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January 1922

Test 087: International 15-30 Gear Drive

Tractor Museum

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UNIVERSITY OF NEBRASKA AGRICULTURAL ENGINEERING DEPARTMENT

AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 87.

Dates of test: August 9th to 14th, 1922.

Name, model and rating of tractor: International 15-30 Gear Drive.

Serial No. Engine: 1966 Serial No. Chassis: T. G. 591

Manufacturer: International Harvester Co., Chicago, Illinois.

Tractor equipment used: Dixie 46 C Aero Magneto, Ensign 1 1/2" J.T.W. Carburetor.

Style and dimensions of wheel lugs; Angle 3" x 3" high x 20".

BRAKE HORSE POWER TESTS

		Fuel Consump.		Water Consump.			Temp.								
		Gals. Per Hour		Gals. Per Hour			Deg. F.								
H. P.	Dev.	Crank	Time	Kind	Gals.	H. P.	Cool-	In	Total	Cool-	Air	Humidity	Height of	Barometer	Inches
:Shaft	:Speed	:of	:Test	:of	:@	:Hrs.	:ing	:Fuel	:	:ing	:	%	:	:	:
:R.P.M.	:Min.	:Fuel	:Hour	:Gal.	:	:	:	:	:	:Fluid	:	:	:	:	:

RATED LOAD TEST

30.18	:1011	: 120:	Kero:	2.96	: 10.19:	.95	: .71	: 1.66	: 211	: 8.84:	49.5:	28.72
Belt Slippage 1.13%												

**VARYING LOAD TEST

30.04	:1007	: 10:	Kero:	2.99	: 10.04:		: Belt	:	:211.0	:90.0:	:	:
29.88	: 974	: 10:	"	: 2.91	: 10.26:		: Slip-	: 1.02%	:213.0	:90.5:	:	:
1.35	:1039	: 10:	"	: 1.01	: 1.34:		: page	:	:206.5	:91.0:	:	:
7.65	:1019	: 10:	"	: 1.33	: 5.75:		:	:	:206.5	:91.0:	:	:
15.26	:1020	: 10:	"	: 1.79	: 8.52:		:	:	:207.5	:91.0:	:	:
22.75	:1016	: 10:	"	: 2.33	: 9.76:		:	:	:208.0	:92.0:	:	:
Aver. 17.82	:1013	:	:	: 2.06	: 8.65:	0.41	: 0.51	: 0.92	:209.0	:90.9:	49.5:	28.72

MAXIMUM LOAD TEST

32.86	:1018	: 60:	Kero:	3.37	: 9.78:	0.72	: 2.53	: 3.25	:209	: 95.1:	49.5:	28.72
Belt Slippage 1.87%												

HALF LOAD TEST

15.24	:1018	: 60:	Kero:	1.72	: 8.86:	0.98	: 0.244	: 1.22	:208	: 94	: 49.5:	28.72
Belt Slippage 0.90%												

*Taken in discharge line from engine.

Remarks: The kerosene used as fuel in this test weighed 6.75 pounds per gallon.

**The last line is an average for the hour.

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Drawbar Horse Power Tests

H. P. Dev.	:Draw :Bar :Pull :lbs.	:Speed :Miles :per :Hour	:Crank :Shaft :Speed :R.P.M.	:Slip : on : Drive : Wheels : %***	:Fuel Consumption : Amt. : Kind : Per : Hour	:Temp. Deg. F. : * : Cooling : Fluid :	:Water : Per : Hour	:Gals. : Gal. : Gals. :	:Air : Humidity : %	:Average : of : Barometer : Inches	:Height :
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Rated Load Test, Ten Hours

15.35	: 2107	: 2.74	: 1011	: 17.24	: Kero. : 2.466	: 6.22	: 1.36	: 209	: 93	: 64	: 28.75
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Maximum Load Test

19.87	: 2790	: 2.67	: 982	: 17.24	: Kero. : Not Recorded	: 210	: 86	: 42	: 28.80
15.88	: 1460	: 4.08	: 1001	: 17.76	: - - - - -	: 210	: 86	: 42	: 28.80
20.05	: 3700	: 2.03	: 976	: 18.18	: - - - - -	: 210	: 86	: 42	: 28.80

*Taken in discharge line from engine.

Remarks: The first maximum and rated load tests were run in second gear. The second maximum was run in high gear. The third maximum was made in low gear.
 ***Note. Two figures are given denoting slippage in each test, the first shows slippage at the rim of the wheel, and the second shows slippage at the points of the lugs.

Oil Consumption: During the complete test consisting of about 31 hours running the following oil was used: For the engine, 3 1/2 gallons of Mobiloil A, 2 Gals. to fill crank case and 1 1/2 added during test. For the transmission, none gallons of 600 W.

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REPAIRS AND ADJUSTMENTS.

During this test there were no adjustments or repairs necessary.

At the end of the test the tractor was in good working condition and there were no indications of undue wear.

BRIEF SPECIFICATIONS.

International 15-30. Gear Drive.

Motor: Own, 4 cylinder vertical valve in head. Ball bearing crankshaft. Bore 4.5" stroke 6". Rated speed 1000 r.p.m.

Chassis: 4 wheel. Own disc clutch, three speeds forward, low 2.3 miles per hour, second 2.93 miles per hour, high 4.46 miles per hour. 1 speed reverse.

Total Weight: 6000 pounds.

General Remarks.

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

We, the undersigned, certify that above is a true and correct report of official tractor test No. 87

E. E. Brackett.
Engineer-in-Charge

Oscar W. Sjogren.

J. D. Parsons.

Fred R. Nohavec.
Board of Tractor Test Engineers.