

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 366

Dates of test; November 7, 1940 to April 25, 1941
 Name and model of tractor; JOHN DEERE B
 Manufacturer; John Deere Tractor Company, Waterloo, 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

20.52	1150	2.049	10.01	0.693	0.000	205	40	29.310
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

19.69	1150	1.695	11.62	0.597	0.000	203	42	29.375
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* TEST D - ONE HOUR

17.54	1150	1.573	11.15	0.623	0.000	207	45	29.395
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

17.60	1152	1.565	11.25	0.617	0.000	207	45	29.415
1.54	1231	0.657	2.34	2.961	0.000	205	46	29.415
9.22	1192	1.007	9.16	0.758	0.000	208	44	29.415
18.68	1068	1.630	11.46	0.605	0.000	206	43	29.415
4.72	1219	0.890	5.30	1.309	0.000	208	44	29.415
13.70	1184	1.284	10.67	0.650	0.000	207	43	29.415
10.91	1174	1.172	9.31	0.746	0.000	206	44	29.415

* 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

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.		Cooling Med.	Air	

Rear wheels, tires and added weight used in Tests F, G and H: Cast iron wheels; 10-38, 6 ply tires and 296 lbs. added weight per wheel.

TEST F - 100% MAXIMUM LOAD - Second GEAR

18.26	2174	3.15	1154	6.56	----- Not Recorded -----			203	59	29.075
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TEST G - OPERATING MAXIMUM LOAD

16.95	2756	2.31	1151	9.60	----- Not Recorded -----			205	60	29.050
17.95	2142	3.14	1151	6.52	"	"		204	60	29.075
17.56	1531	4.16	1150	4.45	"	"		207	59	29.055
17.21	1158	5.57	1152	3.10	"	"		205	58	29.075
16.73	846	7.44	1150	2.23	"	"		204	57	29.085
13.74	402	12.82	1149	1.42	"	"		203	71	29.170

* TEST H - TEN HOURS - Second GEAR

13.79	1610	3.21	1150	4.12	1.435	9.61	0.722	0.027	204	34	29.010
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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). Second gear.

17.13	2095	3.07	1149	8.89	----- Not Recorded -----			207	68	28.980
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TEST K - OPERATING MAXIMUM LOAD

Rear wheels, tires and added weight used; Cast iron wheels; 9-38, 4 ply tires and no added weight per wheel (** Combination No. 1). Second gear.

16.48	2137	2.83	1150	12.83	----- Not Recorded -----			196	52	29.210
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* 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.

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FUEL, OIL and TIME

Fuel Distillate Octane 39 Weight per gallon 6.94 pounds

Oil: S.A.E. No. 30 To motor 5.884 gal. Drained from motor 3.193 gal.

Total time motor was operated 121 hours.

The oil was drained once on November 30, 1940 after 67 hours of operation. The crankcase was refilled with new oil on April 16, 1941 and again drained at the end of the test.

TIRES, WHEELS and WEIGHT

	Tests F, G & H	Test J	Test K
Rear Wheel: Type and Weight (each)	Cast Iron, 345 lbs	Cast Iron, 345 lbs	Cast Iron, 345 lbs
Liquid Ballast	296 lbs	None	None
Added Cast Iron	None	None	None
Rear Tires: No., Size & Ply	2, 10-38, 6 ply	2, 10-38, 6 ply	2, 9-38, 4 ply
Type of Tread	Ground Grip	Ground Grip	Ground Grip
Make	Firestone	Firestone	Firestone
Air Pressure	12 lbs	12 lbs	12 lbs
Front Wheel: Type and Weight (each)	Steel Disc, 28 lbs	Steel Disc, 28 lbs	Steel Disc, 28 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	Rib Tread	Rib Tread	Rib Tread
Make	Firestone	Firestone	Firestone
Air Pressure	28 lbs	28 lbs	28 lbs
Height of Drawbar	15 1/2"	15 3/4"	14 1/2"
Static Weight: Rear End	3385 lbs	2765 lbs	2690 lbs
Front End	995 lbs	970 lbs	965 lbs
Total Weight as Tested (With operator)	4545 lbs	3900 lbs	3820 lbs

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CHASSIS

Type Tricycle Serial No. B96502 Drive Enclosed gear
 Tread width: Rear 56" - 84" Front: Top 12 7/8" Bottom 7"
 Advertised speeds, miles per hour: First 2 1/3 Second 3 1/4 Third 4
 Fourth 5 1/3 Fifth 7 1/4 Sixth 12 1/4 Reverse 4
 Belt pulley: Diam. 10 5/8" Face 6 3/16" R.P.M. 1150 Belt speed 3200 f.p.m.
 Clutch: Make Own Type Dry disc Operated by Hand
 Seat Pressed steel
 Brakes: Make Own Type Internal Expanding
 Location On independent shafts geared to each rear axle
 Gear reduction (brake drum to rear wheel) 6.636 to 1
 Operated by One foot pedal on each brake
 Locked by Latches anchored on tractor platform
 Equalization None

MOTOR

Make Own Serial No. B96502 Type 2 cylinder, horizontal
 Head I Mounting Crankshaft crosswise Lubrication Pressure
 Bore and stroke 4 1/2" x 5 1/2" Rated R.P.M. 1150
 Port diameter valves: Inlet 1 1/2" Exhaust 1 3/8"
 Magneto: Make Wico Serial No. H044812 Type C1042
 Carburetor: Make Schebler Model DLTX34 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 Full flow filter with by-pass
using impregnated, replaceable paper element
 Cooling medium temperature control: Pines radiator shutters

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments

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, H, J and K were made with an operating setting of the carburetor (selected by the manufacturer) of 96.0% of maximum belt horsepower.

	<u>DRAWBAR</u>	<u>BELT</u>
2. Observed maximum horsepower (tests F & B)	18.26	20.52
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	18.77	20.54
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)	14.08	17.46

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 366.

Carlton L. Zink
 Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
 Board of Tractor Test Engineers