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2011

Test 1985: John Deere 6230 Premium

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1985

JOHN DEERE 6230 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—1036 rpm)					
81.60 (60.85)	2298	5.15 (19.49)	0.445 (0.271)	15.85 (3.12)	
Standard Power Take-off Speed—(PTO speed—1000 rpm)					
85.97 (64.11)	2219	5.27 (19.94)	0.433 (0.263)	16.32 (3.21)	
Maximum Power (1 hour)					
92.22 (68.77)	1899	5.24 (19.84)	0.401 (0.244)	17.60 (3.47)	

VARYING POWER AND FUEL CONSUMPTION

81.60 (60.85)	2298	5.15 (19.49)	0.445 (0.271)	15.85 (3.12)	Air temperature
71.58 (53.38)	2371	4.81 (18.19)	0.474 (0.288)	14.89 (2.93)	73°F (22°C)
54.34 (40.52)	2400	4.13 (15.65)	0.537 (0.327)	13.15 (2.59)	Relative humidity
36.73 (27.39)	2430	3.41 (12.90)	0.655 (0.398)	10.78 (2.12)	33%
18.63 (13.89)	2456	3.09 (11.70)	1.171 (0.712)	6.03 (1.19)	Barometer
3.18 (2.37)	2460	2.39 (9.04)	5.299 (3.223)	1.33 (0.26)	28.37" Hg (96.07 kPa)

Maximum Torque - 279 lb.-ft. (378 Nm) at 1548 rpm
Maximum Torque Rise -49.4%
Torque rise at 1848 engine rpm - 40%
Power increase at 1899 rpm - 13.0%

TRACTOR SOUND LEVEL WITH CAB

	Front Wheel Drive Engaged dB(A)	Disengaged dB(A)
At no load in 7th (B3) gear	72.9	72.9
Transport speed-no load - 16th (D4) gear		73.3
Bystander in 16th (D4) Gear		83.2

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)
6485 lb (2941 kg)
3970 lb (1801 kg)
10455 lb (4742 kg)

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

Dates of tests: April 26 - 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** 10.0 hours.

ENGINE: Make John Deere Diesel **Type** four cylinder vertical with turbocharger and water to air intercooler **Serial No.** CD4045L168468 **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: 34.4 - 37.3 lb/h (15.6 - 16.9 kg/h) **High idle:** 2410 - 2510 rpm **Turbo boost:** nominal 11.6-14.5 psi (80-100 kPa) as measured 13.0 psi (90 kPa)

CHASSIS: **Type** front wheel assist **Serial No.** L06230H659646 **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)

i) Sustained pressure with relief valve open: 2996 psi (207 bar)

ii) Pump delivery rate at minimum pressure and rated engine speed: 32.1 GPM (121.6 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 31.2 GPM (118.2 l/min)

Delivery pressure: 2608 psi (180 bar)

Power: 47.5 HP (35.4 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 valve

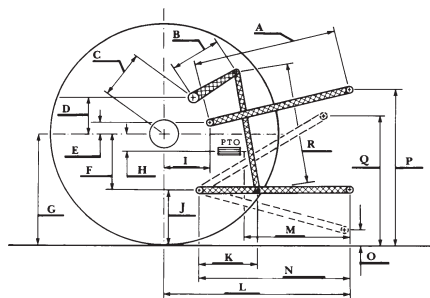
Category: II

Quick attach: none

System pressure 2480 psi (171 Bar)

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)

	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 6230 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** 10280 lb (4663 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

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

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. 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. **1985**, May 19, 2011.

Roger M. Hoy
Director

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