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January 1948

Test 395: McCormick-Deering Farmall Model C

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. 395

SPECIFICATIONS

Type Tricycle Serial No. FC 2127 Drive Enclosed gear

Tread width: Rear 47 in to 80 in. Front 6 3/4 in.

Advertised speeds, miles per hour; First 2 3/8 Second 3 3/4 Third 5

Fourth 10 1/4 Reverse 3

Belt pulley: Diam 8 1/2 in. Face 6 in. RPM 1363 Belt speed 3033 fpm

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

Seat Upholstered seat, conical spring suspension with hydraulic shock absorber

Brakes: Make Own Type Contracting band

Location Brake drums on bull pinion and differential shafts

Gear reduction (brake drum to rear wheel) 6.25 to 1

Locked by Brake pedal lock

Equalization None. Pedals can be locked together

Engine: Make Own Serial No. FC 4431G Type 4 cylinder vertical

Head I Mounting Lengthwise Lubrication Pressure

Bore and stroke 3 in x 4 in Rated rpm 1650

Port diameter valves: Inlet 1 3/16 in Exhaust 1 in.

Magneto: Make Own Generator None

Carburetor: Make Zenith Model 161X6 Size 7/8 in.

Governor: Make Own Type Contrifugal, variable speed

Air Cleaner: Make Donaldson Type Oil washed wire mesh

Oil Filter: Make Purolater Type Replaceable paper element

Cooling medium temperature control: Thermo-Siphon and radiator shutter

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Dates of test: June 7 to June 16, 1948

Name and model of tractor: McCORMICK-DEERING FARMALL C

Manufacturer: THE INTERNATIONAL HARVESTER COMPANY, Chicago, Illinois

Manufacturer's rating: None

HORSEPOWER SUMMARY

	Drawbar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	19.63	22.18
2. Observed maximum horsepower (tests F & B)	18.57	21.12
3. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly ASAE and SAE ratings)	14.72	18.85

REMARKS

Previous to test "B" a decrease in horsepower occurred. The head was removed and combustion chamber cleaned; improved performance resulted.

Tractor was tested without generator and hydraulic pump which are listed among items as special equipment.

FUEL, OIL, and TIME

Fuel Gasoline Octane 74* Weight per gallon 6.120 pounds
Oil SAE No. 30 To motor 1.501 gal. Drained from motor 1.148 gal.

Total time motor was operated 61 1/2 hours

*Octane rating taken from oil company's typical inspection data.

We, the undersigned, certify that this is a true and correct report of official tractor test No. 395.

L. F. Larsen
 Engineer in Charge

C. W. Smith

F. D. Yung

L. W. Hurlbut
 Board of Tractor Test Engineers

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All results shown on pages 2 and 3 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, H, J, and K were made with an operating setting of the carburetor (selected by the manufacturer) of 94.4% of maximum belt horsepower.

B E L T H O R S E P O W E R T E S T S

Horse- power	Crank Shaft speed R.P.M	Fuel Consumption			Water used gal. per hr.	Temperature		Barometer inches of Mercury
		Gal. per hr.	Hp.-Hr. per gal.	Lb. per Hp.-Hr.		Cool- ing med °F.	Air °F.	

TEST B - 100% MAXIMUM LOAD - TWO HOURS

21.12	1651	1.903	11.10	0.551	0.05	191	71	28.787
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

19.91	1650	1.771	11.24	0.544	0.04	194	73	28.815
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*TEST D - ONE HOUR

18.82	1648	1.729	10.88	0.562	0.04	194	75	28.815
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

18.86	1653	1.725	10.93	0.560	-----	195	77	-----
1.81	1781	0.848	2.13	2.867	-----	187	76	-----
9.94	1733	1.309	7.59	0.806	-----	192	79	-----
19.16	1554	1.691	11.33	0.540	-----	195	79	-----
5.12	1772	1.088	4.71	1.301	-----	191	78	-----
14.75	1710	1.564	9.43	0.649	-----	191	78	-----
11.61	1701	1.371	8.47	0.723	0.04	192	78	28.815

*Formerly called RATED LOAD, see HORSEPOWER SUMMARY 3, page 1.

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D R A W B A R H O R S E P O W E R T E S T S

Horse Power	Draw bar pull lb.	Speed M.P.H	Crank shaft speed rpm	Slip on drive wheels %	Fuel Consumption			Water used gal. per hr.	Temperature		Barometer inches in Mercury
					gal. per.hr	hp-hr per gal.	lb. per hp-hr		Cool- ing med °F.	Air °F.	

Rear wheels, tires and added weight used in tests F, G, and H; Cast Spoke wheels;
9-36, 4 ply tires and 782 lb added weight per wheel.

TEST F - 100% MAXIMUM LOAD - 2nd GEAR

18.57	1982	3.51	1650	6.26					203	82	28.900
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TEST G - OPERATING MAXIMUM LOAD

15.90	2902	2.05	1648	12.89	-----Not Recorded-----				200	81	28.896
17.96	1909	3.53	1653	6.07	" "				201	75	28.900
17.93	1419	4.74	1647	3.79	" "				201	80	28.895
15.00	558	10.08	1644	1.20	" "				202	80	28.894

*TEST H - TEN HOURS - 2nd GEAR

15.00	1568	3.59	1652	4.41	1.584	9.47	0.646	0.03	202	82	28.955
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TEST J - OPERATING MAXIMUM LOAD - 2nd GEAR

14.63	1701	3.23	1649	15.23	-----Not Recorded-----				202	86	28.900
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TEST K - OPERATING MAXIMUM LOAD - 2nd GEAR

Lightest weight wheels and smallest tires suggested by manufacturer. All added
weight removed from tractor (liquid, cast iron, or any other added forms.)

13.06	1645	2.98	1655	15.15	----- Not Recorded -----				201	85	28.892
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*Formerly called RATED LOAD; see HORSEPOWER SUMMARY 3, page 1.

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TIRES, WHEELS, and WEIGHT

		Tests F, G, & H	Test J	Test K
Rear Wheel: (each)	Type	Cast Spoke	Cast Spoke	Cast Spoke
	Liquid Ballast	222 lb	None	None
	Added Cast Iron	560 lb	None	None
Rear Tires:	No. Size & Ply	2 9-36 4 ply	2 9-36 4 ply	2 7-36 4 ply
	Type of Tread	Champion Ground Grip	Champion Ground Grip	Champion Ground Grip
	Make	Firestone	Firestone	Firestone
	Air Pressure	16 lb	12 lb	12 lb
Front Wheel: (each)	Type	Cast Spoke	Cast Spoke	Cast Spoke
	Liquid Ballast	None	None	None
	Added Cast Iron	None	None	None
Front Tires:	No. Size & Ply	2 4.00-15 4 ply	2 4.00-15 4 ply	2 4.00-15 4 ply
	Type of Tread	Triple Rib	Triple Rib	Triple Rib
	Make	Goodyear	Goodyear	Goodyear
	Air Pressure	28 lb	28 lb	28 lb
Height of Drawbar		16 inches	16 1/2 inches	13 1/2 inches
Static Weight: Rear End		3392 lb	1828 lb	1750 lb
	Front End	862 lb	862 lb	856 lb
Total Weight as Tested (with operator)		4409 lb	2845 lb	2761 lb