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January 2004

Test 1839: John Deere 5205 Diesel 8-Speed (Chassis S/N 522000 and Higher)

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1839

JOHN DEERE 5205 DIESEL

8 SPEED

Chassis serial numbers 522000 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
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MAXIMUM POWER AND FUEL CONSUMPTION

Rated Engine Speed—(PTO speed—564 rpm)					
51.97 (38.76)	2298	3.16 (11.96)	0.427 (0.260)	16.45 (3.24)	
Standard Power Take-off Speed-(540 rpm)					
50.71 (37.81)	2201	3.08 (11.66)	0.427 (0.259)	16.46 (3.24)	

VARYING POWER AND FUEL CONSUMPTION

51.97 (38.76)	2298	3.16 (11.96)	0.427 (0.260)	16.45 (3.24)	Air temperature
45.97 (34.28)	2388	2.78 (10.51)	0.424 (0.258)	16.55 (3.26)	77°F (25°C)
34.95 (26.06)	2431	2.26 (8.57)	0.455 (0.277)	15.43 (3.04)	Relative humidity
23.58 (17.58)	2459	1.71 (6.47)	0.509 (0.310)	13.79 (2.72)	56%
11.90 (8.87)	2489	1.15 (4.37)	0.681 (0.414)	10.31 (2.03)	Barometer
0.59 (0.44)	2506	0.73 (2.75)	8.711 (5.299)	0.81 (0.16)	28.88"Hg (97.80 kPa)

Maximum Torque 142 lb.-ft. (192 Nm) at 1545 rpm
Maximum Torque Rise- 19.3%
Torque rise at 1806 rpm - 11%

TRACTOR SOUND LEVEL WITHOUT CAB

	Front Wheel Drive Engaged dB(A)	Disengaged dB(A)
At no load in 3rd(A3) gear	89.7	89.6
Transport speed -no load -8th(B4) gear		93.7
Bystander in 8th (B4) gear	--	83.4

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 16.9-28; 6; 12 (85)
Two 9.5-24; 6; 12 (85)
17.5 in (445 mm)
2850 lb (1293 kg)
2090 lb (948 kg)
4940 lb (2241 kg)

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

Dates of Test: May 25 - 27, 2004

Manufacturer: John Deere Commercial Products
Inc., 700 Horizon South Parkway, Grovetown
Ga. USA, 30813

FUEL, OIL and TIME: Fuel No. 2 Diesel
Specific gravity converted to 60°/60° F (15°/15°C)
0.8432 **Fuel weight** 7.021 lbs/gal (0.841 kg/l) **Oil**
SAE 15W40 API service classification CG-4
Transmission and hydraulic lubricant John
Deere Hy-Gard Fluid **Front axle lubricant** SAE
80W90 API GL-5 **Total time engine was**
operated 9.0 hours

ENGINE: Make John Deere **Diesel Type** three
cylinder vertical **Serial No.** *PE3029D331181*
Crankshaft lengthwise **Rated engine speed** 2300
Bore and stroke 4.19" x 4.33" (106.4 mm x 110.0
mm) **Compression ratio** 17.4 to 1 **Displacement**
179 cu in (2934 ml) **Starting system** 12 volt
Lubrication pressure **Air cleaner** one paper
element and one polyester felt element **Oil filter**
one full flow cartridge **Fuel filter** one paper
element **Muffler** underhood **Exhaust** vertical
Cooling medium temperature control one
thermostat

ENGINE OPERATING PARAMETERS: Fuel
rate: 19.7 - 22.3 lb/h (8.9 - 10.1 kg/h) **High idle:**
2475 - 2525 rpm

CHASSIS: Type front wheel assist **Serial No.**
LV5205C522507 **Tread width** rear 55.8" (1417
mm) to 71.7" (1820 mm) front 52.8" (1340 mm) to
75.0" (1904 mm) **Wheelbase** 76.8" (1950 mm)
Hydraulic control system direct engine drive
Transmission selective gear fixed ratio **Nominal**
travel speeds mph (km/h) first 1.94 (3.13) second
2.78 (4.48) third 3.93 (6.33) fourth 5.51 (8.87)
fifth 6.44 (10.36) sixth 9.72 (15.64) seventh 13.74
(22.11) eighth 19.26 (31.00) reverse 2.32 (3.74),
3.32 (5.34), 4.70 (7.56), 6.58 (10.59) **Clutch** single
dry disc operated by foot pedal **Brakes** single wet
disc mechanically operated by two foot pedals
which can be locked together **Steering** hydrostatic
Power take-off 540 rpm at 2199 engine rpm
Unladen tractor mass 4765 lb (2161 kg)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range: 3173 lbs (14.1 kN)

i) Opening pressure of relief valve:	NA	
Sustained pressure of the open relief valve:	2820 psi	(194 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed:	11.8 GPM	(44.7 l/min)
iii) Pump delivery rate at maximum hydraulic power:	9.9 GPM	(37.5 l/min)
Delivery pressure:	2540 psi	(175 bar)
Power:	14.7 HP	(10.9 kW)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi.(bar)	2760 (190)
Location:	hydraulic service port
Hydraulic oil temperature: °F(°C)	158 (70)
Location:	hydraulic sump
Category:	II
Quick attach:	none

SAE Static Test—System pressure 2485 psi (171 Bar)

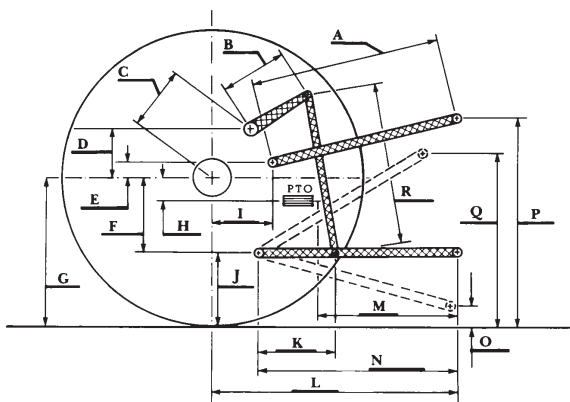
Hitch point distance to ground level in. (mm)	8.0 (203)	15.0 (381)	22.0 (559)	29.0 (737)	36.0 (914)
Lift force on frame lb	3812	4190	4356	4275	4124
" " " " " (kN)	(17.0)	(18.6)	(19.4)	(19.0)	(18.3)

ASAE Static Test—System pressure 2755 psi (190 Bar)

Hitch point distance to ground level in. (mm)	8.0 (203)	15.0 (381)	22.0 (559)	29.0 (737)	36.0 (914)
Lift force on frame lb	4227	4680	4884	4776	4568
" " " " " (kN)	(18.8)	(20.8)	(21.7)	(21.2)	(20.7)

	SAE/ASAE Test		OECD Test	
	inch	mm	inch	mm
A	24.3	617	25.2	641
B	11.4	290	11.4	290
C	13.2	334	13.2	334
D	12.1	308	12.1	308
E	12.0	305	12.0	305
F	4.9	124	4.9	124
G	26.4	670	26.4	670
H	1.8	46	1.8	46
I	12.0	305	12.0	305
J	21.5	546	21.5	546
K	15.8	402	15.8	402
L	36.2	918	36.2	918
M	21.9	555	21.9	555
N	29.9	760	29.9	760
O	8.0	203	8.0	203
P	40.5	1029	45.5	1156
Q	36.1	916	36.1	916
R	22.5	572	22.5	572

HITCH DIMENSIONS AS TESTED - NO LOAD



Agricultural Research Division
Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln
Darrell Nelson, Dean and Director

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: The performance figures on this report apply to tractor chassis serial numbers 522000 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 143°F (61°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1839**, July 13, 2004.

Leonard L. Bashford
Director

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



John Deere 5205 Diesel