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January 1939

Test 331: McCormick-Deering Farmall Model B (Gasoline)

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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Copy of Report of Official Tractor Test No. 331

Dates of test: September 25 to 29, 1939.

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

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								
18.39	1400	1.580	11.64	0.530	0.098	196	65	28.775
TEST C - OPERATING MAXIMUM LOAD - ONE HOUR								
16.82	1400	1.415	11.89	0.519	0.490	200	69	28.750
*TEST D - ONE HOUR								
16.41	1401	1.426	11.51	0.536	0.127	200	70	28.750
TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)								
16.48	1399	1.432	11.51	0.533	--	200	71	--
1.74	1525	0.335	2.74	2.241	--	200	70	--
8.60	1470	1.031	8.34	0.736	--	201	69	--
16.39	1355	1.386	11.83	0.522	--	199	69	--
4.42	1508	0.778	5.68	1.086	--	202	66	--
12.40	1447	1.274	9.73	0.634	--	199	66	--
10.01	1451	1.087	9.21	0.670	0.059	200	68	28.750

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											
16.21	1794	3.39	1406	8.99	----- Not Recorded -----			200	82	28.600	
TEST G - OPERATING MAXIMUM LOAD											
12.06	2377	1.90	1406	18.87	----- Not Recorded -----			196	81	28.580	
14.86	1633	3.41	1399	7.82	----- " " -----			198	79	28.645	
14.86	1201	4.64	1400	4.91	----- " " -----			197	69	28.735	
13.02	494	9.88	1398	2.31	----- " " -----			196	78	28.570	
*TEST H - TEN HOURS - Second - GEAR											
13.74	1420	3.44	1400	7.05	1.361	9.58	0.614	0.038	198	85	28.520

*Formerly called RATED LOAD; see REMARKS 4, page 3.

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

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FUEL, OIL, and TIME

Fuel Gasoline Octane 71 Weight per gallon 6.17 pounds
Oil: S.A.E. No. 20 To motor 1.493 gal. Drained from motor 0.931 gal.
Total time motor was operated 46 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 4239 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 4239 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 150 pounds

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

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments.

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 91.9% of maximum belt horsepower.

	<u>DRAWBAR</u>	<u>BELT</u>
2. Observed maximum horsepower (tests F and B)	16.21	18.39
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	17.31	19.22
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)	12.98	16.34

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 331.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers