SILSOE RESEARCH INSTITUTE

OECD Report

**Report No:** OECD/6429/2002
**OECD Approval No:** 2/2 121
**Approval Date:** 29 April 2004

**CODE 2**

**Tests in accordance with the OECD RESTRICTED STANDARD CODE for the Official Testing of Agricultural and Forestry Tractors**

Case IH MDC7BE2 (MXM155) Four-Wheel Drive Tractor with
18-speed Semi Power Shift Transmission (40 km/h)




**Manufactured by:** CNH UK Limited
Basildon
Essex SS14 3AD
United Kingdom

**Reference No:** 833

**Date:** February 2004

ENGINEERING for Life

**File:** 6429/2002

**Rev:** 30 April 2004

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## Statement

The information opposite each item has been validated by the Testing Station. An item marked [C] indicates to the test report user that the information declared by the manufacturer has been checked; an item marked [D] indicates that the manufacturer's declaration has been endorsed.

| | | |
|---|---|---|
| [C] | Tractor manufacturer's name and address: | CNH UK Limited<br>Basildon, Essex, SS14 3AD<br>United Kingdom |
| [C] | Location of tractor assembly: | Basildon, Essex |
| [D] | Submitted for test by: | The manufacturer |
| [C] | Selected for test by: | The manufacturer with the agreement of the testing station |
| [D] | Place of running in: | Basildon. Essex |
| [D] | Duration of running in: | 75 hours |
| [C] | Location of test: | Silsoe Research Institute<br>Wrest Park, Silsoe, MK45 4HS<br>United Kingdom |

## 1. SPECIFICATIONS OF TRACTOR

### 1.1 Identification

1.1.1

| | | |
|---|---|---|
| [C] | Make of tractor: | Case IH |
| [C] | Model (trade name): | MXM 155 |
| [C] | Type: | Four- wheel drive, unit construction |

1.1.2 *Numbers*

| | | |
|---|---|---|
| [D] | 1st Serial No or prototype: | ACM186090 |
| [C] | Serial No: | 170468B |

1.1.3 *Other specifications (if applicable)*

| | | |
|---|---|---|
| [D] | Model(s) for other countries: | None |
| [C] | Transmission type or gears x ranges: | 18-Speed Semi-Power Shift |
| [C] | Speed version: | 40 km/h |
| [C] | Manufacturer identification or Technical type number: | MDC7BE2 |

### 1.2 Engine

| | | |
|---|---|---|
| [C] | Make: | CNH |
| [C] | Model: | 675TA/HA |
| [C] | Type: | 4 stroke turbocharged direct injection and after cooled diesel |
| [C] | Serial No: | 958431 |

1.2.1 *Cylinders*

| | | |
|---|---|---|
| [C] | Number/disposition: | 6 vertical in-line |
| [D] | Bore/stroke: | 111.8mm/127.0mm |
| [D] | Capacity: | 7480 $cm^3$ |
| [D] | Compression ratio: | 17.0 : 1 |
| [D] | Arrangement of valves: | Overhead |
| [D] | Cylinder liners: | None, monobloc construction |

1.2.2 *Supercharging*

| | | |
|---|---|---|
| [D] | Make/Model: | Borg Warner/K27 |
| [C] | Type: | Exhaust driven |
| [D] | Pressure: | 0.093 MPa at rated speed/load |

1.2.3 *Fuel system*

| | | |
|---|---|---|
| [D] | Fuel feed system: | Stanadyne electronic lift pump |
| [C] | Make, type and model of fuel filter: | One disposable canister filter with sediment bowl and water separator plus plastic strainer in tank |
| [D] | Capacity of fuel tank: | 285 $dm^3$ |
| [D] | Make, type and model of injection pump: | Bosch, VE Rotary, 0 460 426 340 |
| [D] | Serial No: | 87802533 |
| | Manufacturer's production setting of injection pump | |
| [C] | Flow rate (rated engine speed and full load): | 81.5 $mm^3$ ±3% per stroke at 2200 $min^{-1}$ (rev/min) 31.30–33.24 $dm^3/h$ |
| [D] | Timing: | T.D.C |
| [D] | Make, type and model of injectors: | Bosch, differential needle, DSLA 143 PV 338 5300 |
| [D] | Injection pressure: | 27.0-28.2 MPa |

1.2.4 *Governor*

| | | |
|---|---|---|
| [C] | Make: | Bosch |
| [D] | Model: | None |
| [C] | Type: | Mechanical incorporated in fuel injection pump |
| [C] | Governed range of engine speed: | 775 to 2400 $min^{-1}$ (rev/min) |
| [C] | Rated engine speed: | 2200 $min^{-1}$ (rev/min) |

1.2.5 *Air cleaner*

| | | |
|---|---|---|
| [C] | Pre-cleaner | Optional (not fitted) |
| [C] | Type: | Spin tube |
| [C] | Location: | Air cleaner canister inlet |
| | Main cleaner | |
| | Make: | Locker Filtration |
| [C] | Type: | 3 stage dry paper element with replaceable cartridge Exhaust Aspirated |
| [D] | Model: | None |
| [C] | Location of air intake: | Under engine bonnet on front and above radiator. |
| [C] | Maintenance indicator: | Warning light on instrument |

1.2.6 *Lubrication system*

| | | |
|---|---|---|
| [D] | Type of feed pump: | Forced feed from eccentric rotor pump |
| [D] | Type of filter: | Metal mesh strainer in sump on suction line and full flow disposable canister on pressure line to engine |
| [C] | Number: | 1 |

1.2.7 *Cooling system*

| | | |
|---|---|---|
| [C] | Type of coolant: | Water and antifreeze (50% solution) |
| [D] | Type of pump: | Belt driven centrifugal impeller |
| [C] | Specification of fan | |
| [C] | Number of fan blades: | 7 |
| [C] | Fan diameter: | 550 mm |
| [D] | Coolant capacity: | 25.5 $dm^3$ |
| [D] | Type of temperature control: | Thermostat with full flow bypass |
| [D] | System pressure: | 100 kPa |

1.2.8 *Starting system*

| | | |
|---|---|---|
| [D] | Make: | Bosch JF / Iskra |
| [D] | Model: | JF |
| [C] | Type: | Electrical, positive engagement, solenoid operated |
| [D] | Starter motor power rating: | 3.1/3.6 kW<br>3.0 kW (Reduction geared) |
| [D] | Cold starting aid: | Lucas – Type 357-33 |
| [C] | Safety device: | Starting inoperable unless shuttle lever in neutral, clutch pedal depressed and seat presence switch is activated |

1.2.9 *Electrical system*

| | | |
|---|---|---|
| [C] | Voltage: | 12 V |
| | Generator: | Alternator |
| [C] | Make: | Magneti Marrelli / Denso |
| [C] | Model: | MME / A 127 |
| [C] | Type: | Belt driven |
| [C] | Power: | 100/120 amps at 6000 $min^{-1}$ (rev/min) |
| | Batteries | |
| [C] | Number: | 1 Exide lead acid,<br>mounted on RHS fuel tank |
| [D] | Rating: | 176 Ah at 20 hours |

1.2.10 *Exhaust system*

| | | |
|---|---|---|
| [C] | Make: | COR.TUBI |
| [D] | Model: | None |
| [C] | Type: | Under bonnet horizontal silencer with vertical stack pipe |
| [C] | Location: | Rear left hand side above engine, under bonnet |
| [C] | Height of outlet above ground: | 3022 mm |

**1.3 Transmission**

1.3.1 *Clutch (Travel alone)*

| | | |
|---|---|---|
| [D] | Make: | CNH |
| [D] | Model: | None |
| [D] | Type: | Wet multiplate in gearbox, for travel only |
| [D] | Number of plates: | 7 |
| [D] | Diameter of plates: | 160 mm |
| [C] | Method of operation: | Electro-hydraulic with pedal override |

1.3.2 *Gear box*

| | | |
|---|---|---|
| [D] | Make: | CNH |
| [C] | Model: | Range command (semi power shift) |
| [C] | Description: | Electro/Hydraulic, synchromesh (range) operation. 6 powershift speeds with 3 ranges selected by 3 buttons on an adjustable lever mounted on the right-hand console.<br>Forward/reverse is actuated by a steering column mounted shuttle lever. |

| | | Forward | Reverse |
|---|---|---|---|
| [C] | Number of gears | 6 | 6 |
| [C] | Number of ranges/groups | 3 | 1 |
| [C] | Total of arrangements | 18 | 6 |

Available options:

17 x 6 with creep (30 km/h)
18 x 6 with creep (40 km/h)
20 x 16 40km/h
24 x 12 40km/h

1.3.3 *Rear axle and final drivers*

| | | |
|---|---|---|
| [D] | Make: | CNH |
| [D] | Model: | None |
| [D] | Type: | Crown wheel pinion with differential and inboard epicyclic reduction gear final drive |
| | Differential lock: | |
| [D] | Type: | Mechanical |
| [C] | Method of engagement: | Electro-hydraulic actuation in response to signal from switch on right-hand control panel |
| [C] | Method of disengagement: | Via panel switch or in response to signal from brakes on application |

1.3.4 *Front axle and final drives*

| | | |
|---|---|---|
| [D] | Make: | CNH |
| [D] | Model: | None |
| [D] | Type: | Crown wheel and pinion with differential and outboard epicyclic reduction gear final drives |
| | Drive engagement: | |
| [D] | Type: | Multiplate clutch – located within the gearbox |
| [C] | Method of operation: | Electro-hydraulic actuation in response to signal from switch on right-hand control panel |
| | Differential lock: | |
| [D] | Type: | Mechanical or multiplate clutch |
| [C] | Method of engagement: | Electro-hydraulic actuation in response to signal from switch on right-hand control panel |
| [C] | Method of disengagement: | Via panel switch or in response to signal from brakes on application, or steering movement, or axle lift |

1.3.5 *Total ratios and travelling speeds*

| | Gear | Group or range | Number of engine revolutions for one revolution of the driving wheels | Nominal travelling speed at rated engine speed:* 2200 rev/min km/h |
|---|---|---|---|---|
| | Forward | | | |
| [C] | 1 | A | 287.73 | 2.46 |
| [C] | 2 | A | 239.28 | 2.96 |
| [C] | 3 | A | 199.20 | 3.56 |
| [C] | 4 | A | 165.66 | 4.28 |
| [C] | 5 | A | 137.72 | 5.15 |
| [C] | 6 | A | 114.53 | 6.19 |
| [C] | 1 | B | 123.88 | 5.72 |
| [C] | 2 | B | 103.02 | 6.88 |
| [C] | 3 | B | 85.77 | 8.27 |
| [C] | 4 | B | 71.32 | 9.94 |
| [C] | 5 | B | 59.29 | 11.96 |
| [C] | 6 | B | 49.31 | 14.38 |
| [C] | 1 | C | 43.67 | 16.24 |
| [C] | 2 | C | 36.32 | 19.53 |
| [C] | 3 | C | 30.23 | 23.45 |
| [C] | 4 | C | 25.14 | 28.20 |
| [C] | 5 | C | 20.90 | 33.92 |
| [C] | 6 | C | 17.38 | 40.79 |
| | Reverse | | | |
| [C] | 1 | R | 147.48 | 4.80 |
| [C] | 2 | R | 122.64 | 5.78 |
| [C] | 3 | R | 102.10 | 6.95 |
| [C] | 4 | R | 84.91 | 8.34 |
| [C] | 5 | R | 70.59 | 10.05 |
| [C] | 6 | R | 58.70 | 12.08 |

Range selection: A = Low range B = Medium range C = High range

(*) Calculated with a tyre dynamic radius index of 855 mm (ISO 4251/1-1998)

[C] Number of revolutions of front wheels for one revolution of rear wheels: 1.321

## 1.4 Power take-off

### 1.4.1 *Main power take-off*

| | | |
|---|---|---|
| [C] | Type: | Independent |
| [C] | Method of engagement: | Electro – hydraulic operated multi-plate clutch in response to a signal from switch on the right – hand control panel |
| [C] | Number of shafts: | 1 interchangeable shaft, 6 or 21 splines to ISO 500/1991 |
| [C] | Method of changing power take-off speeds: | Two speed shiftable, 540 or 1000 $min^{-1}$ (rev/min) by lever on right-hand console |
| | Clutch | |
| [D] | Make: | CNH |
| [D] | Model: | None |
| [D] | Type: | Multiplate, wet |
| [D] | Number of plates: | 6 |
| [D] | Diameter of plates: | 140.0 mm |

#### 1.4.1.1 Power take-off proportional to engine speed

*Power take-off at 540 $min^{-1}$ (rev/min)*

| | | |
|---|---|---|
| [C] | Location: | Rear of tractor |
| [C] | Diameter of power take-off shaft: | 34.9 mm |
| [C] | Number of splines: | 6 in conformity with ISO 500/1991 (available option 21) |
| [C] | Height above ground: | 838 mm |
| [C] | Distance from the median plane of the tractor: | Central |
| [C] | Distance behind rear wheel axis: | 602 mm |
| [C] | PTO speed at rated engine speed: | 603 $min^{-1}$ (rev/min) |
| [C] | Engine speed at standard power take-off speed: | 1969 $min^{-1}$ (rev/min) |
| [C] | Ratio of rotation speeds: | 3.65 |
| [D] | Power restriction: | None |
| [D] | Maximum torque transmissible: | None |
| [C] | Direction of rotation (viewed from behind tractor): | Clockwise |

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

| | | |
|---|---|---|
| [C] | Location: | Rear of tractor |
| [C] | Diameter of power take-off shaft: | 34.9 mm |
| [C] | Number of splines: | 21 in conformity with ISO 500/1991 (available option 6) |
| [C] | Height above ground: | 838 mm |
| [C] | Distance from the median plane of the tractor: | Central |
| [C] | Distance behind rear wheel axis: | 602 mm |
| [C] | PTO speed at rated engine speed: | 1038 $min^{-1}$ (rev/min) |
| [C] | Engine speed at standard power take-off speed: | 2120 $min^{-1}$ (rev/min) |
| [C] | Ratio of rotation speeds: | 2.12 |
| [D] | Power restriction | None |
| [D] | Maximum torque transmissible: | None |
| [C] | Direction of rotation (viewed from behind tractor): | Clockwise |

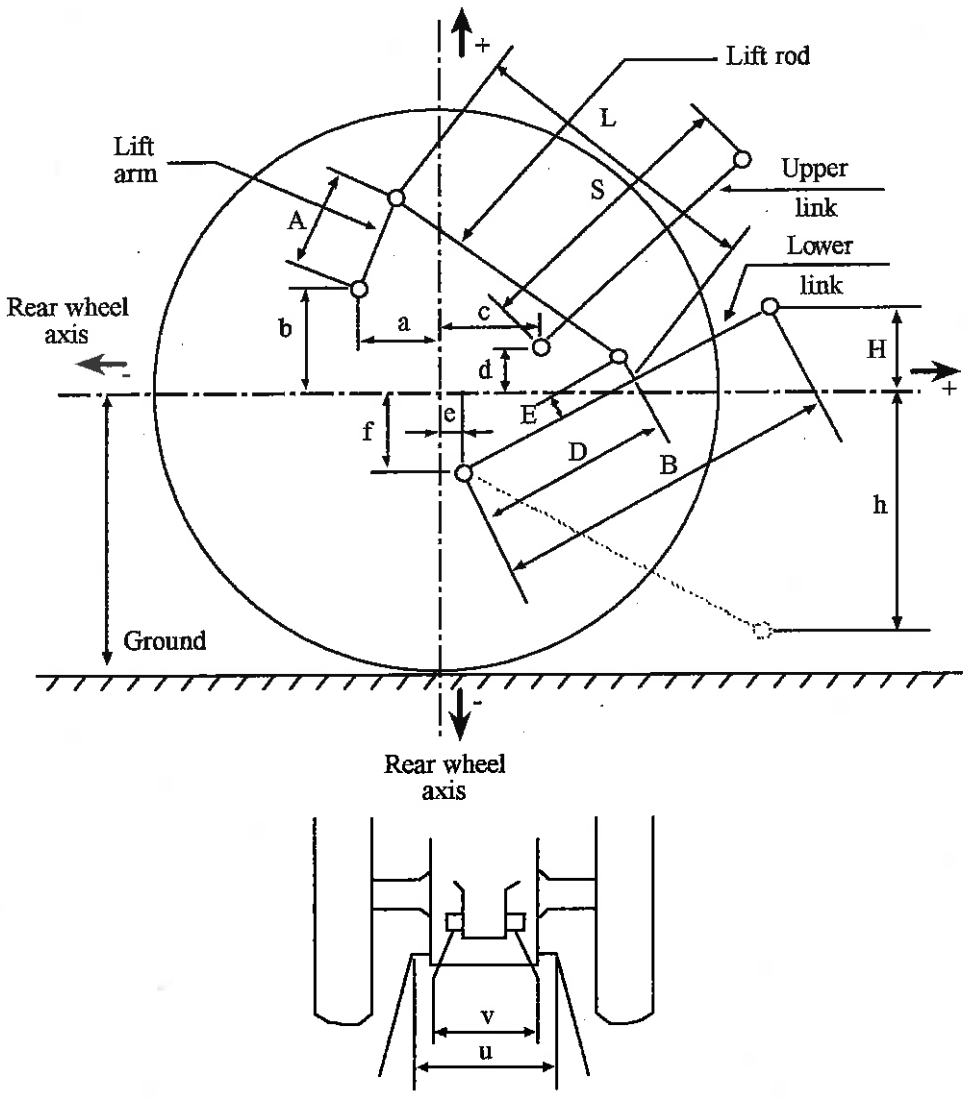
1.4.1.2 Power take-off proportional to ground speed — Not applicable

**1.5 Hydraulic power lift**

| | | |
|---|---|---|
| [C] | Make: | CNH |
| [D] | Model: | None |
| [D] | Type: | Electro-hydraulic closed centre load sensing |
| [D/C] | Type and number of cylinders: | 1 single acting inside transmission housing plus the option of single acting, externally mounted assistor ram/s (Two fitted for test) |
| [C] | Type of linkage lock for transport: | Hydraulic |
| [D] | Pump maximum pressure / Relief valve pressure setting: | 20.0 – 20.7 MPa |
| [D] | Opening pressure of cylinder safety valve: | 22.0 – 23.0 MPa |
| [D] | Lift pump type: | Variable displacement piston pump |
| [D] | Transmission between pump and engine: | Gear driven from PTO shaft, independent of main and PTO clutches |
| [C] | Type and number filters: | 2 disposable canister filters |
| [C] | Site of oil reservoir: | Rear axle housing |
| [C] | Type, number and location of tapping points: | 2 or 4 remote couplers at rear of tractor (2 Remote valves fitted on test tractor) |
| [D] | Maximum volume of oil available to external cylinders: | 20 –24 litres under normal conditions (flat fields)<br>35-39 litres when operating stationary on level ground |

## 1.6 Three-point linkage

| | | |
|---|---|---|
| [C] | Category: | 2 in conformity with ISO 730-1:1994 + Cor.1:1995 |
| [C] | Category adapter: | None |
| [C] | Controls: | Electronic draught/ position link. (Optional draught/position control, lower link sensing |




**LIFT TEST**
Linkage geometry

Fig 2.1

Table 2.1
Dimensions of linkage when attached to the standard frame (ISO 730-1-1994 CAT 2)

| | | | | Dimensions or ranges | Settings used in tests | | |
|---|---|---|---|---|---|---|---|
| | | | | | 3.2.2 | 7.1 | 7.2 |
| | | | | mm | mm | mm | mm |
| [C] | Length of lift arms: | | (A) | 230 | 230 | 230 | 230 |
| [C] | Length of lower links: | | (B) | 974 | 974 | 974 | 974 |
| [C] | Distance of lift arm pivot point from rear wheel centre line: | horizontally:<br>vertically: | (a)<br>(b) | 156<br>363 | 156<br>363 | 156<br>363 | 156<br>363 |
| [C] | Horizontal distance between the two lower link points: | | (u) | 544 | 544 | 544 | 544 |
| [C] | Horizontal distance between the two lift arm end points: | | (v) | 560 | 560 | 560 | 560 |
| [C] | Length of upper link: | | (S) | 658 – 942 | 754 | 768 | 760 |
| [C] | Distance of upper link pivot point from rear wheel centre line: | horizontally:<br>vertically: | (c)<br>(d) | 430 – 455<br>208 – 275 | 455<br>208 | 430<br>275 | 430<br>275 |
| [C] | Distance of lower link pivot point from rear wheel centre line: | horizontally:<br>vertically: | (e)<br>(f) | 220<br>250 | 220<br>250 | 220<br>250 | 220<br>250 |
| [C] | Distance of lower link points to lift rod pivot points on lower link centre line: | | (D) | 435 – 504 | 435 | 504 | 504 |
| [C] | Length of lift rods: | | (L) | 635 – 787 | 750 | 787 | 787/730 |
| | Height of lower hitch points (*) Relative to the rear wheel centre line, situated 855 mm above the ground level: | | | | | | |
| [C] | - in low position | | (h) | 234 – 730 | 657 | 615 | 615/465 |
| [C] | - in high position | | (H) | 15 – 320 | 68 | 35 | 35/150 |
| [C] | Height of lower hitch points when locked in transport position (*) | | | Any height within lift range (hydraulic transport lock) | | | |

*Assuming r = tyre dynamic radius index of 855 mm ISO 4251/1-1998

**1.7 Swinging drawbar**
(Incorporating Slider Germany & Swinging drawbar EEC)

| | | | | | |
|---|---|---|---|---|---|
| [C] | Type: | | Clevis | | |
| [C] | Height above ground: | Unballasted Maximum: | 585 mm | | |
| | | Minimum: | 465 mm | | |
| [C] | Type of adjustment: | | Inverting drawbar | | |
| [C] | Distance of hitch point from rear-wheel axis, horizontally: | | 842 mm | 958 mm | 1008 mm |
| [C] | Distance of hitch point from power take-off shaft end: | | | | |
| | | Vertically: | 253 mm | 373 mm | |
| | | horizontally: | 240 mm | 356 mm | 406 mm |
| [C] | Lateral adjustment (centre of clevis): | | | | |
| | | Right-hand: | -- -- | 180 mm | 192 mm |
| | | Left-hand: | -- -- | 180 mm | 192 mm |
| [C] | Distance of pivot point from rear axles | horizontally: | 190 mm | behind rear axle | |
| [C] | Width of clevis: | | 70 mm | | |
| [C] | Diameter of drawbar pin hole: | | 33 mm | | |
| [D] | Maximum vertical permissible load: | Clevis uppermost: | 2575 kg | 1680 kg | 1440 kg |
| | | Clevis underneath: | 1305 kg | 1225 kg | 1045 kg |

**1.8 Trailer hitch**

| | | | |
|---|---|---|---|
| [C] | Type: | | Coupling |
| [C] | Hole diameter: | | 33 mm |
| [C] | Height above ground: | | 520 mm to 1040mm |
| [C] | Distance of hitch point from rear wheel axis, horizontally: | | 806 mm |
| [C] | Distance of hitch point from power take-off shaft end | | |
| | | Vertically: | -318 mm to +200 mm |
| | | horizontally: | 204 mm |
| [D] | Maximum vertical permissible load: | | 2000 kg |

**1.9 Holed drawbar**

Type: None fitted

**1.10 Steering**

| | | |
|---|---|---|
| [D] | Make: | CNH |
| [D] | Model: | None |
| [D] | Type: | Hydrostatic |
| | Method of operation | |
| [C] | Pump: | Sauer Danfoss |
| [C] | Motor: | Sauer Danfoss OSPC-160-OR |
| [C] | Ram: | 2, balanced system with double acting cylinders one operating each steering arm |
| [D] | Filter: | Integral with hydraulic power lift system |
| [D] | Working pressure: | 17 MPa |

**1.11 Brakes**

1.11.1 *Service brake*

| | | |
|---|---|---|
| [D] | Make: | CNH |
| [D] | Model: | None |
| [D] | Type: | Oil-immersed single plate disc |
| [C] | Method of operation: | Hydraulic, independent on rear wheels (On 4 WD models. When the service brakes are activated the front wheel drive is automatically engaged providing 4-wheel braking) |
| [C] | Trailer braking take-off: | Hydraulic connector fitted to ISO 5676-1983 |

1.11.2 *Parking brake*

| | | |
|---|---|---|
| [D] | Type: | Fully independent four plate disc operating on bevel pinion shaft |
| [C] | Method of operation: | Hand lever with ratchet |

**1.12 Wheels**

Number

[C] Front: 2 driving/steering

[C] Rear: 2 driving

[C] Wheelbase: 2723 mm

Track width adjustment:

| | | Minimum mm | Maximum mm | Adjustment method |
|---|---|---|---|---|
| [C] | Front* | 1538/1560 | 2238/2260 | Reversing wheels and offset lug rims |
| [C] | Rear | 1530 | 2230 | Reversing wheels and offset lug rims |

*55° steering angle available only on 1860 mm and larger track settings

**1.13 Protective structure**

[C] Make: CNH

[C] Model: SLTV 9

[C] Type: Cab safety frame - suspended

[C] Manufacturer's name and address: CNH UK Ltd
Cranes Farm Road
Basildon
Essex
SS14 3AD

Protective device

[C] Cab/frame/rollguard/ other: Cab

[C] Tiltable/Not tiltable: Not tiltable

OECD approval

[C] Approval number: 4/0698

[C] Date of approval: 18 October 2001

Nos. minor modification certificates, if any: 2

The certificates for minor modifications established by the Danish testing station

**1.14 Seat**

1.14.1 *Driver's seat*

| | | |
|---|---|---|
| [C] | Make/model/Type: | Sears SST 1503<br><br>EEC approved to 78/764/EEC – e11-1294 |
| [C] | Seat and steering wheel reversible: | No |
| [C] | Type of suspension: | Low frequency, parallelogram suspension air spring |
| [C] | Type of damping: | Double acting, hydraulic |
| | Range of adjustment | |
| [C] | Longitudinal: | ± 100 mm |
| [C] | Vertical: | ± 68 mm |
| [C] | Safety belt: | Yes |

1.14.2 *Optional driver's seat(s)*

1.14.3 *Passenger seat*

| | | |
|---|---|---|
| [C] | Make: | CNH |
| [C] | Location: | Soft plastic moulding, folding, on left hand side of inner fender. |
| [C] | Type: | EEC approved to76/763/EEC – e11 1383 |
| [C] | Capacity (numbers): | 1 |

**1.15 Lighting**

| | | Height above ground to centre | Size | Distance from outside edge of lights to medium plane of tractor |
|---|---|---|---|---|
| | | mm | mm | mm |
| [C] | Headlights | 1416 | 150 x 90 | 210 |
| [C] | Sidelights | 2020 | 105 x 30 | 870 |
| [D] | Rear lights | 1963 | 50 x 75 | 900 |
| [D] | Rear fender reflectors | 1963 | 30 x 75 | 930 |
| [C] | Rear axle reflectors | 825 | 100 x 35 | 595 |

## 2 TEST CONDITIONS

### 2.1 Overall dimensions

| | length | Width | | Height at top of | |
|---|---|---|---|---|---|
| | | minimum | maximum | Protective structure | Exhaust pipe |
| | mm | mm | mm | mm | mm |
| Unballasted | 4692 | 2350 | 2350 | 2997 | 3022 |

### 2.2 Ground clearance (unballasted tractor) 390 mm

Clearance-limiting part: Drawbar clevis in lowest position

### 2.3 Tractor mass

Mass (with or without frame/roll guard/cab/other): With cab

| | Unballasted | |
|---|---|---|
| | Without driver | With driver |
| | kg | kg |
| Front | 2331 | 2340 |
| Rear | 3529 | 3595 |
| Total | 5860 | 5935 |

### 2.4 Track specifications Not applicable

### 2.5 Tyres and track width specification

| | Front | Rear |
|---|---|---|
| Tyres<br>Dimensions<br>ply rating<br>type | <br>16.9 R 28<br>128 A8<br>Radial | <br>20.8 R 38<br>146 A8<br>Radial |
| Maximum load (tyre manufacturer's) 30/40/50 km/h | 23.5/22.0/20.0 kN | 38.3/35.8/32.6 kN |
| Maximum load (tractor manufacturer's) 30/40/50 | 23.5/22.0/20.0 kN | 38.5/35.8/32.6 kN |
| Inflation pressure (tyre manufacturer's) | 160 kPa | 160 kPa |
| Dynamic radius index | 670 mm | 855 mm |
| Chosen track width (manufacturer's nominal) | 1844 mm | 1830 mm |

### 2.6 Fuel

Type: Diesel oil to Class D, 1.5 to 5.5 cSt.

Density at 15° C: 0.8413 g/cm$^3$

## 2.7 Oils and lubrication

### 2.7.1 *Capacity and change interval*

| | Capacity | Oil change | Filter change |
|---|---|---|---|
| | $dm^3$ | h | h |
| Engine | 19.0 | 300 | 300 |
| Front axle differential | 9.0 | 1200 | None |
| Front axle hub (each) | 1.7 | 1200 | None |
| Gearbox | 80.0 | 1200 | 600 |
| Rear axle<br>Hydraulic system<br>Final drives (rear)<br>Steering | Integral with gearbox | | |
| Brakes | 0.5 | Top-up | None |

### 2.7.2 *Specifications(SAE, APL, CCMC, ACEA, MILL, ISO)*

| | Case spec | Recommended | Used during test |
|---|---|---|---|
| Engine oil<br>Type:<br>Viscosity<br>Classification: | MS 1121 | SAE 10W/30<br>11.5 cSt at 100° C<br>API CH – 4 | As recommended |
| Transmission oils<br>Type:<br>Viscosity<br>Classification: | MAT 3525 | SAE 10W/30<br>9 cSt at 100° C<br>API GL – 4 | As recommended |
| Rear final drives<br>Type:<br>Viscosity:<br>Classification: | MAT 3525 | SAE 10W/30<br>9 cSt at 100° C<br>API GL – 4 | As recommended |
| Front differential and final drives<br>Type:<br>Viscosity:<br>Classification: | MAT 3525 | SAE 10W/30<br>9 cSt at 100° C<br>API GL – 4 | As recommended |
| Hydraulic brakes<br>Type:<br>Viscosity:<br>Classification: | LHM fluid | No equivalent<br>6 cSt at 100° C<br>ISO 7308 | As recommended |
| Hydraulic fluid<br>Type:<br>Viscosity:<br>Classification: | MAT 3525 | SAE 10W/30<br>9 cSt at 100° C<br>API GL – 4 | As recommended |
| Steering oil<br>Type:<br>Viscosity:<br>Classification: | MAT 3525 | ]<br>SAE 10W/30<br>9 cSt at 100° C<br>API GL – 4 | As recommended |

### 2.7.3 *Grease*

| | | | |
|---|---|---|---|
| Type: | 251 HEP | Lithium Based | As recommended |

Number of lubrication points: 14

## 3. COMPULSORY TESTS RESULTS

### 3.1 Main power take-off

Date and location of tests: 2 October 2003
Silsoe Research Institute
Wrest Park, Silsoe, Bedford

Type of dynamometer bench: Eddy Current, Borghi and Saveri

| Power | Speed | | Fuel consumption | | | Specific Energy |
|---|---|---|---|---|---|---|
| | Engine | P.T.O. | Hourly | | Specific | |
| kW | $min^{-1}$ (rev/min) | | kg/h | l/h | g/kWh | kWh/l |
| 3.1.1 MAXIMUM POWER – TWO-HOUR TEST | | | | | | |
| 99.8 | 2101 | 991 | 26.06 | 30.98 | 261 | 3.22 |
| 3.1.2 POWER AT RATED ENGINE SPEED | | | | | | |
| 98.1 | 2200 | 1038 | 26.63 | 31.65 | 271 | 3.10 |
| 3.1.3 STANDARD POWER TAKE-OFF SPEED [1000 ± 25 $min^{-1}$ (rev/min)] | | | | | | |
| 99.6 | 2121 | 1000 | 26.18 | 31.12 | 263 | 3.20 |
| 3.1.4 PART LOADS<br>3.1.4.1 the torque corresponding to maximum power at rated engine speed | | | | | | |
| 98.1 | 2200 | 1038 | 26.63 | 31.65 | 271 | 3.10 |
| 3.1.4.2 85% of torque obtained in 3.1.4.1 | | | | | | |
| 87.3 | 2301 | 1085 | 25.46 | 30.26 | 292 | 2.88 |
| 3.1.4.3 75% of torque defined in 3.1.4.2 | | | | | | |
| 65.7 | 2309 | 1089 | 20.80 | 24.72 | 317 | 2.66 |
| 3.1.4.4 50% of torque defined in 3.1.4.2 | | | | | | |
| 44.2 | 2333 | 1100 | 15.89 | 18.89 | 359 | 2.34 |
| 3.1.4.5 25% of torque defined in 3.1.4.2 | | | | | | |
| 22.3 | 2353 | 1110 | 11.41 | 13.56 | 511 | 1.65 |
| 3.1.4.6 unloaded | | | | | | |
| 0 | 2380 | 1122 | 7.45 | 8.86 | - | - |
| 3.1.5 PART LOADS AT STANDARD POWER TAKE-OFF SPEED [1000± 25 $min^{-1}$ (rev/min)]<br>3.1.5.1 the torque corresponding to maximum power | | | | | | |
| 99.6 | 2121 | 1000 | 26.18 | 31.12 | 263 | 3.20 |
| 3.1.5.2 85% of torque obtained in 3.1.5.1 | | | | | | |
| 88.9 | 2225 | 1049 | 24.59 | 29.22 | 277 | 3.04 |
| 3.1.5.3 75% of torque obtained in 3.1.5.2 | | | | | | |
| 67.1 | 2238 | 1055 | 20.31 | 24.14 | 303 | 2.78 |
| 3.1.5.4 50% of torque obtained in 3.1.5.2 | | | | | | |
| 45.3 | 2266 | 1069 | 15.51 | 18.44 | 343 | 2.46 |
| 3.1.5.5 25% of torque obtained in 3.1.5.2 | | | | | | |
| 22.9 | 2291 | 1081 | 11.18 | 13.28 | 488 | 1.72 |
| 3.1.5.6 unloaded | | | | | | |
| 0 | 2320 | 1094 | 7.25 | 8.62 | - | - |

No load maximum engine speed: 2380 $min^{-1}$ (rev/min)

Torque (equivalent crankshaft) at maximum power

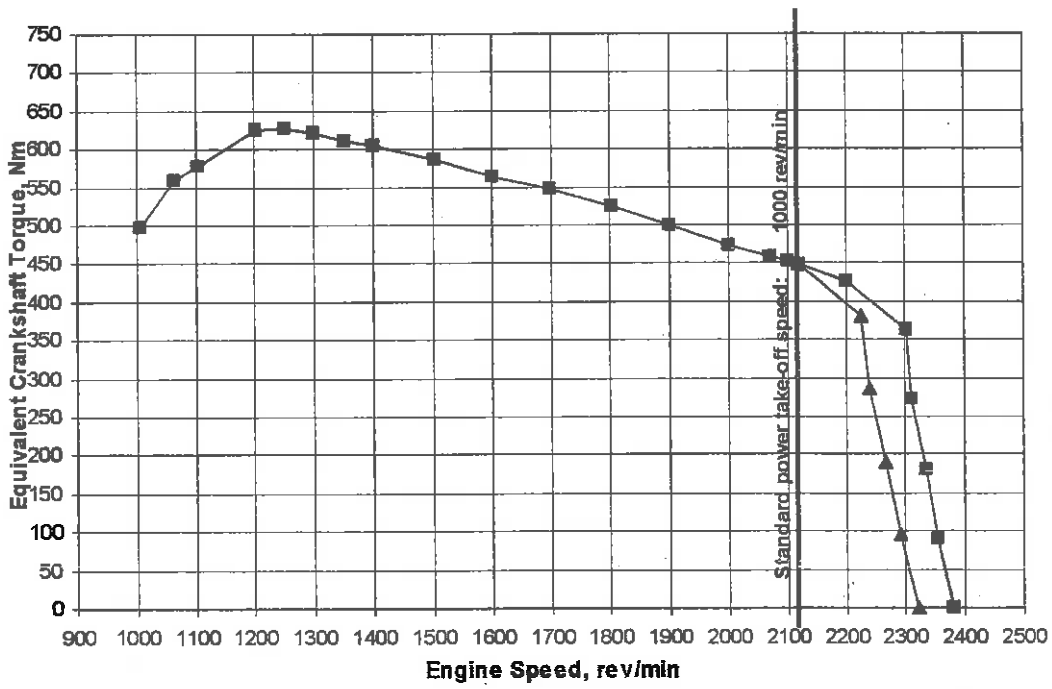
At rated engine speed: 425.9 Nm

At 2-hour test: 452.8 Nm

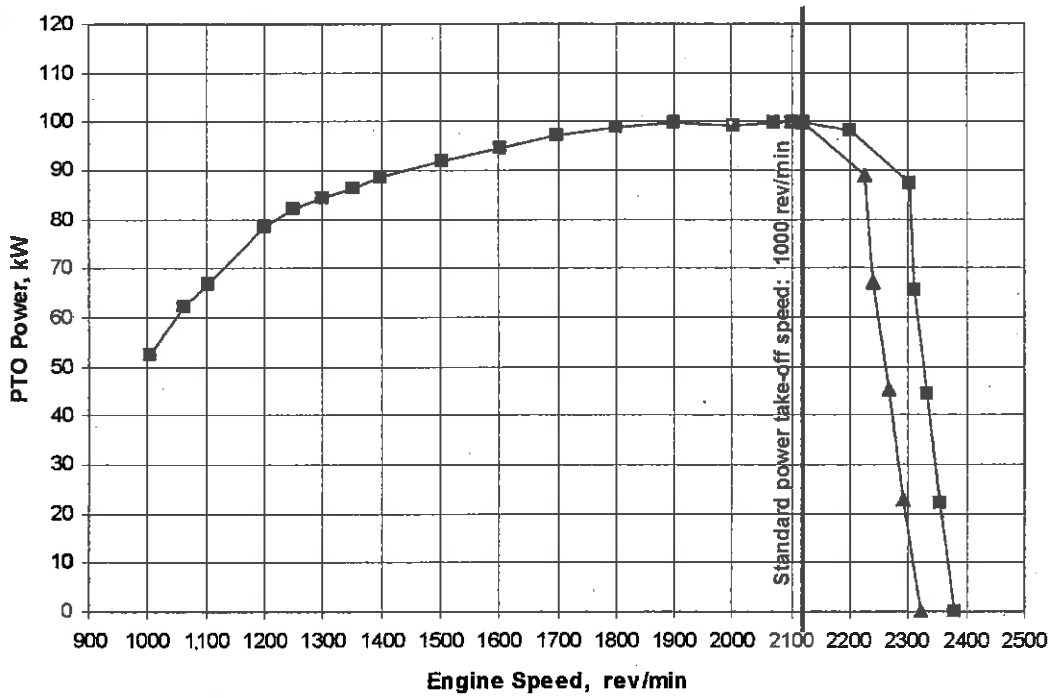
Maximum torque (equivalent crankshaft): 627.1 Nm
(engine speed: 1251 $min^{-1}$ (rev/min)

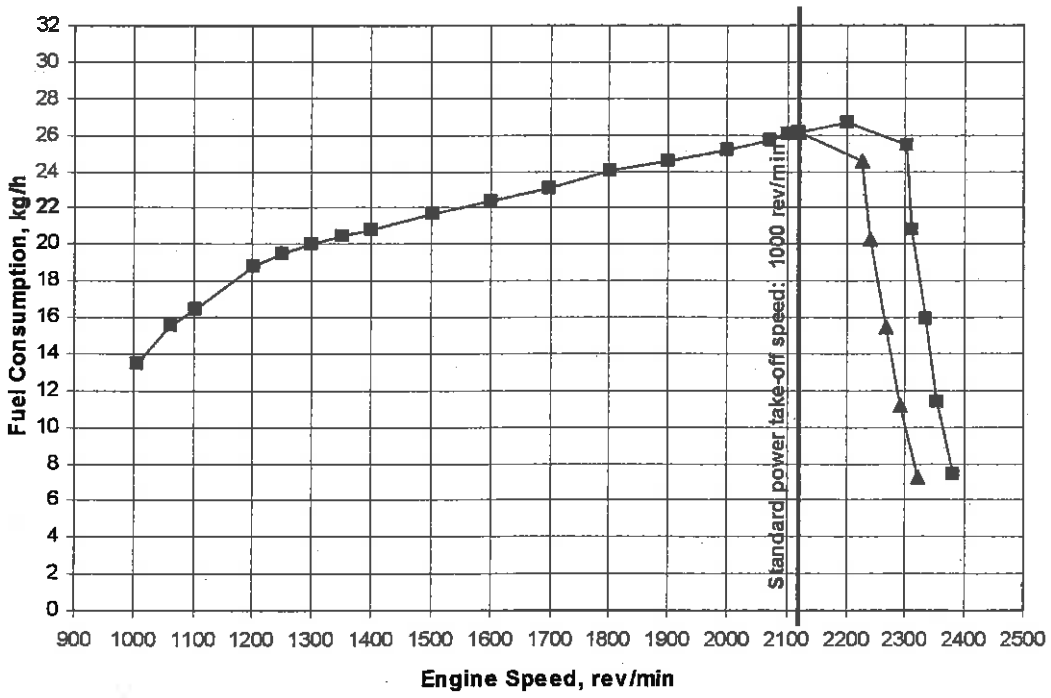
| Mean atmospheric conditions: | |
|---|---|
| Temperature | 23 °C |
| Pressure | 100.8 kPa |
| Relative humidity | 47 % |
| Maximum temperatures: | |
| Coolant | 94 °C |
| Engine oil | 117 °C |
| Fuel | 60 °C |
| Engine air intake | 28 °C |

**Main power take-off curves**

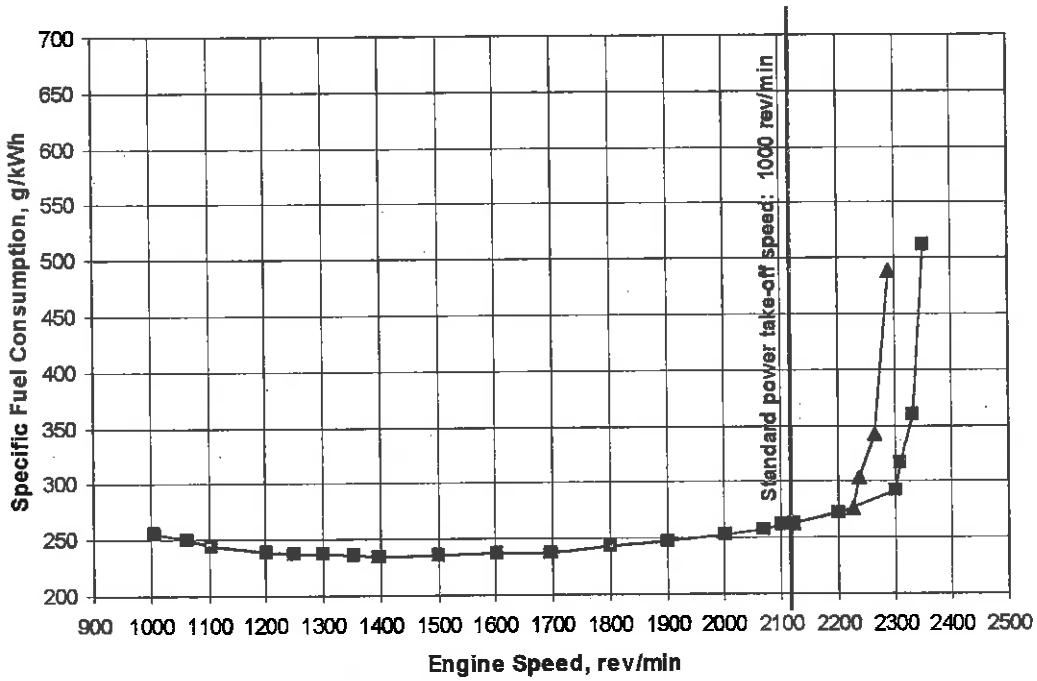


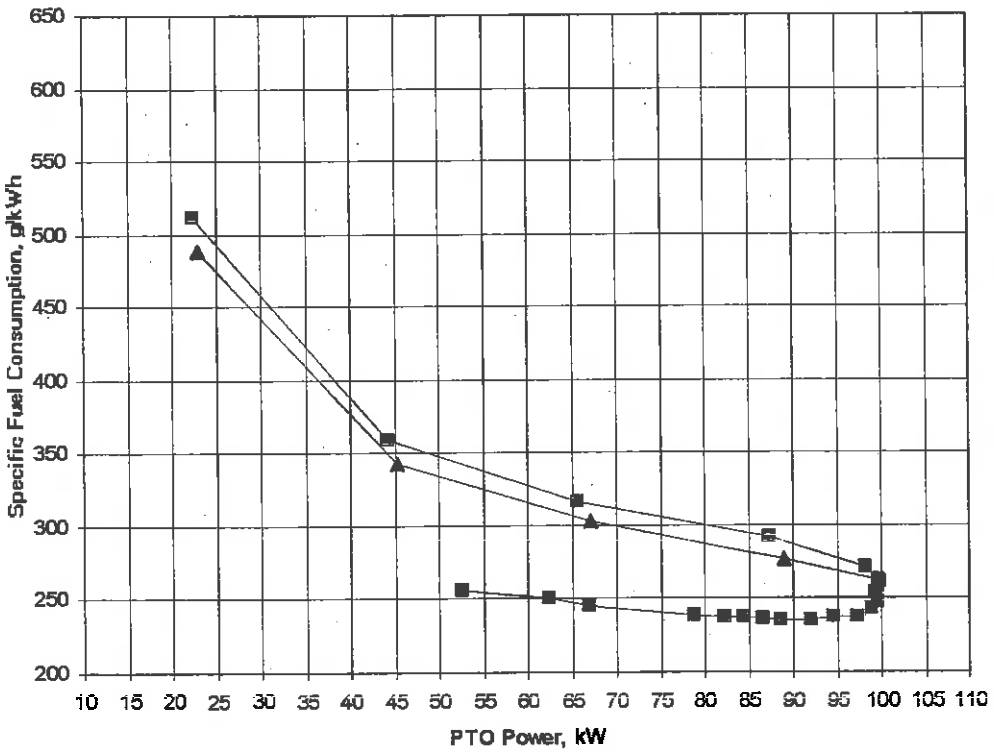
**Main power take-off curves**



**Main power take-off curves**



### 3.2 Hydraulic power and lifting force

Date of tests: 19 January 2004

3.2.1 *Hydraulic power test*

Sustained pressure with relief valve open: 20.8 MPa

Pump stalled: Yes

Pump delivery rate at minimum pressure 121.7 l/min

| | Flow rate l/min | Pressure MPa | Power kW |
|---|---|---|---|
| Flow rate corresponding to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting and corresponding hydraulic power | 89.6 | 18.6 | 27.78 |
| Flow rate and hydraulic pressure corresponding to maximum hydraulic power | 105.7 | 17.5 | 30.83 |

Tapping point used for test: Auxiliary service connection

Temperature of hydraulic fluid if different from 65 ± 5°C —°C

Opening pressure of the unloading valve: Not applicable

Closing pressure of the unloading valve: Not applicable

3.2.2 *Power lift test – (To ISO 730-1:1994)*

Linkage settings for test – see Table 2.1 and Figures 2.1 and 2.2.

| | At the hitch point | on the frame |
|---|---|---|
| Height of lower hitch points above ground in down position | 198 mm | 198 mm |
| Vertical movement | 725 mm | 873 mm |
| Maximum corrected force exerted through full range | 45.4 kN | 40.2 kN |
| Corresponding pressure of hydraulic fluid | 18.6 MPa | 18.6 MPa |
| Moment about rear-wheel axis | 54.2 kNm | 72.5 kNm |
| Maximum tilt angle of mast from vertical | ---- | 10 degrees |

| Lifting heights relative to the horizontal plane including the lower link pivot points | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | -470 | -407 | -300 | -200 | -100 | 0 | +105 | +210 | +275 | +318 | +403 |
| Lifting forces (the values of force measured shall be corrected to correspond to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting of the hydraulic lift system): | | | | | | | | | | | |
| at the hitch points kN | -- | 45.4 | 53.1 | 60.7 | 65.5 | 70.0 | 72.8 | 76.0 | 78.1 | 79.3 | -- |
| Corresponding pressure: 18.6 MPa | | | | | | | | | | | |
| at the frame kN | 40.2 | -- | 48.3 | 52.7 | 55.9 | 57.3 | 57.6 | 57.7 | 57.0 | -- | 56.6 |
| Corresponding pressure: 18.6 MPa | | | | | | | | | | | |

## 3.3 Drawbar power test (unballasted tractor)

(Four-Wheel Drive)

Date and Location of tests: 16 December 2003 and 10 February 2004
Silsoe Research Institute
Wrest Park
Silsoe
Bedford MK45 4HS

Type of track: Concrete

| | Height of drawbar above ground | Tyre inflation pressure | |
|---|---|---|---|
| | | Front | Rear |
| | mm | kPa | kPa |
| Unballasted | 425 | 90 | 90 |

| Gear and range | Power | Drawbar pull | Speed | Engine speed | Slip of wheels or track | Specific fuel cons | Specific Energy | Temperature | | | Atmospheric conditions | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Fuel | Coolant | Engine oil | Temp | Relative humidity | Pressure |
| | kW | kN | km/h | $min^{-1}$ | % | g/kWh | kWh/l | °C | °C | °C | °C | % | kPa |
| 3.3.1 MAXIMUM POWER IN TESTED GEARS | | | | | | | | | | | | | |
| 1A | 38.7 | 61.9 | 2.25 | 2314 | 14.5 | 453 | 1.86 | 59 | 90 | 111 | 6 | 67 | 102.2 |
| 2A | 46.1 | 61.4 | 2.70 | 2306 | 14.3 | 446 | 1.89 | 56 | 91 | 110 | 6 | 62 | 102.3 |
| 3A | 56.1 | 61.3 | 3.30 | 2302 | 12.9 | 403 | 2.09 | 63 | 89 | 110 | 7 | 65 | 102.2 |
| 4A | 66.9 | 60.6 | 3.98 | 2285 | 11.9 | 389 | 2.16 | 64 | 90 | 110 | 6 | 66 | 102.1 |
| 5A | 74.8 | 58.1 | 4.64 | 2171 | 10.0 | 343 | 2.45 | 64 | 90 | 111 | 6 | 66 | 102.2 |
| 1B | 80.1 | 55.1 | 5.24 | 2175 | 8.9 | 321 | 2.62 | 64 | 90 | 110 | 5 | 64 | 102.3 |
| 6A | 79.6 | 51.9 | 5.52 | 2098 | 7.9 | 325 | 2.59 | 59 | 90 | 107 | 5 | 61 | 102.3 |
| 2B | 81.6 | 47.0 | 6.25 | 2099 | 6.3 | 317 | 2.65 | 57 | 92 | 112 | 5 | 63 | 102.3 |
| 3B | 81.9 | 38.8 | 7.61 | 2098 | 5.0 | 313 | 2.69 | 57 | 91 | 112 | 6 | 59 | 102.4 |
| 4B | 80.9 | 31.4 | 9.29 | 2108 | 4.0 | 322 | 2.61 | 58 | 92 | 114 | 7 | 56 | 102.4 |
| 5B | 80.4 | 25.8 | 11.23 | 2105 | 3.4 | 319 | 2.64 | 58 | 92 | 115 | 6 | 58 | 102.4 |
| 6B | 77.4 | 20.6 | 13.51 | 2093 | 2.8 | 337 | 2.50 | 54 | 92 | 112 | 6 | 63 | 102.4 |
| 1C | 78.6 | 18.5 | 15.33 | 2104 | 2.8 | 332 | 2.54 | 57 | 93 | 111 | 7 | 66 | 102.1 |
| 3.3.2 FUEL CONSUMPTION | | | | | | | | | | | | | |
| **3.3.2.1 In selected gear, at maximum power at rated speed** | | | | | | | | | | | | | |
| 3B | 80.0 | 35.9 | 8.03 | 2205 | 4.6 | 327 | 2.57 | 57 | 91 | 113 | 6 | 58 | 102.4 |
| 3.3.2.1.1 75% of pull at maximum power at rated speed | | | | | | | | | | | | | |
| 3B | 63.3 | 26.9 | 8.47 | 2305 | 3.8 | 370 | 2.28 | 51 | 90 | 108 | 7 | 64 | 102.2 |
| 3.3.2.1.2 50% of pull at maximum power at rated speed | | | | | | | | | | | | | |
| 3B | 42.7 | 17.9 | 8.60 | 2314 | 2.7 | 455 | 1.85 | 52 | 91 | 109 | 7 | 64 | 102.2 |
| 3.3.2.1.3 Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.1.1 | | | | | | | | | | | | | |
| 4B | 63.2 | 26.9 | 8.45 | 1911 | 3.7 | 342 | 2.46 | 53 | 91 | 109 | 7 | 66 | 102.1 |
| 3.3.2.1.4 Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.1.2 | | | | | | | | | | | | | |
| 4B | 42.7 | 17.9 | 8.60 | 1925 | 2.6 | 379 | 2.22 | 49 | 90 | 104 | 7 | 67 | 102.1 |
| 3.3.2.2 In selected gear nearest to 7.5 km/h, at maximum power at rated engine speed | | | | | | | | | | | | | |
| 2B | 60.9 | 44.2 | 6.59 | 2201 | 5.7 | 329 | 2.56 | 55 | 92 | 111 | 5 | 65 | 102.3 |
| 3.3.2.2.1 75% of pull at maximum power at rated speed | | | | | | | | | | | | | |
| 2B | 64.4 | 33.1 | 7.01 | 2305 | 4.3 | 374 | 2.25 | 55 | 91 | 110 | 7 | 64 | 102.2 |
| 3.3.2.2.2 50% of pull at maximum power at rated speed | | | | | | | | | | | | | |
| 2B | 43.6 | 22.1 | 7.11 | 2310 | 3.1 | 419 | 2.01 | 58 | 90 | 111 | 6 | 66 | 102.2 |
| 3.3.2.2.3 Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.2.1 | | | | | | | | | | | | | |
| 3B | 64.4 | 33.1 | 7.00 | 1918 | 4.4 | 329 | 2.56 | 50 | 92 | 105 | 6 | 68 | 102.1 |
| 3.3.2.2.4 Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.2.2 | | | | | | | | | | | | | |
| 3B | 43.8 | 22.1 | 7.13 | 1929 | 3.1 | 361 | 2.33 | 48 | 89 | 104 | 7 | 68 | 102.1 |

### 3.3.1 *Drawbar power test (unballasted tractor)*

(Four-Wheel Drive disengaged)

| | Height of drawbar above ground | Tyre inflation pressure | |
|---|---|---|---|
| | | Front | Rear |
| | mm | kPa | kPa |
| Unballasted | 540 | 90 | 90 |

| Gear and range | Power | Drawbar pull | Speed | Engine speed | Slip of wheels or track | Specific fuel cons | Specific Energy | Temperature | | | Atmospheric conditions | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Fuel | Coolant | Engine oil | Temp | Relative humidity | Pressure |
| | kW | kN | km/h | $min^{-1}$ | % | g/kWh | kWh/l | °C | °C | °C | °C | % | kPa |
| 3.3.1 MAXIMUM POWER IN TESTED GEARS | | | | | | | | | | | | | |
| 1A | 30.2 | 47.9 | 2.26 | 2339 | 13.8 | 477 | 1.76 | 57 | 95 | 115 | 10 | 60 | 102.2 |
| 2A | 35.9 | 46.9 | 2.76 | 2328 | 12.4 | 461 | 1.82 | 58 | 96 | 114 | 10 | 62 | 102.2 |
| 3A | 42.9 | 46.4 | 3.33 | 2309 | 11.1 | 413 | 2.04 | 58 | 95 | 113 | 10 | 61 | 102.2 |
| 4A | 50.7 | 45.5 | 4.01 | 2306 | 10.8 | 408 | 2.06 | 60 | 94 | 111 | 8 | 64 | 102.4 |
| 5A | 60.9 | 45.1 | 4.87 | 2303 | 10.0 | 386 | 2.18 | 58 | 97 | 114 | 10 | 63 | 102.2 |
| 1B | 66.9 | 44.6 | 5.40 | 2304 | 10.2 | 372 | 2.26 | 53 | 93 | 115 | 8 | 64 | 102.4 |
| 6A | 71.0 | 44.0 | 5.81 | 2281 | 9.8 | 368 | 2.29 | 59 | 93 | 113 | 8 | 63 | 102.4 |
| 2B | 77.0 | 43.7 | 6.34 | 2204 | 8.3 | 344 | 2.45 | 59 | 96 | 115 | 6 | 68 | 102.5 |
| 3B | 80.7 | 39.5 | 7.35 | 2098 | 7.0 | 320 | 2.63 | 56 | 95 | 115 | 10 | 60 | 102.2 |
| 4B | 80.3 | 31.9 | 9.05 | 2106 | 5.3 | 329 | 2.55 | 54 | 95 | 115 | 10 | 60 | 102.2 |
| 5B | 80.4 | 26.3 | 11.02 | 2106 | 4.1 | 325 | 2.59 | 58 | 94 | 115 | 5 | 69 | 102.5 |
| 6B | 77.6 | 20.9 | 13.36 | 2110 | 3.3 | 335 | 2.51 | 58 | 94 | 116 | 5 | 67 | 102.5 |
| 1C | 81.2 | 19.4 | 15.06 | 2104 | 3.3 | 317 | 2.65 | 58 | 94 | 116 | 6 | 68 | 102.5 |
| 3.3.3 FUEL CONSUMPTION | | | | | | | | | | | | | |
| 3.3.2.1 In selected gear, at maximum power at rated speed | | | | | | | | | | | | | |
| 1C | 78.8 | 18.0 | 15.76 | 2194 | 3.0 | 337 | 2.50 | 58 | 95 | 116 | 6 | 69 | 102.5 |
| 3.3.2.1.1 75% of pull at maximum power at rated speed | | | | | | | | | | | | | |
| 1C | 62.3 | 13.5 | 16.59 | 2303 | 2.7 | 367 | 2.29 | 54 | 95 | 114 | 8 | 63 | 102.4 |
| 3.3.2.1.2 50% of pull at maximum power at rated speed | | | | | | | | | | | | | |
| 1C | 41.9 | 9.0 | 16.76 | 2312 | 2.1 | 483 | 1.74 | 55 | 91 | 113 | 8 | 64 | 102.4 |
| 3.3.2.1.3 Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.1.1 | | | | | | | | | | | | | |
| *2C | | | | | | | | | | | | | |
| 3.3.2.1.4 Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.1.2 | | | | | | | | | | | | | |
| *2C | | | | | | | | | | | | | |
| 3.3.2.2 In selected gear nearest to 7.5 km/h, at maximum power at rated engine speed | | | | | | | | | | | | | |
| 2B | 77.0 | 43.7 | 6.34 | 2204 | 8.3 | 344 | 2.45 | 59 | 96 | 115 | 6 | 68 | 102.5 |
| 3.3.2.2.1 75% of pull at maximum power at rated speed | | | | | | | | | | | | | |
| 2B | 62.2 | 32.8 | 6.83 | 2302 | 5.5 | 346 | 2.43 | 57 | 94 | 113 | 8 | 63 | 102.4 |
| 3.3.2.2.2 50% of pull at maximum power at rated speed | | | | | | | | | | | | | |
| 2B | 42.6 | 21.9 | 7.02 | 2319 | 3.6 | 434 | 1.94 | 55 | 95 | 114 | 8 | 64 | 102.3 |
| 3.3.2.2.3 Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.2.1 | | | | | | | | | | | | | |
| 3B | 62.0 | 32.8 | 6.81 | 1911 | 5.5 | 326 | 2.58 | 51 | 91 | 110 | 9 | 65 | 102.3 |
| 3.3.2.2.4 Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.2.2 | | | | | | | | | | | | | |
| 3B | 42.5 | 21.9 | 7.00 | 1925 | 3.6 | 353 | 2.38 | 56 | 89 | 109 | 9 | 61 | 102.3 |

* Shutdowns were not possible in gear 2C as speed was to fast to control test load vehicle
* In the drawbar test(s) fan speed was not measured because we do not have the facility to so at present

| | | |
|---|---|---|
| **4.** | **OPTIONAL TESTS RESULTS** | None |
| **5.** | **REPAIRS AND ADJUSTMENTS DURING TESTS:** | None |
| **6.** | **REMARKS:** | The test results for this report were obtained from a test carried out on a New Holland TM155 which is identical to the Case IH MXM155 in all practical aspects relating to the tests. |

**Test carried out by:** S J Devonshire

**Signed:** 

Officer in charge

J P Evans
Senior Test Engineer
Field Machinery Centre

**Date:** 4/5/2004

## 7. APPENDIX 1 ADDITIONAL TESTS

### 7.1 *Power lift test – (To Manufacturers lift rod setting)*

"Not covered by the approval"

Linkage settings for test – see Table 2.1 and Figures 2.1 and 2.2.

| | At the hitch point | on the frame |
|---|---|---|
| Height of lower hitch points above ground in down position | 240 mm | 240 mm |
| Vertical movement | 650 mm | 697 mm |
| Maximum corrected force exerted through full range | 55.1 kN | 52.9 kN |
| Corresponding pressure of hydraulic fluid | 18.6 MPa | 18.6 MPa |
| Moment about rear-wheel axis | 65.8 kNm | 95.4 kNm |
| Maximum tilt angle of mast from vertical | -- | 5 degrees |

| Lifting heights relative to the horizontal plane including the lower link pivot points | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | -385 | -365 | -300 | -200 | -100 | 0 | +105 | +170 | +235 | +285 | +312 |
| Lifting forces (the values of force measured shall be corrected to correspond to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting of the hydraulic lift system): | | | | | | | | | | | |
| at the hitch points kN | -- | 55.1 | 58.4 | 68.9 | 74.5 | 78.2 | 81.0 | 82.4 | 83.7 | 85.2 | -- |
| Corresponding pressure: 18.6 MPa | | | | | | | | | | | |
| at the frame kN | 52.9 | -- | 57.0 | 64.5 | 67.9 | 70.2 | 70.1 | 69.9 | 69.0 | -- | 68.1 |
| Corresponding pressure: 18.6 MPa | | | | | | | | | | | |

### 7.2 *Power lift test – (To SAE J283)*

Linkage settings for test – see Table 2.1

* Lift rods readjusted to 730 mm to allow for lift force to be measured throughout the total lift range

| Lifting heights relative to the horizontal plane including the lower link pivot points | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | -365 | -305 | -215 | -105 | 0 | +98 | +195 | +240 | +285 | --- | --- |
| *mm | --- | --- | -215 | -105 | 0 | +98 | +195 | +240 | +285 | +333 | +400 |
| SAE J283 | | | | | | | | | | | |
| kN | 73.5 | 73.5 | 76.9 | 78.5 | 78.9 | 77.9 | 76.8 | 75.8 | 74.5 | --- | --- |
| *kN | --- | --- | 71.2 | 75.4 | 79.0 | 79.8 | 77.5 | 77.0 | 76.8 | 74.4 | 73.6 |
| Corresponding pressure: 18.0 MPa | | | | | | | | | | | |

**TEST RESULTS (OECD Code 5)**

"Not covered by the approval"

Make and type of sound level meter: Bruel and Kjaer 2260

Type of test track: Concrete

Date of tests: 13 March 2003

Four wheel drive engaged Windows closed

| Gear | Test Condition | Measured travelling speed km/h | Sound level dB(A) |
|---|---|---|---|
| 2B | Light Load | 7.5 | 76 |

Four wheel drive engaged Windows open

| Gear | Test Condition | Measured travelling speed km/h | Sound level dB(A) |
|---|---|---|---|
| 2B | Light Load | 7.5 | 82 |

Four wheel drive dis-engaged Windows closed

| Gear | Test Condition | Measured travelling speed km/h | Sound level dB(A) |
|---|---|---|---|
| 2B | Light Load | 7.5 | 75 |

Four wheel drive dis-engaged Windows open

| Gear | Test Condition | Measured travelling speed km/h | Sound level dB(A) |
|---|---|---|---|
| 2B | Light Load | 7.5 | 82 |