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Nebraska Tractor Tests

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Larsen

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January 1920

## Test 024: International 15-30

Tractor Museum

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**AGRICULTURAL ENGINEERING DEPARTMENT  
UNIVERSITY FARM, LINCOLN**

Report of Official Tractor Test No. 24

Dates of test June 14, to June 19, 1920

Name, model and rating of tractor International 15-30

Serial No. Engine EC-3786 Serial No. Chassis EC-3786

Manufacturer International Harvester Co., Chicago, Ill.

Tractor equipment used KW Model T Magneto; Own Carb.

Style and dimensions of wheel lugs Angle extension 2 1/2 x 2 1/2

**Brake Horse Power Tests**

Horse Power Developed	Crank Shaft Speed R. P. M.	Length of Test Min.	Fuel Consumption			Water Consumption Gallons per Hour			Temperature *Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Humidity %	Barometric Pressure Inches Mercury
			Kind of Fuel	Amount Used per Hour Gallons	Horse Power Hours per Gallon	In Radiator	In Fuel Mixture	Total				
RATED LOAD TEST												
30.73	580	120	Kero	4.47	6.88	x	x	4.50	212	73	65	28.7
			Belt Slippage	1.70%								
VARYING LOAD TEST												
30.70	579	10	Kero									
30.80	564	10	"									
1.35	641	10	"									
3.47	636	10	"									
16.83	622.5	10	"									
23.23	579	10	"									
19.24	606	60	Kero	3.45	5.57	x	x	5.00	206	75	55	28.7
MAXIMUM LOAD TEST												
36.96	577	60	Kero	7.29	5.07	x	x	5.00	212	76	44	28.7
			Belt Slippage	1.53%								
HALF LOAD TEST												
17.10	632	60	Kero	3.11	5.50	x	x	2.00	207	75	54	28.7
			Belt Slippage	0.75%								

\*Taken in discharge line from engine.

Remarks Kerosene used for fuel in all tests on this tractor weighed 6.77 lbs per gallon

x Water in fuel and radiator could not be measured separately. A small additional amount of water (not more than 1 pint per hour) was used in the air washer and was not measured.

In the varying load test it was necessary to close water feed to fuel mixture for 0 and 1/4 load and to open a little again for 1/2 and 3/4 loads.

Aver.

Drawbar Horse Power Tests

Horse Power Developed	Draw Bar Pull Pounds	Speed Miles per Hour	Crank Shaft Speed R. P. M.	** Slippage of Drive Wheels %	Fuel Consumption			Water Used per Hour Gallons	*Temperature of Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Average Humidity %	Barometric Pressure Inches Mercury
					Ind of Fuel Used	Amount Used per Hour Gallons	Horse Power Hours per Gallon					
RATED LOAD TEST. TEN HOURS												
15.32	2405	2.47	594	9.3	Kero	5.13	3.08	1.715	208	70	46	28.8
MAXIMUM LOAD TEST (1st 164.5 ft; 2nd 144.0 ft.)												
25.91	4210	2.31	5.62	11.5	Kero	----Not	Recorded	-----	212	65	60	28.8
21.99	4990	1.65	592	22.5	"	"	"	"	212	64	60	28.8

\*Taken in discharge line from engine.

Remarks \*\* For computing slippage, circumference of drive wheels was taken at points lugs.

The 10-hour test and the first maximum test were run with the tractor in high gear and the second maximum test with the tractor in low gear.

Oil Consumption:

During the complete test consisting of about 31 hours running the following oil was used:

For the engine, 5½ gallons of Stanlind Tractor Oil

For the transmission, none added. gallons of \_\_\_\_\_

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Repairs and Adjustments. Endurance:

Clutch was adjusted once.

At the end of the test the tractor was apparently in good condition. There was no indication of undue wear in any part nor of any weakness which might require early repairs.

Brief Specifications International 15-30 H.P. Tractor.

Engine: Four cylinder, horizontal, valve-in-head. Bore  $5\frac{1}{4}$ " stroke 8", rated speed 575 r.p.m.

Chassis: Four wheel. Rated speeds: low gear 1.85 mi. per hr.; high gear 2.48 mi. per hr.

Total weight 8990 lbs.

General Remarks:

In the advertising literature submitted with the application for test of this tractor we find some statements and claims which cannot be directly compared with the results of this test as reported above. It is our opinion that none of these statements or claims are unreasonable or excessive except the following:

"The facts are that---- the International 15-30 will pull as many plows as any other tractor of equal rating". (We do not approve this statement for the reason that authentic information is not available at the present time on the capacity of some of the tractors included in this comparison.)

"The engine---- is of the valve-in-head construction which is best for farm work". (We do not approve this statement for the reason that proof is lacking.)

"Kerosene mixer cuts fuel bills in two".

"The air intake is above the dust zone. This insures clean air at all times."

"Throttle governor maintains uniform speed". (The speed regulation under test was good; but not absolutely uniform.)

This form of drive (chains and sprockets) has proven thru repeated experiments to be most satisfactory." (We do not approve this statement for the reason that proof is lacking.)

We, the undersigned, certify that above is a true and correct report of official tractor test No. 24.

Claude K. Shedd  
Engineer-in-Charge

Oscar W. Joque  
E. E. Brackett  
Giles W. Hancey  
Board of Tractor Test Engineers.