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January 1937

## Test 291: Huber Model LC

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 291

Dates of test: October 11 to 28, 1937.  
Name and model of tractor: HUBER LC.  
Manufacturer: Huber Manufacturing Company, Marion, Ohio.  
Manufacturer's rating: NOT RATED.

B R A K E H O R S E P O W E R T E S T S

H. P.	Crank shaft speed R.P.M.	Fuel Consumption			Water Consumption per hour gallons			Temp. Deg. F.		Barometer Inches of Mercury
		Gal. per hr.	H. P. hr. per gal.	Lb. per H. P. hr.	Cool- ing	In Fuel	Total	Cool- ing med.	Air	
TEST B - 100% MAXIMUM LOAD - TWO HOURS										
43.24	1199	4.020	10.76	0.644	0.000	0.000	0.000	169	60	29.380
TEST C - OPERATING MAXIMUM LOAD - ONE HOUR										
42.24	1200	3.756	11.25	0.616	0.000	0.000	0.000	167	60	29.435
*TEST D - ONE HOUR										
37.73	1200	3.646	10.35	0.670	0.000	0.000	0.000	171	60	29.435
TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)										
37.31	1193	3.649	10.22	0.678	--	--	--	161	63	--
0.68	1372	1.273	0.53	12.971	--	--	--	163	61	--
20.43	1301	2.251	9.08	0.764	--	--	--	171	58	--
39.77	1145	3.606	11.03	0.628	--	--	--	172	65	--
10.48	1331	1.680	6.24	1.111	--	--	--	174	65	--
29.28	1252	2.879	10.17	0.681	--	--	--	176	68	--
22.99	1266	2.557	8.99	0.771	0.000	0.000	0.000	169	63	29.480

\*Formerly called RATED LOAD; see REMARKS 4, page 4.

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D R A W B A R H O R S E P O W E R T E S T S

STEEL WHEELS

H.P.	Draw bar pull pounds	Speed miles per hr.	Crank shaft speed R.P.M.	Slip on drive wheels %	Fuel Consumption			Water used Gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
					Gal. per hr.	H. P. hr. per gal.	Lb. per H.P. hr.		Cool- ing med.	Air	

TEST F - 100% MAXIMUM LOAD - Second GEAR

30.47	2823	4.05	1197	5.98	-----	Not Recorded	-----	174	44	28.980
-------	------	------	------	------	-------	--------------	-------	-----	----	--------

TEST G - OPERATING MAXIMUM LOAD

28.55	3990	2.68	1199	9.06	-----	Not Recorded	-----	187	40	29.025
29.49	2696	4.10	1199	4.83	-----	"	"	178	42	29.365
26.60	1839	5.42	1201	4.07	-----	"	"	165	41	29.025

\*TEST H - TEN HOURS - Second GEAR

23.34	2122	4.12	1200	4.45	3.207	7.28	0.952	0.004	188	60	28.885
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FUEL ECONOMY TEST - FOUR HOURS - Third GEAR

20.47	1416	5.42	1201	4.07	2.999	6.83	1.015	0.020	189	64	28.820
-------	------	------	------	------	-------	------	-------	-------	-----	----	--------

RUBBER TIRES

TEST G - OPERATING MAXIMUM LOAD

18.06	3265	2.07	1201	18.42	-----	Not Recorded	-----	193	38	29.025
26.97	3390	2.98	1198	19.55	-----	"	"	198	40	29.030
31.35	2824	4.16	1200	14.34	-----	"	"	175	41	29.040

FUEL ECONOMY TEST - FOUR HOURS - Second GEAR

21.43	2387	3.37	1200	9.33	2.848	7.52	0.921	0.010	191	52	28.775
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FUEL ECONOMY TEST - FOUR HOURS - Third GEAR

24.90	2086	4.48	1200	7.89	2.705	9.21	0.753	0.001	189	43	28.850
-------	------	------	------	------	-------	------	-------	-------	-----	----	--------

\*Formerly called RATED LOAD; see REMARKS 4, page 4.

FUEL, OIL, AND TIME

Fuel Distillate Weight per gallon 6.93 pounds

Oil: S.A.E. No. 30 To motor 4.870 gal. Drained from motor 5.343 gal.

Total time motor was operated 77 hours

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BRIEF SPECIFICATIONS

Advertised speeds, miles per hour (steel wheels): First 2.4

Second 3.5 Third 4.5 Reverse 1.8

Belt pulley: Diameter 14" Face 7 3/8" R.P.M. 706

Clutch: Make Twin Disc Type Single-plate, dry Operated by Hand

Seat Pressed steel

Total weight as tested (with operator) (Steel 5300 pounds  
(Rubber 5500 pounds)

MOTOR: Make Waukesha Serial No. 398467 Type 4 cylinder, vertical

Head I Mounting Crankshaft lengthwise Lubrication Pressure

Bore and stroke: 4 1/2" x 5 1/4" Rated R.P.M. 1200

Port diameter valves: Inlet 1.75" Exhaust 1.75"

Magneto: Make American Bosch Model MJB4A - 112

Carburetor: Make Zenith Model 455 Size 1 1/4"

Governor: Make Waukesha Type Centrifugal

Air cleaner: Make Donaldson Type Oil-washed, wire screen filter

CHASSIS: Type Tricycle Serial No. 11915 Drive Enclosed gear

Tread width: Rear 74 1/4" Front: Top 10 1/2" Bottom 6 1/2"

Steel: Drive wheels: Type Standard No. 2 Diameter 43" Face 10"

Lugs: Type Spade No. per wheel 24 Size 4 3/4" high x 3 1/2" face

Front wheels: Type Standard No. 2 Diameter 25" Face 4 1/2"

Rubber: Rear tires: No. 2 Size 11.25" x 24" Air pressure 16 pounds

Front tires: No. 2 Size 6.00" x 16" Air pressure 25 pounds

Added weight per wheel: Drive 530 pounds

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REPAIRS AND ADJUSTMENTS

The line to the oil pressure gauge broke during the preliminary drawbar tests and was replaced with a new one.

Before the third gear maximum run on steel was made, the hub bolts on one front wheel were tightened.

During the third gear maximum run, the transmission slipped out of gear several times. After the third gear quadrant slot was filed deeper to allow the transmission feeler plunger to seat, this trouble did not recur.

The main fuel tank leaked at the lower front seam during the maximum drawbar tests. The tank was removed and both end seams were completely resoldered.

REMARKS

1. All results shown on page 1 of this report were determined from observed data and without allowances, additions, or deductions. Tests B and F were made with carburetor set for 100% maximum horsepower and data from these tests were used in determining the horsepower to be developed in tests D and H, respectively. Tests C, D, E, G, and H were made with an operating setting of the carburetor (selected by the manufacturer) of 97.7% of maximum horsepower.
2. Observed maximum horsepower (tests F & B)      Drawbar 30.47    Belt 43.24
3. Sea level (calculated) maximum horsepower      Drawbar 30.96    Belt 44.02  
    (based on 60° F. and 29.92" Hg.)
4. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly A.S.A.E. and S.A.E. ratings)      Drawbar 23.22    Belt 37.42

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 291.

Carlton L. Zink  
Engineer-in-charge

E. E. Brackett

Ivan D. Wood

L. W. Hurlbut  
Board of Tractor Test Engineers