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January 2007

## Test 1914: New Holland TG 275 and T8030 Diesel 19-Speed

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# NEBRASKA OECD TRACTOR TEST 1914—SUMMARY 586

## NEW HOLLAND TG 275 DIESEL

## ALSO NEW HOLLAND T8030 DIESEL

### 19 SPEED

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

**Dates of tests:** November 1-14, 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)** 0.8417 **Fuel weight** 7.008 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:** 23.0 hours

**ENGINE: Make** CNH Engine Corporation Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** \*46733900\* **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:** 99.8-110.0 lb/h (45.3 - 49.9 kg/h) **High idle:** 2380-2420 rpm **Turbo boost:** nominal 21.0 - 25.4 psi (145 - 175 kPa) as measured 22.7 psi (157 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) (1900 engine 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** 21535 lb (9768 kg)

#### 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed—(PTO speed—1109 rpm)</b>					
225.77 (168.36)	2200	14.28 (54.05)	0.443 (0.270)	15.81 (3.11)	
<b>Standard Power Take-off Speed (1000 rpm)</b>					
268.79 (200.44)	1984	15.70 (59.43)	0.409 (0.249)	17.12 (3.37)	
<b>Maximum Power (1 hour)</b>					
272.95 (203.54)	1900	15.69 (59.41)	0.403 (0.245)	17.39 (3.43)	

#### VARYING POWER AND FUEL CONSUMPTION

225.77 (168.36)	2200	14.28 (54.05)	0.443 (0.270)	15.81 (3.11)	Air temperature
195.91 (146.09)	2243	13.53 (51.21)	0.484 (0.294)	14.48 (2.85)	77°F (25°C)
150.20 (112.00)	2292	12.27 (46.45)	0.573 (0.348)	12.24 (2.41)	Relative humidity
102.20 (76.21)	2339	9.19 (34.79)	0.630 (0.383)	11.12 (2.19)	14%
52.02 (38.79)	2383	6.48 (24.52)	0.873 (0.531)	8.03 (1.58)	Barometer
1.97 (1.47)	2409	3.82 (14.48)	13.629 (8.290)	0.51 (0.10)	29.00" Hg (98.21 kPa)

Maximum torque - 861 lb.-ft. (1167 Nm) at 1451 rpm

Maximum torque rise - 59.5%

Torque rise at 1799 engine rpm - 46%

Power increase at 1900 engine rpm - 20.9%

#### 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)	Temp. °F (°C) cool-ing med	Barom. inch Hg (kPa)
<b>Maximum Power—9th Gear</b>							
189.29 (141.15)	12200 (54.27)	5.82 (9.36)	2208	3.4	0.527 (0.321)	13.29 (2.62)	191 (88)
<b>75% of Pull at Maximum Power—9th Gear</b>							
148.03 (110.38)	9148 (40.69)	6.07 (9.77)	2274	2.1	0.623 (0.379)	11.24 (2.21)	189 (87)
<b>50% of Pull at Maximum Power—9th Gear</b>							
101.97 (76.04)	6108 (27.17)	6.26 (10.08)	2328	1.4	0.713 (0.434)	9.83 (1.94)	188 (87)
<b>75% of Pull at Reduced Engine Speed—11th Gear</b>							
147.74 (110.17)	9171 (40.79)	6.04 (9.72)	1719	2.0	0.510 (0.310)	13.75 (2.71)	185 (85)
<b>50% of Pull at Reduced Engine Speed—11th Gear</b>							
102.19 (76.21)	6103 (27.15)	6.28 (10.11)	1772	1.2	0.591 (0.359)	11.87 (2.34)	184 (84)

**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. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
5th Gear									
169.23 (126.20)	20725 (92.19)	3.06 (4.93)	2223	10.9	0.587 (0.357)	11.95 (2.35)	191 (88)	54 (12)	28.93 (97.97)
6th Gear									
185.72 (138.49)	19570 (87.05)	3.56 (5.73)	2176	7.7	0.543 (0.330)	12.90 (2.54)	191 (88)	56 (13)	28.91 (97.90)
7th Gear									
202.05 (150.67)	18752 (83.41)	4.04 (6.50)	2098	6.9	0.521 (0.317)	13.46 (2.65)	191 (88)	57 (14)	28.88 (97.80)
8th Gear									
217.06 (161.86)	18655 (82.98)	4.36 (7.02)	1975	6.5	0.505 (0.307)	13.87 (2.73)	191 (88)	58 (14)	28.86 (97.73)
9th Gear									
225.65 (168.27)	17165 (76.35)	4.93 (7.93)	1905	5.1	0.485 (0.295)	14.46 (2.85)	191 (88)	59 (15)	28.83 (97.63)
10th Gear									
230.64 (171.99)	15121 (67.26)	5.72 (9.21)	1903	3.9	0.474 (0.288)	14.78 (2.91)	191 (88)	60 (16)	28.81 (97.56)
11th Gear									
227.65 (169.76)	12917 (57.46)	6.61 (10.64)	1902	3.1	0.480 (0.292)	14.61 (2.88)	191 (88)	59 (15)	28.80 (97.53)
12th Gear									
228.33 (170.26)	11218 (49.90)	7.63 (12.28)	1904	2.6	0.480 (0.292)	14.60 (2.88)	191 (88)	59 (15)	28.79 (97.49)
13th Gear									
230.30 (171.74)	9047 (40.24)	9.55 (15.36)	1903	2.2	0.477 (0.290)	14.69 (2.89)	191 (88)	59 (15)	28.78 (97.46)

**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 110°F (43°C). 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. **1914**, Nebraska Summary 586, December 17, 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	72.7
Bystander in 18th gear	88.9

**TIRES, BALLAST AND WEIGHT**

	With Ballast	Without Ballast
<b>Rear Tires</b> -No., size, ply & psi (kPa)	Four 520/85R42;**,11(75)	Two 520/85R42;**,17(115)
<b>Ballast</b> - Duals (total)	1950 lb (885 kg)	None
- Cast Iron (total)	3005 lb (1363 kg)	None
<b>Front Tires</b> -No., size, ply & psi (kPa)	Four 420/90R30;**,10(70)	Two 420/90R30;**,15(105)
<b>Ballast</b> - Duals (total)	1030 lb (467 kg)	None
- Cast Iron (total)	2420 lb (1097 kg)	None
<b>Height of Drawbar</b>	17.5 in (445 mm)	17.0 in (430 mm)
<b>Static Weight with operator</b> - Rear	18285 lb (8294 kg)	13825 lb (6271 kg)
- Front	11830 lb (5366 kg)	7885 lb (3577 kg)
- Total	30115 lb(13660 kg)	21710 lb(9848 kg)

**DRAWBAR PERFORMANCE**  
**BALLASTED - 1900 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)	Fuel Consumption Hp.hr/gal (kW.h/l)	Temp.°F cool- ing med	Temp.°C Air dry bulb	Barom. inch Hg (kPa)
3rd Gear									
176.28 (131.45)	29793 (132.52)	2.22 (3.57)	2162	13.0	0.569 (0.346)	12.32 (2.43)	190 (88)	47 (8)	29.01 (98.24)
4th Gear									
194.94 (145.37)	28275 (125.77)	2.59 (4.16)	2114	9.0	0.534 (0.325)	13.13 (2.59)	191 (88)	48 (9)	29.01 (98.24)
5th Gear									
211.68 (157.85)	28100 (124.99)	2.82 (4.55)	1992	7.9	0.515 (0.313)	13.61 (2.68)	191 (88)	49 (9)	29.01 (98.24)
6th Gear									
221.66 (165.29)	26255 (116.79)	3.17 (5.10)	1907	6.0	0.492 (0.300)	14.23 (2.80)	191 (88)	51 (11)	29.02 (98.27)
7th Gear									
229.23 (170.94)	22876 (101.76)	3.76 (6.05)	1906	4.3	0.479 (0.291)	14.64 (2.88)	190 (88)	52 (11)	29.02 (98.27)
8th Gear									
229.08 (170.82)	19751 (87.86)	4.35 (7.00)	1908	3.4	0.478 (0.291)	14.66 (2.89)	192 (89)	56 (13)	29.03 (98.31)
9th Gear									
232.92 (173.68)	17327 (77.07)	5.04 (8.11)	1905	2.4	0.470 (0.286)	14.92 (2.94)	191 (88)	57 (14)	29.03 (98.31)
10th Gear									
231.19 (172.40)	14932 (66.42)	5.81 (9.34)	1905	2.0	0.473 (0.288)	14.80 (2.92)	191 (88)	58 (14)	29.03 (98.31)
11th Gear									
230.44 (171.84)	12957 (57.64)	6.67 (10.73)	1906	1.8	0.474 (0.288)	14.79 (2.91)	191 (88)	58 (14)	29.04 (98.34)
12th Gear									
226.40 (168.83)	11064 (49.22)	7.67 (12.35)	1903	1.6	0.481 (0.293)	14.56 (2.87)	191 (88)	58 (14)	29.05 (98.37)
13th Gear									
221.65 (165.28)	8661 (38.52)	9.60 (15.45)	1906	1.3	0.492 (0.299)	14.26 (2.81)	192 (89)	59 (15)	29.06 (98.41)

### THREE POINT HITCH PERFORMANCE(OECD Static Test)

CATEGORY: III

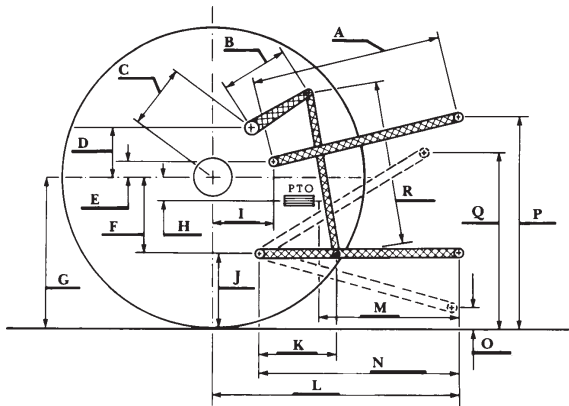
Quick Attach: Yes

Maximum force exerted through whole range:	15183 lb (67.5 kN)	<u>High Lift Option</u> 17931 lb (79.8 kN)
		<u>Megaflow pump</u> 2949 psi (203 bar)
i) Sustained pressure at compensator cutoff:	3234 psi (223 bar)	
ii) Pump delivery rate at minimum pressure and rated engine speed:	44.0 GPM (166.6 l/min)	31.4 GPM (118.9 l/min)
Combined flow:	75.4 GPM (285.4 l/min)	
iii) Pump delivery rate at maximum hydraulic power:	41.9 GPM (158.6 l/min)	31.9 GPM (120.8 l/min)
Delivery pressure:	2950 psi (203 bar)	2705 psi (186 bar)
Power:	72.1 HP (53.8 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 TG275 DIESEL