January 1940

Test 356: McCormick-Deering Model WD-6 (Diesel)

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. 356

Dates of test: September 20 to 27, 1940.
Name and model of tractor: McCORMICK-DEERING WD-6 (Diesel)
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	
TESTS B AND C - 100% MAXIMUM LOAD - TWO HOURS								
34.75	1450	2.340	14.85	0.471	0.000	195	72	28.905
*TEST D - ONE HOUR								
30.98	1451	2.073	14.94	0.468	0.000	198	70	28.955
TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)								
31.15	1452	2.074	15.02	0.466	--	199	70	--
1.41	1545	0.703	2.01	3.489	--	197	72	--
16.04	1506	1.307	12.27	0.570	--	191	74	--
34.50	1433	2.323	14.85	0.471	--	194	71	--
8.19	1538	0.977	8.38	0.835	--	193	71	--
23.71	1486	1.676	14.15	0.495	--	191	73	--
19.17	1493	1.510	12.70	0.551	0.000	194	72	28.980

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	
TESTS F AND G - 100% MAXIMUM LOAD											
25.25	4806	1.97	1461	18.03	---- Not Recorded ----				197	65	29.240
30.58	3997	2.87	1451	9.78	---- " " ----				193	63	29.255
31.02	2980	3.90	1449	5.78	---- " " ----				201	58	29.310
30.96	2414	4.81	1452	4.43	---- " " ----				193	58	29.310
*TEST H - TEN HOURS - Second - GEAR											
23.43	2948	2.98	1450	6.23	1.799	13.02	0.537	0.000	195	65	28.915

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

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FUEL, OIL, AND TIME

Fuel Commercial diesel fuel Weight per gallon 7.00 pounds

Oil: S.A.E. No. 20 To motor 2.263 gal. Drained from motor 1.675 gal.

Total time motor was operated 39 hours

BRIEF SPECIFICATIONS

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

Third 4 Fourth 4-7/8 Fifth 14-1/2 Reverse 2-7/8

Belt pulley: Diam. 11" Face 7.5" R.P.M. 898 Belt Speed 2587 f.p.m.

Clutch: Make Rockford Type Single plate Operated by foot

Seat Pressed steel with sponge rubber pad

Total weight as tested (with operator) 7995 pounds

MOTOR

Make Own Serial No. WDBKM 699 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 1.500" Exhaust 1.312"

Magneto: (For starting only) Make Own Model H-4

Carburetor: (For starting only) Make Own Model F Size 3/4"

Governor: Make Bosch Type Variable speed, centrifugal

Fuel Injection System: Make Bosch Serial No. 66035 Model APE4A 80N320 S511

Air Cleaner: Make Donaldson Type Oil-washed, wire screen filter

Oil Filter: Make Motor Improvements Inc. Type Partial flow with replaceable bakelite impregnated paper element

Cooling medium temperature control: Bishop and Babcock thermostat and Pines radiator shutters

CHASSIS

Type Standard Serial No. WD6 WDBK655 Drive Enclosed gear

Tread width: Rear 53" Front 46-3/4"

Rear tires: No. 2 Size 13.50 x 24 - 6 ply Air pressure 16 pounds

Front tires: No. 2 Size 6.50 x 16 - 4 ply Air pressure 25 pounds

Added weight: Per rear wheel (Cast Iron 970 pounds
(Water 393 pounds

Per front wheel (Cast Iron 80 pounds
(Water None 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 fuel pumps set to develop approximately 34.5 observed belt horsepower (selected by the manufacturer) 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 the same setting.

	DRAWBAR	BELT
2. Observed maximum horsepower (tests F & B)	30.58	34.75
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	31.38	36.38
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)	23.54	30.92

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 356.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers