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Larsen

January 1924

Test 109: Case 18-32

Nebraska Tractor Test Lab

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UNIVERSITY OF NEBRASKA AGRICULTURAL ENGINEERING DEPARTMENT
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 109

Dates of test: October 27 to November 4, 1924
 Name, model and rating of tractor: Case 18 - 32
 Serial No. Engine: 51321 Serial No. Chassis: 51320
 Manufacturer: J. I. Case Threshing Machine Company, Racine, Wisconsin
 Tractor Equipment used: Kingston L Carburetor (with water bowl) Bosch AT4, IVC3 magneto.
 Style and dimensions of wheel lugs: Spade, 2-3/4 inches high

BRAKE HORSE POWER TESTS

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

RATED LOAD TEST

32.08	: 1000	: 120	: Kero:	3.080	: 10.417	: 0.681	: **	: 0.681	: 192	: 78:	23	: 28.94
Belt Slippage 2.02%												

***VARYING LOAD TEST

32.44	: 1013.0:	10	: Kero:		:	:	:	:	:	:	:	:
32.05	: 989.5:	10	: "	:	:	:	:	:	:	:	:	:
1.69	: 1064.5:	10	: "	:	:	:	:	:	:	:	:	:
8.27	: 1028.5:	10	: "	:	Average Belt Slippage 1.81%			:	:	:	:	:
17.04	: 1060.5:	10	: "	:	:	:	:	:	:	:	:	:
25.12	: 1044.0:	10	: "	:	:	:	:	:	:	:	:	:
19.69	: 1033.0:	60	: "	2.348	: 8.39	: 0.408:	**	: 0.408:	175	: 79:	23	: 28.94

MAXIMUM LOAD TEST

36.73	: 1002.0:	60	: Kero:	3.982	: 9.23	: 1.200	: **	: 1.200:	182	: 69:	26	: 28.92
Belt Slippage 1.87%												

HALF LOAD TEST

16.75	: 1041.0:	60	: Kero:	2.124	: 7.89	: 0.00	: 0.00:	0.00:	151	: 78:	17	: 28.35
Belt Slippage 1.66%												

- *Taken in discharge line from engine.
- **The water used with the fuel was taken from the cooling system and was not measured separately.
- ***The last line is an average for the hour.

REMARKS: The kerosene used as fuel in this test weighed 6.76 pounds per gallon.

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DRAWEAR 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
	Pull	Per	Speed	Drive	Used	Per	Hr.	Per	Fluid		Humidity	Barometer
	Pounds	Hour	R.P.M.	Wheels		Hour	Per	Hour			%	In Inches
				% **		Gal.	Gal.	Gal.				

RATED LOAD TEST. TEN HOURS

19.21	2117	3.40	1013	-1.24	8.45	Kero	3.460	5.55	0.327	173	54	40	28.67
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MAXIMUM LOAD TEST

24.01	3882	2.32	1028	8.24	17.01	Kero	-- NOT RECORDED --		180	66	51	28.75
24.52	2883	3.19	1002	2.61	11.91	"	"	"	162	66	51	28.75

* Taken in discharge line from engine.

** 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 test and the second maximum test were run in second gear. The first maximum test was run in low gear.

OIL CONSUMPTION:

During the complete test consisting of about 36 hours running the following oil was used:

For the engine, 4 gallons of Mobiloil "B" to fill crankcase. None was added.

For the transmission, no gallons of 600 W.

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REPAIRS AND ADJUSTMENTS

During the maximum drawbar test the clutch was adjusted once.

No other repairs or adjustments were necessary during this test.

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

BRIEF SPECIFICATIONS

Case 18 - 32

Motor: Own, 4 cylinder, vertical, valve-in-head. Mounted crankshaft crosswise. Bore - 4-1/2", stroke 6". Rated speed, 1000 r.p.m. Own make fly-ball type governor. Donaldson "Simplex" (oiled fibre type) air cleaner.

Chassis: 4 wheel, 2 drivers. Enclosed gears, dry disc clutch. Two speeds: low, 2.46 miles per hour; high, 3.28 miles per hour.

Total weight as tested (with operator) 6680 pounds.

REMARKS

In the advertising literature submitted with the application for the 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.

E. E. Brackett
Engineer-in-Charge

Oscar W. Sjogren

C. W. Smith

Fred R. McHavoc

Board of Tractor Test Engineers