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January 1923

Test 090: Case 40-72

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. 90

Dates of test: April 6th to April 29th, 1923.

Name, model and rating of tractor: Case 40-72.

Serial No. Engine: 44361 Serial No. Chassis: 44361

Manufacturer: J. I. Case Threshing Machine Company - Racine, Wisconsin.

Tractor equipment used: Bosch ZR4 ISed 18 - #3428259 Magneto. Kingston L Carburetor

Style and dimensions of wheel lugs "V" cleats 1-1/2" high. 12" Extension Rims.

BRAKE HORSE POWER TESTS

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

RATED LOAD TEST

72.40	806	120	Kero	8.959	8.08	0.00	2.90	2.90	178	69	34	29.00
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Belt Slippage 2.10%

VARYING LOAD TEST ***

72.10	803.5	10										
74.90	800.0	10										
1.68	873.0	10										
18.61	823.0	10	Average Belt Slippage 1.88%									
36.91	819.5	10										
54.08	800.5	10										
43.88	820.0	60	Kero	6.657	6.59	0.00	1.78	1.78	164	68	26	28.99

MAXIMUM LOAD TEST

91.42	801	60	Kero	11.37	8.04	1.47	7.90	9.37	163	79	30	28.85
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Belt Slippage 2.36%

HALF LOAD TEST

36.28	805	60	Kero	4.361	8.32	0.00	0.00	0.00	172	69	26	28.93
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Belt Slippage 1.77%

*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. 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 Gals.	Cooling Fluid	Air	Average Humidity %	Height of Barometer in Inches
					Kind Used	Amt. Per Hour Gal.	H.P. Per Hour Gal.					

RATED LOAD TEST TEN HOURS

42.44	5287	3.01	769	5.37 1.41	Kero	7.559	5.61	2.063	151	81	41	28.37
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MAXIMUM LOAD TEST **

55.14	7400	2.79	766	11.03 7.37	Kero	Not Recorded			140	68	51	28.64
49.87	10680	1.75	786	20.11 16.75	"	"	"	"	150	68	51	28.64

*Taken in discharge line from engine.

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

**The first maximum test was made in high gear; the second maximum test was made in low gear.

Oil Consumption: During the complete test consisting of about 38 hours running the following oil was used: For the engine, 14-1/2 gallons of Mobiloil "B" - 9 gallons to fill crank case - 5 1/2 were added.

For the transmission, None gallons.

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REPAIRS AND ADJUSTMENTS:

April 13: Before any data were taken the left cylinder head gasket burned out and was replaced.
April 14: Both cylinder head gaskets burned out and were replaced. All valves were ground. The air intake pipe was soldered.
April 21: The radiator over flow pipe broke off:
No other repairs were necessary.
At the end of the test the tractor was in good working order and there were no indications of undue wear nor that any part might require early repair.

BRIEF SPECIFICATIONS: Case 40-72

Motor: Own, vertical Valve-in-head, four cylinder; Bore - 7", Stroke - 8".
Rated speed 800 r.p.m. Own governor.

Chassis: Four wheel, disc clutch. Two speeds - low gear 2.22 miles per hour, high gear 3.18 miles per hour.

Total weight - 22,000 pounds.

REMARKS:

In the advertising literature submitted with the application for test of this tractor, we find some statements and claims 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. 90.

E. E. Brackett

Engineer-in-Charge

Oscar W. Sjogren

C. W. Smith

Fred R. Nohavec

Board of Tractor Test Engineers