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January 1938

Test 315: International TracTractor Model TD-18 (Wide Tread)

Nebraska Tractor Test Lab

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3 pages-page 1

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 315

Dates of test: March 27 to April 14, 1939.

Name and model of tractor: INTERNATIONAL TRACTRACTOR (Wide Tread) TD-18

Manufacturer: International Harvester Company, Chicago, Illinois.

Manufacturer's rating: NOT RATED.

BELT HORSEPOWER TESTS

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

80.32	1199	5.215	15.40	0.455	0.000	187	69	28.630
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*TEST D - ONE HOUR

72.56	1199	4.739	15.31	0.458	0.000	183	71	28.605
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

72.26	1199	4.742	15.24	0.460	--	183	71	--
1.48	1246	1.464	1.01	6.932	--	185	68	--
37.47	1232	3.013	12.44	0.564	--	186	67	--
80.54	1187	5.230	15.40	0.455	--	186	70	--
18.84	1241	2.157	8.73	0.803	--	189	63	--
55.47	1218	3.826	14.50	0.484	--	185	63	--
44.34	1221	3.405	13.02	0.538	0.000	185	67	28.620

DRAWBAR HORSEPOWER TESTS

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. per gal.	Lb. per H.P. hr.		Cool- ing med.	Air	

TESTS F AND G - 100% MAXIMUM LOAD

72.38	18,973	1.43	1203	3.27	----- Not Recorded -----				190	51	28.900
71.97	13,357	2.02	1202	1.79	----- " " -----				190	47	28.960
70.66	10,561	2.51	1201	1.38	----- " " -----				190	44	29.475
69.45	7,827	3.33	1202	0.71	----- " " -----				183	47	29.170
63.85	5,157	4.64	1198	0.18	----- " " -----				188	42	29.130
58.67	3,833	5.74	1201	0.42	----- " " -----				192	41	29.135

*TEST H - TEN HOURS - Third GEAR

53.22	7,943	2.51	1199	0.99	4.214	12.63	0.555	0.000	185	69	28.650
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*Formerly called RATED LOAD; see REMARKS 4, page 3.

3 pages-page 2

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FUEL, OIL, AND TIME

Fuel Commercial diesel fuel Weight per gallon 7.01 pounds
Oil: S.A.E. No. 30 To motor 6.081 gal. Drained from motor 4.682 gal.
Total time motor was operated 72 hours

BRIEF SPECIFICATIONS

Advertised speeds, miles per hour: First 1 1/2 Second 2 Third 2 1/2
Fourth 3 1/4 Fifth 4 5/8 Sixth 5 3/4 Reverse 1 1/2 - 3 1/4
Belt pulley: Diam 13 1/4" Face 12 1/2" R.P.M. 750 Belt Speed 2602 fpm
Clutch: Make Rockford Type Single plate, dry disc Operated by hand
Seat Upholstered
Total weight as tested (with operator) 23,360 pounds

MOTOR

Make Own Serial No. TDRM522 Type 6 cylinder, vertical diesel
Head I Mounting Crankshaft lengthwise Lubrication Pressure
Bore and stroke 4 3/4" x 6 1/2" Rated R.P.M. 1200
Port diameter valves: Inlet 1.781" Exhaust 1.531"
Magneto: (For starting only) Make Own Model F-6
Carburetor: (For starting only) Make Own Model C-12 Size 1 1/4"
Governor: Make Bosch, integral with fuel injection system Type Centrifugal
Fuel Injection System: Make Bosch Serial No. 44353 Model APE6B100N320 EX189
Air Cleaner: Make Donaldson Type Oil-washed, wire-screen filter
Oil Filter: Make Purolator Type Renewable element
Cooling medium temperature control: Dole thermostat, Pines radiator shutter

CHASSIS

Type Tracklayer Serial No. TDR530 Drive Enclosed gear
Tread width 74" (wide tread) Measured length of track 23.1999'
Cleats: Type Integral with shoes No. per track 37
Size 2 1/4" high x 22" long

3 pages-page 3

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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 80 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)	70.66	80.32
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	70.59	84.66
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)	52.94	71.96

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 315.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers