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2020

Nebraska Summary 1192: John Deere 6120M FT4

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SUMMARY OF OECD TEST 3215 - NEBRASKA SUMMARY 1192

JOHN DEERE 6120M COMMANDQUAD DIESEL

24 SPEED

Engine Serial numbers 4045U and higher

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)						
95.0 (70.9)	2100	6.61 (25.04)	0.480 (0.292)	14.37 (2.83)	0.39 (1.47)	Fuel used during the active exhaust regeneration - 0.39 gal (1.48 l) (see Note 1, p.2)
Standard Power Take-off Speed (1000 rpm)						
107.7 (80.3)	1962	6.84 (25.90)	0.439 (0.267)	15.74 (3.10)	0.44 (1.68)	
Maximum Power (1 hour)						
112.0 (83.5)	1800	6.86 (25.97)	0.422 (0.257)	16.34 (3.22)	0.45 (1.72)	

VARYING POWER AND FUEL CONSUMPTION

95.0 (70.9)	2100	6.61 (25.04)	0.480 (0.292)	14.37 (2.83)	0.39 (1.47)	Air temperature
83.1 (62.0)	2160	6.22 (23.56)	0.517 (0.314)	13.35 (2.63)	0.33 (1.24)	72°F (22°C)
62.9 (46.9)	2181	5.39 (20.40)	0.591 (0.359)	11.67 (2.30)	0.26 (0.99)	Relative humidity
42.2 (31.5)	2196	4.57 (17.30)	0.747 (0.454)	9.24 (1.82)	0.20 (0.77)	37%
21.4 (15.9)	2222	3.57 (13.50)	1.152 (0.701)	5.99 (1.18)	0.17 (0.65)	Barometer
--	2251	2.59 (9.80)	--	--	0.15 (0.55)	30.4" Hg (103.0 kPa)

Maximum torque - 358 lb.-ft. (485 Nm) at 1600 rpm

Maximum torque rise - 50.4%

Torque rise at 1700 engine rpm - 45%

Power increase at 1800 engine rpm - 17.8%

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 (kW.h/l)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. °F(°C) cool- ing dry med bulb	Barom. inch Hg (kPa)	
Power at Rated Engine Speed—10th (C2) Gear										
87.6 (65.3)	6055 (26.93)	5.42 (8.73)	2102	2.7	0.519 (0.316)	13.24 (2.61)	0.044 (0.027)	169 (76)	72 (22)	29.2 (98.9)
75% of Pull at Rated Engine Speed—10th (C2) Gear										
68.1 (50.7)	4535 (20.17)	5.63 (9.06)	2169	2.1	0.593 (0.360)	11.58 (2.28)	0.031 (0.019)	165 (74)	73 (23)	29.2 (98.9)
50% of Pull at Rated Engine Speed—10th (C2) Gear										
45.2 (33.7)	2960 (13.16)	5.73 (9.23)	2190	1.4	0.747 (0.454)	9.20 (1.81)	0.076 (0.046)	158 (70)	73 (23)	29.2 (98.9)
75% of Pull at Reduced Engine Speed—11th (C3) Gear										
67.2 (50.1)	4505 (20.04)	5.59 (9.00)	1801	2.2	0.507 (0.308)	13.53 (2.66)	0.056 (0.034)	163 (73)	73 (23)	29.2 (98.9)
50% of Pull at Reduced Engine Speed—11th (C3) Gear										
45.7 (34.1)	2960 (13.16)	5.80 (9.33)	1841	1.1	0.601 (0.366)	11.42 (2.25)	0.056 (0.034)	154 (68)	72 (22)	29.2 (98.9)

Location of tests: DLG TestService, GmbH, Max-Eyth-Weg 1, D-64823 Gross-Umstadt, Germany

Dates of tests: April to June, 2020

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

CONSUMABLE Fluids: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8284 Fuel weight 6.91 lbs/gal (0.827 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 CK-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 turbocharger, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment **Serial No.** *CD4045U097939* **Crankshaft** lengthwise **Rated engine speed** 2100 **Bore and stroke** 4.19" x 5.00" (106.5 mm x 127.0 mm) **Compression ratio** 17.1 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.** *1L06120MVKX938308* **Tread width** rear 63.5" (1612 mm) to 72.0" (1830 mm) front 63.5" (1612 mm) to 72.0" (1830 mm) **Wheelbase** 94.5" (2400 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 1.14 (1.84) second 1.38 (2.22) third 1.65 (2.66) fourth 2.03 (3.26) fifth 2.80 (4.50) sixth 3.37 (5.42) seventh 4.03 (6.49) eighth 4.56 (7.34) ninth 4.94 (7.95) tenth 5.49 (8.83) eleventh 6.57 (10.58) twelfth 7.48 (12.04) thirteenth 8.05 (12.96) fourteenth 9.00 (14.49) fifteenth 10.79 (17.36) sixteenth 12.15 (19.56) seventeenth 13.22 (21.27) eighteenth 14.63 (23.55) nineteenth 17.44 (28.07) twentieth 17.53 (28.21) twenty-first 21.00 (33.79) twenty-second 21.48 (34.56) twenty-third 24.86 (40.00) twenty-fourth 24.86 (40.00) (electronically limited)

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. ^o F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)	
6th(B2) Gear										
89.7 (66.9)	13905 (61.86)	2.42 (3.89)	1752	15.0	0.524 (0.319)	13.05 (2.57)	0.048 (0.029)	172 (78)	73 (23)	29.1 (98.6)
7th(B3) Gear										
99.1 (73.9)	11480 (51.06)	3.24 (5.21)	1798	7.5	0.477 (0.290)	14.42 (2.84)	0.031 (0.019)	176 (80)	70 (21)	29.1 (98.7)
8th(C1) Gear										
100.2 (74.7)	10080 (44.84)	3.73 (6.00)	1801	5.3	0.473 (0.288)	14.52 (2.86)	0.039 (0.024)	171 (77)	68 (20)	29.1 (98.7)
9th(B4) Gear										
100.8 (75.2)	9235 (41.09)	4.09 (6.59)	1801	4.6	0.468 (0.285)	14.67 (2.89)	0.038 (0.023)	171 (77)	70 (21)	29.1 (98.7)
10th(C2) Gear										
102.1 (76.1)	8355 (37.16)	4.58 (7.37)	1799	3.9	0.460 (0.280)	14.92 (2.94)	0.044 (0.027)	176 (80)	68 (20)	29.1 (98.7)
11th(C3) Gear										
102.6 (76.5)	6940 (30.87)	5.54 (8.92)	1801	3.0	0.461 (0.281)	14.90 (2.94)	0.033 (0.020)	176 (80)	64 (18)	29.1 (98.7)
12th(D1) Gear										
102.6 (76.5)	6090 (27.09)	6.32 (10.17)	1800	2.7	0.463 (0.281)	14.85 (2.92)	0.038 (0.023)	171 (77)	73 (23)	29.1 (98.6)
13th(C4) Gear										
101.9 (76.0)	5585 (24.85)	6.84 (11.01)	1802	2.3	0.464 (0.282)	14.82 (2.92)	0.035 (0.021)	176 (80)	66 (19)	29.1 (98.7)
14th(D2) Gear										
103.1 (76.9)	5030 (22.37)	7.69 (12.38)	1801	1.6	0.459 (0.279)	14.95 (2.94)	0.041 (0.025)	174 (79)	72 (22)	29.1 (98.6)
15th(D3) Gear										
104.9 (78.2)	4270 (18.99)	9.21 (14.83)	1798	1.5	0.453 (0.275)	15.15 (2.98)	0.043 (0.026)	171 (77)	73 (23)	29.1 (98.6)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 9th (B4) gear	70.4	70.1
Transport speed - no load - 24th (F4) gear		71.0
Bystander		--

Horizontal distances of drawbar hitch point behind rear wheel axis - 32.1 in (815 mm), 36.0 in (915 mm), 38.0 in (965 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 600/65R38;***;12(80)
 Two 480/65R28;***;12(80)
 17.7 in (500 mm)
 7945 lb (3605 kg)
 5710 lb (2590 kg)
 13655 lb (6195 kg)

reverse 1.14 (1.84), 1.38 (2.22), 1.65 (2.66), 2.03 (3.26), 2.80 (4.50), 3.37 (5.42), 4.03 (6.49), 4.56 (7.34), 4.94 (7.95), 5.49 (8.83), 5.57 (10.58), 7.48 (12.04), 9.05 (12.96), 9.00 (14.49), 10.79 (17.36), 12.15 (19.56), 13.22 (21.27), 14.63 (23.55), 17.44 (28.07), 17.53 (28.21), 21.00 (33.79), 21.48 (34.56), 24.86 (40.00), 24.86 (40.00) (electronically limited)
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 13490 lb (6120 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

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

NOTE 2: The performance data on this report applies to tractors that have engine serial numbers containing 4045U.

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 manufacturer's PTO power claims of 110 hp (82 kW) and 117 hp (87 kW) at 1000 PTO rpm with IPM (Intelligent Power Management) engaged was not verified. This tractor fell 22.2% short meeting the manufacturer's 3 point lift claim at ball ends of 8267 lbs (3750 kg) with 65 mm lift cylinders and 22.5 % short of the claim of 11023 lbs (5000 kg) with 75 mm lift cylinders. 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. **3215**, Nebraska Summary 1192, February 9, 2022.

Roger M. Hoy
 Director

P.J. Jasa
 J.D. Luck
 S. Pitla
 Board of Tractor Test Engineers

HYDRAULIC PERFORMANCE WITH 45cc pump

CATEGORY:3N

Quick Attach: No

Lift cylinders:

lift cylinders

Maximum force exerted through whole range:
 on the frame: 5980 lbs (26.6 kN) 7960 lbs (35.4 kN)
 at ball ends: 6430 lbs (28.6 kN) 8540 lbs (38.0 kN)

i) Sustained pressure at compensator cutoff: 2990 psi (206 bar)
 ii) Pump delivery rate at minimum pressure: 31.9 GPM (120.8 l/min)

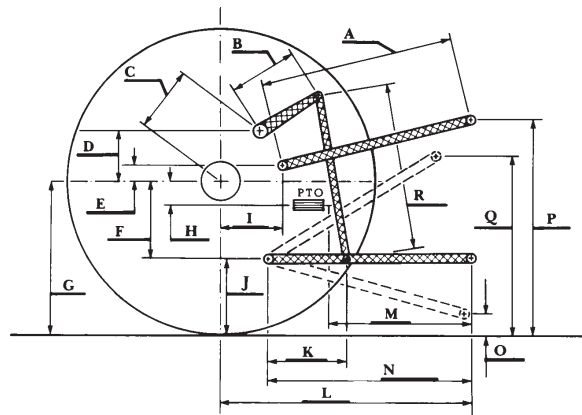
iii) Pump delivery rate at maximum hydraulic power: 29.2 GPM (110.7 l/min)
 Delivery pressure: 2695 psi (186 bar)
 Power: 45.9 HP (34.2 kW)

single outlet set

ii) Pump delivery rate at minimum pressure: 31.5 GPM (119.3 l/min)
 iii) Pump delivery rate at maximum

hydraulic power: 29.8 GPM (112.7 l/min)
 Delivery pressure: 2320 psi (160 bar)
 Power: 40.3 HP (30.1 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	mm
A	27.6	700
B	15.7	400
C	22.0	560
D	20.7	525
E	12.4	315
F	8.5	215
G	32.5	825
H	3.5	90
I	17.9	455
J	24.0	610
K	21.3	540
L	45.5	1155
M	23.2	590
N	39.8	1010
O	9.1	230
P	51.0	1295
Q	39.5	1003
R	34.6	880

RECOMMENDED CITATION FORMAT:

NTTL.(2022). OECD tractor test 3215 for John Deere 6120M CommandQuad Diesel.
 Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from <http://tractortestlab.unl.edu>