

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

1-1-1983

Test 1492: Ford 2910 (8x4) Diesel 8-Speed

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 1492: Ford 2910 (8x4) Diesel 8-Speed" (1983). *Nebraska Tractor Tests*. 1803.

<https://digitalcommons.unl.edu/tractormuseumlit/1803>

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 1492—FORD 2910 (8x4) DIESEL 8 SPEED

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption			Temperature °F (°C)			Barometer inch Hg (kPa)
		gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cooling medium	Air wet bulb	Air dry bulb	
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—600 rpm)								
36.40 (27.14)	2000	2.336 (8.843)	0.449 (0.273)	15.58 (3.069)	190 (87.7)	68 (19.9)	75 (23.8)	28.767 (97.141)
Standard Power Take-off Speed (540 rpm)—One Hour								
34.75 (25.91)	1799	2.179 (8.248)	0.439 (0.267)	15.95 (3.141)	190 (87.8)	69 (20.3)	75 (24.1)	28.765 (97.135)

VARYING POWER AND FUEL CONSUMPTION—Two Hours

31.84 (23.74)	2058	2.105 (7.968)	0.463 (0.281)	15.13 (2.979)	186 (85.6)	68 (20.0)	76 (24.4)	.....
0.00 (0.00)	2146	0.763 (2.888)	.....	.....	181 (82.8)	67 (19.4)	75 (23.9)	.....
16.31 (12.16)	2109	1.393 (5.273)	0.598 (0.364)	11.71 (2.306)	184 (84.2)	67 (19.4)	75 (23.9)	.....
36.66 (27.34)	2000	2.336 (8.843)	0.446 (0.271)	15.69 (3.092)	190 (87.5)	67 (19.4)	76 (24.2)	.....
8.26 (6.16)	2132	1.067 (4.039)	0.905 (0.550)	7.74 (1.525)	180 (82.2)	66 (19.2)	76 (24.4)	.....
24.26 (18.09)	2092	1.663 (6.295)	0.480 (0.292)	14.59 (2.874)	185 (85.0)	65 (18.3)	76 (24.4)	.....
Av 19.56 Av (14.59)	2089	1.555 (5.886)	0.556 (0.338)	12.58 (2.479)	184 (84.6)	67 (19.3)	76 (24.2)	28.755 (97.101)

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			Barom. inch Hg (kPa)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	
Maximum Available Power—Two Hours 5th Gear											
30.10 (22.44)	1977 (8.79)	5.71 (9.19)	2001	5.06	2.315 (8.762)	0.538 (0.327)	13.00 (2.562)	193 (89.4)	62 (16.7)	78 (25.3)	28.870 (97.490)
75% of Pull at Maximum Power—Ten Hours 5th Gear											
24.62 (18.36)	1537 (6.84)	6.01 (9.67)	2079	3.85	2.012 (7.615)	0.572 (0.348)	12.24 (2.411)	191 (88.4)	71 (21.4)	82 (28.0)	28.560 (96.443)
50% of Pull at Maximum Power—Two Hours 5th Gear											
16.87 (12.58)	1025 (4.56)	6.17 (9.93)	2112	2.75	1.593 (6.030)	0.661 (0.402)	10.59 (2.087)	186 (85.6)	60 (15.3)	75 (23.9)	28.875 (97.507)
50% of Pull at Reduced Engine Speed—Two Hours 6th Gear											
16.86 (12.57)	1025 (4.56)	6.17 (9.93)	1448	2.60	1.293 (4.895)	0.537 (0.327)	13.04 (2.569)	186 (85.3)	60 (15.3)	75 (23.6)	28.825 (97.338)

MAXIMUM POWER IN SELECTED GEARS

24.59 (18.34)	4223 (18.78)	2.18 (3.51)	2072	14.84	2nd Gear			187 (86.1)	53 (11.7)	60 (15.6)	28.960 (97.794)
29.96 (22.34)	3448 (15.34)	3.26 (5.24)	2002	10.11	3rd Gear			189 (87.2)	54 (12.2)	61 (16.1)	28.960 (97.794)
30.06 (22.42)	2280 (10.14)	4.94 (7.96)	2000	6.08	4th Gear			189 (87.2)	55 (12.8)	63 (17.2)	28.960 (97.794)
31.03 (23.14)	2049 (9.11)	5.68 (9.14)	1999	5.48	5th Gear			189 (87.2)	56 (13.3)	65 (18.3)	28.960 (97.794)
29.94 (22.33)	1332 (5.93)	8.43 (13.57)	2001	3.68	6th Gear			189 (87.2)	54 (12.2)	62 (16.7)	28.960 (97.794)

LUGGING ABILITY IN 5th GEAR

Crankshaft Speed rpm	1999	1809	1593	1383	1219	985
Pull—lbs (kN)	2049 (9.11)	2183 (9.71)	2291 (10.19)	2375 (10.56)	2369 (10.54)	2370 (10.54)
Increase in Pull %	0	7	12	16	16	16
Power—Hp (kW)	31.03 (23.14)	29.81 (22.23)	27.46 (20.48)	24.64 (18.37)	21.67 (16.16)	17.51 (13.05)
Speed—Mph (km/h)	5.68 (9.14)	5.12 (8.24)	4.49 (7.23)	3.89 (6.26)	3.43 (5.52)	2.77 (4.46)
Slip %	5.48	5.92	6.14	6.46	6.46	6.46

Department of Agricultural Engineering

Dates of Test: September 14-26, 1983

Manufacturer: FORD MOTOR COMPANY,
Ford Tractor Operations, 2500 East Maple
Road, Troy, Michigan 48084

FUEL, OIL AND TIME: Fuel No. 2 Diesel
Cetane No. 47.0 (rating taken from oil company's
inspection data) **Specific gravity converted to 60°
60° (15°/15°)** 0.8406 **Fuel weight** 6.999 lbs/gal
(0.829 kg/l) **Oil SAE 30 API service classifica-
tion** SE-SF, CC-CD **To motor** 1.472 gal (5.570 l)
Drained from motor 1.300 gal (4.921 l) **Trans-
mission and final drive lubricant** Ford 134 fluid
Total time engine was operated 39.0 hours.

ENGINE: Make Ford Diesel **Type** three cylin-
der vertical **Serial No.** *B703582* **Crankshaft**
lengthwise **Rated rpm** 2000 **Bore and stroke** 4.2"
× 4.2" (106.7 mm × 106.7 mm) **Compression**
ratio 17.3 to 1 **Displacement** 175 cu in (2868 ml)
Starting system 12 volt **Lubrication pressure** **Air**
cleaner two paper elements **Oil filter** one full
flow paper cartridge **Fuel filter** one paper ele-
ment **Muffler** vertical **Cooling medium tempera-
ture control** one thermostat.

CHASSIS: **Type** standard **Serial No.**
C699559 **Tread width** rear 56" (1422 mm) to
80" (2032 mm) front 52" (1320 mm) to 80" (2032
mm) **Wheel base** 77.5" (1969 mm) **Center of grav-
ity** (without operator or ballast, with minimum
tread, with fuel tank filled and tractor serviced for
operation) Horizontal distance forward from cen-
ter-line of rear wheels 28.5" (724 mm) Vertical dis-
tance above roadway 28.1" (715 mm) Horizontal
distance from center of rear wheel tread 0" (0 mm)
to the right/left **Hydraulic control system** direct
engine drive **Transmission** selective gear fixed
ratio **Advertised speeds mph (km/h)** first 1.7 (2.7)
second 2.5 (4.0) third 3.6 (5.8) fourth 5.3 (8.5)
fifth 6.1 (9.8) sixth 8.8 (14.2) seventh 12.9 (20.8)
eighth 19.1 (30.7) reverse 2.2 (3.5), 3.2 (5.1), 4.7
(7.6), 6.9 (11.1) **Clutch** single plate dry disc oper-
ated by foot pedal **Brakes** multiple wet disc oper-
ated by two foot pedals which can be locked
together **Steering** power assist **Turning radius**
(on concrete surface with brake applied) right
114" (2.89 m) left 114" (2.89 m) (on concrete sur-
face without brake) right 136" (3.45 m) left 136"
(3.45 m) **Turning space diameter** (on concrete
surface with brake applied) right 233" (5.92 m) left
233" (5.92 m) (on concrete surface without brake)
right 275" (6.98 m) left 275" (6.98 m) **Power take-
off** 540 rpm at 1799 engine rpm.

REPAIRS and ADJUSTMENTS: No repairs or
adjustments.

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)
Maximum Available Power—Two Hours	94.5
75% of Pull at Maximum Power—Ten Hours	95.0
50% of Pull at Maximum Power—Two Hours	94.0
50% of Pull at Reduced Engine Speed—Two Hours	91.5
Bystander in 8th gear	86.0

TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi (kPa)	Two 13.6-28; 4; 14 (95)	Two 13.6-28; 4; 14 (95)
Ballast	—Liquid (each)	467 lb (212 kg)	None
	—Cast Iron (each)	133 lb (60 kg)	None
Front Tires	—No., size, ply & psi (kPa)	Two 6.00-16; 4; 36 (250)	Two 6.00-16; 4; 36 (250)
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	52 lb (24 kg)	None
Height of Drawbar		16.5 in (420 mm)	16.5 in (420 mm)
Static Weight with Operator	—Rear	4150 lb (1882 kg)	2950 lb (1338 kg)
	—Front	1805 lb (819 kg)	1700 lb (771 kg)
	—Total	5955 lb (2701 kg)	4650 lb (2109 kg)

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test codes or official Nebraska test procedure. For the maximum power tests, the fuel temperature at the injection pump was maintained at 139°F (59.6°C). Five gears were chosen between 15% slip and 10 mph (16.1 km/h).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1492.**

LOUIS I. LEVITICUS
Engineer-in-Charge

K. VON BARGEN
W. E. SPLINTER
L. L. BASHFORD
Board of Tractor Test Engineers



Ford 2910 (8x4) Diesel