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Test 2087: New Holland TM130 Diesel

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SUMMARY OF OECD TEST 2087-NEBRASKA SUMMARY 430

NEW HOLLAND TM130 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)					
113.3 (84.5)	2200	7.22 (27.33)	0.448 (0.272)	15.68 (3.09)	
Standard Power Take-off Speed (1000 rpm)					
112.8 (84.1)	2121	7.02 (26.59)	0.437 (0.266)	16.04 (3.16)	

VARYING POWER AND FUEL CONSUMPTION

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Conditions
113.3 (84.5)	2200	7.22 (27.33)	0.448 (0.272)	15.68 (3.09)	Air temperature
102.7 (76.6)	2347	7.09 (26.85)	0.485 (0.295)	14.47 (2.85)	70°F (21°C)
77.1 (57.5)	2353	5.93 (22.46)	0.540 (0.329)	12.99 (2.56)	Relative humidity
51.5 (38.4)	2358	4.65 (17.60)	0.635 (0.386)	11.07 (2.18)	24%
25.9 (19.3)	2360	3.39 (12.83)	0.921 (0.560)	7.62 (1.50)	Barometer
--	2384	2.33 (8.83)	--	--	30.0" Hg (101.7 kPa)

Maximum Torque - 348.0 lb.-ft. (471.9 Nm) at 1400 rpm
 Maximum Torque Rise - 28.7%
 Torque rise at 1800 engine rpm - 18%

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									
95.1 (70.9)	8725 (38.8)	4.09 (6.58)	2202	6.0	0.532 (0.323)	13.21 (2.60)	198 (92)	46 (8)	29.9 (101.1)
75% of Pull at Maximum Power—8th (2B) Gear									
77.2 (57.6)	6535 (29.1)	4.43 (7.14)	2350	4.5	0.587 (0.357)	11.97 (2.36)	198 (92)	50 (10)	29.9 (101.1)
50% of Pull at Maximum Power—8th (2B) Gear									
52.4 (39.1)	4360 (19.4)	4.51 (7.25)	2352	3.2	0.732 (0.445)	9.59 (1.89)	198 (92)	50 (10)	29.9 (101.1)
75% of Pull at Reduced Engine Speed—9th (3B) Gear									
77.1 (57.5)	6530 (29.1)	4.43 (7.13)	1952	4.5	0.520 (0.317)	13.49 (2.66)	194 (90)	50 (10)	29.8 (101.0)
50% of Pull at Reduced Engine Speed—9th (3B) Gear									
52.3 (39.0)	4360 (19.4)	4.50 (7.24)	1955	3.1	0.528 (0.321)	13.30 (2.62)	190 (88)	50 (10)	29.8 (101.0)

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

Dates of Test: December 2002 to March 2003.

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) 0.843 Fuel weight 7.02 lbs/gal (0.8413 kg/l) Oil SAE 10W30 API service classification CG-4 Transmission and hydraulic lubricant New Holland 134D fluid Front axle lubricant New Holland 134D fluid

ENGINE: Make CNH Diesel Type six cylinder vertical with turbocharger and air to air intercooler Serial No. 959511 Crankshaft lengthwise Rated engine speed 2200 Bore and stroke 4.40" x 5.00" (111.8 mm x 127.0 mm) Compression ratio 17.0 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 one paper element Muffler underhood Exhaust vertical Cooling medium temperature control thermostat and variable speed fan

CHASSIS: Type front wheel assist Serial No. 170149B Tread width rear 60.2" (1530 mm) to 87.8" (2230 mm) front 61.4" (1560 mm) to 89.0" (2260 mm) Wheelbase 107.2" (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 3.85 (6.19) 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 (19.50) fifteenth 14.56 (23.43) sixteenth 17.50 (28.17) 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 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 11915 lb (5405 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 Consumption lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. ^o F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
1st(1A) Gear									
47.7 (35.6)	12550 (55.8)	1.43 (2.29)	2352	14.4	0.770 (0.469)	9.11 (1.80)	194 (90)	52 (11)	29.9 (101.1)
2nd(2A) Gear									
56.9 (42.4)	12385 (55.1)	1.72 (2.77)	2350	14.0	0.706 (0.430)	9.94 (1.96)	198 (92)	52 (11)	29.9 (101.1)
3rd(3A) Gear									
69.2 (51.6)	12320 (54.8)	2.11 (3.39)	2351	12.4	0.629 (0.383)	11.16 (2.20)	196 (91)	52 (11)	29.9 (101.1)
4th(4A) Gear									
81.7 (60.9)	12095 (53.8)	2.53 (4.08)	2327	11.5	0.617 (0.375)	11.38 (2.24)	190 (88)	50 (10)	29.8 (101.0)
5th(5A) Gear									
90.5 (67.5)	11445 (50.9)	2.97 (4.77)	2211	9.4	0.553 (0.337)	12.69 (2.50)	198 (92)	50 (10)	29.8 (101.0)
6th(1B) Gear									
92.7 (69.1)	10455 (46.5)	3.32 (5.35)	2200	8.0	0.542 (0.329)	12.96 (2.55)	194 (90)	50 (10)	29.9 (101.1)
7th(6A) Gear									
92.4 (68.9)	9510 (42.3)	3.64 (5.86)	2199	7.0	0.545 (0.331)	12.89 (2.54)	198 (92)	50 (10)	29.9 (101.1)
8th(2B) Gear									
95.1 (70.9)	8725 (38.8)	4.09 (6.58)	2202	6.0	0.532 (0.323)	13.21 (2.60)	198 (92)	46 (8)	29.9 (101.1)
9th(3B) Gear									
94.7 (70.6)	7170 (31.9)	4.95 (7.97)	2192	4.8	0.537 (0.327)	13.08 (2.58)	199 (93)	46 (8)	29.9 (101.1)
10th(4B) Gear									
93.7 (69.9)	5825 (25.9)	6.03 (9.70)	2200	4.0	0.542 (0.330)	12.94 (2.55)	199 (93)	46 (8)	29.9 (101.1)
11th(5B) Gear									
92.4 (68.9)	4735 (21.1)	7.32 (11.77)	2203	3.3	0.549 (0.334)	12.79 (2.52)	199 (93)	46 (8)	29.9 (101.1)
12th(6B) Gear									
89.6 (66.8)	3805 (16.9)	8.83 (14.21)	2200	2.7	0.567 (0.345)	12.39 (2.44)	199 (93)	46 (8)	29.9 (101.1)
13th(1C) Gear									
93.1 (69.4)	3505 (15.6)	9.96 (16.04)	2196	2.7	0.545 (0.331)	12.89 (2.54)	198 (92)	50 (10)	29.9 (101.1)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load in 8th (2B) gear	75.0	76.0
Bystander	--	--

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; **,14 (95)

Two 14.9R28; **,14 (95)

20.1 in (510 mm)

7335 lb (3327 kg)

4745 lb (2153 kg)

12080 lb (5480 kg)

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 34% torque rise. The standard capacity 3 point lift claim of 9755 lbs (4425 kg) was not tested for verification. 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. **2087** Nebraska Summary 430, September 17, 2004.

Leonard L. Bashford
Director

M.F. Kocher
V.I. Adamchuk
W.P. Campbell
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 (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—8th (2B) Gear									
91.9 (68.5)	8745 (38.9)	3.94 (6.34)	2198	8.3	0.547 (0.333)	12.85 (2.53)	201 (94)	55 (13)	29.9 (101.2)
75% of Pull at Maximum Power—8th (2B) Gear									
76.0 (56.7)	6565 (29.2)	4.34 (6.99)	2351	5.4	0.601 (0.365)	11.68 (2.30)	199 (93)	55 (13)	29.9 (101.1)
50% of Pull at Maximum Power—8th (2B) Gear									
51.7 (38.5)	4375 (19.5)	4.43 (7.13)	2351	3.6	0.721 (0.439)	9.73 (1.92)	197 (92)	55 (13)	29.9 (101.1)
75% of Pull at Reduced Engine Speed—9th (3B) Gear									
76.2 (56.8)	6565 (29.2)	4.35 (7.00)	1959	5.4	0.507 (0.309)	13.84 (2.73)	197 (92)	57 (14)	29.9 (101.1)
50% of Pull at Reduced Engine Speed—9th (3B) Gear									
51.9 (38.7)	4385 (19.5)	4.44 (7.14)	1961	3.6	0.593 (0.360)	11.85 (2.33)	196 (91)	57 (14)	29.9 (101.1)
MAXIMUM POWER IN SELECTED GEARS									
1st(1A) Gear									
36.6 (27.3)	9780 (43.5)	1.40 (2.26)	2356	14.8	0.872 (0.530)	8.05 (1.59)	196 (91)	57 (14)	29.9 (101.1)
2nd(2A) Gear									
43.7 (32.6)	9645 (42.9)	1.70 (2.74)	2353	14.0	0.806 (0.490)	8.72 (1.72)	198 (92)	57 (14)	29.9 (101.1)
3rd(3A) Gear									
52.7 (39.3)	9445 (42.0)	2.09 (3.36)	2349	12.0	0.736 (0.448)	9.54 (1.88)	198 (92)	57 (14)	29.9 (101.1)
4th(4A) Gear									
63.7 (47.5)	9395 (41.8)	2.54 (4.09)	2349	10.9	0.666 (0.405)	10.55 (2.08)	198 (92)	57 (14)	29.9 (101.1)
5th(5A) Gear									
76.2 (56.8)	9330 (41.5)	3.06 (4.92)	2346	10.7	0.612 (0.372)	11.47 (2.26)	199 (93)	57 (14)	29.9 (101.1)
6th(1B) Gear									
83.4 (62.2)	9215 (41.0)	3.39 (5.46)	2335	10.6	0.587 (0.357)	11.97 (2.36)	207 (97)	57 (14)	29.9 (101.1)
7th(6A) Gear									
88.0 (65.6)	9085 (40.4)	3.63 (5.85)	2286	9.6	0.530 (0.323)	13.24 (2.61)	203 (95)	57 (14)	29.9 (101.1)
8th(2B) Gear									
91.9 (68.5)	8745 (38.9)	3.94 (6.34)	2198	8.3	0.547 (0.333)	12.85 (2.53)	201 (94)	55 (13)	29.9 (101.2)
9th(3B) Gear									
92.5 (69.0)	7125 (31.7)	4.87 (7.83)	2205	5.9	0.546 (0.332)	12.85 (2.53)	201 (94)	55 (13)	29.9 (101.1)
10th(4B) Gear									
91.9 (68.5)	5825 (25.9)	5.92 (9.52)	2197	4.7	0.549 (0.334)	12.79 (2.52)	199 (93)	55 (13)	29.9 (101.1)
11th(5B) Gear									
91.1 (67.9)	4755 (21.2)	7.18 (11.55)	2200	3.8	0.551 (0.335)	12.74 (2.51)	199 (93)	55 (13)	29.9 (101.1)
12th(6B) Gear									
88.5 (66.0)	3825 (17.0)	8.68 (13.96)	2195	3.2	0.569 (0.346)	12.33 (2.43)	201 (94)	55 (13)	29.9 (101.1)
13th(1C) Gear									
92.0 (68.6)	3510 (15.6)	9.83 (15.81)	2198	3.0	0.560 (0.341)	12.54 (2.47)	199 (93)	53 (12)	29.9 (101.1)

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum Force Exerted

Through Whole Range: 7510 lbs (33.4 kN) (with boost cylinder)

- i) Opening pressure of relief valve: NA
- Sustained pressure of the open relief valve: 3020 psi (208 bar)
- ii) Pump delivery rate at minimum pressure: 32.1 GPM (119.5 l/min)
- iii) Pump delivery rate at maximum
 - hydraulic power: 28.3 GPM (107.1 l/min)
 - Delivery pressure: 2540 psi (175 bar)
 - Power: 41.9 HP (31.2 kW)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi.(bar)	3020(208)
Location:	lift cylinder
Hydraulic oil temperature: °F (°C)	150(65)
Location:	hydraulic sump
Category:	II
Quick attach:	none

SAE Static Test—System pressure 2610 psi (180 Bar) (with boost cylinder)

Hitch point distance to ground level in.(mm)	8.0(203)	15.7(400)	22.4(570)	29.7(755)	37.8(960)
Lift force on frame lb	13735	14025	14140	13690	12230
" " " " " " (kN)	(61.1)	(62.4)	(62.9)	(60.9)	(54.4)

HITCH DIMENSIONS AS TESTED—NO LOAD

	OECD test		SAE test	
	inch	mm	inch	mm
A	29.7	754	29.9	760
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	7.6	194	8.0	203
P	46.5	1180	41.5	1053
Q	36.2	920	33.8	858
R	29.3	743	31.0	787

