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Test 1421: Ford 2610 (8x2) Diesel 8-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1421 — FORD 2610 (8 X 2) 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—597 rpm)								
36.69 (27.36)	2000	2.338 (8.850)	0.439 (0.267)	15.69 (3.092)	198 (92.4)	52 (11.2)	75 (24.0)	28.970 (97.827)
Standard Power Take-off Speed (540 rpm)—One Hour								
35.14 (26.20)	1809	2.176 (8.237)	0.427 (0.260)	16.15 (3.181)	201 (94.1)	53 (11.7)	75 (23.9)	28.950 (97.760)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
32.20 (24.01)	2066	2.084 (7.889)	0.446 (0.272)	15.45 (3.043)	188 (86.4)	54 (12.2)	75 (23.9)	..... .....
0.00 (0.00)	2120	0.722 (2.733)	..... .....	..... .....	166 (74.4)	54 (12.5)	75 (23.9)	..... .....
16.33 (12.18)	2095	1.348 (5.103)	0.569 (0.346)	12.11 (2.387)	172 (77.5)	54 (12.5)	75 (23.9)	..... .....
37.31 (27.82)	2002	2.358 (8.926)	0.436 (0.265)	15.83 (3.117)	193 (89.4)	55 (12.8)	76 (24.2)	..... .....
8.21 (6.12)	2106	1.013 (3.835)	0.851 (0.518)	8.10 (1.596)	168 (75.8)	55 (12.8)	76 (24.2)	..... .....
24.34 (18.15)	2080	1.709 (6.469)	0.484 (0.295)	14.24 (2.806)	174 (79.2)	55 (12.8)	74 (23.6)	..... .....
Av 19.73 Av (14.71)	2078	1.539 (5.826)	0.538 (0.327)	12.82 (2.525)	177 (80.4)	55 (12.6)	75 (23.9)	28.950 (97.760)

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											
30.47 (22.72)	2070 (9.21)	5.52 (8.89)	1999	5.34	2.338 (8.850)	0.529 (0.322)	13.03 (2.567)	198 (91.9)	60 (15.6)	76 (24.4)	28.385 (95.852)
75% of Pull at Maximum Power—Ten Hours 5th Gear											
25.01 (18.65)	1631 (7.26)	5.75 (9.25)	2074	4.89	1.968 (7.451)	0.543 (0.330)	12.71 (2.503)	169 (75.9)	30 (-0.9)	32 (-0.3)	28.845 (97.405)
50% of Pull at Maximum Power—Two Hours 5th Gear											
17.14 (12.78)	1089 (4.84)	5.91 (9.50)	2097	3.49	1.631 (6.175)	0.656 (0.399)	10.51 (2.070)	165 (73.9)	34 (0.8)	34 (1.1)	29.155 (98.452)
50% of Pull at Reduced Engine Speed—Two Hours 6th Gear											
17.14 (12.78)	1089 (4.84)	5.90 (9.50)	1679	3.35	1.414 (5.351)	0.569 (0.346)	12.13 (2.389)	166 (74.4)	34 (1.1)	35 (1.7)	29.085 (98.216)
MAXIMUM POWER IN SELECTED GEARS											
21.57 (16.08)	4473 (19.89)	1.81 (2.91)	2084	14.89	2nd Gear			169 (76.1)	46 (7.8)	49 (9.4)	28.840 (97.388)
29.88 (22.28)	3476 (15.46)	3.22 (5.19)	2002	9.96	3rd Gear			201 (93.6)	62 (16.7)	79 (26.1)	28.340 (95.700)
31.02 (23.13)	2562 (11.39)	4.54 (7.31)	2000	6.71	4th Gear			199 (92.5)	61 (16.1)	76 (24.4)	28.330 (95.666)
31.45 (23.45)	2137 (9.50)	5.52 (8.88)	2001	5.45	5th Gear			190 (87.8)	58 (14.4)	69 (20.6)	28.310 (95.599)
31.02 (23.13)	1666 (7.41)	6.98 (11.24)	2000	4.10	6th Gear			195 (90.3)	60 (15.6)	73 (22.8)	28.320 (95.632)

Department of Agricultural Engineering

Dates of Test: March 17 to April 15, 1982

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

FUEL, OIL AND TIME: Fuel No. 2 Diesel
Cetane No. 46.5 (rating taken from oil company's
inspection data) Specific gravity converted to 60°/
60° (15°/15°) 0.8284 Fuel weight 6.897 lbs/gal
(0.827 kg/l) Oil SAE 30 API service classifica-
tion SE/SF-CC/CD To motor 1.447 gal (5.476 l)
Drained from motor 1.089 gal (4.121 l) Trans-
mission and final drive lubricant Ford 134 fluid
Total time engine was operated 47.5 hours.

ENGINE: Make Ford Diesel Type three cylin-
der vertical Serial No. *B638764* 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 Oil cooler radiator for hyd-
raulic and rear axle oil Fuel filter one paper
element Muffler vertical Cooling medium
temperature control one thermostat.

CHASSIS: Type standard Serial No.
C680985 Tread width rear 56" (1420 mm) to
76" (1930 mm) front 52" (1320 mm) to 80" (2032
mm) Wheel base 75.8" (1925 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 31.5" (800 mm) Vertical dis-
tance above roadway 25.2" (640 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 2.1 (3.4) third 3.6 (5.8) fourth 5.0 (8.0)
fifth 5.9 (9.5) sixth 7.4 (11.9) seventh 13.0 (20.9)
eighth 17.7 (28.5) reverse 2.4 (3.9), 8.5 (13.7)
Clutch single plate dry disc operated by foot
pedal Brakes drum and shoe operated by two
foot pedals which can be locked together Steering
power assist Turning radius (on concrete surface
with brake applied) right 117" (2.97 m) left 117"
(2.97 m) (on concrete surface without brake) right
129" (3.28 m) left 129" (3.28 m) Turning space
diameter (on concrete surface with brake applied)
right 240" (6.1 m) left 240" (6.1 m) (on concrete
surface without brake) right 267" (6.8 m) left 267"
(6.8 m) Power take-off 540 rpm at 1809 engine
rpm.

LUGGING ABILITY IN 5th GEAR

Crankshaft Speed rpm	2001	1803	1603	1407	1201	986
Pull—lbs (kN)	2137 (9.50)	2255 (10.03)	2326 (10.35)	2394 (10.65)	2422 (10.77)	2414 (10.74)
Increase in Pull %	0	6	9	12	13	13
Power—Hp (kW)	31.45 (23.45)	29.80 (22.22)	27.25 (20.32)	24.53 (18.29)	21.16 (15.78)	17.30 (12.90)
Speed—Mph (km/h)	5.52 (8.88)	4.96 (7.97)	4.39 (7.07)	3.84 (6.18)	3.28 (5.27)	2.69 (4.32)
Slip %	5.45	5.82	6.14	6.24	6.45	6.45

TRACTOR SOUND LEVEL WITHOUT CAB

	dB(A)
Maximum Available Power—Two Hours	96.0
75% of Pull at Maximum Power—Ten Hours	96.0
50% of Pull at Maximum Power—Two Hours	95.0
50% of Pull at Reduced Engine Speed—Two Hours	93.5
Bystander in 8th gear	88.0

TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Rear Tires		
—No., size, ply & psi (kPa)	Two 14.9-24; 4; 14 (95)	Two 14.9-24; 4; 14 (95)
Ballast		
—Liquid (each)	542 lb (246 kg)	None
—Cast Iron (each)	290 lb (132 kg)	None
Front Tires		
—No., size, ply & psi (kPa)	Two 5.50-16; 4; 40 (275)	Two 5.50-16; 4; 40 (275)
Ballast		
—Liquid (each)	None	None
—Cast Iron (each)	58 lb (26 kg)	None
Height of Drawbar	16.5 in (420 mm)	16.5 in (420 mm)
Static Weight with Operator—Rear	4150 lb (1882 kg)	2485 lb (1127 kg)
—Front	1790 lb (812 kg)	1675 lb (760 kg)
—Total	5940 lb (2694 kg)	4160 lb (1887 kg)

REPAIRS and ADJUSTMENTS: No repairs or adjustments.

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 return was maintained at 146°F (63.4°C). Five gears were chosen between 15% slip and 10 mph (16.1 km/h). This tractor did not attain the estimated 15.93 HP-HR per gallon fuel economy at rated engine speed as claimed by the manufacturer.

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1421**.

LOUIS I. LEVITICUS
Engineer-in-Charge

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



Ford 2610 (8 X 2) Diesel