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January 1939

Test 327: McCormick-Deering Farmall Model M (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. 327

Dates of test: September 5 to ¹⁶17, 1939.
Name and model of tractor: McCORMICK-DEERING FARMALL M (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								
34.82	1447	2.800	12.44	0.557	0.000	197	81	28.950
TEST C - OPERATING MAXIMUM LOAD - ONE HOUR								
34.16	1452	2.733	12.50	0.554	0.000	196	82	28.870
*TEST D - ONE HOUR								
31.38	1450	2.580	12.16	0.570	0.000	201	82	28.870
TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)								
31.42	1456	2.589	12.14	0.571	--	200	81	--
1.48	1536	1.078	1.37	5.047	--	206	78	--
16.45	1513	1.835	8.96	0.773	--	201	77	--
33.02	1433	2.623	12.59	0.551	--	197	76	--
8.32	1530	1.407	5.91	1.172	--	203	74	--
23.78	1477	2.195	10.83	0.640	--	197	75	--
19.08	1491	1.955	9.76	0.710	0.000	201	77	28.890

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											
30.62	3653	3.14	1452	7.87	-----	Not Recorded		-----	194	92	28.735
TEST G - OPERATING MAXIMUM LOAD											
25.49	4365	2.19	1458	14.89	-----	Not Recorded		-----	193	94	28.870
30.36	3634	3.13	1453	8.21	-----	"	"	-----	194	93	28.880
30.52	2951	3.88	1453	7.01	-----	"	"	-----	192	98	28.740
30.65	2396	4.80	1450	5.03	-----	"	"	-----	192	96	28.730

*TEST H - TEN HOURS - Second - GEAR

24.89	2941	3.17	1450	6.80	2.769	8.99	0.771	0.019	190	94	28.865
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*Formerly called RATED LOAD; see REMARKS 4, page 3.

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FUEL, OIL, AND TIME

Fuel Distillate Octane 38 Weight per gallon 6.93 pounds

Oil: S.A.E. No. 30 To motor 2.143 gal. Drained from motor 2.120 gal.

Total time motor was operated 57 hours

BRIEF SPECIFICATIONS

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

Third 4 1/4 Fourth 5 1/8 Fifth 16 3/8 Reverse 3 1/8

Belt pulley: Diam. 11" Face 7 1/2" R.P.M. 899 Belt Speed 2587 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) 6770 pounds

MOTOR

Make Own Serial No. FBK-ME 544 Type 4 cylinder, vertical

Head I Mounting Crankshaft lengthwise Lubrication Pressure

Bore and stroke 3 7/8" x 5 1/4" Rated R.P.M. 1450

Port diameter valves: Inlet 1.594" Exhaust 1.438"

Magneto: Make Own Model H-4

Carburetor: Make Own Model E-12 Size 1 1/4"

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: Bishop and Babcock thermostat and Pines
radiator shutters

CHASSIS

Type tricycle Serial No. FEK 742 Drive Enclosed gear

Tread width: Rear 52" - 88" Front: Top 13 1/2" Bottom 8 1/2"

Rear tires: No. 2 Size 11.25" x 36" - 6 ply Air pressure 16 pounds

Front tires: No. 2 Size 6.00" x 16" - 4 ply Air pressure 25 pounds

Added weight: Per rear wheel (Cast Iron 710 pounds
(Water 246 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 98.5% of maximum belt horsepower.

	<u>DRAWBAR</u>	<u>BELT</u>
2. Observed maximum horsepower (tests F & B)	30.62	34.82
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	32.86	36.70
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)	24.65	31.20

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 327.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers