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Test 383: John Deere G

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 383

Dates of test: June 5, 1947 to June 16, 1947
 Name of model of tractor: John Deere Model "G" All Fuel
 Manufacturer: John Deere Tractor Company, Waterloo, Iowa
 Manufacturer's rating: None

BELT HORSEPOWER TESTS

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

38.10	976	3.930	9.70	0.699	0.12	198	65	28.780
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

36.03	975	3.354	10.74	0.631	0.09	197	61	28.833
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*TEST D - ONE HOUR

34.20	978	3.173	10.73	0.629	0.09	198	59	28.845
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

34.49	986	3.159	10.92	0.621	----	203	59	-----
1.94	1101	1.611	1.20	5.629	----	201	59	-----
18.46	1056	2.226	8.29	0.817	----	208	61	-----
35.60	955	3.310	10.76	0.630	----	199	62	-----
9.49	1080	1.947	4.87	1.391	----	209	67	-----
27.09	1034	2.721	9.96	0.681	----	198	62	-----
21.18	1035	2.496	8.49	0.799	0.07	203	62	28.850

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

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DRAWBAR HORSEPOWER TESTS

Horsepower	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. OF	Air OF	

Rear wheels, tires and added weight used in Tests F, G, and H; Cast Iron wheels; 12-38, 6-ply tires and 694 lb added weight per wheel.

TEST F - 100% MAXIMUM LOAD - 3rd GEAR

34.49	2985	4.33	976	6.54	---Not Recorded---			202	71	28.960
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TEST G - OPERATING MAXIMUM LOAD

24.23	43.94	2.07	971	16.90	---Not Recorded---			191	61	28.955
32.07	3734	3.22	978	9.46	"	"	"	197	71	28.955
32.22	2773	4.36	976	6.02	"	"	"	198	71	28.955
32.88	1965	6.28	977	4.48	"	"	"	196	70	28.955
31.09	1347	8.65	976	2.75	"	"	"	194	68	28.950
29.08	880	12.39	978	2.00	"	"	"	194	65	28.950

*TEST H - TEN HOURS - 3rd GEAR

27.08	2313	4.39	974	5.14	2.872	9.43	0.719	0.02	191	58	28.825
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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.

32.03	2794	4.30	980	7.79	---Not Recorded---			205	69	28.970
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*Formerly called RATED LOAD; see REMARKS 4, page 5.

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FUEL, OIL, AND TIME

Fuel: Tractor Fuel Octane: 41.5* Weight per gallon: 6.780 pounds

Oil: S.A.E. No. 30 To Motor: 2.679 gal. Drained from motor: 1.818 gal.

Total Time motor was operated: 50 hours

TIRES, WHEELS, AND WEIGHT

		Tests F, G, & H	Test J
Rear Wheel: (each)	Type and Weight	Cast Iron 335 lb	Cast Iron 335 lb
	Liquid Ballast	404 lb.	None
	Added Cast Iron	290 lb	None
Rear Tires	No., Size & Ply	2 12-38 6-ply	2 12-38 6-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 30 lb	Steel Disc 30 lb
	Liquid Ballast	None	None
	Added Cast Iron	None	None
Front Tires:	No., Size & Ply	2 600-16 4-ply	2 600-16 4-ply
	Type of Tread	Guide Grip Tractor	Guide Grip Tractor
	Make	Firestone	Firestone
	Air Pressure	28 lb	28 lb
	Height of Drawbar	17"	17"
Static Weight:	Rear End	5588 lb.	4200 lb.
	Front End	1684 lb.	1686 lb
Total Weight as Tested	With Operator	7442 lb	6056 lb

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

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CHASSIS

Type Tricycle Serial No. 21945 Drive Enclosed Gear

Tread width: Rear 60" - 84" Front 9 1/8" and 13"

Advertised speeds, miles per hour: First 2 1/2 Second 3 1/2 Third 4 1/2
 Fourth 6 1/2 Fifth 8 3/4 Sixth 12 1/2 Reverse 3 1/4

Belt Pulley: Diam. 12 7/8" Face 8 1/2" RPM 975 Belt Speed 3270 fpm

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) 5.917 to 1

Operated by One foot pedal for each brake

Locked by Latches anchored on tractor platform

Equalization None

ENGINE

Make Own Serial No. 21945 Type 2 cylinder - Horizontal

Head I Mounting Crankshaft Crosswise Lubrication Pressure

Bore and stroke 6 1/8 x 7 Rated RPM 975

Port diameter valves: Inlet 2.250 Exhaust 2.125

Magneto: Make Wico Model C-1042 Type CR

Carburetor: Make Marvel Schebler Model DLTX-51 Size 1 1/2"

Governor: Make Own Type Variable speed

Air Cleaner: Make Donaldson Type Oil washed wire screen

Oil Filter: Make Purolator Type Full flow filter with by-pass
 using impregnated replaceable
 paper element

Cooling medium temperature control: Radiator Shutter

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REPAIRS AND ADJUSTMENTS

None

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 94.02% of maximum belt horsepower.
2. Observed Maximum horsepower (tests F & B)

	<u>Drawbar</u>	<u>Belt</u>
	34.49	38.10
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)

	36.01	39.80
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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)

	27.01	33.83
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We, the undersigned, certify that the above is a true and correct report of official tractor test No. 383.

L. F. Larsen
 Engineer-in-Charge

E. E. Brackett

C. W. Smith

F. D. Yung
 Board of Tractor Test Engineers