

NEBRASKA OECD TRACTOR TEST 1970—SUMMARY 731

JOHN DEERE 8295RT 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) | | | | | |
| 242.81 (181.06) | 2100 | 13.34 (50.51) | 0.386 (0.235) | 18.20 (3.58) | |
| Standard Power Take-off Speed(1000 rpm) | | | | | |
| 267.29 (199.32) | 2004 | 14.38 (54.43) | 0.378 (0.230) | 18.59 (3.66) | |
| Maximum Power (1 hour) | | | | | |
| 279.14 (208.16) | 1749 | 14.98 (56.70) | 0.377 (0.229) | 18.64 (3.67) | |

VARYING POWER AND FUEL CONSUMPTION

| | | | | | |
|--------------------|------|------------------|-------------------|-----------------|-----------------------|
| 242.81 (181.06) | 2100 | 13.34 (50.51) | 0.386 (0.235) | 18.20 (3.58) | Air temperature |
| 211.62 (157.81) | 2152 | 12.14 (45.96) | 0.403 (0.245) | 17.43 (3.43) | 75°F (24°C) |
| 159.62 (119.03) | 2162 | 10.09 (38.18) | 0.444 (0.270) | 15.82 (3.12) | Relative humidity |
| 106.94 (79.73) | 2175 | 7.66 (29.00) | 0.503 (0.306) | 13.96 (2.75) | 27% |
| 53.92 (40.21) | 2186 | 5.30 (20.08) | 0.691 (0.420) | 10.16 (2.00) | Barometer |
| 1.87 (1.39) | 2194 | 4.08 (15.43) | 15.315 (9.316) | 0.46 (0.09) | 28.49" Hg (96.48 kPa) |

Maximum torque - 913 lb.-ft. (1238 Nm) at 1501 rpm

Maximum torque rise - 50.4%

Torque rise at 1698 engine rpm - 41%

Power increase at 1749 rpm - 15.0%

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—8th Gear | | | | | | | | | |
| 212.62 (158.55) | 17521 (77.94) | 4.55 (7.32) | 2099 | 2.2 | 0.443 (0.269) | 15.87 (3.13) | 195 (91) | 64 (18) | 28.59 (96.82) |
| 75% of Pull at Maximum Power—8th Gear | | | | | | | | | |
| 164.59 (122.73) | 13109 (58.31) | 4.71 (7.58) | 2156 | 1.5 | 0.490 (0.298) | 14.34 (2.83) | 196 (91) | 72 (22) | 28.58 (96.78) |
| 50% of Pull at Maximum Power—8th Gear | | | | | | | | | |
| 111.16 (82.89) | 8755 (38.95) | 4.76 (7.66) | 2168 | 1.0 | 0.559 (0.340) | 12.55 (2.47) | 189 (87) | 74 (23) | 28.58 (96.78) |
| 75% of Pull at Reduced Engine Speed—11th Gear | | | | | | | | | |
| 164.22 (122.46) | 13089 (58.22) | 4.71 (7.57) | 1392 | 1.5 | 0.425 (0.258) | 16.54 (3.26) | 198 (92) | 73 (23) | 28.58 (96.78) |
| 50% of Pull at Reduced Engine Speed—11th Gear | | | | | | | | | |
| 111.70 (83.29) | 8760 (38.97) | 4.78 (7.69) | 1408 | 0.9 | 0.460 (0.280) | 15.28 (3.01) | 195 (91) | 75 (24) | 28.58 (96.78) |

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

Dates of tests: April 28 - May 12, 2010

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) 0.8433 Fuel weight 7.022 lbs/gal (0.842 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: 26.5 hours

ENGINE: Make John Deere Diesel Type six cylinder vertical with turbocharger and air to air aftercooler Serial No.*RG6090L070215* 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: 90.0 - 97.2 lb/h (40.8 - 44.1 kg/h) High idle: 2175 - 2225 rpm Turbo boost: nominal 26.1 - 30.5 psi (180 - 210 kPa) as measured 26.8 psi (185 kPa)

CHASSIS: Type tracklayer-rubber tracked Serial No.*1RW8295RC9P901309* Track width 76.0" (1930 mm) to 120.0" (3048 mm) Length of track on ground 99.0" (2515 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 1.13 (1.82) second 1.52 (2.44) third 2.01 (3.24) fourth 2.70 (4.34) fifth 3.03 (4.87) sixth 3.49 (5.62) seventh 4.06 (6.53) eighth 4.67 (7.52) ninth 5.40 (8.69) tenth 6.23 (10.02) eleventh 7.23 (11.64) twelfth 8.34 (13.42) thirteenth 9.82 (15.81) fourteenth 13.16 (21.18) fifteenth 17.52 (28.20) sixteenth 23.46 (37.76) reverse 1.06 (1.70), 2.83 (4.56), 3.57 (5.75), 6.56 (10.56) @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 2004 engine rpm Unladen tractor mass 33660 lb (15268 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 cool- ing med | Temp. °C Air dry bulb | Barom. inch Hg (kPa) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|---|--------------------------------------|---------------------------------|--------------------------------|-------------------------------|
| | | | | | 3rd Gear | | | | |
| 159.40 (118.86) | 32613 (145.07) | 1.84 (2.95) | 2153 | 12.3 | 0.530 (0.323) | 13.24 (2.61) | 182 (83) | 60 (16) | 28.19 (95.46) |
| | | | | | 4th Gear | | | | |
| 195.02 (145.43) | 29569 (131.53) | 2.48 (3.98) | 2099 | 8.6 | 0.485 (0.295) | 14.48 (2.85) | 189 (87) | 60 (16) | 28.19 (95.46) |
| | | | | | 5th Gear | | | | |
| 197.79 (147.49) | 26309 (117.03) | 2.82 (4.54) | 2098 | 6.6 | 0.478 (0.291) | 14.68 (2.89) | 184 (84) | 57 (14) | 28.18 (95.43) |
| | | | | | 6th Gear | | | | |
| 203.19 (151.52) | 22963 (102.14) | 3.32 (5.34) | 2100 | 4.7 | 0.463 (0.282) | 15.17 (2.99) | 187 (86) | 58 (14) | 28.18 (95.43) |
| | | | | | 7th Gear | | | | |
| 210.84 (157.22) | 20180 (89.76) | 3.92 (6.31) | 2100 | 2.9 | 0.447 (0.272) | 15.71 (3.10) | 192 (89) | 63 (17) | 28.60 (96.85) |
| | | | | | 8th Gear | | | | |
| 212.62 (158.55) | 17521 (77.94) | 4.55 (7.32) | 2099 | 2.2 | 0.443 (0.269) | 15.87 (3.13) | 195 (91) | 64 (18) | 28.59 (96.82) |
| | | | | | 9th Gear | | | | |
| 210.25 (156.78) | 14935 (66.43) | 5.28 (8.50) | 2099 | 1.8 | 0.448 (0.272) | 15.68 (3.09) | 193 (90) | 61 (16) | 28.60 (96.85) |
| | | | | | 10th Gear | | | | |
| 210.21 (156.75) | 12901 (57.38) | 6.11 (9.83) | 2099 | 1.5 | 0.448 (0.273) | 15.67 (3.09) | 195 (91) | 67 (19) | 28.59 (96.82) |
| | | | | | 11th Gear | | | | |
| 205.64 (153.35) | 10807 (48.07) | 7.14 (11.49) | 2100 | 1.2 | 0.455 (0.277) | 15.44 (3.04) | 196 (91) | 69 (21) | 28.59 (96.82) |
| | | | | | 12th Gear | | | | |
| 203.50 (151.75) | 9275 (41.26) | 8.23 (13.24) | 2100 | 1.0 | 0.458 (0.279) | 15.32 (3.02) | 198 (92) | 70 (21) | 28.59 (96.82) |

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 111°F(44°C). The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1970**, Nebraska Summary 731, July 27, 2010.

Roger M. Hoy
Director

M.F. Kocher
D.R. Keshwani
J.A. Smith
Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB

dB(A)

| | |
|---------------------------------------|------|
| At no load in 8th gear | 69.4 |
| Transport speed - no load - 16th gear | 73.8 |
| Bystander in 16th gear | 85.8 |

TIRES AND WEIGHT

Tested Without Ballast

| | |
|-----------------------------|--------------------|
| Track width | 25.0 in (635 mm) |
| Height of Drawbar | 18.0 in (455 mm) |
| Static Weight with operator | 33835 lb(15347 kg) |

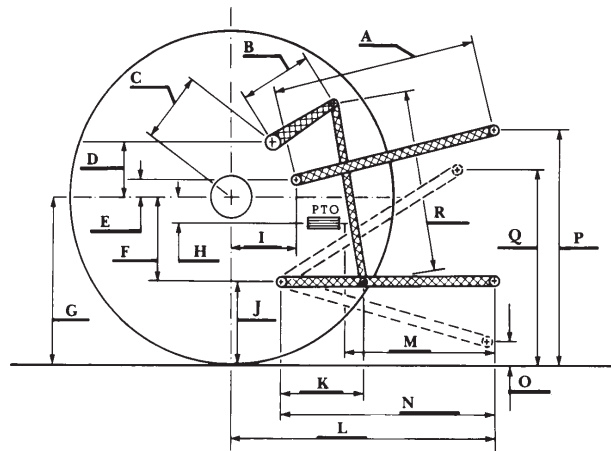
DRAWBAR PERFORMANCE
Unballasted - 1750 RPM
MAXIMUM POWER IN SELECTED GEARS

| 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) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|---|---|-------------------------------------|--------------------|-------------------------------|
| 3rd Gear | | | | | | | | | |
| 160.02 (119.33) | 32799 (145.90) | 1.83 (2.95) | 2153 | 12.4 | 0.531 (0.323) | 13.23 (2.61) | 182 (83) | 60 (16) | 28.19 (95.46) |
| 4th Gear | | | | | | | | | |
| 197.69 (147.41) | 30653 (136.35) | 2.42 (3.89) | 2083 | 10.2 | 0.485 (0.295) | 14.49 (2.85) | 196 (91) | 61 (16) | 28.19 (95.46) |
| 5th Gear | | | | | | | | | |
| 206.03 (153.63) | 28184 (125.37) | 2.74 (4.41) | 2062 | 7.8 | 0.473 (0.288) | 14.85 (2.93) | 187 (86) | 58 (14) | 28.18 (95.43) |
| 6th Gear | | | | | | | | | |
| 224.02 (167.05) | 27295 (121.42) | 3.08 (4.96) | 1991 | 6.8 | 0.453 (0.276) | 15.50 (3.05) | 199 (93) | 59 (15) | 28.19 (95.46) |
| 7th Gear | | | | | | | | | |
| 233.21 (173.90) | 24986 (111.14) | 3.50 (5.63) | 1918 | 5.1 | 0.440 (0.268) | 15.96 (3.14) | 199 (93) | 63 (17) | 28.20 (95.50) |
| 8th Gear | | | | | | | | | |
| 241.28 (179.92) | 24319 (108.18) | 3.72 (5.99) | 1757 | 4.3 | 0.433 (0.264) | 16.20 (3.19) | 198 (92) | 65 (18) | 28.59 (96.82) |
| 9th Gear | | | | | | | | | |
| 243.25 (181.39) | 20995 (93.39) | 4.35 (6.99) | 1755 | 3.3 | 0.430 (0.261) | 16.34 (3.22) | 199 (93) | 62 (17) | 28.60 (96.85) |
| 10th Gear | | | | | | | | | |
| 245.65 (183.18) | 18222 (81.05) | 5.06 (8.14) | 1753 | 2.4 | 0.425 (0.258) | 16.54 (3.26) | 197 (92) | 68 (20) | 28.59 (96.82) |
| 11th Gear | | | | | | | | | |
| 242.83 (181.07) | 15423 (68.60) | 5.91 (9.50) | 1755 | 1.9 | 0.432 (0.263) | 16.26 (3.20) | 196 (91) | 69 (21) | 28.59 (96.82) |
| 12th Gear | | | | | | | | | |
| 241.29 (179.93) | 13236 (58.88) | 6.84 (11.00) | 1753 | 1.3 | 0.433 (0.263) | 16.22 (3.20) | 197 (92) | 70 (21) | 28.59 (96.82) |
| 13th Gear | | | | | | | | | |
| 239.27 (178.42) | 11081 (49.29) | 8.10 (13.03) | 1753 | 0.9 | 0.439 (0.267) | 16.00 (3.15) | 197 (91) | 72 (22) | 28.58 (96.78) |

HYDRAULIC PERFORMANCE

| CATEGORY: | III | IVN |
|--|-----------------------------------|------------------------|
| Quick Attach: yes | | |
| OECD Static test | | |
| Maximum force exerted through whole range: | 17714 lbs (78.8 kN) | 21167 lbs (94.2 kN) |
| | <u>63 cc pump</u> | <u>85 cc pump</u> |
| i) Sustained pressure at compensator cutoff: | 2973 psi (205 bar) | 2902 psi (200 bar) |
| | three outlet sets combined | |
| ii) Pump delivery rate at minimum pressure and rated engine speed: | 48.4 GPM (183.3 l/min) | 65.0 GPM (246.1 l/min) |
| iii) Pump delivery rate at maximum hydraulic power: | 47.4 GPM (179.5 l/min) | 64.7 GPM (245.0 l/min) |
| Delivery pressure: | 2740 psi (189 bar) | 2429 psi (168 bar) |
| Power: | 75.8 HP (56.5 kW) | 91.7 HP (68.4 kW) |
| | single outlet set | |
| ii) Pump delivery rate at minimum pressure and rated engine speed: | 41.2 GPM (155.9 l/min) | 42.2 GPM (159.6 l/min) |
| iii) Pump delivery rate at maximum hydraulic power: | 39.4 GPM (149.1 l/min) | 41.2 GPM (156.1 l/min) |
| Delivery pressure: | 2286 psi (158 bar) | 2032 psi (140 bar) |
| Power: | 52.5 HP (39.2 kW) | 48.9 HP (36.4 kW) |

HITCH DIMENSIONS AS TESTED - NO LOAD



| | Category III | | Category IVN | |
|-----|--------------|------|--------------|------|
| | inch | mm | inch | mm |
| A | 28.5 | 725 | 28.1 | 715 |
| B | 20.5 | 520 | 20.5 | 520 |
| C | 24.8 | 631 | 24.8 | 631 |
| D | 24.2 | 615 | 24.2 | 615 |
| E | 10.8 | 275 | 12.6 | 320 |
| F | 11.5 | 292 | 11.5 | 292 |
| G | 35.0 | 888 | 35.0 | 888 |
| H | 3.1 | 80 | 3.1 | 80 |
| I | 17.3 | 440 | 18.5 | 470 |
| J | 23.5 | 596 | 23.5 | 596 |
| K | 38.6 | 981 | 39.8 | 1011 |
| L | 50.5 | 1282 | 53.6 | 1361 |
| *L' | 54.6 | 1387 | 59.5 | 1511 |
| M | 27.5 | 699 | 30.6 | 777 |
| N | 42.6 | 1082 | 45.7 | 1161 |
| O | 9.0 | 230 | 9.0 | 230 |
| P | 45.5 | 1155 | 50.5 | 1283 |
| Q | 39.7 | 1008 | 41.1 | 1043 |
| R | 44.8 | 1138 | 44.7 | 1135 |

*L' to Quick Attach ends



JOHN DEERE 8295RT DIESEL