

SUMMARY OF OECD TEST 3050 - NEBRASKA SUMMARY 1111

JOHN DEERE 6145M POWRQUAD-PLUS DIESEL

24 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption		D.E.F. Consumption		Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Gal/hr (l/h)	
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1070 rpm)						
117.1 (87.3)	2100	7.39 (27.96)	0.440 (0.267)	15.85 (3.12)	0.19 (0.72)	fuel used during the active exhaust regeneration - 1.1 gal (4.2 l) (see Note 1.p.2)
Standard Power Take-off Speed (1000 rpm)						
128.5 (95.8)	1962	7.58 (28.70)	0.411 (0.250)	16.95 (3.34)	0.21 (0.80)	
Power at 1800 Engine RPM (1 hour)						
128.1 (95.5)	1800	7.44 (28.15)	0.405 (0.246)	17.21 (3.39)	0.22 (0.82)	

VARYING POWER AND FUEL CONSUMPTION

117.1 (87.3)	2100	7.39 (27.96)	0.440 (0.267)	15.85 (3.12)	0.19 (0.72)	Air temperature
101.8 (75.9)	2147	6.76 (25.60)	0.463 (0.281)	15.05 (2.97)	0.18 (0.69)	70°F (21°C)
77.4 (57.7)	2176	5.68 (21.50)	0.512 (0.312)	13.62 (2.68)	0.13 (0.48)	Relative humidity
52.3 (39.0)	2205	4.68 (17.70)	0.624 (0.380)	11.17 (2.20)	0.10 (0.34)	30%
26.4 (19.7)	2226	3.54 (13.40)	0.934 (0.568)	7.46 (1.47)	0.07 (0.27)	Barometer
--	2248	2.38 (9.00)	--	--	0.07 (0.25)	29.6" Hg (100.1 kPa)

Maximum torque - 415 lb.-ft. (563 Nm) at 1200 rpm
 Maximum torque rise - 41.8%
 Torque rise at 1700 engine rpm - 36%
 Power increase at 1800 engine rpm - 9.4%

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)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)	
Power at Rated Engine Speed—11th (C3) Gear										
113.0 (84.3)	8210 (36.52)	5.16 (8.31)	2102	3.8	0.459 (0.279)	15.18 (2.99)	0.016 (0.010)	169 (76)	48 (9)	29.5 (100.0)
75% of Pull at Rated Engine Speed—11th (C3) Gear										
88.6 (66.1)	6115 (27.20)	5.44 (8.75)	2168	2.5	0.508 (0.309)	13.71 (2.70)	0.013 (0.008)	167 (75)	48 (9)	29.5 (100.0)
50% of Pull at Rated Engine Speed—11th (C3) Gear										
59.5 (44.4)	4040 (17.97)	5.53 (8.90)	2177	1.5	0.617 (0.375)	11.29 (2.22)	0.012 (0.007)	162 (72)	46 (8)	29.5 (100.0)
75% of Pull at Reduced Engine Speed—13th (C4) Gear										
88.6 (66.1)	6115 (27.20)	5.44 (8.75)	1785	2.6	0.452 (0.275)	15.43 (3.04)	0.016 (0.010)	171 (77)	48 (9)	29.5 (99.8)
50% of Pull at Reduced Engine Speed—13th (C4) Gear										
59.9 (44.7)	4045 (17.99)	5.56 (8.94)	1810	1.7	0.517 (0.315)	13.48 (2.66)	0.015 (0.009)	160 (71)	48 (9)	29.5 (99.8)

Location of tests: DLG e.V. Test Centre, Technology and Farm inputs, Max-Eyth-Weg 1, D-64823 Gross-Umstadt, Germany

Dates of tests: November 2016 to January 2017

Manufacturer: John Deere GmbH & Co., KG Mannheim Germany

CONSUMABLE Fluids: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8384 Fuel weight 6.99 lbs/gal (0.837 kg/l) Diesel Exhaust Fluid (DEF) 32% aqueous urea solution DEF weight 9.071 lbs/gal (1.087 kg/l) Oil SAE 10W-30 API service classification CJ-4 Transmission and hydraulic lubricant John Deere Hy-Gard fluid Front axle lubricant John Deere Hy-Gard fluid

ENGINE: Make John Deere Diesel Type four cylinder vertical with two turbochargers, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment Serial No. *CD4045U021528* Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 4.19 x 5.00" (106.5 mm x 127.0 mm) Compression ratio 17.2 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 one paper element and prestrainer Fuel cooler radiator for pump return fuel Exhaust DOC (diesel oxidation catalyst)/DPF (diesel particulate filter) System and SCR (selective catalyst reduction) with a vertical muffler Cooling medium temperature control thermostat and variable speed fan

CHASSIS: Type front wheel assist Serial No. *1L06145MAGG865230* Tread width rear 64" (1628 mm) to 79.8" (2028 mm) front 60.5" (1536 mm) to 91.2" (2316 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 0.93 (1.49) second 1.11 (1.79) third 1.33 (2.14) fourth 1.63 (2.63) fifth 2.26 (3.63) sixth 2.72 (4.37) seventh 3.25 (5.23) eighth 3.68 (5.92) ninth 3.98 (6.41) tenth 4.43 (7.13) eleventh 5.30 (8.53) twelfth 6.04 (9.71) thirteenth 6.49 (10.45) fourteenth 7.26 (11.69) fifteenth 8.70 (14.00) sixteenth 9.81 (15.78) seventeenth 10.66 (17.16) eighteenth 11.81 (19.00) nineteenth 14.07 (22.64) twentieth 14.14 (22.76) twenty-first 16.94 (27.26) twenty-second 17.31 (27.88) twenty-third 20.29 (32.65) twenty-fourth 24.86 (40.00)

DRAWBAR PERFORMANCE

UNBALLASTED - FRONT DRIVE ENGAGED - 1800 ENGINE 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)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)	
8th(C1) Gear										
109.3 (81.5)	14310 (63.66)	2.86 (4.61)	1893	14.6	0.483 (0.294)	14.47 (2.85)	0.015 (0.009)	169 (76)	48 (9)	29.6 (100.1)
9th(B4) Gear										
112.9 (84.2)	13625 (60.62)	3.11 (5.00)	1799	10.0	0.463 (0.281)	15.10 (2.97)	0.015 (0.009)	176 (80)	46 (8)	29.5 (100.0)
10th(C2) Gear										
117.2 (87.4)	12320 (54.80)	3.57 (5.74)	1800	7.0	0.446 (0.271)	15.68 (3.09)	0.020 (0.012)	167 (75)	45 (7)	29.5 (100.0)
11th(C3) Gear										
120.0 (89.5)	10295 (45.79)	4.37 (7.04)	1800	4.9	0.433 (0.264)	16.14 (3.18)	0.015 (0.009)	174 (79)	41 (5)	29.5 (100.0)
12th(D1) Gear										
119.1 (88.8)	8895 (39.56)	5.02 (8.08)	1798	3.9	0.433 (0.264)	16.14 (3.18)	0.016 (0.010)	171 (77)	41 (5)	29.5 (100.0)
13th(C4) Gear										
119.6 (89.2)	8275 (36.81)	5.42 (8.72)	1800	3.8	0.433 (0.264)	16.14 (3.18)	0.015 (0.009)	169 (76)	45 (7)	29.5 (100.0)
14th(D2) Gear										
119.5 (89.1)	7345 (32.68)	6.10 (9.82)	1801	3.2	0.435 (0.265)	16.09 (3.17)	0.015 (0.009)	167 (75)	41 (5)	29.5 (100.0)
15th(D3) Gear										
119.1 (88.8)	6090 (27.08)	7.33 (11.81)	1799	2.7	0.433 (0.264)	16.14 (3.18)	0.012 (0.007)	171 (77)	41 (5)	29.5 (100.0)
16th(E1) Gear										
118.4 (88.3)	5325 (23.68)	8.34 (13.42)	1805	2.2	0.442 (0.268)	15.84 (3.12)	0.015 (0.009)	169 (76)	41 (5)	29.5 (100.0)
17th(D4) Gear										
117.9 (87.9)	4880 (21.70)	9.06 (14.58)	1805	2.1	0.442 (0.269)	15.84 (3.12)	0.016 (0.010)	169 (76)	41 (5)	29.5 (100.0)
18th(E2) Gear										
117.3 (87.5)	4365 (19.41)	10.08 (16.22)	1805	1.8	0.446 (0.271)	15.68 (3.09)	0.013 (0.008)	167 (75)	41 (5)	29.5 (100.0)

reverse 0.96 (1.55), 1.16 (1.87), 1.39 (2.24), 1.70 (2.74), 2.36 (3.79), 2.83 (4.56), 3.39 (5.46), 3.83 (6.17), 4.16 (6.69), 4.62 (7.43), 5.53 (8.90), 6.29 (10.13), 6.77 (10.91), 7.58 (12.20), 9.08 (14.61), 10.23 (16.47), 11.12 (17.90), 12.32 (19.83), 14.68 (23.62), 14.76 (23.75), 17.68 (28.45), 18.08 (29.09), 21.17 (34.07), 25.94 (41.74) **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 1967 engine rpm or 1000 rpm at 1962 engine rpm **Unladen tractor mass** 13195 lb (5985 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE 1: The manufacturer declares that the average time between active regenerations is 50 hours.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. The manufacturer's remote hydraulic flow claim of 21.1 GPM (80 l/min) with 35 cc pump was not verified. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **3050**, Nebraska Summary 1111, October 17, 2017.

Roger M. Hoy
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Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 10th (C2) gear	67.2	68.0
Transport speed - no load - 24th (F4) gear		72.5
Bystander		--

Horizontal distance of drawbar hitch point behind rear wheel axis - 33.5 in (850 mm), 37.4 in (950 mm), 39.4 in (1000 mm)

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 520/85R38;***;12(80)
Two 420/85R28;***;12(80)
17.0 in (430 mm)
7835 lb (3555 kg)
5525 lb (2505 kg)
13360 lb (6060 kg)

HYDRAULIC PERFORMANCE with 45 cc pump

CATEGORY: 3N

Quick Attach: No

Lift cylinders:

$2 \times 80 \text{ mm}$ $2 \times 85 \text{ mm}$

Maximum force exerted through whole range: 8950 lbs (39.8 kN) 9735 lbs (43.3 kN)

i) Sustained pressure at compensator cutoff: 2970 psi (205 bar)
two outlet sets combined

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

iii) Pump delivery rate at maximum

hydraulic power: 29.2 GPM (110.4 l/min)

Delivery pressure: 2655 psi (183 bar)

Power: 45.2 HP (33.7 kW)

single outlet set

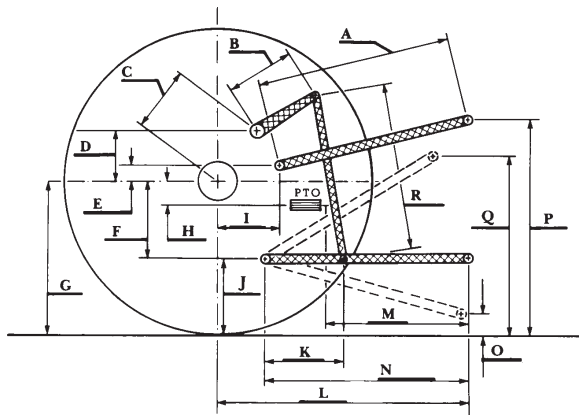
ii) Pump delivery rate at minimum pressure: 30.6 GPM (115.9 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 29.3 GPM (111.1 l/min)

Delivery pressure: 2335 psi (161 bar)

Power: 39.9 HP (29.8 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	28.9	735
B	15.4	390
C	21.7	552
D	20.7	525
E	9.8	250
F	8.8	224
G	34.4	875
H	4.5	115
I	17.3	439
J	25.6	651
K	22.2	565
L	45.3	1150
M	21.7	550
N	40.0	1015
O	9.1	230
P	52.6	1336
Q	40.3	1023
R	36.4	925

NTTL.(2017) OECD tractor test 3050 for John Deere 6145M PowerQuad Plus Diesel.
Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from <http://tractortestlab.unl.edu>