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Test 1901: New Holland TG 245 Diesel 19-Speed

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NEBRASKA OECD TRACTOR TEST 1901–SUMMARY 568
NEW HOLLAND TG 245 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—1108 rpm)					
203.26 *(151.57)*	2200	13.23 *(50.09)*	0.456 *(0.278)*	15.36 *(3.03)*	
Standard Power Take-off Speed (1008 rpm)					
245.61 *(183.15)*	2000	14.55 *(55.07)*	0.415 *(0.253)*	16.88 *(3.33)*	
Maximum Power (1 hour)					
245.61 *(183.15)*	2000	14.55 *(55.07)*	0.415 *(0.253)*	16.88 *(3.33)*	
VARYING POWER AND FUEL CONSUMPTION					
203.26 *(151.57)*	2200	13.23 *(50.09)*	0.456 *(0.278)*	15.36 *(3.03)*	Air temperature
175.71 *(131.03)*	2247	12.71 *(48.11)*	0.507 *(0.308)*	13.83 *(2.72)*	80°F *(27°C)*
134.23 *(100.09)*	2283	11.37 *(43.03)*	0.594 *(0.361)*	11.81 *(2.33)*	Relative humidity
91.83 *(68.47)*	2325	8.86 *(33.53)*	0.676 *(0.411)*	10.37 *(2.04)*	20%
46.55 *(34.71)*	2369	6.18 *(23.38)*	0.930 *(0.566)*	7.54 *(1.48)*	Barometer
1.50 *(1.12)*	2402	3.57 *(13.50)*	10.155 *(16.695)*	0.42 *(0.08)*	28.79" Hg *(97.49 kPa)*

Maximum torque - 787 lb.-ft. *(1067 Nm)* at 1500 rpm
Maximum torque rise - 62.1%
Torque rise at 1801 engine rpm - 48%
Power increase at 2000 engine rpm - 20.8%

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)*	Fuel Consumption Hp.hr/gal *(kW.h/l)*	Temp.°F cool-ing med	Temp. *(°C)* Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power—7th Gear									
175.08 *(130.56)*	15179 *(67.52)*	4.33 *(6.96)*	2200	4.34	0.535 *(0.325)*	13.11 *(2.58)*	188 *(87)*	69 *(21)*	28.93 *(97.97)*
75% of Pull at Maximum Power—7th Gear									
136.99 *(102.15)*	11405 *(50.73)*	4.50 *(7.25)*	2259	3.01	0.641 *(0.390)*	10.94 *(2.15)*	188 *(87)*	75 *(24)*	28.92 *(97.93)*
50% of Pull at Maximum Power—7th Gear									
94.74 *(70.65)*	7598 *(33.80)*	4.68 *(7.53)*	2307	1.41	0.746 *(0.454)*	9.40 *(1.85)*	187 *(86)*	75 *(24)*	28.91 *(97.90)*
75% of Pull at Reduced Engine Speed—9th Gear									
136.81 *(102.02)*	11444 *(50.90)*	4.48 *(7.22)*	1697	2.86	0.535 *(0.325)*	13.11 *(2.58)*	186 *(86)*	76 *(24)*	28.91 *(97.90)*
50% of Pull at Reduced Engine Speed—9th Gear									
94.54 *(70.50)*	7613 *(33.87)*	4.66 *(7.49)*	1742	1.67	0.572 *(0.348)*	12.25 *(2.41)*	184 *(84)*	75 *(24)*	28.91 *(97.90)*

Location of tests: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln, Nebraska 68583-0832

Dates of tests: May 2-18, 2007

Manufacturer: CNH America LLC, 700 State St. Racine, Wi. 53404 USA

FUEL, OIL and TIME: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F *(15°/15°C)*** 0.8432 **Fuel weight** 7.011 lbs/gal *(0.840 kg/l)* **Oil SAE** 15W40 **API service classification** CI-4 **Transmission and hydraulic lubricant** New Holland Multi-Tran fluid **Front axle lubricant** SAE 85W-140 API GL-5 **Total time engine was operated:** 24.0 hours

ENGINE: Make CNH Engine Corporation Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** *46699271* **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.488" x 5.315"*(114.0 mm x 135.0 mm)* **Compression ratio** 17.5 to 1 **Displacement** 505 cu in *(8268 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 **Fuel cooler** radiator for pump return fuel **Muffler** vertical **Cooling medium temperature control** 2 thermostats and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 90.1-99.4 lb/h *(40.9 - 45.1 kg/h)* **High idle:** 2380-2420 rpm **Turbo boost:** nominal 19.6 - 23.9 psi *(135 - 165 kPa)* as measured 21.2 psi *(146 kPa)*

CHASSIS: Type front wheel assist **SerialNo.** *Z7RW01447* **Tread width** rear 64.0" *(1626 mm)* to 129.0" *(3277 mm)* front 60.0" *(1524 mm)* to 88.0" *(2235 mm)* **Wheelbase** 129.3" *(3284 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 1.97 *(3.17)* second 2.26 *(3.64)* third 2.60 *(4.19)* fourth 2.99 *(4.81)* fifth 3.43 *(5.52)* sixth 3.93 *(6.33)* seventh 4.59 *(7.38)* eighth 5.26 *(8.47)* ninth 6.06 *(9.77)* tenth 6.96 *(11.20)* eleventh 7.98 *(12.85)* twelfth 9.16 *(14.74)* thirteenth 11.41 *(18.37)* fourteenth 13.09 *(21.07)* fifteenth 15.10 *(24.30)* sixteenth 17.32 *(27.87)* seventeenth 19.87 *(31.97)* eighteenth 22.79 *(36.67)* nineteenth 24.86 *(40.00)* (1900engine rpm) reverse 2.83 *(4.56)*, 3.26 *(5.24)*, 6.61 *(10.63)*, 7.57 *(12.19)* **Clutch** multiple wet disc electrohydraulically 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 1988 engine rpm or 1000 rpm at 1984 engine rpm **Unladen tractor mass** 21270 lb *(9648 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)*	Fuel Consumption Hp.hr/gal *(kW.h/l)*	Temp.°F *(°C)* cool-ing med	Temp.°F *(°C)* Air dry bulb	Barom. inch Hg *(kPa)*
				4th Gear					
140.99 *(105.14)*	20102 *(89.42)*	2.63 *(4.23)*	2241	12.38	0.641 *(0.390)*	10.93 *(2.15)*	188 *(86)*	62 *(17)*	28.93 *(97.97)*
				5th Gear					
159.97 *(119.29)*	19098 *(84.95)*	3.14 *(5.06)*	2228	8.23	0.586 *(0.356)*	11.97 *(2.36)*	188 *(86)*	65 *(18)*	28.93 *(97.97)*
				6th Gear					
174.47 *(130.10)*	18590 *(82.69)*	3.52 *(5.66)*	2164	7.70	0.551 *(0.335)*	12.72 *(2.51)*	188 *(87)*	68 *(20)*	28.93 *(97.97)*
				7th Gear					
192.56 *(143.59)*	18011 *(80.12)*	4.01 *(6.45)*	2094	6.87	0.519 *(0.316)*	13.51 *(2.66)*	188 *(87)*	70 *(21)*	28.93 *(97.97)*
				8th Gear					
205.69 *(153.38)*	17473 *(77.73)*	4.41 *(7.10)*	1999	6.35	0.499 *(0.303)*	14.06 *(2.77)*	188 *(87)*	71 *(22)*	28.92 *(97.93)*
				9th Gear					
207.84 *(154.99)*	14970 *(66.59)*	5.21 *(8.38)*	2003	4.41	0.494 *(0.300)*	14.20 *(2.80)*	188 *(87)*	73 *(23)*	28.92 *(97.93)*
				10thGear					
209.77 *(156.42)*	13083 *(58.20)*	6.01 *(9.68)*	1998	3.54	0.489 *(0.297)*	14.34 *(2.83)*	188 *(87)*	73 *(23)*	28.92 *(97.93)*
				11thGear					
207.94 *(155.06)*	11196 *(49.80)*	6.96 *(11.21)*	2002	2.77	0.494 *(0.300)*	14.20 *(2.80)*	188 *(87)*	74 *(23)*	28.92 *(97.93)*
				12thGear					
206.55 *(154.03)*	9651 *(42.93)*	8.03 *(12.92)*	2002	2.30	0.497 *(0.303)*	14.10 *(2.78)*	188 *(87)*	75 *(24)*	28.92 *(97.93)*

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. For the maximum power tests the fuel temperature at the primary fuel filter was maintained at 104°F *(40°C)*. This tractor did not meet the manufacturers' claim of 44 Hp PTO power growth. The pull in 2nd gear (ballasted tractor) was limited to avoid excessive tractor bouncing. The performance results on this summary were taken from OECD tests conducted under the Code II Test Code Procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1901**, Nebraska Summary 568, August 20, 2007.

Roger M. Hoy
Director

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

TRACTOR SOUND LEVEL WITH CAB	**dB(A)**
At no load in 7th gear	73.5
Bystander in 18th gear	85.7

TIRES, BALLAST AND WEIGHT	**With Ballast**	**Without Ballast**
Rear Tires - No., size, ply & psi *(kPa)*	Four 520/85R42;**;11 *(75)*	Two 520/85R42;**;18 *(125)*
Ballast - Duals (total)	1950 lb *(885 kg)*	None
- Cast Iron (total)	2000 lb *(907 kg)*	None
Front Tires - No., size, ply & psi *(kPa)*	Two 420/90R30;**;19 *(130)*	Two 420/90R30;**;15 *(105)*
Ballast - Liquid (total)	None	None
- Cast Iron (total)	1970 lb *(893 kg)*	None
Height of Drawbar	18.0 in *(455 mm)*	17.5 in *(445 mm)*
Static Weight with operator - Rear	17425 lb *(7903 kg)*	13925 lb *(6316 kg)*
- Front	9940 lb *(4509 kg)*	7520 lb *(3411 kg)*
- Total	27365 lb *(12412 kg)*	21445 lb *(9727 kg)*

DRAWBAR PERFORMANCE

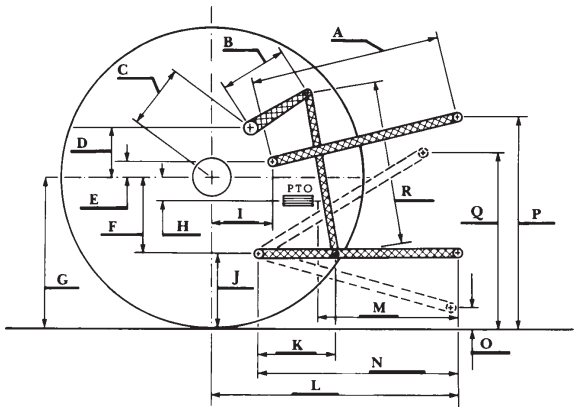
BALLASTED - 2000 ENGINE RPM

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)*
					2nd Gear				
143.81	26397	2.04	2240	9.61	0.635	11.03	188	60	28.87
(107.24)	*(117.42)*	*(3.29)*			*(0.386)*	*(2.17)*	*(87)*	*(16)*	*(97.77)*
					3rd Gear				
161.06	25472	2.37	2225	8.32	0.585	11.99	188	60	28.87
(120.10)	*(113.31)*	*(3.82)*			*(0.356)*	*(2.36)*	*(87)*	*(16)*	*(97.77)*
					4th Gear				
176.29	24790	2.67	2152	7.09	0.551	12.72	188	61	28.87
(131.46)	*(110.27)*	*(4.29)*			*(0.335)*	*(2.51)*	*(87)*	*(16)*	*(97.77)*
					5th Gear				
193.44	24405	2.97	2070	6.07	0.519	13.52	188	62	28.87
(144.25)	*(108.56)*	*(4.78)*			*(0.315)*	*(2.66)*	*(87)*	*(17)*	*(97.77)*
					6th Gear				
204.71	23037	3.33	2000	4.97	0.503	13.94	188	63	28.87
(152.65)	*(102.47)*	*(5.36)*			*(0.306)*	*(2.75)*	*(87)*	*(17)*	*(97.77)*
					7th Gear				
212.22	20148	3.95	2001	3.51	0.485	14.47	189	64	28.87
(158.25)	*(89.62)*	*(6.36)*			*(0.295)*	*(2.85)*	*(87)*	*(18)*	*(97.77)*
					8th Gear				
214.03	17591	4.56	2000	2.79	0.480	14.62	188	65	28.87
(159.60)	*(78.25)*	*(7.34)*			*(0.292)*	*(2.88)*	*(87)*	*(18)*	*(97.77)*
					9th Gear				
211.75	14989	5.30	2004	2.25	0.486	14.42	188	67	28.87
(157.90)	*(66.67)*	*(8.53)*			*(0.296)*	*(2.84)*	*(87)*	*(19)*	*(97.77)*
					10th Gear				
209.75	12904	6.10	2000	1.82	0.488	14.36	188	71	28.87
(156.41)	*(57.40)*	*(9.81)*			*(0.297)*	*(2.83)*	*(87)*	*(22)*	*(97.77)*
					11th Gear				
207.02	11065	7.02	2001	1.51	0.496	14.13	188	71	28.87
(154.38)	*(49.22)*	*(11.29)*			*(0.302)*	*(2.78)*	*(87)*	*(22)*	*(97.77)*
					12th Gear				
204.08	9509	8.05	1996	1.28	0.504	13.91	188	72	28.87
(152.18)	*(42.30)*	*(12.95)*			*(0.307)*	*(2.74)*	*(87)*	*(22)*	*(97.77)*

THREE POINT HITCH PERFORMANCE(OECD Static Test)

CATEGORY: III		
Quick Attach: Yes		High Lift Option
Maximum force exerted through whole range:	14070 lb *(62.6 kN)*	16375 lb *(72.8 kN)*
		Mega flow pump
i) Sustained pressure at compensator cutoff:	3039 psi *(209 bar)*	2949 psi *(203 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	39.2 GPM *(148.4 l/min)*	31.4 GPM *(118.9 l/imn)*
Combined flow:	70.6 GPM *(267.3 l/min)*	
iii) Pump delivery rate at maximum hydraulic power:	38.2 GPM *(144.6 l/min)*	31.9 GPM *(120.8 l/min)*
Delivery pressure:	2847 psi *(196 bar)*	2705 psi *(186 bar)*
Power:	63.5 HP *(47.3 kW)*	50.3 Hp *(37.5 kW)*



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	*mm*
A	28.2	*718*
B	20.5	*520*
C	22.9	*581*
D	20.7	*525*
E	10.5	*266*
F	15.7	*400*
G	36.4	*925*
H	3.5	*90*
I	20.9	*530*
J	20.7	*525*
K	30.2	*768*
L	46.1	*1170*
*L'	50.7	*1287*
M	20.1	*511*
N	38.2	*970*
O	9.0	*230*
P	47.6	*1210*
Q	40.7	*1035*
R	39.2	*995*

*L' to Quick Attach ends

NEW HOLLAND TG245 DIESEL

Institute of Agriculture and Natural Resources
University of Nebraska–Lincoln