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January 1947

Test 382: Cockshutt Model 30

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 382

Dates of test: May 21, 1947 to June 3, 1947
 Name and model of tractor: Cockshutt 30*
 Manufacturer: Cockshutt Plow Company, Limited, Brantford, Ontario, Canada
 Manufacturer's rating: None

B E L T H O R S E P O W E R T E S T S

Horse- power	Crank shaft speed rpm	Fuel Consumption			Water used gal per hr	Temperature		Barometer Inches of Mercury
		gal per hr	hp-hr per gal	lb per hp-hr		Cool- ing med. °F	Air °F	

TEST B - 100% MAXIMUM LOAD - TWO HOURS

31.88	1651	3.007	10.60	0.574	0.00	174	60	28.950
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

30.28	1650	2.649	11.43	0.533	0.00	173	60	28.960
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**TEST D - ONE HOUR

28.10	1652	2.559	10.98	0.554	0.00	176	71	28.955
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

28.12	1656	2.557	11.03	0.554	- - -	176	71	- - -
1.64	1764	1.182	1.39	4.39	- - -	163	69	- - -
14.60	1708	1.833	7.97	0.764	- - -	167	67	- - -
27.97	1711	2.478	11.29	0.539	- - -	179	67	- - -
7.52	1749	1.513	4.97	1.225	- - -	165	66	- - -
21.63	1686	2.192	9.87	0.617	- - -	170	66	- - -
16.91	1684	1.959	8.63	0.705	0.00	170	68	28.985

*Also designated as Co-op E-3 or Farmcrest 30

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

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

Horse- power	Draw bar pull lb	Speed mph	Crank shaft speed rpm	Slip on drive wheels %	Fuel Consumption			Water used gal per hr	Temperature		Barometer Inches of Mercury
					gal per hr	hp-hr per gal	lb per hp-hr		Cool- ing med. OF	Air OF	

Rear wheels, tires and added weight used in Tests F, G, and H: Pressed Steel wheels; 11-38, 6-ply tires and 977 lb added weight per wheel.

TEST F - 100% MAXIMUM LOAD - 2nd GEAR

27.25	2747	3.72	1651	9.30	-----	Not Recorded	-----	179	70	28.950
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TEST G - OPERATING MAXIMUM LOAD

23.58	3745	2.36	1650	16.77	-----	Not Recorded	-----	174	64	28.720
26.34	2663	3.71	1646	9.31	"	"		176	70	28.880
27.18	1903	5.36	1648	5.70	"	"		177	71	28.880
24.78	848	10.96	1648	2.50	"	"		177	74	28.880

*Test H - TEN HOURS - 2nd GEAR

21.68	2122	3.83	1650	6.49	2.29	9.49	0.642	0.00	172	67	28.691
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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). 2nd gear.

23.18	2415	3.60	1651	13.09	-----	Not Recorded	-----	173	70	28.915
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TEST K - OPERATING MAXIMUM LOAD

Lightest weight wheels and smallest tires suggested by manufacturer. All added weight removed from tractor (liquid, cast iron, or any other added forms). 2nd gear

19.26	2183	3.31	1649	16.17	-----	Not Recorded	-----	172	67	28.710
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Formerly called RATED LOAD; see REMARKS 4, page 5.

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FUEL, OIL, AND TIME

Fuel Gasoline Octane 74* Weight per gallon 6.0891 pounds

Oil: S.A.E. No. 20-20W To motor 1.6503 gal. Drained from motor 1.0576 gal.

Total time motor was operated 58 hours

TIRES, WHEELS, AND WEIGHT

Rear Wheel; Type and Weight (each)	Tests F, G, & H	Test J	Test K
	Pressed Steel 66 lb	Pressed Steel 66 lb	Pressed Steel 66 lb
Liquid Ballast	417 lb	None	None
Added Cast Iron	560 lb	None	None
Rear Tires; No., Size & Ply	2 11-38 6-ply	2 11-38 6-ply	2 10-38 4-ply
Type of Tread	Bar	Bar	Bar
Make	Goodyear	Goodyear	Dominion Royal
Air Pressure	14 lb	14 lb	12 lb
Front Wheel; Type and Weight (each)	Pressed steel 18 lb	Pressed steel 18 lb	Pressed steel 18 lb
	Liquid Ballast	None	None
	Added Cast Iron	None	None
Front Tires; No., Size & Ply	2 5.50-16 4-ply	2 5.50-16 4-ply	Same
Type of Tread	Triple rib	Triple rib	Triple rib
Make	Goodyear	Goodyear	Goodyear
Air Pressure	28 lb	28 lb	28 lb
Height of Drawbar	16"	16.5"	16"
Static Weight; Rear End	4217 lb	2264 lb	2226 lb
Front End	1121 lb	1113 lb	1116 lb
Total Weight as Tested With operator	5528 lb	3609 lb	3569 lb

*Octane rating from Oil Company's Typical Inspection Data

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1

ENGINE Make Buda Serial No. 291504 Type vertical .. 4 cylinder

Head I Mounting Lengthwise Lubrication Pressure

Bore and stroke 3-7/16 x 4-1/8 Rated RPM 1650

Port diameter valves: Inlet 1 3/8 Exhaust 1 1/8

Battery Exide Model SS 151

Carburetor: Make Zenith Model 161 x 7 Size 1"

Governor: Make Pierce Type flyball

Air Cleaner: Make Donaldson Type Oil washed wire screen filter

Oil Filter: Make Kralinator Type K-55

Cooling medium temperature control: Thermostat with by-pass

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REPAIRS AND ADJUSTMENTS

Throttle lever broke during varying load.

REMARKS

1. All results shown on pages 1 and 2 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 94.9% of maximum belt horsepower.
2. Observed maximum horsepower (tests F & B)

DRAWBAR	BELT
27.25	31.83
3. Sea level (calculated) maximum horsepower
 (based on 60° F. and 29.92" Hg.)

28.43	32.95
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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)

21.32	28.01
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We, the undersigned, certify that the above is a true and correct report of official tractor test No. 382.

L. F. Larsen
 Engineer-in-Charge

E. E. Brackett

C. W. Smith

F. D. Yung
 BOARD OF TRACTOR TEST ENGINEERS