

NEBRASKA OECD TRACTOR TEST 2034—SUMMARY 828

JOHN DEERE 6190R AUTOQUAD-PLUS DIESEL

20 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1072 rpm)					
161.53 (120.46)	2101	9.89 (37.43)	0.432 (0.262)	16.34 (3.22)	Fuel used during active exhaust regeneration -0.86 gal (3.24 l) (see note 1 p.2)
Standard Power Take-off Speed (1000 rpm)					
181.97 (135.69)	1960	10.56 (39.98)	0.409 (0.249)	17.23 (3.39)	
Maximum Power (1 hour)					
189.07 (140.99)	1750	10.63 (40.23)	0.396 (0.241)	17.79 (3.50)	

VARYING POWER AND FUEL CONSUMPTION

161.53 (120.46)	2101	9.89 (37.43)	0.432 (0.262)	16.34 (3.22)	Air temperature
141.80 (105.74)	2163	9.16 (34.69)	0.456 (0.277)	15.47 (3.05)	75°F (24°C)
107.85 (80.42)	2191	7.79 (29.49)	0.509 (0.310)	13.84 (2.73)	Relative humidity
72.40 (53.99)	2223	6.20 (23.49)	0.604 (0.367)	11.67 (2.30)	60%
36.60 (27.29)	2241	4.48 (16.97)	0.864 (0.525)	8.16 (1.61)	Barometer
1.90 (1.42)	2250	3.27 (12.36)	12.118 (7.371)	0.58 (0.11)	28.74" Hg (97.33 kPa)

Maximum torque - 614 lb.-ft. (833 Nm) at 1550 rpm
 Maximum torque rise - 51.9%
 Torque rise at 1679 engine rpm - 46%
 Power increase at 1750 engine rpm - 17.0%

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)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—7th (B3) Gear									
152.80 (113.94)	11064 (49.22)	5.18 (8.34)	2101	2.7	0.455 (0.277)	15.48 (3.05)	196 (91)	80 (27)	28.70 (97.19)
75% of Pull at Maximum Power—7th (B3) Gear									
119.93 (89.43)	8320 (37.01)	5.41 (8.70)	2175	1.9	0.512 (0.311)	13.78 (2.71)	192 (89)	82 (28)	28.70 (97.19)
50% of Pull at Maximum Power—7th (B3) Gear									
81.49 (60.77)	5521 (24.56)	5.54 (8.91)	2212	1.2	0.587 (0.357)	12.00 (2.36)	186 (86)	82 (28)	28.69 (97.16)
75% of Pull at Reduced Engine Speed—10th (C2) Gear									
120.01 (89.49)	8300 (36.92)	5.43 (8.73)	1640	1.9	0.454 (0.276)	15.53 (3.06)	192 (89)	86 (29)	28.64 (96.99)
50% of Pull at Reduced Engine Speed—10th (C2) Gear									
81.38 (60.68)	5516 (24.53)	5.53 (8.90)	1662	1.2	0.493 (0.300)	14.29 (2.82)	187 (86)	88 (31)	28.63 (96.95)

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

Dates of tests: August 31 to September 10, 2012

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

FUEL, OIL and TIME: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8467 Fuel weight 7.050 lbs/gal (0.845 kg/l) Oil SAE 15W-40 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: 19.5 hours

ENGINE: Make John Deere Diesel **Type** six cylinder vertical with two turbochargers and air to air intercooler **Serial No.** *PE6068R875915* **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** regenerative particulate filter integrated within a vertical muffler **Cooling medium temperature control** 2 thermostats and 2 variable speed fans

ENGINE OPERATING PARAMETERS: Fuel rate: 67.2 - 73.0 lb/h (30.5 - 33.1 kg/h) **High idle:** 2225 - 2275 rpm **Turbo boost:** nominal 23.9 - 26.1 psi (165 - 180 kPa) as measured 25.0 psi (172 kPa)

CHASSIS: Type front wheel assist with duals **Serial No.** *1RW6190RKCA001826* **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)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)	
4th(A4)Gear									
136.98 (102.15)	18636 (82.90)	2.76 (4.43)	2108	10.8	0.516 (0.314)	13.66 (2.69)	192 (89)	65 (18)	28.68 (97.12)
5th(B1)Gear									
149.20 (111.26)	15954 (70.96)	3.51 (5.64)	2101	5.0	0.472 (0.287)	14.95 (2.94)	194 (90)	66 (19)	28.71 (97.22)
6th(B2)Gear									
151.77 (113.17)	13267 (59.01)	4.29 (6.90)	2100	3.5	0.464 (0.282)	15.21 (3.00)	193 (89)	68 (20)	28.74 (97.32)
7th(B3) Gear									
152.80 (113.94)	11064 (49.22)	5.18 (8.34)	2101	2.7	0.455 (0.277)	15.48 (3.05)	196 (91)	80 (27)	28.70 (97.19)
8th(C1)Gear									
151.44 (112.93)	9896 (44.02)	5.74 (9.23)	2101	2.4	0.463 (0.282)	15.22 (3.00)	194 (90)	74 (23)	28.74 (97.33)
9th (B4) Gear									
153.48 (114.45)	9014 (40.10)	6.39 (10.28)	2100	2.1	0.454 (0.276)	15.51 (3.06)	194 (90)	58 (14)	28.75 (97.36)
10th(C2) Gear									
151.52 (112.98)	8185 (36.41)	6.94 (11.17)	2100	1.9	0.462 (0.281)	15.25 (3.00)	194 (90)	75 (24)	28.73 (97.29)
11th (C3) Gear									
152.58 (113.78)	6852 (30.48)	8.35 (13.44)	2101	1.6	0.461 (0.280)	15.30 (3.01)	195 (91)	77 (25)	28.72 (97.26)

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** 18120 lb (8219 kg)

NOTE 1: The manufacturer declares that the average time between active regenerations is 25 hours, while operated in Auto Filter Cleaning Mode, at rated speed, full load, under steady state conditions.

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. For the maximum power tests the fuel temperature at the injection pump inlet was maintained at 118°F (48°C). The performance figures on this summary were taken from a test conducted under the OECD Code 2 test code procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **2034**, Nebraska Summary 828, January 17, 2013.

Roger M. Hoy
 Director

M.R. Riley
 P.J. Jasa
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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 6th (B2) gear	70.5	70.3
Transport speed - no load - 19th (E3) gear		72.6
Bystander in 19th (E3) gear		79.5

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)
 21.0 in (535 mm)
 12325 lb (5590 kg)
 5970 lb (2708 kg)
 18295 lb (8298 kg)

DRAWBAR PERFORMANCE
UNBALLASTED - FRONT DRIVE ENGAGED - 1750 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)	Fuel Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
4th(A4) Gear									
137.44 (102.49)	18611 (82.79)	2.77 (4.45)	2108	10.3	0.514 (0.313)	13.71 (2.70)	192 (89)	66 (19)	28.67 (97.09)
5th(B1) Gear									
155.63 (116.05)	17597 (78.28)	3.32 (5.33)	2030	7.1	0.473 (0.288)	14.91 (2.94)	196 (91)	66 (19)	28.72 (97.26)
6th(B2) Gear									
169.30 (126.24)	16652 (74.07)	3.81 (6.13)	1908	5.6	0.452 (0.275)	15.62 (3.08)	196 (91)	68 (20)	28.73 (97.29)
7th(B3) Gear									
176.34 (131.49)	15700 (69.83)	4.22 (6.78)	1750	5.0	0.430 (0.261)	16.40 (3.23)	193 (89)	66 (19)	28.75 (97.36)
8th(C1) Gear									
175.92 (131.18)	14024 (62.38)	4.71 (7.57)	1750	3.9	0.434 (0.264)	16.23 (3.20)	197 (91)	74 (23)	28.73 (97.29)
9th(B4) Gear									
178.54 (133.13)	12725 (56.60)	5.26 (8.47)	1750	3.2	0.428 (0.261)	16.46 (3.24)	193 (89)	59 (15)	28.75 (97.36)
10th(C2) Gear									
177.92 (132.67)	11651 (51.82)	5.73 (9.21)	1750	2.9	0.428 (0.260)	16.49 (3.25)	198 (92)	76 (24)	28.72 (97.26)
11th(C3) Gear									
180.33 (134.47)	9776 (43.49)	6.92 (11.13)	1751	2.3	0.424 (0.258)	16.62 (3.27)	198 (92)	78 (26)	28.72 (97.26)
12th(C4) Gear									
176.83 (131.86)	7788 (34.64)	8.52 (13.70)	1751	1.8	0.430 (0.262)	16.39 (3.23)	200 (93)	79 (26)	28.71 (97.22)

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: 2994 psi (206 bar)

three outlet sets combined

ii) Pump delivery rate at minimum pressure and rated engine speed: 43.7 GPM (165.5 l/min)

iii) Pump delivery rate at maximum hydraulic power: 42.7 GPM (161.6 l/min)

Delivery pressure: 2600 psi (179 bar)

Power: 64.8 HP (48.3 kW)

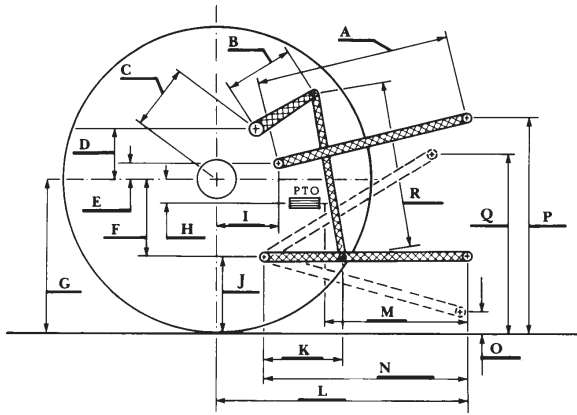
single outlet set

ii) Pump delivery rate at minimum pressure and rated engine speed: 33.1 GPM (125.2 l/min)

iii) Pump delivery rate at maximum hydraulic power: 30.2 GPM (114.5 l/min)

Delivery pressure: 2122 psi (146 bar)

Power: 37.4 HP (27.9 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



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