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January 1949

Test 412 Oliver Row-Crop 66 HC

Nebraska Tractor Test Lab

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Department of Agricultural Engineering

Dates of test: June 6, 1949 to June 24, 1949.

Manufacturer: THE OLIVER CORPORATION, CHARLES CITY, IOWA.

Manufacturer's rating: None.

NEBRASKA TRACTOR TEST NO. 412

OLIVER ROW CROP 66 HC

BELT HORSEPOWER TESTS

Hp	Crank shaft speed rpm	Fuel Consumption			Water used gal per hour	Temp Deg F		Barometer inches of mercury
		Gal per hour	Hp-hr per gal	Lb per hp-hour		Cooling med	Air	
TEST B—100% MAXIMUM LOAD—TWO HOURS								
24.91	1600	2.127	11.71	0.521	0.00	177	68	28.828
TEST C—OPERATING MAXIMUM LOAD—ONE HOUR								
23.92	1597	1.995	11.99	0.509	0.00	173	65	28.843
* TEST D—ONE HOUR								
22.14	1599	1.875	11.81	0.517	0.00	173	70	28.858
TEST E—VARYING LOAD—TWO HOURS (20 minute runs; last line average)								
22.19	1601	1.873	11.85	0.515	...	173	70
1.77	1737	0.826	2.14	2.847	...	158	70
11.76	1692	1.342	8.76	0.696	...	164	71
23.17	1537	1.932	11.98	0.509	...	175	72
5.97	1711	1.038	5.75	1.060	...	162	71
17.17	1648	1.623	10.58	0.577	...	169	72
13.67	1654	1.439	9.50	0.642	0.00	167	71	28.885

DRAWBAR HORSEPOWER TESTS

Hp	Draw bar pull lb	Speed miles per hr	Crank shaft speed rpm	Slip of drive wheels %	Fuel Consumption			Water used gal per hour	Temp Deg F		Barometer inches of mercury
					Gal per hour	Hp-hr per gal	Lb per hp-hr		Cooling med	Air	
TEST F—100% MAXIMUM LOAD—3rd GEAR											
21.03	1914	4.12	1603	5.02	Not Recorded			186	85	28.885	
TEST G—OPERATING MAXIMUM LOAD											
19.27	3207	2.25	1596	10.08	Not Recorded			180	85	28.860	
20.46	2481	3.09	1602	6.75	" "			180	83	28.870	
20.39	1849	4.14	1602	4.60	" "			180	83	28.885	
20.70	1411	5.50	1600	3.71	" "			181	83	28.850	
20.25	1163	6.53	1600	3.14	" "			181	83	28.850	
17.63	579	11.42	1597	1.75	" "			180	83	28.850	
* TEST H—TEN HOURS—3rd GEAR											
16.81	1517	4.16	1597	3.84	1.700	9.89	0.617	0.00	175	80	28.784
TEST J—OPERATING MAXIMUM LOAD—3rd GEAR											
20.04	1843	4.08	1602	7.54	Not Recorded			178	86	28.820	
TEST K—OPERATING MAXIMUM LOAD—3rd GEAR											
16.43	1745	3.53	1600	14.59	Not Recorded			180	90	28.800	

TIRES, WHEELS and WEIGHT

	Tests F, G & H	Test J	Test K
Rear Wheel: (each)			
Type and Weight	Pressed Steel	Pressed Steel	Pressed Steel
Liquid Ballast	None	None	None
Added Cast Iron	1184 lb	None	None
Rear Tires:			
No., Size and Ply	2 10-38 6 ply	2 10-38 6 ply	2 8-38 4 ply
Type of Tread	Farm Tractor	Farm Tractor	Hi-Cleat
Make	U. S. Royal	U. S. Royal	B. F. Goodrich
Air Pressure	18 lb	16 lb	14 lb
Front Wheel: (each)			
Type and Weight	Pressed Steel	Pressed Steel	Pressed Steel
Liquid Ballast	None	None	None
Added Cast Iron	None	None	None
Front Tires:			
No., Size and Ply	2 5.00-15 4 ply	2 5.00-15 4 ply	2 5.00-15 4 ply
Type of Tread	Guide Grip	Guide Grip	Guide Grip
Make	Firestone	Firestone	Firestone
Air Pressure	28 lb	28 lb	28 lb
Height of Drawbar	21 inches	23 inches	21 inches
Static Weight:			
Rear End	4444 lb	2076 lb	1968 lb
Front End	944 lb	942 lb	945 lb
Total Weight as Tested (With operator)	5563 lb	3193 lb	3088 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 6.101 lb. Oil: SAE 10-10W; to motor 1.030 gal; drained from motor 0.871 gal. Total time motor was operated 55 hours.

SPECIFICATIONS Type tricycle; Serial No. 420006; Drive enclosed gear. Tread Width: Rear 58" to 88"; Front 6 9/16" or 11 11/16"; Wheel Base 86 3/4". Hydraulic Lift Control not available. Advertised speeds, mph: First 2 1/2; Second 3 1/4; Third 4 1/4; Fourth 5 1/2; Fifth 6 1/2; Sixth 11 1/2; Reverse 2 1/2 and 4 1/2. Belt Pulley: Diam 11 1/8"; Face 7 1/4"; rpm 987; Belt Speed 3065 fpm. Clutch: Make Borg & Beck; Type single plate; Operated by foot pedal. Seat pressed steel cushioned by rubber in torsion. 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. G2-771730; Type 4 cylinder vertical; Head I; Mounting crankshaft lengthwise; Lubrication pressure; Bore and Stroke 3-5/16" x 3 3/4"; Rated rpm 1600; Compression Ratio 6.75:1. Port Diameter Valves: Inlet 1 3/16"; Exhaust 1". Governor: Make own; Type centrifugal, variable speed. Carburetor: Make Marvel-Schebler; Model TSX 363; Size 3/8". Starter Delco-Remy. Generator Delco-Remy. Distributor and Coil Delco-Remy. Battery Delco. 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 No repairs or adjustments.

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 95.7% of maximum belt horsepower.

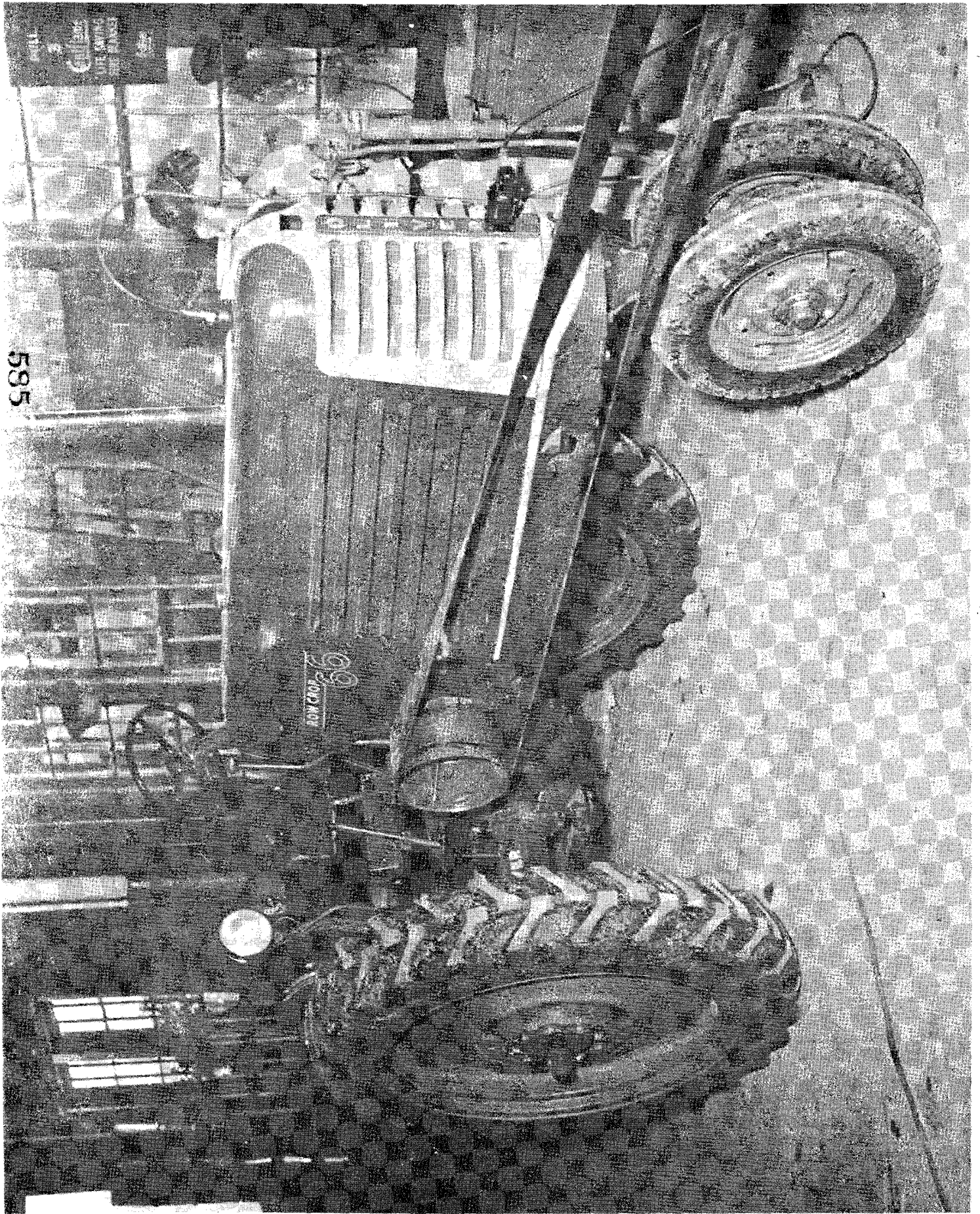
HORSEPOWER SUMMARY

	Draw-bar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	22.30	26.05
2. Observed maximum horsepower (tests F and B)	21.03	24.91
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)	16.73	22.14

We, the undersigned, certify that this is a true and correct report of official tractor test No. 412.

L. F. Larsen
Engineer in Charge

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



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