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Larsen

January 1924

Test 110: Case 25-45

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. 110

Dates of test: October 28 to November 9, 1924
 Name, model and rating of tractor: Case 25 - 45
 Serial No. Engine: 51577 Serial No. Chassis: 51577
 Manufacturer: J. I. Case Threshing Machine Company, Racine, Wisconsin
 Tractor equipment used: Kingston L carburetor. Bosch ZR4 magneto.
 Style and dimensions of wheel lugs: Spade 2-3/4" high.

BRAKE HORSE POWER TESTS

H. P.	Crank	Time	Fuel Consumption	Water Consumption	Temp.							
Dev.	Shaft	of	Kind	Gals. Per hour	Deg. F.							
Speed	Test	of	per	ing	ing	Air	average	Humidity	Height of	Barometer	Inches	
R.P.M.	Min.	fuel	Hour	Gal.		*						

RATED LOAD TEST

45.18	: 854.0	: 120	: Kero.:	5.135	: 8.80	: 0.00	: 1.17	: 1.17	: 183	: 73	: 58	: 28.18
Belt Slippage 2.09%												

**VARYING LOAD TEST

45.24	: 854.5	: 10	: Kero.:		:	:	:	:	:	:	:	:
45.05	: 849.0	: 10	: "	:	:	:	:	:	:	:	:	:
1.42	: 872.5	: 10	: "	:	:	:	:	:	:	:	:	:
12.09	: 908.5	: 10	: "	:	:	:	Average Belt Slippage 1.88%		:	:	:	:
24.73	: 895.0	: 10	: "	:	:	:	:	:	:	:	:	:
34.59	: 871.0	: 10	: "	:	:	:	:	:	:	:	:	:
27.34	: 875.0	: 60	: Kero.:	4.039	: 6.77	: 0.00	: 0.552	: 0.552	: 178	: 75	: 58	: 28.18

MAXIMUM LOAD TEST

52.59	: 852.0	: 60	: Kero.:	5.754	: 9.14	: 0.00	: 2.566	: 2.566	: 180	: 64	: 42	: 28.20
Belt Slippage 2.23%												

HALF LOAD TEST

23.10	: 871.0	: 60	: Kero.:	2.929	: 7.89	: 0.00	: 0.00	: 0.00	: 189	: 74	: 50	: 28.18
Belt Slippage 1.86%												

- *Taken in discharge line from engine
- **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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DRAWBAR HORSE POWER TESTS

H. P.	Draw	Speed	Crank	Slip	Fuel Consumption	Water	Temp. Deg. F.	Average	Height of
Dev.	Bar	Miles	Shaft	on	Kind	Used	Used	Humidity	Barometer
	Pull	Per	Speed	Drive	Used	Per	Per	Fluid	Air
	Pounds	Hour	R;P.M.	Wheels	Per	Hour	Hour	*	%
				**	Gals.	Gal.	Gals.		In Inches

RATED LOAD TEST. TEN HOURS

26.09	2966	3.296	856	-2.49	6.69	Kero.	4.5314	5.76	0.538	193	37	72	28.96
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MAXIMUM LOAD TEST

34.65	3969	3.275	856	-2.56	6.61	Kero.	- NOT RECORDED -			180	40	65	28.41
32.96	5750	2.145	851	1.43	10.55	Kero.	- NOT RECORDED -			194	40	65	28.41

*Taken in discharge line from engine.

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

REMARKS: The rated load test and the first maximum test were run in second gear. The second maximum test was run in first gear.

OIL CONSUMPTION:

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

For the engine, 9-1/2 gallons of Mobiloil "B". 5 gallons to fill crankcase and 4-1/2 gallons were put in lubricator.

For the transmission, none gallons of 600 ".

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REPAIRS AND ADJUSTMENTS

During the rated drawbar test the right cylinder head gasket burned out and both gaskets were then replaced.

No other repairs or adjustments were necessary.

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

BRIEF SPECIFICATIONS

Case 25 - 45

Motor: Own, 4 cylinder, vertical, valve-in-head, mounted crankshaft crosswise. Bore - 5-1/2", stroke - 6-3/4". Rated speed 850 r.p.m.

Governor: own, fly-ball type.

Air cleaner: own, water type.

Madison-Kipp lubricator.

Chassis: 4 wheel type, enclosed gear drive, expanding shoe clutch. Advertised speeds: low 2.2 miles per hour; high, 3.2 miles per hour.

Total weight as tested (with operator) 10,610 pounds.

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. 110.

E. E. Brackett
Engineer-in-Charge

Oscar W. Sjogren

C. W. Smith

Fred R. Nohavec
Board of Tractor Test Engineers