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2013

Test 2080: John Deere 6150M

Nebraska Tractor Test Lab

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NEBRASKA OECD TRACTOR TEST 2080—SUMMARY 896

JOHN DEERE 6150M POWRQUAD-PLUS DIESEL

20 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
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1049 rpm)					
124.43 (92.79)	2100	7.62 (28.84)	0.430 (0.262)	16.33 (3.22)	Fuel used during active exhaust regeneration - 0.76 gal (2.87 l) (see note 1 p.2)
Standard Power Take-off Speed (1000 rpm)					
131.26 (97.88)	2000	7.81 (29.55)	0.418 (0.254)	16.81 (3.31)	
Maximum Power (1 hour)					
137.13 (102.26)	1850	7.82 (29.61)	0.401 (0.244)	17.53 (3.45)	

VARYING POWER AND FUEL CONSUMPTION

124.43 (92.79)	2100	7.62 (28.84)	0.430 (0.262)	16.33 (3.22)	Air temperature
108.88 (81.19)	2163	7.19 (27.21)	0.464 (0.282)	15.15 (2.98)	73°F (23°C)
82.85 (61.78)	2194	6.11 (23.13)	0.518 (0.315)	13.56 (2.67)	Relative humidity
55.95 (41.72)	2221	4.89 (18.52)	0.614 (0.374)	11.44 (2.25)	26%
28.00 (20.88)	2231	3.88 (14.67)	0.973 (0.592)	7.22 (1.42)	Barometer
0.91 (0.68)	2246	2.89 (10.94)	22.355 (13.598)	0.31 (0.06)	28.88" Hg (97.80 kPa)

Maximum torque - 452 lb.-ft. (612 Nm) at 1450 rpm

Maximum torque rise - 45.3%

Torque rise at 1680 engine rpm - 37%

Power increase at 1850 engine rpm - 10.2%

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)	Fuel Consumption Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—7th (B3) Gear									
113.23 (84.44)	8883 (39.51)	4.78 (7.69)	2100	4.2	0.476 (0.289)	14.78 (2.91)	190 (88)	47 (8)	28.54 (96.65)
75% of Pull at Maximum Power—7th (B3) Gear									
90.17 (67.24)	6688 (29.75)	5.06 (8.14)	2194	3.1	0.534 (0.325)	13.17 (2.59)	189 (87)	59 (15)	28.58 (96.78)
50% of Pull at Maximum Power—7th (B3) Gear									
61.20 (45.63)	4447 (19.78)	5.16 (8.30)	2215	2.0	0.630 (0.383)	11.16 (2.20)	189 (87)	58 (14)	28.58 (96.78)
75% of Pull at Reduced Engine Speed—11th (C3) Gear									
90.06 (67.15)	6680 (29.71)	5.06 (8.14)	1379	3.1	0.442 (0.269)	15.91 (3.13)	189 (87)	58 (14)	28.58 (96.78)
50% of Pull at Reduced Engine Speed—11th (C3) Gear									
61.25 (45.67)	4443 (19.76)	5.17 (8.32)	1395	2.0	0.480 (0.292)	14.64 (2.88)	189 (87)	59 (15)	28.57 (96.75)

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

Dates of tests: October 28 to November 14, 2013

Manufacturer: John Deere Werke Mannheim, John-Deere-Straße 90, Mannheim, Germany

FUEL, OIL and TIME: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8442 Fuel weight 7.029 lbs/gal (0.842 kg/l) Oil SAE 10W-30 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: 23.5 hours

ENGINE: Make John Deere Diesel Type six cylinder vertical with turbocharger and air to air intercooler Serial No. *CD6068R029001* Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 4.19" x 5.00" (106.5 mm x 127.0 mm) Compression ratio 16.5 to 1 Displacement 414 cu in (6788 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 one paper element and one paper cartridge with water separator Fuel cooler radiator for pump return fuel Exhaust regenerative particulate filter integrated within a vertical muffler Cooling medium temperature control two thermostats and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 52.7 - 57.1 lb/h (23.9 - 25.9 kg/h) High idle: 2225 - 2275 rpm Turbo boost: nominal 13.1 - 16.0 psi (90 - 110 kPa) as measured 14.9 psi (103 kPa)

CHASSIS: Type front wheel assist Serial No. *1L06150MADG763757* Tread width rear 61.3" (1558 mm) to 109.1" (2771 mm) front 65.0" (1650 mm) to 83.2" (2084 mm) Wheelbase 108.9" (2765 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio with partial (4) range operator controlled power shift Nominal travel speeds mph (km/h) first 1.60 (2.57) second 1.93 (3.10) third 2.31 (3.71) fourth 2.83 (4.55) fifth 3.39 (5.46) sixth 4.08 (6.57) seventh 4.89 (7.87) eighth 5.39 (8.68) ninth 5.99 (9.64) tenth 6.50 (10.46) eleventh 7.78 (12.52) twelfth 9.53 (15.34) thirteenth 9.99 (16.08) fourteenth 12.03 (19.36) fifteenth 14.40 (23.18) sixteenth 14.43 (23.22) seventeenth 17.37 (27.96) eighteenth 17.65 (28.40) nineteenth 20.81 (33.49) twentieth 25.49 (41.02)

DRAWBAR PERFORMANCE **UNBALLASTED - FRONT DRIVE ENGAGED-2100 RPM** **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 cool- ing med	°C Air dry bulb	Barom. inch Hg (kPa)
4th(A4)Gear									
92.25 (68.79)	13374 (59.49)	2.59 (4.17)	2183	14.5	0.571 (0.347)	12.31 (2.42)	190 (88)	51 (11)	28.59 (96.82)
5th(B1)Gear									
106.38 (79.33)	12637 (56.21)	3.16 (5.09)	2120	9.6	0.509 (0.310)	13.81 (2.72)	189 (87)	51 (11)	28.63 (96.95)
6th(B2)Gear									
111.03 (82.80)	10633 (47.30)	3.92 (6.30)	2100	6.0	0.487 (0.296)	14.44 (2.84)	190 (88)	49 (10)	28.56 (96.72)
7th(B3)Gear									
113.23 (84.44)	8883 (39.51)	4.78 (7.69)	2100	4.2	0.476 (0.289)	14.78 (2.91)	190 (88)	47 (8)	28.54 (96.65)
8th(C1)Gear									
112.47 (83.87)	7957 (35.39)	5.30 (8.53)	2099	3.7	0.480 (0.292)	14.66 (2.89)	189 (87)	51 (10)	28.56 (96.72)
9th(B4)Gear									
111.31 (83.00)	7056 (31.38)	5.92 (9.52)	2100	3.2	0.485 (0.295)	14.48 (2.85)	189 (87)	48 (9)	28.54 (96.65)
10th(C2)Gear									
112.55 (83.93)	6560 (29.18)	6.43 (10.35)	2100	2.9	0.480 (0.292)	14.63 (2.88)	189 (87)	54 (12)	28.57 (96.75)
11th(C3)Gear									
112.05 (83.55)	5421 (24.11)	7.75 (12.47)	2101	2.4	0.483 (0.294)	14.54 (2.86)	189 (87)	55 (13)	28.56 (96.72)
12th(C4)Gear									
107.75 (80.35)	4232 (18.82)	9.55 (15.37)	2100	1.8	0.501 (0.305)	14.03 (2.76)	189 (87)	56 (13)	28.57 (96.75)

TRACTOR SOUND LEVEL WITH CAB

	Front Wheel Drive Engaged dB(A)	Disengaged dB(A)
At no load in 7th (B3) gear	66.8	66.1
Transport speed- no load - 20th (E4) gear		74.2
Bystander in 19th (E3) gear		80.5

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 460/85R42;***;12(85)
Two 420/85R28;***;12(85)
21.5 in (545 mm)
9045 lb (4103 kg)
5270 lb (2390 kg)
14315 lb (6493 kg)

reverse 1.67 (2.69), 2.01 (3.23), 2.40 (3.87), 2.95 (4.75), 3.54 (5.69), 4.26 (6.86), 5.10 (8.21), 5.63 (9.06), 6.25 (10.06), 6.77 (10.91), 8.12 (13.07), 9.95 (16.01), 10.42 (16.77), 12.55 (20.20), 15.03 (24.19), 15.06(24.23), 18.13 (29.18), 18.42 (29.64), 21.71 (34.94), 26.60 (42.81) **Clutch** wet multiple disc hydraulically actuated by foot pedal **Brakes** wet multiple disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1987 engine rpm or 1000 rpm at 2000 engine rpm **Unladen tractor mass** 14140 lb (6414 kg)

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 load, under steady state conditions.

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. For the maximum power tests the fuel temperature at the injection pump inlet was maintained at 121°F (50°C). The performance figures on this summary were taken from a test conducted under the OECD Code 2 test code procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **2080**, Nebraska Summary 896, January 13, 2014.

Roger M. Hoy
Director

M.F. Kocher
S. Pitla
J.D. Luck
Board of Tractor Test Engineers

DRAWBAR PERFORMANCE
UNBALLASTED - FRONT DRIVE ENGAGED - 1850 RPM
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)	Fuel Consumption Hp.hr/gal (kW.h/l)	Temp.°F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
4th(A4)Gear									
92.28 (68.81)	13381 (59.52)	2.59 (4.17)	2183	14.5	0.568 (0.346)	12.37 (2.44)	191 (88)	51 (11)	28.60 (96.85)
5th(B1)Gear									
106.38 (79.33)	12637 (56.21)	3.16 (5.09)	2119	9.6	0.509 (0.310)	13.81 (2.72)	189 (87)	51 (11)	28.63 (96.95)
6th(B2)Gear									
115.35 (86.01)	12060 (53.64)	3.59 (5.78)	1976	8.6	0.482 (0.293)	14.59 (2.87)	190 (88)	53 (12)	28.66 (97.05)
7th(B3)Gear									
122.19 (91.12)	11139 (49.55)	4.12 (6.62)	1850	6.5	0.452 (0.275)	15.54 (3.06)	191 (88)	47 (8)	28.54 (96.65)
8th(C1)Gear									
122.42 (91.29)	9988 (44.43)	4.60 (7.40)	1850	5.2	0.455 (0.277)	15.45 (3.04)	191 (88)	51 (10)	28.56 (96.72)
9th(B4)Gear									
123.19 (91.86)	8973 (39.91)	5.15 (8.29)	1850	4.4	0.450 (0.274)	15.61 (3.08)	191 (88)	48 (9)	28.54 (96.65)
10th(C2)Gear									
124.23 (92.64)	8305 (36.94)	5.61 (9.03)	1850	4.0	0.448 (0.272)	15.70 (3.09)	191 (88)	54 (12)	28.57 (96.75)
11th(C3)Gear									
125.24 (93.39)	6932 (30.83)	6.78 (10.91)	1850	3.1	0.444 (0.270)	15.84 (3.12)	192 (89)	56 (13)	28.57 (96.75)
12th(C4)Gear									
122.17 (91.10)	5480 (24.37)	8.36 (13.45)	1851	2.5	0.455 (0.277)	15.46 (3.05)	191 (88)	57 (14)	28.57 (96.75)

DRAWBAR PERFORMANCE
UNBALLASTED - FRONT DRIVE DISENGAGED
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 cool- ing med	(°C) Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—7th(B3)Gear									
109.53 (81.67)	8939 (39.76)	4.60 (7.39)	2100	6.9	0.493 (0.300)	14.25 (2.81)	189 (87)	48 (9)	28.55 (96.68)
75% of Pull at Maximum Power—7th(B3) Gear									
88.56 (66.04)	6708 (29.84)	4.95 (7.97)	2195	4.1	0.545 (0.331)	12.90 (2.54)	190 (88)	58 (15)	28.58 (96.78)
50% of Pull at Maximum Power—7th(B3)Gear									
60.81 (45.35)	4489 (19.97)	5.08 (8.18)	2216	2.5	0.633 (0.385)	11.10 (2.19)	189 (87)	58 (15)	28.58 (96.78)
75% of Pull at Reduced Engine Speed—11th(C3) Gear									
88.49 (65.98)	6706 (29.83)	4.95 (7.97)	1378	4.0	0.446 (0.271)	15.76 (3.10)	190 (88)	60 (16)	28.57 (96.75)
50% of Pull at Reduced Engine Speed—11th(C3) Gear									
60.66 (45.23)	4460 (19.84)	5.10 (8.21)	1397	2.4	0.481 (0.292)	14.63 (2.88)	189 (87)	60 (15)	28.57 (96.75)
MAXIMUM POWER IN SELECTED GEARS									
5th(B1) Gear									
85.09 (63.45)	10472 (46.58)	3.05 (4.91)	2186	14.6	0.589 (0.359)	11.92 (2.35)	189 (87)	52 (11)	28.64 (96.99)
6th(B2) Gear									
101.94 (76.01)	10169 (45.23)	3.76 (6.05)	2169	11.7	0.533 (0.324)	13.18 (2.60)	189 (87)	53 (11)	28.65 (97.02)
7th(B3) Gear									
109.53 (81.67)	8939 (39.76)	4.60 (7.39)	2100	6.9	0.493 (0.300)	14.25 (2.81)	189 (87)	48 (9)	28.55 (96.68)
8th(C1) Gear									
109.02 (81.30)	7922 (35.24)	5.16 (8.30)	2100	5.3	0.495 (0.301)	14.19 (2.79)	189 (87)	51 (11)	28.56 (96.72)
9th(B4) Gear									
109.23 (81.45)	7087 (31.52)	5.78 (9.30)	2100	4.4	0.495 (0.301)	14.20 (2.80)	189 (87)	49 (9)	28.56 (96.72)
10th(C2) Gear									
111.53 (83.16)	6633 (29.50)	6.31 (10.15)	2100	4.0	0.484 (0.295)	14.51 (2.86)	188 (87)	55 (13)	28.56 (96.72)
11th(C3) Gear									
111.24 (82.95)	5475 (24.35)	7.62 (12.26)	2100	3.2	0.484 (0.294)	14.53 (2.86)	189 (87)	56 (13)	28.57 (96.75)
12th(C4) Gear									
107.95 (80.50)	4304 (19.14)	9.41 (15.14)	2101	2.2	0.501 (0.305)	14.04 (2.77)	189 (87)	57 (14)	28.58 (96.78)

HYDRAULIC PERFORMANCE

CATEGORY: IIIN

Quick Attach: No

Lift cylinders

Maximum force exerted through whole range: 8986 lbs (40.0 kN) 2 x 80 mm
10167 lbs (45.2 kN) 2 x 85 mm

i) Maximum observed pressure: 2908 psi (200 bar)

two outlet sets combined

ii) Pump delivery rate at minimum pressure and rated engine speed: 31.1 GPM (117.8 l/min)

iii) Pump delivery rate at maximum hydraulic power: 30.8 GPM (116.6 l/min)

Delivery pressure: 2577 psi (178 bar)

Power: 46.3 HP (34.5 kW)

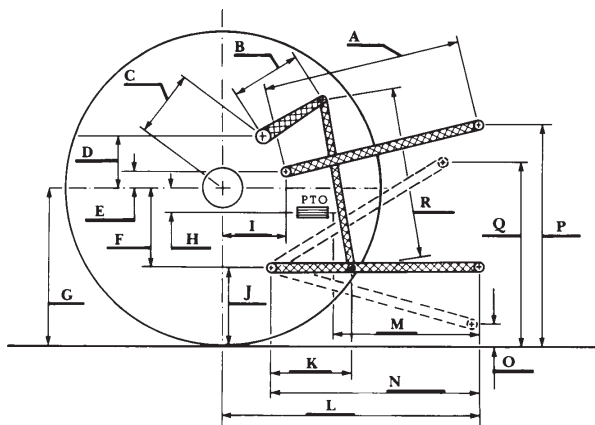
single outlet set

ii) Pump delivery rate at minimum pressure and rated engine speed: 31.0 GPM (117.3 l/min)

iii) Pump delivery rate at maximum hydraulic power: 31.2 GPM (118.2 l/min)

Delivery pressure: 2174 psi (150 bar)

Power: 39.6 HP (29.5 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	25.2	640
B	15.7	400
C	22.1	562
D	20.9	531
E	13.2	336
F	9.8	250
G	34.2	870
H	3.1	80
I	18.1	460
J	24.4	620
K	21.9	555
L	44.7	1135
M	21.7	550
N	38.4	975
O	9.1	230
P	51.4	1305
Q	38.1	968
R	37.4	950



JOHN DEERE 6150M DIESEL

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