January 1998

Nebraska Summary 286: John Deere 6110 Powrquad Diesel 16-Speed

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SUMMARY OF OECD TEST 1833—NEBRASKA SUMMARY 286
JOHN DEERE 6110 POWRQUAD 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-585 rpm)					
67.7 *(50.5)*	2300	4.49 *(16.98)*	0.467 *(0.284)*	15.08 *(2.97)*	
Standard Power Take-off Speed (540 rpm)					
69.4 *(51.8)*	2124	4.27 *(16.16)*	0.433 *(0.263)*	16.26 *(3.20)*	
Maximum Power (2 hours)					
71.1 *(53.0)*	1800	4.01 *(15.17)*	0.396 *(0.241)*	17.73 *(3.49)*	
VARYING POWER AND FUEL CONSUMPTION					
67.7 *(50.5)*	2300	4.49 *(16.98)*	0.467 *(0.284)*	15.08 *(2.97)*	Air temperature
59.4 *(44.3)*	2371	4.27 *(16.16)*	0.506 *(0.308)*	13.91 *(2.74)*	66°F *(19°C)*
44.8 *(33.4)*	2387	3.66 *(13.87)*	0.575 *(0.350)*	12.23 *(2.41)*	Relative humidity
30.0 *(22.4)*	2407	3.01 *(11.39)*	0.704 *(0.428)*	10.00 *(1.97)*	51%
15.2 *(11.3)*	2426	2.31 *(8.75)*	1.071 *(0.652)*	6.57 *(1.29)*	Barometer
-- --	2443	1.66 *(6.27)*	-- --	-- --	29.6" Hg *(100.4 kPa)*

Maximum Torque - 231 lb.-ft. *(313 Nm)* at 1301 rpm
Maximum Torque Rise - 49.8%
Torque rise at 1800 engine rpm - 34%

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)*	Hp.hr/gal *(kW.h/l)*	Temp.°F *(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power 8th (1C) Gear									
58.5 *(43.6)*	4735 *(21.07)*	4.63 *(7.45)*	2300	3.2	0.542 *(0.329)*	12.90 *(2.54)*	185 *(85)*	43 *(6)*	29.6 *(100.2)*
75% of Pull at Maximum Power 8th (1C) Gear									
45.9 *(34.2)*	3570 *(15.89)*	4.82 *(7.75)*	2376	2.3	0.620 *(0.377)*	11.26 *(2.22)*	181 *(83)*	45 *(7)*	29.6 *(100.2)*
50% of Pull at Maximum Power 8th (1C) Gear									
31.0 *(23.1)*	2370 *(10.53)*	4.90 *(7.89)*	2396	1.5	0.750 *(0.456)*	9.31 *(1.83)*	178 *(81)*	45 *(7)*	29.6 *(100.2)*
75% of Pull at Reduced Engine Speed 9th (4B) Gear									
45.7 *(34.1)*	3555 *(15.82)*	4.82 *(7.76)*	2195	1.9	0.571 *(0.347)*	12.23 *(2.41)*	180 *(82)*	39 *(4)*	29.6 *(100.2)*
50% of Pull at Reduced Engine Speed 9th (4B) Gear									
31.0 *(23.1)*	2370 *(10.53)*	4.91 *(7.90)*	2217	1.1	0.718 *(0.437)*	9.73 *(1.92)*	178 *(81)*	37 *(3)*	29.6 *(100.2)*

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

Dates of Test: October 1998 to February 1999

Manufacturer: Deere & Company, Moline, Illinois, USA

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F *(15°/15°C)*** 0.845 **Fuel weight** 7.03 lbs/gal *(0.843 kg/l)* **Oil SAE** 0W-40 **API service classification** CF-4 **Transmission and hydraulic lubricant** John Deere Hy-Gard J 20 C fluid **Front axle lubricant** John Deere Hy-Gard J 20 C fluid.

ENGINE: Make John Deere Diesel **Type** four cylinder vertical with turbocharger **Serial No.** 531808 **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.** 226165 **Tread width** rear 63.6" *(1616 mm)* to 75.3" *(1912 mm)* front 59.8" *(1520 mm)* to 79.1" *(2010 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 1.44 *(2.31)* second 1.72 *(2.78)* third 2.07 *(3.33)* fourth 2.54 *(4.08)* fifth 2.88 *(4.64)* sixth 3.47 *(5.59)* seventh 4.16 *(6.69)* eighth 4.70 *(7.56)* ninth 5.09 *(8.19)* tenth 5.65 *(9.09)* eleventh 6.78 *(10.91)* twelfth 8.30 *(13.36)* thirteenth 10.10 *(16.26)* fourteenth 12.17 *(19.59)* fifteenth 14.57 *(23.45)* sixteenth 17.85 *(28.73)* reverse 1.70 *(2.74)*, 2.05 *(3.30)*, 2.45 *(3.95)*, 3.01 *(4.84)*, 3.42 *(5.50)*, 4.12 *(6.63)*, 4.93 *(7.93)*, 5.57 *(8.97)*, 6.04 *(9.72)*, 6.72 *(10.81)*, 8.03 *(12.93)*, 9.85 *(15.85)*, 11.98 *(19.28)*, 14.43 *(23.23)*, 17.28 *(27.81)*, 21.17 *(34.07)* **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 2124 engine rpm **Unladen tractor mass** 9480 lb *(4300 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)*
				4th (4A) Gear					
53.5 *(39.9)*	10145 *(45.13)*	1.98 *(3.18)*	2054	15.1	0.557 *(0.339)*	12.54 *(2.47)*	178 *(81)*	45 *(7)*	29.6 *(100.4)*
				5th (1B) Gear					
57.6 *(43.0)*	7790 *(34.65)*	2.77 *(4.46)*	2295	5.4	0.546 *(0.332)*	12.79 *(2.52)*	183 *(84)*	43 *(6)*	29.6 *(100.4)*
				6th (2B) Gear					
61.0 *(45.5)*	8995 *(40.02)*	2.54 *(4.09)*	1805	7.9	0.463 *(0.282)*	15.08 *(2.97)*	187 *(86)*	43 *(6)*	29.6 *(100.4)*
				7th (3B) Gear					
61.7 *(46.0)*	7430 *(33.06)*	3.11 *(5.01)*	1803	6.2	0.455 *(0.277)*	15.33 *(3.02)*	185 *(85)*	46 *(8)*	29.6 *(100.4)*
				8th (1C) Gear					
61.3 *(45.7)*	6485 *(28.85)*	3.54 *(5.70)*	1802	4.6	0.459 *(0.279)*	15.23 *(3.00)*	185 *(85)*	41 *(5)*	29.6 *(100.4)*
				9th (4B) Gear					
61.2 *(45.6)*	5885 *(26.19)*	3.90 *(6.27)*	1796	4.1	0.459 *(0.279)*	15.23 *(3.00)*	185 *(85)*	39 *(4)*	29.6 *(100.4)*
				10th (2C) Gear					
61.9 *(46.1)*	5350 *(23.80)*	4.34 *(6.98)*	1801	3.5	0.454 *(0.276)*	15.38 *(3.03)*	187 *(86)*	41 *(5)*	29.6 *(100.4)*
				11th (3C) Gear					
61.4 *(45.8)*	4400 *(19.58)*	5.23 *(8.42)*	1804	2.9	0.455 *(0.277)*	15.33 *(3.02)*	185 *(85)*	37 *(3)*	29.6 *(100.4)*
				12th (4C) Gear					
60.5 *(45.1)*	3495 *(15.54)*	6.49 *(10.45)*	1802	2.3	0.468 *(0.284)*	14.94 *(2.94)*	185 *(85)*	37 *(3)*	29.6 *(100.4)*

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive Engaged dB(A)	Front Wheel Drive Disengaged dB(A)
Sound level in 8th(1C) gear	73.0	73.0
Maximum Sound Level	74.0	
Bystander		

TIRES AND WEIGHT		Tested Without Ballast
Rear Tires No., size, ply & psi *(kPa)*		Two 18.4R34;**; 12 *(80)*
Front Tires No., size, ply & psi *(kPa)*		Two 14.9-24; 6; 12 *(80)*
Height of Drawbar		17.7 in *(450 mm)*
Static Weight with Operator	Rear	6020 lb *(2730 kg)*
	Front	3625 lb *(1645 kg)*
	Total	9645 lb *(4375 kg)*

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 3 point lift capacity claim of 4745 lb *(2152 kg)* nor the original claim of 50% torque rise. 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. **1833**, Nebraska Summary 286, December 1, 1999.

LEONARD L. BASHFORD
Director

M.F. KOCHER
R.D. GRISSO JR.
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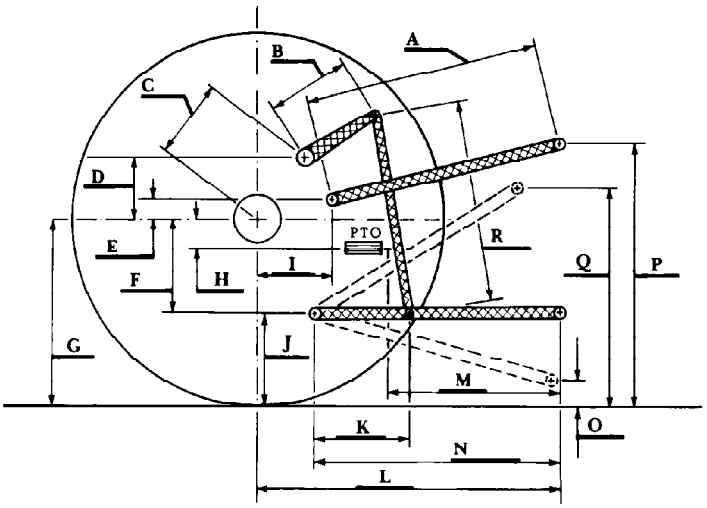
Board of Tractor Test Engineers

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II
Quick Attach: none

Maximum Force Exerted Through Whole Range:	4070 lbs	*(18.10 kN)* (at the frame)
	4710 lbs	*(20.95 kN)* (at the hitch points)
i) Opening pressure of relief valve:	NA	
Sustained pressure of the open relief valve:	2900 psi	*(200 bar)*
ii) Pump delivery rate at minimum pressure:	27.3 GPM	*(103.3 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	25.4 GPM	*(96.0 l/min)*
Delivery pressure:	2320 psi	*(160 bar)*
Power:	33.8 HP	*(25.2 kW)*



HITCH DIMENSIONS AS TESTED NO LOAD

	inch	*mm*
A	25.6	*650*
B	12.0	*305*
C	19.9	*505*
D	18.7	*475*
E	7.4	*188*
F	8.9	*225*
G	30.3	*770*
H	3.1	*80*
I	18.1	*460*
J	21.4	*545*
K	19.8	*503*
L	42.5	*1080*
M	21.7	*550*
N	37.2	*945*
O	7.9	*200*
P	45.5	*1155*
Q	33.3	*845*
R	31.3	*795*

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