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2003

Nebraska Summary: S436 New Holland TM175

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SUMMARY OF OECD TEST 2142–NEBRASKA SUMMARY 436
NEW HOLLAND TM175 DIESEL
19 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—1021 rpm)					
151.3 *(112.8)*	2200	9.49 *(35.93)*	0.441 *(0.268)*	15.94 *(3.14)*	
Standard Power Take-off Speed (1000 rpm)					
154.2 *(115.0)*	2154	9.44 *(35.73)*	0.429 *(0.261)*	16.34 *(3.22)*	
Maximum Power (2 hours)					
160.8 *(119.9)*	1799	9.03 *(34.18)*	0.394 *(0.240)*	17.81 *(3.51)*	
VARYING POWER AND FUEL CONSUMPTION					
151.3 *(112.8)*	2200	9.49 *(35.93)*	0.441 *(0.268)*	15.94 *(3.14)*	Air temperature
132.6 *(98.9)*	2270	8.55 *(32.38)*	0.452 *(0.275)*	15.53 *(3.06)*	77°F *(25°C)*
100.6 *(75.0)*	2294	6.97 *(26.39)*	0.487 *(0.296)*	14.42 *(2.84)*	Relative humidity
67.7 *(50.5)*	2317	5.47 *(20.70)*	0.567 *(0.345)*	12.38 *(2.44)*	38%
34.2 *(25.5)*	2339	3.94 *(14.92)*	0.809 *(0.492)*	8.68 *(1.71)*	Barometer
-- --	2361	1.99 *(7.52)*	-- --	-- --	30.3" Hg *(102.5 kPa)*

Maximum Torque - 512.1 lb.-ft. *(694.3 Nm)* at 1500 rpm
Maximum Torque Rise - 41.8%
Torque rise at 1799 engine rpm - 30%

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—9th Gear									
123.6 *(92.2)*	9600 *(42.7)*	4.83 *(7.77)*	2202	4.4	0.539 *(0.328)*	13.03 *(2.57)*	199 *(93)*	46 *(8)*	30.4 *(102.9)*
75% of Pull at Maximum Power—9th Gear									
96.8 *(72.2)*	7195 *(32.0)*	5.05 *(8.12)*	2278	3.4	0.609 *(0.371)*	11.52 *(2.27)*	201 *(94)*	46 *(8)*	30.4 *(102.9)*
50% of Pull at Maximum Power—9th Gear									
66.1 *(49.3)*	4810 *(21.4)*	5.15 *(8.28)*	2301	2.4	0.688 *(0.418)*	10.21 *(2.01)*	205 *(96)*	46 *(8)*	30.4 *(102.9)*
75% of Pull at Reduced Engine Speed—10th Gear									
97.2 *(72.5)*	7200 *(32.0)*	5.06 *(8.15)*	1901	3.4	0.501 *(0.305)*	14.01 *(2.76)*	201 *(94)*	48 *(9)*	30.3 *(102.6)*
50% of Pull at Reduced Engine Speed—10th Gear									
66.4 *(49.5)*	4815 *(21.4)*	5.17 *(8.32)*	1921	2.5	0.582 *(0.354)*	12.07 *(2.38)*	203 *(95)*	48 *(9)*	30.3 *(102.6)*

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

Dates of Test: September 2003 to April 2004.

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.** 926099 **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.** 170920B **Tread width** rear 60.2" *(1530 mm)* to 87.8" *(2230 mm)* front 61.4" *(1560 mm)* to 89.0" *(2260 mm)* **Wheelbase** 110.9" (*2818 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with full range operator controlled powershift **Nominal travel speeds mph *(km/h)*** first 1.18 *(1.90)* second 1.42 *(2.28)* third 1.70 *(2.74)* fourth 2.04 *(3.29)* fifth 2.46 *(3.96)* sixth 2.96 *(4.76)* seventh 3.42 *(5.50)* eighth 4.11 *(6.62)* ninth 4.94 *(7.95)* tenth 5.94 *(9.56)* eleventh 7.14 *(11.49)* twelfth 8.59 *(13.82)* thirteenth 9.86 (*15.87)* fourteenth 11.87 *(19.10)* fifteenth 14.26 *(22.95)* sixteenth 17.15 *(27.60)* seventeenth 20.62 *(33.19)* eighteenth 24.80 *(39.91)* nineteenth 28.45 *(45.80)* reverse 2.61 *(4.20)*, 3.14 *(5.05)*, 3.77 *(6.06)*, 4.53 *(7.29)*, 5.45 *(8.77)*, 6.55 *(10.54)* **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** 1000 rpm at 2154 engine rpm **Unladen tractor mass** 15795 lb *(7165 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 Gear				
48.1 *(35.9)*	16455 *(73.2)*	1.10 *(1.77)*	2316	13.4	0.779 *(0.474)*	9.00 *(1.77)*	194 *(90)*	46 *(8)*	30.4 *(103.0)*
					2nd Gear				
57.8 *(43.1)*	16435 *(73.1)*	1.32 *(2.12)*	2309	13.2	0.717 *(0.436)*	9.80 *(1.93)*	194 *(90)*	50 *(10)*	30.4 *(102.9)*
					3rd Gear				
68.3 *(50.9)*	16165 *(71.9)*	1.58 *(2.55)*	2299	12.7	0.686 *(0.417)*	10.24 *(2.02)*	203 *(95)*	50 *(10)*	30.3 *(102.7)*
					4th Gear				
82.6 *(61.6)*	16120 *(71.7)*	1.92 *(3.09)*	2289	11.5	0.621 *(0.378)*	11.31 *(2.23)*	203 *(95)*	48 *(9)*	30.4 *(102.9)*
					5th Gear				
98.0 *(73.1)*	15895 *(70.7)*	2.31 *(3.72)*	2273	11.0	0.598 *(0.364)*	11.73 *(2.31)*	203 *(95)*	50 *(10)*	30.3 *(102.7)*
					6th Gear				
112.9 *(84.2)*	15625 *(69.5)*	2.71 *(4.36)*	2201	10.3	0.572 *(0.348)*	12.28 *(2.42)*	203 *(95)*	48 *(9)*	30.3 *(102.7)*
					7th Gear				
126.7 *(94.5)*	15105 *(67.2)*	3.15 *(5.06)*	2172	8.8	0.526 *(0.320)*	13.35 *(2.63)*	205 *(96)*	48 *(9)*	30.3 *(102.7)*
					8th Gear				
132.5 *(98.8)*	14050 *(62.5)*	3.54 *(5.69)*	1990	6.9	0.485 *(0.295)*	14.47 *(2.85)*	205 *(96)*	48 *(9)*	30.4 *(102.9)*
					9th Gear				
138.1 *(103.0)*	13330 *(59.3)*	3.89 *(6.25)*	1807	6.3	0.450 *(0.274)*	15.58 *(3.07)*	201 *(94)*	48 *(9)*	30.3 *(102.7)*
					10th Gear				
135.6 *(101.1)*	10655 *(47.4)*	4.77 *(7.68)*	1805	4.2	0.458 *(0.279)*	15.33 *(3.02)*	205 *(96)*	45 *(7)*	30.4 *(102.9)*
					11th Gear				
139.1 *(103.7)*	9110 *(40.5)*	5.73 *(9.21)*	1800	4.1	0.465 *(0.283)*	15.08 *(2.97)*	203 *(95)*	48 *(9)*	30.3 *(102.7)*
					12th Gear				
133.4 *(99.5)*	7240 *(32.2)*	6.91 *(11.12)*	1792	3.4	0.465 *(0.283)*	15.07 *(2.97)*	198 *(92)*	48 *(9)*	30.3 *(102.7)*
					13th Gear				
137.7 *(102.7)*	6420 *(28.6)*	8.05 *(12.95)*	1812	3.1	0.467 *(0.284)*	15.02 *(2.96)*	205 *(96)*	48 *(9)*	30.3 *(102.7)*

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive Disengaged dB(A)	Engaged dB(A)
At no load in 9th gear	76.0	76.0
Bystander	--	--

TIRES AND WEIGHT	Tested Without Ballast
Rear tires - No.,size, ply & psi*(kPa)*	Two 650/65R42; **;12 *(85)*
Front tires - No.,size, ply & psi*(kPa)*	Two 540/65R30; **;12 *(85)*
Height of Drawbar	18.7 in *(475 mm)*
Static Weight with operator- Rear	10210 lb *(4632 kg)*
- Front	5750 lb *(2608 kg)*
- Total	15960 lb *(7240 kg)*

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: The test results on this Summary were obtained from tests carried out on the Case IH MXM 175 Diesel.

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 31.7 gpm *(120 lpm)* remote hydraulic flow nor 3 point lift capacity of 17581 lbs *(7975 kg)*. 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. **2142** Nebraska Summary 436, November 29, 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—9th Gear									
125.1 *(93.3)*	9890 *(44.0)*	4.74 *(7.64)*	2200	5.5	0.542 *(0.329)*	12.96 *(2.55)*	199 *(93)*	48 *(9)*	30.4 *(102.9)*
75% of Pull at Maximum Power—9th Gear									
99.0 *(73.8)*	7420 *(33.0)*	5.00 *(8.04)*	2281	4.1	0.556 *(0.338)*	12.64 *(2.49)*	208 *(98)*	48 *(9)*	30.4 *(102.9)*
50% of Pull at Maximum Power—9th Gear									
67.3 *(50.2)*	4945 *(22.0)*	5.10 *(8.22)*	2304	2.9	0.694 *(0.395)*	10.81 *(2.13)*	192 *(89)*	48 *(9)*	30.4 *(102.9)*
75% of Pull at Reduced Engine Speed—10th Gear									
99.0 *(73.8)*	7405 *(32.9)*	5.01 *(8.06)*	1901	4.0	0.519 *(0.316)*	13.53 *(2.67)*	201 *(94)*	48 *(9)*	30.4 *(102.9)*
50% of Pull at Reduced Engine Speed—10th Gear									
67.7 *(50.5)*	4955 *(22.0)*	5.12 *(8.24)*	1921	2.8	0.582 *(0.354)*	12.07 *(2.38)*	203 *(95)*	48 *(9)*	30.4 *(102.9)*

MAXIMUM POWER IN SELECTED GEARS

1st Gear									
38.0 *(28.3)*	12925 *(57.5)*	1.10 *(1.77)*	2327	12.9	0.843 *(0.513)*	8.32 *(1.64)*	199 *(93)*	48 *(9)*	30.4 *(102.9)*
2nd Gear									
45.2 *(33.7)*	12815 *(57.0)*	1.32 *(2.13)*	2321	12.8	0.761 *(0.463)*	9.22 *(1.82)*	194 *(90)*	48 *(9)*	30.4 *(102.9)*
3rd Gear									
53.8 *(40.1)*	12610 *(56.1)*	1.60 *(2.57)*	2312	12.0	0.764 *(0.465)*	9.19 *(1.81)*	194 *(90)*	46 *(8)*	30.4 *(102.9)*
4th Gear									
64.5 *(48.1)*	12455 *(55.4)*	1.94 *(3.13)*	2302	10.6	0.709 *(0.431)*	9.90 *(1.95)*	205 *(96)*	46 *(8)*	30.4 *(102.9)*
5th Gear									
76.7 *(57.2)*	12365 *(55.0)*	2.33 *(3.75)*	2293	10.6	0.632 *(0.385)*	11.09 *(2.19)*	198 *(92)*	46 *(8)*	30.4 *(102.9)*
6th Gear									
91.9 *(68.5)*	12320 *(54.8)*	2.80 *(4.50)*	2278	10.3	0.609 *(0.371)*	11.52 *(2.27)*	208 *(98)*	46 *(8)*	30.4 *(102.9)*
7th Gear									
105.8 *(78.9)*	12250 *(54.5)*	3.24 *(5.22)*	2272	9.6	0.538 *(0.327)*	13.05 *(2.57)*	203 *(95)*	48 *(9)*	30.4 *(102.9)*
8th Gear									
122.3 *(91.2)*	12095 *(53.8)*	3.79 *(6.10)*	2198	9.2	0.524 *(0.319)*	13.40 *(2.64)*	207 *(97)*	48 *(9)*	30.4 *(102.9)*
9th Gear									
137.3 *(102.4)*	11760 *(52.3)*	4.38 *(7.05)*	2077	7.6	0.497 *(0.302)*	14.12 *(2.78)*	203 *(95)*	48 *(9)*	30.4 *(102.9)*
10th Gear									
138.5 *(103.3)*	10385 *(46.2)*	5.00 *(8.05)*	1936	5.8	0.467 *(0.284)*	15.02 *(2.96)*	207 *(97)*	49 *(9)*	30.4 *(102.9)*
11th Gear									
139.2 *(103.8)*	9170 *(40.8)*	5.69 *(9.15)*	1815	5.0	0.470 *(0.286)*	14.92 *(2.94)*	203 *(95)*	48 *(9)*	30.4 *(102.9)*
12th Gear									
135.2 *(100.8)*	7350 *(32.7)*	6.90 *(11.10)*	1809	4.0	0.477 *(0.290)*	14.72 *(2.90)*	205 *(96)*	48 *(9)*	30.4 *(102.9)*
13th Gear									
138.1 *(103.0)*	6540 *(29.1)*	7.92 *(12.74)*	1800	3.5	0.466 *(0.283)*	15.08 *(2.97)*	201 *(94)*	46 *(8)*	30.4 *(102.9)*

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 (16th 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 overide 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—1021 rpm)					
186.3 *(138.9)*	2198	11.14 *(42.19)*	0.421 *(0.256)*	16.70 *(3.29)*	
Standard Power Take-off Speed - (1000 rpm)					
190.7 *(142.2)*	2153	11.32 *(42.87)*	0.417 *(0.254)*	16.84 *(3.32)*	
Maximum Power (2 hours)					
195.7 *(145.9)*	1969	11.58 *(43.84)*	0.415 *(0.253)*	16.90 *(3.33)*	
VARYING POWER AND FUEL CONSUMPTION					
186.3 *(138.9)*	2198	11.14 *(42.19)*	0.421 *(0.256)*	16.70 *(3.29)*	Air temperature
161.7 *(120.6)*	2245	10.11 *(38.26)*	0.438 *(0.267)*	15.99 *(3.15)*	75°F *(24°C)*
123.1 *(91.8)*	2281	8.04 *(30.45)*	0.458 *(0.279)*	15.33 *(3.02)*	Relative humidity
83.1 *(62.0)*	2308	6.13 *(23.20)*	0.518 *(0.315)*	13.55 *(2.67)*	35%
42.1 *(31.4)*	2335	4.25 *(16.07)*	0.706 *(0.430)*	9.94 *(1.96)*	Barometer
-- --	2362	2.42 *(9.18)*	-- --	-- --	29.9"Hg *(101.1 kPa)*

Maximum Torque 584.7 lb.-ft. *(792.7 Nm)* at 1600 rpm
Maximum Torque Rise - 31.3%
Torque rise at 1800 rpm - 25%

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II
Quick Attach: No
Maximum Force Exerted Through Whole Range: 11305 lbs *(50.3 kN)*

i) Opening pressure of relief valve:	NA	NA
	one outlet set	**two outlet sets combined**
Sustained pressure at compensator cutoff:	3120 psi *(215 bar)*	3120 psi *(215 bar)*
ii) Pump delivery rate at minimum pressure:	27.7 GPM *(105.0 l/min)*	31.2 GPM *(118.0 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	26.9 GPM *(101.9 l/min)*	27.0 GPM *(102.1 l/min)*
Delivery pressure:	2540 psi *(175 bar)*	2755 psi *(190 bar)*
Power:	39.8 HP *(29.7 kW)*	43.4 HP *(32.3 kW)*

THREE POINT HITCH PERFORMANCE

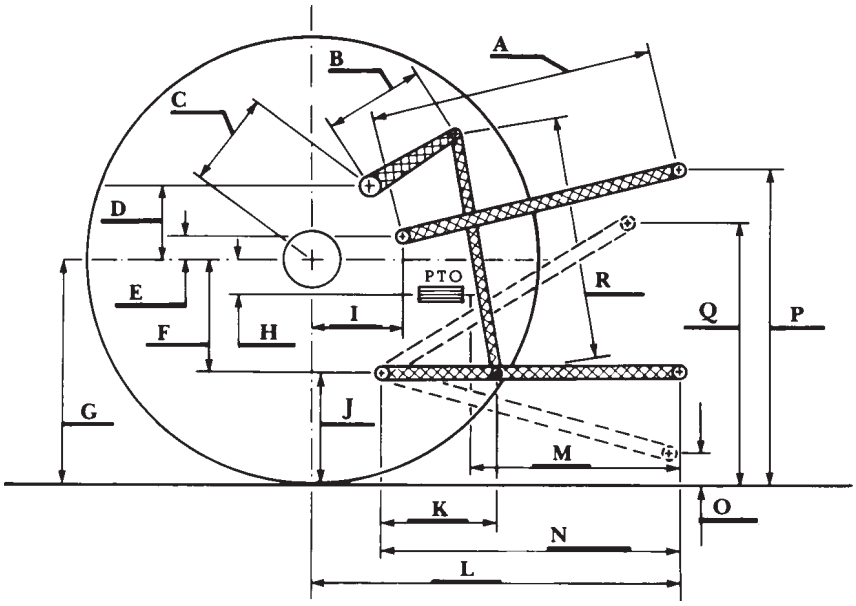
Observed Maximum Pressure psi. *(bar)*	3120 *(215)*
Location:	lift cylinder
Hydraulic oil temperature: °F *(°C)*	150 *(65)*
Location:	hydraulic sump
Category:	II
Quick attach:	none

SAE Static Test—System pressure 2685 psi *(185 Bar)* (two boost cylinders)

Hitch point distance to ground level in. *(mm)*	10.6 *(270)*	18.1 *(460)*	25.0 *(635)*	36.2 *(920)*	42.0 *(1068)*
Lift force on frame lb	18455	18165	17175	14790	13690
" " " " " " " " *(kN)*	*(82.1)*	*(80.8)*	*(76.4)*	*(65.8)*	*(60.9)*

HITCH DIMENSIONS AS TESTED—NO LOAD

	OECD test		SAE test	
	inch	*mm*	inch	*mm*
A	29.1	*740*	31.1	*790*
B	17.7	*450*	17.7	*450*
C	15.1	*383*	15.1	*383*
D	14.6	*372*	14.6	*372*
E	8.5	*217*	10.9	*277*
F	10.6	*270*	10.6	*270*
G	35.6	*905*	35.6	*905*
H	1.2	*30*	1.2	*30*
I	19.7	*500*	17.3	*440*
J	25.0	*635*	25.0	*635*
K	24.1	*612*	26.9	*682*
L	48.2	*1224*	48.2	*1224*
M	23.1	*587*	23.1	*587*
N	38.3	*974*	38.3	*974*
O	7.9	*200*	10.6	*270*
P	49.0	*1245*	45.1	*1145*
Q	38.8	*985*	38.9	*988*
R	38.5	*978*	39.0	*990*



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