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Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.  
Larsen

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January 1930

## Advertising Brochure: Illinois Heavy Duty Tractor

Nebraska Tractor Test Lab

*University of Nebraska-Lincoln*, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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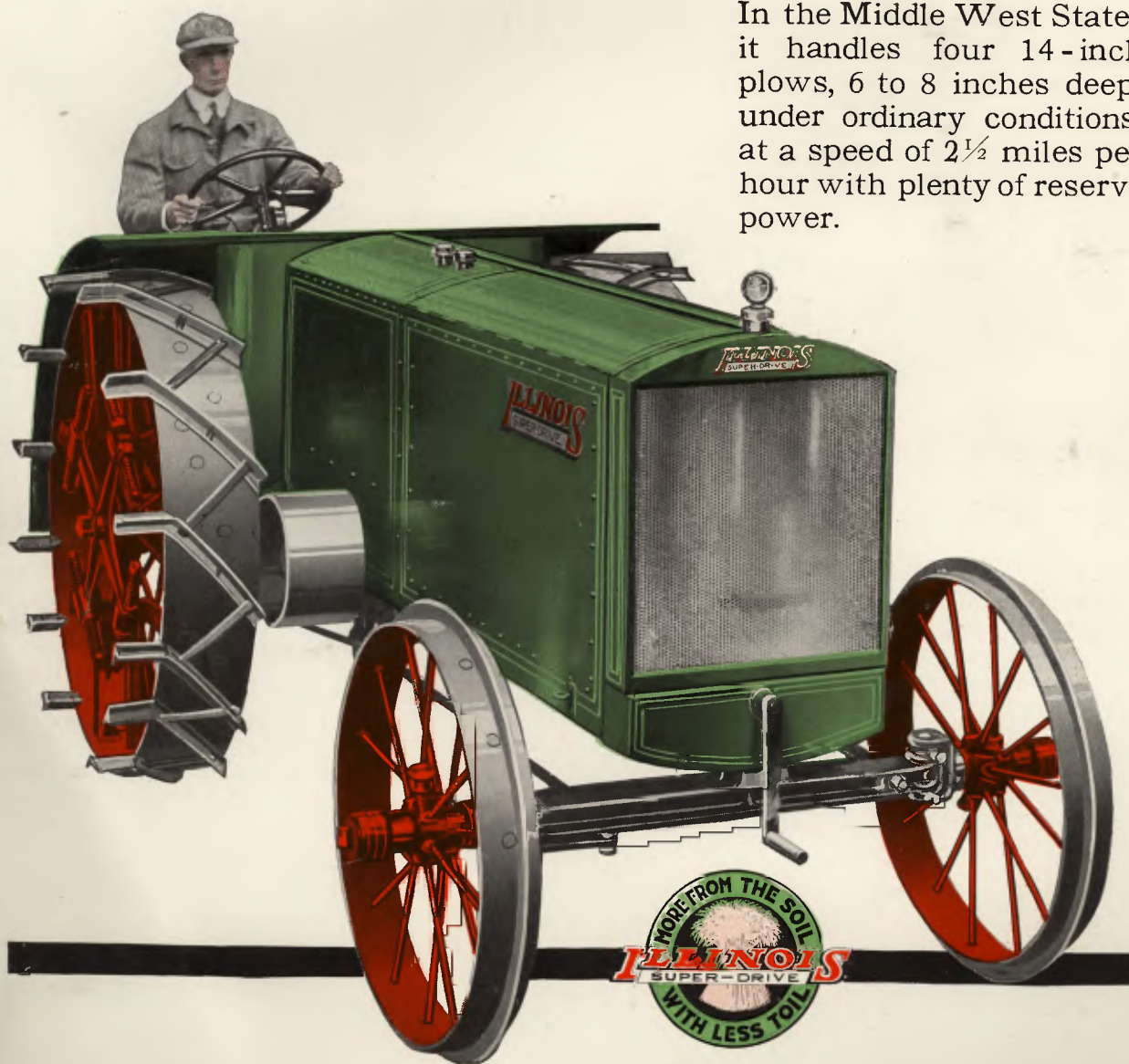
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# ILLINOIS

SUPER-DRIVE

# TRACTOR



In the Middle West States it handles four 14-inch plows, 6 to 8 inches deep, under ordinary conditions, at a speed of 2½ miles per hour with plenty of reserve power.

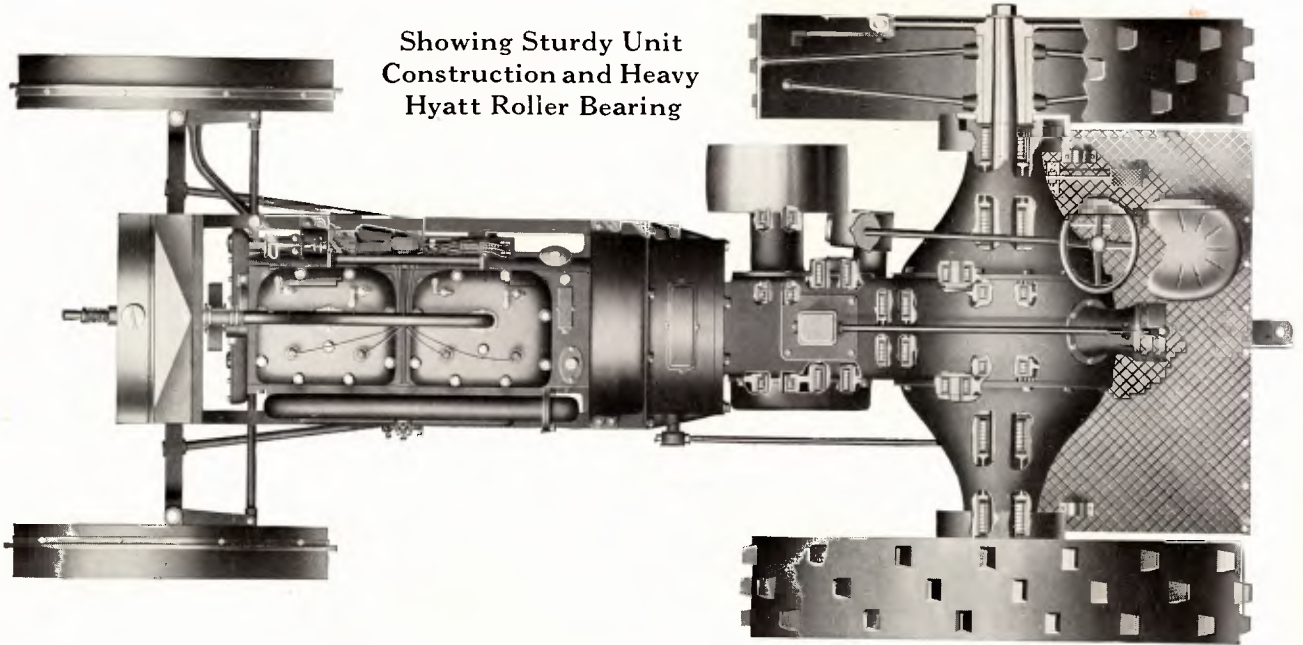




# ILLINOIS SUPER-DRIVE

ILLINOIS SUPER-DRIVE TRACTOR. The illustration at the left is a front view showing simple, powerful semi-steel roller bearing front axle with wide belt and ample radiator clearance, also position on top of axle for steel roller belt tightener.

ILLINOIS SUPER-DRIVE TRACTOR. The center illustration is a rear view showing roomy platform, tool box and comfortable seat. Note the convenient foot-controlling clutch lock and the fuel control on dash, both easily accessible



Showing Sturdy Unit Construction and Heavy Hyatt Roller Bearing

## The Tractor That Every Farmer Wants

In order to do all farm work properly a tractor must be built mechanically correct

When a farmer intends to purchase a tractor he compares several tractors—point by point—then makes his selection according to his ideas of which tractor will best do his work.

Our unit construction consist of the Illinois Live Rear Axle and Enclosed Transmission—coupled direct to the Engine Cradle and Front Axle Support. It is a frame and mechanism *all in*

*one*—self contained, simple and powerful, and cannot get out of alignment. It eliminates excess weight and saves the user from many adjustment and costly repairs which he would have, if using a tractor of the old design.

Note the simplicity of design, the solid built-in strength of construction and Hyatt heavy duty roller bearings used throughout.



**POWERFUL  
SLOW SPEED  
KEROSENE  
BURNING  
ENGINE**



SHOWING MAGNETO SIDE AND ENCLOSED GOVERNOR  
The governor is entirely enclosed to exclude dust and acts to prevent the engine racing if the load is suddenly thrown off. By the removal of five stud bolts, the outside cover of the governor can be quickly removed.

SHOWING CARBURETOR AND MANIFOLD SIDE  
The Illinois Super-Drive Tractor is equipped with a powerful four-cylinder slow speed, kerosene burning engine. This engine is ample to do all the work it may be called upon to do without strain.

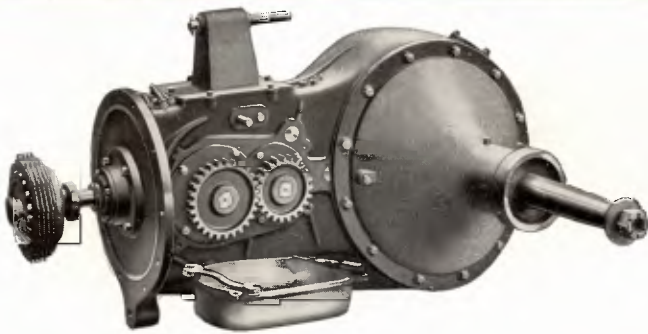
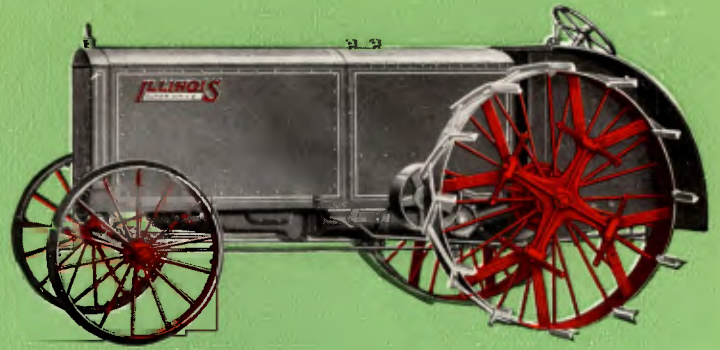




# ILLINOIS SUPER-DRIVE

to operator. Note brake levers on each side of platform and the neat and substantial steering wheel on which are attached the spark and throttle control.

ILLINOIS SUPER-DRIVE TRACTOR. The illustration at the right is a side view showing neatness of design, well balanced wheel base and powerful rear drive wheels, either of which may be locked to give traction on slippery ground. This view shows driving spider and cushion spring attachment.



## The ILLINOIS Enclosed Transmission

In the Illinois Transmission the two Cross-Over gears are placed on the outside of the transmission housing and completely enclosed by an easily removable cover, provided for lubrication and protection. The position of the Cross-Over gears, as shown in cut, gives two speeds forward,  $2\frac{1}{2}$  and  $3\frac{1}{2}$  MPH and one speed reverse. For exceptionally heavy duty or drag work, gears may be reversed in position, which would reduce speeds forward to  $1\frac{1}{2}$  and  $2\frac{1}{2}$  MPH, thus greatly increasing the horsepower at the drawbar. In case speeds greater than  $3\frac{1}{2}$  MPH are required for road or special work, special gears may be provided. Cross-Over gears may be interchanged in five minutes with a wrench and screw driver even by an unskilled person.

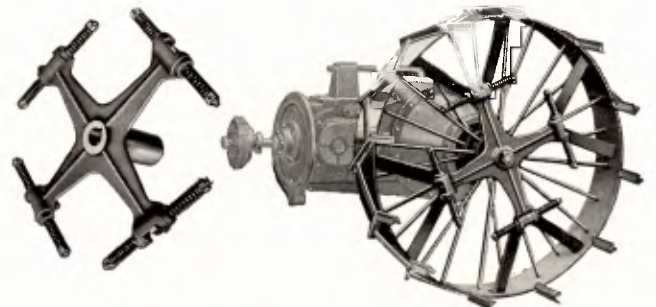


## ILLINOIS Planetary Live Axle Drive

Above is shown one side of the Illinois Planetary Live Axle Drive stripped of its housing. The entire mechanism is designed to reduce friction to a minimum and to deliver maximum engine power to the drawbar. This Planetary Live Axle Drive is the most efficient Tractor Drive in existence.

The Final Planetary Live Axle Drive is engaged at all times at three points of contact, inwardly and outwardly, instead of the reduction being made through a single gear engaged at one point only, as is the case where driving pinion and bull gears are employed to act as a final drive. This Planetary Drive of the Illinois Super-Drive Tractor reduces wear, removes any chances of stripping gear teeth, protects all the gears indefinitely and delivers maximum engine power to the drawbar.

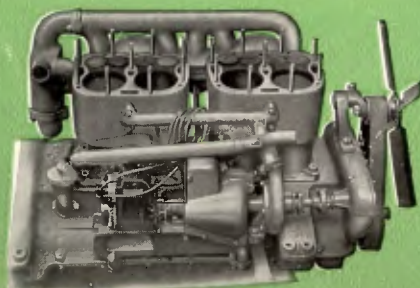
Exhaustive tests show that this Planetary Super-Drive transmits at least 20% more power to the drawbar—without strain—than any other driving principle in tractor use. All gears used in the Illinois Super-Drive transmissions are case-hardened steel. They will never wear out if kept properly lubricated.



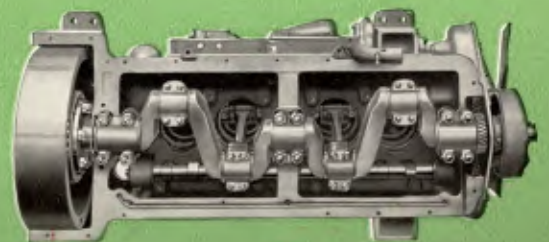
## The ILLINOIS Driving Spider and Spring Cushion

Our Final Drive applies the power through a four-arm Driving Spider, which is securely fastened to the Live Axle. This Spider delivers the power (through spring cushions, which absorb jars, jolts and shocks) to four sturdy, V-shaped arms, which, in turn, deliver the power to the rims of the rear wheels and not through the hubs and spokes.

**Compare these correct mechanical features with those of any other tractor now in use and you will be convinced.**



**SHOWING EASILY REMOVABLE CYLINDER HEADS**  
These are separate from the cylinders, to which they are bolted by nine  $\frac{1}{2}$ -inch studs in each casting. They are completely water-jacketed to a depth of  $\frac{3}{4}$ -inch over the heads.



**SHOWING POWERFUL CRANK SHAFT AND ITS EASY ACCESSIBILITY**  
Note the powerful crank shaft  $2\frac{1}{4}$ -inches in diameter. The crank case is divided on the center line. The bottom of the crank case can be easily removed without lifting the engine off its base.



# POINTS OF SUPERIORITY

Each and every part of the Illinois Super-Drive Tractor is made as mechanically perfect as modern engineering science can devise. In bringing together all of these parts in Unit Construction we have the Illinois Super-Drive Tractor—the Tractor that is first in correct mechanical principles and best and most powerful for its weight in working performance.

It has absolutely new and superior features.

It has a Powerful Unit Construction, which eliminates entirely the need of a frame. This means more strength, less weight, and eliminates the possibility of bearings getting out of alignment.

It has a Live Axle delivering the power to the rims of the wheels—not to the hubs or spokes. It distributes the driving force to eight points of driving contact thereby eliminating excessive strain.

It has a Cushion Spring Final Drive, which relieves destructive back lash, jars and jolts.

Its Planetary Final Drive protects gear teeth from breakage and delivers at least 20% more engine power to the drawbar than any other transmission principle now in tractor use.

## Specifications and Regular Equipment

### RATING—18-36

Plowing capacity—4-14-inch plows 6 to 8 inches deep under ordinary conditions at a speed of 2½ miles per hour with plenty of reserve power.

Total length over all, 142 inches.

Total height over all, 60 inches.

Total width over all, 72 inches.

Wheel base, 90 inches.

Percentage of weight on driving members, 75%.

Height of drawbar, 17 inches, S. A. E. Standard.

Clearance at lowest point, 16 inches.

Inside turning radius, 6½ feet.

Net weight of Tractor, 5,000 pounds.

**WHEELS**—Diameter of drive wheels 54 inches, 10-inch face. Extension rims may be added as an extra, but are quite unnecessary as "Loxon" patent extension lugs are furnished as regular equipment.

Diameter of front wheels 34 inches, 5-inch face, with removable flange.

**ENGINE**—Climax, vertical type, four cylinders cast in pairs, 5-inch bore, 6½-inch stroke, developing maximum 40 H. P. at normal revolutions of 600 to 800 R. P. M. Weight, 950 pounds. Extra heavy crank shaft 2¼ inches in diameter, centrifugal governor, enclosed type. Engine oiling system is of the circulating force feed type assuring perfect oiling to all bearings. Capacity of oil reservoir, 2½ gallons.

**CYLINDER HEADS**—Easily removable. All main crank shaft and connecting bearings reached by side plates.

Built in governor, enclosed centrifugal type, Stromberg carburetor, Dixie high tension magneto with impulse starter and Bennet Air Cleaning Device, assuring perfect working of motor.

Spirex Honeycomb Radiator with high speed, 22-inch fan, 1600 R. P. M. extra large fan belt, giving 20% greater cooling capacity than any other type. Six gallon water capacity circulation by centrifugal pump.

A dry disc clutch completely enclosed in air-tight bell housing and having more plates and greater friction surface transmitting the same power.

**BELT PULLEY**—Diameter 14 inches, face 8½ inches, revolutions on pulley 600 R. P. M., gear drive. Belt pulley shaft driven directly from transmission gears assuring maximum pulley power.

**TRANSMISSION**—John B. Foote selective type. Live Axle Planetary Final Drive enclosed in dust-tight housing, leaving no working parts exposed. All gears made of drop forge steel machined, special heat-treated and case-hardened. Heavy duty Hyatt roller bearings throughout, 21.

**STEERING**—Worm gear, automobile type, easy to drive. Front Axle, extra heavy cast steel equipped with Hyatt roller bearings. Strong swivel suspension in centre with extra wide clearance between radiator and axle.

**FUEL TANKS**—18 gallons kerosene and 2 gallons gasolene.

**BOYCE MOTO METER**—Adjusted to radiator to assist the Tractor Operator in determining at all times the temperature of the engine.

**TRACTION LUGS**—"Loxon" patent cast malleable iron extension lugs are furnished as regular equipment. "Loxon" Lugs are quickly detachable, requiring only from five to ten minutes time in attaching on each Traction wheel. The "Loxon" Lug is indestructible and will outwear any other form of lug made. For speed in attaching or detaching, long life and satisfactory traction, they have no equal.

## A Great Tractor for Farmers—A Great Opportunity for Dealers!

The Illinois Super-Drive Tractor with the much needed roomy platform on the rear; its planetary driving principle, which relieves tooth strain on the driving pinion gears; its Live Axle with driving spider and the four sturdy V-shaped arms which deliver the power to the rims of the wheels and not to the hubs and spokes; its sixteen cushion springs on the driving spiders, which relieve back lash and shock to the gears and the operator when the machine is running over rough ground; its powerful slow speed kerosene burning motor, together with the fact that the driving

principle built into the Illinois Super-Drive Tractor, delivers 20% more power to the drawbar than any other driving principle now in Tractor use, are all superior features which you cannot overlook in making your decision for the kind of a Farm Tractor you will purchase this year.

Demonstration is the most convincing argument—the Illinois Super-Drive Tractor wins the heart of every farmer who sees it. It sells itself. Compare this tractor with all others and you will be convinced.

**Dealers:** Write to us for our liberal dealer proposition today—  
or better still, wire us—before your territory is closed.

**Illinois Tractor Co., Bloomington, Ill., U.S.A.**