

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

January 1940

John Deere Model D

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Energy Systems Commons](#), [History of Science, Technology, and Medicine Commons](#), [Other Mechanical Engineering Commons](#), [Physical Sciences and Mathematics Commons](#), [Science and Mathematics Education Commons](#), and the [United States History Commons](#)

Nebraska Tractor Test Lab, "John Deere Model D" (1940). *Nebraska Tractor Tests*. 939.
<https://digitalcommons.unl.edu/tractormuseumlit/939>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

3 pages-page 1

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 350

Dates of test: July 22 to July 26, 1940.
Name and model of tractor: JOHN DEERE D
Manufacturer: John Deere Tractor Company, Waterloo, 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 Consumption per hour gallons For Cooling and in fuel, Total	Temp. Deg. F.		Barometer Inches of Mercury
		Gals. per hour	H. P. hrs. per Gal.	Lbs. per H. P. hour		Cool- ing med.	Air	

*Water for the fuel mixture taken from the cooling system.

TEST B - 100% MAXIMUM LOAD - TWO HOURS

42.05	900	4.764	8.83	0.786	3.238	188	88	28.810
-------	-----	-------	------	-------	-------	-----	----	--------

TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

40.24	900	3.968	10.14	0.684	2.432	199	90	28.805
-------	-----	-------	-------	-------	-------	-----	----	--------

*TEST D - ONE HOUR

38.15	899	3.872	9.85	0.704	0.902	210	96	28.815
-------	-----	-------	------	-------	-------	-----	----	--------

TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

38.18	901	3.860	9.89	0.702	--	210	96	--
1.53	959	1.820	0.84	8.255	--	187	97	--
20.02	937	2.602	7.69	0.902	--	192	98	--
40.09	879	3.947	10.16	0.683	--	205	101	--
10.14	945	2.304	4.40	1.577	--	193	102	--
29.39	923	3.108	9.46	0.734	--	205	104	--
23.23	924	2.940	7.90	0.878	0.491	199	100	28.815

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 hour	Crank shaft speed R.P.M.	Slip on drive wheels %	Fuel Consumption			Water used gal. per hour	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

38.02	3641	3.92	901	8.61	-----Not Recorded-----			190	83	28.640
-------	------	------	-----	------	------------------------	--	--	-----	----	--------

TEST G - OPERATING MAXIMUM LOAD

34.50	4830	2.68	898	14.97	-----Not Recorded-----			206	104	28.640
37.12	3537	3.94	900	8.11	-----" "-----			201	85	28.625
37.02	2661	5.22	903	5.94	-----" "-----			198	89	28.610

*TEST H - TEN HOURS - Second - GEAR

30.77	2907	3.97	900	7.30	3.505	8.78	0.790	1.198	196	87	28.570
-------	------	------	-----	------	-------	------	-------	-------	-----	----	--------

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

3 pages-page 2

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 350

FUEL, OIL, AND TIME

Fuel Distillate Octane 38 Weight per gallon 6.94 pounds

Oil: S.A.E. No. 40 To motor 3.639 gal. Drained from motor 2.992 gal.

Total time motor was operated 45 hours

BRIEF SPECIFICATIONS

Advertised speeds miles per hour: First 3 Second 4 Third 5 1/4

Reverse 2

Belt pulley: Diam. 13 1/4" Face 8 1/2" R.P.M. 900 Belt Speed 3122 f.p.m.

Clutch: Make Own Type Dry disc Operated by hand

Seat Pressed steel

Total weight as tested (with operator) 8125 pounds

MOTOR

Make Own Serial No. 147824 Type 2 cylinder, horizontal

Head I Mounting Crankshaft crosswise Lubrication Pressure

Bore and stroke 6 3/4" x 7" Rated R. P. M. 900

Port diameter valves: Inlet 2 5/16" Exhaust 2 5/16"

Magneto: Make Edison-Splitdorf Model CD-2

Carburetor: Make Marvel-Schebler Model DLTX 16 Size 1 1/2"

Governor: Make Own Type Variable speed, centrifugal

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

Oil Filter: Make Motor Improvements, Inc. Type Partial flow, with replace-
able impregnated paper element

Cooling medium temperature control: Pines radiator shutters

CHASSIS

Type Standard Serial No. 147824 Drive Enclosed gear and chain

Tread width: Rear 55 1/2" Front 54 1/2"

Rear tires: No. 2 Size 13.50" x 28" - 6 ply Air Pressure 12 pounds

Front tires: No. 2 Size 7.50" x 18" - 4 ply Air Pressure 28 pounds

Added weight: Per rear wheel (Cast Iron 556 pounds
(Calcium Chloride Solution 478 pounds)

3 pages-page 3

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 350

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 95.9% of maximum belt horsepower.

	DRAWBAR	BELT
2. Observed maximum horsepower (tests F & B)	38.02	42.05
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	40.61	44.83
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)	30.46	38.11

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 350.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers