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Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.  
Larsen

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January 1947

## Test 382: Cockshutt Model 30

Tractor Museum

University of Nebraska-Lincoln, [TractorMuseumArchives@unl.edu](mailto:TractorMuseumArchives@unl.edu)

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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 |                       | Cooling 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 |
|-------|------|-------|-------|-------|------|-----|----|--------|

TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

|       |      |       |       |       |      |     |    |        |
|-------|------|-------|-------|-------|------|-----|----|--------|
| 30.28 | 1650 | 2.649 | 11.43 | 0.533 | 0.00 | 173 | 60 | 28.960 |
|-------|------|-------|-------|-------|------|-----|----|--------|

\*\*TEST D - ONE HOUR

|       |      |       |       |       |      |     |    |        |
|-------|------|-------|-------|-------|------|-----|----|--------|
| 28.10 | 1652 | 2.559 | 10.98 | 0.554 | 0.00 | 176 | 71 | 28.955 |
|-------|------|-------|-------|-------|------|-----|----|--------|

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 | 1511 | 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-<br>power | Draw<br>bar<br>pull<br>lb | Speed<br>mph | Crank<br>shaft<br>speed<br>rpm | Slip<br>on<br>drive<br>wheels<br>% | Fuel Consumption |                  |                 | Water<br>used<br>gal<br>per hr | Temperature                |           | Barometer<br>Inches of<br>Mercury |
|-----------------|---------------------------|--------------|--------------------------------|------------------------------------|------------------|------------------|-----------------|--------------------------------|----------------------------|-----------|-----------------------------------|
|                 |                           |              |                                |                                    | gal<br>per hr    | hp-hr<br>per gal | lb per<br>hp-hr |                                | Cool-<br>ing<br>med.<br>OF | Air<br>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 |
|-------|------|------|------|------|-------|--------------|-------|-----|----|--------|

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 |
|-------|------|------|------|------|------|------|-------|------|-----|----|--------|

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 |
|-------|------|------|------|-------|-------|--------------|-------|-----|----|--------|

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 |
|-------|------|------|------|-------|-------|--------------|-------|-----|----|--------|

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

|   |                 | Tests F, G, & H        | Test J                 | Test K                 |
|---|-----------------|------------------------|------------------------|------------------------|
| Rear Wheel; (each)                      | Type and Weight | Pressed Steel<br>66 lb | Pressed Steel<br>66 lb | Pressed Steel<br>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; (each)                     | Type and Weight | Pressed steel<br>18 lb | Pressed steel<br>18 lb | Pressed steel<br>18 lb |
|   | Liquid Ballast  | None                   | None                   | None                   |
|   | Added Cast Iron | None                   | 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<br>With operator |                 | 5528 lb                | 3609 lb                | 3569 lb                |

\*Octane rating from Oil Company's Typical Inspection Data



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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.
- |   | DRAWBAR | BELT  |
|---|---------|-------|
| 2. Observed maximum horsepower (tests F & B)  | 27.25   | 31.83 |
| 3. Sea level (calculated) maximum horsepower<br>(based on 60° F. and 29.92" Hg.)  | 28.43   | 32.95 |
| 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 |

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