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January 1936

Test 330: McCormick-Deering Farmall Model A (Distillate)

Nebraska Tractor Test Lab

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 330

Dates of test: October 9 to 16, 1939.

Name and model of tractor: McCORMICK-DEERING FARMALL A (Distillate)

Manufacturer: International Harvester Company, Chicago, Illinois.

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 used gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
		Gal. per hr.	H. P. hr. per gal.	Lb. per H. P. hr.		Cool- ing med.	Air	

TEST B - 100% MAXIMUM LOAD - TWO HOURS

16.51	1400	1.396	11.83	0.582	0.099	197	79	29.385
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

15.18	1400	1.276	11.90	0.579	0.000	194	75	29.220
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*TEST D - ONE HOUR

14.58	1399	1.254	11.63	0.593	0.070	196	73	29.175
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

14.57	1399	1.250	11.66	0.591	--	195	72	--
1.93	1588	0.631	3.06	2.254	--	195	70	--
7.93	1523	0.932	8.51	0.810	--	194	71	--
14.59	1359	1.245	11.72	0.588	--	194	70	--
4.12	1577	0.731	5.64	1.223	--	196	70	--
11.53	1477	1.123	10.27	0.671	--	195	69	--
9.11	1487	0.985	9.25	0.745	0.105	195	70	29.140

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

15.17	1648	3.45	1402	7.73	----	Not Recorded	----	198	57	29.130
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TEST G - OPERATING MAXIMUM LOAD

12.42	2360	1.97	1397	16.01	----	Not Recorded	----	198	60	29.015
14.76	1599	3.46	1403	7.53	----	"	"	197	59	29.080
14.27	1148	4.66	1398	5.14	----	"	"	198	59	29.040
13.48	505	10.01	1401	2.04	----	"	"	200	57	29.000

*TEST H - TEN HOURS - Second - GEAR

11.37	1211	3.52	1400	.77	1.225	9.28	0.742	0.041	198	78	28.720
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*Formerly ca

LOAD; see REMARKS 4, page 3.

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FUEL, OIL, AND TIME

Fuel Distillate Octane 37 Weight per gallon 6.89 pounds

Oil: S.A.E. No. 20 To motor 2.439 gal. Drained from motor 1.209 gal.

Total time motor was operated 66 hours

BRIEF SPECIFICATIONS

Advertised speeds, miles per hour: First 2 1/4 Second 3 5/8

Third 4 3/4 Fourth 10 Reverse 2 7/8

Belt pulley: Diam 8 1/2" Face 6" R.P.M. 1157 Belt Speed 2574 f.p.m.

Clutch: Make Rockford Type Single plate, dry disc Operated by foot

Seat Pressed steel with sponge rubber pad

Total weight as tested (with operator) 3570 pounds

MOTOR

Make Own Serial No. FAA 1058 Type 4 cylinder, vertical

Head I Mounting Crankshaft lengthwise Lubrication Pressure

Bore and stroke 3" x 4" Rated R.P.M. 1400

Port diameter valves: Inlet 1.187" Exhaust 1.062"

Magneto: Make Own Model H-4

Carburetor: Make Zenith Model 6LAX7 Size 7/8"

Governor: Make Own Type Variable speed, centrifugal

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

Oil Filter: Make Purolator Type Partial flow, with replaceable

bakelite impregnated paper element

Cooling medium temperature control: Pines radiator shutters

CHASSIS

Type Standard Serial No. FAA 1058 Drive Enclosed gear

Tread width: Rear 40" to 68" Front 44", 54", and 64"

Rear tires: No. 2 Size 9 x 24" - 4 ply Air pressure 16 pounds

Front tires: No. 2 Size 4.00" x 15" - 4 ply Air pressure 25 pounds

Added weight: Per rear wheel (Cast Iron 568 pounds

(Water 130 pounds

Per front wheel (Cast Iron 80 pounds

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REPAIRS AND ADJUSTMENTS

During the preliminary belt tests it was necessary to replace a broken radiator shutter control rod.

Before the official belt test was run a defective cylinder head was replaced.

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 92.1% of maximum belt horsepower.

	<u>DRAWBAR</u>	<u>BELT</u>
2. Observed maximum horsepower (tests F & B)	15.17	16.51
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	15.53	17.12
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)	11.65	14.55

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 330.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers