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January 1935

Test 246: McCormick-Deering Model WD-40

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. 246

Dates of test: September 23 to 27, 1935.
Name and model of tractor: McCORMICK-DEERING "WD-40"
Manufacturer: International Harvester Co., Chicago, Illinois.
Manufacturer's rating: NOT RATED.

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

H. P.	:Crank : :shaft :	Fuel Consumption : Gals. : : H. P. : : Lbs. Per : : Cool- : : In : : Cool- : : Inches of	Water Consumption : per hour gallons : : In : : fuel : : Total : : med. :	Temp. : : Deg. F. : : Barometer
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TESTS B AND C 100% MAXIMUM LOAD. TWO HOURS

48.79	: 1100	: 3.350	: 14.56	: 0.507	: 0.000	: 0.000	: 0.000	: 190	: 81	: 28.735
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TEST D RATED LOAD. ONE HOUR

44.10	: 1099	: 3.003	: 14.69	: 0.502	: 0.000	: 0.000	: 0.000	: 191	: 77	: 28.720
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TEST E *VARYING LOAD. TWO HOURS

44.06	: 1097	: 3.000	: 14.69	: 0.502	: --	: --	: --	: 191	: 77	: --
0.66	: 1232	: 1.191	: 0.55	: 13.318	: --	: --	: --	: 181	: 76	: --
23.15	: 1155	: 2.037	: 11.36	: 0.649	: --	: --	: --	: 182	: 75	: --
47.18	: 1084	: 3.244	: 14.54	: 0.507	: --	: --	: --	: 193	: 75	: --
12.13	: 1195	: 1.602	: 7.57	: 0.974	: --	: --	: --	: 182	: 74	: --
33.10	: 1095	: 2.309	: 14.34	: 0.515	: --	: --	: --	: 182	: 74	: --
27.57	: 1142	: 2.230	: 12.36	: 0.597	: 0.000	: 0.000	: 0.000	: 185	: 75	: 28.715

*20 minute runs. Last line is average for two hours.

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 :	Speed : : miles :	Crank : : shaft :	Slip : : on :	Fuel Consumption : H. P. : : Lbs. : : used :	Water: : Gal. : : per : : H.P. : : per : : ing :	Temp. : : Air : : Inches of : Mercury
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TESTS F AND G MAXIMUM LOAD.

37.21	: 4774	: 2.92	: 1103	: 5.45	: -----	: Not Recorded	: 190	: 55	: 29.065
36.52	: 3731	: 3.67	: 1099	: 6.94	: -----	: " "	: 190	: 53	: 29.090
35.25	: 3021	: 4.38	: 1104	: 5.03	: -----	: " "	: 192	: 55	: 29.085

TEST H RATED LOAD. TEN HOURS Second GEAR.

28.09	: 2783	: 3.79	: 1099	: 4.03	: 2.792	: 10.06	: 0.733	: 0.000	: 189	: 52	: 29.200
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AGRICULTURAL COLLEGE, LINCOLNCopy of Report of Official Tractor Test No. 246BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. W.D.C. 677 Type 4 cylinder, vertical diesel
Head I Mounting Crankshaft lengthwise
Bore and stroke: 4 3/4" x 6 1/2" Rated R.P.M. 1100
Port Diam. Valves: Inlet 2" Exhaust 1 3/8"
Belt Pulley: Diam. 16 3/4" Face 9" R.P.M. 588
Fuel system: Own Model PT 40 No. 3187
Magneto: (For starting only) Own Model F-4
Carburetor: (For starting only) Own Model R (Modified) Size 1 1/4"
Governor: Own No. None Type Centrifugal
Air Cleaner: Donaldson Type Combination oil and centrifugal-wire
screen labyrinth
Lubrication: Pressure

CHASSIS: Type 4 wheels, 2 drivers Serial No. 644 Drive enclosed gear
Clutch Own Type single plate-dry disc Operated by foot
Advertised speeds, miles per hour: First 2.6 Second 3.4
Third 3.9 Reverse 2.4
Drive wheels: Diameter 50" Face 12"
Lugs: Type Spade No. per wheel 32 Size 5 " high x 3 1/2" face
Extension rims: Width 6" No. lugs per rim 16 Size 5" high x 3 1/2" face
Seat Pressed steel
Total weight as tested (with operator) 8450 pounds.

FUEL AND OIL: A #3 furnace oil conforming to the fuel
Fuel: specifications of the manufacturer Weight per gallon 7.38
Oil: S.A.E. #30 The oil was drained
once - at the end
of the test.
Total oil to motor 3.307 gallons
Total drained from motor 3.370 gallons
Total time motor was operated 47 hours

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
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No repairs or adjustments.

REMARKS

All results shown on page 1 of this report were determined from observed data and without allowances, additions, or deductions. The fuel pumps were set by the manufacturer to deliver a maximum observed belt horsepower of not less than 48.25 in test B. Tests C, D, E, F, G, and H were made with the same setting. The figures obtained in tests B and F were used in determining the ratings recommended by the A.S.A.E. and S.A.E. tractor rating codes.

Observed maximum horsepower (tests B & F) Drawbar 36.52 Belt 48.79

Sea level (calculated) maximum horsepower Drawbar 37.32 Belt 51.81
(Based on 60° F. and 29.92" Hg.)Highest permissible horsepower ratings Drawbar 27.99 Belt 44.04
(As recommended by A.S.A.E. and S.A.E.
codes)

The 100% maximum belt and drawbar tests were not included in reports issued from 1928 to 1934 inclusive, except in those cases where the 100% maximum setting was used throughout the complete test.

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 246.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

E. B. Lewis
Board of Tractor Test Engineers