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(Restricted code)
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NEBRASKA TRACTOR TESTING LABORATORY
DEPARTMENT OF BIOLOGICAL SYSTEMS ENGINEERING
INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA - EAST CAMPUS
LINCOLN, NEBRASKA 68583-0832, USA

# REPORT ON TEST IN ACCORDANCE WITH OECD RESTRICTED CODE (CODE II)

## FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS





**JOHN DEERE 8100 POWERSHIFT MFWD**
**40 km/h version**

MANUFACTURED BY: John Deere Waterloo Tractor Works Tractor Division
P.O. Box 270
Waterloo, Iowa 50704-0270

**NEBRASKA TEST NO. 1688**

Test Dates: April 19 through May 15, 1995

This test report provides the results of the tests conducted in accordance with the OECD Standard Test Code for the Official Testing of Agricultural Tractor Performance - C(87)53 Final - Annex II, Restricted Code.

This report has been approved by the OECD Coordinating Centre in Paris (CEMAGREF) on 30 October, 1995

John Deere 8100 Powershift MFWD OECD # 1575

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**Associate Director**

Dr. Louis T. Leviticus

**Chairman, Tractor Test Board**

Dr. Leonard L. Bashford

**Senior Test Engineer**

David L. Morgan

**Members, Tractor Test Board**

Dr. Robert D. Grisso

**Test Engineer**

Brent T. Sampson

Dr. Michael F. Kocher

**Date:** 28 Nov 1995

**LINCOLN, NEBRASKA 68583-0832,USA**

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## SPECIFICATIONS OF TRACTOR.

| | |
|---|---|
| Manufacturers name/address | John Deere Tractor Works<br>P.O. Box 270<br>Waterloo, Iowa, USA |
| Location of tractor assembly | Same |
| Submitted for test by | The manufacturer |
| Selected for test by | The manufacturer in agreement with the test station. |
| Place of running in | John Deere Product Eng. Ctr<br>Waterloo, Iowa, USA |
| Duration of running in | 98 hours |
| Location of Test | Nebraska Power Laboratory<br>Tractor Testing Laboratory<br>Lincoln, Nebraska,USA. |

### TRACTOR CHASSIS SPECIFICATIONS.

| | |
|---|---|
| Make | John Deere |
| Model | 8100 Powershift MFWD<br>40 km/h version |
| Type | Unit construction, mechanical front wheel drive (MFWD) |
| Number of driving wheels | 2 or 4 |
| Serial Number | *RW8100P001621* |
| 1st Serial number | *RW8100P001002* |

### ENGINE.

| | |
|---|---|
| Make | John Deere |
| Model | 6076HRW34 |
| Type | 4-stroke diesel; direct injection; turbocharged, air-to-air intercooled |
| Serial Number | *RG6076H543173* |

#### Cylinders

| | |
|---|---|
| Number/Disposition | 6, in-line, vertical |
| Bore/stroke | 115.8 mm x 120.7 mm |
| Capacity | 7627 $cm^3$ |
| Compression Ratio | 15.0 - 1 |
| Arrangement of valves | Overhead |
| Cylinder liners | Wet; replaceable |

#### Super charging

| | |
|---|---|
| Make/Model/Type | Schwitzer/RE56237/<br>Exhaust gas driven |
| Pressure | 126 ± 13 kPa at rated speed and load |

| | |
|---|---|
| **Fuel System** | |
| Feed system | Transfer pump integral with injection pump |
| Make/Type/Model of filters | Stanadyne/RE27091/paper element |
| Fuel tank capacity | 512 l |
| Fuel Cooler | Heat exchanger with air |
| Make/Model/Type Injection Pump | Bosch/RE57372/In-line; electric shutoff |
| Pump Serial number | 4712400441 |
| Production setting of pump Flow Rate (Rated Eng.Spd & Full Load) | 29.8 ± 1.5 kg/h |
| Density of fuel | 0.8355 kg/l at 15° C. |
| Make/Model/Type Injectors | Nippondenso/RE29318/9.5 mm Pencil |
| Injection pressure | 29.0 +0.8/-0.0 MPa |
| Timing | 20 degrees BTDC |
| **Governor** | |
| Make/Model/Type | Bosch/electronic |
| Governed engine speed range | From 800 to 2400 rev/min nominal |
| Rated engine speed | 2200 rev/min |
| High-idle speed range | 2300 +/- 25 rpm |
| **Air Cleaner.** | |
| Pre-cleaner Make/Model/type | Donaldson/RE51631/Strato0tube precleaner with aspirator |
| Air intake location | Under hood, front of tractor |
| Main Cleaner Make/Model/Type | Donaldson/RE51629/pleated paper |
| Location | Under hood, front of tractor |
| Secondary element | Donaldson/RE51630/pleated paper |
| Maintenance indicator | Dash mounted warning light and audio signal |
| **Lubrication system.** | |
| Type of feed pump | Full pressure; positive displ. |
| Type of filters | Full flow |
| Number | One spin-on. |
| Oil cooler | Heat exchanger with engine coolant |
| **Cooling system.** | |
| Type of coolant | Liquid |
| Type of pump | Centrifugal, gear driven |
| Fan specification | Gear driven; Suction type; Variable speed |
| Number of fan blades | 8 |
| Fan diameter | 711 mm |
| Coolant system capacity | 34 l. |

| | |
|---|---|
| Type of temperature control | Two thermostats and variable speed fan |
| System pressure | 69 kPa |

Starting system.

| | |
|---|---|
| Make/Model/Type of starter | Nippondenso/RE61516/Solenoid Engaged |
| Power Rating | 4.0 kW |
| Cold starting aid | Ether spray in intake manifold |
| Safety device | Electrical lockout on gearshift |

Electrical system.

| | |
|---|---|
| Voltage & grounding. | 12 Volt DC; negative ground |
| Alternator | |
| Make/Model/Type | Nippondenso/RE46608/Belt driven |
| Power rating | 140 Amp at rated engine speed and 25°C ambient |
| Batteries | |
| Number & connection | Two; 12 Volt batteries in parallel; SAE tapered post |
| Rating | 925 cold cranking amps/battery<br>175 Ah/battery at 20 h rating |

Exhaust system.

| | |
|---|---|
| Muffler Make/Model/Type | Nelson/RE44716/Expansion chamber |
| Location | Vertical muffler |
| Exhaust stack location | Vertical; right front of cab |

**TRANSMISSION.**

Clutch. (travel)

| | |
|---|---|
| Make/Model/Type | John Deere/Multiple plate/oil cooled |
| Number of plates | 7 |
| Plate diameter | 232 mm |
| Method of operation | Hydraulic; pedal actuated |

Gear Box.

| | |
|---|---|
| Make/Model/Type | John Deere/Full powershift/ Mechanical |
| Arrangement | Countershaft design consisting of 8 multidisc hydraulically cooled clutches and 1 multidisc hydraulically cooled planetary brake |
| Number of gears | 16 forward and 4 reverse operated by a single lever |
| Oil cooler | Heat exchanger with air |

| | |
|---|---|
| **Rear axle and final drives.** | |
| Make/Model/Type | John Deere/Crown wheel and pinion, differential and inboard planetary reduction |
| Differential Lock | |
| Type | Electro-Hydraulic |
| Method of engagement | Pedal operated switch |
| Method of disengagement | Self-disengaging with brake pedal operation |
| **Front Axle and final drives.** | |
| Make/Model/Type | John Deere/1300/Crown wheel and pinion, differential and inboard planetary reduction |
| Differential Lock | |
| Type | Limited slip |
| Method of engagement | Self-engaging |
| Method of disengagement | Self-disengaging |

## Gear ratios and travel speeds.

(Tire dynamic radius of 905 mm. ISO 4251/1-1992)

| Gear Number | Number of engine revolutions for one revolution of the driving wheels | Nominal travel speed at rated engine speed of 2200 rev/min [km/h] |
|---|---|---|
| Forward | | |
| 1 | 344.05 | 2.18 |
| 2 | 269.34 | 2.79 |
| 3 | 211.60 | 3.55 |
| 4 | 165.64 | 4.53 |
| 5 | 136.79 | 5.49 |
| 6 | 121.23 | 6.19 |
| 7 | 107.09 | 7.01 |
| 8 | 94.92 | 7.91 |
| 9 | 84.14 | 8.92 |
| 10 | 74.55 | 10.07 |
| 11 | 65.87 | 11.40 |
| 12 | 58.38 | 12.86 |
| 13 | 45.87 | 16.36 |
| 14 | 35.90 | 20.91 |
| 15 | 28.20 | 26.61 |
| 16 | 22.07 | 34.01 |
| Reverse * | | |
| 1 | 394.43 | 1.90 |
| 2 | 156.82 | 4.79 |
| 3 | 138.99 | 5.40 |
| 4 | 52.58 | 10.38 * |

Number of front wheel revolutions
for one rear wheel revolution: 1.32

* Engine speed is limited to 1600 rpm the NUMBER 4 reverse gear

## POWER - TAKE - OFF.

### Main Power-Take-Off.

| | |
|---|---|
| Type | Independent |
| Method of engagement | Electro-hydraulically actuated multi-plate wet clutch operated by hand control knob |
| Number of shafts | Single speed - One (tested) |
| Optional shafts | Dual speed - 540 and 1000 rpm |
| Method of changing speeds | Reversible shaft |

### Standard single speed PTO-1000 rev/min. - tested version

| | |
|---|---|
| Location | Rear of tractor; center plane |
| Diameter of shaft | 44.5 mm |
| Number of splines | 20; conforms to ISO 500/1991 |
| Height above ground | 708 mm |
| Distance from median plane of tractor | 0 mm |
| Distance behind rear axle | 684 mm |
| PTO Speed at rated engine spd | 1009 rev/min |
| Engine speed at Std. PTO spd | 2180 rev/min |
| Engine speed/PTO speed ratio | 2.18:1 |
| Power restriction | None |
| Direction of rotation when viewed from shaft end | Clockwise. |

### Optional dual speed PTO - 540 and 1000 rev/min.

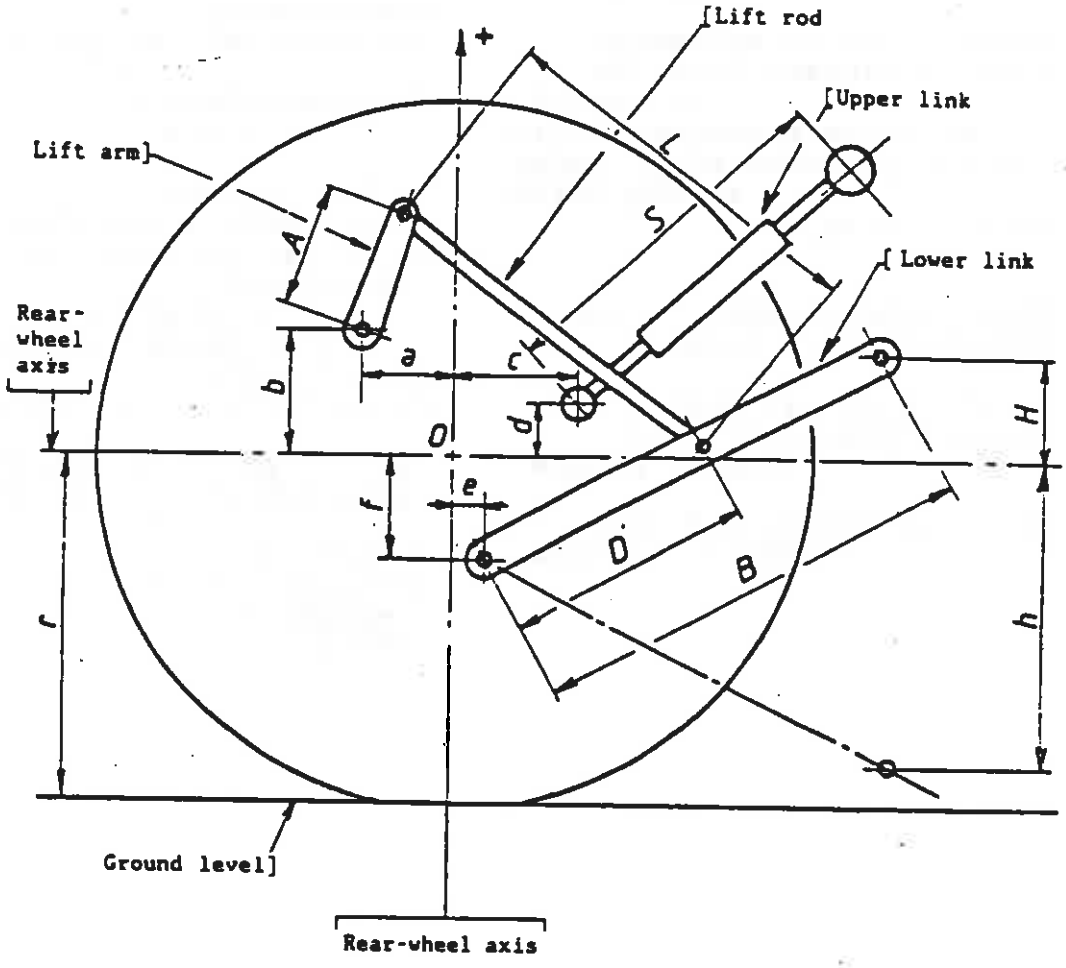
| | |
|---|---|
| Location | Rear of tractor; center plane |
| Diameter of shaft | 35 mm |
| Type of shaft | two sided - reversible. |
| Number of splines | 6; conforms to ISO 500/1991 and 21; conforms to ISO 500/1991. |
| Height above ground | 740 mm |
| Distance from median plane of tractor | 0 mm |
| Distance behind rear axle | 785 mm |
| PTO Speed at rated engine spd | |
| for 540 rev/min side | 601 rev/min |
| for 1000 rev/min side | 1009 rev/min |
| Engine speed at Std. PTO spd | |
| for 540 rev/min side | 1978 rev/min |
| for 1000 rev/min side | 2180 rev/min |
| Engine speed/PTO speed ratio | |
| for 540 rev/min side | 3.663:1 |
| for 1000 rev/min side | 2.18:1 |
| Power restriction | |
| for 540 rev/min side | 56 kW |
| for 1000 rev/min shaft | 112 kW |
| Direction of rotation when viewed from shaft end | Clockwise. |

**POWER LIFT.**

| | |
|---|---|
| Make/Model/Type | John Deere/Electro-hydraulic lower link sensing; adjustable mix of draft and position control; |
| Type of hydraulic system | Closed center; pressure/flow compensated |
| Number/Type of cylinders | Two external, single acting |
| Type of linkage lock for transport | Electro-hydraulic |
| Relief valve pressure setting | 20.3 ± 0.3 MPa |
| Opening pressure of cylinder safety valve | 23.25 ± 0.5 MPa |
| Lift pump type | Axial piston, variable delivery and flow, pressure and flow compensated |
| Power transmission to pump | Helical gear drive |
| Type/Number of filters | Synthetic media ,screw-on canister/one |
| Location of oil reservoir | Differential case housing |
| Number/Type/Location of tapping points. | Up to 5 pairs of ISO standard couplings at rear of tractor. |
| Max. oil volume available for external cylinders. | 20 liters<br>additional 10 liters allowable overfill for total of 30 liters |

## THREE POINT LINKAGE.

- Category 3 in conformity with ISO 730/1-1990
- Category adaptor Walterscheid lower links



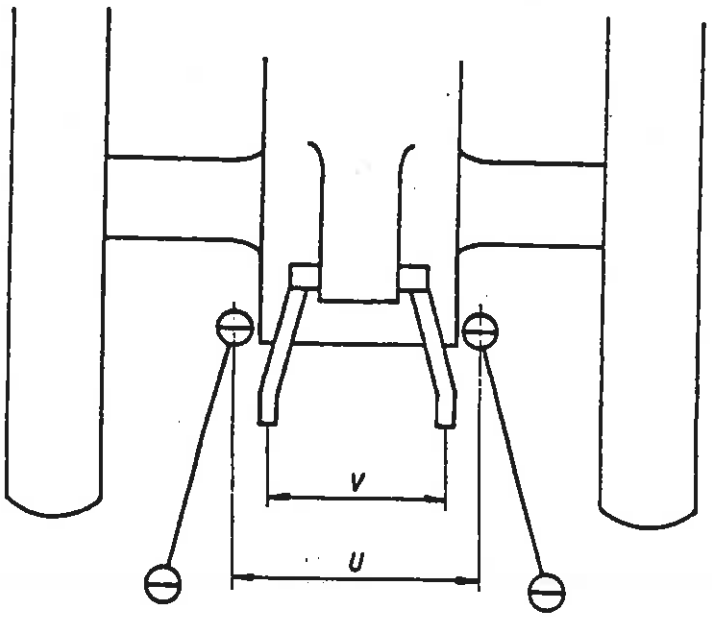



Table 1.1 - Linkage geometry dimensions.

| (with Walterscheidt lower links) | | Dimension or range [mm] | Settings used on test [mm] |
|---|---|---|---|
| Lift category | | III | III |
| Rear Tire - Radius Index | (r) | 905 | same |
| Front Tire - Radius Index | (r') | 695 | same |
| Length of lift arms | (A) | 495 | same |
| Length of lower links | (B) | 1059 | same |
| Distance of lift arm pivot from: horizontal | (a) | -240 | same |
| rear wheel axis: vertical | (b) | 495 | same |
| Horizontal distance between the 2 lower link points | (U) | 600 | same |
| Horizontal distance between the 2 lift arm end points | (V) | 750 | same |
| Length of upper link | (S) | 730 to 900 | 806 |
| Distance of upper link pivot point from rear wheel axis - horizontal | (c) | 515 and 528 | 528 |
| - vertical | (d) | 123,186 and 247 | 247 |
| Distance of lower link pivot from: horizontal | (e) | 275 | same |
| rear wheel axis: vertical | (f) | 350 | same |
| Distance of lower link pivot points to lift rod pivot pts on lower links. | (D) | 716 | same |
| Length of lift rods | (L) | 968 to 1063 | 1045 |
| Height of lower hitch points relative to rear wheel axis In low position | (h) | 709 to 559 | 676 |
| In high position | (H) | 283 to 162 | 175 |
| Height above ground of lower hitch points when locked in transport position -968 mm lift rod | | 1193 | |
| -1063 mm lift rod | | to 1073 | 1080 |

Tire dynamic index of 905 mm ISO 4251/1-1992

**SWINGING DRAWBAR.**

| | Version I (tested) | Version II (not tested) | |
|---|---|---|---|
| Type | Oscillating | same | |
| Height above ground | 490 mm | 460 | mm |
| Adjustments | Removable clevis | same | |
| Distance of hitch point from rear wheel axis-horizontal | 1090,1141,1192 mm | 1184 | mm |
| Distance of hitch point from PTO shaft end: Vertical | 220 mm | 250 | mm |
| Horizontal | 406,457,508 mm | 506,595 | mm |
| Lateral adjustment-Right side | 210 mm | 223 | mm |
| Left side | 210 mm | 223 | mm |
| Distance of pivot point from rear wheel axis-horizontal | 191 mm | same | |
| Diameter of drawbar pin hole | 36.5 mm | 33.0 | mm |
| Maximum vertical static permissible load-short position | 16.2 kN | 23.6 | kN |
| -intermediate position | 16.2 kN | ---- | |
| -extended position | 16.2 kN | 16.2 | kN |

**STEERING.**

| | |
|---|---|
| Make/Model/Type | Eaton 450 series hydrostatic gerotor metering unit with load sensing |
| Method of operation | Steering wheel |
| Pump(s) | Gear pump |
| Ram(s) | Two external; double acting |
| Working pressure | 18.5 ± 0.5 MPa |

**BRAKE SYSTEM.**

Service brake.

| | |
|---|---|
| Make/Model/Type | Vickers-John Deere load pressure sensing power with manual backup |
| Method of operation | Hydraulic/oil immersed disc operated by two pedals which can be locked together. |

Parking brake.

| | |
|---|---|
| Type | Spring applied, hydraulically released multi-disc |
| Method of operation | Gear selector lever |

Trailer Brake — None

**WHEELS.**

| | |
|---|---|
| Number - Front | Two; Driving and steering |
| Rear | Two or four; Driving |
| Wheel base | 2950 mm |

**Track width adjustment**

| | Minimum [mm] | Maximum [mm] | Adjustment method |
|---|---|---|---|
| Front | 1524 | 2235 | Reversing wheels and offset lug rims |
| Rear | 1588 | 2752 | Rack and Pinion axle Reversing wheels and offset lug rims |

**PROTECTIVE STRUCTURE.**

| | |
|---|---|
| Make/Model/Type | John Deere/SG-052/Sound Gard SG 052 |
| Manufacturer's name/address | John Deere Tractor Works Waterloo, Iowa, USA |
| Protective device | Cab; not tiltable |
| OECD approval number | John Deere 8100 PS-MFWD (4WD) CSS 0287/6 |

**DRIVER'S SEAT.**

| | |
|---|---|
| Make/Model/Type | Sears/RE62264/JDAir suspension Personal posture cushioning |
| Type of suspension | Air |
| Type of damping | Air |
| Range of adjustment | |
| Longitudinal | 167 mm |
| Vertical | 80 mm |
| Rotation | 20 degrees right<br>15 degrees left |

**LIGHTING.**

| | | Height above ground of center [mm] | Size [mmxmm] | Distance from outside edge to median plane of tractor. [mm] |
|---|---|---|---|---|
| Head lights | | | | |
| Hood | inner | 1721 | 70x127 | 200 |
| | outer | 1721 | 70x127 | 335 |
| Roof | inner | 2985 | 51x127 | 350 |
| | outer | 2985 | 51x127 | 501 |
| Side lights | | 1030 | 70x127 | 930 |
| Rear lights | -roof | 2943 | 70x127 | 460 |
| | -fender | 2105 | 70x127 | 950 |
| Tail lights | | 1980 | 89x210 | 895 |
| Reflectors | | | | |
| -front | | 1714 | 71x117 | 947 |
| -rear | - inner | 1975 | 100x 53 | 790 |
| | - outer | 1985 | 80x 52 | 947 |

## TEST CONDITIONS.

### Overall dimensions.

| | |
|---|---|
| Length-Overall-without front weights | 5447 mm |
| -with front weights | 5942 mm |
| Width -Minimum | 3012 mm |
| -Maximum | 3312 mm |
| Height - Top protective structure | 3090 mm |
| - Top of exhaust | 3036 mm |
| Ground clearance | 405 mm |
| Clearance-limiting part | Rear hitch frame |

### Tractor Mass (with cab,full fuel tank).

| | | without driver [kg] | with driver [kg] |
|---|---|---|---|
| Unballasted | Front | 3492 | 3502 |
| | Rear | 5087 | 5152 |
| | Total | 8579 | 8654 |
| Ballasted | Front | 3492 | 3502 |
| | Rear | 6085 | 6150 |
| | Total | 9577 | 9652 |

### Ballast added

| | Number of weights | Mass [kg] | Liquid kg] |
|---|---|---|---|
| Front | ----- | ---- | ----- |
| Rear (Duals) | 2 | 894 | ----- |
| Rear (weights) | ----- | --- | ----- |
| Additional Test Equipment | ----- | 104 | ----- |

| Tire Specifications. | Front Wheels | Rear Wheels |
|---|---|---|
| Make | Goodyear | Goodyear |
| Dimensions | 16.9R30 | 20.8R42 |
| Number/Ply rating | 2 star | 2 star |
| Type | Radial | Radial |
| Max.load | 2470 kg/tire | 4154 kg/tire |
| Inflation pressure(tire mfr)-max | 165 kPa | 165 kPa |
| -min | 50 kPa | 40 kPa |
| as tested | 115 kPa | 90 kPa |
| Dynamic Radius Index | 695 mm | 905 mm |
| Chosen track width - inner | 1626 mm | 1720 mm |
| - outer | | 3350 mm |

Oils and Lubrication.

Capacity and change interval:

| | Capacity liter | Oil change hours | Filter change hours |
|---|---|---|---|
| Engine (with filter) | 23.5 | 250 | 250 |
| Front axle | 8.5 | 1500 | As required or 750 |
| Transmission, final drive, rear axle and hydraulics | 140 | 1500 | |
| Final drive, front | 3.0 | 1500 | |

Oil and Lubricant specifications:

| | Recommended | Used during test |
|---|---|---|
| Engine oil | | |
| Type | John Deere, Torq-Gard Supreme Plus 50; SAE 15W-40 | same |
| Viscosity | 12.8 cSt at 100°C | |
| Classification | API CE or CD; CCMC specification D5 or D4 | |
| Transmission | | |
| Type | John Deere Hy-Gard (J20C) SAE 10W-30 | same |
| Viscosity | 58 cSt at 40°C | |
| Classification | NA | |
| Hydraulic fluid | Same as transmission | same |
| Front axle and hubs | | |
| Type | John Deere EXTREME-GARD SAE 80W-90 | same |
| Viscosity | 13.5 cSt at 100°C | |
| Classification | API GL-5 | |
| Steering system | Same as transmission | same |
| Grease | John Deere MOLY HIGH TEMPERATURE EP GREASE | same |
| Number of lube points | 23 | |

Fuel

| | |
|---|---|
| Type/grade | Premier; Grade 2-D, in conformity with the national standard |
| Density (Pto test) | 0.8355 kg/l at 15° C |
| (Drawbar test) | same as Pto test. |
| Cetane number | 50.6 |
| Viscosity | 2.51 cSt at 38° C |

## COMPULSORY TESTS

### 1. MAIN POWER TAKE OFF

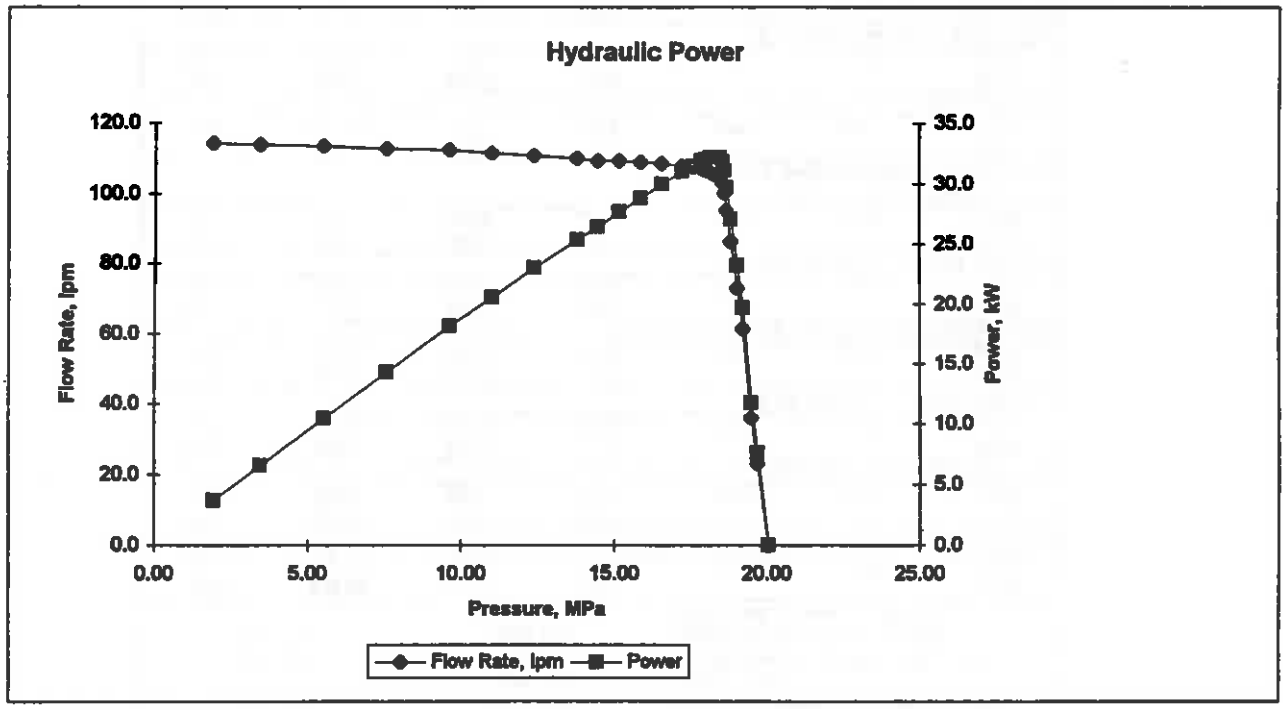
Date: 20-Apr-95 Location: UNL Tractor Test Lab, Lincoln, NE, USA

Type of dynamometer: Eddy current, Eaton Fuel Density: 0.835 kg/l

| Power kW / hp | Engine rev/min | PTO rev/min | l/h / gal/h | kg/h / lb/hr | kg/kW-h / lb/hp-h | kW-h/l / hp-h/gal |
|---|---|---|---|---|---|---|
| 1.1 Maximum Power - 2 Hours | | | | | | |
| 133.59 | 2000 | 917 | 36.70 | 30.66 | 0.230 | 3.64 |
| *179.15* | | | *9.70* | *67.60* | *0.377* | *18.48* |
| 1.2 Power at Rated Engine Speed - 1 hour | | | | | | |
| 119.61 | 2200 | 1009 | 34.98 | 29.22 | 0.244 | 3.42 |
| *160.40* | | | *9.24* | *64.43* | *0.402* | *17.36* |
| 1.3 Power at Standard Power Take Off Speed - 1 hour | | | | | | |
| 119.61 | 2200 | 1009 | 34.98 | 29.22 | 0.244 | 3.42 |
| *160.40* | | | *9.24* | *64.43* | *0.402* | *17.36* |
| 1.4 Part Loads | | | | | | |
| 1.4.1 Torque at maximum power at rated engine speed | | | | | | |
| 119.61 | 2200 | 1009 | 34.98 | 29.22 | 0.244 | 3.42 |
| *160.40* | | | *9.24* | *64.43* | *0.402* | *17.36* |
| 1.4.2 85% of torque obtained in 1.4.1 | | | | | | |
| 104.18 | 2254 | 1034 | 31.76 | 26.54 | 0.255 | 3.28 |
| *139.71* | | | *8.39* | *58.50* | *0.419* | *16.65* |
| 1.4.3 75% of torque defined in 1.4.2 | | | | | | |
| 78.53 | 2265 | 1039 | 25.90 | 21.64 | 0.276 | 3.03 |
| *105.31* | | | *6.84* | *47.70* | *0.453* | *15.39* |
| 1.4.4 50% of torque defined in 1.4.2 | | | | | | |
| 52.57 | 2274 | 1043 | 20.36 | 17.01 | 0.324 | 2.58 |
| *70.50* | | | *5.38* | *37.50* | *0.532* | *13.11* |
| 1.4.5 25% of torque defined in 1.4.2 | | | | | | |
| 26.40 | 2284 | 1047 | 14.66 | 12.25 | 0.464 | 1.80 |
| *35.40* | | | *3.87* | *27.00* | *0.763* | *9.14* |
| 1.4.6 unloaded | | | | | | |
| 0.37 | 2292 | 1051 | 9.28 | 7.76 | 20.784 | 0.04 |
| *0.50* | | | *2.45* | *17.10* | *34.168* | *0.20* |
| 1.5 Part Loads at Standard Power Take Off Speed | | | | | | |
| 1.5.1 Torque at maximum power | | | | | | |
| 119.61 | 2200 | 1009 | 34.98 | 29.22 | 0.244 | 3.42 |
| *160.40* | | | *9.24* | *64.43* | *0.402* | *17.36* |
| 1.5.2 85% of torque obtained in 1.5.1 | | | | | | |
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| 26.40 | 2284 | 1047 | 14.66 | 12.25 | 0.464 | 1.80 |
| *35.40* | | | *3.87* | *27.00* | *0.763* | *9.14* |
| 1.5.6 unloaded | | | | | | |
| 0.37 | 2292 | 1051 | 9.28 | 7.76 | 20.784 | 0.04 |
| *0.50* | | | *2.45* | *17.10* | *34.168* | *0.20* |

| | | |
|---|---|---|
| No load maximum engine speed: | 2292 rev/min | |
| Equivalent torque at rated speed: | 519 N.m | *383 lb-ft* |
| Equivalent torque at maximum power: | 638 N.m | *470 lb-ft* |
| (engine speed: | 2000 rev/min) | |
| Maximum equivalent crankshaft torque: | 748 N.m | *552 lb-ft* |
| (engine speed: | 1398 rev/min) | |
| Mean Dry bulb: | 23 deg C | *74 deg F* |
| Wet bulb: | 15 deg C | *60 deg F* |
| Relative Humidity | 42 % | |
| Pressure: | 96.43 kPa | *28.48 in Hg* |
| Maximum Coolant: | 101 deg C | *213 deg F* |
| Engine Oil: | 112 deg C | *233 deg F* |
| Fuel: | 60 deg C | *140 deg F* |
| Air intake: | 24 deg C | *75 deg F* |
| Transmission/hydralic oil: | 57 deg C | *135 deg F* |
| Intake manifold pressure at rated speed: | 126 kPa | *18.2 psig* |
| Intake manifold pressure at maximum power: | 132 kPa | *19.2 psig* |

| | | | | | | |
|---|---|---|---|---|---|---|
| Date of Test | | 21-Apr-95 | | | | |
| Location of Test-City-State: | | Tractor Test Lab, Lincoln, NE, USA | | | | |
| Tapping point used for test: | | Remote hydraulic outlets | | | | |
| I. Sustained pressure with pump stalled: | | | | | | |
| 20.06 | MPa | | | | | |
| *2910* | *psig* | | | | | |
| II. Pump delivery rate at minumum pressure and rated engine speed: | | | | | | |
| **114.3** | **l/min** | | | | | |
| *30.2* | *gpm* | | | | | |
| III. Flow rate, pressure, power: | | | | | | |
| 90% of relief valve setting | | | | | | |
| 106.7 | l/min | 18.00 | MPa | 32.0 | kW | |
| *28.2* | *gpm* | *2610* | *psi* | *42.9* | *hp* | |
| Maximum hydraulic power: | | | | | | |
| 104.5 | l/min | 18.48 | MPa | 32.2 | kW | |
| *27.6* | *gpm* | *2680* | *psi* | *43.2* | *hp* | |
| IV. Hydraulic fluid temperature at flow meter | | | | | | |
| 66.9 | °C | | | | | |
| 152 | °F | | | | | |




Note: This hydraulic system does not use an accumulator. Opening and closing pressures of the unloading valve could not be measured.

2.2 POWER LIFT TEST. Cat III, ISO hook type lower link arms with lifting cylinders - (1)90 mm dia & (1)100 mm dia
Date of test: 10 July 1995

| | | Hitch points | Frame |
|---|---|---|---|
| Lower hitch points above ground - down position: | [mm/in] | 229/9.0 | 208/8.2 |
| Vertical movement: without load: | [mm/in] | 851/33.5 | 975/38.4 |
| Vertical movement: with load: | [mm/in] | 833/32.8 | 950/37.4 |
| Maximum corrected force through full range: | [kN/lb] | 54.6/12272 | 53.6/12051 |
| Corresponding pressure: | [kPa/psi] | 18200/2635 | |
| Moment about rear axle: | [kN.m/lb.ft] | 72.8/53688 | 104.1/76825 |
| Maximum mast tilt angle: | [deg] | -- | 9.1 |

Lifting height relative to horizontal position of lower links.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | [mm] | -351 | -330 | -297 | -198 | -97 | 3 |
| | [in] | -13.8 | -13.0 | -11.7 | -7.8 | -3.8 | 0.1 |
| Corrected lift forces | | | | | | | |
| Hitch point. | [kN] | -- | 54.6 | 57.3 | 58.8 | 62.4 | 67.4 |
| | [lb] | -- | 12272 | 12879 | 13221 | 14027 | 15156 |
| at frame | [kN] | 53.6 | 56.6 | -- | 55.3 | 57.4 | 58.4 |
| | [lb] | 12051 | 12722 | -- | 12429 | 12915 | 13131 |

Lifting height relative to horizontal position of lower links.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | [mm] | 102 | 203 | 302 | 401 | 503 | 599 |
| | [in] | 4.0 | 8.0 | 11.9 | 15.8 | 19.9 | 23.6 |
| Corrected lift forces | | | | | | | |
| Hitch point | [kN] | 67.4 | 70.1 | 73.0 | 76.0 | 77.8 | -- |
| | [lb] | 15156 | 15755 | 16421 | 17082 | 17483 | -- |
| at frame | [kN] | 58.6 | 59.1 | 59.2 | -- | 58.4 | 55.4 |
| | [lb] | 13172 | 13275 | 13298 | -- | 13136 | 12447 |

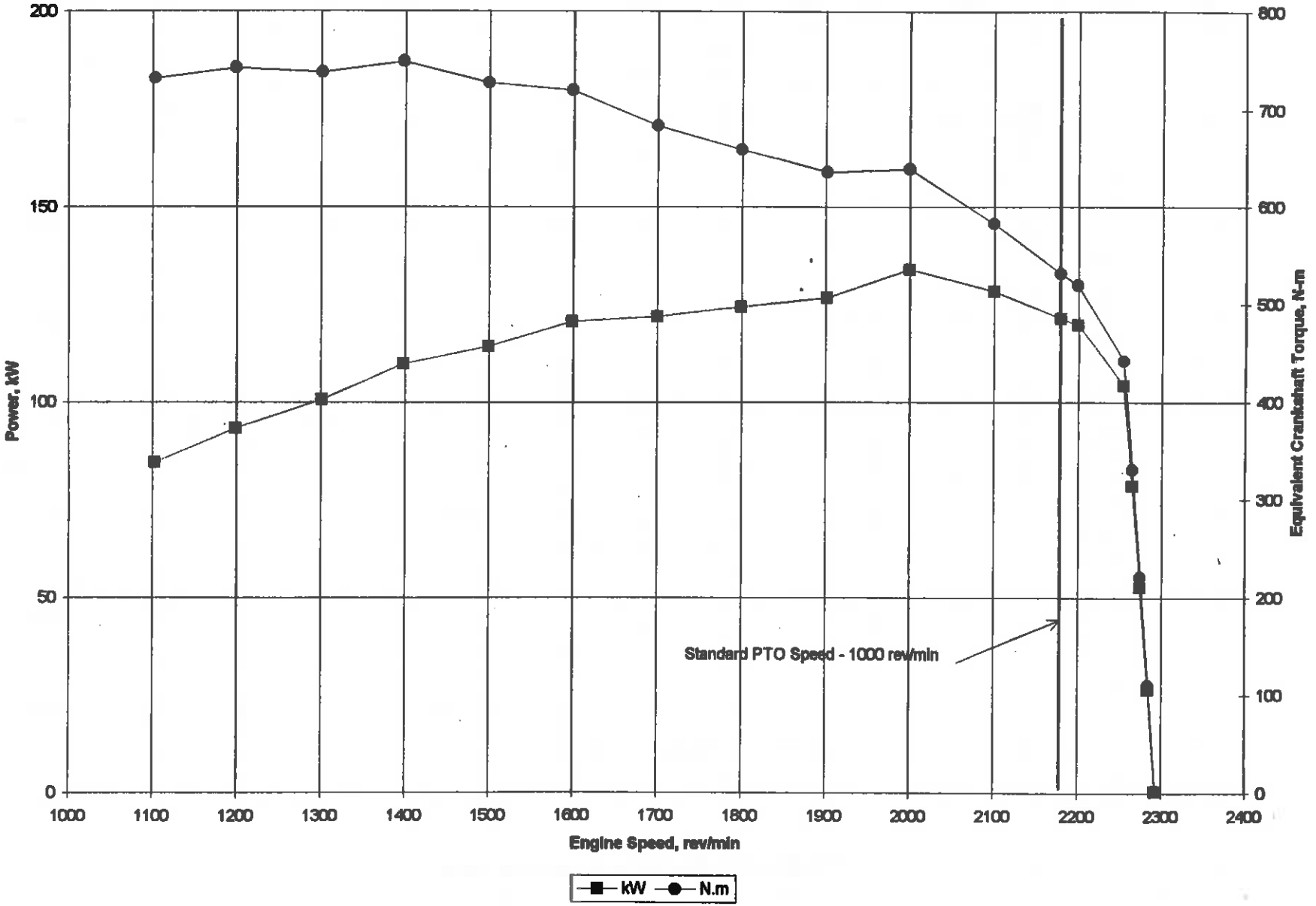
## OECD Drawbar Data (SI)

| Date of tests: | | 11-May-95 | | Fuel density: | | 0.835 kg/l | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of track: | | Concrete | | Test number: | | 1688 | | | | | | | | |
| Gear | Power | Pull | Speed | Engine speed | Slip | SFC | SFE | Temperature, deg C | | | | | Rel humidity | Barom. Press |
| | kW | kN | km/h | rev/min | | kg/kW.h | kW.h/l | Fuel | Coolant | Oil | Dry | Wet | | kPa |
| I. Maximum Power (unballasted, 4wd at 2000 rev/min) | | | | | | Tire pressure: | | 90 kPa, rear | | 117 kPa, front | | Drawbar height: | | 508 mm |
| *3 | 72.94 | 82.71 | 3.17 | 2253 | 14% | 0.334 | 2.50 | 57 | 85 | 101 | 12 | 9 | 77% | 97.60 |
| 4 | 94.99 | 83.95 | 4.07 | 2222 | 13% | 0.306 | 2.73 | 58 | 86 | 101 | 12 | 9 | 77% | 97.60 |
| 5 | 107.13 | 79.93 | 4.82 | 2112 | 10% | 0.280 | 2.98 | 59 | 87 | 102 | 12 | 9 | 77% | 97.60 |
| 6 | 112.98 | 78.41 | 5.19 | 2000 | 10% | 0.270 | 3.10 | 59 | 91 | 105 | 13 | 10 | 72% | 97.63 |
| 7 | 117.17 | 69.04 | 6.11 | 2000 | 6% | 0.260 | 3.21 | 60 | 91 | 105 | 13 | 10 | 72% | 97.63 |
| 8 | 118.37 | 60.90 | 7.00 | 1999 | 5% | 0.257 | 3.25 | 60 | 93 | 107 | 13 | 10 | 72% | 97.63 |
| 9 | 118.60 | 53.66 | 7.96 | 1997 | 4% | 0.256 | 3.27 | 59 | 93 | 107 | 13 | 10 | 73% | 97.63 |
| 10 | 118.93 | 47.24 | 9.06 | 2003 | 3% | 0.255 | 3.27 | 59 | 94 | 108 | 13 | 11 | 73% | 97.56 |
| 11 | 118.15 | 41.26 | 10.31 | 2002 | 3% | 0.257 | 3.25 | 59 | 93 | 107 | 13 | 11 | 73% | 97.56 |
| 12 | 116.61 | 36.01 | 11.66 | 1999 | 2% | 0.259 | 3.23 | 59 | 92 | 106 | 13 | 11 | 73% | 97.56 |
| 13 | 113.82 | 27.43 | 14.94 | 2000 | 2% | 0.266 | 3.15 | 58 | 91 | 104 | 13 | 11 | 73% | 97.56 |
| * Note: Slip within operating conditions of test station. | | | | | | | | | | | | | | |
| II. Part loads (unballasted, 4wd) | | | | | | | | | | | | | | |
| II.1 in selected gear at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 10 | 104.50 | 37.58 | 10.01 | 2195 | 3% | 0.277 | 3.02 | 61 | 91 | 107 | 13 | 11 | 73% | 97.56 |
| II.1.1 75% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 10 | 80.97 | 28.19 | 10.34 | 2252 | 2% | 0.302 | 2.76 | 57 | 87 | 101 | 15 | 11 | 64% | 97.46 |
| II.1.2 50% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 10 | 54.58 | 18.79 | 10.46 | 2263 | 1% | 0.354 | 2.36 | 56 | 85 | 100 | 13 | 11 | 73% | 97.46 |
| II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1 | | | | | | | | | | | | | | |
| 12 | 81.06 | 28.20 | 10.35 | 1764 | 2% | 0.270 | 3.10 | 51 | 86 | 99 | 13 | 11 | 73% | 97.46 |
| II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2 | | | | | | | | | | | | | | |
| 12 | 54.57 | 18.80 | 10.45 | 1772 | 1% | 0.302 | 2.77 | 50 | 83 | 98 | 13 | 11 | 73% | 97.46 |
| II.2 in selected gear nearest to 7.5 km/h at rated engine speed | | | | | | | | | | | | | | |
| 8 | 105.75 | 48.80 | 7.80 | 2199 | 3% | 0.272 | 3.07 | 61 | 92 | 108 | 13 | 10 | 72% | 97.63 |
| II.2.1 75% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 8 | 82.29 | 36.58 | 8.10 | 2258 | 2% | 0.296 | 2.82 | 58 | 88 | 102 | 13 | 11 | 73% | 97.56 |
| II.2.2 50% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 8 | 55.46 | 24.39 | 8.19 | 2264 | 2% | 0.343 | 2.44 | 56 | 83 | 99 | 13 | 11 | 73% | 97.56 |
| II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1 | | | | | | | | | | | | | | |
| 10 | 82.26 | 36.50 | 8.11 | 1778 | 2% | 0.261 | 3.20 | 53 | 87 | 101 | 13 | 11 | 73% | 97.56 |
| II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2 | | | | | | | | | | | | | | |
| 10 | 55.36 | 24.36 | 8.18 | 1778 | 2% | 0.295 | 2.83 | 50 | 83 | 97 | 13 | 11 | 73% | 97.56 |

## OECD Drawbar Data (US)

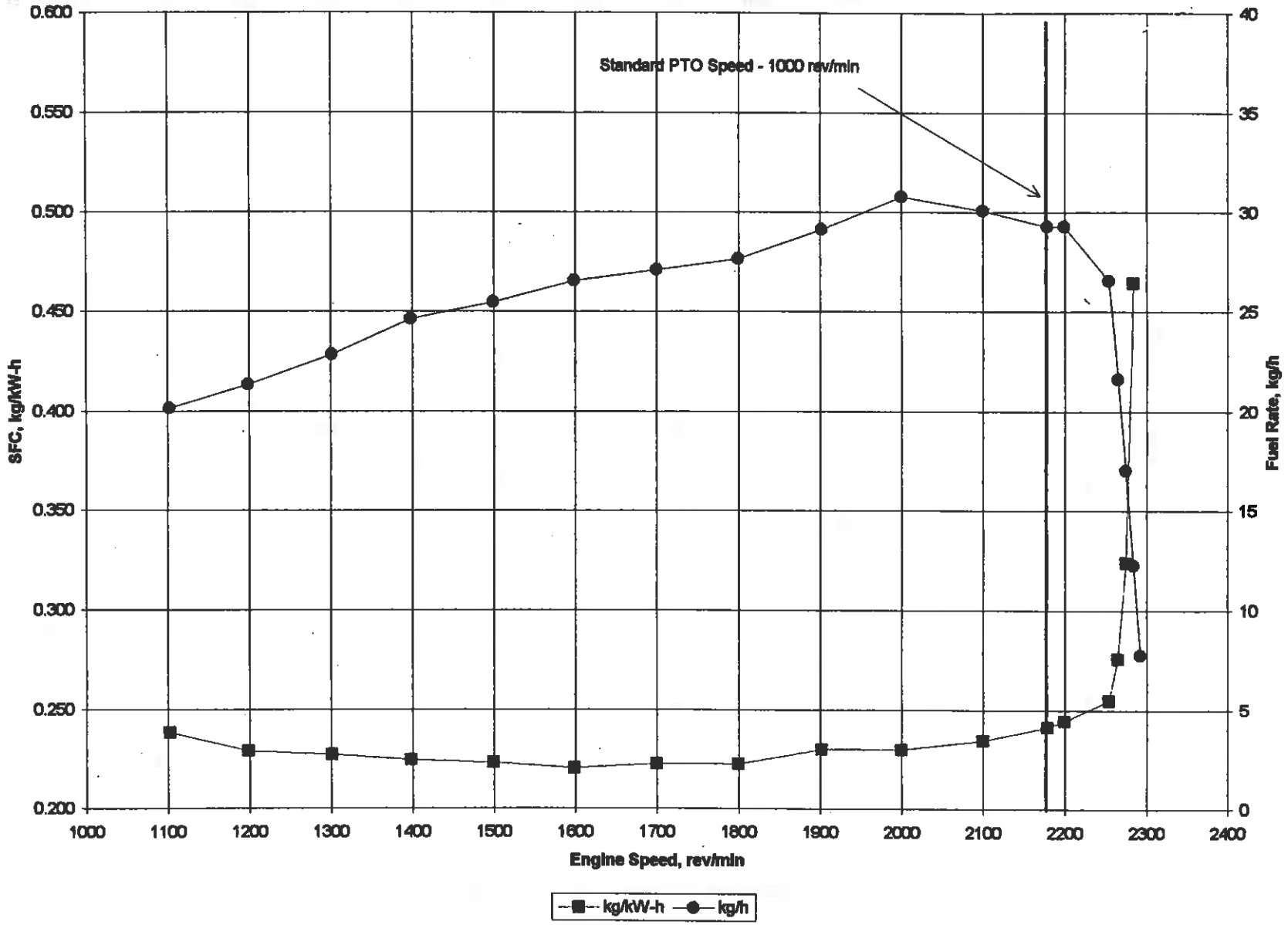
| Date of tests: | | 11-May-95 | | Fuel density: | | 6.972 lb/gal | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of track: | | Concrete | | Test number: | | 1688 | | | | | | | | |
| Gear | Power | Pull | Speed | Engine speed | Slip | SFC | SFE | Temperature, deg F | | | | | Rel humidity | Barom. Press |
| | hp | lb | mph | rev/min | | lb/hp.h | hp.h/gal | Fuel | Coolant | Oil | Dry | Wet | | in Hg |
| I. Maximum Power (unballasted, 4wd at 2000 rev/min) | | | | | | Tire pressure: | | 13 psig, rear | | 17 psig, front | | Drawbar height: | | 20.0 in |
| *3 | 97.81 | 18595 | 1.97 | 2253 | 14% | 0.549 | 12.69 | 135 | 186 | 213 | 53 | 49 | 77% | 28.82 |
| 4 | 127.38 | 18874 | 2.53 | 2222 | 13% | 0.504 | 13.85 | 137 | 188 | 215 | 53 | 49 | 77% | 28.82 |
| 5 | 143.66 | 17970 | 3.00 | 2112 | 10% | 0.461 | 15.14 | 138 | 189 | 215 | 53 | 49 | 77% | 28.82 |
| 6 | 151.51 | 17628 | 3.22 | 2000 | 10% | 0.444 | 15.71 | 138 | 195 | 221 | 55 | 50 | 72% | 28.83 |
| 7 | 157.13 | 15521 | 3.80 | 2000 | 6% | 0.427 | 16.31 | 139 | 195 | 222 | 55 | 50 | 72% | 28.83 |
| 8 | 158.73 | 13691 | 4.35 | 1999 | 5% | 0.422 | 16.51 | 140 | 199 | 225 | 55 | 50 | 72% | 28.83 |
| 9 | 159.04 | 12063 | 4.94 | 1997 | 4% | 0.420 | 16.59 | 139 | 199 | 225 | 55 | 50 | 73% | 28.83 |
| 10 | 159.48 | 10620 | 5.63 | 2003 | 3% | 0.420 | 16.62 | 138 | 201 | 226 | 56 | 51 | 73% | 28.81 |
| 11 | 158.44 | 9275 | 6.41 | 2002 | 3% | 0.423 | 16.49 | 139 | 199 | 224 | 56 | 51 | 73% | 28.81 |
| 12 | 156.37 | 8096 | 7.24 | 1999 | 2% | 0.426 | 16.38 | 139 | 198 | 223 | 56 | 51 | 73% | 28.81 |
| 13 | 152.63 | 6167 | 9.28 | 2000 | 2% | 0.437 | 15.97 | 137 | 195 | 220 | 56 | 51 | 73% | 28.81 |
| * Note: Slip within operating conditions of test station. | | | | | | | | | | | | | | |
| II. Part loads (unballasted, 4wd) | | | | | | | | | | | | | | |
| II.1 in selected gear at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 10 | 140.13 | 8449 | 6.22 | 2195 | 3% | 0.455 | 15.34 | 141 | 196 | 224 | 56 | 51 | 73% | 28.81 |
| II.1.1 75% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 10 | 108.59 | 6338 | 6.43 | 2252 | 2% | 0.497 | 14.04 | 135 | 189 | 214 | 59 | 52 | 64% | 28.78 |
| II.1.2 50% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 10 | 73.19 | 4225 | 6.50 | 2263 | 1% | 0.581 | 12.00 | 132 | 185 | 213 | 56 | 51 | 73% | 28.78 |
| II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1 | | | | | | | | | | | | | | |
| 12 | 108.71 | 6339 | 6.43 | 1764 | 2% | 0.444 | 15.72 | 125 | 187 | 210 | 56 | 51 | 73% | 28.78 |
| II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2 | | | | | | | | | | | | | | |
| 12 | 73.18 | 4227 | 6.49 | 1772 | 1% | 0.497 | 14.04 | 122 | 182 | 208 | 56 | 51 | 73% | 28.78 |
| II.2 in selected gear nearest to 4.6 mph at rated engine speed | | | | | | | | | | | | | | |
| 8 | 141.81 | 10971 | 4.85 | 2199 | 3% | 0.448 | 15.58 | 143 | 198 | 226 | 55 | 50 | 72% | 28.83 |
| II.2.1 75% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 8 | 110.35 | 8224 | 5.03 | 2258 | 2% | 0.486 | 14.34 | 137 | 190 | 216 | 56 | 51 | 73% | 28.81 |
| II.2.2 50% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 8 | 74.37 | 5482 | 5.09 | 2264 | 2% | 0.563 | 12.37 | 132 | 182 | 211 | 56 | 51 | 73% | 28.81 |
| II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1 | | | | | | | | | | | | | | |
| 10 | 110.31 | 8205 | 5.04 | 1778 | 2% | 0.430 | 16.23 | 127 | 189 | 214 | 56 | 51 | 73% | 28.81 |
| II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2 | | | | | | | | | | | | | | |
| 10 | 74.24 | 5477 | 5.08 | 1778 | 2% | 0.484 | 14.39 | 122 | 181 | 207 | 56 | 51 | 73% | 28.81 |

## Power and Equivalent Crankshaft Torque



John Deere 8100

## Specific Fuel Consumption and Fuel Rate



**Test 1688 - John Deere 8100**

**Power and Specific Fuel Consumption**

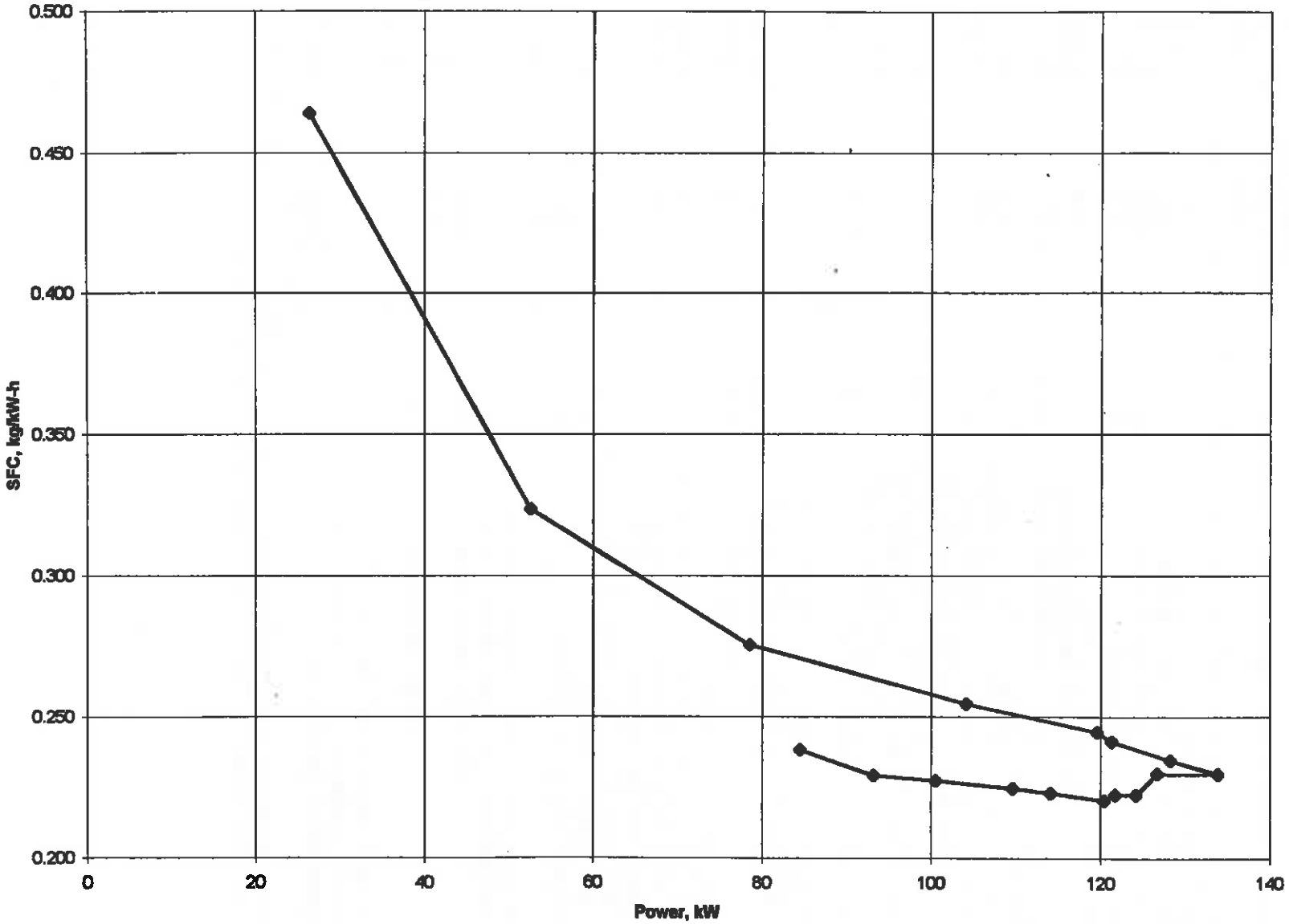


**Table 1.2 - Linkage geometry dimensions-North American Version - Standard setting.**

| (with Quick Attach coupler system) | | Dimension or range [mm] | Settings used on test [mm] |
|---|---|---|---|
| Lift category | | III | III |
| Rear Tire - Radius Index | (r) | 905 | same |
| Front Tire - Radius Index | (r') | 695 | same |
| Length of lift arms | (A) | 495 | same |
| Length of lower links | | | |
| without Quick-Attach | (B) | 967 | same |
| with Quick-Attach | (B) | 1056 | same |
| Distance of lift arm pivot from: horizontal | (a) | -240 | same |
| rear wheel axis: vertical | (b) | 495 | same |
| Horizontal distance between the 2 lower link points | (U) | 600 | same |
| Horizontal distance between the 2 lift arm end points | (V) | 750 | same |
| Length of upper link | (S) | 695 to 813 | 718 |
| Distance of upper link pivot point from rear wheel axis | | | |
| - horizontal | (c) | 515 | same |
| - vertical | (d) | 123 | same |
| Distance of lower link pivot from: horizontal | (e) | 275 | same |
| rear wheel axis: vertical | (f) | 350 | same |
| Distance of lower link pivot points to lift rod pivot pts on lower links. | (D) | 716 | same |
| Length of lift rods | (L) | 968 to 1063 | 1054 |
| Height of lower hitch points relative to rear wheel axis | | | |
| In low position | (h) | 689 to 552 | 676 |
| In high position | (H) | 243 to 96 | 114 |
| Height above ground of lower hitch points when locked in transport position | | 1126 to 1022 | 1092 |

Tire dynamic index of 905 mm ISO 4251/1-1992

2.2 POWER LIFT TEST. Cat III, N.A. quick attaching coupler with lifting cylinders - (1)80 mm dia and (1)90 mm dia
(for dimensions see p.22)
Date of test: 11 July 1995

| | | Hitch points | Frame |
|---|---|---|---|
| Lower hitch points above ground - down position: | [mm/in] | 229/9.0 | 196/7.7 |
| Vertical movement: | | | |
| without load: | [mm/in] | 795/31.3 | 940/37.0 |
| with load: | [mm/in] | 770/30.3 | 902/35.5 |
| Maximum corrected force through full range: | [kN/lb] | 47.2/10602 | 42.8/9617 |
| Corresponding pressure: | [kPa/psi] | 18100/2630 | |
| Moment about rear axle: | [kN.m/lb.ft] | 62.8/46295 | 83.0/61225 |
| Maximum mast tilt angle: | [deg] | — | 9.4 |

Lifting height relative to horizontal position of lower links.

| | | | | | | |
|---|---|---|---|---|---|---|
| [mm] | -363 | -330 | -295 | -198 | -97 | 3 |
| [in] | -14.3 | -13.0 | -11.6 | -7.8 | -3.8 | 0.1 |
| Corrected lift forces | | | | | | |
| Hitch [kN] | — | 47.9 | 47.2 | 49.9 | 52.3 | 54.6 |
| point [lb] | — | 10773 | 10602 | 11223 | 11750 | 12285 |
| at [kN] | 45.6 | 45.2 | — | 46.2 | 46.8 | 47.0 |
| frame [lb] | 10256 | 10157 | — | 10386 | 10526 | 10575 |

Lifting height relative to horizontal position of lower links.

| | | | | | | |
|---|---|---|---|---|---|---|
| [mm] | 102 | 203 | 302 | 401 | 439 | 538 |
| [in] | 4.0 | 8.0 | 11.9 | 15.8 | 17.3 | 21.2 |
| Corrected lift forces | | | | | | |
| Hitch [kN] | 56.8 | 58.9 | 60.6 | 62.3 | 62.1 | — |
| point [lb] | 12780 | 12780 | 13622 | 14004 | 13964 | — |
| at [kN] | 46.9 | 46.4 | — | 45.2 | 43.7 | 42.8 |
| frame [lb] | 10539 | 10427 | — | 10152 | 9828 | 9617 |

**Table 1.3 - Linkage geometry dimensions-North American Optional High Lift version and setting.**

| (with Quick Attach coupler system) | | | Dimension or range [mm] | Settings used on test [mm] |
|---|---|---|---|---|
| Lift category | | | III | III |
| Rear Tire - Radius Index | (r) | | 905 | same |
| Front Tire - Radius Index | (r') | | 695 | same |
| Length of lift arms | (A) | | 495 | same |
| Length of lower links | | | | |
| without Quick-Attach | (B) | | 967 | same |
| with Quick-Attach | (B) | | 1056 | same |
| Distance of lift arm pivot from: horizontal | (a) | | -240 | same |
| rear wheel axis: vertical | (b) | | 495 | same |
| Horizontal distance between the 2 lower link points | (U) | | 600 | same |
| Horizontal distance between the 2 lift arm end points | (V) | | 750 | same |
| Length of upper link | (S) | | 730 | |
| | | to | 900 | 806 |
| Distance of upper link pivot point from rear wheel axis | | | | |
| - horizontal | (c) | | 515 | same |
| - vertical | (d) | | 186 | same |
| Distance of lower link pivot from: horizontal | (e) | | 275 | same |
| rear wheel axis: vertical | (f) | | 350 | same |
| Distance of lower link pivot points to lift rod pivot pts on lower links. | (D) | | 716 | same |
| Length of lift rods | (L) | | 968 | |
| | | to | 1063 | 1054 |
| Height of lower hitch points relative to rear wheel axis | | | | |
| In low position | (h) | | 689 | |
| | | to | 552 | 676 |
| In high position | (H) | | 243 | |
| | | to | 96 | 175 |
| Height above ground of lower hitch points when locked in transport position | | | 1193 | 1080 |
| | | to | 1073 | |

Tire dynamic index of 905 mm ISO 4251/1-1992

2.2 POWER LIFT TEST. Cat III, N.A. quick attaching coupler with lifting cylinders - (1)90 mm dia and (1)100 mm dia
(for dimensions see p.24)
Date of test: 11 July 1995

| | | Hitch points | Frame |
|---|---|---|---|
| Lower hitch points above ground - down position: | [mm/in] | 229/9.0 | 211/8.3 |
| Vertical movement: | | | |
| without load: | [mm/in] | 782/30.8 | 848/33.4 |
| with load: | [mm/in] | 770/30.3 | 826/32.5 |
| Maximum corrected force through full range: | [kN/lb] | 60.9/13694 | 60.6/13622 |
| Corresponding pressure: | [kPa/psi] | 18100/2627 | |
| Moment about rear axle: | [kN.m/lb.ft] | 81.1/59795 | 117.6/86724 |
| Maximum mast tilt angle: | [deg] | -- | 3.6 |

Lifting height relative to horizontal position of lower links.

| | | | | | | |
|---|---|---|---|---|---|---|
| [mm] | -348 | -330 | -297 | -198 | -97 | 3 |
| [in] | -13.7 | -13.0 | -11.7 | -7.8 | -3.8 | 0.1 |
| Corrected lift forces | | | | | | |
| Hitch [kN] | -- | 62.8 | 60.9 | 65.1 | 69.6 | 70.9 |
| point. [lb] | -- | 14121 | 13694 | 14630 | 15647 | 15935 |
| at [kN] | 66.7 | 66.4 | -- | 65.9 | 66.2 | 66.5 |
| frame [lb] | 14990 | 14922 | -- | 14810 | 14886 | 14958 |

Lifting height relative to horizontal position of lower links.

| | | | | | | |
|---|---|---|---|---|---|---|
| [mm] | 102 | 203 | 302 | 401 | 439 | 478 |
| [in] | 4.0 | 8.0 | 11.9 | 15.8 | 17.3 | 18.8 |
| Corrected lift forces | | | | | | |
| Hitch [kN] | 73.4 | 74.9 | 77.2 | 80.7 | 80.7 | -- |
| point [lb] | 16493 | 16830 | 17361 | 18140 | 18153 | -- |
| at [kN] | 68.1 | 65.5 | 64.4 | -- | 62.1 | 60.6 |
| frame [lb] | 15314 | 14729 | 14468 | -- | 13968 | 13622 |

# OPTIONAL TESTS - Ballasted - Front Drive Engaged
## Tests Conducted under the guidelines of the Nebraska Tractor Testing Laboratory

### OECD Drawbar Data (SI)

Date of tests: 4, 10-May-95 | Fuel density: 0.835 kg/l
Type of track: Concrete | Test number: 1688

| Gear | Power | Pull | Speed | Engine speed | Slip | SFC | SFE | Temperature, deg C | | | | | Rel humidity | Baro. Pres |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | kN | km/h | rev/min | | kg/kW.h | kW.h/l | Fuel | Coolant | Oil | Dry | Wet | | kPa |
| I. Maximum Power (ballasted, 4wd at 2000 rev/min) | | | | | | Tire pressure: | | 48 kPa, rear | | 152 kPa, front | | Drawbar height: | | 533 mm |
| *3 | 89.90 | 96.02 | 3.37 | 2246 | 8% | 0.302 | 2.77 | 58 | 86 | 100 | 13 | 11 | 78% | 98.17 |
| 4 | 105.55 | 92.59 | 4.10 | 2128 | 8% | 0.284 | 2.94 | 61 | 91 | 106 | 14 | 12 | 78% | 98.21 |
| 5 | 116.10 | 87.85 | 4.76 | 2001 | 6% | 0.263 | 3.17 | 60 | 92 | 107 | 14 | 12 | 78% | 98.21 |
| 6 | 118.18 | 77.72 | 5.47 | 2001 | 4% | 0.258 | 3.24 | 59 | 93 | 108 | 14 | 12 | 73% | 98.24 |
| 7 | 119.34 | 68.61 | 6.26 | 2001 | 3% | 0.255 | 3.28 | 59 | 94 | 108 | 14 | 12 | 73% | 98.24 |
| 8 | 119.18 | 60.54 | 7.09 | 1997 | 3% | 0.255 | 3.28 | 59 | 94 | 109 | 14 | 12 | 73% | 98.24 |
| 9 | 118.68 | 53.21 | 8.03 | 1997 | 2% | 0.256 | 3.27 | 58 | 92 | 106 | 14 | 12 | 78% | 98.27 |
| 10 | 118.39 | 46.81 | 9.11 | 2001 | 2% | 0.259 | 3.23 | 59 | 95 | 109 | 13 | 11 | 73% | 97.51 |
| 11 | 116.91 | 40.74 | 10.33 | 2000 | 2% | 0.259 | 3.22 | 59 | 94 | 108 | 13 | 11 | 73% | 97.53 |
| 12 | 115.50 | 35.64 | 11.67 | 1997 | 2% | 0.263 | 3.18 | 58 | 93 | 107 | 13 | 11 | 73% | 97.53 |
| 13 | 112.00 | 27.00 | 14.93 | 2002 | 1% | 0.274 | 3.05 | 58 | 91 | 105 | 13 | 11 | 73% | 97.53 |
| * Note: Pull limited to avoid excessive tractor bouncing. | | | | | | | | | | | | | | |
| II. Maximum Power (ballasted, 4wd at 2200 rev/min) | | | | | | Tire pressure: | | 48 kPa, rear | | 152 kPa, front | | Drawbar height: | | 533 mm |
| *3 | 88.97 | 95.04 | 3.37 | 2247 | 8% | 0.304 | 2.75 | 60 | 86 | 102 | 13 | 11 | 78% | 98.17 |
| 4 | 102.69 | 84.71 | 4.36 | 2199 | 5% | 0.285 | 2.93 | 61 | 87 | 103 | 13 | 11 | 78% | 98.17 |
| 5 | 106.43 | 71.32 | 5.37 | 2199 | 4% | 0.274 | 3.05 | 60 | 89 | 103 | 14 | 12 | 78% | 98.21 |
| 6 | 105.89 | 62.51 | 6.10 | 2199 | 3% | 0.274 | 3.05 | 61 | 92 | 108 | 14 | 12 | 73% | 98.24 |
| 7 | 106.03 | 55.00 | 6.94 | 2200 | 3% | 0.273 | 3.06 | 60 | 91 | 106 | 14 | 12 | 73% | 98.24 |
| 8 | 104.95 | 48.09 | 7.86 | 2199 | 2% | 0.274 | 3.05 | 60 | 91 | 107 | 14 | 12 | 78% | 98.27 |
| 9 | 104.63 | 42.46 | 8.87 | 2200 | 2% | 0.276 | 3.02 | 59 | 90 | 105 | 14 | 12 | 78% | 98.27 |
| 10 | 102.91 | 36.88 | 10.04 | 2198 | 2% | 0.283 | 2.95 | 61 | 91 | 107 | 13 | 11 | 73% | 97.53 |
| 11 | 101.67 | 32.14 | 11.39 | 2196 | 1% | 0.285 | 2.93 | 60 | 91 | 105 | 13 | 11 | 73% | 97.53 |
| 12 | 100.07 | 27.97 | 12.88 | 2197 | 1% | 0.287 | 2.91 | 59 | 89 | 103 | 13 | 11 | 73% | 97.53 |
| * Note: Pull limited to avoid excessive tractor bouncing. | | | | | | | | | | | | | | |

### OECD Drawbar Data (US)

Date of tests: 4, 10-May-95 | Fuel density: 6.972 lb/gal
Type of track: Concrete | Test number: 1688

| Gear | Power | Pull | Speed | Engine speed | Slip | SFC | SFE | Temperature, deg F | | | | | Rel humidity | Baro. Pres |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | hp | lb | mph | rev/min | | lb/hp.h | hp.h/gal | Fuel | Coolant | Oil | Dry | Wet | | in Hg |
| I. Maximum Power (ballasted, 4wd at 2000 rev/min) | | | | | | Tire pressure: | | 7 psig, rear | | 22 psig, front | | Drawbar height: | | 21.0 in |
| *3 | 120.56 | 21586 | 2.09 | 2246 | 8% | 0.496 | 14.05 | 136 | 186 | 213 | 56 | 52 | 78% | 28.99 |
| 4 | 141.54 | 20816 | 2.55 | 2128 | 8% | 0.467 | 14.93 | 142 | 196 | 224 | 57 | 53 | 78% | 29.00 |
| 5 | 155.69 | 19750 | 2.96 | 2001 | 6% | 0.433 | 16.10 | 140 | 198 | 224 | 57 | 53 | 78% | 29.00 |
| 6 | 158.49 | 17473 | 3.40 | 2001 | 4% | 0.424 | 16.45 | 139 | 199 | 227 | 58 | 53 | 73% | 29.01 |
| 7 | 160.03 | 15425 | 3.89 | 2001 | 3% | 0.418 | 16.66 | 139 | 201 | 227 | 58 | 53 | 73% | 29.01 |
| 8 | 159.82 | 13611 | 4.40 | 1997 | 3% | 0.419 | 16.64 | 138 | 201 | 228 | 58 | 53 | 73% | 29.01 |
| 9 | 159.15 | 11962 | 4.99 | 1997 | 2% | 0.420 | 16.58 | 136 | 197 | 224 | 57 | 53 | 78% | 29.02 |
| 10 | 158.77 | 10523 | 5.66 | 2001 | 2% | 0.425 | 16.39 | 139 | 203 | 228 | 56 | 51 | 73% | 28.80 |
| 11 | 156.79 | 9158 | 6.42 | 2000 | 2% | 0.426 | 16.37 | 138 | 201 | 226 | 56 | 51 | 73% | 28.80 |
| 12 | 154.89 | 8012 | 7.25 | 1997 | 2% | 0.432 | 16.12 | 137 | 200 | 225 | 56 | 51 | 73% | 28.80 |
| 13 | 150.20 | 6070 | 9.28 | 2002 | 1% | 0.450 | 15.49 | 136 | 197 | 221 | 56 | 51 | 73% | 28.80 |
| * Note: Pull limited to avoid excessive tractor bouncing. | | | | | | | | | | | | | | |
| II. Maximum Power (ballasted, 4wd at 2200 rev/min) | | | | | | Tire pressure: | | 7 psig, rear | | 22 psig, front | | Drawbar height: | | 21.0 in |
| *3 | 119.31 | 21366 | 2.09 | 2247 | 8% | 0.499 | 13.96 | 139 | 188 | 215 | 56 | 52 | 78% | 28.99 |
| 4 | 137.71 | 19045 | 2.71 | 2199 | 5% | 0.469 | 14.87 | 141 | 189 | 217 | 56 | 52 | 78% | 28.99 |
| 5 | 142.73 | 16034 | 3.34 | 2199 | 4% | 0.451 | 15.47 | 141 | 192 | 218 | 57 | 53 | 78% | 29.00 |
| 6 | 142.00 | 14052 | 3.79 | 2199 | 3% | 0.451 | 15.46 | 141 | 197 | 226 | 58 | 53 | 73% | 29.01 |
| 7 | 142.18 | 12364 | 4.31 | 2200 | 3% | 0.448 | 15.55 | 140 | 197 | 223 | 58 | 53 | 73% | 29.01 |
| 8 | 140.74 | 10812 | 4.88 | 2199 | 2% | 0.451 | 15.48 | 140 | 197 | 225 | 57 | 53 | 78% | 29.02 |
| 9 | 140.31 | 9546 | 5.51 | 2200 | 2% | 0.454 | 15.35 | 139 | 195 | 222 | 57 | 53 | 78% | 29.02 |
| 10 | 138.00 | 8292 | 6.24 | 2198 | 2% | 0.466 | 14.97 | 141 | 197 | 225 | 56 | 51 | 73% | 28.80 |
| 11 | 136.35 | 7226 | 7.08 | 2196 | 1% | 0.469 | 14.88 | 140 | 195 | 222 | 56 | 51 | 73% | 28.80 |
| 12 | 134.19 | 6288 | 8.00 | 2197 | 1% | 0.472 | 14.76 | 139 | 192 | 218 | 56 | 51 | 73% | 28.80 |
| * Note: Pull limited to avoid excessive tractor bouncing. | | | | | | | | | | | | | | |

## MEASUREMENT OF EXTERNAL NOISE LEVEL.

| | |
|---|---|
| Date of test | 11 May, 1995 |
| Location of test | Nebraska Tractor Test<br>Lincoln, NE. USA |
| Sound Level Meter | Bruel and Kjär 2203 |
| Type of test track | Concrete oval |
| Gear Number | 16th |
| Speed prior to acceleration | 28.1 km/h |
| Recorded noise level | 89.0 dB(A) |

**Remarks : None**
**Repairs : None**