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January 1960

## Test 776: International TD 340 (Diesel)

Tractor Museum

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# NEBRASKA TRACTOR TEST 776 - INTERNATIONAL TD 340 DIESEL

The University of Nebraska Agricultural Experiment Station

E. F. Frolik, Dean and Acting Director, Lincoln, Nebraska

## POWER TAKE-OFF PERFORMANCE

Hp	Crank shaft speed rpm	Fuel Consumption		Hp-hr per gal	Temp Degrees F			Barometer inches of mercury
		Gal per hr	Lb per hp-hr		Cooling med	Air wet bulb	Air dry bulb	
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>								
Rated Engine Speed—Two Hours								
39.80	2000	3.038	0.542	13.10	214	57	75	28.890
Standard Power Take-off Speed (540 rpm)—One Hour								
36.15	1775	2.745	0.539	13.17	212	57	75	28.895
<b>VARYING POWER AND FUEL CONSUMPTION—TWO HOURS</b>								
35.24	2082	2.446	0.493	14.41	197	58	76	.....
0.00	2202	0.866	.....	.....	165	56	74	.....
18.18	2150	1.563	0.611	11.63	176	57	74	.....
39.56	1999	3.038	0.545	13.02	211	58	76	.....
9.20	2178	1.179	0.910	7.80	170	55	72	.....
26.90	2120	1.973	0.521	13.63	182	56	73	.....
Av 21.51	2122	1.844	0.609	11.66	183	57	74	28.908

## DRAWBAR PERFORMANCE

Hp	Draw-bar pull lbs	Speed miles per hr	Crank shaft speed rpm	Slip of drivers %	Fuel Consumption		Hp-hr per gal	Temperature Degrees F			Barometer inches of mercury
					Gal per hr	Lb per hp hr		Cooling medium	Air wet bulb	Air dry bulb	
<b>VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST</b>											
Maximum Available Power—Two Hours—2nd Gear											
31.64	5592	2.12	1998	4.97	2.862	0.642	11.06	190	44	50	28.580
75% of Pull at Maximum Power—Ten Hours—2nd Gear											
25.60	4260	2.25	2088	3.56	2.281	0.633	11.22	179	46	54	28.498
50% of Pull at Maximum Power—Two Hours—2nd Gear											
18.08	2894	2.34	2137	1.84	1.828	0.718	9.89	168	31	32	28.520
<b>MAXIMUM POWER WITH BALLAST</b>											
25.93	6801	1.43	2096	6.71	1st Gear	.....	.....	175	43	49	28.560
32.72	5735	2.14	1999	4.29	2nd Gear	.....	.....	177	42	47	28.580
32.27	4116	2.94	2004	2.71	3rd Gear	.....	.....	179	43	49	28.550
32.19	2859	4.22	2002	1.34	4th Gear	.....	.....	178	43	49	28.550
28.14	1811	5.83	2005	0.77	5th Gear	.....	.....	180	38	42	28.610
<b>VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST—2nd Gear</b>											
Pounds pull			5750	5900	6000	5950	5850	5450			
Horsepower			32.7	29.9	27.2	23.8	20.3	16.0			
Miles per hour			2.1	1.9	1.7	1.5	1.3	1.1			

## Department of Agricultural Engineering

Dates of Test: October 29 to November 2, 1960

Manufacturer: INTERNATIONAL HARVESTER COMPANY, CHICAGO, ILLINOIS

Manufacturer's Power Rating: 39 PTO Horsepower and 33 Drawbar Horsepower (corrected to standard conditions)

**FUEL, OIL and TIME** Fuel No 2 Diesel Cetane No 47 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.8528 Weight per gallon 7.101 lb Oil SAE 10W API service classification DS To motor 1.753 gal Drained from motor 1.133 gal Transmission and final-drive lubricant IH Hy Tran fluid Total time engine was operated 41 hours.

**ENGINE** Make International Diesel Type 4 cylinder vertical Serial No D166 911 Crankshaft mounted lengthwise Rated rpm 2000 Bore and stroke 3<sup>11</sup>/<sub>16</sub>" x 3<sup>3</sup>/<sub>8</sub>" Compression ratio 19.7 to 1 Displacement 166 cu in Cranking system 12 volt electric Lubrication pressure Air cleaner dry type with replaceable element Oil filter replaceable treated paper element Fuel filter one replaceable radial fin treated paper element Muffler was used Cooling medium temperature control thermostat.

**CHASSIS** Type tracklayer Serial No TD-340-4328 Tread width 48" Wheel base 66" Drawbar height 11" Measured length of track 17.5 ft Cleats integral with shoes Cleats per track 35 Size of cleats 14" x 1<sup>1</sup>/<sub>8</sub>" Center of gravity (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from center-line of rear wheels 31.5" Vertical distance above roadway 20.5" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive Transmission selective gear fixed ratio Advertised speeds mph first 1.46 second 2.23 third 3.0 fourth 4.26 fifth 5.83 reverse 1.82 Clutch single plate dry disc operated by foot pedal Brakes double disc operated by steering levers or one foot pedal for both brakes Steering hand levers controlling brakes and single disc planetary steering Turning space diameter (with brake applied) right 161" left 161" Belt pulley 1064 rpm at 2000 engine rpm diam 11" face 7<sup>1</sup>/<sub>2</sub>" Belt speed 3064 fpm Power take-off 608 rpm at 2000 engine rpm.

**TOTAL WEIGHT** with operator 7135 lbs including front bumper 405 lbs, crankcase guards 37 lbs, front transmission guard 36 lbs, independent power take-off 130 lbs, swinging drawbar 68 lbs, track roller shields 130 lbs, 12 gallon hydraulic pump with dual control valves 82 lbs.

**REPAIRS and ADJUSTMENTS** No repairs or adjustments.

**REMARKS** All test results were determined from observed data obtained in accordance with the SAE and ASAE test code.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 776.

L. F. LARSEN  
Engineer-in-Charge

L. W. HURLBUT, Chairman  
G. W. STEINBRUEGGE  
J. J. SULEK  
Board of Tractor  
Test Engineers