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January 1920

Test 025: International 8-16

Nebraska Tractor Test Lab

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AGRICULTURAL ENGINEERING DEPARTMENT

UNIVERSITY FARM, LINCOLN

Report of Official Tractor Test No. 25

Dates of test June 16 to June 21, 1920.

Name, model and rating of tractor International 8-16

Serial No. Engine IC 503 Serial No. Chassis _____

Manufacturer International Harvester Co., Chicago, Ill.

Tractor equipment used Ensign Carburetor, Dixie Model 46 Magneto

Style and dimensions of wheel lugs Angle 2 1/4" x 1 1/2" x 17-7/16"

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												
16.00	1007	120	Kero	2.19	7.32	3.00	0.00	3.00	211	77	43	29.4
	Belt	slippage 1.16%										
VARYING LOAD TEST												
16.13	1010	10	Kero									
16.20	1002	10	"									
0.80	1083	10	"									
4.30	1070	10	"									
8.47	1056	10	"									
12.40	1049	10	"									
9.93	1046	60	Kero	1.74	5.74	2.00	0.00	2.00	210	77	43	29.4
MAXIMUM LOAD TEST												
16.52	1007	60	Kero	3.24	5.71	1.00	0.00	1.00	210	77	43	29.4
	Belt	Slippage 1.16%										
HALF LOAD TEST												
6.47	1060	60	Kero	1.61	5.27	1.00	0.00	1.00	211	77	43	29.4
	Belt	Slippage 0.92%										

*Taken in discharge line from engine.

Remarks Kerosene used in these brake tests weighed 6.77 lbs per gallon.

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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
					Kind of Fuel Used	Amount Used per Hour Gallons	Horse Power Hours per Gallon					
RATED LOAD TEST. TEN HOURS												
8.08	1120	2.71	1026	16.5	Kero	2.53	3.19	0.26	209	72	47	28.6
MAXIMUM LOAD TEST (1st 163.2ft.; 2nd 182.3 ft.)												
10.6 ^h	1532	2.60	1002	17.8	Kero	---Not Recorded---			210	71	36	28.6
11.00	2586	1.59	1001	18.2	"	"	"		210	71	36	28.6

*Taken in discharge line from engine.

Remarks **For computing slippage, the circumference of the drive wheels was taken at points of lugs
 Kerosene used in the 10-hour drawbar test weighed 6.77 lbs per gallon.
 The 10-hour test and the first maximum test were made with the tractor in intermediate gear. The second maximum test was made with the tractor in low gear.

Oil Consumption:

During the complete test consisting of about 32 hours running the following oil was used:
 For the engine, 43 gallons of Standard Tractor Oil
 For the transmission, 11 gallons of Polarizing heavy.

Report of Official Tractor Test No. 25.

Repairs and Adjustments. Endurance:

Governor spring was broken while adjusting the governor. New hook was bent on the same spring and this spring used during the test.

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 8-16 H.P. Tractor.

Engine: Four cylinder, vertical, valve-in-head. Bore $4\frac{1}{4}$ ", stroke 5", rated speed 1000 r.p.m.

Chassis: Four wheel. Rated speeds: Low gear 1.812 mi. per Hr.; intermediate gear 2.813 mi. per hr.; high gear 4.1 mi. per Hr.

Total weight: 3660 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 fly-ball throttle governor ----- keeps the speed of the engine uniform." (The speed regulation was good in this test; but the speed was not absolutely uniform)."

"The valve-in-head engine is most practical for farm power purposes." (This statement is not approved for the reason that proof is lacking.)

We, the undersigned, certify that above is a true and correct report of official tractor test No. 25.

Claude K. Shedd
Engineer-in-Charge

Oscar W. Sjogren
E. E. Brachett
John W. Haney
Board of Tractor Test Engineers.