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January 1947

Test 380: John Deere B

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. 380

Dates of test: April 28 to May 14, 1947
Name and model of tractor: John Deere "B" Gasoline
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

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

27.58	1249	2.550	10.82	0.567	0.02	190	64	28.870
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

25.79	1245	2.187	11.79	0.520	0.02	202	69	28.875
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*TEST D - ONE HOUR

24.46	1249	2.107	11.61	0.529	0.02	190	68	28.865
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

24.48	1250	2.093	11.70	0.525	--	190	69	-- --
1.70	1328	0.973	1.75	3.512	--	190	69	-- --
12.80	1301	1.334	9.25	0.663	--	190	69	-- --
25.14	1205	2.132	11.79	0.520	--	191	69	-- --
6.46	1315	1.071	6.03	1.017	--	190	69	-- --
18.73	1272	1.711	10.95	0.561	--	189	69	-- --
14.89	1279	1.560	9.54	0.643	0.02	190	69	28.865

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

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FUEL, OIL, AND TIME

Fuel Regular Grade Gasoline Octane 74* Weight per gallon 6.136 pounds
Oil: S.A.E. No. 20-20W To motor 3.241 gal. Drained from motor 1.946 gal.
Total time motor was operated 52 hours

TIRES, WHEELS, AND WEIGHT

		Tests F, G, & H	Test J
Rear Wheel; (each)	Type and Weight	325 lb cast iron	325 lb cast iron
	Liquid Ballast	100 lb	None
	Added Cast Iron	290 lb	None
Rear Tires;	No., Size & Ply	2 10x38 4-ply	2 10x38 4-ply
	Type of Tread	Champion Ground Grip	Champion Ground Grip
	Make	Firestone	Firestone
	Air Pressure	14 lb	12 lb
Front Wheel; (each)	Type and Weight	Steel Disc 28 lb	Steel Disc 28 lb
	Liquid Ballast	None	None
	Added Cast Iron	None	None
Front Tires;	No., Size & Ply	2 5.50x16 4-ply	2 5.50x16 4-ply
	Type of Tread	Guide Grip Tractor	Guide Grip Tractor
	Make	Firestone	Firestone
	Air Pressure	28 lb	28 lb
Height of Drawbar		16"	16"
Static Weight; Rear End		3980 lb	3202 lb
Front End		1040 lb	1040 lb
Total Weight as Tested With Operator		5178 lb	4400 lb

*Octane Rating taken from Oil Company's Typical Inspection Data.

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DRAWBAR HORSEPOWER TESTS

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		Cooling med. °F	Air °F	

Rear wheels, tires and added weight used in Tests F, G and H; Cast Iron wheels; 10-38 4-ply tires and 390 lb added weight per wheel.

TEST F - 100% MAXIMUM LOAD - 4th GEAR

24.62	2187	4.22	1252	6.42	-----	Not Recorded	-----	200	64	29.000
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TEST G - OPERATING MAXIMUM LOAD

11.32	3353	1.27	1249	18.36	-----	Not Recorded	-----	156	55	28.960
18.74	3437	2.04	1254	19.55	"	"		175	52	28.960
23.51	2792	3.16	1253	9.65	"	"		204	68	28.880
23.37	2067	4.24	1250	5.86	"	"		205	66	28.880
23.75	1640	5.43	1250	4.73	"	"		199	68	28.880
22.03	833	9.92	1252	2.32	"	"		205	68	28.880

*TEST H - TEN HOURS - 4th GEAR

19.04	1666	4.29	1249	4.78	1.928	9.88	0.621	0.01	198	79	28.760
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TEST J - OPERATING MAXIMUM LOAD

23.67	2092	4.24	1255	6.44	-----	Not Recorded	-----	198	55	28.960
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*Formerly called RATED LOAD; see REMARKS 4, page 5

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

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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 93.9% of maximum belt horsepower.
2. Observed maximum horsepower (tests F & B)

	DRAWBAR	BELT
2. Observed maximum horsepower (tests F & B)	24.62	27.58
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	25.50	28.69
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)	19.13	24.39
3. Sea level (calculated) maximum horsepower (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)

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 380.

L. F. Larsen
Engineer-in-Charge

E. E. Brackett, Chairman

C. W. Smith

F. D. Yung
BOARD OF TRACTOR TEST ENGINEERS

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AGRICULTURAL COLLEGE, LINCOLN

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CHASSIS

Type Tricycle Serial No. B201369 Drive Enclosed Gear
Tread width: Rear 56" - 88" Front Top 11 1/8" Bottom 7 1/4"
Advertised speeds, miles per hour: First 1 1/2 Second 2 1/2 Third 3 1/2
Fourth 4 1/2 Fifth 5 3/4 Sixth 10 Reverse 2 1/2
Belt pulley: Diam. 9 11/16 Face 7 1/4 RPM 1250 Belt Speed 3110 fpm
Clutch: Make Own Type Dry disc Operated by Hand
Seat Spring Cushion Padded Back Rest
Brakes: Make Own Type Internal Expanding Shoe
Location On independent shafts geared to each rear axle
Gear Reduction (brake drum to rear wheel) 6.000 - 1
Operated by One foot pedal on each brake
Locked by Latches anchored on tractor platform
Equalization None

ENGINE Make Own Serial No. B201369 Type 2 cylinder, horizontal
Head I Mounting Crankshaft Crosswise Lubrication Pressure
Bore and stroke 4 11/16 x 5 1/2 Rated RPM 1250
Port diameter valves: Inlet 1 9/16 Exhaust 1 3/8
Magneto: Make Wico Model No. C-1042B Type CR
Carburetor: Make Marvel Schebler Model DLTX-67 Size 1 1/2"
Governor: Make Own Type Flyball
Air Cleaner: Make Donaldson Type Oil washed wire screen filter
Oil Filter: Make Purolator Type Full flow filter with by-pass
using impregnated replaceable paper element
Cooling medium temperature control Radiator shutter