

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.
Larsen

1-1-1965

Test 881: Ford 3000 8-Speed (Diesel)

Tractor Museum

University of Nebraska-Lincoln, TractorMuseumArchives@unl.edu

Follow this and additional works at: <http://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Applied Mechanics Commons](#)

Museum, Tractor, "Test 881: Ford 3000 8-Speed (Diesel)" (1965). *Nebraska Tractor Tests*. Paper 1263.
<http://digitalcommons.unl.edu/tractormuseumlit/1263>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

NEBRASKA TRACTOR TEST 881 - FORD 3000 8-SPEED DIESEL

POWER TAKE-OFF PERFORMANCE

Hp	Crankshaft speed rpm	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	
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours								
39.20	2000	2.421	0.427	16.19	192	54	74	29.090
Standard Power Take-off Speed (540 rpm)—One Hour								
37.34	1810	2.230	0.412	16.74	191	55	75	29.075
VARYING POWER AND FUEL CONSUMPTION—TWO HOURS								
34.80	2089	2.176	0.432	15.99	189	57	78	.....
0.00	2222	0.764	.....	.....	180	56	76	.....
17.86	2145	1.442	0.558	12.39	186	56	76	.....
39.63	2000	2.467	0.430	16.06	193	56	77	.....
9.09	2182	1.086	0.825	8.37	180	56	76	.....
26.36	2110	1.816	0.476	14.52	186	56	76	.....
Av 21.29	2124	1.625	0.527	13.10	185	56	76	29.010

DRAWBAR PERFORMANCE

Hp	Drawbar pull lbs	Speed miles per hr	Crankshaft speed rpm	Slip of drivers %	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	

VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST

Maximum Available Power—Two Hours—4th Gear											
34.88	2798	4.68	1996	4.78	2.538	0.503	13.74	192	42	49	29.250
75% of Pull at Maximum Power—Ten Hours—4th Gear											
29.10	2173	5.02	2125	3.89	2.197	0.521	13.25	189	34	38	29.330
50% of Pull at Maximum Power—Two Hours—4th Gear											
20.34	1473	5.18	2160	2.55	1.814	0.616	11.21	187	36	40	29.050

MAXIMUM POWER WITH BALLAST

27.40	5106	2.01	2111	11.69	2nd Gear	.....	180	31	34	29.340
34.27	3827	3.36	2007	7.30	3rd Gear	.....	192	32	34	29.320
35.71	2876	4.66	2002	5.46	4th Gear	.....	192	32	34	29.320
36.11	2910	4.65	2000	5.35	5th Gear	.....	190	32	32	29.330
35.21	1767	7.47	2009	3.31	6th Gear	.....	189	32	32	29.330
32.24	951	12.71	2007	1.53	7th Gear	.....	185	32	32	29.310

MAXIMUM POWER WITHOUT BALLAST

34.30	2886	4.46	1998	10.58	4th Gear	192	44	47	28.730
-------	------	------	------	-------	----------	-------	-----	----	----	--------

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST—4th Gear

Pounds pull	2876	3087	3277	3288	3287	3336	3247
Horsepower	35.71	34.19	32.20	28.31	24.16	20.45	16.11
Crankshaft Speed, rpm	2002	1792	1595	1399	1195	998	806
Miles per hour	4.66	4.15	3.69	3.23	2.76	2.30	1.86
Slip of drivers, %	5.46	5.89	6.10	6.21	6.21	6.31	6.21

TIRES, BALLAST and WEIGHT

		With Ballast	Without Ballast
Rear tires	—No, size, ply & psi	Two 14.9-24; 4; 14	Two 14.9-24; 4; 12
Ballast	—Liquid	623 lb each	None
	—Cast iron	770 lb each	None
Front tires	—No, size, ply & psi	Two 6.00-16; 4; 28	Two 6.00-16; 4; 24
Ballast	—Liquid	None	None
	—Cast iron	None	None
Height of drawbar		19 inches	20½ inches
Static weight	—Rear	5090 lb	2304 lb
	—Front	1620 lb	1662 lb
Total weight with operator		6885 lb	4141 lb

The University of Nebraska Agricultural Experiment Station
E. F. Frolik, Dean; H. H. Kramer, Director, Lincoln, Nebraska

Department of Agricultural Engineering

Dates of Test: MARCH 29 TO APRIL 6, 1965

Manufacturer: FORD MOTOR COMPANY, BIRMINGHAM, MICHIGAN

FUEL, OIL and TIME Fuel No 2 diesel Cetane No 57.0 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.8295 Weight per gallon 6.907 lb Oil SAE 10W API service classification DS To motor 1.682 gal Drained from motor 1.344 gal Transmission and final-drive lubricant Ford M2C77A Total time engine was operated 53 hours.

ENGINE Make Ford Diesel Type 3 cylinder vertical Serial No ND002932L4 Crankshaft mounted lengthwise Rated rpm 2000 Bore and stroke 4.2" x 4.2" Compression ratio 16.5 to 1 Displacement 175 cu in Cranking system 12 volt electric Lubrication pressure Air cleaner oil washed wire mesh Oil filter full flow replaceable cotton element Fuel filter one filter with replaceable nylon gauze element and one filter with replaceable paper element Muffler was used Cooling medium temperature control thermostat.

CHASSIS Type standard Serial No C100621 Tread width rear 52" to 76" front 52" to 80" Wheel base 75.8" Center of gravity (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from centerline of rear wheels 32.8" Vertical distance above roadway 25.2" 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 1.4 second 2.2 third 3.6 fourth 4.8 fifth 4.8 sixth 7.6 seventh 12.8 eighth 17.4 reverse 2.2 and 8.0 Clutch single plate dry disc in combination with PTO clutch operated by single foot pedal Brakes internal expanding shoe operated by two foot pedals that can be locked Steering mechanical with hydraulic power assist Turning radius (on concrete surface with brake applied) right 117" left 117" (on concrete surface without brake) right 129" left 129" Turning space diameter (on concrete surface with brake applied) right 240" left 240" (on concrete surface without brake) right 267" left 267" Belt pulley 1113 rpm at 2000 engine rpm diam 10.25" face 6.5" Belt sped 2986 fpm Power take-off 537 rpm at 1800 engine rpm.

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.

First gear was not run as it was necessary to limit the pull in second gear because of the stability formula. Eighth gear was not run as it exceeded 15 mph.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 881.

L. F. LARSEN
Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman
J. J. SULEK
D. E. LANE
Board of Tractor Test Engineers