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January 2005

Nebraska Summary 499: New Holland TS125A Diesel 24-Speed

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SUMMARY OF OECD TEST 2258—NEBRASKA SUMMARY 499

NEW HOLLAND TS125A DIESEL

24 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—1038 rpm)					
109.4 (81.6)	2200	6.65 (25.17)	0.429 (0.261)	16.45 (3.24)	
Standard Power Take-off Speed (1001 rpm)					
113.6 (84.7)	2123	6.64 (25.14)	0.413 (0.251)	17.11 (3.37)	
Maximum Power (2 hours)					
121.2 (90.4)	1895	6.61 (25.03)	0.385 (0.234)	18.33 (3.61)	

VARYING POWER AND FUEL CONSUMPTION

109.4 (81.6)	2200	6.65 (25.17)	0.429 (0.261)	16.45 (3.24)	Air temperature
95.1 (70.9)	2249	6.12 (23.15)	0.454 (0.276)	15.53 (3.06)	72°F (22°C)
72.7 (54.2)	2294	5.18 (19.61)	0.503 (0.306)	14.03 (2.76)	Relative humidity
49.3 (36.7)	2324	4.26 (16.13)	0.610 (0.371)	11.56 (2.28)	29%
24.9 (18.5)	2348	3.27 (12.36)	0.926 (0.564)	7.60 (1.50)	Barometer
--	2372	2.36 (8.93)	--	--	30.3" Hg (102.6 kPa)
--			--	--	

Maximum Torque - 373.3 lb.-ft. (528.0 Nm) at 1406 rpm
Maximum Torque Rise - 49.0%
Torque rise at 1800 engine rpm - 32%

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)	Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—12th (2 II Hi) Gear									
88.5 (66.0)	7405 (32.9)	4.48 (7.21)	2201	3.6	0.534 (0.325)	13.20 (2.60)	180 (82)	52 (11)	29.9 (101.3)
75% of Pull at Maximum Power—12th (2 II Hi) Gear									
68.9 (51.4)	5555 (24.7)	4.65 (7.49)	2272	3.0	0.569 (0.346)	12.39 (2.44)	181 (83)	52 (11)	29.9 (101.3)
50% of Pull at Maximum Power—12th (2 II Hi) Gear									
47.1 (35.1)	3710 (16.5)	4.76 (7.66)	2302	2.1	0.748 (0.455)	9.44 (1.86)	181 (83)	52 (11)	29.9 (101.3)
75% of Pull at Reduced Engine Speed—13th (3 II Lo) Gear									
69.1 (51.5)	5550 (24.7)	4.67 (7.51)	1948	2.8	0.505 (0.307)	14.01 (2.76)	178 (81)	61 (16)	30.0 (101.5)
50% of Pull at Reduced Engine Speed—13th (3 II Lo) Gear									
47.1 (35.1)	3695 (16.4)	4.78 (7.69)	1980	2.0	0.589 (0.358)	11.98 (2.36)	180 (82)	61 (16)	30.0 (101.5)

Location of tests: Silsoe Research Institute, Wrest Park, Silsoe, MK45 4HS, United Kingdom

Dates of tests: March to May, 2005.

Manufacturer: CNH U.K. Ltd., Basildon, Essex, SS14 3AD, England

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.847 **Fuel weight** 7.04 lbs/gal (0.8453 kg/l) **Oil** SAE 10W30 **API service classification** CH-4 **Transmission and hydraulic lubricant** NH 410B fluid **Front axle lubricant** NH 410B fluid

ENGINE: Make CNH Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** 00103907 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.094" x 5.196" (104.0 mm x 132.0 mm) **Compression ratio** 17.0 to 1 **Displacement** 410 cu in (6728 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 **Muffler** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: **Type** front wheel assist **Serial No.** 216664 **Tread width** rear 68.1" (1730 mm) to 83.9" (2130 mm) front 64.2" (1630 mm) to 81.9" (2080 mm) **Wheelbase** 104.4" (2652 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (2) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.02 (1.64) second 1.25 (2.01) third 1.49 (2.40) fourth 1.83 (2.94) fifth 2.13 (3.43) sixth 2.56 (4.12) seventh 2.61 (4.20) eighth 3.11 (5.00) ninth 3.13 (5.04) tenth 3.75 (6.04) eleventh 3.80 (6.11) twelfth 4.59 (7.39) thirteenth 5.36 (8.62) fourteenth 6.20 (9.98) fifteenth 6.56 (10.55) sixteenth 7.59 (12.21), seventeenth 7.80 (12.55), eighteenth 9.08 (14.62), nineteenth 9.54 (15.35), twentieth 11.11 (17.88), twenty-first 12.97 (20.88), twenty-second 15.87 (25.54), twenty-third 18.88 (30.38), twenty-fourth 23.09 (37.16) reverse 1.06 (1.70), 1.29 (2.08), 1.55 (2.49), 1.89 (3.04), 2.21 (3.55), 2.65 (4.26), 2.70 (4.34), 3.21 (5.17), 3.24 (5.21), 3.88 (6.24) 3.93 (6.32), 6.20 (7.64), 5.54 (8.92), 6.41 (10.32), 6.78 (10.91), 7.84 (12.62), 8.07 (12.98), 9.40 (15.12), 9.86 (15.87), 11.49 (18.49), 13.42 (21.59), 16.41 (26.41), 19.52 (31.41), 23.87 (38.42)

DRAWBAR PERFORMANCE

(Unballasted - Front Drive Engaged)

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(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
40.0 (29.8)	12770 (56.8)	1.17 (1.89)	2321	11.9	0.747 (0.454)	9.44 (1.86)	185 (85)	52 (11)	29.9 (101.3)
47.7 (35.6)	12680 (56.4)	1.41 (2.27)	2303	11.0	0.688 (0.418)	10.25 (2.02)	183 (84)	52 (11)	29.9 (101.3)
57.8 (43.1)	12590 (56.0)	1.72 (2.77)	2292	10.6	0.620 (0.377)	11.37 (2.24)	183 (84)	52 (11)	29.9 (101.3)
66.2 (49.4)	12340 (54.9)	2.01 (3.24)	2274	9.9	0.605 (0.368)	11.65 (2.29)	183 (84)	52 (11)	29.9 (101.3)
79.1 (59.0)	12410 (55.2)	2.39 (3.85)	2229	8.9	0.563 (0.342)	12.54 (2.47)	181 (83)	57 (14)	29.9 (101.4)
79.9 (59.6)	12275 (54.6)	2.44 (3.93)	2223	9.0	0.554 (0.337)	12.74 (2.51)	183 (84)	59 (15)	29.9 (101.4)
90.1 (67.2)	12115 (53.9)	2.79 (4.49)	2131	8.5	0.515 (0.313)	13.70 (2.70)	180 (82)	57 (14)	29.9 (101.3)
91.3 (68.1)	12115 (53.9)	2.83 (4.55)	2139	8.5	0.517 (0.314)	13.65 (2.69)	180 (82)	57 (14)	29.9 (101.4)
96.0 (71.6)	11645 (51.8)	3.09 (4.98)	1931	7.3	0.478 (0.291)	14.76 (2.91)	178 (81)	59 (15)	29.9 (101.4)
98.6 (73.5)	11735 (52.2)	3.15 (5.07)	1946	7.4	0.473 (0.288)	14.92 (2.94)	178 (81)	52 (11)	29.9 (101.3)
99.8 (74.4)	9845 (43.8)	3.80 (6.11)	1891	5.0	0.466 (0.284)	15.13 (2.98)	178 (81)	54 (12)	29.9 (101.3)
97.9 (73.0)	8230 (36.6)	4.46 (7.18)	1882	4.0	0.487 (0.296)	14.48 (2.85)	178 (81)	52 (11)	29.9 (101.3)
99.6 (74.3)	7240 (32.2)	5.16 (8.30)	1874	3.6	0.457 (0.278)	15.43 (3.04)	176 (80)	55 (13)	29.9 (101.4)
99.2 (74.0)	6730 (29.9)	5.53 (8.90)	1897	3.4	0.463 (0.282)	15.23 (3.00)	178 (81)	52 (11)	29.9 (101.3)
100.7 (75.1)	5935 (26.4)	6.36 (10.23)	1878	3.1	0.448 (0.273)	15.74 (3.10)	176 (80)	55 (13)	29.9 (101.4)
97.8 (72.9)	5580 (24.8)	6.57 (10.57)	1884	2.8	0.474 (0.288)	14.87 (2.93)	176 (80)	52 (11)	29.9 (101.3)
96.6 (72.0)	4690 (20.9)	7.72 (12.42)	1894	2.5	0.495 (0.301)	14.26 (2.81)	178 (81)	55 (13)	29.9 (101.4)
97.9 (73.0)	4560 (20.3)	8.05 (12.96)	1881	2.5	0.478 (0.290)	14.77 (2.91)	178 (81)	55 (13)	29.9 (101.4)

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 600/65R38; **,10 (70)
Two 480/65R28; **,10 (70)
20.9 in (465 mm)
7500 lb (3402 kg)
4730 lb (2146 kg)
12230 lb (5548 kg)

Clutch multiple wet disc electro-hydraulically operated by foot pedal
Brakes wet disc hydraulically operated by two foot pedals that can be locked together
Steering hydrostatic
Power take-off 540 rpm at 1969 engine rpm or 1000 rpm at 2120 engine rpm
Unladen tractor mass 12065 lb (5473 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: All results reported were for a tractor equipped with a cab unless noted otherwise.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturer's claims of: 25 Hp increase with "power boost", 56% PTO torque rise, 26.5 GPM (100 lpm) hydraulic flow with the variable displacement pump nor 3 point lift capacity of 8250 lbs (3742 kg) with one 50 mm boost cylinder, optionally 9285 lbs (4212 kg) with two 50 mm boost cylinders with mechanical lower links. The performance figures on this summary were taken from a test conducted under the OECD Code II test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2258** Nebraska Summary 499, December 15, 2005.

Leonard L. Bashford
Director

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

DRAWBAR PERFORMANCE

(Unballasted - Front Drive Disengaged)

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—16th(1 III Hi) Gear									
90.4 (67.4)	4590 (20.4)	7.38 (11.88)	2199	2.6	0.501 (0.305)	14.06 (2.77)	180 (82)	50 (10)	30.0 (101.6)
75% of Pull at Maximum Power—16th(1 III Hi) Gear									
70.3 (52.4)	3435 (15.3)	7.67 (12.35)	2272	2.1	0.547 (0.333)	12.89 (2.54)	180 (82)	50 (10)	30.0 (101.6)
50% of Pull at Maximum Power—16th(1 III Hi) Gear									
47.6 (35.5)	2285 (10.2)	7.81 (12.57)	2302	1.5	0.682 (0.415)	10.34 (2.04)	181 (83)	50 (10)	30.0 (101.6)
75% of Pull at Reduced Engine Speed—18th(2 III Lo) Gear									
70.4 (52.5)	3440 (15.3)	7.68 (12.36)	1901	2.2	0.481 (0.293)	14.66 (2.89)	178 (81)	54 (12)	30.0 (101.6)
50% of Pull at Reduced Engine Speed—18th(2 III Lo) Gear									
47.7 (35.6)	2295 (10.2)	7.79 (12.54)	1919	1.6	0.579 (0.352)	12.18 (2.40)	178 (81)	54 (12)	30.0 (101.6)
MAXIMUM POWER IN SELECTED GEARS									
2nd(1 I Hi) Gear									
30.3 (22.6)	9845 (43.8)	1.16 (1.86)	2334	12.7	0.827 (0.503)	8.53 (1.68)	185 (85)	52 (11)	30.0 (101.6)
3rd(2 I Lo) Gear									
36.6 (27.3)	9765 (43.4)	1.41 (2.26)	2325	10.9	0.781 (0.475)	9.04 (1.78)	183 (84)	52 (11)	30.0 (101.6)
4th(2 I Hi) Gear									
44.7 (33.3)	9665 (43.0)	1.73 (2.79)	2312	9.7	0.665 (0.405)	10.60 (2.09)	183 (84)	52 (11)	30.0 (101.6)
5th(3 I Lo) Gear									
51.2 (38.2)	9530 (42.4)	2.01 (3.24)	2299	9.7	0.649 (0.395)	10.86 (2.14)	183 (84)	52 (11)	30.0 (101.6)
6th(1 II Lo) Gear									
60.7 (45.3)	9465 (42.1)	2.41 (3.88)	2284	9.4	0.613 (0.373)	11.51 (2.27)	183 (84)	54 (12)	30.0 (101.6)
7th(3 I Hi) Gear									
62.1 (46.3)	9440 (42.0)	2.47 (3.97)	2286	9.1	0.591 (0.359)	11.94 (2.35)	181 (83)	52 (11)	30.0 (101.6)
8th(4 I Lo) Gear									
73.2 (54.6)	9395 (41.8)	2.92 (4.70)	2266	8.8	0.565 (0.344)	12.49 (2.46)	181 (83)	52 (11)	30.0 (101.6)
9th(1 II Hi) Gear									
73.4 (54.7)	9380 (41.7)	2.93 (4.72)	2261	8.9	0.554 (0.337)	12.74 (2.51)	181 (83)	54 (12)	30.0 (101.7)
10th(2 II Lo) Gear									
84.8 (63.2)	9315 (41.4)	3.41 (5.49)	2196	9.0	0.532 (0.323)	13.26 (2.61)	181 (83)	54 (12)	30.0 (101.6)
11th(4 I Hi) Gear									
87.2 (65.0)	9285 (41.3)	3.52 (5.67)	2217	8.0	0.487 (0.296)	14.47 (2.85)	181 (83)	52 (11)	30.0 (101.6)
12th(2 II Hi) Gear									
95.1 (70.9)	8970 (39.9)	3.98 (6.40)	2047	6.9	0.479 (0.291)	14.72 (2.90)	180 (82)	55 (13)	30.0 (101.6)
13th(3 II Lo) Gear									
97.9 (73.0)	8330 (37.0)	4.41 (7.09)	1915	5.5	0.463 (0.282)	15.23 (3.00)	178 (81)	55 (13)	30.0 (101.6)
14th(1 III Lo) Gear									
100.3 (74.8)	7305 (32.5)	5.15 (8.29)	1907	4.2	0.465 (0.283)	15.18 (2.99)	176 (80)	50 (10)	30.0 (101.6)
15th(3 II Hi) Gear									
100.8 (75.2)	6970 (31.0)	5.42 (8.73)	1895	4.0	0.462 (0.281)	15.23 (3.00)	176 (80)	54 (12)	30.0 (101.6)
16th(1 III Hi) Gear									
102.7 (76.6)	6105 (27.2)	6.31 (10.16)	1894	3.4	0.455 (0.277)	15.48 (3.05)	176 (80)	50 (10)	30.0 (101.6)
17th(4 II Lo) Gear									
99.8 (74.4)	5815 (25.8)	6.44 (10.37)	1878	3.2	0.453 (0.275)	15.58 (3.07)	176 (80)	50 (10)	30.0 (101.6)
18th(2 III Lo) Gear									
99.6 (74.3)	4910 (21.8)	7.61 (12.25)	1895	2.8	0.460 (0.280)	15.33 (3.02)	176 (80)	52 (11)	30.0 (101.6)
19th(4 II Hi) Gear									
99.6 (74.3)	4690 (20.9)	7.97 (12.82)	1888	2.7	0.465 (0.283)	15.18 (2.99)	176 (80)	50 (10)	30.0 (101.6)

This vehicle is equipped with an electronically controlled engine Power management system that monitors and boosts engine power output in certain circumstances. This is achieved by electronically changing the characteristics of the engine power-speed curve. The engine Power management function ("boosted" power level) becomes active in the higher transmission gears (13th and above) and for road transport applications. The system is also activated when power transfer through the PTO exceeds a preset level (and forward speed exceeds 0.5 km/h), for mobile PTO driven implement applications. An override system is provided to enable PTO operations at the "boosted" power level while the vehicle is stationary for test purposes. The results of of this PTO output test are presented below.

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—1038 rpm)					
132.8 (99.0)	2201	7.86 (29.74)	0.418 (0.254)	16.90 (3.33)	
Standard Power Take-off Speed - (1000 rpm)					
136.5 (101.8)	2120	7.79 (29.47)	0.403 (0.245)	17.52 (3.45)	
Maximum Power (2 hours)					
143.9 (107.3)	1901	7.72 (29.23)	0.378 (0.230)	18.63 (3.67)	

VARYING POWER AND FUEL CONSUMPTION

132.8 (99.0)	2201	7.86 (29.74)	0.418 (0.254)	16.90 (3.33)	Air temperature
114.7 (85.5)	2235	7.00 (26.49)	0.430 (0.262)	16.39 (3.23)	70°F (21°C)
87.4 (65.2)	2272	5.80 (21.97)	0.469 (0.285)	15.08 (2.97)	Relative humidity
59.3 (44.2)	2308	4.58 (17.33)	0.544 (0.331)	12.94 (2.55)	36%
30.0 (22.4)	2344	3.44 (13.02)	0.809 (0.492)	8.73 (1.72)	Barometer
-- --	2372	2.28 (8.63)	-- --	-- --	30.4"Hg (102.9 kPa)

Maximum Torque 424.8 lb.-ft. (576.0 Nm) at 1647 rpm
Maximum Torque Rise - 34.0%
Torque rise at 1800 rpm - 30%

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load in 7th (1C) gear	84.0	84.0
Bystander	--	--

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load in 12th (2 II hi) gear	68.0	69.0
Bystander	--	--

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: No

Maximum Force Exerted Through Whole Range: 5485 lbs (24.4 kN) 1 x 50 mm boost cylinder
7330 lbs (32.6 kN) 2 x 50 mm boost cylinders
7825 lbs (34.8 kN) 2 x 80 mm external cylinders

i) Opening pressure of relief valve:	NA	NA
	fixed disp. pump	variable disp. pump
Sustained pressure at compensator cutoff:	3120 psi (215 bar)	3105 psi (214 bar)
ii) Pump delivery rate at minimum pressure:	21.8 GPM(82.5 l/min)	26.2 GPM(99.0 l/min)
iii) Pump delivery rate at maximum		
hydraulic power:	18.3 GPM(69.2 l/min)	25.0 GPM(94.5 l/min)
Delivery pressure:	2685 psi (185 bar)	2610 psi (180 bar)
Power:	28.6 HP (21.3 kW)	38.0 HP (28.3 kW)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi.(bar)	3120(215)
Location:	lift cylinder
Hydraulic oil temperature: °F (°C)	150(65)
Location:	hydraulic sump
Category:	II
Quick attach:	none

Mechanical lower link

SAE Static Test—System pressure 2625 psi (181 Bar) (one 50 mm assist cylinder)

Hitch point distance to ground level in. (mm)	7.9 (200)	16.3 (415)	23.0 (585)	28.3 (720)	34.8 (885)
Lift force on frame lb	10160	9620	9530	8990	7735
" " " " " " (kN)	(45.2)	(42.8)	(42.4)	(40.0)	(34.4)

Mechanical lower link

SAE Static Test—System pressure 2625 psi (181 Bar) (two 50 mm assist cylinders)

Hitch point distance to ground level in. (mm)	7.9 (200)	16.3 (415)	23.0 (585)	28.5 (723)	34.4 (875)
Lift force on frame lb	13330	12565	11355	10185	8950
" " " " " " (kN)	(59.3)	(55.9)	(50.5)	(45.3)	(39.8)

Electronic draft control

SAE Static Test—System pressure 2815 psi (194 Bar) (two 80 mm external cylinders)

Hitch point distance to ground level in. (mm)	7.9 (200)	15.7 (400)	23.0 (585)	30.3 (770)	35.8 (910)
Lift force on frame lb	12700	11575	11105	10520	9755
" " " " " " (kN)	(56.5)	(51.5)	(49.4)	(46.8)	(43.4)

HITCH DIMENSIONS AS TESTED—NO LOAD

	OECD test		SAE test	
	inch	mm	inch	mm
A	27.6	700	28.0	710
B	12.2	310	12.2	310
C	15.6	395	15.6	395
D	14.6	370	14.6	370
E	8.2	208	10.8	275
F	9.3	235	9.3	235
G	32.3	820	32.3	820
H	1.1	28	1.1	28
I	17.9	455	16.9	430
J	23.0	585	23.0	585
K	19.8	505	23.0	585
L	44.0	1118	44.0	1118
M	22.2	563	22.2	563
N	37.4	950	37.4	950
O	7.7	196	7.9	200
P	47.0	1195	42.0	1068
Q	32.3	820	32.3	820
R	30.1	764	32.1	815

