

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

January 2007

Test 1906: John Deere 5625 Diesel 9-Speed

Nebraska Tractor Test Lab

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](#)

Nebraska Tractor Test Lab, "Test 1906: John Deere 5625 Diesel 9-Speed" (2007). *Nebraska Tractor Tests*. 2083.

<https://digitalcommons.unl.edu/tractormuseumlit/2083>

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 TRACTOR TEST 1906

JOHN DEERE 5625 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—537 rpm)					
82.81 (61.75)	2399	5.64 (21.36)	0.477 (0.290)	14.67 (2.89)	
Maximum Power (1 hour)					
87.44 (65.21)	2200	5.46 (20.66)	0.437 (0.266)	16.02 (3.16)	

VARYING POWER AND FUEL CONSUMPTION

82.81 (61.75)	2399	5.64 (21.36)	0.477 (0.290)	14.67 (2.89)	Air temperature
74.64 (55.66)	2544	5.56 (21.04)	0.521 (0.317)	13.43 (2.65)	75°F (25°C)
56.56 (42.18)	2573	4.76 (18.01)	0.589 (0.358)	11.89 (2.34)	Relative humidity
38.13 (28.43)	2591	3.90 (14.76)	0.716 (0.436)	9.78 (1.93)	51%
19.20 (14.31)	2619	2.64 (10.00)	0.964 (0.586)	7.26 (1.43)	Barometer
0.62 (0.46)	2634	1.79 (6.76)	20.232 (12.306)	0.35 (0.07)	28.82"Hg (97.60 kPa)

Maximum torque - 250 lb.-ft. (339 Nm) at 1602 rpm
Maximum torque rise - 37.9%
Torque rise at 1901 rpm - 28%
Power increase at 2200 rpm - 5%

TRACTOR SOUND LEVEL WITHOUT CAB

	Front Wheel Drive Engaged dB(A)	Disengaged dB(A)
At no load in 5th (B2) gear	93.7	93.7
Transport in 9th (C3) gear		94.0
Bystander in 9th (C3) gear		85.3

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; 8; 14 (95)
17.0 in (430 mm)
3585 lb (1626 kg)
2620 lb (1188 kg)
6205 lb (2814 kg)

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

Dates of tests: September 7 - 11, 2007

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) 0.8407 Fuel weight 7.000 lbs/gal (0.839 kg/l) Oil SAE 15W40 API service classification CG-4 Transmission and hydraulic lubricant John Deere Hy-Gard fluid Front axle lubricant SAE 80W90 API GL-5 Total time engine was operated 8.0 hours

ENGINE: Make John Deere Diesel **Type** four cylinder vertical with turbocharger **Serial No.** *PE4045T668544* **Crankshaft** lengthwise **Rated engine speed** 2400 **Bore and stroke** 4.19" x 5.00" (106.4 mm x 127.0 mm) **Compression ratio** 17.0 to 1 **Displacement** 276 cu in (4517 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 **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** one thermostat

ENGINE OPERATING PARAMETERS: Fuel rate: 36.6 - 40.6 lb/h (16.6 - 18.4 kg/h) **High idle:** 2600 - 2650 rpm **Turbo boost:** nominal 13.1 - 15.2 psi (90 - 105 kPa) as measured 14.1 psi (97 kPa)

CHASSIS: Type front wheel assist **Serial No.** *LV5625S160007* **Tread width** rear 55.8" (1417 mm) to 71.7" (1820 mm) front 52.8" (1340 mm) to 75.0" (1904 mm) **Wheelbase** 85.7" (2178 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph (km/h)** first 1.35 (2.18) second 1.96 (3.16) third 2.89 (4.65) fourth 3.43 (5.52) fifth 4.96 (7.98) sixth 7.30 (11.75) seventh 8.74 (14.06) eighth 12.63 (20.32) ninth 18.60 (29.93) reverse 2.24 (3.60), 5.65 (9.09), 14.39 (23.15) **Clutch** single dry disc operated by foot pedal **Brakes** single wet disc mechanically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2410 engine rpm **Unladen tractor mass** 6030 lb (2735 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum force exerted through whole range: 3213 lbs (14.3 kN)

i) Opening pressure of relief valve: NA

Sustained pressure of the open relief valve: 2818 psi (194 bar)

ii) Pump delivery rate at minimum pressure and rated engine speed: 20.1 GPM (76.1 l/min)

iii) Pump delivery rate at maximum hydraulic power: 18.7 GPM (70.8 l/min)

Delivery pressure: 2399 psi (165 bar)

Power: 26.2 HP (19.5 kW)

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 137°F (58°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1906, November 27, 2007.

Roger M. Hoy
Director

M.F. Kocher
V.I. Adamchuk
J.A. Smith
Board of Tractor Test Engineers

THREE POINT HITCH PERFORMANCE

Observed maximum pressure psi.(bar) 2830(195)

Location: remote outlet

Hydraulic oil temperature: °F(°C) 148(64)

Location: pump inlet

Category: II

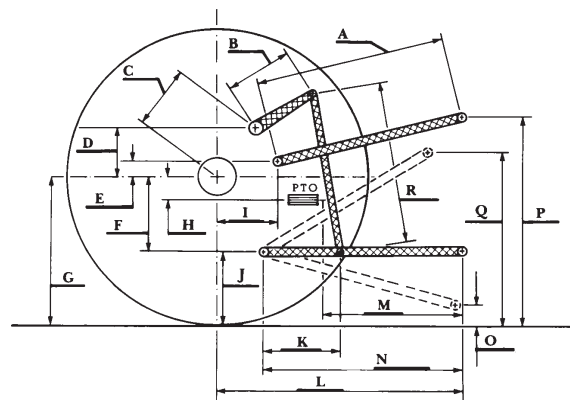
Quick attach: none

SAE Static Test—System pressure 2520 psi (174 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	4694	4829	4685	4266	3596
" " " " " "(kN)	(20.9)	(21.5)	(20.8)	(19.0)	(16.0)

	SAE 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	165	6.5	165
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



JOHN DEERE 5625 DIESEL

Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln