Report on test in accordance
with O.E.C.D. STANDARD CODE

OECD No. **1153**



Agricultural Tractor
DEUTZ-FAHR DX 3.60 (4WD)

Type denomination D 1068/4 A-S

Manufacturer
Klöckner-Humboldt-Deutz AG
D-5000 Köln-Deutz

Deutsche Landwirtschafts-Gesellschaft e.V.
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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 I).

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

Duration of tests: February till May 1988

DLG-Testing-Station for Agricultural Machinery. Max-Eyth-Weg 1
D-6114 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: 28th July 1988 OECD No. 1153

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	=	102,00 kp
Powers			1 kW	=	1,36 PS
Pressures	1 MPa	=	10 bar	=	10,20 kp/cm²
	100 kPa	=	1000 mbar	=	750,10 mm Hg

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PRÜFUNGS-ABTEILUNG
DEUTZ-FAHR DX 3.60

Test No. 88-10

Tractor manufacturer:	KLÖCKNER-HUMBOLDT-DEUTZ AG D-5000 Köln-Deutz
Location of tractor assembly:	D-5000 Köln-Deutz
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Köln and Groß-Umstadt
Duration of running in:	Engine and tractor appr, 40 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	DEUTZ-FAHR
Trade name:	DX 3.60
Type denomination:	D 1068/4 A-S
Type:	Four-Wheel-drive tractor, unit construction
Serial No.:	7763 0857
Start of series:	7763 0001

Engine

Make:	DEUTZ
Model:	F4L 912,
Type:	4-stroke Diesel engine, direct injection, air cooled
Serial No.:	7337572
Cylinders:	4, in-line, bore 100 mm, stroke 120 mm, displacement 3768 cm³, compression ratio 17:1; replaceable ribbed cylinder liners
Valves:	Oberhead
Fuel system:	PIERBURG fuel supply pump, BOSCH in-line injection pump PES 4A 80D410/3RS 1300, serial No.: 64715474; manufacturer's production setting 47±1 mm³/stroke at rated engine speed and full load; injection timing 28°+1° before TDC; BOSCH multihole injection nozzles DLLA 149 S 774, injection pressure 17,5±0,8 MPa; MANN fuel filter WK 7.31 with replaceable cartridge; capacity of fuel tank 83 dm³

Governor:	BOSCH centrifugal variable speed governor RSV 325-1175 A8C 657-2L, governed range of engine speed 650 to 2470 rev/min, rated engine speed 2350 rev/min
Air cleaner:	MANN dry paper element filter with precleaner, replaceable cartridge, pilot lamp; air intake below bonnet
Lubrication system:	Forced-feed lubrication with gear pump, strainer in sump; MANN oil filter in full flow with by-pass valve and replaceable cartridge; engine oil cooler inside of cooling baffle
Cooling system:	Air cooling with axial blower with 11 blades, 230 mm dia, V-belt drive, no temperature control
Starting system:	Electrical BOSCH solenoid pre-engaged-drive-starting motor JF 12V 2,7 kW; BOSCH heating spiral in intake manifold, depressed clutch pedal as safety device
Electrical equipment:	12 Volt, negative earth; BOSCH 3-phase alternator K1 14V 33A, 462 W; 1 lead acid battery 110 Ah at 20 hours rating
Exhaust silencer:	ROTH, 13058014 0 00, multichamber-expansion type silencer, conical, 60 to 125 mm dia, 800 mm long, vertical on the left, above the bonnet, mouth showing upwards; mouth 2572 mm above ground

Transmission

Clutch:	LUK dry dual disc clutch DT 280/250; travel drive pedal operated, disc 280 mm dia; p.t.o. drive handlever operated, disc 250 mm dia
Gear box:	DEUTZ-FAHR TW 521-S/II, synchromesh gearbox with 4 speeds; group gear with 2 collar shifted forward ranges (L and H) and 1 sliding gear shifted reverse range (R); synchromesh close stepped gear DUAL-SPLIT with 2 ranges (N and +20%); total 16 forward and 8 reverse speeds, 3 shift levers
Rear axle and final drives:	DEUTZ-FAHR bevel gear driven intermediate shaft, spur gear transmission to bevel gear differential with pedal operated lock on rear axle; lock not self disengaging, with pilot lamp
Front axle and final drives:	SIGE 002, driven by universal joint shaft placed in tractor's median plane; lever operated dog clutch, not schiftable under load; bevel gear, bevel gear differential without lock, planetary final drives

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Total ratios and speeds

Gear	Close stepped range	Range	Total ratio engine : driving wheel	Nominal travelling speed *) at rated engine speed km/h
1	N	L	302,70	2,03
2			190,38	3,23
3			130,37	4,72
4			77,38	7,96
1	+20 %		246,95	2,49
2			155,32	3,96
3			106,36	5,79
4			63,13	9,75
1	N	H	101,73	6,05
2			63,98	9,62
3			43,82	14,05
4			26,01	23,68
1	+20 %		83,00	7,42
2			52,20	11,80
3			35,75	17,23
4			21,22	29,02
1	N	R	260,47	2,36
2			163,82	3,78
3			112,18	5,49
4			66,58	9,25
1	+20 %		212,49	2,90
2			133,64	4,61
3			91,52	6,73
4			54,32	11,34

*) calculated with the radius index 695 mm

Number of revolutions of front wheels for one revolution of rear wheels: 1,3747

Main p.t.o.

Independent, driven by second disc of dual disc clutch;
1 p.t.o. shaft at rear of tractor, 636 mm above ground, in tractor's median plane, shaft end 425 mm behind rear wheel centre;
35 mm dia, 6 splines, ISO 500-1979, DIN 9611, type 1;
sense of rotation clockwise, viewed facing tractor's rear;
2 speeds are preselectable by hand lever

P.t.o.	P.t.o. speed rev/min	Engine speed rev/min	P.t.o. transmission ratio	Power restriction kW
540	540	2202	4,0769	-
	576	2350		
1000	1000	2211	2,2105	-
	1063	2350		

Power lift

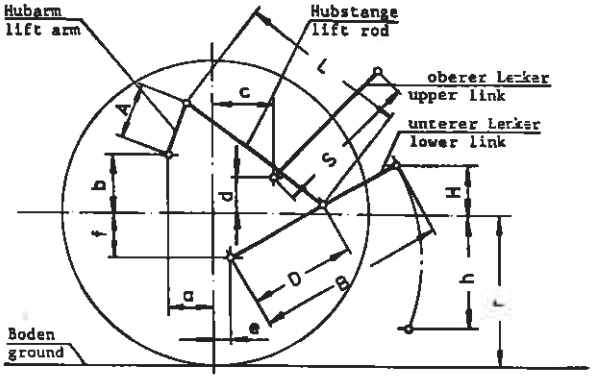
DEUTZ-FAHR
K 46.3 DEUTZ-FAHR TRANSFERMATIC;
hydraulic power lift in unit construction;
draft- and position-control, both steplessly mixable, floating position;
upper link sensing;
no lowering throttle

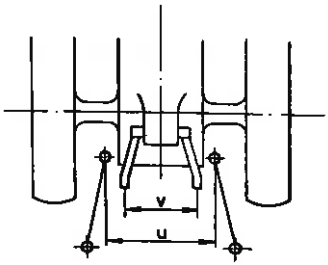
Hydraulic system:

Open centre system,
BOSCH gear type tandem pump 0510 665 382,
gear driven by engine,
delivery 41 l/min at rated engine speed;
DEUTZ-FAHR control valve,
relief valve pressure setting 17,5+0,8 MPa;
single acting cylinder with 90 mm bore and 152 mm stroke,
safety valve set to 24,0 MPa

1 double acting DEUTZ-FAHR additional control valve SD80 with 2 oil tappings at rear of tractor;
max. 3 double acting additional valves optionally available;
1 separate oil return line at rear of tractor;
hydraulic oil tank with 16 dm³ capacity in power lift unit;
max. 7 dm³ may be taken off if tractor is working stationary or travelling;
oil-filter and -cooler see page 11
- steering -

Implement linkage: 3-point linkage, category 2 acc. to ISO 730/1-1977 or DIN 9674





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Dimensions of rear implement linkage (projected lengths in mm, underlined dimensions are valid for power lift measurements p.21)

Rear tyres	radius index	(r)	695
Front tyres	radius index	(r')	515
Length of lift arms		(A)	280
Length of lower links		(B)	905
Distance of lift arm pivot points from rear wheel centre	horizontal	(a)	-47
	vertical	(b)	312
Horizontal distance between lower link pivot points		(u)	470
Horizontal distance between lift arm end points		(v)	580
Length of upper link		(S)	610 to 835, 712
Distance of upper link pivot point from rear wheel centre	horizontal	(c)	277 | 300
	vertical	(d)	243, 293 | 343
Distance of lower link pivot point from rear wheel centre	horizontal	(e)	88
	vertical	(f)	165
Distance of lower link pivot points from lift rod pivot points on lower links		(D)	564, 636
Length of lift rods		(L)	620 to 760, 669

Height of lower link hitch points relative to rear wheel centre line (situated 695 mm above ground), these data are valid for unloaded power lift:

Length of lift rods	(L)	669	620		760	
Linkage distance of lift rods	(D)	564	564	636	564	636
Lowest position	(h)	495	393	285	650	530
Highest position	(H)	152	240	271	57	103
Transport position	(h')	240	115	48	334	245

Type of transport lock: Hydraulic-mechanical

Pull attachment

Trailer hitch:	DEUTZ-FAHR, AK 56, non automatical hole diameter 33 mm hitch point above ground 792 or 849 mm behind rear wheel centre 496 mm above p.t.o. 156 or 213 mm behind p.t.o. shaft end 71 mm permissible vertical load 960 kg
Swinging drawbar:	Optionally available, not fitted
Holed drawbar:	Short bar, length between joint balls 825 mm, thickness 30 mm, width 80 mm, 9 holes 33 mm dia with 80 mm distance each,holes' centres behind p.t.o. shaft end 568 mm (with horizontal lower links), height above ground (measured without load): minimum 45 mm maximum 966 mm
Towing hitch:	at front, 730 mm above ground

Steering

DANFOSS, OSPC 100 OR,
hydrostatic, oil in common with power lift; oil supply by tandem part of hydraulic pump, delivery 11 cm^3/rev;
maximum pressure 15,0 MPa;
hydraulic oil cooler in steering-oil circuit, at engine's cooling air baffle;
replaceable oil filter PUROLATOR PER 330 in suction line,
1 integrated WEBER cylinder (symmetrical design), 260 mm stroke, 65 mm bore and 45 mm piston rod diameter, directly acting on steering levers

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Brakes

Service brake:	DEUTZ-FAHR and ATE, pedal operated muscle power brake with hydraulic transmission, acting on rear wheels; at each wheel 1 caliper disc brake with 2 calipers each, discs 440 mm dia
Parking brake:	Mechanical drum brake, acting on rear wheels, actuated by pulling handle with ratchet; 1 brake drum with 180 mm dia and 60 mm width on intermediate shaft, on the right, outside of gearbox
Steering brake:	Divided pedal of service brake, for normal use locked together
Trailer brake:	Optionally available

Wheels

Steered wheels:	At front, 2 pneumatics 11.2 R 24, rims W10x24
Driving wheels:	At front and at rear, at rear: 2 pneumatics 16.9 R 30, rims W15Lx30
Wheelbase:	2209 mm
Track widths:	At front 1500 or 1650 mm, by turning the wheels; at rear 1420 to 1920 mm, in steps of 100 mm each, by adjustable gauge bowl wheels

Permissible type combinations:

Tyre size at front		at rear	
9.5-28	6 ply	9.5-42	10 ply
11.2-24	8 ply	12.4-36	6 ply
12.4-24	6 ply	13.6-36	6 ply
12.5-20 MPT	10 ply	14.9-30	6 ply
11.2-24 14.5R20	8 ply 132 G	16.9-30	6 ply

Protective structure

DEUTZ-FAHR safety-cab with integrated safety-frame, type 82/1
OECD-approved safety cab, approval-no. CSD 1022/4;
antivibration mounted by 4 silent blocks on tractor;
2 doors with 2 steps each, steps 485 and 780 mm, driver's platform 1030 mm above ground;
windscreen, rear and side windows tiltable;
hot-air heating by engine cooling air;
air outlet jets at cab floor and at windscreen

Noise-reduction materials:

floor	rubber mat with foam PUR, foil coated	5 mm
		15 mm
	bitumen foil	5 mm
mudguards	moltoprene foam, imitation leather coated	27 mm
roof	phenolic-resin bonded cotton fleece, molded	4 mm
	textile (PU) covering	1 mm
bulkhead	PU heavy foam at engine's side	10 mm

Seat

ISRI, 6000/516,
upholstered seat with back and arm rests, adjustable spring, hydraulic shock absorber;
height of unloaded seat above platform adjustable in 2 steps from 500 to 560 mm;
longitudinal adjustment 150 mm

Running-time meter

Mechanical, combined with tachometer, driven by camshaft of engine;
reference engine speed for one really counted hour 1875 rev/min

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Lighting Electrical, 12 Volt, as per German legislation

	Height above ground of centre mm	Size mm	Distance from outside edge to median plane of tractor mm
Headlights	1015	130 dia	268
Side lights	1615	55 x 60	810
Rear lights	1350	30 x 60	711
Reflectors			
1st pair	1280	181 x 41	783
2nd pair	740	102 x 58	503

TEST CONDITIONS

Overall dimensions

Length: 3813 mm without ballast
4060 mm with ballast

Width: 2083 mm with and without ballast

Height: 2503 mm to top of cab
2572 mm to exhaust silencer mouth

Ground clearance: 370 mm below front axle differential

Tractor mass

		Without driver kg	With driver kg
Without ballast:	at front	1325	1335
	at rear	1915	1995
	total	3240	3330
With ballast:	at front	2090	2100
	at rear	2520	2600
	total	4610	4700

Front ballast: 12 weights, total 480 kg
water in the tyres 190 kg

Rear ballast: 2 weights per wheel, total 190 kg
water in the tyres 510 kg

Tyres and track widths specifications

	Front	Rear
Tyres:	KLEBER	PIRELLI TM 300 S
dimensions	11.2 R 24	16.9 R 30
type	radial	radial
ply rating	8	6
maximum load	1225 kg (30 km/h)	1900 kg (40 km/h)
inflation pressure	240 kPa	130 kPa
radius index	515 mm	695 mm
Chosen track width:	1500 mm	1620 mm
Technically permissible axle load:	2100 kg	3200 kg
Technically permissible total weight:	4700 kg	

Oils and lubrication

Capacity and change interval:

	Capacity dm³	Oil change h	Filter change h
Engine	11	250	250
Gear box with rear axle	21,5	2000	-
Front axle	5	1000	-
Front final drives	2 x 1	1000	-
Hydraulic system with steering	16	1000	yearly

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Specifications:

	Recommended	Used during test
Engine oil:		
type	engine oil	DEUTZ HDC
viscosity		
below -5°C	SAE 10W	
-10°C to +10°C	SAE 20W/20	
+5°C to +30°C	SAE 30	SAE 15W/40
above +25°C	SAE 40	
above -10°C	SAE 15W/40	
classification	API-CC or - CD	API-CD
Transmission oils:		
gear box		
type	engine oil | gear oil	DEUTZ HDC
viscosity	SAE 15W/40 | SAE 90	SAE 15W/40
classification	API-CC or -CD | API-GL4	API-CD
front axle and front final drives		
type	gear oil	gear oil
viscosity	SAE 90	SAE 90
classification	API-GL5	API-GL5
Hydraulic system with steering		
type	engine oil	DEUTZ HDC
viscosity	SAE 15W/40	SAE 15W/40
classification	API-CC or-CD	API-CD

Grease: Multi purpose grease
number of lubrication points: 23

Fuel

type: ARAL Diesel-fuel in conformity with DIN 51601
density: at 15°C at engine- and p.t.o.-tests 0,834 g/cm³
at drawbar power tests 0,836 g/cm³

REPAIRS None

REMARKS None

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COMPULSORY TESTS

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

Date of tests: 22nd February 1988
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 l/h	fuel consumption hourly kg/h	fuel consumption specific g/kWh	specific energy kWh/l
Maximum power						
1.1 At 2-hour test						
45,3	2350	1063	12,96	10,83	239	3,50
1.2 At rated speed						
45,3	2350	1063	12,96	10,83	239	3,50
1.3 At standard p.t.o. speed						
44,7	2210	1000	12,68	10,59	237	3,53
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						
45,3	2350	1063	12,96	10,83	239	3,50
1.4.2 85% of the torque obtained in 1.4.1						
39,0	2377	1075	11,53	9,63	247	3,38
1.4.3 75% of the torque defined in 1.4.2						
29,4	2390	1081	9,43	7,87	268	3,12
1.4.4 50% of the torque defined in 1.4.2						
19,7	2403	1087	7,36	6,15	312	2,68
1.4.5 25% of the torque defined in 1.4.2						
9,9	2424	1096	5,50	4,59	462	1,81
1.4.6 unloaded						
-	2443	1105	3,73	3,11	-	-

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Power kW	speed engine rev/min	speed p.t.o. rev/min	fuel consumption hourly l/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 the standard p.t.o. speed at full load (curve b)						
1.5.1 the torque corresponding to maximum power						
44,7	2210	1000	12,68	10,59	237	3,53
1.5.2 85% of the torque obtained in 1.5.1						
38,5	2238	1012	11,19	9,35	243	3,44
1.5.3 75% of the torque defined in 1.5.2						
29,1	2258	1021	9,07	7,58	260	3,21
1.5.4 50% of the torque defined in 1.5.2						
19,5	2271	1027	7,00	5,84	299	2,79
1.5.5 25% of the torque defined in 1.5.2						
9,8	2285	1034	5,07	4,23	431	1,94
1.5.6 unloaded						
-	2310	1045	3,35	2,80	-	-

No load maximum engine speed: 2443 rev/m
Equivalent flywheel torque at rated engine speed: 184 Nm
Maximum equivalent flywheel torque: 220 Nm at 1651 rev/min of the engine

Mean atmospheric conditions

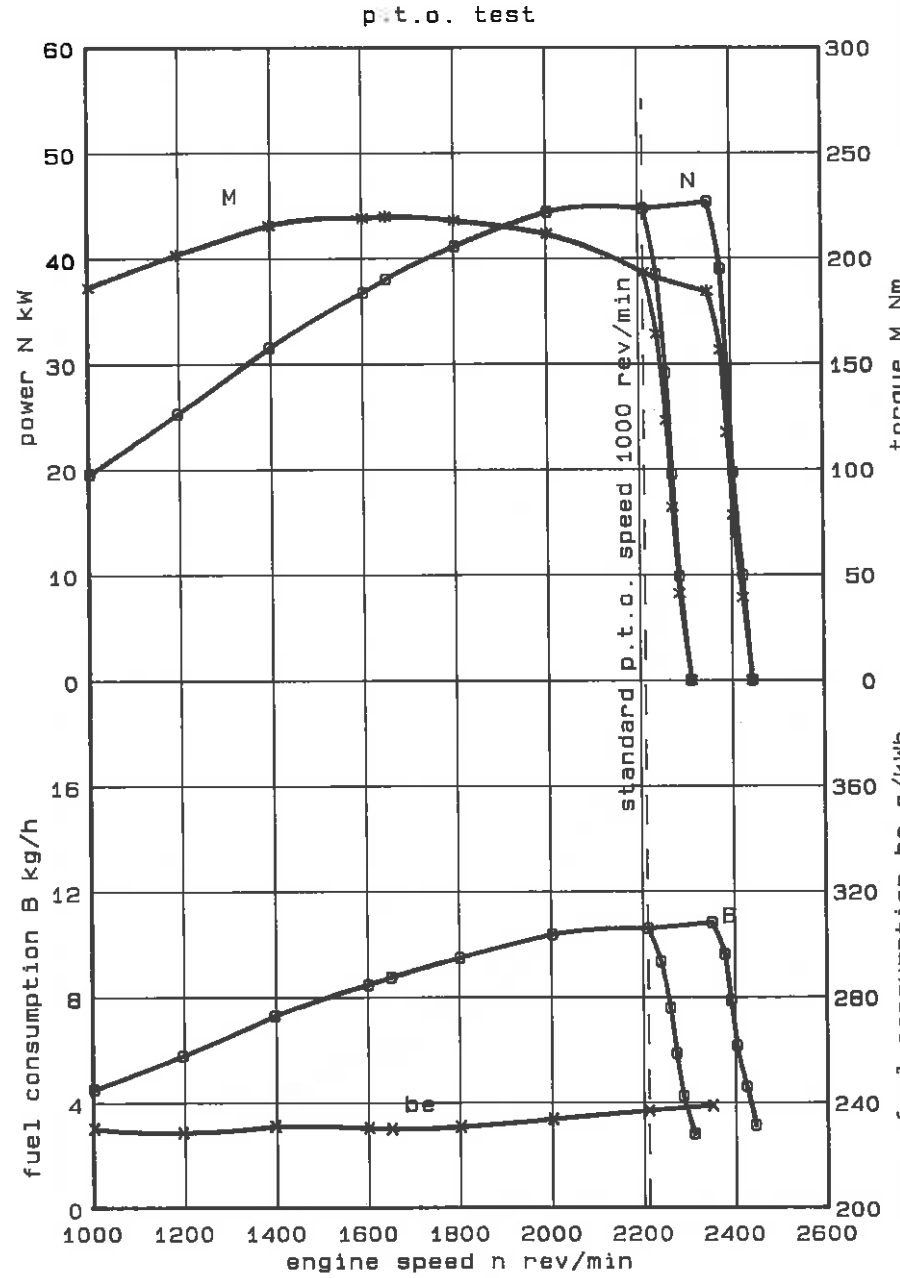
temperature	19 °C
pressure	101 kPa
rel. humidity	30 %

Maximum temperatures

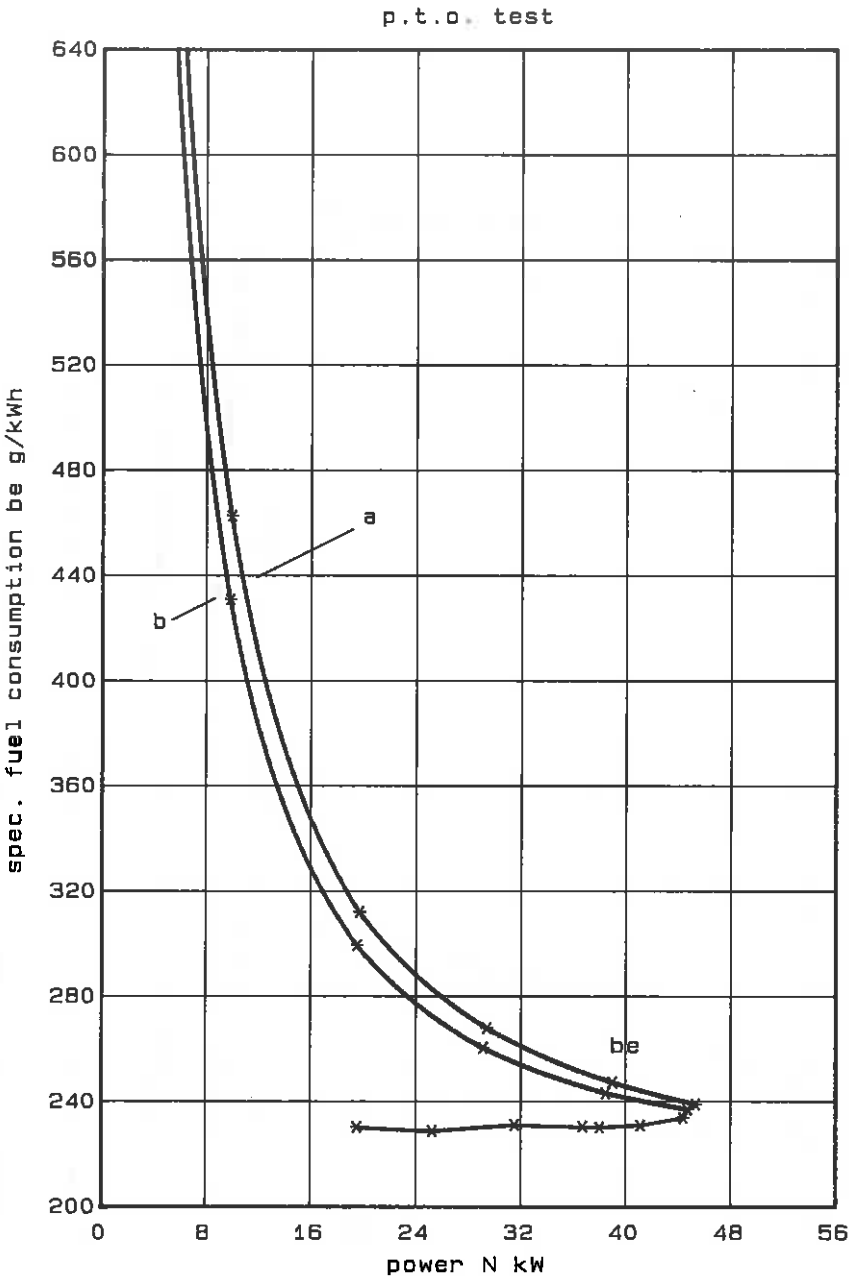
coolant	95 °C
oil	105 °C
fuel	18 °C
air intake	19 °C

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2 HYDRAULIC POWER AND LIFTING FORCE

Date of tests: 7th March 1988

2.1 Hydraulic power test

Sustained pressure with relief valve open 18,2 MPa
Pump delivery rate at minimum pressure 42,9 l/min

	Hydraulic power kW	Flow rate l/min	Pressure MPa	Oil temperature °C
At 90% of the actual relief valve setting	11,0	40,4	16,4	65
At max. power	11,2	40,2	16,7	65

Tapping point used for test: At rear of tractor

2.2 Power lift test

	At the hitch point	On the frame
Height of lower hitch points above ground in down position	200 mm	200 mm
Vertical movement	625 mm	729 mm
Max. corrected force exerted through full range	21,8 kN	16,5 kN
Corresponding pressure	16,4 MPa	16,4 MPa
Moment about rear axle	-	26,5 kNm
Max. tilt angle of mast from vertical	-	7,5 °

Lifting heights relative to horizontal lower links

mm	-377	-330	-300	-200	-100	0	+100	+200	+295	+300	+352

Lifting forces at hitch points, corrected to 16,4 MPa

kN		21,8	22,4	23,3	23,4	23,4	23,0	22,6	22,8		

Lifting forces at standard frame, corrected 16,4 MPa

kN	20,3		20,8	20,6	20,0	19,3	18,5	17,7		16,9	16,5

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3 DRAWBAR PERFORMANCE

Date of tests: 3rd till 10th May 1988
Type of track: Concrete

Gear	Driving speed km/h	Power kW	Drawbar pull kN	Engine speed rev/min	Slip of wheels %
3.1 Maximum power in tested gears (unballasted tractor) height of drawbar above ground 510 mm					
2 L N	2,84	26,9	34,06	2401	15,1
2 L +20%	3,45	32,8	34,19	2383	15,1
3 L N	4,32	36,7	30,56	2354	9,6
3 L +20%	5,47	38,2	25,13	2352	6,4
1 H N	5,74	38,3	24,02	2350	5,9
1 H +20%	7,16	39,2	19,72	2350	4,3
4 L N	7,70	38,3	17,91	2348	3,8
2 H N	9,38	38,4	14,75	2350	3,1
3.2 Maximum power in tested gears (ballasted tractor) height of drawbar above ground 505 mm					
1 L N	1,80	22,9	45,76	2394	14,9
1 L +20%	2,18	27,7	45,79	2383	15,1
2 L N	2,87	35,1	43,97	2350	13,1
2 L +20%	3,72	37,4	36,20	2352	8,0
3 L N	4,52	37,4	29,80	2350	5,9
3 L +20%	5,61	38,7	24,84	2350	4,5
1 H N	5,88	38,8	23,76	2350	4,3
1 H +20%	7,28	39,0	19,27	2350	3,2
4 L N	7,82	38,2	17,59	2348	2,9
2 H N	9,50	37,6	14,26	2348	2,4
3.3.1 Five-hour-test at 75% of pull at maximum power in 1 H +20% gear					
1 H +20%	7,49	30,1	14,45	2396	2,4
3.3.2 Five-hour-test at pull corresponding to 15% wheel slip in test 3.2					
1 L +20%	2,09	26,6	45,79	2367	-

Total oil consumption during ten hours duration of tests 3.3.1 and 3.3.2: 37 g/h

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Tyre size front: 11.2 R 24
rear: 16.9 R 30

Specific fuel consumpt. g/kWh	Specific energy kWh/l	Temperatures Fuel °C	Cylinder head °C	Engine-oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure kPa
Tyre inflation pressure: 90 kPa at front, 80 kPa at rear							
341	2,46	17	60	76	14	95	98,7
323	2,60	17	61	75	14	99	98,9
297	2,83	17	58	74	14	98	98,9
285	2,95	17	79	76	14	97	98,9
285	2,95	17	78	77	14	96	98,9
278	3,01	18	78	74	15	94	98,9
282	2,98	18	77	75	15	92	98,9
282	2,98	18	76	77	15	89	98,9
Tyre inflation pressure: 190 kPa at front and 80 kPa at rear							
355	2,36	19	60	70	15	88	100,1
337	2,48	19	59	72	15	87	100,1
307	2,73	19	60	76	15	81	100,1
290	2,88	20	71	74	17	81	100,2
289	2,89	20	74	73	17	78	100,2
279	2,99	22	71	75	18	75	100,2
278	3,00	23	74	75	18	74	100,2
276	3,02	23	76	76	19	72	100,3
281	2,98	20	75	74	16	95	99,8
286	2,92	20	74	74	16	94	99,8
295	2,83	25	68	84	20	94	99,6
-	-	30	74	92	24	66	99,8

Test 3.3.2 was carried out with additional ballast, the figures not quoted are therefore irrelevant

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4 TURNING AREA AND TURNING CIRCLE (front wheel drive disengaged)

Wheel equipment front: 11.2 R 24
rear: 16.9 R 30

Track of wheels front: 1500 mm
rear: 1620 mm

	With brakes left-hand m	With brakes right hand m	Without brakes left-hand m	Without brakes right-hand m
Radius of turning area	4,05	4,37	4,69	5,09
Radius of turning circle	3,73	4,08	4,37	4,80

5 LOCATION OF CENTRE OF GRAVITY

Height above ground	887 mm
Distance forward from rear axle centre	886 mm
Distance from tractor's median plane, to the left	6 mm

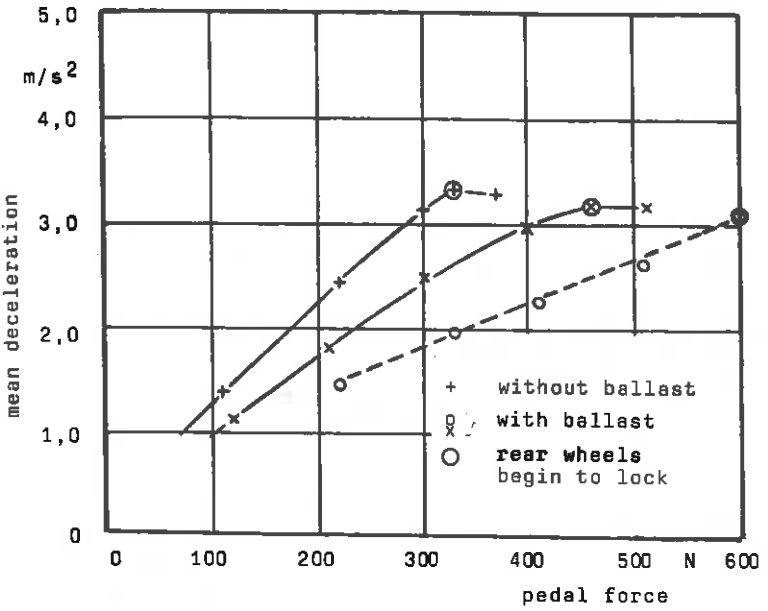
6 BRAKING (Front wheel drive disengaged)

Date of test: 4th and 5th May 1988

	Tractor mass (with driver) front kg	rear kg	total kg	Speed before application of brakes km/h
Without ballast	1335	1995	3330	30,3
With ballast	2100	2600	4700	30,1

6.1 Cold service braking device test ———

6.2 Fade test ----------



No significant deviation of tractor from original course and no abnormal vibrations,

Brakes-heating: Actuating of brake for 1 km with pedal force corresponding to 1 m/s²

6.3 Parking braking device test

		Ballasted tractor on 18% - slope up	down
Braking device control force	N	260	350

7 MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of test: 4th May 1988
Type of track: Concrete
Type of sound level meter: BRÜEL & KJAER model 2233

Results of test

Gear: 4 H +20% (Front wheel drive disengaged)
Travelling speed before acceleration: 22,7 km/h
Sound level: 85,5 dB(A)

APPENDIX

MEASUREMENTS OF NOISE IN THE PROTECTIVE STRUCTURE

with DEUTZ-FAHR safety-cab with integrated safety-frame, type 82/1, tractor without close stepped Dual Split, results of OECD-test no. CSD 1022/4-a(C)

Date of test: 25th September 1986
Type of track: Concrete
Type of sound level meter: BRÜEL & KJAER model 2209

Gear	Drawbar pull kN	Travelling speed km/h	Sound level dB(A)
1 H *)	19,54	7,15	82,0
1 H *)	light load	7,63	78,0
4 H	light load	30,94	81,0

*) The 1 H gear corresponds to the nominal travelling speed nearest to 7,5 km/h

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OPTIONAL TEST

8. ENGINE PERFORMANCE

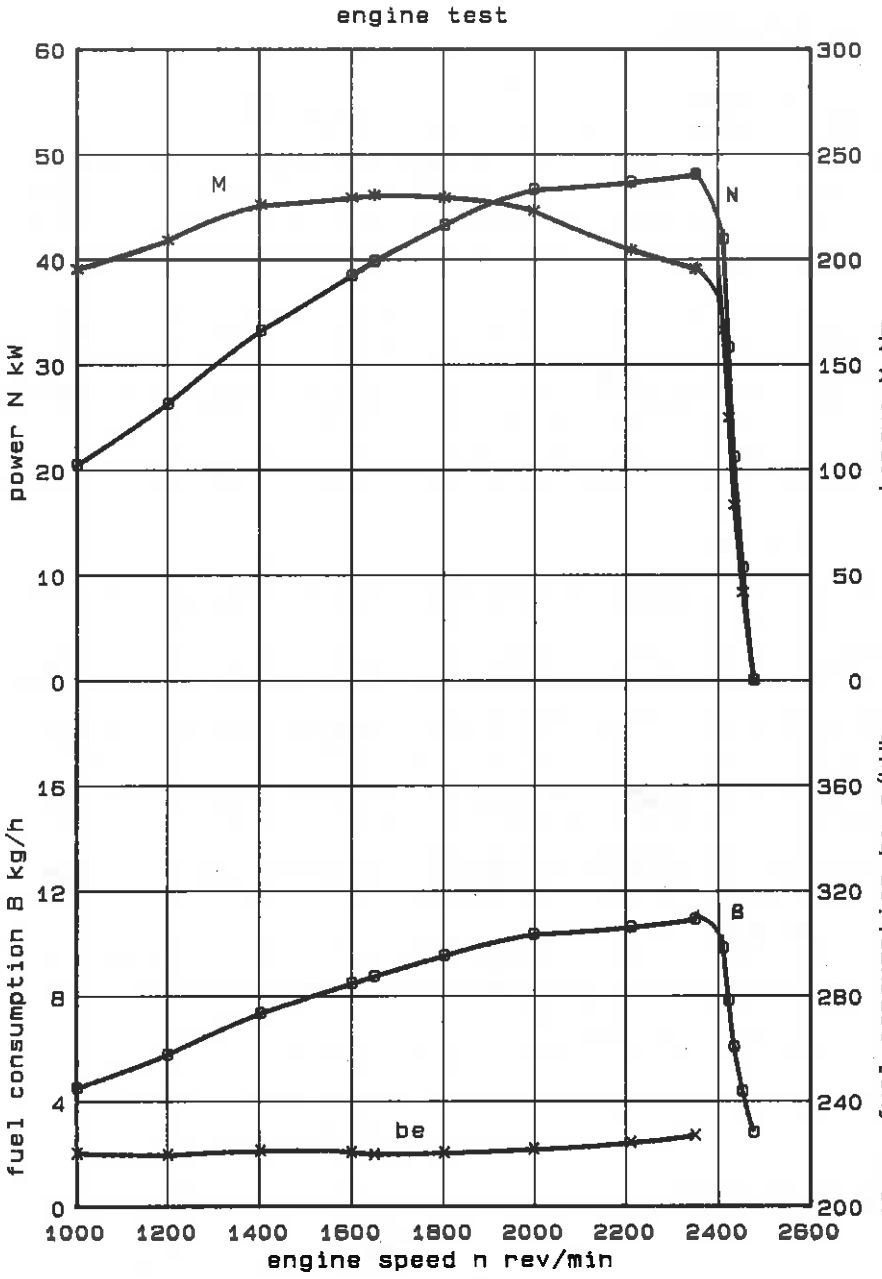
Date of tests: 11th February 1988
Location of tests: DLG-Testing-Station Groß-Umstadt
Type of dynamometer: SCHENCK eddy-current-dynamometer W 150

	Power kW	Engine speed rev/min	Fuel consumption hourly l/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power						
8.1 At 2-hour test	48,1	2350	13,10	10,92	227	3,67
8.2 At rated engine speed	48,1	2350	13,10	10,92	227	3,67
8.3 At standard p.t.o. speed (1000 rev/min)	47,4	2210	12,75	10,63	224	3,72
8.4 Part loads						
8.4.1 the torque corresponding to maximum power at rated speed	48,1	2350	13,10	10,92	227	3,67
8.4.2 85% of the torque obtained in 8.4.1	41,9	2410	11,79	9,83	234	3,56
8.4.3 75% of the torque obtained in 8.4.2	31,6	2422	9,39	7,82	248	3,37
8.4.4 50% of the torque obtained in 8.4.2	21,2	2434	7,27	6,06	286	2,91
8.4.5 25% of the torque obtained in 8.4.2	10,7	2453	5,24	4,37	409	2,04
8.4.6 unloaded	-	2477	3,37	2,81	-	-

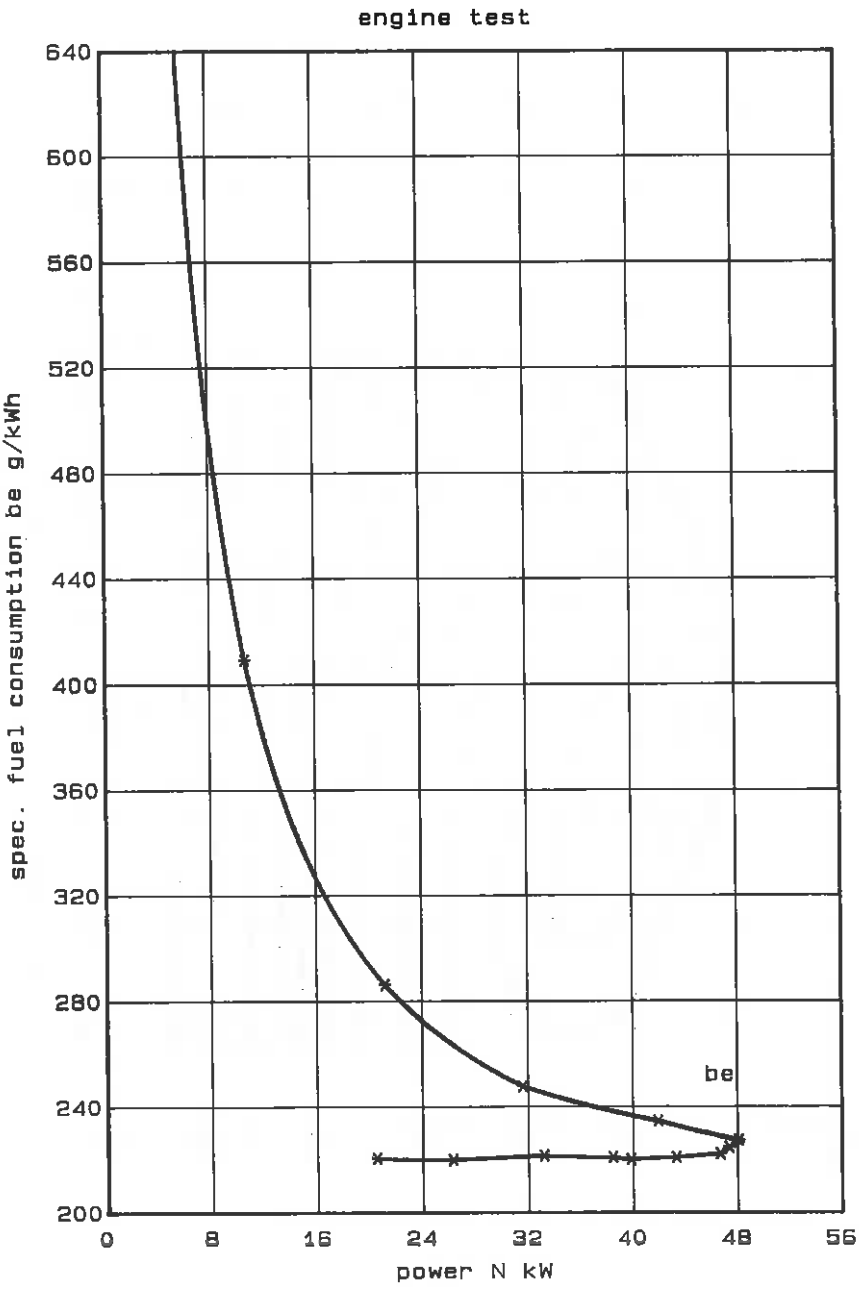
Optimum fuel consumption: 215 g/kWh at 29.4 kW and 1410 rev/min
No load maximum engine speed: 2476 rev/min
Torque at rated engine speed: 195 Nm
Maximum torque: 230 Nm at 1648 rev/min of the engine

Mean atmospheric conditions	temperature	19 °C
	pressure	98 kPa
	relative humidity	23 %
Maximum temperatures	coolant	87 °C
	oil	84 °C
	fuel	20 °C
	engine air intake	19 °C

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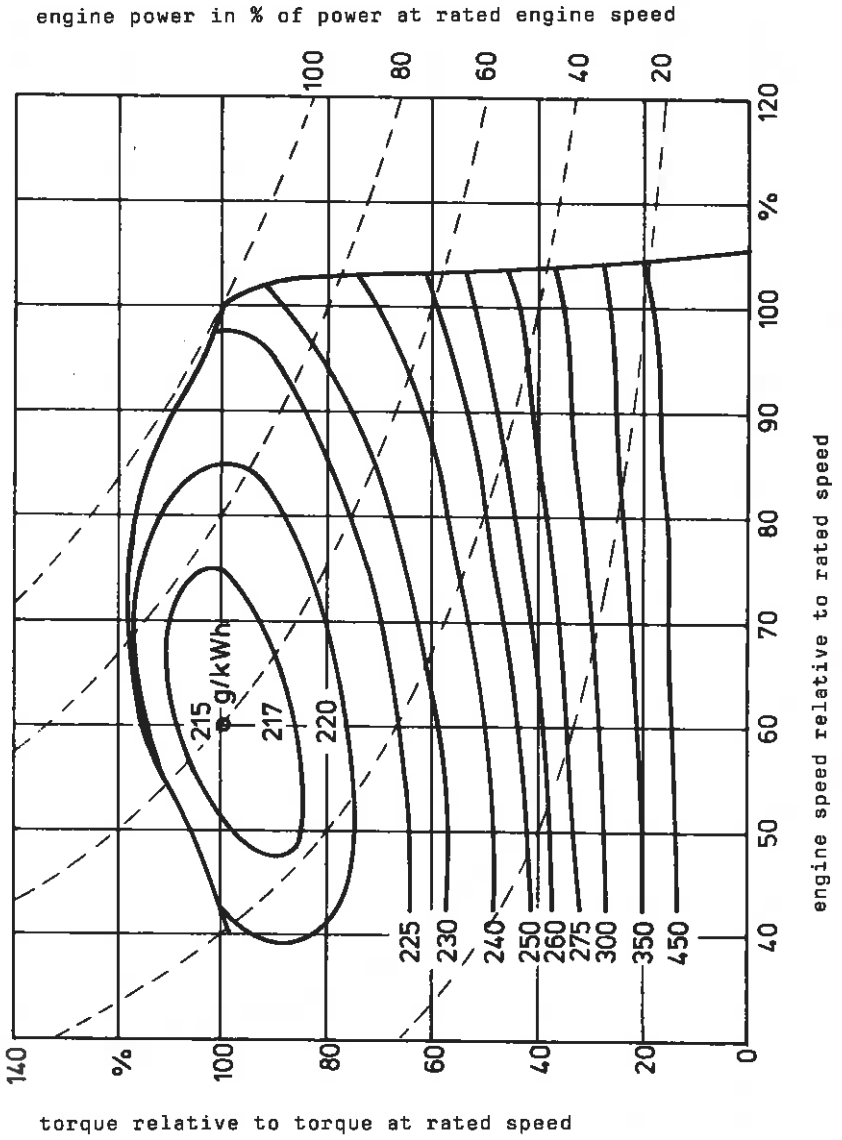


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