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NEBRASKA OECD TRACTOR TEST 1888—SUMMARY 555

JOHN DEERE 8330T 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—1048 rpm) | | | | | |
| 237.63 (177.20) | 2100 | 13.27 (50.24) | 0.391 (0.238) | 17.90 (3.53) | |
| Standard Power Take-off Speed(1000 rpm) | | | | | |
| 256.20 (191.04) | 2003 | 13.93 (52.73) | 0.381 (0.232) | 18.39 (3.62) | |
| Maximum Power (1 hour) | | | | | |
| 270.21 (201.50) | 1700 | 15.07 (57.07) | 0.391 (0.238) | 17.93 (3.53) | |

VARYING POWER AND FUEL CONSUMPTION

| | | | | | |
|--------------------|------|------------------|--------------------|-----------------|-----------------------|
| 237.63 (177.20) | 2100 | 13.27 (50.24) | 0.391 (0.238) | 17.90 (3.53) | Air temperature |
| 206.98 (154.35) | 2154 | 12.00 (45.41) | 0.406 (0.247) | 17.25 (3.40) | 75°F (24°C) |
| 156.23 (116.50) | 2165 | 9.84 (37.25) | 0.441 (0.268) | 15.88 (3.13) | Relative humidity |
| 104.32 (77.79) | 2174 | 7.68 (29.09) | 0.516 (0.314) | 13.58 (2.67) | 24% |
| 52.45 (39.11) | 2186 | 5.28 (20.00) | 0.705 (0.429) | 9.93 (1.96) | Barometer |
| 1.51 (1.13) | 2193 | 3.96 (14.98) | 18.326 (11.147) | 0.38 (0.08) | 28.90" Hg (97.87 kPa) |

Maximum torque - 879 lb.-ft. (1192 Nm) at 1599 rpm

Maximum torque rise - 47.9%

Torque rise at 1701 engine rpm - 40%

DRAWBAR PERFORMANCE (Unballasted)

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—9th Gear | | | | | | | | | |
| 202.53 (151.03) | 17728 (78.86) | 4.28 (6.89) | 2098 | 3.01 | 0.461 (0.281) | 15.18 (2.99) | 192 (89) | 58 (14) | 28.54 (96.65) |
| 75% of Pull at Maximum Power—9th Gear | | | | | | | | | |
| 158.73 (118.37) | 13296 (59.14) | 4.48 (7.20) | 2157 | 1.39 | 0.495 (0.301) | 14.15 (2.79) | 179 (82) | 49 (9) | 29.01 (98.24) |
| 50% of Pull at Maximum Power—9th Gear | | | | | | | | | |
| 107.26 (79.98) | 8866 (39.44) | 4.54 (7.30) | 2170 | 0.67 | 0.583 (0.355) | 12.01 (2.36) | 177 (81) | 49 (9) | 29.01 (98.24) |
| 75% of Pull at Reduced Engine Speed—11th Gear | | | | | | | | | |
| 158.87 (118.47) | 13289 (59.11) | 4.48 (7.21) | 1612 | 1.32 | 0.468 (0.285) | 14.96 (2.95) | 185 (85) | 50 (10) | 29.01 (98.24) |
| 50% of Pull at Reduced Engine Speed—11th Gear | | | | | | | | | |
| 107.25 (79.98) | 8883 (39.51) | 4.53 (7.29) | 1617 | 0.71 | 0.513 (0.312) | 13.65 (2.69) | 179 (81) | 50 (10) | 29.01 (98.24) |

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

Dates of tests: September 28 - October 26, 2006

Manufacturer: John Deere Tractor Works, 3500 East Donald St., P.O. Box 270, Waterloo Ia, 50704-0270

FUEL, OIL and TIME: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8409 Fuel weight 7.002 lbs/gal (0.839 kg/l) Oil SAE 15W-40 API service classification CI-4 Transmission and hydraulic lubricant John Deere Hy-Gard fluid Total time engine was operated: 24.5 hours

ENGINE: Make John Deere Diesel **Type** six cylinder vertical with turbocharger and air to air aftercooler **Serial No.** *RG6090L005576* **Crankshaft** lengthwise **Rated engine speed** 2100 **Bore and stroke** 4.661" x 5.354" (118.4 mm x 136.0 mm) **Compression ratio** 16.3 to 1 **Displacement** 548 cu in (8984 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 and prestrainer **Fuel cooler** radiator for pump return fuel **Muffler** vertical **Cooling medium temperature control** 2 thermostats and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 90.2 - 97.4 lb/h (40.9 - 44.2 kg/h) **High idle:** 2175 - 2225 rpm **Turbo boost:** nominal 24.7 - 27.6 psi (170 - 190 kPa) as measured 26.3 psi (181 kPa)

CHASSIS: Type tracklayer-rubber tracked **Serial No.** *RW8330T901179* **Track width** 91.9" (2335 mm) to 119.5" (3035 mm) **Length of track on ground** 89.0" (2261 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with full range operator controlled power shift **Nominal travel speeds mph (km/h)** first 0.91 (1.47) second 1.22 (1.96) third 1.62 (2.61) fourth 2.17 (3.50) fifth 2.44 (3.93) sixth 2.81 (4.53) seventh 3.27 (5.26) eighth 3.77 (6.06) ninth 4.35 (7.00) tenth 5.01 (8.07) eleventh 5.83 (9.38) twelfth 6.72 (10.81) thirteenth 7.92 (12.74) fourteenth 10.60 (17.06) fifteenth 14.12 (22.72) sixteenth 18.91 (30.43) reverse 0.85 (1.37), 2.28 (3.67), 2.88 (4.64), 5.29 (8.51) @ 1500 engine rpm **Clutch** wet multiple disc hydraulically actuated by foot pedal **Brakes** wet multiple disc hydraulically actuated by foot pedal **Steering** electro-hydraulic differential steering controlled by steering wheel **Power take-off** 1000 rpm at 2003 engine rpm **Unladen tractor mass** 28175 lb (12780 kg)

DRAWBAR PERFORMANCE

Unballasted - 2100 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) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|---|--------------------------------------|--------------------------------------|--------------------|-------------------------------|
| 6th Gear | | | | | | | | | |
| 176.48 (131.60) | 26627 (118.44) | 2.49 (4.00) | 2106 | 13.25 | 0.527 (0.321) | 13.28 (2.62) | 181 (83) | 44 (7) | 29.01 (98.24) |
| 7th Gear | | | | | | | | | |
| 193.38 (144.20) | 23455 (104.33) | 3.09 (4.98) | 2100 | 6.84 | 0.485 (0.295) | 14.44 (2.84) | 181 (83) | 45 (7) | 29.01 (98.24) |
| 8th Gear | | | | | | | | | |
| 199.21 (148.55) | 20457 (91.00) | 3.65 (5.88) | 2099 | 4.56 | 0.471 (0.287) | 14.85 (2.93) | 183 (84) | 47 (8) | 29.01 (98.24) |
| 9th Gear | | | | | | | | | |
| 202.53 (151.03) | 17728 (78.86) | 4.28 (6.89) | 2098 | 3.01 | 0.461 (0.281) | 15.18 (2.99) | 192 (89) | 58 (14) | 28.54 (96.65) |
| 10th Gear | | | | | | | | | |
| 204.74 (152.68) | 15364 (68.34) | 5.00 (8.04) | 2098 | 1.85 | 0.455 (0.277) | 15.38 (3.03) | 191 (88) | 56 (13) | 28.55 (96.68) |
| 11th Gear | | | | | | | | | |
| 203.65 (151.86) | 13060 (58.09) | 5.85 (9.41) | 2101 | 1.29 | 0.457 (0.278) | 15.33 (3.02) | 197 (92) | 59 (15) | 28.53 (96.61) |
| 12th Gear | | | | | | | | | |
| 203.14 (151.48) | 11265 (50.11) | 6.76 (10.88) | 2100 | 0.94 | 0.459 (0.279) | 15.24 (3.00) | 198 (92) | 61 (16) | 28.52 (96.58) |
| 13th Gear | | | | | | | | | |
| 201.90 (150.55) | 9491 (42.22) | 7.98 (12.84) | 2098 | 0.71 | 0.464 (0.282) | 15.11 (2.98) | 200 (93) | 63 (17) | 28.51 (96.55) |

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 115°F(46°C). 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 and correct report of official Tractor Test No. **1888**, Nebraska Summary 555, December 8, 2006.

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 9th gear | 72.2 |
| Transport speed - no load - 16th gear | 74.8 |
| Bystander in 16th gear | 87.7 |

TIRES, BALLAST AND WEIGHT

| | With Ballast | Without Ballast |
|-----------------------------|--------------------|--------------------|
| Track width | 25.0 in (635 mm) | 25.0 in (635 mm) |
| Ballast - Cast iron(front) | 2105 lb (955 kg) | None |
| Height of Drawbar | 19.0 in (485 mm) | 18.5 in (470 mm) |
| Static Weight with operator | 30455 lb(13814 kg) | 28350 lb(12859 kg) |

DRAWBAR PERFORMANCE
Unballasted - 1700 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(°C) cool- ing med | Air dry bulb | Barom. inch Hg (kPa) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|---|---|-------------------------------------|--------------------|-------------------------------|
| 6th Gear | | | | | | | | | |
| 178.50 (133.11) | 26783 (119.13) | 2.50 (4.02) | 2100 | 12.53 | 0.526 (0.320) | 13.32 (2.62) | 181 (83) | 43 (6) | 29.01 (98.24) |
| 7th Gear | | | | | | | | | |
| 195.51 (145.79) | 24701 (109.88) | 2.97 (4.78) | 2060 | 8.85 | 0.490 (0.298) | 14.29 (2.81) | 184 (84) | 46 (8) | 29.01 (98.24) |
| 8th Gear | | | | | | | | | |
| 210.22 (156.76) | 23338 (103.81) | 3.38 (5.44) | 1998 | 7.24 | 0.468 (0.284) | 14.97 (2.95) | 188 (87) | 47 (8) | 29.01 (98.24) |
| 9th Gear | | | | | | | | | |
| 222.49 (165.91) | 22825 (101.53) | 3.66 (5.88) | 1864 | 6.85 | 0.462 (0.281) | 15.14 (2.98) | 198 (92) | 46 (8) | 29.01 (98.24) |
| 10th Gear | | | | | | | | | |
| 227.47 (169.62) | 21849 (97.19) | 3.90 (6.28) | 1702 | 5.47 | 0.464 (0.282) | 15.09 (2.97) | 202 (94) | 57 (14) | 28.54 (96.65) |
| 11th Gear | | | | | | | | | |
| 230.65 (171.99) | 18697 (83.17) | 4.63 (7.44) | 1699 | 3.39 | 0.458 (0.279) | 15.29 (3.01) | 201 (94) | 60 (16) | 28.53 (96.61) |
| 12th Gear | | | | | | | | | |
| 235.48 (175.60) | 16341 (72.69) | 5.40 (8.70) | 1701 | 2.27 | 0.448 (0.272) | 15.64 (3.08) | 201 (94) | 62 (17) | 28.52 (96.58) |
| 13th Gear | | | | | | | | | |
| 237.24 (176.91) | 13859 (61.65) | 6.42 (10.33) | 1702 | 1.54 | 0.446 (0.271) | 15.69 (3.09) | 201 (94) | 48 (9) | 29.01 (98.24) |
| 14th Gear | | | | | | | | | |
| 233.44 (174.08) | 10087 (44.87) | 8.68 (13.97) | 1705 | 0.81 | 0.454 (0.276) | 15.41 (3.04) | 200 (93) | 48 (9) | 29.01 (98.24) |

DRAWBAR PERFORMANCE
Ballasted - 1700 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(°C) cool- ing med | Air dry bulb | Barom. inch Hg (kPa) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|---|---|-------------------------------------|--------------------|-------------------------------|
| 5th Gear | | | | | | | | | |
| 173.17 (129.13) | 29891 (132.96) | 2.17 (3.50) | 2120 | 13.31 | 0.534 (0.325) | 13.11 (2.58) | 182 (83) | 51 (11) | 28.94 (98.00) |
| 6th Gear | | | | | | | | | |
| 191.42 (142.74) | 27617 (122.85) | 2.60 (4.18) | 2087 | 8.62 | 0.491 (0.299) | 14.26 (2.81) | 183 (84) | 54 (12) | 28.91 (97.90) |
| 7th Gear | | | | | | | | | |
| 206.20 (153.76) | 26415 (117.50) | 2.93 (4.71) | 2008 | 7.95 | 0.477 (0.290) | 14.69 (2.89) | 190 (88) | 54 (12) | 28.89 (97.83) |
| 8th Gear | | | | | | | | | |
| 219.65 (163.79) | 25576 (113.77) | 3.22 (5.18) | 1900 | 7.19 | 0.466 (0.284) | 15.02 (2.96) | 202 (94) | 55 (13) | 28.88 (97.80) |
| 9th Gear | | | | | | | | | |
| 225.60 (168.23) | 24551 (109.21) | 3.45 (5.55) | 1741 | 6.10 | 0.465 (0.283) | 15.04 (2.96) | 205 (96) | 56 (13) | 28.87 (97.77) |
| 10th Gear | | | | | | | | | |
| 231.18 (172.39) | 21920 (97.51) | 3.95 (6.36) | 1701 | 4.33 | 0.458 (0.279) | 15.28 (3.01) | 201 (94) | 56 (13) | 28.86 (97.73) |
| 11th Gear | | | | | | | | | |
| 235.42 (175.55) | 18916 (84.14) | 4.67 (7.51) | 1701 | 2.83 | 0.448 (0.273) | 15.62 (3.08) | 203 (95) | 56 (13) | 28.85 (97.70) |
| 12th Gear | | | | | | | | | |
| 238.14 (177.58) | 16432 (73.10) | 5.43 (8.75) | 1702 | 1.92 | 0.445 (0.271) | 15.73 (3.10) | 200 (94) | 57 (14) | 28.84 (97.66) |
| 13th Gear | | | | | | | | | |
| 237.32 (176.97) | 13798 (61.38) | 6.45 (10.38) | 1704 | 1.31 | 0.445 (0.271) | 15.72 (3.10) | 201 (94) | 57 (14) | 28.83 (97.63) |
| 14th Gear | | | | | | | | | |
| 231.36 (172.52) | 10008 (44.52) | 8.67 (13.95) | 1701 | 0.81 | 0.458 (0.279) | 15.29 (3.01) | 200 (93) | 58 (14) | 28.82 (97.60) |

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: yes

Maximum force exerted through whole range: 16830 lbs (74.9 kN)

i) Opening pressure of relief valve: NA

| | | |
|---|-----------------------------------|--------------------|
| | <u>45 cc pump</u> | <u>57 cc pump</u> |
| Sustained pressure at compensator cutoff: | 3012 psi (208 bar) | 3019 psi (208 bar) |
| | three outlet sets combined | |

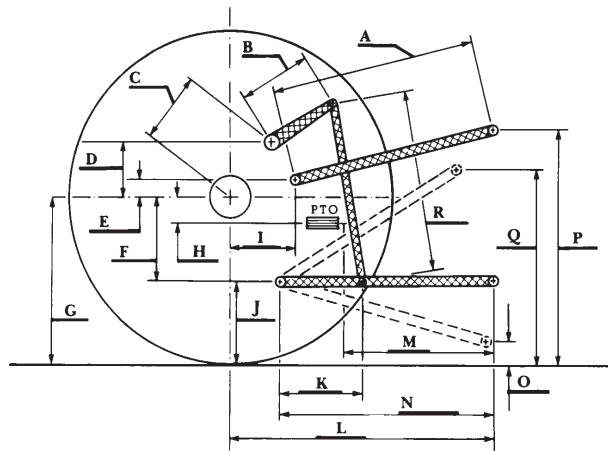
| | | |
|--|------------------------|------------------------|
| ii) Pump delivery rate at minimum pressure and rated engine speed: | 34.9 GPM (132.1 l/min) | 42.5 GPM (160.9 l/min) |
|--|------------------------|------------------------|

| | | |
|---|--------------------------|------------------------|
| iii) Pump delivery rate at maximum hydraulic power: | 33.0 GPM (124.9 l/min) | 41.7 GPM (157.9 l/min) |
| Delivery pressure: | 2752 psi (190 bar) | 2562 psi (177 bar) |
| Power: | 53.0 HP (39.5 kW) | 62.3 HP (46.5 kW) |
| | single outlet set | |

| | | |
|--|------------------------|------------------------|
| ii) Pump delivery rate at minimum pressure and rated engine speed: | 34.4 GPM (130.2 l/min) | 38.0 GPM (153.8 l/min) |
|--|------------------------|------------------------|

| | | |
|---|------------------------|------------------------|
| iii) Pump delivery rate at maximum hydraulic power: | 32.9 GPM (124.5 l/min) | 35.0 GPM (132.5 l/min) |
| Delivery pressure: | 2116 psi (146 bar) | 1997 psi (138 bar) |
| Power: | 40.6 HP (30.3 kW) | 40.8 HP (30.4 kW) |

HITCH DIMENSIONS AS TESTED - NO LOAD



| | inch | mm |
|-----|------|------|
| A | 28.8 | 732 |
| B | 20.5 | 520 |
| C | 20.9 | 532 |
| D | 18.9 | 480 |
| E | 7.3 | 185 |
| F | 14.4 | 365 |
| G | 34.7 | 880 |
| H | 3.1 | 80 |
| I | 20.7 | 525 |
| J | 20.3 | 515 |
| K | 28.7 | 730 |
| L | 50.0 | 1270 |
| *L' | 54.1 | 1375 |
| M | 27.1 | 689 |
| N | 42.6 | 1081 |
| O | 9.0 | 230 |
| P | 42.3 | 1074 |
| Q | 39.9 | 1013 |
| R | 42.7 | 1085 |

*L' to Quick Attach ends



JOHN DEERE 8330T DIESEL