January 1938

Test 300: Oliver Row-Crop 80 KD

Nebraska Tractor Test Lab
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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 300

Dates of test: May 16 to 26, 1938.
Name and model of tractor: OLIVER ROW CROP 80 KD.
Manufacturer: Oliver Farm Equipment Company, Charles City, Iowa.
Manufacturer's rating: NOT RATED.

B E L T 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: Gal. per hr.	Fuel Consumption: H. P. hr. per gal.	Fuel Consumption: Lb. per H. P. hr.	Water used gal. per hr.	Temp. Deg. F.: Cooling med.	Temp. Deg. F.: Air	Barometer Inches of Mercury
TEST B - 100% MAXIMUM LOAD - TWO HOURS								
38.78	1200	4.982	7.78	0.888	0.000	170	81	28.630
TEST C - OPERATING MAXIMUM LOAD - ONE HOUR								
36.33	1200	3.294	11.03	0.626	0.000	171	72	28.705
*TEST D - ONE HOUR								
35.24	1201	3.204	11.00	0.628	0.000	174	72	28.720
TEST E - VARYING LOAD - TWO HOURS (20 minute runs ; last line average)								
35.31	1202	3.208	11.01	0.628	--	175	73	--
0.73	1372	1.324	0.55	12.534	--	203	69	--
19.26	1316	2.353	8.19	0.844	--	176	70	--
35.60	1176	3.265	10.90	0.634	--	169	72	--
9.90	1346	1.789	5.53	1.248	--	196	73	--
27.70	1263	2.670	10.37	0.666	--	170	76	--
21.42	1279	2.435	8.80	0.785	0.000	181	72	28.760

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

H. P.	Draw bar pull pounds	Speed miles per hr.	Crank shaft speed R.P.M.	Slip on drive wheels %	Fuel Consumption: Gal. per hr.	Fuel Consumption: H. P. hr. per gal.	Fuel Consumption: Lb. per H.P. hr.	Water used gal. per hr.	Temp. Deg. F.: Cooling med.	Temp. Deg. F.: Air	Barometer Inches of Mercury
TEST F - 100% MAXIMUM LOAD - Second GEAR											
29.92	3300	3.40	1201	5.91	---- Not Recorded ----				194	63	28.930
TEST G - OPERATING MAXIMUM LOAD											
27.13	3785	2.69	1198	7.87	---- Not Recorded ----				193	64	28.985
26.99	2984	3.39	1196	5.77	---- " " ----				191	64	28.980
25.01	2101	4.46	1202	4.40	---- " " ----				196	64	28.990
*TEST H - TEN HOURS - Second GEAR											
23.32	2558	3.42	1200	5.29	2.912	8.01	0.863	0.000	188	75	28.865

*Formerly called RATED LOAD; see REMARKS 4, page 3.

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FUEL, OIL, AND TIME

Fuel Distillate Octane 36 Weight per gallon 6.91 pounds

Oil: S.A.E. No. 30 To motor 2.134 gal. Drained from motor 2.490 gal.

Total time motor was operated 48 hours

BRIEF SPECIFICATIONS

Advertised speeds, miles per hour: First 2.7 Second 3.33
Third 4.33 Reverse 3

Belt pulley: Diameter 14 1/2" Face 7 1/4" R.P.M. 731

Clutch: Make Borg & Beck Type Single-plate, dry Operated by foot pedal

Seat Pressed steel

Total weight as tested (with operator) 4930 pounds

MOTOR: Make own Serial No. 0432865 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 1.5"

Magneto: Make American-Bosch Model MJB4A - 308

Carburetor: Make Schebler Model TTX-18 Size 1 1/4"

Governor: Make Own Type Variable-speed, centrifugal

Air cleaner: Make Donaldson Type Precleaner and oil-washed, wire-screen filter

CHASSIS: Type Tricycle Serial No. 109557 KD Drive enclosed gear

Tread width: Rear 60" - 72" Front: Top 10 1/2" Bottom 5 1/2"

Drive wheels: Type Skeleton No. 2 Diameter 59 1/2" Face 9/16"

Lugs: Type Overhanging spade No per wheel 30 Size 3" high x 4 1/2" wide

Front wheels: Type Standard No. 2 Diameter 24" Face 4 1/2"

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments.

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 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, and H were made with an operating setting of the carburetor (selected by the manufacturer) of 93.7% of maximum belt horsepower.

2. Observed maximum horsepower (tests F & B) — Drawbar 29.92 — Belt 38.78

3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.) — Drawbar 31.03 — Belt 41.34

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 23.27 — Belt 35.14

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 300.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

Ivan D. Wood

L. W. Hurlbut
Board of Tractor Test Engineers