1-1-1983

Test 1491: Ford 2910 (8x2) Diesel 8-Speed

Nebraska Tractor Test Lab
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NEBRASKA TRACTOR TEST 1491—FORD 2910 (8x2) DIESEL 8 SPEED

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temperature °F (°C) Cooling medium	Air wet bulb	Air dry bulb	Barometer inch Hg (kPa)
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—600 rpm)								
36.62 (27.31)	2000	2.332 (8.828)	0.446 (0.271)	15.71 (3.094)	188 (86.6)	58 (14.4)	75 (24.0)	29.220 (98.672)
Standard Power Take-off Speed (540 rpm)—One Hour								
35.09 (26.17)	1800	2.187 (8.279)	0.436 (0.265)	16.04 (3.161)	188 (86.7)	57 (13.9)	75 (23.9)	29.250 (98.773)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
31.69 (23.63)	2035	2.079 (7.870)	0.459 (0.279)	15.24 (3.003)	184 (84.7)	56 (13.3)	74 (23.3)	....
0.00 (0.00)	2126	0.767 (2.903)	....	....	150 (65.6)	56 (13.3)	74 (23.1)	....
16.22 (12.10)	2084	1.389 (5.258)	0.599 (0.365)	11.68 (2.301)	157 (69.4)	56 (13.6)	75 (23.9)	....
36.83 (27.46)	1999	2.340 (8.858)	0.445 (0.271)	15.74 (3.100)	188 (86.9)	57 (13.9)	76 (24.4)	....
8.19 (6.11)	2106	1.054 (3.990)	0.901 (0.548)	7.77 (1.531)	152 (66.9)	56 (13.3)	74 (23.3)	....
24.04 (17.93)	2060	1.723 (6.522)	0.502 (0.305)	13.95 (2.749)	170 (76.4)	56 (13.6)	76 (24.2)	....
Av 19.50	**2069**	**1.559**	**0.560**	**12.51**	**167**	**56**	**75**	**29.240**
Av (14.54)		***(5.901)***	***(0.340)***	***(2.464)***	***(75.0)***	***(13.5)***	***(23.7)***	***(98.739)***

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank-shaft speed rpm	Slip %	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) Cool-ing med	Air wet bulb	Air dry bulb	Barom. inch Hg (kPa)
Maximum Available Power—Two Hours 5th Gear											
29.09 (21.69)	1886 (8.39)	5.78 (9.31)	2000	5.09	2.207 (8.356)	0.531 (0.323)	13.18 (2.596)	191 (88.3)	66 (18.6)	78 (25.6)	29.085 (98.216)
75% of Pull at Maximum Power—Ten Hours 5th Gear											
23.71 (17.68)	1485 (6.61)	5.99 (9.64)	2041	3.72	1.926 (7.291)	0.569 (0.346)	12.31 (2.425)	187 (86.1)	66 (19.1)	80 (26.7)	28.952 (97.767)
50% of Pull at Maximum Power—Two Hours 5th Gear											
16.19 (12.07)	990 (4.40)	6.13 (9.87)	2066	2.60	1.543 (5.841)	0.667 (0.406)	10.49 (2.067)	182 (83.1)	66 (18.6)	86 (30.0)	29.060 (98.131)
50% of Pull at Reduced Engine Speed—Two Hours 6th Gear											
16.22 (12.09)	990 (4.40)	6.14 (9.89)	1655	2.34	1.357 (5.138)	0.586 (0.356)	11.95 (2.354)	186 (85.3)	65 (18.3)	89 (31.4)	29.015 (97.979)
MAXIMUM POWER IN SELECTED GEARS											
21.00 (15.66)	4237 (18.85)	1.86 (2.99)	2049	14.78	2nd Gear			163 (72.5)	55 (12.8)	57 (13.9)	29.060 (98.131)
29.07 (21.68)	3208 (14.27)	3.40 (5.47)	2000	8.98	3rd Gear			187 (86.1)	56 (13.3)	59 (15.0)	29.070 (98.165)
29.62 (22.09)	2333 (10.38)	4.76 (7.66)	1999	6.24	4th Gear			187 (86.1)	58 (14.4)	62 (16.7)	29.080 (98.199)
30.45 (22.71)	1980 (8.81)	5.77 (9.28)	1997	5.25	5th Gear			189 (87.2)	62 (16.7)	71 (21.7)	29.100 (98.266)
29.75 (22.19)	1533 (6.82)	7.28 (11.72)	1997	4.13	6th Gear			188 (86.7)	59 (15.0)	65 (18.3)	29.090 (98.233)

LUGGING ABILITY IN 5th GEAR

Crankshaft Speed rpm	1997	1800	1606	1395	1194	994
Pull—lbs (kN)	1980 (8.81)	2136 (9.50)	2248 (10.00)	2321 (10.32)	2343 (10.42)	2336 (10.39)
Increase in Pull %	0	8	14	17	18	18
Power—Hp (kW)	30.45 (22.71)	29.47 (21.98)	27.58 (20.57)	24.68 (18.40)	21.31 (15.89)	17.67 (13.18)
Speed—Mph (km/h)	5.77 (9.28)	5.17 (8.33)	4.60 (7.40)	3.99 (6.42)	3.41 (5.49)	2.84 (4.57)
Slip %	5.25	5.59	6.02	6.13	6.13	6.24

Department of Agricultural Engineering

Dates of Test: September 14-28, 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 *(0.839 kg/l)* **Oil SAE** 30 **API service classification** SE-SF, CC-CD **To motor** 1.411 gal *(5.341 l)* **Drained from motor** 1.271 gal *(4.810 l)* **Transmission and final drive lubricant** Ford 134 fluid **Total time engine was operated** 38.0 hours.

ENGINE: Make Ford Diesel **Type** three cylinder vertical **Serial No.** *B698152* **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 element **Muffler** vertical **Cooling medium temperature control** one thermostat.

CHASSIS: Type standard **Serial No.** *C699558* **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 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 28.5″ *(724 mm)* Vertical distance 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 *(2.8)* second 2.2 *(3.5)* third 3.8 *(6.1)* fourth 5.1 *(8.3)* fifth 6.2 *(9.9)* sixth 7.7 *(12.3)* seventh 13.5 *(21.7)* eighth 18.3 *(29.5)* reverse 2.5 *(4.0)*, 8.8 *(14.2)* **Clutch** single plate dry disc operated by foot pedal **Brakes** wet multiple disc operated 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 surface 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 1800 engine rpm.

REPAIRS and ADJUSTMENTS: The fuel injectors were replaced during preliminary PTO tests.

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)
Maximum Available Power—Two Hours	96.0
75% of Pull at Maximum Power—Ten Hours	95.5
50% of Pull at Maximum Power—Two Hours	93.5
50% of Pull at Reduced Engine Speed—Two Hours	92.0
Bystander in 8th gear	85.0

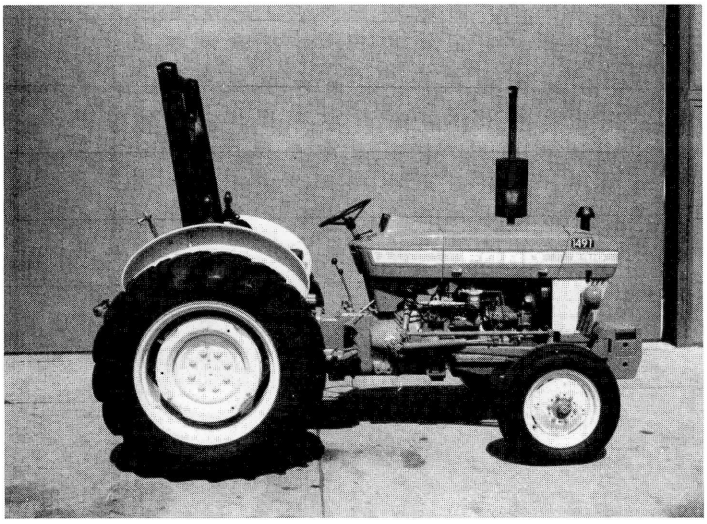
TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi *(kPa)*	Two 13.6-28; 4; 14 *(95)*	Two 13.6-28; 4; 14 *(95)*
Ballast	—Liquid (each)	470 lb *(213 kg)*	None
	—Cast Iron (each)	133 lb *(60 kg)*	None
Front Tires	—No., size, ply & psi *(kPa)*	Two 6.00-16; 4; 36 *(250)*	Two 6.00-16; 4; 36 *(250)*
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	45 lb *(21 kg)*	None
Height of Drawbar		16.5 in *(420 mm)*	16.5 in *(420 mm)*
Static Weight with Operator—Rear		4150 lb *(1882 kg)*	2945 lb *(1336 kg)*
—Front		1775 lb *(805 kg)*	1685 lb *(764 kg)*
—Total		5925 lb *(2687 kg)*	4630 lb *(2100 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 *(59.4°C)*. Five gears were chosen between 15% slip and 10 mph *(16.1 km/h)*. During inspection the exhaust valve seats were found to be pitted.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1491.**

LOUIS I. LEVITICUS
Engineer-in-Charge

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



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