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2022

Nebraska Summary: 1231 John Deere 6R 120 Diesel Infinitely Variable Transmission

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SUMMARY OF OECD TEST 3348 - NEBRASKA SUMMARY 1231

JOHN DEERE 6R 120 DIESEL

INFINITELY VARIABLE TRANSMISSION

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.l/l)	Gal/hr (l/h)	
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1070 rpm)						
95.6 (71.3)	2100	6.35 (24.03)	0.460 (0.280)	15.06 (2.97)	0.12 (0.44)	Fuel used during the active exhaust regeneration - 1.1 gal (4.4 l) (see Note 1, p.2)
Standard Power Take-off Speed (1000 rpm)						
108.5 (80.9)	1962	6.66 (25.20)	0.426 (0.259)	16.29 (3.21)	0.11 (0.42)	
Maximum Power (1 hour)						
112.6 (83.9)	1700	6.55 (24.79)	0.403 (0.245)	17.19 (3.39)	0.14 (0.52)	

VARYING POWER AND FUEL CONSUMPTION

95.6 (71.3)	2100	6.35 (24.03)	0.460 (0.280)	15.06 (2.97)	0.12 (0.44)	Air temperature
83.6 (62.3)	2160	5.97 (22.60)	0.495 (0.301)	14.01 (2.76)	0.10 (0.37)	68°F (20°C)
63.5 (47.4)	2189	5.09 (19.25)	0.556 (0.338)	12.49 (2.46)	0.06 (0.24)	Relative humidity
42.9 (32.0)	2218	4.17 (15.77)	0.674 (0.410)	10.30 (2.03)	0.05 (0.20)	53%
21.8 (16.2)	2249	3.26 (12.36)	1.041 (0.633)	6.67 (1.31)	0.04 (0.17)	Barometer
--	2251	2.25 (8.50)	--	--	0.05 (0.18)	29.4" Hg (99.5 kPa)

Maximum torque - 354 lb.-ft. (481 Nm) at 1600 rpm
 Maximum torque rise - 48.2%
 Torque rise at 1700 engine rpm - 45%
 Power increase at 1700 engine rpm - 17.7%

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)	D.E.F. Consumption Hp.hr/gal (kW.l/l)	Temp. cool- ing med	Temp. °F(°C) Air dry bulb	Barom. inch Hg (kPa)
Power at Rated Engine Speed—Speed setting 9									
88.2 (63.8)	5840 (25.98)	5.66 (9.11)	2102	1.4	0.503 (0.306)	13.65 (2.69)	0.015 (0.009)	205 (96)	64 (18) 29.8 (101.0)
75% of Pull at Rated Engine Speed—Speed setting 9									
67.9 (50.6)	4345 (19.32)	5.86 (9.42)	2169	1.1	0.586 (0.357)	11.73 (2.31)	0.018 (0.011)	208 (98)	64 (18) 29.8 (101.0)
50% of Pull at Rated Engine Speed—Speed setting 9									
44.7 (33.3)	2845 (12.65)	5.89 (9.48)	2203	0.7	0.709 (0.431)	9.70 (1.91)	0.016 (0.010)	208 (98)	64 (18) 29.8 (101.0)
75% of Pull at Reduced Engine Speed—Speed setting 11									
67.9 (50.6)	4355 (19.38)	5.84 (9.40)	1564	0.9	0.471 (0.287)	14.59 (2.88)	0.019 (0.011)	203 (95)	64 (18) 29.8 (101.0)
50% of Pull at Reduced Engine Speed—Speed setting 11									
44.7 (33.3)	2855 (12.70)	5.87 (9.45)	1372	0.7	0.533 (0.325)	12.87 (2.54)	0.019 (0.011)	207 (97)	64 (18) 29.8 (101.0)

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

Dates of tests: October to November, 2022

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

CONSUMABLE Fluids: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8308 Fuel weight 6.92 lbs/gal (0.829 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. *CD4045U217914* Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 4.19" x 5.00" (106.5 mm x 127.0 mm) Compression ratio 16.7 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. *1L06120RKNP155047* Tread width rear 71.3" (1810 mm) to 71.3" (1810 mm) front 60.2" (1530 mm) to 71.3" (1810 mm) Wheelbase 101.6" (2580 mm) Hydraulic control system direct engine drive Transmission Infinitely variable Nominal travel speeds mph (km/h) forward 0 - 31 mph (0 - 50 km/h), reverse 0 - 31 mph (0 - 50 km/h) Clutch a foot pedal controls the hydrostatic oil flow Brakes wet multiple disc hydraulically operated by two foot pedals that can be locked together Steering hydrostatic Power take-off 1000 rpm at 1962 engine rpm or 540 rpm at 1967 engine rpm Unladen tractor mass 14075 lb (6385 kg)

DRAWBAR PERFORMANCE

UNBALLASTED - FRONT DRIVE ENGAGED - 1700 ENGINE RPM MAXIMUM POWER IN SELECTED SPEED SETTINGS

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)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Speed setting 4.8										
78.4 (58.5)	13535 (60.22)	2.17 (3.50)	1693	14.9	0.578 (0.351)	11.95 (2.35)	0.018 (0.011)	207 (97)	63 (17)	29.8 (101.0)
Speed setting 5.2										
88.5 (66.0)	13250 (58.94)	2.50 (4.03)	1701	7.1	0.515 (0.313)	13.43 (2.64)	0.015 (0.009)	207 (97)	64 (18)	29.8 (101.0)
Speed setting 6.0										
90.9 (67.8)	11375 (50.60)	2.98 (4.82)	1700	5.2	0.503 (0.306)	13.76 (2.71)	0.012 (0.007)	208 (98)	63 (17)	29.8 (101.0)
Speed setting 7.5										
96.2 (71.7)	9570 (42.57)	3.77 (6.06)	1701	3.6	0.475 (0.289)	14.57 (2.87)	0.013 (0.008)	201 (94)	61 (16)	29.8 (101.0)
Speed setting 9										
100.7 (75.1)	8370 (37.23)	4.51 (7.26)	1699	2.8	0.456 (0.278)	15.18 (2.99)	0.015 (0.009)	207 (97)	61 (16)	29.8 (101.0)
Speed setting 11										
100.7 (75.1)	6935 (30.85)	5.45 (8.76)	1698	2.3	0.452 (0.275)	15.33 (3.02)	0.016 (0.010)	208 (98)	61 (16)	29.8 (101.0)
Speed setting 13										
98.6 (73.5)	5705 (25.37)	6.48 (10.42)	1700	1.8	0.464 (0.282)	14.92 (2.94)	0.018 (0.011)	208 (98)	61 (16)	29.8 (101.0)
Speed setting 15										
94.7 (70.6)	4725 (21.01)	7.51 (12.09)	1701	1.5	0.483 (0.294)	14.31 (2.82)	0.020 (0.012)	208 (98)	63 (17)	29.8 (101.0)
Speed setting 17										
97.8 (72.9)	4300 (19.12)	8.53 (13.73)	1700	1.2	0.467 (0.284)	14.82 (2.92)	0.012 (0.007)	207 (97)	61 (16)	29.8 (101.0)
Speed setting 19										
101.7 (75.9)	3955 (17.60)	9.65 (15.52)	1700	1.1	0.452 (0.275)	15.30 (3.01)	0.012 (0.007)	207 (97)	61 (16)	29.8 (101.0)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE 1: The manufacturer declares that the average time between active regenerations is 100 hours.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. The manufacturer's claims of 110 PTO Hp (82 kW), at rated engine speed and 117 PTO Hp (87 kW) at 1000 PTO rpm with I.P.M. activated were 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. **3348**, Nebraska Summary 1231, April 12, 2024.

Roger M. Hoy
Director

P.J. Jasa
J.D. Luck
Y. Shi
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load at 4.6 mph (7.5 km/h)	66.2	66.0
Transport speed - speed setting - 31 mph (50 km/h)	69.3	69.3
Bystander	--	--

Horizontal distances 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

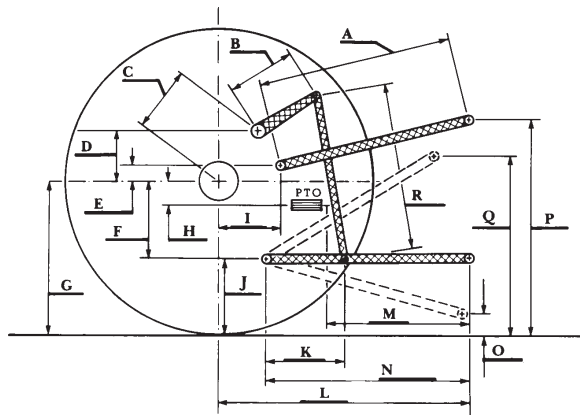
Two 600/65R38;***;12(80)
Two 480/65R28;***;12(80)
18.5 in (470 mm)
8465 lb (3840 kg)
5775 lb (2620 kg)
14240 lb (6460 kg)

HYDRAULIC PERFORMANCE

CATEGORY:3N
Quick Attach: No

	Lift cylinders
Maximum force exerted through whole range:	9080 lbs (40.4 kN) (2 x 80 mm) 10250 lbs (45.6 kN) (2 x 85 mm)
i) Sustained pressure at compensator cutoff:	2950 psi (204 bar)
ii) Pump delivery rate at minimum pressure:	three outlet sets combined 32.4 GPM (122.8 l/min)
iii) Pump delivery rate at maximum	
hydraulic power:	29.0 GPM (109.7 l/min)
Delivery pressure:	2660 psi (184 bar)
Power:	45.0 HP (33.5 kW)
ii) Pump delivery rate at minimum pressure:	single outlet set 30.8 GPM (116.5 l/min)
iii) Pump delivery rate at maximum	
hydraulic power:	30.2 GPM (114.2 l/min)
Delivery pressure:	2175 psi (150 bar)
Power:	38.3 HP (28.6 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	mm
A	28.4	722
B	15.4	390
C	21.7	552
D	20.7	525
E	12.6	320
F	8.8	224
G	32.5	825
H	2.6	65
I	16.8	427
J	23.7	601
K	22.2	565
L	45.3	1150
M	24.4	620
N	40.0	1015
O	9.1	230
P	50.6	1286
Q	39.7	1008
R	36.0	915

RECOMMENDED CITATION FORMAT:

NTTL.(2024) OECD tractor test 3348 for John Deere 6R 120 Diesel.

Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from <http://tractortestlab.unl.edu>