CAMTC

Report on test in accordance with the OECD STANDARD CODE FULL CODE (CODE I) for the official testing of agricultural tractors

OECD Approval No: 1483 Full Code
Approval Date: 15 SEP. 1993



JIANGSU—50 tractor with 2WD

Manufactured by Qingjiang Tractor Works
Jiangsu, China
223001, China

Test No: 93OS202

Date: June 1992

China Agricultural Machinery Testing Centre
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Beijing, 100021, China

JS–50 CAMTC OECD No. 1483 Full CODE

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| | |
|---|---|
| – Tractor manufacturer's name and address: | Qingjiang Tractor Works<br>Jiangsu China |
| – Location of tractor assembly: | The manufacturer |
| – Submitted for test by: | The manufacturer |
| – Selected for test by: | The manufacturer with the agreement of CAMTC |
| – Place of running-in: | The manufacturer |
| – Duration of running-in: | 50h |
| – Location of tests: | CAMTC |

## I. SPECIFICATIONS OF TRACTOR

### TRACTOR

| | |
|---|---|
| – Make / Model / Type: | Qingjiang Tractor Works / Jiangsu -50 / Standand |
| – Number of driving wheels: | 2 |
| – Serial N ° : | 2026 |
| – 1st Serial N ° : | 11050 |

### ENGINE

| | |
|---|---|
| – Make / Model / Type: | Shanghai internal combusion Engine Works / 495A / 4 stroke, water cooling, swirl combustion chamber, direct injection, naturally aspirated |
| – Serial N ° : | 22185 |

#### Cylinders

| | |
|---|---|
| – Number / disposition: | 4 / Vertical in line |
| – Bore / stroke: | 95 / 115 mm / mm |
| – Capacity: | 3260 $cm^3$ |
| – Compression ratio: | 16.5 |
| – Arrangement of valves: | Overhead |
| – Cylinder liners: | Dry |

#### Fuel system

| | |
|---|---|
| – Fuel feed system: | Piston fuel feed pump |

| | |
|---|---|
| – Make / Model / Type of fuel filter(s): | Huangpu Automobile Accessory Works / C0706 / paper element type |
| – Capacity of fuel tank: | 46 $dm^3$ |
| – Make / Model / Type of injection pump: | Shanghai Injector and Plunger Pump Works / Four-cylinder plunger-I, in line |
| – Serial N ° : | 1510 |
| – Manufacturer's production setting of injection pump: | |
| • Flow rate (rated engine speed and full load): | 10.00 $dm^3$ / h |
| • Timing: | 23 ° ± 3 ° before T.D.C. |
| – Make / Model / Type of injectors: | Shanghai Injector and Plunger Pump Works / long neck, closed |
| – Injection pressure: | 17.5 ± 0.5 MPa |

Governor

| | |
|---|---|
| – Make / Model / Type: | Shanghai Injector and Plunger Pump Works / Mechanical all-speed |
| – Governed range of engine speed: | from 550 to 2200 rev / min |
| – Rated engine speed: | 2000 rev / min |

Air cleaner

| | |
|---|---|
| – Pre-cleaner | |
| • Make / Model / Type: | Yanzhou filter factory / cyclone incorporate into main |
| – Main cleaner | |
| • Make / Model / Type: | Yangzhou filter factory / K1317A, paper element |

Lubrication system

| | |
|---|---|
| – Type of feed pump: | Rotor |
| – Type of filter(s): | All-flow pressurized paper element |
| – Number: | 1 |

Cooling system

| | |
|---|---|
| – Type of coolant: | Water |
| – Type of pump: | Centrifugal, belt driven |

| | |
|---|---|
| – Specification of fan: | |
| – Number of fan blades: | 4 |
| – Fan diameter: | 380 mm |
| – Coolant capacity: | 14 $dm^3$ . |
| – Type of temperature control: | Thermostat |
| – Superpressure system: | 45 kPa |

Starting system

| | |
|---|---|
| – Make / Model / Type: | Shanghai Automobile Electrical Machinery Factory / 2Q2C / Electrical Solenoid engaged |
| – Starter motor power rating: | 2.5 kW |
| – Cold starting aid: | Eletrothermal plug |
| – Safety device: | Main shift gear in neutral position |

Electrical system

| | |
|---|---|
| – Voltage: | 12 V |
| – Generator | |
| • Make / Model / Type: | Shanghai Automobile Electrical Machinery Factory / 2JF200 / alternator, belt driven |
| • Power: | 0.2 kW |
| – Battery (Number of accumulators): | 2 |
| • Rating: | 150Ah at 20 hours |

Exhaust system

| | |
|---|---|
| – Make / Model / Type: | Shanghai Internal Combustion Engine Works / SH-50, expension silencer |
| – Location: | Left-hand side, vertical |

TRANSMISSION TO WHEELS

Clutch(travel and power take-off)

| | |
|---|---|
| – Make / Model / Type: | Qingjiang Tractor Works / Dry, dual-acting |
| – Mumber of plates: | 1 |
| – Diameter of plates: | 280 mm |
| – Method of operation: | Foot pedal |

Gear box

- Make / Model / Type: Qingjiang Tractor Works / QJ-50 / Mechanical
- Arrangement: GEAR BOX with 4 forward and 1 reverse speed
  GROUP GEAR with 2 ranges (low and high)
- Number of gears: 8 forward, 2 reverse

Rear axle and final drives

- Make / Model / Type: Qingjiang Tractor Works / Crown wheel and pinon bevel gear differential, spur gear final drives
- Differential lock:
  - Type: Mechanical
  - Method of engagement: Hand level operated
  - Method of disengagement: Self disengaging

Front axle and final drives

- Make / Model / Type: Qingjiang Tractor Works / Balanced arm, telescopic axle

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 2000 rev / min ' km / h |
|---|---|---|---|
| forward 1 | L1 | 227.36 | 2.12 |
| 2 | L2 | 151.19 | 3.19 |
| 3 | L3 | 92.72 | 5.21 |
| 4 | L4 | 68.67 | 7.03 |
| 1 | H1 | 56.84 | 8.48 |
| 2 | H2 | 37.80 | 12.76 |
| 3 | H3 | 23.18 | 20.84 |
| 4 | H4 | 17.17 | 28.12 |
| reverse R | L H | 172.76 43.19 | 2.79 11.16 |

(*) Calculated with a tyre dynamic radius index of 640mm (ISO 4251 / 1-1984).

## POWER TAKE-OFF

### Main power take-off

| | |
|---|---|
| - Type: | Semi-independent |
| - Method of engagement: | By hand level |
| - Number of shafts: | 1 |
| - Method of changing power take-off shaft speeds: | By shifting gear level |

### Power take-off proportional to engine speed

| | |
|---|---|
| 540 rev / min | |
| - Location: | At rear of tractor |
| - Diameter of power take-off shaft end: | 35 mm |
| - Number of splines: | In conformity with ISO 500 / 1979 |
| - Height above ground: | 560 mm |
| - Distance from the median plane of the tractor: | 0 mm |
| - Distance behind rear wheel axis: | 237 mm |
| - PTO speed at rated enging speed (2000 rev / min): | 734 rev / min |
| - Engine speed at standard power take-off speed: | 1473 rev / min |
| - Ratio of rotation speeds (enging speed / p.t.o speed): | 2.7248 |
| - Power restriction and maximum torque: | 35.3 kW 528 N.m |
| - Direction of rotation (viewed from behind tractor): | Clockwise |
| 1000 rev / min | |
| - Location: | At rear of tractor |
| - Diameter of power take-off shaft end: | 35 mm |
| - Number of splines: | 6, in conformity with ISO 500 / 1979 |
| - Height above ground: | 560 |
| - Distance from the median plane of the tractor: | 0 mm |
| - Distance behind rear wheel axis: | 237 |
| - PTO speed at rated engine speed (2000 rev / min): | 978 rev / min |
| - Engine speed at standard power take-off speed: | 2045 rev / min |
| - Ratio of rotation speeds (engine speed / p.t.o speed): | 2.045 |
| - Direction of rotation (viewed from behind tractor): | Clockwise |

POWER LIFT

| | |
|---|---|
| – Make: | Qingjiang Tractor Works |
| – Type of hydraulic system: | Semi-remotely mounted, open system |
| – Type and number of cylinders : | 1, single-acting |
| – Type of linkage lock for transport: | Hydraulic lock |
| – Opening pressure of Cylinder Safety Valve: | 17+0.5 MPa |
| – Lift pump type: | Gear |
| – Transmission between pump and engine: | Driven from gear box |
| – Type and number of filters: | 1, metal mesh |
| – Site of oil reservoir: | Transmission housing |
| – Type, number and location of tapping points: | 1, thread, on centre housing top cover |
| – Maximum volume of oil available to external cylinders: | |

Three-point linkage

| | |
|---|---|
| – Category: | In conformity with categories 2 of ISO 730 / 1-1990 |
| – Category adapter: | None |

LIFT TEST
Linkage geometry

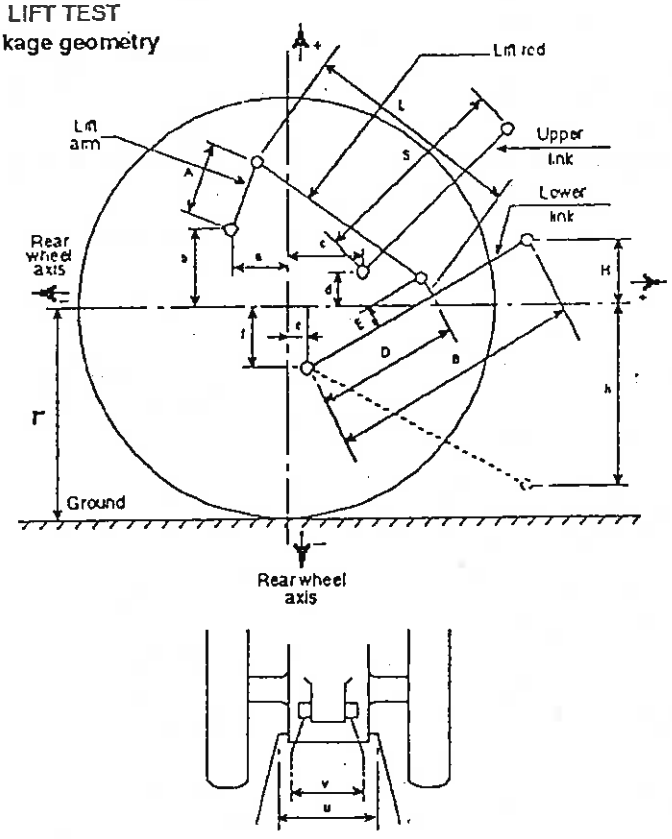


Table 1.1—Dimensions of linkage geometry (when connected to the standard frame)

| | | Dimension or range mm | Settings used in test mm |
|---|---|---|---|
| Length of lift arms | (A) | 230 | 230 |
| Length of lower links | (B) | 900 | 900 |
| Distance of lift arm pivot: horizontally | (a) | 55 forward | 52 |
| point from rear wheel axis: vertically | (b) | 304 | 304 |
| Horizontal distance between the two lower link points | (u) | 495 | 495 |
| Horizontal distance between the two lift arm end points | (v) | 508 | 508 |
| Length of upper link | (s) | from 574 to 760 | 600 |
| Distace of upper link pivot point from rear : horizontally | (c) | 289,290,291 | 290 |
| wheel axis : vertically | (d) | 156,191,226 | 191 |
| Distance of lower link pivot point from rear : horizontally | (e) | 6 forword | 6 |
| wheel axis : vertically | (f) | 231 | 231 |
| Distance of lower link pivot points to lift rod pivot points on lower links | (D) | 450,565 | 450 |
| Length of lift rods | (L) | from 570 to 680 | 613 |
| Height of lower hitch points relative to the rear wheel axis | | | |
| – in low position | (h) | from 212 to 602 | 440 |
| – in high position | (H) | from 78 to 250 | 175 |
| Height above ground of lower hitch points when locked in transport position( * ) | | from 718 to 890 | — |

( * )Assuming(r) = tyre dynamic radius index of = 640mm (ISO 425 / 1–1984).

## TRAILER HITCH

| | |
|---|---|
| – Type: | fixed |
| – Hole diameter: | 34 mm |
| – Height above ground: | 560 mm |
| – Distance of hitch point from rear wheel axis, horizontally: | 630 mm |
| – Distance of hitch point from power take-off shaft end | |
| • Vertically: | 0 mm |
| • Horizontally: | 395 mm |
| – Maximum vertical permissible load: | 8.0 kN |

## STEERING

| | |
|---|---|
| – Make / Model / Type: | Qingjiang Tractor Works / recirculating balls and nut |
| – Method of operation: | Manul operated |

## BRAKES

### Service brake

| | |
|---|---|
| – Make / Model / Type: | Qingjiang Tractor Works / Disc |
| – Method of operation: | Coupled or independent pedals |
| – Trailer braking take-off (air brake): | operated by tractor pedals |

### Parking brake

| | |
|---|---|
| – Type: | Disc |
| – Method of operation: | Pedal locked by ratchet |

## WHEELS

| | |
|---|---|
| – Number | |
| • Front: | 2 steering |
| • Rear: | 2 driving |
| – Wheelbase: | 1950 mm |

- Track width adjustment:

| | Minimum mm | Maximum mm | Adjustment method |
|---|---|---|---|
| Front | 1260 | 1660 | telescopic axle |
| Rear | 1250 | 1750 | Reversing wheels and offset lug rims |

DRIVER'S SEAT

- Make / Model / Type: Wuxi damping seat factory / C3M1 / Spring Suspension
- Type of suspension: Parallelogram linkage
- Type of damping: spring
- Range of adjustment
  - Longitudinal: ± 35 mm
  - Vertical: 0 mm

LIGHTING

| | Height above ground of centre mm | Size mm | Distance from outside side edge to median plane of tractor mm |
|---|---|---|---|
| Headlights | 1209 | Φ150 | 470 |
| Sidelights | 1375 | 128 × 56 | 668 |
| Rearlights | 1455 | Φ134 | 1161 |

## Ⅱ. TEST CONDITIONS

Overall dimensions

| | Lenght | Width | | Height at top of | |
|---|---|---|---|---|---|
| | | Minimum | Maximum | Protective structure | Exhaust silencer |
| | mm | mm | mm | mm | mm |
| Ballasted | 3350 | 1700 | 2200 | / | 2170 |
| Unballasted | 3350 | 1560 | 2060 | / | 2170 |

Ground clearance(unballasted tractor): 370 mm

- Clearance – limiting part: Under lower link pivot point

Tractor mass

(Without frame):

| | Ballasted | | Unballasted | |
|---|---|---|---|---|
| | Without driver kg | With driver kg | Without driver kg | With driver kg |
| Front | 856 | 865 | 808 | 812 |
| Rear | 1651 | 1717 | 1222 | 1293 |
| Total | 2507 | 2582 | 2030 | 2105 |

Ballast

| | Weights | | Water |
|---|---|---|---|
| | Number | Total mass kg | kg |
| Front | 4 | 48 | / |
| Rear | 12 | 429 | / |
| Optional | / | / | / |

Tyres and track width specifications

| | Front | Rear |
|---|---|---|
| Tyres: | | |
| • dimensions | 6.50—16 | 11−32 |
| • ply rating | 6 | 6 |
| • type | Cross ply | Cross ply |
| • maximum load (tyre maunfacturer's) | 4.6 kN | 10.0 kN |
| • maximum load (tractor maunfacturer's) | 4.5 kN | 6.5 kN |
| • inflation pressure (tyre manufacturer's) | 250 kPa | 140 kPa |
| • dynamic radius index | 348 mm | 640 mm |
| Chosen track width | 1260 mm | 1350 mm |

Oils and lubrication

- Capacity and change interval:

| | Capacity $dm^3$ | Oil change h | Filter change h |
|---|---|---|---|
| Engine | 14 | 250 | 500-1000 |
| Gear box | 14 | 1000 | / |
| Rear axle | common with gear box | | / |
| Final drive (rear) | 4.6 | 1000 | / |
| Hydraulic system | 8 | 500 | / |
| Steering | 0.7 | 1000 | / |

- Specifications

| | Recommended | Used during test |
|---|---|---|
| Engine oil<br>• Type:<br>• Viscosity:<br>• Classification: | <br>SAE 100W / 30<br>9.3-12.5 cst at 100℃<br>API CC | <br>CA30<br>10.0—12.5 cst at 100℃<br>GB 5323—85 |
| Transmission oil<br>• Type:<br>• Viscosity:<br>• Classification: | Same as engine oil | Same as engine oil |
| Hydraulic fluid<br>• Type:<br>• Viscosity:<br>• Classification: | Same as engine oil | Same as engine oil |
| Steering oil<br>• Type:<br>• Viscosity:<br>• Classification: | Same as engine oil | Same as engine oil |

Grease:

• Number of lubrication points: 22

Fuel

-Type: No.0 diesel fuel in conformity with GB 252-87 (Chinese stanard)

-Density at 15℃ : 0.848 g / $cm^3$

## Ⅲ. TEST RESULTS

### COMPULSORY TESTS RESULTS

### 1. MAIN POWER TAKE-OFF PERFORMANCE

- **Date and location of tests:** 29th May 1993
- **Type of dynamometer:** SCHENCK W700

| Power | Speed | | Fuel consumption | | | Specific energy |
|---|---|---|---|---|---|---|
| | Engine | P.T.O | Hourly | | Specific | |
| kW | rev / min | | kg / h | l / h | g / kWh | kWh / l |
| 1.1 MAXIMUM POWER-TWO-HOUR TEST | | | | | | |
| 33.2 | 1961 | 720 | 8.24 | 9.74 | 248 | 3.41 |
| 1.2 POWER AT RATED ENGINE SPEED | | | | | | |
| 31.8 | 2000 | 734 | 7.84 | 9.27 | 247 | 3.43 |
| 1.3 STANDARD POWER TAKE-OFF SPEED (540 ± 10 rev / min) | | | | | | |
| 28.0 | 1471 | 540 | 7.04 | 8.32 | 251 | 3.37 |
| 1.4 PART LOADS<br>1.4.1 the torque corresponding to maximum power at rated engine speed | | | | | | |
| 31.8 | 2000 | 734 | 7.84 | 9.27 | 247 | 3.43 |
| 1.4.2 85% of torque obtained in 1.4.1 | | | | | | |
| 27.3 | 2016 | 740 | 6.82 | 8.06 | 250 | 3.38 |
| 1.4.3 75% of torque defined in 1.4.2 | | | | | | |
| 20.6 | 2027 | 744 | 5.39 | 6.37 | 262 | 3.23 |
| 1.4.4 50% of torque defined in 1.4.2 | | | | | | |
| 13.8 | 2046 | 751 | 4.24 | 5.01 | 307 | 2.76 |
| 1.4.5 25% of torque defined in 1.4.2 | | | | | | |
| 7.0 | 2070 | 760 | 3.13 | 3.70 | 447 | 1.89 |
| 1.4.6 unloaded | | | | | | |
| 0 | 2087 | 766 | 2.09 | 2.47 | / | / |

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| Power | Speed | | Fuel consumption | | | Specific energy |
|---|---|---|---|---|---|---|
| | Engine | P.T.O | Hourly | | Specific | |
| kW | rev / min | | kg / h | l / h | g / kWh | kWh / l |
| 1.5 PART LOADS AT STANDARD POWER TAKE-OFF SPEED (540 rev / min) | | | | | | |
| 1.5.1 the torque corresponding to maximum power | | | | | | |
| 28.0 | 1471 | 540 | 7.04 | 8.32 | 251 | 3.37 |
| 1.5.2 85% of torque obtained in 1.5.1 | | | | | | |
| 24.1 | 1487 | 546 | 5.74 | 6.78 | 238 | 3.55 |
| 1.5.3 75% of torque defined in 1.5.2 | | | | | | |
| 18.6 | 1528 | 561 | 4.54 | 5.37 | 244 | 3.47 |
| 1.5.4 50% of torque defined in 1.5.2 | | | | | | |
| 12.7 | 1566 | 575 | 3.43 | 4.05 | 270 | 3.13 |
| 1.5.5 25% of torque defined in 1.5.2 | | | | | | |
| 6.6 | 1610 | 591 | 2.46 | 2.91 | 373 | 2.27 |
| 1.5.6 unloaded | | | | | | |
| 0 | 1648 | 605 | 1.54 | 1.82 | / | / |

- No load maximum engine speed: 2087 rev / min
- Torque (equivalent crankshaft) at maximum power: 162 N.m
- Torque (equivalent crankshaft)at maximum power at rated engine speed: 152 N.m
- Maximum torque (equivalent crankshaft): 185 N.m
  (engine speed: 1335 rev / min)
- Mean atmospheric conditions
  - Temperature: 29℃
  - Pressure: 100.0 kPa
  - Relative humidity: 70%
- Maximum temperatures
  - Coolant: 99℃
  - Engine oil: 111℃
  - Fuel: 28℃
  - Engine air intake: 36℃

## 2. HYDRAULIC POWER AND LIFTING FORCE

- Date of tests: 5th, June, 1993

### 2.1 HYDRAULIC POWER TEST

- Sustained pressure with relief valve open: 18.0 MPa
- Pump delivery rate at minimum pressure: 22.2 l / min

| | Flow rate | Pressure | Power |
|---|---|---|---|
| | l / min | MPa | kW |
| Flow rate corresponding to a hydraulic pressure equivalent to 90 per cent of the actual relief valve pressure setting and corresponding hydraulic power | 21.0 | 16.0 | 5.60 |
| Flow rate and hydraulic pressure corresponding to maximum hydraulic power | 21.0 | 16.0 | 5.60 |

- Tapping point used for test: Auxiliary service connection
- Temperature of hydraulic fluid: 67℃

### 2.2 POWER LIFT TEST

| | at the hitch point | on the frame |
|---|---|---|
| Height of lower hicht points above ground in down position | 200 mm | 181 mm |
| Vertical movement | 615 mm | 811 mm |
| Maximum corrected force exerted through full range | 10.8 kN | 8.6 kN |
| Corresponding pressure of hydraulic fluid | 16.2 MPa | 16.2 MPa |
| Moment about rear wheel axis | 9.66 kN.m | 12.93 kN.m |
| Maximum tilt angle of mast from vertical | / | 15 degrees |

– Linkage setting for test: see Table 1.1 and figures 1.1

| Lifting heights relative to the horizontal plane including the lower link pivot points | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | −228 | −209 | −200 | −100 | 0 | +100 | +200 | +300 | +400 | +406 | +500 | +583 |
| Lifting forces(the values measured are 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 point kN | | 13.7 | 13.9 | 15.2 | 16.2 | 16.6 | 16.5 | 16.3 | 15.0 | 10.8 | | |
| Corresponding pressure: 16.2 MPa | | | | | | | | | | | | |
| at the frame kN | 13.3 | | 13.3 | 13.2 | 12.8 | 12.3 | 11.3 | 10.5 | 9.9 | | 9.2 | 8.6 |
| Corresponding pressure: 16.2 MPa | | | | | | | | | | | | |

## 3. DRAWBAR PERFORMANCE

– Date of tests: June 1993

– Type of track: Concrete

| | | Tyre inflation pressure | |
|---|---|---|---|
| | Height of drawbar above ground | Front | Rear |
| Unballasted | 685 mm | 280 kPa | 110 kPa |
| Ballasted | 680 mm | 280 kPa | 110 kPa |

DRAWBAR PERFORMANCE

| Gear and range | Power | Drawbar pull | Speed | Engine speed | Slip of wheels | Specific fuel Consumption | Specific energy | Temperature | | | Atmospheric conditions | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Fuel | Coolant | Engine oil | Temperature | Relative humidity | Pressure |
| | kW | kN | km / h | rev / min | % | g / kWh | kWh / l | ℃ | ℃ | ℃ | ℃ | % | kPa |
| 3.1 MAXIMUM POWER IN TESTED GEARS (unballasted tractor) | | | | | | | | | | | | | |
| L1 | 6.37 | 12.07 | 1.90 | 2064 | 15.1 | 588.5 | 1.43 | 34 | 77 | 95 | 30 | 28 | 100.2 |
| L2 | 9.42 | 11.99 | 2.83 | 2050 | 15.1 | 484.0 | 1.74 | 34 | 78 | 95 | 30 | 26 | 100.2 |
| L3 | 15.43 | 12.10 | 4.59 | 2027 | 15.0 | 405.6 | 2.08 | 35 | 79 | 95 | 31 | 29 | 100.2 |
| L4 | 20.07 | 11.71 | 6.17 | 2017 | 15.0 | 375.3 | 2.25 | 37 | 82 | 96 | 32 | 30 | 100.2 |
| H1 | 24.72 | 12.07 | 7.37 | 2003 | 15.3 | 335.4 | 2.52 | 37 | 82 | 98 | 35 | 36 | 100.2 |
| 3.2 MAXIMUM POWER IN TESTED GEARS (ballasted tractor) | | | | | | | | | | | | | |
| L1 | 7.92 | 15.08 | 1.89 | 2058 | 15.4 | 558.4 | 1.51 | 35 | 80 | 93 | 35 | 36 | 100.1 |
| L2 | 11.75 | 15.05 | 2.81 | 2041 | 15.4 | 427.4 | 1.98 | 42 | 81 | 96 | 35 | 36 | 100.1 |
| L3 | 19.82 | 15.58 | 4.58 | 2019 | 14.8 | 375.9 | 2.24 | 43 | 87 | 98 | 35 | 36 | 100.0 |
| L4 | 26.05 | 15.08 | 6.22 | 1994 | 12.4 | 324.0 | 2.60 | 43 | 88 | 100 | 35 | 35 | 100.0 |
| H1 | 26.95 | 12.50 | 7.76 | 1995 | 9.2 | 314.0 | 2.69 | 43 | 93 | 106 | 35 | 36 | 100.0 |
| 3.3.1 FIVE HOUR TEST at 75% of pull at maximum power with ballast 300kg | | | | | | | | | | | | | |
| H1 | 21.49 | 9.49 | 8.15 | 2018 | 6.7 | 349.9 | 2.45 | 43 | 88 | 98 | | | |
| 3.3.2 FIVE HOUR TEST at pull corresponding to 15% wheelslip | | | | | | | | | | | | | |
| L3 | 19.83 | 15.35 | 4.65 | 2024 | — | — | — | 42 | 87 | 98 | 35 | 35 | 100.0 |

Oil consumption during ten hours duration of tests 3.3.1 and 3.3.2 : 43 g / h

Note:In CAMTC the safety speed of drawbar testing is within the limits of 12km / h.

## 4. TURNING AREA AND TURNING CIRCLE

| | With brakes | | Without brakes | |
|---|---|---|---|---|
| | Right hand | Left hand | Right hand | Left hand |
| | m | m | m | m |
| Radius of turning area | 6.27 | 6.07 | 6.74 | 6.59 |
| Radius of turning circle | 5.97 | 5.77 | 6.44 | 6.29 |

## 5. LOCATION OF CENTRE OF GRAVITY

- Height above ground: 702 mm
- Distance forward from the vertical plane containing the axis of the rear wheels: 752 mm
- Distance from the median plane of the tractor: R3 mm

## 6. BRAKING

- Date of tests: 2nd June 1993
- Type of track: Concrete
- Speed before application of brakes: 30.0 km / h

### 6.1 COLD SERVICE BRAKING DEVICE TEST

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ballasted tractor | Braking device control force N | 100 | 150 | 250 | 350 | 450 | 550 | 600 |
| | Mean deceleration $m / s^2$ | 1.00 | 1.33 | 2.05 | 2.60 | 2.81 | 2.93 | 2.93 |
| Unballasted tractor | Braking device control force N | 100 | 150 | 250 | 350 | 450 | 550 | 600 |
| | Mean deceleration $m / s^2$ | 0.80 | 1.10 | 1.70 | 2.30 | 2.65 | 2.80 | 2.80 |

## 6.2 FADE TEST

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ballasted tractor | Braking device control force N | 100 | 150 | 250 | 350 | 450 | 550 | 600 |
| | Mean deceleration $m / s^2$ | 0.68 | 1.00 | 1.55 | 2.15 | 2.26 | 2.71 | 2.71 |

- Maximum deviation of tractor from its original course: 0
- Abnormal vibration: None
- The brakes were heated by: pulling

## 6.3 PARKING BRAKING DEVICE TEST

| | up | Down |
|---|---|---|
| Braking device control force, N | 430 | 380 |

## 7. MEASUREMENT OF EXTERNAL NOISE LEVEL

- Date of test: 2nd June 1993
- Sound level meter, Make / Model / Type: B & K 2235
- Type of track: Concret
- Gear number: H4
- Travelling speed before acceleration: 22.41 km / h
- Sound level: 84.5 dB(A)

## Ⅳ. REPAIRS AND ADJUSTMENTS DURING TESTS: None

## Ⅴ. REMARKS None

Test carried out by: Wang Yuanxiang, Tang Zhaoyu, Gen Zhanbin, Zhang Menghua

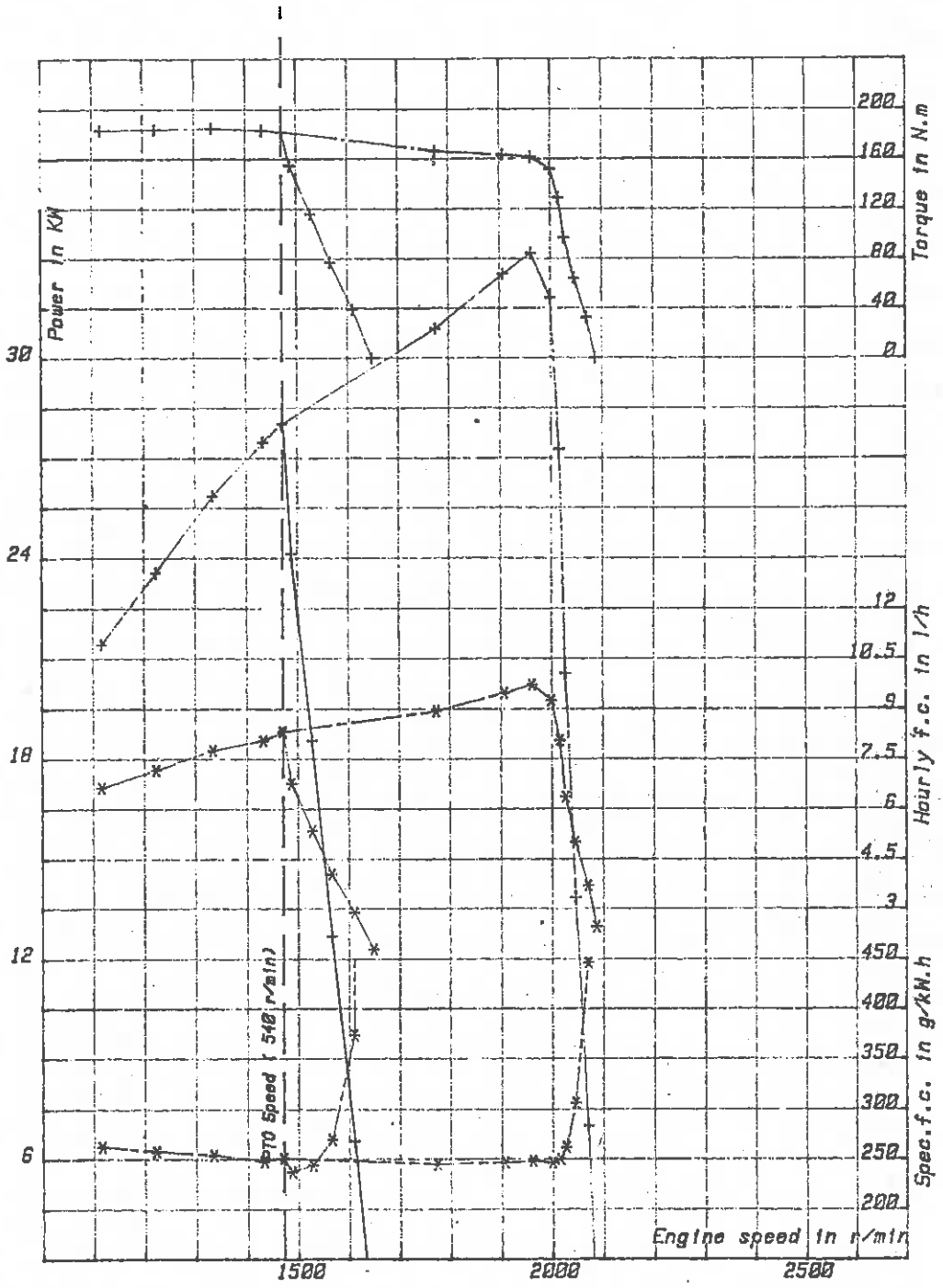
Officer in charge: Bu Yuxiang

Chief of Tractor Testing division: Li Xi Jiang

For the director: Wang Lian Sheng

# ANNEX

## MAIN POWER TAKE–OFF TEST CURVES



# MAIN POWER TAKE-OFF TEST CURVES

