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Test 1426: Ford 4610 and 4610 SU (8x2) Diesel

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1426 — FORD 4610 (8 X 2) DIESEL ALSO FORD 4610 SU (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—660 rpm)								
52.52 (39.16)	2200	3.287 (12.443)	0.432 (0.263)	15.98 (3.147)	193 (89.4)	52 (11.2)	75 (24.0)	29.053 (98.109)
Standard Power Take-off Speed (540 rpm)—One Hour								
46.72 (34.84)	1799	2.784 (10.539)	0.411 (0.250)	16.78 (3.306)	193 (89.2)	52 (11.2)	75 (23.9)	29.015 (97.979)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
45.75 (34.12)	2254	2.936 (11.114)	0.443 (0.269)	15.58 (3.070)	182 (83.3)	52 (11.1)	75 (23.9)	..... .....
0.00 (0.00)	2331	0.940 (3.558)	..... .....	..... .....	168 (75.6)	52 (11.1)	75 (23.9)	..... .....
23.32 (17.39)	2300	1.862 (7.048)	0.551 (0.335)	12.53 (2.467)	170 (76.9)	52 (11.4)	75 (23.9)	..... .....
53.10 (39.60)	2200	3.336 (12.628)	0.433 (0.264)	15.92 (3.136)	190 (87.8)	53 (11.7)	76 (24.4)	..... .....
11.75 (8.76)	2316	1.370 (5.186)	0.805 (0.489)	8.57 (1.689)	168 (75.3)	52 (11.1)	75 (23.9)	..... .....
34.68 (25.86)	2280	2.353 (8.907)	0.468 (0.285)	14.74 (2.903)	174 (78.6)	52 (11.4)	76 (24.2)	..... .....
Av Av	28.10 (20.95)	2.133 (8.074)	0.524 (0.318)	13.17 (2.595)	175 (79.6)	52 (11.3)	75 (24.1)	28.973 (97.839)

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											
44.28 (33.02)	3203 (14.25)	5.18 (8.34)	2198	5.21	3.172 (12.008)	0.494 (0.301)	13.96 (2.750)	174 (78.9)	40 (4.4)	49 (9.4)	29.115 (98.317)
75% of Pull at Maximum Power—Ten Hours 5th Gear											
35.77 (26.68)	2466 (10.97)	5.44 (8.75)	2281	4.17	2.701 (10.224)	0.521 (0.317)	13.25 (2.609)	171 (77.3)	34 (0.9)	40 (4.3)	29.192 (98.577)
50% of Pull at Maximum Power—Two Hours 5th Gear											
24.39 (18.19)	1639 (7.29)	5.58 (8.98)	2308	2.89	2.103 (7.959)	0.595 (0.362)	11.60 (2.285)	172 (77.5)	39 (3.9)	41 (5.0)	28.800 (97.253)
50% of Pull at Reduced Engine Speed—Two Hours 6th Gear											
24.43 (18.22)	1642 (7.30)	5.58 (8.98)	1850	2.93	1.940 (7.342)	0.548 (0.333)	12.60 (2.481)	168 (75.6)	40 (4.2)	43 (5.8)	28.820 (97.321)
MAXIMUM POWER IN SELECTED GEARS											
29.19 (21.77)	6402 (28.48)	1.71 (2.75)	2274	13.54	2nd Gear			172 (77.8)	50 (10.0)	58 (14.4)	28.570 (96.477)
42.63 (31.79)	5263 (23.41)	3.04 (4.89)	2200	9.55	3rd Gear			177 (80.3)	50 (10.0)	58 (14.4)	28.580 (96.510)
43.71 (32.59)	3839 (17.07)	4.27 (6.87)	2201	6.60	4th Gear			178 (81.1)	50 (10.0)	59 (15.0)	28.590 (96.544)
44.51 (33.19)	3226 (14.35)	5.17 (8.33)	2200	5.49	5th Gear			180 (81.9)	50 (10.0)	59 (15.0)	28.620 (96.645)
43.89 (32.73)	2516 (11.19)	6.54 (10.53)	2198	4.10	6th Gear			177 (80.3)	50 (10.0)	59 (15.0)	28.600 (96.578)

Department of Agricultural Engineering

Dates of Test: March 16 to April 1, 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
(0.826 kg/l) Oil SAE 30 API service classifica-
tion SE/SF-CC/CD To motor 1.672 gal (6.329 l)
Drained from motor 1.349 gal (5.105 l) Trans-
mission and final drive lubricant Ford 134 fluid
Total time engine was operated 44.0 hours.

ENGINE: Make Ford Diesel Type three cylin-
der vertical Serial No. D627302 Crankshaft
lengthwise Rated rpm 2200 Bore and stroke 4.4"
× 4.4" (112 mm × 112 mm) Compression ratio
15.3 to 1 Displacement 201 cu in (3294 ml) Start-
ing system 12 volt Lubrication pressure Air
cleaner two paper elements Oil filter one full
flow paper cartridge Oil cooler radiator for pow-
er steering oil Fuel filter one paper element
Muffler vertical Cooling medium temperature
control one thermostat.

CHASSIS: Type standard Serial No.
C680987 Tread width rear 64" (1625 mm) to
80" (2032 mm) front 52" (1320 mm) to 80" (2032
mm) Wheel base 84.5" (2146 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 28.9" (734 mm) Vertical dis-
tance above roadway 29.8" (757 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 1.6 (2.5)
second 2.0 (3.1) third 3.4 (5.5) fourth 4.7 (7.5)
fifth 5.6 (9.0) sixth 7.0 (11.3) seventh 12.3 (19.8)
eighth 16.7 (26.9) reverse 2.3 (3.6), 8.1 (13.0)
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 120" (3.05 m) left 120"
(3.05 m) (on concrete surface without brake) right
138" (3.51 m) left 138" (3.51 m) Turning space
diameter (on concrete surface with brake applied)
right 252" (6.4 m) left 252" (6.4 m) (on concrete
surface without brake) right 291" (7.4 m) left 291"
(7.4 m) Power take-off 540 rpm at 1799 engine
rpm.

LUGGING ABILITY IN 5th GEAR

Crankshaft Speed rpm	2200	1979*	1766	1547	1325	1098	911
Pull—lbs (kN)	3226 (14.35)	3529 (15.70)	3650 (16.24)	3792 (16.87)	3863 (17.18)	3906 (17.37)	3792 (16.87)
Increase in Pull %	0	9	13	18	20	21	18
Power—Hp (kW)	44.51 (33.19)	43.52 (32.45)	40.09 (29.89)	36.34 (27.10)	31.67 (23.62)	26.52 (19.78)	21.38 (15.94)
Speed—Mph (km/h)	5.17 (8.33)	4.62 (7.44)	4.12 (6.63)	3.59 (5.78)	3.07 (4.95)	2.55 (4.10)	2.11 (3.40)
Slip %	5.49	6.05	6.17	6.54	6.78	6.66	6.78

TRACTOR SOUND LEVEL WITHOUT CAB

dB(A)

Maximum Available Power—Two Hours	97.5
75% of Pull at Maximum Power—Ten Hours	96.5
50% of Pull at Maximum Power—Two Hours	95.5
50% of Pull at Reduced Engine Speed—Two Hours	94.5
Bystander in 8th gear	90.0

TIRES, BALLAST AND WEIGHT

		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi (kPa)	Two 16.9-30; 6; 16 (110)	Two 16.9-30; 6; 16 (110)
Ballast	—Liquid (each)	755 lb (343 kg)	None
	—Cast Iron (each)	640 lb (290 kg)	None
Front Tires	—No., size, ply & psi (kPa)	Two 7.50-16; 6; 44 (305)	Two 7.50-16; 6; 44 (305)
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	152 lb (69 kg)	None
Height of Drawbar		21 in (535 mm)	21 in (535 mm)
Static Weight with Operator—Rear		6200 lb (2812 kg)	3410 lb (1547 kg)
	—Front	1990 lb (903 kg)	1685 lb (764 kg)
	—Total	8190 lb (3715 kg)	5095 lb (2311 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 141°F (60.7°C). Five gears were chosen between stability limit and 10 mph (16.1 km/h).

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1426**.

LOUIS I. LEVITICUS

Engineer-in-Charge

K. VON BARGEN

W. E. SPLINTER

L. L. BASHFORD

Board of Tractor Test Engineers



Ford 4610 (8 X 2) Diesel