January 1938

Test 297: McCormick-Deering Farmall Model F-14

Nebraska Tractor Test Lab
University of Nebraska-Lincoln, tractortestlab@unl.edu

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 297

Dates of test: April 19 to 27, 1938.
Name and model of tractor: McCORMICK-DEERING FARMALL F-14
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.		Cooling med.	Air	
TEST B - 100% MAXIMUM LOAD - TWO HOURS								
17.44	1649	1.670	10.44	0.662	0.039	199	75	29.060
TEST C - OPERATING MAXIMUM LOAD - ONE HOUR								
17.00	1651	1.566	10.86	0.636	0.097	200	73	29.045
*TEST D - ONE HOUR								
15.54	1651	1.515	10.26	0.674	0.026	200	71	29.070
TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)								
15.50	1647	1.498	10.35	0.668	--	199	72	--
0.87	1732	0.686	1.27	5.448	--	200	66	--
8.06	1710	1.042	7.74	0.893	--	206	66	--
16.33	1608	1.541	10.60	0.652	--	198	68	--
4.07	1729	0.877	4.64	1.489	--	200	62	--
11.74	1663	1.229	9.55	0.723	--	198	64	--
9.43	1682	1.145	8.24	0.839	0.043	200	66	29.095

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. hr. per gal.	Lb. per H.P. hr.		Cooling med.	Air	
TEST F - 100% MAXIMUM LOAD - Second GEAR											
14.84	1920	2.90	1650	8.16	----Not Recorded -----				194	61	28.930
TEST G - OPERATING MAXIMUM LOAD											
13.24	2369	2.10	1649	12.66	----Not Recorded -----				193	64	29.000
14.24	1841	2.90	1650	8.09	---- " " -----				192	64	28.985
14.76	1445	3.83	1650	5.87	---- " " -----				194	59	28.920
*TEST H - TEN HOURS - Second GEAR											
11.57	1451	2.99	1650	5.25	1.352	8.56	0.807	0.064	195	74	28.810

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

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FUEL, OIL, AND TIME

Fuel Distillate Octane 36 Weight per gallon 6.91 pounds

Oil: S.A.E. No. 30 To Motor 1.907 gal. Drained from motor 1.620 gal.

Total time motor was operated 44 hours

BRIEF SPECIFICATIONS

Advertised speeds, miles per hour: First 2.375 Second 3.125

Third 4 Reverse 2.375

Belt pulley: Diameter 12 3/8" Face 6 1/4" R.P.M. 797

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

Seat pressed steel

Total weight as tested (with operator) 4900 pounds

MOTOR: Make Own Serial No. FS125509 Type 4 cylinder, vertical

Head I Mounting Crankshaft lengthwise Lubrication Pressure

Bore and stroke 3" x 4" Rated R.P.M. 1650

Port diameter valves: Inlet 1.1875" Exhaust 1.1875"

Magneto: Make Own Model F - 4

Carburetor: Make Own Model A - 10 Size 1"

Governor: Make Own Type Variable-speed, centrifugal

Air cleaner: Make Own Type Oil-washed, wire-filter

CHASSIS: Type Tricycle Serial No. FS125509 Drive Enclosed gear

Tread width: Rear 44" - 78" Front: Top 9 1/2" Bottom 6"

Rear tires: No. 2 Size 9.00" x 40", 4 ply Air pressure 16 pounds

Front tires: No. 2 Size 5.00" x 15", 4 ply Air pressure 18 pounds

Added weight per wheel 444 pounds Front 96 pounds

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REPAIRS AND ADJUSTMENTS

The pin which holds the splined end of the steering rod in the splined universal joint sheared off twice, once during the limber-up run and again during the rated load drawbar test.

The cylinder-head-to-radiator hose connection was tightened at the beginning of the drawbar test.

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 97.5% of maximum belt horsepower.

2. Observed maximum horsepower (tests F & B) Drawbar 14.84 Belt 17.44

3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.) Drawbar 15.36 Belt 18.21

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) Drawbar 11.52 Belt 15.48

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 297.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

Ivan D. Wood

L. W. Hurlbut
Board of Tractor Test Engineers