January 1937

Test 277: McCormick-Deering TracTractor Model TD-35

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. 277

Dates of test: April 5 to 27, 1937.
Name and model of tractor: McCORMICK-DEERING TracTracTor TD-35
Manufacturer: International Harvester Company, 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 speed R.P.M.	Fuel Consumption			Water Consumption per hour gallons			Temp. Deg. F.		Barometer inches of mercury
		Gals. per hr.	H.P. hrs. per gal.	Lb. per H.P. hr.	Cooling	In fuel	Total	Cooling med.	Air	
TESTS B AND C - 100% MAXIMUM LOAD - TWO HOURS										
42.20	1100	2.849	14.81	0.471	0.000	0.000	0.000	184	57	28.960
*TEST D - ONE HOUR										
37.35	1100	2.547	14.66	0.475	0.000	0.000	0.000	184	56	28.935
TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)										
37.23	1096	2.501	14.89	0.468	--	--	--	185	55	--
0.91	1202	0.921	0.99	7.055	--	--	--	181	53	--
19.21	1146	1.692	11.35	0.614	--	--	--	185	53	--
40.79	1067	2.712	15.04	0.463	--	--	--	185	54	--
10.17	1185	1.287	7.90	0.892	--	--	--	183	52	--
26.24	1123	1.967	13.34	0.522	--	--	--	185	51	--
22.43	1136	1.847	12.14	0.574	0.000	0.000	0.000	184	53	28.935

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 hour	Crank shaft speed R.P.M.	Slip on drive wheels %	Fuel Consumption			Water used Gal. per hour	Temp.		Barometer Inches of Mercury
					Gal. per hour	H. P. hour per Gal.	Lb. per H.P. hour		Cooling med.	Air	
TESTS F AND G - 100% MAXIMUM LOAD											
37.09	8243	1.69	1097	3.57	------Not Recorded------				184	43	28.745
36.33	6314	2.16	1099	2.04	------ " " ------				184	44	28.725
35.24	4855	2.72	1104	1.59	------ " " ------				184	41	28.725
33.58	3982	3.16	1099	0.99	------ " " ------				180	45	28.745
30.96	2914	3.98	1101	0.70	------ " " ------				186	45	28.745
*TEST H - TEN HOURS - Third GEAR											
27.02	3725	2.72	1099	1.24	2.332	11.59	0.602	0.000	178	46	28.620

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

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. TDB 505 Type 4 cylinder, vertical, diesel

Head I Mounting Crankshaft lengthwise

Bore and stroke: 4 1/2" x 6 1/2" Rated R.P.M. 1100

Port Diam. Valves: Inlet 2.030" Exhaust 1.530"

Belt pulley: Diam. 16 3/4" Face 9" R.P.M. 591

Magneto (for starting only) Own Model F 4

Carburetor (for starting only) Own Model C-12 Size 1 1/4"

Governor Own Type Centrifugal

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

Lubrication Pressure

CHASSIS: Type Tracklayer Serial No. TDBB569 Drive Enclosed gear

Clutch Rockford Type Single-plate, dry Operated by Hand

Advertised speeds, miles per hour: First 1.75 Second 2.25

Third 2.75 Fourth 3.25 Fifth 4.00 Reverse 2.25

Measured length of track 18.083' Face 13"

Lugs: Type Cleats integral with shoes No. per track 36

Size 2" high x 13" long

Seat Upholstered

Total weight as tested (with operator) 11,245 pounds.

FUEL, OIL, AND TIME:

Fuel A diesel fuel conforming to manufacturer's specifications Weight per gallon 6.97 pounds.

Oil S.A.E. Viscosity No. 20

Total oil to motor 4.001 gallons

Total drained from motor 2.971 gallons

Total time motor was operated 62 hours

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REPAIRS AND ADJUSTMENTS

During the preliminary drawbar tests and before any official drawbar tests were made, kerosene was applied to the track link joints to relieve stiffness.

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 the fuel pumps set to develop approximately 43.25 belt horsepower (selected by the manufacturer) under standard conditions, 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.

2. Observed maximum horsepower (tests F & B) Drawbar 35.24 Belt 42.20

3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.) Drawbar 36.02 Belt 43.47

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 27.02 Belt 36.95

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 277.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers