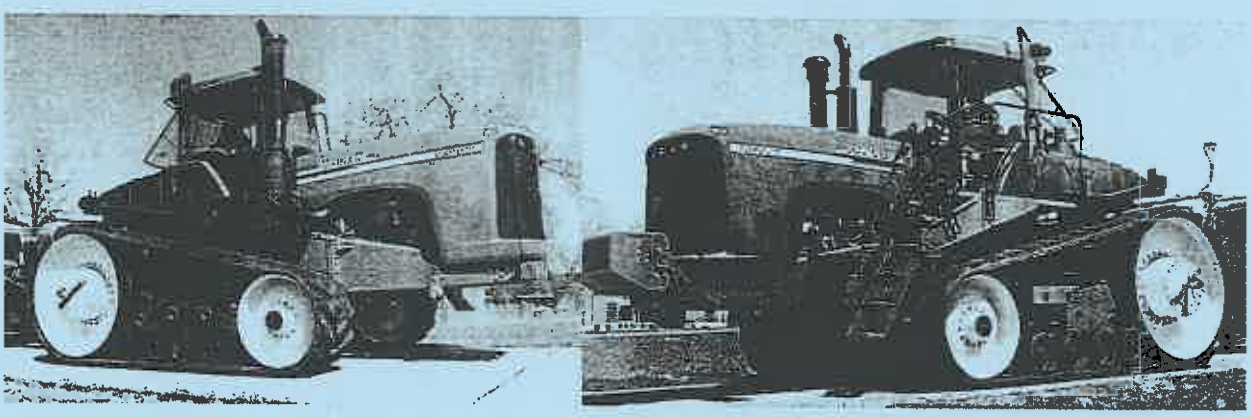
OECD APPROVAL NO. 2/2 041
CODE 2
DATE OF APPROVAL: 5 February 2003

NEBRASKA TRACTOR TEST 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 STANDARD CODE 2 FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS



**JOHN DEERE 9320T**
**Powershift**
**Rubber Tracklaying Tractor**

| | |
|---|---|
| MANUFACTURED BY: | John Deere Tractor Works<br>3500 East Donald Street<br>P.O. Box 270<br>Waterloo, Iowa 50704-0270 |
| NEBRASKA TEST NO. | 1804 |
| TEST DATES: | April 5 – May 31, 2002 |

## TABLE OF CONTENTS

Page

1. **SPECIFICATIONS** ..... 1

2. **TEST CONDITIONS** ..... 16

3. **COMPULSORY TESTS**
   - **3.1** Main Power Take-Off Performance ..... 19
   - **3.2** Hydraulic Power and Lifting Forces ..... 20
   - **3.3** Drawbar Performance ..... 22

4. **OPTIONAL TESTS**
   - **4.1** Drawbar Power (Unballasted – 2100 rev/min) ..... 23
   - **4.2** Drawbar Power (Ballasted – 1700 rev/min) ..... 24
   - **4.3** Power Lift Test (Category IV) ..... 25
   - **4.4** Measurement of External Noise Level ..... 26
   - **4.5** Measurement of Noise Level at Operator's Ear ..... 26

5. **REPAIRS** ..... 26

6. **REMARKS** ..... 26

7. **PTO PERFORMANCE CURVES** ..... 27

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, Code 2.

**This report has been approved by the OECD Coordinating Centre in Paris on 5 February 2003 for the John Deere 9320T Powershift, rubber tracklaying tractor with OECD Number 2/2 041.**

No reproduction of this report or any part of it can be made without prior approval by the Nebraska Tractor Test Laboratory, Lincoln, Nebraska USA.

Dr. Leonard L. Bashford, Director
Nebraska Tractor Test Laboratory and
Chair, Nebraska Tractor Test Board

David L. Morgan, Assistant Director
Nebraska Tractor Test Laboratory

Brent T. Sampson, Test Engineer
Nebraska Tractor Test Laboratory

Date MAR 2 1 2003

# SPECIMEN TEST REPORT

**Note:** Units shown below, which appear in ISO 1000:1992, shall be stated and followed by national units in parentheses, if necessary.

| | |
|---|---|
| - Tractor manufacturer's name and address: | John Deere Tractor Works<br>3500 East Donald St.<br>P.O. Box 270<br>Waterloo, IA 50704-0270 |
| - Location of tractor assembly: | Same |
| - Submitted for test by: | The Manufacturer |
| - Selected for test by: | The Manufacturer in agreement with the Nebraska Tractor Test Laboratory |
| - Place of running-in: | John Deere Product Engineering Center, Waterloo, Iowa |
| - Duration of running-in: | 89 hours |
| - Location of test: | Nebraska Tractor Test Laboratory, Lincoln, Nebraska U.S.A. |

## 1. SPECIFICATIONS OF TRACTOR

### 1.1 Identification

| | |
|---|---|
| 1.1.1 Make of the tractor: | John Deere |
| - Model: | 9320T |
| - Type: | Rubber tracklaying tractor |
| - Number of driving wheels: | 2 tracks, 30" |
| 1.1.2 *Numbers* | |
| - 1st Serial N : | CONFIDENTIAL |
| - Serial N : | RW9320T901024 |
| 1.1.3 *Other specifications:* | |
| - Transmission type | Powershift |

### 1.2 Engine

| | |
|---|---|
| - Make: | John Deere |
| - Model: | 6125HRW13 |
| - Type: | 4-stroke diesel; direct injection; turbocharged; air-to-air aftercooled |
| - Serial N: | RG6125H032116 |
| 1.2.1 *Cylinders* | |
| - Number/disposition: | 6, in-line, vertical |
| - Bore/stroke: | 127 mm/ 165 mm |
| - Capacity: | 12536 $cm^3$ |
| - Compression ratio: | 17.0:1 |
| - Arrangement of valves: | Overhead |
| - Cylinder liners (wet or dry): | Wet; replaceable |

1.2.2 *Supercharging*

| | |
|---|---|
| - Make: | Borg Warner |
| - Model: | RE506332 |
| - Type: | Exhaust Driven |
| - Pressure: | 147 kPa at rated engine speed and full load |

1.2.3 *Fuel system*

| | |
|---|---|
| -Fuel feed system: | Engine Driven Transfer pump |
| - Type of fuel filter(s): | Multi-layer-water-separating |
| - Make: | Haldex - Barnes |
| - Model: | RE508282 |
| -Capacity of fuel tank: | 1134 $dm^3$ |
| -Type of injection pump: | Unit Injector (with John Deere Focus controller); EUI, electronic |
| -Make: | Parker |
| -Model: | Delphi EUI 200 |
| -Serial N: | NA |
| -Manufacturer's production setting of injection pump | |
| · Flow rate (rated engine speed and full load): | 71.15 ± 3.50 $dm^3/h$ |
| · Timing: | Variable |
| -Type of injectors: | Unit Injector |
| -Make: | Delphi |
| -Model: | RE505430 |
| -Injection pressure: | 170 Mpa |
| -Type of carburetor: | NA |
| -Make: | NA |
| -Model: | NA |

1.2.4 *Governor*

| | |
|---|---|
| - Type: | Electronic Control |
| - Make: | John Deere |
| - Model: | Focus |
| - Governed range of engine speed | 900 rpm to 2255 rpm |
| - Rated engine speed: | 2100 $min^{-1}$(rev/min) |

1.2.5 *Air cleaner*

| | |
|---|---|
| -Pre-cleaner | |
| · Make: | Donaldson |
| · Model: | RE63932 |
| · Type: | Strato-tube pre-cleaner with aspirator |
| ·Location of air intake: | Top of Air Stack, right front corner of cab |
| -Main cleaner | |
| · Make: | Donaldson |
| · Model: | RE63931 |
| · Type: | Pleated Paper |

| | |
|---|---|
| · Location of air intake (in case of no pre cleaner): | Right Front |
| -Maintenance indicator: | Dash mounted warning light and audible signal |

1.2.6 *Lubrication system*

| | |
|---|---|
| - Type of feed pump: | Full pressure; positive displacement |
| - Type of filter(s): | Full flow |
| - Number of filters: | One; top load |
| - Oil Cooler: | Heat exchanger with engine coolant |

1.2.7 *Cooling system*

| | |
|---|---|
| - Type of coolant: | Liquid |
| - Type of pump: | Centrifugal, Gear-driven |
| - Specification of fan or blower | Belt driven; suction type; variable speed |
| · Number of fan blades: | 8 |
| · Fan diameter: | 711 mm |
| - Coolant capacity: | 61 $dm^3$ |
| - Type of temperature control: | 2 thermostats and variable speed fan |
| - Superpressure system: | 69 ± 5 kPa |

1.2.8 *Starting system*

| | |
|---|---|
| - Make: | Delco-Remy |
| - Model: | RE61547 |
| - Type: | Solenoid engaged |
| - Starter motor power rating: | 6.9 kW |
| - Cold starting aid: | Ether spray in intake manifold |
| - Safety device: | Electrical lockout on gearshift lever |

1.2.9 *Electrical system*

| | |
|---|---|
| - Voltage: | 12 V DC; neg ground |
| - Generator | |
| · Make: | Nippondenso |
| · Model | RE46608 |
| · Type: | Belt-driven |
| · Power: | 1.9 kW |
| - Battery of accumulators | |
| · Number: | Three; 12-volt batteries in parallel |
| · Rating | 925 cold crank amp/battery, 175 Ah/battery at 20 hour rating |

1.2.10 *Exhaust system*

| | |
|---|---|
| - Make: | Nelson (muffler) |
| - Model: | RE71295 |
| - Type: | Expansion Chamber |
| - Location: | Vertical muffler, right front corner of cab |

## 1.3 Transmission

### 1.3.1 *Clutch (travel and power take-off/travel alone)*

- Make: John Deere
- Model: Multiple Plate
- Type: Oil Cooled
- Number of plates: 7
- Diameter of plates: 279 mm
- Method of operation: Hydraulic, pedal actuated

### 1.3.2 *Gear box*

- Make: John Deere
- Model: Full Powershift
- Type: Mechanical
- Description: Countershaft design consisting of 8 multi-disk hydraulically cooled clutches and multi-disk hydraulically cooled planetary brake.

| | Forward | Reverse |
|---|---|---|
| Number of gears | 18 | 6 |
| Number of ranges/groups | NA | NA |
| Total of arrangements | 18 | 6 |

Available Options

- Make: John Deere
- Model: 24 spd PowrSync
- Type: Mechanical
- Description: Countershaft design consisting of one 3-speed gearbox with 4 synchronized ranges and one two-speed planetary gearset with multiple wet discs.

| | Forward | Reverse |
|---|---|---|
| Number of gears | 3 | 1 |
| Number of ranges/groups | 4/2 (Lo & Hi) | 3/2 (Lo & Hi) |
| Total of arrangements | 24 | 6 |

- Make: John Deere
- Model: 12-speed Syncro
- Type: Mechanical
- Description: Countershaft design consisting of one 3-speed gearbox with 4 synchronized ranges.

| | Forward | Reverse |
|---|---|---|
| Number of gears | 3 | 1 |
| Number of ranges/groups | 4 | 3 |
| Total of arrangements | 12 | 3 |

1.3.3 *Rear axle and final drives*

- Make: John Deere
- Model: NA
- Type: Spiral bevel gear and pinion, differential and inboard planetary reduction

- Differential lock
  - Type: NA
  - Method of engagement: NA
  - Method of disengagement: NA

1.3.4 *Front axle and final drives* NA

1.3.5 *Total ratios and traveling speeds*

| GearNo. | Number of engine revolutions for one revolution of the driving wheels | Nominal traveling speed (*) at rated engine speed of 2100 min-1 (rev/min) km/h |
|---|---|---|
| **1** | 180.2919 | 3.42 |
| **2** | 146.4678 | 4.21 |
| **3** | 132.2710 | 4.66 |
| **4** | 118.4620 | 5.21 |
| **5** | 107.4847 | 5.74 |
| **6** | 96.2359 | 6.41 |
| **7** | 86.9265 | 7.10 |
| **8** | 77.8498 | 7.93 |
| **9** | 70.6350 | 8.74 |
| **10** | 63.2651 | 9.76 |
| **11** | 57.1364 | 10.80 |
| **12** | 51.7059 | 11.94 |
| **13** | 46.4306 | 13.29 |
| **14** | 42.0086 | 14.69 |
| **15** | 33.9793 | 18.17 |
| **16** | 27.6179 | 22.35 |
| **17** | 22.3425 | 27.63 |
| **18** | 18.1533 | 34.01 |
| **R1** | 180.2919 | 3.42 |
| **R2** | 132.2710 | 4.66 |
| **R3** | 118.4620 | 5.21 |
| **R4** | 86.9265 | 7.10 |
| **R5** | 77.8498 | 7.93 |
| **R6** | 57.1364 | 10.80 |
| (*) Calculated with a rear dynamic radius index of 780 mm | | |

## 1.4 Power take-off (Optional; Installed on tested machine)

1.4.1 *Main power take-off*

| | |
|---|---|
| -Type (independent, semi-independent or not independent): | Independent |
| -Method of engagement (if necessary describe the type of clutch): | Electro-Hydraulically actuated multi-plate wet clutch operated by single hand control switch |
| -Number of shafts: | One, 1000 RPM only |
| -Method of changing power take-off shaft ends and speeds: | None |

1.4.1.1 Power take-off proportional to engine speed

*Power take-off at 540 $min^{-1}$ (rev/min)* — Not Available

*Power take-off at 1000 $min^{-1}$ (rev/min)*

| | |
|---|---|
| -Location: | Rear of tractor, center plane |
| -Diameter of power take-off shaft end: | 44.5 mm |
| -Number of splines: | 20; in conformity with ISO 500:1991 |
| -Height above ground: | 817 mm |
| -Distance from the median plane of the tractor: | 0 mm |
| -Distance behind rear-wheel axis: | 760 mm |
| -PTO speed at rated engine speed (2100 rev/min): | 1108 $min^{-1}$ (rev/min) |
| -Engine speed at standard power take-off speed: | 1895 $min^{-1}$ (rev/min) |
| -Ratio of rotation speeds (engine speed/p.t.o. speed): | 1.895:1 |
| -Power restriction: | Maximum power available |
| -Maximum torque transmissible: | Maximum torque available |
| -Direction of rotation (viewed from behind tractor): | Clockwise |

1.4.1.2 Power take-off proportional to ground speed — None

## 1.5 Hydraulic power lift

| | |
|---|---|
| - Make: | John Deere |
| - Model: | NA |
| - Type: | Electro-Hydraulic lower link sensing; variable mix of draft and position control; adjustable rate of drop |
| -Type of hydraulic system: | Closed center, pressure and flow compensated |
| -Type and number of cylinders (single or double-acting): | 2 external/ single acting<br>Category III: Two; 90 x 276<br>Category IV: One 90 x 276 mm and one 100 x 276 mm |
| -Type of linkage lock for transport: | Electro-hydraulic |
| -Relief valve pressure setting (tolerance): | 20.20 ± 0.40 Mpa |
| -Opening pressure of cylinder safety valve (if fitted): | 23.25 ± 0.50 Mpa |
| -Lift pump type: | Axial piston, variable pressure and flow; Pressure and flow compensated |
| -Transmission between pump and engine: | Direct drive from transmission |
| -Type and number of filters: | Spin-on canister/ one |
| -Site of oil reservoir: | Under hood; engine compartment |
| -Type, number and location of tapping points: | 4 pairs of ISO standard couplings at rear of tractor; $5^{th}$ coupler optional. Additional inlet/outlet pair for externally controlled implements |
| -Maximum volume of oil available to external cylinders: | 31.81 $dm^3$ |

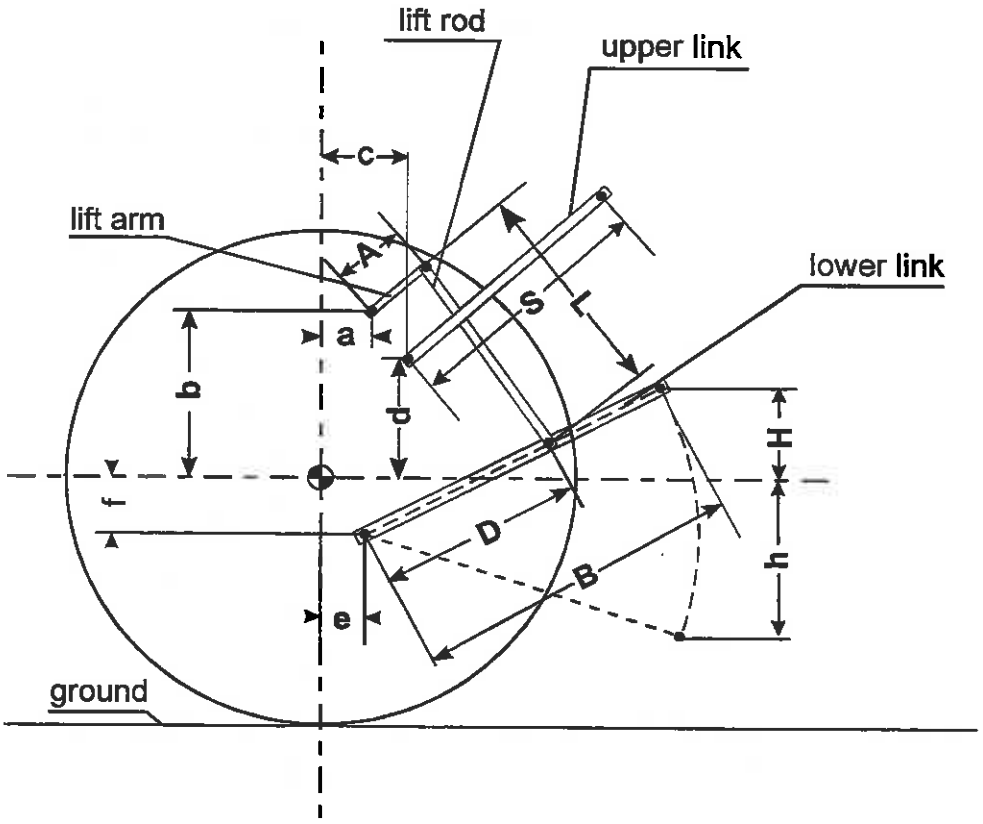



Figure 2.1
Lift test - Linkage Geometry

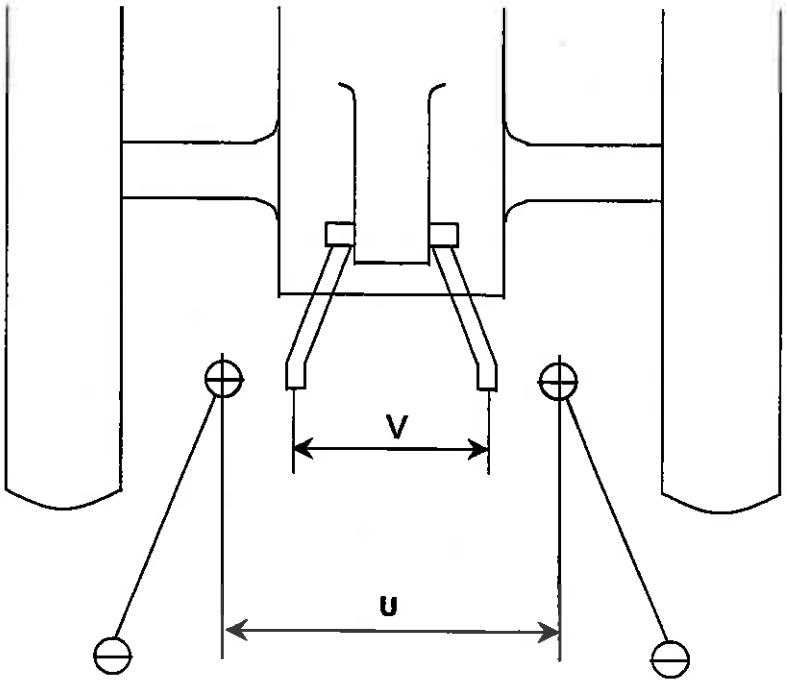



Figure 2.2
Lift test - Linkage Geometry

### 1.6.1 Three point linkage (Optional – not fitted on the tested tractor)

- Category: 3, in conformity with ISO 730-1:1994 +Cor. 1:1995 and ISO 730-2:1979.
- Category adapter: -Quick attaching coupler

| | | Dimension or range | Settings used in test |
|---|---|---|---|
| | | mm | mm |
| Rear track radius: | (r) | 780 | 837 |
| Length of lift arms: | (A) | 471 | Same |
| Length of lower links: | (B) | 1095 | Same |
| Distance of lift arm pivot point from rear-wheel axis: | | | |
| - horizontally | (a) | 244 | Same |
| - vertically | (b) | 772 | Same |
| Horizontal distance between the 2 lower link points: | (u) | 644 on Center | Same |
| Horizontal distance between the 2 lift arm end points: | (v) | 750 on Center | Same |
| Length of upper link: | (S) | 747 to 868 | 783 |
| Distance of upper link pivot point from rear wheel axis: | | | |
| - horizontally | (c) | 577 | Same |
| - vertically | (d) | 288 | Same |
| Distance of lower link pivot point from rear wheel axis: | | | |
| - horizontally | (e) | 288 | Same |
| - vertically | (f) | 350 | Same |
| Distance of lower link pivot points to lift rod pivot points on lower links: | (D) | 746 | Same |
| Length of lift rods: | (L) | 1110 to 1270 | 1238 |
| Height of lower hitch points relative to the rear-wheel axis: | | | |
| - in low position | (h) | 337 to 657 | 634 |
| - in high position | (H) | 110 to 340 | 166 |
| Height above ground of lower hitch points when locked in transport position | | Any position within range | 1003 |
| Rear track static radius index of 837 mm. | | | |

### 1.6.2 Three point linkage (Optional – not fitted on the tested tractor)

- Category: 4, in conformity with ISO 730-1:1994 +Cor. 1:1995 and ISO 730-2:1979.
- Category adapter: -Quick attaching coupler

| | | Dimension or range | Settings used in test |
|---|---|---|---|
| | | mm | mm |
| Rear track radius | (r) | 780 | 837 |
| Length of lift arms: | (A) | 471 | Same |
| Length of lower links: | (B) | 1095 | Same |
| Distance of lift arm pivot point from rear-wheel axis: | | | |
| - horizontally | (a) | 244 | Same |
| - vertically | (b) | 772 | Same |
| Horizontal distance between the 2 lower link points: | (u) | 644 on Center | Same |
| Horizontal distance between the 2 lift arm end points: | (v) | 750 on Center | Same |
| Length of upper link: | (S) | 747 to 868 | 762 |
| Distance of upper link pivot point from rear wheel axis: | | | |
| - horizontally | (c) | 577 | Same |
| - vertically | (d) | 288 | Same |
| Distance of lower link pivot point from rear wheel axis: | | | |
| - horizontally | (e) | 288 | Same |
| - vertically | (f) | 350 | Same |
| Distance of lower link pivot points to lift rod pivot points on lower links: | (D) | 746 | Same |
| Length of lift rods: | (L) | 1110 to 1270 | 1216 |
| Height of lower hitch points relative to the rear-wheel axis: | | | |
| - in low position | (h) | 337 to 657 | 613 |
| - in high position | (H) | 110 to 340 | 187 |
| Height above ground of lower hitch points when locked in transport position | | Any position within range | 1029 |
| Rear track static radius of 837 mm. | | | |

### 1.7.1 Swinging drawbar

| | |
|---|---|
| -Type: | Oscillating |
| -Height above ground | |
| · Maximum: | 483 mm |
| · Minimum: | 483 mm |
| -Type of adjustment: | None |
| -Distance of hitch point from rear-wheel axis, horizontally: | 1269 mm |
| -Distance of hitch point from power take-off shaft end | |
| · Vertically: | 335 mm |
| · Horizontally: | 509 mm |
| -Lateral adjustment (centre of clevis) | |
| · Right hand | 175 mm |
| · Left hand | 175 mm |
| -Distance of pivot point from rear-wheel axis, horizontally: | 1373 mm |
| -Diameter of drawbar pin hole: | 53 mm |
| -Maximum vertical permissible load: | 20 kN |

### 1.7.2 Wide Swing drawbar (Optional): On tested model

| | |
|---|---|
| -Type: | Oscillating |
| -Height above ground | |
| · Maximum: | 483 mm |
| · Minimum: | 483 mm |
| -Type of adjustment: | None |
| -Distance of hitch point from rear-wheel axis, horizontally: | 1269 mm |
| -Distance of hitch point from power take-off shaft end | |
| · Vertically: | 335 mm |
| · Horizontally: | 509 mm |
| -Lateral adjustment (centre of clevis) | |
| · Right hand | 714 mm |
| · Left hand | 714 mm |
| -Distance of pivot point from rear-wheel axis, horizontally: | 1523 mm |
| -Diameter of drawbar pin hole: | 53 mm |
| -Maximum vertical permissible load: | 20 kN |

### 1.8 Trailer hitch Not Available

### 1.9 Holed drawbar Not Available

## 1.10 Steering

| | |
|---|---|
| - Make: | John Deere Hydrostatic Differential Steering |
| - Model: | Pump and Motor |
| - Type: | Electro-Hydraulic differential steering controlled by steering wheel |
| - Method of operation | Steering wheel angle determines difference in speed between the 2 rubber track drive wheels |
| · Pump(s): | Axial Piston Variable Displacement Pump and Axial Piston Fixed Displacement Motor |
| · Ram(s): | None |
| - Working pressure: | Up to 48.5 ± 2.0 Mpa |

## 1.11 Brakes

### 1.11.1 *Service brake*

| | |
|---|---|
| - Make: | Vickers-John Deere |
| - Model: | RE175392 |
| - Type: | Load sensing power with manual backup |
| - Method of operation: | Hydraulic oil immersed disc operated by one pedal |
| - Trailer braking take-off (hydraulic or air brake): | Not Available |

### 1.11.2 *Parking brake*

| | |
|---|---|
| - Type: | PST--Spring applied, Hydraulic release; MST—Transmission Lock |
| - Method of operation: | Gear selector lever |

## 1.12 Tracks

| | |
|---|---|
| - Number | |
| · Left: | One; Driving and Steering |
| · Right: | One; Driving and Steering |
| - Wheelbase: | Not Applicable |

- Track width adjustment:

| Minimum | Maximum | Adjustment |
|---|---|---|
| mm | mm | method |
| 2692 | 2692 | None |

## 1.13 Protective structure

| | |
|---|---|
| - Make: | John Deere |
| - Model: | SG-081 |
| - Type: | Sound-Gard body |
| - Manufacturer's name and address: | John Deere Tractor Works<br>Waterloo, Iowa, USA |
| - Protective device | |
| · Cab/frame/ rollguard/ other: | Cab |
| · Tiltable/not tiltable: | Not tiltable |
| - OECD approval | |
| · Approval number: | 4/0 720 |
| · Date of approval: | 4 April 2002 |
| · Nos. of minor modification certificates, if any: | None |

## 1.14 Seat

### 1.14.1 *Driver's seat*

| | |
|---|---|
| - Make: | John Deere |
| - Model: | Comfort Command |
| - Type: | Air Cushion Suspension |
| - Seat and steering wheel reversible: Yes/No | No |
| - Type of suspension: | Air |
| - Type of damping: | Adjustable, viscous damping |
| - Range of adjustment | |
| · Longitudinally: | 178 mm |
| · Vertically | 172 mm |
| - Safety belt Yes/No | Yes |

1.14.2 *Optional driver's seat(s)* — Not Available

### 1.14.3 *Instructional seat*

| | |
|---|---|
| - Location: | Optional Instructional Seat located left of drivers seat |
| - Capacity (number): | One |

## 1.15 Lighting

| | Height above ground of centre | Size | Distance from outside edge of lights to median plane of tractor |
|---|---|---|---|
| | mm | mm | mm |
| Headlights | | | |
| Outside | 2140 | 135 x 90 | 445 |
| Inside | 2140 | 155 x 115 | 270 |
| Center | 2140 | 130 x 85 | 65 |
| Sidelights | | | |
| Front | 3420 | 160 x 110 | 955 |
| Rear | 3420 | 160 x 110 | 955 |
| Rear lights | | | |
| Outside | 1990 | 160 x 110 | 1350 |
| Inside | 1990 | 160 x 110 | 1135 |
| Hazard Lights | | | |
| Roof Front | 3350 | 82 x 240(*) | 715 |
| Roof Rear | 3330 | 82 x 240(*) | 715 |
| Extremity Lights | 1910 | 110 dia | 1780 |
| Tail lights | 1850 | 95 x 210 | 898 |

(*) Wrap-around lights

## 2. TEST CONDITIONS

Separate tables may be added to report other test conditions or equipments.

### 2.1 Overall dimensions

| | Length | Width | | Height at top of | |
|---|---|---|---|---|---|
| | | minimum | maximum | protective structure | exhaust pipe |
| | mm | mm | mm | mm | mm |
| Unballasted | 6020 | 3454 | 3454 | 3454 | 3860 |
| Ballasted | 6660 | 3454 | 3454 | 3454 | 3860 |

### 2.2 Ground clearance (unballasted tractor): 375 mm

- Clearance-limiting part: Drawbar rear support

### 2.3 Tractor mass

Mass (with cab, full fuel tank):

| | Without driver | With driver |
|---|---|---|
| | kg | kg |
| Unballasted | | |
| Total | 19436 | 19511 |
| Ballasted | | |
| Total | 20817 | 20892 |

| Ballast Added | Number of Weights | Total Mass | Liquid |
|---|---|---|---|
| | | kg | kg |
| Front (weights) | 26 | 1109 | - |
| Front (weight support) | 1 | 272 | - |

## 2.4 Track specifications

| | |
|---|---|
| Track materials | Goodyear (Trackman™) |
| Track width and base | 915 mm and 2819 mm |
| Dynamic radius (rolling radius) | 780 mm |
| Track support system | Oscillating front idler & four mid-rollers supported by midframe and rear wheel attached to drive axle |
| Treadbars | |
| Total per track<br>Number per metre<br>Bar length at top<br>Bar width at top<br>Bar width at center<br>Bar height | 42<br>4.37 per meter<br>470 mm<br>52 mm<br>70 mm<br>61 mm |
| Track Length | 9601 mm |
| Track ground contact length | 2819 mm |

## 2.5 Track width specifications

Tread width setting: 2692 mm

## 2.6 Fuel

-Type: No. 2 diesel in conformity with national standard

- Density at 15°C: 0.844 g/cm$^3$

## 2.7 Oils and lubricants

### 2.7.1 *Capacity and change interval*

| | Capacity | Oil change | Filter change |
|---|---|---|---|
| | dm3 | h | h |
| Engine | 42 | 250<br>(375 with John Deere PLUS-50 oil and John Deere filter) | 250 |
| Transmission, Steering, and Rear axle | 246 | 1500 | 750 |
| Hydraulics (*) | 87 | 1500 | 750 |

(*) State if common with gearbox and rear axle.

2.7.2 *Specifications (SAE, API, CCMC, ACEA, Mil.L, ISO)*

| | Recommended | Used during test |
|---|---|---|
| **Engine oil**<br>· Type:<br><br>· Viscosity:<br><br>· Classification: | John Deere; Torq-Gard Supreme, PLUS-50<br>SAE 15W40 or 10W-40<br>12.5 - 16.3 cSt @ 100 C<br>API CF-4; CH-4; ACEA E2 | SAE 15W40 |
| **Transmission oils**<br>· Type:<br><br>· Viscosity:<br>· Classification: | John Deere HY-GARD; J20C<br>SAE 10W-30<br>58 cSt at 43 C<br>NA | same |
| **Hydraulic fluid** | Same as Transmission | same |
| **Steering oil** | Same as Transmission | same |
| **Grease** | John Deere Moly High Temperature EP Grease | same |

2.7.3 *Grease*

- Number of lubrication points: 6

## 3. COMPULSORY TESTS RESULTS

### 3.1 Main power take-off

- Date and location of tests: 05-Apr-02 Nebraska Tractor Test Laboratory, Lincoln, NE, USA
- Type of dynamometer bench: Eaton

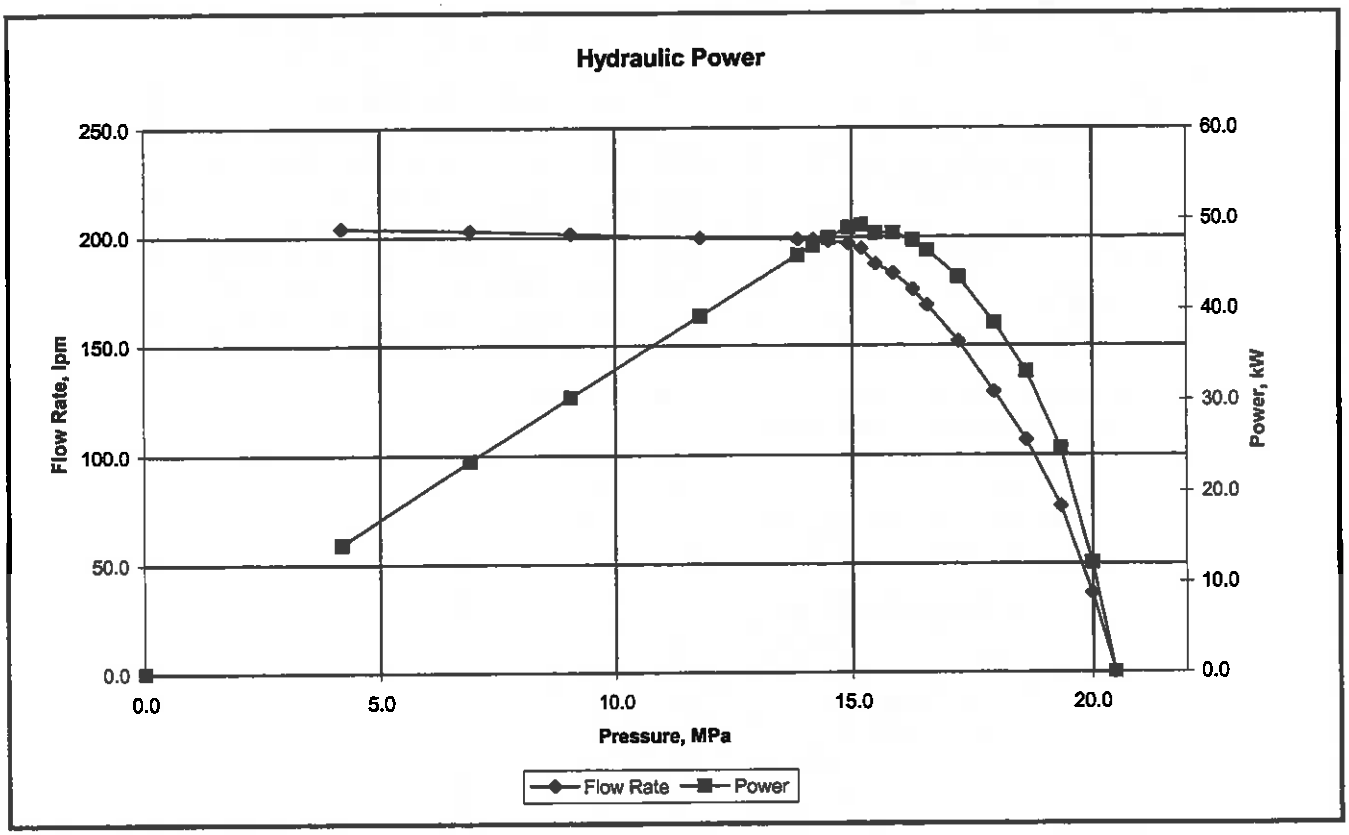
| | Speed | | Fuel consumption | | | Specific |
|---|---|---|---|---|---|---|
| Power | Engine | PTO | Hourly | | Specific | energy |
| kW | rev/min | | kg/h | l/h | g/kWh | kW-h/l |
| 3.1 MAXIMUM POWER - TWO HOUR TEST | | | | | | |
| 290.18 | 1700 | 897 | 70.76 | 83.85 | 244 | 3.46 |
| 3.1.2 POWER AT RATED ENGINE SPEED | | | | | | |
| 248.42 | 2100 | 1108 | 62.80 | 74.43 | 253 | 3.34 |
| 3.1.3 STANDARD POWER TAKE-OFF SPEED (1000 +/- 25 rev/min) | | | | | | |
| 267.67 | 1895 | 1000 | 64.84 | 76.84 | 242 | 3.48 |
| 3.1.4 PART LOADS | | | | | | |
| 3.1.4.1 the torque corresponding to maximum power at rated engine speed | | | | | | |
| 248.42 | 2100 | 1108 | 62.80 | 74.43 | 253 | 3.34 |
| 3.1.4.2 85% of torque obtained in 3.1.4.1 | | | | | | |
| 216.72 | 2155 | 1137 | 57.70 | 68.38 | 266 | 3.17 |
| 3.1.4.3 75% of torque defined in 3.1.4.2 | | | | | | |
| 164.07 | 2173 | 1147 | 48.99 | 58.06 | 299 | 2.83 |
| 3.1.4.4 50% of torque defined in 3.1.4.2 | | | | | | |
| 109.87 | 2189 | 1155 | 40.01 | 47.41 | 364 | 2.32 |
| 3.1.4.5 25% of torque defined in 3.1.4.2 | | | | | | |
| 55.21 | 2211 | 1166 | 29.80 | 35.32 | 540 | 1.56 |
| 3.1.4.6 unloaded | | | | | | |
| 0.84 | 2234 | 1179 | 18.23 | 21.61 | 21786 | 0.04 |
| 3.1.5 PART LOADS AT STANDARD POWER TAKE-OFF SPEED (1000 +/- 25 rev/min) | | | | | | |
| 3.1.5.1 the torque corresponding to maximum power | | | | | | |
| 267.67 | 1895 | 1000 | 64.84 | 76.84 | 242 | 3.48 |
| 3.1.5.2 85% of torque obtained in 3.1.5.1 | | | | | | |
| 232.95 | 1941 | 1024 | 56.06 | 66.44 | 241 | 3.51 |
| 3.1.5.3 75% of torque defined in 3.1.5.2 | | | | | | |
| 176.71 | 1962 | 1035 | 46.81 | 55.47 | 265 | 3.19 |
| 3.1.5.4 50% of torque defined in 3.1.5.2 | | | | | | |
| 118.92 | 1984 | 1047 | 36.60 | 43.38 | 308 | 2.74 |
| 3.1.5.5 25% of torque defined in 3.1.5.2 | | | | | | |
| 60.20 | 2009 | 1060 | 25.85 | 30.64 | 429 | 1.96 |
| 3.1.5.6 unloaded | | | | | | |
| 0.76 | 2032 | 1072 | 14.70 | 17.42 | 19311 | 0.04 |

- No load maximum engine speed: 2234 rev/min
- Torque (equivalent crankshaft) at rated speed:
  - At rated engine speed 1130 Nm
  - At 2-hour test 1630 Nm
- Maximum torque (equivalent crankshaft): 1750 Nm
  (engine speed: 1102 rev/min)

| Mean atmospheric conditions: | | |
|---|---|---|
| Dry bulb | 24 | °C |
| Pressure | 99.0 | kPa |
| Relative Humidity | 18 | % |
| Maximum temperatures: | | |
| Coolant | 96 | °C |
| Engine oil | 120 | °C |
| Fuel | 64 | °C |
| Engine air intake | 27 | °C |

### 3.2.1 Hydraulic Power (two outlets)

| | | | |
|---|---|---|---|
| Date of Test: | 11-Apr-02 | John Deere 9320T | |
| 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: | | |
| | 20.48 MPa | | |
| | *2971 psig* | | |
| II. | Pump delivery rate at minimum pressure at rated engine speed: | | |
| | 204.0 l/min | | |
| | *53.9 gpm* | | |
| III. | Flow rate, pressure, power: | | |
| | **90% of relief valve setting** | | |
| | 106.7 l/min | 18.62 MPa | 33.1 kW |
| | *28.2 gpm* | *2700 psig* | *44.4 hp* |
| | Maximum hydraulic power: | | |
| | 194.6 l/min | 15.20 MPa | 49.3 kW |
| | *51.4 gpm* | *2204 psig* | *66.1 hp* |
| IV. | Hydraulic fluid temperature at flow meter: | | |
| | 82 °C | | |
| | *179 °F* | | |
| | This hydraulic system does not use an accumulator. Opening and closing pressures of the unloading valve could not be measured. | | |



3.2.2 POWER LIFT TEST Category III, N.A. Quick attach linkage.
Date of test: 19 Dec 2000. Test conducted on John Deere 9300T which is technically eqivalent.

| | Hitch points | Frame |
|---|---|---|
| Lower hitch points above ground - down position: | 203 mm | 179 mm |
| Vertical movement - without load: | 800 mm | 889 mm |
| with load: | 799 mm | 879 mm |
| Maximum corrected force exerted through full range: | 62.5 kN | 60.5 kN |
| Corresponding pressure: | 18.5 MPa | 18.5 MPa |
| Moment about rear axle: | 96.8 kNm | 130.6 kNm |
| Maximum mast tilt angle | -- | 5.4 degrees |

Lifting height relative to horizontal position of lower links.

| mm | | -306 | -281 | -200 | -101 | 3 | 151 | 305 | 405 | 495 | 518 | 573 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Corrected lift forces | | | | | | | | | | | | |
| At the Hitch point | kN | -- | 62.5 | 65.1 | 68.0 | 70.3 | 73.0 | 75.6 | 77.4 | 79.1 | 79.6 | -- |
| at the frame | kN | 63.8 | 65.4 | – | 65.8 | 65.9 | 65.1 | 64.1 | 62.7 | 62.5 | 61.1 | 60.5 |
| Corresponding pressure | 18.5 MPa | | | | | | | | | | | |

**OECD Drawbar Data (SI)**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date of tests: 9,10,12-Apr-2002 | | | | | | Fuel density: | 0.844 kg/l | | | | | | | |
| Type of track: Concrete | | | | | | Test number: | 1804 | | | | | | | |
| 3.3.1 Maximum power in tested gears (unballasted, CRWL) | | | | | | Tire pressure: | TRK kPa, rear | | TRK kPa, front | | | Drawbar Height: | 483 mm | |
| Gear | Gear Designation | Power | Drawbar pull | Speed | Engine speed | Slip | Fuel | | Temperature | | | Atmospheric conditions | | |
| | | | | | | | SFC | SFE | Fuel | Coolant | Oil | Temperature | Relative humidity | Pressure |
| | | kW | kN | km/h | rev/min | % | kg/kW.h | kW.h/l | °C | °C | °C | °C | % | kPa |
| *1 | 1 | 159.24 | 184.48 | 3.11 | 2165 | 13 | 0.340 | 2.48 | 65 | 83 | 110 | 11 | 82 | 98.6 |
| *2 | 2 | 186.59 | 178.75 | 3.76 | 2153 | 14 | 0.327 | 2.58 | 66 | 85 | 111 | 16 | 69 | 98.3 |
| *3 | 3 | 202.34 | 176.31 | 4.13 | 2122 | 13 | 0.311 | 2.72 | 66 | 87 | 113 | 18 | 62 | 98.2 |
| 4 | 4 | 214.11 | 171.19 | 4.50 | 2041 | 12 | 0.309 | 2.73 | 66 | 85 | 115 | 18 | 63 | 98.1 |
| 5 | 5 | 222.09 | 164.50 | 4.86 | 1973 | 11 | 0.298 | 2.83 | 66 | 86 | 115 | 20 | 60 | 97.9 |
| 6 | 6 | 229.57 | 162.51 | 5.09 | 1835 | 10 | 0.291 | 2.90 | 66 | 88 | 116 | 21 | 60 | 97.8 |
| 7 | 7 | 243.60 | 163.79 | 5.36 | 1723 | 9 | 0.286 | 2.95 | 65 | 85 | 116 | 14 | 54 | 98.6 |
| 8 | 8 | 253.27 | 147.42 | 6.19 | 1720 | 5 | 0.277 | 3.05 | 65 | 86 | 116 | 14 | 58 | 98.6 |
| 9 | 9 | 255.87 | 134.31 | 6.86 | 1704 | 4 | 0.276 | 3.06 | 64 | 86 | 116 | 12 | 60 | 98.6 |
| 10 | 10 | 257.73 | 120.13 | 7.72 | 1700 | 3 | 0.272 | 3.10 | 65 | 88 | 117 | 11 | 64 | 98.6 |
| 11 | 11 | 259.19 | 108.08 | 8.63 | 1705 | 2 | 0.265 | 3.18 | 64 | 87 | 115 | 10 | 63 | 98.6 |
| 12 | 12 | 257.18 | 97.09 | 9.54 | 1698 | 2 | 0.273 | 3.09 | 64 | 87 | 116 | 16 | 55 | 98.6 |
| 13 | 13 | 253.26 | 85.45 | 10.67 | 1697 | 1 | 0.277 | 3.05 | 65 | 87 | 117 | 16 | 56 | 98.5 |
| 14 | 14 | 256.21 | 78.12 | 11.81 | 1698 | 1 | 0.276 | 3.05 | 65 | 89 | 117 | 17 | 52 | 98.5 |
| 15 | 15 | 248.49 | 60.67 | 14.74 | 1708 | 1 | 0.286 | 2.95 | 64 | 90 | 117 | 17 | 53 | 98.5 |
| * Note: | | Slip within operating procedures of testing station | | | | | | | | | | | | |
| 3.3.2 Fuel consumption | | | | | | | | | | | | | | |
| 3.3.2.1 | | | In selected gear at maximum power at rated engine speed. | | | | | | | | | | | |
| 11 | 11 | 221.13 | 73.98 | 10.76 | 2100 | 1 | 0.285 | 2.96 | 65 | 85 | 115 | 9 | 68 | 98.6 |
| 3.3.2.1.1 | | | 75% of pull at maximum power at rated engine speed | | | | | | | | | | | |
| 11 | 11 | 171.24 | 55.46 | 11.11 | 2163 | 1 | 0.331 | 2.55 | 68 | 89 | 116 | 23 | 48 | 97.7 |
| 3.3.2.1.2 | | | 50% of pull at maximum power at rated engine speed | | | | | | | | | | | |
| 11 | 11 | 115.55 | 36.99 | 11.25 | 2183 | 1 | 0.391 | 2.16 | 67 | 86 | 112 | 24 | 46 | 97.8 |
| 3.3.2.1.3 | | | Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.1 | | | | | | | | | | | |
| 12 | 12 | 171.36 | 55.42 | 11.13 | 1961 | 1 | 0.303 | 2.79 | 65 | 84 | 112 | 24 | 46 | 97.7 |
| 3.3.2.1.4 | | | Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.2 | | | | | | | | | | | |
| 12 | 12 | 115.46 | 36.93 | 11.26 | 1979 | 1 | 0.357 | 2.36 | 67 | 85 | 111 | 24 | 46 | 97.8 |
| 3.3.2.1.5 | | | Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.1 | | | | | | | | | | | |
| 13 | 13 | 170.79 | 55.39 | 11.10 | 1755 | 1 | 0.308 | 2.74 | 63 | 85 | 109 | 24 | 46 | 97.8 |
| 3.3.2.1.6 | | | Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.2 | | | | | | | | | | | |
| 13 | 13 | 115.81 | 37.02 | 11.26 | 1777 | 1 | 0.344 | 2.45 | 64 | 83 | 107 | 24 | 46 | 97.8 |
| 3.3.2.2 | | | In selected gear nearest to 7.5 km/h at rated engine speed. | | | | | | | | | | | |
| 7 | 7 | 227.99 | 118.32 | 6.94 | 2099 | 3 | 0.276 | 3.06 | 66 | 86 | 114 | 14 | 58 | 98.6 |
| 3.3.2.2.1 | | | 75% of pull at maximum power at rated engine speed | | | | | | | | | | | |
| 7 | 7 | 179.47 | 89.14 | 7.25 | 2164 | 2 | 0.308 | 2.74 | 66 | 87 | 109 | 22 | 58 | 97.7 |
| 3.3.2.2.2 | | | 50% of pull at maximum power at rated engine speed | | | | | | | | | | | |
| 7 | 7 | 121.39 | 59.26 | 7.37 | 2185 | 1 | 0.363 | 2.32 | 66 | 84 | 112 | 23 | 51 | 97.6 |
| 3.3.2.2.3 | | | Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.1 | | | | | | | | | | | |
| 8 | 8 | 179.46 | 89.06 | 7.25 | 1938 | 1 | 0.283 | 2.98 | 65 | 86 | 113 | 22 | 54 | 97.7 |
| 3.3.2.2.4 | | | Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.2 | | | | | | | | | | | |
| 8 | 8 | 121.20 | 59.36 | 7.35 | 1951 | 1 | 0.331 | 2.55 | 64 | 83 | 108 | 23 | 51 | 97.6 |
| 3.3.2.2.5 | | | Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.1 | | | | | | | | | | | |
| 9 | 9 | 179.10 | 89.06 | 7.24 | 1756 | 2 | 0.287 | 2.94 | 64 | 86 | 110 | 22 | 54 | 97.6 |
| 3.3.2.2.6 | | | Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.2 | | | | | | | | | | | |
| 9 | 9 | 121.91 | 59.43 | 7.39 | 1778 | 1 | 0.317 | 2.66 | 63 | 82 | 104 | 23 | 51 | 97.6 |

4.1 Drawbar Power (Unballasted - 2100 rev/min)

OECD Drawbar Data (SI)

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date of tests: 9,10,12 - Apr - 2002 | | | | | | | Fuel density: | 0.844 kg/l | | | | | | |
| Type of track: Concrete | | | | | | | Test number: | 1804 | | | | | | |
| 4.1.1 Maximum power in tested gears (unballasted, CRWL) | | | | | | | Tire pressure: | TRK kPa, rear | | TRK kPa, front | | Drawbar Height: | 483 mm | |
| Gear | Gear Designation | Power | Drawbar pull | Speed | Engine speed | Slip | Fuel | | Temperature | | | Atmospheric conditions | | |
| | | | | | | | SFC | SFE | Fuel | Coolant | Oil | Temperature | Relative humidity | Pressure |
| | | kW | kN | km/h | rev/min | % | kg/kW.h | kW.h/l | °C | °C | °C | °C | % | kPa |
| *1 | 1 | 156.83 | 183.90 | 3.07 | 2167 | 14 | 0.345 | 2.45 | 64 | 83 | 109 | 11 | 82 | 98.6 |
| *2 | 2 | 187.77 | 179.21 | 3.77 | 2151 | 13 | 0.323 | 2.61 | 64 | 84 | 107 | 16 | 69 | 98.3 |
| 3 | 3 | 201.14 | 174.50 | 4.15 | 2123 | 13 | 0.313 | 2.69 | 68 | 88 | 116 | 18 | 62 | 98.2 |
| 4 | 4 | 212.31 | 157.62 | 4.85 | 2100 | 8 | 0.299 | 2.82 | 66 | 85 | 115 | 19 | 63 | 98.1 |
| 5 | 5 | 218.46 | 143.91 | 5.46 | 2100 | 5 | 0.290 | 2.91 | 67 | 85 | 115 | 19 | 59 | 98.0 |
| 6 | 6 | 223.17 | 129.47 | 6.21 | 2101 | 4 | 0.283 | 2.98 | 66 | 86 | 115 | 15 | 54 | 98.6 |
| 7 | 7 | 227.99 | 118.32 | 6.94 | 2099 | 3 | 0.276 | 3.06 | 66 | 86 | 114 | 14 | 58 | 98.6 |
| 8 | 8 | 227.23 | 104.76 | 7.81 | 2098 | 2 | 0.280 | 3.02 | 67 | 87 | 116 | 13 | 56 | 98.6 |
| 9 | 9 | 225.41 | 93.84 | 8.65 | 2097 | 2 | 0.281 | 3.00 | 67 | 86 | 114 | 11 | 65 | 98.6 |
| 10 | 10 | 222.85 | 82.73 | 9.70 | 2100 | 1 | 0.288 | 2.93 | 66 | 86 | 114 | 11 | 58 | 98.6 |
| 11 | 11 | 221.13 | 73.98 | 10.76 | 2100 | 1 | 0.285 | 2.96 | 65 | 85 | 115 | 9 | 68 | 98.6 |
| 12 | 12 | 217.26 | 65.77 | 11.89 | 2098 | 1 | 0.294 | 2.87 | 66 | 84 | 116 | 15 | 59 | 98.6 |
| 13 | 13 | 213.70 | 58.11 | 13.24 | 2098 | 1 | 0.298 | 2.83 | 66 | 88 | 114 | 16 | 60 | 98.6 |
| * Note: | | Slip within operating procedures of testing station | | | | | | | | | | | | |

4.2 Drawbar Power (Ballasted - 1700 rev/min)

OECD Drawbar Data (SI)

Date of tests: 17,22-Apr-02 | Fuel density: 0.844 kg/l

Type of track: Concrete | Test number: 1804

4.2.1 Maximum power in tested gears (ballasted, CRWL) | Tire pressure: TRK kPa, rear TRK kPa, front | Drawbar Height: 483 mm

| Gear | Gear Designation | Power | Drawbar pull | Speed | Engine speed | Slip | Fuel | | Temperature | | | Atmospheric conditions | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | SFC | SFE | Fuel | Coolant | Oil | Temperature | Relative humidity | Pressure |
| | | kW | kN | km/h | rev/min | % | kg/kW.h | kW.h/l | °C | °C | °C | °C | % | kPa |
| *1 | 1 | 171.79 | 202.66 | 3.05 | 2163 | 14 | 0.332 | 2.53 | 66 | 84 | 111 | 12 | 82 | 97.8 |
| 2 | 2 | 202.99 | 195.20 | 3.74 | 2117 | 13 | 0.309 | 2.71 | 66 | 85 | 114 | 13 | 73 | 97.8 |
| 3 | 3 | 219.41 | 189.99 | 4.16 | 2086 | 11 | 0.292 | 2.87 | 65 | 86 | 112 | 15 | 69 | 97.7 |
| 4 | 4 | 226.62 | 185.12 | 4.41 | 1963 | 10 | 0.289 | 2.90 | 66 | 85 | 115 | 15 | 69 | 97.7 |
| 5 | 5 | 233.94 | 183.93 | 4.58 | 1854 | 10 | 0.287 | 2.91 | 65 | 87 | 111 | 15 | 64 | 97.7 |
| 6 | 6 | 249.68 | 173.38 | 5.18 | 1811 | 7 | 0.280 | 3.02 | 65 | 86 | 114 | 11 | 65 | 98.2 |
| 7 | 7 | 256.03 | 169.51 | 5.44 | 1700 | 6 | 0.276 | 3.06 | 65 | 88 | 114 | 11 | 64 | 98.2 |
| 8 | 8 | 261.44 | 152.08 | 6.19 | 1697 | 4 | 0.269 | 3.13 | 64 | 87 | 113 | 10 | 63 | 98.2 |
| 9 | 9 | 262.84 | 136.82 | 6.92 | 1700 | 3 | 0.267 | 3.16 | 65 | 87 | 115 | 9 | 62 | 98.2 |
| 10 | 10 | 262.64 | 121.67 | 7.77 | 1697 | 2 | 0.267 | 3.16 | 64 | 88 | 115 | 9 | 62 | 98.2 |
| 11 | 11 | 262.55 | 108.84 | 8.68 | 1704 | 2 | 0.268 | 3.15 | 64 | 87 | 116 | 7 | 65 | 98.3 |
| 12 | 12 | 262.18 | 98.01 | 9.63 | 1706 | 1 | 0.269 | 3.14 | 65 | 89 | 117 | 8 | 61 | 98.2 |
| 13 | 13 | 254.02 | 85.31 | 10.72 | 1701 | 1 | 0.278 | 3.03 | 64 | 89 | 117 | 12 | 66 | 98.2 |
| 14 | 14 | 254.53 | 77.53 | 11.82 | 1695 | 1 | 0.278 | 3.04 | 64 | 90 | 117 | 13 | 62 | 98.3 |
| 15 | 15 | 246.61 | 60.50 | 14.67 | 1699 | 1 | 0.288 | 2.93 | 64 | 90 | 116 | 13 | 67 | 98.3 |

* Note: Slip within operating procedures of testing station.

4.3 POWER LIFT TEST Category IV, N.A. Quick attach linkage.
Date of test: 20 Dec 2000. Test conducted on John Deere 9300T which is technically equivalent

| | Hitch points | Frame |
|---|---|---|
| Lower hitch points above ground - down position: | 224 mm | 210 mm |
| Vertical movement - without load: | 800 mm | 900 mm |
| with load: | 797 mm | 885 mm |
| Maximum corrected force exerted through full range: | 70.3 kN | 66.4 kN |
| Corresponding pressure: | 18.5 MPa | 18.5 MPa |
| Moment about rear axle: | 109.7 kNm | 144.1 kNm |
| Maximum mast tilt angle | -- | 6.9 degrees |

Lifting height relative to horizontal position of lower links.

| mm | -275 | -261 | -202 | -101 | -2 | 102 | 197 | 305 | 398 | 497 | 536 | 610 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Corrected lift forces | | | | | | | | | | | | |
| At the Hitch point kN | -- | 70.3 | 72.4 | 75.8 | 78.4 | 80.9 | 82.8 | 84.8 | 86.6 | 88.7 | 89.5 | -- |
| at the frame kN | 71.3 | -- | 71.5 | 72.3 | 72.8 | 72.8 | 72.1 | 70.9 | 69.5 | -- | 67.5 | 66.4 |
| Corresponding pressure 18.5 MPa | | | | | | | | | | | | |

**4.4 Measurement of External Noise Level – John Deere 9320T**

| | |
|---|---|
| -- Date of Test | April 16, 2002 |
| -- Location of Test | Nebraska Tractor Test Laboratory |
| -- Sound Level Meter | Bruel and Kjaer 2236 |
| -- Type of Track | Concrete Oval |
| -- Gear Number | 18 |
| -- Speed Prior to Acceleration | 25.51 km/h |
| -- Noise Level | 92.7 dB(A) |

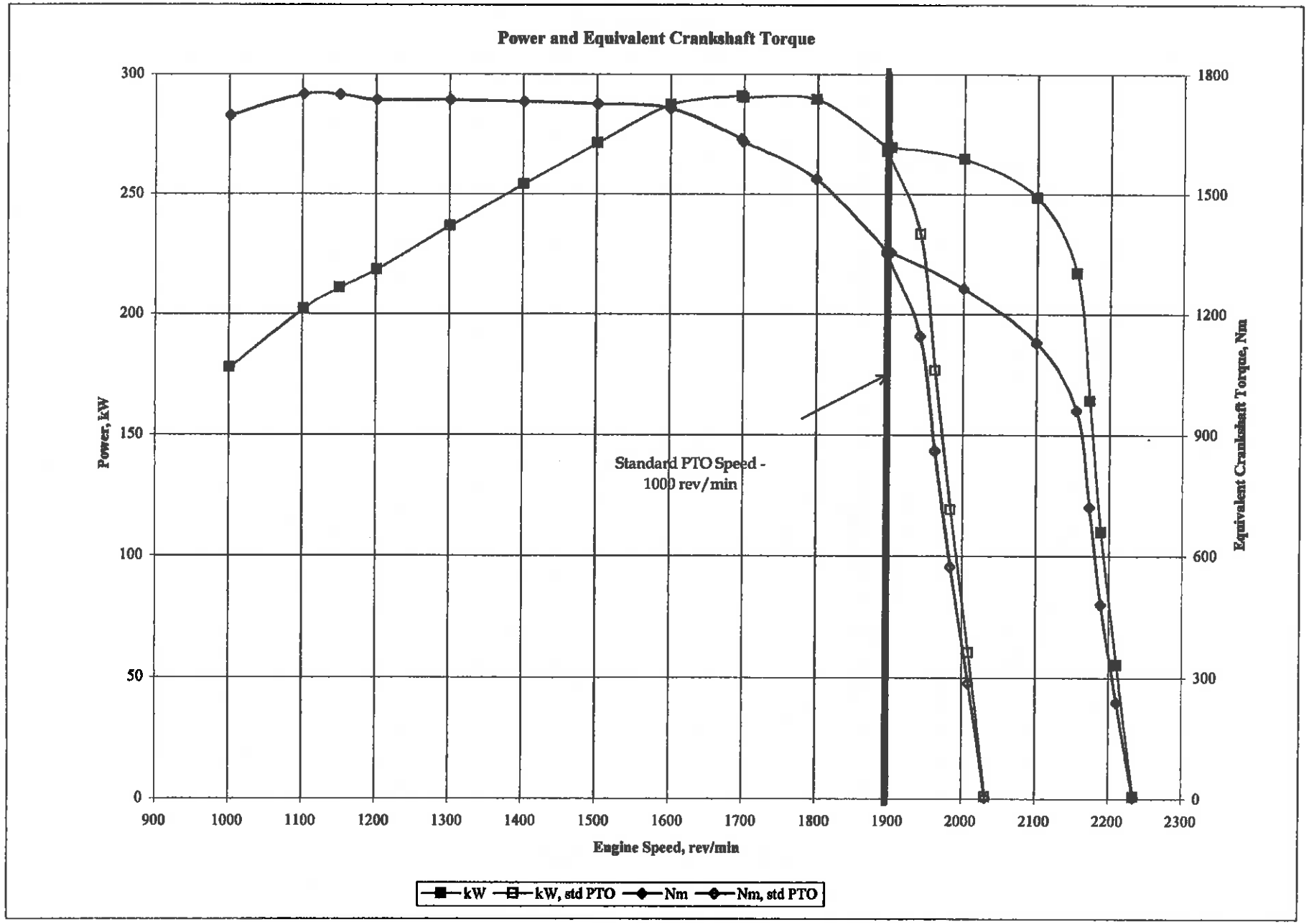
**4.5 Measurement of Noise Level at Operator's Ear***

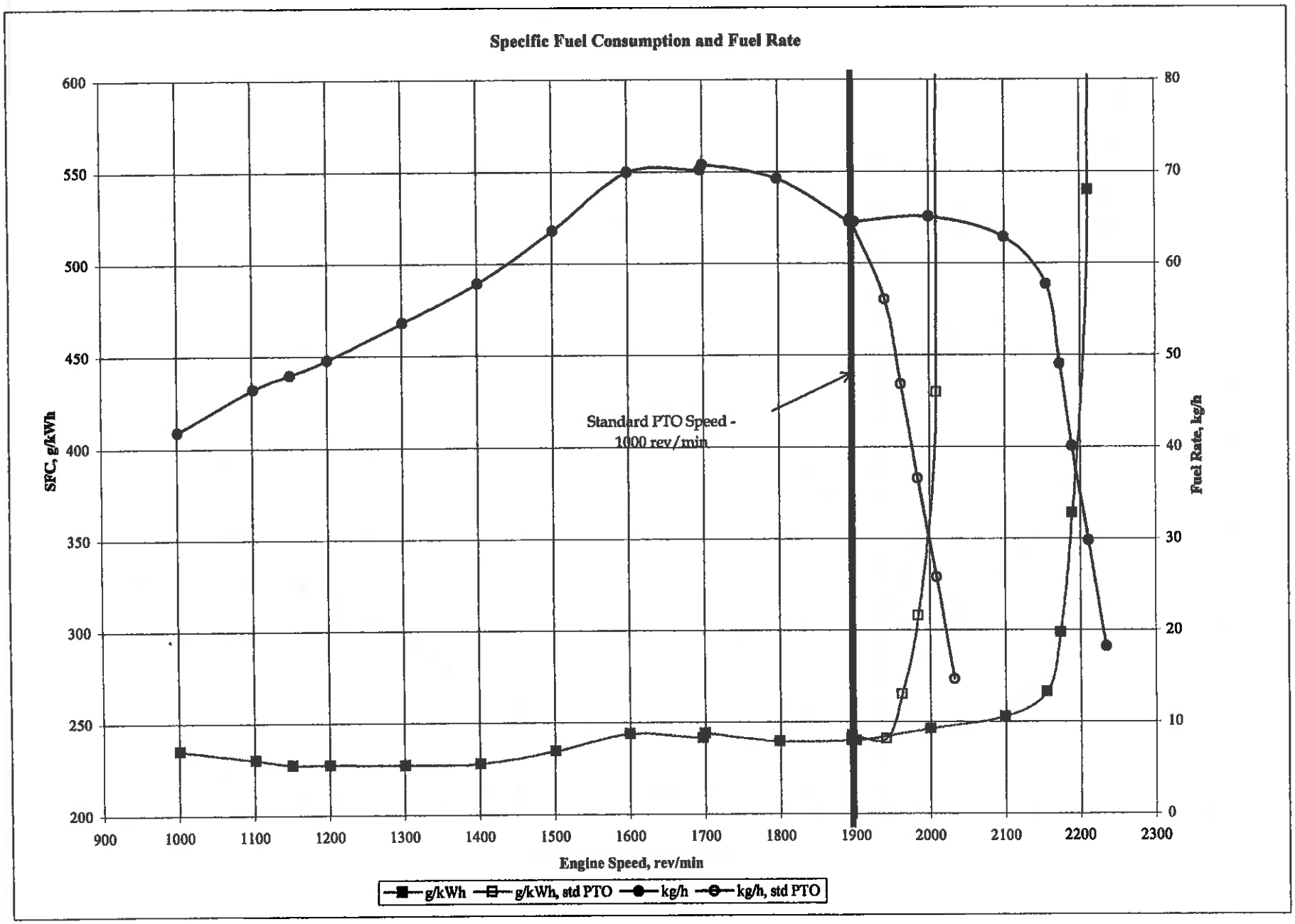
| | |
|---|---|
| -- Date of Test | April 15, 2002 |
| -- Location of Test | Nebraska Tractor Test Laboratory |
| -- Sound Level Meter | Bruel and Kjaer 2236 |
| -- Type of Track | Concrete Oval |
| -- Gear Number | 7 |
| -- Drawbar Load | None |
| -- Noise at Operator Ear | 76.5 dB(A) |

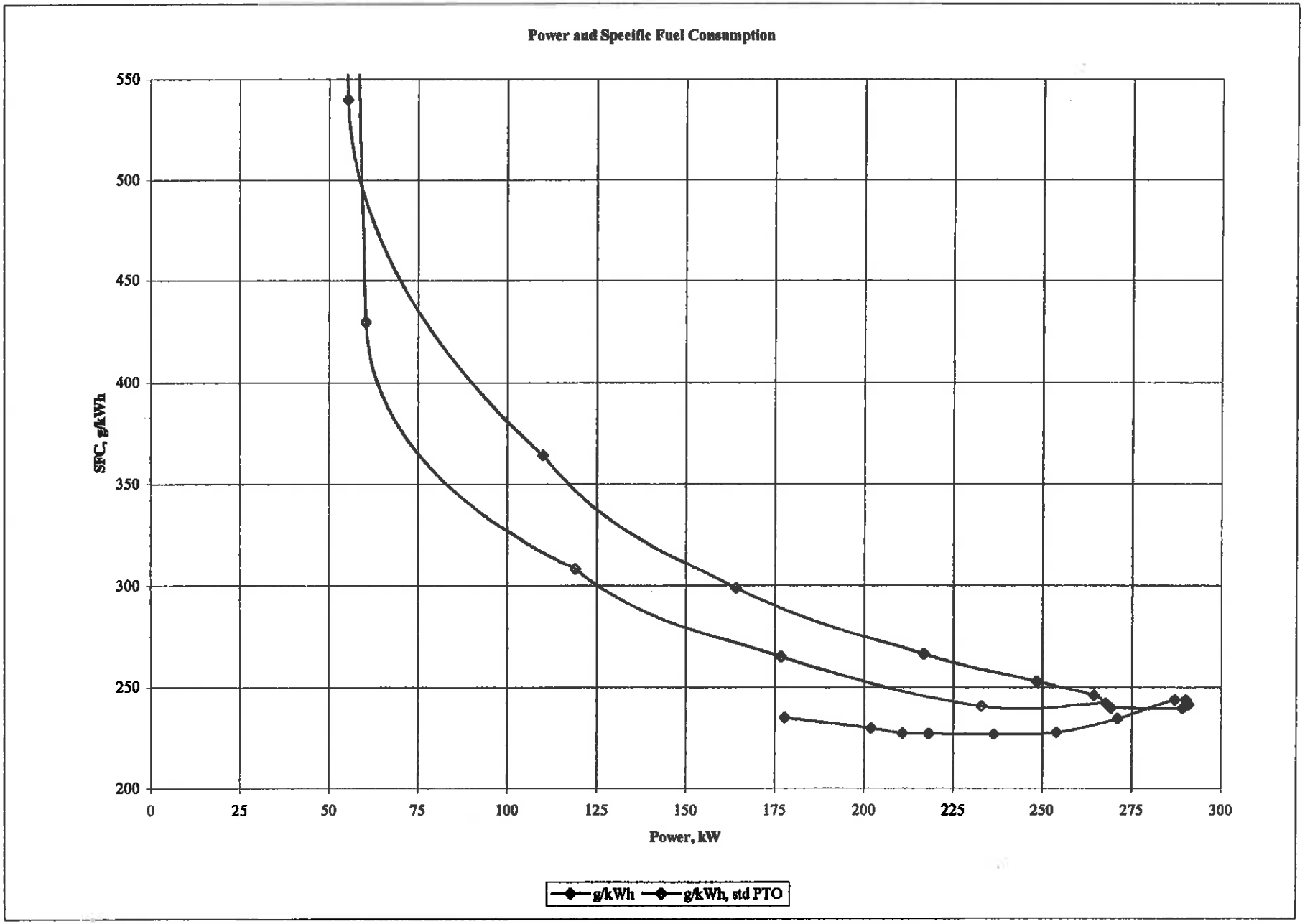
* Note: Nebraska tractor test station guidelines.

**5. Repairs and Adjustments:** None

**6. Remarks:** None


Power and Equivalent Crankshaft Torque
Power, kW
Equivalent Crankshaft Torque, Nm
Engine Speed, rev/min
Standard PTO Speed - 1000 rev/min
kW
kW, std PTO
Nm
Nm, std PTO
300
250
200
150
100
50
0
1800
1500
1200
900
600
300
0
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300


Specific Fuel Consumption and Fuel Rate
SFC, g/kWh
Fuel Rate, kg/h
Engine Speed, rev/min
Standard PTO Speed - 1000 rev/min
g/kWh
g/kWh, std PTO
kg/h
kg/h, std PTO
600
550
500
450
400
350
300
250
200
80
70
60
50
40
30
20
10
0
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300


Power and Specific Fuel Consumption
SFC, g/kWh
550
500
450
400
350
300
250
200
0
25
50
75
100
125
150
175
200
225
250
275
300
Power, kW
g/kWh
g/kWh, std PTO