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NEBRASKA OECD TRACTOR TEST 1829–SUMMARY 417
NEW HOLLAND TG 210 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—1110 rpm)					
173.09 *(129.07)*	2200	11.66 *(44.15)*	0.474 *(0.288)*	14.84 *(2.92)*	
Standard Power Take-off Speed (1000 rpm)					
193.34 *(144.18)*	1982	11.70 *(44.28)*	0.426 *(0.259)*	16.53 *(3.26)*	
Maximum Power (2 hours)					
195.30 *(145.63)*	1950	11.64 *(44.07)*	0.419 *(0.255)*	16.77 *(3.30)*	
VARYING POWER AND FUEL CONSUMPTION					
173.09 *(129.07)*	2200	11.66 *(44.15)*	0.474 *(0.288)*	14.84 *(2.92)*	Air temperature
151.52 *(112.98)*	2269	10.45 *(39.56)*	0.485 *(0.295)*	14.50 *(2.86)*	80°F *(27°C)*
116.00 *(86.50)*	2311	8.57 *(32.46)*	0.520 *(0.316)*	13.53 *(2.67)*	Relative humidity
78.49 *(58.53)*	2355	6.87 *(26.00)*	0.615 *(0.374)*	11.43 *(2.25)*	57%
40.15 *(29.94)*	2388	5.08 *(19.22)*	0.889 *(0.541)*	7.91 *(1.56)*	Barometer
0.00 *(0.00)*	2440	3.46 *(13.08)*	--- ---	--- ---	28.80" Hg *(97.53 kPa)*

Maximum Torque - 679 lb.-ft. *(921 Nm)* at 1250 rpm
Maximum Torque Rise - 64.3%
Torque rise at 1798 engine rpm - 38%

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 cool-ing med	*(°C)* Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power—7th Gear									
146.80 *(109.47)*	12708 *(56.53)*	4.33 *(6.97)*	2186	3.39	0.563 *(0.342)*	12.50 *(2.46)*	197 *(92)*	53 *(12)*	28.78 *(97.46)*
75% of Pull at Maximum Power—7th Gear									
115.63 *(86.23)*	9510 *(42.30)*	4.56 *(7.34)*	2274	2.25	0.618 *(0.376)*	11.37 *(2.24)*	197 *(92)*	61 *(16)*	28.73 *(97.29)*
50% of Pull at Maximum Power—7th Gear									
79.78 *(59.49)*	6345 *(28.22)*	4.72 *(7.60)*	2331	1.39	0.721 *(0.439)*	9.75 *(1.92)*	196 *(91)*	62 *(17)*	28.72 *(97.26)*
75% of Pull at Reduced Engine Speed—9th Gear									
115.85 *(86.39)*	9500 *(42.26)*	4.57 *(7.35)*	1727	2.25	0.488 *(0.297)*	14.41 *(2.84)*	187 *(86)*	61 *(16)*	28.72 *(97.26)*
50% of Pull at Reduced Engine Speed—9th Gear									
79.39 *(59.20)*	6337 *(28.19)*	4.70 *(7.56)*	1759	1.38	0.547 *(0.333)*	12.86 *(2.53)*	184 *(85)*	61 *(16)*	28.71 *(97.22)*

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

Dates of Test: October 7-27 , 2003

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)*** 0.8447 **Fuel weight** 7.033 lbs/gal *(0.843 kg/l)* **Oil SAE** 15W40 **API service classification** SF/CD/CE **Transmission and hydraulic lubricant** New Holland Multi-Tran fluid **Front axle lubricant** SAE 85W-140 API GL-5 **Total time engine was operated:** 26.0 hours

ENGINE: Make Consolidated Diesel Corporation Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** *46277159* **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.488" x 5.315" *(114.0 mm x 135.0 mm)* **Compression ratio** 17.0 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 and prefilter **Fuel cooler** radiator for pump return fuel **Muffler** vertical **Cooling medium temperature control** 2 thermostats and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 78.8-86.6 lb/h *(35.7 - 39.3 kg/h)* **High idle:** 2375-2465 rpm **Turbo boost:** nominal 19.6 - 23.9 psi *(135 - 165 kPa)* as measured 21.8 psi *(150 kPa)*

CHASSIS: Type front wheel assist **Serial No.** *JAW126668* **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 1.96 *(3.15)* second 2.24 *(3.61)* third 2.58 *(4.16)* fourth 2.96 *(4.77)* fifth 3.41 *(5.48)* sixth 3.90 *(6.28)* seventh 4.55 *(7.33)* eighth 5.23 *(8.41)* ninth 6.02 *(9.69)* tenth 6.91 *(11.12)* eleventh 7.92 *(12.75)* twelfth 9.09 *(14.63)* thirteenth 11.33 *(18.23)* fourteenth 12.99 *(20.91)* fifteenth 14.98 *(24.11)* sixteenth 17.19 *(27.66)* seventeenth 19.72 *(31.73)* eighteenth 22.61 *(36.39)* reverse 2.81 *(4.53)*, 3.23 *(5.20)*, 6.56 *(10.55)*, 7.52 *(12.10)* **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 2000 engine rpm or 1000 rpm at 1984 engine rpm **Unladen tractor mass** 20455 lb *(9278 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)*
					4th Gear				
140.05 *(104.43)*	20092 *(89.37)*	2.61 *(4.21)*	2196	10.79	0.605 *(0.368)*	11.64 *(2.29)*	197 *(92)*	48 *(9)*	28.77 *(97.43)*
					5th Gear				
149.10 *(111.19)*	19191 *(85.37)*	2.91 *(4.69)*	2095	10.03	0.565 *(0.344)*	12.45 *(2.45)*	197 *(92)*	51 *(11)*	28.78 *(97.46)*
					6th Gear				
157.87 *(117.72)*	18378 *(81.75)*	3.22 *(5.18)*	1973	7.02	0.529 *(0.322)*	13.29 *(2.62)*	194 *(90)*	52 *(11)*	28.78 *(97.46)*
					7th Gear				
163.24 *(121.73)*	16219 *(72.15)*	3.77 *(6.07)*	1940	5.16	0.509 *(0.310)*	13.81 *(2.72)*	197 *(92)*	55 *(13)*	28.78 *(97.46)*
					8th Gear				
164.29 *(122.51)*	14009 *(62.31)*	4.40 *(7.08)*	1951	4.02	0.506 *(0.308)*	13.89 *(2.74)*	198 *(92)*	57 *(14)*	28.78 *(97.46)*
					9th Gear				
164.08 *(122.35)*	12087 *(53.77)*	5.09 *(8.19)*	1942	3.24	0.503 *(0.306)*	13.97 *(2.75)*	197 *(92)*	58 *(14)*	28.75 *(97.36)*
					10thGear				
163.02 *(121.57)*	10405 *(46.28)*	5.88 *(9.46)*	1942	2.62	0.513 *(0.312)*	13.72 *(2.70)*	197 *(92)*	58 *(14)*	28.75 *(97.36)*
					11thGear				
160.61 *(119.77)*	8929 *(39.72)*	6.75 *(10.86)*	1934	2.16	0.522 *(0.317)*	13.49 *(2.66)*	198 *(92)*	59 *(15)*	28.74 *(97.33)*
					12thGear				
159.34 *(118.82)*	7680 *(34.16)*	7.78 *(12.52)*	1938	1.79	0.527 *(0.320)*	13.36 *(2.63)*	198 *(92)*	60 *(16)*	28.74 *(97.33)*
					13thGear				
155.11 *(115.66)*	5979 *(26.60)*	9.73 *(15.66)*	1934	1.25	0.537 *(0.327)*	13.10 *(2.58)*	196 *(91)*	61 *(16)*	28.73 *(97.29)*

TRACTOR SOUND LEVEL WITH CAB	dB(A)
At 75% load in 9th gear	75.3
Bystander in 18th gear	85.0

TIRES, BALLAST AND WEIGHT	With Ballast	Without Ballast
Rear Tires - No., size, ply & psi *(kPa)*	Four 520/85R42;**;9*(60)*	Two 520/85R42;**;17*(115)*
Ballast - Duals (total)	1950 lb *(885 kg)*	None
- Cast Iron (total)	None	None
Front Tires - No., size, ply & psi *(kPa)*	Two 420/90R30;**;16*(110)*	Two 420/90R30;**;13*(90)*
Ballast - Liquid (total)	None	None
- Cast Iron (total)	855 lb *(388 kg)*	None
Height of Drawbar	17.5 in *(445 mm)*	17.0 in *(430 mm)*
Static Weight with operator - Rear	15210 lb *(6899 kg)*	13320 lb *(6042 kg)*
- Front	8225 lb *(3731 kg)*	7310 lb *(3316 kg)*
- Total	23435 lb *(10630 kg)*	20630 lb *(9358 kg)*

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 injection pump inlet was maintained at 110ºF *(43ºC)*. The pull in 3rd 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. **1829**, Nebraska Summary 417, December15, 2003.

Leonard L. Bashford
Director

M.F. Kocher
V.I. Adamchuk
W.P. Campbell
Board of Tractor Test Engineers

DRAWBAR PERFORMANCE

BALLASTED - 1950 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)*
					3rd Gear				
144.12 *(107.47)*	23585 *(104.91)*	2.29 *(3.69)*	2167	8.75	0.586 *(0.356)*	12.00 *(2.36)*	197 *(92)*	51 *(11)*	28.62 *(96.92)*
					4th Gear				
155.09 *(115.65)*	22792 *(101.38)*	2.55 *(4.11)*	2071	7.28	0.548 *(0.334)*	12.83 *(2.53)*	196 *(91)*	52 *(11)*	28.64 *(96.99)*
					5th Gear				
160.38 *(119.60)*	22490 *(100.04)*	2.67 *(4.30)*	1878	6.61	0.509 *(0.310)*	13.81 *(2.72)*	197 *(92)*	53 *(12)*	28.66 *(97.05)*
					6th Gear				
162.31 *(121.03)*	18542 *(82.48)*	3.28 *(5.28)*	1952	3.85	0.514 *(0.313)*	13.69 *(2.70)*	198 *(92)*	54 *(12)*	28.68 *(97.12)*
					7th Gear				
165.68 *(123.54)*	16091 *(71.58)*	3.86 *(6.21)*	1949	3.09	0.503 *(0.306)*	13.99 *(2.76)*	197 *(92)*	55 *(13)*	28.70 *(97.19)*
					8th Gear				
164.19 *(122.43)*	13901 *(61.83)*	4.43 *(7.13)*	1943	2.60	0.505 *(0.307)*	13.93 *(2.74)*	198 *(92)*	57 *(14)*	28.71 *(97.22)*
					9th Gear				
162.50 *(121.18)*	11844 *(52.68)*	5.15 *(8.28)*	1949	2.16	0.507 *(0.308)*	13.87 *(2.73)*	197 *(92)*	58 *(14)*	28.71 *(97.22)*
					10th Gear				
160.73 *(119.86)*	10184 *(45.30)*	5.92 *(9.52)*	1950	1.92	0.510 *(0.310)*	13.78 *(2.72)*	198 *(92)*	59 *(15)*	28.72 *(97.26)*
					11th Gear				
156.31 *(116.56)*	8613 *(38.31)*	6.81 *(10.95)*	1941	1.56	0.539 *(0.328)*	13.05 *(2.57)*	198 *(92)*	60 *(16)*	28.72 *(97.26)*
					12th Gear				
152.42 *(113.66)*	7302 *(32.48)*	7.83 *(12.60)*	1948	1.32	0.548 *(0.334)*	12.82 *(2.53)*	198 *(92)*	61 *(16)*	28.73 *(97.29)*
					13th Gear				
150.05 *(111.89)*	5751 *(25.58)*	9.78 *(15.75)*	1948	1.06	0.558 *(0.340)*	12.59 *(2.48)*	197 *(91)*	61 *(16)*	28.73 *(97.29)*

THREE POINT HITCH PERFORMANCE(OECD Static Test)

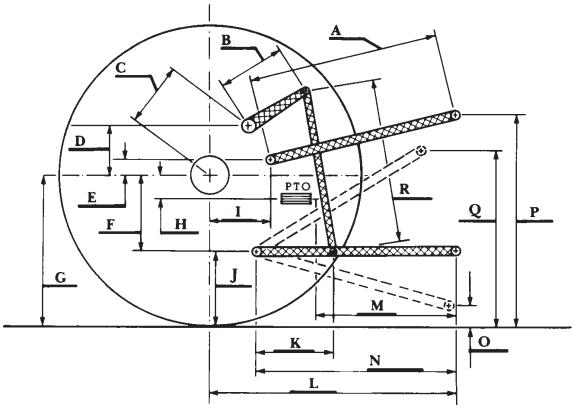
CATEGORY: III		
Quick Attach: Yes		High Lift Option
Maximum force exerted through whole range:	12802 lb *(56.9 kN)*	16375 lb *(72.8 kN)*
i) Opening pressure of relief valve:	NA	NA
		Mega flow pump
Sustained pressure at compensator cutoff:	3090 psi *(213 bar)*	2770 psi *(191 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	38.6 GPM *(146.1 l/min)*	31.2 GPM *(118.1 l/imn)*
Combined flow:	69.8 GPM *(264.2 l/min)*	
iii) Pump delivery rate at maximum hydraulic power:	38.2 GPM *(144.6 l/min)*	31.4 GPM *(118.9 l/min)*
Delivery pressure:	2800 psi *(193 bar)*	2560 psi *(177 bar)*
Power:	62.4 HP *(46.6 kW)*	46.9 Hp *(35.0 kW)*

THREE POINT HITCH PERFORMANCE(Standard lift cylinders)

Observed Maximum Pressure psi. *(bar)*	3260 *(225)*
Location:	lift cylinder
Hydraulic oil temperature: °F *(°C)*	150 *(65)*
Location:	hydraulic sump
Category:	III
Quick attach:	none

SAE Static Test—System pressure 2935 psi *(202 Bar)*

Hitch point distance to ground level in. *(mm)*	8.7 *(222)*	16.1 *(409)*	23.9 *(607)*	31.9 *(810)*	39.9 *(1013)*
Lift force on frame lb	23888	19088	17829	16837	15402
" " " " " " *(kN)*	*(106.3)*	*(84.9)*	*(79.3)*	*(74.9)*	*(68.5)*



HITCH DIMENSIONS AS TESTED—NO LOAD

	OECD test		SAE test	
	inch	*mm*	inch	*mm*
A	28.2	*718*	28.5	*724*
B	20.5	*520*	20.5	*520*
C	22.9	*581*	22.9	*581*
D	20.7	*525*	20.7	*525*
E	10.5	*266*	10.5	*266*
F	15.7	*400*	15.7	*400*
G	36.4	*925*	36.4	*925*
H	3.5	*90*	3.5	*90*
I	20.9	*530*	20.9	*530*
J	20.7	*525*	20.7	*525*
K	30.2	*768*	30.2	*768*
L	46.1	*1170*	46.1	*1170*
*L'	50.7	*1287*	--	--
M	20.1	*511*	20.1	*511*
N	38.2	*970*	38.2	*1089*
O	9.0	*230*	8.0	*203*
P	47.6	*1210*	40.7	*1035*
Q	40.7	*1035*	40.0	*1016*
R	39.2	*995*	39.9	*1013*

*L' to Quick Attach ends

NEW HOLLAND TG210 DIESEL

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Institute of Agriculture and Natural Resources
University of Nebraska–Lincoln
Darrell Nelson, Dean and Director