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January 1920

Test 026: Hart-Parr 30

Nebraska Tractor Test Lab

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UNIVERSITY OF NEBRASKA
AGRICULTURAL ENGINEERING DEPARTMENT
UNIVERSITY FARM, LINCOLN

Report of Official Tractor Test No. 26

Dates of test June 17 to June 22, 1920
 Name, model and rating of tractor Hart-Parr 30
 Serial No. Engine 16563 Serial No. Chassis _____
 Manufacturer Hart-Parr Co., Charles City, Iowa.
 Tractor equipment used Schebler Model D Carburetor; Dixie Model 246 Magneto.
 Style and dimensions of wheel lugs Angle 2½" x 2½" x 23".

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 of 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												
30.22	755	120	Kero	3.76	8.04	x	x	2.50	183	75	60	28.8
Belt Slippage 1.23%												
VARYING LOAD TEST												
30.01	755	10	Kero									
30.53	747	10	"									
1.32	11.5	10	"									
8.10	793	10	"									
15.59	82.5	10	"									
22.92	761.5	10	"									
18.42	775	60	Kero	2.77	4.89	x	x	2.00	157	72	47	28.6
MAXIMUM LOAD TEST												
31.37	756	60	Kero	4.74	6.62	x	x	3.00	168	76	36	28.6
Belt Slippage 1.52%												
HALF LOAD TEST												
15.98	793	60	Kero	2.145	7.45			0.00	173	75	47	28.6
Belt Slippage 0.52%												

*Taken in discharge line from engine.

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

x Water for radiator and fuel mixture could not be measured separately.

In the varying load test it was necessary to shut off water feed to fuel mixture for 0, ¼, ½ and ¾ loads.

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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
					Ind of Fuel Used	Amount Used per Hour Gallons	Horse Power Hours per Gallon					
RATED LOAD TEST. TEN HOURS												
15.37	2073	2.78	752	11.1	Kero.	3.24	4.74	1.53	173	71	46	28.7
MAXIMUM LOAD TEST (1st 123.2 ft; 2nd 105.8 ft.)												
19.65	2788	2.64	720	17.8	Kero	-----Not Recorded-----			166	71	51	28.7
15.56	3494	1.67	753	29.4	"	"	"		180	74	51	28.7

*Taken in discharge line from engine.

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

The kerosene used in these drawbar tests weighed 6.75 lbs per gallon.

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

Oil Consumption:

During the complete test consisting of about 30 hours running the following oil was used:

For the engine, 2 gallons of Veedol Extra Heavy, 1 1/4 gal. Mobiloil "BB", 2 1/2 gal. Mobiloil "B".

For the transmission, none added. gallons of

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Repairs and Adjustments. Endurance:

Valve push rods were adjusted after 12 hours run.
Water line from cylinder jacket was clogged after about 15 hours run and obstruction had to be removed.
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 Hart-Parr 30 H.P. Tractor.

Engine: Twin cylinder, cranks opposed, horizontal, valve-in-head. Bore 6½", stroke 7", rated speed 750 r.p.m.
Chassis: Four wheel. Rated speeds: low gear 1.98 mi. per Hr., high gear 2.88 mi. per Hr.
Total weight 5450 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.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 26

Claude K. Shedd
Engineer-in-Charge

Oscar W. Sjogren
E. E. Brackett
J. L. W. Harney
Board of Tractor Test Engineers.