

NEBRASKA TRACTOR TEST 1755

JOHN DEERE 5310 DIESEL

9 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—545 rpm)					
55.94 (41.72)	2400	3.44 (13.01)	0.435 (0.265)	16.28 (3.21)	
Maximum power - (2 hours)					
58.63 (43.72)	1900	3.20 (12.12)	0.387 (0.235)	18.32 (3.61)	
VARYING POWER AND FUEL CONSUMPTION					
55.94 (41.72)	2400	3.44 (13.01)	0.435 (0.265)	16.28 (3.21)	Air temperature
49.31 (36.77)	2488	3.22 (12.19)	0.462 (0.281)	15.32 (3.02)	78°F (25°C)
37.36 (27.86)	2513	2.67 (10.10)	0.506 (0.308)	14.00 (2.76)	Relative humidity
25.22 (18.81)	2541	2.16 (8.18)	0.607 (0.369)	11.68 (2.30)	56%
12.72 (9.49)	2567	1.65 (6.25)	0.920 (0.560)	7.70 (1.52)	Barometer
0.29 (0.22)	2595	1.06 (4.01)	25.870 (15.730)	0.28 (0.06)	28.73"Hg (97.29kPa)

Maximum Torque - 168 lb.-ft. (228 Nm) at 1798 rpm
 Maximum Torque Rise - 37.3%
 Torque rise at 1900 engine rpm - 32%

TRACTOR SOUND LEVEL WITHOUT CAB

At no load in 5th(B2) gear
 Bystander in 9th(C3) gear

Front Wheel Drive	
Engaged dB(A)	Disengaged dB(A)
91.6	91.9
--	79.9

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

Two 16.9-30;6;12 (85)
 Two 11.2-24;6;12 (85)
 18.0 in (455 mm)
 3205 lb (1454 kg)
 2110 lb (957 kg)
 5315 lb (2411 kg)

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

Dates of tests: October 14 - 19, 1998.

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

FUEL, OIL and TIME: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8506 Fuel weight 7.082 lbs/gal (0.849 kg/l) Oil SAE 10W30 API service classification CE/CF-4 Transmission and hydraulic lubricant John Deere Hy-Gard Fluid Front axle lubricant SAE 80W90 API GL-5 Total time engine was operated 7.5 hours

ENGINE: Make John Deere Diesel Type three cylinder vertical with turbocharger Serial No. *PE 3029T 009830* Crankshaft lengthwise Rated engine speed 2400 Bore and stroke 4.19" x 4.33" (106.4 mm x 110.0 mm) Compression ratio 17.4 to 1 Displacement 179 cu in (2934 ml) Starting system 12 volt Lubrication pressure Air cleaner one paper element and one polyester felt element Oil filter one full flow cartridge Oil cooler engine coolant heat exchanger for crankcase oil Fuel filter one paper element and sediment bowl Muffler underhood Exhaust vertical Cooling medium temperature control one thermostat

ENGINE OPERATING PARAMETERS: Fuel rate: 23.9 - 26.5 lb/h (10.8 - 12.0 kg/h) High idle: 2550 - 2600 rpm Turbo boost: nominal 12.2 - 15.1 psi (84 - 104 kPa) as measured 13.6 psi (94 kPa)

CHASSIS: Type front wheel assist Serial No. *LV5310S-132963* Tread width rear 53.8" (1366 mm) to 69.7" (1770 mm) front 51.7" (1313 mm) to 75.9" (1927 mm) Wheelbase 80.7" (2050 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.32 (2.13) second 1.91 (3.07) third 2.60 (4.19) fourth 3.12 (5.02) fifth 4.50 (7.24) sixth 6.14 (9.88) seventh 8.56 (13.78) eighth 12.36 (19.89) ninth 16.86 (27.13) reverse 2.22 (3.57), 5.24 (8.43), 14.39 (23.16) Clutch single dry disc operated by foot pedal Brakes single wet disc hydraulically operated by two foot pedals which can be locked together Steering hydrostatic Power take-off 540 rpm at 2376 engine rpm Unladen tractor mass 5150 lb (2336 kg)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range: 2905 lbs (12.9kN)

- i) Opening pressure of relief valve: NA
- Sustained pressure of the open relief valve: 2920 psi (201 bar)
- ii) Pump delivery rate at minimum pressure and rated engine speed: 12.7 GPM (48.1 l/min)
- iii) Pump delivery rate at maximum hydraulic power: 10.9 GPM (41.3 l/min)
- Delivery pressure: 2550 psi (176 bar)
- Power: 16.2 HP (12.1 kW)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi (bar) 2830 (195)
 Location: hydraulic service port
 Hydraulic oil temperature: °F (°C) 170 (77)
 Location: hydraulic sump
 Category: II
 Quick attach: none

ASAE Static Test—System pressure 2750 psi (190 Bar)

Hitch point distance to ground level in. (mm)	8.0 (203)	15.0 (381)	22.0 (559)	29.0 (737)	36.0 (914)
Lift force on frame lb	4686	4713	4625	4178	3619
" " " " " (kN)	(20.8)	(21.0)	(20.6)	(18.6)	(16.1)

SAE Static Test—System pressure 2550 psi (176 Bar)

Hitch point distance to ground level in. (mm)	8.0 (203)	15.0 (381)	22.0 (559)	29.0 (737)	36.0 (914)
Lift force on frame lb	4345	4370	4299	3874	3356
" " " " " (kN)	(19.3)	(19.4)	(19.1)	(17.2)	(14.9)

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 was maintained at 132°F(55°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1755, October 28, 1998.

Leonard L. Bashford
 Director

M.F. Kocher
 R.D. Grisso Jr.
 G.J. Hoffman
 Board of Tractor Test Engineers

	SAE/ASAE Test		OECD Test	
	inch	mm	inch	mm
A	23.2	590	24.1	613
B	11.0	280	11.0	280
C	14.0	356	14.0	356
D	12.2	311	12.2	311
E	11.2	284	11.2	284
F	6.5	166	6.5	166
G	27.4	695	27.4	695
H	0.2	4	0.2	4
I	15.1	384	15.1	384
J	20.9	530	20.9	530
K	16.7	424	16.7	424
L	39.2	996	39.2	996
M	22.4	570	22.4	570
N	32.9	836	32.9	836
O	8.0	203	8.0	203
P	40.9	1040	44.9	1140
Q	34.0	864	34.0	864
R	20.8	527	20.8	527

HITCH DIMENSIONS AS TESTED - NO LOAD

