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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					
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)*	Hp.hr/gal *(kW.h/l)*	Temp.°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)	Front Wheel Drive Engaged dB(A)
At no load in 8th (2B) gear	75.0	76.0
Bystander	--	--

TIRES AND WEIGHT	Tested Without Ballast
Rear tires - No.,size, ply & psi*(kPa)*	Two 18.4R38; **;14 *(95)*
Front tires - No.,size, ply & psi*(kPa)*	Two 14.9R28; **;14 *(95)*
Height of Drawbar	20.1 in *(510 mm)*
Static Weight with operator- Rear	7335 lb *(3327 kg)*
- Front	4745 lb *(2153 kg)*
- Total	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	8745	3.94	2198	8.3	0.547	12.85	201	55	29.9
(68.5)	*(38.9)*	*(6.34)*			*(0.333)*	*(2.53)*	*(94)*	*(13)*	*(101.2)*
75% of Pull at Maximum Power—8th (2B) Gear									
76.0	6565	4.34	2351	5.4	0.601	11.68	199	55	29.9
(56.7)	*(29.2)*	*(6.99)*			*(0.365)*	*(2.30)*	*(93)*	*(13)*	*(101.1)*
50% of Pull at Maximum Power—8th (2B) Gear									
51.7	4375	4.43	2351	3.6	0.721	9.73	197	55	29.9
(38.5)	*(19.5)*	*(7.13)*			*(0.439)*	*(1.92)*	*(92)*	*(13)*	*(101.1)*
75% of Pull at Reduced Engine Speed—9th (3B) Gear									
76.2	6565	4.35	1959	5.4	0.507	13.84	197	57	29.9
(56.8)	*(29.2)*	*(7.00)*			*(0.309)*	*(2.73)*	*(92)*	*(14)*	*(101.1)*
50% of Pull at Reduced Engine Speed—9th (3B) Gear									
51.9	4385	4.44	1961	3.6	0.593	11.85	196	57	29.9
(38.7)	*(19.5)*	*(7.14)*			*(0.360)*	*(2.33)*	*(91)*	*(14)*	*(101.1)*
MAXIMUM POWER IN SELECTED GEARS									
1st(1A) Gear									
36.6	9780	1.40	2356	14.8	0.872	8.05	196	57	29.9
(27.3)	*(43.5)*	*(2.26)*			*(0.530)*	*(1.59)*	*(91)*	*(14)*	*(101.1)*
2nd(2A) Gear									
43.7	9645	1.70	2353	14.0	0.806	8.72	198	57	29.9
(32.6)	*(42.9)*	*(2.74)*			*(0.490)*	*(1.72)*	*(92)*	*(14)*	*(101.1)*
3rd(3A) Gear									
52.7	9445	2.09	2349	12.0	0.736	9.54	198	57	29.9
(39.3)	*(42.0)*	*(3.36)*			*(0.448)*	*(1.88)*	*(92)*	*(14)*	*(101.1)*
4th(4A) Gear									
63.7	9395	2.54	2349	10.9	0.666	10.55	198	57	29.9
(47.5)	*(41.8)*	*(4.09)*			*(0.405)*	*(2.08)*	*(92)*	*(14)*	*(101.1)*
5th(5A) Gear									
76.2	9330	3.06	2346	10.7	0.612	11.47	199	57	29.9
(56.8)	*(41.5)*	*(4.92)*			*(0.372)*	*(2.26)*	*(93)*	*(14)*	*(101.1)*
6th(1B) Gear									
83.4	9215	3.39	2335	10.6	0.587	11.97	207	57	29.9
(62.2)	*(41.0)*	*(5.46)*			*(0.357)*	*(2.36)*	*(97)*	*(14)*	*(101.1)*
7th(6A) Gear									
88.0	9085	3.63	2286	9.6	0.530	13.24	203	57	29.9
(65.6)	*(40.4)*	*(5.85)*			*(0.323)*	*(2.61)*	*(95)*	*(14)*	*(101.1)*
8th(2B) Gear									
91.9	8745	3.94	2198	8.3	0.547	12.85	201	55	29.9
(68.5)	*(38.9)*	*(6.34)*			*(0.333)*	*(2.53)*	*(94)*	*(13)*	*(101.2)*
9th(3B) Gear									
92.5	7125	4.87	2205	5.9	0.546	12.85	201	55	29.9
(69.0)	*(31.7)*	*(7.83)*			*(0.332)*	*(2.53)*	*(94)*	*(13)*	*(101.1)*
10th(4B) Gear									
91.9	5825	5.92	2197	4.7	0.549	12.79	199	55	29.9
(68.5)	*(25.9)*	*(9.52)*			*(0.334)*	*(2.52)*	*(93)*	*(13)*	*(101.1)*
11th(5B) Gear									
91.1	4755	7.18	2200	3.8	0.551	12.74	199	55	29.9
(67.9)	*(21.2)*	*(11.55)*			*(0.335)*	*(2.51)*	*(93)*	*(13)*	*(101.1)*
12th(6B) Gear									
88.5	3825	8.68	2195	3.2	0.569	12.33	201	55	29.9
(66.0)	*(17.0)*	*(13.96)*			*(0.346)*	*(2.43)*	*(94)*	*(13)*	*(101.1)*
13th(1C) Gear									
92.0	3510	9.83	2198	3.0	0.560	12.54	199	53	29.9
(68.6)	*(15.6)*	*(15.81)*			*(0.341)*	*(2.47)*	*(93)*	*(12)*	*(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

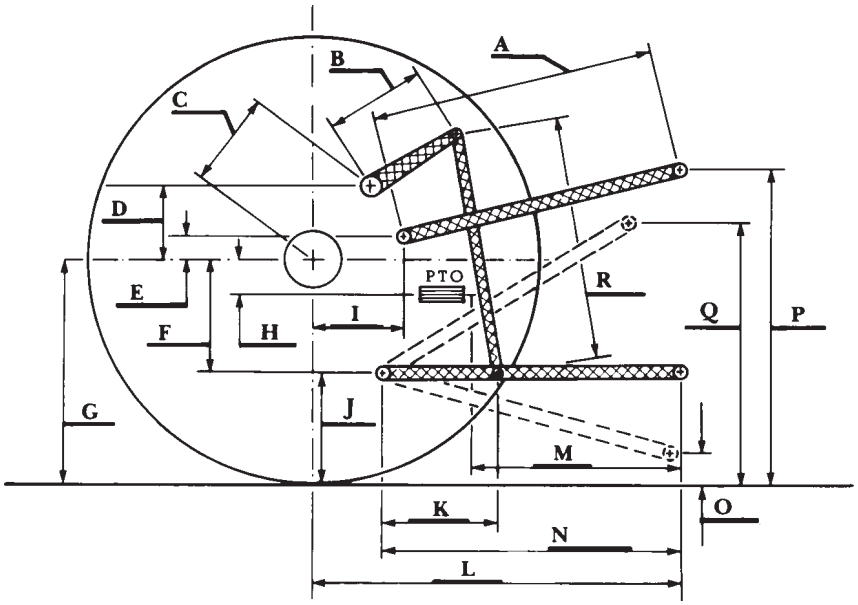
Observed Maximum Pressure psi. *(bar)*	3020 *(208)*
Location:	lift cylinder
Hydraulic oil temperature: °F *(°C)*	150 *(65)*
Location:	hydraulic sump
Category:	II
Quick attach:	none

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*



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