

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

2018

Test 2201: John Deere 6195R AutoQuad-Plus

Nebraska Tractor Test Laboratory

University of Nebraska-Lincoln, tractortestlab@unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Energy Systems Commons](#), [History of Science, Technology, and Medicine Commons](#), [Other Mechanical Engineering Commons](#), [Physical Sciences and Mathematics Commons](#), [Science and Mathematics Education Commons](#), and the [United States History Commons](#)

Laboratory, Nebraska Tractor Test, "Test 2201: John Deere 6195R AutoQuad-Plus" (2018). *Nebraska Tractor Tests*. 2636.

<https://digitalcommons.unl.edu/tractormuseumlit/2636>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

NEBRASKA OECD TRACTOR TEST 2201—SUMMARY 1151

JOHN DEERE 6195R AUTOQUAD-PLUS DIESEL

20 SPEED

Chassis Serial numbers 1RW6195RVJT033626 and higher

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	D.E.F. Consumption Gal/hr (l/h)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1072 rpm)						
171.41 (127.82)	2101	9.81 (37.13)	0.400 (0.244)	17.47 (3.44)	0.27 (1.02)	Fuel used during active exhaust regeneration-0.63 gal (2.38 l) (see note 1, p.2)
Standard Power Take-off Speed (1000 rpm)						
190.29 (141.90)	1960	10.52 (39.84)	0.387 (0.235)	18.08 (3.56)	0.36 (1.37)	
Maximum Power (1 hour)						
196.18 (146.29)	1850	10.64 (40.28)	0.380 (0.231)	18.44 (3.63)	0.39 (1.47)	

VARYING POWER AND FUEL CONSUMPTION

171.41 (127.82)	2101	9.81 (37.13)	0.400 (0.244)	17.47 (3.44)	0.27 (1.02)	Air temperature
149.68 (111.62)	2156	8.92 (33.77)	0.417 (0.254)	16.78 (3.31)	0.20 (0.75)	75°F (24°C)
114.26 (85.21)	2193	7.38 (27.95)	0.452 (0.275)	15.47 (3.05)	0.17 (0.65)	Relative humidity
77.05 (57.46)	2219	6.03 (22.84)	0.548 (0.333)	12.77 (2.52)	0.11 (0.40)	60%
39.01 (29.09)	2242	4.48 (16.95)	0.803 (0.489)	8.71 (1.72)	0.09 (0.34)	Barometer
2.43 (1.82)	2250	2.71 (10.26)	7.791 (4.739)	0.90 (0.18)	0.10 (0.38)	28.75" Hg (97.35 kPa)

Maximum torque - 631 lb.-ft. (856 Nm) at 1601 rpm

Maximum torque rise - 47.4%

Torque rise at 1682 engine rpm - 42%

Power increase at 1850 engine rpm - 14.4%

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 (kW.h/l)	D.E.F. cool- ing med	Temp. °F(°C) Air dry bulb	Barom. inch Hg (kPa)	
Power at Rated Engine Speed—7th (B3) Gear										
154.98 (115.56)	11161 (49.65)	5.21 (8.38)	2100	3.8	0.442 (0.269)	15.84 (3.12)	0.014 (0.008)	225 (107)	74 (23)	28.77 (97.43)
75% of Pull at Rated Engine Speed—7th (B3) Gear										
122.22 (91.14)	8348 (37.13)	5.49 (8.84)	2190	2.7	0.472 (0.287)	14.82 (2.92)	0.013 (0.008)	224 (107)	80 (27)	28.78 (97.46)
50% of Pull at Rated Engine Speed—7th (B3) Gear										
83.21 (62.05)	5576 (24.80)	5.60 (9.01)	2210	1.7	0.552 (0.336)	12.67 (2.50)	0.016 (0.009)	225 (107)	81 (27)	28.78 (97.46)
75% of Pull at Reduced Engine Speed—11th (C3) Gear										
122.41 (91.28)	8327 (37.04)	5.52 (8.88)	1382	2.7	0.418 (0.254)	16.75 (3.30)	0.018 (0.011)	227 (108)	83 (28)	28.78 (97.46)
50% of Pull at Reduced Engine Speed—11th (C3) Gear										
83.21 (62.05)	5578 (24.81)	5.59 (9.00)	1388	1.6	0.443 (0.270)	15.79 (3.11)	0.018 (0.011)	228 (109)	84 (29)	28.78 (97.46)

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

Dates of tests: September 11 - 19, 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:** 16.0 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.** *PE6068U060875* **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: 64.4 - 69.4 lb/h (29.2 - 31.5 kg/h) **High idle:** 2225 - 2275 rpm **Turbo boost:** nominal 18.9 - 21.8 psi (130 - 150 kPa) as measured 20.2 psi (139 kPa)

CHASSIS: Type front wheel assist with duals **Serial No.** *1RW6195RPJA033194* **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 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										
133.20 (99.33)	17940 (79.80)	2.79 (4.48)	2134	13.6	0.504 (0.306)	13.89 (2.74)	0.015 (0.009)	224 (107)	73 (23)	28.69 (97.16)
5th(B1) Gear										
151.40 (112.90)	16343 (72.70)	3.48 (5.59)	2101	7.6	0.453 (0.276)	15.45 (3.04)	0.014 (0.009)	223 (106)	74 (23)	28.69 (97.16)
6th(B2) Gear										
153.40 (114.39)	13371 (59.48)	4.30 (6.92)	2101	4.8	0.446 (0.271)	15.70 (3.09)	0.014 (0.008)	224 (107)	74 (23)	28.77 (97.43)
7th(B3) Gear										
154.98 (115.56)	11161 (49.65)	5.21 (8.38)	2100	3.8	0.442 (0.269)	15.84 (3.12)	0.014 (0.008)	225 (107)	74 (23)	28.77 (97.43)
8th(C1) Gear										
155.25 (115.77)	10090 (44.88)	5.77 (9.29)	2100	3.3	0.441 (0.269)	15.85 (3.12)	0.013 (0.008)	224 (107)	76 (24)	28.77 (97.43)
9th(B4) Gear										
154.21 (114.99)	8990 (39.99)	6.43 (10.35)	2101	3.0	0.444 (0.270)	15.75 (3.10)	0.013 (0.008)	223 (106)	75 (24)	28.77 (97.43)
10th(C2) Gear										
153.77 (114.67)	8241 (36.66)	7.00 (11.27)	2100	2.7	0.445 (0.270)	15.74 (3.10)	0.014 (0.008)	223 (106)	77 (25)	28.77 (97.43)
11th(C3) Gear										
153.25 (114.28)	6817 (30.32)	8.43 (13.57)	2102	2.0	0.446 (0.271)	15.70 (3.09)	0.014 (0.008)	223 (106)	77 (25)	28.77 (97.43)

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** 18770 lb (8514 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 tractor with chassis serial numbers 1RW6195RVJT033626 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 191 PTO Hp (143 kW) at rated engine speed and 204 PTO Hp (152 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. **2201**, Nebraska Summary 1151, 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	69.3	69.6
Transport speed - no load - 18th (F2) gear		71.7
Bystander in 18th (E2) gear		82.1

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)
 21.5 in (545 mm)
 12735 lb (5776 kg)
 6210 lb (2817 kg)
 18945 lb (8593 kg)

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)	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										
133.70 (99.70)	17946 (79.83)	2.80 (4.50)	2147	14.4	0.498 (0.303)	14.05 (2.77)	0.014 (0.009)	225 (107)	73 (23)	28.69 (97.16)
5th(B1) Gear										
153.35 (114.35)	17106 (76.09)	3.37 (5.42)	2062	8.9	0.455 (0.277)	15.38 (3.03)	0.015 (0.009)	223 (106)	75 (24)	28.69 (97.16)
6th(B2) Gear										
168.42 (125.59)	16588 (73.78)	3.81 (6.13)	1921	7.9	0.438 (0.266)	15.97 (3.15)	0.020 (0.012)	223 (106)	76 (24)	28.69 (97.16)
7th(B3) Gear										
176.10 (131.31)	14733 (65.53)	4.49 (7.22)	1850	6.0	0.423 (0.258)	16.53 (3.26)	0.020 (0.012)	223 (106)	78 (25)	28.69 (97.16)
8th(C1) Gear										
176.91 (131.92)	13275 (59.05)	5.00 (8.05)	1851	5.1	0.422 (0.257)	16.60 (3.27)	0.020 (0.012)	222 (106)	79 (26)	28.69 (97.16)
9th(B4) Gear										
177.16 (132.11)	11886 (52.87)	5.59 (9.00)	1852	4.3	0.419 (0.255)	16.70 (3.29)	0.020 (0.012)	222 (106)	78 (26)	28.69 (97.16)
10th(C2) Gear										
176.59 (131.68)	10882 (48.40)	6.09 (9.79)	1850	3.8	0.422 (0.256)	16.60 (3.27)	0.020 (0.012)	222 (106)	79 (26)	28.69 (97.16)
11th(C3) Gear										
178.08 (132.79)	9098 (40.47)	7.34 (11.81)	1849	3.2	0.419 (0.255)	16.71 (3.29)	0.019 (0.012)	223 (106)	80 (26)	28.69 (97.16)
12th(C4) Gear										
177.55 (132.40)	7350 (32.69)	9.06 (14.58)	1850	2.4	0.424 (0.258)	16.52 (3.25)	0.019 (0.011)	223 (106)	80 (27)	28.69 (97.16)

HYDRAULIC PERFORMANCE

CATEGORY: III

Quick Attach: No

Lift cylinders:

2 x 85 mm

Maximum force exerted through whole range: 11310 lbs (50.3 kN)

i) Sustained pressure at compensator cutoff: 2964 psi (204 bar)

three outlet sets combined

ii) Pump delivery rate at minimum pressure and rated engine speed: 41.0 GPM (155.3 l/min)

iii) Pump delivery rate at maximum hydraulic power: 40.2 GPM (152.2 l/min)

Delivery pressure: 2555 psi (176 bar)

Power: 59.9 HP (44.7 kW)

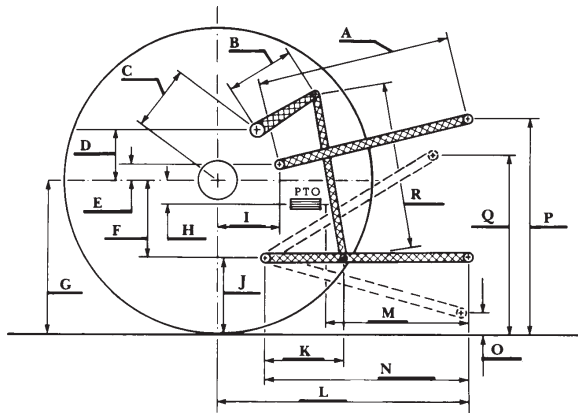
single outlet set

ii) Pump delivery rate at minimum pressure and rated engine speed: 32.9 GPM (124.7 l/min)

iii) Pump delivery rate at maximum hydraulic power: 30.6 GPM (115.9 l/min)

Delivery pressure: 2243 psi (155 bar)

Power: 40.1 HP (29.9 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 2201 for John Deere 6195R Diesel.

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



JOHN DEERE 6195R DIESEL

Institute of Agriculture and Natural Resources
University of Nebraska–Lincoln