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January 2002

## Nebraska Summary 384: John Deere 6120 Syncroplus Diesel 12-Speed

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# SUMMARY OF OECD TEST 2028—NEBRASKA SUMMARY 384

## JOHN DEERE 6120 SYNCROPLUS DIESEL

### 12 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed (PTO speed-1042 rpm)</b>					
66.9 (49.9)	2300	4.43 (16.76)	0.459 (0.279)	15.11 (2.98)	
<b>Standard Power Take-off Speed (1000 rpm)</b>					
69.3 (51.7)	2208	4.41 (16.69)	0.440 (0.268)	15.72 (3.10)	
<b>Maximum Power (2 hours)</b>					
72.3 (53.9)	2000	4.27 (16.15)	0.408 (0.248)	16.95 (3.34)	

VARYING POWER AND FUEL CONSUMPTION					
66.9 (49.9)	2300	4.43 (16.76)	0.459 (0.279)	15.11 (2.98)	Air temperature
60.1 (44.8)	2435	4.34 (16.42)	0.499 (0.304)	13.86 (2.73)	73°F (23°C)
45.5 (33.9)	2450	3.77 (14.25)	0.573 (0.348)	12.08 (2.38)	Relative humidity
30.6 (22.8)	2468	3.20 (12.12)	0.725 (0.441)	9.54 (1.88)	37%
15.3 (11.4)	2484	2.53 (9.58)	1.140 (0.694)	6.06 (1.19)	Barometer
--	2500	1.79 (6.77)	--	--	29.09" Hg (98.5 kPa)

Maximum Torque - 231 lb.-ft. (314 Nm) at 1101 rpm  
 Maximum Torque Rise - 51.7%  
 Torque rise at 1800 engine rpm - 33%

#### 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)
<b>Maximum Power—7th (B3) Gear</b>									
53.5 (39.9)	4150 (18.47)	4.83 (7.77)	2302	6.2	0.579 (0.352)	12.08 (2.38)	136 (58)	57 (14)	29.7 (100.6)
<b>75% of Pull at Maximum Power—7th (B3) Gear</b>									
43.4 (32.3)	3140 (13.98)	5.18 (8.33)	2424	4.4	0.672 (0.409)	10.40 (2.05)	136 (58)	59 (15)	29.7 (100.6)
<b>50% of Pull at Maximum Power—7th (B3) Gear</b>									
29.4 (21.9)	2085 (9.27)	5.29 (8.52)	2442	2.9	0.856 (0.521)	8.16 (1.61)	136 (58)	57 (14)	29.7 (100.6)
<b>75% of Pull at Reduced Engine Speed—8th (C2) Gear</b>									
43.4 (32.3)	3185 (14.16)	5.11 (8.22)	1854	4.4	0.556 (0.338)	12.59 (2.48)	136 (58)	61 (16)	29.7 (100.6)
<b>50% of Pull at Reduced Engine Speed—8th (C2) Gear</b>									
29.8 (22.2)	2110 (9.39)	5.29 (8.52)	1890	2.9	0.671 (0.408)	10.42 (2.05)	136 (58)	59 (15)	29.7 (100.6)

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

**Dates of Test:** February - May, 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 **Serial No.** 664943 **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.** 322555 **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 **Nominal travel speeds mph (km/h)** first 1.44 (2.31) second 1.99 (3.20) third 2.54 (4.08) fourth 2.88 (4.63) fifth 3.99 (6.42) sixth 4.73 (7.61) seventh 5.09 (8.19) eighth 6.56 (10.56) ninth 8.36 (13.46) tenth 9.74 (15.67) eleventh 13.52 (21.76) twelfth 17.22 (27.72) reverse 1.75 (2.81), 3.50 (5.64), 5.76 (9.27), 11.87 (19.10) **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** 9350 lb (4240 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)	Temp. <sup>o</sup> F(°C) cool- ing med	Temp. <sup>o</sup> F(°C) Air dry bulb	Barom. inch Hg (kPa)	
4th (B1) Gear									
49.3 (36.8)	7395 (32.90)	2.50 (4.03)	2331	15.0	0.632 (0.384)	11.07 (2.18)	120 (49)	66 (19)	29.5 (100.0)
5th (B2) Gear									
53.5 (39.9)	6435 (28.62)	3.12 (5.02)	1999	11.5	0.556 (0.338)	12.59 (2.48)	120 (49)	68 (20)	29.5 (100.0)
6th (C1) Gear									
55.5 (41.4)	5535 (24.63)	3.76 (6.05)	1998	9.3	0.536 (0.326)	13.05 (2.57)	115 (46)	63 (17)	29.5 (100.0)
7th (B3) Gear									
56.5 (42.1)	5150 (22.91)	4.11 (6.61)	2000	8.4	0.523 (0.318)	13.36 (2.63)	115 (46)	61 (16)	29.5 (100.0)
8th (C2) Gear									
55.4 (41.3)	3825 (17.01)	5.44 (8.75)	1996	5.8	0.536 (0.326)	13.05 (2.57)	115 (46)	63 (17)	29.5 (100.0)
9th (C3) Gear									
55.6 (41.4)	2960 (13.17)	7.04 (11.33)	1997	3.7	0.532 (0.324)	13.15 (2.59)	118 (48)	66 (19)	29.5 (100.0)
10th (D1) Gear									
54.0 (40.3)	2455 (10.93)	8.25 (13.27)	1992	3.3	0.545 (0.331)	12.84 (2.53)	118 (48)	68 (20)	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 3 point lift claim of 4745 lb (2152 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. **2028**, Nebraska Summary 384, January 23, 2003.

Leonard L. Bashford  
 Director

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

<b>TRACTOR SOUND LEVEL WITH CAB</b>	<b>Front Wheel Drive</b>	
	<b>Engaged dB(A)</b>	<b>Disengaged dB(A)</b>
At no load in 6th(C1) Gear	72.0	72.0
Maximum Sound level	73.5	72.5
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 16.9-30; 6; 17 (120)  
 Two 12.4-24; 6; 17 (120)  
 13.8 in (350 mm)  
 5745 lb (2605 kg)  
 3770 lb (1710 kg)  
 9515 lb (4315 kg)

### THREE POINT HITCH PERFORMANCE (OECD Static Test)

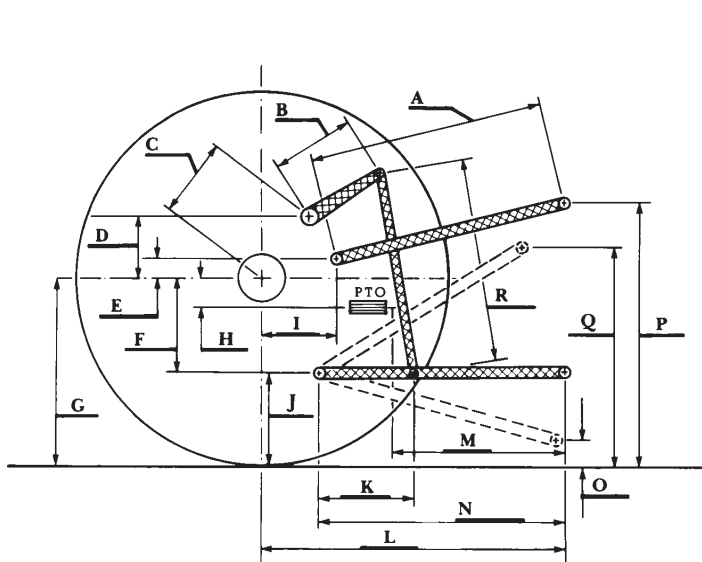
CATEGORY: II

Quick Attach: none

Maximum Force Exerted Through Whole Range: 4000 lbs (17.80 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: 30.0 GPM (113.6 l/min)
- iii) Pump delivery rate at maximum
  - hydraulic power: 27.7 GPM (104.8 l/min)
  - Delivery pressure: 2175 psi (150 bar)
  - Power: 35.1 HP (26.2 kW)

### HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	mm
A	25.6	650
B	12.0	305
C	20.0	508
D	18.7	475
E	6.9	175
F	8.9	225
G	27.4	695
H	3.1	80
I	18.1	460
J	18.5	470
K	19.9	505
L	42.5	1080
M	21.7	550
N	37.2	945
O	7.9	200
P	42.5	1080
Q	33.3	845
R	29.3	745