January 1941

Test 375: Oliver Row Crop 60 HC

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

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 375

Dates of test: September 10 to 23, 1941
Name and model of tractor: OLIVER ROW CROP 60 HC
Manufacturer: Oliver Farm Equipment Company, Charles City, Iowa
Manufacturer's rating: NOT RATED

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

Hp.	Crank-shaft Speed R.P.M.	Fuel Consumption			Water Used Gal. per Hr.	Temperature Deg. F.		Barometer Inches of Mercury
		Gal. per Hr.	Hp.-hr. per Gal.	Lb. per Hp.-hr.		Cool-ing Medium	Air	
TEST B - 100% MAXIMUM LOAD - TWO HOURS								
18.76	1499	1.567	11.97	0.510	0.000	170	74	29.160
TEST C - OPERATING MAXIMUM LOAD - ONE HOUR								
18.35	1500	1.505	12.19	0.500	0.000	191	80	29.160
*** TEST D - ONE HOUR**								
16.62	1499	1.397	11.90	0.513	0.000	192	82	29.125
TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)								
16.59	1500	1.402	11.83	0.515	- ---	191	82	-- ---
1.19	1620	0.561	2.12	2.874	- ---	192	82	-- ---
8.55	1536	0.949	9.01	0.677	- ---	186	83	-- ---
17.52	1400	1.446	12.12	0.503	- ---	185	83	-- ---
4.43	1595	0.733	6.04	1.009	- ---	186	83	-- ---
12.92	1550	1.215	10.63	0.574	- ---	193	84	-- ---
10.20	1533	1.051	9.71	0.628	0.000	189	83	29.095

* Formerly called RATED LOAD; see REMARKS 4, page 5.

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 375

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

Hp.	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 Hr.	Hp.-hr. per Gal	Lb. per Hp.-hr.		Cool-ing Med.	Air	

Rear wheels, tires and added weight used in Tests F, G and H: Pressed steel wheels; 9-32, 4 ply tires and 795 lbs. added weight per wheel.

TEST F - 100% MAXIMUM LOAD - Third GEAR

16.92	1490	4.26	1500	6.73	------ Not Recorded ------			192	84	28.995

TEST G - OPERATING MAXIMUM LOAD

15.17	2496	2.28	1500	11.75	------ Not Recorded ------			197	89	28.700
15.97	1873	3.20	1500	7.22	" "			197	90	28.700
16.50	1454	4.26	1500	6.80	" "			185	85	28.960
16.43	1064	5.80	1500	4.76	" "			185	85	28.970

* TEST H - TEN HOURS - Third GEAR

13.64	1179	4.34	1499	4.94	1.347	10.13	0.602	0.000	188	83	28.830

TEST J - OPERATING MAXIMUM LOAD

Same wheels and tires as used in Tests F, G and H. All added weight removed from tractor (liquid, cast iron or any other added forms). Third gear.

16.00	1467	4.09	1500	11.61	------ Not Recorded ------			174	78	29.035

TEST K - OPERATING MAXIMUM LOAD

Rear wheels, tires and added weight used: Pressed steel wheels; 7-36, 4 ply tires and 117 lbs. added weight per wheel (** Combination No. 1). Third gear.

16.50	1452	4.26	1500	8.16	------ Not Recorded ------			173	64	29.070

* Formerly called RATED LOAD; see REMARKS 4, page 5.

** Combination No. 1: Includes wheels, tires and added weight recommended in the manufacturer's published specifications.

Combination No. 2: When the manufacturer does not make a specific recommendation, then the tires used are the smallest size and ply and the wheels are the lightest listed in published specifications or the application for test.

See Page 3 for specifications on wheels, tires and weight.

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 375

FUEL, OIL and TIME

Fuel Gasoline Octane 73 Weight per gallon 6.10 pounds

Oil: S.A.E. No. 20 To motor 1.288 gal. Drained from motor 0.911 gal.

Total time motor was operated 64 hours.

TIRES, WHEELS and WEIGHT

		Tests F, G & H	Test J	Test K
Rear Wheel: (each)	Type and Weight	Pressed Steel 115 lbs	Pressed Steel 115 lbs	Pressed Steel 123 lbs
	Liquid Ballast	190 lbs	None	117 lbs
	Added Cast Iron	605 lbs	None	None
Rear Tires:	No., Size & Ply	2, 9-32, 4 ply	2, 9-32, 4 ply	2, 7-36, 4 ply
	Type of Tread	Farm Tractor Lug Tread	Farm Tractor Lug Tread	Farm Tractor Lug Tread
	Make	United States	United States	United States
	Air Pressure	16 lbs	16 lbs	14 lbs
Front Wheel: (each)	Type and Weight	Pressed Steel 26 lbs	Pressed Steel 26 lbs	Pressed Steel 26 lbs
	Liquid Ballast	None	None	None
	Added Cast Iron	None	None	None
Front Tires	No., Size & Ply	2, 5.00-15, 4 ply	2, 5.00-15, 4 ply	2, 5.00-15, 4 ply
	Type of Tread	Tri-Rib	Tri-Rib	Tri-Rib
	Make	United States	United States	United States
	Air Pressure	28 lbs	28 lbs	28 lbs
Height of Drawbar		18 1/2"	19 1/2"	19 3/8"
Static Weight:	Rear End	3165 lbs	1565 lbs	1770 lbs
	Front End	695 lbs	705 lbs	700 lbs
Total Weight as Tested (With Operator)		4040 lbs	2450 lbs	2650 lbs

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 375

CHASSIS

Type Tricycle Serial No. 604216 Drive Enclosed gear

Tread width: Rear 60" - 88" Front: Top 12" Bottom 6 1/2"

Advertised speeds, miles per hour: (Steel Wheels) First 2.58 Second 3.45

Third 4.57 Fourth 6.10 Reverse 3.32

Belt pulley: Diam. 10" Face 6 1/4" R.P.M. 647-1143 Belt Speed 1700-3000 f.p.m.

Clutch: Make Borg and Beck Type Single Plate Operated by Foot

Seat Upholstered

Brakes: Make Own Type External contracting

Location Mounted on bull gear pinions

Gear reduction (brake drum to rear wheel) 5.083 to 1

Operated by Either foot on either pedal; also by steering mechanism

Locked by Pawl

Equalization None

MOTOR

Make Own Serial No. 485362G1 Type 4 cylinder, vertical

Head I Mounting Crankshaft lengthwise Lubrication Pressure

Bore and stroke 3 5/16" x 3 1/2" Rated R.P.M. 1500

Port diameter valves: Inlet 1" Exhaust 1"

Magneto: Make Wico Model JEM - 1348

Carburetor: Make Marvel-Schebler Model TSX - 49 Size 1"

Governor: Make Own Type Variable speed, centrifugal

Air Cleaner: Make Donaldson Type Oil-washed, wire screen filter

Oil Filter: Make Michiana Type Replaceable waste-packed element

Cooling medium temperature control: Bishop & Babcock by-pass thermostat and own adjustable curtain

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 375

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, H, J and K were made with an operating setting of the carburetor (selected by the manufacturer) of 98.4% of maximum belt horsepower.

	DRAWBAR	BELT
2. Observed maximum horsepower (tests F & B)	16.92	18.76
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	17.85	19.51
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)	13.39	16.58

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 375.

Carlton L. Zink
Engineer-in-Charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers