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Nebraska Tractor Tests

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January 1938

## Test 300: Oliver Row-Crop 80 KD

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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			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 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			Water used gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
					Gal. per hr.	H. P. per gal.	Lb. per H.P. hr.		Cool- ing med.	Air	
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      Drawbar 31.03    Belt 41.34  
 (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 23.27    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