

SUMMARY OF OECD TEST 2203–NEBRASKA SUMMARY 500

NEW HOLLAND TS135A DIESEL

16 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—1037 rpm) | | | | | |
| 114.5 (85.4) | 2199 | 7.19 (27.22) | 0.443 (0.269) | 15.93 (3.14) | |
| Standard Power Take-off Speed (1000 rpm) | | | | | |
| 120.1 (89.6) | 2120 | 7.21 (27.29) | 0.424 (0.258) | 16.65 (3.28) | |
| Maximum Power (2 hours) | | | | | |
| 127.4 (95.0) | 1900 | 7.17 (27.13) | 0.397 (0.241) | 17.77 (3.50) | |

VARYING POWER AND FUEL CONSUMPTION

| | | | | | |
|-----------------|------|-----------------|------------------|-----------------|----------------------|
| 114.5 (85.4) | 2199 | 7.19 (27.22) | 0.443 (0.269) | 15.93 (3.14) | Air temperature |
| 100.0 (74.6) | 2257 | 6.58 (24.92) | 0.464 (0.282) | 15.19 (2.99) | 73°F (23°C) |
| 76.4 (57.0) | 2298 | 5.49 (20.78) | 0.507 (0.308) | 13.92 (2.74) | Relative humidity |
| 51.6 (38.5) | 2326 | 4.41 (16.68) | 0.602 (0.366) | 11.72 (2.31) | 56% |
| 26.0 (19.4) | 2358 | 3.28 (12.42) | 0.888 (0.540) | 7.94 (1.57) | Barometer |
| -- | 2372 | 2.31 (8.74) | -- | -- | 29.8" Hg (101.0 kPa) |

Maximum Torque - 408.2 lb.-ft. (553.4 Nm) at 1398 rpm
 Maximum Torque Rise - 49.1%
 Torque rise at 1800 engine rpm - 34%

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) |
|--|--------------------------------|------------------------|---------------------------------|-----------|---|--------------------------------------|-------------------------------|
| Maximum Power—7th (1C) Gear | | | | | | | |
| 94.4 (70.4) | 8275 (36.8) | 4.28 (6.88) | 2199 | 4.5 | 0.523 (0.318) | 13.50 (2.66) | 180 (82) |
| 75% of Pull at Maximum Power—7th (1C) Gear | | | | | | | |
| 74.0 (55.2) | 6205 (27.6) | 4.47 (7.20) | 2279 | 3.5 | 0.581 (0.353) | 12.14 (2.39) | 180 (82) |
| 50% of Pull at Maximum Power—7th (1C) Gear | | | | | | | |
| 50.7 (37.8) | 4145 (18.4) | 4.58 (7.37) | 2310 | 2.8 | 0.702 (0.427) | 10.05 (1.98) | 180 (82) |
| 75% of Pull at Reduced Engine Speed—8th (3B) Gear | | | | | | | |
| 74.3 (55.4) | 6215 (27.6) | 4.48 (7.21) | 2020 | 3.6 | 0.551 (0.335) | 12.79 (2.52) | 178 (81) |
| 50% of Pull at Reduced Engine Speed—8th (3B) Gear | | | | | | | |
| 50.7 (37.8) | 4135 (18.4) | 4.60 (7.40) | 2052 | 2.5 | 0.604 (0.368) | 11.67 (2.30) | 178 (81) |

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

Dates of Test: June to August, 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)** 0.847 **Fuel weight** 7.04 lbs/gal (0.8453 kg/l) **Oil SAE** 10W30 **API service classification** CH-4 **Transmission and hydraulic lubricant** New Holland 410B fluid **Front axle lubricant** New Holland 410B fluid

ENGINE: Make CNH Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** 00066631 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.094" x 5.196" (104.0 mm x 132.0 mm) **Compression ratio** 17.0 to 1 **Displacement** 410 cu in (6728 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** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: **Type** front wheel assist **Serial No.** 209584 **Tread width** rear 68.1" (1730 mm) to 83.9" (2130 mm) front 64.2" (1630 mm) to 81.9" (2080 mm) **Wheelbase** 104.4" (2652 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (4) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 1.42 (2.28) second 1.73 (2.78) third 2.11 (3.40) fourth 2.58 (4.15) fifth 3.32 (5.35) sixth 4.06 (6.53) seventh 4.39 (7.07) eighth 4.96 (7.98) ninth 5.36 (8.63) tenth 6.06 (9.75) eleventh 6.56 (10.56) twelfth 8.02 (12.90) thirteenth 10.32 (16.60) fourteenth 12.60 (20.28) fifteenth 15.41 (24.80) sixteenth 18.83 (30.30) reverse 1.40 (2.25), 1.71 (2.75), 2.09 (3.37), 2.55 (4.10), 3.28 (5.28), 4.01 (6.45), 4.34 (6.98), 4.90 (7.89), 5.30 (8.53), 5.99 (9.64) 6.48 (10.43), 7.92 (12.75), 10.20 (16.41), 12.46 (20.05), 15.23 (24.51), 18.60 (29.94) **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** 540 rpm at 1969 engine rpm or 1000 rpm at 2120 engine rpm **Unladen tractor mass** 12020 lb (5452 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) | Consumption Hp.hr/gal (kW.h/l) | Temp. °F(°C) cool- ing med | Air dry bulb | Barom. inch Hg (kPa) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|---|--------------------------------------|-------------------------------------|--------------------|-------------------------------|
| 3rd(3A) Gear | | | | | | | | | |
| 62.6 (46.7) | 11755 (52.3) | 2.00 (3.21) | 2292 | 10.9 | 0.637 (0.388) | 11.07 (2.18) | 181 (83) | 70 (21) | 30.1 (101.9) |
| 4th(4A) Gear | | | | | | | | | |
| 73.9 (55.1) | 11400 (50.7) | 2.43 (3.91) | 2277 | 10.8 | 0.577 (0.351) | 12.23 (2.41) | 181 (83) | 70 (21) | 30.1 (101.9) |
| 5th(1B) Gear | | | | | | | | | |
| 92.7 (69.1) | 11285 (50.2) | 3.08 (4.95) | 2203 | 9.2 | 0.538 (0.327) | 13.11 (2.58) | 180 (82) | 70 (21) | 30.1 (101.9) |
| 6th(2B) Gear | | | | | | | | | |
| 103.7 (77.3) | 11175 (49.7) | 3.48 (5.60) | 2034 | 8.9 | 0.483 (0.294) | 14.62 (2.88) | 178 (81) | 70 (21) | 30.1 (101.9) |
| 7th(1C) Gear | | | | | | | | | |
| 104.3 (77.8) | 10880 (48.4) | 3.60 (5.79) | 1902 | 7.0 | 0.486 (0.295) | 14.53 (2.86) | 178 (81) | 66 (19) | 30.1 (101.9) |
| 8th(3B) Gear | | | | | | | | | |
| 104.6 (78.0) | 9420 (41.9) | 4.16 (6.70) | 1911 | 5.2 | 0.471 (0.286) | 14.99 (2.95) | 176 (80) | 68 (20) | 30.1 (101.9) |
| 9th(2C) Gear | | | | | | | | | |
| 106.6 (79.5) | 8900 (39.6) | 4.49 (7.23) | 1900 | 4.7 | 0.459 (0.279) | 15.38 (3.03) | 178 (81) | 68 (20) | 30.1 (101.9) |
| 10th(4B) Gear | | | | | | | | | |
| 106.2 (79.2) | 7710 (34.3) | 5.17 (8.31) | 1920 | 4.3 | 0.479 (0.291) | 14.72 (2.90) | 176 (80) | 72 (22) | 30.1 (101.9) |
| 11th(3C) Gear | | | | | | | | | |
| 104.2 (77.7) | 6955 (30.9) | 5.62 (9.04) | 1921 | 3.8 | 0.493 (0.300) | 14.31 (2.82) | 178 (81) | 68 (20) | 30.1 (101.9) |
| 12th(4C) Gear | | | | | | | | | |
| 102.7 (76.6) | 5590 (24.9) | 6.89 (11.09) | 1915 | 3.2 | 0.506 (0.308) | 13.95 (2.75) | 176 (80) | 68 (20) | 30.1 (101.9) |
| 13th(1D) Gear | | | | | | | | | |
| 102.9 (76.7) | 4310 (19.2) | 8.95 (14.41) | 1923 | 2.7 | 0.498 (0.303) | 14.16 (2.79) | 176 (80) | 68 (20) | 30.1 (101.9) |

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: The manufacturer's claim of 115 PTO hp (85.8 kW) was met during the standard PTO speed test.

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: 62% PTO torque rise, 26.5 gpm (100 lpm) remote hydraulic flow nor 3 point lift capacity of 12185 lbs (5527 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. **2203** Nebraska Summary 500, December 15, 2005.

Leonard L. Bashford
 Director

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

| TRACTOR SOUND LEVEL WITH CAB | Front Wheel Drive | |
|------------------------------|---------------------|------------------|
| | Disengaged dB(A) | Engaged dB(A) |
| At no load in 7th (1C) gear | 72.0 | 73.0 |
| Bystander | -- | -- |

TIRES AND WEIGHT

Rear tires - No., size, ply & psi(kPa)
Front tires - No., size, ply & psi(kPa)
Height of Drawbar
Static Weight with operator - Rear
 - Front
 - Total

Tested Without Ballast

Two 600/65R38; **,10 (70)
 Two 480/65R28; **,10 (70)
 20.3 in (515 mm)
 7445 lb (3378 kg)
 4740 lb (2149 kg)
 12185 lb (5527 kg)

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) | Temp. ^o F (°C) cool- ing med | Air dry bulb | Barom. inch Hg (kPa) | |
|---|--------------------------------|------------------------|---------------------------------|-----------|---|--|--------------------|-------------------------------|-----------------|
| Maximum Power—7th(1C) Gear | | | | | | | | | |
| 91.3 (68.1) | 8345 (37.1) | 4.10 (6.60) | 2200 | 7.0 | 0.547 (0.333) | 12.89 (2.54) | 178 (81) | 70 (21) | 30.1 (101.8) |
| 75% of Pull at Maximum Power—7th(1C) Gear | | | | | | | | | |
| 73.4 (54.7) | 6250 (27.8) | 4.40 (7.08) | 2282 | 3.6 | 0.591 (0.360) | 11.93 (2.35) | 180 (82) | 70 (21) | 30.1 (101.9) |
| 50% of Pull at Maximum Power—7th(1C) Gear | | | | | | | | | |
| 50.5 (37.7) | 4190 (18.6) | 4.52 (7.27) | 2312 | 2.4 | 0.713 (0.433) | 9.90 (1.95) | 180 (82) | 68 (20) | 30.1 (101.9) |
| 75% of Pull at Reduced Engine Speed—8th(3B) Gear | | | | | | | | | |
| 73.5 (54.8) | 6250 (27.8) | 4.41 (7.09) | 2028 | 4.0 | 0.511 (0.311) | 13.81 (2.72) | 176 (80) | 73 (23) | 30.1 (101.8) |
| 50% of Pull at Reduced Engine Speed—8th(3B) Gear | | | | | | | | | |
| 50.6 (37.7) | 4190 (18.6) | 4.53 (7.29) | 2055 | 2.7 | 0.586 (0.357) | 12.03 (2.37) | 178 (81) | 73 (23) | 30.1 (101.8) |
| MAXIMUM POWER IN SELECTED GEARS | | | | | | | | | |
| 1st(1A) Gear | | | | | | | | | |
| 30.0 (22.4) | 8565 (38.1) | 1.32 (2.12) | 2342 | 12.8 | 0.915 (0.557) | 7.71 (1.52) | 181 (83) | 75 (24) | 30.1 (101.8) |
| 2nd(2A) Gear | | | | | | | | | |
| 36.2 (27.0) | 8510 (37.9) | 1.60 (2.57) | 2331 | 13.0 | 0.817 (0.497) | 8.63 (1.70) | 183 (84) | 73 (23) | 30.1 (101.8) |
| 3rd(3A) Gear | | | | | | | | | |
| 44.5 (33.2) | 8475 (37.7) | 1.97 (3.17) | 2316 | 11.6 | 0.755 (0.459) | 9.34 (1.84) | 183 (84) | 75 (24) | 30.1 (101.8) |
| 4th(4A) Gear | | | | | | | | | |
| 54.2 (40.4) | 8475 (37.7) | 2.40 (3.86) | 2304 | 11.5 | 0.685 (0.416) | 10.30 (2.03) | 179 (82) | 73 (23) | 30.1 (101.8) |
| 5th(1B) Gear | | | | | | | | | |
| 69.1 (51.5) | 8420 (37.5) | 3.08 (4.95) | 2282 | 11.0 | 0.639 (0.389) | 11.03 (2.17) | 181 (83) | 73 (23) | 30.1 (101.8) |
| 6th(2B) Gear | | | | | | | | | |
| 83.0 (61.9) | 8375 (37.3) | 3.72 (5.98) | 2237 | 10.1 | 0.594 (0.361) | 11.88 (2.34) | 181 (83) | 73 (23) | 30.0 (101.7) |
| 7th(1C) Gear | | | | | | | | | |
| 91.3 (68.1) | 8345 (37.1) | 4.10 (6.60) | 2200 | 7.0 | 0.547 (0.333) | 12.89 (2.54) | 178 (81) | 70 (21) | 30.1 (101.8) |
| 8th(3B) Gear | | | | | | | | | |
| 97.1 (72.4) | 8275 (36.8) | 4.40 (7.08) | 2079 | 6.5 | 0.517 (0.314) | 13.65 (2.69) | 178 (81) | 68 (20) | 30.1 (101.9) |
| 9th(2C) Gear | | | | | | | | | |
| 101.8 (75.9) | 8210 (36.5) | 4.65 (7.48) | 2034 | 6.6 | 0.487 (0.296) | 14.48 (2.85) | 178 (81) | 68 (20) | 30.1 (101.8) |
| 10th(4B) Gear | | | | | | | | | |
| 104.9 (78.2) | 7870 (35.0) | 5.00 (8.05) | 1916 | 5.6 | 0.492 (0.299) | 14.33 (2.82) | 178 (81) | 72 (22) | 30.1 (101.9) |
| 11th(3C) Gear | | | | | | | | | |
| 103.9 (77.5) | 7170 (31.9) | 5.44 (8.75) | 1911 | 4.8 | 0.476 (0.289) | 14.82 (2.92) | 176 (80) | 73 (23) | 30.1 (101.8) |
| 12th(4C) Gear | | | | | | | | | |
| 105.8 (78.9) | 5875 (26.1) | 6.75 (10.87) | 1913 | 3.4 | 0.484 (0.295) | 14.57 (2.87) | 178 (81) | 70 (21) | 30.1 (101.9) |
| 13th(1D) Gear | | | | | | | | | |
| 106.5 (79.4) | 4570 (20.3) | 8.74 (14.06) | 1907 | 2.6 | 0.465 (0.283) | 15.18 (2.99) | 176 (80) | 68 (20) | 30.1 (101.9) |

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 (13th 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 override 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—1037 rpm) | | | | | |
| 141.5 (105.5) | 2199 | 8.53 (32.29) | 0.425 (0.259) | 16.59 (3.27) | |
| Standard Power Take-off Speed - (1001 rpm) | | | | | |
| 145.2 (108.3) | 2122 | 8.53 (32.28) | 0.414 (0.252) | 17.02 (3.35) | |
| Maximum Power (2 hours) | | | | | |
| 151.5 (113.0) | 1900 | 8.32 (31.48) | 0.387 (0.235) | 18.22 (3.59) | |

VARYING POWER AND FUEL CONSUMPTION

| | | | | | |
|------------------|------|-----------------|------------------|-----------------|--------------------|
| 141.5 (105.5) | 2199 | 8.53 (32.29) | 0.425 (0.259) | 16.59 (3.27) | Air temperature |
| 122.7 (91.5) | 2241 | 7.42 (28.09) | 0.427 (0.259) | 16.54 (3.26) | 73°F (23°C) |
| 93.6 (69.8) | 2278 | 6.46 (24.45) | 0.487 (0.296) | 14.48 (2.85) | Relative humidity |
| 63.3 (47.2) | 2312 | 5.05 (19.12) | 0.563 (0.342) | 12.54 (2.47) | 55% |
| 32.2 (24.0) | 2352 | 3.68 (13.92) | 0.806 (0.490) | 8.75 (1.72) | Barometer |
| -- | 2372 | 2.40 (9.08) | -- | -- | 30.3"Hg (101.7kPa) |

Maximum Torque 436.5 lb.-ft. (591.8 Nm) at 1703 rpm
 Maximum Torque Rise - 29.1%
 Torque rise at 1750 rpm - 28%

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: No

Maximum Force Exerted Through Whole Range: 9530 lbs (42.4 kN)

i) Opening pressure of relief valve: NA

variable disp. pump

Sustained pressure at compensator cutoff: 3105 psi (214 bar)

ii) Pump delivery rate at minimum pressure: 26.2 GPM (99.0 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 25.0 GPM (94.5 l/min)

Delivery pressure: 2610 psi (180 bar)

Power: 38.0 HP (28.3 kW)

THREE POINT HITCH PERFORMANCE

| | | | | | |
|---|----------------|------------|------------|------------|------------|
| Observed Maximum Pressure psi. (bar) | 3105 (214) | | | | |
| 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 90 mm cylinders) | | | | | |
| Hitch point distance to ground level in. (mm) | 7.7 (195) | 15.6 (395) | 23.0 (585) | 30.3 (770) | 36.2 (920) |
| Lift force on frame lb | 14500 | 13510 | 12970 | 12455 | 11240 |
| " " " " " " (kN) | (64.5) | (60.1) | (57.7) | (55.4) | (50.0) |

HITCH DIMENSIONS AS TESTED—NO LOAD

| | OECD test | | SAE test | |
|---|-----------|------|----------|------|
| | inch | mm | inch | mm |
| A | 29.9 | 760 | 30.3 | 770 |
| B | 12.2 | 310 | 12.2 | 310 |
| C | 15.6 | 395 | 15.6 | 395 |
| D | 14.6 | 370 | 14.6 | 370 |
| E | 8.2 | 208 | 10.8 | 275 |
| F | 9.3 | 235 | 9.3 | 235 |
| G | 32.3 | 820 | 32.3 | 820 |
| H | 1.1 | 28 | 1.1 | 28 |
| I | 17.9 | 455 | 16.9 | 430 |
| J | 23.0 | 585 | 23.0 | 585 |
| K | 19.8 | 502 | 22.8 | 580 |
| L | 46.5 | 1180 | 46.5 | 1180 |
| M | 24.6 | 625 | 24.6 | 625 |
| N | 39.8 | 1012 | 39.8 | 1012 |
| O | 7.7 | 195 | 7.7 | 195 |
| P | 47.0 | 1195 | 42.0 | 1068 |
| Q | 35.4 | 900 | 33.1 | 840 |
| R | 32.3 | 820 | 35.0 | 888 |

