

# SUMMARY OF OECD TEST 2127—NEBRASKA SUMMARY 443

## JOHN DEERE 6415 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed (PTO speed-1041 rpm)</b>					
87.5 (65.2)	2298	5.70 (21.57)	0.450 (0.273)	15.35 (3.02)	
<b>Standard Power Take-off Speed (1000 rpm)</b>					
90.7 (67.6)	2208	5.69 (21.56)	0.433 (0.264)	15.91 (3.14)	
<b>Maximum Power (2 hours)</b>					
95.6 (71.3)	2100	5.88 (22.26)	0.424 (0.258)	16.24 (3.20)	

VARYING POWER AND FUEL CONSUMPTION					
87.5 (65.2)	2298	5.70 (21.57)	0.450 (0.273)	15.35 (3.02)	Air temperature
75.9 (56.6)	2358	5.26 (19.90)	0.478 (0.291)	14.42 (2.84)	72°F (22°C)
57.8 (43.1)	2391	4.64 (17.56)	0.554 (0.337)	12.45 (2.45)	Relative humidity
39.0 (29.1)	2418	3.71 (14.05)	0.657 (0.400)	10.49 (2.07)	27%
19.7 (14.7)	2449	2.83 (10.71)	0.992 (0.603)	6.96 (1.37)	Barometer
--	2460	1.93 (7.29)	--	--	29.8" Hg (101.1 kPa)

Maximum Torque - 265 lb.-ft. (387 Nm) at 1501 rpm  
 Maximum Torque Rise - 42.8%  
 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)
<b>Maximum Power—9th (C2) Gear</b>									
73.1 (54.5)	5575 (24.80)	4.92 (7.92)	2303	6.9	0.548 (0.334)	12.67 (2.50)	192 (89)	63 (17)	29.5 (100.0)
<b>75% of Pull at Maximum Power—9th (C2) Gear</b>									
58.1 (43.3)	4200 (18.68)	5.19 (8.35)	2377	4.9	0.606 (0.369)	11.47 (2.26)	183 (84)	63 (17)	29.5 (100.0)
<b>50% of Pull at Maximum Power—9th (C2) Gear</b>									
40.1 (29.9)	2820 (12.54)	5.34 (8.59)	2402	3.2	0.735 (0.447)	9.46 (1.86)	176 (80)	64 (18)	29.5 (100.0)
<b>75% of Pull at Reduced Engine Speed—10th (B4) Gear</b>									
58.1 (43.3)	4170 (18.54)	5.22 (8.41)	2220	4.8	0.572 (0.348)	12.14 (2.39)	192 (89)	63 (17)	29.5 (100.0)
<b>50% of Pull at Reduced Engine Speed—10th (B4) Gear</b>									
40.1 (29.9)	2810 (12.50)	5.35 (8.62)	2238	3.1	0.690 (0.420)	10.08 (1.99)	176 (80)	64 (18)	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:** September 2003 to January 2004

**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.** 807981 **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.** 387593 **Tread width** rear 63.5" (1612 mm) to 79.2" (2012 mm) front 59.7" (1516 mm) to 79.3" (2016 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 1.22 (1.96) second 1.58 (2.55) third 2.20 (3.54) fourth 2.44 (3.93) fifth 2.80 (4.51) sixth 3.18 (5.11) seventh 4.01 (6.46) eighth 4.41 (7.09) ninth 5.22 (8.40) tenth 5.61 (9.03) eleventh 7.25 (11.66) twelfth 8.27 (13.31) thirteenth 9.23 (14.86) fourteenth 10.74 (17.29) fifteenth 14.92 (24.01) sixteenth 19.01 (30.60) reverse 1.27 (2.05), 1.65 (2.66), 2.29 (3.69), 2.55 (4.10), 2.92 (4.70), 3.31 (5.33), 4.19 (6.75), 4.60 (7.40), 5.44 (8.76), 5.86 (9.43), 7.56 (12.17), 8.63 (13.89), 9.64 (15.51), 11.22 (18.05), 15.57 (25.06), 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** 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)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
6th (B2) Gear									
67.2 (50.1)	9065 (40.33)	2.78 (4.47)	2334	14.8	0.588 (0.358)	11.83 (2.33)	197 (92)	57 (14)	29.5 (100.0)
7th (C1) Gear									
75.5 (56.3)	8840 (39.33)	3.20 (5.15)	2101	13.8	0.537 (0.327)	12.94 (2.55)	183 (84)	57 (14)	29.5 (100.0)
8th (B3) Gear									
76.0 (56.7)	7950 (35.36)	3.59 (5.78)	2102	12.0	0.535 (0.325)	12.99 (2.56)	197 (92)	57 (14)	29.5 (100.0)
9th (C2) Gear									
77.0 (57.4)	6585 (29.29)	4.39 (7.06)	2099	8.7	0.524 (0.319)	13.24 (2.61)	178 (81)	43 (6)	29.5 (100.0)
10th (B4) Gear									
79.7 (59.4)	6295 (27.99)	4.75 (7.64)	2094	8.6	0.513 (0.312)	13.55 (2.67)	196 (91)	57 (14)	29.5 (100.0)
11th (C3) Gear									
78.6 (58.6)	4665 (20.75)	6.32 (10.17)	2099	5.6	0.515 (0.313)	13.50 (2.66)	178 (81)	43 (6)	29.5 (100.0)
12th (D1) Gear									
79.1 (59.0)	4075 (18.12)	7.28 (11.72)	2098	4.6	0.514 (0.313)	13.53 (2.67)	178 (81)	45 (7)	29.5 (100.0)
13th (C4) Gear									
78.6 (58.6)	3615 (16.09)	8.15 (13.12)	2093	4.0	0.515 (0.313)	13.50 (2.66)	178 (81)	45 (7)	29.5 (100.0)
14th (D2) Gear									
77.4 (57.7)	3035 (13.50)	9.57 (15.40)	2095	2.8	0.520 (0.316)	13.36 (2.63)	179 (82)	54 (12)	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. 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. **2127** Nebraska Summary 443, August 18, 2004.

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 9th(C2) Gear	70.5	70.0
Maximum Sound level	73.5	70.5
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 13.6-24; 8; 12 (80)  
 20.5 in (520 mm)  
 6130 lb (2780 kg)  
 3515 lb (1595 kg)  
 9645 lb (4375 kg)

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

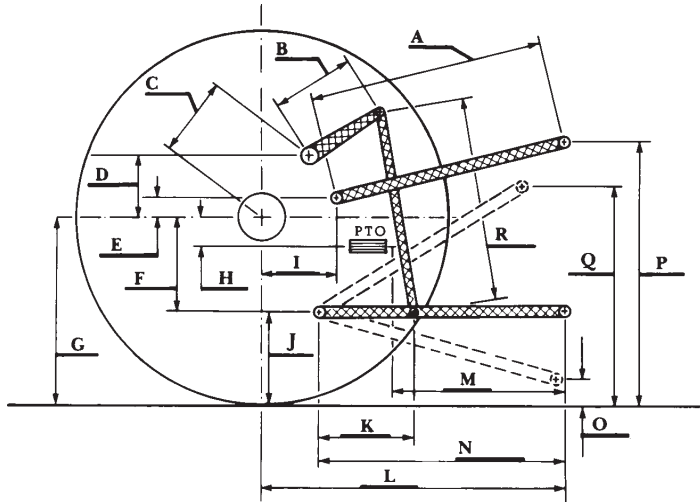
CATEGORY: II

Quick Attach: none

Maximum Force Exerted Through Whole Range: 5675 lbs (25.25 kN)

i) Opening pressure of relief valve:	NA	
Sustained pressure of the open relief valve:	3050 psi (210 bar)	
ii) Pump delivery rate at minimum pressure:	<u>one outlet set</u>	<u>two outlet sets combined</u>
	17.0 GPM (64.2 l/min)	18.8 GPM (71.3 l/min)
iii) Pump delivery rate at maximum		
hydraulic power:	15.9 GPM (60.3 l/min)	18.2 GPM (68.9 l/min)
Delivery pressure:	2680 psi (185 bar)	2680 psi (185 bar)
Power:	24.9 HP (18.6 kW)	28.5 HP (21.3 kW)

### HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	mm
A	25.8	655
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	19.9	505
L	42.5	1080
M	21.7	550
N	37.2	945
O	7.9	200
P	47.4	1205
Q	34.6	880
R	32.1	815