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## Test 1265: John Deere 4440 Diesel

Nebraska Tractor Test Lab

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# NEBRASKA TRACTOR TEST 1265 — JOHN DEERE 4440 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)								
130.58 (97.38)	2200	8.585 (32.496)	0.458 (0.279)	15.21 (2.997)	188 (86.9)	57 (13.8)	75 (23.9)	28.777 (97.174)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
115.03 (85.78)	2280	8.015 (30.339)	0.485 (0.295)	14.35 (2.827)	181 (82.8)	58 (14.4)	75 (23.9)	..... .....
0.00 (0.00)	2356	2.963 (11.216)	..... .....	..... .....	175 (79.4)	58 (14.2)	75 (23.9)	..... .....
58.11 (43.33)	2299	5.375 (20.345)	0.644 (0.392)	10.81 (2.130)	181 (82.8)	58 (14.4)	75 (23.9)	..... .....
131.04 (97.72)	2200	8.643 (32.719)	0.459 (0.279)	15.16 (2.987)	189 (87.2)	58 (14.4)	75 (23.9)	..... .....
29.15 (21.74)	2318	4.147 (15.699)	0.991 (0.603)	7.03 (1.385)	176 (80.3)	58 (14.2)	74 (23.6)	..... .....
86.50 (64.50)	2285	6.658 (25.203)	0.536 (0.326)	12.99 (2.559)	184 (88.4)	57 (13.9)	74 (23.6)	..... .....
Av (52.18)	69.97 2290	5.967 (22.587)	0.594 (0.361)	11.73 (2.310)	181 (82.8)	58 (14.3)	75 (23.8)	28.700 (96.916)

## 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 6th (C-1) Gear											
108.59 (80.98)	8106 (36.06)	5.02 (8.08)	2201	5.75	8.559 (32.401)	0.549 (0.334)	12.69 (2.499)	184 (84.4)	47 (8.1)	56 (13.1)	28.640 (96.713)
75% of Pull at Maximum Power—Ten Hours 6th (C-1) Gear											
89.52 (66.76)	6311 (28.07)	5.32 (8.56)	2293	4.18	7.565 (28.638)	0.589 (0.358)	11.83 (2.331)	181 (82.8)	36 (2.2)	45 (7.4)	28.909 (97.621)
50% of Pull at Maximum Power—Two Hours 6th (C-1) Gear											
61.11 (45.57)	4213 (18.74)	5.44 (8.75)	2313	2.83	6.173 (23.367)	0.704 (0.428)	9.90 (1.950)	179 (81.7)	43 (6.1)	53 (11.4)	28.660 (96.781)
50% of Pull at Reduced Engine Speed—Two Hours 11th (C-3) Gear											
60.95 (45.45)	4203 (18.70)	5.44 (8.75)	1400	2.87	4.450 (16.846)	0.509 (0.309)	13.70 (2.698)	180 (82.2)	42 (5.3)	44 (6.7)	28.680 (96.848)
MAXIMUM POWER IN SELECTED GEARS											
101.06 (75.36)	13392 (59.57)	2.83 (4.55)	2263	14.78	3rd (A-3) Gear			180 (81.9)	20 (-6.6)	22 (-5.5)	29.380 (99.212)
111.39 (83.06)	10027 (44.60)	4.17 (6.70)	2200	7.22	5th (B-1) Gear			185 (85.0)	46 (7.8)	54 (12.2)	28.610 (96.612)
112.56 (83.94)	8406 (37.39)	5.02 (8.08)	2202	5.75	6th (C-1) Gear			185 (85.0)	45 (7.2)	53 (11.7)	28.600 (96.578)
111.59 (83.21)	7736 (34.41)	5.41 (8.70)	2200	5.15	7th (B-2) Gear			186 (85.6)	46 (7.8)	55 (12.8)	28.620 (96.645)
111.84 (83.40)	6479 (28.82)	6.47 (10.42)	2200	4.24	8th (C-2) Gear			186 (85.6)	47 (8.3)	56 (13.3)	28.630 (96.679)
112.41 (83.82)	5904 (26.26)	7.14 (11.49)	2201	3.93	9th (B-3) Gear			185 (85.0)	47 (8.3)	57 (13.9)	28.640 (96.713)
LUGGING ABILITY IN RATED GEAR 6th (C-1)											
Crankshaft Speed rpm				2202	1980	1759	1542	1315	1084		
Pull—lbs (kN)				8406 (37.39)	9167 (40.78)	9662 (42.98)	10764 (47.88)	10749 (47.81)	9799 (43.59)		
Increase in Pull %				0	9	15	28	28	17		
Power—Hp (kW)				112.56 (83.94)	109.63 (81.75)	102.09 (76.13)	98.61 (73.53)	83.77 (62.47)	63.79 (47.57)		
Speed—Mph (km/h)				5.02 (8.08)	4.48 (7.22)	3.96 (6.38)	3.44 (5.53)	2.92 (4.70)	2.44 (3.93)		
Slip %				5.75	6.56	6.86	8.01	8.15	6.86		

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** 3.860 gal  
(14.612 l) **Drained from motor** 3.519 gal  
(13.321 l) **Transmission and final drive lubri-**  
**cant** John Deere Hy-Gard Transmission and Hyd-  
raulic Oil **Total time engine was operated** 41.5  
hours

**ENGINE Make** John Deere Diesel **Type** 6 cyl-  
inder vertical with turbocharger **Serial No.**  
6466TR-03 024358RG **Crankshaft** lengthwise  
**Rated rpm** 2200 **Bore and stroke** 4.5625" × 4.75"  
(115.9 mm × 120.7 mm) **Compression ratio** 15.5 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 crank-  
case oil, radiator for transmission and hydraulic  
oil **Fuel filter** two snap-on cartridges **Muffler**  
vertical **Cooling medium temperature control** 2  
thermostats.

**CHASSIS:** **Type** standard with duals **Serial**  
**No.** 4440H 001781R **Tread width** rear 60" (1524  
mm) to 130" (3302 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 32.9" (836  
mm) Vertical distance above roadway 39.9" (1014  
mm) Horizontal distance from center of rear wheel  
tread 0.3" (7 mm) to the left **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 1.9 (3.1) second 2.4 (3.9) third 3.2 (5.1)  
fourth 4.0 (6.5) fifth 4.4 (7.1) sixth 5.2 (8.5)  
seventh 5.6 (9.0) eighth 6.7 (10.7) ninth 7.3 (11.8)  
tenth 8.1 (13.0) eleventh 8.7 (14.0) twelfth 9.3  
(15.0) thirteenth 10.2 (16.5) fourteenth 11.0 (17.7)  
fifteenth 13.3 (21.4) sixteenth 16.9 (27.2) reverse  
3.1 (5.0), 3.9 (6.3), 7.1 (11.4), 8.4 (13.5), 9.0 (14.5),  
10.7 (17.2) **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  
146" (3.71 m) left 146" (3.71 m) (on concrete sur-  
face without brake) right 163" (4.14 m) left 163"  
(4.14 m) **Turning space diameter** (on concrete  
surface with brake applied) right 302" (7.67 m) left  
302" (7.67 m) (on concrete surface without brake)  
right 338" (8.58 m) left 338" (8.58 m) **Power take-**

TRACTOR SOUND LEVEL WITH CAB	dB(A)
Maximum Available Power—Two Hours	78.0
75% of Pull at Maximum Power—Ten Hours	78.0
50% of Pull at Maximum Power—Two Hours	79.0
50% of Pull at Reduced Engine Speed—Two Hours	75.5
Bystander in 16th (D-4) gear	88.0

#### TIRES, BALLAST AND WEIGHT

		With Ballast	Without Ballast
<b>Rear Tires</b>	—No., size, ply & psi (kPa)	Four 18.4-38; 6; 14 (100)	Four 18.4-38; 6; 14 (100)
Ballast	—Liquid (each inner)	1115 lb (506 kg)	None
	—Cast Iron (each)	None	None
<b>Front Tires</b>	—No., size, ply & psi (kPa)	Two 11.00-16; 8; 40 (280)	Two 11.00-16; 8; 40 (280)
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	20 lb (9 kg)	None
<b>Height of drawbar</b>		22.5 in (570 mm)	22.5 in (570 mm)
<b>Static weight with operator</b> —rear		11790 lb (5348 kg)	9560 lb (4338 kg)
front		3750 lb (1701 kg)	3710 lb (1683 kg)
total		15540 lb (7049 kg)	13270 lb (6021 kg)

off 1002 rpm at 2200 engine rpm, 540 rpm at 2200 engine rpm.

**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 (60.1°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 **1265**.

LOUIS I. LEVITICUS

Engineer-in Charge

G. W. STEINBRUEGGE, Chairman

W. E. SPLINTER

K. VON BARGEN

Board of Tractor Test Engineers



**John Deere 4440 Diesel**