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Test 1917: New Holland TM115 Diesel

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SUMMARY OF OECD TEST 1917 - NEBRASKA SUMMARY 342

NEW HOLLAND TM115 DIESEL

18 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)					
94.0 (70.1)	2200	6.04 (22.88)	0.449 (0.273)	15.55 (3.06)	
Standard Power Take-off Speed (999 rpm)					
94.8 (70.7)	2119	5.94 (22.50)	0.438 (0.266)	15.95 (3.14)	
Maximum Power (2 hours)					
98.0 (73.1)	1900	5.80 (21.96)	0.413 (0.252)	16.89 (3.33)	

VARYING POWER AND FUEL CONSUMPTION

94.0 (70.1)	2200	6.04 (22.88)	0.449 (0.273)	15.55 (3.06)	Air temperature
81.3 (60.6)	2238	5.43 (20.54)	0.467 (0.284)	14.97 (2.95)	75°F (24°C)
62.5 (46.6)	2295	4.61 (17.46)	0.516 (0.314)	13.54 (2.67)	Relative humidity
42.2 (31.5)	2318	3.71 (14.05)	0.614 (0.374)	11.37 (2.24)	37%
21.3 (15.9)	2343	2.87 (10.88)	0.942 (0.573)	7.41 (1.46)	Barometer
--	2357	2.04 (7.72)	--	--	29.8" Hg (100.8 kPa)

Maximum Torque - 310.9 lb.-ft. (421.5 Nm) at 1400 rpm

Maximum Torque Rise - 38.5%

Torque rise at 1800 engine rpm - 26%

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 8th(2B) Gear									
76.2 (56.8)	6990 (31.1)	4.09 (6.57)	2202	3.8	0.543 (0.330)	12.86 (2.53)	185 (85)	63 (17)	29.7 (100.7)
75% of Pull at Maximum Power 8th(2B) Gear									
59.2 (44.1)	5240 (23.3)	4.24 (6.83)	2261	2.7	0.590 (0.359)	11.82 (2.33)	183 (84)	64 (18)	29.7 (100.7)
50% of Pull at Maximum Power 8th(2B) Gear									
40.8 (30.5)	3510 (15.6)	4.36 (7.01)	2300	1.9	0.732 (0.445)	9.54 (1.88)	183 (84)	66 (19)	29.7 (100.7)
75% of Pull at Reduced Engine Speed 9th(3B) Gear									
59.3 (44.2)	5240 (23.3)	4.24 (6.83)	1887	2.9	0.533 (0.324)	13.10 (2.58)	185 (85)	66 (19)	29.7 (100.6)
50% of Pull at Reduced Engine Speed 9th(3B) Gear									
40.8 (30.4)	3515 (15.6)	4.35 (7.00)	1917	2.0	0.603 (0.367)	11.57 (2.28)	181 (83)	66 (19)	29.7 (100.6)

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

Dates of Test: February- May, 2000

Manufacturer: New Holland UK Ltd., Basildon, Essex, United Kingdom

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F (15°/15°C)** 0.839 **Fuel weight** 6.98 lbs/gal (0.837 kg/l) **Oil SAE 10W30 API service classification** CF-4 **Transmission and hydraulic lubricant** SAE 10W30 API GL4 **Front axle lubricant** SAE 10W30 API GL4

ENGINE: Make New Holland Diesel **Type** six cylinder vertical **Serial No.** TH833015 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.40" x 5.00" (111.8 mm x 127.0 mm) **Compression ratio** 17.5 to 1 **Displacement** 456 cu in (7480 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** two paper elements **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: Type front wheel assist **Serial No.** 122089B **Tread width** rear 60.2" (1530 mm) to 87.9" (2232 mm) front 61.2" (1555 mm) to 89.0" (2261 mm) **Wheelbase** 93.0" (2723 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (6) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.53 (2.46) second 1.84 (2.96) third 2.21 (3.56) fourth 2.66 (4.28) fifth 3.19 (5.14) sixth 3.55 (5.72) seventh 3.83 (6.17) eighth 4.28 (6.88) ninth 5.13 (8.26) tenth 6.17 (9.93) eleventh 7.43 (11.95) twelfth 8.93 (14.37) thirteenth 10.08 (16.22) fourteenth 12.12 (19.51) fifteenth 14.56 (23.43) sixteenth 17.51 (28.18) seventeenth 21.06 (33.89) eighteenth 25.32 (40.75) reverse 2.98 (4.80), 3.59 (5.78), 4.31 (6.94), 5.18 (8.34), 6.24 (10.04), 7.50 (12.07) **Clutch** multiple wet disc electro-hydraulically operated by foot pedal **Brakes** single wet disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1971 engine rpm or 1000 rpm at 2121 engine rpm **Unladen tractor mass** 11760 lb (5334 kg)

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 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)
1st(1A)Gear									
41.8 (31.2)	11690 (52.0)	1.34 (2.16)	2292	15.0	0.730 (0.444)	9.57 (1.89)	183 (84)	64 (18)	29.7 (100.6)
2nd(2A)Gear									
49.5 (36.9)	11360 (50.5)	1.63 (2.63)	2268	13.1	0.681 (0.414)	10.25 (2.02)	183 (84)	66 (19)	29.7 (100.7)
3rd(3A)Gear									
57.6 (43.0)	11085 (49.3)	1.95 (3.14)	2232	12.3	0.649 (0.395)	10.76 (2.12)	183 (84)	68 (20)	29.7 (100.7)
4th(4A)Gear									
68.3 (50.9)	10815 (48.1)	2.37 (3.81)	2210	10.7	0.614 (0.373)	11.38 (2.24)	183 (84)	66 (19)	29.7 (100.7)
5th(5A)Gear									
74.4 (55.5)	10410 (46.3)	2.68 (4.32)	2054	9.4	0.550 (0.334)	12.71 (2.50)	187 (86)	66 (19)	29.7 (100.7)
6th(1B)Gear									
76.7 (57.2)	9755 (43.4)	2.95 (4.75)	1995	7.8	0.526 (0.320)	13.29 (2.62)	185 (85)	66 (19)	29.7 (100.6)
7th(6A)Gear									
75.8 (56.5)	9220 (41.0)	3.08 (4.95)	1906	6.8	0.529 (0.322)	13.20 (2.60)	185 (85)	66 (19)	29.7 (100.6)
8th(2B)Gear									
80.9 (60.3)	8710 (38.7)	3.48 (5.60)	1906	6.0	0.503 (0.306)	13.90 (2.74)	185 (85)	64 (18)	29.7 (100.7)
9th(3B)Gear									
80.6 (60.1)	7150 (31.8)	4.23 (6.81)	1901	3.9	0.501 (0.305)	13.94 (2.75)	185 (85)	63 (17)	29.7 (100.7)
10th(4B)Gear									
79.0 (58.9)	5760 (25.6)	5.14 (8.27)	1903	3.0	0.513 (0.312)	13.60 (2.68)	185 (85)	64 (18)	29.7 (100.7)
11th(5B) Gear									
79.1 (59.0)	4740 (21.1)	6.26 (10.07)	1902	2.5	0.510 (0.310)	13.71 (2.70)	185 (85)	63 (17)	29.7 (100.7)
12th(6B) Gear									
77.3 (57.6)	3835 (17.1)	7.56 (12.16)	1901	2.1	0.521 (0.317)	13.40 (2.64)	185 (85)	63 (17)	29.7 (100.7)
13th(1C) Gear									
80.5 (60.0)	3540 (15.7)	8.53 (13.72)	1897	2.0	0.507 (0.308)	13.78 (2.71)	185 (85)	63 (17)	29.7 (100.7)
14th(2C) Gear									
78.7 (58.7)	2885 (12.8)	10.24 (16.48)	1898	1.7	0.511 (0.311)	13.65 (2.69)	185 (85)	64 (18)	29.7 (100.7)

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 9755 lbs (4425 kg) three point lift capacity without lift assist cylinder. 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. **1917**, Nebraska Summary 342, January 4, 2001.

Brent T. Sampson
Test Engineer

L.L. Bashford
M.F. Kocher
R.D. Grisso, Jr.
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
Maximum Sound level in 6th (1B) gear	78.0	78.0
At no load in 8th (2B) gear	74.0	74.0
Bystander in 18th (6C) gear	--	85.0

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 18.4R38; **,12(83)
 Two 14.9R28; **,12(83)
 16.7 in (425 mm)
 7200 lb (3266 kg)
 4725 lb (2143 kg)
 11925 lb (5409 kg)

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)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power 8th(2B) Gear									
69.9 (52.1)	6610 (29.4)	3.97 (6.39)	2201	6.7	0.593 (0.361)	11.78 (2.32)	185 (85)	66 (19)	29.9 (101.2)
75% of Pull at Maximum Power 8th(2B) Gear									
57.0 (42.5)	5140 (22.9)	4.16 (6.69)	2249	4.4	0.609 (0.371)	11.46 (2.26)	183 (84)	66 (19)	29.9 (101.2)
50% of Pull at Maximum Power 8th(2B) Gear									
39.8 (29.7)	3450 (15.3)	4.32 (6.96)	2303	2.9	0.724 (0.440)	9.65 (1.90)	183 (84)	66 (19)	29.9 (101.2)
75% of Pull at Reduced Engine Speed 9th(3B) Gear									
56.9 (42.4)	5140 (22.9)	4.15 (6.68)	1870	4.4	0.531 (0.323)	13.15 (2.59)	183 (84)	64 (18)	29.9 (101.2)
50% of Pull at Reduced Engine Speed 9th(3B) Gear									
39.7 (29.6)	3450 (15.3)	4.32 (6.95)	1915	2.8	0.604 (0.368)	11.56 (2.28)	181 (83)	66 (19)	29.9 (101.2)
MAXIMUM POWER IN SELECTED GEARS									
1st(1A) Gear									
28.5 (21.2)	8005 (35.6)	1.34 (2.15)	2308	15.0	0.930 (0.567)	7.51 (1.48)	183 (84)	68 (20)	29.9 (101.3)
2nd(2A) Gear									
34.6 (25.8)	7800 (34.7)	1.66 (2.67)	2299	13.3	0.791 (0.481)	8.83 (1.74)	183 (84)	70 (21)	29.9 (101.3)
3rd(3A) Gear									
40.9 (30.5)	7725 (34.4)	1.99 (3.20)	2285	12.9	0.735 (0.447)	9.50 (1.87)	183 (84)	68 (20)	29.9 (101.3)
4th(4A) Gear									
48.4 (36.1)	7665 (34.1)	2.37 (3.81)	2261	12.8	0.700 (0.426)	9.97 (1.97)	183 (84)	66 (19)	29.9 (101.3)
5th(5A) Gear									
56.7 (42.3)	7465 (33.2)	2.85 (4.59)	2231	11.6	0.652 (0.397)	10.71 (2.11)	183 (84)	66 (19)	29.9 (101.3)
6th(1B) Gear									
63.0 (47.0)	7390 (32.9)	3.20 (5.15)	2223	10.4	0.606 (0.368)	11.53 (2.27)	183 (84)	66 (19)	29.9 (101.3)
7th(6A) Gear									
65.7 (49.0)	7255 (32.3)	3.40 (5.47)	2172	9.9	0.623 (0.379)	11.22 (2.21)	185 (85)	66 (19)	29.9 (101.3)
8th(2B) Gear									
72.8 (54.3)	7260 (32.3)	3.76 (6.05)	2146	9.5	0.551 (0.335)	12.69 (2.50)	183 (84)	66 (19)	29.9 (101.3)
9th(3B) Gear									
78.6 (58.6)	7185 (32.0)	4.10 (6.61)	1913	7.5	0.515 (0.313)	13.55 (2.67)	185 (85)	64 (18)	29.9 (101.3)
10th(4B) Gear									
78.3 (58.4)	5800 (25.8)	5.06 (8.14)	1901	4.6	0.514 (0.313)	13.59 (2.68)	185 (85)	63 (17)	29.9 (101.3)
11th(5B) Gear									
78.4 (58.4)	4780 (21.3)	6.15 (9.90)	1902	3.7	0.513 (0.312)	13.60 (2.68)	185 (85)	63 (17)	29.9 (101.3)
12th(6B) Gear									
77.5 (57.8)	3885 (17.3)	7.48 (12.03)	1909	3.0	0.519 (0.316)	13.45 (2.65)	187 (86)	63 (17)	29.9 (101.3)
13th(1C) Gear									
80.6 (60.1)	3595 (16.0)	8.41 (13.54)	1898	2.7	0.500 (0.304)	13.96 (2.75)	187 (86)	63 (17)	29.9 (101.3)
14th(2C) Gear									
77.9 (58.1)	2890 (12.9)	10.10 (16.26)	1897	2.4	0.510 (0.310)	13.71 (2.70)	187 (86)	63 (17)	29.9 (101.3)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range: 5845 lbs (26.0 kN)
 7215 lbs (32.1 kN)(with lift assist cylinder)

i) Opening pressure of relief valve:	NA	
Sustained pressure of the open relief valve:	2990 psi	(206 bar)
ii) Pump delivery rate at minimum pressure:	31.3 GPM	(118.3 l/min)
iii) Pump delivery rate at maximum		
hydraulic power:	27.5 GPM	(104.1 l/min)
Delivery pressure:	2540 psi	(175 bar)
Power:	40.7 HP	(30.4 kW)

SAE Static Test System pressure 2440 psi (168 Bar)

Hitch point distance to ground level in. (mm)	7.9(200)	14.6(370)	22.4(570)	30.3(770)	36.4(925)
Lift force on frame lb	9915	9670	9395	8605	7840
" " " " " " (kN)	(44.1)	(43.0)	(41.8)	(38.3)	(34.9)

SAE Static Test System pressure 2440 psi (168 Bar)
 (With (1) lift assist cylinder)

Hitch point distance to ground level in. (mm)	8.0(203)	14.6(370)	22.4(570)	30.3(770)	37.0(940)
Lift force on frame lb	12815	12745	12860	12430	11575
" " " " " " (kN)	(57.0)	(56.7)	(57.2)	(55.3)	(51.5)

ASAE Static Test System pressure 2715 psi (187 Bar)

Hitch point distance to ground level in. (mm)	7.9(200)	14.6(370)	22.4(570)	30.3(770)	36.4(925)
Lift force on frame lb	11040	10770	10455	9575	8725
" " " " " " (kN)	(49.1)	(47.9)	(46.5)	(42.6)	(38.8)

ASAE Static Test System pressure 2715 psi (187 Bar)
 (with (1) lift assist cylinder)

Hitch point distance to ground level in. (mm)	8.0(203)	14.6(370)	22.4(570)	30.3(770)	37.0(940)
Lift force on frame lb	14250	14185	14320	13825	12880
" " " " " " (kN)	(63.4)	(63.1)	(63.7)	(61.5)	(57.3)

HITCH DIMENSIONS AS TESTED NO LOAD

	OECD test		SAE test	
	inch	mm	inch	mm
A	29.7	754	30.2	768
B	9.1	230	9.1	230
C	15.6	395	15.6	395
D	14.3	363	14.3	363
E	8.2	208	10.8	275
F	9.8	250	9.8	250
G	32.3	820	32.3	820
H	0.7	17	0.7	17
I	17.9	455	16.9	430
J	22.5	570	22.5	570
K	17.1	435	19.8	504
L	47.0	1194	47.0	1194
M	23.3	592	23.3	592
N	38.3	974	38.3	974
O	7.7	196	7.9	200
P	46.5	1180	41.5	1053
Q	35.8	910	33.5	850
R	29.1	740	30.7	780

