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January 1939

Test 332: McCormick-Deering Farmall Model B (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. 332

Dates of test: October 9 to 13, 1939.

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

Manufacturer: International Harvester Company, Chicago, Illinois.

Manufacturer's rating: NOT RATED.

BELT HORSEPOWER TESTS

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

16.00	1400	1.361	11.76	0.586	0.033	194	73	29.020
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

15.36	1399	1.300	11.82	0.583	0.112	201	72	29.145
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*TEST D - ONE HOUR

14.31	1401	1.276	11.21	0.614	0.151	198	79	29.150
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

14.48	1403	1.276	11.35	0.607	--	199	79	--
1.70	1498	0.644	2.64	2.612	--	196	76	--
7.35	1457	0.838	8.28	0.833	--	197	78	--
15.12	1336	1.284	11.78	0.585	--	196	79	--
3.75	1473	0.727	5.16	1.336	--	195	78	--
10.69	1413	1.075	9.94	0.693	--	196	78	--
8.85	1430	0.983	9.00	0.765	0.119	196	78	29.135

DRAWBAR HORSEPOWER TESTS

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. hr. per gal.	Lb. per H.P. hr.		Cool- ing med.	Air	

TEST F - 100% MAXIMUM LOAD - Second - GEAR

14.73	1598	3.46	1400	6.91	-----	Not Recorded	-----	198	65	28.965
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TEST G - OPERATING MAXIMUM LOAD

12.02	2463	1.83	1397	21.68	-----	Not Recorded	-----	197	68	28.930
13.95	1505	3.48	1399	6.38	-----	"	"	198	60	29.050
13.97	1119	4.68	1399	4.18	-----	"	"	197	56	29.100
13.01	493	9.90	1397	2.31	-----	"	"	199	65	28.900

*TEST H - TEN HOURS - Second - GEAR

11.55	1242	3.49	1399	6.05	1.203	9.60	0.717	0.037	201	50	29.220
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*Formerly called RATED 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 1.381 gal. Drained from motor 1.469 gal.

Total time motor was operated 53 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) 3740 pounds

MOTOR-

Make Own Serial No. FAB 4560 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 Tricycle Serial No. FAB 4560 Drive Enclosed gear

Tread width: Rear 66" - 94" Front Single wheel

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

Front tires: No. 1 Size 6 x 12" - 4 ply Air pressure 25 pounds

Added weight: Per rear wheel (Cast Iron 568 pounds
(Water 130 pounds

Front end of frame (each side): Cast Iron 97 pounds

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REPAIRS AND ADJUSTMENTS

At the end of the rated load drawbar test the governor thrust pin, which had been improperly assembled, caught in the governor.

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 95.4% of maximum belt horsepower.

	<u>DRAWBAR</u>	<u>BELT</u>
2. Observed maximum horsepower (tests F and B)	<u>14.73</u>	<u>16.00</u>
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	15.29	16.70
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)	11.47	14.20

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 332.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers