Report on test in accordance with
O.E.C.D. STANDARD CODE 1 for the Official
Testing of Agricultural Tractor Performance

FULL CODE

O.E.C.D. Approval No. : 1/1925
Date of approval : 6th October, 2000



## Agricultural Tractor

# DAEDONG LK2554(4WD)

Manufactured by : DAEDONG INDUSTRY Co., Ltd.
1-12, Buk-ri, Nongong-eub, Dalsung-kun,
Daegu-city, KOREA

NATIONAL AGRICULTURAL MECHANIZATION RESEARCH INSTITUTE
249, Seodun-dong, Kwonson-gu, Suwon-city, Kyunggi-do, Republic of Korea

This is a report on a tractor test in accordance with the OECD STANDARD CODE for the Official Testing of Agricultural Tractor Performance(C(87)53(Final), Code 1) and amendments (C(90)79, C(92)52, C(93)52, C(93)133, C(95)17) and C(99)23).

It does not contain an evaluation of the tractor on practical work

Report No. : 99-M-5-9
Duration of test : March till June, 2000
Date of approval : 6th October, 2000

This report has been approved by the OECD Co-Ordinating Centre (CEMAGREF, France) as being in accordance with the OECD STANDARD CODE 1.

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In this report all performance characteristics are given corresponding to the International System of Units.
The reference to the former used Technical System of Units is given by the following relations:

| | | | |
|---|---|---|---|
| Forces | 1 kgf | = | 9.80665 N |
| Powers | 1 PS | = | 0.7355 kW |
| Pressures | 1 kgf/㎠ | = | 98.0665 kPa |

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Printed in the Republic Of KOREA, November 2000 ; NAMRI

# TABLE OF CONTENTS


| | page |
|---|---|
| SPECIFICATIONS OF TRACTOR | 4 to 13 |
| TEST CONDITIONS | 13 to 15 |
| COMPULSORY TESTS RESULTS | |
| Main power take-off performance | 16 to 19 |
| Hydraulic power and lifting force | 20 |
| Drawbar performance | 21 |
| Turning area and turning circle | 22 |
| Location of center of gravity | 22 |
| Braking performance | 22 to 24 |
| Measurement of external noise level | 24 |
| REPAIRS | 24 |
| REMARKS | 24 |

- Tractor manufacturer's name and address : Daedong Industry Co., Ltd
  1-12, Buk-ri, Nongong-eub, Dalsung-kun,
  Daegu-city, Korea
- Location of tractor assembly : 1-12, Buk-ri, Nongong-eub, Dalsung-kun,
  Daegu-city, Korea
- Submitted for test by : The manufacturer
- Selected for test by : The manufacturer in agreement with the test station
- Place of running-in : Daedong Industry Co., Ltd
- Duration of running-in : Engine and tractor 30 hours
- Location of test : NAMRI

# 1. SPECIFICATIONS OF TRACTOR

## 1.1 IDENTIFICATION

- Make : Daedong
- Model : LK2554
- Type : Wheeled tractor, unit construction
- Number of driving wheels : 4
- Serial No. : 923200033
- 1st Serial No. : 923200001

## 1.2 ENGINE

- Make : Own make
- Model : TD1300F
- Type : 4 stroke, water cooled, indirect diesel,
  naturally aspirated
- Serial No. : 925500051

1.2.1 Cylinders

- Number/disposition : 3 / Vertical in-line
- Bore/stroke : 82 mm / 82 mm
- Capacity : 1299 ㎤
- Compression ratio : 21.0 : 1
- Arrangement of valves : Overhead
- Cylinder liners(wet or dry) : None

1.2.2 Supercharging : None

1.2.3 Fuel system

- Fuel feed system : Forced feed type
- Fuel filters
  - Make : Buil
  - Model : None
  - Type : Replaceable element
- Capacity of fuel tank : 28 dm³

- Injection pump
  - Make : Doowon
  - Model : PFR 3KD
  - Type : Bosch, type k
  - Serial No. : None
- Manufacturer's production setting of injection pump
  - Flow rate : 5.35±0.25 dm³/h at rated engine speed and full load
  - Timing : 25 degrees before T.D.C
- Injectors
  - Make : Doowon
  - Model : None
  - Type : Throttle type
- Injection pressure : 13.7~14.7 MPa

1.2.4 Governor
- Make : Hanil
- Model : None
- Type : Centrifugal ball mechanical
- Governed range of engine speed : From 850±50 to 2850±50 rev/min
- Rated engine speed : 2600 rev/min

1.2.5 Air cleaner
- Pre-cleaner : None
- Main-cleaner
  - Make : Namsin
  - Model : None
  - Type : Dry
  - Location of air intake : Under the bonnet, in front of the radiator
- Maintenance indicator : None

1.2.6 Lubrication system
- Type of feed pump : Rotor
- Type of filter(s) : Full flow, cartridge type
- Number of filters : 1

1.2.7 Cooling system
- Type of coolant : Water or water and antifreeze solution
- Type of pump : Centrifugal
- Specification of fan : Belt driven, puller
  - Number of fan blades : 7
  - Fan diameter : 380 mm
- Coolant capacity : 6.6 dm³
- Type of temperature control : Wax type thermostat
- Superpressure system : 88.2 kPa, at radiator cap

1.2.8 Starting system

- Make : Valleo-Mando
- Model : MG117559
- Type : Electrical, pre-engaged, solenoid operated
- Starter motor power rating : 1.7 kW
- Cold starting aid : Electrical glow plug
- Safety device : Starting operable only when main clutch pedal fully depressed

1.2.9 Electrical system

- Voltage : 12 V
- Generator
  - Make : Valleo-Mando
  - Model : AG-135DA
  - Type : 3 phase generator
  - Power : 0.42 kW
- Battery of accumulators
  - Number : 1
  - Rating : 80 Ah at 20 hours rating

1.2.10 Exhaust system

- Make : Sindong
- Model : None
- Type : Silence
- Location : On the left side of engine cowling, vertical position

## 1.3 TRANSMISSION

1.3.1 Clutch(travel and power take-off)

- Make : Pyeong-Hwa
- Model : 215KC22AX/202
- Type : Dry, single plate
- Number of plates : 1
- Diameter of plates : 215 mm
- Method of operation : Mechanically actuated by pedal

1.3.2 Gear box

- Make : Daedong-Gear
- Model : None
- Type : Mechanical
- Description 4 main gear with sliding-mesh
  2 range gear with sliding-mesh
  8 forward and 2 reverse

| | Forward | Reverse |
|---|---|---|
| Number of gears | 4 | 1 |
| Number of ranges | 2 | 2 |
| Total of arrangements | 8 | 2 |

- Available options : None

1.3.3 Rear axle and final drives

- Make : Daedong-Gear
- Model : None
- Type : Bevel gear type differential and helical gear type final drives
- Differential lock
  - Type : Mechanical
  - Method of engagement : Mechanical actuated by foot pedal
  - Method of disengagement : Self-disengagement by spring

1.3.4 Front axle and final drives

- Make : Daedong-Gear
- Model : None
- Type : Bevel gear differential and bevel gear type final drives
- Differential lock None

1.3.5 Total ratios and travelling speeds

| Gear No | Group or range | Number of engine revolutions for one revolution of the driving wheels | Nominal travelling speed(*) at rated engine speed of 2600 $min^{-1}$(rev/min) km/h |
|---|---|---|---|
| Forward | | | |
| 1 | L-1 | 313.950 | 1.55 |
| 2 | L-2 | 241.500 | 2.01 |
| 3 | L-3 | 168.261 | 2.88 |
| 4 | L-4 | 112.956 | 4.30 |
| 5 | H-1 | 78.177 | 6.21 |
| 6 | H-2 | 60.136 | 8.07 |
| 7 | H-3 | 41.899 | 11.58 |
| 8 | H-4 | 28.127 | 17.25 |
| Reverse | | | |
| 1 | L-R | 184.676 | 2.63 |
| 2 | H-R | 45.987 | 10.55 |
| (*)Calculated with a tyre dynamic radius index of 495 mm(ISO 4251-1:1992) | | | |

Number of revolutions of front wheels for one revolution of rear-wheels : 1.572
Range selection : L = Low, H = High

## 1.4 POWER TAKE-OFF

1.4.1 Main power take-off

- Type : Not independent(transmission-driven)
- Method of engagement : Mechanically engaged by pedal
- Number of shafts : 1
- Method of changing power take-off shaft speeds : Speed change manually by hand lever

1.4.1.1 Power take-off proportional to engine speed

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

- Location : Rear of tractor
- Diameter of power take-off shaft end : 35 mm
- Number of splines : 6, in conformity with ISO 500/1991
- Height above ground : 473 mm
- Distance from the median plane of the tractor : 0 mm
- Distance behind rear-wheel axis : 122 mm
- PTO speed at rated engine speed, and engine speed at standard power take-off speed:

| PTO speed (rev/min) | Engine speed (rev/min) | Engine/PTO transmission ratio |
|---|---|---|
| 578 | 2600 | 4.500 |
| 540 | 2429 | |

- Power restriction : None
- Maximum torque transmissible : None
- Direction of rotation(viewed from behind tractor) : Clockwise

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

- Location: Rear of the tractor
- Diameter of power take-off shaft: 35 mm
- Number of splines: 6, in conformity with ISO 500/1991
- Height above the ground: 473 mm
- Distance from the median plane of the tractor: 0 mm
- Distance behind rear-wheel axis: 122 mm
- PTO speed at rated engine speed, and engine speed at standard power take-off speed:

| PTO speed (rev/min) | Engine speed (rev/min) | Engine/PTO transmission ratio |
|---|---|---|
| 1331 | 2600 | 1.953 |
| 1000 | 1953 | |

- Power restriction: None
- Maximum torque transmissible: None
- Direction of rotation (viewed from behind tractor): Clockwise

1.4.1.2 Power take-off proportional to ground speed : None

1.4.2 Optional power take-off : None

## 1.5 HYDRAULIC POWER LIFT

- Make : Daemyung
- Model : None
- Type : Hydraulic, three hitch point
- Type of hydraulic system : Open center system

- Type and number of cylinders : 1, Single acting
- Type of linkage lock for transport : Hydraulic
- Relief valve pressure setting : 14.2±0.5 MPa
- Opening pressure of cylinder safety valve : None
- Lift pump type : Gear pump
- Transmission between pump and engine : Driven by engine cam shaft
- Type and number of filters : Cartridge type, 1
- Site of oil reservoir : Transmission housing
- Type number and location of tapping points : SAE 3/8" hydraulic female coupler, 1, rear of tractor
- Maximum volume of oil available to external cylinders : None

## 1.6 THREE POINT LINKAGE

- Category : 1, in conformity with ISO730-1:1994+Cor.1:1995
- Category adapter : None

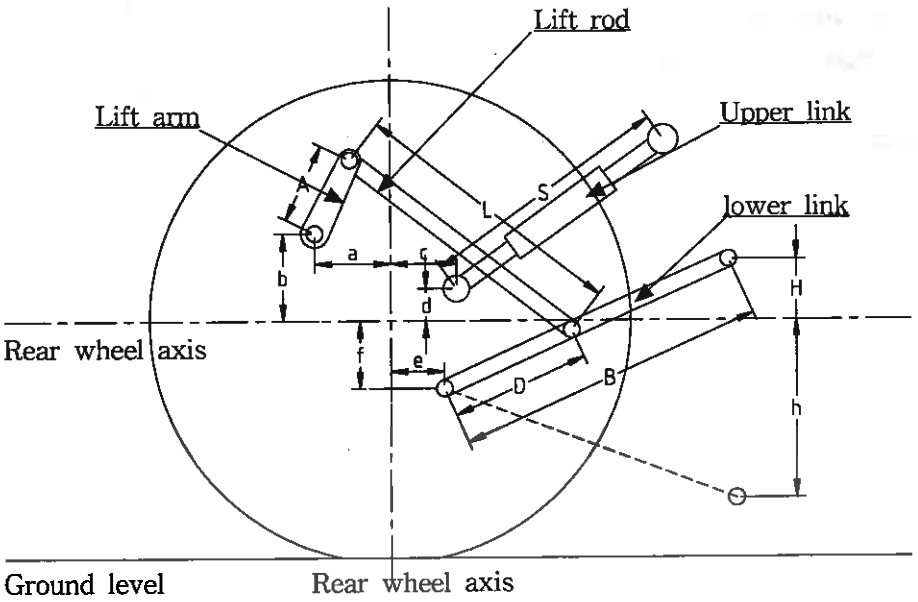



Figure 1.1

Lift test-Linkage geometry

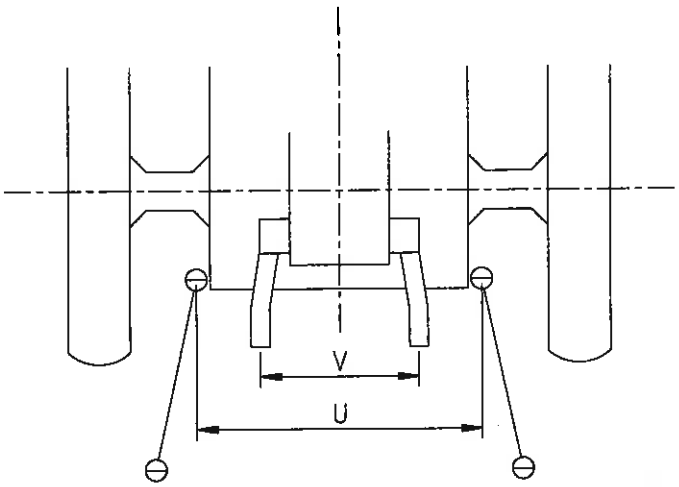



Figure 1.2

Lift test-Linkage geometry

| | | Dimension or range (mm) | Settings used in test (mm) |
|---|---|---|---|
| Length of lift arms : | (A) | 235 | 235 |
| Length of lower links : | (B) | 695 | 695 |
| Distance of lif arm pivot point from rear-wheel axis : | | | |
| - horizontally | (a) | 100 | 100 |
| - vertically | (b) | 251 | 251 |
| Horizontal distance between the 2 lower link points: | (u) | 285 | 285 |
| Horizontal distance between the 2 lift arm end points: | (v) | 368 | 368 |
| Length of upper link: | (S) | from 480 to 760 | 560 |
| Distance of upper link pivot point from rear wheel axis: | | | |
| - horizontally | (c) | 235 | 235 |
| - vertically | (d) | from 70 to 160 | 160 |
| Distance of lower link pivot point from rear wheel axis: | | | |
| - horizontally | (e) | 90 | 90 |
| - vertically | (f) | 45 | 45 |
| Distance of lower link pivot point to lift rod pivot points on lower links: | (D) | 260 | 260 |
| Length of lift rods: | (L) | from 383 to 420 | 383 |
| Height of lower hitch points relative to the rear-wheel axis: | | | |
| - in low position | (h) | from 275 to 375 | 295 |
| - in high position | (H) | from 240 to 345 | 327 |
| Height above ground of lower hitch points when locked in transport position(*) | | Any height within lifting range | |
| (*)Assuming r = 495mm tyre dynamic radius index of ISO 4251/1-1992 | | | |

Table 1.1
Dimensions of linkage geometry
when connected to the standard frame

## 1.7 SWINGING DRAWBAR

- Type : Hole type
- Height above ground : 360 mm
- Type of adjustment : None
- Distance of hitch point from rear wheel axis, horizontally : 385 mm
- Distance of hitch point from power take-off shaft end
  - Vertically : 120 mm
  - Horizontally : 230 mm
- Lateral adjustment (center of clevis)
  - Right hand : 125 mm
  - Left hand : 125 mm
- Distance of pivot point from rear wheel axis, horizontally : -15 mm
- Diameter drawbar pinhole : 20 mm
- Maximum vertical permissible load : 6.3 kN

## 1.8 TRAILER HITCH : None

## 1.9 HOLED DRAWBAR : None

## 1.10 STEERING

- Make : NPSK
- Model : None
- Type : Mechanical
- Method of operation : Operated mechanically and supported with hydraulic fluid
  - Pump(s) : Gear pump
  - Ram(s) : None
- Working pressure : 10.3 MPa

## 1.11 BRAKES

1.11.1 Service brake

- Make : Jin-Myoung
- Model : None
- Type : Oil-immersed multiplate ,discs
- Method of operation : Operated by 2 foot pedals which can be locked together
- Trailer braking take-off : None

1.11.2 Parking brake

- Type : Mechanical in common with service brake
- Method of operation : Depressed by pedals and ratched by hand lever

## 1.12 WHEELS

- Number
  - Front : 2, steering and driving
  - Rear : 2, driving
- Wheelbase : 1640 mm
- Track width adjustment :

| | Minimum | Maximum | Adjustment |
|---|---|---|---|
| | mm | mm | method |
| Front | 990 | 990 | None |
| Rear | 986 | 1226 | By reversing wheels and offset lug rims |

## 1.13 PROTECTIVE STRUCTURE : Not fitted

## 1.14 SEAT

1.14.1 Driver's seat

- Make : Young-Jin
- Model : None
- Type : Upholstered seat with back rest

- Seat and steering wheel reversible : No
- Type of suspension : Spring
- Type of damping : None
- Range of adjustment
  - Longitudinally : 100 mm
  - Vertically : None
- Safety belt : None

1.14.2 Optional driver's seat(s) : None

1.14.3 Passenger seat : None

## 1.15 LIGHTING

| | Height above ground of center | Size | Distance from outside edge of lights to median plane of tractor |
|---|---|---|---|
| | mm | mm | mm |
| Head lights | 914 | 144×88 | 158 |
| Side lights | 1220 | ϕ115 | 517 |
| Rear lights | 1120 | ϕ80 | 460 |
| Reflectors | 1120 | ϕ36 | 460 |

# 2. TEST CONDITIONS

## 2.1 OVERALL DIMENSIONS

| | Length | Width | | Height at top of |
|---|---|---|---|---|
| | | minimum | maximum | exhaust silencer |
| | mm | mm | mm | mm |
| Ballasted | 2970 | 1248 | 1488 | 1984 |
| Unballasted | 2772 | 1248 | 1488 | 1984 |

## 2.2 GROUND CLEARANCE(unballasted tractor) : 303 mm

- Clearance-limiting part : Drawbar frame

## 2.3 TRACTOR MASS

- Mass(without frame)

| | Ballasted | | Unballasted | |
|---|---|---|---|---|
| | Without driver | With driver | Without driver | With driver |
| | kg | kg | kg | kg |
| Front | 579 | 584 | 507 | 512 |
| Rear | 591 | 661 | 591 | 661 |
| Total | 1170 | 1245 | 1098 | 1173 |

## 2.4 BALLAST

| | Weights | | Water |
|---|---|---|---|
| | Number | Total mass | |
| | | kg | kg |
| Front | 4 | 72 | - |
| Rear | - | - | - |
| Optional | - | - | - |

## 2.5 TRACK SPECIFICATIONS : None

## 2.6 TYRES AND TRACK WIDTH SPECIFICATIONS

| | Front | Rear |
|---|---|---|
| Tyres : | | |
| dimensions | 6-14 | 9.5-24 |
| ply rating | 4 | 6 |
| type | Diagonal | Diagonal |
| maximum load(tyre manufacturer's) | 2.99 kN | 9.22 kN |
| maximum load(tractor manufacturer's) | 2.99 kN | 9.22 kN |
| inflation pressure(tyre manufacturer's) | 196 kPa | 216 kPa |
| dynamic radius index | 309 mm | 495 mm |
| Chosen track width | 990 mm | 986 mm |

## 2.7 FUEL

- Type : Diesel fuel No. 2 in conformity with Korean standard(KS M 2620)
- Density at 15℃ : 0.824 g/㎤

## 2.8 OILS AND LUBRICANTS

### 2.8.1 Capacity and change interval

| | Capacity | Oil change | Filter change |
|---|---|---|---|
| | dm³ | h | h |
| Engine | 5.2 | 100 | 200 |
| Gear box, rear axle, steering and final drives in common with hydraulic system | 28 | 300 | 200 |
| Front axle and final drives | 2.8 | 300 | - |

### 2.8.2 Specifications

| | Recommended | Used during test |
|---|---|---|
| Engine oil<br>· Type :<br>· Viscosity :<br>· Classification : | <br>SAE 15W-40<br>105-110 cSt at 40℃<br>API CD-4 | <br>Same |
| Transmission oils, Hydraulic fluid<br>Steering oil<br>· Type :<br>· Viscosity :<br>· Classification : | <br><br>Gear oil, Daedong TF65<br>60-68 cSt at 40℃<br>API GL-4 | <br><br>Same |

### 2.8.3 Grease :

- Number of lubrication points : 7

# 3. COMPULSORY TESTS RESULTS

## 3.1 MAIN POWER TAKE-OFF

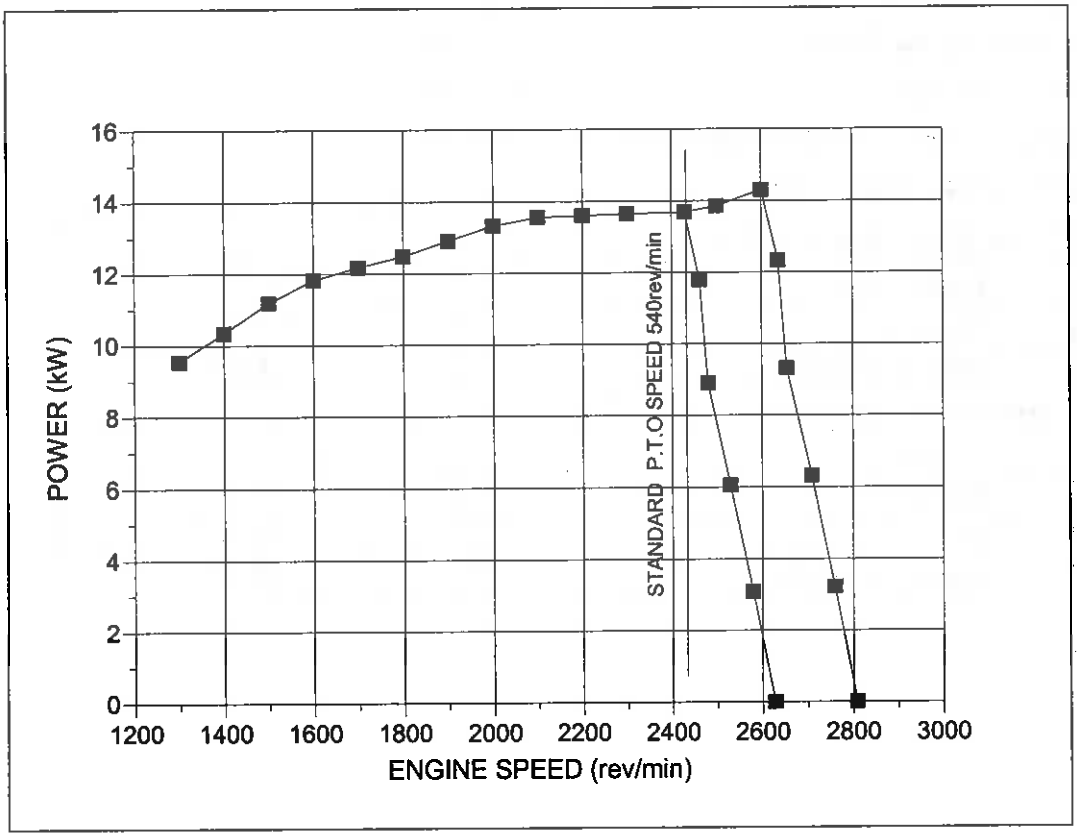
- Date and location of tests : 21th to 23th March 2000, NAMRI, Konjiam
- Type of dynamometer bench : Eddy Current, FROUD AG 250

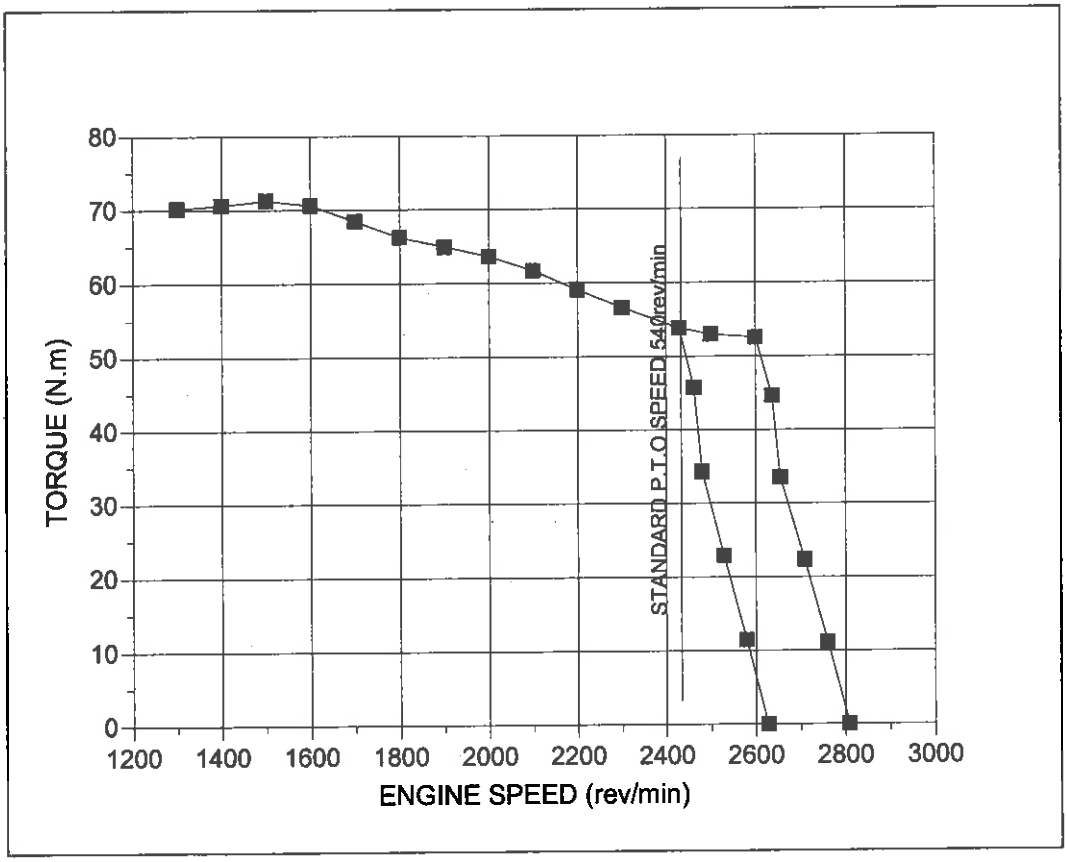
| Power | Speed | | Fuel consumption | | | Specific energy |
|---|---|---|---|---|---|---|
| | Engine | P.T.O | Hourly | | Specific | |
| kW | rev/min | rev/min | kg/h | ℓ/h | g/kWh | kWh/ℓ |
| 3.1.1 MAXIMUM POWER - TWO-HOURS TEST | | | | | | |
| 14.30 | 2600 | 578 | 4.40 | 5.33 | 307 | 2.681 |
| 3.1.2 POWER AT RATED ENGINE SPEED | | | | | | |
| 14.30 | 2600 | 578 | 4.40 | 5.33 | 307 | 2.681 |
| 3.1.3 STANDARD POWER TAKE-OFF SPEED (540±10 rev/min) | | | | | | |
| 13.69 | 2429 | 540 | 4.13 | 5.01 | 302 | 2.731 |
| 3.1.4 PART LOADS | | | | | | |
| 3.1.4.1 The torque corresponding to maximum power at rated engine speed | | | | | | |
| 14.30 | 2600 | 578 | 4.40 | 5.33 | 307 | 2.681 |
| 3.1.4.2 85% of torque obtained in 3.1.4.1 | | | | | | |
| 12.33 | 2637 | 586 | 3.96 | 4.80 | 321 | 2.568 |
| 3.1.4.3 75% of torque defined in 3.1.4.2 | | | | | | |
| 9.31 | 2655 | 590 | 3.33 | 4.04 | 358 | 2.302 |
| 3.1.4.4 50% of torque defined in 3.1.4.2 | | | | | | |
| 6.33 | 2709 | 602 | 2.77 | 3.36 | 438 | 1.882 |
| 3.1.4.5 25% of torque defined in 3.1.4.2 | | | | | | |
| 3.22 | 2759 | 613 | 2.19 | 2.66 | 680 | 1.213 |
| 3.1.4.6 Unloaded | | | | | | |
| 0 | 2808 | 624 | 1.70 | 2.06 | - | - |
| 3.1.5 PART LOADS AT STANDARD POWER TAKE-OFF SPEED(540±10 rev/min) | | | | | | |
| 3.1.5.1 The torque corresponding to maximum power | | | | | | |
| 13.69 | 2429 | 540 | 4.13 | 5.01 | 302 | 2.731 |
| 3.1.5.2 85% of torque obtained in 3.1.5.1 | | | | | | |
| 11.79 | 2462 | 547 | 3.64 | 4.41 | 308 | 2.673 |
| 3.1.5.3 75% of torque defined in 3.1.5.2 | | | | | | |
| 8.91 | 2480 | 551 | 3.10 | 3.76 | 348 | 2.371 |
| 3.1.5.4 50% of torque defined in 3.1.5.2 | | | | | | |
| 6.06 | 2529 | 562 | 2.59 | 3.15 | 428 | 1.925 |
| 3.1.5.5 25% of torque defined in 3.1.5.2 | | | | | | |
| 3.09 | 2579 | 573 | 2.06 | 2.50 | 667 | 1.235 |
| 3.1.5.6 Unloaded | | | | | | |
| 0 | 2628 | 584 | 1.54 | 1.87 | - | - |

- No load maximum engine speed : 2808 rev/min
- Torque (equivalent crankshaft) at maximum power
  - At rated engine speed : 52.5 Nm
  - At 2 hours test : 52.5 Nm
- Maximum torque(equivalent crankshaft) : 71.3 Nm
  (engine speed : 1500 rev/min)

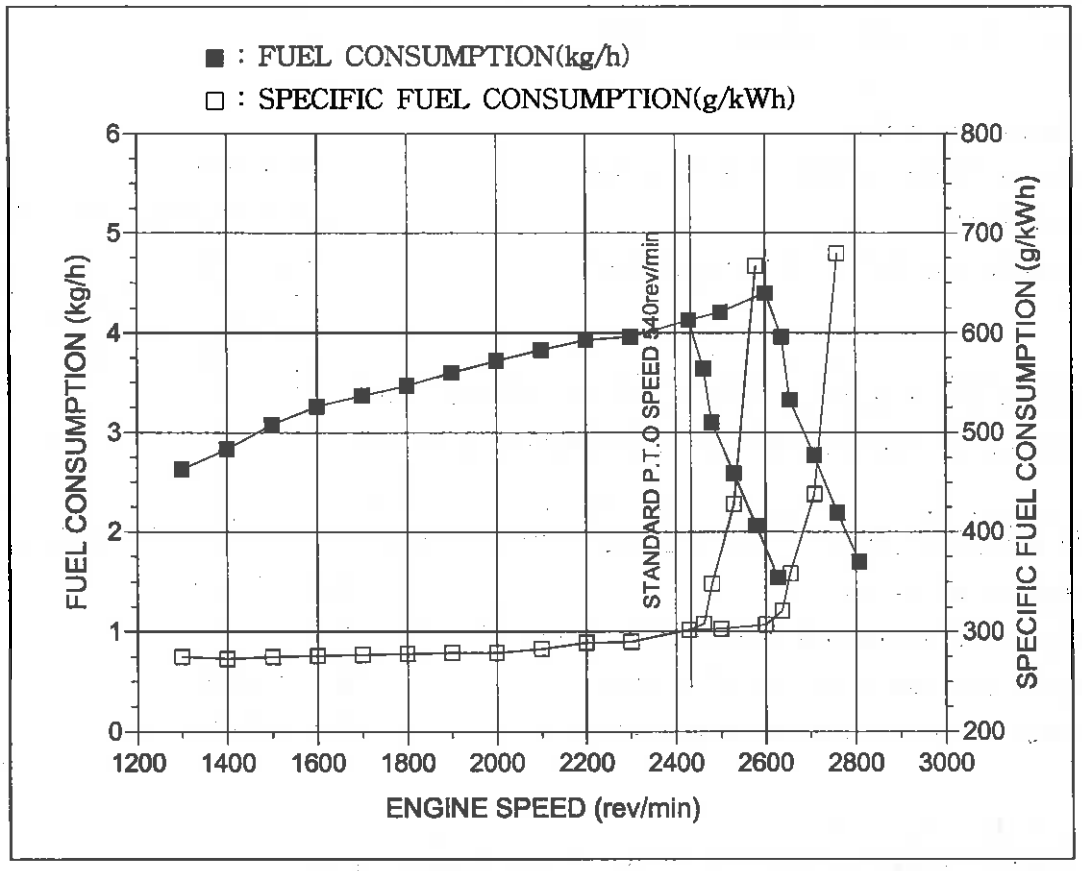
| Mean atmospheric conditions | |
|---|---|
| Temperature | 25 ℃ |
| Pressure | 101.1 kPa |
| Relative humidity | 45 % |
| Maximum temperatures | |
| Coolant | 91 ℃ |
| Engine oil | 103 ℃ |
| Fuel | 30 ℃ |
| Engine air intake | 26 ℃ |

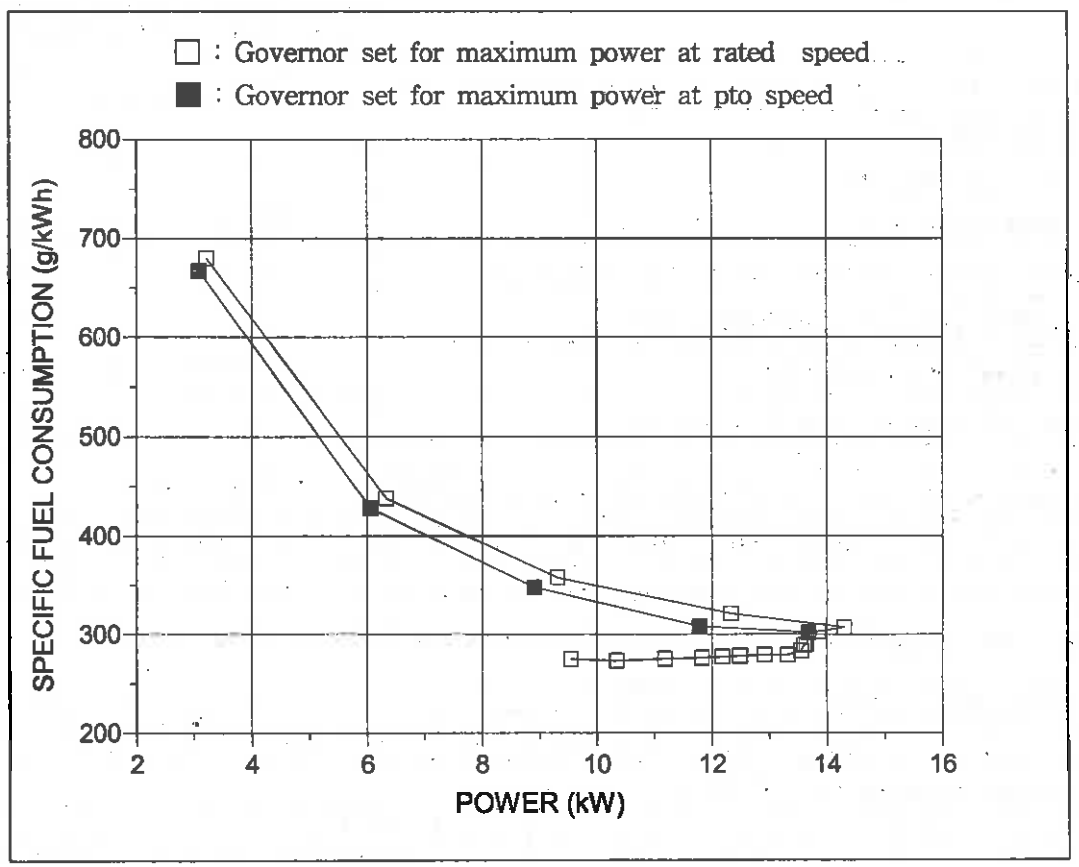
## POWER TAKE - OFF PERFORMANCE CURVES



## POWER TAKE - OFF PERFORMANCE CURVES



## 3.2 HYDRAULIC POWER AND LIFTING FORCE

- Date of tests : 17th to 20th March, 2000

3.2.1 Hydraulic power test

- Sustained pressure with relief valve open : 14.25 MPa
- Pump stalled : Not applicable, open center system
- Pump delivery rate at minimum pressure : 16.25 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 | 4.76 | 12.83 | 1.01 |
| Flow rate and hydraulic pressure corresponding to maximum hydraulic power | 15.36 | 10.62 | 2.72 |

- Tapping point used for test : Rear of tractor
- Temperature of hydraulic fluid if different from 65±5℃ : None
- Opening pressure of the unloading valve : Not available
- Closing pressure of the unloading valve : Not available

3.2.2 Power lift test

- Linkage settings for test - see Table 1.1 and Figures 1.1 and 1.2

| | At the hitch point | On the frame |
|---|---|---|
| Height of lower hitch point above ground in down position | 200 ㎜ | 200 ㎜ |
| Vertical movement<br>without lifting forces<br>with lifting forces | <br>622 ㎜<br>600 ㎜ | <br>888 ㎜<br>875 ㎜ |
| Maximum corrected force exerted through full range | 5.03 kN | 3.23 kN |
| Corresponding pressure of hydraulic fluid | 12.83 MPa | 12.83 MPa |
| Moment about rear-wheel axis | 3.95 kNm | 4.50 kNm |
| Maximum tilt angle of mast from vertical | - | 15 ° |

| Lifting heights relative to the horizontal plane including the lower link pivot point | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | -315 | -300 | -250 | -200 | -100 | 0 | 100 | 200 | 300 | 350 | 400 | 500 | 560 |
| Lifting forces(the values of force measured shall be corrected to corresponding to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting of the hydraulic lifting system): | | | | | | | | | | | | | |
| At the hitch point, corrected to 12.85 MPa | | | | | | | | | | | | | |
| kN | - | - | 5.03 | 5.26 | 5.65 | 6.09 | 6.46 | 6.85 | 7.29 | 7.07 | - | - | - |
| At the frame, corrected to 12.85 MPa | | | | | | | | | | | | | |
| kN | 3.36 | 3.45 | - | 3.78 | 3.91 | 3.95 | 4.00 | 3.89 | 3.73 | - | 3.56 | 3.35 | 3.23 |

## 3.3 DRAWBAR POWER TEST(ballasted and unballasted tractor)

- Date of tests : 4th to 13th May, 2000
- Type of track : Asphalt

| | Height of drawbar above ground | Tyre inflation pressure | |
|---|---|---|---|
| | | Front | Rear |
| | mm | kPa | kPa |
| Unballasted | 340 | 196 | 216 |
| Ballasted | 340 | 196 | 216 |

| Gear number And Range | Power | Drawbar pull | Speed | Engine speed | Slip of wheels | Specific fuel consum-ption | Specific energy | Temperatures | | | Atmospheric conditions | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Fuel | Coolant | Engine oil | Tempe-rature | Relative humidity | Pressure |
| | kW | kN | km/h | rev/min | % | g/kWh | kWh/ℓ | °C | °C | °C | °C | % | kPa |
| 3.3.1 MAXIMUM POWER IN TESTED GEARS (unballasted tractor) | | | | | | | | | | | | | |
| L-2 | 3.69 | 7.22 | 1.84 | 2758 | 15.1 | 683 | 1.206 | 30 | 90 | 101 | 20 | 45 | 100.9 |
| L-3 | 5.33 | 7.42 | 2.59 | 2708 | 15.1 | 543 | 1.518 | 31 | 91 | 102 | 21 | 46 | 100.9 |
| L-4 | 7.66 | 7.25 | 3.81 | 2665 | 15.0 | 459 | 1.794 | 32 | 91 | 102 | 22 | 46 | 100.9 |
| H-1 | 10.81 | 7.15 | 5.44 | 2603 | 13.8 | 408 | 2.022 | 32 | 92 | 103 | 23 | 45 | 100.8 |
| H-2 | 11.52 | 5.44 | 7.62 | 2601 | 7.1 | 384 | 2.148 | 32 | 91 | 102 | 23 | 45 | 100.9 |
| H-3 | 10.92 | 3.45 | 11.41 | 2600 | 3.2 | 405 | 2.037 | 31 | 90 | 101 | 22 | 46 | 100.9 |
| 3.3.2 MAXIMUM POWER IN TESTED GEARS (ballasted tractor) | | | | | | | | | | | | | |
| L-1 | 2.93 | 7.45 | 1.42 | 2772 | 15.1 | 782 | 1.054 | 32 | 89 | 100 | 25 | 45 | 100.8 |
| L-2 | 3.89 | 7.63 | 1.83 | 2738 | 15.1 | 645 | 1.278 | 33 | 90 | 102 | 26 | 45 | 100.8 |
| L-3 | 5.54 | 7.84 | 2.55 | 2683 | 15.0 | 528 | 1.561 | 34 | 90 | 101 | 27 | 44 | 100.8 |
| L-4 | 8.06 | 7.65 | 3.79 | 2647 | 15.0 | 448 | 1.838 | 34 | 91 | 102 | 27 | 44 | 100.8 |
| H-1 | 11.09 | 7.25 | 5.51 | 2603 | 12.6 | 398 | 2.073 | 33 | 90 | 101 | 26 | 46 | 100.6 |
| H-2 | 11.41 | 5.39 | 7.62 | 2601 | 7.2 | 386 | 2.134 | 33 | 89 | 100 | 26 | 45 | 100.8 |
| H-3 | 10.84 | 3.44 | 11.35 | 2601 | 3.6 | 406 | 2.029 | 32 | 90 | 101 | 25 | 46 | 100.8 |
| 3.3.3 FIVE-HOUR TEST | | | | | | | | | | | | | |
| 3.3.3.1 FIVE-HOUR TEST at 75% of pull at maximum power at rated engine speed | | | | | | | | | | | | | |
| H-2 | 8.97 | 4.05 | 7.98 | 2647 | 4.7 | 415 | 1.986 | 32 | 91 | 103 | 26 | 44 | 100.6 |
| 3.3.3.2 FIVE-HOUR TEST at pull corresponding to 15% wheelslip with additional ballast(†) : - kg | | | | | | | | | | | | | |
| L-4 | 8.04 | 7.61 | 3.80 | 2650 | 15.0 | 447 | 1.843 | 33 | 92 | 104 | 25 | 45 | 100.6 |

(†) Test 3.3.3.2 was carried out without additional ballast.

Oil consumption during ten hours duration of tests 3.3.3.1 and 3.3.3.2 : 4.67 g/h

## 3.4 TURNING AREA AND TURNING CIRCLE

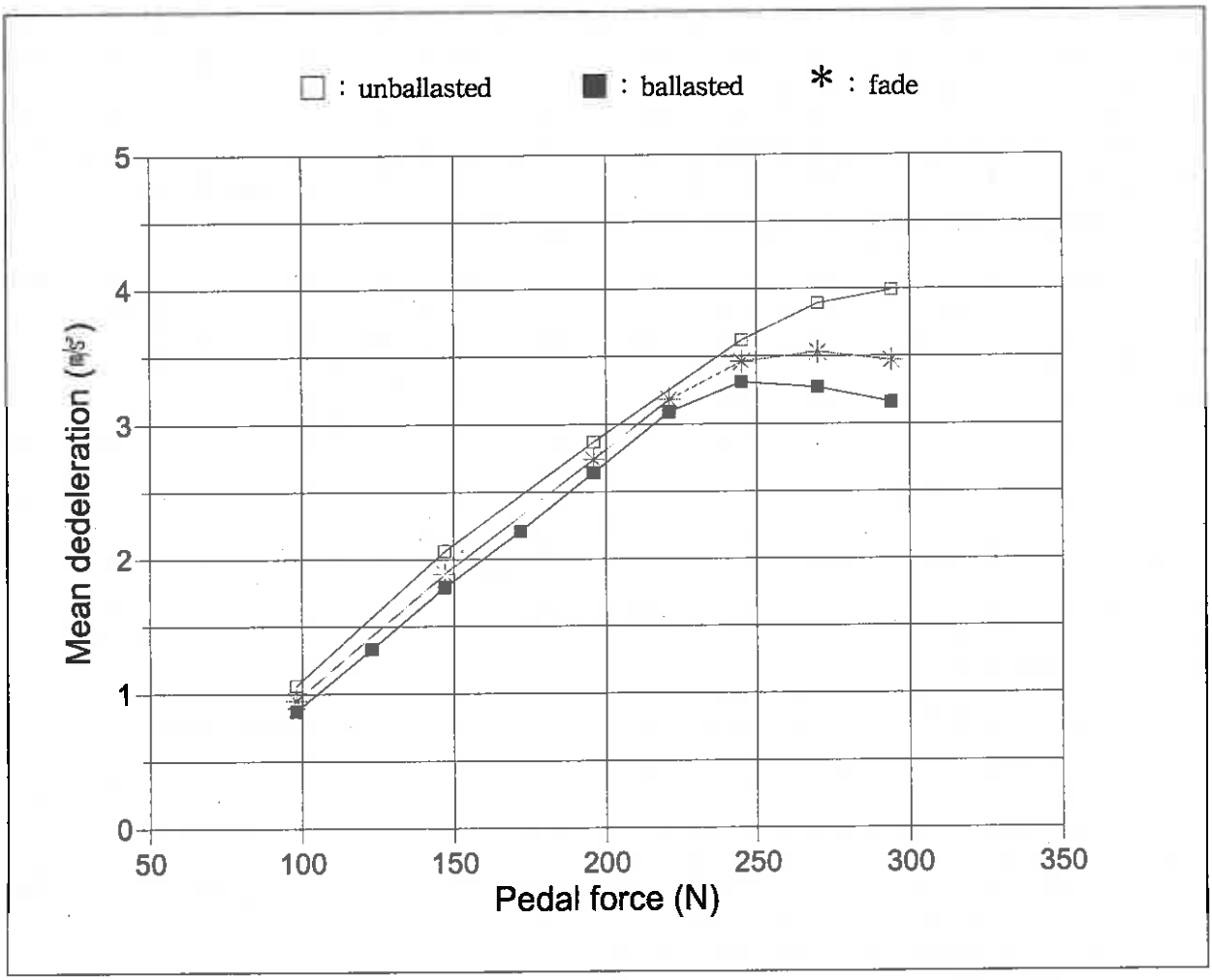
| | With brakes | | Without brakes | |
|---|---|---|---|---|
| | Right-hand | Left-hand | Right-hand | Left-hand |
| | mm | mm | mm | mm |
| Radius of turning area | 2770 | 2825 | 3155 | 3220 |
| Radius of turning circle | 2685 | 2740 | 3070 | 3135 |

## 3.5 LOCATION OF CENTER OF GRAVITY

- Height above ground : 612 mm
- Distance from the vertical plane containing the axis of the rear-wheels : 716 mm
- Distance from the median longitudinal plane of the tractor, to the right : 3 mm
- If the angle of suspension of the tractor is less than 20 ° indicate its value : None

## 3.6 BRAKING

- Date of tests : 17th to 18th May, 2000



3.6.1 Cold service braking device test

| | Speed before application of brakes | Braking device control force | Mean deceleration |
|---|---|---|---|
| | km/h | kN | ㎧ |
| Ballasted tractor | 19.37 | 0.098 | 0.87 |
| | | 0.123 | 1.33 |
| | | 0.147 | 1.79 |
| | | 0.172 | 2.21 |
| | | 0.196 | 2.64 |
| | | 0.221 | 3.09 |
| | | 0.245 | 3.31 |
| | | 0.270 | 3.27 |
| | | 0.294 | 3.16 |
| | | 0.343 | 3.04 |
| Unballasted tractor | 19.36 | 0.098 | 1.06 |
| | | 0.147 | 2.06 |
| | | 0.196 | 2.87 |
| | | 0.245 | 3.62 |
| | | 0.270 | 3.89 |
| | | 0.294 | 3.99 |
| | | 0.319 | 4.24 |
| | | 0.343 | 4.18 |

- Maximum deviation of tractor from its original course : None
- Abnormal vibration : None
- Brake heating method : None

3.6.2 Fade Test

- Maximum deviation of tractor from its original course : None
- Abnormal vibration : None
- Brake heating method : Driven with brakes applied for 1km at 80%(15.41 km/h) of maximum speed with a pedal force corresponding to a decelera -tion of 1 ㎧.

| Speed before application of brakes | Braking device control force | Mean deceleration |
|---|---|---|
| km/h | kN | ㎧ |
| 19.26 | 0.098 | 0.95 |
| | 0.147 | 1.89 |
| | 0.196 | 2.74 |
| | 0.221 | 3.18 |
| | 0.245 | 3.46 |
| | 0.270 | 3.53 |
| | 0.294 | 3.47 |

3.6.3 Parking braking device test

| | Uphill | Downhill |
|---|---|---|
| Braking device control force | 206 N | 206 N |

## 3.7 MEASUREMENT OF EXTERNAL NOISE

- Date of tests : 7th June, 2000
- Sound level meter, make/model/type : Bruel and kjaer, 2236
- Type of track : Asphalt
- Gear number : 8 (H-4) gear
- Travelling speed before acceleration : 14.0 ㎞/h
  - Sound level : 76.1 dB(A)

## 4. REPAIRS

None

## 5. REMARKS

None