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January 1947

Test 384: John Deere A

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 384

Dates of test; June 7, 1947 to June 16, 1947
 Name and model of tractor; John Deere "A" 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

38.02	976	3.712	10.24	0.584	0.04	199	62	28.892
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

35.81	975	3.129	11.44	0.523	0.03	198	58	28.835
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*TEST D - ONE HOUR

33.82	976	2.960	11.43	0.524	0.03	195	60	28.820
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

33.85	975	2.972	11.39	0.526	----	192	60	-- --
1.64	1046	1.308	1.25	4.774	----	164	58	-- --
17.81	1031	1.985	8.97	0.667	----	163	59	-- --
34.92	963	3.067	11.39	0.526	----	197	60	-- --
9.14	1050	1.574	5.81	1.031	----	163	60	-- --
26.05	1010	2.451	10.63	0.563	----	187	64	-- --
20.57	1012	2.226	9.24	0.648	0.022	177	60	28.845

*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. °F	Air °F	

Rear wheels, tires and added weight used in Tests F, G, and H; Cast Iron wheels; 11-38, 6-ply tires and 677 lb added weight per wheel.

TEST F - 100% MAXIMUM LOAD - 3rd GEAR

34.14	3158	4.06	973	6.92	-----	Not Recorded	-----	184	56	28.825
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TEST G - OPERATING MAXIMUM LOAD

22.64	4034	2.10	976	17.63	-----	Not Recorded	-----	193	78	28.825
32.19	4045	2.98	975	10.92	"	"	"	191	57	28.825
32.69	3016	4.06	973	6.79	"	"	"	202	71	28.825
32.91	2256	5.47	975	4.58	"	"	"	202	70	28.835
32.65	1649	7.42	976	3.10	"	"	"	192	67	28.835
27.56	798	12.95	978	1.44	"	"	"	190	64	28.835

*TEST H - TEN HOURS - 3rd GEAR

26.70	2441	4.10	976	6.12	2.741	9.74	0.615	0.02	197	78	28.835
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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). 3rd gear.

30.87	3009	3.85	979	12.67	-----	Not Recorded	-----	203	77	28.935
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*Formerly called RATED LOAD; see REMARKS 4, page 5

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FUEL, OIL, AND TIME

Fuel Gasoline Octane 75* Weight per gallon 5.986 pounds

Oil; S.A.E. No. 20-20W To motor 2.738 gal. Drained from motor 2.027 gal.

Total time motor was operated 47 hours.

TIRES, WHEELS, AND WEIGHT

	Tests F, G, & H	Test J
Rear Wheel; Type and Weight (each)	Cast Iron 335 lb	Cast Iron 335 lb
Liquid Ballast	242 lb	None
Added Cast Iron	435 lb	None
Rear Tires; No., Size & Ply	2 11-38 6 ply	2 11-38 6-ply
Type of Tread	Champion Ground Grip	Champion Ground Grip
Make	Firestone	Firestone
Air Pressure	16 lb	12 lb
Front Wheel; Type and Weight (each)	Steel Disc 30 lb	Steel Disc 30 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
Type of Tread	Triple Rib	Triple Rib
Make	Goodyear	Goodyear
Air Pressure	28 lb	28 lb
Height of Drawbar	16 inches	16 inches
Static Weight; Rear End	5148 lb	3794 lb
Front End	1256 lb	1264 lb
Total Weight as Tested With operator	6574 lb	5228 lb

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

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CHASSIS

Type Tricycle Serial No. 584043 Drive Enclosed Gear
 Tread width; Rear 56" - 88" Front 8-3/8" and 12-1/4"
 Advertised speeds, miles per hour; First 2 1/2 Second 3 1/2 Third 4 1/2
 Fourth 5-3/4 Fifth 7-3/4 Sixth 13 Reverse 4
 Belt pulley; Diam. 12 13/16" Face 7 3/8" RPM 975 Belt speed 3270 fpm
 Clutch; Make Own Type Dry Disc Operated by Hand Lever
 Seat Spring Cushion with Padded Back Rest
 Brakes; Make Own Type Internal Expanding
 Location On independent shafts geared to each rear axle
 Gear reduction (brake drum to rear wheel) 6.8 to 1
 Operated by One foot pedal on each brake
 Locked by Latches anchored on tractor platform
 Equalization None

ENGINE Make Own Serial No. 584043 Type 2 cylinder horizontal
 Head I Mounting Crankshaft crosswise Lubrication Pressure
 Bore and stroke 5 1/2" x 6-3/4" Rated RPM 975
 Port diameter valves; Inlet 1-15/16" Exhaust 1-49/64"
 Magneto; Make Wico Model C 1042 B
 Carburetor; Make Marvel Schebler Model DLTX71 Size 1 1/2"
 Governor; Make Own Type Variable speed - Centrifugal
 Air Cleaner; Make Donaldson Type Oil washed wire screen
 Oil Filter; Make Purolator Type Full flow with by-pass using
 impregnated, replaceable paper
 element
 Cooling medium temperature control; Radiator shutter

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REPAIRS AND ADJUSTMENTS:

None

REMARKS

- 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 93.99% of maximum belt horsepower.
- Observed maximum horsepower (tests F & B)

	DRAWBAR	BELT
Observed maximum horsepower (tests F & B)	34.14	38.02
- Sea level (calculated) maximum horsepower
(based on 60° F. and 29.92" Hg.)

	DRAWBAR	BELT
Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	35.30	39.45
- 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)

	DRAWBAR	BELT
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)	26.48	33.53

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 384.

L. F. Larsen
 Engineer-in-Charge

E. E. Brackett

C. W. Smith

F. D. Yung
 BOARD OF TRACTOR TEST ENGINEERS