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## Test 1667: John Deere 7700 Powershift Diesel 19-Speed

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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# NEBRASKA OECD TRACTOR TEST 1667—SUMMARY 134

## JOHN DEERE 7700 POWERSHIFT DIESEL

### 19 SPEED

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

**Dates of Test:** April 22 to May 21, 1993

**Manufacturer:** John Deere Tractor Works, P.O.  
Box 270, Waterloo, Iowa 50704

#### POWER TAKE-OFF PERFORMANCE

| Power<br>HP<br>(kW)                            | Crank<br>shaft<br>speed<br>rpm | Gal/hr<br>(l/h) | lb/hp.hr<br>(kg/kW.h) | Hp.hr/gal<br>(kW.h/l) | Mean Atmospheric<br>Conditions |
|--|--------------------------------|-----------------|-----------------------|-----------------------|--------------------------------|
| <b>MAXIMUM POWER AND FUEL CONSUMPTION</b>      |                                |                 |                       |                       |                                |
| <b>Rated Engine Speed—(PTO speed—1007 rpm)</b> |                                |                 |                       |                       |                                |
| 126.08<br>(94.02)                              | 2101                           | 7.68<br>(29.08) | 0.424<br>(0.258)      | 16.41<br>(3.23)       |                                |
| <b>Maximum Power (2 hours)</b>                 |                                |                 |                       |                       |                                |
| 130.80<br>(97.54)                              | 1900                           | 7.51<br>(28.41) | 0.399<br>(0.243)      | 17.43<br>(3.43)       |                                |

#### VARYING POWER AND FUEL CONSUMPTION

|                   |      |                 |                    |                 |                       |
|-------------------|------|-----------------|--------------------|-----------------|-----------------------|
| 126.08<br>(94.02) | 2101 | 7.68<br>(29.08) | 0.424<br>(0.258)   | 16.41<br>(3.23) | Air temperature       |
| 110.57<br>(82.45) | 2166 | 7.11<br>(26.93) | 0.448<br>(0.272)   | 15.54<br>(3.06) | 76°F (25°C)           |
| 84.06<br>(62.68)  | 2203 | 6.08<br>(23.01) | 0.503<br>(0.306)   | 13.83<br>(2.72) | Relative humidity     |
| 56.98<br>(42.49)  | 2229 | 4.92<br>(18.61) | 0.600<br>(0.365)   | 11.59<br>(2.28) | 44%                   |
| 28.81<br>(21.48)  | 2254 | 3.84<br>(14.53) | 0.927<br>(0.564)   | 7.51<br>(1.48)  | Barometer             |
| 0.42<br>(0.31)    | 2282 | 2.72<br>(10.28) | 45.354<br>(27.588) | 0.15<br>(0.03)  | 29.04" Hg (98.34 kPa) |

Maximum Torque 448 lb.-ft. (607 Nm) at 1255 rpm

Maximum Torque Rise 42.1%

Torque rise at 1696 engine rpm 27.8%

#### DRAWBAR PERFORMANCE

##### FUEL CONSUMPTION CHARACTERISTICS

| Power<br>Hp<br>(kW)                                  | Drawbar<br>pull<br>lbs<br>(kN) | Speed<br>mph<br>(km/h) | Crank-<br>shaft<br>speed<br>rpm | Slip<br>% | Fuel Consumption<br>lb/hp.hr<br>(kg/kW.h) | Hp.hr/gal<br>(kW.h/l) | Temp. °F (°C)<br>cool-<br>ing<br>med | Air<br>dry<br>bulb | Barom.<br>inch<br>Hg<br>(kPa) |
|--|--------------------------------|------------------------|---------------------------------|-----------|---|-----------------------|--------------------------------------|--------------------|-------------------------------|
| <b>Maximum Power—11th Gear</b>                       |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 111.56<br>(83.19)                                    | 7215<br>(32.09)                | 5.80<br>(9.33)         | 2099                            | 2.62      | 0.487<br>(0.296)                          | 14.30<br>(2.82)       | 204<br>(95)                          | 62<br>(17)         | 28.75<br>(97.36)              |
| <b>75% of Pull at Maximum Power—11th Gear</b>        |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 88.37<br>(65.90)                                     | 5419<br>(24.10)                | 6.12<br>(9.84)         | 2199                            | 1.92      | 0.546<br>(0.332)                          | 12.75<br>(2.51)       | 199<br>(93)                          | 66<br>(19)         | 28.73<br>(97.29)              |
| <b>50% of Pull at Maximum Power—11th Gear</b>        |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 60.29<br>(44.96)                                     | 3614<br>(16.07)                | 6.26<br>(10.07)        | 2233                            | 1.30      | 0.658<br>(0.400)                          | 10.57<br>(2.08)       | 193<br>(89)                          | 66<br>(19)         | 28.73<br>(97.29)              |
| <b>75% of Pull at Reduced Engine Speed—13th Gear</b> |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 88.39<br>(65.91)                                     | 5399<br>(24.02)                | 6.14<br>(9.88)         | 1673                            | 2.01      | 0.482<br>(0.293)                          | 14.44<br>(2.84)       | 191<br>(88)                          | 66<br>(19)         | 28.73<br>(97.29)              |
| <b>50% of Pull at Reduced Engine Speed—13th Gear</b> |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 60.33<br>(44.98)                                     | 3600<br>(16.01)                | 6.28<br>(10.11)        | 1697                            | 1.21      | 0.547<br>(0.333)                          | 12.71<br>(2.50)       | 184<br>(84)                          | 66<br>(19)         | 28.73<br>(97.29)              |

**FUEL OIL and TIME:** Fuel No. 2 Diesel Cetane No. 53.9 Specific gravity converted to 60°/60° F (15°/15°C) 0.8357 Fuel weight 6.958 lbs/gal (0.834 kg/l) Oil SAE 15W-40 API service classification SG/CE To motor 4.574 gal (17.313 l) Drained from motor 4.283 gal (16.213 l) Transmission and hydraulic lubricant John Deere Hy-Gard fluid Front axle lubricant John Deere GL-5 Gear Lubricant Total time engine was operated 33.5 hours.

**ENGINE:** Make John Deere Diesel Type six cylinder vertical with turbocharger Serial No. \*RG6076T505871\* Crankshaft lengthwise Rated engine speed 2100 Bore and stroke (as specified) 4.56" × 4.75" (115.8 mm × 120.7 mm) Compression ratio 15.5 to 1 Displacement 466 cu in (7627 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 inlet fuel Muffler underhood Exhaust vertical Cooling medium temperature control two thermostats and variable speed fan

**ENGINE OPERATING PARAMETERS:** Fuel rate: 52.2-55.8 lb/h (23.7-25.3 kg/h) High idle: 2225-2325 rpm Turbo boost nominal 13.1-16.0 psi (90-110 kPa) as measured 15.0 psi (103 kPa)

**CHASSIS:** Type front wheel assist Serial No. \*RW7700P 001877\* Tread width rear 59.8" (1518 mm) to 100.3" (2548 mm) front 60.0" (1524 mm) to 88.0" (2235 mm) Wheel base 110.2" (2800 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 0.99 (1.60) second 1.43 (2.30) third 1.79 (2.88) fourth 2.16 (3.48) fifth 2.49 (4.01) sixth 2.83 (4.56) seventh 3.26 (5.25) eighth 3.88 (6.25) ninth 4.47 (7.20) tenth 5.08 (8.17) eleventh 5.85 (9.41) twelfth 6.71 (10.80) thirteenth 7.73 (12.44) fourteenth 8.77 (14.12) fifteenth 10.10 (16.26) sixteenth 11.32 (18.22) seventeenth 14.01 (22.54) eighteenth 19.55 (31.46) nineteenth 24.21 (38.96) reverse 1.60 (2.58), 2.29 (3.69), 3.48 (5.60), 4.01 (6.45), 4.55 (7.32), 5.24 (8.44), 10.15 (16.34) Clutch multiple wet disc hydraulically actuated by foot pedal Brakes wet multiple disc hydraulically actuated by two foot pedals which can be locked together Steering hydrostatic Power take-off 540 rpm at 2072 engine rpm and 1000 rpm at 2086 engine rpm Unladen tractor mass 15340 lb (6958 kg)

**DRAWBAR PERFORMANCE  
MAXIMUM POWER IN SELECTED GEARS**

| Power<br>Hp<br>(kW) | Drawbar<br>pull<br>lbs<br>(kN) | Speed<br>mph<br>(km/h) | Crank-<br>shaft<br>speed<br>rpm | Slip<br>% | Fuel Consumption<br>lb/hp.hr<br>(kg/kW.h) | Hp.hr/gal<br>(kW.h/l) | Temp. °F (°C)<br>cool-<br>ing<br>med | Air<br>dry<br>bulb | Barom.<br>inch<br>Hg<br>(kPa) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|---|-----------------------|--------------------------------------|--------------------|-------------------------------|
| 5th Gear            |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 89.99<br>(67.10)    | 14908<br>(66.31)               | 2.26<br>(3.64)         | 2180                            | 14.12     | 0.572<br>(0.348)                          | 12.17<br>(2.40)       | 190<br>(88)                          | 53<br>(12)         | 28.76<br>(97.39)              |
| 6th Gear            |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 100.04<br>(74.60)   | 13975<br>(62.16)               | 2.68<br>(4.32)         | 2164                            | 9.67      | 0.528<br>(0.321)                          | 13.18<br>(2.60)       | 197<br>(92)                          | 55<br>(13)         | 28.76<br>(97.39)              |
| 7th Gear            |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 108.12<br>(80.62)   | 13694<br>(60.91)               | 2.96<br>(4.77)         | 2057                            | 9.07      | 0.496<br>(0.302)                          | 14.03<br>(2.76)       | 198<br>(92)                          | 56<br>(13)         | 28.76<br>(97.39)              |
| 8th Gear            |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 110.22<br>(82.19)   | 12301<br>(54.72)               | 3.36<br>(5.41)         | 1901                            | 6.12      | 0.478<br>(0.291)                          | 14.57<br>(2.87)       | 201<br>(94)                          | 57<br>(14)         | 28.76<br>(97.39)              |
| 9th Gear            |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 113.25<br>(84.45)   | 10788<br>(47.99)               | 3.94<br>(6.34)         | 1902                            | 4.56      | 0.466<br>(0.284)                          | 14.93<br>(2.94)       | 201<br>(94)                          | 58<br>(14)         | 28.76<br>(97.39)              |
| 10th Gear           |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 112.86<br>(84.16)   | 9389<br>(41.76)                | 4.51<br>(7.25)         | 1902                            | 3.73      | 0.466<br>(0.284)                          | 14.92<br>(2.94)       | 199<br>(93)                          | 60<br>(16)         | 28.75<br>(97.36)              |
| 11th Gear           |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 114.28<br>(85.22)   | 8192<br>(36.44)                | 5.23<br>(8.42)         | 1904                            | 3.05      | 0.463<br>(0.281)                          | 15.04<br>(2.96)       | 203<br>(95)                          | 61<br>(16)         | 28.75<br>(97.36)              |
| 12th Gear           |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 111.98<br>(83.50)   | 6951<br>(30.92)                | 6.04<br>(9.72)         | 1903                            | 2.62      | 0.472<br>(0.287)                          | 14.73<br>(2.90)       | 199<br>(93)                          | 63<br>(17)         | 28.74<br>(97.33)              |
| 13th Gear           |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 111.75<br>(83.33)   | 5996<br>(26.67)                | 6.99<br>(11.25)        | 1904                            | 2.09      | 0.473<br>(0.288)                          | 14.70<br>(2.90)       | 196<br>(91)                          | 63<br>(17)         | 28.74<br>(97.33)              |
| 14th Gear           |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 109.67<br>(81.78)   | 5177<br>(23.03)                | 7.94<br>(12.79)        | 1901                            | 1.83      | 0.481<br>(0.292)                          | 14.47<br>(2.85)       | 203<br>(95)                          | 64<br>(18)         | 28.74<br>(97.33)              |
| 15th Gear           |                                |                        |                                 |           |   |                       |                                      |                    |                               |
| 107.88<br>(80.44)   | 4408<br>(19.61)                | 9.18<br>(14.77)        | 1900                            | 1.57      | 0.492<br>(0.299)                          | 14.14<br>(2.79)       | 203<br>(95)                          | 64<br>(18)         | 28.74<br>(97.33)              |

**DRAWBAR PERFORMANCE (BALLASTED)  
MAXIMUM POWER IN SELECTED GEARS**

|                   |                  |                 |      |       |                  |                 |             |            |                  |
|-------------------|------------------|-----------------|------|-------|------------------|-----------------|-------------|------------|------------------|
| 4th Gear          |                  |                 |      |       |                  |                 |             |            |                  |
| 91.94<br>(68.56)  | 17718<br>(78.81) | 1.95<br>(3.13)  | 2167 | 14.62 | 0.566<br>(0.344) | 12.29<br>(2.42) | 194<br>(90) | 54<br>(12) | 28.94<br>(98.00) |
| 5th Gear          |                  |                 |      |       |                  |                 |             |            |                  |
| 106.41<br>(79.35) | 16955<br>(75.42) | 2.35<br>(3.79)  | 2119 | 8.25  | 0.505<br>(0.307) | 13.77<br>(2.71) | 197<br>(91) | 57<br>(14) | 28.95<br>(98.04) |
| 6th Gear          |                  |                 |      |       |                  |                 |             |            |                  |
| 111.70<br>(83.29) | 16266<br>(72.35) | 2.58<br>(4.15)  | 2013 | 6.92  | 0.479<br>(0.291) | 14.53<br>(2.86) | 198<br>(92) | 58<br>(14) | 28.95<br>(98.04) |
| 7th Gear          |                  |                 |      |       |                  |                 |             |            |                  |
| 113.40<br>(84.56) | 15058<br>(66.98) | 2.82<br>(4.54)  | 1900 | 5.96  | 0.464<br>(0.282) | 15.01<br>(2.96) | 202<br>(94) | 60<br>(16) | 28.95<br>(98.04) |
| 8th Gear          |                  |                 |      |       |                  |                 |             |            |                  |
| 112.64<br>(84.00) | 12308<br>(54.75) | 3.43<br>(5.52)  | 1898 | 4.07  | 0.466<br>(0.283) | 14.94<br>(2.94) | 203<br>(95) | 62<br>(17) | 28.95<br>(98.04) |
| 9th Gear          |                  |                 |      |       |                  |                 |             |            |                  |
| 114.07<br>(85.06) | 10701<br>(47.60) | 4.00<br>(6.43)  | 1904 | 3.57  | 0.463<br>(0.281) | 15.04<br>(2.96) | 202<br>(94) | 65<br>(18) | 28.94<br>(98.00) |
| 10th Gear         |                  |                 |      |       |                  |                 |             |            |                  |
| 114.28<br>(85.22) | 9395<br>(41.79)  | 4.56<br>(7.34)  | 1904 | 2.80  | 0.461<br>(0.280) | 15.10<br>(2.98) | 203<br>(95) | 65<br>(18) | 28.94<br>(98.00) |
| 11th Gear         |                  |                 |      |       |                  |                 |             |            |                  |
| 113.25<br>(84.45) | 8068<br>(35.89)  | 5.26<br>(8.47)  | 1899 | 2.45  | 0.465<br>(0.283) | 14.96<br>(2.95) | 202<br>(94) | 66<br>(19) | 28.94<br>(98.00) |
| 12th Gear         |                  |                 |      |       |                  |                 |             |            |                  |
| 111.38<br>(83.06) | 6873<br>(30.57)  | 6.08<br>(9.78)  | 1904 | 2.01  | 0.474<br>(0.288) | 14.67<br>(2.89) | 204<br>(95) | 66<br>(19) | 28.94<br>(98.00) |
| 13th Gear         |                  |                 |      |       |                  |                 |             |            |                  |
| 110.03<br>(82.05) | 5881<br>(26.16)  | 7.02<br>(11.29) | 1902 | 1.75  | 0.479<br>(0.291) | 14.53<br>(2.86) | 202<br>(94) | 66<br>(19) | 28.94<br>(98.00) |
| 14th Gear         |                  |                 |      |       |                  |                 |             |            |                  |
| 108.44<br>(80.87) | 5081<br>(22.60)  | 8.00<br>(12.88) | 1907 | 1.49  | 0.486<br>(0.296) | 14.31<br>(2.82) | 205<br>(96) | 66<br>(19) | 28.94<br>(98.00) |

**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 return was maintained at 153°F (68°C). This tractor did not meet manufacturers claim of 72.0 dB(A) cab sound level. The performance results on this summary were taken from OECD tests conducted under the Code II Restricted Standard Test Code procedure.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1667**, Summary 134, July 6, 1993.

LOUIS I. LEVITICUS  
Engineer-in-Charge

L.L. BASHFORD  
R.D. GRISSE  
K. VON BARGEN  
Board of Tractor Test Engineers

## DRAWBAR PERFORMANCE (FRONT DRIVE DISENGAGED)

### FUEL CONSUMPTION CHARACTERISTICS

| Power<br>Hp<br>(kW)                                  | Drawbar<br>pull<br>lbs<br>(kN) | Speed<br>mph<br>(km/h) | Crank-<br>shaft<br>speed<br>rpm | Slip<br>% | Fuel Consumption<br>lb/hp.hr<br>(kg/kW.h) | Hp.hr/gal<br>(kW.h/l) | Temp. °F (°C)<br>cool-<br>ing med | Air<br>dry<br>bulb | Barom.<br>inch<br>Hg<br>(kPa) |
|--|--------------------------------|------------------------|---------------------------------|-----------|---|-----------------------|-----------------------------------|--------------------|-------------------------------|
| <b>Maximum Power—11th Gear</b>                       |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 111.17<br>(82.90)                                    | 7178<br>(31.93)                | 5.81<br>(9.35)         | 2101                            | 2.54      | 0.489<br>(0.297)                          | 14.24<br>(2.80)       | 203<br>(95)                       | 65<br>(18)         | 28.94<br>(98.00)              |
| <b>75% of Pull at Maximum Power—11th Gear</b>        |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 87.74<br>(65.43)                                     | 5386<br>(23.96)                | 6.11<br>(9.83)         | 2197                            | 1.93      | 0.548<br>(0.333)                          | 12.69<br>(2.50)       | 198<br>(92)                       | 70<br>(21)         | 28.94<br>(98.00)              |
| <b>50% of Pull at Maximum Power—11th Gear</b>        |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 59.69<br>(44.51)                                     | 3576<br>(15.91)                | 6.26<br>(10.07)        | 2238                            | 1.23      | 0.663<br>(0.403)                          | 10.50<br>(2.07)       | 195<br>(91)                       | 70<br>(21)         | 28.94<br>(98.00)              |
| <b>75% of Pull at Reduced Engine Speed—13th Gear</b> |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 87.82<br>(65.49)                                     | 5380<br>(23.93)                | 6.12<br>(9.85)         | 1664                            | 1.93      | 0.482<br>(0.293)                          | 14.42<br>(2.84)       | 193<br>(89)                       | 70<br>(21)         | 28.94<br>(98.00)              |
| <b>50% of Pull at Reduced Engine Speed—13th Gear</b> |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 60.01<br>(44.75)                                     | 3571<br>(15.88)                | 6.30<br>(10.14)        | 1704                            | 1.32      | 0.555<br>(0.338)                          | 12.54<br>(2.47)       | 183<br>(84)                       | 70<br>(21)         | 28.94<br>(98.00)              |

### MAXIMUM POWER IN SELECTED GEARS

| Power<br>Hp<br>(kW) | Drawbar<br>pull<br>lbs<br>(kN) | Speed<br>mph<br>(km/h) | Crank-<br>shaft<br>speed<br>rpm | Slip<br>% | Fuel Consumption<br>lb/hp.hr<br>(kg/kW.h) | Hp.hr/gal<br>(kW.h/l) | Temp. °F (°C)<br>cool-<br>ing med | Air<br>dry<br>bulb | Barom.<br>inch<br>Hg<br>(kPa) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|---|-----------------------|-----------------------------------|--------------------|-------------------------------|
| <b>5th Gear</b>     |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 91.03<br>(67.88)    | 15238<br>(67.78)               | 2.24<br>(3.61)         | 2170                            | 14.59     | 0.566<br>(0.344)                          | 12.29<br>(2.42)       | 193<br>(89)                       | 60<br>(16)         | 28.95<br>(98.04)              |
| <b>6th Gear</b>     |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 105.15<br>(78.41)   | 15092<br>(67.13)               | 2.61<br>(4.20)         | 2104                            | 9.45      | 0.511<br>(0.311)                          | 13.62<br>(2.68)       | 197<br>(92)                       | 59<br>(15)         | 28.95<br>(98.04)              |
| <b>7th Gear</b>     |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 110.90<br>(82.70)   | 13297<br>(59.15)               | 3.13<br>(5.03)         | 2100                            | 5.72      | 0.486<br>(0.296)                          | 14.32<br>(2.82)       | 199<br>(93)                       | 63<br>(17)         | 28.95<br>(98.04)              |
| <b>8th Gear</b>     |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 109.24<br>(81.46)   | 10799<br>(48.04)               | 3.79<br>(6.10)         | 2100                            | 3.99      | 0.495<br>(0.301)                          | 14.07<br>(2.77)       | 204<br>(96)                       | 64<br>(18)         | 28.95<br>(98.04)              |
| <b>9th Gear</b>     |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 110.84<br>(82.65)   | 9430<br>(41.95)                | 4.41<br>(7.09)         | 2103                            | 3.31      | 0.490<br>(0.298)                          | 14.20<br>(2.80)       | 205<br>(96)                       | 65<br>(18)         | 28.94<br>(98.00)              |
| <b>10th Gear</b>    |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 110.51<br>(82.40)   | 8256<br>(36.72)                | 5.02<br>(8.08)         | 2101                            | 2.89      | 0.490<br>(0.298)                          | 14.21<br>(2.80)       | 203<br>(95)                       | 65<br>(18)         | 28.94<br>(98.00)              |
| <b>11th Gear</b>    |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 111.17<br>(82.90)   | 7178<br>(31.93)                | 5.81<br>(9.35)         | 2100                            | 2.54      | 0.489<br>(0.297)                          | 14.24<br>(2.80)       | 203<br>(95)                       | 65<br>(18)         | 28.94<br>(98.00)              |
| <b>12th Gear</b>    |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 107.91<br>(80.47)   | 6056<br>(26.94)                | 6.68<br>(10.75)        | 2098                            | 2.11      | 0.505<br>(0.307)                          | 13.77<br>(2.71)       | 206<br>(96)                       | 66<br>(19)         | 28.94<br>(98.00)              |
| <b>13th Gear</b>    |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 106.09<br>(79.11)   | 5148<br>(22.90)                | 7.73<br>(12.44)        | 2100                            | 1.76      | 0.514<br>(0.313)                          | 13.53<br>(2.67)       | 205<br>(96)                       | 66<br>(19)         | 28.94<br>(98.00)              |
| <b>14th Gear</b>    |                                |                        |                                 |           |   |                       |                                   |                    |                               |
| 104.25<br>(77.74)   | 4448<br>(19.79)                | 8.79<br>(14.14)        | 2099                            | 1.49      | 0.523<br>(0.318)                          | 13.30<br>(2.62)       | 206<br>(97)                       | 66<br>(19)         | 28.94<br>(98.00)              |

### Front Wheel Drive Disengaged      Engaged dB(A)              dB(A)

#### TRACTOR SOUND LEVEL WITH CAB

|   |      |      |
|---|------|------|
| Gear closest to 4.7 mph (7.5 km/h) 9th Gear | 72.5 | 72.5 |
| Maximum sound level                         | 74.0 | 74.5 |
| Transport speed 19th Gear                   | 76.0 | —    |
| Bystander 19th Gear                         | 83.5 | —    |

#### TIRES, BALLAST AND WEIGHT

|  | Tested Without Ballast     | Without Ballast            |
|--|----------------------------|----------------------------|
| <b>Rear Tires</b> —No., size, ply & psi (kPa)  | Four 18.4R42; **, 12 (85)  | Two 18.4R42; **, 16 (110)  |
| <b>Ballast</b> —Duals (total)                  | 1670 lb (757 kg)           | None                       |
| —Test Equip. (total)                           | 55 lb (25 kg)              | None                       |
| <b>Front Tires</b> —No., size, ply & psi (kPa) | Two 14.9R30; ***, 23 (160) | Two 14.9R30; ***, 23 (160) |
| <b>Ballast</b> —Liquid (total)                 | None                       | None                       |
| —Cast Iron (total)                             | None                       | None                       |
| <b>Height of Drawbar</b>                       | 22.5 in (570 mm)           | 21.5 in (545 mm)           |
| <b>Static Weight with Operator</b> —Rear       | 11904 lb (5400 kg)         | 10145 lb (4602 kg)         |
| —Front   | 5326 lb (2416 kg)          | 5360 lb (2431 kg)          |
| —Total   | 17230 lb (7816 kg)         | 15505 lb (7033 kg)         |

## THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: Walterscheid lower link ends

|   |           |              |
|---|-----------|--------------|
| Maximum Force Exerted Through Whole Range:  | 10161 lbs | (45.2 kN)    |
| i) Opening pressure of relief valve:        | NA        |              |
| Sustained pressure with pump stalled:       | 2860 psi  | (197 bar)    |
| ii) Pump delivery rate at minimum pressure: | 25.8 GPM  | (97.7 l/min) |
| iii) Pump delivery rate at maximum          |           |              |
| hydraulic power:                            | 24.6 GPM  | (93.1 l/min) |
| Delivery pressure:                          | 2500 psi  | (172 bar)    |
| Power:                                      | 35.9 HP   | (26.8 kW)    |

## THREE POINT HITCH PERFORMANCE (SAE Static Test)

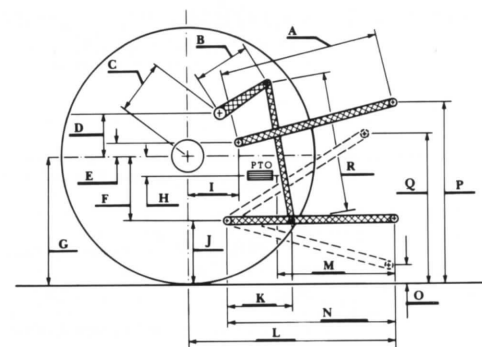
|                                      |                |
|--------------------------------------|----------------|
| Observed Maximum Pressure psi. (bar) | 2880 (198)     |
| Location                             | remote outlet  |
| Hydraulic oil temperature °F (°C)    | 144 (62)       |
| Location                             | hydraulic sump |
| Category                             | IIIN           |
| Quick attach                         | No             |

With lift cylinders—1 × 70 mm and 1 × 80 mm

|                                      |           |            |            |            |             |
|--------------------------------------|-----------|------------|------------|------------|-------------|
| Hitch point distance to ground level | 8.1 (206) | 16.0 (406) | 24.0 (610) | 32.0 (813) | 40.0 (1016) |
| Lift force on frame lb               | 11959     | 11949      | 11605      | 10760      | 9168        |
| Lift force on frame (kN)             | (53.2)    | (53.2)     | (51.6)     | (47.9)     | (40.8)      |

With lift cylinders—2 × 80 mm

|  |           |            |            |            |             |
|--|-----------|------------|------------|------------|-------------|
| Hitch point distance to ground level in (mm) | 7.7 (196) | 16.0 (406) | 24.0 (610) | 32.0 (813) | 40.0 (1016) |
| Lift force on frame lb.                      | 13295     | 13718      | 13295      | 12303      | 10426       |
| Lift force on frame (kN)                     | (59.1)    | (61.0)     | (59.1)     | (54.7)     | (46.4)      |



## HITCH DIMENSIONS AS TESTED—NO LOAD

|   | OECD test |      | SAE test |      |
|---|-----------|------|----------|------|
|   | inch      | mm   | inch     | mm   |
| A | 27.2      | 692  | 26.6     | 676  |
| B | 14.8      | 375  | 14.8     | 375  |
| C | 24.5      | 623  | 24.5     | 623  |
| D | 23.1      | 588  | 23.1     | 588  |
| E | 11.1      | 283  | 7.5      | 190  |
| F | 10.8      | 275  | 10.8     | 275  |
| G | 35.6      | 905  | 34.3     | 870  |
| H | 4.1       | 105  | 4.1      | 105  |
| I | 19.8      | 504  | 19.8     | 504  |
| J | 24.8      | 630  | 23.4     | 595  |
| K | 24.1      | 612  | 23.1     | 587  |
| L | 47.5      | 1206 | 46.4     | 1179 |
| M | 23.1      | 586  | 22.0     | 559  |
| N | 39.8      | 1011 | 38.7     | 984  |
| O | 9.0       | 229  | 8.0      | 203  |
| P | 51.8      | 1315 | 45.4     | 1153 |
| Q | 38.8      | 984  | 36.8     | 933  |
| R | 38.1      | 968  | 35.9     | 911  |



**JOHN DEERE 7700 POWERSHIFT DIESEL**

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