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2008

Test 1927: John Deere 9630T Diesel

Nebraska Tractor Test Lab

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NEBRASKA OECD TRACTOR TEST 1927—SUMMARY 597

JOHN DEERE 9630T 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)		Temp. °F cool- ing med	°C Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—7th Gear									
401.96 (299.74)	35797 (159.23)	4.21 (6.78)	2097	5.08	0.466 (0.283)	15.05 (2.96)	193 (89)	53 (12)	28.63 (96.95)
75% of Pull at Maximum Power—7th Gear									
322.09 (240.18)	26879 (119.56)	4.49 (7.23)	2169	2.08	0.495 (0.301)	14.16 (2.79)	192 (89)	69 (21)	28.59 (96.82)
50% of Pull at Maximum Power—7th Gear									
217.57 (162.24)	17756 (78.98)	4.59 (7.39)	2192	0.94	0.567 (0.345)	12.37 (2.44)	185 (85)	69 (21)	28.59 (96.82)
75% of Pull at Reduced Engine Speed—9th Gear									
322.40 (240.42)	27022 (120.20)	4.47 (7.20)	1756	2.14	0.469 (0.285)	14.94 (2.94)	204 (95)	69 (21)	28.59 (96.82)
50% of Pull at Reduced Engine Speed—9th Gear									
217.81 (162.42)	17933 (79.77)	4.55 (7.33)	1765	0.91	0.541 (0.329)	12.95 (2.55)	200 (93)	69 (21)	28.59 (96.82)

Lugging ability in 12th gear

Crankshaft speed rpm	2095	2004	1844	1691	1579	1390	1301
Pull-lbs (kN)	21024 (93.52)	23881 (106.23)	26961 (119.93)	29006 (129.02)	29742 (132.30)	29818 (132.64)	30110 (133.93)
Increase in pull %	0	14	28	38	41	42	43
Power-Hp (kW)	412.95 (307.94)	447.29 (333.55)	462.34 (344.77)	454.14 (338.65)	433.75 (323.45)	382.52 (285.24)	361.45 (269.53)
Speed-mph (km/h)	7.37 (11.85)	7.02 (11.30)	6.43 (10.35)	5.87 (9.45)	5.47 (8.80)	4.81 (7.74)	4.50 (7.24)
Slip %	1.12	1.55	1.91	2.36	2.56	2.62	2.68

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

Dates of tests: May 6 - 14, 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: 28.0 hours

ENGINE: Make John Deere Diesel Type six cylinder vertical with turbocharger and air to air aftercooler Serial No. *RG6135L001535* 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 two paper cartridges Fuel cooler radiator for returned fuel Muffler vertical Cooling medium temperature control 3 thermostats and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: (450 engine hp) 153.5 - 166.1 lb/h (69.6 - 75.3 kg/h), (475 engine hp) 160.4 - 175.3 lb/h (72.8 - 79.5 kg/h), (500 engine hp) 169.0 - 182.5 lb/h (76.7 - 82.8 kg/h), (530 engine hp) 178.3 - 192.6 lb/h (80.9 - 87.4 kg/h) High idle: 2215 - 2265 rpm Turbo boost: (530 engine hp) nominal 29.0 - 32.6 psi (200 - 225 kPa) as measured 31.0 psi (215 kPa)

CHASSIS: Type tracklayer-rubber tracked Serial No. *RW9630T902041* 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)	Temp. °F (°C) cool- ing med	Barom. inch Hg (kPa)		
3rd Gear									
317.55 (236.79)	45279 (201.41)	2.63 (4.23)	2106	10.14	0.502 (0.305)	13.96 (2.75)	186 (86)	57 (14)	28.67 (97.09)
4th Gear									
346.36 (258.28)	43061 (191.55)	3.02 (4.85)	2102	7.72	0.488 (0.297)	14.36 (2.83)	188 (87)	60 (16)	28.66 (97.05)
5th Gear									
370.72 (276.45)	41929 (186.51)	3.32 (5.34)	2100	7.72	0.483 (0.294)	14.50 (2.86)	195 (91)	63 (17)	28.63 (96.95)
6th Gear									
395.00 (294.55)	39211 (174.42)	3.78 (6.08)	2097	5.85	0.473 (0.288)	14.81 (2.92)	199 (93)	58 (14)	28.63 (96.95)
7th Gear									
401.96 (299.74)	35797 (159.23)	4.21 (6.78)	2097	5.08	0.466 (0.283)	15.05 (2.96)	193 (89)	53 (12)	28.63 (96.95)
8th Gear									
409.62 (305.46)	32249 (143.45)	4.76 (7.67)	2099	3.44	0.458 (0.278)	15.32 (3.02)	195 (91)	54 (12)	28.63 (96.95)
9th Gear									
409.75 (305.55)	28846 (128.31)	5.33 (8.57)	2097	2.43	0.460 (0.280)	15.25 (3.00)	205 (96)	67 (19)	28.61 (96.88)
10th Gear									
410.87 (306.39)	25887 (115.15)	5.95 (9.58)	2096	1.82	0.458 (0.278)	15.32 (3.02)	203 (95)	66 (19)	28.61 (96.88)
11th Gear									
408.97 (304.97)	23179 (103.11)	6.62 (10.65)	2099	1.47	0.459 (0.279)	15.27 (3.01)	202 (95)	64 (18)	28.61 (96.88)
12th Gear									
413.16 (308.10)	21056 (93.66)	7.36 (11.84)	2093	1.15	0.453 (0.276)	15.47 (3.05)	206 (96)	62 (17)	28.62 (96.92)
13th Gear									
400.17 (298.41)	18332 (81.55)	8.19 (13.17)	2099	0.94	0.468 (0.285)	14.97 (2.95)	206 (97)	68 (20)	28.61 (96.88)

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** 43920 lb (19922 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: The 9630T engine has an electronic control system which provides a vehicle protection system to avoid overloading the drive train. This system provides four different engine power levels. At 2100 rpm the engine produces up to 450 hp when the transmission is in forward gears 1 through 3. At 2100 rpm the engine produces 475 hp when the transmission is in gear 4. At 2100 rpm the engine produces 500 hp when the transmission is in gear 5. At 2100 rpm the engine produces 530 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 106°F (41°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. **1927**, Nebraska Summary 597, 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	72.6
Transport speed-no load- 18th gear	76.0
Bystander in 18th gear	92.3

TIRES, BALLAST AND WEIGHT

Track width

Ballast - Cast iron(front)
- Cast iron(idlers)
- Cast iron (side)

Height of Drawbar

Static Weight with operator

With Ballast

36.0 in (915 mm)
3425 lb (1554 kg)
1920 lb (871 kg)
3315 lb (1504 kg)
20.0 in (510 mm)
52755 lb(23930 kg)

Without Ballast

36.0 in (915 mm)
None
None
None
19.0 in (485 mm)
44095 lb(20001 kg)

DRAWBAR PERFORMANCE
(Unballasted at 1850 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									
321.92 (240.05)	45556 (202.64)	2.65 (4.26)	2101	9.27	0.499 (0.303)	14.06 (2.77)	184 (84)	57 (14)	28.67 (97.09)
4th Gear									
347.62 (259.22)	43716 (194.46)	2.98 (4.80)	2097	8.55	0.491 (0.299)	14.28 (2.81)	192 (89)	62 (17)	28.65 (97.02)
5th Gear									
371.13 (276.75)	42286 (188.10)	3.29 (5.30)	2096	8.23	0.488 (0.297)	14.36 (2.83)	200 (93)	63 (17)	28.62 (96.92)
6th Gear									
400.40 (298.58)	40202 (178.83)	3.73 (6.01)	2085	6.38	0.475 (0.289)	14.75 (2.91)	201 (94)	59 (15)	28.62 (96.92)
7th Gear									
417.70 (311.48)	38430 (170.95)	4.08 (6.56)	2053	6.17	0.465 (0.283)	15.06 (2.97)	199 (93)	54 (12)	28.63 (96.95)
8th Gear									
444.77 (331.67)	38068 (169.33)	4.38 (7.05)	1976	5.69	0.460 (0.280)	15.23 (3.00)	203 (95)	56 (13)	28.63 (96.95)
9th Gear									
446.10 (332.66)	36637 (162.97)	4.57 (7.35)	1842	4.79	0.462 (0.281)	15.19 (2.99)	203 (95)	68 (20)	28.61 (96.88)
10th Gear									
451.18 (336.44)	32843 (146.09)	5.15 (8.29)	1845	3.49	0.455 (0.277)	15.39 (3.03)	202 (95)	66 (19)	28.61 (96.88)
11th Gear									
456.90 (340.71)	29835 (132.71)	5.74 (9.24)	1846	2.72	0.452 (0.275)	15.51 (3.05)	202 (94)	65 (18)	28.61 (96.88)
12th Gear									
462.50 (344.89)	27012 (120.15)	6.42 (10.33)	1843	1.98	0.451 (0.274)	15.54 (3.06)	201 (94)	63 (17)	28.62 (96.92)
13th Gear									
451.48 (336.67)	23570 (104.84)	7.18 (11.56)	1853	1.68	0.459 (0.279)	15.26 (3.01)	201 (94)	68 (20)	28.60 (96.85)
14th Gear									
454.92 (339.24)	21453 (95.43)	7.95 (12.80)	1840	1.31	0.452 (0.275)	15.49 (3.05)	206 (96)	68 (20)	28.60 (96.85)
15th Gear									
444.92 (331.77)	16828 (74.85)	9.91 (15.96)	1847	0.95	0.464 (0.282)	15.11 (2.98)	203 (95)	68 (20)	28.60 (96.85)

DRAWBAR PERFORMANCE
(Ballasted at 1850 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									
286.58 (213.70)	53991 (240.16)	1.99 (3.20)	2155	9.78	0.525 (0.319)	13.36 (2.63)	184 (84)	60 (16)	28.58 (96.78)
2nd Gear									
332.66 (248.07)	52229 (232.33)	2.39 (3.84)	2072	8.51	0.494 (0.301)	14.18 (2.79)	192 (89)	61 (16)	28.59 (96.82)
3rd Gear									
353.92 (263.92)	50505 (224.66)	2.63 (4.23)	2040	7.52	0.475 (0.289)	14.75 (2.91)	189 (87)	62 (17)	28.59 (96.82)
4th Gear									
386.58 (288.27)	50160 (223.12)	2.89 (4.65)	2002	7.31	0.472 (0.287)	14.85 (2.93)	195 (91)	62 (17)	28.60 (96.85)
5th Gear									
417.92 (311.65)	49550 (220.41)	3.16 (5.09)	1986	7.10	0.472 (0.287)	14.86 (2.93)	202 (94)	63 (17)	28.60 (96.85)
6th Gear									
440.96 (328.82)	49171 (218.72)	3.36 (5.41)	1889	7.15	0.468 (0.285)	14.97 (2.95)	206 (96)	64 (18)	28.61 (96.88)
7th Gear									
453.44 (338.13)	45948 (204.39)	3.70 (5.96)	1849	5.54	0.458 (0.279)	15.31 (3.02)	203 (95)	64 (18)	28.62 (96.92)
8th Gear									
459.20 (342.43)	41267 (183.56)	4.17 (6.72)	1847	4.01	0.449 (0.273)	15.62 (3.08)	203 (95)	65 (18)	28.63 (96.95)
9th Gear									
459.72 (342.82)	36817 (163.77)	4.68 (7.54)	1846	2.81	0.448 (0.273)	15.64 (3.08)	203 (95)	65 (18)	28.64 (96.99)
10th Gear									
461.73 (344.31)	32940 (146.52)	5.26 (8.46)	1853	2.15	0.445 (0.271)	15.75 (3.10)	202 (95)	66 (19)	28.64 (96.99)
11th Gear									
460.18 (343.16)	29541 (131.40)	5.84 (9.40)	1855	1.66	0.446 (0.272)	15.70 (3.09)	202 (95)	66 (19)	28.65 (97.02)
12th Gear									
462.87 (345.16)	26709 (118.81)	6.50 (10.46)	1849	1.35	0.446 (0.271)	15.72 (3.10)	204 (96)	66 (19)	28.65 (97.02)
13th Gear									
452.25 (337.25)	23476 (104.42)	7.22 (11.63)	1855	1.16	0.453 (0.276)	15.46 (3.05)	204 (95)	65 (18)	28.66 (97.05)
14th Gear									
456.64 (340.51)	21201 (94.31)	8.08 (13.00)	1859	0.90	0.451 (0.274)	15.55 (3.06)	202 (95)	64 (18)	28.67 (97.09)
15th Gear									
445.74 (332.39)	16796 (74.71)	9.95 (16.02)	1848	0.72	0.461 (0.280)	15.20 (3.00)	202 (95)	63 (17)	28.68 (97.12)

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: 2929 psi (202 bar)

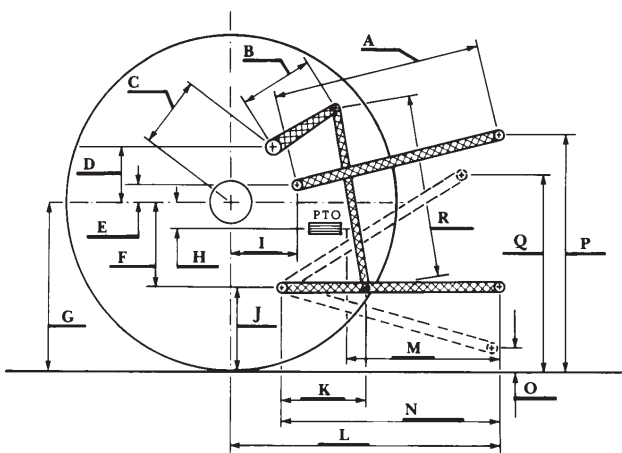
Single outlet set Three outlet sets combined

ii) Pump delivery rate at minimum pressure and rated engine speed: 35.5 GPM (134.5 l/min) 51.5 GPM (195.1 l/min)

iii) Pump delivery rate at maximum hydraulic power: 33.0 GPM (125.1 l/min) 49.2 GPM (186.4 l/min)

Delivery pressure: 2153 psi (148 bar) 2595 psi (179 bar)

Power: 41.5 Hp (30.9 kW) 74.5 HP (55.6 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 9630T DIESEL