2012

Test 2034: John Deere 6190R

Nebraska Tractor Test Lab
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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)*	Fuel Consumption Hp.hr/gal *(kW.h/l)*	Temp.°F cool-ing med	Temp. *(°C)* 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)*	Hp.hr/gal *(kW.h/l)*	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 1950 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
J.D. Luck
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive Engaged dB(A)	Front Wheel Drive 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 — **Tested Without Ballast**

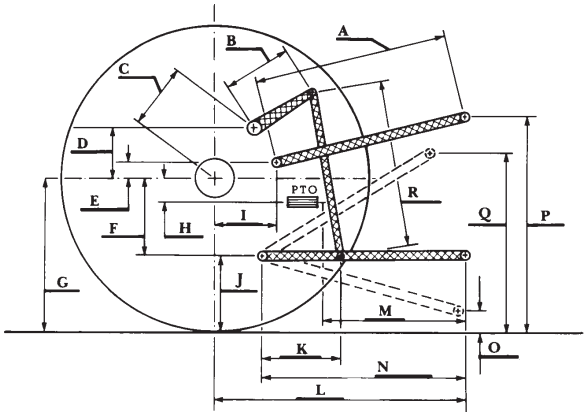
Rear Tires - No., size, ply & psi*(kPa)*	Four 480/80R46;***;12*(85)*
Front Tires - No., size, ply & psi*(kPa)*	Two 420/90R30;***;12*(85)*
Height of Drawbar	21.0 in *(535 mm)*
Static Weight with operator - Rear	12325 lb *(5590 kg)*
- Front	5970 lb *(2708 kg)*
- Total	18295 lb *(8298 kg)*

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)*	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*

JOHN DEERE 6190R DIESEL

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