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Nebraska Summary 386: John Deere 6320 Powrquad Plus 16-Speed

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SUMMARY OF OECD TEST 2008—NEBRASKA SUMMARY 386

JOHN DEERE 6320 POWRQUAD PLUS DIESEL

16 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed (PTO speed-1042 rpm)					
83.5 (62.3)	2300	5.22 (19.78)	0.433 (0.263)	15.99 (3.15)	
Standard Power Take-off Speed (1000 rpm)					
85.7 (63.9)	2208	5.16 (19.54)	0.417 (0.253)	16.60 (3.27)	
Maximum Power (2 hours)					
88.1 (65.7)	2001	5.03 (19.06)	0.395 (0.241)	17.50 (3.45)	

VARYING POWER AND FUEL CONSUMPTION

83.5 (62.3)	2300	5.22 (19.78)	0.433 (0.263)	15.99 (3.15)	Air temperature
73.5 (54.8)	2386	4.97 (18.82)	0.468 (0.284)	14.78 (2.91)	72°F (22°C)
55.6 (41.5)	2408	4.17 (15.80)	0.520 (0.317)	13.33 (2.63)	Relative humidity
37.5 (28.0)	2426	3.47 (13.15)	0.644 (0.392)	10.79 (2.13)	33%
18.8 (14.0)	2444	2.71 (10.25)	0.997 (0.607)	6.94 (1.37)	Barometer
-- --	2468	1.88 (7.13)	-- --	-- --	29.64" Hg (100.4 kPa)

Maximum Torque - 265 lb.-ft. (359 Nm) at 1304 rpm
Maximum Torque Rise - 39.1%
Torque rise at 1800 engine rpm - 31%

DRAWBAR PERFORMANCE (Unballasted—Front Drive Engaged) FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—10th (C2) Gear									
63.8 (47.5)	3870 (17.22)	6.18 (9.95)	2297	3.5	0.556 (0.338)	12.59 (2.48)	145 (63)	45 (7)	29.7 (100.5)
75% of Pull at Maximum Power—10th (C2) Gear									
49.9 (37.2)	2875 (12.79)	6.51 (10.48)	2398	2.5	0.650 (0.396)	10.75 (2.12)	151 (66)	45 (7)	29.7 (100.5)
50% of Pull at Maximum Power—10th (C2) Gear									
33.8 (25.2)	1910 (8.50)	6.63 (10.67)	2418	1.6	0.807 (0.491)	8.67 (1.71)	147 (64)	45 (7)	29.7 (100.5)
75% of Pull at Reduced Engine Speed—11th (C3) Gear									
50.1 (37.4)	2880 (12.80)	6.53 (10.51)	2005	2.8	0.560 (0.341)	12.49 (2.46)	144 (62)	46 (8)	29.6 (100.3)
50% of Pull at Reduced Engine Speed—11th (C3) Gear									
34.2 (25.5)	1920 (8.55)	6.68 (10.75)	2034	1.9	0.675 (0.411)	10.36 (2.04)	142 (61)	46 (8)	29.6 (100.3)

Location of Test: DLG Testing Station for Agricultural Machinery Max - Eyth - Weg 1, D-64823 Gros-Umstadt, Germany

Dates of Test: January - March, 2002

Manufacturer: Deere & Company, Moline, Illinois, USA

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F (15°/15°C)** 0.831 **Fuel weight** 6.92 lbs/gal (0.829 kg/l) **Oil SAE** 15W-40 **API service classification** CF-4 **Transmission and hydraulic lubricant** John Deere Hy-Gard fluid **Front axle lubricant** SAE 80W90.

ENGINE: Make John Deere Diesel **Type** four cylinder vertical with turbocharger and intercooler **Serial No.** 663513 **Crankshaft** lengthwise **Rated engine speed** 2300 **Bore and stroke** 4.19" x 5.00" (106.5 mm x 127.0 mm) **Compression ratio** 16.9 to 1 **Displacement** 276 cu in (4525 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** one paper element **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: **Type** front wheel assist **Serial No.** 322373 **Tread width** rear 63.1" (1604 mm) to 78.9" (2004 mm) front 59.7" (1516 mm) to 84.1" (2136 mm) **Wheel base** 94.5" (2400 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (4) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.58 (2.55) second 1.91 (3.07) third 2.29 (3.68) fourth 2.80 (4.51) fifth 3.18 (5.12) sixth 3.83 (6.16) seventh 4.58 (7.38) eighth 5.23 (8.41) ninth 5.61 (9.03) tenth 6.29 (10.13) eleventh 7.54 (12.13) twelfth 9.23 (14.86) thirteenth 10.77 (17.33) fourteenth 12.96 (20.86) fifteenth 15.52 (24.98) sixteenth 19.01 (30.60) reverse 1.65 (2.66), 1.99 (3.21), 2.39 (3.84), 2.92 (4.70), 3.32 (5.34), 4.00 (6.43), 4.78 (7.70), 5.46 (8.78), 5.86 (9.43), 6.57 (10.57), 7.87 (12.66), 9.64 (15.51), 11.24 (18.09), 13.53 (21.77), 16.20 (26.07), 19.85 (31.94) **Clutch** multiple wet disc hydraulically operated by foot pedal **Brakes** wet disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2143 engine rpm or 1000 rpm at 2208 engine rpm. **Unladen tractor mass** 10030 lb (4550 kg)

DRAWBAR PERFORMANCE
(Unballasted-Front Drive Engaged)
MAXIMUM POWER IN SELECTED GEARS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp.°F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
63.6 (47.4)	9450 (42.04)	2.52 (4.06)	2104	15.0	5th (B1) Gear 0.556 (0.338)	12.59 (2.48)	138 (59)	43 (6)	29.6 (100.3)
67.2 (50.1)	8480 (37.72)	2.97 (4.78)	2000	12.6	6th (B2) Gear 0.520 (0.317)	13.44 (2.65)	144 (62)	43 (6)	29.6 (100.3)
69.5 (51.9)	7135 (31.73)	3.65 (5.88)	2001	9.8	7th (B3) Gear 0.506 (0.308)	13.81 (2.72)	135 (57)	39 (4)	29.6 (100.3)
69.7 (52.0)	6105 (27.15)	4.28 (6.88)	2002	7.7	8th (C1) Gear 0.501 (0.305)	13.94 (2.75)	140 (60)	43 (6)	29.6 (100.3)
69.2 (51.6)	5615 (24.98)	4.62 (7.43)	1996	6.8	9th (B4) Gear 0.511 (0.311)	13.68 (2.70)	137 (58)	39 (4)	29.6 (100.3)
72.5 (54.1)	5160 (22.96)	5.27 (8.47)	2001	5.2	10th (C2) Gear 0.483 (0.294)	14.47 (2.85)	140 (60)	45 (7)	29.6 (100.3)
71.3 (53.2)	4185 (18.62)	6.39 (10.29)	2001	4.0	11th (C3) Gear 0.490 (0.298)	14.26 (2.81)	142 (61)	45 (7)	29.6 (100.3)
69.3 (51.7)	3280 (14.58)	7.93 (12.77)	2002	3.2	12th (C4) Gear 0.506 (0.308)	13.81 (2.72)	151 (66)	46 (8)	29.7 (100.5)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturer's claim of 5% improved economy when compared to the John Deere 6310 Diesel. The performance results on this summary were taken from OECD tests conducted under the Code II Test Code procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2008**, Nebraska Summary 386, January 23, 2003.

Leonard L. Bashford
Director

M.F. Kocher
V.I. Adamchuk
W.P. Campbell
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 7th(B3) Gear	73.0	72.5
Maximum Sound level	75.0	74.5
Bystander	--	--

TIRES AND WEIGHT

Rear Tires—No., size, ply & psi (kPa)
Front Tires—No., size, ply & psi (kPa)
Height of Drawbar
Static Weight with operator—Rear
— Front
— Total

Tested Without Ballast

Two 18.4-38; 8; 12 (80)
Two 16.9-24; 6; 12 (80)
20.9 in (530 mm)
7210 lb (2830 kg)
4065 lb (1793 kg)
10195 lb (4625 kg)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

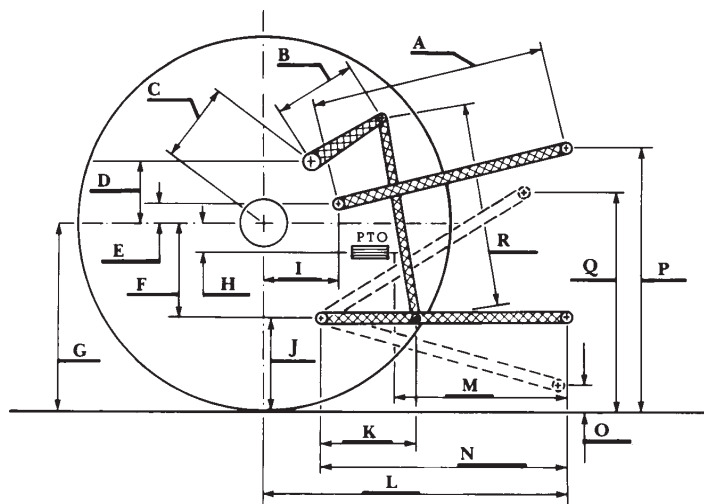
CATEGORY: II

Quick Attach: none

Maximum Force Exerted Through Whole Range: 5060 lbs (22.50 kN)

- i) Opening pressure of relief valve: NA
- Sustained pressure of the open relief valve: 2975 psi (205 bar)
- ii) Pump delivery rate at minimum pressure: 30.9 GPM (116.9 l/min)
- iii) Pump delivery rate at maximum
 - hydraulic power: 27.1 GPM (102.7 l/min)
 - Delivery pressure: 2685 psi (185 bar)
 - Power: 42.5 HP (31.7 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	mm
A	26.0	660
B	12.0	305
C	19.9	505
D	18.7	475
E	7.3	185
F	8.9	225
G	32.3	820
H	2.8	70
I	18.1	460
J	23.4	595
K	19.8	505
L	42.5	1080
M	21.7	550
N	37.2	945
O	7.9	200
P	47.4	1205
Q	33.5	850
R	32.1	815