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2018

Test 2202: John Deere 6215R AutoQuad-Plus

Nebraska Tractor Test Lab

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NEBRASKA OECD TRACTOR TEST 2202—SUMMARY 1152

JOHN DEERE 6215R AUTOQUAD-PLUS DIESEL

20 SPEED

Chassis Serial numbers 1RW6215REJD033673 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.l/l)	Gal/hr (l/h)	
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1072 rpm)						
184.33 (137.45)	2101	10.59 (40.10)	0.402 (0.245)	17.40 (3.43)	0.26 (0.98)	Fuel used during active exhaust regeneration-0.60 gal (2.29 l) (see note 1, p.2)
Standard Power Take-off Speed (1000 rpm)						
205.43 (153.19)	1960	11.46 (43.36)	0.390 (0.237)	17.93 (3.53)	0.33 (1.24)	
Maximum Power (1 hour)						
212.45 (158.43)	1850	11.63 (44.02)	0.383 (0.233)	18.27 (3.60)	0.36 (1.37)	

VARYING POWER AND FUEL CONSUMPTION

184.33 (137.45)	2101	10.59 (40.10)	0.402 (0.245)	17.40 (3.43)	0.26 (0.98)	Air temperature
160.94 (120.01)	2159	9.60 (36.34)	0.417 (0.254)	16.76 (3.30)	0.20 (0.77)	79°F (26°C)
122.29 (91.19)	2186	7.82 (29.62)	0.448 (0.272)	15.63 (3.08)	0.16 (0.62)	Relative humidity
82.37 (61.42)	2209	6.24 (23.63)	0.530 (0.323)	13.19 (2.60)	0.13 (0.50)	68%
41.90 (31.24)	2235	4.69 (17.76)	0.783 (0.477)	8.93 (1.76)	0.07 (0.28)	Barometer
2.44 (1.82)	2250	2.77 (10.48)	7.944 (4.832)	0.88 (0.17)	0.12 (0.44)	28.72" Hg (97.26 kPa)

Maximum torque - 689 lb.-ft. (934 Nm) at 1501 rpm

Maximum torque rise - 49.4%

Torque rise at 1682 engine rpm - 43%

Power increase at 1850 engine rpm - 15.3%

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.l/l)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. °F(°C) cool- ing med bulb	Air dry bulb (kPa)	Barom. inch Hg (kPa)
Power at Rated Engine Speed—7th (B3) Gear										
171.09 (127.58)	12344 (54.91)	5.20 (8.37)	2100	4.1	0.433 (0.263)	16.18 (3.19)	0.015 (0.009)	212 (100)	62 (17)	28.65 (97.02)
75% of Pull at Rated Engine Speed—7th (B3) Gear										
133.70 (99.70)	9200 (40.92)	5.45 (8.77)	2181	3.2	0.462 (0.281)	15.15 (2.98)	0.012 (0.008)	213 (100)	52 (11)	29.03 (98.31)
50% of Pull at Rated Engine Speed—7th (B3) Gear										
91.33 (68.10)	6151 (27.36)	5.57 (8.96)	2207	2.2	0.525 (0.319)	13.34 (2.63)	0.014 (0.008)	213 (100)	52 (11)	29.03 (98.31)
75% of Pull at Reduced Engine Speed—11th (C3) Gear										
133.73 (99.72)	9205 (40.95)	5.45 (8.77)	1370	3.2	0.409 (0.249)	17.13 (3.37)	0.018 (0.011)	213 (101)	56 (13)	29.04 (98.32)
50% of Pull at Reduced Engine Speed—11th (C3) Gear										
91.47 (68.21)	6122 (27.23)	5.60 (9.01)	1395	2.1	0.432 (0.263)	16.21 (3.19)	0.017 (0.010)	214 (101)	57 (14)	29.03 (98.31)

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

Dates of tests: September 13 - 27, 2018

Manufacturer: John Deere Tractor Works, 3500 East Donald Street, P.O. Box 270, Waterloo Ia, 50704-0270

CONSUMABLE Fluids, OIL and TIME: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.8404 **Fuel weight** 6.998 lbs/gal (0.839 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 **Total time engine was operated:** 18.0 hours

ENGINE: Make John Deere **Diesel Type** six cylinder vertical with turbocharger, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment **Serial No.** *PE6068U061285* **Crankshaft** lengthwise **Rated engine speed** 2100 **Bore and stroke** 4.19" x 5.00" (106.5 mm x 127.0 mm) **Compression ratio** 17.0 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 prestrainer **Fuel cooler** radiator for pump return fuel **Exhaust** DOC (diesel oxidation catalyst), SCR (selective catalyst reduction) and regenerative DPF (diesel particulate filter) integrated within a vertical muffler **Cooling medium temperature control** 2 thermostats and 2 variable speed fans

ENGINE OPERATING PARAMETERS: Fuel rate: 69.5 - 75.0 lb/h (31.5 - 34.0 kg/h) **High idle:** 2225 - 2275 rpm **Turbo boost:** nominal 18.1 - 21.0 psi (125 - 145 kPa) as measured 20.0 psi (138 kPa)

CHASSIS: Type front wheel assist with duals **Serial No.** *1RW6215RTJA033225* **Tread width** rear 60.0" (1524 mm) to 124.6" (3164 mm) front 58.8" (1494 mm) to 86.9" (2206 mm) **Wheelbase** 110.2" (2800 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 1.74 (2.80) second 2.09 (3.37) third 2.50 (4.03) fourth 3.07 (4.94) fifth 3.68 (5.93) sixth 4.44 (7.14) seventh 5.31 (8.55) eighth 5.86 (9.43) ninth 6.51 (10.47) tenth 7.06 (11.36) eleventh 8.45 (13.60) twelfth 10.35 (16.66) thirteenth 10.85 (17.46) fourteenth 13.07 (21.03) fifteenth 15.65 (25.18) sixteenth 19.17 (30.85) seventeenth 19.80 (31.86) eighteenth 23.84 (38.37) nineteenth 26.10 (42.00) twentieth 26.10 (42.00) electronically limited

DRAWBAR PERFORMANCE

UNBALLASTED - FRONT DRIVE ENGAGED - 2100 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)	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)
4th(A4) Gear										
142.53 (106.28)	19324 (85.96)	2.77 (4.46)	2147	14.6	0.492 (0.299)	14.22 (2.80)	0.015 (0.009)	213 (101)	44 (7)	29.03 (98.29)
5th(B1) Gear										
163.68 (122.06)	17804 (79.20)	3.45 (5.55)	2099	8.2	0.454 (0.276)	15.41 (3.04)	0.015 (0.009)	212 (100)	66 (19)	28.64 (96.99)
6th(B2) Gear										
168.22 (125.44)	14719 (65.47)	4.29 (6.90)	2100	5.3	0.441 (0.268)	15.85 (3.12)	0.015 (0.009)	212 (100)	65 (18)	28.64 (96.99)
7th(B3) Gear										
171.09 (127.58)	12344 (54.91)	5.20 (8.37)	2100	4.1	0.433 (0.263)	16.18 (3.19)	0.015 (0.009)	212 (100)	62 (17)	28.65 (97.02)
8th(C1) Gear										
170.72 (127.31)	11113 (49.43)	5.76 (9.27)	2100	3.6	0.436 (0.265)	16.06 (3.16)	0.015 (0.009)	211 (99)	68 (20)	28.63 (96.95)
9th(B4) Gear										
170.10 (126.84)	9935 (44.19)	6.42 (10.33)	2100	3.2	0.436 (0.265)	16.06 (3.16)	0.015 (0.009)	211 (99)	67 (19)	28.63 (96.95)
10th(C2) Gear										
169.83 (126.64)	9117 (40.55)	6.99 (11.25)	2100	2.9	0.436 (0.265)	16.04 (3.16)	0.015 (0.009)	211 (99)	67 (19)	28.64 (96.99)
11th(C3) Gear										
169.82 (126.63)	7572 (33.68)	8.41 (13.33)	2100	2.3	0.435 (0.264)	16.10 (3.17)	0.015 (0.009)	211 (99)	66 (19)	28.64 (96.99)

reverse 1.81 (2.92), 2.18 (3.51), 2.61 (4.21), 3.20 (5.15), 3.84 (6.18), 4.63 (7.45), 5.54 (8.91), 6.11 (9.84), 6.79 (10.93), 7.36 (11.85), 8.82 (14.19), 10.81 (17.39), 11.32 (18.22), 13.63 (21.94), 17.57 (26.28), 20.00 (32.19), 20.66 (33.25), 24.87 (40.03), 26.10 (42.00), 26.10 (42.00) 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 1960 engine rpm or 1000 rpm at 1960 engine rpm **Unladen tractor mass** 18810 lb (8532 kg)

NOTE 1: The manufacturer declares that the average time between active regenerations is 50 hours. A 1% power increase was observed during the active regeneration.

NOTE 2: The performance data on this report applies to tractors with chassis serial numbers 1RW6215REJD033673 and higher that have a single turbocharger.

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. The manufacturer's claims of 209 PTO Hp (155 kW) at rated engine speed and 218 PTO Hp (163 kW) at 1000 PTO RPM with I.P.M. (Intelligent Power Management) 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 and correct report of official Tractor Test No. **2202**, Nebraska Summary 1152, November 29, 2018.

Roger M. Hoy
Director

M.F. Kocher
P.J. Jasa
J.D. Luck
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB

	Front Wheel Drive Engaged dB(A)	Disengaged dB(A)
At no load in 6th (B2) gear	69.0	68.9
Transport speed - no load - 18th (F2) gear		71.1
Bystander in 18th (E2) gear		81.5

Horizontal distance of drawbar hitch point behind rear wheel axis - 40.2" (1020 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

Four 480/80R46;***;12(85)
Two 420/90R30;***;12(85)
22.0 in (560 mm)
12755 lb (5786 kg)
6230 lb (2826 kg)
18985 lb (8612 kg)

DRAWBAR PERFORMANCE
UNBALLASTED - FRONT DRIVE ENGAGED - 1850 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		D.E.F. Consumption	Temp. °F(°C)		Barom. inch Hg (kPa)
					lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	lb/hp.hr (kg/kW.h)	cool- ing med	Air dry bulb	
4th(A4) Gear										
142.64 (106.36)	19349 (86.07)	2.77 (4.45)	2147	14.6	0.492 (0.300)	14.21 (2.80)	0.015 (0.009)	213 (100)	44 (7)	29.03 (98.29)
5th(B1) Gear										
165.94 (123.74)	18254 (81.20)	3.41 (5.49)	2095	9.2	0.450 (0.273)	15.57 (3.07)	0.014 (0.009)	212 (100)	50 (10)	29.04 (98.34)
6th(B2) Gear										
182.37 (135.99)	17283 (76.88)	3.96 (6.37)	1983	7.4	0.432 (0.263)	16.20 (3.19)	0.016 (0.010)	211 (99)	51 (10)	29.05 (98.37)
7th(B3) Gear										
192.68 (143.68)	16130 (71.75)	4.48 (7.21)	1848	6.1	0.420 (0.256)	16.65 (3.28)	0.019 (0.012)	210 (99)	64 (18)	28.64 (96.99)
8th(C1) Gear										
193.08 (143.98)	14492 (64.46)	5.00 (8.05)	1850	5.1	0.421 (0.256)	16.61 (3.27)	0.019 (0.011)	211 (99)	68 (20)	28.63 (96.95)
9th(B4) Gear										
194.38 (144.95)	13049 (58.04)	5.59 (9.00)	1850	4.4	0.417 (0.254)	16.78 (3.31)	0.018 (0.011)	210 (99)	68 (20)	28.63 (96.95)
10th(C2) Gear										
194.84 (145.29)	12002 (53.39)	6.09 (9.80)	1850	3.9	0.416 (0.253)	16.82 (3.31)	0.020 (0.012)	211 (99)	67 (19)	28.64 (96.99)
11th(C3) Gear										
196.90 (146.83)	10046 (44.69)	7.35 (11.83)	1850	3.3	0.413 (0.251)	16.95 (3.34)	0.019 (0.011)	211 (99)	66 (19)	28.64 (96.99)
12th(C4) Gear										
197.02 (146.91)	8157 (36.28)	9.06 (14.57)	1849	2.5	0.413 (0.251)	16.94 (3.34)	0.019 (0.012)	211 (99)	66 (19)	28.64 (96.99)

HYDRAULIC PERFORMANCE

CATEGORY: III

Quick Attach: No

Lift cylinders:

2 x 90 mm

Maximum force exerted through whole range: 12660 lbs (56.3 kN)

i) Sustained pressure at compensator cutoff: 2962 psi (204 bar)

three outlet sets combined

ii) Pump delivery rate at minimum pressure and rated engine speed: 41.0 GPM (155.1 l/min)

iii) Pump delivery rate at maximum hydraulic power: 40.7 GPM (153.9 l/min)

Delivery pressure: 2486 psi (171 bar)

Power: 59.0 HP (44.0 kW)

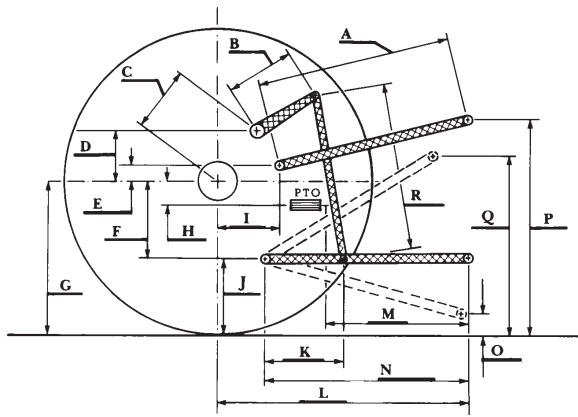
single outlet set

ii) Pump delivery rate at minimum pressure and rated engine speed: 33.3 GPM (126.1 l/min)

iii) Pump delivery rate at maximum hydraulic power: 29.7 GPM (112.3 l/min)

Delivery pressure: 2298 psi (158 bar)

Power: 39.8 HP (29.7 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	29.3	745
B	16.1	410
C	24.6	624
D	23.8	605
E	7.5	190
F	10.8	275
G	38.4	975
H	4.1	105
I	21.8	554
J	27.6	700
K	26.2	666
L	51.3	1303
M	26.9	683
N	43.6	1108
O	9.0	230
P	54.5	1385
Q	40.1	1018
R	43.9	1115

RECOMMENDED CITATION FORMAT:

NTTL.(2018). Nebraska OECD Tractor test 2202 for John Deere 6215R Diesel.

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



JOHN DEERE 6215R DIESEL

Institute of Agriculture and Natural Resources
University of Nebraska–Lincoln