OECD APPROVAL No. 2/1760
Code 2
Date of approval: 19 May 1998

**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





**CASE IH 8940 - MFWD (4WD)**
**CASE IH 7240 PRO - MFWD (4WD)**
**STEYR 9250 - MFWD (4WD)**
**30 km/h version - 18-Speed Transmission**

| | |
|---|---|
| **MANUFACTURED BY** | **Case Corporation, 700 State Street Racine, Wisconsin 53404 USA** |
| **NEBRASKA TEST NO.** | **1736** |
| **TEST DATE** | **September 16-29, 1997** |

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 (CEMAGREF) on 19 May 1998 for the **Case IH 8940 MFWD (4WD), Case IH 7240 Pro MFWD (4WD) and Steyr 9250, 30 km/h Version, 18-Speed Transmission with OECD number 2/1760.**

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## GENERAL SPECIFICATIONS

| | |
|---|---|
| Manufacturers name/address | Case Corporation, 700 State Street Racine, Wisconsin 53404, USA |
| Location of tractor assembly | Case Corporation 24th and Mead Streets Racine, Wisconsin 53404, USA |
| Submitted for test by | The manufacturer |
| Selected for test by | The manufacturer in agreement with the test station |
| Place of running in | Case Corporation Racine Tractor Engineering, Racine, Wisconsin |
| Duration of running in | 128 hours |
| Location of Test | Nebraska Tractor Test Laboratory, Lincoln, Nebraska, U.S.A. |

## TRACTORS

| | | | |
|---|---|---|---|
| Make: | CASE INTERNATIONAL | CASE INTERNATIONAL | STEYR |
| Model: | 8940 - MFWD | 7240 - MFWD | 9250 - MFWD |
| Type: | 4 WD<br>30 km/h version with<br>18 speed transmission | 4 WD<br>30 km/h version with<br>18 speed transmission | 4 WD<br>30 km/h version with<br>18speed transmission |

## SPECIFICATIONS OF TRACTOR

| | |
|---|---|
| Make/Model/Type | Case IH Magnum/8940-MFWD/4WD<br>Unit construction; 30 km/h version; 18-speed |
| Number of driving wheels | 2 or 4 |
| Serial number | *JJA0075231* |
| 1st Serial number | *JJA0072000* |

## ENGINE

| | |
|---|---|
| Make | Consolidated Diesel Co |
| Model | 6TA-830 |
| Type | Diesel, direct injection, turbocharged, intercooled |
| Serial Number | *45481220* |

Cylinders

| | |
|---|---|
| Number/disposition | 6, in-line, vertical |
| Bore x stroke | 114.0 mm x 135.0 mm |
| Capacity | 8268 $cm^3$ |
| Compression Ratio | 16.5:1 |
| Arrangement of valves | Overhead |
| Cylinder liners | Wet, replaceable |

| | |
|---|---|
| **Turbo-charging** | |
| Make/Model/Type | Holset/HX40W/exhaust gas driven with wastegate control |
| Pressure | 162 +/- 20 kPa-rated speed and load |
| **Fuel System** | |
| Feed system | Engine driven transfer pump |
| Make/Type/Model of filters | Fleetguard/FF5038, FF5052/spin-on cartridges |
| Number of filters | Two |
| Fuel tank capacity | 359 l. |
| Make/Model/Type Injection Pump | Robert Bosch/MW/RSV/In-line |
| Pump Serial number | 0 403 466 169 |
| Production setting of pump | |
| Flow Rate (Rated engine speed and full load) | 40.1 ± 2.1 kg/h |
| Fuel density | 0.845 kg/l |
| Make/Model/Type of injectors | Robert Bosch/J930525/17 mm |
| Injection timing | $17^0 \pm 2^0$ BTDC; Lock timed at TDC ± $2^0$ |
| Injection pressure | 26.0-27.0 MPa |
| **Governor** | |
| Make/Model/Type | Robert Bosch/J928228/Variable speed/Mechanical |
| Governed engine speed range | From 925 to 2457 rev/min |
| Rated engine speed | 2200 rev/min |
| High-idle speed range | 2450 ± 80 rpm |
| **Air Cleaner** | |
| Pre-cleaner | (Integral with air cleaner) |
| Make/Model/Type | Nelson/71198A/Exhaust aspirated |
| Air intake location | Under hood; ahead of radiator |
| Main Cleaner | |
| Make/Model/Type | Donaldson/EGB11-0077/or Nelson/71198A; both dry, dual element pleated paper |
| Location of main cleaner | Under hood |
| Maintenance indicator | Service indicator on digital instrument cluster |
| **Lubrication System** | |
| Type of feed pump | Full pressure, positive displacement. |
| Type of filters | Full flow/spin-on/dual filter |
| Number | One |
| Oil cooler | Water to oil intercooler |

| | |
|---|---|
| **Cooling System** | |
| Type of coolant | Liquid |
| Type of pump | Centrifugal, belt driven |
| Fan specification | Viscous drive fan |
| Number of fan blades | 8 |
| Fan diameter | 600 mm |
| Coolant system capacity | 31.0 l. |
| Type of temperature control | Two thermostats |
| Superpressure | 69 kPa |
| **Starting System** | |
| Make/Model/Type | Nippondenso/R4.0 or FII4.0/Solenoid engaged |
| Power Rating | 4.0 kW |
| Cold starting aid | Ether spray in intake manifold |
| Safety device | Electrical lockout on transmission |
| **Electrical System** | |
| Voltage | 12 Volt |
| Alternator | |
| Make/Model/Type | Bosch/N1/Alternator; belt drive |
| Power rating | 110 Amp./14.2 V. |
| Batteries | |
| Number & connection | 2-12 V batteries in parallel |
| Rating | 180 amp-hours per battery at 20 hour rating<br>950 Cold crank amps per battery<br>185 min. reserve cap/battery (SAE J537) |
| **Exhaust System** | |
| Make/Model/Type | Nelson (muffler)/23839A/Vertical |
| Location | External muffler integral with vertical exhaust stack; right front corner of cab |

## TRANSMISSION

| | |
|---|---|
| **Clutch (Travel)** | |
| Make/Model/Type | Case IH/multi-plate/oil cooled |
| Number of plates | 9 friction plates |
| Plate diameter | 228.5 mm |
| Method of operation | Hydraulic, pedal actuated. |
| **Gear Box** | |
| Make/Type | Case IH/18 speed/full powershift; mechanical |
| Arrangement | Countershaft type with one 2-speed and two 3-speed constant mesh powershift modules |
| Number of gears | 18 forward, 4 reverse controlled by single lever |
| Available options | Creeper gear with 6 forward and 2 reverse speeds |
| Oil cooler | Air to oil in front of radiator |

| | |
|---|---|
| Rear Axle and Final Drives | |
| Make/model/Type | Case International; Crown wheel & pinion; differential and planetary reduction |
| Differential Lock | |
| Type | Hydraulic |
| Method of engagement | Electrical; switch on console |
| Method of disengagement | Electrical; switch on console or activation of brakes |
| Front Axle and Final drives. | |
| Make/Model/Type | Dana/070BP196/Crown wheel & pinion, differential & planetary reduction |
| Differential lock | |
| Type | Limited slip |
| Method of engagement | Self locking |
| Method of disengagement | Self unlocking |

## TOTAL TRANSMISSION RATIOS AND TRAVEL SPEEDS

**(18 speed transmission - tested version)**

| Gear Number | Number of engine revolutions for one revolution of the driving wheels | Nominal traveling speed at rated engine speed of 2200 rev/min [km/h] |
|---|---|---|
| **Forward** | | |
| 1st | 243.260 | 3.09 |
| 2nd | 212.073 | 3.54 |
| 3rd | 183.909 | 4.08 |
| 4th | 160.331 | 4.68 |
| 5th | 139.776 | 5.37 |
| 6th | 121.856 | 6.16 |
| 7th | 104.463 | 7.19 |
| 8th | 91.070 | 8.24 |
| 9th | 78.976 | 9.50 |
| 10th | 68.851 | 10.90 |
| 11th | 60.024 | 12.50 |
| 12th | 52.328 | 14.34 |
| 13th | 45.741 | 16.41 |
| 14th | 39.877 | 18.82 |
| 15th | 34.581 | 21.71 |
| 16th | 30.148 | 24.90 |
| 17th | 26.283 | 28.56 |
| 18th | 22.913 | 32.76 |
| **Reverse** | | |
| R1 | 168.997 | 4.44 |
| R2 | 147.331 | 5.09 |
| R3 | 72.572 | 10.34 |
| R4 | 63.268 | 11.86 |

Calculated with a tire dynamic radius index of 905 mm - (ISO 4251/1 - 1992)

Number of revolutions of front wheels for one revolution of rear wheels 1.3228

## TOTAL TRANSMISSION RATIOS AND TRAVEL SPEEDS

**(18 speed transmission plus optional 6 forward/2 reverse Creeper gears)**

| Gear Number | Number of engine revolutions for one revolution of the driving wheels | Nominal traveling speed at rated engine speed of 2200 rev/min [km/h] |
|---|---|---|
| **Forward** | | |
| 1st Creeper | 835.817 | 0.90 |
| 2nd Creeper | 631.893 | 1.19 |
| 3rd Creeper | 480.256 | 1.56 |
| 4th Creeper | 358.923 | 2.09 |
| 5th Creeper | 271.354 | 2.77 |
| 6th Standard | 243.260 | 3.09 |
| 7th Standard | 212.073 | 3.54 |
| 8th Creeper | 206.234 | 3.64 |
| 9th Standard | 183.909 | 4.08 |
| 10th " | 160.331 | 4.68 |
| 11th " | 139.776 | 5.37 |
| 12th " | 121.856 | 6.16 |
| 13th " | 104.463 | 7.19 |
| 14th " | 91.070 | 8.24 |
| 15th " | 76.976 | 9.50 |
| 16th " | 68.851 | 10.90 |
| 17th " | 60.024 | 12.50 |
| 18th " | 52.328 | 14.34 |
| 19th " | 45.741 | 16.41 |
| 20th " | 39.877 | 18.82 |
| 21th " | 34.581 | 21.71 |
| 22th " | 30.148 | 24.90 |
| 23th " | 26.283 | 28.56 |
| 24th " | 22.913 | 32.76 |
| **Reverse** | | |
| R1 Creeper | 580.657 | 1.29 |
| R2 Creeper | 249.351 | 3.01 |
| R3 Standard | 168.997 | 4.44 |
| R4 " | 147.331 | 5.09 |
| R5 " | 72.572 | 10.34 |
| R6 " | 63.268 | 11.86 |

Calculated with a tire dynamic radius index of 905 mm (ISO 4251/1-1992).
Number of revolutions of front wheels for one revolution of rear wheels 1.3228

## POWER-TAKE-OFF

### Main Power-Take-Off

| | |
|---|---|
| Type | Independent |
| Method of engagement | Hydraulically actuated multi-plate wet clutch operated by hand lever, independent of main drive clutch. |
| Number of shafts | One |

### Standard Power-Take-Off Proportional to Engine Speed-1000 rev/min

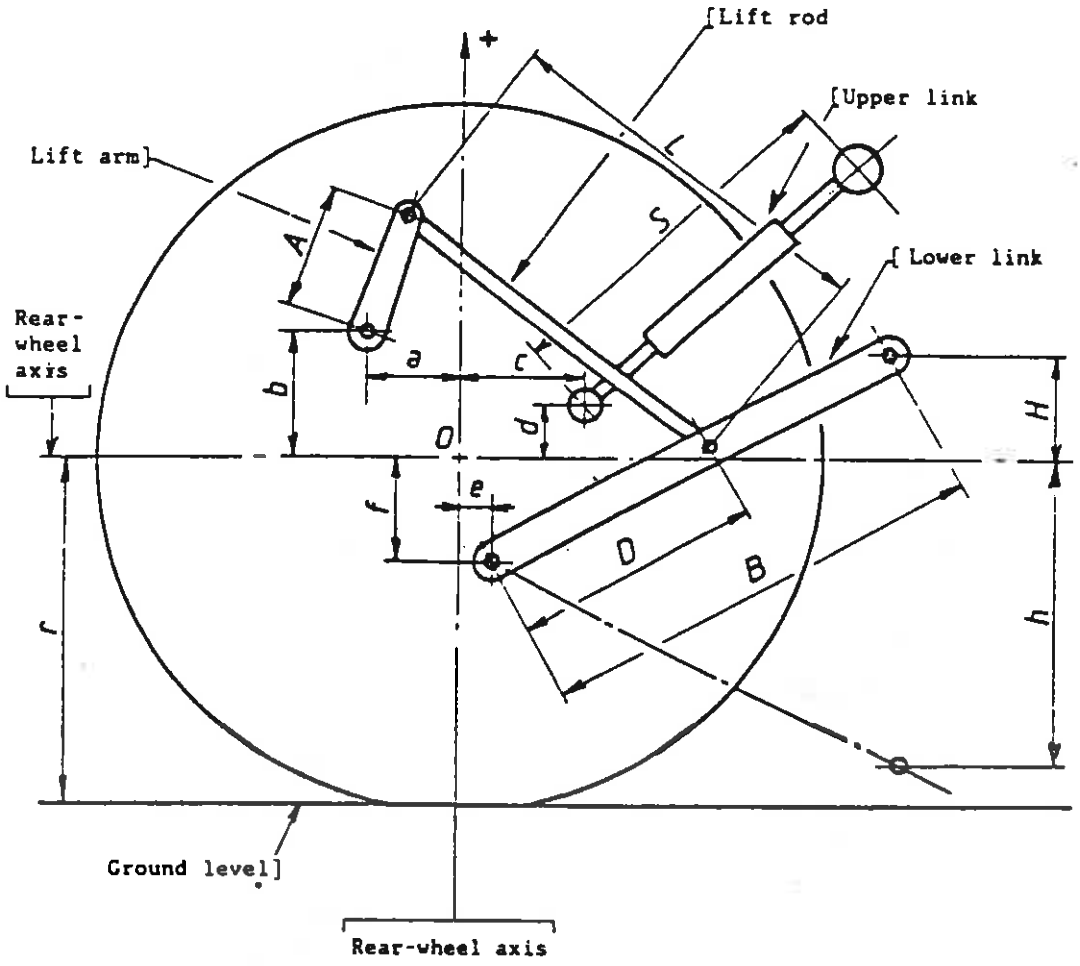
| | |
|---|---|
| Location | Rear of tractor, vertical center plane. |
| Diameter of shaft (Standard) | 45 mm (ISO 500/1991) |
| Number of splines | 20; (ISO 500/1991) |
| Height above ground | 815 mm |
| Distance from median plane of tractor | 0 mm |
| Distance behind rear axle | 796 mm |
| PTO Speed at rated engine speed | 1003 rev/min |
| Engine speed at Std. PTO speed | 2193 rev/min |
| Ratio of Engine rpm to PTO rpm | 2.193:1 |
| Power Restriction | None |
| Direction of rotation (viewed facing driving end) | Clockwise |

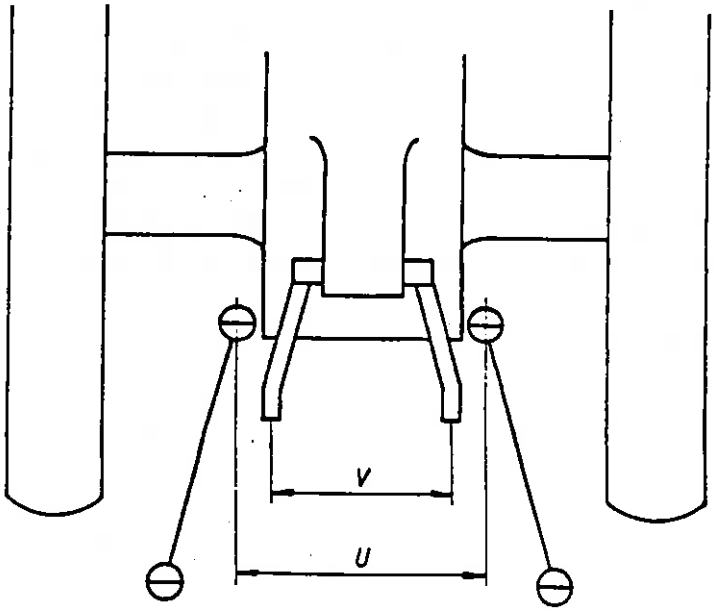
## POWER LIFT

| | |
|---|---|
| Make/Type | Case IH/3-point |
| Type of hydraulic system | Closed center, load sensing |
| Number/Type of cylinders | One internal 120.7 mm x 171.5 mm, two external, 44.5 x 203 and 57.2 x 203; all single acting |
| Type of linkage lock for transport | Hydraulic, with locking notch on hand lever on console |
| Relief valve setting ( High pressure standby) | 19.13 ± 0.17 MPa |
| Opening pressure of cylinder safety valve | 19.65-20.34 MPa |
| Lift pump type | Axial piston, pressure and flow compensated |
| Power transmission to pump | Direct drive from transmission |
| Type/Number of filters | Two Spin-on cartridges; Cleanable suction screen inside reservoir |
| Location of oil reservoir | Transmission housing |
| Number/Type/Location of tapping points | 3 pairs of ISO standard couplings at rear of tractor |
| Maximum oil volume available for external cylinders | 8.5 l. |

## THREE POINT LINKAGE.

- Category 3 in conformity with ISO 730/1-1990
- Category adaptor - Quick Attaching Coupler



## TABLE I.1 - LINKAGE GEOMETRY DIMENSIONS

| | | | 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) | | 381 | same |
| Length of lower links | (B) | | 837 | same |
| Distance of lift | | | | |
| arm pivot from: horizontal | (a) | | 364 | same |
| rear wheel axis: vertical | (b) | | 422 | same |
| Horizontal distance between the | | | | |
| 2 lower link points | (u) | | 604 | same |
| Horizontal distance between the | | | | |
| 2 lift arm end points | (v) | | 737 | same |
| Length of upper link | (S) | from | 600 | |
| | | to | 831 | 635 |
| Distance of upper | | | | |
| link pivot from: horizontal | (c) | | 627 | same |
| rear wheel axis: vertical | (d) | | 169 | |
| | | and | 250 | 169 |
| Distance of lower | | | | |
| link pivot from: horizontal | (e) | | 445 | same |
| rear wheel axis: vertical | (f) | | 332 | same |
| Distance of lower link pivot points to lift rod pivot points on lower links | (D) | | 540 | same |
| Length of lift rods | (L) | from | 660 | |
| | | to | 866 | 829 |
| Height of lower hitch points relative to rear wheel axis | | | | |
| In low position | (h) | from | 406 | |
| | | to | 739 | 664 |
| In high position | (H) | from | 7 | |
| | | to | 338 | 54 |
| Height above ground of lower hitch points when locked in transport position. | | from | 947 | |
| | | to | 1270 | 959 |

*Assuming (r) with a dynamic tire index of 905 mm (ISO 4251/1-1992)

## SWINGING DRAWBAR

| | |
|---|---|
| Type | Swinging |
| Height above ground - Maximum | 594 mm (strap on top) |
| Minimum | 479 mm (strap on bottom) |
| Adjustments | Laterally adjustable with 3 fore-aft positions |
| Distance of hitch point from rear wheel axis, horizontal | |
| Position 1 | 1202 mm |
| Position 2 | 1304 mm |
| Position 3 | 1406 mm |
| Distance of hitch point from PTO shaft end of 1000 rpm PTO | |
| Vertically | 222 mm (strap on top)<br>336 mm (strap on bottom) |
| Horizontally | |
| Position 1 | 406 mm |
| Position 2 | 508 mm |
| Position 3 | 610 mm |
| Lateral adjustment (center of clevis) Right side & Left side | |
| Position 1 | 210 mm |
| Position 2 | 228 mm |
| Position 3 | 246 mm |
| Distance of pivot point from rear wheel axle; horizontally | 50 mm forward |
| Diameter of drawbar pin hole | 42 mm |
| Maximum vertical permissible load (static) | |
| Positions 1 & 2 | 20.9 kN |
| Position 3 | 16.5 kN |

## STEERING

| | |
|---|---|
| Make/Model/Type | Eaton/266-4070-002/hydrostatic steering control unit |
| Method of operation | |
| Pump(s) | Cessna main axial piston pump through steering priority valve |
| Ram(s) | 2 double-acting cylinders |
| Working pressure | 16.203-16.892 MPa |

## BRAKES

Service Brake

| | |
|---|---|
| Make/Model/Type | Case IH/Oil immersed disc type |
| Method of operation | Hydraulic, operated by two pedals, separate or coupled |
| Trailer brake | None |

Parking Brake

| | |
|---|---|
| Type | Transmission lock |
| Method of operation | Mechanical; Gear selector lever |

## WHEELS

| | |
|---|---|
| Number | |
| Front | Two; Driving and steering |
| Rear | Two or Four; Driving |
| Wheel base | 3006 mm |

### TRACK WIDTH ADJUSTMENT

| | Minimum [mm] | Maximum [mm] | Adjustment method |
|---|---|---|---|
| **Front** | 1527 | 2235 | Reversing wheel rims and offset lug rims |
| **Rear** | 1626 | 3353 | Adjustable clamping edges on bar axle and offset lug rims |

## PROTECTIVE STRUCTURE

| | |
|---|---|
| Make/Model/Type | Case IH/CX-96/Cab |
| Manufacturer's name/address | Case Corporation, 700 State Street, Racine, Wisconsin 53404, USA |
| Protective device | Cab, 4-post with charpy v-notch certified material |
| Tiltable | No |
| OECD Approval Number | CASE INTERNATIONAL 7240 PRO 4WD CSS 096/107 30 km/h version |
| Date of Approval | 26 May 1994 |
| OECD Approval Number | STEYR 9250 MFWD 4WD CSS 096/163 30 km/h version |
| Date of Approval | 18 June 1997 |

Modification certificate:

Certificate for minor modification numbered:

**CSS 096/1 to 8MOD 1/USA** dated 13th June 1990.

Established by and under the responsibility of the National Authority:

**University of Nebraska**
**Nebraska Tractor Test Laboratory**
**Lincoln, Nebraska 68583-0832 - United States of America**

Certificate for minor modification numbered:

**CSS 096/1 to 8MOD 2/USA** dated 18th October 1990.

Established by and under the responsibility of the National Authority:

**University of Nebraska**
**Nebraska Tractor Test Laboratory**
**Lincoln, Nebraska 68583-0832 - United States of America**

## DRIVER'S SEAT

| | |
|---|---|
| Make/Model/Type | Sears/SA12105/Air suspension or Sears/SA11035/Air suspension |
| Type of suspension | Air ride; fore-aft isolator; adjustable for weight. SA11035 has also a lateral isolator |
| Type of damping | Air damping |
| Range of adjustment | |
| Longitudinal | 152.4 mm |
| Vertical | 76.2 mm |
| Safety belt | No |

## LIGHTING

| | Height above ground of center [mm] | Size [mm x mm] | Distance from outside edge of lights to median plane of tractor [mm] |
|---|---|---|---|
| **Headlights** | 1667 | 260.5 x 130.8 | 390 |
| **Rearlights** | 2104 | 100.0 x 45.2 | 654 |
| **Reflectors-rear** | 2104 | 50.0 x 45.2 | 554 and 704 |

## TEST CONDITIONS

**Overall dimensions (unballasted)**

| Length | Width minimum | Width maximum | Height at top of protective structure | Height at top of exhaust stack |
|---|---|---|---|---|
| [mm] | [mm] | [mm] | [mm] | [mm] |
| 5090 | 3048 | 3890 | 3077 | 3039 |
| (ballasted) | | | | |
| 5550 | 3048 | 3890 | 3077 | 3039 |

| | |
|---|---|
| Ground clearance (unballasted) | 489 mm |
| Clearance-limiting part | Drawbar anchor point |

**Tractor Mass (with Cab, full fuel tank)**

| | | Without driver [kg] | With driver [kg] |
|---|---|---|---|
| **Unballasted** | **Front** | 2521 | 2531 |
| | **Rear** | 5721 | 5786 |
| | **Total** | 8242 | 8317 |
| **Ballasted** | **Front** | 3816 | 3826 |
| | **Rear** | 6870 | 6935 |
| | **Total** | 10686 | 10761 |

**Ballast**

| | | Number of Weights | Mass (Total) [kg] | Water [kg] |
|---|---|---|---|---|
| **Front** | **- weights** | 18 | 816 | ----- |
| | **- bracket** | 1 | 164 | ----- |
| **Rear** | **- weights** | 10 | 700 | ----- |
| | **- duals** | | 764 | ----- |

**Tire and track width specifications.**

| | Front | Rear |
|---|---|---|
| Make | Goodyear | Goodyear |
| Dimensions | 16.9R30 | 20.8R42 |
| Ply rating | 2 star-137A8 | 2 star-155A8 |
| Type | Radial | Radial |
| Maximum load (tire manufacturer) | 2460 kg/tire | 4150 kg/tire |
| Maximum load(tractor manufacturer) | 2474 kg/tire | 4150 kg/tire |
| Inflation pressure(tire manufacturer) | 160 kPa | 160 kPa |
| Dynamic Radius Index | 695 mm | 905 mm |
| Chosen track width - Inner | 1930 mm | 1900 mm |
| - Outer | | 3405 mm |

## OILS AND LUBRICATION

### Capacity and change interval

| | Capacity | Oil change | Filter change |
|---|---|---|---|
| | liter | hours | hours |
| Engine (without filter) | 19 | 250 | 250 |
| Gear Box | 191 | 1000 | 1000 |
| Front axle | 11.4 | 1000 | ------ |
| Rear axle | Common with Gear box | | |
| Hydraulic system | Common with Gear box | | |
| Final drive-front (each side) | 0.9 | 1000 | ------ |
| Final drive-rear | Common with Gear box | | |

### Lubricant Specifications

| | Recommended | Used during test |
|---|---|---|
| Engine oil | | |
| Type | Case IH N0. 1 SAE 15W-40 | same |
| Viscosity | 14.9 cSt at 100$^0$C | |
| Classification | API CG-4, CF, CF-4 | |
| Transmission oil | | |
| Type | Case IH Hy-tran Plus | same |
| Viscosity | 6.3 cSt at 100$^0$C | |
| Classification | NA | |
| Hydraulic fluid | | |
| Type | Case IH Hytran Plus | same |
| Viscosity | 6.3 cSt at 100$^0$C | |
| Classification | NA | |
| Front differential and final drive | | |
| Type | Case IH 135H EP Gear Lube; SAE 85W-140 | same |
| Viscosity | 27 cSt at 100$^0$C | |
| Classification | API GL-5 or MIL-L-2105D | |
| Grease | | |
| Type | Case IH Hi-Temp EP | same |
| Number of lube points | 26 | |

## FUEL

| | |
|---|---|
| Type | Premier; Grade 2-D, in conformity with the national standard |
| Density (PTO test) | 0.845 kg/l at 15$^0$C |
| (Drawbar test) | Same as PTO test |

## COMPULSORY TESTS

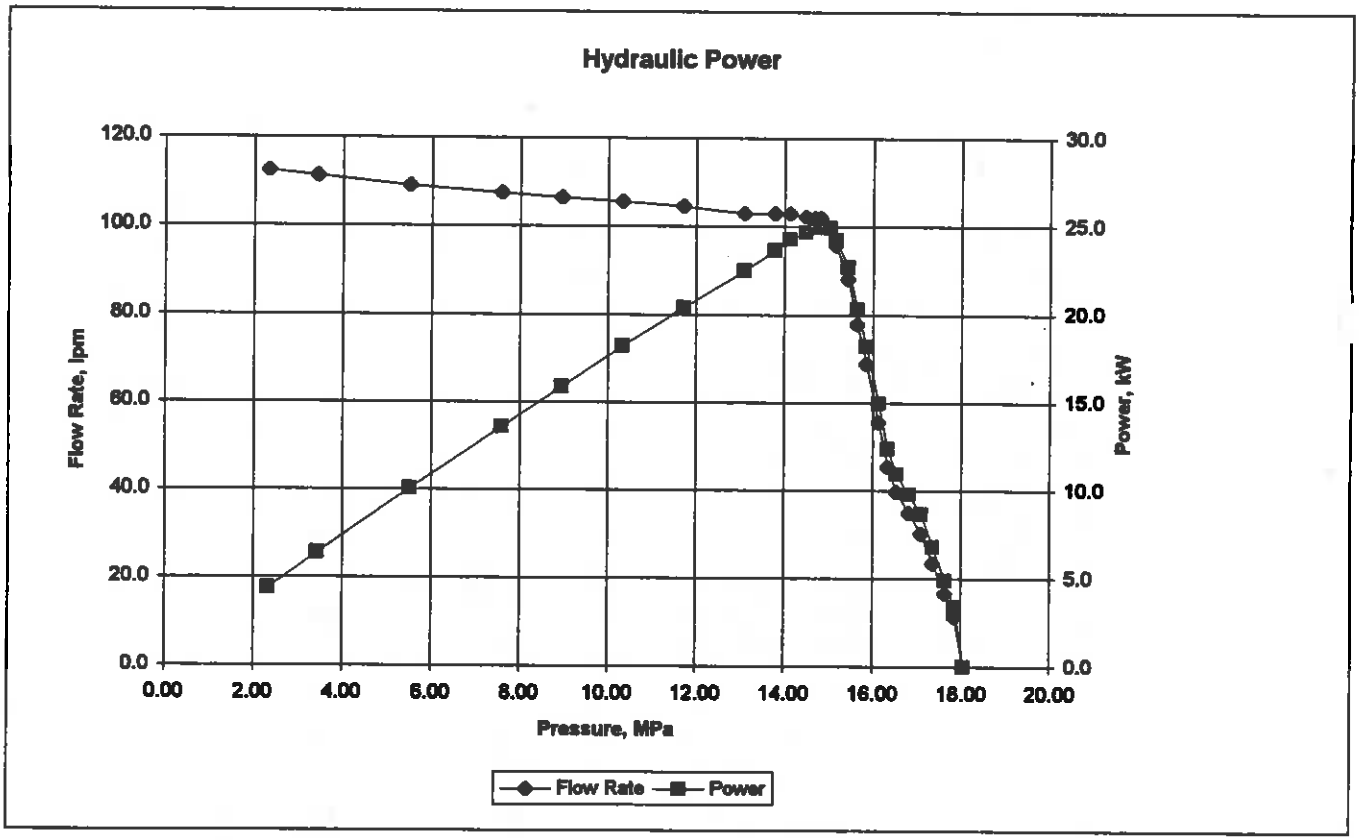
### 1. MAIN POWER TAKE OFF

Date: 17-Sep-97 Location: UNL Tractor Test Lab, Lincoln, NE, USA
Type of dynamometer: Eddy current, Eaton
Fuel Density 0.845 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 | | | | | | |
| 172.13 | 1850 | 842 | 47.16 | 39.83 | 0.231 | 3.65 |
| *230.83* | | | *12.46* | *87.80* | *0.380* | *18.53* |
| 1.2 Power at Rated Engine Speed - 1 hour | | | | | | |
| 154.22 | 2200 | 1002 | 47.05 | 39.74 | 0.258 | 3.28 |
| *206.81* | | | *12.43* | *87.61* | *0.424* | *16.64* |
| 1.3 Power at Standard Power Take Off Speed - 1 hour | | | | | | |
| 154.22 | 2200 | 1002 | 47.05 | 39.74 | 0.258 | 3.28 |
| *206.81* | | | *12.43* | *87.61* | *0.424* | *16.64* |
| 1.4 Part Loads | | | | | | |
| 1.4.1 Torque at maximum power at rated engine speed | | | | | | |
| 154.22 | 2200 | 1002 | 47.05 | 39.74 | 0.258 | 3.28 |
| *206.81* | | | *12.43* | *87.61* | *0.424* | *16.64* |
| 1.4.2 85% of torque obtained in 1.4.1 | | | | | | |
| 137.56 | 2307 | 1050 | 44.15 | 37.29 | 0.271 | 3.12 |
| *184.48* | | | *11.66* | *82.20* | *0.446* | *15.82* |
| 1.4.3 75% of torque defined in 1.4.2 | | | | | | |
| 104.32 | 2329 | 1061 | 35.93 | 30.35 | 0.291 | 2.90 |
| *139.89* | | | *9.49* | *66.90* | *0.478* | *14.74* |
| 1.4.4 50% of torque defined in 1.4.2 | | | | | | |
| 69.82 | 2348 | 1069 | 27.71 | 23.41 | 0.335 | 2.52 |
| *93.63* | | | *7.32* | *51.60* | *0.551* | *12.79* |
| 1.4.5 25% of torque defined in 1.4.2 | | | | | | |
| 35.46 | 2385 | 1086 | 19.82 | 16.74 | 0.472 | 1.79 |
| *47.56* | | | *5.24* | *36.90* | *0.776* | *9.08* |
| 1.4.6 unloaded | | | | | | |
| 0.78 | 2426 | 1105 | 12.57 | 10.61 | 13.531 | 0.06 |
| *1.05* | | | *3.32* | *23.40* | *22.244* | *0.32* |
| 1.5 Part Loads at Standard Power Take Off Speed | | | | | | |
| 1.5.1 Torque at maximum power | | | | | | |
| 154.22 | 2200 | 1002 | 47.05 | 39.74 | 0.258 | 3.28 |
| *206.81* | | | *12.43* | *87.61* | *0.424* | *16.64* |
| 1.5.2 85% of torque obtained in 1.5.1 | | | | | | |
| 137.56 | 2307 | 1050 | 44.15 | 37.29 | 0.271 | 3.12 |
| *184.48* | | | *11.66* | *82.20* | *0.446* | *15.82* |
| 1.5.3 75% of torque defined in 1.5.2 | | | | | | |
| 104.32 | 2329 | 1061 | 35.93 | 30.35 | 0.291 | 2.90 |
| *139.89* | | | *9.49* | *66.90* | *0.478* | *14.74* |
| 1.5.4 50% of torque defined in 1.5.2 | | | | | | |
| 69.82 | 2348 | 1069 | 27.71 | 23.41 | 0.335 | 2.52 |
| *93.63* | | | *7.32* | *51.60* | *0.551* | *12.79* |
| 1.5.5 25% of torque defined in 1.5.2 | | | | | | |
| 35.46 | 2385 | 1086 | 19.82 | 16.74 | 0.472 | 1.79 |
| *47.56* | | | *5.24* | *36.90* | *0.776* | *9.08* |
| 1.5.6 unloaded | | | | | | |
| 0.78 | 2426 | 1105 | 12.57 | 10.61 | 13.531 | 0.06 |
| *1.05* | | | *3.32* | *23.40* | *22.244* | *0.32* |

| | | | | |
|---|---|---|---|---|
| No load maximum engine speed: | 2426 | rev/min | | |
| Equivalent torque at rated speed: | 669 | N.m | *494* | *lb-ft* |
| Equivalent torque at maximum power: | 889 | N.m | *655* | *lb-ft* |
| (engine speed: | 1850 | rev/min) | | |
| Maximum equivalent crankshaft torque: | 983 | N.m | *725* | *lb-ft* |
| (engine speed: | 1299 | rev/min) | | |
| Mean Dry bulb: | 25 | deg C | *76* | *deg F* |
| Wet bulb: | 18 | deg C | *65* | *deg F* |
| Relative Humidity | 44 | % | | |
| Pressure: | 97.9 | kPa | *28.92* | *in Hg* |
| Maximum Coolant: | 92 | deg C | *198* | *deg F* |
| Engine Oil: | 113 | deg C | *235* | *deg F* |
| Fuel: | 52 | deg C | *126* | *deg F* |
| Air Intake: | 31 | deg C | *87* | *deg F* |
| Transmission/hydraulic oil: | 58 | deg C | *136* | *deg F* |
| Intake manifold pressure at rated speed: | 154 | kPa | *22.4* | *psig* |
| Intake manifold pressure at maximum power: | 157 | kPa | *22.8* | *psig* |

| | | | |
|---|---|---|---|
| Date of Test: 22-Sep-97 | | | |
| 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: | | | |
| 18.1 MPa | | | |
| *2620 psig* | | | |
| II. Pump delivery rate at minimum pressure and rated engine speed: | | | |
| **112.4 l/min** | | | |
| *29.7 gpm* | | | |
| III. Flow rate, pressure, power: | | | |
| 90% of relief valve setting | | | |
| 45.4 l/min | 16.3 MPa | 12.4 kW | |
| *12.0 gpm* | *2370 psig* | *16.6 hp* | |
| Maximum hydraulic power: | | | |
| 101.8 l/min | 14.8 MPa | 25.2 kW | |
| *26.9 gpm* | *2150 psig* | *33.7 hp* | |
| IV. Hydraulic fluid temperature at flow meter | | | |
| 68 °C | | | |
| *155 °F* | | | |
| 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, with Quick Attaching Coupler
Upper link in bottom hole on tractor
Date of test: 14 May 1996
The data presented here is from OECD test 1628 done on the Case IH 7240 which has the mechanically identical hitch system.

| | | Hitch points | Frame |
|---|---|---|---|
| Lower hitch points above ground - down position: | [mm/in] | 241/9.5 | 216/8.5 |
| Vertical movement: | | | |
| without load: | [mm/in] | 718/28.3 | 813/32.0 |
| with load: | [mm/in] | 696/27.4 | 769/30.3 |
| Maximum corrected force through full range: | [kN/lb] | 49.5/11120 | 47.1/10598 |
| Corresponding pressure: | [kPa/psi] | 16400/2385 | |
| Moment about rear axle: | [kN.m/lb.ft] | 70.1/51706 | 95.5/70473 |
| Maximum mast tilt angle: | [deg] | -- | 4.5 |

Lifting height relative to horizontal position of lower links.

| | | | | | | |
|---|---|---|---|---|---|---|
| | [mm] | -349 | -324 | -281 | -182 | -80 |
| | [in] | -13.8 | -12.8 | -11.1 | -7.2 | -3.2 |
| Corrected lift forces | | | | | | |
| Hitch point. | [kN] | -- | 49.5 | 49.7 | 53.6 | 57.0 |
| | [lb] | -- | 11120 | 11178 | 12047 | 12821 |
| at frame | [kN] | 51.4 | 50.8 | -- | 53.0 | 53.8 |
| | [lb] | 11547 | 11430 | -- | 11925 | 12087 |

Lifting height relative to horizontal position of lower links.

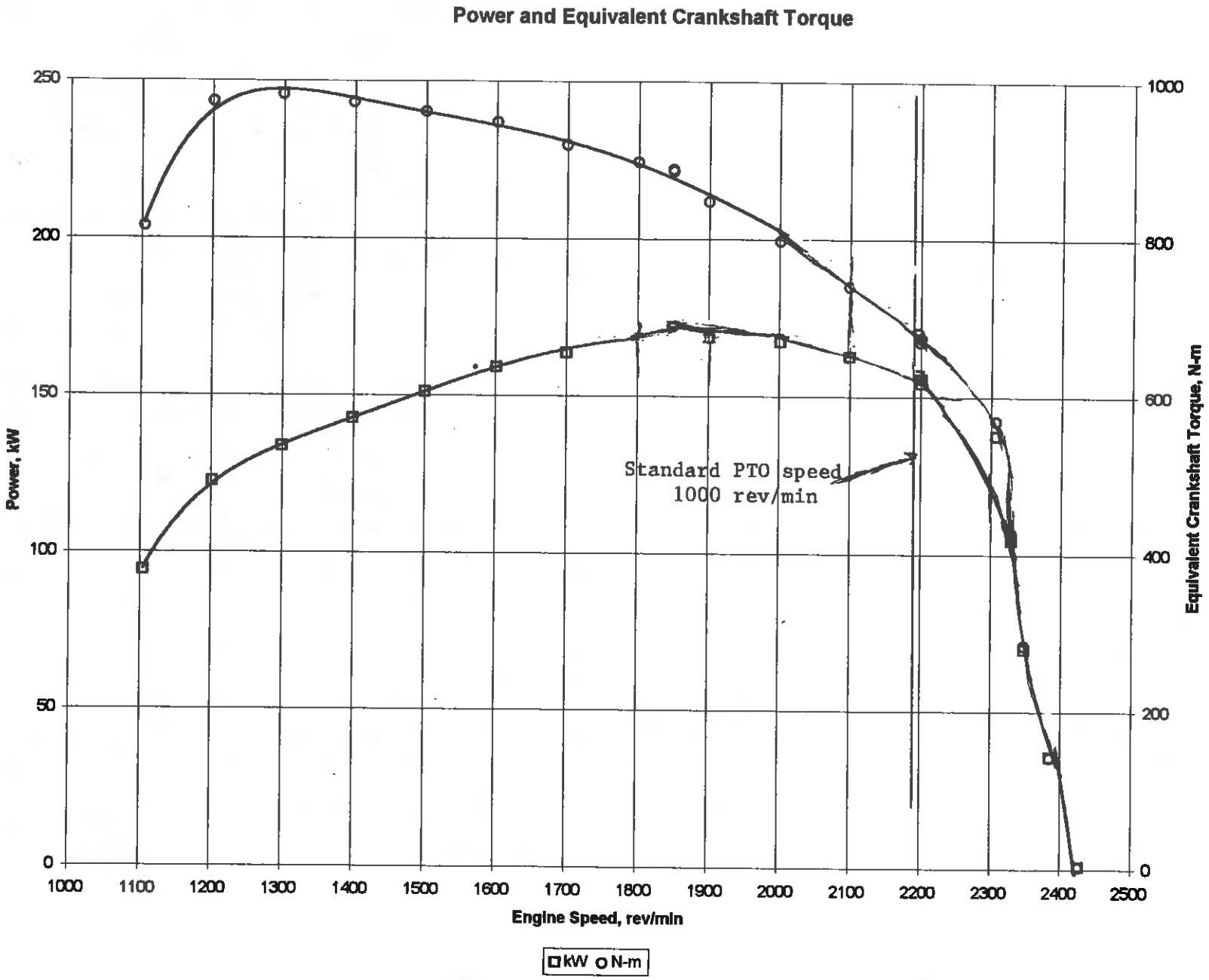
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | [mm] | 19 | 118 | 220 | 319 | 372 | 420 |
| | [in] | 0.8 | 4.7 | 8.7 | 12.6 | 14.7 | 16.6 |
| Corrected lift forces | | | | | | | |
| Hitch point | [kN] | 57.5 | 58.9 | 58.8 | 59.8 | 60.6 | -- |
| | [lb] | 12920 | 13244 | 13226 | 13451 | 13622 | -- |
| at frame | [kN] | 53.2 | 52.3 | 49.9 | 48.2 | 48.1 | 47.1 |
| | [lb] | 11970 | 11754 | 11214 | 10827 | 10809 | 10598 |

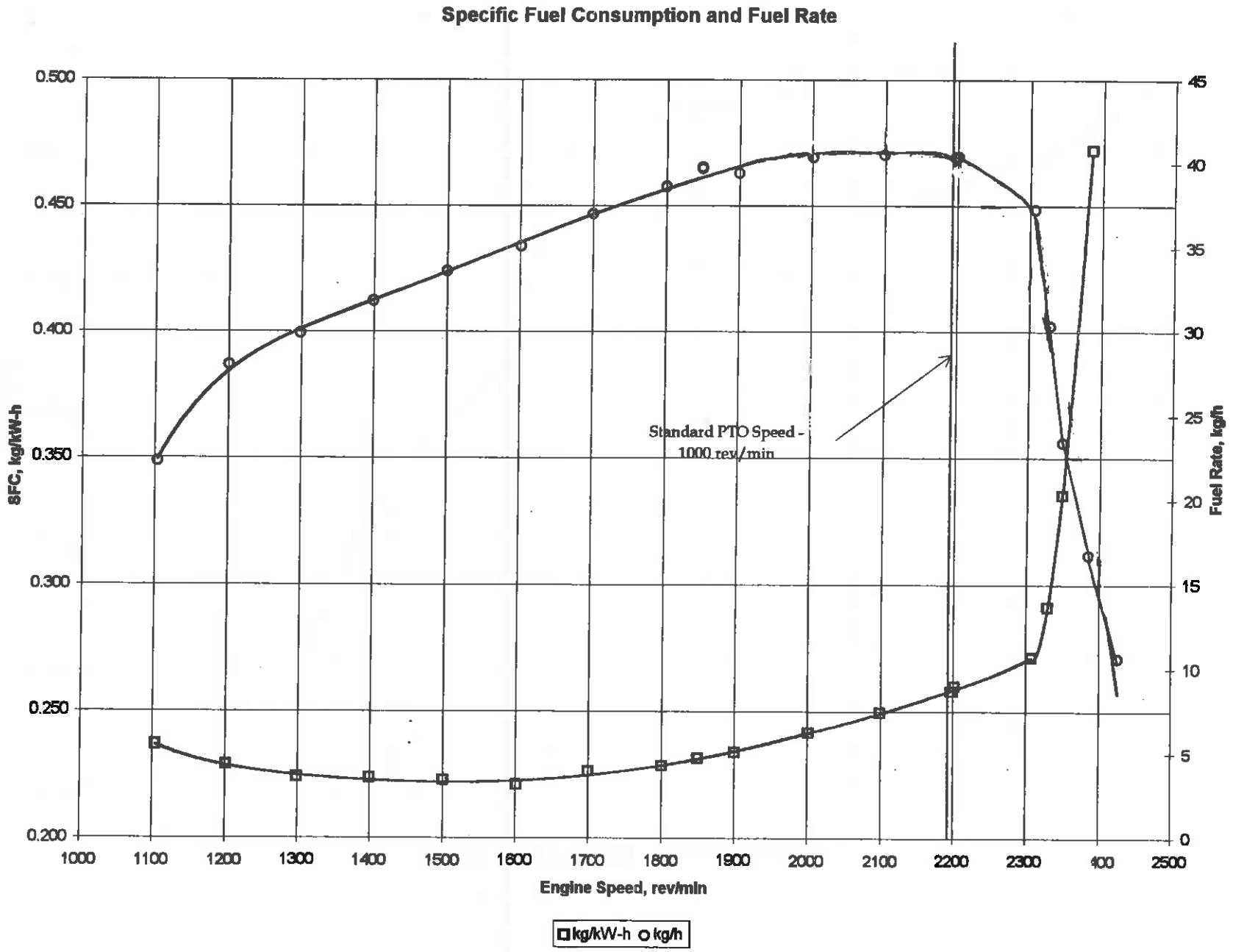
## OECD Drawbar Data (SI)

| Date of tests: 26-Sep-97 | | | | Fuel density: 0.845 kg/l | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of track Concrete | | | | Test number 1736 | | | | | | | | | | |
| Gear | Power | Pull | Speed | Engine speed | Slip | SFC | SFE | Temperature, deg C | | | | | Rel hum-idity | Baro. Pres |
| | kW | kN | km/h | rev/min | | kg/kW.h | kW.h/l | Fuel | Coolant | Oil | Dry | Wet | | kPa |
| I. Maximum Power (unballasted, 4wd at 1850 rev/min) | | | | | | Tire pressure: | | 97 kPa, rear | | 83 kPa, front | | Drawbar height: | 406 mm | |
| 4 | 93.24 | 78.44 | 4.28 | 2307 | 15% | 0.361 | 2.34 | 49 | 86 | 111 | 15 | 13 | 84% | 97.70 |
| 5 | 110.23 | 80.34 | 4.94 | 2295 | 14% | 0.347 | 2.43 | 49 | 86 | 112 | 13 | 13 | 94% | 97.70 |
| 6 | 119.02 | 75.28 | 5.69 | 2246 | 12% | 0.334 | 2.53 | 49 | 87 | 112 | 17 | 14 | 75% | 97.70 |
| 7 | 132.38 | 72.66 | 6.56 | 2137 | 8% | 0.302 | 2.79 | 49 | 88 | 114 | 24 | 18 | 53% | 97.73 |
| 8 | 137.62 | 69.44 | 7.13 | 2000 | 7% | 0.289 | 2.93 | 49 | 90 | 115 | 25 | 18 | 53% | 97.70 |
| 9 | 143.88 | 66.96 | 7.74 | 1858 | 6% | 0.274 | 3.08 | 49 | 88 | 114 | 21 | 17 | 69% | 97.77 |
| 10 | 146.13 | 58.32 | 9.02 | 1853 | 4% | 0.269 | 3.14 | 48 | 89 | 113 | 22 | 17 | 65% | 97.73 |
| 11 | 145.42 | 50.13 | 10.44 | 1854 | 3% | 0.271 | 3.11 | 49 | 88 | 114 | 19 | 16 | 72% | 97.77 |
| 12 | 144.19 | 43.20 | 12.02 | 1849 | 3% | 0.274 | 3.08 | 49 | 88 | 114 | 20 | 16 | 68% | 97.77 |
| 13 | 142.73 | 37.25 | 13.80 | 1848 | 2% | 0.278 | 3.04 | 49 | 87 | 113 | 21 | 17 | 69% | 97.77 |
| II. Part loads (unballasted, 4wd) | | | | | | | | | | | | | | |
| II.1 in selected gear at maximum power at rated engine speed. | | | | | | | | | | | | | | |
| 7 | 131.51 | 68.55 | 6.91 | 2202 | 6% | 0.302 | 2.79 | 49 | 87 | 113 | 23 | 18 | 59% | 97.73 |
| II.1.1 75% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 7 | 106.14 | 51.37 | 7.44 | 2305 | 3% | 0.319 | 2.65 | 49 | 87 | 112 | 26 | 19 | 51% | 97.70 |
| II.1.2 50% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 7 | 72.94 | 34.30 | 7.66 | 2340 | 2% | 0.362 | 2.33 | 48 | 86 | 111 | 28 | 18 | 40% | 97.73 |
| II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1 | | | | | | | | | | | | | | |
| 8 | 106.07 | 51.43 | 7.42 | 2007 | 4% | 0.289 | 2.93 | 46 | 86 | 111 | 26 | 19 | 51% | 97.70 |
| II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2 | | | | | | | | | | | | | | |
| 8 | 72.76 | 34.28 | 7.64 | 2036 | 2% | 0.319 | 2.65 | 47 | 84 | 109 | 29 | 19 | 37% | 97.73 |
| II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3 | | | | | | | | | | | | | | |
| 9 | 106.39 | 51.32 | 7.46 | 1749 | 3% | 0.268 | 3.15 | 47 | 86 | 111 | 27 | 19 | 48% | 97.70 |
| II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4 | | | | | | | | | | | | | | |
| 9 | 73.04 | 34.28 | 7.67 | 1772 | 2% | 0.289 | 2.92 | 46 | 84 | 108 | 28 | 19 | 41% | 97.70 |
| II.2 in selected gear nearest to 7.5 km/h at rated engine speed. | | | | | | | | | | | | | | |
| 10 | 133.62 | 44.31 | 10.86 | 2199 | 3% | 0.296 | 2.85 | 49 | 88 | 113 | 22 | 18 | 66% | 97.73 |
| II.2.1 75% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 10 | 104.85 | 33.04 | 11.42 | 2301 | 2% | 0.326 | 2.59 | 50 | 87 | 113 | 29 | 19 | 42% | 97.66 |
| II.2.2 50% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 10 | 71.52 | 22.03 | 11.69 | 2335 | 1% | 0.375 | 2.25 | 49 | 86 | 111 | 29 | 19 | 42% | 97.66 |
| II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1 | | | | | | | | | | | | | | |
| 11 | 104.90 | 32.93 | 11.47 | 2011 | 2% | 0.294 | 2.87 | 49 | 87 | 112 | 29 | 19 | 42% | 97.66 |
| II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2 | | | | | | | | | | | | | | |
| 11 | 71.58 | 22.01 | 11.71 | 2041 | 2% | 0.333 | 2.53 | 48 | 84 | 109 | 29 | 19 | 42% | 97.66 |
| II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3 | | | | | | | | | | | | | | |
| 12 | 104.82 | 33.08 | 11.41 | 1744 | 2% | 0.275 | 3.07 | 48 | 86 | 111 | 29 | 19 | 42% | 97.66 |
| II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4 | | | | | | | | | | | | | | |
| 12 | 71.29 | 22.01 | 11.66 | 1772 | 1% | 0.307 | 2.75 | 46 | 84 | 108 | 29 | 19 | 42% | 97.66 |

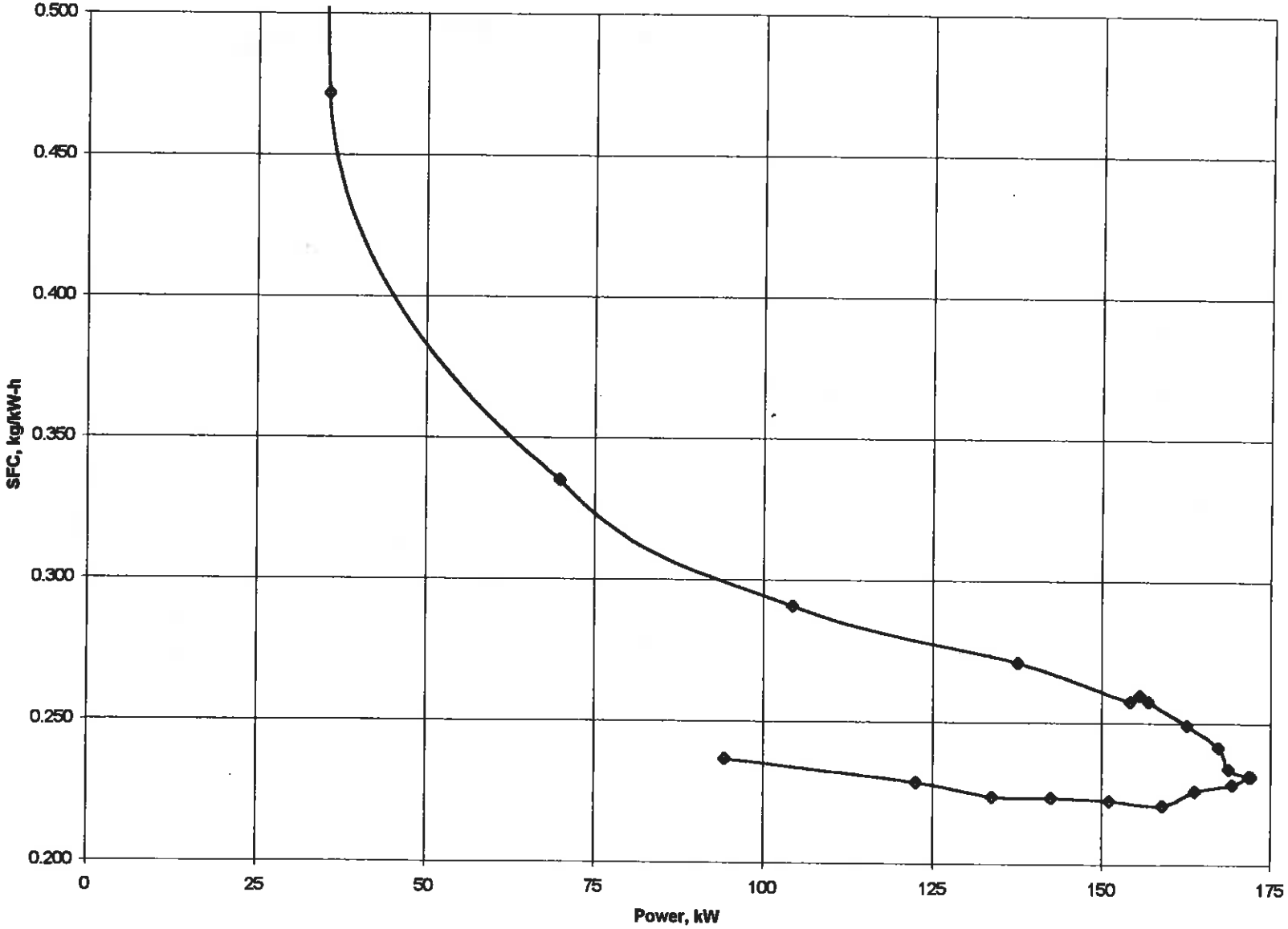
## OECD Drawbar Data (US)

| Date of tests: 26-Sep-97 | | | | Fuel density: | 7.048 lb/gal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of track: Concrete | | | | Test number: | 1736 | | | | | | | | | |
| 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 1850 rev/min) | | | | | | Tire pressure: | | 14 psig, rear | | 12 psig, front | | Drawbar height: | 16.0 in | |
| 4 | 125.03 | 17635 | 2.66 | 2307 | 15% | 0.594 | 11.87 | 121 | 187 | 232 | 59 | 56 | 84% | 28.85 |
| 5 | 147.82 | 18061 | 3.07 | 2295 | 14% | 0.571 | 12.34 | 120 | 188 | 234 | 56 | 55 | 94% | 28.85 |
| 6 | 159.61 | 16924 | 3.54 | 2246 | 12% | 0.549 | 12.84 | 121 | 188 | 234 | 62 | 57 | 75% | 28.85 |
| 7 | 177.52 | 16336 | 4.08 | 2137 | 8% | 0.497 | 14.18 | 120 | 190 | 237 | 76 | 64 | 53% | 28.86 |
| 8 | 184.55 | 15612 | 4.43 | 2000 | 7% | 0.474 | 14.86 | 121 | 194 | 240 | 77 | 65 | 53% | 28.85 |
| 9 | 192.94 | 15053 | 4.81 | 1858 | 6% | 0.451 | 15.62 | 121 | 191 | 238 | 69 | 62 | 69% | 28.87 |
| 10 | 195.97 | 13111 | 5.61 | 1853 | 4% | 0.442 | 15.93 | 119 | 193 | 236 | 71 | 63 | 65% | 28.86 |
| 11 | 195.01 | 11270 | 6.49 | 1854 | 3% | 0.446 | 15.79 | 121 | 191 | 237 | 67 | 61 | 72% | 28.87 |
| 12 | 193.36 | 9711 | 7.47 | 1849 | 3% | 0.451 | 15.64 | 120 | 191 | 238 | 68 | 61 | 68% | 28.87 |
| 13 | 191.40 | 8374 | 8.57 | 1848 | 2% | 0.456 | 15.44 | 120 | 189 | 236 | 69 | 62 | 69% | 28.87 |
| II. Part loads (unballasted, 4wd) | | | | | | | | | | | | | | |
| II.1 in selected gear at maximum power at rated engine speed. | | | | | | | | | | | | | | |
| 7 | 176.35 | 15411 | 4.29 | 2202 | 6% | 0.497 | 14.17 | 120 | 189 | 235 | 74 | 64 | 59% | 28.86 |
| II.1.1 75% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 7 | 142.34 | 11549 | 4.62 | 2305 | 3% | 0.525 | 13.43 | 121 | 189 | 234 | 79 | 66 | 51% | 28.85 |
| II.1.2 50% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 7 | 97.82 | 7711 | 4.76 | 2340 | 2% | 0.596 | 11.83 | 119 | 186 | 232 | 82 | 65 | 40% | 28.86 |
| II.1.3higher gear at reduced engine speed, same pull and travel speed as II.1.1 | | | | | | | | | | | | | | |
| 8 | 142.25 | 11562 | 4.61 | 2007 | 4% | 0.474 | 14.86 | 116 | 188 | 233 | 79 | 66 | 51% | 28.85 |
| II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2 | | | | | | | | | | | | | | |
| 8 | 97.57 | 7706 | 4.75 | 2036 | 2% | 0.524 | 13.45 | 117 | 184 | 228 | 85 | 66 | 37% | 28.86 |
| II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3 | | | | | | | | | | | | | | |
| 9 | 142.67 | 11538 | 4.64 | 1749 | 3% | 0.441 | 15.98 | 117 | 186 | 231 | 80 | 66 | 48% | 28.85 |
| II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4 | | | | | | | | | | | | | | |
| 9 | 97.95 | 7708 | 4.77 | 1772 | 2% | 0.475 | 14.83 | 115 | 183 | 227 | 83 | 66 | 41% | 28.85 |
| II.2 in selected gear nearest to 4.6 mph at rated engine speed. | | | | | | | | | | | | | | |
| 10 | 179.19 | 9962 | 6.75 | 2199 | 3% | 0.487 | 14.47 | 120 | 191 | 235 | 72 | 64 | 66% | 28.86 |
| II.2.1 75% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 10 | 140.61 | 7428 | 7.10 | 2301 | 2% | 0.536 | 13.15 | 122 | 189 | 235 | 84 | 67 | 42% | 28.84 |
| II.2.2 50% of pull at maximum power at rated engine speed | | | | | | | | | | | | | | |
| 10 | 95.92 | 4952 | 7.26 | 2335 | 1% | 0.616 | 11.45 | 121 | 186 | 231 | 84 | 67 | 42% | 28.84 |
| II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1 | | | | | | | | | | | | | | |
| 11 | 140.67 | 7404 | 7.12 | 2011 | 2% | 0.484 | 14.56 | 121 | 188 | 233 | 84 | 67 | 42% | 28.84 |
| II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2 | | | | | | | | | | | | | | |
| 11 | 95.99 | 4949 | 7.27 | 2041 | 2% | 0.548 | 12.86 | 119 | 184 | 228 | 84 | 67 | 42% | 28.84 |
| II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3 | | | | | | | | | | | | | | |
| 12 | 140.57 | 7438 | 7.09 | 1744 | 2% | 0.453 | 15.57 | 119 | 187 | 231 | 84 | 67 | 42% | 28.84 |
| II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4 | | | | | | | | | | | | | | |
| 12 | 95.61 | 4949 | 7.25 | 1772 | 1% | 0.504 | 13.98 | 115 | 184 | 227 | 84 | 67 | 42% | 28.84 |


Power and Equivalent Crankshaft Torque
Power, kW
Equivalent Crankshaft Torque, N-m
Engine Speed, rev/min
Standard PTO speed
1000 rev/min
kW
N-m
250
200
150
100
50
0
1000
800
600
400
200
0
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500


Specific Fuel Consumption and Fuel Rate
SFC, kg/kW-h
Fuel Rate, kg/h
Engine Speed, rev/min
Standard PTO Speed - 1000 rev/min
kg/kW-h
kg/h
0.500
0.450
0.400
0.350
0.300
0.250
0.200
45
40
35
30
25
20
15
10
5
0
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
400
2500

## Power and Specific Fuel Consumption



Optional Tests - Ballasted Tractor, Front Drive Engaged

Tests conducted under the responsibility of the Nebraska Tractor Test Laboratory

OECD Drawbar Data (SI)

| Date of tests: 22,24-Sep-97 | | | | Fuel density: | 0.845 kg/l | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of track Concrete | | | | Test number | 1736 | | | | | | | | | |
| 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 1850 rev/min) | | | | | | Tire pressure: | | 83 kPa, rear | | 124 kPa, front | | Drawbar height: | | 432 mm |
| *4 | 127.16 | 106.82 | 4.29 | 2166 | 10% | 0.314 | 2.69 | 50 | 87 | 111 | 19 | 16 | 72% | 98.21 |
| 5 | 134.99 | 102.93 | 4.72 | 2040 | 8% | 0.297 | 2.84 | 50 | 86 | 112 | 19 | 16 | 72% | 98.21 |
| 6 | 138.11 | 99.95 | 4.97 | 1865 | 7% | 0.286 | 2.96 | 51 | 88 | 114 | 19 | 15 | 64% | 98.17 |
| 7 | 145.10 | 88.49 | 5.90 | 1849 | 5% | 0.273 | 3.09 | 51 | 89 | 114 | 21 | 15 | 56% | 98.14 |
| 8 | 147.92 | 77.28 | 6.89 | 1850 | 3% | 0.268 | 3.15 | 49 | 92 | 116 | 16 | 14 | 89% | 98.10 |
| 9 | 148.50 | 66.98 | 7.98 | 1849 | 3% | 0.269 | 3.14 | 49 | 88 | 114 | 16 | 14 | 89% | 98.14 |
| 10 | 148.05 | 58.01 | 9.19 | 1849 | 2% | 0.270 | 3.13 | 50 | 87 | 113 | 16 | 14 | 89% | 98.14 |
| 11 | 146.51 | 49.75 | 10.60 | 1853 | 2% | 0.271 | 3.11 | 49 | 88 | 108 | 16 | 14 | 89% | 98.07 |
| 12 | 143.51 | 42.56 | 12.14 | 1846 | 2% | 0.273 | 3.09 | 47 | 86 | 108 | 16 | 14 | 89% | 98.10 |
| 13 | 140.50 | 36.34 | 13.92 | 1845 | 2% | 0.279 | 3.03 | 49 | 89 | 115 | 16 | 14 | 89% | 98.10 |
| * Note: Slip limited to avoid excessive tractor bouncing. | | | | | | | | | | | | | | |



OECD Drawbar Data (US)

| Date of tests: 22,24-Sep-97 | | | | Fuel density: | 7.048 lb/gal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of track Concrete | | | | Test number | 1736 | | | | | | | | | |
| 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 1850 rev/min) | | | | | | Tire pressure: | | 12 psig, rear | | 18 psig, front | | Drawbar height: | | 17.0 in |
| *4 | 170.53 | 24013 | 2.66 | 2166 | 10% | 0.517 | 13.63 | 122 | 188 | 232 | 66 | 60 | 72% | 29.00 |
| 5 | 181.03 | 23139 | 2.93 | 2040 | 8% | 0.489 | 14.42 | 122 | 187 | 234 | 66 | 60 | 72% | 29.00 |
| 6 | 185.21 | 22470 | 3.09 | 1865 | 7% | 0.470 | 15.01 | 124 | 191 | 238 | 67 | 59 | 64% | 28.99 |
| 7 | 194.58 | 19894 | 3.67 | 1849 | 5% | 0.449 | 15.70 | 123 | 193 | 238 | 69 | 59 | 56% | 28.98 |
| 8 | 198.37 | 17374 | 4.28 | 1850 | 3% | 0.441 | 15.98 | 121 | 198 | 240 | 60 | 58 | 89% | 28.97 |
| 9 | 199.15 | 15058 | 4.96 | 1849 | 3% | 0.442 | 15.95 | 120 | 190 | 237 | 60 | 58 | 89% | 28.98 |
| 10 | 198.54 | 13041 | 5.71 | 1849 | 2% | 0.443 | 15.90 | 123 | 188 | 235 | 60 | 58 | 89% | 28.98 |
| 11 | 196.47 | 11184 | 6.59 | 1853 | 2% | 0.446 | 15.80 | 120 | 190 | 227 | 60 | 58 | 89% | 28.96 |
| 12 | 192.45 | 9568 | 7.54 | 1846 | 2% | 0.449 | 15.69 | 116 | 187 | 226 | 60 | 58 | 89% | 28.97 |
| 13 | 188.41 | 8170 | 8.65 | 1845 | 2% | 0.458 | 15.39 | 121 | 193 | 239 | 60 | 58 | 89% | 28.97 |
| * Note: Slip limited to avoid excessive tractor bouncing. | | | | | | | | | | | | | | |

**Table 1.2 - *Linkage geometry dimensions.**

| | | | Dimension or range [mm] | Settings used on test [mm] |
|---|---|---|---|---|
| Lift category | | | III | III |
| Rear Tire - Radius Index | (r) | | 905 | 905 |
| Front Tire - Radius Index | (r') | | 695 | 695 |
| Length of lift arms | (A) | | 381 | same |
| Length of lower links | (B) | | 861 | same |
| Distance of lift arm pivot from: horizontal | (a) | | 364 | same |
| rear wheel axis: vertical | (b) | | 422 | same |
| Horizontal distance between the 2 lower link points | (u) | | 604 | same |
| Horizontal distance between the 2 lift arm end points | (v) | | 737 | same |
| Length of upper link | (S) | | 600 | 657 |
| | | to | 831 | |
| Distance of upper link pivot from: horizontal | (c) | | 627 | same |
| rear wheel axis: vertical | (d) | | 169 | 250 |
| | | and | 250 | |
| Distance of lower link pivot from: horizontal | (e) | | 445 | same |
| rear wheel axis: vertical | (f) | | 332 | same |
| Distance of lower link pivot points to lift rod pivot points on lower links | (D) | | 579 | same |
| Length of lift rods | (L) | | 660 | 829 |
| | | to | 866 | |
| Height of lower hitch points relative to rear wheel axis In low position | (h) | | 378 | 671 |
| | | to | 699 | |
| In high position | (H) | | 3 | 43 |
| | | to | 269 | |
| Height above ground of lower hitch points when locked in transport position. | | from | 858 | 948 |
| | | to | 1174 | |

*Assuming (r) with a dynamic tire index of 905 mm (ISO 4251/1-1992)

OPTIONAL TEST - alternate setting

2.2 POWER LIFT TEST. Cat III, with Quick Attaching Coupler
Upper link in top hole on tractor, for dimensions see p. 24
Date of test: 14 May 1996
The data presented here is from OECD test 1628 done on the Case IH 7240 which has the mechanically identical hitch system.

| | | Hitch points | Frame |
|---|---|---|---|
| Lower hitch points above ground - down position: | [mm/in] | 234/9.2 | 277/10.9 |
| Vertical movement: | | | |
| without load: | [mm/in] | 714/28.1 | 673/26.5 |
| with load: | [mm/in] | 685/27.0 | 650/25.6 |
| Maximum corrected force through full range: | [kN/lb] | 52.1/11723 | 56.7/12758 |
| Corresponding pressure: | [kPa/psi] | 16600/2408 | |
| Moment about rear axle: | [kN.m/lb.ft] | 73.9/54510 | 115.0/84837 |
| Maximum mast tilt angle: | [deg] | -- | 0.2 |

Lifting height relative to horizontal position of lower links.

| | | | | | |
|---|---|---|---|---|---|
| [mm] | -331 | -288 | -194 | -93 | 6 |
| [in] | -13.1 | -11.4 | -7.7 | -3.7 | 0.3 |
| Corrected lift forces | | | | | |
| Hitch [kN] | 53.5 | 52.1 | 56.1 | 58.6 | 59.3 |
| point [lb] | 12033 | 11723 | 12614 | 13172 | 13334 |
| at [kN] | -- | 74.9 | 65.6 | 64.1 | 62.6 |
| frame [lb] | -- | 16848 | 14751 | 14418 | 14076 |

Lifting height relative to horizontal position of lower links.

| | | | | | |
|---|---|---|---|---|---|
| [mm] | 105 | 207 | 306 | 354 | 362 |
| [in] | 4.2 | 8.2 | 12.1 | 14.0 | 14.3 |
| Corrected lift forces | | | | | |
| Hitch [kN] | 60.1 | 60.9 | 62.3 | 63.1 | -- |
| point [lb] | 13500 | 13680 | 14009 | 14193 | -- |
| at [kN] | 61.9 | 59.2 | 57.7 | 57.4 | 56.7 |
| frame [lb] | 13905 | 13316 | 12978 | 12902 | 12758 |

OPTIONAL TEST - larger (57 mm) external cylinders

2.2 POWER LIFT TEST. Cat III, with Quick Attaching Coupler
Upper link in bottom hole on tractor, for dimensions see p.8.
Date of test: 13 May 1996
The data presented here is from OECD test 1628 done on the Case IH 7240 which has the mechanically identical hitch system.

| | | Hitch points | Frame |
|---|---|---|---|
| Lower hitch points above ground - down position: | [mm/in] | 231/9.1 | 211/8.3 |
| Vertical movement: | | | |
| without load: | [mm/in] | 718/28.3 | 813/32.0 |
| with load: | [mm/in] | 698/27.5 | 785/30.9 |
| Maximum corrected force through full range: | [kN/lb] | 64.8/14558 | 54.6/12267 |
| Corresponding pressure: | [kPa/psi] | 16600/2408 | |
| Moment about rear axle: | [kN.m/lb.ft] | 91.8/67692 | 110.6/81576 |
| Maximum mast tilt angle: | [deg] | -- | 5.3 |

Lifting height relative to horizontal position of lower links.

| | | | | | | |
|---|---|---|---|---|---|---|
| | [mm] | -354 | -334 | -288 | -189 | -88 |
| | [in] | -14.0 | -13.2 | -11.4 | -7.5 | -3.5 |
| Corrected lift forces | | | | | | |
| Hitch point. | [kN] | -- | 64.8 | 65.1 | 68.5 | 70.8 |
| | [lb] | -- | 14558 | 14639 | 15390 | 15917 |
| at frame | [kN] | 68.1 | 67.5 | -- | 66.7 | 66.0 |
| | [lb] | 15309 | 15165 | -- | 15003 | 14832 |

Lifting height relative to horizontal position of lower links.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | [mm] | 11 | 110 | 212 | 311 | 364 | 431 |
| | [in] | 0.5 | 4.4 | 8.4 | 12.3 | 14.4 | 17.0 |
| Corrected lift forces | | | | | | | |
| Hitch point | [kN] | 71.1 | 72.2 | 71.6 | 72.3 | 72.6 | -- |
| | [lb] | 15989 | 16232 | 16106 | 16250 | 16313 | -- |
| at frame | [kN] | 64.6 | 62.2 | 59.5 | -- | 56.4 | 54.6 |
| | [lb] | 14517 | 13977 | 13365 | -- | 12681 | 12267 |

OPTIONAL TEST - Alternate setting with larger (57 mm) external cylinders

2.2 POWER LIFT TEST. Cat III, with Quick Attaching Coupler
Upper link in top hole on tractor, for dimensions see p. 24
Date of test: 13 May 1996
The data presented here is from OECD test 1628 done on the Case IH 7240 which has the mechanically identical hitch system.

| | | Hitch points | Frame |
|---|---|---|---|
| Lower hitch points above ground - down position: | [mm/in] | 246/9.7 | 272/10.7 |
| Vertical movement: | | | |
| without load: | [mm/in] | 714/28.1 | 673/26.5 |
| with load: | [mm/in] | 673/26.5 | 650/25.6 |
| Maximum corrected force through full range: | [kN/lb] | 67.9/15269 | 64.1/14400 |
| Corresponding pressure: | [kPa/psi] | 16600/2408 | |
| Moment about rear axle: | [kN.m/lb.ft] | 96.3/70999 | 129.8/95760 |
| Maximum mast tilt angle: | [deg] | -- | 0.0 |

Lifting height relative to horizontal position of lower links.

| | | | | | |
|---|---|---|---|---|---|
| [mm] | -319 | -293 | -194 | -93 | 6 |
| [in] | -12.6 | -11.6 | -7.7 | -3.7 | 0.3 |
| **Corrected lift forces** | | | | | |
| Hitch point. [kN] | 67.9 | 68.1 | 70.8 | 72.5 | 73.4 |
| [lb] | 15269 | 15314 | 15908 | 16290 | 16493 |
| at frame [kN] | -- | 91.6 | 81.1 | 77.5 | 74.9 |
| [lb] | -- | 20592 | 18234 | 17433 | 16839 |

Lifting height relative to horizontal position of lower links.

| | | | | | |
|---|---|---|---|---|---|
| [mm] | 105 | 207 | 306 | 354 | 357 |
| [in] | 4.2 | 8.2 | 12.1 | 14.0 | 14.1 |
| **Corrected lift forces** | | | | | |
| Hitch point [kN] | 74.6 | 74.3 | 75.2 | 75.7 | -- |
| [lb] | 16772 | 16700 | 16898 | 17015 | -- |
| at frame [kN] | 72.6 | 70.7 | 67.8 | 66.2 | 64.1 |
| [lb] | 16317 | 15894 | 15237 | 14877 | 14400 |

## MEASUREMENT OF EXTERNAL NOISE LEVEL

| | |
|---|---|
| Date of test | September 25, 1997 |
| Location of test | Nebraska Tractor Test Laboratory, Lincoln, NE, USA |
| Sound Level meter | Bruel and Kjaer 2236 |
| Type of track | Concrete oval |
| Gear Number | 18th |
| Speed prior to acceleration | 27.0 km/h |
| Noise Level | 87.2 dB(A) |

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