

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

January 1973

Test 1121: Ford 8600 Diesel Dual Power, Ford 8600 Diesel Dual Power Row Crop, Ford 8600 Diesel 8-Speed All Purpose and Ford 8600 Diesel 8-Speed Row Crop

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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



Part of the [Energy Systems Commons](#), [History of Science, Technology, and Medicine Commons](#), [Other Mechanical Engineering Commons](#), [Physical Sciences and Mathematics Commons](#), [Science and Mathematics Education Commons](#), and the [United States History Commons](#)

Nebraska Tractor Test Lab, "Test 1121: Ford 8600 Diesel Dual Power, Ford 8600 Diesel Dual Power Row Crop, Ford 8600 Diesel 8-Speed All Purpose and Ford 8600 Diesel 8-Speed Row Crop" (1973). *Nebraska Tractor Tests*. 1444.

<https://digitalcommons.unl.edu/tractormuseumlit/1444>

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 1121 – FORD 8600 DIESEL DUAL POWER

(ALSO FORD 8600 DIESEL DUAL POWER ROW CROP)

(ALSO FORD 8600 DIESEL 8-SPEED ALL PURPOSE)

(ALSO FORD 8600 DIESEL 8-SPEED ROW CROP)

POWER TAKE-OFF PERFORMANCE

Hp	Crank- shaft speed rpm	Fuel Consumption Gal per hr	Lb per hp-hr	Hp-hr per gal	Temperature Degrees F Cooling medium	Air wet bulb	Air dry bulb	Barometer inches of Mercury
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—1189 rpm)								
110.69	2300	7.348	0.462	15.06	217	59	75	28.905
Standard Power Take-off Speed (1000 rpm)—One Hour								
99.32	1935	6.332	0.444	15.69	217	60	75	28.910
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
98.81	2420	6.456	0.455	15.31	200	60	74	.....
0.00	2547	2.112	.....	.....	170	58	73	.....
50.25	2460	4.012	0.556	12.52	174	60	75	.....
112.39	2300	7.361	0.456	15.27	208	59	75	.....
25.81	2527	3.090	0.833	8.35	173	60	77	.....
74.94	2447	5.167	0.480	14.50	176	59	75	.....
Av. 60.37	2450	4.700	0.542	12.84	184	59	75	28.910

DRAWBAR PERFORMANCE

Hp	Draw- bar pull lbs	Speed miles per hr	Crank- shaft speed rpm	Fuel Consumption Gal per hr	Lb per hp-hr	Hp-hr per gal	Temp Cool- ing med	Degrees F Air wet bulb	Air dry bulb	Barometer inches of Mercury
----	-----------------------------	-----------------------------	---------------------------------	--------------------------------------	--------------------	---------------------	-----------------------------	---------------------------------	--------------------	-----------------------------------

VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST

Maximum Available Power—Two Hours—8th Gear (5 PD)											
92.42	7085	4.89	2300	7.62	7.272	0.547	12.71	187	55	70	28.540
75% of Pull at Maximum Power—Ten Hours—8th Gear (5 PD)											
77.13	5427	5.33	2442	5.26	6.055	0.546	12.74	169	40	44	28.813
50% of Pull at Maximum Power—Two Hours—8th Gear (5 PD)											
54.63	3681	5.56	2507	3.67	4.884	0.622	11.19	170	38	46	29.135
50% of Pull at Reduced Engine Speed—Two Hours—11th Gear (6 PD)											
55.46	3668	5.67	1810	3.75	4.004	0.502	13.85	168	58	74	28.550

MAXIMUM POWER WITH BALLAST

78.83	11363	2.60	2395	14.52	4th Gear (2 DD)	176	53	66	28.770
87.72	8262	3.98	2300	9.40	6th Gear (3 DD)	198	54	68	28.700
90.60	8210	4.14	2296	9.33	7th Gear 4 PD)	200	54	68	28.720
93.26	7168	4.88	2300	7.80	8th Gear (5 PD)	198	55	70	28.720
92.60	4889	7.10	2300	5.06	11th Gear (6 PD)	198	54	68	28.700
91.72	3163	10.87	2297	3.23	13th Gear (7 PD)	200	54	68	28.700

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST—8th Gear (5 PD)

Pounds Pull	7168	7496	7784	7791	7737	7708
Horsepower	93.26	87.08	80.94	69.64	60.36	49.07
Crankshaft Speed rpm	2300	2064	1853	1597	1391	1136
Miles Per Hour	4.88	4.36	3.90	3.35	2.93	2.39
Slip of Drivers %	7.80	8.39	8.68	8.97	9.25	8.83

TRACTOR SOUND LEVEL

	dB (A)
Maximum Available Power 2 Hours	82.5
75% of Pull at Max. Power 10 Hours	82.0
50% of Pull at Max. Power 2 Hours	85.0
50% of Pull at Reduced Engine Speed 2 Hours	82.0
Bystander 16th Gear (8 DD)	85.5

TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Rear tires	—No, size, ply & psi	Two 23.1-34;8;16
Ballast	—Liquid	1715 lb each
	Cast Iron	None
Front tires	—No, size, ply & psi	Two 10.00-16;6;28
Ballast	—Liquid	None
	Cast Iron	None
Height of drawbar	22 Inches	23 Inches
Static weight with operator—Rear	11290 lb	7860 lb
Front	3500 lb	3570 lb
Total	14790 lb	11430 lb

Department of Agricultural Engineering

Dates of Test: April 2 to April 14, 1973

Manufacturer: FORD MOTOR COMPANY,
FORD TRACTOR OPERATIONS, TROY,
MICHIGAN

FUEL, OIL AND TIME Fuel No. 2 Diesel Cetane No. 50.1 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.8360 Weight per gallon 6.961 lb. Oil SAE 30 API service classification SB/SE-CA/CD (formerly MS-DS) To motor 3.657 gal Drained from motor 2.017 gal Transmission and final drive lubricant Ford oil M-2C53-B or ESN-M2C53-A Total time engine was operated 62 hours.

ENGINE Make Ford Diesel Type 6 cylinder vertical Serial No. G485371 Crankshaft Mounted lengthwise Rated rpm 2300 Bore and stroke 4.4"x4.4" Compression ratio 16.5 to 1 Displacement 401 cu in Cranking system 12 volt electric Lubrication pressure Air cleaner dry type with replaceable paper element and automatic dust unloader Oil filter dual media full flow with replaceable element Oil cooler engine coolant heat exchanger for engine oil and radiator for transmission and hydraulic oil Fuel Filter screen in tank, dual replaceable paper elements with water traps Muffler was used Cooling medium temperature control thermostat.

CHASSIS Type standard Serial No. C366553 Tread width rear 64" to 88" front 56" to 84" Wheel base 91.5" 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 28.4" Vertical distance above roadway 38" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive Transmission Selective gear fixed ratio with partial range operator controlled power shifting Advertised speeds mph first 1.6 second 2.0 third 2.2 fourth 2.8 fifth 3.3 sixth 4.2 seventh 4.4 eighth 5.1 ninth 5.7 tenth 6.6 eleventh 7.2 twelfth 9.3 thirteenth 10.8 fourteenth 13.9 fifteenth 14.5 sixteenth 18.6 reverse 1.9, 2.5, 6.3, 8.2 Clutch single plate dry disc operated by foot pedal Brakes wet disc hydraulically actuated by two foot pedals which can be locked together Steering hydrostatic Turning radius (on concrete surface with brake applied) right 132" left 132" (on concrete surface without brake) right 156" left 156" Turning space diameter (on concrete surface with brake applied) right 287" left 287" (on concrete surface without brake) right 322" left 322" Power take-off 1000 rpm at 1935 engine rpm or 1139 rpm at 2300 engine rpm.

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

Remarks: All test results were determined from observed data obtained in accordance with SAE and ASAE test code or official Nebraska test procedure.

First, second and third gears were not run as it was necessary to limit the pull in fourth gear because of the stability formula. Fifth, ninth, twelfth, fourteenth, fifteenth, and sixteenth gears were not run as test procedure requires only six travel speeds.

The walls of the first and second cylinders showed evidence of scoring.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1121.

L. F. LARSEN

Engineer-in-Charge

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

The University of Nebraska Agricultural Experiment Station

E. F. Frolik, Dean; H. W. Ottoson, Director; Lincoln, Nebraska