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January 2002

Nebraska Summary 387: John Deere 6420 Autoquad Diesel 24-Speed

Nebraska Tractor Test Lab
University of Nebraska-Lincoln, tractortestlab@unl.edu

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SUMMARY OF OECD TEST 2007—NEBRASKA SUMMARY 387
JOHN DEERE 6420 AUTOQUAD DIESEL
24 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-1043 rpm)					
94.3 *(70.3)*	2302	5.57 *(21.09)*	0.408 *(0.248)*	16.92 *(3.33)*	
Standard Power Take-off Speed (999 rpm)					
96.0 *(71.6)*	2205	5.54 *(20.99)*	0.398 *(0.242)*	17.32 *(3.41)*	
Maximum Power (2 hours)					
103.9 *(77.5)*	1801	5.54 *(20.99)*	0.368 *(0.224)*	18.74 *(3.69)*	
VARYING POWER AND FUEL CONSUMPTION					
94.3 *(70.3)*	2302	5.57 *(21.09)*	0.408 *(0.248)*	16.92 *(3.33)*	Air temperature
83.9 *(62.6)*	2411	5.28 *(19.98)*	0.433 *(0.264)*	15.90 *(3.13)*	74°F *(23°C)*
63.5 *(47.4)*	2433	4.46 *(16.89)*	0.485 *(0.295)*	14.23 *(2.80)*	Relative humidity
42.8 *(31.9)*	2457	3.63 *(13.74)*	0.585 *(0.356)*	11.78 *(2.32)*	18%
21.3 *(15.9)*	2457	2.73 *(10.35)*	0.884 *(0.538)*	7.80 *(1.54)*	Barometer
-- --	2458	1.78 *(6.73)*	-- --	-- --	29.67" Hg *(100.5 kPa)*

Maximum Torque - 326 lb.-ft. *(442 Nm)* at 1503 rpm
Maximum Torque Rise - 51.4%
Torque rise at 1800 engine rpm - 41%

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 Consumption lb/hp.hr *(kg/kW.h)*	Fuel 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									
75.4 *(56.2)*	6380 *(28.39)*	4.43 *(7.13)*	2303	7.7	0.515 *(0.313)*	13.59 *(2.68)*	131 *(55)*	54 *(12)*	29.5 *(100.0)*
75% of Pull at Maximum Power—10th (C2) Gear									
60.7 *(45.3)*	4805 *(21.37)*	4.74 *(7.63)*	2417	5.8	0.566 *(0.344)*	12.32 *(2.43)*	135 *(57)*	54 *(12)*	29.5 *(100.0)*
50% of Pull at Maximum Power—10th (C2) Gear									
42.2 *(31.5)*	3230 *(14.37)*	4.90 *(7.88)*	2445	3.8	0.677 *(0.412)*	10.34 *(2.04)*	131 *(55)*	54 *(12)*	29.5 *(100.0)*
75% of Pull at Reduced Engine Speed—11th (C3) Gear									
60.6 *(45.2)*	4810 *(21.39)*	4.73 *(7.62)*	2003	4.7	0.501 *(0.305)*	13.96 *(2.75)*	124 *(51)*	54 *(12)*	29.5 *(100.0)*
50% of Pull at Reduced Engine Speed—11th (C3) Gear									
42.2 *(31.5)*	3210 *(14.28)*	4.93 *(7.93)*	2053	3.1	0.578 *(0.351)*	12.10 *(2.38)*	128 *(53)*	54 *(12)*	29.5 *(100.0)*

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

Dates of Test: January - February, 2002

Manufacturer: Deere & Company, Moline, Illinois, USA

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F *(15°/15°C)*** 0.828 **Fuel weight** 6.89 lbs/gal *(0.826 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.** 661923 **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.** 322659 **Tread width** rear 63.1" *(1604 mm)* to 99.0" *(2514 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 0.98 *(1.58)* second 1.18 *(1.90)* third 1.41 *(2.27)* fourth 1.73 *(2.79)* fifth 2.39 *(3.85)* sixth 2.88 *(4.64)* seventh 3.44 *(5.55)* eighth 3.90 *(6.28)* ninth 4.23 *(6.80)* tenth 4.70 *(7.56)* eleventh 5.62 *(9.05)* twelfth 6.41 *(10.31)* thirteenth 6.89 *(11.09)* fourteenth 7.71 *(12.41)* fifteenth 9.23 *(14.86)* sixteenth 10.41 *(16.75)* seventeenth 11.31 *(18.20)* eighteenth 12.53 *(20.16)* nineteenth 14.05 *(22.61)* twentieth 15.01 *(24.15)* twenty-first 16.91 *(27.22)* twenty-second 18.38 *(29.58)* twenty-third 20.26 *(32.60)* twenty-fourth 24.81 *(39.93)* reverse 1.03 *(1.65)*, 1.23 *(1.98)*, 1.47 *(2.37)*, 1.81 *(2.91)*, 2.50 *(4.02)*, 3.01 *(4.84)*, 3.60 *(5.80)*, 4.08 *(6.56)*, 4.41 *(7.10)*, 4.90 *(7.89)*, 5.87 *(9.45)*, 6.69 *(10.76)*, 7.20 *(11.58)*, 8.05 *(12.95)*, 9.64 *(15.51)*, 10.86 *(17.48)*, 11.81 *(19.00)*, 13.08 *(21.05)*, 14.66 *(23.60)*, 15.66 *(25.20)*, 17.65 *(28.41)*, 19.18 *(30.87)*, 21.14 *(34.02)*, 25.90 *(41.68)* **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** 11110 lb *(5040 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)*	Hp.hr/gal *(kW.h/l)*	Temp.°F*(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
				9th (B4) Gear					
77.0 *(57.4)*	9915 *(44.11)*	2.91 *(4.69)*	1839	15.0	0.503 *(0.306)*	13.91 *(2.74)*	135 *(57)*	59 *(15)*	29.5 *(100.0)*
				10th (C2) Gear					
79.7 *(59.4)*	9225 *(41.03)*	3.24 *(5.21)*	1800	13.3	0.478 *(0.291)*	14.62 *(2.88)*	138 *(59)*	59 *(15)*	29.5 *(100.0)*
				11th (C3) Gear					
81.3 *(60.6)*	7565 *(33.66)*	4.03 *(6.48)*	1798	10.2	0.468 *(0.285)*	14.95 *(2.95)*	144 *(62)*	59 *(15)*	29.5 *(100.0)*
				12th (D1) Gear					
81.9 *(61.1)*	6565 *(29.20)*	4.68 *(7.53)*	1796	8.1	0.462 *(0.281)*	15.12 *(2.98)*	142 *(61)*	59 *(15)*	29.5 *(100.0)*
				13th (C4) Gear					
82.3 *(61.4)*	6055 *(26.94)*	5.10 *(8.20)*	1799	7.1	0.460 *(0.280)*	15.18 *(2.99)*	144 *(62)*	59 *(15)*	29.5 *(100.0)*
				14th (D2) Gear					
84.7 *(63.2)*	5525 *(24.58)*	5.75 *(9.26)*	1794	6.0	0.449 *(0.273)*	15.58 *(3.07)*	142 *(61)*	59 *(15)*	29.5 *(100.0)*
				15th (D3) Gear					
83.4 *(62.2)*	4470 *(19.88)*	7.00 *(11.27)*	1800	4.6	0.456 *(0.278)*	15.32 *(3.02)*	144 *(62)*	57 *(14)*	29.5 *(100.0)*
				16th (E1) Gear					
81.6 *(60.9)*	3875 *(17.24)*	7.90 *(12.72)*	1795	4.5	0.465 *(0.283)*	15.06 *(2.97)*	140 *(60)*	57 *(14)*	29.5 *(100.0)*

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 claims of 5% improved economy when compared to the John Deere 6410 Diesel, nor 3 point lift capacity of 5915 lb *(2683 kg)*. 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. **2007**, Nebraska Summary 387, January 23, 2003.

Leonard L. Bashford
Director

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

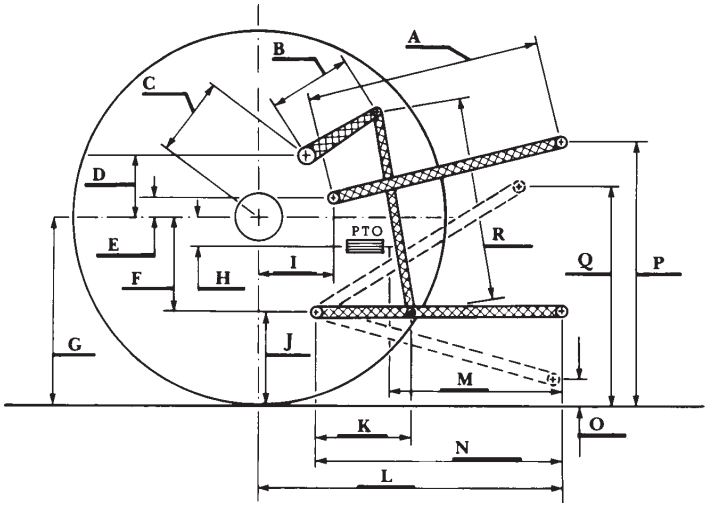
TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive Engaged dB(A)	Front Wheel Drive Disengaged dB(A)
At no load in 10th(C2) Gear	71.0	71.0
Maximum Sound level in 10th(C2) gear	73.5	72.5
Bystander	--	--

TIRES AND WEIGHT	Tested Without Ballast
Rear Tires–No., size, ply & psi *(kPa)*	Two 18.4-38; 8; 12 *(80)*
Front Tires–No., size, ply & psi *(kPa)*	Two 16.9-24; 6; 12 *(80)*
Height of Drawbar	20.9 in *(530 mm)*
Static Weight with operator– Rear	7210 lb *(3270 kg)*
– Front	4065 lb *(1845 kg)*
– Total	11275 lb *(5115 kg)*

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II
Quick Attach: none

Maximum Force Exerted Through Whole Range:	5825 lbs	*(25.9 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:	31.1 GPM	*(117.6 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	27.1 GPM	*(102.4 l/min)*
Delivery pressure:	2685 psi	*(185 bar)*
Power:	42.4 HP	*(31.6 kW)*



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	*mm*
A	26.0	*660*
B	12.0	*305*
C	20.0	*508*
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*

Agricultural Research Division
Institute of Agriculture and Natural Resources
University of Nebraska–Lincoln
Darrell Nelson, Dean and Director