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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

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 **Serial No.** *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** 21270 lb (9648 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 |
|---|-----------------------|------------------|--------------------|--------------------|-----------------------------|
| 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) | Hp.hr/gal (kW.h/l) | Temp. °F (°C) cool-ing med | 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) |

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

THREE POINT HITCH PERFORMANCE(OECD Static Test)

CATEGORY: III

Quick Attach: Yes

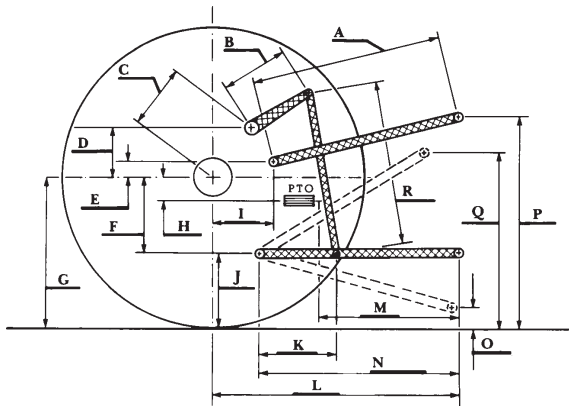
Maximum force exerted through whole range: 14070 lb (62.6 kN) High Lift Option
16375 lb (72.8 kN)

i) Sustained pressure at compensator cutoff: 3039 psi (209 bar) Megaflow pump
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/min)
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