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January 1921

Test 073: Wetmore 12-25

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. 73

Dates of test: April 6 to 12.
 Name, model and rating of tractor: Wetmore 12-25
 Serial No. Engine: MAU 99 Serial No. Chassis: 400
 Manufacturer: H. A. Wetmore, Sioux City, Iowa.
 Tractor equipment used: Splitdorf (825175) Mag.-Schebler ATX 47 Carburetor
 Style and dimensions of wheel lugs: Angle $2\frac{1}{4}$ x 16"

BRAKE HORSE POWER TESTS

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

RATED LOAD TEST

25.27	:1253 :	120:Kero:	3.65:6.95 :	X	:	X	:	X	:	195	:	72:	72	:	28.79
Belt slippage 2.14%															

***VARYING LOAD TEST

25.35	:1258 :	10:Kero:	:	:	:	:	:	:	:	:	:	:	:	:	:
25.57	:1259 :	" :	:	:	:	:	:	:	:	:	:	:	:	:	:
1.13	:1280 :	" :	:	:	:	:	:	:	:	:	:	:	:	:	:
6.34	:1246 :	" :	:	:	:	:	:	:	:	:	:	:	:	:	:
12.75	:1263 :	" :	:	:	:	:	:	:	:	:	:	:	:	:	:
19.04	:1261 :	" :	:	:	:	:	:	:	:	:	:	:	:	:	:
15.08	:1261 :	60:Kero:	2.34:6.50 :	X	:	X	:	X	:	170	:	75:	62	:	29.15

MAXIMUM LOAD TEST

27.94	:1264	:	60:Kero:	3.46:8.08	:	0.64:	X	:	0.64	:	206	:	70:	62	:	29.15
Belt slippage 2.16% :																

HALF LOAD TEST

12.67	:1252 :	60:Kero:	2.15:5.92 :	X	:	X	:	X	:	157	:	71:	62	:	29.15
Belt slippage 1.75%															

* Taken in discharge line from engine.

Remarks: The kerosene used in this test weighed 6.80 pounds per gallon.

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

*** The speed had to be controlled by hand throttle on no load, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ loads.

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Drawbar Horse Power Tests

H. P. Dev.	Draw	Speed	Crank	Slip	Fuel Consumption		Temp. Deg. F.		Water		Height	
	Bar	Miles	Shaft	on	Amt.	H.P.	Used	*	Average	of	Humidity	Barometer
	Pull	Per	Speed	Drive	Kind	Per	Hrs.	Per	Cooling	Air		
	Lbs.	Hour	M.Wheels	Used	Hour	Per	Hour	Fluid				
				**	Gals.	Gal.	Gals.					

Rated Load Test, Ten Hours

13.28	:1477	:3.37	:1235	: 16.7 ^{5.6} 2.85 ^{7.1} 1.1 ^{1.1} Kero	:2.88	:4.61	:0.04	:176	:62	:39	:29.05
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Maximum Load Test

16.10	:2260	:2.67	:1162	: 34.00 ^{2.54} 18.0 ^{2.54} Kero	--Not Recorded--	:150	:60	:49	:28.55
11.36	:2525	:1.69	:1325	: 47.1 ^{2.54} 32.0 "	"	:150	:60	:49	:28.55

* Taken in discharge line from engine.

Remarks: The first maximum and the rated load tests were run in intermediate gear. The second maximum was run in low gear.

**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 32 hours running the following oil was used: For the engine, 5 gallons of Mobiloil A and BB; For the transmission, none.

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Report of Official Tractor Test No. 73

General Remarks:

There were no adjustments or repairs necessary during this test.

At the end of the test the tractor was in good working condition and there were no indications of undue wear in any part which might need early repair.

When the engine was put under heavy load just prior to the beginning of the official belt test the engine stopped due to a light oil being used. This oil was drained off and a heavier oil added and no further difficulty of this kind was experienced.

Brief Specifications Wetmore 12 - 25

Motor: Weidely, 4 cylinder, valve-in-head, vertical, bore 4"; stroke $5\frac{1}{2}$ "; rated speed 1265.

Chassis: 4 wheel, torbensen axle, Fuller transmission, disc clutch, three speeds - Low 2 mi. per hr. Intermediate $3\frac{1}{2}$ mi. per hr. High 5.9 mi. per hr.

Total weight, 3000 $\frac{1}{2}$

Remarks:

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

Page 2, paragraph 2. The Wetmore 12 - 25

The combined---etc.---has produced in the Wetmore a tractor mechanically perfect, etc.

Page 2, last line

The Wetmore has plenty of power to handle its load under the worst plowing conditions.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 73.

Fred R. Mohavec
Engineer-In-Charge

O. W. Sjogren

E. E. Brackett

C. W. Smith

Board of Tractor Test Engineers