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January 1924

Test 107: Hart-Parr 12-24

Nebraska Tractor Test Lab

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AGRICULTURAL COLLEGE, LINCOLN

Style and dimensions of wheel lugs: Spade, 3-1/2" high, 4" wide

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

24.24 :: 804 : 120 : Kero : 2.567 : 9.44 : 1.499 : ** : 1.499: 192 : 81 : 44 : 28.93
Belt Slippage 1.61%

24.14	:	803.0	:	10	:	Kero	:		:		:		:		:		:		:
24.12	:	797.0	:	10	:	"	:		:		:		:		:		:		:
0.99	:	836.0	:	10	:	"	:		:		:		:		:		:		:
6.28	:	828.5	:	10	:	"	:		:	Average Belt Slippage 1.34%	:		:		:		:		:
12.41	:	823.5	:	10	:	"	:		:		:		:		:		:		:
18.35	:	811.5	:	10	:	"	:		:		:		:		:		:		:
14.55	:	817.0	:	60	:	Kero	:	1.829	:	7.96	:	0.770	:	**	:	0.770:	185	:	85 : 38 : 26.93

26.97 : 799.0 : 60 : Kero : 3.142 : 8.53 : 2.254 : ** : 2.254 : 179 : 76 : 70 : 28.90
Belt Slippage 1.56%

12.86 : 853.0 : 60 : Kero : 1.717 : 7.49 : 0.103 : ** : 0.103 : 180 : 89 : 64 : 28.86
Belt Slippage 1.25%

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

REMARKS: The kerosene used as fuel in this test weighed 6.78 pounds per gallon.

Copy of Report of Official Tractor Test No. 107.

DRAWBAR HORSE POWER TESTS

H. P.	Draw	Speed	Crank	Slip	FUEL CONSUMPTION	Water	Temp. Deg. F.							
Dev.	Bar	Miles	Shaft	On	Kind	Amt.	H.P.	Used	Cooling	Air	Average	Height of	Barometer	
	Pull	Per	Speed	Drive	Used	Per	Hr.	Per	Fluid		Humidity	Inches		
	Pounds	Hour	R.P.M.	Wheels		Hour	Per	Hour	*					
				% ***		Gal.	Gal.	Gal.						

RATED LOAD TEST. TEN HOURS

**	:	:	:	-5.85	:	:	:	:	:	:	:	:	:	:								
11.57	:	1326	:	3.27	:	778	:	8.07	::Kero	:	2,445	:	4.73:	0.782	:	171	:	54	:	41	:	29.14

MAXIMUM LOAD TEST

	:	:	:	5.95	:	:	:	:	:	:	:	:	:	:						
16.99	:	3054	:	2.09	:	801	:	18.30	:	Kero	:	--NOT RECORDED--	:	182	:	54	:	38.0	:	29.22
	:	:	:	1.01	:	:	:	:	:	:	:	:	:	:						
17.54	:	2060	:	3.16	:	805	:	14.03	:	Kero	:	--NOT RECORDED--	:	180	:	56	:	38.0	:	29.22

* Taken in discharge line from engine.

** Horsepower is below rating due to operator not applying enough load. Tractor would have pulled rating easily.

*** The first figure denotes slippage at the rim of the wheel. The second figure denotes slippage at the points of the lugs.

REMARKS: The rated load and second maximum tests were run in high gear. The first maximum was run in low gear.

OIL CONSUMPTION:

During the complete test consisting of about 32 hours running the following oil was used:

For the engine, 4-1/2 gallons of Mobiloil "B" of which 1/4 gallon was put into crank case and 4-1/4 gallon in lubricator.

For the transmission, none.

Cover of Report of Official Tractor Test No. 107.

REPAIRS AND ADJUSTMENTS

During the rated drawbar load one spark plug was cleaned (points had burned together).

No other repairs or adjustments were necessary.

At the close of the test the tractor was in good operating condition and there were no indications of undue wear in any part which might require early repair.

BRIEF SPECIFICATIONS

Hart-Parr 12 - 24

Motor: Own, 2 cylinder, valve-in-head, horizontal, mounted crankshaft crosswise. Bore 5-1/2", stroke 6-1/2". Rated speed, 800 r.p.m. Madison-Kipp Lubricator. Own make fly-ball type governor. United (whirling vane type) dry air cleaner.

Chassis: Four wheels, two drivers, enclosed gear drive. Dry disc clutch. Two speeds: (as advertised) low, 2-1/4 miles per hour; high, 3-1/2 miles per hour.

Total weight as tested - 4,675 lbs.

REMARKS

In the advertising literature submitted with the application 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. 107.

E. E. Brackett
Engineer-in-Charge

Oscar W. Sjogren

C. W. Smith

Fred R. Nohavec
Board of Tractor Test Engineers