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 atone in the workshop but on the farm, and that he might get the experiences from various soils and conditions which face the fanner, 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. It can be adapted to turn a 14-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 2-1/2 gals. per acre are required, depending on load and soil conditions.

General Dimensions

Overall length, 102 inches. Width 6-1/2 inches. Height 55-1/16 ins. Wheel base 63 ins. Tread of wheels 49-1/2 ins. Total weight 2,562 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 reverse. Ball bearings. Three point suspension. Splash system of lubrication. Thermo-siphon 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 a 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 cut of excavations.

The Fordson is being used a 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.

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

Machine shop operation	Terracing
Moving buildings	Oil well drilling

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, arid that at the low price of horses.

Grooming eight horses once a day at 15 minutes a hone takes two hours. Watering and feeding, another hour. Harnessing and Un-harnessing, 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-hone 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

One acre of 28 inch furrows equals 43,560 square feet divided by 2-1/3 or 18,695 feet long or about 3-1/2 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 2-3/4 (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 2-3/4 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	1 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. incb
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 9-1/2" 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	19-1/2 inch
500	19 inch
513	18-1/2 inch
527	18 inch
543	17-1/2 inch
559	17 inch
575	16-1/2 inch
594	16 inch
613	15-1/2 inch
634	15 inch
655	14-1/2 inch
679	14 inch
704	13-1/2 inch
731	13 inch
760	12-1/2 inch
782	12 inch
826	11-1/2 inch
863	11 inch
926	10-1/2 inch
950	10 inch
1000	9-1/2 inch
1055	9 inch
1118	8-1/2 inch
1187	8 inch
1268	7-1/2 inch
1357	7 inch
1462	6-1/2 inch
1583	6 Inch
1727	5-1/2 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	7S 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
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

Freight Car Towing	*Rock Drilling
*Grist Mill Operation	Sand Loading
Harrowing	Saw Mill Operation
Hauling (General)	Seeding
*Hay. Baling	*Sheep Shearing Equipment
Hay Loading	*Silo Filling
Hay Raking	Snow Plowing
*Hay Sling Operation	*Spraying
Hay Tedding	Street Cleaning Equipment
Hedge Pulling	Stump Pulling
*Hoisting	Sub Soiling Terracing
*Ice Conveyor Operation	*Threshing Grains
*Ice Cream Plant Operation	*Threshing Rice
Ice Cutting	Wagon Hauling
Ice Hauling	*Washing Machine Operation
Industrial Locomotive	*Well Drilling
*Irrigation Pump Operation	*Wood Sawing

Fordson Tractor Grading Statistics

For the purpose of compiling data on the cost of grading with the Fordson Tractor, the City Dealers of Portland rented a Fordson to the City of Portland for a period of 31 days during the months of August and September, 1921.

The Fordson was put at work grading five city blocks, running from 23rd to 25th streets, on Umatilla Ave., filling two bridge approaches across Johnson Creek, thence to 27th St., then turning south two blocks to Sherrett Street. Two blocks of this road was old macadam, several feet above grade; the balance was building new road. The greater part of the cut came at the extreme ends of the job requiring that nearly all of the dirt had to be hauled a distance of nearly two blocks for filling the bridge approaches up to grade.

Reverse Idler

There were no horses used on the job, the Fordson doing all the work. Implements used were an 8-inch Rooter plow and a 5 foot Fresno with automatic hitch. The grading was completed to sub-grade ready for paving.

The engineer's estimate on this job was $1.25 per yard. Following statistics will show the cost to the city using the Fordson.

Charge for Fordson and operator at $12.00 per day for 31 days $372.00
Fuel, kerosene at 15-1/2 c per gal, 210 gallons 32.55
(an average of less than 7 gallons per day)
Motor oil at $1.10, 12 gallons.....13.20
(an average cost of 43c per day)
Transmission oil (original fill up).....5.50
$423.25

Amount of dirt moved, 725 yards
Cost per yard, 56¢.
Cost of fuel and oil per day, average 31 days, $1.67.

The showing made here is especially good considering the fact that three different drivers operated the Fordson during the 31 days.

DETAILS
Fordson Transmission, Clutch, Rear Axle, Front Axle, and Steering Gear

***Type**:*

The Fordson Transmission is of the Constant Mesh Selective Sliding gear type.

Plowing speed, the 13-tooth pinion on upper transmission shaft, running at same speed as crankshaft, engages the 34-tooth gear which Is splined to worm. The double thread worm (considered as a gear having two teeth) engages with the 35-tooth worm gear.

New Worm Gear

The new triple thread worm meshes with a 51-tooth worm gear, making the ratio 17:1 instead of 17-1/2:1 as on the old worm and gear. The more gear sets there are in mesh at any one speed, the more power is lost. Note that on the Fordson, besides the worm reduction, there is only one set of gears in mesh on plowing speed. The same applies to high speed, while on low and reverse there are three sets of transmission gears in mesh.

Fordson Transmission

This has nine gears. The number of teeth on gears are as follows from front to rear:

	1st	2nd	3rd	4th5et
Upper shaft	23	17	30	13
Lower shaft	24	17	17	34
Reverse idler		20		

The power is always transmitted from upper to lower shaft by different combinations of internally cut gear clutches. Gears in mesh at different speeds are a follows:

	Miles per hour	Position of Gear Shift Lever
High, 1st set	6-3/4	Right-forward
Plowing, 4th set	2-3/4	Left-back
Low, 1st, 3rd and 4th	1-1/2	Left-forward
Reverse, 1st, 2nd and 4th	2-1/2	Right-back

The gear shifter lever is pivoted in a ball joint about four inches from its lower end. When gears are In neutral, lever Is free to move sideways.

Fordson Clutch

The Fordson Clutch has 17 hardened steel disks—8 driving and 9 driven—running in oil. Driving disks have six slots which fit studs projecting towards the rear on flywheel. Driving disks alternate with driven disks, which are slotted on the outer edge to fit the six keys in the driven drum splined to the transmission drive shaft. The front and rear clutch housing are bolted together with eight 1/4" bolts. Six springs of 150 lbs. pressure

each are placed between clutch drum and near housing, This exerts a pressure of 900 lbs. on disks placed between drum and front housing. The spring pressure is released by a pedal operated yoke, pressing on rear housing—thus compressing the six springs against the clutch drum, which it fastened stationary to the transmission drive-shaft. As soon as clutch is released, the housing and driven disks stop rotating. The transmission drive shaft is supported on two ball bearings—one in the flywheel and one in the transmission housing plate.

Rear Axle

The Fordson is a semi-floating axle. The outer end of the axle shaft is directly supported on a roller bearing, while the inner end has no such direct bearing, but is held in place by the differential gear to which it is splined and held by half washers.

Differential

The differential consists of two differential bevel gears fastened to rear axle shafts as already mentioned, and four bevel pinions placed on the differential spider in such way that they mesh with the differential gears. The spider, clamped between the two halves of the differential housing, revolves with the worm gear and thus transmits the power through the pinions to the differential gears which drive the rear axle shafts. The rear wheel is fastened to Its shaft by means of a split, tapered and flanged bushing splined to the shaft. The rear wheel hub is taper bored and is drawn up on the tapered bushing by means of four screws.

Wheels

The wheel is 12" x 42" dia. has 14 spokes and 14 cleats 3" high, provided with 3 holes for attaching extension cleats. Weight of each wheel is 310 lbs. A 7" wide extension rim can be fastened to outside of flange of rear wheel by drilling the bolt holes in place.

Front Axle

The front axle is an "I" section drop forging, pivoted at the middle to the cylinder front cover, thus giving the tractor a three point suspension. The front wheels have two roller bearings and the distance between wheels at the ground is 1-3/4" less than at top.

The Steering Gear is of the pinion and sector type (ratio 11:40) 18" steering wheel. Tractor can turn in a 21-foot circle or can be specially equipped to turn in a 14-foot circle.

Recent Improvements in the Fordson Vaporizer

(1) Provision made for attaching governor.

(2) Tight fitting cover on Float Chamber to exclude dirt.

(3) Stamped steel used for small parts lessens possibility of breakage.

(4) Improved metering of fuel by use of small venturi in primary air and fuel passage.

(5) Large manifold casting strengthened to eliminate any possibility of cracking.

(6) Butterfly throttle valve set 1/16' off center to give proper balance when using a governor.

(7) Design made more simple and compact throughout.

(8) Float and float mechanism attached to cover instead of inside of the fuel bowl, permitting easier removal and inspection.

(9) Elbow formerly on lower end of vapor tube eliminated to cut out sharp bend in vapor passage. This makes a one piece vapor tube and lower cost of replacement.

(10) Heat control valve redesigned to prevent sticking, by using a latch instead of a lever for raising and lowering valve. This gives a positive lock when in "On" position.

(11) Heel of float lever extends up to form stop to prevent float from touching the inside of the fuel bowl when bowl is empty. This prevents float from becoming battered or punctured by rattling in the bowl during shipping or handling.

(12) Redesigned float chamber, float valve and larger float. This gives greater buoyancy and tighter seating valve, thus insuring against any overflowing of fuel due to vibration when running over hard surface.

(13) Greater accessibility. All screws and nuts can be removed with tools furnished with the tractor. Mixer chamber can be removed without interfering with large fuel tank. Fuel shifted from gasoline to kerosene from the seat Clean out plugs added in float and mixing chamber, so that fuel passages can be cleaned without taking off any other parts.

(14) Provision made for easier starting by use of two-way valve which allows gasoline from starting tank to be

used in the regular float chamber. This eliminates the shifter valve on the mixing chamber. A spring closed priming cock for gasoline is provided on top of mixing chamber. This allows operator to prime directly into cylinders to facilitate starting in cold weather.

Official Figures Show Fordson Best

No better evidence of the efficiency of the Fordson tractor on city work, and it applies equally to the farm, can be found than In this report of the city engineer of Pontiac, Mich., Mr. L. 0. Lenhardt, to the city commission.

In his analysis of tractor and team costs recently presented he sets, forth:

"Grading by use of teams costs $14.40 per mile for a twenty-eight foot street. This is pay for two teams and drivers. The work is only fair, as teamsters will spare their horses by raising blade when they should take a deep cut

"According to our experience the following is the cost of grading with a Fordson tractor per day:

Repairs and depreciation	$ 1.00
Interest at 5 per cent	.11
Gas and Oil	1.65
Tractor Driver	4.50
Grader Operator	3.60
Total	$10.86

"As a tractor will grade two miles of twenty-eight foot street per day, the cost per mile is $5.43. The work is done better, as there is no tendency to avoid heavy cutting.

"Plowing and hauling is also done about twice as fast as with teams.

"For these reasons I recommend that another Fordson tractor be purchased."

Fordson Makes Thirty-Day, Non-Stop Run

At Wichita, Kans., a thirty-day, non-stop test of the Fordson tractor was conducted to demonstrate its power of endurance and to prove the practicability of its working both day and night during rush seasons. From June 16th to July 17th, 1919, the Fordson was in operation continuously excepting only the necessary time used in cleaning up, replenishing fuel, oil, etc.

During the thirty-day run, the Fordson cut 315 acres of wheat and 71 acres of oats; plowed 157 acres; dragged 61 miles of road, besides doing some discing and seeding. The machine, which ran for a total of 721-1/2 hours, consumed 807 gallons of kerosene, 341 gallons of water in radiator and air-washer.

Probably no more strenuous endurance test has ever been imposed on a tractor of any make, than that which brought the Fordson victory at the National Tractor Show.

Record from an Ohio Horseless Corn Field

Here is the operating record of a three year old Fordson In the "Horseless Corn Field" of the American Seeding Machine Co., at Springfield, Ohio.

Note that the total cost per acre for preparing the seedbed and planting the corn averaged $1.94 per acre, including the cost of the seed corn used. The entire cultivation of this crop was done 'with Fordsons.

Size of Field—40 Acres

Plowing time—58 hours—.-69/100 acres per hour average.

2—14 Inch plows.

Kerosene used—105 gallons at 22c per gallon, 2-7/8 gallons per acre.

5 gallons of gasoline.

15 gallons motor oil; crank case was drained frequently.

Blacksmith bill, sharpening plow shares, $3.00.

Total cash cost $34.40 or 86c per acre.

Discing, first time 17 hours, 234 acres per hour, 7 foot double disc.

Total cash cost $8.05 or 25c per acre.

Discing, second time 15-1/2 hours, 2-2/3 acres per hour.

18-1/2c per acre.

7-foot double disc.

Harrowing, third time with a 7-foot single spring pressure, disc followed by a spike tooth or smoothing harrow, 15-1/2 hours, 2-2/3 acres per hour, 18-1/2 c per acre.

Planting with a special 4 row planter, 10-1/2 hours, 4 acres per hour, l0c per acre.

Total hours, 116 or 3 hours per acre.

With 8 bushels of seed corn at $2.00 per bushel, the total cash cost was $77.38 or an average of $1.94 per acre, exclusive of the man's time.

A Real Record Baling Hay.

Efficiency of the Fordson tractor when used to operate a hay baler has rarely been more conclusively demonstrated than by the tractor used by the Riverdale Farm Company, Everett, Wash.

With FordsonPower, 1921

Day	Hours Worked	Tons Baled	Time Lost
1st	9.0	29.54	0
2nd 5.5	18.32	0	
3rd	10.0	32.43	0
4th	10.0	30.60	0
5th	10.0	33.57	0
6th	8.5	26.48	0
7th	10.0	30.51	
8th .			
9th			
TOTALS	63.0	201.45	0

With Other Power, 1920

Day	Hours	Tons Worked	Time Baled	Lost
1st		8.0	27.92	0
2nd	10.0	21.18	0	
3rd		10.0	30.02	0
4th		10.0	33.59	0
5th		0.5	2.46	9.5
6th		0.0	0.00	10.0
7th		0.0	0.00	10.0
8th		2.5	7.26	7.5
9th		2.2	7.52	7.8
TOTALS		43.2	129.96	44.8

Tractor Power Rating

All tractors are given a double power rating—one for the draft, the other for the belt pulley. The Fordson at 1000 R. P.M. of the engine develops a drawbar horsepower 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.

Interesting Comparisons

During the recent war, a Government test was made of the Fordson tractor and the following figures are based on that test.

Cost, Fordson, $85-, Wearing Life, 4800 hours at 4/5 acres per hour, 3840 acres.

3840 acres at $850.00; depreciation per acre	.221
Repairs for 3840 acres, $100; per acre	.026
Fuel Cost, kerosene at 19c; 2 gal. per acre	.38
3/4 gal, oil per 8 acres; per acre	.075
Driver, $2.00 per day, 8 acres; per acre	.25
Cost of plowing with Fordson; per acre	.95

8 Horses cost, $1200. Working Life, 5000 hours at 4/5 acres per hour, 4000 acres.

4000 acres at $1200, depreciation of horses, per acre	.30
Feed per horse, 40c (100 working days) per acre	.40
Feed per horse, l0c a day (265 idle days) per acre	***.265***
Two drivers, two gang plows, at $2.00 each per day, per acre	.50
Cost of plowing with horses; per acre	1.46

Thus, Fordson-plowing costs one-third less than horse-plowing.

The Fordeon tractor goes around the field two and one-half times to a horse-drawn gang plow's once.

Note: During the war the tractor cost $880—present price $395.

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:

		Tractor Speed	
Rev. of Engine Per Min	Rev. of Rear Wheel Per Min.	Ft. Per Min	Miles Per Hour
1000	54	594	6-3/4
1185-1/16	64	704	8
1333-1/3	72	792	9
1481-1/2	80	880	10

Paces per Minute

2-1/2 Feet Per Step	3 Feet Per Step	Miles Per Hour
53	44	1-1/2
61	51	1-3/4
70	58	2
79	66	2-1/4
87	73	2-1/2
96	80	2-3/4
106	88	3

The following speeds should not be exceeded:
Plowing, 2-3/4 miles per hour.
Harrowing and cultivating, 3 miles per hour.

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 at the 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 I, 1917, to October 31, 1920.

NOTE: * indicates made at Cork, Ireland.
# indicates made at a factory branch.
Others were made at the main plant.

1917	
October	1 to 75
November	-----
December	27 to 259
1918	
January	260 to 616
February	617 to 1721
March	1732 to 3082
April	3083 to 3900
	6901 to 7608
May	7609 to 9580
June	9581 to 11937
July	11938 to 15225
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
July	55305 to 60864
	C1001 to C1009
August	60865 to 63000
	63201 to 65000
	65501 to 68055
	C1010 to C1068 *
September	68056 to 74809
	C1089 to C1080 *
	63000 to 63003 *
October	74810 to 81363
	63004 to 63063 *
November	81364 to 88465
	63064 to 63177 *
December	88466 to 92113
	63178 to 63200 *
1920	
January	92114 to 96973
	100001 to 100192 #
	105025 to 105049 *
	65001 to 65240 *
February	96974 to 100000
	110001 to 111500
	100193 to 102294 #
	105050 to 105290 *
April	111501 to 117133
	104760 to 105000 #
	120001 to 121591 #
	105705 to 105893 *
May	125001 to 125036
	121592 to 124731 #
	105894 to 106269 *
June	125037 to 134622
	124732 to 125000 #
	135001 to 138086 #
July	134623 to 135000
	14001 to 146097
	138037 to 140000 #
	150001 to 151504 #
	106636 to 106871 *
August	146098 to 150000
	160001 to 163426
	151505 to 154890 #
	106872 to 107199 *
September	163427 to 169258
	154891 to 158177 #
	107200 to 107303 *
	65321 to 65500 *
October	169259 to 169583
	158178 to 158322 #
	107304 to 107640 *
November	107641 to 107954 *
December	107955 to 108229 *
1921	
January	108230 to 108243 *
February	169584 to 169840
	108244 to 108271 *
March	169841 to 170000
	158312 to 158326 #
	108272 to 108386 *

1921 (continued)

April	172001 to 175687
	158327 to 158970 #
	108387 to 108456 *
May	175688 to 181313
	158971 to 159453 #
	108457 to 108653 *
June	181314 to 187794
	108654 to 108680 *
July	187795 to 193985
	159454 to 159887 #
	108681 to 108744 *
August	193986 to 198363
	159888 to 160000 #
	170001 to 170243 #
	108745 to 108902 *
September	200019 to 200431
	108903 to 109208 *
October	200432 to 200942
	170244 to 170394 #
	109209 to 109397 *
November	200943 to 201025
	170395 to 170890 #
	109398 to 109575 *
December	170591 to 170957 #
	109576 to 109672 *

1922

January	109673 to 109784 *
February	201026 to 202521
	109785 to 109891 *
March	202522 to 208632
	109892 to 110209 *
April	208633 to 216080
	110210 to 110430 *
May	216081 to 225028
	171290 to 171444 *
June	225029 to 234355
	171445 to 171742 *
July	234356 to 244016
	171743 to 171962 *
August	244017 to 252532
	171963 to 172000 *
	250001 to 250099 *
September	252533 to 252761
	250100 to 250300 *
	253001 to 253010 *
October	252762 to 257907
	253111 to 253290 *
November	257907 to 262824
	253291 to 253479 *
December	262825
	253480 to 253562 *

NOTE: The serial numbers shown above are from the 1923 Ford Data Book. The numbers following are from other Ford sources. It would appear that these tractors were all made in Cork, Ireland.

1923

January	268583 to 276349
February	276350 to 284254
March	284255 to 295531
April	295532 to 306914
May	309915 to 318010
June	318011 to 327011
July	327012 to 333681
August	333682 to 342099
September	342100 to 349946
October	349947 to 357849
November	357850 to 365190
December	365191 to 370351

1924

January	270352 to 375190
February	275191 to 382281

Beyond the figures above we have the following numbers which are believed to the starting serial numbers of each year.

1925	453360	1932	776066
1926	557608	1933	779158**
1927	Unknown	1934	781966**
1928	Unknown	1935	785548**
1929	747682	1936	794703**
1930	757369	1937	807582**
1931	773565	1938	826779**

** Built in Dagenham, England

U. S. Tractor Fuel Tank Gauge

The following table gives the dimensions for making a measure stick for the tractor fuel tank

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