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Test 1266: John Deere 4240 Diesel

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1266 — JOHN DEERE 4240 DIESEL

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—1002 rpm)								
110.94 (82.73)	2200	7.740 (29.301)	0.486 (0.296)	14.33 (2.824)	202 (94.5)	52 (11.2)	75 (23.9)	29.320 (99.009)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
98.66 (73.57)	2304	7.231 (27.372)	0.511 (0.311)	13.64 (2.688)	202 (94.4)	52 (11.1)	75 (23.9)	..... .....
0.00 (0.00)	2388	2.834 (10.727)	..... .....	..... .....	202 (94.2)	52 (11.4)	76 (24.2)	..... .....
50.44 (37.62)	2350	4.892 (18.519)	0.676 (0.411)	10.31 (2.031)	202 (94.2)	52 (11.1)	75 (23.9)	..... .....
111.41 (83.08)	2200	7.765 (29.393)	0.485 (0.295)	14.35 (2.827)	204 (95.6)	53 (11.7)	76 (24.4)	..... .....
25.44 (18.98)	2370	3.872 (14.656)	1.060 (0.645)	6.57 (1.295)	201 (93.9)	52 (11.4)	75 (23.9)	..... .....
74.56 (55.60)	2322	5.917 (22.399)	0.553 (0.336)	12.60 (2.482)	203 (95.0)	52 (11.1)	74 (23.6)	..... .....
Av 60.09 (44.81)	2322	5.418 (20.511)	0.628 (0.382)	11.09 (2.185)	202 (94.5)	52 (11.3)	75 (24.0)	29.323 (99.020)

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 7th (B-2) Gear											
93.38 (69.63)	6458 (28.73)	5.42 (8.73)	2200	4.64	7.752 (29.344)	0.578 (0.352)	12.05 (2.373)	205 (95.8)	50 (9.7)	59 (14.7)	28.610 (96.612)
75% of Pull at Maximum Power—Ten Hours 7th (B-2) Gear											
76.03 (56.70)	4933 (21.94)	5.78 (9.30)	2315	3.48	6.700 (25.364)	0.614 (0.373)	11.35 (2.235)	202 (94.3)	36 (2.1)	45 (7.2)	28.886 (97.544)
50% of Pull at Maximum Power—Two Hours 7th (B-2) Gear											
52.96 (39.49)	3360 (14.94)	5.91 (9.51)	2340	2.23	5.563 (21.057)	0.732 (0.445)	9.52 (1.875)	200 (93.3)	41 (4.7)	42 (5.6)	28.785 (97.203)
50% of Pull at Reduced Engine Speed—Two Hours 12th (B-4) Gear											
52.80 (39.38)	3355 (14.92)	5.90 (9.50)	1413	2.27	3.876 (14.672)	0.511 (0.311)	13.62 (2.684)	195 (90.3)	47 (8.3)	52 (10.8)	28.765 (97.135)

MAXIMUM POWER IN SELECTED GEARS

68.20 (50.86)	11492 (51.12)	2.22 (3.58)	2324	14.81	2nd (A-2) Gear		196 (90.8)	17 (-8.2)	20 (-6.6)	29.370 (99.178)
93.39 (69.64)	8358 (37.18)	4.19 (6.74)	2199	6.40	5th (B-1) Gear		206 (96.4)	53 (11.7)	63 (17.2)	28.600 (96.578)
93.69 (69.86)	6967 (30.99)	5.04 (8.12)	2201	4.99	6th (C-1) Gear		206 (96.7)	53 (11.7)	63 (17.2)	28.600 (96.578)
95.18 (70.98)	6590 (29.31)	5.42 (8.72)	2198	4.71	7th (B-2) Gear		205 (96.1)	52 (11.1)	62 (16.7)	28.680 (96.848)
95.01 (70.85)	5495 (24.44)	6.48 (10.44)	2200	3.84	8th (C-2) Gear		204 (95.6)	53 (11.7)	63 (17.2)	28.600 (96.578)
93.54 (69.75)	4902 (21.80)	7.16 (11.52)	2202	3.47	9th (B-3) Gear		205 (96.1)	53 (11.7)	62 (16.7)	28.600 (96.578)

LUGGING ABILITY IN RATED GEAR 7th (B-2)

Crankshaft Speed rpm	2198	1978	1762	1541	1316	1096	877	663
Pull—lbs (kN)	6590 (29.31)	7208 (32.06)	7621 (33.90)	7820 (34.79)	7949 (35.36)	8089 (35.98)	8098 (36.02)	7998 (35.58)
Increase in Pull %	0	9	16	19	21	23	23	21
Power—Hp (kW)	95.18 (70.98)	93.17 (69.48)	87.35 (65.14)	78.26 (58.36)	67.81 (50.57)	57.33 (42.75)	45.92 (34.24)	34.29 (25.57)
Speed—Mph (km/h)	5.42 (8.72)	4.85 (7.80)	4.30 (6.92)	3.75 (6.04)	3.20 (5.15)	2.66 (4.28)	2.13 (3.42)	1.61 (2.59)
Slip %	4.71	5.14	5.70	5.56	5.99	6.27	6.27	6.40

Department of Agricultural Engineering

Dates of Test: November 8 to 21, 1977

Manufacturer: JOHN DEERE WATERLOO
TRACTOR WORKS, P.O. Box 270, Waterloo,
Iowa 50704

FUEL, OIL AND TIME: Fuel No. 2 Diesel
Cetane No. 50.8 (rating taken from oil company's
typical inspection data) **Specific gravity converted**
to 60°/60° (15°/15°) 0.8366 **Fuel weight** 6.966 lbs/
gal (0.837 kg/l) **Oil SAE 30 API service classifi-**
cation CD, CC and SD **To motor** 4.051 gal
(15.335 l) **Drained from motor** 3.542 gal
(13.408 l) **Transmission and final drive lubri-**
cant John Deere Hy-Gard **Transmission and Hyd-**
raulic Oil **Total time engine was operated** 44
hours

ENGINE Make John Deere Diesel **Type** 6 cyl-
inder vertical **Serial No.** 6466DR-01-026402RG
Crankshaft lengthwise **Rated rpm** 2200 **Bore**
and stroke 4.5625" × 4.75" (115.9 mm × 120.7
mm) **Compression ratio** 17.2 to 1 **Displacement**
466 cu in (7636 ml) **Cranking system** 12 volt
Lubrication pressure **Air cleaner** paper primary
and safety elements with dust evacuator **Oil filter**
one screw-on cartridge **Oil cooler** engine coolant
heat exchanger for crankcase oil, radiator for
transmission and hydraulic oil **Fuel filter** one
snap-on paper cartridge **Muffler** vertical **Cool-**
ing medium temperature control 2 thermostats.

CHASSIS: **Type** standard with duals **Serial**
No. 4240H 001737R **Tread width** rear 60" (1524
mm) to 118.4" (3007 mm) front 53.5" (1359 mm) to
73.6" (1869 mm) **Wheel base** 106.6" (2709 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 31.8" (807
mm) Vertical distance above roadway 40.1" (1019
mm) Horizontal distance from center of rear wheel
tread 0.05" (1 mm) to the right **Hydraulic control**
system direct engine drive **Transmission** selec-
tive gear fixed ratio with partial (2) range operator
controlled power shift **Advertised speeds mph**
(km/h) first 2.0 (3.1) second 2.5 (4.0) third 3.2 (5.2)
fourth 4.1 (6.6) fifth 4.5 (7.2) sixth 5.3 (8.6)
seventh 5.7 (9.2) eighth 6.8 (10.9) ninth 7.4 (11.9)
tenth 8.2 (13.1) eleventh 8.8 (14.1) twelfth 9.4
(15.1) thirteenth 10.4 (16.7) fourteenth 11.2 (17.9)
fifteenth 13.5 (21.7) sixteenth 17.1 (27.5) reverse
3.1 (5.0), 4.0 (6.4), 7.2 (11.6), 8.5 (13.7), 9.1 (14.7),
10.8 (17.4) **Clutch** multiple wet disc hydraulically
power actuated and operated by foot pedal
Brakes wet disc hydraulically power actuated and
operated by two foot pedals which can be locked
together **Steering** hydrostatic **Turning radius**
(on concrete surface with brake applied) right
143.9" (3.66 m) left 143.9" (3.66 m) (on concrete
surface without brake) right 161.8" (4.11 m) left
161.8" (4.11 m) **Turning space diameter** (on con-
crete surface with brake applied) right 293.3"
(7.45 m) left 293.3" (7.45 m) (on concrete surface
without brake) right 334.6" (8.50 m) left 334.6"
(8.50 m) **Power take-off** 1002 rpm at 2200 engine
rpm, 540 rpm at 2200 engine rpm.

TRACTOR SOUND LEVEL WITH CAB		dB(A)
Maximum Available Power—Two Hours		79.5
75% of Pull at Maximum Power—Ten Hours		79.0
50% of Pull at Maximum Power—Two Hours		78.5
50% of Pull at Reduced Engine Speed—Two Hours		75.5
Bystander in 16th (D-4) gear		92.0
TIRES, BALLAST AND WEIGHT		
Rear Tires	—No., size, ply & psi (kPa)	With Ballast
Ballast	—Liquid (each inner)	Four 18.4-34; 6; 12 (80)
	—Cast Iron (each)	848 lb (385 kg)
		None
Front Tires	—No., size, ply & psi (kPa)	Two 10.00-16; 6; 32 (220)
Ballast	—Liquid (each)	None
	—Cast Iron (each)	None
Height of drawbar		21 in (530 mm)
Static weight with operator—rear		10695 lb (4851 kg)
front		3395 lb (1540 kg)
total		14090 lb (6391 kg)
		21 in (530 mm)
		9000 lb (4082 kg)
		3395 lb (1540 kg)
		12395 lb (5622 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 code or official Nebraska test procedure. Temperature at injection pump return was 140°F (60.2°C). Six gears were chosen between 15% slip and 15 mph (24.1 km/h).

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1266**.

LOUIS I. LEVITICUS

Engineer-in Charge

G. W. STEINBRUEGGE, Chairman

W. E. SPLINTER

K. VON BARGEN

Board of Tractor Test Engineers



John Deere 4240 Diesel

The Agricultural Experiment Station
Institute of Agriculture and Natural Resources
University of Nebraska—Lincoln
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