minimum wear.

The clutch pedal leverage is so proportioned that clutch operation is easy. Occasionally lubrication is necessary for ball release thrust bearing but usually only after long intervals of service.

Control

Left-hand drive, levers in center of car, mounted on transmission cover, forward of the driver's seat. Gear shift lever mounted on spherical joint, provided with Yale lock which may be operated when lever is in neutral position. Lower end of gear shift lever engages with hardened and ground shifter bars. Shifter bars carried in hard bronze bushings. Clutch pedal for left foot; brake pedal for right foot; accelerator for right foot; starter button for right foot. Manual spark and throttle control levers are on top of steering wheel. Carburetor choke adjustment is on instrument board, all within easy reach of the driver.

Transmission

Three speeds forward and one reverse. Gear ratios; high, 1 to 1 or 100%; intermediate, 56.7% of high; low, 32.4% of high; reverse, 27.3% of high.

Selective gear type, drop forged steel gears; hardened and heat-treated, with engaging ends of gear teeth rounded to insure easy quiet shifting.

The main transmission shaft is of the splined type instead of square, and runs on an annular ball bearing at the rear end. Front end pilots into a roller bearing in the end of clutch shaft. The countershaft gears are mounted on two adequate roller bearings. Gears are cut to unusual accuracy to insure quietness of operation. The transmission case bolts directly to the rear end of the crankcase, and completely encloses the transmission gears and clutch. The refilling of the gear compartment with lubricant, is necessary only after long intervals of service.

Starter Generator

Special type; 6 volt, single unit generator third brush type of regulation; entire unit self-contained, with no auxiliary regulators, cut-offs, or starting switch required. Starter mechanism operated by conveniently located foot pedal.

Battery

Six volt, 3 cell, 135 ampere hour capacity; located at right side of frame under dust shield; removable cover makes accessible.

Wiring

Single wire, grounded return system used; chassis and body wiring separate units enabling the changing of bodies without disturbing the wiring, except to disconnect on the outside of the dash. All wiring of ample size, best insulation, enclosed in flexible metal conduit or otherwise suitably protected wherever exposed.

Universal Joint

One only—cross and yoke type; hardened and heat-treated steel; accurately ground; fitted with hardened renewable bushings; completely enclosed in ball and socket joint at rear of transmission. Lubricated semi-automatically by transmission, and usually needs attention only at long intervals.

Torque Tube and Ball and Socket Joint

Torque tube completely encloses propeller shaft, connects rear axle with ball and socket joint at rear end of transmission. This ball and socket joint thus takes all of the car drive, and also serves to resist the torque of rear axle. Brace rod attached to front of the torque tube and near the rear spring seats, serve to hold the rear wheels in alignment.

Propeller Shaft and Speedometer Drive

Propeller shaft, tubular type, mounted on a roller bearing at front end; rear end coupled with rear axle pinion shaft through splined coupling.

Speedometer driven from the propeller shaft through spiral gears, semi-automatic lubrication from universal joint. This method of drive is strong and positive, and usually requires attention only at long intervals.

Rear Axle

Full-floating, spiral bevel gear type, having reinforced pressed steel housing which carries the weight of the rear end of the car. Removable rear cover gives access to differentials and bearings; differential is of bevel pinion type, mounted on roller bearings; pinion shaft mounted on roller bearings, all the roller bearings adjustable. The axle shafts function solely to transmit power from the differential to the wheels and are fitted with grease retainers to prevent grease leaking around the wheel hubs.

Each rear wheel is carried on two roller bearings, easily adjustable, which are mounted on the exterior of the reinforced pressed steel axle housing and carry the weight of the rear end of car. All gears and shafts heat-treated and hardened. For rear axle gear ratios see table in back of book. A filler plug for lubricant is provided in the rear cover of the axle housing. This plug is located at the overflow level, making it very simple to fill axle to proper level and preventing any possibility of an oversupply of lubricant.

Brakes

There are two systems of brakes employed, both acting on the rear wheel brake drums. The hand brake is of the internal expanding type, $2\frac{1}{2}$" wide with $\frac{3}{16}$" lining. The foot brake is of the external contracting type, 3" wide with $\frac{3}{16}$" lining. Both brakes operate through equalizers and act on 16" diameter wheel brake drums. Both the internal and external brakes can be adjusted to compensate for wear without removing the wheels.

Steering Gear

Semi-reversible, worm and sector type; hardened and heat-treated; American black walnut notched steering wheel; 18" diameter aluminum spider; wheel of tilting design; ball and socket steering gear connecting rod; with reaction springs to absorb violent road shocks; all parts fully adjustable, and lubricated through convenient pressure lubricating system.

Front Axle

Drop forged, heat-treated steel; "I"-beam section; steering knuckles mounted on roller bearings and 2 plain bearings, thus insuring ease in steering. Tie-rod, adjustable at both ends for wheel alignment, located behind axle, and fully protected.

Springs

Front and rear semi-elliptic, finest quality Silicon chrome Manganese steel scientifically heat-treated giving an elastic limit exceeding 190,000 lbs. per square inch, ultimate strength of over 200,000 lbs. per square inch with an elongation of over 9% and over 25% reduction of area. These physical characteristics are over 25% better than we are able to obtain from any other spring steel.

As a consequence Lincoln springs have been made extremely light and flexible; springs of equal flexibility and equal factor of safety in any inferior material would weigh 25% more and the life of the spring would be approximately one-third less.

The front spring is 39 inches long and 2¼" wide; rear spring 60" long and 2½" wide. Rear spring seats underslung, oscillating on rear axle. Rear springs are shackled on both ends by means of extra large hardened and ground shackle bolts, moving in hard bronze bushings, pressed into frame and springs. This construction, together with the manner in which the drive is taken through the torque tube, releases the springs from any duty, except that of absorbing road shocks, thus insuring unusual riding comfort.

Chassis Lubrication

Hand pressure system. Supplies the pressure necessary to force lubricant through bearings. All connections brought to easily accessible points.

Frame

7½" tapered steel channel, ⅜" thick; reinforced in region of engine and steering column; five cross members, three of which are tubular design fitting into splined brackets hot-riveted to the frame, thus insuring rigidity; all holes in frame members are drilled, and not punched, eliminating any possibility of fracture due to punching. Frame is gradually tapered from the rear to the front, thus eliminating offsets, providing a frame narrow at the front, permitting the car to be turned in less space than usual for cars of same wheel base.

Wheels

Spokes second growth hickory; 12 spokes front and rear; "Sherardized" rust-proof steel felloe; each wheel mounted on 2 roller bearings and fitted with demountable rims.

Tires

Cord, 33 x 5 Standard equipment, 4 tires.

Rims

Straight side demountable, "Sherardized" to prevent tires from rusting on rims. 5 rims included in standard equipment.

Bodies

The finest of materials and workmanship are used in the construction of all bodies.

Upholstering

Open type body—finest grade, black, handbuffed, long grain, bright finish leather.

Enclosed body types—choice of upholstery fabrics shown in Lincoln sample book. Highest grade cushion springs and curled hair are used in upholstery of all body types.

Finish

The following painting operations are used in the finishing of all body types:

1 Priming coat
2 Coat of lead
3 Putty glaze
4 First rough stuff coat
5 Second rough stuff coat
6 Third rough stuff coat
7 Fourth rough stuff coat
8 Fifth rough stuff coat
9 Rub out of rough stuff
10 Sand and sealer coat
11 Preparation coat
12 First color coat
13 Second color coat
14 First color varnish
15 Oil sand
16 Second color varnish
17 Rub out of second color varnish
18 Third color varnish
19 Rub out of third color varnish
20 Clear rubbing varnish
21 Rub for finish
22 Striping
23 Finish varnish

Ventilators

Easily adjusted ventilator located on top of cowl provided for front compartment of all body types.

Fenders

Pressed steel, semi-crowned type, with beading; very rigid; high temperature baked enamel finish.

Instrument Board

80-mile speedometer; clock; oil pressure gauge; cigar lighter; ammeter; carburetor choke; instrument board lamp; ventilator operating knob; ignition and lighting switch, with Yale lock and key. All instruments conveniently located within easy reach of the driver, and can be readily seen from the driver's seat.

Lamps

Especially designed nickle plated lamps are furnished with the Lincoln, including a nickle plated combination tail and stop light. Headlamps are of drum type, nickle plated, and are provided with Bausch & Lomb Lenses and tilting reflectors operated from driver's seat, permitting lamps to be tilted and full force of light is thrown directly in front of car, while relieving approaching driver entirely of objectionable glare. Tonneau lamp in touring car and phaeton is controlled by hand switch in tonneau above lamp and is operated by a doorswitch controlled by right side tonneau door. The tonneau lamp is connected on other light circuits so as to avoid operation in day time.

Handy Lamp

A handy lamp with extension cord is provided as part of regular tool equipment. Dash and tail lamps in series to give indication should the tail lamp go out. Dome lamps provided in all enclosed bodies, connection provided on under edge of instrument board to attach handy lamp, spot light or other accessories.

Lamp Bulbs

All lamp bulbs used are single contact base. The headlamps are of 21 candlepower and 6 volts; dash and tail lamps are of 2 candlepower and 3 volts. All other lamps are of 4 candlepower and 6 volts.

Horn

Electric, motor driven, under hood; button in center on top of steering wheel.

Top

Exceptionally neat design. Plate glass windows in rear, with improved method of suspension. Top rests clamps supplied as standard equipment, carried under seat, with special socket wrench in tool kit.

Top Curtains

Storm tight. Protected openings provided in front door curtains for signalling. Curtains open with doors. Carried in pockets easily accessible without disturbing passengers. Each curtain marked to indicate its position.

Tire Pump

Power pressure pump driven from transmission. Lubrication automatic. Operated by turning vertical shaft (which appears through opening in front floor board near gear shift lever) with screw driver. Connection for air hose located in heelboard under driver's seat and provided with a dust cap.

License Plate Brackets

Provided for front and rear.

Tools

Tools for emergency use are supplied. All tools of very best quality, especially adapted for Lincoln cars.

Tire Carrier

Of advanced design, supported at rear of car by three drop forged steel brackets. Will carry either one or two tires with rims. Provided with Yale security lock.

Running Boards

Sheet steel base, linoleum cover and aluminum bound; removable door in right running board dust shield exposes battery; small hinged covers in shields expose convenient lubricating connections for rear axle connections, otherwise inaccessible.

Speedometer

80-mile, with eight-day clock combined under a single glass. Clock shows small red dot on left side of dial when in need of winding. Speedometer drive effected from forward end of propeller shaft through two spiral gears, lubricated by overflow from universal joint.

Turning Radius

136″ wheel base chassis for all models.
21 feet to the right.
24 feet to the left.

This means the car can make complete circle to the right in a street 42 feet wide or to the left in a street 48 feet wide.

Locks

One key is common to all Yale locks on any one car, including ignition switch, transmission lock, tire carrier lock, tool locker, locks right and left hand front door pocket locks, and exterior door locks on enclosed cars.

Shipping Weight

7-Pass. Touring Car	4290 lbs.
4-Pass. Phaeton	4215 lbs.
2-Pass. Roadster	4050 lbs.
5-Pass. Coupe	4380 lbs.
4-Pass. Sedan	4375 lbs.
5-Pass. Sedan	4600 lbs.
7-Pass. Sedan	4660 lbs.
7-Pass. Limo.	4720 lbs.
Chassis 136″	3205 lbs.

Disteel or Wire Wheels

Set of 5 or 6 of above type wheels supplied as special equipment at extra cost, includes suitable spare wheel carrier.

Chassis Specifications

Shipping chassis for body builders.
Standard, 136″ chassis.
Gear ratio, 12:55.
Rear springs, 1450 lb. load.
Steering gear, 40° 15′ angle.
Hood finished in primer coat.
Wheels in primer coat.
Front fender, black enamel.
Rear fender, touring car type, untrimmed, in primer, reinforcement loose.
Lock sets for 7-Pass. closed body.

Transmission Ratios

High—Direct
Intermediate—56.7% of high
Low—32.4 of high
Reverse—27.3% of high

Rear Axle Ratios

(a) 12:55—4-7/12 to 1
(b) 13:55—4-3/13 to 1

Lincoln Service Policy

The Service Organization that has been placed behind Lincoln motor cars is World Wide in Scope. It provides for Lincoln Owners the most Convenient and Adequate Service Facilities that are Available in the High-Priced Car Field.

Ford Dealers

For the convenience of Lincoln car owners, the entire Ford Dealer Service Organization is prepared to assist in keeping Lincoln cars at the highest point of efficiency.

Trained Mechanics

Thousands of Ford dealers in the United States alone are being equipped with specially trained Lincoln service men, competent to make systematic inspections and the minor adjustments such as are listed on the back page of this folder.

Length of Service

For a period of four months from delivery date of each new Lincoln car, all necessary service work to keep it in first-class condition will be performed free of charge by the dealer from whom purchased, providing such work is not necessitated by accident or neglect.

Classification of Work

This service includes a thorough general inspection, renewing the oil in the crankcase, and a thorough lubrication of the chassis at regular intervals, for which there will be no charge for either labor or material.

Equipment

It is not the intention of the Ford Motor Company that all Ford dealers be equipped to do major repair work and overhauling. Such a procedure would be as impracticable as it is unnecessary. Adequate provision is made, however, whereby work of this kind can be done, when necessary, by the dealers in each territory who are especially fitted to handle it in a manner that is in keeping with the character of the product.

Lincoln Owners

Lincoln owners may confidently enter any Ford dealer's place of business and be assured of prompt, courteous and intelligent treatment by an organization with a personal interest in their welfare. This is the most extensive and complete service plan in the world behind a high-priced car.

Distinctive Features of Lincoln Motor Cars

Motor Design.

The designers of Lincoln Motor Cars were among the first builders of eight cylinder cars in this country, and their efforts did much to pioneer and perfect the eight cylinder motor to its present state of perfection. Thus, the Lincoln engine includes every proved development of eight cylinder motors, and several new, distinctive features, the most important of which is the fact that the two rows of four cylinders are set at an angle of *60 degrees*, instead of 90 degrees, as is customary in other "eights," reducing vibration to an almost negligible point.

Five Bearing Crankshaft.

Unlike most crankshafts in eight cylinder cars of conventional design which are usually provided with only 3 main bearings, the scientifically designed crankshaft in the Lincoln, operates on *five* main bearings, with a total bearing surface of 72¼ inches. This feature and the fact that the crankshaft is built in *absolute balance*, further reduces engine vibration and makes for unlimited smoothness in operation.

Precision Manufacturing.

In the Lincoln Plant, (one of the very finest in the country) the most rigorous inspections are in effect, to insure absolute accuracy in manufacturing. Especially are pistons, connecting rods, and all small parts, measured and weighed so that they are true to the thousandth of an inch, and balance to the fraction of an ounce.

Custom Bodies.

The wide variety of body styles, interior upholstering, finishes, and the colors in which standard Lincoln Cars are furnished, gives Lincoln owners a car that is practically custom built. In addition, the Ford Motor Company furnishes, when desired, the famous Judkins, Brunn, Holbrook and Fleetwood custom built bodies for motorists desiring distinctiveness to the last degree.

Roadability.

The 136 inch wheelbase—the 7¼ inch tapered frame with five cross members—the semi-elliptic springs of finest quality Silicon Chrome Manganese steel, combined with the closest attention to scientific balance and design, give the Lincoln a certain poise on the road not duplicated in any other car.

Lincoln Custom-Built Closed Cars

Lincoln custom-built enclosed body types are especially designed to provide exclusive equipment for exacting purchasers of quality motor cars. In appearance and appointments they represent the very latest developments known to Europe and this country.

These special bodies are built in extremely limited quantities and are provided in six types, each of which affords the highest degree of luxurious motor car transportation. They are exceptionally fine in design and workmanship, being produced by three of the foremost custom body builders, the Fleetwood Metal Body Company, Fleetwood, Pa., Brunn & Company, Buffalo, N. Y., and the J. B. Judkins Company, Merrimac, Mass.

Custom-Built Economy

These builders enjoy national reputations for their creative ability in designing and producing the very finest in coach work. Because they have been selected by this company and are devoting their attention largely to Lincoln custom body work, the bodies are offered at substantially lower prices than would be possible if individual purchasers were obliged to place separate orders.

All Lincoln custom bodies are mounted on the standard, eight cylinder, 136″ wheel base Lincoln chassis. They combine exclusiveness with luxury and offer to discriminating purchasers motor cars that are unsurpassed for ability to perform, ease of riding and those features which contribute most to complete motoring satisfaction.

The Complete Custom-Built Line

Lincoln custom-built enclosed cars are offered in the following models:

Lincoln 7-pass. inside drive Limousine—body by Fleetwood.
Lincoln 4-pass. Berline—body by Judkins.
Lincoln 2-pass. Coupe—body by Judkins.
Lincoln open-drive Limousine—body by Brunn.
Lincoln Town Car—body by Brunn.
Lincoln Cabriolet—body by Brunn.

All these Lincoln custom-built cars are provided in a variety of many beautiful color schemes, with imported and domestic broadcloth upholstering to harmonize, or, if desired, in some cases, the purchaser may specify his own individual preference. Wood wheels are standard equipment on all Lincoln custom-built enclosed cars, unless otherwise specified.

LINCOLN

NEW RADIATOR AND HOOD

Changes recently made in the hood and radiator design add greatly to the attractiveness of the Lincoln car. While they could by no means be considered radical changes, they come within the Ford policy of making such changes from time to time as are deemed advisable to improve either the appearance or efficiency of Ford products.

Raises Hood 1½ inches

The new radiator is higher from base to top, raising the hood one and one-half inches. This gives stronger and more graceful lines to all Lincoln body types, and produces a pleasing effect throughout the entire length.

Radiator Design

The design of the radiator has also been strengthened by the increased height as well as by changing the shutters of the thermo-static control so that they open from top to bottom instead of from side to side. Another feature is the nickel radiator shell which is supplied as standard equipment.

New Name Plate

A change has also been made in the name-plate, resulting in a design that is much more attractive. The new plate carries the word "Lincoln" across the center, with the word "Ford" in small script above, and "Detroit" below.

SPECIFICATIONS

Specifications	*Lincoln*	*Cadillac*	*Packard*	*Pierce-Arrow*
Touring price F. O. B. Factory	$3800.00	$3085.00	$3850.00	$5250.00
Engine make and model	Own	Own	Own	Own
Engine Type	L	L	L	T head dual valve
Number of cylinders	8	8	8	6
Taxable horse power	36.4	31.25	36.4	38.4
Bore and stroke	3 3/16 x 5	3 1/16 x 5 1/16	3 5/16 x 5	4 x 5 1/2
How are cylinders cast	In fours	In fours	En bloc	En bloc
Front end drive and width chain	Morse–1 1/2"	Morse–1 3/4"	Morse–1 1/2"	Helical Gears
Cooling system type	Pump—thermostatic shutters.	Pump with water thermostat.	Pump with water thermostat.	Pump with water thermostat.
Capacity cooling system	8 gallons	6 gallons	5 1/2 gallons	6 1/2 gallons
Make of radiator	McCord	Own	Fedders	
Type of oiling system	Force and splash	Force and spray	Force and splash	Pressure variable with load and speed.
Capacity of oiling system	9 quarts	7 quarts	6 1/2 quarts	10 1/2 quarts
Carburetor make and size	Stromberg—1 1/2	Own—2	Own	Own
Main gas tank capacity	20 gallons	20 gallons	21 gallons	26 gallons
Make or type fuel feed	Stewart Vacuum	Pressure	Stewart Vacuum	Pressure
Ignition make and spark control	Delco—semi-automatic cont.	Delco—automatic control	Delco—semi-automatic cont.	Dual Delco Special
Starting and lighting	Delco	Delco	Owen-Dyneto	Delco
Type of clutch	Multiple disc	Multiple disc	Multiple disc	Multiple disc
Transmission location and number of speeds	Gear set in unit with motor—3 speeds	Gear set in unit with motor—3 speeds	Gear set in unit with motor—3 speeds	Gear set amidships—3 speeds
Gear ratios—1st speed	3.09	3.12	3.31	3.45
Gear ratios—2nd speed	1.76	1.70	1.07	1.73
Final gear ratio	4.58	4.50	4.70	4.28
Number propeller shaft universals	1	2	2	2
Rear axle type	Floating	Floating	Semi-float.	Semi-float.
Type of brakes	Internal and external	Internal and external	Internal—only	Internal and external
Wheel base	136"	132"	136" & 143"	138"
Tire size	33" x 5"	33" x 5"	33" x 5"	33" x 5"
Wheels type	Wood	Wood	Disc	Wood
Length of rear springs	60"	54"	54"	61 1/4"
Type of rear springs	Semi-elliptic	Platform	Semi-elliptic	Semi-elliptic
Steering type	Worm and wheel	Worm and Sector	Worm and nut	Screw and nut
Weight of touring car	4290 Lbs.	4270 Lbs.	4130 Lbs.	4500 Lbs.

SPECIFICATIONS

Specifications	*Lincoln*	*Cadillac*	*Packard*	*Pierce-Arrow*
MOTOR SPECIFICATIONS				
Piston displacement	357.8	314.4	357.8	414.68
Brake horse power—curve peak	95 at 2800 R. P. M.	—at 3000	84 at 2600	105
Cylinder bore finish	Ground and horned	Ground	Ground	Ground
Crankcase material	Aluminum		Aluminum	Aluminum
Piston material	Special aluminum alloy	Cast iron	Cast iron	Cast iron
Crankshaft drilled for oil	Yes	Yes	Yes	Yes
Number crankshaft brgs.	5	3	7	7
IMPORTANT UNITS OF STANDARD EQUIPMENT				
Fan belt	Dayton	None	Graton and Knight	Yes
Length and width of brake lining—service	49¾ x 3	54 x 2½	32⅞ x 2	51⅛ x 3¼
Rims	Kelsey	Kelsey	Various	Pierce-Arrow Firestone
Chassis lubricator	Alemite	Alemite	Zerk	Dot system
Speedometer	Waltham	Stewart	Stewart	Waltham
Power tire pump	Kellogg	Hand	Hand	Yes
Clock	Waltham	Elgin	Waltham	Waltham
Gasoline gauge	Boston Automobile Gauge Co.	Nat. Gauge and Equip. Co.	Grolan on dash	Yes
Windshield cleaner	Trico	Folberth	Perfection	Yes—both sides of windshield
Cigar lighter	Cuno	Cuno	Cuno	Closed cars—yes
CHASSIS UNITS—MAKE				
Clutch	Own	Own	Own	Own
Transmission	Own	Own	Own	Own
Universal	Spicer	Spicer	Spicer	Spicer
Axles	Timken	Own	Own	Own
Differential	Timken	Own	Own	Own
Steering gear	Own	Own	Own	Own
Wheels	Kelsey	Kelsey	Disteel	Own
Frame—width side rail	8	7	8	7
Frame—thickness of met.	¼"	¼"	¼"	¼"
Frame—number cross members	5	7	8	7
MAKE OF ELECTRICAL EQUIPMENT				
Starting and lighting	Delco	Delco	Owen-Dyneto	Delco
Head lamps	Hall	Hall	Hall	
Side lamps	Own	Hall	Own	None
Horn	Kellogg	Klaxon	Spartan	Klaxon
Storage battery	Exide	Exide	Willard	Willard

Lincoln Motor Car Prices

February, 1924

STANDARD TYPES

Model	List	Freight & Del'v	Tax	Price Delivered
7-P Touring.	3800	....	....	.....
4-P Phaeton.	3800	....	....	.....
2-P Roadster	3800	....	....	.....
4-P Coupe...	4400	....	....	.....
4-P Sedan...	4600	....	....	.....
5-P Sedan...	4700	....	....	.....
7-P Sedan...	4900	....	....	.....
7-P Limous's	5100	....	....	.....
Chassis.....	3400	....	....	.....

BALLOON TIRE EQUIPMENT

Wheel Diameter 21" Tire Size 6.60

5 Wire Wheels and 5 Tires – $200.00
6 Wire Wheels and 6 Tires – 260.00
5 Disc Wheels and 5 Tires – 140.00
6 Disc Wheels and 6 Tires – 180.00

CUSTOM BUILT BODY TYPES

Fleetwood Bodies f.o.b. Detroit, Mich.

7-P Limous's	5800	....	....	.....

Brunn Bodies, f. o. b., Detroit, Mich.

Open Drive Limous's.	6200	....	....	.....
Town Car	6200	....	....	.....
7-P Cabrio't	6200	....	....	.....

Judkin Bodies f.o.b. Detroit, Mich.

2-P Coupe...	4900	....	....	.....
4-P Berline..	5200	....	....	.....

Factory Special Equipment Prices

The following items of special equipment, when included in specifications for body types, will be furnished at the list prices indicated, plus excise tax:

Natural wood wheels	15.00
Set of five Rudge-Whitworth Wire Wheels—Black Enamel	100.00
Set of six Rudge-Whitworth Wire Wheels—Black Enamel	140.00
Set of five Disteel Wheels to match body	40.00
Set of six Disteel Wheels to match body	60.00
Extra rims, each	5.50
Biflex Bumpers (Nickel)	30.00
Rear Fender Guards	26.00

Lincoln Models, Current and Discontinued

Type		Pass.	Wheel Base	Weight
*101	Touring	7	130	4185
*102	Roadster	3	130	3950
*103	Touring	5	130	4135
*104	Coupe	4	130	4140
*105	Sedan	5	130	4385
*106	Limousine	7	136	4590
*107	Town Brougham	7	130	4410
*108	Sedan—without partition	7	136	....
*109	Town Car	7	136	4425
*110	Sedan—with partition	7	136	....
111	Roadster	2	136	4050
*112	Phaeton	4	136	4155
*113	Sedan, 2 and 3 window (Judkins)	4	136	4375
*114	Sedan (Judkins)	7	136	4490
*115	Limousine (Judkins)	7	136	....
*116	Sedan (Fleetwood)	7	136	4490
117	Sedan	7	136	4660
118	Limousine	7	136	4720
*119	Limousine (Fleetwood)	7	136	4785
120	Town Car (Brunn)	7	136	4475
121	Limousine—outside drive (Brunn)	7	136	4500
122	Chassis—for custom bodies		136	3205
123	Phaeton—with trunk	4	136	4215
124	Touring	7	136	4290
125	Sedan—2-window	4	136	4375
126	Coupe	5	136	4380
127	Sedan—3-window	4	136	4375
128	Sedan—Berline (Judkins)	4	136	4510
129	Sedan	5	136	4600
131	Cabriolet (Brunn)	6	136	....
702	Coupe (Judkins)	2	136	4200

*Discontinued.

Special

Special

The Ford International Weekly

THE DEARBORN INDEPENDENT

Trade-mark Reg. U. S. Pat. Office

Published by

THE DEARBORN PUBLISHING CO.

Dearborn, Michigan

HENRY FORD, President

C. J. FORD, Vice-President

E. B. FORD, Secretary-Treasurer

W. J. CAMERON, Editor

Entered as Second-Class Matter at the Post Office at Dearborn, Michigan, under the act of March 3, 1879.

A Great International Magazine of Practical Interest

Henry Ford founded *The Dearborn Independent* as an international weekly more than four years ago. During this period it has forged steadily ahead and is now recognized as the foremost non-fiction weekly magazine published.

The Dearborn Independent is America's most fearless publication. It strikes at the heart of things, exposing bad conditions in all phases of our national life.

To the Farmer in particular, *The Dearborn Independent* makes a special appeal. Mr. Ford's attitude toward the farming industry is well known. He is the farmer's friend. Through the development of the light weight tractor, power farming is today a reality and the drudgery and disadvantages of farm life are fast disappearing. But complete economic freedom will only come when the farmer is in a position to see that his industry receives proper consideration and support from the legislative bodies.

The Dearborn Independent is doing its share in presenting the view point of the farmer before the people of this country and every farmer can profit immensely by keeping in touch with the ideas and suggestions for betterment which are constantly being advanced in this progressive weekly.

Subscription

Like other Ford products, *The Dearborn Independent* offers the greatest value for the money. Fifty-two issues, 832 pages of intensely interesting reading for every member of the family, $2.00 yearly.

No Advertising and not Propaganda

The Dearborn Independent is a weekly magazine devoted to the gathering and printing of dependable information on a great variety of subjects. It looks smaller than other magazines, because

it takes no advertising, but really it contains more reading matter than most weeklies.

The contents of a single issue frequently contain information of such value that it more than pays for the year's subscription.

Mr. Ford's Own Page

Mr. Ford's frank talks on business topics, his ideas regarding labor and world problems, are full of interest to all. Many readers find this page the most popular feature of the magazine.

Maintaining American Ideals

The international discussions in *The Dearborn Independent* give a truthful account of great affairs and movements that affect American citizens and interest. At all times, it strives to maintain and strengthen the ideals of America.

Independent Political Views

This is the one great weekly that discusses the political questions of the day in an independent spirit, free from the pull and influence of powerful interests that exercise such tremendous control over other newspapers and periodicals. It is the one paper with the courage to print the truth.

Exposing Bad Conditions

In this fair America of ours, here and there, are bad conditions that should be exposed. This information is generally denied the public. *The Dearborn Independent* throws the spotlight on these conditions in truth-telling, informative articles.

Fearless, Frank Editorials

The interest-gripping editorials of *The Dearborn Independent* take up questions of the hour and moment in plain, understandable statements.

Problems of City and Country Life

The Dearborn Independent interprets the feelings of the people and throws light on the problems of country and city life. It seeks to promote a better understanding between the farmer and city man because each is dependent on the other, and the work of both is necessary to the welfare of the nation.

International News and Affairs

The great world affairs and news are reported and written by experienced newspaper men of high standing in their own countries—men who know the feelings of the people and understand as no one else the conditions in their own land.

Items of Interest

These are short, pithy paragraphs, giving in a few words the sum and substance of happenings throughout the world. They are briefly told and intensely interesting.

Originally Published

The Dearborn Independent was originally published twenty-two years ago at Dearborn, Michigan. Mr. Ford purchased it four years ago and founded *The Dearborn Independent International Weekly* which today is the most widely discussed publication in America.

Single Copies

Price 10 cents at the news stand, cost yearly $5.20—year's subscription at $1.50 saves $3.70.

Foreign Subscription Rates

U. S., Canada and Mexico, $1.50; England, $2.00. All other countries, $2.00.

Sample Copies

The Dearborn Publishing Company will furnish upon application a sample copy to any one so requesting.

Ford dealers can secure from *The Dearborn Independent* a sufficient number of sample copies for their needs, or, if names are sent by the dealer or salesman direct, sample copies will be forwarded to those interested.

Circulation

Over 350,000 Paid in Advance Circulation.

Subscriptions received have not fallen below a thousand per week since August, 1922. The following is a list of writers who have contributed to *The Dearborn Independent:*

W. H. Allen
Harry Barnet
John B. Barnhill
Sen. Wm. E. Borah
E. B. Chapman
Frank M. Chase
Earl Christmas
Chas. Albert Collman
Wm. P. Dacy
Jas. J. Davis
Harry H. Dunn
Wm. Atherton Du Puy
Albert B. Fall
Albert Sydney Gregg
Leach L. Harper
Roy A. Haynes
G. H. Heald
F. L. Hollingsworth
Fred L. Holmes
Frederic C. Howe
D. M. LeBourdais
Paul G. Lewis
Carl Schurz Lowden
Wm. A. M'Garry
Andrew Mellon
A. R. Pinci
Arvid Reuterdahl
Thos. E. Robertson
Chas. M. Sheldon
Dr. John R. Straton
Robert J. Thompson
Paul Tyner
Aaron H. Ulm
John B. Wallace
Joseph H. Walton
John W. Weeks
L. R. Winters
Walter M. Wolff

Instructions to be Followed in Taking Subscriptions to The Dearborn Independent

1. Write names and addresses plainly. In rural communities, be sure to put R. F. D. Route and Box Number. Always write orders on our order blanks. Report promptly in writing any complaint of subscribers or changes in addresses.

2. You may remit by postal order, express money order, personal check or draft. Cash or stamps should be sent in registered letter. Subscriptions will not be entered unless accompanied by remittance.

3. Fifty cents commission will be allowed to authorized subscription representatives on all yearly subscriptions whether domestic or foreign.

4. *The Dearborn Independent* is not to be clubbed with any other magazine at less than the regular subscription rate.

5. Subscriptions are not to be accepted for less than one year, 52 issues.

6. Each subscription must be taken at the full price, commission deducted, and remittance made to the branch under which dealer operates.

7. Subscriptions must be mailed in to the branch, within five days from dates received. This is important and prevents unnecessary correspondence.

8. Care must be taken to see that receipt books are not lost or damaged. Each book contains ten numbered receipts, which are charged to you. Should you discontinue representing us, receipt books and other material supplied must be returned promptly.

9. *Bulk Subscriptions.* Quantity subscriptions will not be accepted from any one individual or corporation, *where it appears that the subscriptions are intended as advertising propaganda.* We want only genuine reader subscriptions. This does not apply to bona fide gift subscriptions.

10. Subscriptions are subject to acceptance and approval by the Dearborn Publishing Co., Dearborn, Michigan.

11. Subscription territory is unrestricted. So far as possible, renewal subscriptions belong to the representative who originates the subscription.

Commission cannot be paid on subscriptions mailed direct to the Company unless accompanied by a written communication from the subscriber specifically requesting that it be paid to the subscription representative.

12. Subscriptions are entered on mailing list as soon as received and start the same week if entered by Wednesday. Subscriptions entered after Wednesday commence with the issue of the following week.

13. Subscriptions cannot be back dated. If subscriber wants previous issues we will furnish them at 10 cents a copy, when possible.

14. *Change of Address.* To receive copy without interruption, please observe the following:

1. Notify us at least two weeks in advance.
2. Give both *old* and *new* addresses.
3. Write clearly.

Ford Ammonium Sulphate

A Nitrogen Fertilizer

Another Ford Product

The Ford Motor Company's River Rouge Plant is the home of many different articles of manufacture. Tractors, automobile bodies, iron, steel, aluminum castings, lumber, paper, cement, pig iron, coke, benzol, tar and gas—all are made either to go into the manufacture of some Ford product, or to be sold as they are to the consumer under well known Ford policies and prices. Another Rouge product that will interest every farmer and farming community, and which is also being used very successfully on lawns, golf courses, orchards, etc., is now available,—a high nitrogen fertilizer, namely FORD AMMONIUM SULPHATE.

A Perfect Nitrogen Fertilizer

Ammonium Sulphate is a natural by-product of coke ovens. It has been manufactured and sold in increasing quantities as a direct fertilizer and for combining with other elements to form mixed fertilizers. It has been used by farmers successfully in United States and Europe for crops of all kinds. Ammonium Sulphate is a white crystalline substance that resembles table salt more than anything else. It carries from 20% to 21% available nitrogen.

Description

FORD AMMONIUM SULPHATE differs from the regular product in that it is put through a special drying and screening process, and the moisture reduced to 0.25% or less. This is not enough moisture to cause caking or lumping under normal conditions. A cubic foot of Ammonium Sulphate weighs roughly 53 pounds. A bushel weighs 66 pounds. The material is entirely soluble and one bushel will dissolve in five gallons of boiling water, or twice that amount of cold water.

Application

In general apply 100 pounds per acre to any crop that needs fertilization, depending, of course, on climatic and soil conditions. This can be drilled into the soil before seeding or before the plants are set. It may also be broadcasted and harrowed in when fitting the land, or part may be handled this way and the balance used as a top dressing after growth has started. It is successfully used dissolved in water in greenhouses for small gardens, etc. When used with irrigation pipes they should be flushed with clear water afterwards.

Can be Purchased Through Dealers

Arrangements have been made to supply FORD AMMONIUM SULPHATE through Ford Dealers, who will furnish further information, prices, delivery, etc., or communicate direct with Ford Motor Company, Detroit, Mich.

Uses of Ford Ammonium Sulphate

Top Dressing

Particularly suitable as a top dressing on land where nitrogenous material alone is required. In case of a tardy growth it will quickly start healthy growth.

Garden Use

For general garden use, FORD AMMONIUM SULPHATE should be sprinkled and raked into the soil, about one pound to every one hundred fifty square feet.

In Solution

FORD AMMONIUM SULPHATE can be used advantageously in a solution of one teaspoonful to a gallon of water for young, tender plants. Twice the strength may be used in the soil when setting out tomatoes, cabbage, peppers, etc.

Orchard Fertilization

FORD AMMONIUM SULPHATE is being extensively used for orchard fertilization, and it is found that the nitrogenous applications produce heavy yields.

Golf Courses

FORD AMMONIUM SULPHATE has become very popular in conditioning golf courses, and can be applied two to three times per year, at a rate not to exceed from six to ten pounds to one thousand square feet. It is thought by some that a wet application of FORD AMMONIUM SULPHATE will bring the best results.

Other Uses

For practically every vegetable or fruit grown, FORD AMMONIUM SULPHATE has big, fertilization value. Complete descriptive literature on the various uses of FORD AMMONIUM SULPHATE is supplied by the Ford Motor Company and their authorized dealers.

Prices

FORD AMMONIUM SULPHATE is priced at $60.00 per ton, f. o. b. River Rouge Plant at Dearborn, Mich.

It is packed only in one hundred pound bags.

(Fac-simile of Ford Weekly purchase plan)

FORD WEEKLY PURCHASE PLAN

Purchase Plan.

You may enter my order for { Ford ..... / Fordson Tractor } Type

against which I hand you a payment of $..... receipt of which is acknowledged on reverse side of card. I agree to pay the balance in weekly installments of $..... in accordance with the terms of the *Ford Weekly Purchase Plan* as set forth herein.

Deposits.

My initial payment, as well as all subsequent payments, are to be deposited to my credit in the .....
Name and Address of Bank

such payments to be recorded and acknowledged on the reverse side of this card, copy of which I authorize the bank to furnish the Ford Dealer. Weekly payment may be increased at any time.

Interest.

Is to be computed at the bank's regular interest rate, but payable only on completion of all payments if made regularly or when delivery can be effected by the Ford Dealer through applying the total amount accumulated as a first payment.

Withdrawals.

May be made only in cases of extreme emergency at the discretion of the Bank and Dealer.

Title and Delivery.

List price at time of delivery will apply and it is agreed that the Ford Dealer will not be held liable for any delay or failure to make delivery through any cause whatsoever.

Legal Title.

of said car, Truck or Tractor shall not pass to the purchaser until the full purchase price thereof, plus freight and delivery charges, shall have been paid. The only warranty to apply will be that of the manufacturer.

I agree to be governed by the bank's regular rules, if they conflict with any of the above stipulations.

.....

.....

Purchaser's Signature .....

.....

.....
Address

Order Taken by ..... Date .....
Salesman

Approved and Accepted by .....
Dealer

Ford Weekly Purchase Plan (cont'd)

Preface.

The Ford weekly purchase plan was created as the final link in Henry Ford's original plan of building "a car for the multitude,"—to make it possible for almost anybody to own a Ford car, truck or tractor, regardless of how small his or her income may be.

The plan, in addition to paving the way to motor car ownership, will also teach hundreds of thousands of persons the habit of thrift, from among the ranks of the 20,000,000 wage-earners in this country who will buy their Fords in this manner, and, realizing the great value of systematic saving, will continue their bank accounts, permanently.

Operation of Plan.

Simultaneously with big newspaper announcements by all Ford Dealers, in co-operation with thousands of prominent banks throughout the country, the Ford Weekly Purchase Plan started operation on Sunday, April 8, 1923.

Under the terms of this plan, the average wage-earner can purchase a Ford car, truck, or tractor, by making an initial payment as small as five ($5.00) dollars. The buyer then designates a local bank in which he desires his savings account to be carried,—the account is opened *in his name*, and he arranges to deposit this same amount, or more, if desired, each week, in this account until he has accumulated a sum equal to the purchase price of the car, truck, or tractor he is buying, or upon sufficient to equal the amount of first payment on Dealer's regular deferred payment plan. He then secures delivery of his car.

Advantages of the Plan.

1. Makes it easily possible for anybody to own a Ford car, truck, or tractor, regardless of size of income, simply by systematic budgeting of salary.

2. Provides a splendid opportunity for the wage-earner to establish himself with a bank and to build up a standing with the bank which will be very valuable to him in the future.

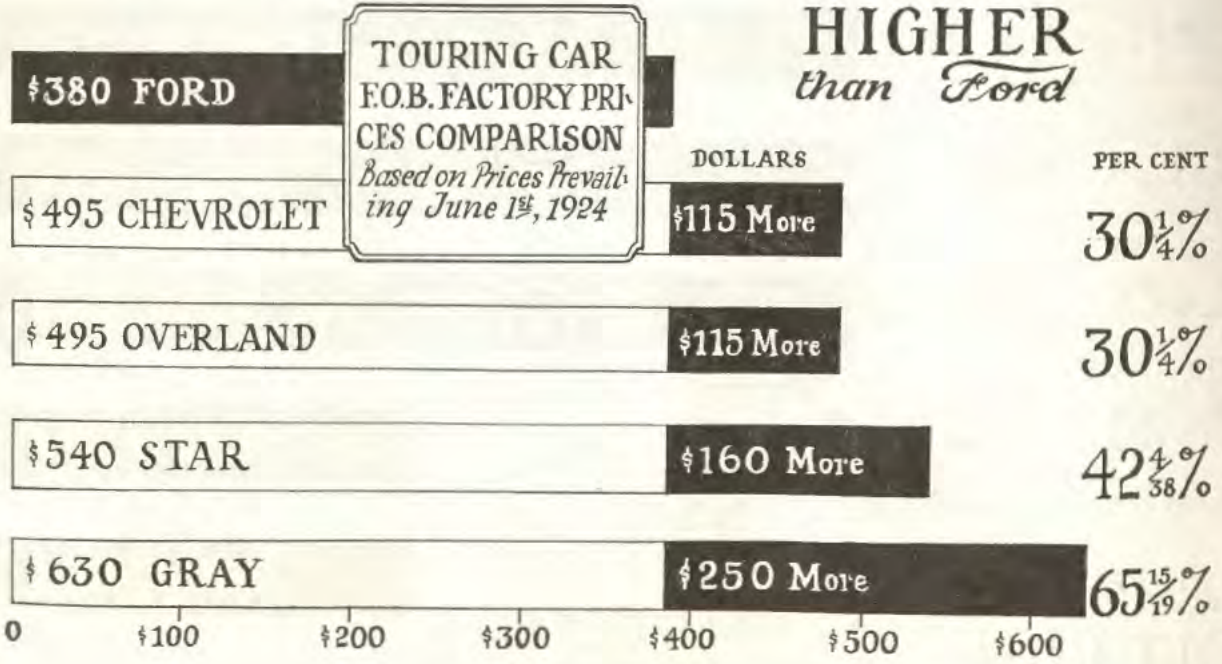
3. Provides for a close contact between the purchaser and the Ford Dealer, because payments can be made *through the Dealer*, who in this way becomes well acquainted with the purchaser and can advise him fully in every detail of his purchase.

4. Permits the purchaser to *reduce the cost* of his car, by the amount of interest his money earns while on deposit.

Plan in Great Favor.

Already, thousands of wage-earners throughout the country have enrolled in this plan, and the number is increasing daily.

The Ford Weekly Purchase Plan is regarded as the most momentous and important step ever undertaken in the merchandising of motor cars.


HIGHER
than Ford
TOURING CAR F.O.B. FACTORY PRICES COMPARISON
Based on Prices Prevailing June 1st, 1924
DOLLARS
PER CENT
$380 FORD
$495 CHEVROLET
$115 More
30 1/4%
$495 OVERLAND
$115 More
30 1/4%
$540 STAR
$160 More
42 4/38%
$630 GRAY
$250 More
65 15/19%
0
$100
$200
$300
$400
$500
$600

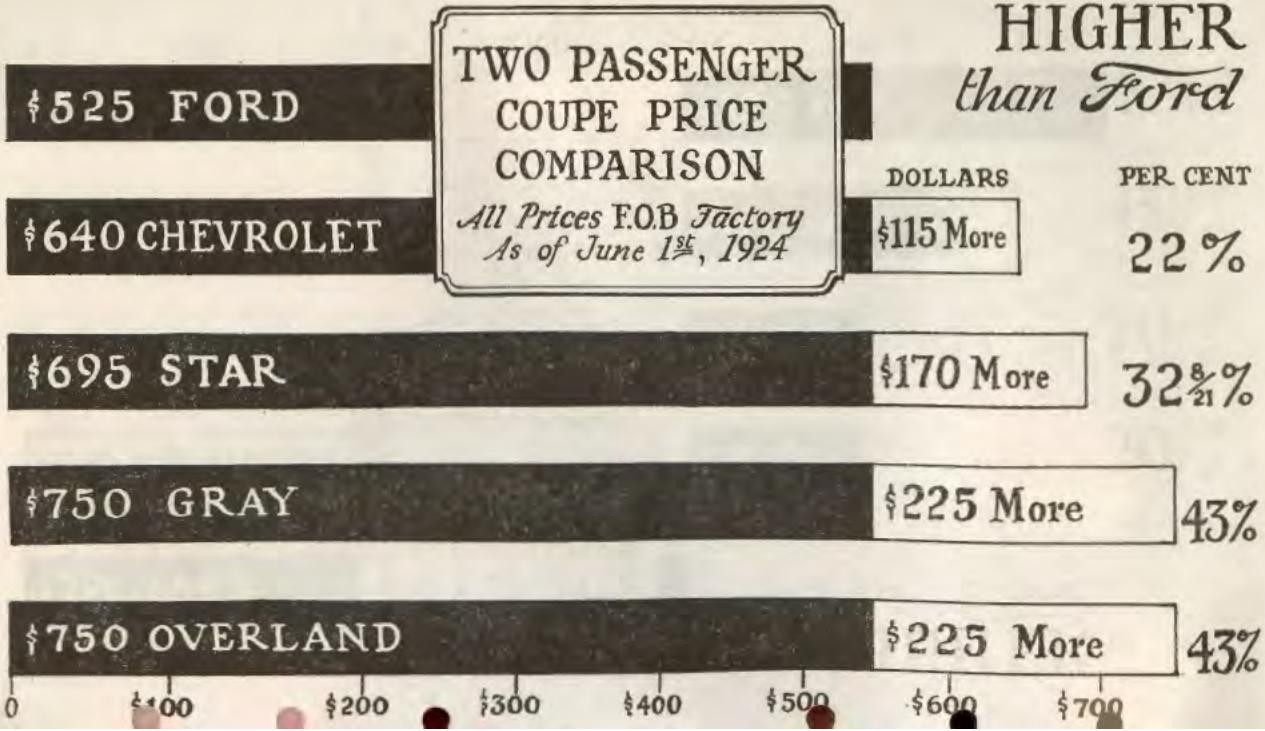

TWO PASSENGER COUPE PRICE COMPARISON
All Prices F.O.B Factory As of June 1st, 1924
HIGHER than Ford
DOLLARS
PER CENT
$525 FORD
$640 CHEVROLET
$115 More
22%
$695 STAR
$170 More
32 8/21%
$750 GRAY
$225 More
43%
$750 OVERLAND
$225 More
43%
0
$100
$200
$300
$400
$500
$600
$700

Table of Passenger Car Selling Points

(All Prices F. O. B. Factory)

SPECIFICATIONS AND LIST PRICES

Corrected to March 29, 1924

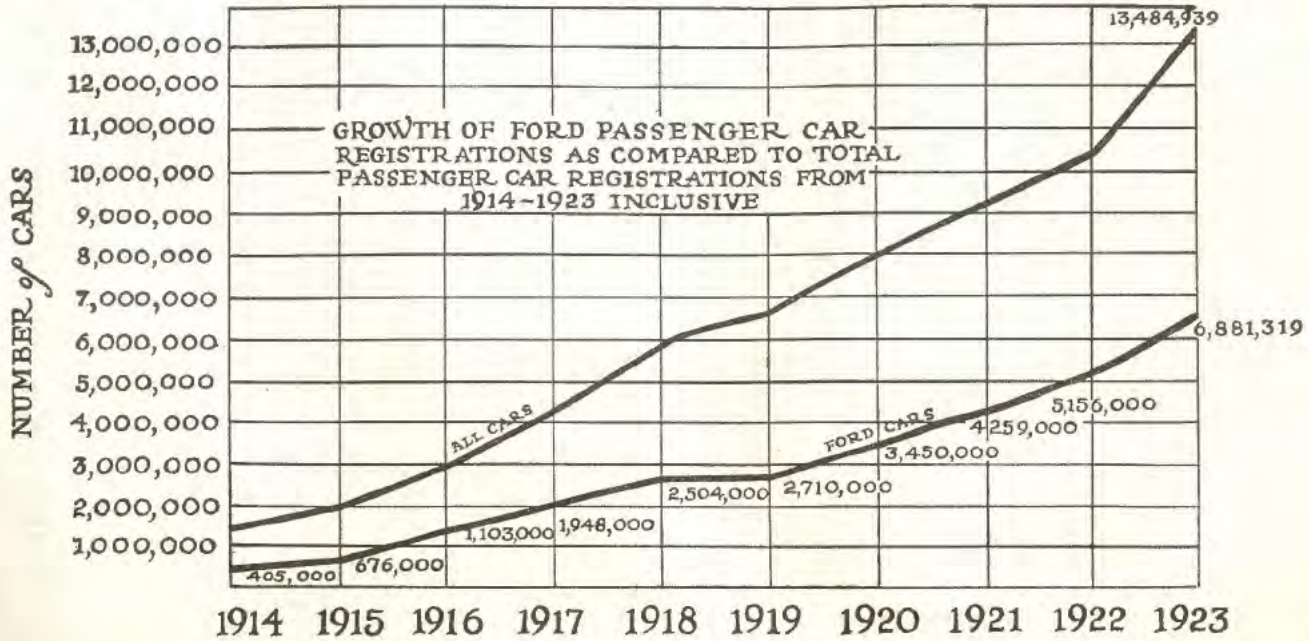
Model	Ford	Star	Gray	Chev.	O'land 4
Touring, S.S.D.W.	$380.00	$490.00	$520.00	$495.00	$495.00
Roadster, S.S.D.W.	350.00	490.00	510.00	490.00	495.00
Coupe, S.S.D.W.	525.00	690.00	685.00	640.00	750.00
Tudor, Sedan×	590.00	640.00	785.00	725.00	765.00
Fordor, Sedan ✤	685.00	785.00	835.00	795.00	795.00
Engine	Own	Con.	Own	Own	Own
Size	3¾x4	3⅛x4¼	3⅝x4	3 11/16x4	3½x4
Valves	L	L	L	I	L
Cooling	T	P	T	P	T
Carburetor	Own	Til.	Sco.	Zen.	Til.
Start. and Light.	Own	A-L	Wst.	Rmy.	A-L
Ignition	Own	A-L	Wst.	Rmy.	A-L
Clutch	Own	Own	Own	Own	B & B
Gearset	Own	War.	Det.	Own	Own
Rear Axle	Own	Tim.	Tim.	Own	Own
Rear Springs	S	S	C	Q	O
Gear Ratio	3.64	4.88	3.9	3.77	4.5
Tires	30x3½	30x3½	30x3½	30x3½	30x3½
Wheelbase	100"	102"	100"	103"	100"
Dem. Wheels	Yes	Yes	Yes	Yes	Yes
Self-starter	Yes	Yes	Yes	Yes	Yes
Rim & Holder	Yes	Yes	Yes	Yes	Yes

Key to Symbols

Engine: Con—Continental.
Valves arranged: H—in head; L—at side.
Cooling: T—Thermo-syphon; P—Pump.
Carburetor: Hol—Holley; Til—Tillotston; Sco—Scoe: Zen—Zenith.
Ignition and Lighting: A-L—Auto-Lite; Wes—Westinghouse; Rmy—Remy; Con—Connecticut.
Clutch and Gearset: B & B—Borg & Beck; Det—Detroit; War—Warner Corp.
Rear Axle: Tim—Timken.
Rear Springs: C—Cantilever; C-3—Three point cantilever; Q—Quarter elliptic; S—Semi-elliptic; T—Transverse semi-elliptic.

×The Ford Tudor corresponds to the 2-door coach.
✤The Fordor corresponds to the 4-door coach.

A Chart Showing the Registration Figures of Ford Cars As Against Those of All Cars From 1914 to 1923. Note That The Ford Figures Uniformly Run About One-Half of The Total for Each Year.



Ford Periodicals

The eight periodicals issued by the Ford Motor Company and enterprises under their control, for the purpose of making public, management and employees better acquainted, now have a yearly circulation rate of over ten million.

THE FORD NEWS, with a circulation twice monthly of 176,600, is the official spokesman for the Ford management in giving news of Ford enterprises. This publication is the means of establishing closer relations between the Ford management and its employees, and is the most widely read of all the Ford Periodicals. Its purpose is to be of general interest and constructive scope, rather than for advertising purposes, or for the personal interests of employees alone. Its editorial columns present matter of unusual interest to all classes of readers, covering a wide variety of subjects.

THE FORD SERVICE BULLETIN, with a circulation of 110,000 copies monthly, establishes a contact between the factory and the service divisions of the selling organization. This 8-page pamphlet contains articles on the construction and maintenance of Ford cars and trucks, Fordson tractors and Lincoln cars, descriptions of changes in design of the various parts, articles on selling Ford parts, etc. This publication came into existence because the service department felt, as the dealer organization grew, the necessity of furnishing mechanics and garagemen with authentic information, as to improved methods and changes in system.

THE FORDSON MAGAZINE for several years has been of especial interest to farmers, presenting as it does news of developments in agriculture and better farming methods. Its editorial material is an authority on general farm subjects. The magazine is intended for all Fordson owners and prospective owners, and prints specific instances where use of the Fordson has been found profitable.

POWER AND HAULAGE, a publication less than five months old, fills a definite need for carrying the story of the Fordson and the Ford truck into the industrial field. It is of special interest to contractors, engineers, plant superintendents, highway officials, state, city and county authorities.

Power and Haulage and the Fordson Magazine have a combined monthly circulation of 300,000.

LINCOLN MAGAZINE is a handsome and interesting motoring publication for Lincoln owners and those interested in the more costly automobile. This magazine, in keeping with the high quality of the Lincoln car, is to be found in many of the finest clubs and homes, and has a circulation of 70,000 copies a month.

LINCOLN SERVICE BULLETIN, a publication less than four months old, is devoted to articles dealing with repair operations, service policies, uses of tools and equipment, care and maintenance, manufacture and inspection of various parts and assemblies—all pertaining to the Lincoln car.

RAILROAD NEWS, with a semi-monthly circulation of 3,300 copies, is a semi-technical periodical printed for the employees of the D. T. & I. Railway. It contains up-to-date articles on rail transportation by officials of the Company and outside authorities; and has been widely quoted by other publications.

THE FORD MAN, a monthly similar to the Ford News is published by the Ford Motor Company of England, Ltd., at Manchester. Other foreign plants contemplate this same means of establishing contact with employees and the public.

Each of these periodicals has a definite field to cover, and constitute a means of contact with employees and the public, greater than any similar publicity. They should be of constantly increasing service as the number of employees grows and the Ford products become more widely distributed.

Henry Ford Hospital

West Grand and Hamilton Boulevards
Detroit, Michigan

HENRY FORD, *President*
EDSEL B. FORD, *Vice-President, Secretary and Treasurer*

BOARD OF TRUSTEES

HENRY FORD — CLARA J. FORD
EDSEL B. FORD — ELEANOR C. FORD

W. L. GRAHAM, *Superintendent*
F. J. SLADEN, M. D., *Physician-in-Chief*
R. D. McCLURE, M. D., *Surgeon-in-Chief*
E. D. PLASS, M. D., *Obstetrician-in-Chief*
F. W. HARTMAN, M. D., *Pathologist*

On the first of October, 1915, *Henry Ford* opened the doors of the *Henry Ford Hospital* to receive patients. As a *Ford* activity, the Hospital represents *Henry Ford's* instinctive interest in health. Himself a man of unusual, rugged health, in the midst of enormous industries and responsibilities, he stands as an example of habits of thought and living which maintain health and prevent disease.

The progress subsequent to the opening in 1915 has been one of continual expansion along unique lines, differing in many ways from any previous hospital work and initiating many radical features which are now being instituted over the entire country.

During the War, the complete staff was released to enter service and the entire hospital work interrupted. The institution was then turned over to the Government free of charge by *Henry Ford* and operated as the United States General Hospital No. 36.

Historical

In 1909, the development of a hospital for Detroit was begun under the name of the Detroit General Hospital by a group of physicians. *Henry Ford* was a member of the association and later chairman of the Board of Trustees. By his foresight, particularly, the present site was purchased. Ground was broken in 1911 and a building program begun. With building incomplete and subscriptions to about one-third of the need, the original project was allowed to continue through the vision and generosity of *Henry Ford.* In June, 1914, he tendered to the original trustees the following offer to take full responsibility for the development of the institution:

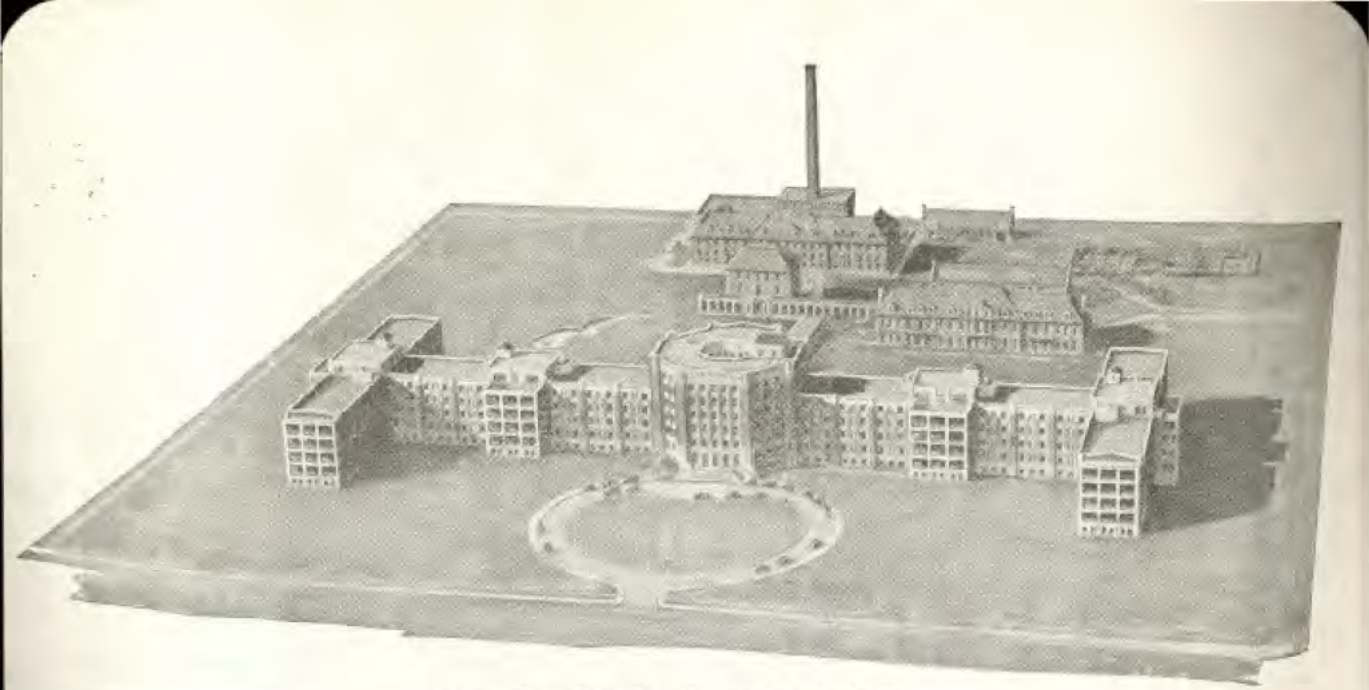
"June 2, 1914

Detroit General Hospital,
Detroit, Michigan.

Gentlemen:

Learning that it is proposed to turn the assets of the Detroit General Hospital over to the city of Detroit, and believing that this would be a serious mistake, both for the city and from every other point of view, I hereby make you the following proposition:

If you will make a good and sufficient deed to me or my assigns of the land and buildings now owned by you at the corner of West Grand Boulevard and Hamilton Boulevard, Detroit, Michigan, I



AEROPLANE VIEW OF *HENRY FORD HOSPITAL*

will pay a sufficient sum of money on delivery of the deed to repay to each subscriber the moneys paid in by him or her to the hospital association, and I will assume the outstanding debts and contracts for buildings of the Detroit General Hospital, but you are to relieve me of all other obligations, such as continuing obligations to employ particular individuals and everything of that nature.

In conclusion, I will state that it is my intention if this proposition is accepted to go forward with plans for a complete and creditable hospital for the benefit of Detroit.

As I am planning an absence from the city in a short time, please favor me with a prompt reply and greatly oblige,

Yours sincerely,

The proposition was immediately accepted. HENRY FORD"

Purpose

As a general hospital, the institution is prepared to do all types of medical and surgical work. Though not incorporated for profit, the best business principles are employed as in every Ford undertaking, and the aim financially is to self-maintenance. The contributions of Mr. and Mrs. Henry Ford and Mr. and Mrs. Edsel Ford to the development and equipment and maintenance pass mention and must be recognized as a broad-minded, generous gift to fellow man.

Scope

With the care of the sick standing first in importance, the training of doctors and of nurses is combined with plans for the medical education of the public. Diagnosis is emphasized as necessary to lead to proper treatment. Provision is made equally well for prospective mothers and for children. All the specialities are represented —eye, ear, nose, and throat, bones and joints, genito-urinary, heart and lungs, gastro-intestinal, skin, nervous and mental, among them. Though extra effort is made to limit the patient's stay to as short a time as possible, this is governed mainly by the amount of good which can be accomplished for that individual. The hospital corps of physicians is composed of men qualified in their special lines and no patient is allowed to feel the lack of personal interest in his case, whether he individually knows one of the doctors before coming or not. A competent physician will immediately become the charge of a patient in a closely personal and responsible way. The hospital physicians devote their whole time to the work of the *Henry Ford Hospital* and represent the best professional skill obtainable.

Location, Buildings and Equipment

Twenty-three acres contain the hospital buildings, fronting on two boulevards, with direct contact to the main street car and bus lines, in the exact geographical center of the city.

Eleven buildings form the present group, set away from the streets and surrounded by gardens and lansdcaping of refreshing character to the sick. Quiet, cleanliness, and relishing food serve to enhance the recovery of the sick and make more pleasant the stay of those who are undergoing study or observation.

There are 600 available beds with plans for expansion as needed. The rooms have forced ventilation, relaxing and comfortable furnishings, noiseless doors, closets, and most of them, bathrooms with separate individual lavatory utensils. The beds are a special feature, each one of them easily converted into sitting or other postures with raised knees at any desired degree, thus permitting restful changes of posture even to those very seriously ill.

The operating rooms and the obstetrical delivery rooms are complete in every detail, designed to make safe and secure the skillful procedures active in these centers.

The laboratories contain the most modern equipment for investigative work in individual or public problems in connection with diagnosis, treatment or research. The X-ray Department has accommodations for nine machines, for fluoroscopic, film, and therapeutic work. The Department of Physical Therapy employs five trained assistants to carry out the prescribed forms of water, heat, light, electric, and gymnastic therapy, massage, and manipulation.

The Pharmacy is conducted as a precise prescription center as well as providing available literature, foods, medical and surgical equipment, scales, and toilet articles to those who need them.

A central kitchen and laundry of unique completeness fulfill the hotel service necessary to provide. Ambulance and town car services are also maintained.

Nursing

The activities of a large general hospital are naturally a center for the training of nurses. A plan is in development to include such features as domestic economy, literature, music, and physical culture which will contribute to young women those qualities which will better equip them as mothers, homemakers, and members of communities, as well as nurses. A building for the Henry Ford Hospital School of Hygiene and Nursing is in prospect, and a gymnasium which will contribute not a little to the care of the sick by keeping well and strong, refreshed and in physical trim, the nurses and doctors and other members of the institutional community, whose duty it is to attend to the sick. It is believed that they can best accomplish this work by themselves being examples of healthful living.

Source

Patients do not need any reference to apply at the Hospital for help. They may come on their own initiative or may be referred by their physicians. In the latter event, close contact with their physician is desired and sought, and the patient returned to the doctor with complete report, and advice if requested. Many individual services are performed for physicians upon patients or laboratory material where the assembled resources furnish unique advantages. Such relationships with physicians are encouraged.

Expense, Inquiries and Arrangements

The idea of Mr. Ford from the beginning has been to have the *Henry Ford Hospital* a self-maintaining institution when it was fully occupied. The rates in force at the present time are not fixed with the thought in mind of having the revenue sufficient to maintain the institution at present, but rather as an index as to what they should be when the buildings are operated to capacity. The deficit at present existing is being made up by the generosity of the Ford family.

In connection with the charges to patients, it is sufficient to say that the rates are the same to all patients, and are very reasonable in comparison with the service rendered.

Ford Educational Film Library

Purpose.

The Ford Educational Library provides for each school a high standard of film instruction at low cost. The subjects parallel the school course. The primary idea is the establishment of permanent film libraries through outright purchase by educational institutions. Thus a film library, once established, may give film service to surrounding schools. The saving in rent and transportation easily covers the local expense and pays the initial cost of the films.

Real Film Instruction.

The school subjects are visualized in the most attractive educational manner. Each subject is edited and tested by educators. An educational synopsis is prepared for each subject. This four-page pamphlet contains the titles, educational aids for the teacher, definite methods for presenting the lesson, problems and a list of references. Twenty-five copies of the synopsis are given gratis with each subject. Educational film, thus organized, is suitable for the preparation, the presentation and the review of many lessons.

Subjects.

Agriculture
Nature Study
Safety
Industrial Geography
Recreation
Regional Geography
Civics and Citizenship
Foreign Countries
U. S. Possessions
Technical
History
Sanitation and Health
Cities
Transportation
Physical Geography

Low Cost.

The Ford Educational Library has been founded to aid visual instruction. Each subject of the Ford Educational Library is sold for $50 per reel either standard inflammable film or non-inflammable. Former reels of the Ford Weekly on inflammable stock may be obtained as follows: 1919 subjects $5, 1920 subjects $10, 1921 subjects $25.

A Free Projector and Educational Film.

A reliable motion picture projector of standard make, selling under $300, completely equipped with light, tools, and other appliances, will be sent to any school or club securing 935 subscriptions to THE DEARBORN INDEPENDENT at $1.50 each. With each projector is sent ten reels selected from the Ford Educational Library on non-inflammable film. This generous offer for a complete equipment in visual education is limited in time.

To Aid Visual Instruction.

This announcement indicates the generous aid to visual instruction offered by the Ford Educational Library. The educational quality of each subject and the low cost, achieved through our quantity production, make it possible for any ambitious school to establish a modern school film library. These reliable films make instruction attractive, accurate, and bring the world of action to the pupils. The Ford Educational Library will aid the visual instruction program in your school.

Henry Ford Trade School

Origin.

Founded in October, 1916, with six boys and one instructor, this school for boys who otherwise would be denied the opportunity to train themselves for life occupations now has developed into an institution with 43 instructors, nearly seven hundred boy students, and a very long waiting list. As a school it is regularly incorporated under Michigan laws.

Location.

Next door to the Highland Park plant, formerly a Catholic Orphanage. Mr. Ford, upon acquiring the building, bequeathed another piece of land and erected a larger building for the continuance of the Orphan School.

Student Body.

Six hundred and seventy boys between the ages of twelve and eighteen, studying skilled trades. The boys are all of humble origin. It is Mr. Ford's greatest pleasure to assist these boys to achieve permanent life successes and his school is accomplishing wonderful work in straightening out the lives of the boys.

Method of Operation.

The moment a boy is enrolled he is awarded a scholarship amounting to four hundred and some odd dollars annually. For convenience this is reduced to an hourly rate and paid twice monthly. The actual pay thus amounts to $7.20 weekly, (forty hour week) or 18c per hour. A boy thus becomes at once self-supporting while attending school. In addition, a savings account is started for each boy, one dollar every two weeks being deposited to his credit, or $26.00 per year. His scholarship is increased from time to time, until the maximum of over 1000 dollars per year is reached.

Each boy's class training is greatly augmented by practical training and study in the great shops of the Ford Motor Company, one out of every three weeks being spent in the class rooms and the remaining two weeks in the shops.

Physical Examinations.

Each entrant receives a thorough physical and dental examination. He is then assigned to a class according to the work he has completed in a public school, and starts his training for a life work.

June 1924

Gasoline Passenger Car Specifications and Prices

4 Cylinder Gasoline Passenger Cars

June 1924

Model Number and Trade Name	Engine Make and Model	Price 5-Pass. Tour.	Bore and Stroke	Piston Displacement	N.A.C.C. Rated Horsepower	Valve Arrangement	Lubrication	Carburetor	Electrical Equipment: Ignition	Electrical Equipment: Lighting	Transmission of Power: Clutch—Type	Transmission of Power: Speeds Forward	Transmission of Power: Gear Ratio	Transmission of Power: Rear Axle—Type	Miscellaneous: Springs	Miscellaneous: Wheelbase	Miscellaneous: Tires
Buick 4	Own	965	3 1/8x4 3/4	169.96	18.2	I	B	Mar	Del	Del	D	3	4.66	3/4	S	109	31x4
Chevrolet "Superior"	Own	495	3 1/16x4	170.14	21.7	I	F	Opt	Rmy	Opt	C	3	3.77	1/2	Q	103	30x3 1/2
Dodge Brothers	Own	895	3 7/8x4 1/2	212.27	24.03	L	B	Stw	NoE	NoE	D	3	4.54	1/2	S	116	32x4
Durant A-22	Cont	890	3 7/8x4 1/4	255.26	24.03	I	B	Till	AuL	AuL	D	3	4.33	3/4	S	109	31x4
Earl 40	Own 40	1,095	3 1/4x5 1/4	194.88	18.9	L	B	Sco	Con	AuL	D	3	4.2	1/2	S	112	32x4
Essex	Own	850	3 1/8x5	178.9	18.2	D	S	Own	Bos	Bos	D	3	4.66	3/4	S	108 1/2	32x4
Ford T	Own	295	3 3/4x4	176.70	22.5	L	S	Own	Own	Own	D	2	6.63	1/2	S	100	30x3 1/2
Gardner, Series 5	Lyc	995	3 1/16x5	213.64	21.76	L	F	Zen	Wst	Wst	P	3	4.8	3/4	F	112	32x4
Gray	Own	630	3 5/8x4	165.12	21.03	L	S	Scoe	Wst	Wst	P	3	3.9	1/2	G	104	30x3 1/2
HCS 4	Wei	2,250	3 3/4x5 1/2	242.96	22.5	I	F	Str	Del	Del	D	3	4.63	1/2	S	120	32x4 1/2
Hupmobile R	Own	1,175	3 1/4x5 1/2	182.49	16.9	L	F	Str	Wst	Wst	D	3	4.87	3/4	S	115	32x4
Maxwell 25	Own	875	3 5/8x4 1/2	185.76	21.03	L	F	Zen	Rmy	Rmy	P	3	4.60	1/2	S	109	31x4
Mercer Series 5	Own	3,950	3 3/4x6 3/4	298.19	22.5	L	F	B&B	Eis	Wst	D	4	3.87	Flo	S	132	33x5
Nash 4	Own	935	3 1/8x5	178.9	18.23	I	F	Mar	Del	Del	P	3	5.50	1/2	S	112	33x4
National 4	H-Sp	2,475	3 1/16x5	192.42	19.6	L	F	Str	Eis	Dyn	P	3	4.8	3/4	S	112	32x4
Oldsmobile 43-A	Own	975	3 1/16x5 1/4	224.19	21.7	I	F	Zen	Del	Del	D	3	4.7	3/4	S	115	32x4
Overland 91	Own	495	3 1/8x4	143.12	19.6	L	S	Till	AuL	AuL	P	3	4.5	1/2	O	100	30x3 1/2
Overland 92 Red Bird	Own	695	3 1/8x4	153.94	19.6	L	S	Till	AuL	AuL	P	3	4.5	1/2	O	106	30x3 1/2
Roamer 4-75-E	Dus	3,650	4 1/4x6	364.44	28.9	H	F	Str	Bos	Wst	D	4	4.63	3/4	L	128	32x4 1/2
Star	Cont	540	3 1/4x4 1/4	130.37	15.63	L	F	Till	AuL	AuL	P	3	4.87	3/4	S	102	30x3 1/2
Stearns SKL 4	Own	1,750	3 3/4x5 1/8	237.45	22.5	S	F	Shb	A-K	AuL	D	3	4.5	1/2	C	119	33x4 1/2
Stutz Series KLDH	Own	2,640	4 3/16x6	360.77	30.63	T	F	Str	Del	Rmy	D	3	3.75	3/4	S	130	32x4 1/2
Willys-Knight 64	Own	1,195	3 5/8x4 1/2	185.76	21.03	S	F	Till	AuL	AuL	D	3	4.44	Flo	S	118	32x4
Willys-Knight 67 Touring	Own	1,325	3 5/8x4 1/2	185.76	21	S	F	Till	AuL	AuL	D	3	5.12	3/4	S	124	32x4 1/2

6 Cylinder Gasoline Passenger Cars

Anderson 50	Con	1,595	3 3/8x4 1/2	241.52	27.34	L	F	Zen	Rmy	Rmy	P	3	4.50	3/4	S	122	32x4
Anderson 41	Con	1,295	3 1/8x4 1/4	195.6	23.4	L	F	Zen	Wst	Wst	P	3	5.75	1/2	S	115	32x4
Apperson 6	Fal	1,395	3 1/8x4 1/4	195.6	23.44	I	F	Str	Rmy	Rmy	P	3	5.10	3/4	3/4	120	32x4
Auburn 6-63	Wei	1,695	3 1/4x5	248.79	25.35	I	F	Str	Rmy	Rmy	P	3	4.65	1/2	S	124	32x4 1/2
Auburn 6-43	Con	1,095	3 1/8x4 1/4	195.6	23.44	L	F	Str	Rmy	Rmy	P	3	4.63	1/2	S	114	31x4
Barley 6-50	Hsp	1,395	3 1/4x5	195.6	25.35	L	F	Str	Del	Del	P	3	5.10	1/2	S	118	32x4
Bay State	Con 8R	1,800	3 3/8x4 1/2	241.52	27.3	L	F	Str	Del	Del	D	3	4.67	3/4	S	121	32x4
Buick 1924-6-SS	Own	1,295	3 3/8x4 3/4	241.52	27.3	I	B	Mar	Del	Del	D	3	4.10	Flo	L	120	32x4
Case X	Con 8R	1,790	3 3/8x4 1/2	241.52	27.3	L	F	Shb	Del	Del	D	3	4.90	1/2	S	122	32x4 1/2
Case Y	Con 6T	2,475	3 5/8x5 1/4	325.08	31.54	L	F	Ray	Del	Del	D	3	4.70	3/4	S	132	33x5
Chalmers	Own	1,185	3 1/4x4 1/2	123.91	25.35	L	B	Str	AuL	AuL	P	3	5.13	1/2	S	117	32x4
Chandler 6-SS	Own	1,485	3 1/16x5	288.63	29.4	L	F	Str	Bos	Bos	P	3	4.45	Flo	S	123	32x4
Cleveland Six 42	Own 42	1,045	3 1/16x4 1/2	198.81	22.5	I	F	Str	Bos	Bos	P	3	4.9	1/2	S	112 1/2	31x4
Columbia Six	Cont	1,095	3 1/8x4 1/4	195.6	23.44	L	F	Str	AuL	AuL	P	3	4.80	1/2	S	115	31x4
Davis 71-2-3-4-5-6	Cont 7U	1,495	3 1/8x4 1/4	195.6	27.34	L	F	Str	Del	Del	D	3	5.10	1/2	S	115	31x4
Dort 27	FalTD8000	1,095	3 1/8x4 1/4	195.6	23.4	I	F	Car	Bos	Bos	D	3	4.66	3/4	L	115	31x4
Durant	Ans	1,650	3 1/4x4 1/2	123.91	25.4	I	F	Ray	AuL	AuL	D	3	5.11	1/2	S	123 1/2	32x4 1/2
Elcar 6-60	Con 8R	1,395	3 3/8x4 1/2	241.52	27.34	L	F	Str	Del	Del	P	3	4.70	3/4	S	118	32x4
Flint	Cont	1,395	3 1/8x5	268.38	27.34	I	F	Str	D.J.	D.J.	P	3	4.77	1/2	S	120	32x4 1/2
Fox	Own	2,975	3 1/8x5	268.38	27.3	I	F	Zen	Sci	Wst	P	3	4.9	1/2	S	132	32x4 1/2
Franklin Series 10-B	Own	1,950	3 1/4x4	199.03	25.35	I	F	Own	A-K	A-K	P	3	4.73	1/2	E	115	32x4
Haynes 60	Own	1,545	3 1/16x4 3/4	288.63	29.4	L	S	Ray	Kng	L-N	D	3	4.41	1/2	S	121	32x4 1/2
Haynes 77	Own	1,995	3 5/8x5 3/16	321.52	31.5	L	F	Str	Kng	L-N	D	3	4.6	3/4	S	132	33x5
HCS 6	Mid.Spec.	2,650	3 1/16x5	288.63	29.4	I	F	Str	Del	Del	D	3	4.36	3/4	S	126	32x5
Holmes	Own	2,500	3 1/16x4 1/4	245.34	29.4	I	F	Str	Eis	Dyn	D	3	4.9	1/2	F	126	34x4 1/2
Hudson	Own	1,500	3 1/16x5	288.63	29.4	L	S	Str	Bos	Bos	D	3	4.45	Flo	S	127	34x4 1/2
Jewett 6	Own	1,065	3 1/4x5	248.79	25.36	L	F	Ray	Rmy	Rmy	D	3	4.54	1/2	S	112	31x4
Jordan N-X	Cont	1,775	3 1/2x4 3/4	244.70	26.3	L	F	Str	Del	Del	P	3	4.42	1/2	S	120	32x4
Kissel Cust. Built Tour	Own	1,885	3 1/2x5 1/2	283.34	26.3	L	F	Str	Rmy	Rmy	D	3	4.42	Flo	S	124	32x4 1/2
Kissel 55	Own	1,685	3 1/2x5 1/2	265.25	26.3	L	F	Str	Rmy	Rmy	P	3	4.42	3/4	S	121	32x4
Lexington 23	Ans D	1,895	3 1/2x4 1/2	223.9	26.30	I	F	Ray	Con	G&D	P	3	5.10	1/2	S	123	32x4 1/2
Liberty 6-E	Own	1,575	3 1/16x5	232.41	23.4	L	F	Str	Wag	Wag	P	3	4.80	1/2	S	117	32x4
Locomobile 48, Series 8	Own	7,900	4 1/16x5 1/2	524.83	48.6	T	F	B&B	Del	Wst	D	4	3.50	Flo	3/4	142	35x5
McFarlan Six	Own TV	5,700	4 1/16x6	572.54	48.6	T	F	Ray	Wst	Wst	D	3	3.75	Flo	S	140	33x5
Marmon 34	Own	2,895	3 3/4x5 1/8	339.6	33.75	I	F	Str	Del	Del	D	3	4.10	3/4	O	136	32x4 1/2

6 Cylinder Gasoline Passenger Cars—Continued

Model Number and Trade Name	Engine								Electrical Equipment		Transmission of Power				Miscellaneous		
	Engine Make and Model	Price 5-Pass. Tour.	Bore and Stroke	Piston Displacement	N.A.C.C. Rated Horsepower	Valve Arrangement	Lubrication	Carburetor	Ignition	Lighting	Clutch—Type	Speeds Forward	Gear Ratio	Rear Axle—Type	Springs	Wheelbase	Tires
Mercer Series 6	Own	3,750	3¾x5	331.32	33.8	I	F	Strm	Eis	Wst	D	4	3.77	¾	S	132	32x4½
Moon 6-40	Con 7U	1,395	3½x4¼	195.6	23.4	L	F	Str	Del	Del	P	3	5.1	½	S	115	31x4
Moon 6-50 Series A	Con 7U	1,095	3½x4½	223.97	23.4	L	F	Str	Del	Del	P	3	5.1	½	S	113	31x4
Moon 6-58	Con 8R	1,885	3⅝x4½	241.52	27.3	L	F	Str	Del	Del	P	3	5.09	½	S	128	32x4½
Nash 691	Own	1,270	3½x5	248.79	25.35	I	F	Mar	Del	Del	P	3	4.5	½	S	121	33x4
Oakland 6-54	Own	995	2 11/16x3¾	177.04	18.9	L	F	Str	Rmy	Rmy	P	3	4.7	½	S	113	31x4
Packard Single Six	Own	2,585	3⅝x5	268.35	27.3	L	F	Own	Del	A-K	D	3	4.66	½	S	126	33x4½
Paige 6-70	Con 9A	1,795	3¾x5	331.29	33.75	L	F	Ray	A-K	Rmy	D	3	4.6	½	S	131	33x4½
Pierce Arrow 33	Own	5,250	4 x5½	414.68	38.4	T	F	Own	Del	Del	D	3	4.29	½	S	138	33x5
Premier 6-D	Own 6D	2,885	3 15/16x5½	295.19	27.3	I	F	Str	Del	Del	P	3	4.58	½	S	126¾	32x4½
Reo T 6	Own	1,335	3½x5	239.39	24.34	D	B	Ray	NoE	NoE	D	3	4.7	½	S	120	33x4
Rickenbacker 4-Brake	Own	1,595	3 15/16x4¾	220.79	23.4	L	F	Str	Bos	Bos	D	3	5.1	Flo	S	117	32x4
Roamer 6-54-E	Con	2,685	3 15/16x5¼	293.06	29.4	L	F	Str	Spl	Wst	P	3	4.46	¾	L	118	32x4½
Rolls-Royce	Own	11,450	4½x4⅝	453.26	48.6	L	F	Own	Bos	Own	C	4	3.72	Flo	L	143½	33x5
R & V Knight H	Own	2,300	3½x4½	259.76	29.4	S	F	Str	AuL	AuL	P	3	4.5	½	S	124	32x4½
Stearns-Knight 6	Own	2,395	3¼x5	268.35	25.35	S	B	Shb	A-K	AuL	D	3	4.7	½	C	130	33x5
Stephens Six Model 20	Own	1,295	3¼x4½	223.97	25.35	I	F	Str	Del	Del	P	3	5.10	½	S	117	33x4½
Stephens Six Model 10	Own	1,595	3¼x4½	223.97	25.35	I	F	Str	Del	Del	D	3	5.3	½	S	124	33x4½
Studebaker EL	Own	1,425	3 1/16x5	288.63	29.4	L	B	Str	Rmy	& Wag	P	3	4.33	½	S	119	32x4
Studebaker EK	Own	1,750	3 7/16x5	353.40	36.04	L	B	B&B	Rmy	& Wag	P	3	3.7	½	S	126	33x4½
Studebaker EM	Own	1,045	3 1/16x4½	209.17	23.44	L	B	Str	Rmy	& Wag	P	3	5.0	½	S	112	31x4
Stutz 6	Weid	2,265	3⅝x5	268.35	27.34	I	F	Str	Rmy	Rmy	P	3	4.66	½	S	120	32x4½
Velie 58	Own	1,275	3 1/16x4¼	203.49	24.38	I	F	Str	A-K	Wst	P	3	4.90	½	S	118	32x4
Westcott 44	Con 8R	1,690	3⅝x4½	241.6	27.34	L	F	Ray	Del	Del	P	3	5.09	½	S	120	32x4½
Westcott 48	Con 12X	1,990	3 15/16x5½	303.06	29.4	L	F	Ray	Del	Del	P	3	4.45	¾	S	125	32x4½
Winton 40	Own 40	3,400	3¾x5¼	347.85	33.8	L	F	Ray	Del	Del	D	3	4.6	½	S	132	33x5

8 Cylinder Gasoline Passenger Cars

Apperson 8	Own	2,485	3¼x5	331.8	33.8	L	F	Jon	Rmy	Bij	D	3	4.25	½	¾	130	33x5
Cadillac-V-63	Own	3,085	3½x5½	314.43	31.25	L	F	Own	Del	Del	D	3	4.5	Flo	P	132	33x5
Cole 890	Nor	2,175	3½x4½	346.36	39.2	L	F	Jon	Del	Del	D	3	4.7	Flo	S	127¼	33x5
Cunningham V-4	Own	5,800	3¾x5	441.76	45	L	F	Str	Del	Del	D	4	4.23	Flo	¾	132	33x5
Daniels 23-28	OwnD19A	4,800	3½x5¼	404.08	39.2	L	F	Zen	Del	Del	D	3	4.08	Flo	S	132	33x5
Duesenberg S	Own	6,250	2⅞x5	259.64	26.45	I	F	Str	Del	Del	P	3	4.9	½	S	134	33x5
La Fayette	Own 134	3,250	3¼x5¼	348.39	33.8	L	F	Jon	Del	Del	D	3	4.58	Flo	S	132	33x5
Lincoln	Own	3,800	3⅜x5	357.8	36.45	L	F	Str	Del	Del	D	3	4.58	Flo	S	136	33x5
Packard Single Eight	Own	3,650	3⅝x5	357.84	36.45	L	F	Own	Del	Dyn	D	3	4.7	½	S	136	33x5
Peerless Type 66	Own 66	2,750	3¼x5	331.8	33.8	L	F	B&B	Del	Del	D	3	4.90	¾	S	128	33x5
Standard 8 Model 99	Own	2,500	3¼x5	331.8	33.8	L	F	Zen	Spl	Wst	D	3	4.46	Flo	S	127	34x4½
Wills Sainte Claire A-68	Own	2,475	3¼x4	265.44	33.8	I	F	Sch	Del	Del	D	3	4.45	½	S	121	32x4½

KEY TO TABLE OF PASSENGER CAR SPECIFICATIONS

1 Engine (Make)

Ansted....Ans
Beaver....Bev
Buda....Bud
Continental....Con
Curtis....Cur
Duesenberg....Dus
Falls....Fal
Gray....Gra
Herschell-Spillman....HSp
Le Roi....LeR
Lycoming....Lyc
Northway....Nor
Rochester....Roc
Root & Vandervoort....R & V
Rutenber....Rut
Supreme....Sup
Teetor-Hartley....T-H
Weidely....Wei
Wisconsin....Wis

2 Valve Arrangement

Head & Side....D
Horizontal....H
L-Head....L
Over-head....I
Sleeve-Valve....S
T-head....T

3 Lubrication

Force Feed & Splash....B
Splash....S
Force Feed....F

4 Carburetor

Automatic....Aut
Ball & Ball....B&B
Carter....Car
Eagle....Eag
Holley....Hol
Johnson....Jon
K. & D....K-D
Kingston....Kng
Marvel....Mar
Miller....Mil
Newcomb....Nec
Rayfield....Ray
Schebler....Shb
Scoe....Sco
Stewart....Stw
Stromberg....Str
Sunderman....Sun
Swan....Swa
Tillotson....Till
Yale & Towne....Yale
Zenith....Zen

5 Ignition

Atwater Kent....A-K
Auto-Lite....AuL
Berling....Ber
Bosch....Bos
Connecticut....Con
Delco....Del
Eisemann....Eis
Gray & Davis....G&D
Kingston....Kng
Kokomo....Kok
K & W....K-W
Mayer....Myr
National....Nat
Northeast....NoE
Philbrin....Phb
Remy....Rmy
Scintilla....Sci
Simms-Magneto....Sim
Splitdorf....Spl
Wagner....Wag
Westinghouse....Wst

6 Lighting (Make)

Allis-Chalmers....AlC
Auto-Lite....AuL
Bijur....Bij
Bosch....Bos
Continental....Con
DeJon....D.J.
Delco....Del
Dyneto....Dyn
Exide....Exi
Gray & Davis....GD
Leece-Neville....LN
Northeast....NoE
Remy....Rmy
Splitdorf....Spl
United States Light....USL
Wagner....Wag
Westinghouse....Wst

7 Clutch (Type)

Cone....C
Disc....D
Friction....F
Plate....P

8 Drive and Torque

Springs and torque tube....B
Springs....S
Torque....T

9 Rear Axle (Type)

Dead....Ded
Floating....Flo
Semi-Floating....½
¾ Floating....¾

10 Springs (Front and Rear)

Cantilever (front and rear)....C
Full Elliptic (front and rear)....F
Own Construction....O
Quarter Elliptic (front and rear)....Q
Semi-Elliptic front. Cantilever rear....L
Semi-Elliptic front. Platform rear....P
Semi-Elliptic (front and rear)....S
Semi-Elliptic front. ⅜ Elliptic rear....¾

FordeX

REG. IN U. S. PAT. OFFICE

Sales and Service Data

1924

SEVENTH EDITION

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Introduction

FORDEX—A COINED TITLE

FORDEX, an index to Ford Products and Ford Dealers' Sales Data, is submitted in appreciation of the difficulty in obtaining and classifying necessary information, statistics and specifications concerning Ford Cars and Ford Dealers' merchandise.

It offers data collected, arranged and indexed with the purpose of assisting the busy Dealer and his Salesmen who seldom have time to arrange this information in shape for ready reference.

FORDEX, by its appearance and businesslike methods, creates a favorable impression of the Dealer in the mind of the prospect, and will increase sales by its compactness and efficiency.

FORDEX is indexed in the nine following divisions, containing complete Sales and Service Data, Specifications and Prices:

Model "T"	Special
Truck	Parts
Tractor	Service
Lincoln	Factory Facts

Miscellaneous

There are hundreds of valuable facts, statistics, strong selling points and a list of many exclusive features contained in the above mentioned divisions, classified for quick reference.

This is the first time that so complete and exhaustive an authorized reference book on Ford products has ever been assembled into compact form for the Ford Dealers' use.

The Dealer has only to insert local prices and the book is ready for use.

SALES EQUIPMENT CO.

Kerr Building

Detroit, Michigan

Model T

Ford—The Universal Car

QUANTITY PRODUCTION

Depends on absolute accuracy in the manufacture of each individual part that goes into Ford Products.

Each part—whether it is made of steel, cloth, or rubber—must conform to definite specifications in both minute measurements and standard quality. A staff of expert chemists and metallurgists, working with modern equipment, delicate testing devices and elaborate machinery provides those specifications.

As parts go through the many stages of manufacture in the Ford shops, from raw material to completed units, they are closely inspected and tested after each major operation.

So that when a Ford Product passes into the possession of the user, he is assured of a product which is as near mechanical perfection as highly trained men can make it.

Important Sale Factors

Following are the important factors which will show the prospective purchaser how the Ford car will meet his requirements best.

Power

The engine develops 20 H. P.—as much as ever needed, and is always efficient and durable. The Ford engine is driving nearly half of all the cars in the world today.

Endurance

Four out of five Fords built in the last fourteen years are still in operation. Over six million owners throughout the world are proving its endurance. This, and its ease of operation, is evidenced by its ability in every day use to give constant and uninterrupted service under every condition of load, road, and weather.

Simplicity

The control and operation is so simple that anyone can learn to drive a Ford in a short time. The simplicity of the engine design and running parts means fewer parts out of order; hence fewer repair costs. The design can be quickly understood by anyone and permits ease of adjustment.

Economy

A Ford weighs several hundred pounds less than an ordinary car with equal power and carrying capacity, which reduces wear and tear on tires. The simplicity of the engine means economy in manufacture and low up-keep and repair cost. The total number of all parts in the Ford Chassis retail at approximately 15% more than the price of the complete chassis, and official figures show less than 15c per car for parts replaced under the factory guarantee of defective parts.

Service

Thirty-three thousand dealers and service stations throughout the world give Ford owners international service. A $50,000,000.00 stock of parts in the hands of dealers and branches insures Ford owners against any hold-up for lack of replacement parts. Flat rate labor charges are used by Ford dealers.

Exclusive Features of the Ford Control

Ease of Operation

One of the outstanding features of the Ford car and a contributing cause of its deserved popularity is the ease and facility with which the average driver can control and successfully operate it under the most trying conditions. This is due to the proportioning and design of several features as follows:

1. Wheel base.
2. Gear change by means of foot pedal action instead of with foot operated clutch and hand operated gear shift lever.
3. Short turning radius.
4. Direct acting steering mechanism.
5. Possibility of quick shift from low speed ahead to reverse and back again without shifting of gears.
6. Impossibility of failure to accomplish gear shifts.
7. Ample and positive brakes.

Traffic Control

The combination of these features gives the driver of the Ford car unequaled control in traffic, in sand and mud, and in all places where matter of control of an automobile is most critical and all important.

Quick Shift

The possibility of quick shift from low speed ahead to reverse and back again permits "rocking the car" forward and back as can be done with no other automobile. This is usually sufficient to extricate the Ford from the heaviest sand and mud.

No Gear Clash

Another outstanding feature is the impossibility of failure to accomplish gear shift as with the Ford transmission there is no chance to clash gears, and the driver need not worry about not getting into gear and thereby being caught in traffic with his engine disengaged.

Wheelbase

The short wheel base and small turning radius is a source of convenience many times daily in going in and out of the garage and in maneuvering into a parking position at the curb. In turning corners, they permit the driver to keep to his right-of-way and to avoid possible inconvenience in traffic or even accidents. The design of the Ford steering mechanism is such that turning is accomplished without excessive motion of the steering wheel. Further, being direct acting, less effort is required to steer the car in and out of parking places.

Foot-Control

One of the greatest control advantages of the Ford car is the facility with which gear changes are made and the ability to control its speeds, through foot pedals and brake band action. Gear shifts are readily made without removing the hands from the steering wheel

Exclusive Features (cont'd)

and by automatic action of the feet, allowing the driver's attention to be concentrated on the road ahead, on traffic, steering or road conditions, as the case may require.

Light Weight

The light weight of the Ford car and the fact that the low speed ratio, is high in proportion to the car's weight, gives particular advantages in pick-up and negotiating heavy roads.

Service Brake

The Ford service brake operated by pedal and acting direct on the driving shaft through which the power is transmitted from motor to rear wheels, gives the Ford owner a powerful positive brake which permits quick stopping of the car.

Emergency Brake

In addition, there is an emergency brake operated by hand lever and acting on the drums of the rear wheels. This simple effective dual system of brakes requires little or no adjusting as compared with many other designs, yet gives the Ford car a high factor of safety that is universally recognized.

Better Cars at Lower Prices

Ford cars are always low in price.
Ford cars are always high in quality.

The present selling prices of Ford cars have been made possible through:

1. Sales of more than a million cars yearly, which permits quantity production on the most economical basis.

2. Standardizing on one model over a period of years has made it possible to develop automatic machinery for producing parts in quantities at a great saving in labor costs.

3. The consumption of raw and finished products at a cost of approximately one million dollars per day, makes their purchase contracts most attractive to manufacturing concerns, and insures their obtaining the best quality in materials at the lowest possible cost.

4. The financial strength of the Ford Motor Company not only greatly increases buying power, but also permits taking full advantage of market conditions. The Company has no bonded indebtedness to meet and its resources are always available for use in the development of the business.

Prices of Ford Products Since 1903

1903-1904

Model A—Runabout	$850
Tonneau	950

1904-1905

Model B—Touring	2000
Model C—Runabout	900
Tonneau	1000
Model F—Touring	1000

1905-1906

Model B—Touring	2000
Model F—Touring	1000

1906-1907

Model N—Runabout	600
Model R—Runabout	750
Model S—Runabout	700
Roadster	750

October 1, 1907 to September 30, 1908

Model K—Roadster	2800
Touring	2800

October 1, 1908

Model T—Touring	850
Town car	1000
Roadster	825
Coupe	950
Landaulet	950

1909—to October 1

Model R—Runabout	750
Model S—Runabout	700
Roadster	750

October 1, 1909

Model T—Touring	950
Tourabout	950
Roadster	900
Coupe	1050
Landaulet	1100
Town car	1200

October 1, 1910

Roadster	680
Tourabout	725
Touring	780
Coupe	840
Town car	960
Landaulet	1100

October 1, 1911

Torp. Runabout	590
Commercial roadster	590
Touring	690
Delivery car	700
Town car	900

October 1, 1912

Model T—Runabout	525
Touring	600
Town car	800
Delivery	625

August 1, 1913

Runabout	500
Touring	550
Town car	750

August 1, 1914

Runabout	440
Touring	490
Town car	690
Sedan	975
Coupe	750
Chassis	410

August 1, 1915

Runabout	$390
Touring	440
Coupelet	590
Sedan	740
Town car	640
Chassis	360

August 1, 1916

Runabout	345
Touring	360
Coupelet	505
Sedan	645
Town car	595
Chassis	325

August 1, 1917

Touring	360
Runabout	345
Chassis	325
Truck Chassis. (Effective 7/7/17)	600
Coupelet	505
Sedan	645
Town car	595

October 6, 1917

Coupelet	560
Sedan	695
Town car	645

February 21, 1918

Touring	450
Runabout	435
Chassis	400
Truck Chassis	600

April 1, 1918

Tractor	750

August 16, 1918

Model T—Touring	525
Runabout	500
Coupelet	750
(Inc. Starter & Dem. Rims) Sedan	875
(Inc. Starter and Dem. Rims) Truck Chassis	550
(With solid tires) Truck Chassis	590
(With pneumatic tires) Chassis	475
Dem. Rims and Spare Rim Carrier, 30x3½" Tire all around (Open Type)	$25.00 extra

April 1, 1919

Tractor	885

June 16, 1919

Tractor	750

March 3, 1920

Touring Car	575
Runabout	550
Sedan (Inc. Starter)	975
Coupe (Inc. Starter)	850
Chassis	525
Truck (Pneumatic)	640
Truck (Solid)	600
Tractor	850
Dem. Rims (Open Type)	$25.00 extra
Starter (Open Types)	$75.00 extra

September 22, 1920

Touring	$440
Runabout	395
Sedan	795
Coupe	745
Chassis	360
Truck Chassis	545
(With Pneu. Tires and Demountable Rims) Tractor	700
Dem. Rims (Open Types)	$25.00 extra
Starter (Open Types)	$70.00 extra

January 26, 1921

Tractor	625

June 7, 1921

Touring Car	415
Runabout	370
Sedan (Start., Dem. Rims)	760
Coupe (Start., Dem. Rims)	695
Chassis	345
Truck Chassis	495
(Pneu. Tires & Dem. Rims) Tractor	625

September 2, 1921

Touring	355
Runabout	325
Sedan (Starter, Dem. Rims)	660
Coupe (Starter, Dem. Rims)	595
Chassis	295
Truck Chassis	445
(With Pneumatic Tires and Dem. Rims) Tractor	625

January 16, 1922

Touring Car	348
Runabout	319
Sedan (Starter, Dem. Rims)	645
Coupe (Starter, Dem. Rims)	580
Chassis	285
Truck Chassis	430
(With Pneumatic Tires and Dem. Rims) Tractor	625

January 27, 1922

Tractor	395

October 17, 1922

Touring	298
Runabout	269
Sedan, 2-door (Start. and Dem. Rims)	595
Sedan, 4-door (Start. and Dem. Rims)	725
Coupe S. S. and D. R.	530
Chassis	235
Truck Chassis	380
(Pneu. Tires and Dem. Rims) Tractor	395

Detailed Engineering Specifications
Model "T"

Engine

General—

Engine—Model T.
Engine Type—"L" Head.
Stroke—4"; Bore—3¾".
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".
Brake H. P. and Curve Peak—20 at 1600.
Compression Ratio—3.98.
Cylinder Head Bolts, No. of—15.

Valves—

Material—Stem, cold rolled steel; Head, cast iron.
Valve Seat, Angle of—45°.
Valve Lift—.225".
Valve Opening, Diameter—1 5/16".
Valve Seat Width—3/32".

Pistons—

Material—Grey iron casting.
Weight—2 lbs. 1 oz. min.; 2 lbs. 4 oz. max.—1 lb. 10 oz. min.; 1 lb. 12 oz. max.
Length Overall—3.808" to 3.817".
Piston Rings, No. of—3.

Piston Rings—

Material—Cast Iron.
Diameter—3.750" to 3.751".
Kind of Ring—One piece, split ring, diagonal cut.
Wall Pressure—10 to 15 lbs.
Angle of Cut—45°.
Width—1/4".
Depth—13/64".

Wrist Pin—

Material—Machined seamless steel tubing.
Diameter—.740" to .741".
Length—3½".

Connecting Rods—

Material—Steel forging (I beam section).
Length, Center of Bearing to Center of Clamp—7".
Bearing Length, Crankshaft End—1.4" to 1.505".
Bearing Diameter—1.2475" to 1.2485".
Kind of Bearing—Special Ford Babbitt.
Rod, Weight—1 lb. 3 oz. to 1 lb. 7 oz.

Crankshaft—

Material—Drop forging alloy steel heat treated.
Length, Overall—25 $\frac{6}{32}$".
Weight, Total—12.71 lbs.
Bearings, No. of—3.
Fly Wheel Flange, Diameter—3.997" to 3.999".
Connecting Rod Pins, Diameter—1.248"; Length—1.495" to 1.505".
Crankshaft Gear—Steel teeth, 24.

Crankshaft Bearings—

	Front	Center	Rear
Diameter	1.248"	1.248"	1.248"
Length	2"	2 $\frac{3}{16}$"	3 $\frac{1}{8}$"

Fly Wheel—

Location—Integral with magneto.
Material—Cast iron.
Outside Diameter over Starter Gear Teeth—15.2".
Number of Teeth—120.
Ratio of Fly Wheel to Bendix Drive Gear—12 to 1.

Camshaft—

Material—Steel forging heat treated.
Overall Length—22 $\frac{23}{32}$".
Camshaft Speed—$\frac{1}{2}$ that of engine.
Camshaft Bearing Bushings—Cast iron.

Camshaft Bearings—

	Front	Center	Rear
Diameter	.748"	.748"	.748"
Length	1.967"	2 $\frac{7}{16}$"	1 $\frac{3}{4}$"

Camshaft Gear—

Material—Malleable iron.
Teeth, No. of—48.

Transmission

Details—

Type—Special Ford Planetary.
Speeds—2 forward, 1 reverse.
Location—Part of flywheel unit.
Lubricant—Engine Oil.
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.

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.
Wearing Surfaces—Grease and 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.

Wiring System—

Insulation—All rubber or braid,
National electric code specifications.
Wire Gauge—No. 16 or over.

Lamps—

Headlight Type—New Ford "H".
Headlight Bulb—21-candle power gas filled double filament.
Headlight Lens Diameter—8⅛" to 8 $\frac{3}{16}$".
Tail Lamp Bulb—2 c. p.

Horn—

Type—Vibrator.

Fuel System

Carburetor—

Make—Ford.
Model—Holley Model G.
Size—1".

	Square	Round	Oval
Tank Capacity.....	9¾ gal.	10 gal.	9½ gal.

Cooling System

Thermo Syphon—

Total Capacity—25 pints, (1 pint more than old style)
Capacity Water Jackets and Hose—5 quarts.

Fan—

O. D. Diameter—14"; Number of Blades—4; Speed—1.45 to 1 of engine.
Fan Belt—Length 27½", width 1⅛".
Belt Type—Flat endless.
Belt Make—Goodyear.

Radiator—

Tubes, Number of—95.
Fins, Number of—93.

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—7.

Steering Apparatus

Description—

Type—Planetary.
Steering Wheel, Diameter—16".
Steering Gear Pinions, Number of—3.
Teeth in Steering Gear Pinions, Number of—12.
Teeth in Steering Gear Shell, Number of—36.

Exhaust

Muffler—

Material—Pressed steel.
Outside Diameter—5⅛".
Length—12".

Instrument Board

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

Weights of Ford Bodies

Runabout—278 lbs.
Coupe—504 lbs.
Touring—400 lbs.
Sedan, 2-Door—648 lbs.
Sedan, 4-Door—690 lbs.

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.

Shipping and Road Weight
Model T and Ton Truck

Current Models	Demountable		Clincher	
Types	Non-Starter	Starter	Non-Starter	Starter
Model T Chassis	1140	1262	1082	1175
Touring Car	1535	1662	1477	1571
Roadster	1445	1540	1385	1480
Coupe	.....	1772	.....	.....
Sedan, 2 Door	.....	1898	.....	.....
Sedan, 4 Door	.....	1950	.....	.....
Ton Truck Chassis	1427	1572	1480 (Solid)	.....

Road Weight Information

To secure road weight add 79 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-Model "T"—Continued

Turning Radius and Circle—

RADIUS	19'-3"
CIRCLE	38'-6"

Road Clearance—

CLEARANCE	10¼"

Tread—

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

Rear Springs

Type—Transverse	Semi-elliptic
Spring Length	43⅜ to 43⅝"
Spring Width	2"
No. of Leaves	8.—Sedan Model, 9

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

Rear Axle Details

General—

Type	Live
Gears, Type	Straight bevel
Lubricant	Heavy semi-fluid oil
Quantity	1½ lbs.

High Gear Ratios

Model T	3.63 to 1
Ton Truck	7¼ to 1
Ton Truck (special)	5⅛ to 1

Brakes—Details

Hand (Emergency)—

Location	Rear Wheels
Drum Diameter	8"
Drum Width	1 5/32" to 1 3/16"

Foot (Service)—

Location	Transmission
Lining Length	23 7/16" to 23½"
Width	1 5/32" to 1 3/16"

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 (Pneumatic)—

Regular	30" x 3" Front 30" x 3½" Rear
Demountable	30" x 3½" Front and Rear

Ford License Data

Information usually required in making application for license:

Engine:

No. of cylinders....4
Cylinder bore....3¾"
Stroke....4
Piston displacement....176.7 cu. inches
Horse Power (S. A. E.)....22.5

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	Ford Black 4 Coats	Black Artificial Leather, Pebble Grain	One Man Top Top Irons Ventilating Windshield Side Curtains
Coupe 2 passenger and Sedan Tudor 5 passenger	Ford Black 5 Coats Red Hairline Body Stripe	Rich Dark Brown Wool Fabric. Carpets and Silk Curtains to Match	Ventilating Windshield coupe & Tudor with Visor, Tudor Windows Crank Operated, Coupe Door Crank Operated Coupe Quarter Lever Operated
Sedan Fordor 5 passenger	Ford Black 5 Coats Gold Hairline Body Stripe	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	FORDOR COUPE TUDOR
Upper Half $9\frac{5}{8} \times 35\frac{11}{16}$	Upper Half $9\frac{3}{4} \times 37\frac{1}{16}$
Lower Half $9\frac{5}{8} \times 37\frac{3}{16}$	Lower Half $7\frac{3}{4} \times 37\frac{3}{16}$

ENGINE SPEEDS IN RELATION TO M. P. H. OF CAR

CAR SPEED M. P. H.	MODEL T STD. GEARS 3.63 TO 1			TON 7½ : 1 RATIO			TRUCK 5⅝ : 1 RATIO		
	HIGH	LOW	REV.	HIGH	LOW	REV.	HIGH	LOW	REV.
1	41	112	163	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	1303
7	285	783	1139	533	1466	2132	380	1045	1520
8	325	895	1301	609	1675	.....	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	2236	.....	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 7¼ TO 1	SPECIAL GEARS 5⅝ 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	14.52—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	7393.06	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

Summary of

Improvements

Made in Ford Models

The following detailed list of changes and improvements in the chassis upon which new style bodies are mounted and also detailed list of improvements in the Fordor Sedan and Coupe body.

Chassis

Higher radiator **New shell** **Wider hood**
New front apron **Steel dash**
New front fender apron **New hood blocks**
Commutator loom assembly below porcelains.
Double filament bulb in headlights. **New Light Pistons.**

Fordor Sedan

New running board shield bolted to sill of body. Different curve.

No rear fender arm.

Fender bolted to body.

New rear fender curving outward at end.

Ventilator in cowl operated by quick action lever under the dash.

Windshield visor of leather supported to body by two steel rods.

Upper windshield operated by nickeled sliding rods and adjustable. Has pull-to brackets on lower side windshield frames.

Bottom windshield does not open.

Upper windshield is wider and lower windshield is narrower, bringing the division and the rubber strip below the vision of the driver.

Steering column supported by steel bracket bolted to dash.

Front seat divided. Gas tank opening under right half of front seat.

Check straps on doors are rubber.

Revolving door window regulators.

Inside door latch and regulators nickeled.

Pull rod on doors eliminated. New arrangement on window sill. (Embossed finishing strip).

Upholstery of soft brown cloth with mahogany stripe. Head lining plain brown mixed.

Yale lock on right front door. Inside locks on all others.

Dome light operated by switch on pillar back of right rear door at convenient height. Dome light finished in nickel.

Rear side windows operated by rod and knob type.

Silk curtains on rear side and back windows. Curtain brackets nickeled.

IMPROVEMENTS—Continued

Broad square back window, stationary.

Back of front seat designed to permit room for feet of passengers in back seat, making a more comfortable arrangement.

Battery box enclosed in sheet steel box with door in top which can be removed for filling battery. Door kept securely in place by bracket from top of battery box.

Door handles black with nickel trimmings.

Top of body covered with leather.

Anti-rattling device on all doors—slot in frame with steel piece which fits into slot.

Heavy covered hinges on all doors—rust-proof.

Coupe

New rear fender curving outward at end.

Rear fender apron bolted to sill of body.

Ventilator in cowl operated by quick action lever under the dash

Windshield visor supported to body by two steel rods. Visor of leather.

Windshield operated by nickeled sliding rods and adjustable. Has pull-to brackets on lower side of windshield frame.

Bottom windshield does not open.

Upper windshield is wider and lower windshield is narrower, bringing the division and the rubber strip below the vision of the driver.

Steering column supported by steel bracket bolted to dash.

Seat divided. Gas tank opening under right half of seat.

Check straps on doors are rubber.

Revolving door regulators.

Inside door latch and regulators nickeled.

Pull rod on doors eliminated. New arrangement on window sill. (Embossed finishing strip).

Turtle back rear deck with increased carrying capacity.

Upholstery of softbrown cloth with mahogany stripe. Head lining plain brown mixed.

Yale lock on right front door.

Inside lock on other door.

Rear side windows operated by rod and knob type.

Silk curtain on rear window. No curtain on side windows. Curtain brackets nickeled.

Broad, square back window, stationary.

Battery box enclosed in sheet steel box with door in top which can be removed for filling battery. Door kept securely in place by bracket from top of battery box. Battery held in bracket under rear deck and is accessible through trap in floor of rear compartment.

Door handles black with nickeled trimmings.

Top of body covered with leather.

Anti-rattling device on both doors. Slot in frame with steel piece on door which fits in the slot.

Heavy covered hinges on doors.

Recess shelf at back of seat for carrying small parcels.

Doors hinged at front.

Action Photographs of Ford Passenger Cars

Beauty *and* Refinement

This view shows the comfortable interior. Notice how conveniently the right front seat folds out of the way giving plenty of room for the driver to get in or out from either side, without inconvenience.

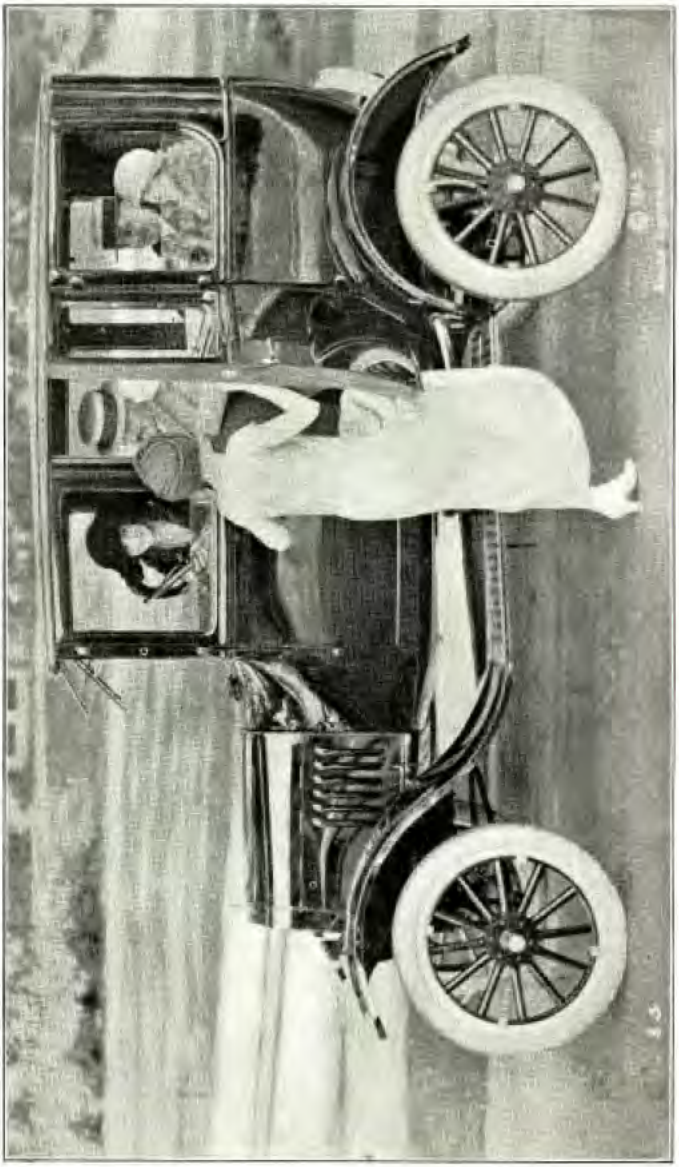
Side windows are thirty-two (32) inches wide and can be lowered flush with the sill giving a maximum of ventilation when desired.

Comfort *and* Luxury

The larger cowl and higher hood and radiator vastly improve the appearance of the new Tudor Sedan.

This luxurious, roomy body is the last word in riding comfort. Comfort and luxury is the key note of this new car.

TUDOR SEDAN



Beauty *and* Refinement

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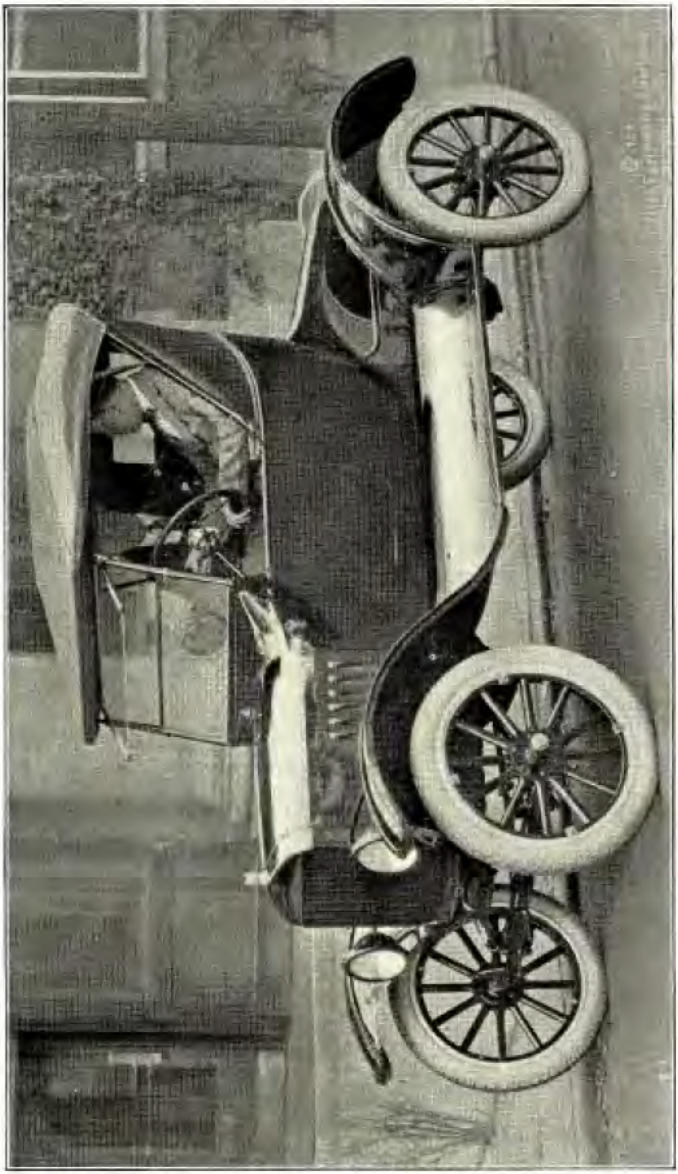


FORD PASSENGER CAR PRICES

February, 1924 At_____

	List	Frt.& Del.	Tax	Del. Price
CHASSIS				
Reg RW	230	.....	.....	.....
" DW	250	.....	.....	.....
SS RW	295	.....	.....	.....
SS DW	315	.....	.....	.....
RUNABOUT				
Reg RW	265	.....	.....	.....
" DW	285	.....	.....	.....
SS RW	330	.....	.....	.....
SS DW	350	.....	.....	.....
TOURING				
Reg RW	295	.....	.....	.....
" DW	315	.....	.....	.....
SS RW	360	.....	.....	.....
SS DW	380	.....	.....	.....
COUPE				
SS DW	525	.....	.....	.....
SEDANS				
Fordor	685	.....	.....	.....
Tudor	590	.....	.....	.....

NEW FORD BODY PRICES

Type	List	Frt.& Del.	Tax	Del. Price
Runabout..	60	....	....	.....
Touring...	80	....	....	.....
Coupe.....	235	....	....	.....
Tudor.....	300	....	....	.....
Fordor....	390	....	....	.....

NOTICE—Crating charges for all open models $10.00 and closed models $20.00 extra.

MODEL "T" COMMERCIAL BODIES

MODEL NO.	TYPE AND DESCRIPTION	BODY PRICE MOUNTED		DELV'D PRICE WITH CHASSIS	
	LIGHT OPEN EXPRESS (No Top)				
	LIGHT OPEN EXPRESS (Cab Top)				
	SUBURBAN OR JITNEY				
	SUBURBAN OR JITNEY				
	6 POST PANEL (Open)				
	6 POST PANEL (Vestibule)				
	6 POST CURTAIN SIDES				
	METAL PANEL (Open)				
	METAL PANEL (Vestibule)				
	SWELL SIDE PANEL (Open)				
	SWELL SIDE PANEL (Vestibule)				

RUNABOUT SLIP-ON BODIES

	Size				
	BOX				
	BOX				
	BOX				
	SLIP ON OPEN EXPRESS				

ACCESSORIES

	WINDSHIELD				
	REAR COMMER. FENDERS				
	FRONT FLOOR BOARDS				
	DUMMY DOORS				
	STORM CURTAINS				
	SCREENS ALL SIDES				
	OPEN CAB				
	OPEN CAB WITH WINDSHIELD				
	VESTIBULE CAB				

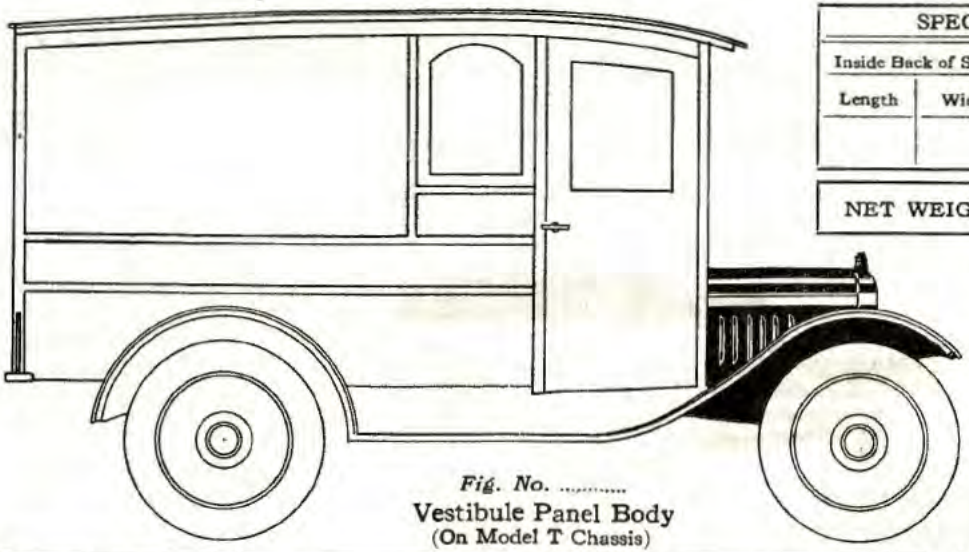


Fig. No. .....

Vestibule Panel Body

(On Model T Chassis)

SPECIFICATIONS			
Inside Back of Seat		Height of Top	
Length	Width	Floor to Roof	Rear Opening

NET WEIGHT	

PRICES	
Body Mounted	.....
Windshield	.....
Fenders	.....
Excise Tax	.....
Chassis	.....
Total	.....

Mfg. by		Paint		Style No.	

Vestibule front panel body for cold climates or for winter use. Sides covered and leveled to insure a flat, smooth surface. All doors held rigidly by sturdy fasteners, have stout framework. Full protection for the load, and comfort for the driver, in any weather, is assured with this type rain-tight, dust-proof body. Equipment—Vestibule front includes windshield; double doors in rear; spring cushion; toe boards.

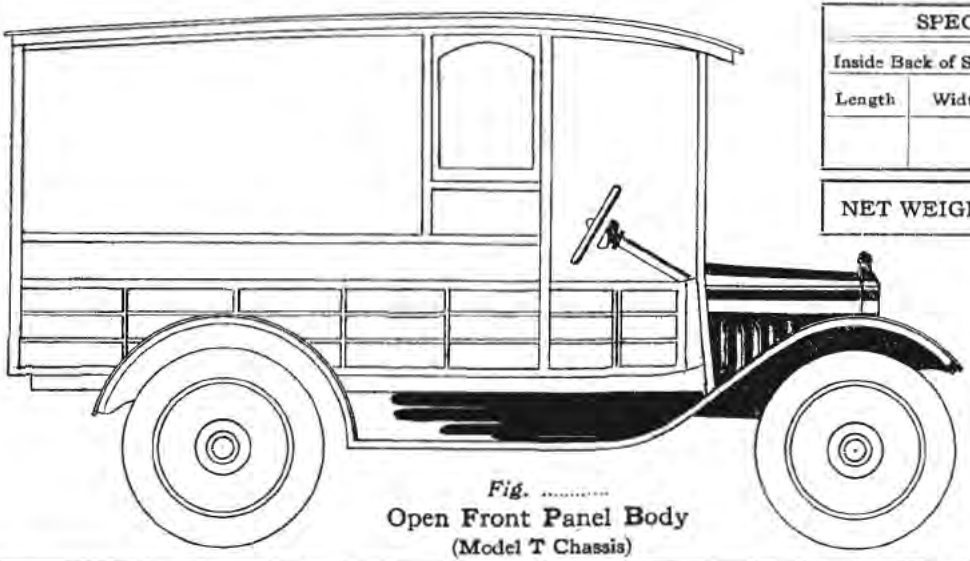


Fig. .....

Open Front Panel Body

(Model T Chassis)

SPECIFICATIONS			
Inside Back of Seat		Height of Top	
Length	Width	Floor to Roof	Rear Opening

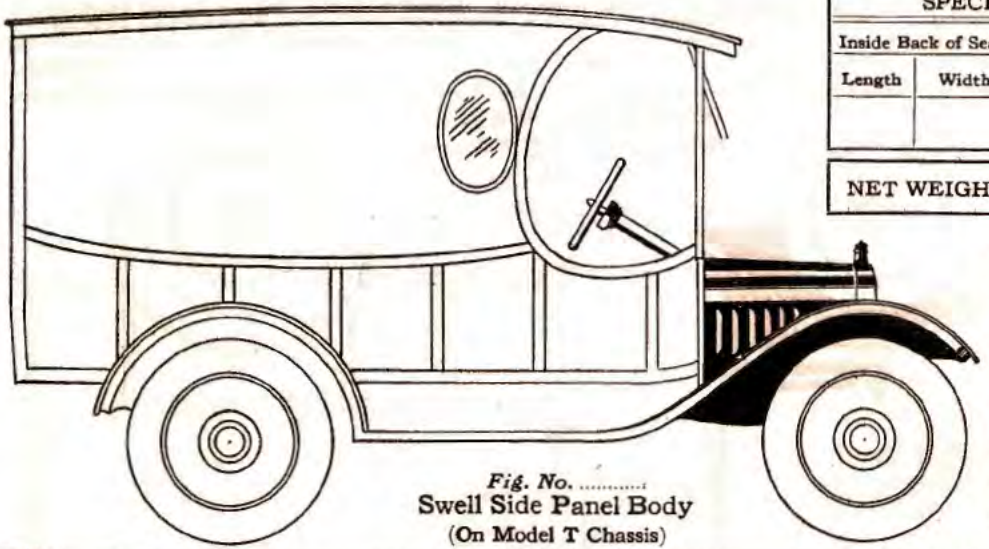
NET WEIGHT	

PRICES	
Body Mounted	
Windshield	
Fenders	
Excise Tax	
Chassis	
Total	

Mfg. by		Paint		Style No.	

Panel body with open front, for summer service or for use in mild climates, designed for service that requires full protection for the load. Top rigidly braced. Rear doors equipped with patent fasteners and anti-rattlers.

Regular Equipment—Windshield; fenders; double doors in rear; spring cushion; sash and glass at seat side windows; toe boards. Extra Equipment—Driver's storm curtains, when ordered, are supplied at an additional charge.



SPECIFICATIONS			
Inside Back of Seat		Height of Top	
Length	Width	Floor to Roof	Rear Opening

NET WEIGHT	

PRICES	
Body Mounted	
Windshield	
Fenders	
Excise Tax	
Chassis	
Total	

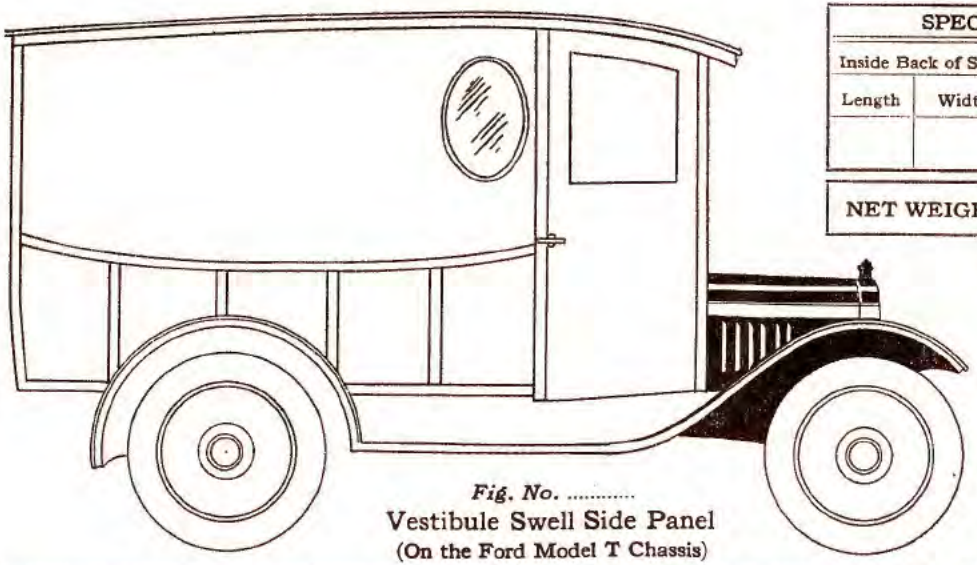
Fig. No. .....

Swell Side Panel Body

(On Model T Chassis)

Mfg. by		Paint		Style No.	

A Swell Side Body with fine lines; door on right side. Bottom panel, metal, moulded outside. Glass at sides and in rear doors. Rear of body is swell shaped with cross mouldings on doors conforming to side construction. Equipped with spring cushion and spring steel lazy back



SPECIFICATIONS			
Inside Back of Seat		Height of Top	
Length	Width	Floor to Roof	Rear Opening

NET WEIGHT	

PRICES	
Body Mounted	
Windshield	
Fenders	
Excise Tax	
Chassis	
Total	

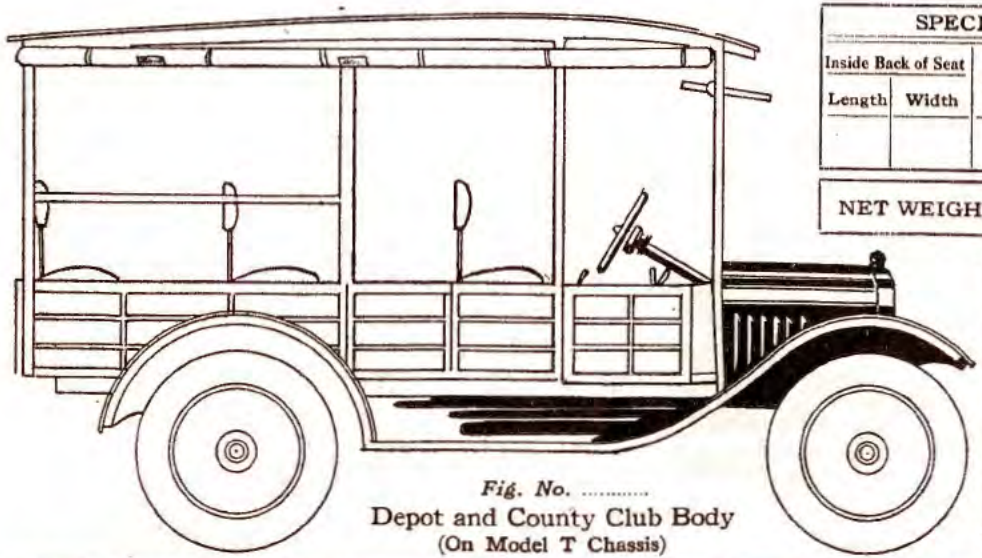
Fig. No. .....

Vestibule Swell Side Panel

(On the Ford Model T Chassis)

Mfg. by		Paint		Style No.	

Vestibule front, panel body for all-season protection for the driver. A rain-proof, dust-proof body for transporting commodities requiring full protection from the weather. Regular Equipment—Windshield; glass at seat side windows; double doors in rear; spring cushion; toe boards.



SPECIFICATIONS				
Inside Back of Seat		Panel	Height of Top	
Length	Width		Floor to Roof	Rear Opening

NET WEIGHT	

PRICES	
Body Mounted	
Windshield	
Fenders	
Excise Tax	
Chassis	
Total	

Fig. No. .....

Depot and County Club Body

(On Model T Chassis)

Mfg. by		Paint		Style No.	

Fancy passenger body with rear seats easily removable to convert it quickly for hauling freight. Especially popular for station service, at country resorts and among farmers. Framework, posts and windshield finished in natural wood. Seats upholstered in artificial leather with soft spring cushions. Drop curtains all around for bad weather. Center seat folds to admit passengers to rear seat. Two rear seats are removable so that the body is easily converted for general hauling.

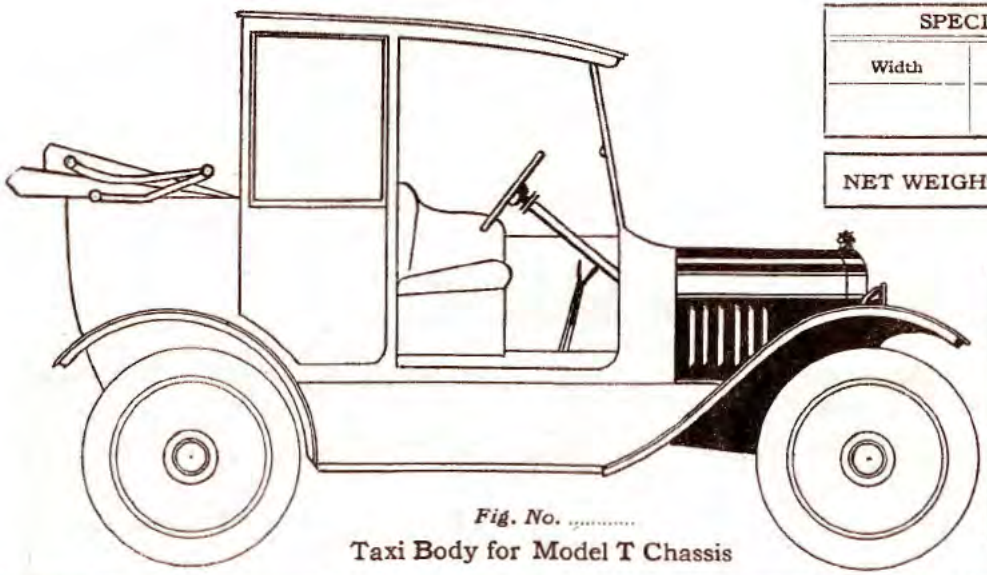


Fig. No. .....

Taxi Body for Model T Chassis

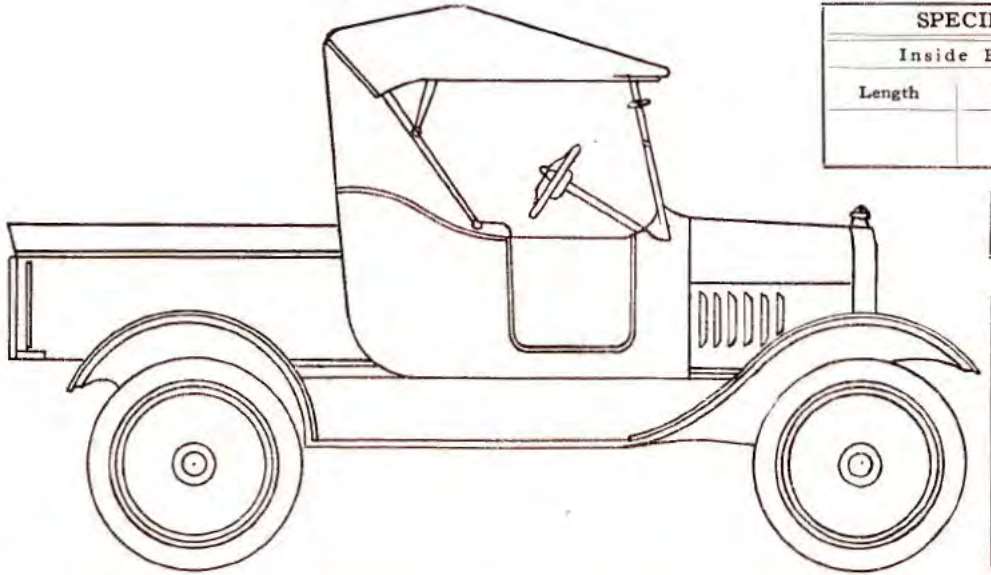
SPECIFICATIONS		
Width	Height	Length

NET WEIGHT	

PRICES	
Body Mounted	.....
Windshield	.....
Fenders	.....
Excise Tax	.....
Chassis	.....
Total	.....

Mfg. by		Paint		Style No.	

Seats		Upholstery	



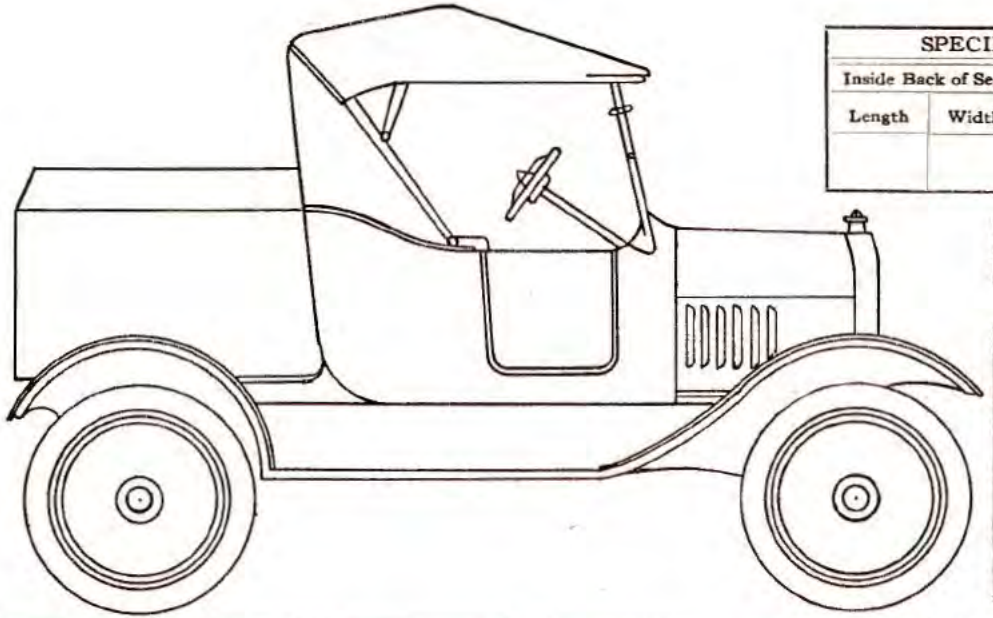
SPECIFICATIONS		
Inside Back of Seat		
Length	Width	Height of Sides

NET WEIGHT	

PRICES	
Body Mounted	
Windshield	
Fenders	
Excise Tax	
Chassis	
Total	

Mfg. by		Paint		Style No.	

A Passenger and Light Delivery Car combined. Body can be readily attached by removing "turtle back" and bolting body to chassis. Popular with City Salesmen, Plumbers, Painters and Contractors, Etc.



SPECIFICATIONS			
Inside Back of Seat		Height of Top	
Length	Width	Floor to Roof	Rear Opening

NET WEIGHT	

PRICES	
Body Mounted	
Windshield	
Fenders	
Excise Tax	
Chassis	
Total	

Mfg. by		Paint		Style No.	

For carrying material that must be protected from the weather. Body attached readily by removing "turtle back" and bolting body to chassis. Ideal for Salesmen, Bakers, Etc. This body is well built and strongly braced.

Ford Truck Logic

Expert Construction on Scientific Principles

Ford engineers, in planning the construction of the truck, knew from large experience the essential features to incorporate in order to make it a success. Reduced to the simplest terms, these essentials were simplicity, strength, economy, service. To such an extraordinary degree were these qualities incorporated that the popularity of the truck was assured from the time the first model appeared on the market.

Power and Strength

The builders designed it with more than sufficient power to carry a ton. The frame, the axle, every bolt, nut and screw, in fact the entire mechanism throughout, is built for strength.

Economy of Upkeep

In the matter of gasoline and oil consumption, tire upkeep and general repair, it is the last word in economy.

Simplicity

All owners of Ford cars are agreed that there is nothing complicated in the mechanical details. The truck possesses this same simplicity.

Exclusive Features and Specifications

Axles

Front axle of I-beam construction, especially drop-forged from Ford steel, insuring the highest quality of axle strength obtainable. Rear axle also of Ford steel, and enclosed in a tubular steel housing. The differential is of two-pinion type; all gears are drop-forgings made of Ford steel.

Brakes

Dual system. Service brake operates on the transmission and is controlled by foot pedal. Expanding brake in rear wheel drums serves as emergency brake. It is controlled by hand lever on left side of car.

Carburetor

Float feed automatic with dash adjustment. Specially designed to give maximum power, flexibility and easy starting, with economy of fuel consumption.

Clutch

Multiple steel disc, operating in oil.

Control

On the left side of car. Three foot-pedal controls, low and high speeds, reverse, and brake on the transmission. Hand levers for neutral and emergency brake on left side of car. Spark and throttle levers directly under steering wheel.

Cooling

By Thermo-Syphon water system. Extra large water jackets and a special Ford vertical tube radiator to permit of a continuous flow of water and prevent excessive heating. A belt-driven fan is also used in connection with the cooling system.

Exclusive Features and Specifications (Cont'd)

Final Drive

Is of the worm type, enclosed in a dust and oil-proof housing. Direct shaft drive to the center of chassis; only one universal joint is necessary. A ball socket arrangement in the universal joint reduces shocks and strains caused by the unevenness of the road.

Gasoline Capacity

Tank of 8 Imperial or 9½ U. S. gallons capacity mounted directly on frame. Lubrication-combination gravity and splash system. Oil is poured into crank case through the breather pipe on the front cylinder cover. All moving parts of motor work in oil and distribute it to all parts of the power plant.

Magneto

Special Ford design, built in and made a part of the motor. Only two parts to the Ford magneto, a rotary part attached to the flywheel and a stationary part attached to the cylinder casting. No brushes, no commutators, no moving wires to cause annoyance on the Ford Magneto.

Motor

Four-cylinder, four cycle. Cylinders are cast in one block with water jackets and upper half of crank case integral. Cylinder bore is three and three-quarter inches. The Ford motor develops full twenty horse-power. Special Ford removable cylinder head permits easy access to pistons, cylinders and valves. Lower half of crank case, one-piece pressed steel extended so as to form bottom housing for entire power plant; air-proof, oil-proof, dust-proof. All interior parts of motor may be reached by removing plate on bottom of crank case—no "tearing down" of motor to reach crank shaft, cam shaft, pistons, connecting rods, etc. Ford steel is used on all Ford crank and cam shafts and connecting rods.

Springs

Both front and rear springs are semi-elliptical transverse, all made of specially Ford heat-treated steel. Ford springs are the strongest and most flexible that can be made.

Steering

By Ford planetary reduction gear system. Steering knuckles and spindles are forged from special Ford heat-treated steel, and are placed behind front axle.

Three Point Suspension

Each of the Ford units is suspended at three points of the chassis. This method of suspension insures absolute freedom from the strain on the moving parts.

Transmission

Special Ford spur planetary type, combining ease of operation and smooth, silent running qualities. Clutch is so designed as to grip smoothly and positively, and when disengaged to spring clear away from the drums, thus assuring positive action and maximum power.

Unit Construction

There are four complete units in the construction of a Ford car—the power plant, the front running gear, the rear running gear and the frame.

Exclusive Features and Specifications (Cont'd)

Valves

Extra large, all on right side of motor and enclosed by a small steel plate.

Wheel Base

The 1 Ton Truck has a wheelbase of one hundred twenty-three inches. The standard tread for all cars is fifty-six inches. The truck will turn in a forty-six foot circle, or in a radius of 23 feet.

Wheels and Tires

Wooden wheels of the artillery type with extra heavy hubs. Only tires of the highest grade are used on Ford cars. Front pneumatic, 30 x 3½", rear wheels, solid rubber tires 32 x 3½" or pneumatic cord 32 x 4½ inches.

Gear Ratio

The standard gear ratiois 7¼ to 1. The high speed gear ratio is 5⅙ to 1.

Carrying Capacity

One ton.

Lubricant for Worm

An A-1 heavy fluid or semi-fluid is used to lubricate differential in Model T Truck.

Speed

With standard gearing, a speed of not more than 15 m. p. h. is recommended, and with special gearing, a speed of not more than 22 m. p. h. is recommended.

Utility of the Ford Truck for the Farmer

One Motor Truck Replaces from Six to Eight Horses

While the truck is being introduced largely because it offers cheaper hauling than horses, a factor equally as important is its ability to do things entirely beyond the horse. It will carry twice the load in half the time. Many trucks are carrying raw materials to factories. The absence of this service rendered would often mean that thousands of men would go idle for lack of the material on which they work.

It Takes a Five-Acre Crop to Feed One Horse for One Year

For every horse supplanted with a Ford Truck, five acres is added to the farm. The truck will make available for raising food stuffs the land whose yearly crop is otherwise required to feed a horse.

The Ford Truck Assists the Farmer Through the Rush Season

Where there is a shortage of labor, Ford trucks conserve by hauling grain, hay and corn. It is as essential on the farm as the binder.

The Ford Truck Gives the Farmer More Time for Cultivation of Crops

Many farmers have been inclined to decrease the production of perishable foodstuffs, owing to the time required for hauling to market and the shortage of labor. Lots of fruit, vegetables and other produce which could be marketed are left on the farm to rot. The use of the truck in Rural Motor Express Lines, offers the best possible medium through which Farmers, Truck Growers, and Dairymen may go to market; thus increasing the local food supply of perishables.

The Ford Truck "Eats" Only When It Is Working

The Ford truck has no expense for food during idle hours. It never goes lame, gets the colic or dies.

The Ford Truck Gives the Farmer Top-Notch Produce Prices

The Farmer depends as much on rapid access to market as on the productivity of his farm. The prices obtained for many classes of produce depends to a large extent upon placing them on the market at the right time in good condition.

The Ford Truck Saves Shrinkage in Hauling Live Stock

The truck has many uses in farm work, one of which is the hauling of live stock to market. A certain live stock farmer, being at first skeptical regarding the adaptability of a truck to his work, finally *did* purchase one and discovered that the increased revenue obtained for his stock, because of the reduced shrinkage in hauling them to market by truck, as against his old method, *more than paid for the cost of each trip.*

The Ford Truck Hauls Cheaper than a Team

The expense of operating a truck is about one-half or less than that of a team. The total cost of operation for gasoline, oil, grease and tires will range from 6 to 10 cents per mile. Modern farmers know enough about mechanics to operate and maintain trucks economically, and two or more farmers with not enough use for a truck apiece can buy and operate one together.

The Ford Truck Will Give the Farmer Two Hours More Working Time Each Day

The farmer living twenty miles from town and using a truck, is just as near as one five miles away who depends on team hauling. The truck saves two hours or more each day that would otherwise be spent in harnessing, feeding and watering a team.

Trucks shorten the miles.

Farm Uses for Ford Trucks

Fence repairing and building.
Hauling implements to and from fields.
Pulling hay loaders.
Hauling seed, grain and fertilizer to the seeder.
Hauling wood.
Hauling manure to the field.
Hauling bundle grain to the thresher.
Hauling threshed grain to the bin.
Hauling fuel, water and lubricating oil to the tractor.
Hauling baled hay to the barn.
Hauling corn bundles to the silage cutter.
Hauling corn to the corn-crib, or corn-shocks to the husker-shredder.
Hauling ear corn from the corn picket to the crib.
Hauling stones from the field.
Hauling drain tile.
Hauling water to live stock.
Hauling supplies to the farm.
Hauling products to the market.

80% Of All Trucks In Use Today Are 1-Ton and Less

51% Of Trucks In U.S. Are Fords

Ford - 51% 665,912

3½ % 46,026 - Reo

3½ % 46,187 - Republic

3 2/5% 43,981 - Dodge

3 % 37,890 - White

2 % 27,061 - International

1 3/4% 22,422 - Chevrolet

1⅔ % - 21,000 - G.M.C.

1½ % - 19,866 - Autocar

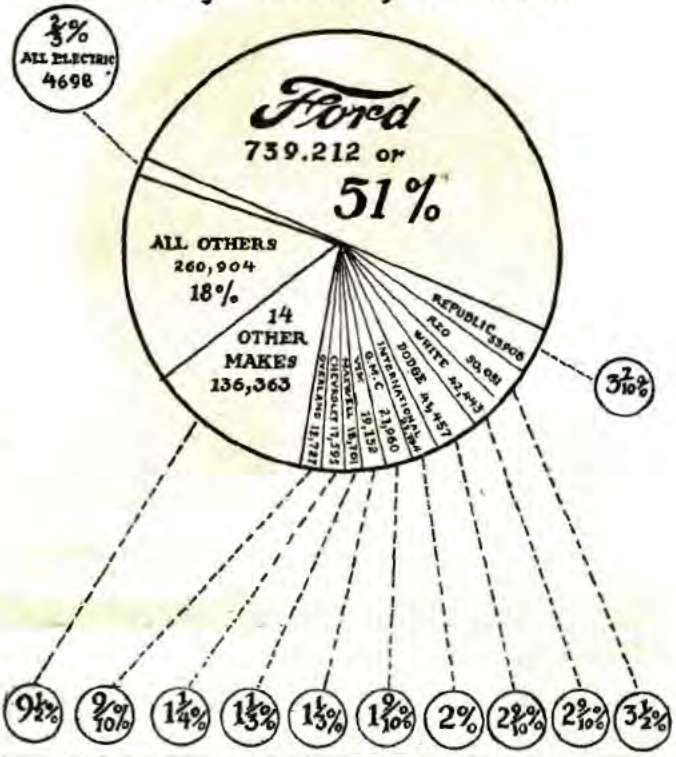
1¼ % - 16,322 - Maxwell

1% - 11.943 - Overland

26 3/4 % - All Others

TRUCK *and* COMMERCIAL CAR REGISTRATION *by* MAKES

As of January 1st 1923



Make of Truck	No. in use Jan. 1, 1923	Number of Ford Trucks in use per Truck of other makes	Make of Truck	No. in use Jan. 1, 1923	Number of Ford Trucks in use per Truck of other makes	Make of Truck	No. in use Jan. 1, 1923	Number of Ford Trucks in use per Truck of other makes
Ford	739,212		Paige	15,947	46.5	Kissel	4,288	153.
Republic	53,908	13.7	Buick	14,016	52.7	Denby	4,091	160.
Reo	50,051	14.7	Olds	13,350	55.	Velie	2,782	236.
White	42,443	17.4	Overland	12,727	58.	Standard	2,751	238.
Dodge	41,457	17.8	Stewart	12,340	60.	Clydesdale	2,551	257.
Inter'nl	28,134	26.3	Nash	12,160	61.	Gramm	2,526	260.
G. M. C.	21,960	33.7	Commerce	10,895	67.9	Transport	1,156	565.
Auto Car	21,708	34.	Studebaker	9,084	89.	Winther	670	980.
Vim	19,152	38.7	Service	6,392	103.	Electrics	4,698	157.
Maxwell	18,701	39.5	Garford	6,151	106.	All Others	223,736	3.3
Chevrolet	17,564	42.	Traffic	5,647	116.	188 Makes		
Federal	15,989	46.4	Diamond T	5,642	116.			

TOTAL CARS 1,443,914

Detailed 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 ..... 124″

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 ..... $123\frac{25}{32}$″
Cross Member, Front ..... 23″
Cross Member, Rear ..... $32\frac{5}{8}$″

Note—Rear cross member length is measured to center line of body bracket holes.

Method of Joining—Hot riveting.

Rear Springs

Type—Transverse ..... Quarter elliptic
Spring Length ..... $16\frac{1}{2}$″ 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 ..... Three-quarter floating
Gears, Type ..... Worm
Lubricant ..... Heavy semi-fluid oil.
Quantity ..... $3\frac{1}{2}$ lbs.

Dimensions—

- Drive Shaft Length . . . . . 71 23/32" to 71 25/32"
- Roller Bearing Length . . . 3 5/8" Wheel end, ball on differential end
- Coupling Type . . . . . 6 Spline
- Drive Shaft Tubing, Length . . . . . 69 11/16" to 69 13/16"
- Drive Shaft Bushing . . . . . 1 1/8" bore x 2" long
- Thrust Bearing DS . . . . . Ball

Differential Assembly—

- Hub Diameter Differential Gear . . . . . 2.184" to 2.187"
- Gear Case Diameter . . . . . 8.122" to 8.125"
- Gear End of Axle Shaft—Diameter of . . . . . 1.623" to 1.624"
- Bearing End of Axle Shaft—Diam. of . . . . . 1.621" to 1.623"
- Axle Shaft Length . . . . . 31 7/8" to 31 15/16"

Housing—

- Length . . . . . 24 13/16"
- Housing Diameter for Roller Bearing Sleeves . . . . 2.998" to 3.002"
- Bell Diameter, Inside . . . . . 11 1/4"
- Bell Diameter, Outside . . . . . 12 1/2"
- From Center of Brake Rod Pull Clips to Center of Radius Rod Bolt Holes . . . . . App. 26"

Brakes—Detail

Hand, (Emergency)—

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

Foot (Service)—

- Location . . . . . Transmission
- Lining Length . . . . . 23 7/16 to 23 1/2"
- Width . . . . . 1 5/32 to 1 3/16"
- Thickness . . . . . 5/32 to 11/64"
- Lining Material—Cotton.

Wheels, Tires and Rims

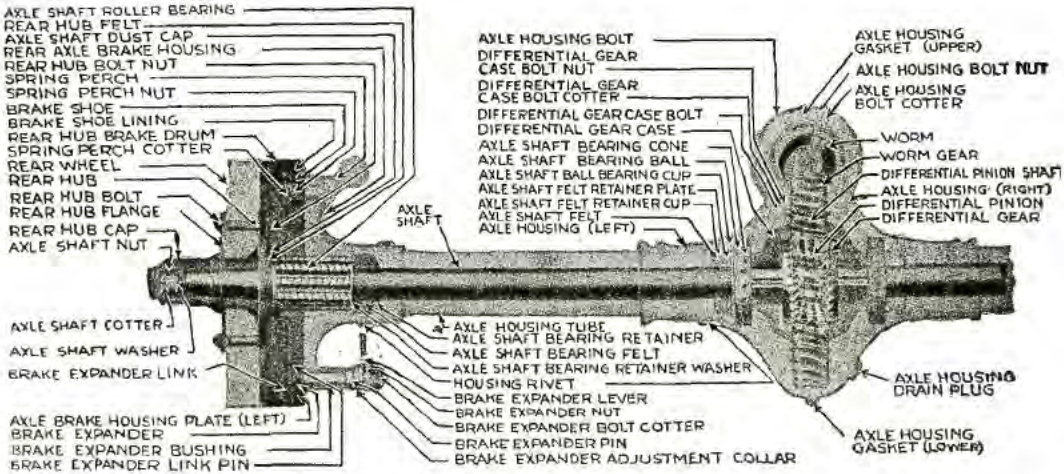
Wheel Type—Artillery.
Rim Make—Hayes, Kelsey or Ford.
Tire Makes—U. S., Firestone, Goodyear, Goodrich, Miller, Mason.

Tire Sizes (Pneumatic)—

- Regular . . . . . 30" x 3" Front
- Demountable . . . . . 30" x 3 1/2" Front
  32" x 4 1/2" Rear SS.

Weight

- Demountable Rims, Starter . . . . . 1572 lbs.
- Demountable Rims, Non-Starter . . . . . 1427 lbs.
- Solid, Non-Starter . . . . . 1480 lbs.



1. *Unscrew* the drive-shaft tube-flange screws. 2. Remove the rear axle housing cap. 3. Take out the bolts which join the two halves of the axle shaft. 4. Remove the rear wheels, after which the two halves of the axle shaft may be pulled apart, thereby exposing the differential to view. TO REMOVE THE WORM PROCEED AS FOLLOWS: 1. Take out the drive shaft to worm coupling pins. 2. Remove the front-worm roller bearing with its retainer and felt. These can be slipped over the coupling. 3. Now drive the coupling from the shaft after which the worm should be forced from the coupling. 4. Unscrew the worm thrust bearing-retainer nut, after which the retaining washer, thrust bearing, and rear-worm roller bearing can be taken off.

Parts

Parts

WHY IMITATION FORD PARTS ARE SOLD AT REDUCED PRICES

Hubs From The Scrap Pile—

One concern advertised front and rear hubs at very low prices and claimed them to be identical in every particular with regular Ford hubs. The investigation disclosed that these hubs just after completion in the plant of the manufacturer were involved in a fire which necessitated their selling them as scrap. In other words, they were considered to be absolutely worthless.

Sometime later a jobber bought the hubs for a *song* and naturally they were marketed at a ridiculously low price.

This is a typical case.

Another disclosure which came to light during the investigation was this:

Poor Stock For Drive Shaft Pinions—

A certain company was cutting drive shaft pinions out of soft bar stock, whereas, standard Ford pinions are made from drop forgings of alloy steel and passed through a special heat treating process. The reason for cut prices is here again quite obvious.

Another case was this:

Claimed Were Ford Pistons—

Pistons of decidedly inferior quality were advertised by a factory that claimed to be supplying the same article to the Ford Motor Company, when as a matter of fact, the Ford Motor Company was producing all the pistons required for Ford products.

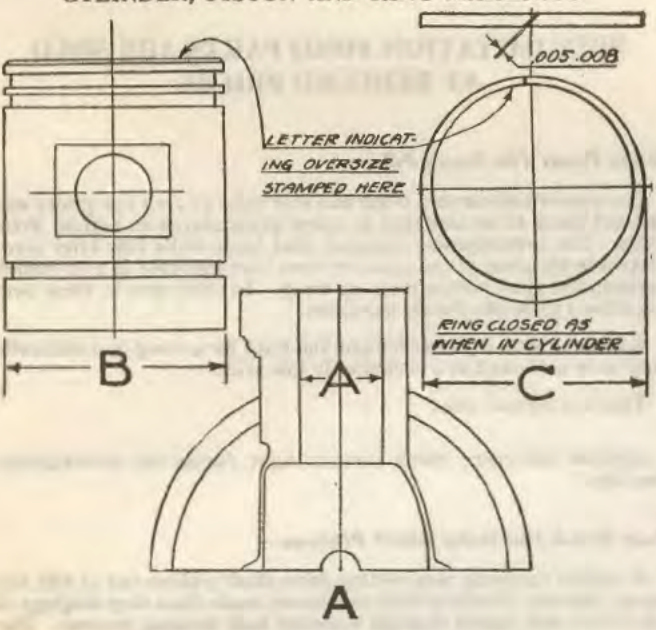
Many other similar claims have come to light concerning a number of parts manufactured exclusively by the Ford Motor Company.

Ford Price Policy—

It should be remembered that the Ford Motor Company has constantly followed a policy of selling its products to the public at the very lowest price commensurate with the high standards of quality it has always maintained. Striking evidence of this fact is found in the phenomenally low prices at which Ford products have always been sold.

It is but logical that the standard Ford parts, manufactured by the Ford Motor Company, or by certain manufacturers who operate under contract with the Ford Motor Company, and build entirely to Ford specifications, are not only the very best parts obtainable for use in Ford products, but are being sold at the very lowest prices possible.

CYLINDER, PISTON AND RING MARKINGS



NOMINAL SIZES	SYMBOL	CYLINDER A
STANDARD SIZE	1535	BORED TO 4.000-4.001
+.005	1535	WORN TO 4.005
+.032	1535C	REBORED TO 4.032-.033
+.037	1535C	WORN TO 4.037
		PISTON B
STANDARD SIZE	1486	3.995 – 3.997
+.005	1486D	4.000 – 4.002
+.032	1486C	4.027 – 4.029
+.037	1486E	4.032 – 4.034
		RING C
STANDARD SIZE	363	4.000 – 4.001
+.005	363D	4.005 – 4.006
+.032	363C	4.032 – 4.033
+.037	363E	4.037 – 4.038

Fitting of Tractor Pistons and Rings

Tractor pistons are fitted in the cylinder bore tight on .006″ and loose on .004″. To determine the proper clearance in fitting these parts, it is necessary to use .001″ feelers. Because of the possibility of pistons being out of round the feelers should be tried at several points around the bore of the cylinder.

As the top piston ring does not travel the full length of the cylinder bore, it is necessary when overhauling a motor and fitting new pistons, to file off the small flange or ridge which will be found at the top of the cylinder walls.

Tractor piston rings are tapered and marked so that there need be no mistake in fitting them properly. The latest rings are stamped with the script word "Ford" on the upper part of ring and fitted with edge bearing this stamp towards top of piston. Earlier style rings were punch marked and installed with side having marking toward top of piston.

When fitting a new ring, first try it around the piston by placing its outside edge in the groove to which it is to be fitted, thus making certain that it is a good fit but not tight in any position. Rings are fitted with a clearance of .0005″ to .0025″ between ring and ring groove.

The top piston ring should have .005″ gap between the ends. The second ring is fitted with a gap of from .005″ to .008″, while the lower ring may have an even larger gap.

In order to maintain the balance of the motor, it is necessary when replacing pistons to make sure that the new pistons are of equal weight; this can be determined by checking the punch marks found on the tops of the pistons as described on page 4 of Parts Division.

Fitting of Ford Pistons and Rings

Ford pistons are fitted in the cylinder bore tight on .004″ and free on .002″. To determine the proper clearance between piston and cylinder wall it is necessary to use feelers. Because of the possibility of piston being out of round the feelers should be tried at several points around the bore of the cylinder.

Ford piston rings are cut .002″ taper and are stamped "Ford" on the small diameter. Piston rings should be fitted to pistons with this marking up or toward the top of the piston. When fitting a new ring first try it around the piston by placing its outside edge in the groove to which it is to be fitted thus making certain that it is a good fit but not tight in any position. Rings should fit in groove with .002″ to .004″ end play.

The ring gap clearance is now .008″ to .015″ for the top and middle rings and .004″ to .008″ for the lower ring.

As the top piston ring has been lowered $\frac{1}{16}$″, the top rings therefore will not travel the full length of the cylinder bores, and in view of this fact, it will be necessary when overhauling a motor and fitting new pistons, to file off the small flange or ridge which will be found at the tops of the cylinder walls.

Markings on Fordson Pistons

Fordson Tractor pistons are marked with the following letters to show size:

"V" Standard size

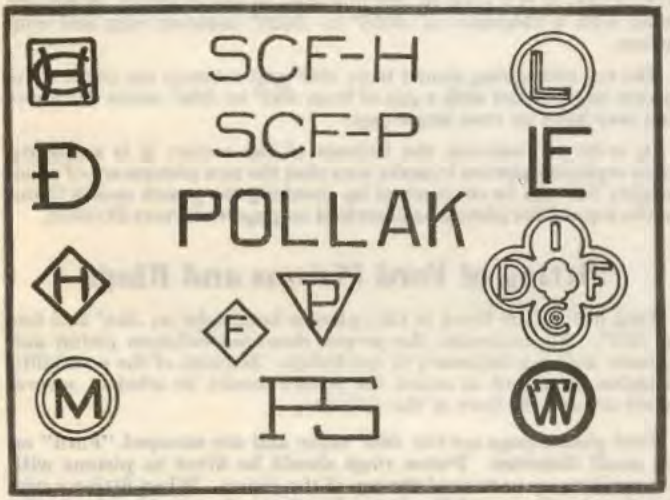
"C" Oversize

"D" .0005" oversize

"E" .037" oversize

The above marks will be found in the top of the pistons.

Genuine Fordson Connecting Rod Trade Marks



Detecting Spurious Connecting Rods

One way of telling a spurious rod is by the way the babbitt bearing is set. The genuine rod is first tinned so that the babbitt sticks to both the rod and the cap, while spurious rod manufacturers depend on anchor holes similar to those in the cylinder block to hold the bearing in place.

REPLACEMENT PRACTICE ON "T" CONNECTING RODS AND TRANSMISSION BANDS TO FORD DEALERS AND GARAGES

Connecting Rods—

Connecting rods may be exchanged by branches with dealers and garages at 30 cents net each, with customers at 60 cents net each. In order to take advantage of this special price, garages must return connecting rods in need of rebabbitting direct to the branch. If garages prefer to handle this exchange with the dealer the latter will make the exchange with the garage at 40 cents net each, thus allowing the dealer a margin of 10 cents to cover costs of handling. If dealers and garages return connecting rods less caps to the branch, they may be replaced with new rods complete at 45 cents net each. The exchange cost of connecting rods less caps to the customer will be 75 cents net each. No allowance is to be made on old style heavy connecting rods having a bore of 1½ inches and with babbitt ⅛-inch thick. The above exchanges are also to apply to T-3024-B, connecting rod .025 undersize.

Different Types—

Figure 44 shows the three different types of Ford Connecting Rods. The rod designated as "A" is the present type light rod used since the latter part of 1920. Between 1915 and 1920 the heavier type of rod listed as "B" was used. Both of these rods have a forging bore of 1⅜" and are babbitted $\frac{1}{16}$" thick.

"A" and "B" rods can both be exchanged on the basis outlined above.

Old Style Rods—

The old style heavy rod used prior to 1915 designated as "C" had a forging bore of 1½" and was babbitted ⅛" thick. There is no exchange on this rod and Dealers should sell the latest type connecting rods when the old style parts are presented for adjustment. "D" shows the same rod without the babbitt. Note that the cap bolt holes cut into the babbitt.

Transmission Bands—

Transmission bands may be exchanged by branches with dealers and garages at 25 cents net each, and with customers at 45 cents net each. If the garage prefers to make this exchange with the dealer, the cost, in that case, will be 35 cents net each, which allows the dealer 10 cents net each, to cover his cost of handling.

Genuine Ford Connecting Rod Trade Marks

Anti-Freezing Solutions

The circulating system should be filled with an anti-freezing solution as soon as cold weather sets in. It is not safe to rely on draining the radiator when returning from a drive and filling again when starting out. In extreme cold weather or when driving against a strong wind, the water may freeze before circulation starts. Furthermore, if one or more tubes have become clogged with dirt, the water will not drain out. Freezing generally results in a leaky radiator or cracked water jacket, necessitating costly repairs.

The ideal anti-freezing compound is, first, one that will prevent freezing of the radiator liquid without injuring either engine or radiator, second, that will not lose its non-freezing properties after continued use, and, third, that does not materially change the boiling point of water when dissolved in it.

Kerosene has a lower freezing point and a higher boiling point than water but the inflammability of its vapor makes it dangerous to use, and its high and uncertain boiling point might lead to the serious overheating of the engine, or even to the melting of the solder in the radiator. It has marked solvent action on rubber parts. These facts clearly indicate that kerosene should not be used as a non-freezing solution.

Most of the anti-freezing solutions sold under trade names have a calcium chloride base. The calcium chloride compounds exert a greater corrosive action than water on the engine jacket and on the solder in the radiator. Tests have shown that calcium chloride solutions will completely remove solder from copper and brass. Another troublesome effect with calcium chloride solutions is experienced if small leaks occur in the radiator, and the solution comes in contact with the spark plugs and ignition wires, as a short circuit is liable to result. Calcium chloride compounds should be used with caution, if at all, on account of their corrosive action.

The alcohol solutions do not exert a greater corrosive action than water alone. Solutions made from either wood or denatured alcohol seem to be the most desirable anti-freezing solutions to use. The table below shows the approximate point at which the different alcohol solutions freeze:

20% Solution freezes at 13° above zero.
30% Solution freezes at 3° below zero.
50% Solution freezes at 34° below zero.

A solution composed of 60% water, 10% glycerine and 30% alcohol is very often used, its freezing point being eight degrees below zero. Although glycerine tends to retard evaporation the alcohol will evaporate much faster than water. The solution will become weak and ineffective unless more alcohol is added from time to time.

The circulating capacity of the Model T motor with the present type radiator is 2 gallons, 7½ pints; with the former type radiator 3 gallons, 1¾ pints. It can readily be determined from these figures the amount of alcohol to use.

When storing a car for the winter, first drain the circulating system. Then put about a quart of alcohol in the radiator allowing it to run through. This will prevent the freezing of any water that on account of stoppage in the tubes did not drain out.

The Ford Magneto

The Ford Magneto varies in voltage, amperes, and cycle, with the speed of the motor. We show below a table giving the variation compared to the speed in the engine and the speed of the car and truck:

R. P. M.	Miles Per Hr. Car	Truck	Volts	Amperes	Cycle
300	5	2.63	5	6.1	26.4
400	10	5.26	9.8	7.9	52.8
600	15	7.89	14.4	8.5	80.0
800	20	10.52	18.8	8.8	106.4
1000	25	13.15	22.8	8.9	146.4
1200	30	15.8	26.2	9.	160.0

Interchangeable Parts

The following Model T parts are used on the Fordson tractor.

Tractor Catalogue No.		Model "T" Catalogue No.
S-58	Radius rod bolt nut	T-2598
S-64	Spindle pin grease cup	T-2579
S-151	Kerosene tank cap	T-2901
S-158	Sediment bulb assembly	T-2902-B
S-159	Sediment bulb flange	T-2051-X
S-160	Sediment bulb flange gasket	T-2094-X
S-161	Sediment bulb pet cock	T-3079
S-163	Sediment bulb pack nut	T-2910
S-164	Sediment bulb pack nut packing	T-2913
S-228	Crankshaft key	T-3548
S-238	Camshaft nut—small	T-3220
S-239	Camshaft time gear rivet	T-3207
S-240	Camshaft time gear cap	T-468-BX
S-276	Com. case with fibre	T-3221
S-277	Com. lock nut	T-3210
S-278	Com. brush assembly	T-3165
S-304	Primary insulating lock nut	T-3261-B
S-306	Flywheel magnet	T-3276-B
S-307	Flywheel magnet clamp	T-3277
S-309	Flywheel magnet support	T-3257
S-311	Flywheel magnet washer	T-3255-B
S-427	Starting crank handle	T-3901
S-428	Starting crank handle pin	T-3902
S-429	Starting crank handle spring	T-3909
S-480	Steering shaft grease cup	T-2545
S-654	Vaporizer to cylinder stud nut	T-2549
S-727	Coil box cover	T-5004
S-730	Coil switch assembly	T-5010
S-731	Coil switch lever	T-5006
S-732	Coil unit	T-5007
S-733	Coil vibrator bridge with contact point	T-5009
S-734	Coil vibrator armature with contact point	T-5008
S-806	Combination spark plug and crankcase bolt wrench	T-2335
S-477	Steering wheel rim screw	T-5346-X
S-677	Fuel inlet elbow	T-6055

These parts are sold at Model T prices.

Ford Window Lifter Rods

In replacing window lifter rods, Parts T-5081X and T-5082X, the new $\frac{5}{16}$" rod must be used in place of the old $\frac{1}{4}$" rod which has been obsoleted. The installation of the new $\frac{5}{16}$" rod will necessitate replacing the window glass channel, lifter rod spring, nuts and washers, as the old parts will not fit the new rod.

The slight expense incurred in replacing these rods will be more than offset by the increased service received from the new parts.

Dealers should return their stocks of $\frac{1}{4}$" rods to the branch for credit.

Sizes of the Different Cotter Pins and Where Used on Chassis

T-753 $\frac{3}{32}$ inch x $\frac{3}{4}$ inch spindle and spring perches.
T-88 $\frac{3}{32}$ inch x $\frac{5}{8}$ inch
T-421 $\frac{3}{32}$ inch x 1 inch on U bolts.
T-544 $\frac{1}{16}$ inch x $\frac{1}{2}$ inch on all $\frac{3}{8}$ inch nuts or studs.
T-82 $\frac{1}{8}$ inch x 1 inch axle shaft nuts.
T-66 $\frac{3}{32}$ inch x $\frac{1}{2}$ inch on brake rods.

Gaskets Used in Model "T" Ford Cars

	No. 3002	cylinder head gasket.
	No. 3005	cylinder head outlet connecting gasket.
COPPER	No. 3018	cylinder water inlet gasket.
AND	No. 3063	inlet and exhaust pipe gasket.
ASBESTOS	No. 6672	spark plug gasket—upper.
	No. 6671A	spark plug gasket—lower.
	No. 3080B	crank case drain cup plug gasket.
	No. 4134	carburetor flange gasket.
	No. 3070B	crankcase and cylinder gasket—left.
	No. 3071B	crankcase and cylinder gasket—right
	No. 3377B	trans. cover gasket.
CORK	No. 3379B	trans. cover door gasket.
	No. 2580	ball cap gasket.
	No. 3102B	crankcase lower cover gasket.
	No. 3111	B & C cylinder valve cover gaskets.
	No. 3381	bendix cover gasket.
FELT	No. 3363	trans. cover gasket—front.
	No. 3012	cylinder cover felt.
	No. 6219	float valve seat gasket.
FIBRE	No. 3279	magneto contact gasket.
	No. 1117	radiator cap gasket.
	No. 3013	cylinder cover liner.
	No. 3013B	cylinder cover liner.
	No. 3017B	time gear cover gasket.
	No. 5057	generator head gasket.
	No. 5056	motor mounting gasket.
PAPER	No. 3981	fan pulley gasket.
	No. 6203	float chamber gasket.
	No. 6205	mixing chamber gasket.
	No. 1005	axle housing cap gasket.
	No. 1008	axle housing gasket—upper.
	No. 1009	axle housing gasket—lower.

Heat-Treating Ford Steel

A Ford Process

The Ford process of heat-treating steel forgings is one of the most scientific and accurate features in the manufacture of the Ford car. Practically every forging in the Ford car is made of a special steel for which a special formula of heat-treating has been worked out in accordance with the work or strain the part must undergo in the finished car. The heat-treating of crankshafts, axles and parts requiring a tough structure throughout, is completed before the forgings go to the machine shop. Other parts such as camshafts and ring gears receive an annealing process, are then roughly machined, copper-plated and returned to the heat-treat for a carbonizing process which gives a hard surface with a tough interior. Cones, spring hangers, transmission and differential gears are given their heat-treatment after machining. The temperatures have all been accurately determined for each particular forging and the heat is maintained to within 10 degrees. Should the temperature vary more than this, the desired qualities would not be produced in the steel, and it would not be capable of resisting the fatigue resulting from constant service in the car.

Operations

In the heat-treating process, there are usually three distinct operations: 1—Annealing, which reduces all the forgings to a common structure; 2—Quenching, which cools the metal quickly, causing it to hold that particular structure requisite to the duty it must perform in the car; 3—Drawing, which heats the metal to a point that relieves the strains and produces the required ductility.

Special Plant

The heat-treat is housed in three immense buildings containing 100,000 square feet of floor space (nearly three acres). In addition, there are a score or more furnaces located in the machine shop and tool room. In the entire plant, there are about 250 furnaces which consume daily two and a half million cubic feet of gas and 35,000 gallons of fuel oil.

Personal

Over a thousand men, each highly specialized in the application of the Ford Scientific Heat-Treating principles, and a score of capable executives are engaged in bringing this steel to the quality standard, characteristic of the Ford Product.

Investment

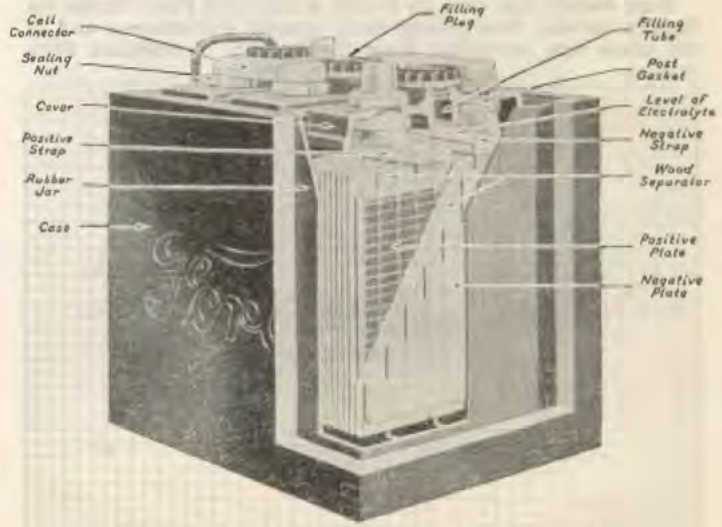
This enormous investment has been made to insure a product of the highest quality. Can you imagine any such adequate methods being adopted by makers of outlaw parts, who are intent only on producing parts at a low cost and have no interest in their serviceability?

WHY THE FORD BATTERY IS A SUPERIOR PRODUCT

There is no battery on the market today of equal starting ability, capacity, and life, selling at as low a price as the Ford. Various makes of batteries are being offered to the public, but they are generally so poorly constructed that aside from price there is little to commend them to the prospective buyer. A battery that will wear out within three or four months, or that is incapable of turning the motor over in cold weather, when starting conditions are unfavorable, is not a good investment at any price.

Designed by Ford Engineers

The Ford battery was especially designed by Ford engineers to give Ford owners a dependable battery, with long life, high-starting ability and freedom from failures during its normal life. It represents the highest development of battery engineering and compares favorably with the very best batteries manufactured. In no sense is it an inferior product built to be sold at a low price.



On all Genuine Ford Batteries, the box as well as the connections between the cells are stamped with the script word "Ford."

High Starting Ability—Long Life

The Ford battery is a 6 v. 80 Amp. Hour Battery constructed with 13 plates, whereas the majority of the cheaper bat-

teries on the market have only 11 plates. As a consequence the Ford battery, when charged, will turn over the engine faster and for a much longer time than batteries having fewer or smaller plates. Dealers can readily appreciate the merits of the Ford battery by disassembling and comparing its construction, part by part, with batteries selling at corresponding or even higher prices.

Constructed of High-Quality Materials

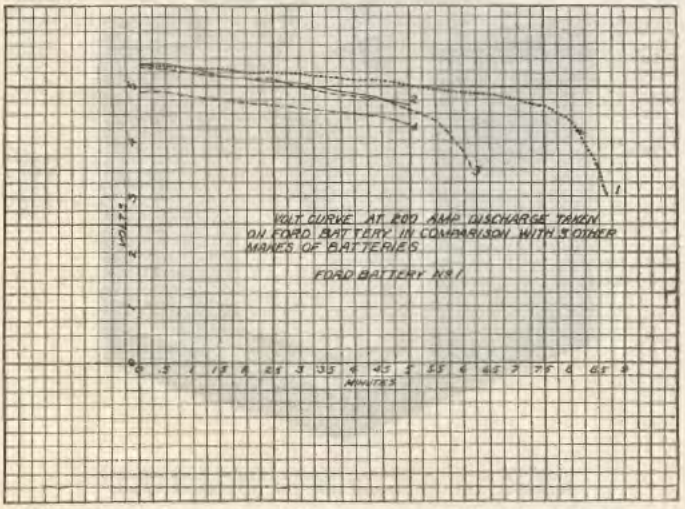
The Ford Motor Company's object in entering the battery field was solely for the purpose of supplying Ford Owners with a thoroughly dependable battery at a reasonable price. As the efficiency of a battery is a vital factor in the serviceability of any motor car, a high standard of quality in material and workmanship is of the utmost importance. All parts used in the Ford battery are made from the highest grade materials obtainable. Ford batteries can be sold to your customers with the confidence that comes from handling a first-class product, and the assurance that the buyer will be satisfied.

Guarantee

All parts of the Ford battery are guaranteed for twelve months, and the Ford Motor Company is back of this guarantee.

Battery Service

Ford owners can now go to any Authorized Ford Dealer for battery service, thus giving them greater convenience and at the same time according them the benefits of standard Ford service.



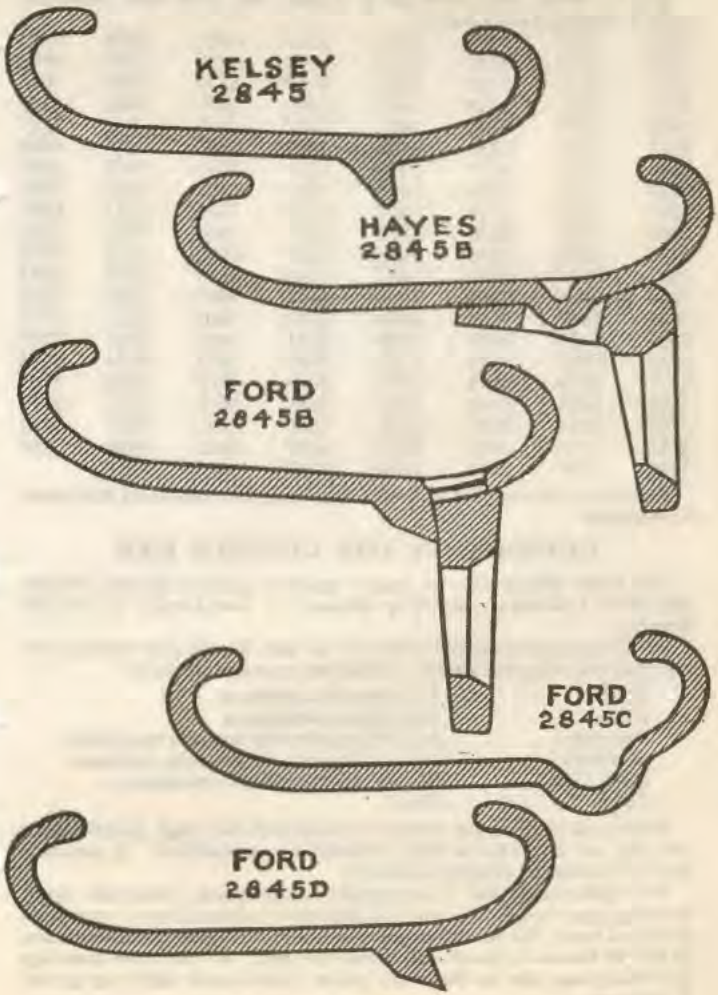
This chart shows the voltage curve of the Ford Battery at 200 amperes discharge, which is the average amperage required to start the Ford engine, in comparison with the voltage curve of three other well known makes of batteries selling at corresponding prices.

Demountable Rims Used on Ford Cars

No. 2845 represents the rim used on Kelsey wheels; 2845-B Hayes; 2845-C and 2845-D on wheels made by the Ford Motor Co.

Approximately 100,000 rims similar to 2845-B were used on the first wheels made by the Ford Motor Co., and replacement can be taken care of by using the 2845-B Hayes or Ford.

The 2845-B Ford rim will soon be used on all Ford wheels. It is interchangeable with the Hayes and will be listed in the Parts Price List under the same catalog and Factory No's. Viz: 2845-B—8774-B.



Lincoln Three Inch Service Brake Bands

Starting with Engine No. 5720, all Lincoln cars are equipped with 3" service brake bands, with the exception of the following:

5729	5755	5786	5806	5818	5829	5862	5913
5731	5757	5790	5808	5819	5836	5865	5919
5732	5766	5793	5810	5820	5837	5869	5923
5736	5770	5794	5814	5824	5842	5883	6006
5740	5778	5795	5815	5825	5850	5888	6028
5747	5781	5805	5817	5827	5856	5897	6030

The following cars previous to engine No. 5720 were equipped with 3" service brake bands:

5279	5355	5420	5463	5513	5567	5628	5673
5280	5356	5421	5464	5514	5571	5634	5674
5290	5373	5422	5465	5515	5572	5636	5675
5291	5376	5423	5466	5516	5573	5640	5676
5292	5379	5434	5467	5517	5577	5645	5677
5293	5386	5436	5473	5519	5585	5647	5680
5294	5391	5437	5475	5520	5591	5648	5686
5295	5392	5438	5476	5521	5592	5649	5687
5297	5393	5439	5477	5529	5593	5651	5688
5300	5394	5440	5479	5533	5594	5652	5689
5301	5395	5442	5481	5539	5596	5654	5690
5328	5396	5443	5482	5540	5598	5655	5691
5330	5399	5444	5500	5542	5602	5656	5693
5331	5400	5445	5504	5543	5606	5657	5701
5335	5401	5447	5505	5551	5609	5658	5702
5336	5402	5451	5506	5552	5614	5659	5708
5337	5403	5452	5508	5553	5618	5660	5709
5338	5408	5454	5509	5554	5619	5661	5712
5340	5410	5456	5510	5559	5622	5664	5717
5341	5417	5459	5511	5560	5623	5666	5719
5348	5418	5462	5512	5563	5626	5668	

The above also applies to South American Branches and European Companies.

LUBRICANTS FOR LINCOLN CAR

The Ford Motor Co. no longer supplies Lincoln Special Engine Oil, Gear Lubricant, and Cup Grease for distribution to Lincoln Owners.

Below are specifications of motor oil that should give satisfactory results in the Lincoln Motor during the summer weather:

Flash.....410 degrees minimum
Fire.....460 degrees minimum
Viscosity.....At 100 degrees 500 seconds maximum
Viscosity.....At 210 degrees 59 seconds minimum
Cold Test.....34 degrees Fahrenheit maximum
Color.....No. 5

Dealers should advise owners to purchase only high grade engine oils put out by refiners with established reputations. A paraffine base oil should be used at all times.

For lubricating the transmission, differential, universal joint, steering gear mechanism and all lubricator connections a semi-fluid grease of from 580 to 600 degrees fire test, or about the consistency of 600 W Steam Cylinder Oil, should be used. In the wheel bearings and the grease cup on the water pump a high grade light cup grease is required.

How to Order Lincoln Parts

Give the Car Number.

This number will be found upon the name plate on the dash, under the hood. This number must always be given with order.

Give Name of Parts.

If part cannot be identified, describe carefully its location in the car. Enclose sketch or send sample, if necessary.

When ordering body parts, indicate the type of body for which the part is wanted, i. e., touring, roadster, sedan.

Right and Left.

Always consider the right side of the car to be the right when sitting in car facing forward.

Painting.

Some parts are kept in stock in standard paint, but most parts requiring painting will have to be painted to order, requiring several days' time. If you desire parts painted always indicate on order, colors and striping. Matching special colors is difficult, especially after a car has been in use. Exact duplication cannot be guaranteed, but colors will be matched as closely as possible.

Give Shipping Instructions.

State whether we shall ship by Mail, Parcel Post, Express or Freight. Please write your name and address plainly.

Always Mail Confirmations of Telegrams Immediately

Note Carefully:

Goods correctly shipped on bona fide orders cannot be exchanged or credited, unless special circumstances warrant. Therefore, if it is desired to return any goods for credit or exchange, write for permission to do so before making shipment.

How to Return Parts.

All parts to be returned for adjustment, should be returned to the branch in the regular manner.

Special Lincoln Pedal Pads

Drivers of Lincoln cars who are under average height may be easily taken care of by replacing the standard pedal pads with pads Part No. L2122B which are 1¼" longer than the standard ones.

How to Handle Claims for Parts Which Are Damaged in Transit

Care in Receipting.

Care in receipting for carload shipments of cars frequently insures prompt payment of claims, because notations of shortages or damages endorsed on paid freight bills many times definitely establishes the carrier's reliability.

Removal of Seals.

When you are receiving a carload shipment, carefully remove all seals, ends as well as sides, and either preserve them or make a record of their numbers. Thus, if you find any articles to be short, you will have no difficulty in identifying the shipment by noting the numbers of the seals, at the same time you have the Freight Agent endorse the shortages on the paid freight bill.

Notify Ford Branch.

When you have discovered that a shortage of any kind definitely exists, you should immediately report such shortage to your Branch, furnishing the following information:

Initials and number of car.

Number of seals under which car was delivered.

The packing sheet.

The receipted freight bill with Agent's endorsement.

A report also regarding the condition of the car and its contents, with particular reference to boxes or packages that may have been opened en route, or damaged by rough handling of car.

Your Branch Cannot Help You Unless You Are Sure to Give the Seal Numbers.

Undamaged seals provide the only protection against the cars having been opened in transit and parts removed.

Filing Claim with Carrier.

After it develops that the carrier is responsible for a damage or shortage, the Dealer should then file a claim direct with the Transportation Company, furnishing the following information in support of the claim:

Original Bill of Lading.

A statement showing how amount of loss or damage is determined with all evidence that can possibly be secured.

Original paid freight bill.

Original invoice or attested copy.

Bill for cost of repairs.

Note.

If for any reason the Bill of Lading or paid freight bill is not available, their absence should be explained.

The value of the parts should be shown at the list price, less regular discount.

The Ford Motor Company will usually assist Dealers in recovering claims from the Transportation Company, by furnishing affidavits of their checkers, or any other information obtainable from their records to stand as proof that the material was actually shipped.

The Limits for Filing Claims.

File your claim just as promptly as possible. The time limit for filing freight claims is six months, express four months, or in case of failure to deliver at all, within six months after reasonable time for delivery has elapsed.

Inspection of Carload Shipments

1—See that doors are tight at the bottom. It is possible to force an opening at the bottom of some doors without breaking the seals.

2—Break the seals on the side doors and *keep record* of initials and numbers of seals on *end* and side doors.

3—Immediately check contents of car and especially tools and other accessories with bill of lading and checking sheet. Be sure to look for and count covers and to promptly examine tool boxes *loaded with tractors in open top cars.* The tools should reach you in a box securely strapped by iron bands to the floor of the car. Tool boxes in shipments of tractors in box cars are placed in end of freight car.

In cars containing Model "T" shipments the tool kits, tire pumps and jacks are contained in a box on the floor of the car. In Lincoln shipments removable parts are loaded as follows:

Type 124—7-Passenger Touring—Pull out auxiliary seats; curtains and curtain rods will be found in the well back of these seats.

Type 112—4-Passenger Phaeton—Curtains will be found in compartment back of rear seat. This compartment is accessible through opening at the top of the seat. Curtain rods are placed in compartment in front of tonneau floor.

Closed Cars—Vanity cases are locked in compartment under front seat. The carpets are rolled up and placed in tonneau.

Open Cars—Carpets are in place in tonneau. All cars are equipped with a tool kit which is packed in a sealed carton and placed on the floor of freight car under the car and car cover.

4—*If shortage or damage is apparent, call for inspection by railroad agent and have suitable notation placed on freight bill.*

5—See that car is protected by railroad or yourself after breaking seals until car is emptied. Otherwise you will be handicapped in obtaining settlement from the carriers for any loss.

6—Keep such records as will justify affidavit if the carriers demand it.

7—Consult with the Traffic Department at nearest branch if unable to obtain settlement of a properly supported and just claim.

Method of Operating Ford Parts Stock Rooms

It is a recognized fact that Ford Dealers Organizations the world over are operated along well-defined, progressive lines of business policies, and this feature of good merchandising comes strongly to the attention of owners in the Parts Departments.

A careful investigation of the Parts Stock Rooms of many hundred of Ford Dealers has resulted in the following suggestions:

Location.

Ford Parts Stock Rooms are usually located in very close proximity to the new car show room (usually adjoining), with a display window, in nearly every case, facing the street.

They are kept scrupulously clean, and well lighted, and, generally speaking, very attractive in appearance to customers.

Management and Handling of Stock.

The stocks of parts are arranged in bins or racks of sufficient size and in proper numerical order, so that they may be located instantly. You will usually find fastened to each bin a small card showing the part price.

The bins are arranged to accommodate the size and type of part, and also with an eye to the frequency with which each particular part is called for.

Then, too, the parts are stored in the best possible manner to eliminate any depreciation in handling—crankshafts are usually hanging by the starter-pin-hole or standing on their flanges; delicate electrical parts are carefully placed in their special bins; while fenders and other enameled stock are separated to prevent their surface from becoming marked.

Advertising and Display.

Most successful Dealers make a practice of informing visitors, to their establishments, of the fact that *only* genuine Ford parts make for economical Ford operation, by means of attractive signs throughout the entire building, and through the medium of Parts Displays in the windows, on the counters, etc.

Frequent mention is also made in newspaper advertising of efficient parts facilities, etc.

Personnel.

Ford Dealers know that keen, alert, and efficient salesmen are just as important in the Parts Stock Room as in the Car Sales work room,

and for this reason you will usually find the men operating Ford Parts Stock Rooms incorporating the following characteristics:

1. A neat appearance, usually attired in clean linen duster—*kept clean.*

2. They are *courteous,* causing customers to depart with a feeling of satisfaction that means future business.

3. They are *business-like,* maintaining modern and efficient systems for maintaining a perfect check and inventory of parts, so that customers' wants are always supplied without delay.

4. The Parts Stock Room Manager is usually, among other things, a good *purchasing agent,* because his is the responsibility for ordering a large proportion of the company's supplies.

5. A nice understanding of the close relationship of the Parts Department to the Sales Department is always apparent, which logically results in well-satisfied owners.

6. A further fine understanding of the necessity for a friendly relationship between the Parts and Repair Departments, which means that the requirements of the Repair Department are anticipated, which speeds up service work and creates satisfied customers.

7. Ability to sell is predominant. Customers are shown how wise Parts purchases will save money in the future.

Parts Sales to Garages.

In every town there are garages and repair shops operating as authorized Ford Service Stations, under approved agreements with authorized Ford Dealers. These authorized Service Stations are a source of very profitable business to the Ford Dealers and no effort should be spared to develop them thoroughly and intensively.

Spurious parts manufacturers find their greatest source of profit in the Garage field, and it is the duty of all Ford Dealers to eliminate this undesirable feature by maintaining a close contact with the Garages in their community.

Records.

Accurate cost, sale, and inventory records should be kept at all times. Not a part, however small, should be taken from the stock room without a written order. It should be charged to the proper department.

U. S. Comparative Price Chart of Replacement Parts

Showing current prices of Ford, Chevrolet, Gray, Star, Overland and Dodge most frequently used repair parts, taken from authoritative sources. While they could not, of course, be guaranteed, they are believed to be thoroughly reliable on the date of issue, May 15, 1924.

Name	Ford	Chev.	Gray	Star	Overland	Dodge
Cylinder Block	25.00	29.00	40.00	45.00	51.00	65.00
Cylinder Head	6.00	12.00	8.50	6.25	7.25	8.75
Piston (only)	.95	1.25	2.00	2.50	1.25	3.50
Connecting Rod	1.20	1.50	3.00	3.00	2.25	4.30
Crankshaft	8.00	10.00	10.50	20.00	12.50	20.00
Camshaft	2.50	3.50	7.50	9.00	6.75	11.00
Starting Motor	17.00	40.00	70.00	50.00	55.00	*75.00
Radiator	17.50	25.00	30.00	20.00	44.00	50.00
Front Fender	4.00	7.00	8.00	6.50	7.00	9.50
Carburetor	4.50	10.00	9.00	15.00	15.00	21.00
Axle Shaft	1.50	1.75	4.00	3.25	4.75	2.75
Rear Hub	1.25	1.75	3.00	2.50	4.00	4.00
Drive Shaft	3.00	4.00	11.00	9.00	6.00	7.25
D. S. Pinion	1.00	10.50	9.50	6.00	3.25	3.00
Ring Gear	2.50		10.80	7.00	9.50	9.00
Differential Gear	.90	1.75	5.00	3.25	3.00	3.65
Frame Assembly	13.00	20.00	30.00	30.00	25.00	40.00
Spindle Body	1.50	2.75	4.25	3.00	2.75	3.50
Generator	17.00	35.00	75.00	40.00	40.00	*75.00
Camshaft Gear	.90	.65	1.55	2.75	1.75	2.40
Axle Housing	16.00	19.00	34.50	22.00	30.00	50.00
Running Board	1.25	2.00	3.50	2.00	3.75	7.00
TOTAL	146.45	238.40	380.60	308.00	335.75	400.00
PERCENT ABOVE FORD		72%	174%	122%	142%	171%

NOTE—

*Dodge equipment provides generator and starting motor combined in one unit, priced at $75.00.

Parts Price Comparisons

	FORD	CHEVROLET	OVERLAND	STAR
PISTON AND ROD	 $2.15	 $2.75	 $3.50	 $5.30
SPINDLE BODY	 $1.50	 $2.75	 $2.75	 $3.00
GENERATOR	 $17.00	 $35.00	 $40.00	 $40.00
PINION AND GEAR	 $3.50	 $10.50	 $12.75	 $13.00

(AUTHORIZED FORD DEALERS)

RECORD OF TIRE ADJUSTMENTS

FROM____________ TO____________

DATE RET'D	NAME OF OWNER	MAKE OF TIRE	SERIAL NUMBER	SIZE	STYLE	MILEAGE	ADJ'MT NUMBER	TOTAL CUSTOMERS CHARGES		DATE NEW CASING DELV'D	DATE CHARGED	SERIAL NO. OF NEW CASING

(AUTHORIZED FORD DEALERS)

RECORD OF TIRE ADJUSTMENTS

FROM _____ TO _____

DATE RET'D	NAME OF OWNER	MAKE OF TIRE	SERIAL NUMBER	SIZE	STYLE	MILEAGE	ADJ'MT NUMBER	TOTAL CUSTOMERS CHARGES		DATE NEW CASING DELV'D	DATE CHARGED	SERIAL NO. OF NEW CASIN

(AUTHORIZED FORD DEALERS)

GASOLINE REPORT

DATE A. M. P. M.

TICKET NO.	GAL.	AMOUNT		TICKET NO.	GAL.	AMOUNT	
TOTAL				TOTAL			

(OVER)

(AUTHORIZED FORD DEALERS)

GASOLINE RECORD

TICKET NO.	GAL.	AMOUNT		TICKET NO.	GAL.	AMOUNT	
FORWARD				FORWARD			

OUR OWN USE

REQUISITION NO.	PURPOSE USED FOR	GAL.	QTS.
TOTAL			

RECAPITULATION

	GAL.			
ON HAND		A. M. / P. M.	CHECKED BY	
RECEIVED FROM	GAL.	SOLD		GAL.
RECEIVED FROM	GAL.	OWN USE		GAL.
TOTAL REC'D		TOTAL DISPENSED		
BALANCE ON HAND	GAL.	A. M. / P. M.		

SIGNED

O.K. BY

Revised List of Ford Car and Truck Parts

Bearing the Copyrighted Word

Ford
THE UNIVERSAL CAR

Cat. No.	Part No.	Name
2501	T-7635D	Rear Axle Housing—Right
2502	T-7636D	Rear Axle Housing—Left
2518	T-12B	Differential Driving Gear
2520B	T-13B	Differential Gear
2524C	T-14D	Differential Pinion
2526B	T-15D	Differential Spider
2597B	T-16C	Driving Pinion
2597C	T-16D	Driving Pinion
3843	T-2804	Rear Spring Perch
2572	T-45B	Universal Joint Knuckle—Male
2573	T-46B	Universal Joint Knuckle—Female
2575	T-49B	Universal Joint Ring
2567	T-2814	Hub Brake Shoe
2562	T-62	Hub Brake Cam Lever
3840B	T-91¼C	Rear Spring Hanger
2547	T-152A1	Rear Radius Rod—56" Tread Right
2547B	T-158	Rear Radius Rod Assembly—Left
2509B	T-161	Rear Axle Roller Bearing Sleeve—Left
2509	T-170	Rear Axle Roller Bearing Sleeve—Right
2582	T-153B	Drive Shaft Tube
2691	T-202B1	Front Axle—56" Tread
2694B	T-280	Spindle—Right
2695B	T-281	Spindle—Left
2704	T-205A	Inside Spindle Cone
2705	T-206A	Outside Spindle Cone—Left
2706	T-207A	Outside Spindle Cone—Right
2710	T-7708	Spindle Bolt with Oiler
2733B	T-263B	Front Radius Rod
2718	T-7706	Spindle Connecting Rod Bolt with Oiler
2736	T-217	Front Radius Rod Ball Cap
3818A	T-274A	Front Spring Perch—Right
3818B	T-274B	Front Spring Perch—Right
3819	T-275A	Front Spring Perch—Left
3819B	T-275B	Front Spring Perch—Left
2721B	T-226B	Steering Connection Ball
2803	T-200	Front Hub
3813B	T-246C	Front Spring Hanger
2721C	T-248B	Spindle Connecting Rod Yoke
2728	T-254	Steering Ball Connecting Rod Cage
2717	T-264	Spindle Connecting Rod
2696D	T-7716B	Spindle Arm—Left
2696C	T-7715B	Spindle Arm—Right
2725B	T-269	Steering Ball Connecting Rod
2853	T-303	Frame Front Cross Member
3450	T-311	Controller Shaft Bracket
3076B	T-320C	Crankcase Front End Bearing
3077	T-321	Crankcase Front End Bearing Cap
3808	T-325CR	Front Spring Clip
3833	T-326	Rear Spring Clip
3810	T-342	Front Spring Clip Bar
	T-361B	Rear Spring Leaf No. 1—Main
3826B	T-362B	Rear Spring Leaf No. 2
3827B	T-363B	Rear Spring Leaf No. 3
3828B	T-364B	Rear Spring Leaf No. 4
3829B	T-365B	Rear Spring Leaf No. 5
3830B	T-366B	Rear Spring Leaf No. 6
3831B	T-367B	Rear Spring Leaf No. 7
3832B	T-368B	Rear Spring Leaf No. 8
3827D	T-379	Rear Spring Leaf No. 3—Roadster
3828D	T-380	Rear Spring Leaf No. 4—Roadster
3829D	T-381	Rear Spring Leaf No. 5—Roadster
3830D	T-382	Rear Spring Leaf No. 6—Roadster
	T-390	Rear Spring Leaf No. 1—Sedan
3826C	T-391	Rear Spring Leaf No. 2—Sedan

Cat. No.	Part No.	Name
3827C	T-392	Rear Spring Leaf No. 3—Sedan
3828C	T-393	Rear Spring Leaf No. 4—Sedan
3829C	T-394	Rear Spring Leaf No. 5—Sedan
3830C	T-395	Rear Spring Leaf No. 6—Sedan
3831C	T-396	Rear Spring Leaf No. 7—Sedan
3832C	T-397	Rear Spring Leaf No. 8—Sedan
3832D	T-398	Rear Spring Leaf No. 9—Sedan
3000C	T-400D2	Cylinder
3001	T-401	Cylinder Head
3031	T-405AR	Crankshaft Bearing Cap—Rear
3032	T-406B	Crankshaft Bearing Cap—Front
3033	T-407B	Crankshaft Bearing Cap—Center
3041	T-410	Camshaft
3047B	T-415B	Time Gear—Large
3048B	T-416B	Time Gear—Small
3021	T-418CR	Piston
3021B	T-418DR	Piston
3021C	T-418ER	Piston
3021D	T-418FR	Piston
3021E	T-418GR	Piston
3021L	T-418H	Piston
3023C	T-422DR	Piston Ring
3023B	T-422ER	Piston Ring
3023D	T-422FR	Piston Ring
3058B	T-426AR	Push Rod
3015	T-422B	Cylinder Water Inlet Connection
3024	T-641	Connecting Rod
3030	T-498	Crankshaft
3062	T-512BR	Inlet Manifold
3065	T-515	Inlet and Exhaust Manifold Clamp
3906	T-528B	Starting Crank Ratchet
3962B	T-618B	Fan Pulley—Driven
3967	T-604AR	Fan Bracket
3967B	T-604B	Fan Bracket
3964E	T-609C2	Fan Belt
	T-609C3	Fan Belt
3009B	T-690BR	Cylinder Cover
3009C	T-690C	Cylinder Cover
3269C	T-701BR	Flywheel
3269G	T-701C	Flywheel
3301	T-747	Reverse Plate
3336	T-770	Clutch Push Ring
3306	T-706	Slow Speed Drum
3317	T-713	Transmission Driven Gear
3331	T-723B	Transmission Shaft
3332	T-725B2	Transmission Disc Drum
3321	T-730	Transmission Driving Plate
3337	T-732B	Clutch Finger
3334	T-733	Clutch Shift
3400	T-741	Clutch Release Ring
3313	T-751B2	Triple Gear
3402D	T-1548	Clutch Lever and Shaft
3413	T-838B	Brake Band Ear
3440	T-854B	High and Slow Speed Pedal
3432	T-862B	Speed Lever
3465	T-864	Hub Brake Lever—on controller shaft
3455	T-1550	Hand Brake Lever
3100	T-1526E	Crankcase
3547	T-929B	Steering Ball Arm
3925	T-1100CR	Radiator Assembly
3939	T-1121	Radiator Outlet Connection Pipe
4040B	T-1201DR	Muffler Exhaust Head Assembly
4026B	T-1202CR	Muffler Intake Head
4037B	T-1214A1R	Exhaust Pipe
4037C	T-1214A2R	Exhaust Pipe
5014	T-8792	Starting Switch
	T-1349	Hub Cap Wrench
2337		Oil Can—for Tool Kit
	T-1387	Monkey Wrench—Tool Kit
2338	T-	Tire Pump
3676C	T-1606C	Rear Floor Mat
5054	T-7677AR	Cutout
5055	T-7677B	Cutout
3833B	T-1737	Rear Spring Clip—60" Tread and Fordor Sedan
5137	T-1752	Generator Driving Pinion

Cat. No.	Part No.	Name
	T-1806A1	Motor Brush Assembly
5104	T-1806A2	Motor Brush Assembly
	T-1806A3	Motor Brush Assembly
	T-1844A1	Generator Brush Assembly—Large
5125	T-1844A2	Generator Brush Assembly—Large
	T-1845A1	Generator Brush Assembly—Small
5126	T-1845A2	Generator Brush Assembly—Small
5103	T-2037	Motor Mounting Bracket
5119	T-1879	Generator
	T-1903	Pliers—for Tool Kit
	T-1917	Double End Wrench—for Tool Kit
5120	T-1925AR	Generator Armature Assembly
5100	T-1940	Motor Armature Assembly
5099	T-1877	Motor Starter
2815C	T-2819A2	Rear Hub
3801	T-2943	Front Spring Leaf, No. 1
3802B	T-2935	Front Spring Leaf, No. 2
3803B	T-2936	Front Spring Leaf, No. 3
3804B	T-2937	Front Spring Leaf, No. 4
3805B	T-2938	Front Spring Leaf, No. 5
3806B	T-2939	Front Spring Leaf, No. 6
3807B	T-2947	Front Spring Leaf, No. 7
2343	T-3389	Jack Assembly
5012	T-7675E	Ignition Switch
3439	T-4323	Brake Pedal
3434	T-4324	Reverse Pedal
3436	T-4325	Brake and Reverse Pedal Support
3442	T-4326	High and Slow Pedal Support
3428	T-4327	Slow Speed Notch
3406B	T-4345	Clutch Release Fork
3052	T-424B	Exhaust and Inlet Valve Head
3516D	T-5043B	Steering Post
4804F	T-5390AR	Rear Fender Iron—Left
4804N	T-5390B	Rear Fender Iron—Left
4812	T-5418	Running Board—RH
5188B	T-5425B	Battery Negative Terminal Post
5189B	T-5426B	Battery Positive Terminal Post
5186B	T-5427B	Battery Plate—Positive
5187B	T-5428B	Battery Plate—Negative
5176	T-5434	Battery Case Assembly
5178B	T-5436B	Battery Cell Cover
5178C	T-5436C	Battery Cell Cover
5180	T-5438	Battery Jar
5181B	T-5439B	Battery Terminal Post Nut
	T-5442B	Battery Filler Plug
5184C	T-5442C	Battery Filler Plug
4813	T-5480	Running Board—LH
4804E	T-5563AR	Rear Fender Iron—Right
4804M	T-5563B	Rear Fender Iron—Right
5013B	T-5815C	Ignition Switch Key
5005B	T-5835BR	Switch Cover
2335	T-5893	Cylinder Head Cap Screw and Spark Plug Wrench
3221	T-5908A	Commutator Case Assembly
3276B	T-5933	Magnet—before Bending
6432C	T-6035	Battery Horn
	T-6403AR	Electric Tail Lamp Body
	T-6403BR	Electric Tail Lamp Body
	T-6403D	Electric Tail Lamp Body
	T-6458B	Oil Tail Lamp Body
	T-6480	Chimney Cover—Upper S & TL
	T-6511CR	Head Lamp Assembly
	T-6511H	Head Lamp Assembly
	T-6511K	Head Lamp Assembly
	T-6570	Head Lamp Door Frame
	T-6572H1	Head Lamp Bulb
	T-6572K	Head Lamp Bulb
	T-6573A	Head Lamp Case
	T-6573BR	Head Lamp Case
	T-6575	Head Lamp Door Frame Assembly
	T-6576BR	Head Lamp Door Lens
	T-6576H	Head Lamp Door Lens
	T-6585A	Head Lamp Reflector Assembly
	T-6585BR	Head Lamp Reflector Assembly
5009	T-6702	Vibrator Bridge—Upper
5007	T-5845	Coil Unit

Cat. No.	Part No.	Name
	T-6810R	Upright Rib Socket Foot
	T-6809R	Extension Rib Socket Foot
	T-7411	Fender and Top Iron Bracket
2577B	T-7609	Universal Joint Housing
3814	T-7648	Front Spring Hanger Clip
3841	T-7649	Rear Spring Hanger Clip
5175	T-7670A1	Battery Assembly
	T-7670A2	Battery Assembly
5012	T-7675E1	Ignition Switch and Ammeter Plate
	T-7675E5	Ignition Switch and Ammeter Plate
5016	T-7680A1	Ammeter
5004	T-7910	Coil Box Cover Assembly
3925D	T-8700D	Radiator Assembly
	T-8887B	Top Rib Socket Center—Extension Foot
	T-8929AR	Top Rib Socket Foot—Center and Front
	T-8929B	Top Rib Socket Foot—Center and Front
	T-8930B	Top Rib Socket Foot—Front—RH
	T-8931B	Rear Extension Rib Socket Foot
	T-8946F	Top Rib Socket Front—LH
1001	TT-4	Rear Axle Housing—Left
1002	TT-5	Rear Axle Housing—Right
1113	TT-3	Hub Brake Drum
1028	TT-11	Differential Gear Case
1044	TT-12A	Worm Gear
1044B	TT-12B	Worm Gear
1027	TT-13	Differential Gear
1032	TT-14	Differential Pinion
1033	TT-15AR	Differential Spider
1033B	TT-15B	Differential Spider
1043	TT-16A	Worm
1043B	TT-16B	Worm
1023	TT-23	Rear Axle Bearing Retaining Washer
	TT-25	Rear Axle Brake Housing—Left
1117	TT-26	Rear Hub Key
1111	TT-40	Rear Hub
1097	TT-2804	Rear Spring Perch
1056	TT-2814	Hub Brake Shoe
1017	TT-56	Rear Axle Dust Cap
1062	TT-62	Hub Brake Expander Lever
1102	TT-91	Rear Spring Hanger
1047	TT-106	Worm Roller Bearing Retainer—Front
1048	TT-107	Worm Roller Bearing Sleeve
1040	TT-110	Drive Shaft Felt Retainer
1053	TT-111	Worm Thrust Bearing Retainer
1050	TT-114	Worm Thrust Bearing Collar
1070	TT-120	Brake Rod Support—Right
1071	TT-121	Brake Rod Support—Left
1004	TT-133	Rear Axle Housing Cap
1026	TT-146	Rear Axle Felt Retainer Plate
1010	TT-147	Rear Axle Brake Housing Plate—Right
1011	TT-148	Rear Axle Brake Housing Plate—Left
1112	TT-149	Rear Hub Flange
1116	TT-150A1	Rear Hub Cap
1073	TT-152	Rear Radius Rod Assembly—RH
1073B	TT-158	Rear Radius Rod Assembly—LH
1020B	TT-161	Rear Axle Roller Bearing Sleeve—RH
1015	TT-166	⅝—14 S. A. E. Nut
1020	TT-170	Rear Axle Roller Bearing Sleeve—LH
1064	TT-175	Hub Brake Expander Adjusting Collar
1067	TT-176	Hub Brake Expander Link
	TT-180	Rear Axle Brake Housing—Right
	TT-193	Drive Shaft Tube Flange
1088	TT-326	Rear Spring Clip
1089	TT-327	¾—16 S. A. E. Nut
1091	TT-329	Rear Spring Clip Plate
1086	TT-331	Rear Spring Leaf No. 9
1078	TT-334	Rear Spring Leaf No. 1
1079	TT-362	Rear Spring Leaf No. 2
1080	TT-363	Rear Spring Leaf No. 3
1081	TT-364	Rear Spring Leaf No. 4
1082	TT-365	Rear Spring Leaf No. 5
1083	TT-366	Rear Spring Leaf No. 6
1084	TT-367	Rear Spring Leaf No. 7
1085	TT-368	Rear Spring Leaf No. 8
	TT-7609	Universal Joint Housing

Service

Service

After Delivery, What?

The following outstanding facts regarding Ford Service are of vital interest to the prospect who gives a thought to what happens after the delivery.

Parts Prices

No matter where you buy a Ford car it is always the same list price. It is the same with Ford Service. Spare parts are always sold at uniform prices.

Service Organization

Standing back of all Ford products is the great international service organization of 33,000 Ford Dealers and Authorized Service Stations. These dealers are located in every country in the world from the largest cities to the smallest hamlet.

Genuine Ford Parts

Genuine Ford parts, part by part, are sold to the public at a cost nearer the total list price of the complete manufactured car than any other automobile.

Flat Rate Labor Charges

The Service Department of the Ford Motor Company have worked out a schedule of time required for every known repair operation on Ford cars. This is based on the quickest and best method of doing the repair work with labor saving machinery and modern methods.

All Ford agents operate their repair stations on the flat rate labor basis. There is no haggling or arguing, no undercharging one owner and over-charging another.

Equipment

It is a recognized fact that Ford dealers throughout the world have the finest and best equipped service stations of any automobile dealer organization.

Millions of dollars have been spent by dealers for labor saving equipment, cutting down the time required to perform operations, the benefit of which has been passed on to the Ford owner.

Practically all Ford dealers are equipped with burning-in machines for fitting up the main bearings of the Ford engine. The average time by hand formerly was 6 to 8 hours. Time required by burning-in method, 20 minutes.

Continuous Operation

This wonderful efficient Ford service enables Ford dealers' customers to receive the greatest value and investment, both in money and pleasure, because his car, truck or tractor can be kept in continuous and efficient operation with the minimum amount of time for repairs.

Skilled Mechanics

Practically all Ford dealers train their mechanics to specialize on one class of repairs. This has a tendency to make skilled experts as the continuous practice of performing a few operations enables them to know the quickest and best way to do the work.

Stock of Parts

Ford dealers all have well-equipped stock rooms, complete with practically every part needed for the tractor, truck or Ford car. Also, a great many dealers are now carrying a complete stock of Lincoln parts. Ford dealers have invested in Ford parts in excess of $50,000,000.

Ford Service Bulletin

The Service Department of the Ford Motor Company, Detroit, issue a monthly publication known as the "Ford Service Bulletin," going to all Ford dealers and practically all Ford mechanics. This official paper is a tremendous factor in educating the dealers and mechanics in time saving methods for performing repair work.

Ford Parts

Replacement parts on Ford products are of vital importance to Ford owners and prospective owners.

The Ford is built of honest materials throughout. Strain-bearing and wearing parts are made of Ford steel—heat-treated.

Ford steel has enabled the Ford to endure the strains of constant daily use on the roughest roads.

WHY IMITATION PARTS ARE SOLD AT REDUCED PRICES

It is no doubt difficult to understand how other concerns can offer parts for Ford cars at cut prices.

One concern recently advertised front and rear hubs as identical with Ford production and up to their specifications in every particular. The fact of the matter is, that the hubs in question passed through a fire which destroyed the plant of the manufacturer of the material, which necessitated their selling these hubs as scrap and they later found their way into jobbers' hands. These hubs were absolutely worthless, but it goes to show to what extent unscrupulous concerns will go in imposing upon Ford trade.

Another concern is cutting drive shaft pinions out of soft bar stock, whereas Ford pinions are made from drop forgings of alloy steel and passed through a special heat-treating process.

Coil vibrators fitted with lead instead of tungsten points are also being offered to the trade.

Pistons of inferior quality are being advertised as made by the same factories supplying the Ford Motor Company who in reality, produce their entire requirements of pistons.

Substitutes:

Nobody forges a pauper's name. Worthless things aren't counterfeited. When a man writes a worthless check, it's because he can not make good over his own signature. But the check is still bad because it is still his. All widely advertised goods are widely imitated. But substitutes are always like their makers—unable to make good on their own account.

If they represented value, they could be sold without misrepresentation. The original article is sure to be better, or it wouldn't be copied.

General Service Policy Adopted by the Majority of Ford Dealers

Our Guarantee:

Repair work performed by us is guaranteed to be free from defective workmanship and to be first class in every particular.

Genuine Ford Parts:

Under no circumstances will any but genuine Ford parts be used in the replacement of worn parts.

Service Cars:

Our shop is equipped with emergency repair cars—on call day or night.

Flat Rate Charges:

Our repair work will be handled on a flat rate system. The customer will know in advance the exact cost of the labor.

Change in Prices:

Standard labor charges listed in this book are the result of a careful study of many thousand repair records and, to the best of our knowledge, are fixed rates for an indefinite period. We do not guarantee that these will not be changed when necessary, and without notice to customers.

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 5280 feet in a mile, then 5280 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 1760 feet per minute, or one-third of a mile.

Car Speed	Engine Speed	Mountain Gear	Wheel Speed
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	611	672	168
20	814	896	224
25	1018	1120	280
30	1221	1399	336
35	1425	1568	392
40	1628	1792	448
45	1832	2016	505
50	2035	2240	560
55	2239	2464	616
60	2442	2689	672

Ford Fuel Tank Measurements

The old "round" gasoline tanks, as used on all Fords for many years, were of approximately 10 gallons capacity. These tanks were used on all touring and roadsters of earlier than 1920 make, and even on some of the 1920 models. With these round tanks, it will be noticed that one gallon, at the bottom of the tank, takes more than twice as much depth as a gallon near the middle.

The oval tanks are now used on all types of Ford cars with the exception of the Coupe and two-door Sedan. The capacity of this oval tank may be roughly estimated as 1½" for the first gallon, and ¾" for each additional gallon up to nine.

The "square" tank is now used on Ford Coupes and two-door Sedans. With the square tank, each ¾" represents one gallon.

In the United States, the Old English Wine Gallon containing 231 cubic inches is standard. In Canada, the British Imperial gallon of 277.274 cubic inches, is used. This means that an Imperial gallon is equal to practically 1-1/5 U. S. gallons.

Since the gallons are different, we are giving a table of gasoline tank measurements, showing number of gallons per inch:

United States

Gallons	Square Tank	Round Tank	Oval Tank
1	¾"	1-$\frac{11}{12}$"	1-$\frac{7}{16}$"
2	1½"	2-$\frac{2}{12}$"	2-$\frac{1}{16}$"
3	2¼"	3-$\frac{1}{12}$"	2-$\frac{15}{16}$"
4	3"	4-$\frac{11}{12}$"	3$\frac{5}{8}$"
5	3¾"	5-$\frac{1}{8}$"	4-$\frac{3}{16}$"
6	4½"	5-$\frac{23}{24}$"	5"
7	5¼"	6$\frac{3}{4}$"	5-$\frac{11}{16}$"
8	6"	7-$\frac{11}{12}$"	6-$\frac{7}{16}$"
9	6¾"	8-$\frac{23}{24}$"	7-$\frac{3}{16}$"

U. S. Ford Weights

Year Aug. 1—July 31	*Coupe*	*Sedan*	*Runabout*
1915-1916	1540	1730	1395
1916-1917	1540	1730	1380
1917-1918	1580	1745	1385
1918-1919	1580	1715	1390
1919-1920	1580	1750	1390
1920-1921	1525	1725	1400
1921-1922	*1685	*1875	1380
1922-1923	*1729	*1900	1385
		‡1915	

Year	*Touring*	*Chassis*	*Truck Chassis*
1915-1916	1510	1200	
1916-1917	1500	980	
1917-1918	1480	980	1450
1918-1919	1500	980	1450
1919-1920	1500	1060	1395
1920-1921	1500	1020	1380
1921-1922	1485	1070	1430
1922-1923	1477	1082	1427

(*) This weight of Coupe and Sedan includes starter and demountables. Other cars equipped with starter, add 95 pounds. 55 pounds additional for demountable rims and tire carrier.

(‡) Four Door Sedan.

Tractor Lubricating Oil

It has been found that oil which tests in accordance with the following specifications can be used with very satisfactory results in both the Fordson Motor and Transmission.

Flash point 400° F. Minimum. Viscosity at 100° F. 650 Maximum.
Fire point 450° F. Minimum. Viscosity at 210° F. 66 Minimum.
Cold 45° F. Maximum.

Model T Lubricating Oils

Specifications of oil that should give satisfactory results in the Ford Motor are as follows:

Flash.....370 F. Min.
Fire.....420 F. Min.
Viscosity at.....100 300 Max.
Viscosity at.....210 50 Min.
Cold..... 30 F. Max.

The Motor Power

An engine is like a man in that it has two strength ratings. A man may be able to lift a weight of 100 pounds, but he cannot run with it. With a load of ten pounds he can run. The amount an engine can "lift" is termed "torque," while the rate at which it can carry (turn over) that weight is termed "horsepower." The torque and horsepower increase with the R. P. M. (revolutions per minute) for a time and then gradually decrease.

While we have obtained ratings as high as 22½ horsepower, we believe the figures given below are representative of the motors in general use:

R. P. M.	Speed in Miles Per Hour Car	Truck	Pounds Torque	Horsepower
300	7.5	4.	35	2
400	10	5.25	57	4.5
500	12.5	6.55	69	6.5
600	15	7.9	73	8.5
700	17.5	9.2	78	10.40
800	20	10.50	81	12.33
900	22.5	11.85	83	14.20
1000	25	13.15	82	15.60
1100	27.5	14.50	81	16.66
1200	30	15.80	79	18.20
1300	32.5	17.10	77	19
1400	35	18.45	73	19.66
1500	37.5	19.75	70	20
1600	40	21.05	65	20
1700	42.5	22.40	60	19.40
1800	45	23.75	53	18.20
1900			47	17

These figures were obtained with a wide open throttle. They represent only the maximum power that can be developed at the given speeds. As the throttle is seldom wide open when driving the car, speed is rarely indicative of the horsepower the engine is developing. You will notice that the "torque" (pounds pull) begins to drop off at about 900 R. P. M. As the engine exerts its greatest pull at this speed, the futility of racing the engine when attempting to pull out of a hole is apparent.

Tractive Effort on Various Surfaces (Norris)

All figured in pounds per ton.
With different tires (comparatively)

Iron	60
Solid Rubber	60
Pneumatic	40

On rails or plates	5.16
Asphalt or hardwood	12.24
Macadam	30.60
Loose Gravel	140 to 200
Sand	400

Percentage Slip of Motor Car Drive Wheels

0.3	for a speed of	40	miles per hour	1.8	for a speed of	70	miles per hour
0.6	" "	50	" "	3.7	" "	80	" "
1.1	" "	60	" "	5.4	" "	90	" "

Table of Decimal Equivalents

1/64	.015625	33/64	.515625
1/32	.03125	17/32	.53125
3/64	.046875	35/64	.546875
1/16	.0625	9/16	.5625
5/64	.078125	37/64	.578125
3/32	.09375	19/32	.59375
7/64	.109375	39/64	.609375
1/8	.125	5/8	.625
9/64	.140625	41/64	.640625
5/32	.15625	21/32	.65625
11/64	.171875	43/64	.671875
3/16	.1875	11/16	.6875
13/64	.203125	45/64	.703125
7/32	.21875	23/32	.71875
15/64	.234375	47/64	.734375
1/4	.25	3/4	.75
17/64	.265625	49/64	.765625
9/32	.28125	25/32	.78125
19/64	.296875	51/64	.796875
5/16	.3125	13/16	.8125
21/64	.328125	53/64	.828125
11/32	.34375	27/32	.84375
23/64	.359375	55/64	.859375
3/8	.375	7/8	.875
25/64	.390625	57/64	.890625
13/32	.40625	29/32	.90625
27/64	.421875	59/64	.921875
7/16	.4375	15/16	.9375
29/64	.453125	61/64	.953125
15/32	.46875	31/32	.96875
31/64	.484375	63/64	.984375
1/2	.5	1	1.

Number of Parts

There are likely fewer parts required in simple Ford construction than in other cars, yet all in all there are probably 5,000 parts. The minimum number in most other makes is about 8,000.

Body Assembly

The Touring Car Body Assembly now comes in three main outside parts, instead of five. There is the full right side, full left side and the rear panel. The rear panel is removable making replacement easier.

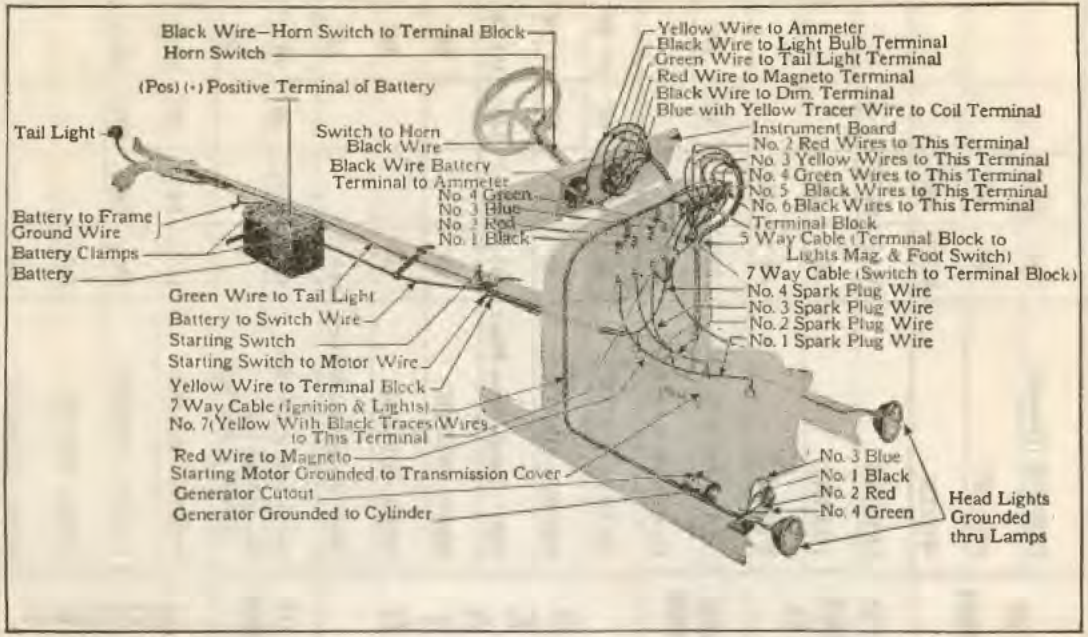
DETAILED FORD BODY DIMENSIONS

		Touring	Roadster	Coupe	Sedan	Sedan 4 D.
TOP DOWN	LENGTH (Overall)	104"	81½"			
	HEIGHT	45"	45"			
	WIDTH	54¼"	49"			
TOP RAISED	LENGTH	91½"	81½"			
	HEIGHT	54"	53"			
	WIDTH	51"	49"			
HEAD ROOM	Top of Cushion to Top Front	38"		35"	39"	35"
	Top of Cushion to Top Rear	41"				36"
SEATS	FRONT—WIDTH	38"	38"	45"	17"20"	45"
	FRONT—DEPTH	20"	20"	19"	18"19"	18"
	FRONT—Height from Floor	13½"	13½"	14½"	12½ 15"	14"
	REAR—WIDTH	43"			45"	46"
	REAR—DEPTH	18"			19"	20"
	REAR—Height from Floor	14½"			15"	14"
LEG ROOM	Dash to Front of Front Seat	25¼"	25¼"	25"	23¼"	24"
	Rear of Front Seat to Front of Rear Seat				13"	21"
DOORS	FRONT—WIDTH	16¾"	16¾"	24"	23¼"	23"
	FRONT—HEIGHT	18½"	18½"	46¾"	49¼"	46¾"
	REAR—WIDTH	18¾"				23"
	REAR—HEIGHT	19"				46¾"

TURNING RADIUS INFORMATION

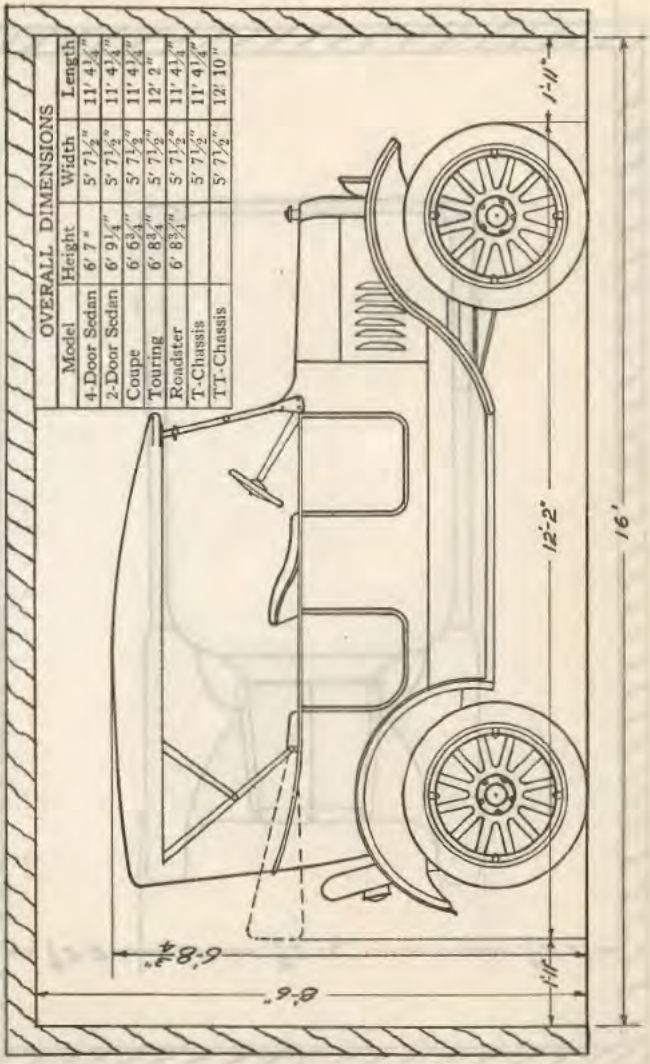
Due to recent improvements in steering mechanism of Model "T", radius has been reduced to 19 ft., 3 ins.; and it will turn in a circle of 38 ft., 6 ins.

Model "T" Wiring Diagram



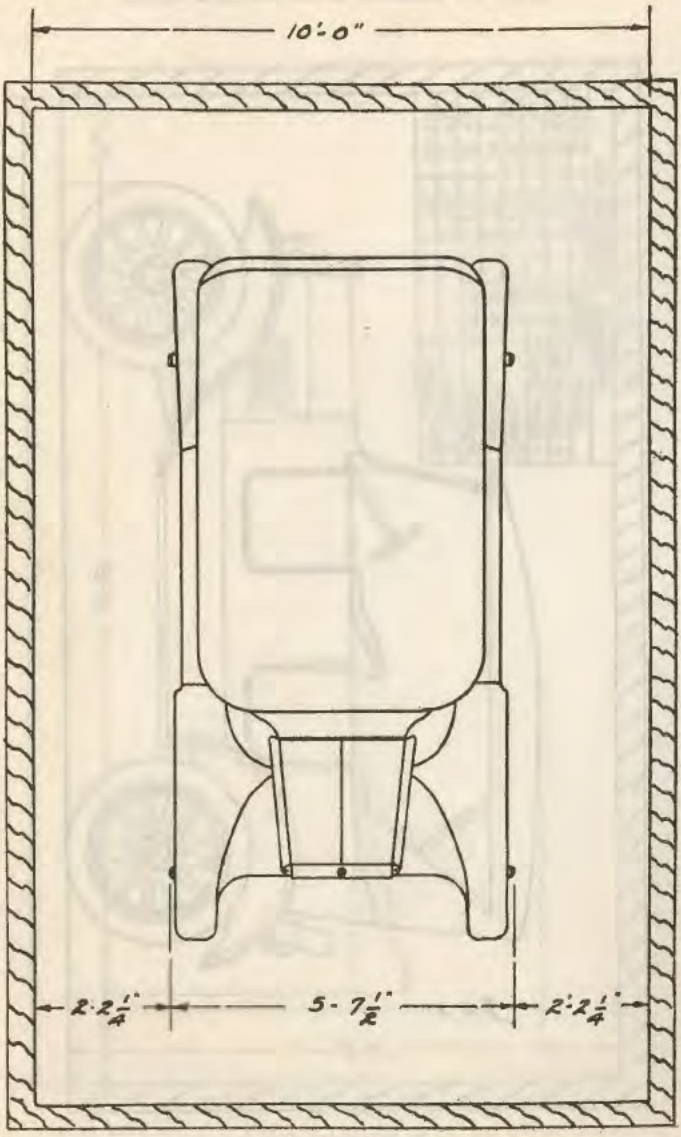
Model T Garage Dimensions

With the top down and the touring car in same position as shown in cut the clearance at the rear is 23 inches.



Model T Garage Dimensions

The sketch below and on opposite side of this page give dimensions which will provide ample space to conveniently house all models of Ford cars.



A Few Comparative Labor Charges
Ford—Overland—Chevrolet

DESCRIPTION OF OPERATION	FORD—MODEL T				OVERLAND—4					CHEVROLET—490				
	Time		Amount		Time		Amount		% over Ford	Time		Amount		% over Ford
	Hrs.	Min.			Hrs.	Min.				Hrs.	Min.			
Removal and Installation of Front Springs	1	15	$ 1	88	2	15	$ 3	88	106.3	2	00	$ 3	00	58.9
Remove Engine and Transmission from frame—completely disassemble—completely overhaul—all parts repaired—reassemble and re-install in frame.	16	00	24	00	44	00	66	00	175.	37	00	55	50	131.3
Replace 4 Pistons	4	30	6	75	8	00	12	00	62.9	7	6	10	65	57.7
Remove Cylinder Head—grind in valves—remove carbon—replace cylinder head	2	30	3	75	6	30	9	75	160.	3	00	4	50	20.
Remove and Install One Front Fender		30		75	2	00	3	00	300.	1	00	1	50	100.
Remove and Install One Running Board		30		75	2	00	3	00	300.		48	1	20	69.

NOTE—The Chevrolet time studies were published in the Sept. 13th, 1922 issues of "Motor World." The prices in dollar and cents were figured, using the rate of $1.50 per hour as an average labor charge for all cars. The Ford time studies were secured from the Ford Service Bulletin; the Overland time studies were secured by personal inquiry from authorized Overland Dealers. The prices shown represent accurate averages.

Lincoln Firing Order

The timing of the engine is graphically illustrated in Figs. 1, 2, 3. The offset arm represents the distributor rotor which carries the two contact brushes for the right and left blocks. The large circle represents the distributor head with the contacts for the different cylinders. The two vertical banks of circles are the cylinders and are numbered in the order of firing 1-2-3-4-5-6-7-8. As the arm is revolved note the difference in travel between the firing cyl. 1 and 2 and cyl. 2 and 3.

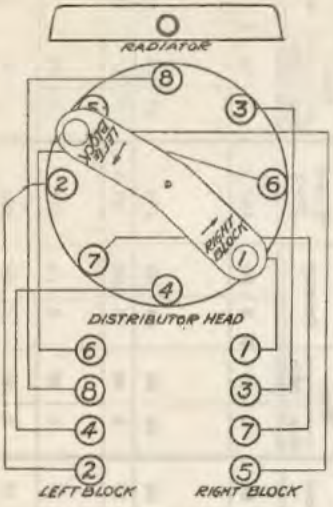


Fig. 1

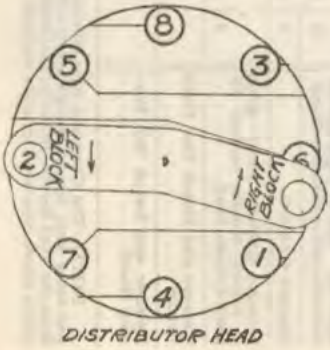
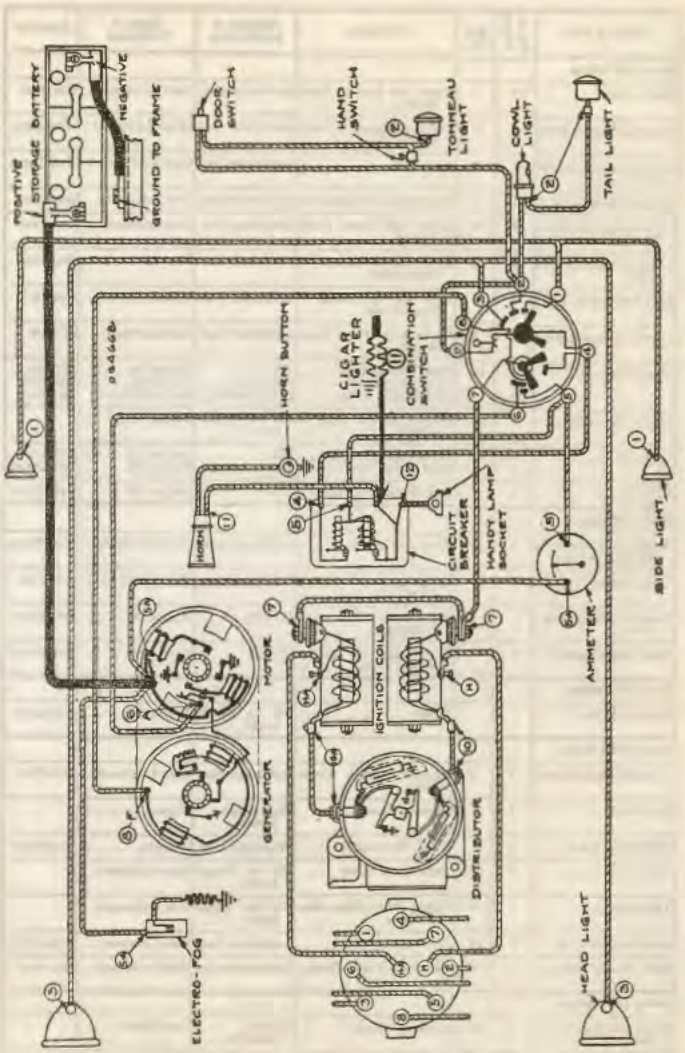


Fig. 2

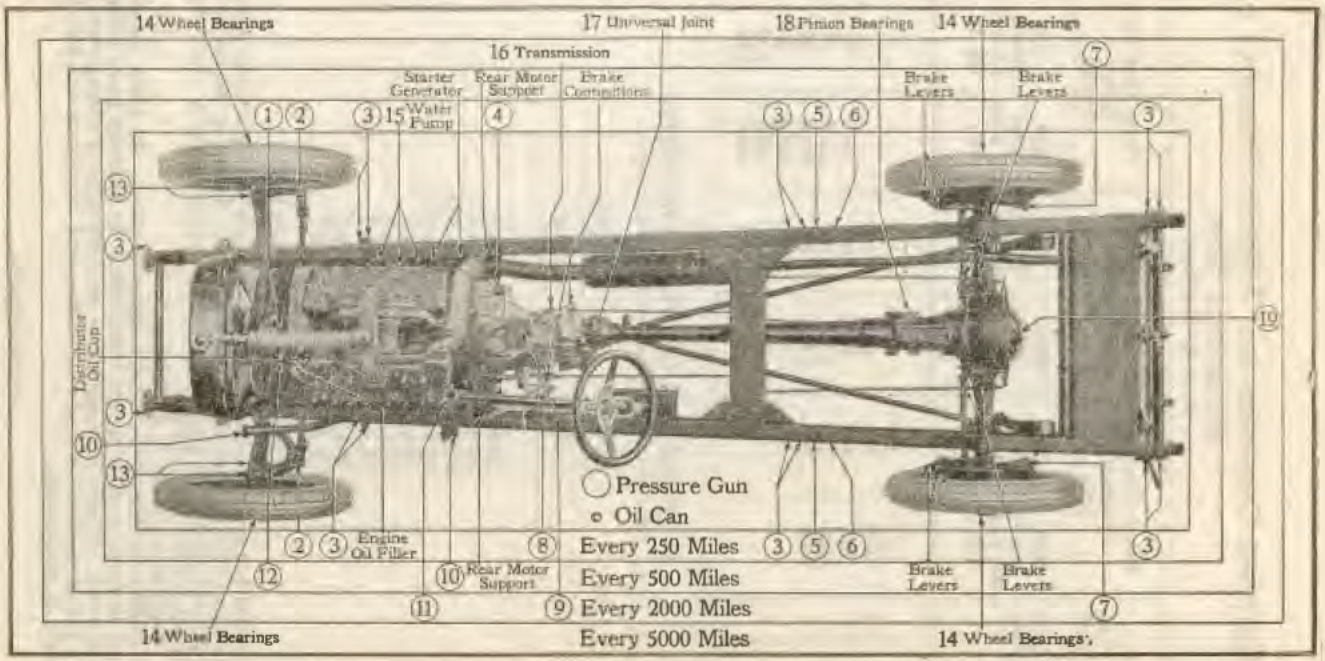
Fig. 3

Lincoln Wiring Diagram



Lincoln Lubrication Chart

Name of Part	No. of Places	Ref. No.	Location	Method of Lubricating	Kind of Lubricant	Quantity
Every 250 Miles						
Spring Bolts	14	3	Front and Rear of Each Spring	Lubricator Gun	Gear Lubricant	One Turn
Steering Knuckle Bolts	4	13	Top and Bottom of Each Spindle Bolt	Lubricator Gun	Gear Lubricant	One Turn
Steering Knuckle Tie Rod	3	2	Each End	Lubricator Gun	Gear Lubricant	Two Turns
Engine Fan Bearing	1	1	Right Side of Fan Bracket	Lubricator Gun	Gear Lubricant	One Turn
Clutch and Brake Pedal Bearings	1	8	Under Left Front Floor Boards	Lubricator Gun	Gear Lubricant	One Turn
Rear Axle Brake Rocker Shaft	2	5	Each Side of Chassis in Dust Shield	Lubricator Gun	Gear Lubricant	One Turn
Rear Axle Spring Seats	2	6	Each Side of Chassis in Dust Shield	Lubricator Gun	Gear Lubricant	One Turn
Starter Operating Shaft	1	4	Under Right Front Floor Boards	Lubricator Gun	Gear Lubricant	¼ Turn
Water Pump	1 1 1	15	Front End of Pump Center of Pump Rear End of Pump	Oiler Grease Cup Lubricator Gun	Engine Oil Cup Grease Gear Lubricant	Few Drops One Turn Six Turns
Engine Reservoir	2	20	Filler Cap Left Side of Engine	Fill to Proper Level	Engine Oil	
Generator	1 1		Front End of Generator Rear End of Generator	Oiler Oiler	Engine Oil Engine Oil	Fill Cup Few Drops
Distributor	1		Left Side of Distributor	Oiler	Engine Oil	Few Drops
Every 500 Miles						
Steering Connecting Rod Ball Joints	2	10	Each End of Rod	Lubricator Gun	Gear Lubricant	Two Turns
Front Engine Support	1	12	Left Side under Engine Hood	Lubricator Gun	Gear Lubricant	One Turn
Brake Lever Connections			All Clevis Pins and Linkage	Oil Can	Engine Oil	Few Drops
Rear Engine Support	2		Each Side of Engine Support Arm	Oil Can	Engine Oil	Few Drops
Every 750 Miles						
Engine Oil Pan			Drain	Fill to Proper Level	Engine Oil	10 Quarts
Every 2000 Miles						
Clutch Release Bearing	1	9	Remove Clutch Cover Plate	Lubricator Gun	Gear Lubricant	One Turn
Distributor	1		Remove Head	Wipe Clean Inside	None	
Distributor Cam	1		Clean Thoroughly	Wipe Sparingly	Vaseline	Very little
Rear Axle	1	19	Back Cover Plate	Fill to Proper Level	Gear Lubricant	
Transmission	1	16	Filling Plug—Right Side of Case	Fill to Proper Level	Gear Lubricant	
Steering Gear Case	2	11	Front of Housing	Lubricator Gun	Gear Lubricant	1 Gun Full
Brake Anchor Studs	2	7	Rear Axle Brake Drums	Lubricator Gun	Gear Lubricant	One turn
Every 5000 Miles						
Front and Rear Wheel Bearings	4	14	Remove Wheels	Repack Bearings	Cup Grease	
Universal Joint	1	17	Under Front Floor Boards	Lubricator Gun	Gear Lubricant	¼ Pint
Front Pinion Bearing	1	18	Differential Carrier	Lubricator Gun	Gear Lubricant	1 Gun Full


14 Wheel Bearings
17 Universal Joint
18 Pinion Bearings
14 Wheel Bearings
16 Transmission
Starter Generator
Rear Motor Support
Brake Connections
Brake Levers
Brake Levers
15 Water Pump
Distributor Oil Cup
Engine Oil Filler
Rear Motor Support
Brake Levers
Brake Levers
14 Wheel Bearings
14 Wheel Bearings
Pressure Gun
Oil Can
Every 250 Miles
Every 500 Miles
Every 2000 Miles
Every 5000 Miles

Carrying Capacities and Inflation Pressures of Pneumatic Tires

S. A. E. Standard

Nominal Tire Size	Fabric Tires for Passenger Cars		Cord Tires for Passenger Cars		Cord Tires for Motor Trucks	
	Max. Load per Tire, Lb.	Air Press., Lb. per Sq. In.	Max. Load per Tire, Lb.	Air Press., Lb. per Sq. In.	Max. Load per Tire, Lb.	Air Press., Lb. per Sq. In.
3	375	45	400	40	....	....
3½	570	55	600	50	....	....
4	815	65	850	60	850	70
4½	1100	75	1200	70	1200	75
5	1500	85	1700	80	1700	80
6	....	....	....	....	2200	90
7	....	....	....	....	3000	100
8	....	....	....	....	4000	110

Nominal and Oversize Tires Sizes

Nominal Size	Oversize Size
30 x 3½	31 x 4
32 x 3½	33 x 4
32 x 4	33 x 4½
33 x 4	34 x 4½
32 x 4½	33 x 5
33 x 4½	34 x 5
34 x 4½	35 x 5
34 x 5	36 x 6
36 x 6	38 x 7

Ford Body Information

Ford Sedan and Coupe bodies are equipped with gas tanks, floor boards, cushions and mats. Touring and Runabout Bodies are equipped with floor boards, rubber mats and cushions. No tops or windshields are included.

Body prices are F. O. B. Detroit.

Orders are filled from nearest assembly plant. An extra charge will be made to cover freight from Detroit to assembly plant filling the order. If body is shipped from assembly plant a crating charge of $10.00 each will be made on Touring and Runabouts and $20.00 each on closed bodies.

Car Speed at 1000 R.P.M.

Gears	12:1	9:1	7:1	5:1	4:1	3 1/5:1	3:1	2 1/5:1	2:1	1:1
30-in. wheel	7.2	9.6	12.3	17.3	21.6	24.7	28.8	34.6	43.2	86.4
32-in. wheel	7.7	10.2	13.2	18.4	23.1	26.4	30.7	36.8	46.1	92.2
33-in. wheel	7.9	10.6	13.6	19.0	23.8	27.2	31.7	38.0	47.5	95.0
34-in. wheel	8.2	10.9	13.9	19.6	24.5	27.9	32.6	39.2	49	97.9
36-in. wheel	8.6	11.5	14.8	20.7	25.9	29.6	34.6	41.4	51.9	103.7
38-in. wheel	9.1	12.2	15.6	21.9	27.4	31.2	36.5	43.8	54.7	109.4
40-in. wheel	9.6	12.8	16.5	23.0	28.8	32.9	38.4	46.0	57.6	115.2
42-in. wheel	10.1	13.4	17.3	24.2	30.3	34.6	40.3	48.4	60.5	121.0
44-in. wheel	10.6	14.1	18.1	25.3	31.7	36.2	42.2	50.6	63.4	126.7

Speedometer and Odometer Readings

Odometers serve mainly the following purposes:

1—To ascertain the mileage of tires.

2—To keep track of monthly and yearly service of a vehicle.

3—To furnish a control upon the daily work of drivers.

4—To check illegitimate use of a vehicle.

5—To ascertain mileage of a day's journey or a tour.

If driven from a front wheel the odometer will record the slippage as well as the mileage of the front wheel.

If driven from a rear wheel, it will record slippage (spinning) as well as mileage of that wheel.

If driven from a transmission shaft, it will record slipping (spinning) of both rear wheels.

It seems to be the consensus of opinion that these sources of error are negligible so far as any of the purposes above mentioned are concerned.

Error due to insufficient inflation of air tires is also negligible, as either the soft tire maintains contact with the ground along the entire circumference of its tread—the circumference being merely ovalized—or else, in the case of a flat tire whose tread buckles under the driving effort, very little distance is covered under the abnormal condition.

Errors due to roughness of road are found to compensate for themselves, the bounding and the indentations of the tread resulting as often in advancement as in retardation.

The only notable error arises in connection with commercial motor vehicles when the wheel diameter is reduced by the wearing down of solid rubber tires.

Reliable data on speedometer and odometer readings have not yet been systematically gathered.

N. A. C. C. Horse-Power Rating

(Formerly known as the A. L. A. M. Rating)

The formula is $\frac{D^2 \times N}{2.5}$. D is the cylinder bore in inches, N the number of cylinders, and 2.5 a constant, based on the average view of eminent engineers, as to a fair conservative rating for a four-cycle motor at one thousand feet per minute piston speed.

Table of Horsepower for Usual Sizes of Motors

Ins.	2 Cyls.	4 Cyls.	6 Cyls.	8 Cyls.	12 Cyls.
2 1/2	5.00	10.00	15.00	20.00	30.00
2 5/8	5.50	11.03	16.54	22.05	33.08
2 3/4	6.00	12.10	18.15	24.20	36.30
2 7/8	6.62	13.23	19.84	26.45	39.68
3	7.20	14.40	21.60	28.80	43.20
3 1/8	7.81	15.63	23.44	31.25	46.88
3 1/4	8.50	16.90	25.35	33.80	50.70
3 3/8	9.12	18.23	27.34	36.45	54.68
3 1/2	9.80	19.60	29.40	39.20	58.80
3 5/8	10.50	21.03	31.54	42.05	63.08
3 3/4	11.25	22.50	33.75	45.00	67.50
3 7/8	12.00	24.03	36.04	48.05	72.08
4	12.80	25.60	38.40	51.20	76.80
4 1/8	13.62	27.23	40.84	54.45	81.68
4 1/4	14.50	28.90	43.35	57.80	86.70
4 3/8	15.31	30.63	45.94	61.25	91.88
4 1/2	16.20	32.40	48.60	64.80	97.20
4 5/8	17.12	34.23	51.34	68.45	102.68
4 3/4	18.00	36.10	54.15	72.20	108.30
4 7/8	19.00	38.03	57.04	76.05	114.08
5	20.00	40.00	60.00	80.00	120.00
5 1/8	21.00	42.03	63.04	84.05	126.08
5 1/4	22.00	44.10	66.15	88.20	132.30
5 3/8	23.00	46.23	69.34	92.45	138.68
5 1/2	24.20	48.40	72.60	96.80	145.20
5 5/8	25.31	50.63	75.94	101.25	151.88
5 3/4	26.50	52.90	79.35	105.80	158.70
5 7/8	27.62	55.23	82.84	110.45	165.68
6	28.80	57.60	86.40	115.20	172.80

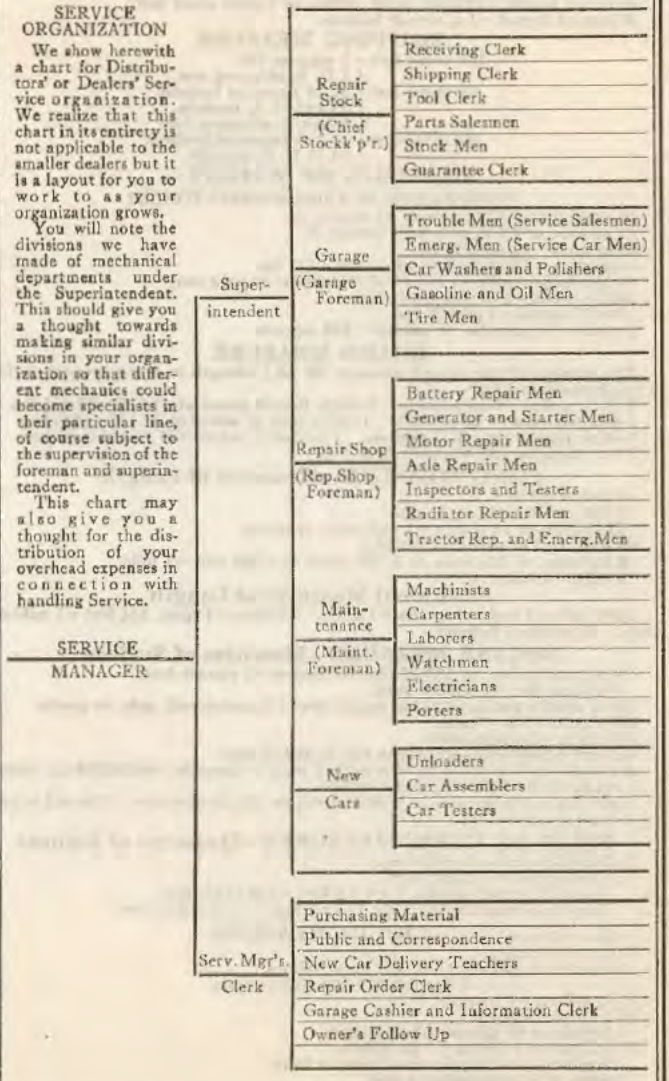
Distributors' or Dealers' Service Organization Chart

SERVICE ORGANIZATION

We show herewith a chart for Distributors' or Dealers' Service organization. We realize that this chart in its entirety is not applicable to the smaller dealers but it is a layout for you to work to as your organization grows.

You will note the divisions we have made of mechanical departments under the Superintendent. This should give you a thought towards making similar divisions in your organization so that different mechanics could become specialists in their particular line, of course subject to the supervision of the foreman and superintendent.

This chart may also give you a thought for the distribution of your overhead expenses in connection with handling Service.



U. S. Measures and Weights

DRY MEASURE—U. S.

2 pints = 1 quart. 8 quarts = 1 peck. 4 pecks = 1 bushel.

The standard U. S. bushel is in cylinder form, 18½ inches diameter and 8 inches deep, and contains 2150.42 cubic inches.

A struck bushel = 2150.42 cubic inches, or 1.2445 cubic feet.

A heaped bushel = 1¼ struck bushels.

SHIPPING MEASURE

100 cubic feet = 1 register ton.

40 cubic feet { 1 U. S. shipping ton. / 31.16 Imperial bushels. / 32.143 U. S. bushels.

42 cubic feet { 1 British shipping ton. / 32.719 Imperial bushels. / 33.75 U. S. bushels.

MEASURES OF WEIGHT—Avoirdupois or Commercial Weight

16 drachms, or 437.5 grains = 1 ounce, oz.
16 ounces, or 7,000 grains = 1 pound, lb.
28 pounds = 1 quarter, qr.
4 quarters = 1 hundred-weight, cwt. = 112 lbs.
20 hundred-weight = 1 ton of 2240 pounds, or long ton.
2000 pounds = 1 net, or short ton.
2204.6 pounds = 1 metric ton.
1 stone = 14 pounds. 1 quintal = 100 pounds.

BOARD MEASURE

The number of feet, board measure (B. M.) = length in feet x breadth in feet x thickness in inches.

1 U. S. gallon = 8.33 pounds. 1 cubic foot of water at 39.1°F = 62.425 lbs.
1 English gallon = 10 pounds. 1 cubic inch of water at 39.1°F = .036 lbs.
1 cubic foot of ice = 57.2 pounds. 1 pound of water = 27.72 cubic inches.
1 ton of water = 35.90 cubic feet.

LONG MEASURE—Measures of Length

12 inches = 1 foot.
3 feet, or 36 inches = 1 yard.
5½ yards, or 16½ feet = 1 rod, pole, or perch.
40 rods, or 220 yards = 1 furlong.
8 furlongs, or 320 rods, or 1,760 yards or 5,280 feet = 1 mile.
3 miles = 1 league.

Additional Measures of Length

1,000 mils = 1 inch. 4 inches = 1 hand. 9 inches = 1 span, 2½ feet = 1 military pace. 2 yards = 1 fathom.

SQUARE MEASURE—Measures of Surface

144 square inches, or 183.35 circular inches = 1 square foot.
9 square feet = 1 square yard.
30¼ square yards, or 272¼ square feet = 1 square rod, pole, or perch.
160 square rods = 1 acre.
640 acres = 1 square mile.
An acre equals a square whose side is 208.71 feet.
A circular inch is the area of a circle 1 inch in diameter = 0.785398 sq. inches.
1 square inch = 1.2732 circular inches.
A circular mil is the area of a circle 1 mil or .001 in diameter. The mil is used in electrical calculation.

SOLID OR CUBIC MEASURES—Measures of Volume

1728 cubic inches = 1 cubic foot.
27 cubic feet = 1 cubic yard.
1 cord of wood = a pile, 4 x 4 x 8 feet = 128 cubic feet.
1 perch of masonry = 16½ x 1½ x 1 foot = 24¾ cubic feet.

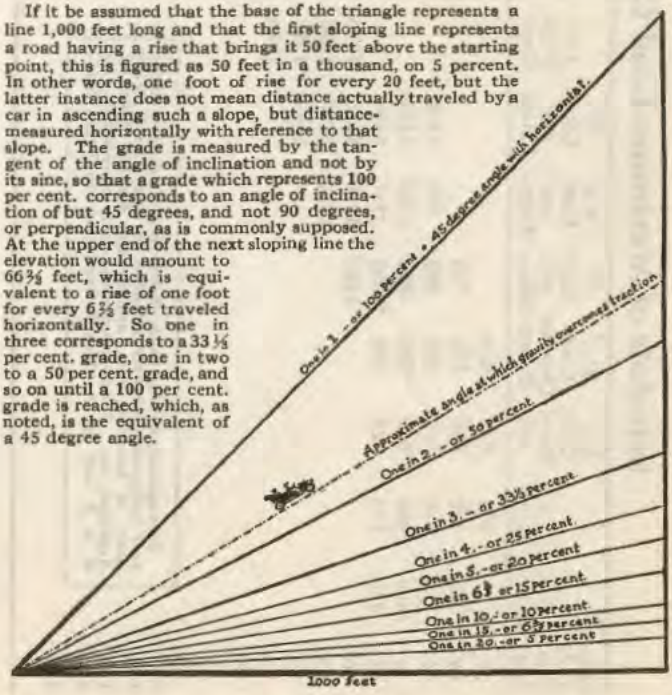
LIQUID MEASURE

4 gills = 1 pint.
2 pints = 1 quart.
4 quarts = 1 gallon { U. S. 231 cubic inches. / English 277.274 cubic inches.
31½ gallons = 1 barrel.
42 gallons = 1 tierce.
2 barrels or 63 gallons = 1 hogshead.
84 gallons or 2 tierces = 1 puncheon.
2 hogshead or 126 gallons = 1 pipe or butt.
2 pipes or 3 puncheons = 1 tun.
74805 U. S. gallons = 1 cubic foot.
1 British Imperial gallon = 1.20032 U. S. gallons.

Table of Gradients

GRADE		Equal to Angle of	Rise or Fall in One Mile, Feet
Per Cent	Units		
20	1 in 5	11° 19′	1056
17	1 " 6	9° 26′	880
14	1 " 7	8° 09′	754
12.5	1 " 8	7° 08′	635
11	1 " 9	6° 17′	586
10	1 " 10	5° 43′	528
9	1 " 11	5° 11′	480
8	1 " 12	4° 46′	440
7.75	1 " 13	4° 24′	406
7	1 " 14	4° 05′	337
6.5	1 " 15	3° 49′	352
6.25	1 " 16	3° 35′	330
6	1 " 17	3° 22′	310
5.5	1 " 18	3° 11′	293
5	1 " 19	3° 00′	277
5	1 " 20	2° 52′	204
4	1 " 25	2° 18′	218
3.3	1 " 30	1° 55′	155
2.8	1 " 35	1° 38′	151
2.5	1 " 40	1° 26′	132

If it be assumed that the base of the triangle represents a line 1,000 feet long and that the first sloping line represents a road having a rise that brings it 50 feet above the starting point, this is figured as 50 feet in a thousand, or 5 percent. In other words, one foot of rise for every 20 feet, but the latter instance does not mean distance actually traveled by a car in ascending such a slope, but distance measured horizontally with reference to that slope. The grade is measured by the tangent of the angle of inclination and not by its sine, so that a grade which represents 100 per cent. corresponds to an angle of inclination of but 45 degrees, and not 90 degrees, or perpendicular, as is commonly supposed. At the upper end of the next sloping line the elevation would amount to 66⅔ feet, which is equivalent to a rise of one foot for every 6⅔ feet traveled horizontally. So one in three corresponds to a 33⅓ per cent. grade, one in two to a 50 per cent. grade, and so on until a 100 per cent. grade is reached, which, as noted, is the equivalent of a 45 degree angle.



Schedule of Maximum Load Carrying Capacities

Min. Infl. Pres. Lbs.	3" Fabric	3½" Fabric	3½" Cord Nominal	3½" Cord Oversize Fabric	4" Cord and Fabric	4½" Cord and Fabric	5" Cord and Fabric	4½" Truck Cord	5" Truck Cord	6" Cord	7" Cord	8" Cord	9" Cord	10" Cord	Min. Infl. Pres. Lbs.
35		375	425	475											35
40	300	450	500	550	700										40
45	350	525	575	625	800	950	1200								45
50	*400	*600	*650	*700	900	1050	1325								50
55	450	675	725	775	*1000	1150	1450								55
60					1100	*1250	1575	1050							60
65						1350	*1700	1150	1325						65
70							1825	*1250	1450	1700	2100				70
75								1350	1575	1825	2250				75
80									*1700	1950	2400	2950			80
85									1825	2075	2550	3125			85
90										*2200	2700	3300	3800		90
100										2450	*3000	3650	4200	4650	100
110											3300	*4000	4600	5100	110
120												4350	*5000	5550	120
130													5400	*6000	130
140														6450	140

The accompanying table shows the schedule of loads and inflations recently adopted by the Tire & Rim Assn. of America, Inc., and by the Rubber Assn. of America, Inc. It supersedes the table adopted by the S. A. E. and by the Tire & Rim Assn. in June, 1919.

**Maximum load and minimum inflation recommended as safe practice. Higher load and inflation figures are only for the guidance of users who wish to disregard the recommended limits.*

Summary of Tractor Motor Troubles and Their Causes

(a) Motor Fails to Start.

1. Gas mixture too lean or poor grade of gasoline.
2. Water in fuel.
3. Vibrators adjusted too closely.
4. Water or congealed oil in commutator.
5. Magneto contact point obstructed with foreign matter.
6. Gasoline supply shut off.
7. Lack of water in air washer.
8. Water frozen in bottom of gasoline tank.
9. Water on spark plugs or wire terminals.

(b) Motor Lacks Power—Runs Irregularly.

1. Poor compression on account of leaky valves.
2. Imperfect gas mixture.
3. Spark plugs dirty.
4. Coil vibrator burned or improperly adjusted.
5. Air leak in intake manifold.
6. Weak exhaust valve spring.
7. Too great clearance between valve stem and push rod.
8. Spark plugs dirty or points imperfectly adjusted.
9. Commutator contact imperfect.
10. Burnt out vapor tube.

(c) Motor Stops Suddenly.

1. Fuel tank empty.
2. Water in fuel.
3. Dirt in vaporizer or feed pipe.
4. Magneto wire loose at either terminal.
5. Magneto contact point obstructed.
6. Overheated on account of lack of oil or water.
7. Gas mixture too lean.

(d) Motor Overheats.

1. Lack of water.
2. Lack of oil.
3. Fan belt torn, loose or slipping.
4. Carbon deposit in combustion chamber.
5. Spark retarded too far.
6. Gas mixture too rich or too lean.
7. Water circulation retarded by sediment in radiator.
8. Dirty spark plugs.
9. Lack of water in air washer.

(e) Motor Knocks.

1. Carbon deposit on piston heads.
2. Loose connecting rod bearings.
3. Loose crank shaft bearings.
4. Loose piston or piston pins.
5. Spark advanced too far.
6. Motor overheated.
7. Gas mixture too rich or too lean.

Air Fuel Ratio

Weak Mixture.

Power of engine, low.
Starts very hard or starts and dies.
Opening throttle quickly will stall engine.
Consumption of fuel low. (This may be offset by the frequent use of low gears and flooding of carburetor).
Acceleration of cold motor bad, warm motor poor.
Flame at priming cock, long and light blue.
Smoke from exhaust colorless. (White smoke indicates oil).
Color of valves, inlet gray, exhaust discolored reddish.

Best Economy Mixture.

Power of engine, good.
Starting hard for cold engine only (unless primed or using starting jet, etc.)
Opening throttle quickly, misses for cold engine, O. K., for hot engine.
Consumption of fuel, lowest.
Acceleration of cold motor poor, for hot engine good.
Flame at priming cock short, blue and not luminous.
Smoke from exhaust colorless. (White smoke indicates oil).
Color of valves, inlet gray, exhaust discolored reddish.

Mixture for Maximum H. P.

Power of engine, best.
Starting easy for cold or hot engine.
Opening throttle quickly, picks up well with engine hot or cold.
Consumption of fuel fair.
Acceleration good with engine hot or cold.
Flame at priming cock, long, blue and slightly luminous.
Smoke from exhaust colorless. (White smoke indicates oil).
Color of valves, both black and dry.

Rich Mixture.

Power of engine, low.
Starting easy for hot or cold engine.
Opening throttle quickly, explosions occur in muffler. Cold motor may stall.
Consumption of fuel, high.
Acceleration fair and explosions may occur in muffler.
Flame at priming cock, long and luminous.
Smoke from exhaust black, sooty or smelling of fuel.
Color of valves, both black or oily.

Cleaning Solution

Lye Solution: Into five gallons of water dissolve a half-pound of lye, strain through a cloth and pour in radiator, start engine and let it run about five minutes, then drain radiator, refill with clean water and start engine for a few minutes, then draw off water and fill again with clean water.

Soda Solution: Mix a half-pound of washing soda in four gallons of hot water; fill the radiator. If the radiator is very dirty it is a good idea to run the soda solution through several times to remove all the scale.

Capacities of Automobile Cooling Systems

MAKE AND MODEL	1919 In Gals.	1920 In Gals.	1921 In Gals.	1922 In Gals.	1923 In Gals.
Allen	6¼	6¼	6¼	.....	.....
Ambassador R	.....	.....	.....	5½	.....
American C	2½	2½	6	6	6
Anderson	4½	4¾	4¾	4¾	.....
Apperson 6	.....	.....	.....	.....	8
Apperson 8	9½	9½	9	9	9¾
Auburn	3½	3¼	3½	.....	.....
Bay State	.....	.....	.....	4	4
Beggs	6	6½	5½	.....	.....
Biddle	4½	4½	.....	.....	.....
Bour Davis	3½	4¾	.....	.....	.....
Brewster	7	7	7	7	7½
Briscoe, 4-34	.....	4	4	4	.....
Buick, Six	5	.....	5½	5½	5¼
Buick, Four	.....	.....	.....	3¼	3¼
Cadillac	6	6	6	6	6
Case	4½	4½	4½	4½	5
Case, X	.....	.....	.....	4	4½
Chalmers	6½	6½	8	.....	.....
Champion	5	5	5	5	.....
Chandler	4	4	4	4	.....
Chevrolet, 490	1¾	1¾	1¾	1¼	2
Chevrolet, FB	2⅞	2⅞	2⅞	3	.....
Chevrolet, T	3⅜	3⅜	.....	.....	.....
Cleveland, 41	3	3	3	3	3
Climber	5	6	6	.....	.....
Cole, 8	5¼	5¾	5¾	5¼	5¾
Columbia, Six	4	4	4½	2	.....
Columbia, Light Six	.....	.....	.....	6	.....
Comet	5	5	.....	.....	.....
Commonwealth	8	8	4	.....	.....
Crawford	3	3	3½	6	.....
Crow-Elkhart	6	6	.....	.....	.....
Cunningham	9	9	.....	10	10
Daniels	8½	10	8½	10¼	.....
Davis, 61-67	.....	.....	.....	3	.....
Davis, 71	.....	.....	.....	3	.....
Dixie Flyer	4	5½	5	3½	.....
Dodge Bros	3⅝	3⅝	2⅝	2¾	2¾
Dorris, 6-80	4¾	4¾	4¾	4¾	4¾
Dort, 4	4¾	4¾	5	5¼	5¼
Duesenberg, 8	.....	.....	.....	8	.....
Du Pont, A	.....	.....	5	.....	.....
Durant, A-22	.....	.....	.....	3¾	3¾
Durant, B-22	.....	.....	.....	3⅛	3⅛
Earl, 40	.....	.....	.....	5	5¼
Elcar, K-4	5	5	5½	5	4½
Elcar, 7-R	.....	.....	.....	.....	3¼
Elgin, K-1	4	4	4	4	.....
Essex	6	6	6	6	6
Ford	2⅞	2⅞	3	3¼	3¼
Gardner	.....	.....	5	5	4¾
Geronimo	5	5	5	.....	.....
Gray	.....	.....	.....	3¾	3¾
Grant	3¾	4¼	4¼	4¼	.....
H. C. S., 4 and 6	.....	.....	.....	6	6
Hackett	3⅜	4	.....	.....	.....
Handley-Knight, B	.....	.....	.....	5	5
Hanson, 60	.....	.....	.....	5	.....
Hanson, 66-70	.....	.....	.....	5	5
Hatfield, A-42	4¼	4¾	5	5	.....
Haynes, 75-79	7½	7½	.....	7	7
Haynes, 55-60	.....	.....	.....	7	5½
Hudson	4¼	4¼	4¼	4¼	4¼
Hupmobile, R	6	6	6	5½	.....
Jewett	.....	.....	.....	3¾	4
Jones	5½	6½	.....	.....	.....
Jordan	4¼	4¼	4¼	4¼	.....
Kelsey	.....	.....	.....	5	5
King	8	9	9	9	9
Kissel	6¼	6¾	6¾	6¼	.....
Kline	8	8½	9	5½	.....
Lafayette, 134	.....	.....	6	6	3
Lexington	4¼	4¼	4¼	4½	.....
Liberty	6½	6½	6½	6½	.....

Capacities of Automobile Cooling Systems

MAKE AND MODEL	1919 In Gals.	1920 In Gals.	1921 In Gals.	1922 In Gals.	1923 In Gals.
Lincoln	.....	.....	.....	7½	7½
Locomobile	8	8	.....	10	6¾
McFarlan	9	9	8	7½	.....
Mnibohm, B	3½	3½	5	3¼	.....
Marmon, 34	5¼	5¼	5¾	5½	5½
Maxwell	3	3⅛	3⅛	3¼	.....
Mercer	7¼	7¼	7¼	7	7
Merit	.....	.....	.....	4¼	.....
Metz	3½	3½	.....	.....	.....
Mitchell	4¼	4¼	.....	6	6
Moline-Knight	.....	7¼	.....	.....	.....
Monroe	.....	.....	3½	3½	.....
Moon, 6-48	5	5	5	5	5½
Moon, 6-40	5½	5½	.....	4½	5
Nash, 4	.....	.....	.....	3¼	.....
Nash, 6	5	5	4¾	.....	.....
National	.....	6½	6½	7	7
Nelson, E	3½	3½	3	.....	.....
Noma, 1D	.....	.....	4¼	4¼	4¼
Norwalk, 430-KS	.....	.....	6	2½	.....
Oakland	2¼	3	3	3½	3
Oldsmobile, 43A	3	.....	.....	3½	3½
Oldsmobile, 46	5	5	4¾	5	.....
Oldsmobile, 47	.....	.....	.....	3½	3½
Overland, 4	3½	3½	3¾	3¾	3
Owen Magnetic	6¼	6¼	.....	.....	.....
Packard, 12	8½	8½	8½	8½	8½
Packard, 6	.....	.....	.....	4½	4¾
Packard, 8	.....	.....	.....	.....	5½
Paige, 6-66 and 6-70	7½	.....	5¾	6¼	5½
Paige, 6-44	4½	.....	3	4	.....
Paterson	3½	3½	3½	4	.....
Peerless	4½	4½	8	8½	7¼
Piedmont	3½	3½	5	.....	.....
Pierce-Arrow, 33	6½	6½	.....	7½	.....
Pierce-Arrow, 48	7⅝	7⅝	.....	.....	.....
Pilot, 6-50	5	5	5	5	5
Porter	.....	8	9	.....	.....
Premier	6	.....	7½	6¼	6¼
Premocar	.....	.....	.....	4¼	.....
R & V Knight, J	.....	7¼	7¼	7¼	7½
R & V Knight, R	.....	5½	5½	5½	.....
Reo	3¼	3¼	3¼	3¼	3¼
Revere	10	10	6	6	6
Rickenbacker, A	.....	.....	.....	4	4
Roamer, 6-54	6½	6¼	.....	.....	.....
Rolls Royce	.....	.....	.....	9	.....
Saxon, 125G	4⅞	.....	3¾	4½	.....
Sayers, Six	4½	4½	5	5	5
Scripps Booth	3½	3	.....	.....	.....
Seneca, 50-51	3½	4	3½	3½	3½
Seneca, L2 and O2	.....	.....	.....	3	3
Singer	10½	10½	.....	.....	.....
Standard	7½	7¾	7¼	7¼	7¼
Star	.....	.....	.....	2	2
Stearns-Knight, SKL4	6	6	.....	.....	.....
Stephens, 90	.....	7	7½	7½	6½
Stevens-Duryea	.....	.....	5	.....	.....
Studebaker, Big 6	4¼	.....	.....	4	4
Studebaker, Spec. 6	4½	.....	.....	3¼	3¼
Studebaker, Light Six	3¼	.....	.....	3½	3½
Stutz, 4	6¼	6¼	.....	7¼	7¼
Stutz, 6	.....	.....	.....	.....	5
Templar, 445	4½	4½	.....	3½	.....
Velie, 58	4¾	.....	.....	5	.....
Velie, 48	.....	4⅝	4⅝	4½	.....
Velie, 34	.....	4½	4½	7	.....
Washington, 6	.....	.....	.....	4	4
Westcott, C-48	.....	5½	.....	4¼	4¼
Westcott, A-44	5½	5½	5¼	4½	3½
Wills Sainte Claire, A-68	.....	.....	.....	6½	.....
Willys-Knight, 20	.....	.....	5½	5	5
Winton, 40	8	8	6	.....	.....
Wolverine	5	5	.....	.....	.....

To Compute the Gear Ratio of a Worm Drive

The gear ratio of a worm drive is dependent on two factors, namely, the number of teeth on the worm gear and the number of threads on the worm.

Explanation of One-Thread Worm

Examine the worm shown in Figure 1.

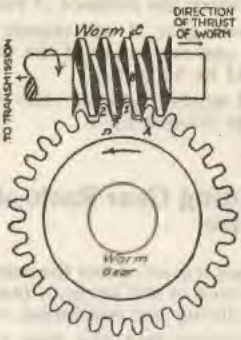


Fig. 1

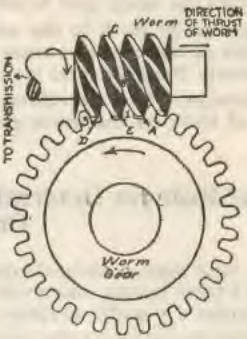


Fig. 2

Commencing at the point (A), let us trace the thread once around the worm. We will pass from (A) to point (B), then to point (C), then passing around the other side of the worm, we shall come to point (D).

It will be noticed that by passing around the worm once, we have advanced the distance of one thread. In other words, there is one continuous thread cut on the worm.

This being the case, we see that during one revolution of the worm the gear tooth (1) (Fig. 1) will advance to the position of gear tooth (2). Therefore in a one-thread worm, one revolution of the worm causes the worm gear to advance the distance of one tooth.

If there are 30 teeth in the worm gear, it will require 30 revolutions of the worm to cause one revolution of the worm gear. Consequently the gear ratio would be 30 to 1.

Conclusion: In a one-thread worm, the gear ratio equals the number of teeth on the worm gear.

Explanation of Two-Thread Worm

Examine the worm shown in Figure 2.

Commencing at the point (A) let us trace the thread once around the worm. We will pass from (A) to point (B), from (B) to point (C), then passing around the other side of the worm, we shall come to point (D).

A FEW FORD
FLAT RATE LABOR CHARGES

ENGINE DIVISION	Labor Price
Motor and Transmission overhauled (non-starter).....	$....
Motor and transmission overhauled (starter).....	....
Transmission overhauled, replaced or repair magneto..	....
Pistons or connecting rods installed (one).....	....
Pistons or connecting rods installed (two or more)...	...
Connecting rod bearings tightened (two or more)...	....
Oil feed pipe cleaned out...	....
Valves ground and carbon removed.....	....
TRANSMISSION REPAIR SECTION	
Transmission bands replaced.	....
Clutch finger and transmission bands adjusted....	....
Transmission bands adjusted only.....	....
IGNITION SECTION	
Commutator wire loom case or brush installed.....	....
Commutator pull rod joint replaced.....	....
Magneto terminal cleaned....	....
Spark plugs cleaned.....	....

CARBURETOR SECTION	Labor Price
Carburetor overhauled.....	$....
Gasoline line pipe leak repaired.....	....
Carburetor or manifold replaced or repaired.....	....
EXHAUST SECTION	
Exhaust pack nut replaced...	....
Muffler replaced.....	....
COOLING SYSTEM	
Hose replaced (one).....	....
Hose replaced (all three)...	....
Gaskets replaced, inlet and outlet.....	....
RADIATOR SECTION	
Radiator pet cock replaced..	....
Radiator or shell replaced..	....
STARTING MOTOR SECTION	
Starter Motor installed.....	....
Starter Switch installed....	....
Generator overhauled.....	....
LIGHTS, WIRE AND SWITCH SECTION	
Tail lamp installed or repaired.....	....
Ammeter replaced.....	....
Battery recharged.....	....
Battery tested (no charge)..	....
Battery (rental per day)....	....
FRONT AXLE DIVISION	
Front Axle overhauled.....	....

FRONT AXLE SECTION-con't.	Labor Price
Tighten all ball sockets and joints	$....
SPINDLE SECTION	
Spindle bodies and arm rebushed	....
Spindle body rebushed (each)	....
Spindle body replaced and front assembly lined up	....
REAR AXLE SECTION	
Rear Axle overhauled	....
Axle greased (including grease)	....
Universal joint gasket replaced	....
FRAME SECTION	
Frame replaced	....
Cross member (front) replaced	....
WHEEL SECTION	
Bearing parts replaced	....
Hub changed (front or rear)	....
Front wheels lined up	....
Adjust and dope front wheels	....
1-TON TRUCK DIVISION	
Gears installed special	....
BRAKE SECTION	
Brake shoes installed (each)	....
Brake shoes relined (each side)	....

EMERGENCY SECTION	Labor Price
Universal joint installed...	$....
Wheel hub replaced (rear)...	....
Tire changed, rear (hard rubber).....	....

WINDSHIELD SECTION	
Windshield replaced.....	....
Glass, upper, replaced.....	....
Glass, lower, replaced.....	....

PAINTING AND UPHOLSTERING DIVISION

PAINT SECTION	
Sedan painted.....	....
Coupe painted.....	....
Touring painted.....	....
Runabout painted.....	....

COMMERCIAL SECTION

NOTE* Repainting of commercial cars estimated after inspection.

LETTERING SECTION	
Gold lettering (per running ft.).....	....
Painted lettering (per running ft.).....	....

Factory Facts

Factory Facts

Ford Motor Company

Plants, Branches and Associated Companies

Organization and History.

The Ford Motor Company was incorporated on June 16, 1903. The capital originally subscribed in the company was $100,000, of which only $28,000 in cash was actually paid into the treasury. There were twelve stockholders, including Henry Ford, who held 25 per cent of the stock. Later, in 1905, Mr. Ford acquired sufficient stock to bring his holdings up to 51 per cent and shortly thereafter purchased an additional 7½ per cent. This arrangement continued until 1919 when Edsel B. Ford, who had succeeded his father as president, purchased the remaining 41½ per cent of outstanding stock. On July 9, 1919, the Ford Motor Company was re-organized under the laws of Delaware for an authorized capitalization of $100,000,000.00. The present site of the parent plant contains nearly 305 acres, of which 123 are under roof. The company has a capacity of 1,800,000 Ford Cars and Trucks annually and is chartered to build automobiles, trucks, tractors, air craft, internal combustion locomotives and allied products.

Branches and Associated Companies.

The Company operates 34 branches in the United States, of which 28 are assembly plants. Foreign branches and associated companies are located at Buenos Aires, Sao Paulo and Montivedio, South America; Havana, Cuba; Copenhagen, Denmark; Antwerp, Belgium; Manchester, England; Barcelona, Spain; Bordeaux, France; Trieste, Italy; and Cork, Ireland, the latter being also engaged in casting and machining parts for the Manchester, England, Ford Company. The Ford Motor Company of Canada, Ltd., at Ford, Ontario, has an annual output of 75,000 Ford Cars and Trucks.

River Rouge Plant.

At River Rouge, Mich., with a plant area of 1,200 acres, the company has its own blast furnaces, foundry, machine shops, body plant, saw mill, coke ovens, cement plant, locomotive repair shop and paper mill. Storage bins having a combined capacity of more than a million tons have been provided for iron ore, coal and limestone. By reason of the recent opening to navigation of the River Rouge, the plant has become a Great Lakes Port with over 2,600 feet of dock frontage.

Dearborn.

The Ford Engineering Laboratory is located at Dearborn, Michigan, as is also the Dearborn Publishing Company, publishers of the Dearborn Independent.

Manufacturing Units.

Other plants, operated as manufacturing units are located at Hamilton, Ohio; Northville, Mich., and Troy, N. Y., the latter utilizing water power from the Government dam at Green Island. Smaller producing units, operated by hydro-electric power, are located at Phoenix, Plymouth and Nankin Mills, near Detroit. A new manufacturing unit is under construction at Hegewisch, near Chicago, another at St. Paul which will utilize water power, and a smaller plant is nearing completion at Flat Rock, Mich.

Glass Manufacture.

The Company has a glass plant at Glassmere, Pa., another at Highland Park, and a third glass factory, which will have an annual capacity of 10,000,000 square feet, is under construction at River Rouge.

Fordson Tractor Plant.

The Fordson Tractor plant, having an annual output capacity of 150,000 Fordsons, is located at River Rouge.

Timber and Ore Lands.

A saw mill and body plant, producing wooden body parts, at Iron Mountain, are located on a 400,000-acre tract of timber and ore land in Northern Michigan. Iron ore is also produced there by the Imperial Mine for shipment to the River Rouge plant.

The Fordson Coal Company.

The Fordson Coal Company, incorporated in February, 1923, with a capital of $15,000,000, operates the company's coal mines in Kentucky and West Virginia. These mines have a coal reserve of approximately 600,000,000 tons.

D. T. & I. and D. & I. Railroads.

The Ford Railroad, the Detroit, Toledo & Ironton, connects with practically every transcontinental line, which affords unusual shipping facilities. A new division of the road, known as the Detroit & Ironton, 13¼ miles long, and running from River Rouge to Flat Rock, Mich., will be the first to be operated by electric motive power. It will be in full operation it is expected, by October 1, 1923.

Lincoln Motor Company.

The Lincoln Motor Company, organized in 1917 to produce motor cars of exceptionally high quality, was acquired by the Ford Motor Company at a receivers' sale, February 4, 1922, for $8,000,000. On March 29, 1922, the Lincoln Motor Company was re-organized under the laws of Michigan for an authorized capitalization of $15,000,000, and is now known as a division of the Ford Motor Company. The Lincoln plant has a capacity of 10,500 motor cars yearly.

Employees.

The Ford organization employs approximately 150,000 men.

Officers.

Officers of the company are: Edsel B. Ford, President and Treasurer; B. J. Craig, Secretary and Assistant Treasurer. The Directors are: Henry Ford, Edsel B. Ford and Ernest C. Kanzler. The annual meeting date is the second Monday in March. Main offices of the company are at Highland Park, Michigan.

Henry Ford

Born July 30, 1863, of farmer parents, representative of Michigan's sturdy pioneers of three-quarters of a century ago, Henry Ford's early life paralleled closely that of other farmer boys of that day, a round of daily chores, attending the distant district school, and the all-day's work in the fields in summer. One exception alone marked his boyhood; he had rigged up a shop containing a few tools of his own gathering, and there, during spare time, his passion for things mechanical held sway. At the age of sixteen he left school and the Dearborn farm to become a machinist in Detroit, only a few miles away.

Nights he did repairing in a watch and jewelry shop. And for eight years Henry Ford followed this line, working in various shops, but always adding to his fund of knowledge of machinery, and preparing himself for greater tasks.

During his 24th year, his father offered Henry Ford 40 acres of timbered land provided he returned to the farm. He accepted the land and accordingly returned, bringing with him his shop, which boasted many new tools. Immediately a sawmill and portable engine were obtained, and Henry Ford became a lumber manufacturer. The same year he happily married Clara J. Bryant, born and raised only a few miles from his father's farm. The issue of this marriage was an only child, a son, Edsel Bryant Ford.

With some of the first lumber from his mill, Henry Ford built on his new farm a house one and one-half stories high and thirty-one feet square. Into this he and Mrs. Ford moved. His shop was also brought to the new place, where he began work on a steam car. It was the first Ford passenger car, but was soon abandoned, because though boiler after boiler was experimented with, none proved satisfactory.

He stayed on the farm two years, but again left for the city to become night shift engineer in a lighting company at a salary of $45.00 a month. However, his general ability and genius in making impromptu repairs, soon brought him entire charge and raised his salary to $125.00, which he earned for seven years with the same company. A small brick shed in the rear of his home was fitted into a work shop, and there Henry Ford, often working far into the morning hours—devoted his spare time to creating his first gas car. It was—or is, for it still runs—a two cylindered motor car with a speed of from 25 to 30 miles an hour. A company was formed with Henry Ford as chief engineer, and a few cars were built. This connection not being satisfactory, he withdrew in 1901 to begin building another car, which was completed in 1902. In 1903, the present Ford Motor Company was organized. Mr. Ford owned 25½% of of the stock, and held the position of Vice-President and Factory Manager. The company was capitalized for $100,000 but not more than $28,000 in cash was ever paid into the treasury of the company.

Henry Ford soon realized that his own ideas and policies, which were very clearly defined, could not be carried out unless he should be in free control. Accordingly, in 1906, he purchased sufficient stock to bring his holdings up to 51%, and a short time later, at seven to one, procured 7½% more, making a total of 58½%. This arrangement continued until 1919, when Edsel Ford, who had

succeeded his father as president, purchased the remaining 41½% of the stock. The company was re-organized under the laws of Delaware for an authorized capitalization of $100,000,000, and this is the present arrangement.

The first car manufactured by the Ford Motor Company was on the road in June and sold the early part of July, 1903. However, no sooner had "production" begun in the Ford Plant, than Henry Ford began building racing cars, for in the early days of the industry, practically every noteworthy automobile company entered its cars in the races.

The first Ford racer, piloted by Henry Ford himself, won race after race in all parts of the country. No entry list was considered complete until the Ford was in. With "999" Henry Ford first broke the mile a minute record on an ice track at Baltimore Bay in 1904. The remarkable feats of Ford cars probably did as much to make known the name of Ford as any other circumstance.

The growth of the Ford Motor Company has been progressive, continuous; and at all times impelled by the personality of its founder. The present plant site contains three hundred and five acres, of which one hundred and twenty-three are under roof; and 50,000 and more employes work in this huge factory.

Facts on Highland Park Plant

It takes 665 men to keep the Ford Plant at Highland Park clean.

There are 32,000 windows washed each day.

Payroll of over $500,000 per day.

Most up-to-date fire alarm system in the world. 300 Fire Alarm Stations in the factory.

45,100,000 cubic feet of gas is produced daily.

3,000,000 gallons of water refrigerated each day

Ford band consists of 60 pieces.

100 chemists in research laboratories.

Highland Park Power House

The big power building is 150 feet wide by 400 feet in length, 225 feet from ground to top of smoke stacks. It required 5,200 tons of structural steel (enough to erect a 20-story "skyscraper"). The huge engines are on the ground floor boilers on third, and fuel, etc., on upper floors.

Walls and columns faced with white enamel brick, and all other surfaces painted white. Three 50-ton cranes, with parallel runways extending full length of building. The huge engines are composite gas-steam type (the only ones of the kind in use), and are rated 6,000 H. P. each. (A brief description of one will answer for all); the gas side has tandem cylinders, 42 x 72 in., and the steam side tandem compound cylinders, 36 x 68 and 72 inches. Between the two engines are mounted a 100-ton flywheel and a 4,000 k. w. 250-volt direct current generator; the latter being of unusual size owing to a speed of 80 R. P. M. The approximate weight of this

dual gas-steam engine is 1,500,000 pounds—the steam engine weighing 700,000 and the gas one 600,000, and the generator and flywheel 200,000 pounds each. The bed on the steam side weighs 150,000 and on the gas side 140,000 pounds. The crankshaft is 25 ft. 2 in. long and 31 in. in diameter at the bearings and 34 in. for the flywheel, weighing 72,000 lbs.; the crank disc weighs 28,000 lbs., and the connecting rod, with boxes, 10,000 lbs. The gas engine piston rods weigh 14,000 lbs. and each piston 8,500 lbs., while the steam engine piston rods weigh 10,300 lbs. and the main cross head, on either engine, complete with shoes, pin and box, 6,000 lbs. Over all the engine measures 32 ft. in width, with length of 72 ft., occupying a floor space of 2,304 sq. ft. The generator extends 14 ft. 5 in. above the floor and 11 ft. underneath. There are nine of these gas-steam engines, and in addition, one smaller steam engine and four great pumps.

Production Figures

The Ford Motor Company's fiscal year dates from August 1st to July 31st. Each year's production figures since 1903, when the company was organized, tells its own story:

Ford Cars and Trucks

1903-4	1,708
1904-5	1,695
1905-6	1,599
1906-7	8,759
1907-8	6,181
1908-9	10,660
1909-10	19,051
1910-11	34,979
1911-12	76,150
1912-13	181,951
1913-14	264,972
1914-15	283,161
1915-16	534,108
1916-17	785,433
1917-18	708,355
1918-19	537,452
Aug. 1, 1919—Dec. 31, 1919	401,982
1920	1,074,336
1921	1,013,958
1922	1,232,268

Fordson Tractors

1917	254
1918	34,167
1919	57,290
1920	70,955
1921	36,781
1922 (First 11 months only)	62,842

Production during 1917 and 1918 was materially affected by war demands. Many thousands of Ford cars were made for army service —staff cars, ambulances and trucks. The company also produced volumes of other war materials. Upon the signing of the armistice the United States Government gave us a citation as being a 100% war work organization.

Ford Motor Company Financial Statements by Years

ASSETS	1923	1922	1921	1920	1919,
Real Estate	$ 93,100,049	$ 86,047,010	$ 81,026,633	$ 71,329,719	$ 85,549 727
Machinery	87,689,441	54,743,388	49,401,132	46,459,046	41,661,137
Merchandise	94,328,306	83,693,883	45,208,094	63,848,157	96,859,012
Good Will	20,517,986	20,517,986	20,517,986	20,517,986	
Deferred Charges	847,189	529,766	196,399	265,674	
Cash, Sec. Trademarks, Accts., Rec., etc.	271,618,668				
Furniture Fixtures		51,094,765	39,221,861	44,779,634	
Notes Receivable		74,834	6,899		
Accounts Receivable		41,938,329	39,375,702	86,995,165	62,449,027
Cash		159,605,687	109,223,732		
Securities		37,401,605	15,749,953	10,361,964	18,921,608
Patents		155,896	110,740	81,397	77,856
Miscellaneous Investments		548,700	500,814	501,815	
Stock in Subsidiary Companies					1,126,742
Total	$568,101,639	$536,351,939	$400,548,946	$345,140,557	$306,695,109
LIABILITIES					
Capital Stock	$ 17,264,500	$ 17,264,500	$ 17,264,500	$ 17,264,500	$ 17,264,500
Mortgages	145,000				
Reserves	37,436,120			43,493,394	18,654,489
Accrued Expense					1,498,425
Accounts Payable	71,214,937	61,488,979	33,089,894	48,886,141	51,071,090
Depreciation		62,576,257	50,829,307		
Deferred Credits		388,598	853,950	3,027,120	3,363,499
Taxes		34,856,007	58,032,559	49,591,706	49,163,974
Profit and Loss Surplus	442,041,081	359,777,598	240,478,736	182,877,696	165,679,132
Total	$568,101,639	$536,351,939	$400,548,946	$345,140,557	$306,695,109

Facts and Figures Regarding Ford Industries

Corrected to March 15, 1924

Manufacturing Plants	Manufacturers	Daily Capacity	Yearly Capacity	Employes
Highland Park, Mich. 198 acres (104 under roof)	Cars	8,500	2,550,000	68,704
	Tractors	500	150,000	40,749
	Sedan Bodies	1,200	240,000	
	Touring Bodies	3,300	1,020,000	
	Roadsters	1,000	300,000	
	Tons Castings	1,900	570,000	
	Tons Coke	1,700	510,000	
	Cu. Ft. Gas	27,500,000	8,250,000,000	
Rouge Plant, Mich. 1030 acres 5,000,000 Sq. Ft. Floor Space	Gal. Benzol	16,000	4,800,000	
	Lb. Sulphate	52,000	15,600,000	
	Gal. Tar	14,500	4,350,000	
	Gal. Light Oil	4,800	1,440,000	
	Bbl. Cement	1,000	300,000	
	Tons Pig Iron	1,000	300,000	
	Sq. Ft. Glass	30,000	9,000,000	
	Tons Paper	7	2,100	
Ford City, Ontario 203 acres 1,315,583 Sq. Ft. under roof	Cars	500	150,000	4,798
Manchester, England	Cars	200	60,000	2,367

Facts and Figures Regarding Ford Industries

Corrected to March 15, 1924

Manufacturing Plants	Manufacturers	Daily Capacity	Yearly Capacity	Employes
Troy, New York	Radiators	1,895	568,500	1,409
	Gears	2,114	634,200	
	Axle Shafts	2,500	750,000	
	Drive Shafts	1,000	300,000	
	Universal Joints	1,120	336,000	
	Pistons	2,000	600,000	
Iron Mountain, Mich. 335,413 Sq. Ft. under roof	Bd. Ft. Body Parts	230,000	69,000,000	4,887
Dearborn, Mich.	Experimental			383
Northville, Mich. Hydro-Electric	Model "T" Valves Tractor Valves	121,000	36,300,000	395
Hamilton, Ohio 3600 H. P. Hydro-Electric	Wheels	10,000	3,000,000	1,725
	Pr. Running Boards	7,300	2,190,000	
	Gas Tank Stampings	6,400	1,920,000	
	Spare Rim Carriers	6,500	1,950,000	
	Door Locks	4,800	1,440,000	
Lincoln Plant, Mich.	Cars	35	10,500	2,500
Poughkeepsie, New York 11½ acres 38,000 Sq. Ft. Floor Space	Value of Gauges	$3,000.00	$1,000,000.00	200
Glassmere, Penn.	Sq. Ft. Glass	24,000	7,200,000	841
Flat Rock, Mich.	Lamps	5,000	1,500,000	230
Nankin Mills, Mich.	Coil Unit and Carburetor Parts	From 5,000 to 80,000		12
Plymouth and Phoenix, Mich.	General Cut Out	9,000	2,700,000	192

Facts and Figures Regarding Ford Industries

Corrected to March 15, 1924

Assembling Branches U. S. A.	Annual Sales		Daily Capacity	Dealers	Employes
Atlanta, Ga.	Cars	81,889	300	245	750
	Tractors	5,004			
Buffalo, N. Y.	Cars	78,552	350	320	807
	Tractors	8,004			
Cambridge, Mass.	Cars	133,008	340	400	978
	Tractors	3,000			
Chicago & Burnham, Ill.	Cars	150,012	▲†500 ▲‡500 ●†300	435	1,914
	Tractors	7,392			
Cincinnati, Ohio	Cars	61,308	200	213	527
	Tractors	3,000			
Cleveland, Ohio	Cars	82,200	200	207	609
	Tractors	4,800			
Columbus, Ohio	Cars	63,468	250	243	652
	Tractors	4,380			
Dallas, Texas	Cars	92,412	150	240	405
	Tractors	5,268			
Denver	Cars	36,648	150	172	343
	Tractors	996			
Des Moines, Iowa	Cars	68,844	400	333	1,641
	Tractors	6,264	*200		
Detroit, Mich.	Cars	135,012	700	419	95
	Tractors	6,804			
Houston, Texas Includes Eastern Mexico	Cars	79,068	250	241	420
	Tractors	3,900			
Indianapolis, Ind.	Cars	77,592	300	233	785
	Tractors	7,200			
Kansas City, Mo.	Cars	99,996	275	485	631
	Tractors	7,500			
Los Angeles, Cal. Includes West Coast Mexico	Cars	83,580	†200	206	1,072
	Tractors	2,304	*160 §300		
Louisville, Ky.	Cars	52,056	200	170	597
	Tractors	3,600			
Memphis, Tenn.	Cars	78,600	105	272	343
	Tractors	4,692			
Milwaukee, Wisc.	Cars	56,784	200	290	529
	Tractors	6,000			
Minneapolis, Minn.	Cars	86,016	400	470	741
	Tractors	6,000			

▲Burnham ●Chicago †Cars ‡Bodies
*Closed Bodies §Sets Cushions and Springs

Facts and Figures Regarding Ford Industries

Corrected to March 15, 1924

Assembling Branches, U. S. A.	Annual Sales		Daily Capacity	Dealers	Employes
New Orleans, La.	Cars	72,396	225	221	846
	Tractors	3,000			
New York, N. Y. / Kearny, N. J.	Cars	160,008	†800	433	5,073
	Tractors	3,696	*400 §800		
Oklahoma City	Cars	75,000	250	256	438
	Tractors	3,600			
Omaha, Nebr.	Cars	56,952	†300	335	516
	Tractors	3,996	* 80		
Philadelphia, Pa.	Cars	130,008	325	399	1,025
	Tractors	6,000			
Pittsburgh, Pa.	Cars	73,992	250	238	597
	Tractors	2,496			
Portland, Ore.	Cars	20,568	80	104	227
	Tractors	1,404			
St. Louis, Mo.	Cars	83,268	300	294	744
	Tractors	6,000			
San Francisco, Calif.	Cars	47,400	†225	296	642
	Tractors	3,996	* 80		
Seattle, Wash.	Cars	34,776	150	195	641
	Tractors	1,836	* 80		

Service Branches, U. S. A.	Annual Sales		Daily Capacity	Dealers	Employes
Charlotte, N. C.	Cars	128,004	Mod.	350	197
	Tractors	6,000	Assem.		
Fargo, N. Dak.	Cars	23,484		276	65
	Tractors	3,000			
Jacksonville, Fla.	Cars	50,196		175	96
	Tractors	2,604			
Sault Lake City, Utah	Cars	16,560		122	41
	Tractors	456			
Washington, D. C.	Cars	47,148		187	82
	Tractors	2,568			

Foreign Assembly Plants	Annual Sales		Daily Capacity	Dealers	Employes
Antwerp, Belgium	Cars	23,000	125	152	133
	Tractors	1,850			
Buenos Aires, Arg.	Cars	27,000	100	277	584
	Tractors	2,000			

†Cars *Closed Bodies §Sets Cushions and Springs

Facts and Figures Regarding Ford Industries

Corrected to March 15, 1924

Foreign Assembly Plants	Annual Sales		Daily Capacity	Dealers	Employes
Barcelona, Spain	Cars	20,000	100	171	334
	Tractors	1,000			
Copenhagen, Den.	Cars	45,655	250	253	403
	Tractors	3,264			
Manchester, England	Cars	41,208	240	463	2,367
	Tractors	2,000			
Montreal, Quebec	Cars	6,861	75	100	126
	Tractors	290			
Sao Paulo, Brazil	Cars	15,000	60	260	310
	Tractors	462			
Bordeaux, France	Cars	25,000	100	315	306
	Tractors	2,500			
Toronto, Ont	Cars	13,622	‡ 40	116	563
	Tractors	530	†150		
Winnipeg, Manitoba	Cars	7,990	75	85	172
	Tractors	416			
Cork, Ireland	Cars	7,113	40	66	1,823
	Tractors	150			

Foreign Service Plants	Annual Sales		Daily Capacity	Dealers	Employes
Calgary, Alberta	Cars	2,666		117	32
	Tractors	84			
Regina, Saskatchewan	Cars	3,511		134	32
	Tractors	393			
St. Johns, N. B.	Cars	2,468		52	25
	Tractors	40			
Vancouver, B. C.	Cars	3,139		32	22
	Tractors	77			
Windsor, Ont	Cars	7,338		81	24
	Tractors	359			
Misc. Foreign Sales	Cars	12,894		73	
Home Office	Tractors	508			
Trieste, Italy	Cars	5,404		173	90
	Tractors	1,013			
Montevideo, Uruguay	Cars	4,440		52	61
	Tractors	300			
Havana, Cuba	Cars	8,000		49	28
	Tractors	1,000			
Export Sales,	Cars	38,025		884	Included in
Canadian Co.	Tractors	1,276			Ford, Ont.

‡Bodies †Cars

Facts and Figures Regarding Ford Industries

Corrected to March 15, 1924

Foreign Service Plants	Annual Sales	Daily Capacity	Dealers	Employes
Rotterdam, Holland	Incl'd in Antwerp, Belgium		53	*
Stockholm, Sweden	Incl'd in Copenhagen, Den.		†	*
Santiago, Chile	Cars 3,000		‡	*
	Tractors 300			

	Resources Tons	Annual Sales Tons	Daily Output Tons	Employes
Banner Forks Coal Mines, Wallins Creek, Ky. High Volatile Bi-Product Coking Coal	10,000,000	102,000	3,000	§ 1,536
Nuttallburg Coal Mine, West Virginia	8,000,000	37,200	500	133
Twin Branch Mine, Davey, West Va. Smokeless Coal	18,000,000	37,400	1,500	437
Pond Creek Coal Co. High Volatile Low Sulphur	180,000,000	396,000	6,000	
Imperial Iron Mine, Michigamme, Mich.	872,160		625	196
Total Timber and Mineral Land Approx.	700,000 acres			2,302
Total No. of men Fordson Coal Company				2,106

D. T. & I. R. R.

Locomotives	75
Box Cars	1,898
Coal Cars	349
Flat Cars	19
Stock Cars	4
Refrigerator Cars	1
Cabooses	40
Passenger	16
Work Equipment	110
Total	2,512

Employes	
Trainmen	319
Office	143
Station Forces	212
Enginemen	234
Mechanical Dept.	972
Maint. of Way	564
	2,444
Miles Road Operated	429.34
Miles Siding and Spurs	169.26
Total	598.60

DEARBORN INDEPENDENT

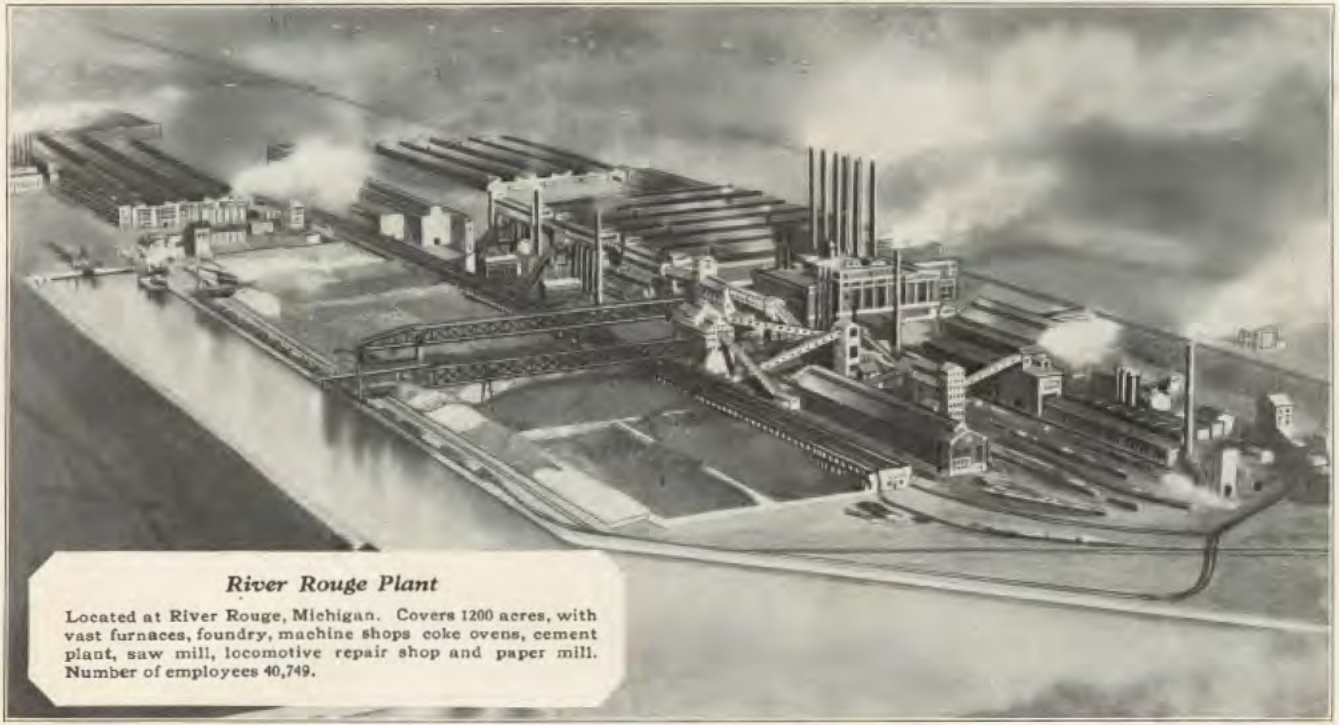
Total Yearly Subscription..685,000 Employes.....150

Investments in Land, Plants and Inventories	$646,000,000
Employes, Plants and Industries	166,900

*Statement not yet submitted †Included in Copenhagen
‡Information not submitted §Banner Fork and Pond Creek

Highland Park Plant

Located at Highland Park, Michigan. Covering 305 acres. 123 acres under roof. Annual capacity—1,800,000 cars. Gives employment to 68,704 persons.



River Rouge Plant

Located at River Rouge, Michigan. Covers 1200 acres, with vast furnaces, foundry, machine shops coke ovens, cement plant, saw mill, locomotive repair shop and paper mill. Number of employees 40,749.

Lincoln Plant

Located in Detroit, Michigan. Annual capacity of 10,500 Lincoln cars. This plant gives employment to 2,500 persons.

Experimental Laboratory, Dearborn, Michigan

THIS $2,000,000 building at Dearborn, Michigan, provides a new home for the Ford Engineering Laboratory. It also houses the Dearborn Publishing Company, publishers of the Dearborn Independent and the Ford International Weekly.

All changes or improvements in any Ford, Fordson or Lincoln model are originated and developed in this plant.

Mr. Henry Ford also has his personal offices in this beautiful building.

ACCESSORIES—FORD

Date

Instal. Oper. No.	NAME AND DESCRIPTION	MAKE	List Price		Price Installed	
A-1	ACCELERATOR (Foot)					
	ALCOHOL (Per Qt.)					
	ANTI-FREEZE SOLUTION					
A-2	ASH-TRAY (Dash)					
A-3	BATTERY (Ford)					
A-4	BATTERY BOX					
A-5	BATTERY COVER					
A-6	BRAKE HANDLE EXTENSION					
A-7	BUMPER (Front)					
A-8	BUMPER (Front)					
A-9	BUMPER (Rear)					
A-10	BUMPER (Rear)					
A-11	CAMP TRAILER					
A-12	CHAINS (30 x 3½)					
A-13	CHAINS (32 x 4½)					
A-14	CHAIN ADJUSTERS					
	CHAIN PLIERS					
A-15	CIGAR LIGHTER					
A-16	DASH LAMP					
A-17	DOME LIGHT					
A-17	DOME LIGHT					

ACCESSORIES—FORD (Continued)

Instal. Oper. No.	NAME AND DESCRIPTION	MAKE	List Price		Price Installed	
A-18	DOOR GRIP HANDLES					
A-19	DOOR LOCK					
A-20	ELECTRIC HORN (Ford)					
A-21	ELECTRIC HORN (Motor Driven)					
	GAUGE (Tire Pressure)					
A-22	GAUGE (Gasoline)					
A-23	GARAGE (Portable)					
	GREASE (Per Lb.)					
	GREASE (2 Lb. Can)					
	GREASE (5 Lb. Can)					
	GREASE GUN					
A-24	HEADLIGHT LENS					
A-25	HEATER (Exhaust)					
A-26	HEATER (Floor)					
A-27	HORN BUTTON (Gas Lever)					
A-28	HORN BUTTON (Steer. Wheel)					
A-29	LICENSE BRACKETS					
A-30	LOCK (Steering Post)					
A-31	LOCK (Steering Wheel)					

ACCESSORIES—FORD (Continued)

Instal. Oper. No.	NAME AND DESCRIPTION	MAKE	List Price	Price Installed
A-32	LOCK (Spare Rim)			
A-33	LUB. SYSTEM (Force Feed)			
A-34	LUB. SYSTEM (Force Feed)			
A-35	LUGGAGE RACK (Running Board)			
A-36	MAT (Running Board)			
A-37	MIRROR (Interior)			
A-38	MIRROR (Fender)			
A-39	MIRROR (Windshield)			
A-40	MIRROR			
A-41	MOTOMETER			
A-42	MOTOMETER			
A-43	MOTOMETER LOCK			
	OIL (Per Qt.)			
	OIL (2 Qt. Can)			
	OIL (Gal.)			
	OIL			
	OIL			
A-44	OIL GAUGE (Dash)			
A-45	OIL GAUGE			
	OIL CAN			

ACCESSORIES—FORD (Continued)

Instal. Oper. No.	NAME AND DESCRIPTION	MAKE	List Price		Price Installed	
A-46	PEDAL PADS					
A-47	PEDAL DRAUGHT PAD					
A-48	PEDAL EXTENSIONS					
	POLISH					
A-49	PRIMING SPARK PLUG					
A-50	RADIATOR COVER					
A-51	RADIATOR SHELL (RR Type)					
A-52	RADIATOR SHELL					
A-53	RADIATOR WINTER FRONT					
A-54	RAIN VISION WINDSHIELD					
	RIM TOOL					
A-55	ROBE RAIL					
A-56	ROADSTER DECK LOCK					
A-57	RUNNING BOARD (Spec.)					
A-58	RUNNING BOARD BRACKET					
A-59	SHOCK ABSORBERS					
A-60	SHOCK ABSORBERS					
A-61	SHOCK ABSORBERS					
A-62	SEAT COVERS (Touring)					
A-63	SEAT COVERS (Coupe)					
A-64	SEAT COVERS (Sedan)					

ACCESSORIES—FORD (Continued)

Instal. Oper. No.	NAME AND DESCRIPTION	MAKE	List Price	Price Installed
A-65	SIDE LAMPS			
	SOAP (Mechanic's)			
	SOAP (Body)			
	SPARK PLUG CLEANER			
A-66	SPOT LIGHT			
A-67	SPEEDOMETER			
A-68	SPEEDOMETER			
A-69	SNUBBERS			
A-70	SNUBBERS			
A-71	STOP SIGNAL			
A-72	STOP SIGNAL			
A-73	STEERING WHEEL (Tilting)			
A-74	TOOL BOX (Running Board)			
	TOOL KIT (Ford)			
A-75	TIRE CARRIER (Side) 2			
A-76	TIRE CARRIER (Rear for 2)			
A-77	VENTILATOR (Cowl)			
A-78	VISOR WINDSHIELD			

ACCESSORIES—FORD (Continued)

Instal. Oper. No.	NAME AND DESCRIPTION	MAKE	List Price		Price Installed	
A-77	WHEELS (Disc)					
A-78	WHEELS (Wire)					
A-79	WHEELS (Natural Wood)					
A-80	WINDSHIELD CLEANER (Auto)					
A-81	WINDSHIELD CLEANER (Hand)					
A-82	WINDSHIELD WINGS					
A-83	WINTER TOP					

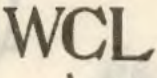
	EXCHANGE PRICES	Price Installed	
		Allowance	Deducted
A-84			
A-85			
A-86			
A-87	WIRE WHEELS FOR DEMOUNTABLE (New Car)		
A-88	DISC WHEELS FOR DEMOUNTABLE (New Car)		
A-89			
A-90			
A-91			
A-92	LOCKING WHEEL FOR REGULAR		
A-93	MOTOR DRIVEN HORN FOR REGULAR		

LINCOLN ACCESSORIES

NAME	MAKE OR DESCRIPTION	LIST PRICE		PRICE INSTALLED	
ASH TRAY					
BUMPER (FRONT)					
BUMPER (FRONT)					
BUMPER (REAR)					
BUMPER (REAR)					
CHAINS					
CHAINS					
CHAINS					
CHAIN TIGHTENER					
DISC WHEELS					
DISC WHEELS					
LUGGAGE CARRIER					
MIRROR (INTERIOR)					
MIRROR (FENDER)					
MIRROR (WINDSHIELD)					
MOTOMETER					
MAT (RUNNING BOARD)					
PLATES (ALUMINUM STEP)					
PLATES (RUBBER STEP)					

LINCOLN ACCESSORIES

NAME	MAKE OR DESCRIPTION	LIST PRICE		PRICE INSTALLED	
PEDAL PADS					
RADIATOR COVER					
ROBES					
SEAT COVERS					
TIRE COVERS					
TIRES (SEE TIRE LIST)					
TIRE LOCK					
VISOR (WINDSHIELD)					
WHEELS (WIRE)					
WINDSHIELD CLEANER (Automatic)					
WINDSHIELD CLEANER (Hand Operated)					
WINTER FRONT					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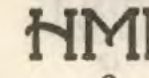
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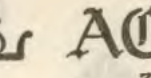
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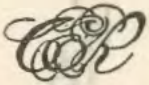
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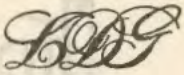
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Monogram Suggestions


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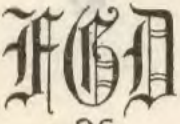
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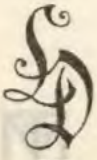
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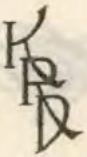
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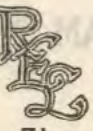
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TIRE PRICE LIST

SIZE	TYPE	CONSTRUCTION	TREAD	MAKE		MAKE		MAKE	
	CL	FABRIC	PLAIN						
	CL	FABRIC	NON-SKID						
	CL	FABRIC	NON-SKID						
	CL	CORD	NONS-KID						
	CL	CORD	NON-SKID Extra Size						
	SS	CORD	NON-SKID						
	CL	FABRIC	NON-SKID						
	CL	CORD	NON-SKID						
	SS	FABRIC	NON-SKID						
	SS	CORD	NON-SIKD						
	SS	FABRIC	FLAT TOP PLAIN						
	SS	CORD	NON-SKID						
	SS	CORD	NON-SKID						
		SOLID	REG.						
		SOLID	CUSHION						
		SOLID	SPEC.						
	SS	CORD	PLAIN						
	SS	CORD	RIB						
	SS	CORD	NON-SKID						

TUBE PRICE LIST

SIZE	TYPE	MAKE		MAKE		MAKE	
			PRICE		PRICE		PRICE
	RED						
	GRAY						
	RED						
	GRAY						
	RED						
	GRAY						
	RED						
	GRAY						
	RED						
	GRAY						
	RED						
	GRAY						
	RED						
	GRAY						

(AUTHORIZED FORD DEALERS)

ACCESSORY ORDER BLANK

PURCHASERS NAME DATE

NAME	MAKE	LIST PRICE	PRICE INSTALLED
BUMPER (FRONT)			
CHAINS			
CLOCK			
DASH LIGHT			
DISC WHEELS			
WHEEL LOCK			
MOTOMETER			
REAR VIEW MIRROR			
SPEEDOMETER			
TIRE			
TUBE			
	TOTAL PRICE		

REMARKS

CUSTOMERS SIGNATURE

ADDRESS PHONE

SALESMAN	MOTOR NUMBER	
	TYPE OF CAR	

ADDITIONAL INFORMATION

(SUPPLIED BY SALESMAN)

CUSTOMERS ADDRESS

HOME PHONE

BUSINESS PHONE

DELIVERY
DATE TIME AT

SPECIAL INSTRUCTIONS
RE. LESSONS AND REMARKS

OFFICE INFORMATION

EQUIPTMENT AND
FINANCE CHGS. CHECKED BY

ORDER
ENTERED BY

FINANCE STATE-
MENT SENT TO

DATE

APPROVED ☐ NOT ACCEPTED ☐ DATE

CUSTOMER
NOTIFIED

MOTOR NUMBER

DATE
ASSIGNED

LICENSE
SECURED

SHOP
NOTIFIED

DATE
DELIVEPED

BY

REMARKS

Tractor Equipment

Tractor Equipment

Equipment which Can Be Used with the Fordson

Agricultural implements and machines of all kinds.
Air compressors (belt, gear or direct driven), up to 20 horse-power capacity.

Brakes—emergency brakes.
Broom—rotary sweeper.
Building-erection equipment.

Cab for driver's protection in bad weather.
Capstan winch.
Caterpillar crawlers for very soft ground or loose sand.
Chains for tires to prevent slipping in soft ground or skidding on slippery pavements.
Circular saws for cutting ice, wood and steel.
Concrete mixers for contractors.
Contractors' equipment.
Crane, half-ton capacity—portable.
Crushers—rock.

Dirt and gravel loader.
Dock equipment.
Dump conveyors—automatic, two-wheel.
Dump scraper—self-loading and automatic dumping scraper.
Dump trailers—side, center and end dump.

Electric generator.
Electric headlights.
Electric tail-lights.
Emergency brakes.
Engine hood to protect the mechanism.
Excavation equipment.

Fifth wheel attachment, rocking type.
Fire engine.

Generators up to 15 k. w.
Governor, sensitive enough for generator operation.

Haulage equipment.
Hitches specially designed for horse-drawn vehicles.
Hoists, belt, gear or direct driven up to 20 horsepower capacity.
Hoists, capstan winch with nigger head.
Hoists, portable of detachable type.
Hoists, portable attached type.
Hood for engine to protect the mechanism.
Horse-drawn vehicles fitted with special hitches.

Ice cutting and ice making equipment.

Lawn mowers.
Loaders, for loading dirt and gravel in wagons.
Locomotive attachments for rail work.
Logging equipment.
Lumber-yard trailers of all kinds.

Machine shop power equipment.
Mining machinery.
Muffler of special design for quiet operation.

Equipment which Can Be Used with the Fordson
(Continued)

Mule of push-and-pull type—used by docks, railroads and warehouses.

Oil well machinery.

Pile drivers.
Plows for road making.
Portable crane.
Portable hoists of all kinds.
Power pulley, 9½" diameter by 6" face.
Power machines for all purposes.
Pumps—air, water, vacuum, etc.

Radiator guard, with lamp and license brackets and starting crank holder.
Road grader and planer.
Rock crushers.
Rock drill power plants.
Rocking fifth wheel attachment.
Rotary sweeper.

Sand blast equipment.
Saws for cutting ice, wood or steel.
Scraper, four-wheel, self-loading, 1 yard.
Scraper, self-loading and automatic dumping.
Snow plow.
Snow sweeper, rotary.
Spring seat for driver's comfort.
Stevedore equipment.
Street cleaning apparatus.

Tires—
- Pneumatic, front, 30 x 3½-inch.
- Pneumatic, rear, 40 x 8 or 42 x 9-inch.
- Solid rubber, front, 24 x 3½-inch, plain.
- Solid rubber, rear, 40 x 6, 8 or 10-inch, non-skid.

Tire chains, to prevent slipping in soft ground and skidding on slippery pavements.

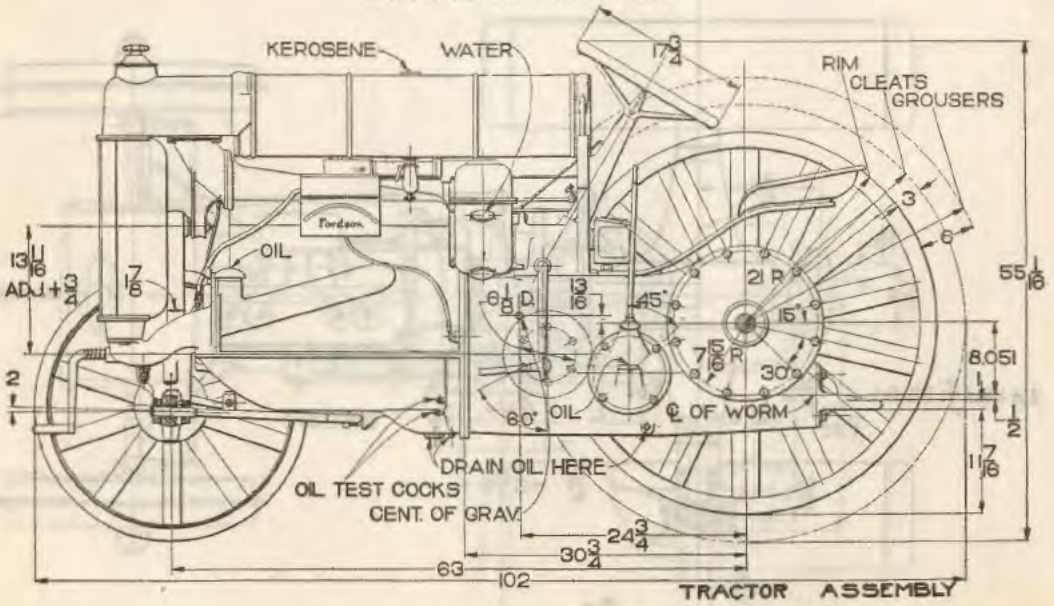
Trailers—
- Automatic dump conveyors, with side, center or end dump bodies
- of the semi-trailer, 2-wheel type.
- of the 4-wheel reversible and non-reversible type.
- of the tracking type.
- of the lumber-yard type.
- of the horse-drawn type.

Vacuum cleaner equipment.

Winch, capstan, with nigger head.

Wheels of steel with—
- Cleats for road builders.
- Pneumatic tires for heavy traction.
- Solid rubber tires for ordinary work.
- Crawlers of the caterpillar type.
- Without cleats and extra wide, for golf courses.
- With flanges for use on rails.

Left Side View of Tractor

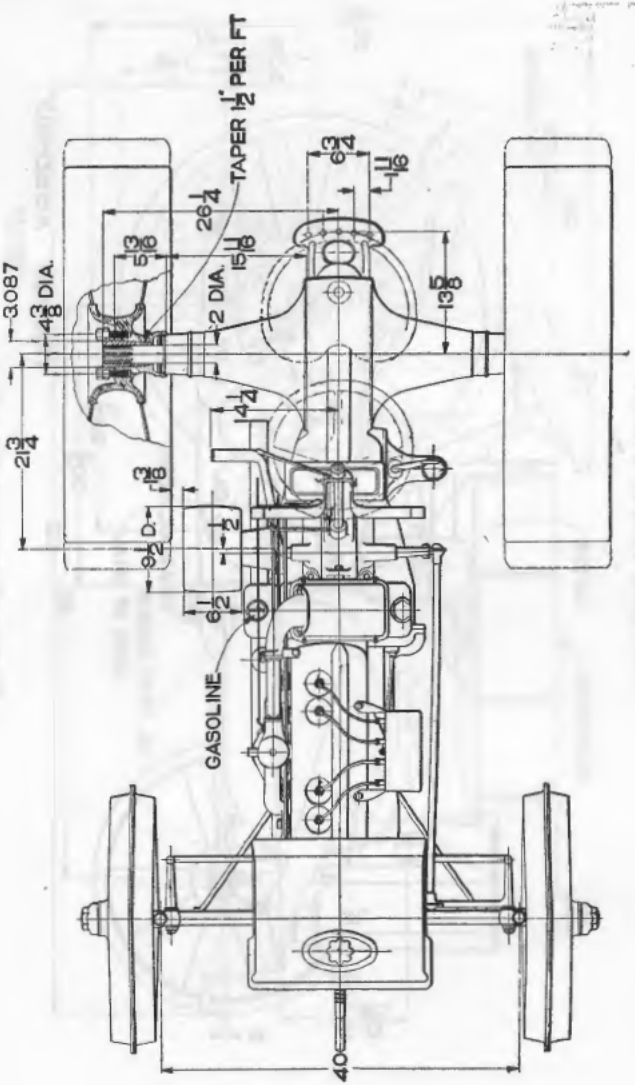


Showing all important dimensions

Plan View of Fordson

(Looking Down)

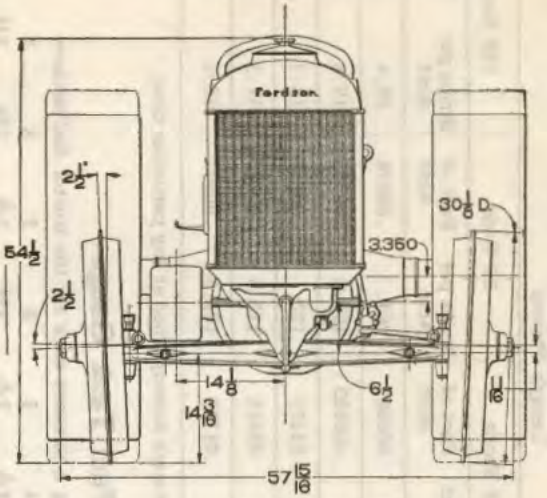
Showing all important dimensions



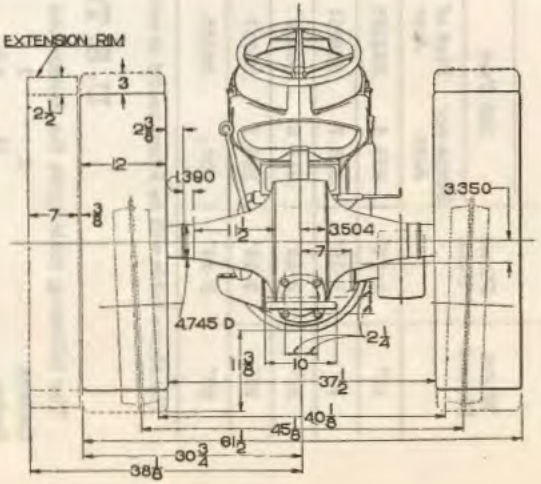
Front and Rear Views of Fordson

Showing all important dimension

Front View



Rear View



Acreage Compared to Different Width Furrows of Standard Lengths

Width Plowed	Plows Used	Length Plowed							
		100 Feet		100 Yards		10 Rods		100 Rods	
		Strips per Acre	Part of Acre	Strips per Acre	Part of Acre	Strips per Acre	Part of Acre	Strips per Acre	Part of Acre
12″	1–12″	435.6	.002295	145.2	.006885	264.	.00378	26.4	.0378
16″	1–16″	326.7	.003061	108.9	.009183	197.8	.00505	19.8	.0505
24″	2–12″	217.8	.00459	72.6	.01377	132	.00757	13.2	.0757
28″	2–14″	186.7	.00537	62.3	.01611	113.3	.00885	11.3	.0885
30″	3–10″	174.	.00573	58.	.01719	105.5	.00947	10.5	.0947

The above table will be found useful in estimating the work accomplished at any particular time.

U. S. Tractor Fuel Tank Gauge

The following table gives the dimensions for making a measure stick for the tractor fuel tank:—

Gallons	1	2	3	4	5	6	7	8	9	10
Inches	$\frac{15}{16}$	$1\frac{7}{16}$	$1\frac{13}{16}$	$2\frac{3}{16}$	$2\frac{9}{16}$	$2\frac{15}{16}$	$3\frac{5}{16}$	$3\frac{5}{8}$	$3\frac{15}{16}$	$4\frac{1}{4}$
Gallons	11	12	13	14	15	16	17	18	19	20
Inches	$4\frac{7}{16}$	$4\frac{3}{4}$	$5\frac{1}{16}$	$5\frac{3}{8}$	$5\frac{3}{4}$	$6\frac{1}{8}$	$6\frac{1}{2}$	$6\frac{7}{8}$	$7\frac{1}{4}$	$7\frac{3}{4}$

AGRICULTURAL TRACTOR IMPLEMENTS

NAME	Symbol Number	MANUFACTURER — DESCRIPTION	Weight	List Price		Deiv'd Price or F. O. B. Point
BALER						
BINDER						
BINDER HITCH						
CORN HARVESTER						
CULTIPACKER						
CULTIVATOR						
CULTIVATOR						
FEED GRINDER						
FEED MILL						
FLOUR MILL						
GRAIN DRILL						
GRIST MILL						
HARROW						
HARROW						
HAY LOADER						
HAY RAKE						

AGRICULTURAL TRACTOR IMPLEMENTS (Continued)

NAME	Symbol Number	MANUFACTURER — DESCRIPTION	Weight	List Price		Delv'd Price or F. O. B. Point
HAY SWEEP						
HAY TENDER						
HULLER						
HUSKER						
LIME SOWER						
MOWER						
PLOW						
PLOW						
POTATO DIGGER						
SHELLER						
SHREDDER						
SILO FILLER						
SPRAYER						
SPREADER						
STALK CUTTER						
THRESHER						

INDUSTRIAL TRACTOR IMPLEMENTS (Continued)

NAME	Symbol Number	MANUFACTURER — DESCRIPTION	Weight	List Price		Delv'd Price or F. O. B. Point
PUMP						
PUSHER						
SAW FRAME						
SAW MILL						
SCRAPER						
SHINGLE MILL						
SHOVEL						
SNOW PLOW						
STONE CRUSHER						
STREET SWEEPER						
STUMP PULLER						
WAGON LOADER						
WELL DRILLER						
WINCH						

INDUSTRIAL TRACTOR IMPLEMENTS

NAME	Symbol Number	MANUFACTURER — DESCRIPTION	Weight	List Price		Delv'd Price or F. O. B. Point
AIR COMPRESSOR						
BORING MACHINE						
CONCRETE MIXER						
CRANE						
CRAWLER ATTACHMENT						
DITCHER						
GRADER						
ICE MACHINE						
IRRIGATING MACHINE						
LIGHTS						
LIGHTING PLANT						
LOCOMOTIVE						
LUMBER CARRIER						
MAST HOIST						
PILE DRIVER						
PUMP						

MISCELLANEOUS TRACTOR IMPLEMENTS

NAME	Symbol Number	MANUFACTURER — DESCRIPTION	Weight	List Price		Delv'd Price or F. O. B. Point
BACK REST						
BELT						
BELT						
BELT ROLLER						
BRAKES						
CAB						
CANOPY						
CHAINS						
CLEATS						
CLUTCH HOOK						
EXHAUST PIPE ELBOW						
FENDERS						
GOVERNOR						
GOVERNOR						
HITCH						
HITCH						

MISCELLANEOUS TRACTOR IMPLEMENTS (Continued)

NAME	Symbol Number	MANUFACTURER — DESCRIPTION	Weight	List Price		Deiv'd Price or F. O. B. Point
HOOD						
MUFFLER						
POWER CRANK						
PULLEY GUARD						
PULLEY (Sliding Gear)						
RIMS						
ROAD BANDS						
SEAT CUSHION						
SEAT SPRINGS						
STEERING OUTFIT						
STEERING POST EXTENSION						
TRAILER						
TRAILER						
TRAILER COUPLER						
WHEELS						
WHEELS						

TRACTOR IMPLEMENT PRICES

DESCRIPTION	PRICES

TRACTOR IMPLEMENT PRICES

DESCRIPTION	PRICES

TRACTOR IMPLEMENT PRICES

DESCRIPTION	PRICES

TRACTOR IMPLEMENT PRICES

DESCRIPTION	PRICES

Farm Tractor Specifications

Trade Name of Tractor	Horsepower	Length, Inches	Weight, Pounds	Price	No. Wheels or Crawlers	Engine (Make)	Number Cylinders	Bore and Stroke	Rings Per Piston	Ring Groove Width	Carburetor (Make)	Carburetor Size	Fuel Used	Air Cleaner (Make)	Lubrication (Method)	Radiator (Make)	Ignition System (Make)	Spark Plug Size	Pulley Diameter	Pulley Face	Pulley R. P. M.	Clutch (Make)	Speeds, M. P. H.	Type Final Drive
Allis-Chalmers	6-12	172	2500	325	4	LeRoi	4	3½x4½	3	3/16	King	7/8	G	Benn	CS	Own	Spl	7/8	10	5½	1200	Borg & Beck	1.5-2.5	BG
Allis-Chalmers	15-25	135	4700	1285	4	Mid	4	4½x5¼	3	¼	King	1¼	G	Taco	F	Own	Spl	7/8	12½	6½	817	Own	2.5-3.2	BG
Allis-Chalmers	**20-35**	**152**	**6150**	**1685**	**4**	**Own**	**4**	**4¾x6½**	**3**	¼	**King**	**1½**	**GK**	**Taco**	**F**	**Own**	**Spl**	7/8	**13**	**7½**	**930**	**Own**	**2.6-3.2**	**BG**
Allwork CA	16-30	125	5200	1295	4	Own	4	5 x6	4	3/16	King	1½	K	Benn	CS	Perfex	Kin	7/8	13¾	7½	900	Own	2-4.2	BG
Allwork D	20-35	125	7000	1695	4	Own	4	5¼x6	3	3/16	King	1½	K	Benn	F	Perfex	Bos	7/8	13¾	7½	900	Own	2-4.2	BG
Allwork II-G	14-28	120	4800	1495	4	Own	4	4⅜x6	3	¼	King	1½	K	Benn	CS	Perfex	Kin	7/8	11	6	900	Own	1.8-3.8	BG
Allwork DA	22-40	126	8500	2000	4	Own	4	5½x7	3	3/16	King	1¾	K	Beam	F	Perfex	Bos	7/8	12¾	9½	900	Own	2-4.2	BG
Appleton	12-20	152	4900	1500	4	Buda	4	4¼x5½	3	¼	Scheb	1¼	GK	Benn	F	Perfex	Bos	7/8	12	7½	825	Borg & Beck	2.25-3.5	BG
Aultman-Taylor	22-45	166	12800	3100	4	Own	4	5½x8	4	5/16	King	2	GK	.....	FS	Own	Eis	½	20	10	600	Own	2.2	BG
Aultman-Taylor	30-60	218	23000	4400	4	Own	4	7 x9	5	5/16	King	2½	GK	.....	FS	Own	Eis	½	24	11	500	Own	2.2	BG
Avery Track Runner	.....	108	.....	.....	2-2	Own	4	4 x5½	.....	.....	King	...	A	.....	F	.....	Spl	½	12	8½	1100	.....	1.5-3.5	BG
Avery	15-	118	4750	.....	4	Own	4	4½x6	4	5/16	King	1⅜	GK	.....	F	.....	KW	½	16	7⅝	800	Own	2.5-3.5	....
Avery	20-35	152	7500	.....	4	Own	4	4¾x7	4	5/16	King	1½	A	.....	F	Modine	KW	½	16	7½	950	Own	2.3-4.5	BG
Avery	25-50	176	12500	.....	4	Own	4	6½x8	5	5/16	King	2	A	.....	F	Own	KW	½	22	8½	700	Own	2.5-4.6	BG
Avery	**45-65**	**215**	**22000**	.....	**4**	**Own**	**4**	**7¾x8**	**5**	½	**King**	**2**	**A**	.....	**F**	**Own**	**KW**	½	**26**	**10**	**600**	**Own**	**1.7-3.3**	**BG**
Bates Steel Mule F	18-25	105	4850	.....	2-2	Beaver	4	4¼x6	3	¼	King	1¼	G	Pom	F	Perfex	Bos	7/8	12	8½	850	Borg & Beck	2.4-3.5	BG
Bates Steel Mule I	18-25	105	5000	.....	2-2	Beaver	4	4¼x6	3	¼	King	1¼	G	Pom	F	Perfex	Bos	7/8	12	8½	850	Twin Disk	2.4-3.5	BG
Bates Steel Mule G	25-35	125	6500	.....	2-2	Wauk	4	4½x6¼	3	¼	King	1¼	G	Pom	F	Perfex	Bos	7/8	12	8½	850	Twin Disk	2.4-3.5	BG
Bates Steel Mule H	15-25	131	4000	.....	4	Beaver	4	4¼x6	3	¼	King	1¼	G	Pom	F	Perfex	Bos	7/8	14	6½	585	Twin Disk	2.4-3.5	BG
Bates Steel Mule 40	30-40	120	9500	.....	2	Wauk	4	5 x6¼	3	¼	King	1½	G	Pom	F	Perfex	Bos	7/8	12	8½	850	Borg & Beck	1.4-4.5	BG
Bear B	25-35	123½	7000	.....	2	St'ns	4	4⅜x6½	4	¼	Scheb	1¾	G	Vor	F	Modine	Bos	7/8	12	9	1290	M & E	2.4-6.2	IG
Best Tracklayer 30	20-	112	8100	.....	2	Own	4	4¾x6½	5	¼	Ensign	1½	D	Pom	F	Own	Bos	½	12	8	800	Own	2-3	BG
Best Tracklayer 60	40-	156	18580	.....	2	Own	4	6½x8½	4	¼	Ensign	2	D	Pom	CS	Own	Bos	½	16	10	650	Own	1.9-3.6	BG
Case	12-20	109	4230	895	4	Own	4	4¼x5	3	¼	King	1¼	GKD	Own	F	Own	Bos	7/8	14¼	6⅜	1050	Twin Disk	2.2-3	BG
Case	15-27	127	6350	1350	4	Own	4	4½x6	3	¼	King	1⅜	GKD	Own	F	Own	Bos	7/8	16	6½	900	Bork & Beck	2.2-3	BG
Case	22-40	153	9200	2750	4	Own	4	5½x6¾	3	3/16	King	2	GKD	Own	F	Own	Bos	7/8	16½	8½	850	Own	2.2-3.2	BG
"Caterpillar" 2-Ton	15-	103	.....	.....	2	Own	4	4 x5½	4	3/16	King	1¼	G	Dail	F	Own	Eis	7/8	11½	6½	1000	Own	2.1-5.3	SG
"Caterpillar" 5-Ton	25-	123	.....	.....	2	Own	4	4⅜x6	3	¼	Scheb	1½	G	Strom	F	Own	Eis	7/8	12	8½	1010	Own	1.51-5.7	SG
"Caterpillar" 10-Ton	40-	151	.....	.....	2	Own	4	6½x7	3	5/16	King	2	G	Strom	F	Own	Eis	7/8	14	10½	850	Own	1.7-4.8	SG
Cletrac F	**9-16**	**83**	**1980**	**845**	**2**	**Own**	**4**	**3¼x4½**	**3**	3/16	**Tillo**	**1**	**GKA**	**Own**	**S**	**McCord**	**Tea**	7/8	**7¼**	**6**	**1600**	**Borg & Beck**	**3-**	**BG**
Cletrac W	12-20	96	3580	1345	2	Own	4	4 x5½	3	3/16	King	1⅜	GKA	Own	F	McCord	Tea	7/8	8	6	1250	Borg & Beck	3-	BG
Eagle H	16-30	141	7100	.....	4	Own	2	8 x8	...	½	Scheb	1¾	K	Own	F	Perfex	Spl	½	24	10	450	Own	2-3	BG
Eagle F	12-22	132	5850	.....	4	Own	2	7 x8	...	½	Scheb	1½	K	Own	F	Perfex	Spl	½	20	8½	450	Own	2-3	BG
Eagle H	-40	.....	7100	.....	4	Own	2	8 x10	...	½	Scheb..	1¾	K	Own	F	Perfex	Spl	½	24	10	450	Own	2-3	BG
E-B AA	12-20	133	4550	.....	4	Own	4	4⅜x5	3	3/16	Strom	1½	K	Benn	CS	Modine	KW	½	12	6⅜	900	Own	2 1-2.7	BG
E-B Q	12-20	164	6155	.....	4	Own	4	4⅜x5	3	3/16	Strom	1½	K	Benn	S	Perfex	KW	½	12	8	850	Own	1.6-3.4	BG
E-B	16-32	192	9400	.....	4	Own	4	5¼x7	3	5/16	Strom	1¾	K	Benn	S	Modine	Sim	½	16½	9	600	Own	1.7-2.2	BG
Fageol E	.....	**119**	**3700**	**1225**	**2-2**	**Lycom**	**4**	**3⅝x5**	**3**	¼	**Zenith**	**1¼**	**G**	**Own**	**F**	**Own**	**Spl**	7/8	**6**	**6**	**1500**	**Own**	**2.5**	....
Fitch Four Drive	20-35	132	6000	.....	4	Clim	4	5 x6½	3	¼	King	1¼	K	Benn	F	Spirex	Eis	7/8	14	8	365	Borg & Beck	1-4	W
Fordson	**-18**	**102**	**2562**	**420**	**4**	**Own**	**4**	**4 x5**	**3**	¼	**Holley**	**1¼**	**GK**	**Own**	**CS**	**Own**	**Own**	½	**9½**	**6½**	**1000**	**Own**	**1.5-6.9**	IG
Fox	20-40	138	7800	2390	4	Own	4	5½x7½	4	5/16	King	1¼	GK	.....	F	Perfex	Spl	½	18	10	650	Own	1.6-3.8	BG
Frick	12-20	**158**	**5800**	.....	**4**	**Erd**	**4**	**4 x6**	**4**	¼	**King**	**1¼**	**K**	**Benn**	**C**	**Perfex**	**Kin**	7/8	**13**	**7**	**900**	**Own**	**2.3-3.8**	**BG**
Frick	15-28	158	6200	.....	4	Beaver	4	4⅜x6	4	¼	Benn	1½	K	Uni	F	Perfex	Spl	7/8	13	7	900	Own	2.3-3.8	BG
Gray EU	22-40	173	6998	.....	3	Wauk	4	5 x6¼	3	¼	Benn	1½	G	Benn	F	S-J	Bos	7/8	11⅜	8⅛	950	Own	2.47-3.2	C
HP-40	25-40	168	8500	4250	1-2	Stea	4	5 x6½	3	...	Tucker	1½	K	Pom	FS	Spirex	Ber	7/8	13	8½	850	Own	1.7-3.1	IG
Hart-Parr 20	-20	.....	4438	950	4	Own	2	5½x6½	3	5/16	Scheb	1½	K	.....	F	Own	KW	½	12	6	800	Own	2.2-3.1	IG
Hart-Parr 30	-30	.....	5220	1295	4	Own	2	6½x7	4	5/16	Scheb	1½	K	.....	F	Own	KW	½	14	8	750	Own	2-3	IG
Hart-Parr 40	-40	.....	7800	2250	4	Own	4	5½x6½	3	5/16	Scheb	1½	K	.....	F	Own	KW	½	14	8	750	Own	2-3	IG
Hart-Parr 30 (Road)	-30	.....	7500	1795	4	Own	2	6½x7	4	5/16	Scheb	1½	K	.....	F	Own	KW	½	14	8	750	Own	2-3	IG
Huber Light 4	12-25	91	5000	985	4	Wauk	4	4½x5⅝	3	¼	King	1¼	K	Benn	F	Perfex	Kin	7/8	13	7	1000	Own	2.5-4	BG
Huber Super 4	.....	91	6090	1885	4	Mid	4	4½x6	3	¼	King	1¼	G	Uni	S	Perfex	Eis	7/8	13	7	1100	Own	2.7-4.7	BG
J-T 22	25-40	137	9300	3500	2	Clim	4	5 x6½	3	¼	Zenith	1½	G	Benn	F	McCord	KW	7/8	10	8	900	Covert	1.5-5	BG
LaCrosse H	**12-24**	**135**	**3800**	.....	**4**	**Own**	**2**	**6 x7**	**4**	¼	**King**	**1½**	**K**	**Benn**	**F**	**Modine**	**AtK**	½	11	**7½**	**900**	**Own**	**2-3**	**BG**
Lauson	15-30	142	6500	1675	4	Beaver	4	4⅜x6	4	¼	King	1½	GKD	Taco	FS	Perfex	Spl	7/8	18	8	475	Own	1.5-2.5	G
Lauson	12-25	132	4500	1295	4	Mid	4	.....	3	¼	King	1¼	G	Taco	F	Perfex	Spl	7/8	16	7	680	Own	2-3.2	BG
Leader B	**12-18**	**134**	**4600**	**685**	**4**	**Own**	**2**	**6¼x6**	**4**	5/16	**King**	**1½**	**KD**	**Own**	**F**	**Eureka**	**Kin**	½	**14**	**7**	**850**	**Own**	**2.3-3.3**	....
Leader N	16-32	134	5800	1725	4	Clim	4	5 x6½	3	¼	Strom	1½	K	Benn	F	Eureka	Eis	7/8	14	7	800	Borg & Beck	2.2-3.5	BG
Leader C	18-36	153	6500	2100	4	T. C.	4	5 x7½	3	3/16	King	1¾	KD	None	F	Eureka	KW	7/8	14	8	750	Own	1.8-2.5	C

Farm Tractor Specifications—Continued

Trade Name of Tractor	Horsepower	Length, Inches	Weight, Pounds	Price	No. Wheels or Crawlers	Engine (Make)	Number Cylinders	Bore and Stroke	Rings Per Piston	Ring Groove Width	Carburetor (Make)	Carburetor Size	Fuel Used	Air Cleaner (Make)	Lubrication (Method)	Radiator (Make)	Ignition System (Make)	Spark Plug Size	Pulley Diameter	Pulley Face	Pulley R. P. M.	Clutch (Make)	Speeds, M. P. H.	Type Final Drive
Liberty	.....	144	6150	.....	4	Clim.	4	5 x6½	3	¼	Strom	1¼	GK	Benn	F	S-J	Dix	⅞	12	8	900	.....	2.5-4.5	LA
Little Giant B	16-22	144	5200	1000	4	Own	4	4½x5	4	½	King	1⅜	GK	Don	FS	Perfex	Kin	½	10	7	900	Own	1.3-6	W
Little Giant A	26-35	168	8700	1500	4	Own	4	5½x6	4	⅛	King	2	GK	Don	FS	Perfex	Kin	½	14	9	750	Own	1.3-6	W
McCormick-Deering	10-20	123	3700	.....	4	Own	4	4¼x5	4	...	Ensign	...	GKD	Own	FS	Own	Spl	⅞	15¼	7	645	Own	2-3-4	BG
McCormick-Deering	15-30	133	5750	.....	4	Own	4	4½x6	4	...	Ensign	...	GKD	Own	FS	Own	Spl	⅞	16¾	8	595	Own	2-3-4	BG
Minneapolis	12-25	166	6600	.....	4	Own	4	4½x7	4	...	King	1½	K	Opt	FS	Modine	KW	½	15	6½	750	Own	2.2-2.9	BG
Minneapolis	17-30	132	6400	.....	4	Own	4	4¾x7	4	...	King	1¾	K	Simp	FS	Modine	Bos	½	15½	7½	775	Own	2-2.7	BG
Minneapolis	22-44	168	13000	.....	4	Own	4	6 x7	4	...	King	2	K	None	FS	S-J	KW	½	18½	10⅛	700	Own	1.9-2.6	BG
Minneapolis	35-70	207	21800	.....	4	Own	4	7¼x9	4	...	King	2½	K	None	FS	Own	KW	½	24	10¾	550	Own	2-2.4	BG
Moline Universal D	**9-18**	**150**	**3380**	.....	**2**	**Own**	**4**	**3½x5**	**3**	**⅛**	**Holley**	**1¼**	**G**	**Benn**	**F**	**Modine**	**Rem**	½	**9**	**6½**	**1200**	**Borg & Beck**	**.75-3.5**	**IG**
Oil-Gas	20-42	180	13500	2600	4	Own	2	8 x10	3	½	King	2	K	None	F	Perfex	Spl	½	22	8	475	Own	1.6-3.5	BG
Oil-Gas	25-50	192	17100	3350	4	Own	2	9 x12	4	⅝	King	2½	K	None	F	Perfex	Spl	½	24½	9	400	Own	2-2.9	BG
Oil-Gas	35-70	216	30000	4050	4	Own	2	10½x14	4	½	King	3	K	None	F	Perfex	Spl	½	30	12	350	Own	1.8-2.2	BG
OilPull K	12-20	132	6638	.....	4	Own	2	6 x8	6	⅛	Own	2¼	K	Don	FS	Own	Bos	⅞	19	7	560	Own	2.1-2.9	BG
OilPull H	16-30	158	9506	.....	4	Own	2	7 x8½	5	⅛	Own	2½	K	Don	FS	Own	Bos	⅞	23	8½	530	Own	3-2.1	BG
OilPull G	20-40	175	12968	.....	4	Own	2	8 x10	5	⅛	Own	2¾	K	Don	FS	Own	Bos	⅞	26	9	450	Own	2.8-2	BG
OilPull E	30-60	228	26000	.....	4	Own	2	10 x12	5	⅝	Sec. Hig	3¼	K	None	FS	Own	Bos	MB	36	11	375	Own	1.9	BG
Pioneer	40-75	245	33600	.....	4	Own	4	7 x8	5	½	King	2	G	Benn	F	S-J	KW	½	17½	15	650	Own	1.7-4	BG
Pioneer	18-36	144	6500	.....	4	Own	4	5½x6	5	⅛	King	1½	GK	Benn	F	S-J	Opt	½	14	7	725	.....	1.7-4	BG
Russell Little Boss	**15-30**	**147½**	**6000**	.....	**4**	**Clim**	**4**	**5 x6½**	**3**	**¼**	**King**	**1½**	**K**	**Benn**	**F**	**Modine**	**Spl**	⅞	12½	**7**	**833**	**Own**	**2.4-3.7**	**BG**
Russell Big Boss	20-40	164	7900	.....	4	Clim	4	5½x7	3	⅛	King	1½	K	Benn	F	Modine	Spl	⅞	12½	8	835	Own	2.4-3.7	BG
Russell Giant	30-60	234	22550	.....	4	Own	4	8 x10	4	⅛	King	2	K	Benn	S	Modine	Bos	½	24	10	525	Own	2.0-3.2	BG
Tioga	18-32	122	5200	2625	4	Wiss	4	4½x6	3	¼	Strom	1¼	G	Opt	F	G & O	Spl	⅞	12	7	*980	Twin Disk	2.7-3.7	BG
Toro	**6-10**	**105**	**2600**	.....	**4**	**LeRoi**	**4**	**3⅛x4½**	**3**	**⅜**	**King**	⅞	**G**	**Own**	**S**	**S-J**	**Spl**	⅞	**8**	**4¼**	**1200**	**Own**	**1-3.5**	**SG**
Townsend	10-20	120	4500	800	4	Own	2	6½x7	3	⅝	Own	...	A	.....	F	Own	Spl	½	18	7	550	Own	2.5	BG
Townsend	15-30	140	6500	1350	4	Own	2	7 x8	3	⅝	Own	...	A	.....	F	Own	Spl	½	20	8	500	Own	2.5	BG
Townsend	25-50	165	9700	2250	4	Own	2	8½x10	3	½	Own	...	A	.....	F	Own	Spl	½	22	10	475	Own	2.5	BG
Twin City	12-20	134	5100	1200	4	Own	4	4¼x6	4	...	Holley	1¼	GK	Don	F	Modine	Bos	⅞	16	6½	650	Twin Disk	2.9-2.2	SG
Twin City	20-35	152	9200	2750	4	Own	4	5½x6¾	4	...	Scheb	2	GK	Don	F	Modine	Bos	⅞	21	8½	466	Twin Disk	2.9-2.2	SG
Twin City	40-65	240	24000	4750	4	Own	4	7¾x9	4	...	Scheb	2½	GK	.....	FS	Own	Bos	⅞	23	10½	535	Own	2-	BG
Uncle Sam B-19	20-30	143	4250	.....	4	Beaver	4	4¾x6	4	¼	Benn	1½	K	Benn	FS	Perfex	Spl	⅞	11	9½	1000	Twin Disk	2.2-4	BG
Uncle Sam D-21	20-30	143	4200	.....	4	Beaver	4	4¾x6	4	¼	King	1½	GK	Benn	FS	Perfex	Spl	⅞	11	9½	1000	Twin Disk	2.2-4	BG
Uncle Sam E-23	12-20	128	3500	.....	4	Here	4	4 x5	3	¼	King	1¼	G	Benn	F	Perfex	Spl	⅞	12	14	650	Borg & Beck	2.5-3.7	C
Wallis OK	15-27	132	3850	.....	4	Own	4	4¼x5¾	3	¼	Benn	1½	GK	Own	CS	Modine	Bos	⅞	18½	7	475	Twin Disk	2.5-3.5	SG
Waterloo Boy N	12-25	147½	5859	.....	4	Own	2	6½x7	4	⅛	Scheb	1½	K	Own	S	Modine	Spl	½	14	8	750	Own	2.3-3	BG
Wetmore	12-25	109	2900	1185	4	Wauk	4	4 x5¾	3	¼	Scheb	1¼	K	.....	F	Ideal	Spl	⅞	12	7	1000	Fuller	2-3.5	IG
Yuba	15-25	142½	5680	2750	2-1	Wis	4	4¼x6	3	¼	Strom	1¼	D	Pom	F	Modine	Bos	⅞	12	6½	800	Paragon	2.2-3.2	....
Yuba	25-40	186	9980	4500	2-1	Own	4	5¼x7	3	¼	Strom	1¼	D	Pom	S	Modine	Bos	⅞	10-14	8½	800	Paragon	2-3.2	....

Abbreviations Used in Specification Table

AtK.—Atwater Kent
Benn.—Bennett
Ber.—Berling
BG—Bull gear
Bos.—Bosch
C—Chain
Clim.—Climax
Dail.—Dailey
Dix.—Dixie
Don.—Donaldson
Eis.—Eisemann
F—Force Feed
G—Gas
Herc.—Hercules
I—Incloseed
IG—Internal gear
K—Kerosene
King.—Kingston
LA—Live axle
Lycom.—Lycoming
Mid.—Midwest
O—Open
Opt.—Optional
Pom.—Pomona
S—Splash
Scheb.—Schebler
Sec. Hig.—Secor-Higgins
SG—Spur gear
Sim.—Simms
Simp—Simplex
S-J—Shotwell & Johnson
Spl.—Splitdorf
Stea.—Stearns
T-C—Twin City
Teag.—Teagle
Tillo.—Tillotson
Uni.—United
Vor—Vortex
W—Worm
Wauk.—Waukesha
Wisc.—Wisconsin
Zen.—Zenith

Used Cars

Used Cars

FORD USED CAR APPROXIMATE ALLOWANCE

Following allowances subject to final inspection. Estimates are based on engine being in fairly good mechanical condition, paint and upholstery not necessary to be renewed. Telephone allowances are subject to a personal inspection.

PASSENGER CARS

Model	Tour.	Roadst.	Coupe	Sedan
1919	$.....	$.....	$.....	$.....
S 1919	.....	.....	.....	.....
1920	.....	.....	.....	.....
S 1920	.....	.....	.....	.....
1921	.....	.....	.....	.....
S 1921	.....	.....	.....	.....
1922	.....	.....	.....	.....
1923	.....	.....	.....	.....
S 1923	.....	.....	.....	.....
1924	.....	.....	.....	.....
S 1924	.....	.....	.....	.....

COMMERCIAL

Model	Model T Chassis	Chassis with Body	One Ton Truck	Truck with Body
1919	$.....	$.....	$.....	$.....
S 1919	.....	.....	.....	.....
1920	.....	.....	.....	.....
S 1920	.....	.....	.....	.....
1921	.....	.....	.....	.....
S 1921	.....	.....	.....	.....
1922	.....	.....	.....	.....
1923	.....	.....	.....	.....
S 1923	.....	.....	.....	.....
1924	.....	.....	.....	.....
S 1924	.....	.....	.....	.....

"S"-Indicates equipped with self-starter.

AUTHORIZED FORD DEALERS

USED CAR APPRAISAL

Name

Address

Phone Salesman

Make Model Year

Serial No. Motor No.

Appraised by Quoted

Approved by Desired

In Trade For Time Limit

GENERAL CONDITION

Motor	Front Axle
Clutch	Wheels
Steering Gear	Battery
Transmission	Top
Starting System	Curtains
Lighting System	Tires
Ignition System	Body
Rear Axle	Fenders
Drive Shaft	Paint

ACCESSORY AND EQUIPMENT RECORD

Set of Tools	Speedometer
Lock	Bumper
Clock	Mirrors
Extra Tires	Motometer

Remarks

USED CAR APPRAISAL

SUPPLEMENTAL INFORMATION

Call Back Date

Date Call Was Made

Result

Call Back Date

Date Call Was Made

Result

Date Sold

Reason Sale Was Never Made

Remarks

AUTHORIZED FORD DEALERS

USED CAR APPRAISAL

Name

Address

Phone Salesman

Make Model Year

Serial No. Motor No.

Appraised by Quoted

Approved by Desired

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Date Call Was Made

Result

Call Back Date

Date Call Was Made

Result

Date Sold

Reason Sale Was Never Made

Remarks

(AUTHORIZED FORD DEALERS)

LIST OF USED CARS IN STOCK

MAKE	YEAR	TYPE	MODEL	PRICE		Motor or Serial No.	CONDITION	LOCATION	OUR NO.

(AUTHORIZED FORD DEALERS)

LIST OF USED CARS IN STOCK

MAKE	YEAR	TYPE	MODEL	PRICE		Motor or Serial No.	CONDITION	LOCATION	OUR NO.