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2011

## Test 1986: John Deere 6330 Premium

Nebraska Tractor Test Lab

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# NEBRASKA TRACTOR TEST 1986

## JOHN DEERE 6330 PREMIUM DIESEL

### 16 SPEED

### CHASSIS SERIAL NUMBERS 634684 AND HIGHER

#### 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—1041 rpm)					
92.70 (69.12)	2299	5.72 (21.66)	0.436 (0.265)	16.20 (3.19)	
Standard Power Take-off Speed—(PTO speed—1000 rpm)					
96.92 (72.27)	2218	5.82 (22.03)	0.424 (0.258)	16.65 (3.28)	
Maximum Power (1 hour)					
104.18 (77.69)	1950	5.88 (22.24)	0.398 (0.242)	17.73 (3.49)	

#### VARYING POWER AND FUEL CONSUMPTION

92.70 (69.12)	2299	5.72 (21.66)	0.436 (0.265)	16.20 (3.19)	Air temperature
81.31 (60.63)	2369	5.37 (20.32)	0.466 (0.283)	15.15 (2.98)	73°F (23°C)
61.56 (45.91)	2396	4.57 (17.28)	0.523 (0.318)	13.48 (2.66)	Relative humidity
41.68 (31.08)	2429	3.78 (14.33)	0.641 (0.390)	11.01 (2.17)	43%
21.00 (15.66)	2460	2.90 (10.99)	0.975 (0.593)	7.24 (1.43)	Barometer
3.18 (2.37)	2459	2.45 (9.27)	5.431 (3.304)	1.30 (0.26)	28.60" Hg (96.85 kPa)

Maximum Torque - 313 lb.-ft. (424 Nm) at 1550 rpm  
Maximum Torque Rise - 47.5%  
Torque rise at 1800 engine rpm - 42%  
Power increase at 1950 rpm - 12.4%

#### TRACTOR SOUND LEVEL WITH CAB

	Front Wheel Drive Engaged dB(A)	Disengaged dB(A)
At no load in 7th (B3) gear	74.0	73.9
Transport speed-no load- 16th (D4) gear		73.4
Bystander in 16th (D4) Gear		83.0

#### 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 460/85R38; \*\*, 12(85)  
Two 340/85R28; \*\*, 12(85)  
18.5 in (470 mm)  
6480 lb (2939 kg)  
3960 lb (1796 kg)  
10440 lb (4735 kg)

**Location of tests:** Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln, Nebraska 68583-0832

**Dates of tests:** April 14 - May 4, 2011

**Manufacturer:** Deere & Company, Moline, Illinois, USA

**FUEL, OIL and Time:** Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F (15°/15°C)** 0.8476 **Fuel weight** 7.057 lbs/gal (0.846 kg/l) **Oil SAE** 15W-40 **API service classification** CJ-4 **Transmission and hydraulic lubricant** John Deere Hy-Gard II fluid **Front axle lubricant** John Deere Hy-Gard II fluid **Total time engine was operated** 9.0 hours.

**ENGINE:** Make John Deere Diesel **Type** four cylinder vertical with turbocharger and water to air intercooler **Serial No.** CD4045L167905 **Crankshaft** lengthwise **Rated engine speed** 2300 **Bore and stroke** 4.19" x 5.00" (106.5 mm x 127.0 mm) **Compression ratio** 16.7 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, engine coolant heat exchanger for hydraulic and transmission oil **Fuel filter** one paper element **Fuel cooler** radiator for pump return fuel **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

**ENGINE OPERATING PARAMETERS:** Fuel rate: 38.1 - 41.3 lb/h (17.3 -18.7 kg/h) **High idle:** 2410-2510 rpm **Turbo boost:** nominal 16.0-18.9 psi (110-130 kPa) as measured 17.2 psi (118 kPa)

**CHASSIS:** **Type** front wheel assist **Serial No.** L06330H659756 **Tread width** rear 56.9" (1446 mm) to 75.4" (1916 mm) front 59.9" (1522 mm) to 79.3" (2014 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 1.60 (2.57) second 1.92 (3.09) third 2.30 (3.70) fourth 2.81 (4.53) fifth 3.20 (5.15) sixth 3.85 (6.20) seventh 4.61 (7.42) eighth 5.26 (8.46) ninth 5.65 (9.09) tenth 6.33 (10.19) eleventh 7.58 (12.20) twelfth 9.29 (14.95) thirteenth 10.83 (17.43) fourteenth 13.04 (20.98) fifteenth 15.62 (25.13) sixteenth 19.13 (30.78) reverse 1.67 (2.68), 2.01 (3.23), 2.40 (3.86), 2.94 (4.73), 3.34 (5.37), 4.02 (6.47), 4.82 (7.75), 5.49 (8.84), 5.90 (9.49), 6.61 (10.64), 7.92 (12.74), 9.69 (15.60), 11.31 (18.20), 13.61 (21.90), 16.30 (26.23), 19.96 (32.12)

## HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range:	4450 lbs (19.8 kN) (70 mm cylinders) 6398 lbs (28.5 kN) (80 mm cylinders)
i) Sustained pressure with relief valve open:	3006 psi (207 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed:	32.3 GPM (122.4 l/min)
iii) Pump delivery rate at maximum hydraulic power:	31.6 GPM (119.5 l/min)
Delivery pressure:	2630 psi (181 bar)
Power:	48.4 HP (36.1 kW)

## THREE POINT HITCH PERFORMANCE (SAE Static test)

Observed maximum pressure psi. (bar)	2990 (206)
Location:	lift cylinder
Hydraulic oil temperature: °F (°C)	149 (65)
Location:	hydraulic sump
Category:	II
Quick attach:	None

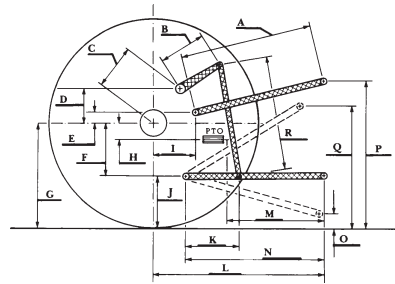
System pressure - 2480 psi (171 Bar) - with lift cylinders 2 x 70 mm

Hitch point distance to ground level in. (mm)	8.0 (203)	15.0 (381)	22.0 (559)	29.0 (737)	36.0 (915)
Lift force on frame lb	5622	6020	6106	5970	5356
" " " " " (kN)	(25.0)	(26.8)	(27.2)	(26.6)	(23.8)

System pressure - 2480 psi (171 Bar) - with lift cylinders 2 x 80 mm

Hitch point distance to ground level in. (mm)	8.0 (203)	16.4 (417)	24.0 (610)	31.9 (810)	40.0 (1016)
Lift force on frame lb	15683	9566	9428	9212	8322
" " " " " (kN)	(69.8)	(42.6)	(41.9)	(41.0)	(37.0)

	OECD test		SAE test	
	inch	mm	inch	mm
A	25.8	655	24.4	620
B	12.6	320	12.6	320
C	20.0	507	20.0	507
D	23.9	475	23.9	475
E	9.7	245	9.7	245
F	8.7	220	8.7	220
G	32.3	820	32.3	820
H	4.9	125	4.9	125
I	17.6	448	17.6	448
J	23.6	600	23.6	600
K	19.8	502	19.8	502
L	42.3	1076	42.3	1076
M	21.5	546	21.5	546
N	37.2	945	37.2	945
O	7.9	200	7.9	200
P	47.6	1210	42.6	1083
Q	34.6	880	34.6	880
R	31.3	795	31.3	795



HITCH DIMENSIONS AS TESTED—NO LOAD



**JOHN DEERE 6330 PREMIUM DIESEL**  
Institute of Agriculture and Natural Resources  
University of Nebraska-Lincoln

**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 2220 engine rpm. **Unladen tractor mass** 10265 lb (4656 kg)

**Note:** The performance figures on this report apply to tractors with chassis serial numbers 634684 and higher.

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments.

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. This tractor did not meet the manufacturer's claim of 73.0 dB(A) cab sound level. For the maximum power tests the fuel temperature at the injection pump inlet was maintained at 117°F (47°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1986**, May 19, 2011.

Roger M. Hoy  
Director

M.F. Kocher  
D.R. Keshwani  
P.J. Jasa  
Board of Tractor Test Engineers