

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.
Larsen

January 2004

Tests 2249 & 2273: New Holland TL 80A Diesel

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Applied Mechanics Commons](#)

"Tests 2249 & 2273: New Holland TL 80A Diesel" (2004). *Nebraska Tractor Tests*. 273.
<https://digitalcommons.unl.edu/tractormuseumlit/273>

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.

SUMMARY OF OECD TESTS 2249 and 2273—NEBRASKA SUMMARY 524 NEW HOLLAND TL 80A DIESEL 12 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—1053 rpm)					
71.4 (53.3)	2507	4.87 (18.45)	0.478 (0.291)	14.65 (2.89)	
Maximum Power (2 hours)					
72.3 (53.9)	2398	4.80 (18.17)	0.465 (0.283)	15.06 (2.97)	
Standard Power Take-off speed (1007 rpm)					
72.3 (53.9)	2398	4.80 (18.17)	0.465 (0.283)	15.06 (2.97)	
VARYING POWER AND FUEL CONSUMPTION					
71.4 (53.3)	2507	4.87 (18.45)	0.478 (0.291)	14.65 (2.89)	Air temperature
64.7 (48.2)	2643	4.77 (18.06)	0.517 (0.314)	13.55 (2.67)	63°F (18°C)
50.3 (37.5)	2657	4.09 (15.48)	0.570 (0.347)	12.29 (2.42)	Relative humidity
32.3 (24.1)	2669	3.19 (12.06)	0.691 (0.421)	10.14 (2.00)	50%
19.2 (14.3)	2674	2.42 (9.17)	0.882 (0.537)	7.94 (1.57)	Barometer
--	2686	1.75 (6.62)	--	--	29.4" Hg (99.4 kPa)
Maximum Torque -216.5 lb.-ft. (293.6 Nm) at 1405 rpm					
Maximum Torque Rise -44.7%					
Torque rise at 2000 engine rpm -22%					

Location of tests: Istituto Per La Macchine Agricole
E Movimento Terra, Strada delle Cacce, 73-10135
Torino, Italy

Dates of tests: October to December, 2004

Manufacturer: New Holland Italia S.p.A., Viale delle Nazioni, 55-41100, Modena, Italy and New Holland UK Limited, Cranes Farm Road Basildon, Essex, United Kingdom

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.842 **Fuel weight** 7.01 lbs/gal (0.840 kg/l) **Oil SAE** 15W40 **API service classification** CH-4 **Oil consumption for 10 hours** 0.02 lb (10 gm) **Transmission and hydraulic lubricant** Ambra Multi G **Front axle lubricant** Ambra Multi G

ENGINE: Make CNH Diesel **Type** four cylinder vertical **Serial No.** 101083 **Crankshaft** lengthwise **Rated Engine speed** 2500 **Bore and stroke** 4.094" x 5.197" (104 mm x 132 mm) **Compression ratio** 17.5 to 1 **Displacement** 274 cu in (4485 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **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** 2WD and front wheel assist **Serial No.** HJT001781 **Tread width** rear 64.3" (1632 mm) to 83.9" (2132 mm) front: 2WD - 55.4" (1407 mm) to 85.6" (2175 mm), FWA - 56.1" (1425 mm) to 84.0" (2133 mm) **Wheel base** 2WD - 92.2" (2342 mm) FWA - 91.1" (2314 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travels speeds mph (km/h)** first 1.37 (2.20) second 1.98 (3.19) third 2.86 (4.61) fourth 3.19 (5.14) fifth 4.10 (6.60) sixth 4.64 (7.46) seventh 6.69 (10.76) eighth 7.51 (12.09) ninth 9.58 (15.41) tenth 10.92 (17.57) eleventh 15.74 (25.33) twelfth 22.55 (36.29) reverse 1.37 (2.20), 1.98 (3.19), 2.86 (4.61), 3.19 (5.14), 4.10 (6.60), 4.64 (7.46), 6.69 (10.76), 7.51 (12.09), 9.58 (15.41), 10.92 (17.57), 15.74 (25.33), 22.55 (36.29) **Clutch** dual dry disc operated by foot pedal **Brakes** wet disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2199 engine rpm or 1000 rpm at 2381 engine rpm **Unladen tractor mass** 2WD - 8465 lb (3840 kg), FWA - 8665 lb (3930 kg)

**DRAWBAR PERFORMANCE(40 km/h trans.)
BALLASTED - 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)
75% of Pull at Maximum Power—Five Hours 5th (4 Lo) Gear									
49.6 (37.0)	4475 (19.9)	4.16 (6.69)	2641	3.0	0.674 (0.410)	10.41 (2.05)	189 (87)	73 (23)	29.0 (98.2)
MAXIMUM POWER IN SELECTED GEARS									
2nd (2 Lo) Gear									
45.3 (33.8)	9440 (42.0)	1.80 (2.90)	2639	15.3	0.738 (0.449)	9.49 (1.87)	187 (86)	81 (27)	29.0 (98.2)
3rd (3 Lo) Gear									
56.1 (41.8)	8250 (36.7)	2.55 (4.10)	2382	7.6	0.598 (0.364)	11.73 (2.31)	185 (85)	75 (24)	29.0 (98.2)
4th (1 Med) Gear									
58.6 (43.7)	7695 (34.2)	2.86 (4.60)	2385	6.0	0.575 (0.350)	12.18 (2.40)	187 (86)	68 (20)	29.1 (98.4)
5th (4 Lo) Gear									
59.4 (44.3)	5980 (26.6)	3.73 (6.00)	2385	4.1	0.564 (0.343)	12.44 (2.45)	185 (85)	70 (21)	29.1 (98.4)
6th (2 Med) Gear									
58.2 (43.4)	5170 (23.0)	4.22 (6.79)	2374	3.5	0.572 (0.348)	12.26 (2.42)	183 (84)	66 (19)	29.1 (98.4)
7th (3 Med) Gear									
57.0 (42.5)	3370 (15.0)	6.34 (10.20)	2415	2.0	0.592 (0.360)	11.83 (2.33)	185 (85)	68 (20)	29.1 (98.4)
8th (1 Hi) Gear									
56.9 (42.4)	3035 (13.5)	7.02 (11.31)	2375	1.8	0.590 (0.359)	11.88 (2.34)	183 (84)	64 (18)	29.1 (98.4)
9th (4 Med) Gear									
52.7 (39.3)	2180 (9.7)	9.06 (14.59)	2398	1.1	0.639 (0.389)	10.96 (2.16)	185 (85)	70 (21)	29.1 (98.4)
10th (2 Hi) Gear									
52.8 (39.4)	1910 (8.5)	10.37 (16.69)	2400	0.9	0.638 (0.388)	10.98 (2.16)	185 (85)	66 (19)	29.1 (98.4)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

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 claim of 50% torque rise. The performance results on this summary were taken from OECD tests conducted under the Code I Test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Reports No. **2249** and **2273**, Nebraska Summary 524, May 26, 2006.

Leonard L. Bashford
Director

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

FWA - 40 km/h transmission

TIRES, BALLAST AND WEIGHT	With Ballast	Without Ballast
Rear Tires	-No., size, ply & psi (kPa) Two 540/65R34; **,15 (100)	Two 540/65R34; **,15 (100)
Ballast	-Liquid (total) None	None
	-Cast Iron (total) 660 lb (300 kg)	None
Front Tires	-No., size, ply & psi (kPa) Two 440/65R24; **,17 (120)	Two 440/65R24; **,17 (120)
Ballast	-Liquid (total) None	None
	-Cast Iron (total) 1170 lb (530 kg)	None
Height of Drawbar	18.1 in (460 mm)	18.3 in (465 mm)
Static Weight with Operator - Rear	5745 lb (2605 kg)	5325 lb (2415 kg)
- Front	4915 lb (2230 kg)	3505 lb (1590 kg)
- Total	10660 lb (4835 kg)	8830 lb (4005 kg)

DRAWBAR PERFORMANCE(30 km/h trans.)

BALLASTED - 2WD

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)
75% of Pull at Maximum Power—Five Hours 8th (1 Hi) Gear									
44.7 (33.3)	2810 (12.5)	5.96 (9.60)	2554	4.0	0.759 (0.462)	9.24 (1.82)	190 (88)	48 (9)	29.1 (98.4)
MAXIMUM POWER IN SELECTED GEARS									
5th (4 Lo) Gear									
50.2 (37.4)	6720 (29.9)	2.80 (4.50)	2452	14.9	0.677 (0.412)	10.35 (2.04)	196 (91)	50 (10)	29.1 (98.5)
6th (2 Med) Gear									
54.4 (40.6)	6205 (27.6)	3.29 (5.30)	2395	8.9	0.619 (0.377)	11.32 (2.23)	194 (90)	52 (11)	29.1 (98.5)
7th (3 Med) Gear									
55.4 (41.3)	4225 (18.8)	4.91 (7.91)	2395	5.4	0.609 (0.371)	11.51 (2.27)	194 (90)	54 (12)	29.1 (98.5)
8th (1 Hi) Gear									
55.6 (41.5)	3730 (16.6)	5.60 (9.00)	2401	4.7	0.606 (0.369)	11.56 (2.28)	190 (88)	52 (11)	29.1 (98.5)
9th (4 Med) Gear									
54.0 (40.3)	2785 (12.4)	7.27 (11.70)	2406	3.7	0.624 (0.380)	11.22 (2.21)	194 (90)	52 (11)	29.1 (98.5)
10th (2 Hi) Gear									
53.9 (40.2)	2340 (10.4)	8.64 (13.90)	2408	3.4	0.627 (0.381)	11.18 (2.20)	189 (87)	52 (11)	29.1 (98.5)
11th (3 Hi) Gear									
43.6 (32.5)	1370 (6.1)	11.93 (19.20)	2380	2.4	0.767 (0.467)	9.14 (1.80)	187 (86)	52 (11)	29.1 (98.5)

2WD - 30 km/h transmission

TIRES, BALLAST AND WEIGHT	With Ballast	Without Ballast
Rear Tires	-No., size, ply & psi (kPa) Two 540/65R34; **, 15 (100)	Two 540/65R34; **, 15 (100)
Ballast	-Liquid (total) None	None
	-Cast Iron (total) 660 lb (300 kg)	None
Front Tires	-No., size, ply & psi (kPa) Two 10.00-16; 8; 35 (240)	Two 10.00-16; 8; 35 (240)
Ballast	-Liquid (total) None	None
	-Cast Iron (total) 1170 lb (530 kg)	None
Height of Drawbar	18.1 in (460 mm)	18.3 in (465 mm)
Static Weight with Operator - Rear	6205 lb (2815 kg)	5820 lb (2640 kg)
	- Front 4255 lb (1930 kg)	2810 lb (1275 kg)
	- Total 10460 lb (4745 kg)	8630 lb (3915 kg)

TRACTOR SOUND LEVEL WITH CAB	FWA dB(A)	2WD dB(A)
At no load in 6th (2 Med) gear	79.0	79.0
Bystander in 12th (4 Hi) gear	85.5	84.5

CENTER OF GRAVITY - 2WD

Horizontal distance forward from centerline of rear wheels	30.0" (763 mm)
Vertical distance above roadway	37.2" (945 mm)
Horizontal distance from center of rear wheel tread	0.1" (3 mm) to the left

CENTER OF GRAVITY - FWA

Horizontal distance forward from centerline of rear wheels	36.2" (919 mm)
Vertical distance above roadway	34.5" (876 mm)
Horizontal distance from center of rear wheel tread	0.3" (6 mm) to the left

TURNING ON A CONCRETE SURFACE (2WD)

Turning radius—without brake right 155" (3.95 m) left 155" (3.95 m)
Turning space radius—without brake right 161" (4.10 m) left 161" (4.10 m)

TURNING ON A CONCRETE SURFACE (FWA)

Turning radius—without brake right 228" (5.80 m) left 224" (5.70 m)
Turning space radius—without brake right 236" (6.00 m) left 232" (5.90 m)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum force exerted through whole range:	5955 lbs (26.5 kN)
i) Opening pressure of relief valve:	NA
Sustained pressure with relief valve open:	2830 psi (195 bar)
ii) Pump delivery rate at minimum pressure:	16.5 GPM (62.4 l/min)
iii) Pump delivery rate at maximum	
hydraulic power:	14.4 GPM (54.6 l/min)
Delivery pressure:	2465 psi (170 bar)
Power:	20.7 HP (15.5 kW)

	inch	mm
A	27.8	705
B	10.0	255
C	13.9	352
D	11.7	296
E	10.1	257
F	8.1	205
G	29.3	745
H	0.4	9
I	15.7	400
J	21.2	540
K	17.7	450
L	42.1	1070
M	21.6	548
N	37.0	940
O	6.9	175
P	45.3	1150
Q	33.9	860
R	25.2	640

HITCH DIMENSIONS AS TESTED—NO LOAD

