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2008

Test 1925: John Deere 9530T Diesel

Nebraska Tractor Test Lab

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NEBRASKA OECD TRACTOR TEST 1925—SUMMARY 595

JOHN DEERE 9530T DIESEL

18 SPEED

DRAWBAR PERFORMANCE (Unballasted) 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 cool- ing med	°C Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—7th Gear									
366.03 (272.95)	31961 (142.17)	4.29 (6.91)	2096	3.14	0.466 (0.284)	15.03 (2.96)	189 (87)	48 (9)	29.00 (98.21)
75% of Pull at Maximum Power—7th Gear									
289.22 (215.67)	23988 (106.70)	4.52 (7.28)	2171	1.52	0.507 (0.308)	13.82 (2.72)	182 (83)	56 (13)	29.00 (98.21)
50% of Pull at Maximum Power—7th Gear									
195.17 (145.54)	15907 (70.76)	4.60 (7.40)	2192	0.72	0.590 (0.359)	11.89 (2.34)	179 (82)	56 (13)	29.00 (98.21)
75% of Pull at Reduced Engine Speed—9th Gear									
288.69 (215.27)	24083 (107.12)	4.50 (7.23)	1755	1.58	0.472 (0.287)	14.85 (2.92)	190 (88)	57 (14)	29.00 (98.21)
50% of Pull at Reduced Engine Speed—9th Gear									
194.63 (145.14)	15914 (70.79)	4.59 (7.38)	1775	0.69	0.533 (0.324)	13.16 (2.59)	181 (83)	57 (14)	29.00 (98.21)

Lugging ability in 11th gear

Crankshaft speed rpm	2096	1999	1904	1799	1701	1622	1501	1420
Pull-lbs (kN)	20446 (90.95)	23646 (105.18)	26414 (117.50)	28158 (125.25)	29546 (131.43)	30445 (135.42)	30717 (136.64)	31098 (138.33)
Increase in pull%	0	16	29	38	44	49	50	52
Power-Hp (kW)	361.55 (269.61)	397.19 (296.18)	421.25 (314.13)	422.58 (315.11)	418.43 (312.02)	410.65 (306.22)	382.97 (285.58)	365.93 (272.87)
Speed-mph (km/h)	6.63 (10.67)	6.30 (10.14)	5.98 (9.62)	5.63 (9.06)	5.31 (8.55)	5.06 (8.14)	4.68 (7.52)	4.41 (7.10)
Slip %	1.14	1.39	1.72	2.02	2.38	2.43	2.51	2.77

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

Dates of tests: April 28 - May 7, 2008

Manufacturer: John Deere Tractor Works, 3500 East Donald St., 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) 0.8419 **Fuel weight** 7.010 lbs/gal (0.840 kg/l) **Oil** SAE 15W-40 **API service classification** CJ-4 **Transmission and hydraulic lubricant** John Deere Hy-Gard fluid **Total time engine was operated:** 26.5 hours

ENGINE: Make John Deere Diesel **Type** six cylinder vertical with turbocharger and air to air aftercooler **Serial No.** *RG6135L001537* **Crankshaft** lengthwise **Rated engine speed** 2100 **Bore and stroke** 5.197" x 6.496" (132.0 mm x 165.0 mm) **Compression ratio** 16.0 to 1 **Displacement** 826 cu in (13548 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, separate radiators for hydraulic and transmission oil, radiator for rear axle oil **Fuel filter** one paper element and water separator **Muffler** vertical **Cooling medium temperature control** 3 thermostats and variable speed fan

ENGINE OPERATING PARAMETERS: **Fuel rate:** (425 engine hp) 148.8 - 160.6 lb/h (67.5 - 72.8 kg/h), (450 engine hp) 153.5 - 166.1 lb/h (69.6 - 75.3 kg/h), (475 engine hp) 160.4 - 175.3 lb/h (72.7 - 79.5 kg/h). **High idle:** 2215 - 2265 rpm **Turbo boost:** (475 engine hp) nominal 29.7 - 33.4 psi (205 - 230 kPa) as measured 31.5 psi (217 kPa)

CHASSIS: **Type** tracklayer-rubber tracked **Serial No.** *RW9530T902043* **Track width** 107.4" (2728 mm) **Length of track on ground** 111.0" (2819 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with full range operator controlled power shift **Nominal travel speeds mph (km/h)** first 2.14 (3.44) second 2.64 (4.25) third 2.92 (4.70) fourth 3.26 (5.25) fifth 3.59 (5.78) sixth 4.01 (6.45) seventh 4.44 (7.15) eighth 4.96 (7.98) ninth 5.46 (8.79) tenth 6.10 (9.82) eleventh 6.76 (10.88) twelfth 7.47 (12.02) thirteenth 8.32 (13.39) fourteenth 9.19 (14.79) fifteenth 11.37 (18.29) sixteenth 13.98 (22.50) seventeenth 17.28 (27.81) eighteenth 21.27 (34.23) reverse 2.14 (3.44), 2.92 (4.70), 3.26 (5.25), 4.44 (7.15), 4.96 (7.98), 6.76 (10.88)

DRAWBAR PERFORMANCE

(Unballasted at 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)	Consumption Hp.hr/gal (kW.h/l)	Temp.°F cool- ing med	Temp.°C Air dry bulb	Barom. inch Hg (kPa)
3rd Gear									
312.37 (232.94)	43962 (195.55)	2.66 (4.29)	2099	8.61	0.507 (0.309)	13.82 (2.72)	181 (83)	48 (9)	28.95 (98.04)
4th Gear									
322.23 (240.29)	39349 (175.03)	3.07 (4.94)	2098	5.83	0.488 (0.297)	14.37 (2.83)	184 (84)	54 (12)	28.93 (97.97)
5th Gear									
339.41 (253.10)	37390 (166.32)	3.40 (5.48)	2097	5.07	0.480 (0.292)	14.60 (2.88)	188 (87)	55 (13)	28.91 (97.90)
6th Gear									
357.85 (266.85)	34822 (154.89)	3.85 (6.20)	2100	4.04	0.477 (0.290)	14.71 (2.90)	186 (86)	49 (9)	29.00 (98.21)
7th Gear									
366.03 (272.95)	31961 (142.17)	4.29 (6.91)	2096	3.14	0.466 (0.284)	15.03 (2.96)	189 (87)	48 (9)	29.00 (98.21)
8th Gear									
367.83 (274.29)	28688 (127.61)	4.81 (7.74)	2096	2.36	0.461 (0.280)	15.22 (3.00)	186 (85)	46 (8)	29.00 (98.21)
9th Gear									
362.38 (270.22)	25357 (112.80)	5.36 (8.62)	2100	1.91	0.469 (0.285)	14.96 (2.95)	183 (84)	43 (6)	29.00 (98.21)
10th Gear									
362.78 (270.52)	22771 (101.29)	5.97 (9.61)	2097	1.45	0.470 (0.286)	14.91 (2.94)	187 (86)	45 (7)	29.00 (98.21)
11th Gear									
364.07 (271.48)	20567 (91.49)	6.64 (10.68)	2100	1.29	0.469 (0.285)	14.94 (2.94)	188 (87)	50 (10)	29.00 (98.21)
12th Gear									
361.93 (269.89)	18375 (81.74)	7.39 (11.89)	2097	1.13	0.469 (0.285)	14.94 (2.94)	189 (87)	54 (12)	29.00 (98.21)
13th Gear									
351.94 (262.44)	16085 (71.55)	8.20 (13.20)	2101	0.79	0.486 (0.295)	14.44 (2.84)	191 (88)	55 (13)	29.00 (98.21)

Clutch wet multiple disc hydraulically actuated by foot pedal **Brakes** wet multiple disc hydraulically actuated foot pedal **Steering** electro-hydraulic differential steering controlled by steering wheel **Power take-off** none **Unladen tractor mass** 43815 lb (19874 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: The 9530T engine has an electronic control system which provides a vehicle protection system to avoid overloading the drive train. This system provides three different engine power levels. At 2100 rpm the engine produces up to 425 hp when the transmission is in forward gears 1 through 4. At 2100 rpm the engine produces 450 hp when the transmission is in gear 5. At 2100 rpm the engine produces 475 hp in all other applications.

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 primary fuel filter was maintained at 110°F (43°C). The performance figures on this summary were taken from a test conducted under the OECD Code II test code procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1925**, Nebraska Summary 595, August 18, 2008.

Roger M. Hoy
Director

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

TRACTOR SOUND LEVEL WITH CAB

dB(A)

At no load in 7th gear	73.0
Transport speed-no load- 18th gear	74.6
Bystander in 18th gear	92.4

TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Track width	36.0 in (915 mm)	36.0 in (915 mm)
Ballast - Cast iron(front)	3425 lb (1554 kg)	None
- Cast iron(idlers)	1920 lb (871 kg)	None
- Cast iron (side)	380 lb (172 kg)	None
Height of Drawbar	20.0 in (510 mm)	19.5 in (495 mm)
Static Weight with operator	49715 lb (22550 kg)	43990 lb (19953 kg)

DRAWBAR PERFORMANCE
(Unballasted at 1800 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)
3rd Gear									
311.79 (232.50)	44848 (199.49)	2.61 (4.20)	2073	9.47	0.503 (0.306)	13.93 (2.74)	181 (83)	44 (7)	28.95 (98.04)
4th Gear									
328.29 (244.80)	42752 (190.17)	2.88 (4.63)	2023	8.37	0.494 (0.300)	14.20 (2.80)	185 (85)	54 (12)	28.92 (97.93)
5th Gear									
353.67 (263.73)	41201 (183.27)	3.22 (5.18)	2031	7.34	0.485 (0.295)	14.46 (2.85)	191 (88)	56 (13)	28.90 (97.87)
6th Gear									
377.08 (281.19)	38598 (171.69)	3.66 (5.90)	2030	5.65	0.478 (0.291)	14.68 (2.89)	191 (88)	49 (9)	29.00 (98.21)
7th Gear									
399.89 (298.20)	38168 (169.78)	3.93 (6.32)	1966	5.46	0.465 (0.283)	15.09 (2.97)	192 (89)	48 (9)	29.00 (98.21)
8th Gear									
419.02 (312.46)	37320 (166.01)	4.21 (6.78)	1887	5.05	0.455 (0.277)	15.41 (3.04)	193 (89)	47 (8)	29.00 (98.21)
9th Gear									
421.71 (314.47)	35315 (157.09)	4.48 (7.21)	1799	4.35	0.457 (0.278)	15.35 (3.02)	198 (92)	44 (7)	29.00 (98.21)
10th Gear									
426.36 (317.93)	31766 (141.30)	5.03 (8.10)	1797	3.10	0.450 (0.274)	15.57 (3.07)	200 (93)	46 (8)	29.00 (98.21)
11th Gear									
428.29 (319.37)	28698 (127.65)	5.60 (9.01)	1794	2.42	0.446 (0.271)	15.72 (3.10)	200 (93)	51 (11)	29.00 (98.21)
12th Gear									
432.42 (322.45)	25784 (114.69)	6.29 (10.12)	1804	1.91	0.442 (0.269)	15.87 (3.13)	205 (96)	54 (12)	29.00 (98.21)
13th Gear									
424.22 (316.34)	22805 (101.44)	6.98 (11.23)	1799	1.45	0.453 (0.276)	15.46 (3.05)	205 (96)	55 (13)	29.00 (98.21)
14th Gear									
427.95 (319.12)	20672 (91.95)	7.76 (12.49)	1795	1.15	0.448 (0.272)	15.65 (3.08)	207 (97)	55 (13)	29.00 (98.21)
15th Gear									
420.95 (313.90)	16349 (72.72)	9.66 (15.54)	1798	0.75	0.459 (0.279)	15.29 (3.01)	202 (94)	55 (13)	29.00 (98.21)

DRAWBAR PERFORMANCE
(Ballasted at 1800 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)
1st Gear									
268.00 (199.85)	50574 (224.96)	1.99 (3.20)	2157	9.90	0.544 (0.331)	12.90 (2.54)	182 (83)	58 (14)	28.88 (97.80)
2nd Gear									
311.82 (232.53)	48606 (216.21)	2.41 (3.87)	2090	8.52	0.507 (0.309)	13.82 (2.72)	189 (87)	60 (16)	28.88 (97.80)
3rd Gear									
324.78 (242.19)	46539 (207.02)	2.62 (4.21)	2053	8.35	0.503 (0.306)	13.94 (2.75)	200 (93)	76 (24)	28.88 (97.80)
4th Gear									
343.17 (255.90)	45040 (200.35)	2.86 (4.60)	1982	7.33	0.488 (0.297)	14.36 (2.83)	203 (95)	77 (25)	28.88 (97.80)
5th Gear									
370.48 (276.26)	44499 (197.94)	3.12 (5.02)	1959	6.95	0.484 (0.294)	14.49 (2.85)	201 (94)	79 (26)	28.88 (97.80)
6th Gear									
397.89 (296.71)	43453 (193.29)	3.43 (5.53)	1921	6.65	0.484 (0.294)	14.48 (2.85)	201 (94)	80 (27)	28.88 (97.80)
7th Gear									
413.30 (308.20)	41509 (184.64)	3.73 (6.01)	1871	5.72	0.472 (0.287)	14.87 (2.93)	203 (95)	81 (27)	28.88 (97.80)
8th Gear									
422.18 (314.82)	39181 (174.29)	4.04 (6.50)	1794	4.25	0.461 (0.281)	15.20 (2.99)	202 (95)	75 (24)	28.88 (97.80)
9th Gear									
425.63 (317.39)	35149 (156.35)	4.54 (7.31)	1795	2.94	0.458 (0.278)	15.32 (3.02)	202 (95)	69 (21)	28.88 (97.80)
10th Gear									
429.96 (320.62)	31775 (141.34)	5.07 (8.17)	1794	2.29	0.456 (0.277)	15.38 (3.03)	202 (94)	68 (20)	28.88 (97.80)
11th Gear									
430.32 (320.89)	28570 (127.08)	5.65 (9.09)	1797	1.79	0.449 (0.273)	15.62 (3.08)	201 (94)	69 (21)	28.88 (97.80)
12th Gear									
429.50 (320.28)	25520 (113.52)	6.31 (10.16)	1798	1.38	0.451 (0.274)	15.55 (3.06)	202 (95)	71 (22)	28.88 (97.80)
13th Gear									
417.12 (311.05)	22664 (100.82)	6.90 (11.11)	1795	1.18	0.463 (0.282)	15.13 (2.98)	207 (97)	71 (22)	28.88 (97.80)
14th Gear									
424.49 (316.54)	20392 (90.71)	7.81 (12.56)	1799	0.91	0.455 (0.277)	15.42 (3.04)	203 (95)	72 (22)	28.88 (97.80)
15th Gear									
416.61 (310.66)	16190 (72.02)	9.65 (15.53)	1793	0.60	0.466 (0.284)	15.03 (2.96)	201 (94)	73 (23)	28.88 (97.80)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: IV

Quick Attach: yes

Maximum force exerted through whole range: 16070 lbs (71.5 kN)

i) Sustained pressure at compensator cutoff: 2904 psi (200 bar)

Single outlet set Three outlet sets combined

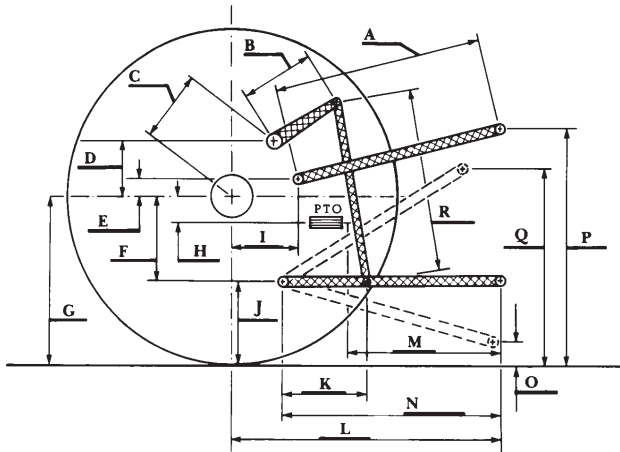
ii) Pump delivery rate at minimum pressure and rated engine speed: 36.7 GPM (138.8 l/min) 51.6 GPM (195.2 l/min)

iii) Pump delivery rate at maximum hydraulic power: 34.3 GPM (129.9 l/min) 49.9 GPM (189.0 l/min)

Delivery pressure: 2152 psi (148 bar) 2492 psi (172 bar)

Power: 43.1 Hp (32.1 kW) 72.6 HP (54.1 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	mm
A	29.7	755
B	18.5	471
C	31.9	810
D	30.4	772
E	11.3	288
F	13.8	350
G	34.1	865
H	NA	NA
I	23.1	586
J	20.3	515
K	27.8	707
L	61.3	1558
*L'	68.6	1743
M	NA	NA
N	50.0	1270
O	9.0	230
P	47.3	1201
Q	41.3	1050
R	48.1	1223
*L' to Quick Attach ends		



JOHN DEERE 9530T DIESEL