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January 1921

Test 070: Minneapolis 17-30

Nebraska Tractor Test Lab

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UNIVERSITY OF NEBRASKA AGRICULTURAL ENGINEERING DEPARTMENT
UNIVERSITY FARM, LINCOLN

Copy of Report of Official Tractor Test No. 70.

Dates of test: March 28 to April 2, 1921.

Name, model and rating of tractor: Minneapolis 17-30

Serial No. Engine: 3745 Serial No. Chassis: 2038

Manufacturer: Minneapolis Threshing Machine Co., Hopkins, Minn

Tractor equipment used: Dixie H. T. 46 Magneto, Kingston Carb. No. 71797

Style and Dimensions of wheel lugs: Angle 3" high x 2 x 3 x 3/8.

BRAKE HORSE POWER TESTS

H.P. Dev.	Crank Shaft Speed R.P.M	Time of Test Min.	Fuel Consumption			Water Consump. Gals. Per Hr.			Temp Deg F.		Humidity	Height of Barometer
			Kind of Fuel	Gals @ Hour	H.P. @ Gal.	Cooling	In Fuel	Total	Cooling Fluid	Air		

RATED LOAD TEST

30.07	775	120	Kero	3.456	8.70	2.00	***	2.00	208	75	56.3	28.68
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Belt slippage 1.84%

**VARYING LOAD TEST

30.22	779	10	Kero									
30.32	776	10	"									
0.49	861	10	"									
8.34	853	10	"									
16.10	826	10	"									
23.57	809	10	"									
18.67	817	60	"	3.353	5.54	1.19	***	1.19	164	66	56.3	28.92

MAXIMUM LOAD TEST

31.95	782	60	Kero	3.909	8.18	3.96	***	3.96	210	80	59.3	28.68
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Belt slippage 1.79%

HALF LOAD TEST

16.14	828	60	Kero	2.553	6.32	0.56	***	0.56	161	59	56.3	28.92
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Belt slippage 1.40%

*Taken in discharge line from engine.

Remarks: The fuel used in these tests weighed 6.80 pounds per gallon.

*** The water used with fuel could not be measured separately.

** The last line of the variable load test is the average for the hour.

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Drawbar Horse Power Tests

HP Dev.	Draw Bar Pull Lbs	Speed Miles Per Hour	Crank Shaft Speed R.P.M.	Slip on Drive Wheels %	Fuel Consumption			Water Used Per Hour Gal.	Temp. Deg F.		Ave Humid- ity	Height of Barom- eter
					Kind Used	Amt Per Hour Gals	H.P. Hrs. Per Gal.		Cool- ing Fluid	Air		

Rated Load Test, Ten hours.

16.88	3065	2.06	790	11.9	Kero	3.464	4.87	0.50	179	64	30.7	28.57
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Maximum Load Test

19.69	3921	1.88	770	12.4	Kero	--Not	Recorded---	210	79	30.7	28.57
19.14	3000	2.39	772	9.3	Kero	"	" "	210	79	30.7	28.57

*Taken in discharge line from engine.

Remarks: The first maximum was run in low gear; the second was run in high gear. For computing slippage the circumference of the drivers was taken at the points of the lugs.
The rated load test was run in low gear.

Note: The horse power on rated load test is slightly below rating, this due to the operator not applying enough load

Oil Consumption: During the complete test consisting of about 35 hours running the following oil was used:
For the engine - 8 1/2 gallons of Mobiloil A
For the transmission - None.

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General Remarks:

Repairs and Adjustments - Endurance.

Just before the official tests were begun the fan belt was shortened, and clutch and valve rods were adjusted.

The tractor does not guide readily when under load due to light weight on front wheels.

At the end of this test the tractor was in good condition and there were no indications of undue wear in any part nor of any weakness which might require early repair.

It is our opinion that the adjustments necessary during this test are of only minor importance.

Brief Specifications:

Motor: Own, 4 cylinder, vertical, valve-in-head, removable cylinder sleeves; Bore, 4 3/4"; Stroke, 7"; rated speed, 750 r.p.m.

Chassis: 4 wheel twin disc clutch. Rated speeds low, 2.06 mi. per hr.; high, 2.70 mi. per hr.

Total weight, 6000#.

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. 70.

Fred R. Nohavec
Engineer-in-Charge

O. W. Sjogren

E. E. Brackett

C. W. Smith
Board of Tractor Test Engineers.