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2013

## Test 2057: John Deere 6130D

Nebraska Tractor Test Lab

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# NEBRASKA OECD TRACTOR TEST 2057-SUMMARY 877

## JOHN DEERE 6130D DIESEL

### 9 SPEED

### CHASSIS SERIAL NUMBERS 5xxxx 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					
<b>Rated Engine Speed—(PTO speed—1065 rpm)</b>					
104.94 (78.25)	2200	6.32 (23.94)	0.422 (0.257)	16.60 (3.27)	Fuel used during active exhaust regeneration - 0.53 gal (1.99 l) (see Note 1 p.2)
<b>Rated Engine Speed - 2100 rpm</b>					
107.92 (80.48)	2100	6.31 (23.87)	0.410 (0.249)	17.10 (3.37)	
<b>Standard Power Take-off Speed (1000 rpm)</b>					
109.20 (81.43)	2065	6.29 (23.80)	0.403 (0.245)	17.37 (3.42)	
<b>Maximum Power (1 hour)</b>					
111.98 (83.50)	1900	6.27 (23.74)	0.393 (0.239)	17.85 (3.52)	

#### VARYING POWER AND FUEL CONSUMPTION

104.94 (78.25)	2200	6.32 (23.94)	0.422 (0.257)	16.60 (3.27)	Air temperature
91.73 (68.40)	2261	5.88 (22.26)	0.449 (0.273)	15.60 (3.07)	74°F (23°C)
69.53 (51.85)	2285	4.87 (18.42)	0.490 (0.298)	14.29 (2.82)	Relative humidity
46.66 (34.79)	2300	3.79 (14.36)	0.570 (0.347)	12.29 (2.42)	20%
23.34 (17.40)	2301	2.79 (10.58)	0.839 (0.510)	8.35 (1.65)	Barometer
2.33 (1.74)	2300	1.91 (7.23)	5.740 (3.491)	1.22 (0.24)	28.92 Hg (97.93 kPa)

Maximum torque - 347 lb.-ft. (470 Nm) at 1500 rpm  
Maximum torque rise - 38.4%  
Torque rise at 1760 engine rpm - 29%  
Power increase at 1900 engine rpm - 6.7%

#### 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—5th(B2) Gear</b>									
93.07 (69.40)	5976 (26.58)	5.84 (9.40)	2200	7.3	0.475 (0.289)	14.74 (2.90)	183 (84)	48 (9)	29.06 (98.41)
<b>75% of Pull at Maximum Power—5th(B2) Gear</b>									
73.50 (54.81)	4467 (19.87)	6.17 (9.93)	2272	5.1	0.523 (0.318)	13.39 (2.64)	181 (83)	57 (14)	29.00 (98.21)
<b>50% of Pull at Maximum Power—5th(B2) Gear</b>									
49.97 (37.26)	2956 (13.15)	6.34 (10.20)	2296	3.4	0.613 (0.373)	11.43 (2.25)	180 (82)	57 (14)	29.00 (98.21)
<b>75% of Pull at Reduced Engine Speed—6th(B3) Gear</b>									
73.39 (54.73)	4490 (19.97)	6.13 (9.87)	1757	5.0	0.457 (0.278)	15.34 (3.02)	182 (83)	58 (15)	29.00 (98.21)
<b>50% of Pull at Reduced Engine Speed—6th(B3) Gear</b>									
50.00 (37.28)	2948 (13.11)	6.36 (10.24)	1790	3.3	0.512 (0.311)	13.69 (2.70)	178 (81)	58 (14)	29.00 (98.21)

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

**Dates of tests:** March 27 - April 11, 2013

**Manufacturer:** Industrious John Deere, Boulevard Valdez Sanchez # 470, Saltillo, Coahuila CP25005 Mexico

**FUEL, OIL and TIME:** Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8416 Fuel weight 7.007 lbs/gal (0.840 kg/l) Oil SAE 15W-40 API service classification CJ-4 Transmission and hydraulic lubricant John Deere Hy-Gard fluid Front axle lubricant John Deere Hy-Gard fluid Total time engine was operated: 16.5 hours

**ENGINE:** Make John Deere Diesel Type Four cylinder vertical with turbocharger and air to air intercooler Serial No.\*PE4045R020549\* Crankshaft lengthwise Rated engine speed 2200 Bore and stroke 4.19 x 5.00" (106.5 mm x 127.0 mm) Compression ratio 19.0 to 1 Displacement 276 cu in (4525 ml) Starting system 12 volt Lubrication pressure Air cleaner two paper elements and aspirator Oil filter one full flow cartridge Oil cooler engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil Fuel filter two paper elements Fuel cooler radiator for pump return fuel Exhaust regenerative particulate filter integrated within an underhood muffler Cooling medium temperature control two thermostats and variable speed fan

**ENGINE OPERATING PARAMETERS:** Fuel rate: 43.8 - 47.5 lb/h (19.9 - 21.5 kg/h) High idle: 2280 - 2320 rpm Turbo boost: nominal 19.6-22.5 psi (135-155 kPa) as measured 21.0 psi (145 kPa)

**CHASSIS:** Type front wheel assist Serial No.\*1P06130DHCM050019\* Tread width rear 59.5" (1512 mm) to 79.2" (2012 mm) front 60.1" (1527 mm) to 80.3" (2039 mm) Wheelbase 96.5" (2450 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.92 (3.09) second 2.65 (4.26) third 3.41 (5.48) fourth 4.51 (7.26) fifth 6.23 (10.03) sixth 8.00 (12.88) seventh 10.82 (17.42) eighth 14.94 (24.05) ninth 19.20 (30.90) reverse 1.99 (3.20), 2.74 (4.41), 3.52 (5.67), 4.67 (7.51), 6.44 (10.37), 8.28 (13.33), 11.20 (18.02), 15.46 (24.88), 19.87 (31.97) Clutch wet multiple disc hydraulically actuated by foot pedal Brakes wet multiple disc mechanically operated by two foot pedals that can be locked together Steering hydrostatic Power take-off 540 rpm at 2085 engine rpm or 1000 rpm at 2066 engine rpm Unladen tractor mass 10000 lb (4536 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)	Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
3rd(A3)Gear									
72.14 (53.80)	8929 (39.72)	3.03 (4.88)	2267	14.8	0.554 (0.337)	12.66 (2.49)	183 (84)	53 (11)	29.04 (98.34)
4th(B1)Gear									
89.40 (66.67)	8392 (37.33)	4.00 (6.43)	2203	12.7	0.496 (0.302)	14.13 (2.78)	183 (84)	46 (8)	29.06 (98.41)
5th(B2)Gear									
93.07 (69.40)	5976 (26.58)	5.84 (9.40)	2200	7.3	0.475 (0.289)	14.74 (2.90)	183 (84)	48 (9)	29.06 (98.41)
6th(B3)Gear									
93.55 (69.76)	4574 (20.35)	7.67 (12.34)	2200	5.1	0.475 (0.289)	14.77 (2.91)	184 (84)	50 (10)	29.05 (98.37)

**UNBALLASTED - FRONT DRIVE ENGAGED-1900 ENGINE RPM**

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)
3rd(A3)Gear									
72.25 (53.88)	8927 (39.71)	3.04 (4.88)	2267	14.6	0.544 (0.331)	12.88 (2.54)	183 (84)	52 (11)	29.04 (98.34)
4th(B1)Gear									
89.43 (66.69)	8406 (37.39)	3.99 (6.42)	2205	12.8	0.490 (0.298)	14.30 (2.82)	183 (84)	47 (8)	29.06 (98.41)
5th(B2)Gear									
96.95 (72.30)	7435 (33.07)	4.89 (7.87)	1900	10.1	0.454 (0.276)	15.43 (3.04)	184 (84)	49 (9)	29.06 (98.41)
6th(B3)Gear									
99.15 (73.94)	5712 (25.41)	6.51 (10.48)	1900	6.7	0.444 (0.270)	15.79 (3.11)	183 (84)	50 (10)	29.05 (98.37)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 4th (B1) gear	79.3	78.6
Transport speed- no load - 9th (C3) gear		81.7
Bystander in 9th (C3) gear		83.1

**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(85)  
Two 14.9-24;8;12(85)  
18.0 in (455 mm)  
6355 lb (2882 kg)  
3820 lb (1733 kg)  
10175 lb (4615 kg)

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

**NOTE 1.** The manufacturer declares that the average time between active regenerations is 100 hours, while operated in Auto Filter Cleaning Mode, at rated speed, full PTO load, under steady state conditions.

**NOTE 2:** The performance figures on this report apply to tractors with chassis serial numbers 5xxxx 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 fuel pump inlet was maintained at 137°F (58°C). The performance figures on this summary were taken from a test conducted under the OECD Code II test code procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **2057**, Nebraska Summary 877, May 14, 2013.

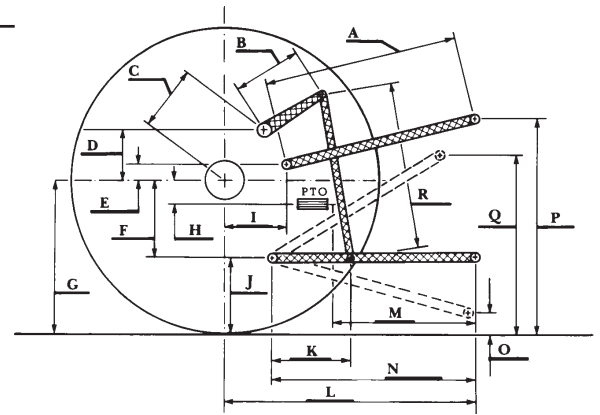
Roger M. Hoy  
Director

M.R. Riley  
P.J. Jasa  
J.D. Luck  
Board of Tractor Test Engineers

## HYDRAULIC PERFORMANCE

CATEGORY: II  
Quick Attach: No

	<u>Lift cylinders</u>
Maximum force exerted through whole range:	5722 lbs (25.5 kN) 2 x 70 mm 7304 lbs (32.5 kN) 2 x 80 mm
i) Maximum observed pressure:	3006 psi (207 bar) <b><u>two outlet sets combined</u></b>
ii) Pump delivery rate at minimum pressure and rated engine speed:	20.4 GPM (77.2 l/min)
iii) Pump delivery rate at maximum hydraulic power:	19.4 GPM (73.6 l/min)
Delivery pressure:	2710 psi (187 bar)
Power:	30.7 HP (22.9 kW) <b><u>single outlet set</u></b>
ii) Pump delivery rate at minimum pressure and rated engine speed:	20.7 GPM (78.2 l/min)
iii) Pump delivery rate at maximum hydraulic power:	19.3 GPM (73.2 l/min)
Delivery pressure:	2646 psi (182 bar)
Power:	29.9 HP (22.3 kW)



### HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	24.8	630
B	13.6	345
C	18.7	474
D	14.3	364
E	9.3	236
F	10.8	275
G	32.3	820
H	1.9	48
I	20.9	532
J	21.5	545
K	17.5	444
L	46.7	1187
M	24.9	632
N	33.1	840
O	9.0	230
P	45.5	1155
Q	38.0	965
R	30.5	775



**JOHN DEERE 6130D DIESEL**

Institute of Agriculture and Natural Resources  
University of Nebraska–Lincoln