January 1949

Test 433: Huber Model B

Nebraska Tractor Test Lab
University of Nebraska-Lincoln, tractortestlab@unl.edu

Department of Agricultural Engineering
Dates of test: November 1 to November 7, 1949
Manufacturer: HUBER MANUFACTURING COMPANY, MARION, OHIO
Manufacturer's rating: Not Rated.

The Experiment Station
University of Nebraska College of Agriculture
W. V. Lambert, Director, Lincoln, Nebraska

NEBRASKA TRACTOR TEST NO. 433

GLOBAL or HUBER MODEL B

BELT HORSE POWER TESTS

H. P.	Crank shaft speed R.P.M.	Fuel Consumption: Gal. per hour	Fuel Consumption: H.P. hr. per gal.	Fuel Consumption: Lb. per H.P. hour	Water used Gal. per hour	Temp. Deg. F.: Cooling med.	Temp. Deg. F.: Air	Barometer Inches of Mercury
TEST B and C—100% MAXIMUM LOAD—TWO HOURS								
42.81	1475	2.861	14.96	0.468	0.00	186	73	28.903
***TEST D—ONE HOUR**								
38.36	1476	2.505	15.31	0.457	0.00	174	69	28.900
TEST E—VARYING LOAD—TWO HOURS (20 minute runs; last line average)								
38.62	1477	2.499	15.45	0.453	- --	173	68	-- ---
1.12	1572	0.797	1.41	4.982	- --	130	67	-- ---
19.92	1531	1.625	12.26	0.571	- --	155	65	-- ---
41.95	1408	2.795	15.01	0.466	- --	181	67	-- ---
10.10	1551	1.192	8.47	0.826	- --	145	65	-- ---
29.44	1513	2.053	14.34	0.488	- --	162	63	-- ---
23.53	1509	1.828	12.87	0.544	0.00	158	66	28.900

DRAWBAR HORSE POWER TESTS

H.P.	Draw bar pull Lbs.	Speed miles per hr.	Crank shaft speed R.P.M.	Slip of drive wheels %	Fuel Consumption: Gal. per hour	Fuel Consumption: Hp.-hr. per Gal.	Fuel Consumption: Lb. per Hp.-hr.	Water used Gal. per hr.	Temp. Deg. F.: Cooling med.	Temp. Deg. F.: Air	Barometer Inches of Mercury
TEST F and G—100% MAXIMUM LOAD—											
17.75	4486	1.48	1476	16.57	Not Recorded				161	65	28.720
31.29	4443	2.64	1473	15.18	"	"			175	62	28.720
37.67	2844	4.97	1478	6.77	"	"			181	61	29.015
36.51	1299	10.54	1475	2.76	"	"			180	66	29.015
3.71	910	13.89	1469	2.06	"	"			174	70	29.015
***TEST H—TEN HOURS— 3rd GEAR**											
29.24	2167	5.06	1475	4.86	2.266	12.90	0.542	0.00	167	48	29.166
TEST J—OPERATING MAXIMUM LOAD— 3rd GEAR											
30.97	2537	4.58	1475	13.78	Not Recorded				180	65	28.875

TIRES, WHEELS and WEIGHT

		Tests F, G & H	Test J
Rear Wheel: (each)	Type and Weight	Pressed Steel	Pressed Steel
	Liquid Ballast	512 lb	None
	Added Cast Iron	450 lb	None
Rear Tires:	No., Size and Ply	2 11-38 6 ply	2 11-38 6 ply
	Type of Tread	Sure Grip	Sure Grip
	Make	Goodyear	Goodyear
	Air Pressure	16 lb	12 lb
Front Wheel: (each)	Type and Weight	Pressed Steel	Pressed Steel
	Liquid Ballast	43 lb	None
	Added Cast Iron	None	None
Front Tires:	No., Size and Ply	2 6.00-16 4 ply	2 6.00-16 4 ply
	Type of Tread	Implement Rib	Implement Rib
	Make	Firestone	Firestone
	Air Pressure	28 lb	28 lb
Height of Drawbar		15 1/2 inches	16 1/2 inches
Static Weight: Rear End		5122 lb	3198 lb
Front End		1697 lb	1611 lb
Total Weight as Tested (With operator)		6994 lb	4984 lb

* Formerly called RATED LOAD, see horsepower summary.

FUEL, OIL and TIME Fuel: Diesel fuel; cetane 47 (cetane rating taken from oil company's typical inspection data); weight per gallon 6.998 lb. Oil: SAE 20-20-W; to motor 1.969 gal; drained from motor 1.273 gal. Total time motor was operated 37 1/2 hours.

SPECIFICATIONS Type standard; Serial No. none; Drive enclosed gear. Tread Width: Rear 60"; Front 57". Wheel Base 97". Hydraulic Lift Control not available. Advertised speeds, mph: First 1.7; Second 2.9; Third 5.2; Fourth 10.7; Fifth 14.0; Reverse 2.7. Belt Pulley: Diam 10"; Face 6"; RPM 1024; Belt Speed 2742 fpm. Clutch: Make Rockford; Type dry disc; Operated by hand lever. Seat Knoedler; Type steel seat. Brakes: Type hydraulic with two master cylinders and one emergency brake; Location on wheel hub and on power shaft. Gear Reduction (brake drum to rear wheel) 1:1; Operated by two foot pedals; Locked by emergency brake lever can be locked; Equalization none.

ENGINE Make Continental; Serial No. HB 2602044; Type 4 cylinder vertical; Head I; Mounting crankshaft lengthwise; Lubrication pressure; Bore and Stroke 3 7/8" x 5 1/2"; Rated RPM 1475; Compression Ratio 15:1. Port Diameter Valves: Inlet 1 3/8"; Exhaust 1 5/16". Governor: Make Bosch; Type centrifugal, variable speed. Fuel Injection System: Make Bosch; Model PSP. Starter 12 volt Auto-Lite. Generator 12 volt Auto-Lite. Battery 2 6 volt batteries. Air Cleaner: Make Donaldson; Type oil washed wire screen. Oil Filter: Make Michiana; Type replaceable waste packed element. Cooling medium temperature control: Thermostat.

REPAIRS AND ADJUSTMENTS Main fuel filter began leaking during limber up run and was replaced. Hose leading to Air Cleaner was replaced before belt tests were started. Clutch was adjusted before starting Test "G" in 1st gear.

REMARKS All test results were determined from observed data and without allowances, additions, or deductions. Tests B and F were made with fuel pumps set by the manufacturer to develop approximately 43 observed belt 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, H and J were made with the same setting.

HORSEPOWER SUMMARY

	Draw-bar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	38.88	44.86
2. Observed maximum horsepower (tests F & B)	37.67	42.81
3. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly ASAE and SAE ratings)	29.16	38.13

We, the undersigned, certify that this is a true and correct report of official tractor test No. 433.

L. F. Larsen
Engineer in Charge

C. W. Smith
F. D. Yung
L. W. Hurlbut
Board of Tractor Test Engineers