STATENS MASKIN-PROVNINGAR

NATIONAL MACHINERY TESTING INSTITUE

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# TEST BULLETIN: OECD No. 913

**Date of approval 1984-11-20**

## REPORT ON TEST IN ACCORDANCE WITH OECD TEST CODE FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS

# AGRICULTURAL TRACTOR ZETOR 6245

Manufactured by:
Agrozet-Zetor, Brno, Czechoslovakia

Test No. 6562

# Agricultural tractor Zetor 6245




This bulletin is based on engineering tests in accordance with the OECD Tractor Code.
It does not contain an evaluation of the performance of the tractor on practical farm work.

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| | |
|---|---|
| Tractor manufacturer's name and address: | Agrozet-Zetor, Brno, Czechoslovakia |
| Submitted for test by: | Zetor Sweden AB, Helsingborg, Sweden |
| Selected for test by: | The manufaturer with the agreement of the testing institute |
| Place of running in: | Agrozet-Zetor, Brno, Czeckoslovakia |
| Duration of running in: | 60 hours |

## Specifikation of tractor

| | |
|---|---|
| Make | Zetor |
| Model | 6245 |
| Type | Four wheel driven, unit construction |
| Serial No. | 1004 |
| **Engine** | |
| Make | Zbrojovka |
| Model | 6201 |
| Type | 4-stroke, direct injection, diesel engine, water cooled |
| Serial No. | 00017 |
| Cylinder Number | 4 |
| Disposition | Vertical, in-line |
| Bore/Stroke | 100/110 mm |
| Capacity | 3.456 $dm^3$ |
| Compression ratio | 17:1 |
| Arrangement of valves | Overhead |
| Cylinder liners | Wet, replaceable |
| **Fuel system** | |
| Type of fuel feed | Mechanical fuel feed pump, CD1A Motorpal (Piston type) |
| Make, type and model of fuel filters | Autobrzdy, 03-9800.00 full flow replaceable paper element filter |
| Fuel tank capacity | 70 $dm^3$ |
| Make, type and model of injection pump | Motorpal, PP4M8K 1e 3113, in-line type |
| Manufacturer's production setting | Fuel delivery 10.7 – 11.2 $cm^3$ for 200 injections at 1100 rev/min pump speed (Bench test figures), injection timing 22.5° + 1° before T.D.C. |
| Make, type and model of injectors | Motorpal, multihole injection nozzles (4 holes) DOP 160S 430 in nozzle holders VA 78 S 453 a 2683 |
| Manufaturer's production setting | 16.5 + 0.8 MPa |
| **Governor** | |
| Make | Motorpal |
| Type | Mechanical, incorporated in fuel injection pump, RV 3 M 300/1100-2534 |
| Range of engine speed | 600 – 2460 rev/min |
| Rated engine speed | 2200 rev/min |
| **Air cleaner** | |
| Make | Sandrik |
| Type and model of cleaner | Oil type 9420.11. Pre-cleaner, PC 250 (centrifugal) |
| Oil capacity | 1.3 $dm^3$ |

| | |
|---|---|
| **Exhaust silencer** | Expansion chamber type<br>Dimensions: 93×160×582×1503 mm<br>Vertical outside bonnet on left hand-side, debouch 2.68 m above ground |
| **Lubrication system** | |
| Type | Forced feed from gear type pump with metal strainer in oil sump |
| Make and type of filter | Full flow, centrifugal, RHP 2/A, Motor C. Budejovice, service period 200 h |
| Oil capacity | 12 $m^3$ |
| Changing period | 200 h |
| Recommended oil | Engine oil according to API SC/CB, SAE 20W/30 |
| **Cooling system** | |
| Type | Water cooled assisted by centrifugal pump, 380 mm dia 6-blade belt driven fan |
| Coolant capacity | 10.5 $dm^3$ |
| Means for temperature control | Thermostat |
| Pressure | Over pressure 30–40 kPa |
| **Starting system** | Electrical |
| Make | Pal Magneton |
| Type | 443 115 144 722, electrical, solenoid engaged starter motor, 2.9 kW–12 V |
| Cold starting aids | Device for increasing fuel delivery incorporated in fuel injection pump |
| **Electrical system** | |
| Voltage | 12 V |
| Generator | |
| Make | Pal Magneton |
| Type | Alternator, 443 113 516 184, 14V/55A |
| Battery | |
| Make | Akuma |
| Type | 12 D 2.1 Lead-acid, 1 battery 12 V |
| Capacity | 150 Ah at 20 h rating |
| **Transmission** | |
| Clutch | |
| Make | Zbrojovka |
| Type and diameter of disc | Double plate dry clutch, 280 mm dia, with organic friction material |
| Method of operation | Foot pedal for gearbox, hand lever for p.t.o. |
| **Gearbox** | |
| Make | Zetor |
| Type | Sliding gear. Gearbox with 5 forward speeds and 1 reverse. Reduction gearbox with 2 ranges. |
| No. of speeds | Totally 10 forward and 2 reverse |

**Rear axle and final drive**

| | |
|---|---|
| Make | Zetor |
| Type | Crown wheel and pinion, differential and spur gear final drive. Pedal operated, self disengaging differential lock |

**Oil capacity**

| | |
|---|---|
| Gearbox, rear axle and final drive | 27 + 3.8 $dm^3$ (includes volume necessary for power lift) |
| Filter | Full-flow oil filter with replaceable paper element, changing period 600 hours. Suction filter with magnetic element, cleaning period 200 hours |
| Change period | 1200 hours |
| Recommended oil | According to API GL-4, SAE 80W |

**Front axle and final drive**

| | |
|---|---|
| Make | Zetor |
| Type | Crown wheel and pinion, differential and planetary final drives in the front wheels. Driven from gear box by a universal joint shaft. Engaging and disengaging by hand operated mechanical clutch |
| Oil capacity | 4 $dm^3$. Changing period 2400 hours |
| Recommended oil: | According to API GL-4, SAE 80W |

| Gear | Number of engine revolutions for one revolution of driving wheels | Nominal travelling speed at rated engine speed* | |
|---|---|---|---|
| | | km/h | m/s |
| Forward | | | |
| 1L | 344.8 | 1.68 | 0.47 |
| 2L | 264.9 | 2.19 | 0.61 |
| 3L | 190.1 | 3.05 | 0.85 |
| 4L | 133.5 | 4.35 | 1.21 |
| 5L | 97.3 | 5.96 | 1.66 |
| 1H | 81.4 | 7.13 | 1.98 |
| 2H | 62.5 | 9.28 | 2.58 |
| 3H | 44.9 | 12.92 | 3.59 |
| 4H | 31.5 | 18.42 | 5.12 |
| 5H | 23.0 | 25.23 | 7.01 |
| Reverse | | | |
| 1 | 255.5 | 2.27 | 0.63 |
| 2 | 61.2 | 9.49 | 2.64 |

* With tyre rolling radius index of 700 mm (Tyres 16.9/14-28)

**Power take-off**

| | |
|---|---|
| Make | Zetor |
| Location | At rear of tractor |
| Type of drive | Independent p.t.o. Engaged by hand lever operated disc clutch. 2 shiftable speeds 540/1000 rev/min |
| Dimensions | According to ISO 500 |
| No. of splines | 6 (dia. 34.9 mm) |
| Height above ground | 670 mm in tractor's median plane, distance to the rear axle centre 268 mm |

**Proportional engine speed p.t.o.**

| | |
|---|---|
| 540 rev/min p.t.o. speed | 596 rev/min at rated engine speed. Standard p.t.o. speed, 540 rev/min, at 1994 rev/min engine speed.<br>Direction of rotation: clockwise, viewed facing driving end. |
| 1000 rev/min p.t.o. speed | 1073 rev/min at rated engine speed. Standard p.t.o. speed, 1000 rev/min, at 2050 rev/min engine speed.<br>Direction of rotation: clockwise, viewed facing driving end. |

**Proportional ground speed p.t.o.**

| | |
|---|---|
| Reduction gear in high position | Distance travelled for one revolution of the p.t.o. 313 mm.<br>Number of p.t.o. revolutions for one revolution of driving wheel 14.04.<br>Direction of rotation: clockwise, viewed facing driving end in forward gear. |
| Reduction gear in low position | Distance travelled for one revolution of the p.t.o. 74 mm.<br>Number of p.t.o. revolutions for one revolution of driving wheel 59.46.<br>Direction of rotation: clockwise, viewed facing driving end in forward gear. |
| **Belt pulley** | (Not fitted for test) |

**Power lift**

| | |
|---|---|
| Make | Zetor |
| Type | Single acting. Gear type pump with 2 shiftable speeds.<br>Independent pump drive from p.t.o. intermediate shaft.<br>Working pressure 16.0 + 2 MPa.<br>Oil supplied from rear axle housing to ram cylinder.<br>Oil capacity: 27 $dm^3$.<br>Oil capacity available for external use 10 $dm^3$ (stationary and moving).<br>Category 2 implement linkage according to ISO 730 with top link sensing. Draught, mixed and position control.<br>Four operating levers.<br>External tappings: 2 single acting or 1 double acting. |
| Dimensions | Length of lower links: 856 mm<br>–"– top link: 590–770 mm<br>–"– lift rods: 455–585 mm<br>Vertical adjustment: 89–408 mm above ground in lowest position. |
| **Drawbar** | Height above ground 350/435 mm.<br>Vertical distance relative to p.t.o. 235/320 mm below.<br>Horizontal distance from rear axle 680 mm.<br>Position relative to p.t.o. 410 mm.<br>Lateral and longitudinal adjustment: none<br>Coupling pin diameter 30 mm. |

| | |
|---|---|
| **Hitch** | Height above ground 450 mm. Vertical distance relative to p.t.o. 220 mm below.<br>Horizontal distance from rear axle 443 mm, position relative to p.t.o. 180 mm. Permissible vertical load 15 kN. |
| **Steering** | |
| Make | NSK – Japan. Technometra – Radotin. |
| Type | Mechanical power assisted, hydraulic pump directly driven by the engine with own oil circuit.<br>Oil capacity 4.4 $dm^3$.<br>Recommended oil ISO VG 22. |
| Change period | 1200 hours. |
| Filter | Full-flow oil filter with replaceable paper element. |
| **Brakes** | |
| Make | Zetor |
| Type | Hydraulically actuated, dry drum brakes mounted on final gear shafts.<br>Independent or combined pedal operated.<br>Parking brake with hand lever operated band brake on differential pinion shaft. |
| **Wheels** | |
| Steering wheels | Two at front.<br>Type: Pneumatic, multirib 11.2/10-24/6-ply rating, cross-ply tyres.<br>Maximum permissible mass on each tyre 1045 kg at 180 kPa pressure.<br>Track width 1510 and 1790 mm. Changed by off-set lugs on rims. |
| Driving wheels | Two at rear.<br>Type: Pneumatic, multirib 16.9/14–28/8-ply rating, cross-ply tyres.<br>Maximum permissible mass on each tyre 2175 kg at 170 kPa pressure.<br>Track width 1425, 1500, 1575, 1650, 1725, 1800 mm changed by reversing wheel centres and off-set lugs on rims. |
| **Wheelbase** | 2222 mm |
| **Seat** | |
| Make | Zetor, model 5911, 5400. |
| Type | Mechanical suspension, adjustable to driver's mass. Damping by hydraulic shock absorber.<br>Range of adjustment 150 mm forward and backwards and 60 mm up and down. |
| **Protective cab** | |
| Make | Zetor |
| Type | BK 6011 |
| **Number of grease points** | |
| Whole tractor | 24 |

Overall dimensions (Tyre size front 11.2/10-24, rear 16.9/14-28)

| | Length, m | Width[1], m | Height[2], m |
|---|---|---|---|
| With ballast | 4.01 | 1.99 | 2.68 |
| Without ballast | 3.76 | 1.99 | 2.68 |

Minimum ground clearance 375 mm to underside of front axle.

[1] With track width of 1425 mm (Rear wheels) and 1510 mm (Front wheels)
[2] Measured to top of exhaust pipe.

**Lighting**

The lighting system is in accordance with the national Czechoslovak regulations for road traffic and the national Swedish regulations (FK 20 paragraph).

| | Height above ground of centre mm | Size mm | Distance from outside edge of tractor to centre[2] mm |
|---|---|---|---|
| Head lights | 1140 | 130 | 870 |
| Side lights | 1510 | 40×55[1] | 315 |
| Rear lights | 1460 | 70×105[1] | 260 |
| Reflectors | – – | – – | – – |

[1] Rectangular
[2] With track width of 1425 mm Rear wheels
1510 mm Front wheels

## Conditions During test

| | | |
|---|---|---|
| **Masses** | Tractor without driver but with tanks full | |
| Without ballast | Part of mass on front wheels | 1425 kg |
| | Part of mass on rear wheels | 2050 kg |
| | Total mass | 3475 kg |
| With ballast | Part of mass on front wheels | 1825 kg |
| | Part of mass on rear wheels | 2780 kg |
| | Total mass | 4605 kg |
| Ballast | Front: Frame and front weights | total 400 kg |
| | Rear: Weights | total 300 kg |
| | Liquid | total 430 kg |

**Track setting**

Front: 1510 mm
Rear: 1425 mm

### Fuel and lubricants used in tests

Diesel fuel to Swedish Standard SS 155432. Density at 15°C 0.840 g/cm$^3$. Viscosity at 20°C 3.2 mm$^2$/s. Cetane number 49. Engine oil. According to API SC/CB, OA-M5AD (SAE 20W/30). Transmission oil. According to API GL-4, OA-PP80 (SAE 80W)

## Compulsory tests

### 1. Main power take-off performance

Date and location of tests: 1983-04-26, Ultuna, Uppsala, Sweden
Type of dynamometer: Eddy current, make Zöllner

| Power | Speed rev/min | | Fuel consumption | | | | Specific energy | |
|---|---|---|---|---|---|---|---|---|
| kW | Engine | p.t.o. | l/h | kg/h | g/MJ | kg/kWh | MJ/l | kWh/l |
| **Maximum power** At 2-hour test | | | | | | | | |
| 38.4 | 2200 | 596 | 12.23 | 10.27 | 74.4 | 0.268 | 11.30 | 3.14 |
| At rated engine speed | | | | | | | | |
| 38.4 | 2200 | 596 | 12.23 | 10.27 | 74.4 | 0.268 | 11.30 | 3.14 |
| **Varying loads,** the governor hand lever in the position corresponding to maximum power at full load | | | | | | | | |
| (1) 85% of the torque at max. power | | | | | | | | |
| 33.9 | 2266 | 614 | 10.95 | 9.20 | 75.4 | 0.271 | 11.14 | 3.09 |
| (2) Unloaded | | | | | | | | |
| 0.3 | 2399 | 650 | 3.99 | 3.35 | – – | – – | – – | – – |
| (3) 50% of the torque defined in (1) | | | | | | | | |
| 17.4 | 2329 | 631 | 7.26 | 6.10 | 97.1 | 0.350 | 8.65 | 2.40 |
| (4) Maximum power | | | | | | | | |
| 38.6 | 2200 | 596 | 12.20 | 10.25 | 73.8 | 0.266 | 11.40 | 3.16 |
| (5) 25% of the load defined in (1) | | | | | | | | |
| 8.9 | 2373 | 643 | 5.55 | 4.66 | 145.6 | 0.524 | 5.77 | 1.60 |
| (6) 75% of the load defined in (1) | | | | | | | | |
| 25.8 | 2296 | 622 | 9.02 | 7.58 | 81.8 | 0.295 | 10.26 | 2.85 |
| **Varying loads,** the governor hand lever in the position corresponding to standard p.t.o. speed at full load (540 rev/min) | | | | | | | | |
| (1) 85% of the torque at maximum power | | | | | | | | |
| 32.8 | 2071 | 561 | 10.20 | 8.57 | 72.5 | 0.261 | 11.59 | 3.22 |
| (2) Unloaded | | | | | | | | |
| 0.2 | 2215 | 600 | 3.48 | 2.92 | – – | – – | – – | – – |
| (3) 50% of the torque defined in (1) | | | | | | | | |
| 17.1 | 2156 | 584 | 6.74 | 5.66 | 91.8 | 0.331 | 9.15 | 2.54 |
| (4) Maximum power | | | | | | | | |
| 37.0 | 1993 | 540 | 11.27 | 9.47 | 71.1 | 0.256 | 11.81 | 3.28 |
| (5) 25% of the torque defined in (1) | | | | | | | | |
| 8.6 | 2178 | 590 | 4.92 | 4.13 | 132.6 | 0.477 | 6.33 | 1.76 |
| (6) 75% of the torque defined in (1) | | | | | | | | |
| 25.1 | 2115 | 573 | 8.43 | 7.08 | 78.2 | 0.282 | 10.74 | 2.98 |

Standard specific fuel consumption:
75.4(0.271)/97.1(0.350) g/MJ(kg/kWh)
72.5(0.261)/91.8(0.331) g/MJ(kg/kWh)

| | | |
|---|---|---|
| No load, maximum engine speed | | 2399 rev/min |
| Torque at maximum power | | 167 Nm |
| Maximum torque | | 186 Nm at 1400 rev/min engine speed |
| Mean atmospheric conditions: | Temperature | 19°C |
| | Pressure | 102.8 kPa |
| | Rel. humidity | 28% |
| Maximum temperatures: | Coolant | 79°C |
| | Engine oil | 98°C |
| | Fuel | 20°C |
| | Engine air intake | 22°C |

**2. Drawbar performance**

Date of tests: 1984-08-14/15, 1984-09-05
Type of track: Tarmac
Height of drawbar above ground

| | |
|---|---|
| unballasted | 350 mm |
| ballasted | 345 mm |

Tyre inflation pressure:

| | | | | |
|---|---|---|---|---|
| unballasted | front | 100 kPa | rear | 80 kPa |
| ballasted | front | 100 kPa | rear | 95 kPa |

Results see Table 1.
Engine oil consumption during ten hours duration of test (iii and iv) was 37 g/h. Test (iv) was carried out with additional ballast. Power, speed, slip and fuel consumption do not correspond to test (ii) gear 3 L.

**Table 1. Drawbar performance**

| Gear | Power | Draw-bar pull | Speed | | Engine speed | | Wheel slip | Spec. fuel consumption | | Spec. energy | | Temperature | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Coo-lant | Fuel | Engine oil | Transm. oil |
| | kW | kN | m/s | km/h | rev/s | rev/min | % | g/MJ | kg/kWh | MJ/l | kWh/l | °C | °C | °C | °C |
| i) Maximum power (unballasted tractor) | | | | | | | | | | | | | | | |
| 2L | 16.1 | 30.5 | 0.53 | 1.90 | 38.5 | 2311 | 15.1 | 122.4 | 0.441 | 6.86 | 1.90 | 78 | 31 | 87 | 47 |
| 3L | 22.7 | 32.1 | 0.71 | 2.55 | 37.8 | 2270 | 15.1 | 107.6 | 0.387 | 7.81 | 2.17 | 78 | 32 | 88 | 50 |
| 4L | 30.2 | 29.5 | 1.02 | 3.68 | 36.7 | 2204 | 13.4 | 94.0 | 0.338 | 8.94 | 2.48 | 79 | 35 | 90 | 56 |
| 5L | 31.1 | 20.8 | 1.50 | 5.39 | 36.7 | 2200 | 7.6 | 91.0 | 0.328 | 9.23 | 2.56 | 79 | 36 | 90 | 58 |
| 1H | 31.8 | 17.5 | 1.82 | 6.54 | 36.7 | 2200 | 5.8 | 89.1 | 0.321 | 9.43 | 2.62 | 79 | 38 | 92 | 60 |
| 2H | 31.9 | 13.3 | 2.40 | 8.64 | 36.7 | 2200 | 4.5 | 88.8 | 0.320 | 9.46 | 2.63 | 79 | 38 | 93 | 61 |
| 3H | 31.0 | 9.1 | 3.41 | 12.27 | 36.7 | 2200 | 2.7 | 90.5 | 0.325 | 9.28 | 2.58 | 79 | 39 | 94 | 65 |
| ii) Maximum power (ballasted tractor) | | | | | | | | | | | | | | | |
| 1L | 15.6 | 38.4 | 0.41 | 1.46 | 38.6 | 2315 | 15.6 | 122.9 | 0.442 | 6.83 | 1.90 | 78 | 33 | 82 | 55 |
| 2L | 20.3 | 38.8 | 0.52 | 1.88 | 38.2 | 2293 | 15.1 | 109.7 | 0.395 | 7.66 | 2.13 | 78 | 34 | 84 | 57 |
| 3L | 27.6 | 39.0 | 0.71 | 2.55 | 37.4 | 2244 | 15.3 | 101.6 | 0.365 | 8.27 | 2.30 | 78 | 34 | 85 | 58 |
| 4L | 30.2 | 28.1 | 1.08 | 3.87 | 36.7 | 2200 | 8.1 | 93.8 | 0.338 | 8.96 | 2.49 | 78 | 35 | 87 | 61 |
| 5L | 31.3 | 20.6 | 1.52 | 5.47 | 36.7 | 2200 | 5.4 | 91.4 | 0.329 | 9.19 | 2.55 | 78 | 35 | 88 | 62 |
| 1H | 32.6 | 17.7 | 1.84 | 6.63 | 36.7 | 2200 | 4.6 | 87.8 | 0.316 | 9.57 | 2.66 | 78 | 37 | 89 | 64 |
| 2H | 30.9 | 12.8 | 2.42 | 8.70 | 36.7 | 2200 | 3.5 | 92.5 | 0.333 | 9.08 | 2.52 | 78 | 38 | 90 | 66 |
| iii) Five hour test at 75% pull at maximum power | | | | | | | | | | | | | | | |
| 1H | 25.5 | 13.3 | 1.92 | 6.91 | 37.7 | 2260 | 2.8 | 95.9 | 0.345 | 8.76 | 2.43 | 79 | 54 | 96 | 84 |
| iv) Five hour test corresponding to 15% wheelslip | | | | | | | | | | | | | | | |
| 3L | 29.6 | 39.0 | 0.76 | 2.74 | 37.5 | 2248 | 10.7 | — | — | — | — | 80 | — | 96 | 93 |

Atmospheric conditions

| | Temperature | Relative humidity | Pressure |
|---|---|---|---|
| | °C | % | kPa |
| **Maximum power** | | | |
| unballasted tractor | 17–21 | 66 | 101.3 |
| ballasted tractor | 15–18 | 82 | 101.3 |
| **Five hour tests** | | | |
| at 75% pull at max power | 14–24 | 53 | 101.5 |
| at max. pull | 7–14 | 72 | 100.6 |

### 3. Turning space and turning circle

Details of wheel equipment: As in specification without ballast
Track of wheels: Front 1510 mm
Rear 1425 mm

| | With brakes | | Without brakes | |
|---|---|---|---|---|
| | Left-hand m | Right-hand m | Left-hand m | Right-hand m |
| Radius of turning space* | 4.06 (4.48) | 4.16 (4.54) | 5.46 (5.24) | 5.42 (5.24) |
| Radius of turning circle* | 3.82 (4.24) | 3.92 (4.30) | 5.22 (5.00) | 5.18 (5.00) |

* Figures in brackets indicate that the front-wheel drive is disengaged

### 4. Location of centre of gravity

| | |
|---|---|
| Height above ground | 866 mm |
| Distance forward from the vertical plane containing the axis at rear wheels | 904 mm |
| Distance from the median plane | 11 mm (to the left) |

### 5. Braking

Date of tests: 1984-08-07/08, 1984-09-17
Tractor masses during brake tests:
Front: 2000 kg Rear: 3600 kg Total: 5600 kg

**Type 0 (ordinary cold service braking device performance) test**

Speed before application of brakes:
ballasted tractor 25.0 km/h, unballasted tractor 25.7 km/h

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ballasted | Braking device control force, N | 640* | 525 | 415 | 345 | 275 | 210 |
| | Mean deceleration, $m/s^2$ | 3.70 | 3.78 | 3.00 | 2.50 | 2.00 | 1.50 |
| Unballasted | Braking device control force, N | 525* | 400 | 355 | 290 | 230 | 165 |
| | Mean deceleration, $m/s^2$ | 3.44 | 3.40 | 3.00 | 2.50 | 2.00 | 1.50 |

* locked

**Type I (fade) test**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Braking device control force, | N | 800* | 600 | 515 | 425 | 330 | 240 |
| Mean deceleration | $m/s^2$ | 3.80 | 3.40 | 3.00 | 2.50 | 2.00 | 1.50 |

* not locked

Brakes were heated by: Towing
Comments on deviation and vibration: None

**Parking braking device test**

| | | 18 per cent slope | | 12 per cent slope with trailer of 3000 kg | |
|---|---|---|---|---|---|
| | | Up | Down | Up | Down |
| Braking device control force | N | 300 | 200 | 216 | 206 |

**6. Measurement of external noise level**

Date of test: 1984-08-13
Type of sound level meter: Brüel & Kjær 2204
Type of track: Tarmac

**Result of tests:**

Gear 5 High
Travelling speed before acceleration: 18.9 km/h
Sound level: 88 dB(A)

**7. Noise measurement at the driver's ear**

Date and location of tests: 1983-04-11, Alnarp, Sweden
Type of sound level meter: Brüel & Kjær 2204
Type of track: Tarmac
Cab fitted: Yes

**Result of tests**

| Gear | Drawbar pull at which the tractor develops the maximum sound level kN | Measured travelling speed m/s | km/h | Sound level dB(A) | N |
|---|---|---|---|---|---|
| 2H* | 13.2 | 2.36 | 8.5 | 84 | 83 |
| 2H* | light load | 2.67 | 9.6 | 80 | – – |
| Top gear | light load | 7.25 | 26.1 | 81.5 | 78 |

* Gear corresponding to the nominal travelling speed nearest to 2.08 m/s (7.5 km/h)

## 8. Power lift and hydarulic pump performance

Date of tests: 1984-05-22, 1984-09-18

### Hydraulic fluid

Make and type: The same as transmission
Viscosity: Min. 7.5 $mm^2/s$ (cSt) at 100°C
Viscosity index: 90
Type of linkage lock for transport: Hydraulic

### Power lift

| | Height above ground in down position | Vertical movement | Maximum force exerted through full range | Corresponding pressure of hydraulic fluid | Moment about rear axle | Tilt angle of mast |
|---|---|---|---|---|---|---|
| | mm | mm | kN | MPa | kNm | degrees |
| At the hitch points | 201 | 675 | 23.0 | 14.4 | 21.6 | – – |
| On the frame | 201 | 836 | 14.2 | 14.4 | 22.0 | 19* |

Temperatur of hydraulic fluid at start of test 51°C

* Tilt angle of mast from vertical position to uppermost position 12°

### Hydraulic pump performance

| | |
|---|---|
| Tapping point | Double acting external tapping |
| Opening pressure of the relief valve | 15.0/15.0* MPa |
| Sustained pressure with relief valve open | 15.7/15.9* MPa |
| Pump delivery rate at rated engine speed: | |
| at minimum pressure | 0.57/0.89* l/s (34.3/53.5* l/min) |
| Hydraulic power at: | |
| 90 per cent of relief valve setting | 7.2/11.5* kW |
| corresponding delivery rate | 0.51/0.80* l/s (30.5/47.8* l/min) |
| pressure | 14.1/14.3* MPa |
| Maximum hydraulic power: | 7.6/11.9* kW |
| corresponding delivery rate | 0.51/0.80* l/s (30.4/47.9* l/min) |
| pressure | 15.0/15.0* MPa |
| Temperature of hydraulic fluid | 60–63°C |

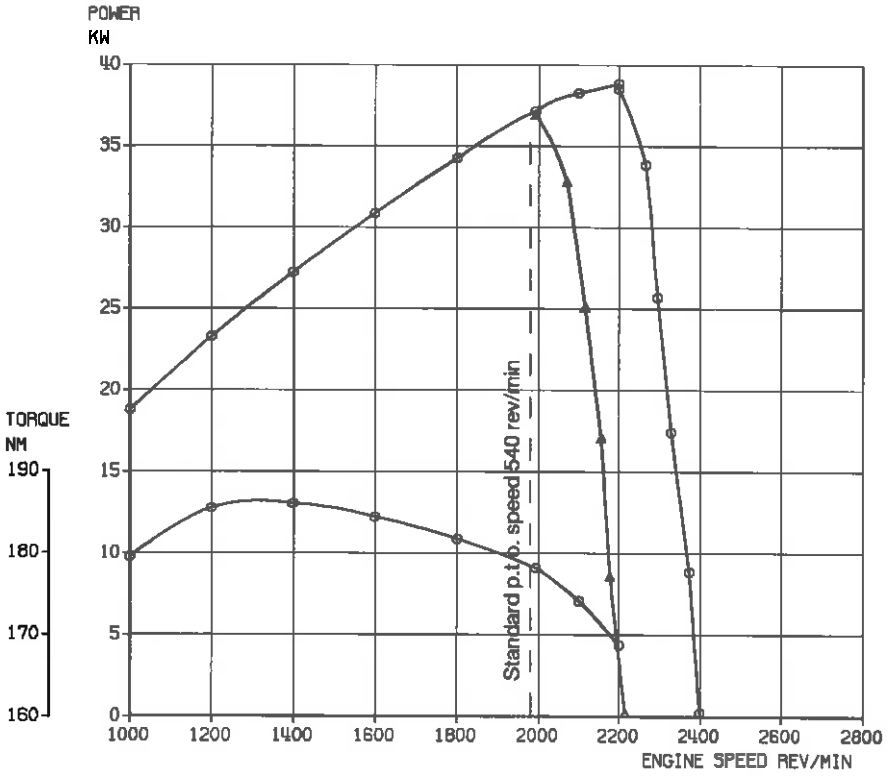
* Hydraulic pump with 2 shiftable speeds.

**Table 2. Linkage geometry when connected to the standard frame**

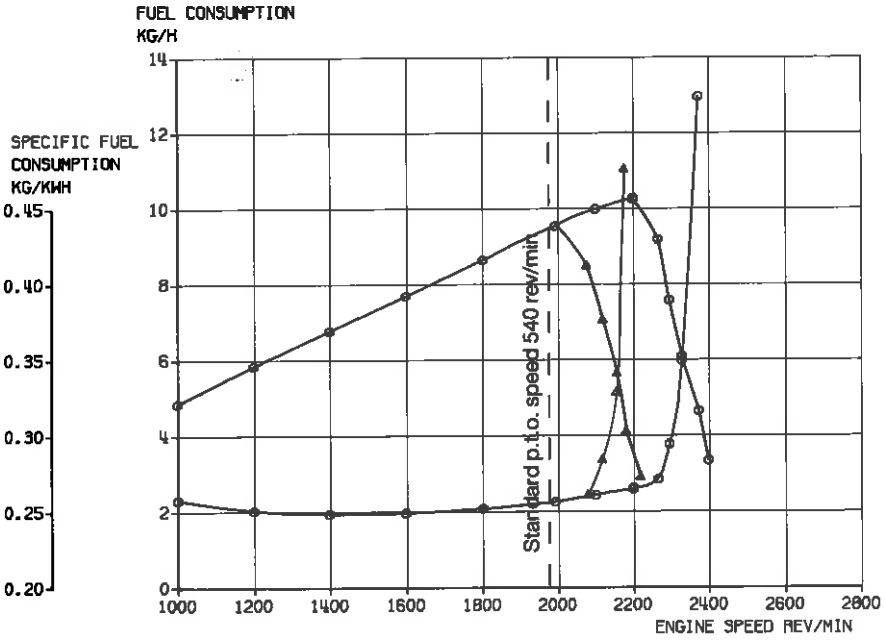
| Projected length in side view | | |
|---|---|---|
| Lower links | 856 mm | |
| Lift arms | 320 mm | |
| Lift rods | 525 mm | |
| Top link | 666 mm | |
| Distance of lift rod connection point from pivot point of lower link | 400 mm | |
| **The following dimensions are given relative to the rear wheel centre line, situated 688 mm above the ground level** | | |
| Lower link pivot point | 83 mm behind | 138 mm below |
| Top link pivot point | 288 mm behind | 229 mm above |
| Lift arm pivot point | 30 mm behind | 363 mm above |
| Maximuim and minimum height of lower link hitch points | 192 mm above | 487 mm below |
| Height of lower link hitch points when locked in transport position | 192 mm above | — |

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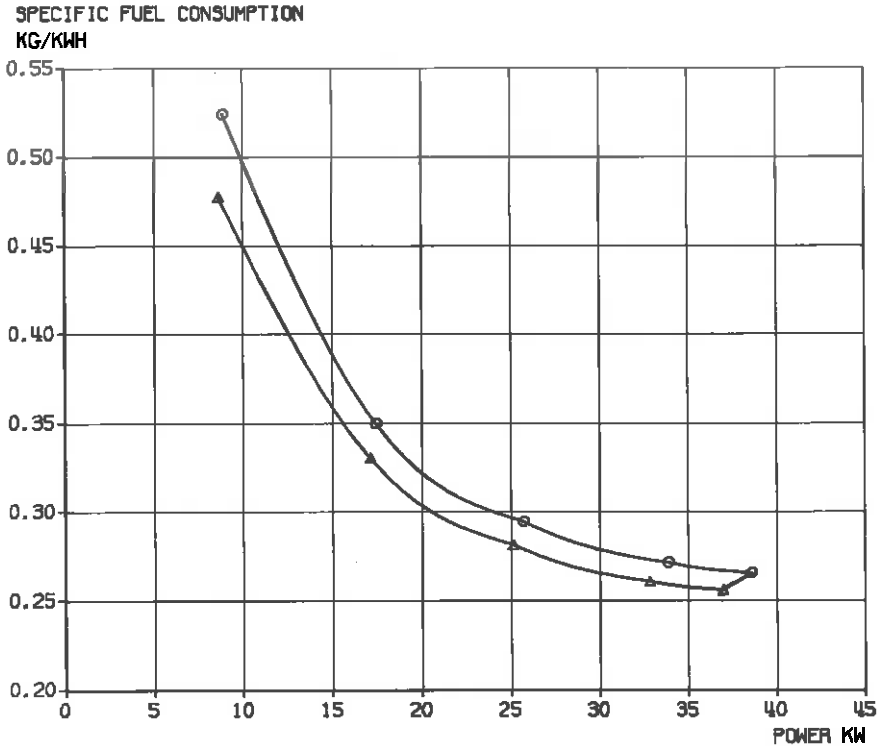
| National Machinery Testing Institut | **Power take-off test Zetor 6245** | Figure 1 |
|---|---|---|



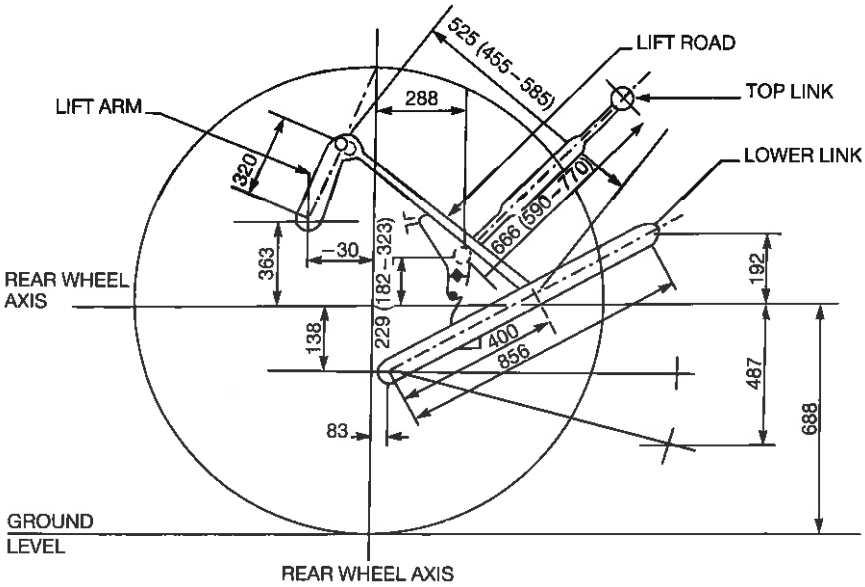
| National Machinery Testing Institut | **Power take-off test Zetor 6245** | Figure 2 |
|---|---|---|



| National Machinery Testing Institut | **Power take-off test Zetor 6245** | Figure 3 |
|---|---|---|



| National Machinery Testing Institut | **LINKAGE GEOMETRY – ZETOR 6245**<br>**When connected to the standard frame** | Figure 4 |
|---|---|---|



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