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Test 1427: Ford 4610 and 4610 SU (8x4) Diesel 8-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1427 — FORD 4610 (8 X 4) DIESEL ALSO FORD 4610 SU (8 X 4) 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)								
52.32 (39.02)	2200	3.277 (12.405)	0.432 (0.263)	15.97 (3.146)	194 (89.9)	55 (12.8)	75 (23.8)	29.240 (98.740)
Standard Power Take-off Speed (540 rpm)—One Hour								
47.30 (35.27)	1798	2.810 (10.637)	0.410 (0.249)	16.83 (3.316)	195 (90.7)	56 (13.3)	75 (23.9)	29.250 (98.773)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
45.45 (33.89)	2249	2.941 (11.133)	0.446 (0.271)	15.45 (3.044)	185 (85.0)	56 (13.3)	74 (23.6)	..... .....
0.00 (0.00)	2333	0.953 (3.607)	..... .....	..... .....	170 (76.9)	57 (13.9)	74 (23.3)	..... .....
23.26 (17.34)	2302	1.875 (7.098)	0.556 (0.338)	12.41 (2.443)	172 (77.5)	56 (13.6)	74 (23.1)	..... .....
52.98 (39.51)	2201	3.332 (12.613)	0.434 (0.264)	15.90 (3.132)	190 (87.5)	58 (14.4)	76 (24.2)	..... .....
11.70 (8.72)	2316	1.396 (5.284)	0.823 (0.501)	8.38 (1.650)	172 (78.1)	58 (14.4)	74 (23.6)	..... .....
34.49 (25.72)	2276	2.367 (8.960)	0.473 (0.288)	14.57 (2.871)	174 (79.2)	59 (15.0)	76 (24.2)	..... .....
Av 27.98 (20.86)	2280	2.144 (8.116)	0.528 (0.321)	13.05 (2.570)	177 (80.7)	57 (14.1)	75 (23.7)	29.230 (98.705)

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											
43.17 (32.19)	2874 (12.78)	5.63 (9.07)	2200	4.51	3.190 (12.076)	0.510 (0.310)	13.53 (2.666)	185 (84.7)	64 (17.5)	68 (19.7)	28.690 (96.882)
75% of Pull at Maximum Power—Ten Hours 5th Gear											
33.76 (25.18)	2164 (9.63)	5.85 (9.42)	2263	3.63	2.643 (10.004)	0.540 (0.328)	12.77 (2.517)	175 (79.6)	63 (17.0)	66 (18.7)	28.665 (96.797)
50% of Pull at Maximum Power—Two Hours 5th Gear											
23.09 (17.22)	1442 (6.41)	6.01 (9.67)	2292	2.30	2.066 (7.822)	0.617 (0.375)	11.18 (2.201)	173 (78.3)	65 (18.1)	70 (20.8)	28.685 (96.865)
50% of Pull at Reduced Engine Speed—Two Hours 6th Gear											
23.09 (17.22)	1443 (6.42)	6.00 (9.66)	1573	2.20	1.686 (6.381)	0.504 (0.306)	13.69 (2.698)	171 (77.2)	65 (18.3)	71 (21.7)	28.660 (96.781)
MAXIMUM POWER IN SELECTED GEARS											
37.16 (27.71)	6534 (29.06)	2.13 (3.43)	2227	13.31	2nd Gear			176 (79.7)	62 (16.7)	64 (17.8)	28.680 (96.848)
41.71 (31.10)	4794 (21.32)	3.26 (5.25)	2202	8.31	3rd Gear			182 (83.1)	62 (16.7)	64 (17.8)	28.680 (96.848)
42.58 (31.75)	3266 (14.53)	4.89 (7.87)	2199	5.46	4th Gear			182 (83.3)	63 (17.2)	65 (18.3)	28.680 (96.848)
43.26 (32.26)	2885 (12.83)	5.62 (9.05)	2198	4.58	5th Gear			183 (83.9)	63 (17.2)	65 (18.3)	28.680 (96.848)
42.43 (31.64)	1912 (8.51)	8.32 (13.39)	2200	3.16	6th Gear			181 (82.8)	63 (17.2)	65 (18.3)	28.680 (96.848)

Department of Agricultural Engineering

Dates of Test: April 24 to May 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°) 0.8282 **Fuel weight** 6.896 lbs/gal
(0.826 kg/l) **Oil SAE 30 API service classifica-**
tion SE/SF-CC/CD To motor 1.438 gal (5.444 l) **Trans-**
mission and final drive lubricant Ford 134 fluid
Total time engine was operated 31.5 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.**
C681207 **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 29.7" (754 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 1.7 (2.7)
second 2.5 (4.0) third 3.6 (5.8) fourth 5.3 (8.5)
fifth 6.0 (9.7) sixth 8.8 (14.2) seventh 12.9 (20.8)
eighth 18.8 (30.2) reverse 2.2 (3.6), 3.2 (5.2), 4.7
(7.6), 6.8 (11.0) **Clutch** single plate dry disc oper-
ated by foot pedal **Brakes** wet multiple disc oper-
ated 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 sur-
face 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 1798 engine rpm.

LUGGING ABILITY IN 5th GEAR

Crankshaft Speed rpm	2198	1980	1760	1540	1323	1106	894
Pull—lbs (kN)	2885 (12.83)	3183 (14.16)	3311 (14.73)	3400 (15.12)	3479 (15.48)	3489 (15.52)	3383 (15.05)
Increase in Pull %	0	10	15	18	21	21	17
Power—Hp (kW)	43.26 (32.26)	42.74 (31.87)	39.44 (29.41)	35.39 (26.39)	31.04 (23.15)	26.01 (19.40)	20.43 (15.23)
Speed—Mph (km/h)	5.62 (9.05)	5.04 (8.10)	4.47 (7.19)	3.90 (6.28)	3.35 (5.39)	2.80 (4.50)	2.26 (3.64)
Slip %	4.58	5.21	5.34	5.58	5.71	5.83	5.58

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)
Maximum Available Power—Two Hours	97.0
75% of Pull at Maximum Power—Ten Hours	97.0
50% of Pull at Maximum Power—Two Hours	96.0
50% of Pull at Reduced Engine Speed—Two Hours	93.0
Bystander in 8th gear	88.5

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)
	—Liquid (each)	745 lb (338 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)
	—Liquid (each)	None	None
	—Cast Iron (each)	158 lb (71 kg)	None
Height of Drawbar		21 in (535 mm)	21 in (535 mm)
Static Weight with Operator—Rear		6200 lb (2812 kg)	3430 lb (1556 kg)
—Front		2030 lb (921 kg)	1715 lb (778 kg)
—Total		8230 lb (3733 kg)	5145 lb (2334 kg)

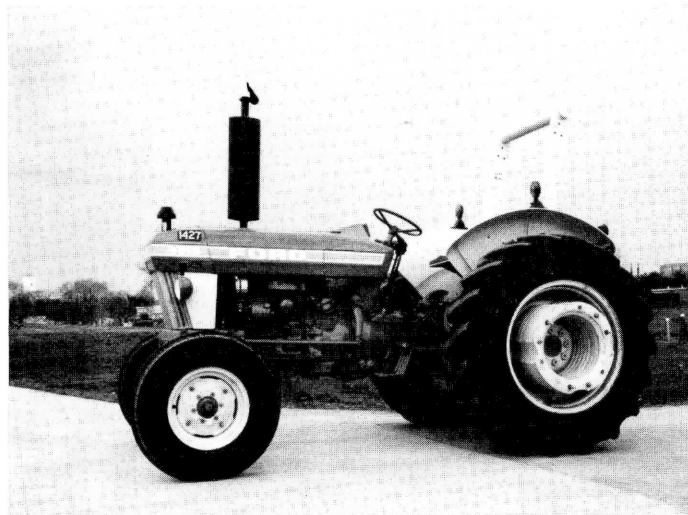
REPAIRS and ADJUSTMENTS: No repairs or adjustments.

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 142°F (60.9°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 **1427**.

LOUIS I. LEVITICUS
Engineer-in-Charge

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



Ford 4610 (8 X 4) Diesel