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(Restricted code)
Date of approval: 18 November 1993

NEBRASKA TRACTOR TESTING LABORATORY
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# REPORT ON TEST IN ACCORDANCE WITH OECD RESTRICTED CODE (CODE II)

## FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS

## JOHN DEERE 7600 POWERSHIFT MFWD - 40 km/h, (4WD)



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

**NEBRASKA TEST NO. 1665**

**Test dates:** April-July, 1993

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 18 November 1993

John Deere 7600 Powershift MFWD, 40 km/h (4WD) OECD # 1489

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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 | 112 hours |
| Location of Test | Tractor Testing Laboratory<br>Lincoln, Nebraska,USA. |

### TRACTOR SPECIFICATIONS.

| | |
|---|---|
| Make | John Deere |
| Model | 7600P Powershift - 40 km/h |
| Type | Unit construction, mechanical front wheel drive (MFWD) |
| Number of driving wheels | 2 or 4 |
| Serial Number | *RW7600P001870* |
| 1st Serial number | *RW7600P001000* |

### ENGINE.

| | |
|---|---|
| Make | John Deere |
| Model | 6068TRW01 |
| Type | Diesel; 4-stroke; turbocharged direct injection |
| Serial Number | *TO6068T379506* |
| **Cylinders** | |
| Number/Disposition | 6, in-line, vertical |
| Bore/stroke | 106.5 mm x 127 mm (4.19 in x 5.00 in) |
| Capacity | 6788 ml (414.23 $in^3$) |
| Compression Ratio | 17.2 - 1 |
| Arrangement of valves | Overhead |
| Cylinder liners | Wet; replaceable |
| **Super charging** | |
| Make/Model/Type | Garret/RE43426/Exh. driven |
| Pressure | 64 kPa (9.3 psi) at rated speed and load |
| **Fuel System** | |
| Feed system | Mechanical transfer pump |
| Make/Type/Model of filters | Fuel-Gard/RE3022/paper element |
| Fuel tank capacity | 344 l (91 gallon) |

| | |
|---|---|
| Fuel Cooler | Heat exchanger with air |
| Make/Model/Type Injection Pump | Stanadyne/DB4(RE43020)/rotary; electric shutoff |
| Pump Serial number | 7201766 |
| Production setting of pump Flow Rate (Rated Eng.Spd & Full Load) | 20.8 +/- 0.7 kg/hour (45.9 +/- 1.5 lb/hour) |
| Make/Model/Type Injectors | Stanadyne/RE36936/Pencil |
| Injection pressure | 48 MPa (3310 psi) |
| Timing | 16 degrees BTDC |
| **Governor** | |
| Make/Model/Type | Stanadyne/mechanical |
| Governed engine speed range | From 850 to 2275 rev/min |
| Rated engine speed | 2100 rev/min |
| High-idle speed range | 2275 +/- 50 rpm |
| **Air Cleaner.** | |
| Pre-cleaner Make/Model/type | Donaldson/RE34938/Strato-tube precleaner with aspirator |
| Air intake location | Under hood, front of tractor |
| Main Cleaner Make/Model/Type | Donaldson/RE34962/pleated paper |
| Location | Under hood |
| Secondary cleaner | Donaldson/RE34963/pleated paper |
| Maintenance indicator | Dash mounted warning light and audio signal |
| **Lubrication system.** | |
| Type of feed pump | Full pressure; positive displacement |
| 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, belt driven |
| Fan specification | Belt driven; Suction type; variable speed |
| Number of fan blades | 6 |
| Fan diameter | 519 mm (20.4 in) |
| Coolant system capacity | 24 l ( 24.8 US qt) |
| Type of temperature control | Two thermostats and variable speed fan |
| System pressure | 69 kPa (10.0 psi) |
| **Starting system.** | |
| Make/Model/Type of starter | Nippondenso/RE42670/Solenoid engaged |

| | |
|---|---|
| Power Rating | 4.0 kW (5.36 hp) |
| Cold starting aid | Electrical resistance plug in air intake manifold inlet |
| Safety device | Electrical lockout on gearshift |
| **Electrical system.** | |
| Voltage & grounding. | 12 Volt DC;negative ground |
| Generator | |
| 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 - 20 h rating |
| **Exhaust system.** | |
| Muffler Make/Model/Type | Nelson/RE34315/Expansion chamber |
| Location | Horizontal muffler; under hood |
| Exhaust stack location | Vertical; right side of cab |
| **TRANSMISSION.** | |
| **Clutch. (travel)** | |
| Make/Model/Type | John Deere/Multiple plate/oil cooled |
| Number of plates | 3, 5, or 8 depending on gear |
| Plate diameter | 225 mm (8.86 in) |
| Method of operation | Hydraulic; pedal actuated |
| **Gear Box.** | |
| Make/Model/Type | John Deere/Full powershift mechanical |
| Arrangement | Planetary design; one input planetary gearset, one 2-speed planetary gearset, two compound planetary gearsets, all with multiple wet disc clutches and brakes |
| Number of gears | 19 forward and 7 reverse operated by a single lever |
| Oil cooler | Heat exchanger with air |
| Available options | None |
| **Rear axle and final drives.** | |
| Make/Model/Type | John Deere/Crown wheel and pinion, differential and inboard planetary reduction |
| Differential Lock | |
| Type | Hydraulic |
| Method of engagement | Pedal operated switch |

| | |
|---|---|
| Method of disengagement | Self-disengaging by brake pedal operation |

Front Axle and final drives.

| | |
|---|---|
| Make/Model/Type | John Deere/1150/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 820 mm (32.3 in) ISO 4251/1-1984)

| Gear Number | Number of engine revolutions for one revolution of the driving wheels | Nominal travel speed at rated engine speed of 2100 rev/min [km/h] | [mph] |
|---|---|---|---|
| Forward | | | |
| 1 | 429.52 | 1.51 | 0.94 |
| 2 | 300.01 | 2.16 | 1.34 |
| 3 | 239.52 | 2.71 | 1.68 |
| 4 | 197.65 | 3.28 | 2.04 |
| 5 | 171.56 | 3.78 | 2.35 |
| 6 | 151.17 | 4.29 | 2.66 |
| 7 | 131.18 | 4.95 | 3.07 |
| 8 | 110.17 | 5.89 | 3.66 |
| 9 | 95.67 | 6.79 | 4.22 |
| 10 | 84.29 | 7.70 | 4.78 |
| 11 | 73.18 | 8.87 | 5.51 |
| 12 | 63.76 | 10.18 | 6.32 |
| 13 | 55.36 | 11.73 | 7.28 |
| 14 | 48.79 | 13.31 | 8.27 |
| 15 | 42.35 | 15.33 | 9.52 |
| 16 | 37.81 | 17.17 | 10.66 |
| 17 | 30.56 | 21.24 | 13.19 |
| 18 | 21.89 | 29.66 | 18.41 |
| 19 | 17.68 | 36.72 | 22.80 |
| Reverse | | | |
| 1 | 267.37 | 2.43 | 1.51 |
| 2 | 186.74 | 3.48 | 2.16 |
| 3 | 122.98 | 5.28 | 3.28 |
| 4 | 106.79 | 6.08 | 3.78 |
| 5 | 94.05 | 6.90 | 4.29 |
| 6 | 81.65 | 7.95 | 4.94 |
| 7 | 42.15 | 15.40 | 9.56 |

Number of front wheel revolutions
for one rear wheel revolution: 1.3188

## 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 | One |
| Method of changing speeds | Reversible shaft |
| Specific Market option | Reversible shaft with 2 speeds selectable by hand lever |

### PTO Proportional to engine speed - Reversible shaft

### Standard PTO-540 rev/min.

| | |
|---|---|
| Location | Rear of tractor;center plane |
| Diameter of shaft | 35 mm (1.375 in) |
| Number of splines | 6; conforms to ISO 500/1979. |
| Height above ground | 715 mm (28.15 in) |
| Distance from median plane of tractor | 0 mm |
| Distance behind rear axle | 620 mm (24.41 in) |
| PTO Speed at rated engine spd | 547 rev/min |
| Engine speed at Std. PTO spd | 2072 rev/min |
| Engine speed/PTO speed ratio | 3.837:1 |
| Power restriction | 56 kW (75 hp) |
| Direction of rotation when viewed from shaft end | Clockwise. |

### Standard PTO-1000 rev/min.

| | |
|---|---|
| Location | Rear of tractor;center plane |
| Diameter of shaft | 35 mm (1.375 in) |
| Number of splines | 21; conforms to ISO 500/1979. |
| Height above ground | 715 mm (28.15 in) |
| Distance from median plane of tractor | 0 mm |
| Distance behind rear axle | 620 mm (24.41 in) |
| PTO Speed at rated engine spd | 1007 rev/min |
| Engine speed at Std. PTO spd | 2086 rev/min |
| Engine speed/PTO speed ratio | 2.086:1 |
| Power restriction | None |
| Direction of rotation when viewed from shaft end | Clockwise. |

## PTO Proportional to engine speed - Reversible shaft with two speeds

### Standard PTO-540 rev/min.

| | |
|---|---|
| Location | Rear of tractor;center plane |
| Diameter of shaft | 35 mm (1.375 in) |
| Number of splines | 6 or 21; conforms to ISO 500/1979. |
| Height above ground | 715 mm (28.15 in) |
| Distance from median plane of tractor | 0 mm |
| Distance behind rear axle | 620 mm (24.41 in) |
| PTO Speed at rated engine spd | 656 rev/min |
| Engine speed at Std. PTO spd | 1730 rev/min |
| Engine speed/PTO speed ratio | 3.204:1 |
| Power restriction | 56 kW (75 hp) |
| Direction of rotation when viewed from shaft end | Clockwise. |

### Standard PTO-1000 rev/min.

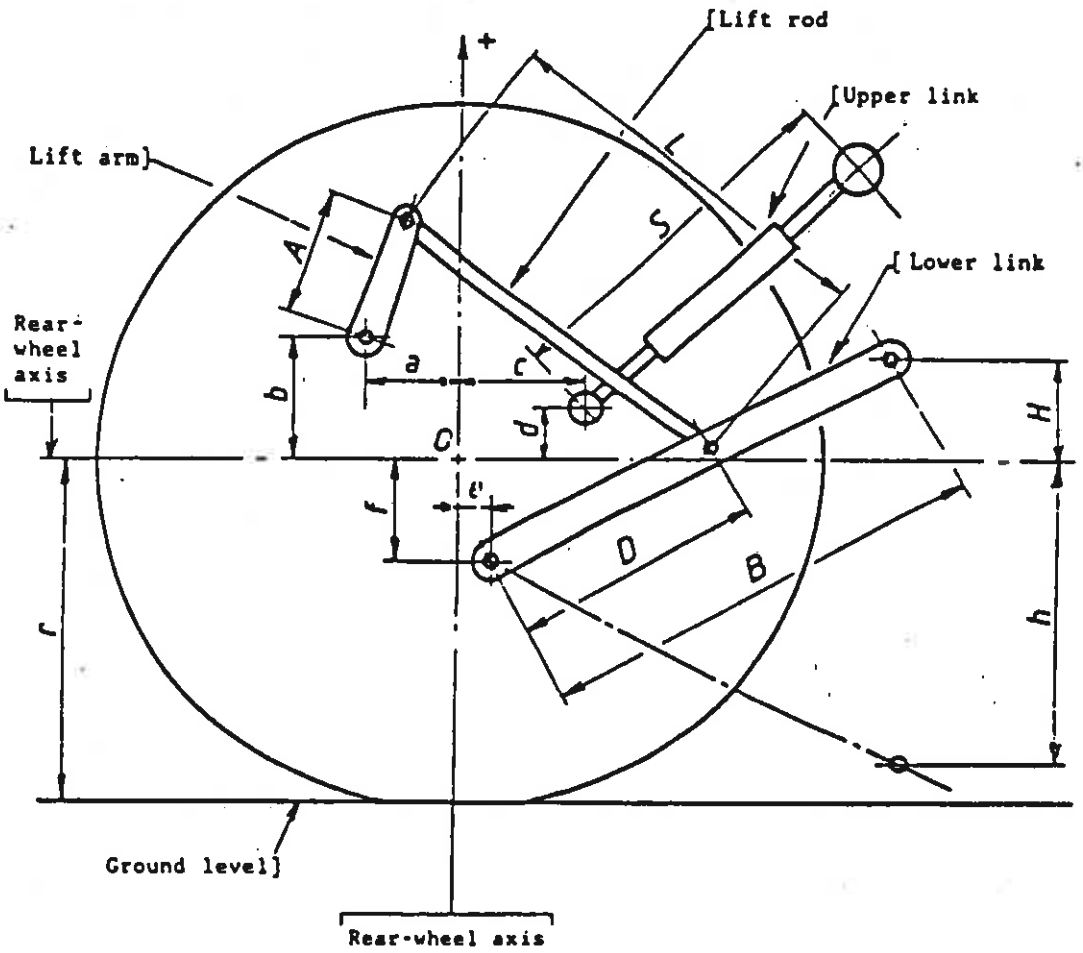
| | |
|---|---|
| Location | Rear of tractor;center plane |
| Diameter of shaft | 35 mm (1.375 in) |
| Number of splines | 6 or 21; conforms to ISO 500/1979. |
| Height above ground | 715 mm (28.15 in) |
| Distance from median plane of tractor | 0 mm |
| Distance behind rear axle | 620 mm (24.41 in) |
| PTO Speed at rated engine spd | 1064 rev/min |
| Engine speed at Std. PTO spd | 1973 rev/min |
| Engine speed/PTO speed ratio | 1.973:1 |
| Power restriction | None |
| Direction of rotation when viewed from shaft end | Clockwise. |

## POWER LIFT.

| | |
|---|---|
| Make/Model/Type | John Deere/Electronic lower link sensing; variable mix of draft and position control; adjustable rate of drop |
| Type of hydraulic system | Closed center;pressure and flow compensated |
| Number/Type of cylinders | Two external, single acting |
| Type of linkage lock for transport | |
| Relief valve spressure setting | 197 - 207 bar (2858 - 3003 psi) |
| Opening pressure of cylinder safety valve | 240+/-10 bar (3483+/-146 psi) |
| Lift pump type | Axial piston, variable delivery and flow, pressure and flow compensated |
| Power transmission to pump | Spiral bevel 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 4 pairs of ISO standard couplings at rear of tractor. |
| Max. oil volume available for external cylinders. | 19 liters (5.0 gallons) regular; additional 11 liters (2.90 gallon) allowable overfill for total of 30 liters (7.9 gallons) |

## THREE POINT LINKAGE.

- Category 3N/2 or 2 in conformity with ISO 730/1-1990
- Category adaptor None



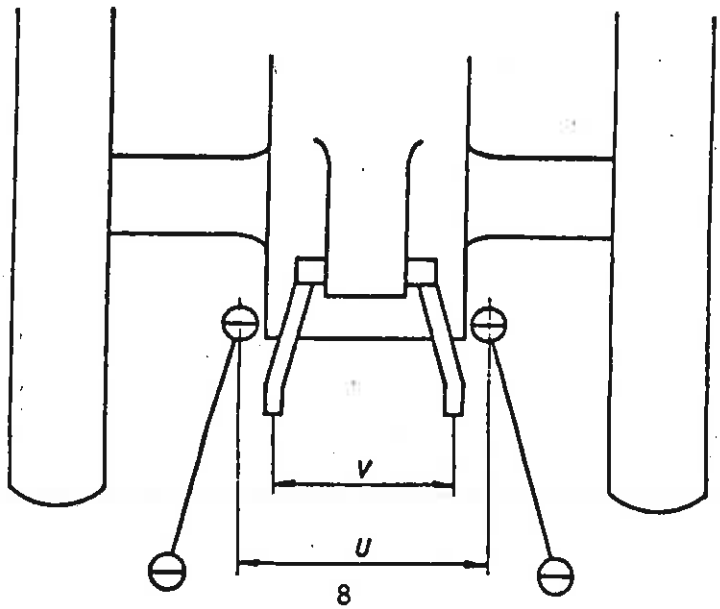



**Table 1.1 - Linkage geometry dimensions *.**
ISO Cat III Hook Type Draft Link Ends

| | | Dimension or range [mm] | Dimension or range [in] | Settings used [mm] | Settings used [in] |
|---|---|---|---|---|---|
| Lift category | | III | | III | |
| Rear Tire - Radius Index | (r) | 820 | 32.3 | 905 | 35.6 |
| Front Tire - Radius Index | (r') | 610 | 24.0 | 695 | 27.4 |
| Length of lift arms | (A) | 375 | 14.8 | same | |
| Length of lower links | (B) | 1011 | 39.8 | same | |
| Distance of lift arm pivot from: horizontal | (a) | 205 | 8.1 | same | |
| rear wheel axis: vertical | (b) | 588 | 23.1 | same | |
| Horizontal distance between the 2 lower link points | (U) | 520 | 20.5 | same | |
| Horizontal distance between the 2 lift arm end points | (V) | 680 | 26.8 | same | |
| Length of upper link | (S) | 609 | 24.0 | 692 | 27.3 |
| | to | 808 | 31.8 | | |
| Distance of upper link pivot point from rear wheel axis | | | | | |
| Top hole - horizontal | (c) | 504 | 19.8 | same | |
| - vertical | (d) | 353 | 13.9 | 283 | 11.1 |
| | and | 283 | 11.1 | | |
| | and | 200 | 7.9 | | |
| Distance of lower link pivot from: horizontal | (e) | 195 | 7.7 | same | |
| rear wheel axis: vertical | (f) | 275 | 10.8 | same | |
| Distance of lower link pivot points to lift rod pivot pts on lower links. | (D) | 612 | 24.1 | 612 | 24.1 |
| | or | 688 | 27.1 | | |
| Length of lift rods | (L) | 842 | 33.1 | 968 | 38.1 |
| | to | 1051 | 41.4 | | |
| Height of lower hitch points relative to rear wheel axis | | | | | |
| In low position | (h) | 409 | 16.1 | 648 | 25.5 |
| | to | 802 | 31.6 | | |
| In high position | (H) | 281 | 11.1 | 79 | 3.2 |
| | | 49 | 1.9 | | |
| Height above ground of lower hitch points when locked in transport position. | | 742 | 29.2 | 984 | 38.8 |
| | to | 1073 | 42.2 | | |

* tire dynamic index of 905 mm (35.6 in) - ISO 4251/1-1984

## SWINGING DRAWBAR.

| | |
|---|---|
| Type | Oscillating |
| Height above ground - maximum | 529 mm (20.8 in) |
| - minimum | 465 mm (18.3 in) |
| Adjustments | Invert drawbar; reposition clevis |
| Distance of hitch point from rear wheel axis-horizontal | 920, 970, 1020 mm (36.2, 38.2, 40.2 in) |
| Distance of hitch point from PTO shaft end: Vertical | 250 mm (9.8 in) |
| Horizontal | 250-350-400 mm (9.8-13.8-15.7 in) |
| Lateral adjustment-Right side | 190 mm (7.5 in) |
| Left side | 190 mm (7.5 in) |
| Distance of pivot point from rear wheel axis-horizontal | 27 mm (1.1 in) |
| Diameter of drawbar pin hole | 33 mm (1.3 in) |
| Maximum vertical static permissible load | 28 kN (6300 lb)-short position<br>21 kN (4725 lb)-intermediate<br>14 kN (3150 lb)-extended |

## STEERING.

| | |
|---|---|
| Make/Model/Type | Eaton/RE4138/Hydrostatic |
| Method of operation | Steering wheel |
| Pump(s) | Power mode-same as main pump<br>Manual mode-ground driven hydraulic pump |
| Ram(s) | Two external; double acting |
| Working pressure | 170+/-5 bar (2466+/-72 psi) |

## BRAKE SYSTEM.

| | |
|---|---|
| Service brake. | |
| Make/Model/Type | Vickers/RE29826/John Deere oil immersed disc |
| Method of operation | Hydraulic; operated by two pedals which can be locked together. |
| Parking brake. | |
| Type | Transmission lock. |
| Method of operation | Gear selector lever |
| Trailer Brake | None |

## WHEELS.

| | |
|---|---|
| Number. | |
| Front | Two; Driving and steering |
| Rear | Two or four; Driving |
| Wheel base | 2800 mm (110.3 in) |

Track width adjustment

| | Minimum [mm] | Minimum [in] | Maximum [mm] | Maximum [in] | Adjustment method |
|---|---|---|---|---|---|
| Front | 1524 | 60.0 | 2235 | 88.0 | Reversing wheels and offset lug rims |
| Rear | 1518 | 59.8 | 2548 | 100.3 | Reversing wheels and offset lug rims |

## PROTECTIVE STRUCTURE.

| | |
|---|---|
| Make/Model/Type | John Deere/SG-050/ComfortGard |
| Manufacturer's name/address | John Deere Tractor Works<br>Waterloo, Iowa, USA |
| Protective device | Cab; not tiltable |
| OECD approval number | CSS 0217/27 |

## DRIVER'S SEAT.

| | |
|---|---|
| Make/Model/Type | Sears/FS92-01/Air suspension; Personal posture cushioning |
| Type of suspension | Air |
| Type of damping | Air |
| Range of adjustment | |
| Longitudinal | 167 mm (6.6 in) |
| Vertical | 80 mm (3.1 in) |

## LIGHTING.

| | Height above ground of center [mm] | Height above ground of center [in] | Size [mm] | Distance from outside edge to median plane of tractor. [mm] | Distance from outside edge to median plane of tractor. [in] |
|---|---|---|---|---|---|
| Head lights | 1110 | 43.7 | 162x102 | 232 | 9.1 |
| Side lights | 1110 | 43.7 | 152x102 | 277 | 10.9 |
| Rear lights | 1930 | 76.0 | 127x76 | 892 | 35.1 |
| Rear reflectors-rear | | | | | |
| outside | 1930 | 76.0 | 43x70 | 934 | 36.8 |
| inside | | | 43x80 | 807 | 31.8 |

**TEST CONDITIONS.**

Overall dimensions.

| | | |
|---|---|---|
| Length | Overall | 4755 mm (187.2 in) |
| Width | Minimum-with singles | 2808 mm (110.6 in) |
| | Maximum-with singles | 3015 mm (118.7 in) |
| Height - | Top protective structure | 2973 mm (117.0 in) |
| - | Top of exhaust | 2923 mm (115.1 in) |
| Ground clearance | | 465 mm (18.3 in) |
| Clearance-limiting part | | Drawbar |

Tractor Mass (with cab,full fuel tank).

| | | without driver [kg] | without driver [lb] | with driver [kg] | with driver [lb] |
|---|---|---|---|---|---|
| Unballasted | Front | 2304 | 5256 | 2319 | 5112 |
| | Rear | 4477 | 9870 | 4537 | 10002 |
| | Total | 6781 | 14949 | 6856 | 15115 |

Max.permissible axle load-front 4800 kg (10580 lbs)
-rear 10000 kg (22050 lbs)

| Tire Specifications. | Front Wheels | Rear Wheels |
|---|---|---|
| Make | Goodyear | Goodyear |
| Dimensions | 13.6R28 | 18.4R38 |
| Number/Ply rating | 2/3 star | 2/2 star |
| Type | Radial | Radial |
| Max.load (tire mfg - 40 km/h) | 1700 kg/tire (3750 lb/tire) | 3000 kg/tire (6615 lb/tire) |
| (tire mfg - 30 km/h) | 1815 kg/tire (4000 lb/tire) | 3200 kg/tire (7060 lb/tire) |
| Inflation pressure(tire mfr)-max | 210 kPa (30 psi) | 170 kPa (24 psi) |
| -min | 40 kPa (6 psi) | 40 kPa (6 psi) |
| Inflation pressure-tested | 160 kPa (23 psi) | 110 kPa (16 psi) |
| Dynamic Radius Index | 610 mm/24.0 in | 820 mm/32.3 in |
| Chosen track width-singles | 1625 mm/64.0 in | 1725 mm/68.0 in |

## Oils and Lubrication.

Capacity and change interval:

| | Capacity liter | Capacity quart | Oil change hours | Filter change hours |
|---|---|---|---|---|
| Engine (w/o filter) | 17.0 | 18.0 | 250 | 250 |
| Front axle | 8.5 | 9.0 | 1500 | |
| Transmission, final drive, rear axle and hydraulics | 102.3 | 108.2 | 1500 | Annually or as required |
| Final drive, front | 1.9 | 2.0 | 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; CCMD specification D5 or D6 | |
| 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 | 24 | |

Fuel

| | |
|---|---|
| Type/grade | Premier; Grade 2-D, in conformity with the national standard |
| Density (Pto test) | 0.834 kg/l at 15° C |
| (Drawbar test) | same as Pto test. |
| Cetane number | 53.9 |
| Viscosity | 2.31 cSt at 37.8° C |

## COMPULSORY TESTS

### 1. MAIN POWER TAKE-OFF

Date: 28-Apr-93 Location: UNL Tractor Test Lab, Lincoln, NE, U.S.A.

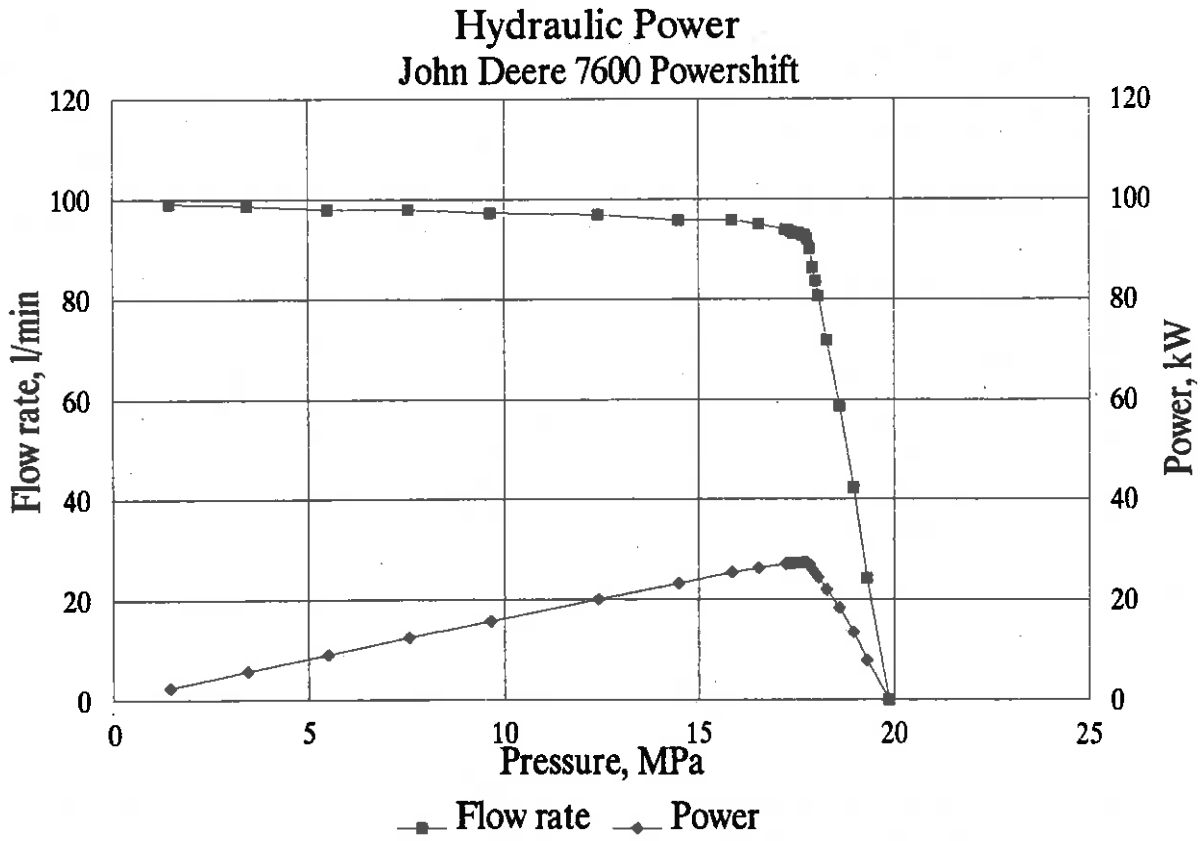
Type of dynamometer: Eddy current, Eaton Fuel density: 6.958 lb/gal

| Power kW / *hp* | Eng rev/min | PTO rev/min | l/h / *gal/h* | kg/h / *lb/h* | kg/kW.h / *lb/hp.h* | kW.h/l / *hp.h/gal* |
|---|---|---|---|---|---|---|
| **1.1 Maximum Power – 2 hours** | | | | | | |
| 83.21 | 2100 | 1007 | 24.09 | 20.09 | 0.241 | 3.45 |
| *111.59* | | | *6.36* | *44.28* | *0.397* | *17.53* |
| **1.2 Power at Rated Engine Speed – 1 hour** | | | | | | |
| 83.21 | 2100 | 1007 | 24.09 | 20.09 | 0.241 | 3.45 |
| *111.59* | | | *6.36* | *44.28* | *0.397* | *17.53* |
| **1.3 Power at Standard Power Take-Off Speed – 1 hour** | | | | | | |
| 83.21 | 2100 | 1007 | 24.09 | 20.09 | 0.241 | 3.45 |
| *111.59* | | | *6.36* | *44.28* | *0.397* | *17.53* |
| **1.4 Part Loads** | | | | | | |
| **1.4.1 Torque at maximum power at rated engine speed** | | | | | | |
| 83.21 | 2100 | 1007 | 24.09 | 20.09 | 0.241 | 3.45 |
| 111.59 | | | 6.36 | 44.28 | 0.397 | 17.53 |
| **1.4.2 85% of torque obtained in 1.4.1** | | | | | | |
| 74.22 | 2203 | 1056 | 22.69 | 18.91 | 0.255 | 3.27 |
| *99.53* | | | *5.99* | *41.70* | *0.419* | *16.61* |
| **1.4.3 75% of torque defined in 1.4.2** | | | | | | |
| 56.39 | 2232 | 1070 | 19.10 | 15.92 | 0.282 | 2.95 |
| *75.63* | | | *5.04* | *35.10* | *0.464* | *14.99* |
| **1.4.4 50% of torque defined in 1.4.2** | | | | | | |
| 38.00 | 2256 | 1081 | 15.67 | 13.06 | 0.344 | 2.43 |
| *50.96* | | | *4.14* | *28.80* | *0.565* | *12.31* |
| **1.4.5 25% of torque defined in 1.4.2** | | | | | | |
| 19.38 | 2278 | 1092 | 11.75 | 9.80 | 0.506 | 1.65 |
| *25.99* | | | *3.10* | *21.60* | *0.831* | *8.37* |
| **1.4.6 unloaded** | | | | | | |
| 0.98 | 2299 | 1102 | 8.32 | 6.94 | 7.096 | 0.12 |
| *1.31* | | | *2.20* | *15.30* | *11.666* | *0.60* |
| **1.5 Part Loads at Standard Power Take-off Speed** | | | | | | |
| **1.5.1 Torque at maximum power** | | | | | | |
| 83.21 | 2100 | 1007 | 24.09 | 20.09 | 0.241 | 3.45 |
| *111.59* | | | *6.36* | *44.28* | *0.397* | *17.53* |
| **1.5.2 85% of torque obtained in 1.5.1** | | | | | | |
| 74.22 | 2203 | 1056 | 22.69 | 18.91 | 0.255 | 3.27 |
| *99.53* | | | *5.99* | *41.70* | *0.419* | *16.61* |
| **1.4.3 75% of torque defined in 1.4.2** | | | | | | |
| 56.39 | 2232 | 1070 | 19.10 | 15.92 | 0.282 | 2.95 |
| *75.63* | | | *5.04* | *35.10* | *0.464* | *14.99* |
| **1.4.4 50% of torque defined in 1.4.2** | | | | | | |
| 38.00 | 2256 | 1081 | 15.67 | 13.06 | 0.344 | 2.43 |
| *50.96* | | | *4.14* | *28.80* | *0.565* | *12.31* |
| **1.4.5 25% of torque defined in 1.4.2** | | | | | | |
| 19.38 | 2278 | 1092 | 11.75 | 9.80 | 0.506 | 1.65 |
| *25.99* | | | *3.10* | *21.60* | *0.831* | *8.37* |
| **1.4.6 unloaded** | | | | | | |
| 0.98 | 2299 | 1102 | 8.32 | 6.94 | 7.096 | 0.12 |
| *1.31* | | | *2.20* | *15.30* | *11.666* | *0.60* |

| | | |
|---|---|---|
| No load maximum engine speed: | 2299 rev/min | |
| Equivalent torque at rated speed: | **378 N-m** | ***279 lb-ft*** |
| Equivalent torque at maximum power: | **378 N-m** | ***279 lb-ft*** |
| (engine speed: | **2100 rev/min)** | |
| Maximum equivalent crankshaft torque: | **536 N-m** | ***395 lb-ft*** |
| (engine speed: | **1301 rev/min)** | |
| Mean Dry bulb: | 24 deg C | *75 deg F* |
| Wet bulb: | 15 deg C | *58 deg F* |
| Relative humidity: | 37 % | |
| Pressure: | 98.17 kPa | *28.99 in Hg* |
| Maximum Coolant: | 97 deg C | *206 deg F* |
| Engine oil: | 118 deg C | *245 deg F* |
| Fuel: | 60 deg C | *140 deg F* |
| Air intake: | 26 deg C | *78 deg F* |
| Transmission/hydraulic oil: | 56 deg C | *132 deg F* |
| Intake manifold pressure at rated speed: | 62 kPa | *9.0 psig* |
| Intake manifold pressure at maximum power: | 62 kPa | *9.0 psig* |

## Hydraulic Power Test

| | | | | | |
|---|---|---|---|---|---|
| Date of test: 10–May–93 | | | | | |
| 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: | | | | | |
| 19.86 MPa | | | | | |
| *2880 psi* | | | | | |
| II. Pump delivery rate at minimum pressure and rated engine speed: | | | | | |
| 99.2 l/min | | | | | |
| *26.2 gpm* | | | | | |
| III. Flow rate, pressure, power: | | | | | |
| 90% of relief valve setting: | | | | | |
| | 90.1 l/min | | 17.86 MPa | | 26.82 kW |
| | *23.8 gpm* | | *2590 psi* | | *35.96 hp* |
| Maximum hydraulic power: | | | | | |
| | 92.7 l/min | | 17.72 MPa | | 27.39 kW |
| | *24.5 gpm* | | *2570 psi* | | *36.74 hp* |
| IV. Hydraulic fluid temperature at flow meter: | | | | | |
| 66 C | | | | | |
| *150 F* | | | | | |



**2.2 POWER LIFT TEST.** Test A-Upper link in middle hole on tractor (for settings see p.9)

Date of test: 15 June 1993

| | | Hitch points | Frame |
|---|---|---|---|
| Lower hitch points above ground - down position: | [mm/in] | 257/10.1 | 206/8.1 |
| Vertical movement: | | | |
| without load: | [mm/in] | 757/29.8 | 889/35.0 |
| with load: | [mm/in] | 729/28.7 | 878/34.6 |
| Maximum corrected force through full range: | [kN/lb] | 49.4/11111 | 45.2/10161 |
| Corresponding pressure: | [kPa/psi] | 17871/2592 | |
| Moment about rear axle: | [kN.m/lb.ft] | 59.6/43979 | 82.1/60543 |
| Maximum mast tilt angle: | [deg] | -- | 6.9 |

Lifting height relative to horizontal position of lower links.

| | | | | | | |
|---|---|---|---|---|---|---|
| | [mm] | -424 | -373 | -300 | -201 | -99 |
| | [in] | -16.7 | -14.7 | -11.8 | -7.9 | -3.9 |
| Corrected lift forces | | | | | | |
| Hitch point. | [kN] | -- | 49.4 | 52.8 | 56.5 | 59.0 |
| | [lb] | -- | 11111 | 11867 | 12704 | 13253 |
| at frame | [kN] | 48.6 | -- | 49.8 | 51.5 | 52.4 |
| | [lb] | 10935 | -- | 11196 | 11583 | 11772 |

Lifting height relative to horizontal position of lower links.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | [mm] | 0 | 99 | 200 | 290 | 356 | 454 |
| | [in] | 0 | 3.9 | 7.9 | 11.4 | 14.0 | 17.9 |
| Corrected lift forces | | | | | | | |
| Hitch point | [kN] | 61.4 | 62.9 | 64.8 | 66.8 | 67.7 | -- |
| | [lb] | 13793 | 14144 | 14558 | 15026 | 15215 | -- |
| at frame | [kN] | 52.4 | 51.7 | 50.4 | 49.8 | 48.7 | 45.2 |
| | [lb] | 11772 | 11619 | 11340 | 11196 | 10944 | 10161 |

## OECD Drawbar Data (SI)

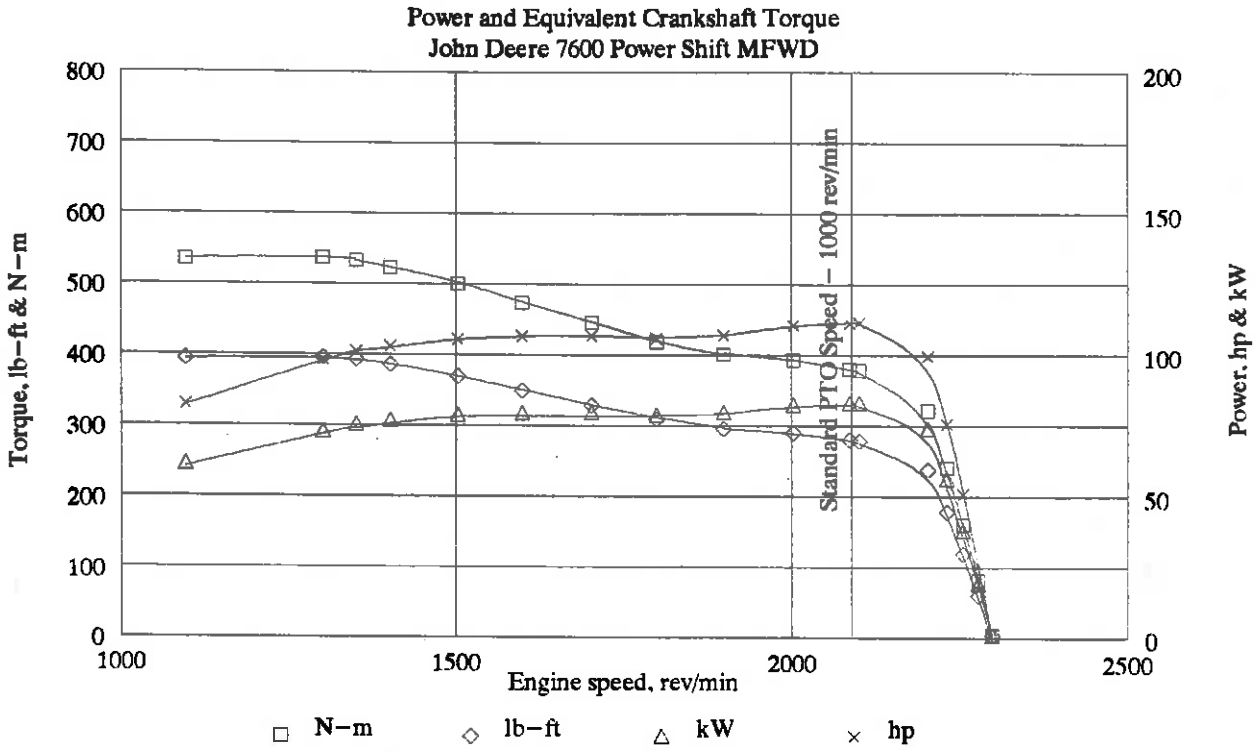
| Date of tests: | 21-May-93 | Fuel density: | 0.834 kg/l |
|---|---|---|---|
| Type of track: | Concrete | Test number: | 1665 |

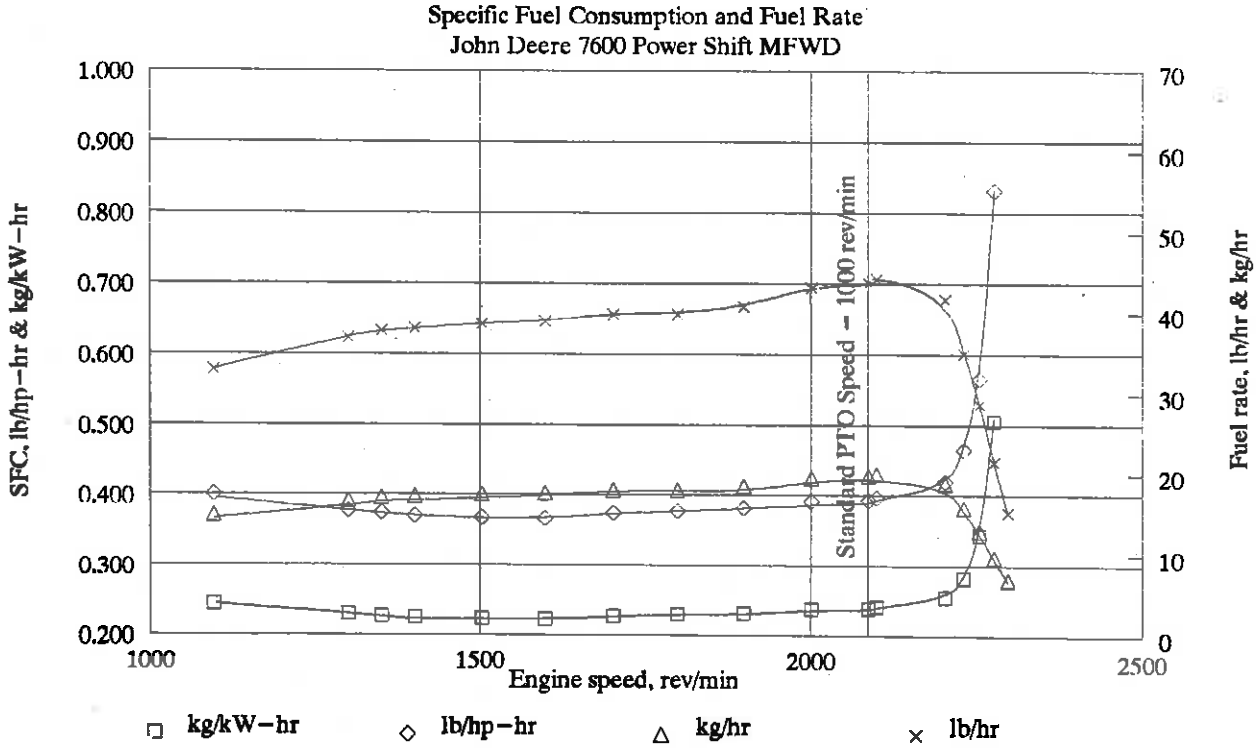
| Gear | Power | Pull | Speed | Engine speed | Slip | SFC | SFE | Temperature, deg C | | | | | Rel humidity | Pressure |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | kN | km/h | rev/min | | kg/kW.h | kW.h/l | Fuel | Coolant | Oil | Dry | Wet | | kPa |
| I. Maximum Power (unballasted, fwa at 2100 rev/min) | | | | | Tire pressure: | | 110 kPa, rear | | 159 kPa, fron | Drawbar height: | | 495 mm | | |
| 4 | 51.97 | 62.60 | 2.99 | 2200 | 14.40% | 0.345 | 2.42 | 57 | 85 | 109 | 19 | 13 | 50% | 97.90 |
| 5 | 61.45 | 64.53 | 3.43 | 2178 | 13.90% | 0.320 | 2.60 | 56 | 85 | 109 | 17 | 11 | 47% | 97.87 |
| 6 | 67.52 | 60.17 | 4.04 | 2147 | 9.28% | 0.298 | 2.79 | 58 | 86 | 111 | 18 | 13 | 57% | 97.90 |
| 7 | 69.60 | 53.40 | 4.69 | 2108 | 6.75% | 0.288 | 2.89 | 58 | 88 | 112 | 19 | 11 | 36% | 98.00 |
| 8 | 69.51 | 43.51 | 5.75 | 2109 | 3.99% | 0.288 | 2.89 | 58 | 89 | 111 | 18 | 11 | 41% | 98.00 |
| 9 | 69.74 | 37.65 | 6.67 | 2108 | 3.43% | 0.288 | 2.90 | 58 | 89 | 113 | 19 | 11 | 36% | 98.00 |
| 10 | 69.63 | 32.92 | 7.62 | 2109 | 2.62% | 0.288 | 2.89 | 58 | 89 | 111 | 17 | 11 | 47% | 97.97 |
| 11 | 69.57 | 28.53 | 8.78 | 2099 | 2.30% | 0.287 | 2.91 | 57 | 88 | 111 | 17 | 11 | 47% | 98.04 |
| 12 | 67.75 | 24.03 | 10.15 | 2109 | 1.97% | 0.296 | 2.82 | 57 | 89 | 111 | 17 | 11 | 47% | 98.04 |
| 13 | 66.91 | 20.54 | 11.72 | 2105 | 1.72% | 0.299 | 2.79 | 57 | 89 | 112 | 18 | 11 | 41% | 98.00 |
| 14 | 65.71 | 17.76 | 13.32 | 2104 | 1.56% | 0.304 | 2.74 | 57 | 89 | 112 | 18 | 11 | 41% | 98.00 |
| II. Part loads (unballasted, fwa) | | | | | | | | | | | | | | |
| II.1 in selected gear at maximum power | | | | | | | | | | | | | | |
| 9 | 69.74 | 37.65 | 6.67 | 2108 | 3.43% | 0.288 | 2.90 | 58 | 89 | 113 | 19 | 11 | 36% | 98.00 |
| II.1.1 75% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 9 | 55.44 | 28.26 | 7.06 | 2207 | 2.38% | 0.317 | 2.63 | 56 | 87 | 109 | 18 | 11 | 41% | 98.00 |
| II.1.2 50% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 9 | 37.76 | 18.83 | 7.22 | 2240 | 1.64% | 0.380 | 2.19 | 55 | 85 | 106 | 19 | 11 | 36% | 98.00 |
| II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1 | | | | | | | | | | | | | | |
| 11 | 55.46 | 28.18 | 7.09 | 1698 | 2.30% | 0.277 | 3.01 | 55 | 87 | 107 | 19 | 11 | 36% | 98.00 |
| II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2 | | | | | | | | | | | | | | |
| 11 | 37.76 | 18.86 | 7.21 | 1713 | 1.72% | 0.313 | 2.67 | 54 | 84 | 104 | 19 | 11 | 36% | 98.00 |
| II.2 in selected gear nearest to 7.5 km/h | | | | | | | | | | | | | | |
| 10 | 69.63 | 32.92 | 7.62 | 2109 | 2.62% | 0.288 | 2.89 | 58 | 89 | 111 | 17 | 11 | 47% | 97.97 |
| II.2.1 75% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 10 | 53.12 | 23.75 | 8.05 | 2208 | 2.05% | 0.325 | 2.57 | 55 | 87 | 106 | 19 | 11 | 36% | 98.00 |
| II.2.2 50% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 10 | 36.95 | 16.21 | 8.21 | 2239 | 1.31% | 0.388 | 2.15 | 55 | 85 | 107 | 19 | 11 | 36% | 98.00 |
| II.2.3 next higher gear at reduced engine speed, same pull and travel speed as II.2.1 | | | | | | | | | | | | | | |
| 12 | 53.17 | 23.77 | 8.05 | 1672 | 1.97% | 0.286 | 2.92 | 55 | 88 | 107 | 19 | 11 | 36% | 98.00 |
| II.2.4 next higher gear at reduced engine speed, same pull and travel speed as II.2.2 | | | | | | | | | | | | | | |
| 12 | 36.98 | 16.19 | 8.22 | 1697 | 1.39% | 0.325 | 2.57 | 53 | 84 | 104 | 19 | 12 | 43% | 98.00 |

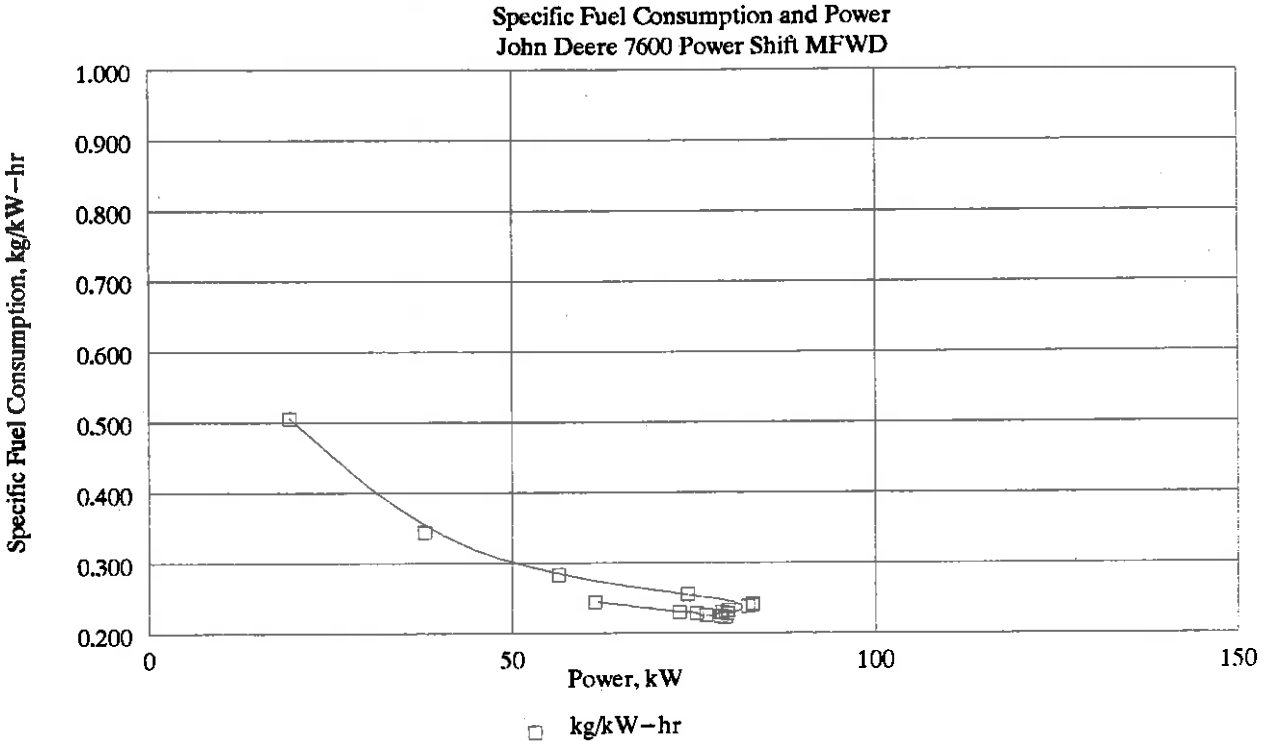
## OECD Drawbar Data (US)

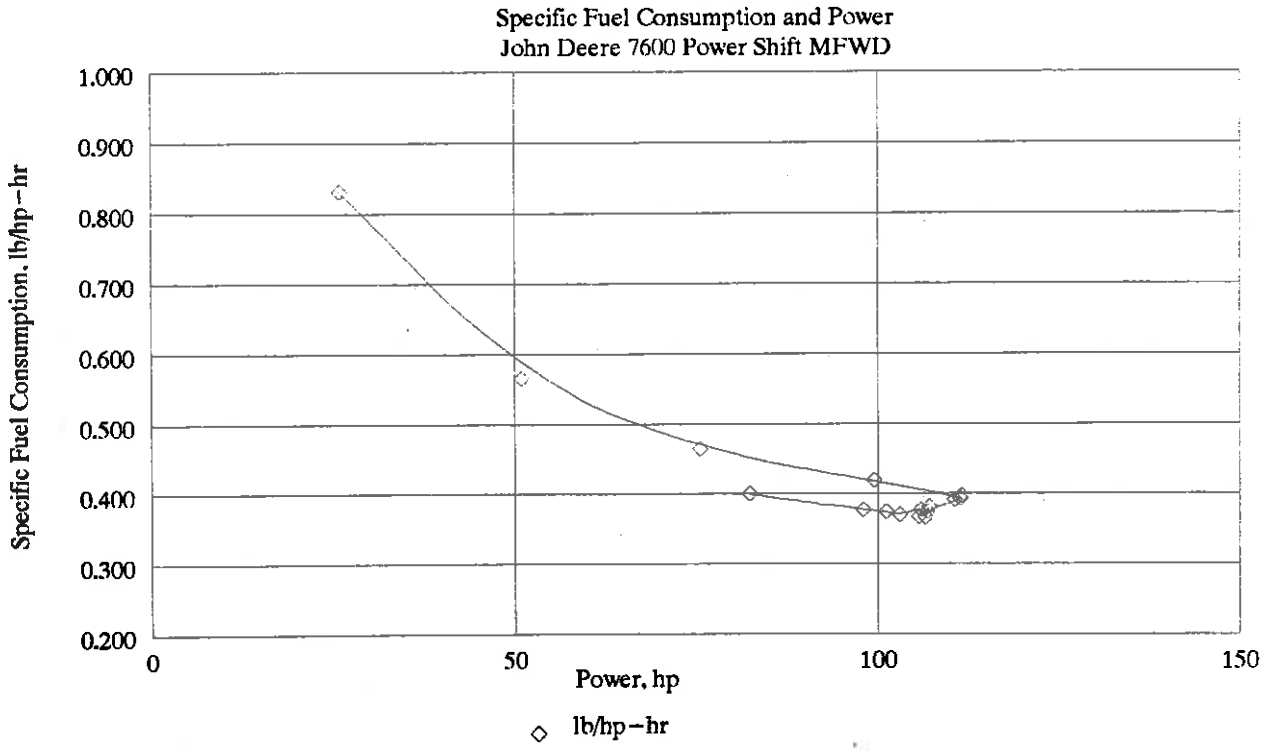
| Date of tests: | 21-May-93 | Fuel density: | 6.958 lb/gal |
|---|---|---|---|
| Type of track: | Concrete | Test number: | 1665 |

| Gear | Power | Pull | Speed | Engine speed | Slip | SFC | SFE | Temperature, deg F | | | | | Rel humidity | Pressure |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | hp | lb | mph | rev/min | | lb/hp.h | hp.h/gal | Fuel | Coolant | Oil | Dry | Wet | | in Hg |
| I. Maximum Power (unballasted, fwa at 2100 rev/min) | | | | | Tire pressure: | | 16 psig, rear | | 23 psig, fror | Drawbar height: | | 19.5 in | | |
| 4 | 69.69 | 14073 | 1.86 | 2200 | 14.40% | 0.567 | 12.28 | 134 | 185 | 228 | 66 | 56 | 50% | 28.91 |
| 5 | 82.40 | 14507 | 2.13 | 2178 | 13.90% | 0.527 | 13.21 | 132 | 186 | 228 | 62 | 52 | 47% | 28.90 |
| 6 | 90.55 | 13528 | 2.51 | 2147 | 9.28% | 0.490 | 14.19 | 136 | 188 | 232 | 64 | 56 | 57% | 28.91 |
| 7 | 93.33 | 12005 | 2.92 | 2108 | 6.75% | 0.474 | 14.69 | 136 | 190 | 233 | 66 | 52 | 36% | 28.94 |
| 8 | 93.21 | 9782 | 3.57 | 2109 | 3.99% | 0.473 | 14.70 | 136 | 192 | 231 | 65 | 52 | 41% | 28.94 |
| 9 | 93.52 | 8465 | 4.14 | 2108 | 3.43% | 0.473 | 14.70 | 136 | 193 | 236 | 66 | 52 | 36% | 28.94 |
| 10 | 93.38 | 7400 | 4.73 | 2109 | 2.62% | 0.474 | 14.68 | 136 | 192 | 232 | 63 | 52 | 47% | 28.93 |
| 11 | 93.29 | 6414 | 5.45 | 2099 | 2.30% | 0.472 | 14.75 | 135 | 191 | 233 | 63 | 52 | 47% | 28.95 |
| 12 | 90.85 | 5403 | 6.31 | 2109 | 1.97% | 0.486 | 14.32 | 135 | 192 | 233 | 63 | 52 | 47% | 28.95 |
| 13 | 89.72 | 4619 | 7.29 | 2105 | 1.72% | 0.492 | 14.14 | 135 | 192 | 233 | 64 | 52 | 41% | 28.94 |
| 14 | 88.11 | 3992 | 8.28 | 2104 | 1.56% | 0.500 | 13.93 | 135 | 192 | 234 | 64 | 52 | 41% | 28.94 |
| II. Part loads (unballasted, fwa) | | | | | | | | | | | | | | |
| II.1 in selected gear at maximum power | | | | | | | | | | | | | | |
| 9 | 93.52 | 8465 | 4.14 | 2108 | 3.43% | 0.473 | 14.70 | 136 | 193 | 236 | 66 | 52 | 36% | 28.94 |
| II.1.1 75% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 9 | 74.34 | 6354 | 4.39 | 2207 | 2.38% | 0.521 | 13.36 | 133 | 189 | 228 | 65 | 52 | 41% | 28.94 |
| II.1.2 50% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 9 | 50.64 | 4234 | 4.49 | 2240 | 1.64% | 0.625 | 11.13 | 131 | 185 | 224 | 66 | 52 | 36% | 28.94 |
| II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1 | | | | | | | | | | | | | | |
| 11 | 74.38 | 6335 | 4.40 | 1698 | 2.30% | 0.456 | 15.27 | 131 | 189 | 225 | 66 | 52 | 36% | 28.94 |
| II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2 | | | | | | | | | | | | | | |
| 11 | 50.63 | 4239 | 4.48 | 1713 | 1.72% | 0.514 | 13.53 | 129 | 183 | 219 | 66 | 52 | 36% | 28.94 |
| II.2 in selected gear nearest to 4.6 mph | | | | | | | | | | | | | | |
| 10 | 93.38 | 7400 | 4.73 | 2109 | 2.62% | 0.474 | 14.68 | 136 | 192 | 232 | 63 | 52 | 47% | 28.93 |
| II.2.1 75% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 10 | 71.24 | 5340 | 5.00 | 2208 | 2.05% | 0.534 | 13.02 | 131 | 188 | 223 | 66 | 52 | 36% | 28.94 |
| II.2.2 50% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 10 | 49.56 | 3644 | 5.10 | 2239 | 1.31% | 0.638 | 10.91 | 131 | 185 | 224 | 66 | 52 | 36% | 28.94 |
| II.2.3 next higher gear at reduced engine speed, same pull and travel speed as II.2.1 | | | | | | | | | | | | | | |
| 12 | 71.31 | 5345 | 5.00 | 1672 | 1.97% | 0.470 | 14.81 | 131 | 190 | 224 | 66 | 52 | 36% | 28.94 |
| II.2.4 next higher gear at reduced engine speed, same pull and travel speed as II.2.2 | | | | | | | | | | | | | | |
| 12 | 49.59 | 3640 | 5.11 | 1697 | 1.39% | 0.534 | 13.03 | 128 | 183 | 219 | 66 | 53 | 43% | 28.94 |


Power and Equivalent Crankshaft Torque
John Deere 7600 Power Shift MFWD
Torque, lb–ft & N–m
Power, hp & kW
Engine speed, rev/min
Standard PTO Speed – 1000 rev/min
N–m
lb–ft
kW
hp


Specific Fuel Consumption and Fuel Rate
John Deere 7600 Power Shift MFWD
SFC, lb/hp–hr & kg/kW–hr
Fuel rate, lb/hr & kg/hr
Engine speed, rev/min
Standard PTO Speed – 1000 rev/min
kg/kW–hr
lb/hp–hr
kg/hr
lb/hr


Specific Fuel Consumption and Power
John Deere 7600 Power Shift MFWD
Specific Fuel Consumption, kg/kW−hr
1.000
0.900
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0
50
100
150
Power, kW
kg/kW−hr

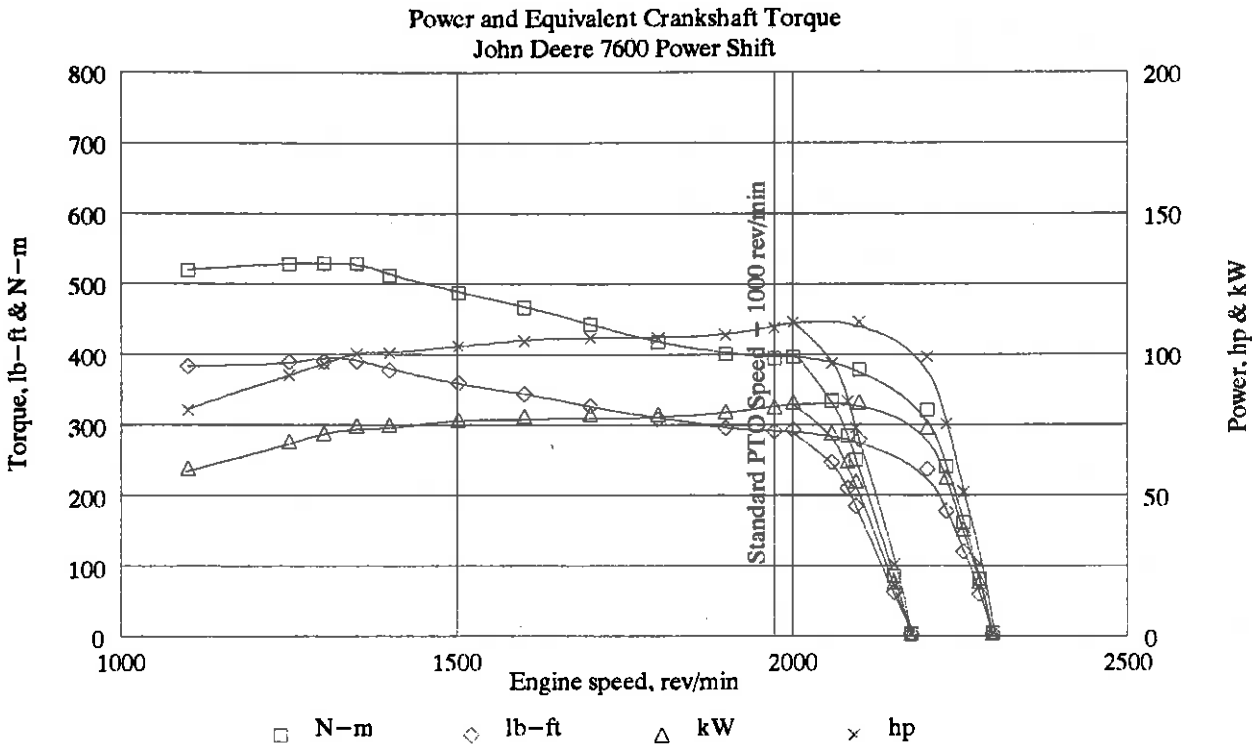

Specific Fuel Consumption and Power
John Deere 7600 Power Shift MFWD
Specific Fuel Consumption, lb/hp−hr
1.000
0.900
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0
50
100
150
Power, hp
lb/hp−hr

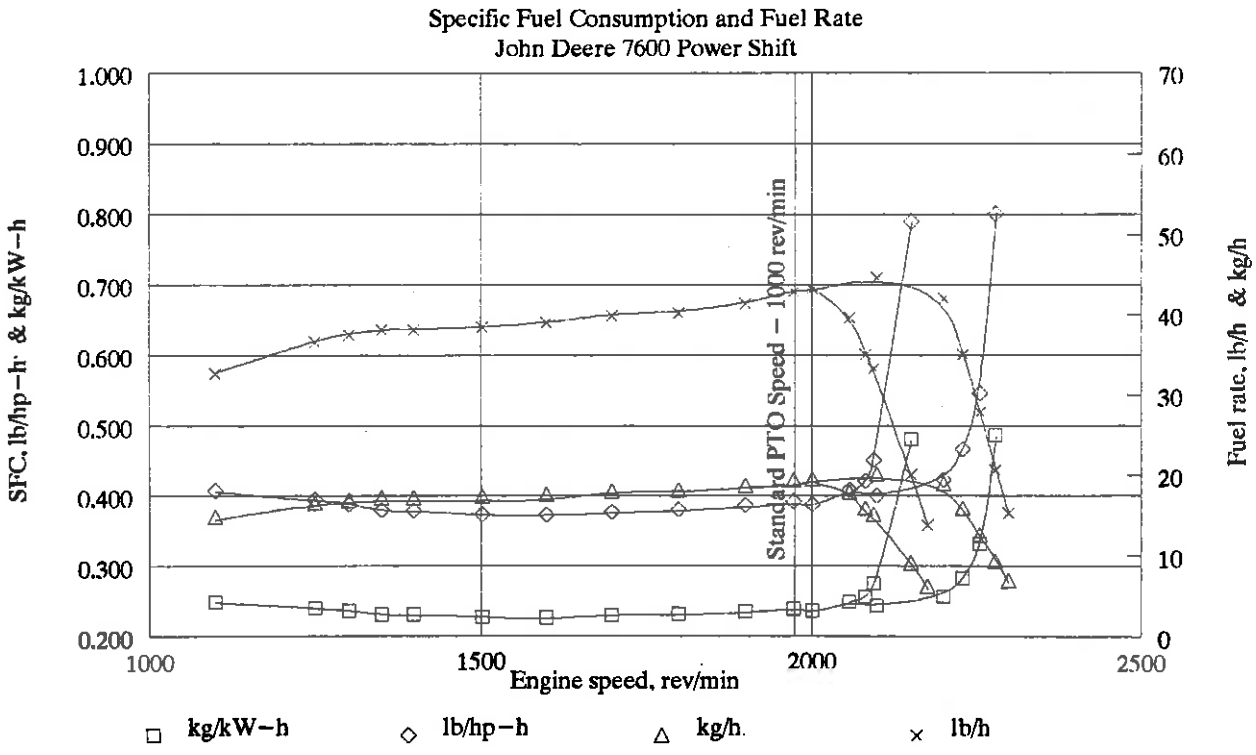
**1. Main Power Take-Off**

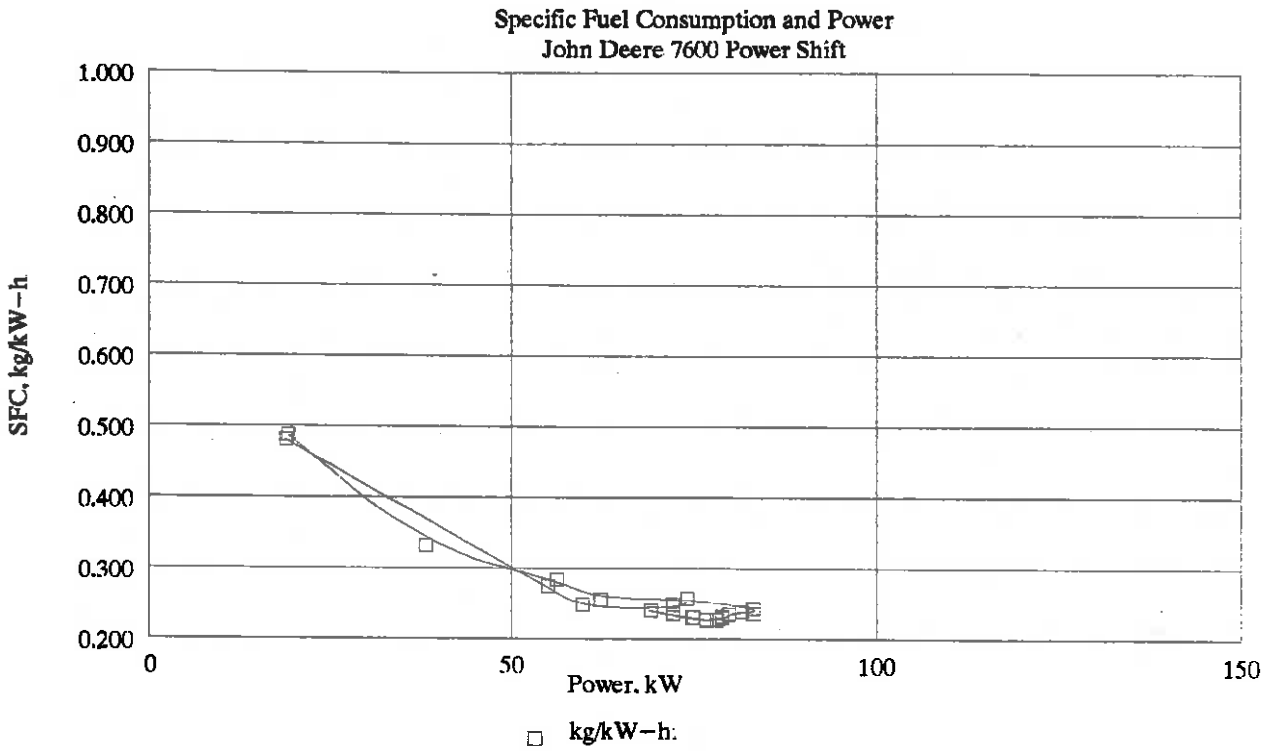
Date: 12-May-93 Location: UNL Tractor Test Lab, Lincoln, NE, U.S.A.
Type of dynamometer: Eaton eddy current Fuel density: 6.958 lb/gal

| Power kW *hp* | Eng rev/min | PTO rev/min | l/h *gal/h* | kg/h *lb/h* | kg/kW h *lb/hp h* | kW-h/l *hp-h/gal* |
|---|---|---|---|---|---|---|
| 1.1 Maximum Power - 2 hours | | | | | | |
| 83.20 | 2100 | 1064 | 24.28 | 20.24 | 0.243 | 3.43 |
| *111.58* | | | *6.41* | *44.62* | *0.400* | *17.40* |
| 1.2 Power at Rated Engine Speed - 1 hour | | | | | | |
| 83.20 | 2100 | 1064 | 24.28 | 20.24 | 0.243 | 3.43 |
| *111.58* | | | *6.41* | *44.62* | *0.400* | *17.40* |
| 1.3 Power at Standard Power Take-Off Speed - 1 hour | | | | | | |
| 81.60 | 1973 | 1000 | 23.33 | 19.45 | 0.238 | 3.50 |
| *109.43* | | | *6.16* | *42.88* | *0.392* | *17.76* |
| 1.4 Part Loads | | | | | | |
| 1.4.1 Torque at maximum power at rated engine speed | | | | | | |
| 83.20 | 2100 | 1064 | 24.28 | 20.24 | 0.243 | 3.43 |
| *111.58* | | | *6.41* | *44.62* | *0.400* | *17.40* |
| 1.4.2 85% of torque obtained in 1.4.1 | | | | | | |
| 74.06 | 2201 | 1116 | 22.85 | 19.05 | 0.257 | 3.24 |
| *99.31* | | | *6.04* | *42.00* | *0.423* | *16.45* |
| 1.4.3 75% of torque defined in 1.4.2 | | | | | | |
| 56.17 | 2230 | 1130 | 19.10 | 15.92 | 0.283 | 2.94 |
| *75.32* | | | *5.04* | *35.10* | *0.466* | *14.93* |
| 1.4.4 50% of torque defined in 1.4.2 | | | | | | |
| 38.15 | 2256 | 1144 | 15.18 | 12.66 | 0.332 | 2.51 |
| *51.16* | | | *4.01* | *27.90* | *0.545* | *12.76* |
| 1.4.5 25% of torque defined in 1.4.2 | | | | | | |
| 19.27 | 2279 | 1155 | 11.26 | 9.39 | 0.487 | 1.71 |
| *25.85* | | | *2.97* | *20.70* | *0.801* | *8.69* |
| 1.4.6 unloaded | | | | | | |
| 1.03 | 2300 | 1166 | 8.32 | 6.94 | 2.173 | 0.12 |
| *1.39* | | | *2.20* | *15.30* | *11.030* | *0.63* |
| 1.5 Part Loads at Standard Power Take-off Speed | | | | | | |
| 1.5.1 Torque at maximum power | | | | | | |
| 81.60 | 1973 | 1000 | 23.33 | 19.45 | 0.238 | 3.50 |
| *109.43* | | | *6.16* | *42.88* | *0.392* | *17.76* |
| 1.5.2 85% of torque obtained in 1.5.1 | | | | | | |
| 72.19 | 2058 | 1043 | 21.54 | 17.96 | 0.249 | 3.35 |
| *96.81* | | | *5.69* | *39.60* | *0.409* | *17.01* |
| 1.5.3 75% of torque defined in 1.5.2 | | | | | | |
| 62.18 | 2082 | 1055 | 19.10 | 15.92 | 0.256 | 3.26 |
| *83.39* | | | *5.04* | *35.10* | *0.421* | *16.53* |
| 1.5.4 50% of torque defined in 1.5.2 | | | | | | |
| 55.03 | 2095 | 1062 | 18.12 | 15.10 | 0.275 | 3.04 |
| *73.79* | | | *4.79* | *33.30* | *0.451* | *15.42* |
| 1.5.5 25% of torque defined in 1.5.2 | | | | | | |
| 18.97 | 2151 | 1091 | 10.94 | 9.12 | 0.481 | 1.73 |
| *25.44* | | | *2.89* | *20.10* | *0.790* | *8.81* |
| 1.5.6 unloaded | | | | | | |
| 0.78 | 2177 | 1104 | 7.51 | 6.26 | 7.990 | 0.10 |
| *1.05* | | | *1.98* | *13.80* | *13.136* | *0.53* |

| | | | |
|---|---|---|---|
| No load maximum engine speed: | 2300 rev/min | | |
| Equivalent torque at rated speed: | 378 N-m | *279 lb-ft* | |
| Equivalent torque at maximum power: | 378 N-m | *279 lb-ft* | |
| (engine speed: | 2100 rev/min) | | |
| Maximum equivalent crankshaft torque: | 529 N-m | *390 lb-ft* | |
| (engine speed: | 1301 rev/min) | | |
| Mean Dry bulb: | 27 deg C | *80 deg F* | |
| Wet bulb: | 20 deg C | *67 deg F* | |
| Relative humidity: | 52 % | | |
| Pressure: | 97.81 kPa | *28.88 in Hg* | |
| Maximum Coolant: | 99 deg C | *211 deg F* | |
| Engine oil: | 119 deg C | *246 deg F* | |
| Fuel: | 59 deg C | *139 deg F* | |
| Air intake: | 30 deg C | *86 deg F* | |
| Transmission/hydraulic oil: | 58 deg C | *137 deg F* | |
| Intake manifold pressure at rated speed: | 69 kPa | *10.0 psig* | |
| Intake manifold pressure at maximum power: | 66 kPa | *9.5 psig* | |


Power and Equivalent Crankshaft Torque
John Deere 7600 Power Shift
Torque, lb−ft & N−m
Power, hp & kW
Engine speed, rev/min
Standard PTO Speed + 1000 rev/min
800
700
600
500
400
300
200
100
0
200
150
100
50
0
1000
1500
2000
2500
N−m
lb−ft
kW
hp


Specific Fuel Consumption and Fuel Rate
John Deere 7600 Power Shift
SFC, lb/hp−h & kg/kW−h
Fuel rate, lb/h & kg/h
Engine speed, rev/min
Standard PTO Speed − 1000 rev/min
1.000
0.900
0.800
0.700
0.600
0.500
0.400
0.300
0.200
70
60
50
40
30
20
10
0
1000
1500
2000
2500
kg/kW−h
lb/hp−h
kg/h
lb/h


Specific Fuel Consumption and Power
John Deere 7600 Power Shift
SFC, kg/kW−h
1.000
0.900
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0
50
100
150
Power. kW
kg/kW−h

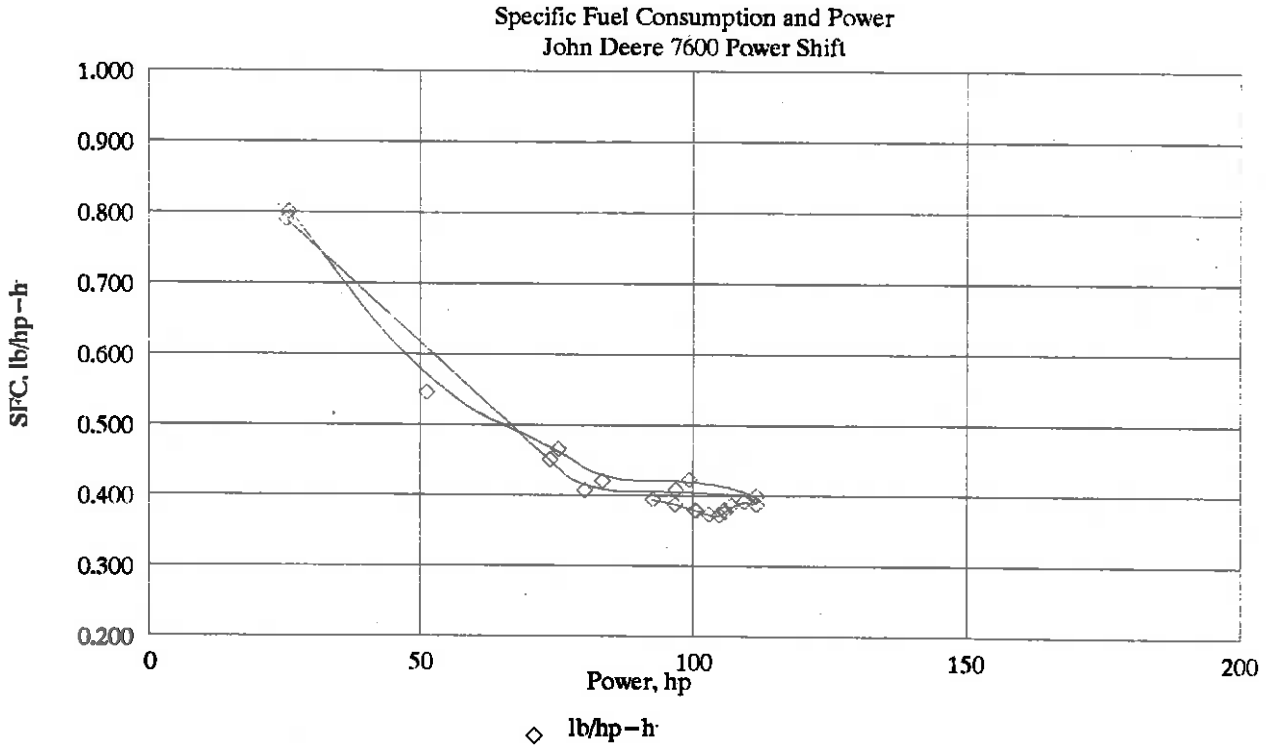

Specific Fuel Consumption and Power
John Deere 7600 Power Shift
SFC, lb/hp−h
1.000
0.900
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0
50
100
150
200
Power, hp
lb/hp−h

**Table 1.2 - Linkage geometry dimensions *.**
ISO Cat III Hook Type Draft Link Ends

| | | Dimension or range [mm] | [in] | Settings used [mm] | [in] |
|---|---|---|---|---|---|
| Lift category | | III | | III | |
| Rear Tire - Radius Index | (r) | 820 | 32.3 | 905 | 35.6 |
| Front Tire - Radius Index | (r') | 610 | 24.0 | 695 | 27.4 |
| Length of lift arms | (A) | 375 | 14.8 | same | |
| Length of lower links | (B) | 1011 | 39.8 | same | |
| Distance of lift arm pivot from: horizontal | (a) | 205 | 8.1 | same | |
| rear wheel axis: vertical | (b) | 588 | 23.1 | same | |
| Horizontal distance between the 2 lower link points | (U) | 520 | 20.5 | same | |
| Horizontal distance between the 2 lift arm end points | (V) | 680 | 26.8 | same | |
| Length of upper link | (S) | 609 | 24.0 | 670 | 26.4 |
| | to | 808 | 31.8 | | |
| Distance of upper link pivot point from rear wheel axis | | | | | |
| Top hole - horizontal | (c) | 504 | 19.8 | same | |
| - vertical | (d) | 353 | 13.9 | 353 | 13.9 |
| | and | 283 | 11.1 | | |
| | and | 200 | 7.9 | | |
| Distance of lower link pivot from: horizontal | (e) | 195 | 7.7 | same | |
| rear wheel axis: vertical | (f) | 275 | 10.8 | same | |
| Distance of lower link pivot points to lift rod pivot pts on lower links. | (D) | 612 | 24.1 | 688 | 27.1 |
| | or | 688 | 27.1 | | |
| Length of lift rods | (L) | 842 | 33.1 | 1022 | 40.3 |
| | to | 1051 | 41.4 | | |
| Height of lower hitch points relative to rear wheel axis | | | | | |
| In low position | (h) | 420 | 16.5 | 646 | 25.4 |
| | to | 745 | 29.3 | | |
| In high position | (H) | 270 | 10.6 | 17 | 0.7 |
| | | 37 | 1.5 | | |
| Height above ground of lower hitch points when locked in transport position. | | 734 | 28.9 | 920 | 36.3 |
| | to | 1061 | 41.7 | | |

* tire dynamic index of 905 mm (35.6 in) - ISO 4251/1-1984

**2.2 POWER LIFT TEST.** Test B - Upper link in top hole on tractor (for settings see p. 24 )

Date of test: 15 June 1993

| | | Hitch points | Frame |
|---|---|---|---|
| Lower hitch points above ground - down position: | [mm/in] | 259/10.2 | 261/10.3 |
| Vertical movement: | | | |
| without load: | [mm/in] | 692/27.3 | 740/29.1 |
| with load: | [mm/in] | 671/26.4 | 712/28.0 |
| Maximum corrected force through full range: | [kN/lb] | 55.5/12488 | 57.4/12915 |
| Corresponding pressure: | [kPa/psi] | 17871/2592 | |
| Moment about rear axle: | [kN.m/lb.ft] | 67.0/49430 | 104.3/76952 |
| Maximum mast tilt angle: | [deg] | -- | 5.0 |

Lifting height relative to horizontal position of lower links.

| | | | | | | |
|---|---|---|---|---|---|---|
| | [mm] | -371 | -369 | -300 | -201 | -99 |
| | [in] | -14.6 | -14.5 | -11.8 | -7.9 | -3.9 |
| Corrected lift forces | | | | | | |
| Hitch point. | [kN] | 55.5 | -- | 59.2 | 63.0 | 65.4 |
| | [lb] | 12488 | -- | 13316 | 14162 | 14702 |
| at frame | [kN] | -- | 63.3 | 63.0 | 63.5 | 63.4 |
| | [lb] | -- | 14229 | 14153 | 14270 | 14256 |

Lifting height relative to horizontal position of lower links.

| | | | | | | |
|---|---|---|---|---|---|---|
| | [mm] | 0 | 99 | 201 | 299 | 343 |
| | [in] | 0 | 3.9 | 7.9 | 11.8 | 13.5 |
| Corrected lift forces | | | | | | |
| Hitch point | [kN] | 68.0 | 69.3 | 70.8 | 68.5 | -- |
| | [lb] | 15278 | 15575 | 15908 | 15395 | -- |
| at frame | [kN] | 62.9 | 61.8 | 60.1 | 58.6 | 57.4 |
| | [lb] | 14148 | 13887 | 13509 | 13176 | 12915 |

# OPTIONAL TEST - Unballasted, Front Drive Disengaged

**OECD Drawbar Data (SI)**

| Date of tests: | 21-May-93 | | Fuel density: | 0.834 kg/l | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of track: | Concrete | | Test number: | 1665 | | | | | | | | | |
| **Gear** | **Power** | **Pull** | **Speed** | **Engine speed** | **Slip** | **SFC** | **SFE** | **Temperature, deg C** | | | | | **Rel hum-idity** | **Pressure** |
| | kW | kN | km/h | rev/min | | kg/kW.h | kW.h/l | Fuel | Coolant | Oil | Dry | Wet | | kPa |
| I. Maximum Power (unballasted, 2wd at 2100 rev/min) | | | | | Tire pressure: | | 110 kPa, rear | | 159 kPa, fron | | Drawbar height: | | 495 mm | |
| **7** | **63.56** | **51.30** | **4.46** | **2162** | **13.67%** | **0.316** | **2.64** | **57** | **86** | **110** | **17** | **11** | **47%** | **97.87** |
| **8** | **67.87** | **43.54** | **5.61** | **2108** | **6.33%** | **0.297** | **2.81** | **58** | **89** | **113** | **18** | **11** | **41%** | **98.00** |
| **9** | **69.10** | **37.75** | **6.59** | **2107** | **4.50%** | **0.290** | **2.87** | **57** | **89** | **113** | **18** | **11** | **41%** | **98.00** |
| **10** | **69.32** | **33.05** | **7.55** | **2107** | **3.31%** | **0.290** | **2.88** | **57** | **89** | **112** | **17** | **11** | **47%** | **97.97** |
| **11** | **69.37** | **28.56** | **8.74** | **2105** | **2.67%** | **0.288** | **2.90** | **57** | **88** | **111** | **17** | **11** | **47%** | **97.97** |
| **12** | **67.66** | **24.14** | **10.09** | **2106** | **2.34%** | **0.295** | **2.83** | **58** | **89** | **112** | **17** | **11** | **47%** | **98.04** |
| **13** | **67.04** | **20.68** | **11.67** | **2102** | **2.01%** | **0.299** | **2.79** | **57** | **89** | **110** | **17** | **11** | **47%** | **98.04** |
| 14 | 65.74 | 17.85 | 13.26 | 2099 | 1.76% | 0.303 | 2.75 | 58 | 89 | 112 | 18 | 11 | 41% | 98.00 |
| II. Part loads (unballasted, 2wd) | | | | | | | | | | | | | | |
| II.1 in selected gear at maximum power | | | | | | | | | | | | | | |
| 11 | 69.37 | 28.56 | 8.74 | 2105 | 2.67% | 0.288 | 2.90 | 57 | 88 | 111 | 17 | 11 | 47% | 97.97 |
| II.1.1 75% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 11 | 54.98 | 21.40 | 9.25 | 2205 | 2.18% | 0.320 | 2.60 | 54 | 87 | 106 | 19 | 12 | 43% | 98.00 |
| II.1.2 50% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 11 | 37.50 | 14.31 | 9.44 | 2237 | 1.43% | 0.388 | 2.15 | 54 | 84 | 107 | 19 | 12 | 43% | 98.00 |
| II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1 | | | | | | | | | | | | | | |
| 13 | 55.02 | 21.42 | 9.25 | 1670 | 2.18% | 0.284 | 2.93 | 55 | 87 | 107 | 19 | 12 | 43% | 98.00 |
| II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2 | | | | | | | | | | | | | | |
| 13 | 37.54 | 14.31 | 9.44 | 1694 | 1.52% | 0.322 | 2.59 | 53 | 84 | 105 | 19 | 12 | 43% | 98.00 |

**OECD Drawbar Data (US)**

| Date of tests: | 21-May-93 | | Fuel density: | 6.958 lb/gal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of track: | Concrete | | Test number: | 1665 | | | | | | | | | |
| **Gear** | **Power** | **Pull** | **Speed** | **Engine speed** | **Slip** | **SFC** | **SFE** | **Temperature, deg F** | | | | | **Rel hum-idity** | **Pressure** |
| | hp | lb | mph | rev/min | | lb/hp.h | hp.h/gal | Fuel | Coolant | Oil | Dry | Wet | | in Hg |
| I. Maximum Power (unballasted, 2wd at 2100 rev/min) | | | | | Tire pressure: | | 16 psig, rear | | 23 psig, fron | | Drawbar height: | | 19.5 in | |
| **7** | **85.23** | **11532** | **2.77** | **2162** | **13.67%** | **0.519** | **13.41** | **135** | **188** | **231** | **62** | **52** | **47%** | **28.90** |
| **8** | **91.02** | **9789** | **3.49** | **2108** | **6.33%** | **0.488** | **14.27** | **136** | **193** | **236** | **65** | **52** | **41%** | **28.94** |
| **9** | **92.67** | **8486** | **4.10** | **2107** | **4.50%** | **0.477** | **14.59** | **135** | **192** | **235** | **65** | **52** | **41%** | **28.94** |
| **10** | **92.96** | **7430** | **4.69** | **2107** | **3.31%** | **0.477** | **14.60** | **135** | **192** | **233** | **63** | **52** | **47%** | **28.93** |
| **11** | **93.02** | **6421** | **5.43** | **2105** | **2.67%** | **0.473** | **14.70** | **134** | **191** | **233** | **63** | **52** | **47%** | **28.93** |
| **12** | **90.73** | **5426** | **6.27** | **2106** | **2.34%** | **0.485** | **14.35** | **136** | **192** | **233** | **63** | **52** | **47%** | **28.95** |
| **13** | **89.90** | **4650** | **7.25** | **2102** | **2.01%** | **0.492** | **14.15** | **135** | **192** | **231** | **63** | **52** | **47%** | **28.95** |
| 14 | 88.15 | 4013 | 8.24 | 2099 | 1.76% | 0.498 | 13.96 | 136 | 192 | 234 | 64 | 52 | 41% | 28.94 |
| II. Part loads (unballasted, 2wd) | | | | | | | | | | | | | | |
| II.1 in selected gear at maximum power | | | | | | | | | | | | | | |
| 11 | 93.02 | 6421 | 5.43 | 2105 | 2.67% | 0.473 | 14.70 | 134 | 191 | 233 | 63 | 52 | 47% | 28.93 |
| II.1.1 75% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 11 | 73.72 | 4812 | 5.75 | 2205 | 2.18% | 0.527 | 13.21 | 130 | 188 | 223 | 66 | 53 | 43% | 28.94 |
| II.1.2 50% of pull at maximum power at rated speed | | | | | | | | | | | | | | |
| 11 | 50.29 | 3216 | 5.86 | 2237 | 1.43% | 0.638 | 10.90 | 130 | 184 | 224 | 66 | 53 | 43% | 28.94 |
| II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1 | | | | | | | | | | | | | | |
| 13 | 73.78 | 4815 | 5.75 | 1670 | 2.18% | 0.467 | 14.89 | 131 | 189 | 225 | 66 | 53 | 43% | 28.94 |
| II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2 | | | | | | | | | | | | | | |
| 13 | 50.34 | 3217 | 5.87 | 1694 | 1.52% | 0.530 | 13.13 | 127 | 183 | 221 | 66 | 53 | 43% | 28.94 |

**Repairs:** The fuel filter was replaced after leakage from the filter seal was observed.
**Remarks:** None