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Test 391 Oliver Standard 88

Nebraska Tractor Test Lab

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BELT HORSE POWER TESTS

H. P.	Crank shaft speed R.P.M.	Fuel Consumption			Water used Gal. per hour	Temp. Deg. F.		Barometer Inches of Mercury
		Gal. per hour	H. P. hr. per gal.	Lb. per H. P. hour		Cooling med.	Air	
TEST B—100% MAXIMUM LOAD—TWO HOURS								
42.15	1600	3.827	11.28	0.525	0.00	189	73	29.075
TEST C—OPERATING MAXIMUM LOAD—ONE HOUR								
40.96	1594	3.554	11.53	0.514	0.00	190	84	29.060
*TEST D—ONE HOUR								
38.39	1603	3.409	11.26	0.526	0.00	190	85	29.060
TEST E—VARYING LOAD—TWO HOURS (20 minute runs; last line average)								
25.39	1603	3.419	11.23	0.527	- - -	190	84	-- ---
24.18	1716	1.499	1.45	4.073	- - -	176	82	-- ---
19.86	1644	2.441	8.14	0.728	- - -	181	82	-- ---
29.91	1546	3.454	11.56	0.513	- - -	189	84	-- ---
13.20	1682	1.955	5.22	1.135	- - -	179	83	-- ---
22.34	1620	2.949	9.95	0.595	- - -	185	82	-- ---
22.31	1635	2.619	8.90	0.666	0.00	183	83	29.040

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			Water used Gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
					Gal. per hour	Hp.-hr. per Gal.	Lb. per Hp.-hr.		Cool- ing med.	Air	
TEST F—100% MAXIMUM LOAD— 3rd GEAR											
27.27	3162	4.42	1600	5.14	Not Recorded				186	72	29.250
TEST G—OPERATING MAXIMUM LOAD											
21.80	5270	2.26	1601	16.57	Not Recorded				183	71	29.145
25.31	4079	3.25	1603	7.77	" "				184	70	29.145
35.22	2958	4.46	1602	4.32	" "				184	75	28.801
24.14	2192	5.84	1601	3.33	" "				182	68	29.250
33.38	1733	7.22	1599	2.72	" "				181	66	29.250
21.23	925	12.66	1600	0.83	" "				183	80	29.175
*TEST H—TEN HOURS— 3rd GEAR											
22.28	2430	4.49	1600	3.71	3.009	9.66	0.629	0.00	183	70	28.934
TEST J—OPERATING MAXIMUM LOAD - 3rd GEAR											
24.00	3017	4.23	1610	11.46	Not Recorded				183	71	28.410
TEST K—OPERATING MAXIMUM LOAD - 3rd GEAR											
*Wheels of lightest weight and smallest tires suggested by the manufacturer.											
25.65	2506	3.84	1601	13.73	Not Recorded				180	69	28.385

TIRES, WHEELS and WEIGHT

		Tests F, G & H		Test J	Test K
Rear Wheel: Type and Weight (each)	Cast Disc	Cast Disc		Cast Disc	Cast Disc
	Liquid Ballast	696 lb		None	None
	Added Cast Iron	775 lb		None	None
Rear Tires: No., Size and Ply		2 14-26 6 ply		2 14-26 6 ply	2 12-26 6 ply
Type of Tread	All Traction	All Traction		All Traction	H1-Cleat Tractor Ty
	Goodyear	Goodyear		Goodyear	Goodrich
	Air Pressure	14 lb		12 lb	12 lb
Front Wheel: Type and Weight (each)	Cast Disc	Cast Disc		Cast Disc	Cast Disc
	Liquid Ballast	None		None	None
	Added Cast Iron	None		None	None
Front Tires: No., Size and Ply		2 6.00-16 4 ply		2 6.00-16 4 ply	2 6.00-16 4 ply
Type of Tread	Tractor	Tractor		Tractor	Tractor
	Goodyear	Goodyear		Goodyear	Goodyear
	Air Pressure	28 lb		28 lb	28 lb
Height of Drawbar		18 3/4 inches		19 inches	17 inches
Static Weight: Rear End	5865 lb	2924 lb		2852 lb	
	Front End	1754 lb		1754 lb	
Total Weight as Tested (With operator)		7804 lb		4863 lb	4791 lb

* Formerly called RATED LOAD, see horsepower summary.

FUEL, OIL and TIME Fuel: Gasoline, octane 74 (octane rating taken from oil company's typical inspection data); weight per gallon 5.923 lb. in Nov., 1947 and 6.078 lb. in April, 1948. Oil: SAE 20; to motor 3.341 gal; drained from motor 2.819 gal. Total time motor was operated 87 hours.

SPECIFICATIONS Type standard; Serial No. 820045; Drive enclosed gear. Tread Width: Rear 54" or 62"; Front 48 3/4". Wheel Base 79 1/4". Advertised speeds, mph: First 2.51; Second 3.25; Third 4.31; Fourth 5.58; Fifth 6.87; Sixth 11.80; Reverse 2.56 and 4.41. Belt Pulley: Diam 11 7/8"; Face 7 1/4"; RPM 992; Belt Speed 3084 fpm. Clutch: Make Borg & Beck; Type single dry plate; Operated by foot pedal. Seat upholstered type with back rest. Brakes: Make own; Type external contracting band; Location mounted on bull gear pinions; Gear Reduction (brake drum to rear wheel) 4.692:1; Operated by two foot pedals; Locked by latches; Equalization yes, equalizer bar serves as master brake pedal.

ENGINE Make own; Serial No. 707088 G-1; Type 6 cylinder vertical; Head I; Mounting crankshaft lengthwise; Lubrication pressure; Bore and Stroke 3 1/2" x 4"; Rated RPM 1600. Port Diameter Valves: Inlet 1 5/16"; Exhaust 1 3/16". Governor: Make own; Type centrifugal, variable speed. Carburetor: Make Marvel-Schebler; Model TSX-181; Size 1". Starter Delco-Remy. Generator Delco-Remy. Distributor and Coil Delco-Remy. Battery Delco-Remy. 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 The tractor was in storage from November 30, 1947 to April 19, 1948 when test was resumed. During the next 15 hours of operation a decrease in horsepower occurred. The head was removed and the combustion chamber cleaned; improved performance resulted.

REMARKS All test results were determined from observed data and without allowances, additions or deductions. Tests B and F were made with carburetor set for 100% maximum 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, J and K were made with an operating setting of the carburetor (selected by the manufacturer) of 95.9% of maximum belt horsepower.

HORSEPOWER SUMMARY

	Draw- bar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	38.56	44.96
2. Observed maximum horsepower (tests F & B)	37.27	43.15
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)	28.92	38.22

We, the undersigned, certify that this is a true and correct report of official tractor test No. 391.

I. F. Larsen
Engineer in Charge

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

