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Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.  
Larsen

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January 1923

## Test 090: Case 40-72

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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(Used 11/11/23)

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 18ed 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

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

RATED LOAD TEST

72.40 : 806 : 120 : Kero : 8.959 : 8.08 : 0.00 : 2.90 : 2.90 : 178 : 69 : 34 : 29.00
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 : 63 : 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
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
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 Gals.	Temp. Deg. F. * Cooling Fluid	Air Average Humidity	Height of Barometer in inches
					Amt. Kind Used Gal.	H. P. Per Hrs. 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
49.57	10580	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 36 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.

BRJEF 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 5.18 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. Nchavoc  
Board of Tractor Test Engineers.