Report on test in accordance with OECD STANDARD CODE II for the Official Testing of Agricultural Tractor Performance

Restricted Code **OECD No.** **1488/2**



Agricultural Tractor
CASE-IH MAXXUM 5230/II-4 WD (4WD)

30 km/h version

Model denomination MAXXUM 5230/II A

Manufacturer

CASE Germany GmbH
D-41460 Neuss

Deutsche Landwirtschafts-Gesellschaft e.V. · Eschborner Landstraße 122 (DLG-Haus)
D-60489 Frankfurt a.M. · Telefon (069) 24 78 80
Telex 413185 dlg-d · Telefax (069) 24 78 81 10

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

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

Duration of tests: May till August 1993 (original tractor)
June 1995 (modified tractor, see preliminary remark on page 3)

DLG-Testing Station for Agricultural Machinery, Max-Eyth-Weg 1,
D-64823 Groß-Umstadt

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

Date of approval: 8th November 1995

OECD No. 1488/2
Restricted Code

The report on the original tractor had been approved with OECD No. 1488 (now modified to 1488/1), Restricted Code on the 18th November 1993.

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	kN	=	1000	N	=	102 kp
Powers				1	kW	=	1,36 PS
Pressures	1	MPa	=	10	bar	=	10,2 kp/cm²
	100	kPa	=	1000	mbar	=	750,10 mm Hg

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Printed in the Federal Republic of Germany,
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PRELIMINARY REMARK

This test report is a modified version of the original OECD-report approved under no. **1488 Restricted Code**.

It consists of

- the original specifications part with the necessary modified items stated in a 2nd column,
- the results of the new supplementary PTO power test,
- the original results of hydraulic power, lifting forces and drawbar power tests.

As the main results of the supplementary PTO-test have shown only very small deviations of the original max. power values, the testing station did not repeat the other OECD test parts.
These deviations of the measured power values are:

max. power at rated engine resp. standard PTO-speed:	0,7% less
max. power at 2-hour-test:	2,4% more.

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MAXXUM 5230/II (4WD) **Test No. 93-130**
95-132

Tractor manufacturer:	**CASE Germany GmbH** D-41460 Neuss
Location of tractor assembly:	D-41460 Neuss
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Neuss and Groß-Umstadt
Duration of running-in:	Engine and tractor 150 hours **50 hours**

SPECIFICATION OF TRACTOR

Tractor

Make:	CASE INTERNATIONAL	
Trade name:	5230-4 WD	**5230/II-4 WD**
Model denomination:	MAXXUM 5230 A	**MAXXUM 5230/II A**
Type:	Wheel tractor, unit construction, four wheel driven	
Serial no.:	JJF 102 0911	**JJF 1044 140**
1st serial no.:	JJF 101 9805	**JJF 1048 000**

Engine

Make:	CASE	
Model:	6-590	**6-590/74-1**
Type:	Watercooled 4 stroke Diesel-engine direct injection, naturally aspirated,	
Serial no.:	521 274 55	**521 596 65**
Cylinders:	6, in line, bore 102 mm, stroke 120 mm, displacement 5883 cm^3; compression ratio 17.0 ± 1.5 : 1;	
Valves:	Overhead	

Note: All data printed in bold letters refer to the modified tractor

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Fuel system:	AC SPARK fuel supply pump, LUCAS CAV distributor injection pump A 48L 1000/6/2380	**68L 600/6/2400**
	serial no.: 11 759	**02642 MMG**
	manufacturer's production setting 53.5 ± 2 mm³/stroke	**55 ± 2 mm³/stroke**
	at full load and rated speed; automatic injection timing device, commencement of delivery, static: 10 degrees	**16 degrees**
	before TDC; BOSCH	**LUCAS**
	multihole injection nozzles; injection pressure 22.0 + 0.8 Mpa	**22.0 + 1.0 MPa;**
	replaceable single-stage fuel filter; capacity of fuel tank 170 dm³	
Governor:	LUCAS CAV centrifugal variable speed governor, governed range of engine speed 900 ± 100 to 2384 ± 44 rev/min	**2376 ± 44 rev/min,**
	rated engine speed 2200 rev/min	
Air cleaner:	DONALDSON dry paper element filter with precleaner, replaceable cartridge; electric warning indicator lamp; air intake below bonnet	
Exhaust silencer:	NELSON-BURGESS multi-chamber expansion-type muffler oval 266x139 mm , 517 mm long, below bonnet; vertical pipe; mouth showing forward-upwards, 2670 mm above ground	
Lubrication system:	Pressure lubrication, internal gear pump, full flow oil filter with replaceable cartridge, engine oil/cooling-water heat exchanger in crankcase	
Cooling system:	Water cooling with impeller pump, overpressure relief valve set to 103 + 7kPa; thermostat and by-pass circuit; fan with 7 blades with 450 mm dia; water capacity 20.8 dm³	

Note: All data printed in bold letters refer to the modified tractor

Starting system:	Electrical; BOSCH solenoid pre-engaged drive starter motor 3.1 kW; cold starting aid: Ether injection to air intake manifold in cylinder head Safety device: Range gear in neutral position, forward/reverse control in forward position, p.t.o. lever in off position
Electrical system:	12 Volt, negative earth; BOSCH 3-phase alternator K1-14 V/95A 1330 W; 2 lead acid batteries, 105 Ah, at 20 hours discharge period, each

Transmission

Clutch (travel alone):	CASE POCLAIN wet multi-plate clutch, 127 mm dia, hydraulically operated by pedal or electro-hydraulically controlled by forward-reverse lever
Gear box:	CASE POCLAIN, POWER SHIFT, 30 km/h version; power shift speed change gear with 4 speeds; range gear with 4 synchronized ranges (I, II, III, IV); power shift reversing gear (F,R); range IV locked out in reverse operation; total number of gears: 16 forward, 12 reverse; 3 levers; optional, not fitted: 1 collar shifted creeper range (CR), acting on 2 range gears (I, II); provides total 24 forward and 20 reverse speeds
Rear axle and final drives:	CASE POCLAIN, bevel gear drive; bevel gear differential with multiplate differential lock, electro-hydraulically engaged/disengaged by switch or automatically disengaged by service brake operation or engine cutoff; planetary final drives
Front axle and final drives:	CARRARO 709/S2; driven by wet multi-plate clutch, propeller shaft (in tractor's median plane) and bevel gear; clutch operated by electro-hydraulic switch; limited slip differential; planetary final drives

Total ratios and speeds:

Number of revolutions of front wheels for one revolution of rear wheels: 1.4066

Range	Gear	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed *) at rated engine speed 2200 rev/min km/h
Forward speeds			
I	1	339.96	2.00
	2	282.25	2.41
	3	228.37	2.98
	4	184.35	3.69
II	1	149.16	4.56
	2	123.84	5.49
	3	100.20	6.79
	4	80.89	8.41
III	1	90.73	7.50
	2	75.33	9.03
	3	60.95	11.16
	4	49.20	13.82
IV	1	41.51	16.38
	2	34.46	19.73
	3	27.89	24.39
	4	22.51	30.21
Reverse speeds			
I	1	278.52	2.44
	2	231.24	2.94
	3	187.10	3.63
	4	151.04	4.50
II	1	122.21	5.57
	2	101.46	6.70
	3	82.09	8.28
	4	66.27	10.26
III	1	74.33	9.15
	2	61.71	11.02
	3	49.93	13.62
	4	40.31	16.87

*) calculated with the radius index (ISO 4251/1-1992) 820 mm

Main p.t.o.:

Independent;
driven by wet multi-plate clutch;
hydraulically operated by lever;
1 stub, reversible, double ended;
interchange one shaft end for the other
to change speed and spline;

540 rev/min p.t.o.: 35 mm dia, 6 splines,
ISO 500-1991 type 1

1000 rev/min p.t.o.: 35 mm dia, 21 splines,
ISO 500-1991 type 2

729 mm above ground, 550 mm behind rear wheel centre;
direction of rotation clockwise, seen in direction of travel

p.t.o. type	p.t.o. speed rev/min	engine speed rev/min	p.t.o. transmission ratio	Power restriction kW
540	540 549	2163 2200	4.0062	-
1000	1000 996	2209 2200	2.2095	-

Power lift

CASE POCLAIN;
servohydraulic power lift, unit construction, draft, position- and intermixable control, floating position, fast raising, lowering throttle, lower links' sensing

Hydraulic system:

Load sensing, pressure and flow compensated system;
REXROTH variable displacement axial-piston pump, driven by gearbox, max. delivery 75 dm³/min at rated engine speed,
oil cooler in front of engine coolant radiator,
oil filter in feed line;

REXROTH control valve, (lever in transport position lockable),
relief valve pressure setting 19.1 ± 0.5 MPa;
single acting cylinder with 105 mm bore and 227 mm stroke, safety valve set to 22.0 MPa;

2 double acting additional CASE control valves, 4 oil couplings
at rear of tractor;
maximum volume of oil, available to external cylinders :

Stationary tractor operation on slopes
of no more than 2 degrees 30 dm³,

moving tractor operation on slopes
of no more than 15 degrees 20 dm³,
of no more than 30 degrees 12 dm³;

hydraulic oil reservoir in common with gear box with 76 dm³ capacity (88 dm³ capacity with increased oil level)

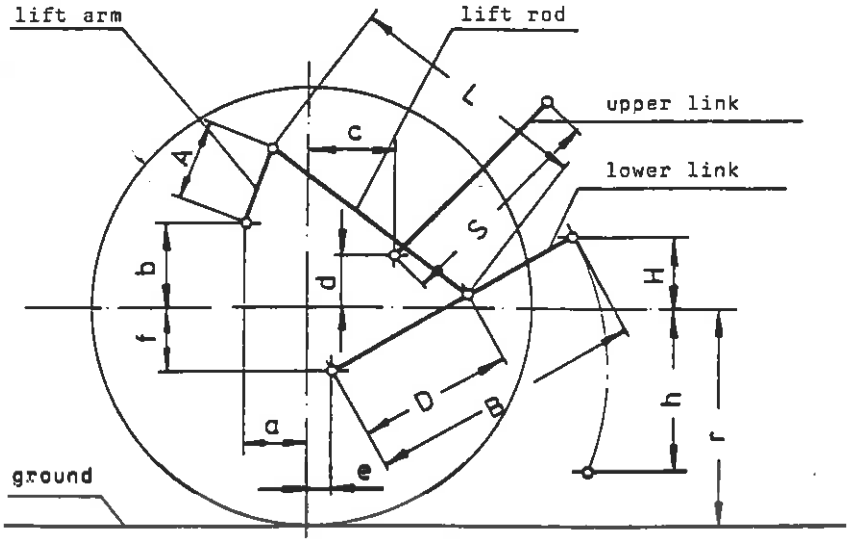
the hydraulic oil pump further provides hydraulic pressure for actuating of steering, p.t.o clutch, power-shift gear, rear axle differential lock and for shifting the front axle drive clutch

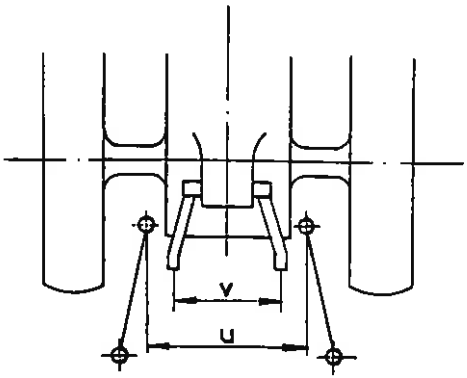
Front power lift:

Available, not fitted

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Three-point linkage: Category 2 acc. to ISO 730/1-1990,
extendable lower links





Dimensions of rear implement linkage (projected lengths in mm, underlined dimensions are valid for power lift measurements p. 23)

Rear tyres 18.4 R 38	*) radius index	(r)	820
Front tyres 14.9 - 24	*) radius index	(r')	590
Length of lift arms		(A)	230
Length of lower links		(B)	877
Distance of lift arm pivot points from rear axle centre	horizontal	(a)	-243
	vertical	(b)	181
Horizontal distance between lower link pivot points		(u)	543
Horizontal distance between lift arm end points		(v)	692
Length of upper link		(S)	610 to 880, 785,
Distance of upper link pivot point from rear wheel axis	horizontal	(c)	359
	vertical	(d)	160 or 230
Distance of lower link pivot point from rear wheel axis	horizontal	(e)	231
	vertical	(f)	246
Distance of lower link pivot points from lift rod pivot points on lower links		(D)	555
Length of lift rods		(L)	540 to 650

Height of lower link hitch points relative to rear wheels' centre line (situated 820 mm above ground), these data are valid for unloaded power lift:

Length of lift rods	(L)	650	540
Linkage distance of lift rods	(D)	555	
Lowest position	(h)	610	315
Highest position	(H)	120	310
Transport position	(H')	120	310

*) Assuming r resp. r'= tyre dynamic radius index of ISO 4251/1-1992

Pull equipment

Swinging drawbar:	Longitudinally adjustable	
	height above ground	404 mm
	distance of hitch point	
	from rear wheel axis,	
	horizontally	900, 950, 1050, 1150 mm
	from p.t.o. shaft end	
	vertically	325 mm
	horizontally	350, 400, 500,600 mm
	pin hole swingable to both sides of centre line	
	with drawbar fully pushed in	60 mm
	with drawbar fully drawn out	180 mm
	distance of pivot point from rear wheel axis	
	horizontally (before axis)	73 mm
	diameter of drawbar pin hole	33 mm
	maximum vertical permissible load	
	(drawbar fully pushed in)	21 kN
Trailer hitch:	Optionally available, not fitted	
Holed drawbar:	Optionally available, not fitted	
Towing hitch:	Optionally available, not fitted	

Steering

DANFOSS, OSPC 160 LSR;
hydrostatic front wheel steering, connected by sequence valve to the hydraulic system of the tractor (see on page 9);
1 integrated WEBER ram (symmetrical design),
236 mm stroke, 75 mm bore and 42 mm dia of piston rod, directly acting on steering levers,
working pressure 17.2 ± 0.35 MPa

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Brakes

Service brake:	CASE POCLAIN pedal operated muscle power brake with hydraulic transmission, using oil of gearbox, acting on rear wheels; oil-immersed disc brake with 1 ring-piston on each differential half shaft; disc diameter 300 mm; trailer braking take-off optional, on request hydraulic or pneumatic (not fitted to tested tractor)
Parking brake:	Mechanical wet disc brake, operated by lever with ratchet; 2 lining discs with 143 mm dia each, situated on drive shaft of rear axle (in front of bevel-gear pair)
Steering brake:	Divided pedal of service brake, for normal use locked together

Wheels

Front:	Steering and driving, 2 pneumatics
Rear:	Driving, 2 pneumatics
Wheelbase:	2585 mm
Track width:	At front adjustable from 1530 mm up to 2230 mm in steps of 100 mm each by adjustable gauge bowl wheels and by turning the wheels At rear adjustable from 1524 mm up to 2768 mm, (in steps) by adjustable gauge bowl wheels, (infinitely) by turning the wheels and by adjusting axle

Possible combinations of tyres sizes

Tyre size	
Front	Rear
13.6 - 24	18.4 R 34 18.4 - 34 16.9 - 38
14.9 R 24	16.9 R 38 18.4 R 38
14.9 - 24	18.4 R 38 18.4 - 38

Protective structure

CASE POCLAIN, cab model CX-94;
OECD-tested driver's platform with integrated safety frame,
OECD approval no. for 5230-4WD: CSS 088/19
for 5230/II-4WD: CSS 088/19 MOD5;
not tiltable, antivibration mounted by silent-blocks on tractor;
2 doors with 2 steps each, steps 595 and 885 mm,
driver's platform 1165 mm above ground,
rear window and rear side windows tiltable;
air conditioner and combined heating/ventilation system
with 3-step blower and cooling-water heat exchanger
incorporated in roof;
air intake above rear window, dry air filter;
air outlet jets in the roof at front, recirculating louvers at rear,
defroster nozzles;

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Noise reduction materials:

Roof:	Fabric, PUR-foam resin impregnated felt (molded part) PUR-foam	3.5 mm 7 mm 50 mm
Roof, front part:	ABS-panel part	3 mm
Floor:	Compound mat, consisting of: Synthetic heavy foil + PVC coated (molded) PE-foam or partially PE-chip foam with waterproof sealing	 5 mm 25 mm 22.5 mm
Seat support, on the surface and the front side:	Compound mat, consisting of: Synthetic heavy foil + PVC coated (molded) PE-foam + waterproof sealing	 5 mm 25 mm
Console panel:	Compound mat, consisting of: Synthetic heavy foil + PVC coated (molded) PE-foam	 5 mm 7 mm
Rear panel:	ABS-panel part	3 mm
Mudguards:	PVC-foil PUR-foam	3 mm 22 mm
B-posts:	ABS-panel part	3 mm
Bulk head:	PUR-heavy-foil PE-foam	6 mm up to 6 mm
Draught proofing:	Rubber seals and Silicon	

Driver's seat

SEARS, 2000
upholstered seat with back rest and arm rests,
pneumatic suspension with automatic weight adjustment, hydraulic shock absorber;
height of unloaded seat above platform steplessly adjustable from 380 to 520 mm,
longitudinal adjustment 150 mm

Operating hours meter: Electronic, counts real operating hours when engine is running

Lighting: Electrical, 12 Volt, acc. to US legislation

	Height above ground of centre mm	Size mm	Distance from outside edge of lights to median plane of tractor mm
Headlights	1400	160x80	300
Auxiliary lights	2580	130x75	240
Rearlights	1775	131x81	870
Reflectors	1810	75x30	870

additional SMV sign

TEST CONDITIONS

Overall dimensions

Length mm	Width mm	Height at top of protective structure mm	Height at top of exhaust silencer pipe mm
4390	2438	2715	2740

Ground clearance: 384 mm underneath drawbar at offset

Tractor mass (with cab)

	Without driver kg	With driver kg
Front	1800	1810
Rear	3180	3245
Total	4980	5055

Tyres and track widths specifications

	Front	Rear
Tyres:	FIRESTONE	FIRESTONE
Dimensions	14.9 - 24	18.4 R 38
ply rating/load index speed index	6 / - -	- / 146 A8
type	cross-ply	radial-ply
maximum load (tyre manufacturer's) 40 km/h	12.08 kN	30.00 kN
maximum load (tractor manufacturer's) 30 km/h	15.10 kN	32.10 kN
inflation pressure (tyre manufacturer's)	140 kPa (30 and 40 km/h)	160 kPa (30 and 40 km/h)
radius index	590 mm	820 mm
Chosen track width	1630 mm	1640 mm
Rims	W12x24	DW15x38
Technically permissible axle load	36.0 kN	60.0 kN
Technically permissible total weight	72.6 kN	

Oils and lubrication

Capacity and change interval:

	Capacity dm³	Oil change h	Filter-change h
Engine	15.0	250	
Gearbox, hydraulic system, rear axle and final drives	76.0	1000	1000
Front axle	6.5		-
Final drives (front)	2 x 1.0		

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Specification:

	Recommended	Used during test
Engine oil used in: Engine Type Viscosity Winter Summer Tropics Classification	 Engine oil SAE 10W/30 SAE 15W/40 or 10W/30 SAE 15W/40 API-CE	 CASE-IH engine oil no.1 SAE 15W/40 API-CE
Transmission oil used in: Gearbox with rear axle incl. final drives, hydraulic system, steering, brake system Type Viscosity Classification Font axle incl. final drives Type Viscosity Classification	 HY-TRAN PLUS ISO-VG 95-115 MS 1207 *) Gear oil SAE 85W/140 MS 1316 *)	 CASE-IH HYTRAN-PLUS ISO-VG 95-115 MS 1207 *) CASE-IH EP Gear Oil SAE 85W/140 MS 1316 *)

*) MS = CASE material specification

Grease: Multi purpose grease
number of lubrication points: 10

Fuel

Type: ARAL-Diesel-fuel, in conformity with DIN 51601

Density at 15°C: At p.t.o. test 0,834 g/cm³*)
at drawbar power test 0.830 g/cm³

*) PTO-Power supplementary test on modified tractor

1. MAIN POWER TAKE OFF PERFORMANCE (1000 rev/min)

Date of tests: 31st May 1995
Location of tests: DLG-Testing Station Groß-Umstadt
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power kW	Speed Engine rev/min	Speed P.t.o. rev/min	Fuel consumption hourly dm³/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power						
1.1 At 2-hour test						
69,5	1997	904	21,57	17,99	259	3,22
1.2 At rated speed						
67,2	2200	996	21,51	17,94	267	3,13
1.3 At standard p.t.o. speed						
67,2	2200	996	21,51	17,94	267	3,13
1.4 Part loads, the governor hand lever in the position corresponding to maximum power at full load (curve a)						
1.4.1 the torque corresponding to maximum power at rated speed						
67,2	2200	996	21,51	17,94	267	3,13
1.4.2 85% of the torque obtained in 1.4.1						
60,0	2311	1046	19,96	16,64	278	3,01
1.4.3 75% of the torque defined in 1.4.2						
45,8	2348	1063	16,45	13,72	300	2,78
1.4.4 50% of the torque defined in 1.4.2						
30,8	2374	1075	13,41	11,18	363	2,30
1.4.5 25% of the torque defined in 1.4.2						
15,6	2381	1077	10,13	8,45	541	1,54
1.4.6 unloaded						
-	2404	1088	7,18	5,99	-	-

Power kW	Speed Engine rev/min	Speed P.t.o. rev/min	Fuel consumption hourly dm³/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
1. 5 Part loads, the governor hand lever in the position corresponding to standard p.t.o. speed at full load (curve b)						
1.5.1 the torque corresponding to maximum power						
67,2	2200	996	21,5	17,94	267	3,13
1.5.2 85% of the torque obtained in 1.5.1						
60,0	2311	1046	20,0	16,64	278	3,01
1.5.3 75% of the torque defined in 1.5.2						
45,8	2348	1063	16,5	13,72	300	2,78
1.5.4 50% of the torque defined in 1.5.2						
30,8	2374	1075	13,4	11,18	363	2,30
1.5.5 25% of the torque defined in 1.5.2						
15,6	2381	1077	10,1	8,45	541	1,54
1.5.6 unloaded						
-	2404	1088	7,2	5,99	-	-

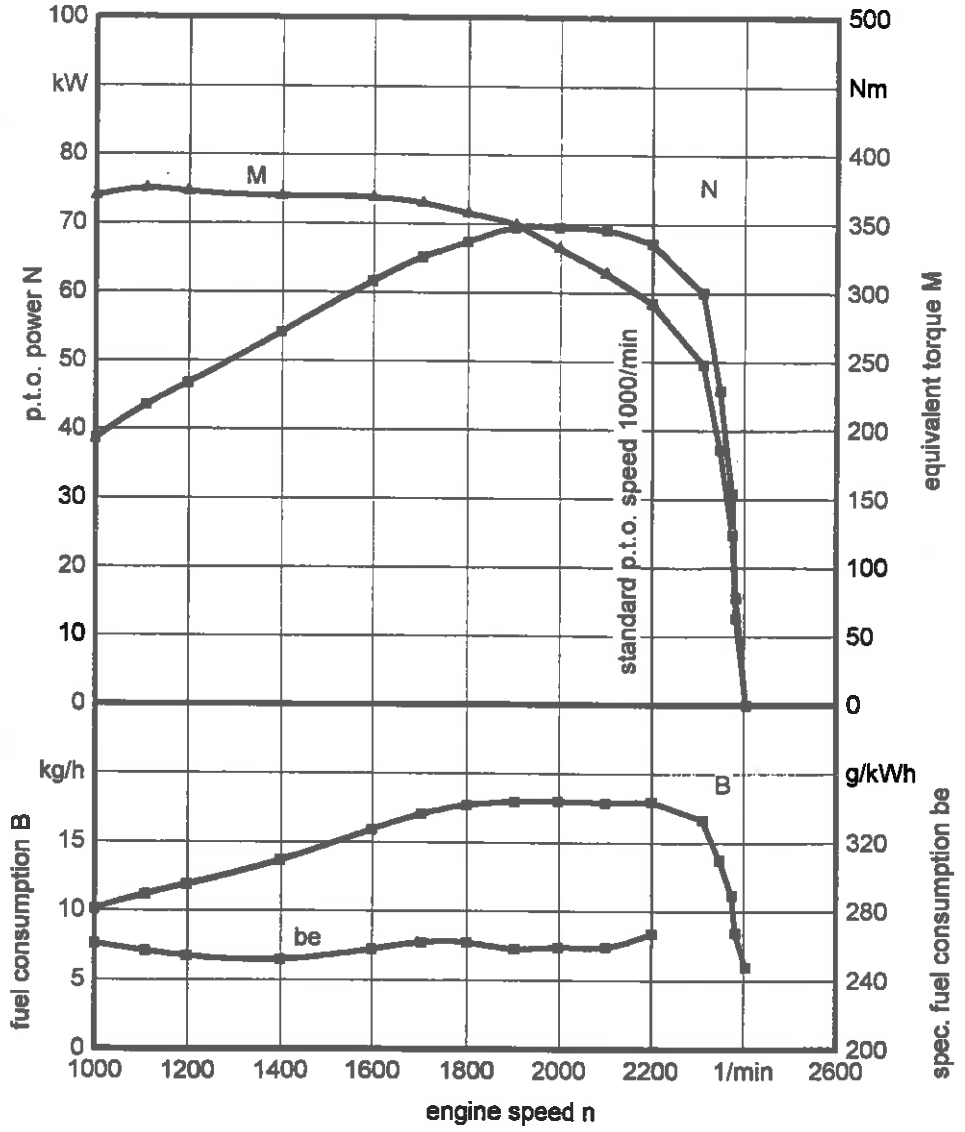
No load maximum engine speed:	2404 rev/min
Equivalent flywheel torque at rated engine speed:	292 Nm
Equivalent flywheel torque at 2-hour test:	332 Nm
at engine speed:	1997 rev/min
Maximum equivalent flywheel torque:	375 Nm
at engine speed:	1107 rev/min

Mean atmospheric conditions

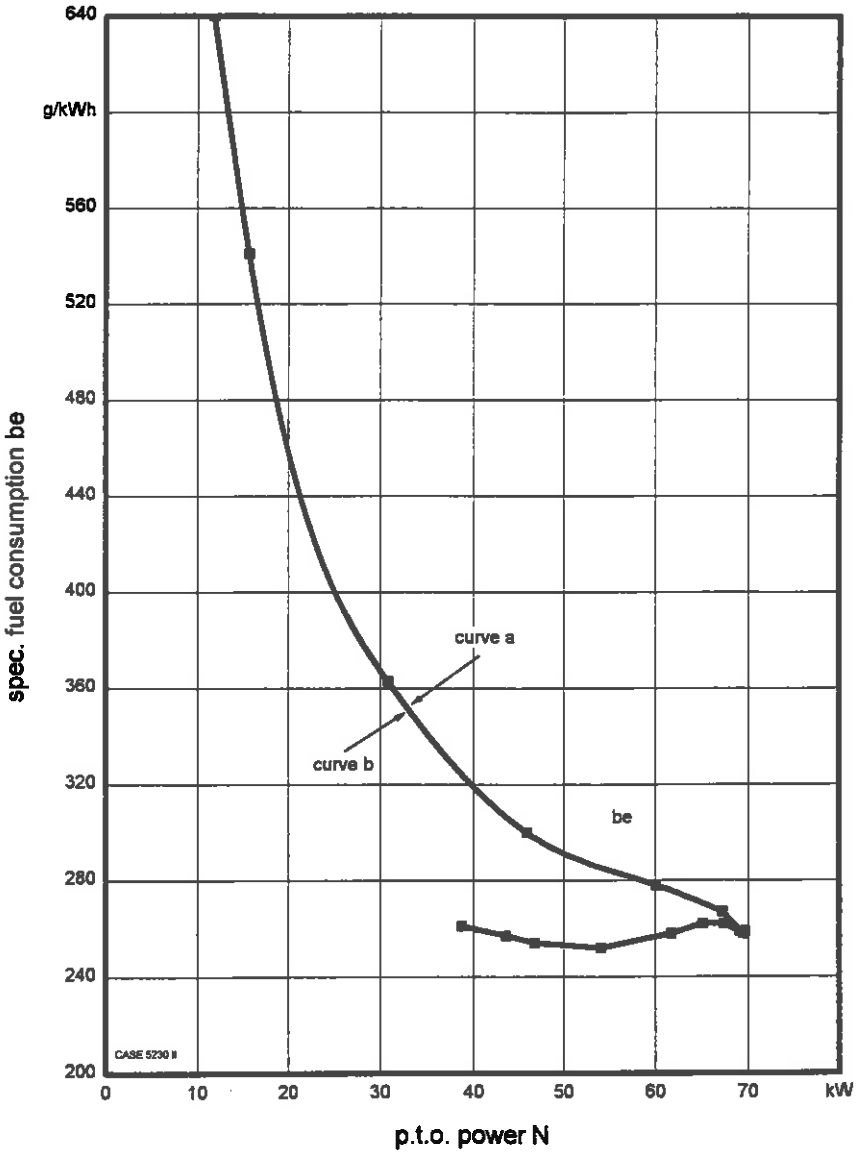
temperature:	21 °C
pressure:	996 hPa
relative humidity:	60 %

Maximum temperatures

coolant:	86 °C
oil:	97 °C
fuel:	25 °C
air intake:	25 °C


100
kW
80
70
60
50
40
30
20
10
0
M
N
p.t.o. power N
standard p.t.o. speed 1000/min
500
Nm
400
350
300
250
200
150
100
50
0
equivalent torque M
kg/h
15
10
5
0
B
be
fuel consumption B
g/kWh
320
280
240
200
spec. fuel consumption be
1000
1200
1400
1600
1800
2000
2200
1/min
2600
engine speed n

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2 HYDRAULIC POWER AND LIFTING FORCE
Date of tests: 7th and 15th June 1993

2.1 Hydraulic power test

Sustained pressure with relief valve open 18.8 MPa
Pump delivery rate at minimum pressure 75.3 l/min

	Hydraulic power kW	Flow rate dm³/min	Pressure MPa	Oil temperature °C
At 90% of the actual relief valve setting	14.4	51.2	16.9	65
Maximum	16.9	64.9	15.6	65

Tapping point used for test: At rear of tractor, connected with additional control valve no. 1

2.2 Power lift test

Maximum pressure in the power lift cylinder : 18,3 MPa

	At the hitch points	On the frame
Height of lower hitch points above ground in down position	210 mm	
Vertical movement without lifting forces	730 mm	925 mm
Vertical movement with lifting forces	690 mm	865 mm
Max. corrected force exerted through full range	38.3 kN	28.8 kN
Corresponding pressure	16.5 MPa	
Moment about rear axle	-	49.5 kNm
Max. tilt angle of mast from vertical		11 °

Lifting heights relative to horizontal lower links

mm	-459	-400	-364	-300	-200	-100	0	+100	+200	+300	+326	+400	+406

Lifting forces at hitch points, corrected to 16.5 MPa

kN			38.3	41.0	43.4	44.3	43.9	42.5	41.0	40.3	40.1		

Lifting forces at standard frame, corrected to 16.5 MPa

kN	32.4	33.8		35.3	36.0	35.6	34.6	33.1	31.7	30.2		29.0	28.8

3 DRAWBAR POWER AND FUEL CONSUMPTION

Date of test: 16th and 17th June 1993
Type of track: Concrete

Gear and range	Speed km/h	Drawbar pull kN	Power kW	Engine speed rev/min	Slip of wheels %
3.1 MAXIMUM POWER IN TESTED GEARS					
4 I	3.34	51.93	48.2	2296	15.0
1 II	3.64	51.60	52.2	2039	15.0
2 II	4.82	43.13	57.7	2006	5.6
3 II	6.05	34.77	58.4	2004	3.8
1 III	6.69	31.55	58.6	2000	3.1
4 II	7.58	27.81	58.6	2000	2.7
2 III	8.16	25.91	58.7	2002	2.1
3 III	10.09	20.55	57.6	1997	1.9
3.2 FUEL CONSUMPTION					
3.2.1 gear with maximum drawbar power (at rated speed)					
2 III	9.00	23.23	58.1	2208	2.1
3.2.1.1 75 % of pull at maximum power at rated speed					
2 III	9.50	17.42	46.0	2316	1.5
3.2.1.250 % of pull at maximum power at rated speed					
2 III	9.68	11.60	31.2	2348	1.0
3.2.1.3 next higher gear at reduced engine speed; same pull and and travelling speed					
3 III	9.51	17.44	46.1	1877	1.6
3.2.1.4 next higher gear at reduced engine speed; same pull and travelling speed					
3 III	9.68	11.61	31.2	1897	0.9
3.2.2 in selected gear. nearest to 7.5 km/h (at rated speed)					
1 III	7.40	28.10	57.8	2201	2.6
3.2.2.1 75 % of pull at maximum power at rated speed					
1 III	7.90	21.09	46.3	2331	1.8
3.2.2.2 50 % of pull at maximum power at rated speed					
1 III	8.07	14.05	31.5	2369	1.3
3.2.2.3 next higher gear at reduced engine speed; same pull and travelling speed					
4 II	7.91	21.09	46.3	2068	1.8
3.2.2.4 next higher gear at reduced engine speed; same pull and travelling speed					
4 II	8.03	14.02	31.3	2088	1.3

Height of drawbar above ground	Tyre inflation pressure	
	Front	Rear
400 mm	80 kPa	80 kPa

Specific fuel consumption g/kWh	Specific energy kWh/dm³	Temperatures Fuel °C	Coolant °C	Engine oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure kPa
355	2.34	37	80	85	23	69	100.4
330	2.52	37	81	85	22	69	100.4
297	2.80	40	82	85	23	69	100.4
294	2.83	40	82	84	23	68	100.4
293	2.84	43	82	85	24	71	100.4
292	2.84	44	82	85	23	66	100.4
293	2.83	40	82	83	24	69	100.4
297	2.80	40	83	83	24	70	100.4
306	2.71	35	81	82	21	76	100.2
329	2.52	35	82	83	21	76	100.2
391	2.12	35	82	82	21	76	100.2
as in 3.2.1.1							
300	2.76	35	81	82	21	78	100.2
as in 3.2.1.2							
333	2.45	35	81	82	21	78	100.2
307	2.70	35	82	82	20	78	100.2
336	2.47	35	81	82	20	78	100.2
394	2.11	35	80	81	20	78	100.2
as in 3.2.2.1							
314	2.64	35	80	81	20	78	100.2
as in 3.2.2.2							
359	2.31	35	80	81	20	78	100.2

4 REPAIRS AND REMARKS None

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Deutsche Landwirtschafts-Gesellschaft e.V. (DLG)
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Eschborner Landstraße 122 (DLG-Haus)
D-60489 Frankfurt am Main