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January 1940

Test 344: International TracTractor Model TD-9 (Wide Tread)

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. 344

Dates of test: June 10 to 12, 1940
Name and model of tractor: INTERNATIONAL TRACTOR (Wide Tread) TD-9
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.		Cool- ing med.	Air	
TESTS B AND C - 100% MAXIMUM LOAD - TWO HOURS								
43.93	1399	2.973	14.78	0.472	0.000	200	73	28.980
*TEST D - ONE HOUR								
39.15	1400	2.652	14.76	0.473	0.000	200	74	28.990
TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)								
39.21	1401	2.652	14.79	0.472	--	200	74	--
1.50	1488	0.937	1.60	4.360	--	201	73	--
20.37	1446	1.706	11.94	0.585	--	201	72	--
43.53	1372	2.914	14.94	0.467	--	202	74	--
10.34	1466	1.294	7.99	0.873	--	200	74	--
29.95	1417	2.162	13.85	0.504	--	200	74	--
24.15	1432	1.944	12.42	0.562	0.000	200	73	28.990

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.		Cool- ing med.	Air	
TESTS F AND G - 100% MAXIMUM LOAD											
34.28	9014	1.43	1398	8.07	-----	Not Recorded	-----	201	73	28.860	
37.21	6637	2.10	1401	4.60	-----	" "	-----	203	71	28.935	
36.66	4368	3.15	1400	2.36	-----	" "	-----	200	70	28.935	
36.16	3551	3.82	1399	1.46	-----	" "	-----	202	71	28.910	
32.21	2304	5.24	1399	0.93	-----	" "	-----	204	66	28.960	

*TEST H - TEN HOURS - Second - GEAR

28.97	4971	2.19	1401	0.81	2.359	12.28	0.568	0.026	197	74	28.835
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*Formerly called RATED LOAD; see REMARKS 4, page 3.

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FUEL, OIL, AND TIME

Fuel Commercial diesel fuel Weight per gallon 6.98 pounds

Oil: S.A.E. No. 20 To motor 2.518 gal. Drained from motor 2.660 gal.

Total time motor was operated 28 hours

BRIEF SPECIFICATIONS

Advertised speeds, miles per hour: First 1.5 Second 2.2

Third 3.2 Fourth 3.9 Fifth 5.3 Reverse 1.7

Belt pulley: Diam. 11-5/16" Face 9" R.P.M. 878 Belt Speed 2600 f.p.m.

Clutch: Make Rockford Type Single plate, dry disc Operated by hand

Seat Upholstered

Total weight as tested (with operator) 10,955 pounds

MOTOR

Make Own Serial No. TDCBM 532 Type 4 cylinder, vertical diesel

Head I Mounting Crankshaft lengthwise Lubrication Pressure

Bore and stroke 4.4" x 5.5" Rated R.P.M. 1400

Port diameter valves: Inlet 1.656" Exhaust 1.469"

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. 54530 Model APE4A 8ON320 S500

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

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

Cooling medium temperature control: Bishop and Babcock thermostat and Fines

radiator shutters

CHASSIS

Type Tracklayer Serial No. 522 Drive Enclosed gear

Tread width 60" (wide tread) Measured length of track 17.9144'

Cleats: Type Integral with shoes No. per track 33

Size: 2-1/8" high x 18" long (square corners)

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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 44 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.

	<u>DRAWBAR</u>	<u>BELT</u>
2. Observed maximum horsepower (tests F & B)	37.21	43.93
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	38.88	45.91
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)	29.16	39.02

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 344.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers