2019

Test 2211: John Deere 5125ML

Nebraska Tractor Test Lab
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NEBRASKA OECD TRACTOR TEST 2211–SUMMARY 1157
JOHN DEERE 5125ML DIESEL
16 SPEED

PFC hydraulic system

POWER TAKE-OFF PERFORMANCE

Power HP *(kW)*	Crank shaft speed rpm	Diesel Consumption Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	D.E.F. Consumption 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—566 rpm)						
113.48 *(84.62)*	2201	6.61 *(25.01)*	0.407 *(0.248)*	17.18 *(3.38)*	0.29 *(1.10)*	Fuel used during active exhaust regeneration-0.43 gal *(1.62 l)* (see note 1, p.2)
Standard Power Take-off Speed (540 rpm)						
115.48 *(86.12)*	2100	6.54 *(24.76)*	0.396 *(0.241)*	17.65 *(3.48)*	0.29 *(1.09)*	
Maximum Power (1 hour)						
118.68 *(88.50)*	1950	6.53 *(24.73)*	0.385 *(0.234)*	18.16 *(3.58)*	0.26 *(0.98)*	
VARYING POWER AND FUEL CONSUMPTION						
113.48 *(84.62)*	2201	6.61 *(25.01)*	0.407 *(0.248)*	17.18 *(3.38)*	0.29 *(1.10)*	Air temperature
99.43 *(74.14)*	2269	6.01 *(22.74)*	0.423 *(0.257)*	16.55 *(3.26)*	0.24 *(0.89)*	72°F *(22°C)*
75.01 *(55.93)*	2284	4.92 *(18.62)*	0.459 *(0.279)*	15.25 *(3.00)*	0.17 *(0.65)*	Relative humidity
50.41 *(37.59)*	2298	3.89 *(14.73)*	0.540 *(0.329)*	12.96 *(2.55)*	0.09 *(0.36)*	41%
25.35 *(18.90)*	2313	2.89 *(10.95)*	0.799 *(0.486)*	8.76 *(1.73)*	0.05 *(0.21)*	Barometer
1.33 *(0.99)*	2332	1.87 *(7.07)*	9.857 *(5.996)*	0.71 *(0.14)*	0.07 *(0.27)*	28.69" Hg *(97.15 kPa)*

Maximum torque - 357 lb.-ft. *(484 Nm)* at 1598 rpm
Maximum torque rise - 31.9%
Torque rise at 1758 engine rpm - 27%
Power increase at 1950 engine rpm - 4.6%

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)*	D.E.F. Consumption lb/hp.hr *(kg/kW.h)*	Temp.°F*(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
Power at Rated Engine Speed—9th(C1) Gear										
97.00 *(72.33)*	7663 *(34.09)*	4.75 *(7.64)*	2202	8.8	0.481 *(0.293)*	14.55 *(2.87)*	0.029 *(0.017)*	202 *(94)*	63 *(17)*	28.79 *(97.49)*
75% of Pull at Rated Engine Speed—9th(C1) Gear										
78.52 *(58.55)*	5756 *(25.60)*	5.12 *(8.23)*	2276	4.7	0.493 *(0.300)*	14.20 *(2.80)*	0.021 *(0.013)*	201 *(94)*	67 *(20)*	28.77 *(97.43)*
50% of Pull at Rated Engine Speed—9th(C1) Gear										
53.51 *(39.90)*	3818 *(16.98)*	5.26 *(8.46)*	2293	2.8	0.560 *(0.341)*	12.49 *(2.46)*	0.020 *(0.012)*	196 *(91)*	66 *(19)*	28.77 *(97.43)*
75% of Pull at Reduced Engine Speed— 11th(C3) Gear										
78.40 *(58.46)*	5718 *(25.43)*	5.14 *(8.27)*	1495	4.7	0.414 *(0.252)*	16.89 *(3.33)*	0.023 *(0.014)*	194 *(90)*	66 *(19)*	28.76 *(97.39)*
50% of Pull at Reduced Engine Speed— 11th(C3) Gear										
53.61 *(39.98)*	3816 *(16.97)*	5.27 *(8.48)*	1502	2.8	0.433 *(0.264)*	16.15 *(3.18)*	0.024 *(0.015)*	190 *(88)*	66 *(19)*	28.76 *(97.39)*

Location of tests: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832
Dates of tests: April 30 to May 6, 2019

Manufacturer: John Deere Commercial Products Inc., 700 Horizon South Parkway, Grovetown Ga. USA 30813

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** 10W30 **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** 17.5 hours.

ENGINE: Make John Deere Diesel **Type** four cylinder vertical with turbocharger, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment **Serial No.** *PE4045U083122* **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.19" x 5.00" *(106.5 mm x 127.0 mm)* **Compression ratio** 16.9 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 **Fuel cooler** radiator for return fuel **Exhaust** regenerative aftertreatment system consisting of DOC (diesel oxidation catalyst) and SCR (selective catalyst reduction) with an underhood muffler with horizontal exhaust to right side **Cooling medium temperature control** two thermostats and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 44.0 - 46.7 lb/h *(19.9 - 21.2 kg/h)* **High idle:** 2300 - 2350 rpm **Turbo boost:** nominal 18.9 - 21.8 psi *(130 - 150 kPa)* as measured 19.4 psi *(134 kPa)*

CHASSIS: Type front wheel assist **Serial No.** *1LV5125MLKK700506* **Tread width** rear 62.4" *(1587 mm)* to 70.9" *(1803 mm)* front 62.1" *(1578 mm)* to 67.9" *(1724 mm)* **Wheelbase** 92.5" *(2350 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (4) range operator controlled powershift **Nominal travel speeds mph *(km/h)*** first 1.14 *(1.84)* second 1.41 *(2.27)* third 1.75 *(2.82)* fourth 2.15 *(3.46)* fifth 2.65 *(4.26)* sixth 3.27 *(5.26)* seventh 4.05 *(6.52)* eighth 4.97 *(8.00)* ninth 5.13 *(8.25)* tenth 6.33 *(10.19)* eleventh 7.84 *(12.62)* twelfth 9.62 *(15.49)* thirteenth 11.48 *(18.47)* fourteenth 14.17 *(22.81)* fifteenth 17.56 *(28.26)* sixteenth 20.44 *(32.89)*

DRAWBAR PERFORMANCE

UNBALLASTED - FRONT DRIVE ENGAGED-2200 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)*
					7th(B3) Gear					
80.53	8246	3.67	2269	13.4	0.531	13.19	0.023	197	60	28.81
(60.05)	*(36.68)*	*(5.90)*			*(0.323)*	*(2.60)*	*(0.014)*	*(92)*	*(16)*	*(97.56)*
					8th(B4) Gear					
95.54	7862	4.56	2201	9.5	0.488	14.35	0.023	203	62	28.79
(71.24)	*(34.97)*	*(7.34)*			*(0.297)*	*(2.83)*	*(0.014)*	*(95)*	*(17)*	*(97.49)*
					9th(C1) Gear					
97.00	7663	4.75	2202	8.8	0.481	14.55	0.029	202	63	28.79
(72.33)	*(34.09)*	*(7.64)*			*(0.293)*	*(2.87)*	*(0.017)*	*(94)*	*(17)*	*(97.49)*
					10th(C2) Gear					
100.52	6224	6.06	2200	5.4	0.465	15.06	0.023	202	64	28.79
(74.95)	*(27.69)*	*(9.74)*			*(0.283)*	*(2.97)*	*(0.014)*	*(94)*	*(18)*	*(97.49)*
					11th(C3) Gear					
102.09	5023	7.62	2200	3.9	0.457	15.32	0.024	211	65	28.77
(76.13)	*(22.34)*	*(12.26)*			*(0.278)*	*(3.02)*	*(0.015)*	*(99)*	*(18)*	*(97.43)*
					12th(C4) Gear					
102.42	4063	9.46	2201	2.9	0.452	15.48	0.026	212	66	28.77
(76.37)	*(18.07)*	*(15.22)*			*(0.275)*	*(3.05)*	*(0.016)*	*(100)*	*(19)*	*(97.43)*

UNBALLASTED - FRONT DRIVE ENGAGED-1950 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)*
					7th(B3) Gear					
80.54	8248	3.67	2269	13.4	0.531	13.18	0.023	197	60	28.81
(60.06)	*(36.69)*	*(5.90)*			*(0.323)*	*(2.60)*	*(0.014)*	*(92)*	*(16)*	*(97.56)*
					8th(B4) Gear					
95.62	7869	4.56	2199	9.4	0.488	14.35	0.023	203	62	28.79
(71.30)	*(35.00)*	*(7.34)*			*(0.297)*	*(2.83)*	*(0.014)*	*(95)*	*(17)*	*(97.49)*
					9th(C1) Gear					
97.20	7690	4.74	2201	8.9	0.481	14.56	0.025	200	64	28.79
(72.48)	*(34.21)*	*(7.63)*			*(0.292)*	*(2.87)*	*(0.015)*	*(93)*	*(18)*	*(97.49)*
					10th(C2) Gear					
103.43	7044	5.51	2030	6.9	0.449	15.58	0.022	208	64	28.78
(77.13)	*(31.33)*	*(8.87)*			*(0.273)*	*(3.07)*	*(0.013)*	*(98)*	*(18)*	*(97.46)*
					11th(C3) Gear					
106.16	5957	6.69	1950	5.0	0.430	16.28	0.022	211	65	28.77
(79.16)	*(26.50)*	*(10.76)*			*(0.262)*	*(3.21)*	*(0.014)*	*(99)*	*(19)*	*(97.43)*
					12th(C4) Gear					
106.18	4789	8.32	1950	3.6	0.432	16.22	0.021	213	66	28.77
(79.17)	*(21.30)*	*(13.38)*			*(0.263)*	*(3.19)*	*(0.013)*	*(100)*	*(19)*	*(97.43)*

Horizontal distances of drawbar hitch point behind rear wheel axis - 32.5"*(825 mm),* 34.4" *(875 mm)*

TIRES AND WEIGHT

	Tested without ballast
Rear tires–No., size, ply & psi *(kPa)*	Two 19.5L-24;10;12 *(85)*
Front tires–No., size, ply & psi *(kPa)*	Two 12.5/80-18;6; 22 *(150)*
Height of drawbar	12.5 in *(315 mm)*
Static weight with operator– Rear	5440 lb *(2468 kg)*
– Front	3360 lb *(1524 kg)*
– Total	8800 lb *(3992 kg)*

reverse 1.22 *(1.97)*, 1.51 *(2.43)*, 1.87 *(3.01)*, 2.29 *(3.69)*, 2.83 *(4.55)*, 3.49 *(5.62)*, 4.32 *(6.96)*, 5.31 *(8.54)*, 5.47 *(8.81)*, 6.76 *(10.87)*, 8.37 *(13.47)*, 10.53 *(16.53)*, 12.25 *(19.71)*, 15.13 *(24.34)*, 18.64 *(30.00)*, 18.64 *(30.00)* electronically limited **Clutch** wet disc hydraulically actuated by foot pedal **Brakes** wet disc hydraulically actuated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2100 engine rpm, Economy PTO 540 rpm at 1645 engine rpm, 1000 rpm at 2103 engine rpm **Unladen tractor mass** 8625 lb *(3912 kg)*

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE 1: The manufacturer declares that the average time between active regenerations is 150 hours. A 4% power decrease was observed during the active exhaust regeneration.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. 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. **2211**,Nebraska Summary 1157, July 26, 2019.

Roger M. Hoy
Director

M.F. Kocher
P.J. Jasa
S.K. Pitla
Board of Tractor Test Engineers

Shiftable PTO Performance

Economy mode
540 PTO rpm @1645 engine rpm

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)*
111.62 *(83.23)*	1644	5.90 *(22.35)*	0.370 *(0.225)*	18.91 *(3.72)*	0.26 *(1.00)*
83.77 *(62.46)*	1648	4.52 *(17.11)*	0.378 *(0.230)*	18.54 *(3.65)*	0.20 *(0.76)*
55.85 *(41.65)*	1650	3.25 *(12.30)*	0.407 *(0.248)*	17.19 *(3.39)*	0.12 *(0.46)*
27.86 *(20.78)*	1646	2.06 *(7.80)*	0.517 *(0.315)*	13.53 *(2.66)*	0.04 *(0.17)*
1.15 *(0.86)*	1648	1.13 *(4.29)*	6.896 *(4.194)*	1.01 *(0.20)*	0.02 *(0.07)*

Normal mode
540 PTO rpm @2100 engine rpm

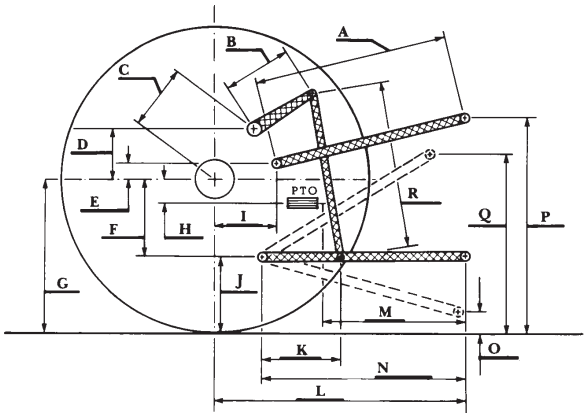
Power HP *(kW)*	Crank shaft speed rpm	Diesel Consumption Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	D.E.F. Consumption Gal/hr *(l/h)*
111.55 *(83.18)*	2103	6.36 *(24.08)*	0.399 *(0.243)*	17.54 *(3.45)*	0.27 *(1.03)*
83.75 *(62.45)*	2104	5.02 *(19.00)*	0.419 *(0.255)*	16.69 *(3.29)*	0.19 *(0.71)*
55.82 *(41.62)*	2107	3.82 *(14.48)*	0.480 *(0.292)*	14.59 *(2.88)*	0.11 *(0.42)*
27.94 *(20.84)*	2107	2.66 *(10.08)*	0.667 *(0.406)*	10.49 *(2.07)*	0.04 *(0.16)*
1.08 *(0.81)*	2106	1.60 *(6.07)*	10.347 *(6.294)*	0.68 *(0.13)*	0.07 *(0.28)*

TRACTOR SOUND LEVEL WITHOUT CAB	**Front Wheel Drive Engaged dB(A)**	**Disengaged dB(A)**
At no load in 8th(B4) gear	86.5	86.5
Transport in 16th (D4) gear		88.8
Bystander in 16th (D4) gear		86.5

HYDRAULIC PERFORMANCE

CATEGORY: II
Quick Attach: None
OECD Static test

		lift cylinders
Maximum force exerted through whole range:	6979 lbs *(31.0 kN)* (2 x 75 mm)	
	7872 lbs *(35.0 kN)* (2 x 80 mm)	
	single outlet set	three outlet sets combined
i) Sustained pressure of the open relief valve:	2862 psi *(197 bar)*	2893 psi *(199 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	30.3 GPM *(114.7 l/min)*	31.6 GPM *(119.5 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	28.4 GPM *(107.6 l/min)*	30.8 GPM *(116.6 l/min)*
Delivery pressure:	2369 psi *(163 bar)*	2691 psi *(186 bar)*
Power:	39.3 HP *(29.3 kW)*	48.4 HP *(36.1 kW)*



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	*mm*
A	26.4	*670*
B	14.1	*358*
C	17.7	*449*
D	15.0	*380*
E	14.4	*365*
F	8.8	*223*
G	27.4	*695*
H	0.2	*4*
I	14.4	*365*
J	18.6	*472*
K	17.5	*444*
L	41.7	*1060*
M	23.0	*585*
N	33.1	*840*
O	5.1	*130*
P	42.6	*1082*
Q	34.4	*875*
R	32.3	*820*

RECOMMENDED CITATION FORMAT:
NTTL.(2019). Nebraska OECD tractor test 2211 for John Deere 5125ML PFC Diesel. Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from http://tractortestlab.unl.edu

JOHN DEERE 5125ML DIESEL

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