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January 2000

## Test 1787: John Deere 7610 Powrquad Diesel 20-Speed (Chassis S/N RW7610R030002 And Higher)

Nebraska Tractor Test Lab

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

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# NEBRASKA OECD TRACTOR TEST 1787-SUMMARY 340

## JOHN DEERE 7610 POWRQUAD DIESEL

### 20 SPEED

Chassis serial number \*RW7610R030002\* and higher

#### 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 |
|------------------------------------|--------------------------------|-----------------|-----------------------|-----------------------|--------------------------------|
| MAXIMUM POWER AND FUEL CONSUMPTION |                                |                 |                       |                       |                                |
| 120.63<br>(89.95)                  | 2101                           | 7.11<br>(26.90) | 0.413<br>(0.251)      | 16.98<br>(3.34)       |                                |
| 126.83<br>(94.58)                  | 1850                           | 7.02<br>(26.56) | 0.388<br>(0.236)      | 18.08<br>(3.56)       |                                |

#### VARYING POWER AND FUEL CONSUMPTION

|                   |      |                 |                  |                 |                       |
|-------------------|------|-----------------|------------------|-----------------|-----------------------|
| 120.63<br>(89.95) | 2101 | 7.11<br>(26.90) | 0.413<br>(0.251) | 16.98<br>(3.34) | Air temperature       |
| 104.87<br>(78.20) | 2150 | 6.50<br>(24.60) | 0.435<br>(0.264) | 16.14<br>(3.18) | 76°F (25°C)           |
| 80.16<br>(59.78)  | 2184 | 5.52<br>(20.88) | 0.483<br>(0.294) | 14.53<br>(2.86) | Relative humidity     |
| 53.89<br>(40.18)  | 2212 | 4.49<br>(16.99) | 0.585<br>(0.356) | 12.00<br>(2.36) | 55%                   |
| 27.20<br>(20.28)  | 2250 | 3.04<br>(11.49) | 0.783<br>(0.476) | 8.96<br>(1.76)  | Barometer             |
| 1.56<br>(1.16)    | 2277 | 2.09<br>(7.93)  | 9.435<br>(5.739) | 0.74<br>(0.15)  | 28.83" Hg (97.63 kPa) |

Maximum Torque - 420 lb.-ft. (569 Nm) at 1303 rpm

Maximum Torque Rise - 39.2%

Torque rise at 1700 engine rpm - 30%

#### DRAWBAR PERFORMANCE

##### UNBALLASTED - FRONT DRIVE ENGAGED

##### 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) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|---|-----------------------|--------------------------------------|--------------------|-------------------------------|
| 108.47<br>(80.88)   | 9016<br>(40.11)                | 4.51<br>(7.26)         | 2102                            | 3.26      | 0.461<br>(0.281)                          | 15.22<br>(3.00)       | 200<br>(93)                          | 75<br>(24)         | 28.83<br>(97.63)              |
| 84.64<br>(63.12)    | 6756<br>(30.05)                | 4.70<br>(7.56)         | 2167                            | 2.49      | 0.502<br>(0.306)                          | 13.97<br>(2.75)       | 196<br>(91)                          | 77<br>(25)         | 28.81<br>(97.56)              |
| 57.92<br>(43.19)    | 4507<br>(20.05)                | 4.82<br>(7.76)         | 2204                            | 1.61      | 0.596<br>(0.362)                          | 11.78<br>(2.32)       | 189<br>(87)                          | 77<br>(25)         | 28.80<br>(97.53)              |
| 84.72<br>(63.18)    | 6747<br>(30.01)                | 4.71<br>(7.58)         | 1637                            | 2.40      | 0.442<br>(0.269)                          | 15.87<br>(3.13)       | 191<br>(88)                          | 77<br>(25)         | 28.80<br>(97.53)              |
| 57.93<br>(43.20)    | 4500<br>(20.01)                | 4.83<br>(7.77)         | 1663                            | 1.53      | 0.491<br>(0.298)                          | 14.30<br>(2.82)       | 182<br>(83)                          | 77<br>(25)         | 28.78<br>(97.46)              |

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

**Dates of Test:** October 26-November 7, 2000

**Manufacturer:** John Deere Waterloo Works, P.O. Box 270, Waterloo Ia, USA, 50704

**FUEL, OIL and TIME:** Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8427 Fuel weight 7.017 lbs/gal (0.841 kg/l) Oil SAE 15W-40 API service classification CF-4 Transmission and hydraulic lubricant John Deere Hy-Gard fluid Front axle lubricant SAE 85W-140 API GL-5 Total time engine was operated: 28.5 hours

**ENGINE:** Make John Deere Diesel Type six cylinder vertical with turbocharger Serial No. \*T06068T856754\* Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 4.19" x 5.00" (106.5 mm x 127.0 mm) Compression ratio 17.0 to 1 Displacement 414 cu in (6788 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: 48.5 - 51.6 lb/h (22.0 - 23.4 kg/h) High idle: 2250 - 2300 rpm Turbo boost: nominal 8.6 - 12.9 psi (59 - 89 kPa) as measured 12.6 psi (87 kPa)

**CHASSIS:** Type front wheel assist Serial No. \*RW7610H037883\* Tread width rear 60.0" (1524 mm) to 100.0 (2548 mm) front 60.0" (1524 mm) to 88.0" (2235 mm) Wheelbase 110.2" (2800 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio with partial (4) range operator controlled power shift Nominal travel speeds mph (km/h) first 1.50 (2.41) second 1.80 (2.90) third 2.16 (3.48) fourth 2.65 (4.26) fifth 3.18 (5.11) sixth 3.83 (6.16) seventh 4.58 (7.37) eighth 5.06 (8.14) ninth 5.61 (9.03) tenth 6.09 (9.80) eleventh 7.29 (11.73) twelfth 8.93 (14.37) thirteenth 9.36 (15.06) fourteenth 11.27 (18.14) fifteenth 13.50 (21.72) sixteenth 13.86 (22.31) seventeenth 16.54 (26.61) eighteenth 16.70 (26.87) nineteenth 20.00 (32.18) twentieth 24.50 (39.42) reverse 1.78 (2.86), 2.14 (3.44), 2.57 (4.13), 3.14 (5.05), 3.77 (6.06), 4.54 (7.30), 5.43 (8.74), 6.00 (9.65), 6.66 (10.71), 7.22 (11.62), 8.65 (13.92), 10.59 (17.05), 11.10 (17.86), 13.37 (21.51), 16.01 (25.76), 16.45 (26.47), 19.61 (31.56), 19.80 (31.87), 23.72 (38.17), 29.06 (46.76)

**DRAWBAR PERFORMANCE**  
**UNBALLASTED - FRONT DRIVE ENGAGED**  
**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) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|---|-----------------------|-------------------------------------|--------------------|-------------------------------|
| 4th(A4)Gear         |                                |                        |                                 |           |   |                       |                                     |                    |                               |
| 93.46<br>(69.69)    | 14933<br>(66.42)               | 2.35<br>(3.78)         | 2129                            | 14.24     | 0.525<br>(0.319)                          | 13.36<br>(2.63)       | 185<br>(85)                         | 51<br>(11)         | 29.24<br>(99.02)              |
| 5th(B1)Gear         |                                |                        |                                 |           |   |                       |                                     |                    |                               |
| 107.74<br>(80.34)   | 14077<br>(62.62)               | 2.87<br>(4.62)         | 2040                            | 8.74      | 0.466<br>(0.283)                          | 15.07<br>(2.97)       | 188<br>(87)                         | 54<br>(12)         | 29.24<br>(99.02)              |
| 6th(B2)Gear         |                                |                        |                                 |           |   |                       |                                     |                    |                               |
| 111.53<br>(83.17)   | 13112<br>(58.33)               | 3.19<br>(5.13)         | 1847                            | 6.80      | 0.444<br>(0.270)                          | 15.81<br>(3.11)       | 202<br>(94)                         | 75<br>(24)         | 28.82<br>(97.60)              |
| 7th(B3)Gear         |                                |                        |                                 |           |   |                       |                                     |                    |                               |
| 114.01<br>(85.02)   | 10882<br>(48.41)               | 3.93<br>(6.32)         | 1850                            | 4.36      | 0.433<br>(0.263)                          | 16.20<br>(3.19)       | 203<br>(95)                         | 75<br>(24)         | 28.82<br>(97.60)              |
| 8th(C1)Gear         |                                |                        |                                 |           |   |                       |                                     |                    |                               |
| 113.79<br>(84.86)   | 9779<br>(43.50)                | 4.36<br>(7.02)         | 1850                            | 3.77      | 0.433<br>(0.264)                          | 16.19<br>(3.19)       | 200<br>(93)                         | 74<br>(23)         | 28.85<br>(97.70)              |
| 9th (B4)Gear        |                                |                        |                                 |           |   |                       |                                     |                    |                               |
| 113.05<br>(84.30)   | 8682<br>(38.62)                | 4.88<br>(7.86)         | 1853                            | 3.01      | 0.438<br>(0.266)                          | 16.02<br>(3.16)       | 202<br>(94)                         | 73<br>(23)         | 28.83<br>(97.63)              |
| 10th(C2) Gear       |                                |                        |                                 |           |   |                       |                                     |                    |                               |
| 113.48<br>(84.62)   | 8022<br>(35.68)                | 5.31<br>(8.54)         | 1850                            | 2.84      | 0.437<br>(0.266)                          | 16.06<br>(3.16)       | 201<br>(94)                         | 72<br>(22)         | 28.83<br>(97.63)              |
| 11th(C3)Gear        |                                |                        |                                 |           |   |                       |                                     |                    |                               |
| 113.08<br>(84.32)   | 6669<br>(29.66)                | 6.36<br>(10.23)        | 1844                            | 2.32      | 0.436<br>(0.265)                          | 16.08<br>(3.17)       | 202<br>(94)                         | 75<br>(24)         | 28.82<br>(97.60)              |
| 12th(C4)Gear        |                                |                        |                                 |           |   |                       |                                     |                    |                               |
| 110.35<br>(82.29)   | 5292<br>(23.54)                | 7.82<br>(12.59)        | 1840                            | 1.88      | 0.449<br>(0.273)                          | 15.63<br>(3.08)       | 204<br>(96)                         | 76<br>(24)         | 28.82<br>(97.60)              |
| 13th(D1)Gear        |                                |                        |                                 |           |   |                       |                                     |                    |                               |
| 110.42<br>(82.34)   | 5019<br>(22.33)                | 8.25<br>(13.28)        | 1850                            | 1.79      | 0.450<br>(0.274)                          | 15.60<br>(3.07)       | 203<br>(95)                         | 76<br>(24)         | 28.82<br>(97.60)              |

| TRACTOR SOUND LEVEL WITH CAB          | Front Wheel Drive |                     |
|---------------------------------------|-------------------|---------------------|
|                                       | Engaged<br>dB(A)  | Disengaged<br>dB(A) |
| At no load in 7th (B3)gear            | 71.4              | 71.2                |
| Transport speed-no load- 20th(E4)gear |                   | 74.7                |
| Bystander in 20th (E4) Gear           |                   | 82.7                |

**TIRES, BALLAST AND WEIGHT**

|  | With Ballast            | Without Ballast         |
|--|-------------------------|-------------------------|
| <b>Rear Tires</b> - No., size, ply & psi(kPa)  | Four 18.4R42;**,8(55)   | Two 18.4R42;**,16(110)  |
| <b>Ballast</b> - Duals (total)                 | 1570 lb (712 kg)        | None                    |
| - Cast Iron (total)                            | None                    | None                    |
| <b>Front Tires</b> - No., size, ply & psi(kPa) | Two 14.9R30;***,18(125) | Two 14.9R30;***,16(110) |
| <b>Ballast</b> - Liquid (total)                | None                    | None                    |
| - Cast Iron (total)                            | 540 lb (245 kg)         | None                    |
| <b>Height of Drawbar</b>                       | 24.5 in (625 mm)        | 22.0 in (560 mm)        |
| <b>Static Weight with operator</b> - Rear      | 11235 lb (5096 kg)      | 9725 lb (4411 kg)       |
| - Front  | 5590 lb (2536 kg)       | 4990 lb (2263 kg)       |
| - Total  | 16825 lb (7632 kg)      | 14715 lb (6674 kg)      |

**Clutch** wet multiple disc hydraulically actuated by foot pedal **Brakes** wet multiple disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2072 engine rpm or 1000 rpm at 2086 engine rpm **Unladen tractor mass** 14540 lb (6595 kg)

**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 138°F(59°C). This tractor did not meet the manufacturer's claim of 41% torque rise. The pull in 3<sup>rd</sup>(A3) gear(ballasted tractor) was limited to avoid excessive tractor bouncing. The performance figures on this summary were taken from a test conducted under the OECD Code II test code procedure.

**NOTE:** The performance figures on this report apply to tractor chassis serial numbers \*RW7610R030002\* and higher.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1787**, Nebraska Summary 340, December 14, 2000.

David L. Morgan  
Assistant Director

L.L. Bashford  
M.F. Kocher  
R.D. Grisso, Jr.  
Board of Tractor Test Engineers

**DRAWBAR PERFORMANCE**  
**BALLASTED - FRONT DRIVE ENGAGED(1850 RPM)**  
**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) | Consumption<br>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) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|---|--------------------------------------|------------------------------------|--------------------|-------------------------------|
| 3rd(A3) Gear        |                                |                        |                                 |           |   |                                      |                                    |                    |                               |
| 94.92<br>(70.78)    | 17738<br>(78.90)               | 2.01<br>(3.23)         | 2132                            | 9.85      | 0.499<br>(0.303)                          | 14.07<br>(2.77)                      | 186<br>(85)                        | 46<br>(8)          | 29.05<br>(98.37)              |
| 4th(A4) Gear        |                                |                        |                                 |           |   |                                      |                                    |                    |                               |
| 107.87<br>(80.44)   | 16929<br>(75.30)               | 2.39<br>(3.85)         | 2014                            | 7.03      | 0.463<br>(0.282)                          | 15.15<br>(2.98)                      | 193<br>(89)                        | 48<br>(9)          | 29.05<br>(98.37)              |
| 5th(B1) Gear        |                                |                        |                                 |           |   |                                      |                                    |                    |                               |
| 114.34<br>(85.26)   | 15999<br>(71.17)               | 2.68<br>(4.31)         | 1850                            | 5.83      | 0.436<br>(0.265)                          | 16.11<br>(3.17)                      | 194<br>(90)                        | 55<br>(13)         | 29.03<br>(98.31)              |
| 6th(B2) Gear        |                                |                        |                                 |           |   |                                      |                                    |                    |                               |
| 115.86<br>(86.40)   | 13180<br>(58.63)               | 3.30<br>(5.31)         | 1850                            | 3.52      | 0.428<br>(0.260)                          | 16.39<br>(3.23)                      | 199<br>(93)                        | 56<br>(13)         | 29.03<br>(98.31)              |
| 7th(B3) Gear        |                                |                        |                                 |           |   |                                      |                                    |                    |                               |
| 116.63<br>(86.97)   | 10989<br>(48.88)               | 3.98<br>(6.41)         | 1849                            | 2.84      | 0.425<br>(0.259)                          | 16.50<br>(3.25)                      | 200<br>(93)                        | 57<br>(14)         | 29.03<br>(98.31)              |
| 8th(C1) Gear        |                                |                        |                                 |           |   |                                      |                                    |                    |                               |
| 115.56<br>(86.17)   | 9835<br>(43.75)                | 4.41<br>(7.09)         | 1849                            | 2.49      | 0.429<br>(0.261)                          | 16.36<br>(3.22)                      | 201<br>(94)                        | 58<br>(14)         | 29.02<br>(98.27)              |
| 9th(B4) Gear        |                                |                        |                                 |           |   |                                      |                                    |                    |                               |
| 114.07<br>(85.06)   | 8699<br>(38.70)                | 4.92<br>(7.91)         | 1854                            | 2.23      | 0.432<br>(0.263)                          | 16.23<br>(3.20)                      | 200<br>(93)                        | 59<br>(15)         | 29.01<br>(98.24)              |
| 10th(C2) Gear       |                                |                        |                                 |           |   |                                      |                                    |                    |                               |
| 114.63<br>(85.48)   | 8064<br>(35.87)                | 5.33<br>(8.58)         | 1850                            | 2.06      | 0.432<br>(0.263)                          | 16.24<br>(3.20)                      | 201<br>(94)                        | 59<br>(15)         | 29.00<br>(98.21)              |
| 11th(C3) Gear       |                                |                        |                                 |           |   |                                      |                                    |                    |                               |
| 113.75<br>(84.83)   | 6667<br>(29.65)                | 6.40<br>(10.30)        | 1847                            | 1.62      | 0.434<br>(0.264)                          | 16.18<br>(3.19)                      | 199<br>(93)                        | 60<br>(16)         | 29.00<br>(98.21)              |
| 12th(C4) Gear       |                                |                        |                                 |           |   |                                      |                                    |                    |                               |
| 109.41<br>(81.59)   | 5205<br>(23.15)                | 7.88<br>(12.69)        | 1851                            | 1.45      | 0.453<br>(0.275)                          | 15.50<br>(3.05)                      | 199<br>(93)                        | 61<br>(16)         | 28.99<br>(98.17)              |
| 13th(D1) Gear       |                                |                        |                                 |           |   |                                      |                                    |                    |                               |
| 109.47<br>(81.63)   | 4974<br>(22.13)                | 8.25<br>(13.28)        | 1848                            | 1.18      | 0.454<br>(0.276)                          | 15.46<br>(3.05)                      | 200<br>(93)                        | 62<br>(17)         | 28.97<br>(98.10)              |

**DRAWBAR PERFORMANCE**  
**BALLASTED - 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 |                 | Temp.°F (°C) | Air<br>dry<br>bulb | Barom.<br>inch<br>Hg<br>(kPa) |
|---|--------------------------------|------------------------|---------------------------------|-----------|------------------|-----------------|--------------|--------------------|-------------------------------|
| Maximum Power 7th(B3)Gear                         |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 109.21<br>(81.44)                                 | 9058<br>(40.29)                | 4.52<br>(7.28)         | 2098                            | 2.49      | 0.457<br>(0.278) | 15.36<br>(3.03) | 198<br>(92)  | 56<br>(13)         | 29.14<br>(98.68)              |
| 75% of Pull at Maximum Power 7th(B3) Gear         |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 84.88<br>(63.29)                                  | 6788<br>(30.19)                | 4.69<br>(7.55)         | 2165                            | 1.97      | 0.503<br>(0.306) | 13.95<br>(2.75) | 191<br>(88)  | 63<br>(17)         | 28.96<br>(98.07)              |
| 50% of Pull at Maximum Power 7th(B3)Gear          |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 57.68<br>(43.01)                                  | 4522<br>(20.11)                | 4.78<br>(7.70)         | 2197                            | 1.27      | 0.601<br>(0.366) | 11.67<br>(2.30) | 187<br>(86)  | 63<br>(17)         | 28.94<br>(98.00)              |
| 75% of Pull at Reduced Engine Speed 10th(C2) Gear |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 84.66<br>(63.13)                                  | 6786<br>(30.18)                | 4.68<br>(7.53)         | 1626                            | 1.97      | 0.444<br>(0.270) | 15.82<br>(3.12) | 187<br>(86)  | 63<br>(17)         | 28.95<br>(98.04)              |
| 50% of Pull at Reduced Engine Speed 10th(C2)Gear  |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 57.67<br>(43.00)                                  | 4523<br>(20.12)                | 4.78<br>(7.69)         | 1651                            | 1.36      | 0.495<br>(0.301) | 14.19<br>(2.79) | 180<br>(82)  | 65<br>(18)         | 28.91<br>(97.90)              |
| MAXIMUM POWER IN SELECTED GEARS                   |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 4th(A4) Gear                                      |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 95.78<br>(71.43)                                  | 15715<br>(69.90)               | 2.29<br>(3.68)         | 2095                            | 14.46     | 0.520<br>(0.317) | 13.48<br>(2.66) | 192<br>(89)  | 50<br>(10)         | 29.05<br>(98.37)              |
| 5th(B1)Gear                                       |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 108.86<br>(81.18)                                 | 13256<br>(58.96)               | 3.08<br>(4.96)         | 2100                            | 4.36      | 0.459<br>(0.279) | 15.30<br>(3.01) | 194<br>(90)  | 52<br>(11)         | 29.15<br>(98.71)              |
| 6th(B2) Gear                                      |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 109.72<br>(81.81)                                 | 10962<br>(48.76)               | 3.75<br>(6.04)         | 2098                            | 3.10      | 0.455<br>(0.277) | 15.42<br>(3.04) | 197<br>(92)  | 54<br>(12)         | 29.14<br>(98.68)              |
| 7th(B3) Gear                                      |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 109.21<br>(81.44)                                 | 9058<br>(40.29)                | 4.52<br>(7.28)         | 2098                            | 2.49      | 0.457<br>(0.278) | 15.36<br>(3.03) | 198<br>(92)  | 56<br>(13)         | 29.14<br>(98.68)              |
| 8th(C1)Gear                                       |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 108.86<br>(81.18)                                 | 8159<br>(36.29)                | 5.00<br>(8.05)         | 2099                            | 2.24      | 0.459<br>(0.279) | 15.30<br>(3.01) | 197<br>(91)  | 58<br>(14)         | 29.14<br>(98.68)              |
| 9th(B4) Gear                                      |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 106.85<br>(79.68)                                 | 7201<br>(32.03)                | 5.56<br>(8.96)         | 2097                            | 1.97      | 0.467<br>(0.284) | 15.01<br>(2.96) | 198<br>(92)  | 57<br>(14)         | 29.17<br>(98.78)              |
| 10th(C2) Gear                                     |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 106.83<br>(79.66)                                 | 6627<br>(29.48)                | 6.05<br>(9.73)         | 2098                            | 1.80      | 0.466<br>(0.284) | 15.05<br>(2.97) | 195<br>(91)  | 59<br>(15)         | 29.16<br>(98.75)              |
| 11th(C3) Gear                                     |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 105.32<br>(78.54)                                 | 5442<br>(24.21)                | 7.26<br>(11.68)        | 2095                            | 1.62      | 0.473<br>(0.288) | 14.84<br>(2.92) | 197<br>(92)  | 58<br>(14)         | 29.16<br>(98.75)              |
| 12th (C4)Gear                                     |                                |                        |                                 |           |                  |                 |              |                    |                               |
| 100.55<br>(74.98)                                 | 4223<br>(18.78)                | 8.93<br>(14.37)        | 2097                            | 1.27      | 0.497<br>(0.302) | 14.12<br>(2.78) | 197<br>(92)  | 58<br>(14)         | 29.16<br>(98.75)              |

|  |                                       |
|--|---------------------------------------|
| CATEGORY: III  |                                       |
| Quick Attach: Walterscheid lower link ends                         | <u><a href="#">lift cylinders</a></u> |
|  | 2 x 80 mm                             |
| Maximum Force Exerted Through Whole Range:                         | 10161 lbs ( <i>45.2 kN</i> )          |
| i) Opening pressure of relief valve:                               | NA                                    |
| Sustained pressure at compensator cutoff:                          | 2880 psi ( <i>199 bar</i> )           |
| ii) Pump delivery rate at minimum pressure and rated engine speed: | 26.3 GPM ( <i>99.6 l/min</i> )        |
| iii) Pump delivery rate at maximum hydraulic power:                | 25.2 GPM ( <i>95.4 l/min</i> )        |
| Delivery pressure:   | 2400 psi ( <i>166 bar</i> )           |
| Power:   | 35.3 HP ( <i>26.3 kW</i> )            |



|   |                |            |            |            |             |
|---|----------------|------------|------------|------------|-------------|
| Observed Maximum Pressure psi. ( <i>bar</i> )   | 2950 (203)     |            |            |            |             |
| Location:   | lift cylinders |            |            |            |             |
| Hydraulic oil temperature: °F (°C)  | 144 (62)       |            |            |            |             |
| Location:   | hydraulic sump |            |            |            |             |
| Category:   | IHN            |            |            |            |             |
| Quick attach:   | No             |            |            |            |             |
| <b>SAE Static Test</b> System pressure 2650 psi (182 Bar)<br>with lift cylinders (2) x 70 mm  |                |            |            |            |             |
| Hitch point distance to ground level in. (mm)   | 7.9 (201)      | 16.0 (406) | 24.0 (610) | 32.0 (813) | 40.0 (1016) |
| Lift force on frame lb  | 9630           | 9558       | 9261       | 8595       | 7245        |
| " " " " " " (kN)  | (42.8)         | (42.5)     | (41.2)     | (38.2)     | (32.2)      |
| with lift cylinders (1) x 70 mm and (1) x 80 mm   |                |            |            |            |             |
| Hitch point distance to ground level in. (mm)   | 8.1 (206)      | 16.0 (406) | 24.0 (610) | 32.0 (813) | 40.0 (1016) |
| Lift force on frame lb  | 10953          | 10944      | 10629      | 9855       | 8397        |
| " " " " " " (kN)  | (48.7)         | (48.7)     | (47.3)     | (43.8)     | (37.4)      |
| with lift cylinders (2) x 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  | 12177          | 12564      | 12177      | 11268      | 9549        |
| " " " " " " (kN)  | (54.2)         | (55.9)     | (54.2)     | (50.1)     | (42.5)      |
| <b>ASAE Static Test</b> System pressure 2860 psi (197 Bar)<br>with lift cylinders (2) x 70 mm |                |            |            |            |             |
| Hitch point distance to ground level in. (mm)   | 7.9 (201)      | 16.0 (406) | 24.0 (610) | 32.0 (813) | 40.0 (1016) |
| Lift force on frame lb  | 10514          | 10436      | 10111      | 9384       | 7910        |
| " " " " " " (kN)  | (53.5)         | (52.0)     | (52.2)     | (51.0)     | (46.8)      |
| with lift cylinders (1) x 70 mm and (1) x 80 mm   |                |            |            |            |             |
| Hitch point distance to ground level in. (mm)   | 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        |
| " " " " " " (kN)  | (53.2)         | (53.2)     | (51.6)     | (47.9)     | (40.8)      |
| with lift cylinders (1) x 70 mm and (1) x 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       |
| " " " " " " (kN)  | (59.1)         | (61.0)     | (59.1)     | (54.7)     | (46.4)      |

|   | 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  | 34.2     | 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  |



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