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

O.E.C.D. No. 897



Agricultural Tractor
DEUTZ-FAHR DX 6.30 (4WD)

Type denomination D 1023 A-S, D 1023 A-T

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

Deutsche Landwirtschafts-Gesellschaft e. V.
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This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractor Performance. It does not contain an evaluation of the tractor performance on practical work.

Duration of Tests: November 1983 till February 1984
DLG-Testing-Station for Agricultural Machinery, Max-Eyth-Weg 1,
D-6114 Groß-Umstadt

This report has been approved by the O.E.C.D. Coordinating Centre (C.E.M.A.G.R.E.F., France) as being in accordance with the O.E.C.D. STANDARD CODE.

Date of Approval: 10th July 1984 O.E.C.D. No. 897

The tractor DX 6.30, type denomination D 1023, has been testet in 2 variants:

1: as model D 1023 A-S with 5 speed change gear and maximum design related speed 30 km/h,

2: as model D 1023 A-T with 6 speed change gear and maximum design related speed of 40 km/h.

In the rest both variants are identical.

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 daN = 10 N	=	1,02 kp	or 1 kp	= 0,981 daN
Powers	1 kW	=	1,36 PS	or 1 PS	= 0,736 kW
Pressures	1 bar	=	1,02 kp/cm²	or 1 kp/cm²	= 0,981 bar
	1000 mbar	=	750,10 mm Hg		

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PRÜFUNGS-ABTEILUNG
DEUTZ-FAHR DX 6.30

Test No. 83-190

Tractor manufacturer:	KLÖCKNER-HUMBOLDT-DEUTZ AG 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. 100 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	DEUTZ-FAHR
Trade name:	DX 6.30
Type denomination:	D 1023 A-S and D 1023 A-T
Type:	Four-wheel-drive tractor, unit construction
Serial No.:	7439 0005

Engine

Make:	DEUTZ
Model:	F6L 913.85
Type:	4-stroke Diesel engine, direct injection, air cooled
Serial No.:	6758536
Cylinders:	6, in-line, bore 102 mm, stroke 125 mm, displacement 6128 cm^3, compression ratio 17:1; replaceable ribbed cylinder liners
Valves:	Overhead
Fuel system:	PIERBURG fuel feed pump; BOSCH in-line injection pump PES 6A 85D 410/3 RS 2611; manufacturer's production setting 53,5 mm^3/stroke at rated engine speed and full load; injection timing $29^{\circ} \pm 1^{\circ}$ before TDC; BOSCH multihole injection nozzles DLLA 149 S 774, injection pressure 175 + 8 bar; MANN fuel filter with replaceable cartridge; capacity of fuel tank 125 l, additional tank with 100 l capacity available
Governor:	BOSCH centrifugal variable speed governor EP/RSV 325-1200 AOB 2148 L; governed range of engine speed 650 to 2525 1/min, rated engine speed 2400 1/min

Air cleaner:	DEUTZ-SICCOPUR dry paper element filter with precleaner, replaceable cartridge, electrical maintenance indicator, air intake below bonnet
Exhaust silencer:	LANGE single chamber-expansion type silencer, 120 x 230 mm oval, 1090 mm long; on the left beside the bonnet, mouth showing upwards; mouth 2800 mm above ground
Lubrication system:	Forced feed from gear pump; strainer in sump; MANN oil filter in full flow with by-pass valve and replaceable cartridge; cartridge change every 500 operating hours; oil capacity 17 l; recommended oil qualities: API-CC oil change period 250 operating hours,or API-CD oil change period 500 operating hours specified oil viscosities: below - 5°C SAE 10W from -10°C to +10°C SAE 20W/20 from + 5°C to +30°C SAE 30 over +25°C SAE 40 or over -10°C SAE 15W/40; engine oil cooler inside of cooling air baffle
Cooling system:	Air cooling with axial blower, driven by V-belt and fluid coupling, blower speed controlled by exhaust gas temperature
Starting system:	Electrical BOSCH solenoid pre-engaged-drive-starting motor JF 12V 2,7 kW; BERU flame pflug in intake manifold
Electrical equipment:	12 Volt, negative earth; BOSCH 3 phase alternator G1 14V 33A, 462 W; 1 lead acid battery 110 Ah at 20 hours rating

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Transmission

Clutch:	LAMELLEN- UND KUPPLUNGSBAU GMBH dry dual disc clutch DT 310/310 G travel drive disc 310 mm dia, pedal operated; p.t.o. drive disc 310 mm dia, hand lever operated
Gear box:	DEUTZ-FAHR TW 904-T synchromesh speed change gear with 5 speeds at model D 1023 A-S and 6 speeds at model D 1023 A-T; synchronized range gear with 3 forward ranges (L, M and H) and 1 reverse range (R); total 15 forward and 5 reverse speeds at model D 1023 A-S, 18 forward and 6 reverse speeds at model D 1023 A-T; collar shifted creeper group optional, not attached to tested tractor
Rear axle and final drives:	DEUTZ-FAHR bevel gear drive, bevel gear type differential on intermediate shaft; spur gear final drives; differential lock in rear axle, pedal operated, not self disengaging, with electrical indicator
Front axle and final drives:	ZAHNRADFABRIK FRIEDRICHSHAFEN APL 345 driven by universal joint shaft (placed in tractor's median plane); wet multi disc safety clutch; hand lever operated collar shifting; bevel gear drive; No Spin-differential OPTITRAC; planetary final drives

Total ratios and speeds (tyres 18.4 - 38)

Range	Gear	Total ratio engine : driving wheels	Nominal travelling speed *) at rated engine speed km/h
L	1	313,23	2,37
	2	232,80	3,19
	3	184,13	4,03
	4	126,98	5,84
	5	103,47	7,17
	6 +)	81,93	9,05
M	1	151,49	4,90
	2	112,59	6,59
	3	89,05	8,33
	4	61,41	12,08
	5	50,04	14,83
	6 +)	39,62	18,73
H	1	74,42	9,97
	2	55,31	13,41
	3	43,74	16,96
	4	30,17	24,59
	5	24,58	30,18
	6 +)	19,46	38,12
R	1	162,25	4,57
	2	120,59	6,15
	3	95,38	7,78
	4	65,78	11,28
	5	53,60	13,84
	6 +)	42,44	17,48

*) calculated with the radius index 820 mm

+) not at model D 1023 A-S

Gear lubrication: Oil screen filter in gear housing, cleaning every 2000 operating hours

oil capacity in gearbox including rear axle with final drives 40 l
specified: engine oil SAE 15W/40 recommended quality API-CC or API-CD, oil change period 2000 operating hours;

oil capacity in front axle bevel gear drive 7,5 l
in front axle final drives, each 0,75 l
specified: EP-gear oil SAE 90, quality API-GL5; oil change period 1000 operating hours

Power-take-off

Independent p.t.o.;
2 p.t.o. shafts at rear of tractor,
driven by 2nd plate of dual clutch,
both shafts rotate simultaneously and are
shifted in common by p.t.o. hand lever;
rotation clockwise, viewed to tractor's rear

540 1/min p.t.o.
650 mm above ground, 50 mm to the right
of tractor's median plane;
35 mm dia, 6 splines, ISO 500/DIN 9611
type 1;
591 1/min at rated engine speed,
standard p.t.o. speed 540 1/min at engine
speed 2192 1/min

1000 1/min p.t.o.
635 mm above ground, 50 mm to the left
of tractor's median plane;
35 mm dia, 6 splines, ISO 500/DIN 9611
type 1,
optional
35 mm dia, 21 splines, ISO 500/DIN 9611
type 2;
1084 1/min at rated engine speed,
standard p.t.o. speed 1000 1/min at engine
speed 2214 1/min

p.t.o. shafts 525 mm behind rear axle
centre line

Power lift

DEUTZ-FAHR
K 55.2 DEUTZ TRANSFERMATIC-system,
hydraulic power lift in unit construction,
draft control, position control and inter-
mixable control, floating position;
lower link sensing,
no lowering throttle

PRÜFUNGS-ABTEILUNG
DEUTZ-FAHR DX 6.30 Test No. 83-190

Hydraulic system:	Open centre system; BOSCH tandem gear pump HY/ZFFS 11/22,5 + 14 L, directly driven by engine; delivery 58 l/min at rated engine speed; hydraulic oil filter with electrical maintenance indicator, filter change yearly DEUTZ-FAHR control valve; maximum working pressure 175 + 8 bar, single acting cylinder with 90 mm bore and 145 mm stroke, overpressure relief valve in cylinder set to 240 bar; 2 single acting additional rams with 55 mm bore and 185 mm stroke 1 double acting additional DEUTZ-FAHR control valve SD.80, 2 couplings at rear of tractor; maximum 3 double acting additional control valves available; 1 separate oil return pipe at rear of tractor hydraulic oil reservoir with 13 l capacity in power lift unit, additional tank with 25 l capacity optional; by oil tap may be taken off 8 l if tractor is working stationary or travelling, 30 l may be taken off if tractor is fitted out with additional tank; hydraulic oil cooler attached to cooling air baffle
Hydraulic oil:	Recommended: engine oil SAE 20W/20 API-CC, oil change period 1000 operating hours, or engine oil SAE 20W/20 API-CD, oil change period 2000 operating hours
Implement linkage:	Three point linkage, quick couplers optional, mounted to tested tractor; joint balls category 2 acc. to ISO 730/I; lift rods adjustable from 755 to 895 mm; lifting range with mean lift rods' length of 825 mm: from 280 mm to 890 mm above ground; length of top link adjustable from 580 mm to 880 mm, length of lower links 940 mm

Pull attachment

Trailer hitch:	CRAMER, KU 9602 automatical; height above ground adjustable to 885 or 955 mm, coupling pin 32 mm dia; distance of hitch hole centre to rear axle centre line 571 mm to p.t.o. shaft end 46 mm; permissible vertical load 2000 kg
Swinging drawbar:	Optionally available, not attached to tested tractor
Holed drawbar:	Short bar, fitted on hitch points of lower links; length between the joint balls 825 mm; thickness of bar 30 mm, width 80 mm; centre hole and 4 holes on either side with 80 mm distance each; all holes 33 mm dia; distance of holes' centre line with lower links in horizontal position from rear axle centre line 1087 mm from p.t.o. shaft end 562 mm with lift rods adjusted to mean length of 825 mm, lifting range from 295 mm to 905 mm above ground; the drawbar may be mechanically-hydraulically fixed in the height of 593 mm above ground; these data were determined at the surface of this bar
Towing hitch:	At front of tractor, 925 mm above ground

Steering

Hydrostatic, DANFOSS
OSPC 140 OR
oil circuit in common with power lift, supplied by tandem part of the BOSCH gear pump with 14 cm³/rev delivery;
1 integrated steering cylinder directly acting on front axle; bore 70 mm dia, stroke 238 mm, piston rod 36 mm dia

Brakes

Parking brake: Mechanical internal-expanding-shoe brake acting on intermediate shaft, operated by pulling handle with ratchet;
1 brake drum with 180 mm dia and 60 mm width each on the left and right, outside of gearbox

Service brake: pedal operated muscle power brake with hydraulical transmission,
acting on front- and rear axle;
at rear: TEVES
1 brake disc with 276 mm dia and 2 brake calipers each on the left and right, outside of gearbox, on intermediate shaft
at front: TEVES
1 caliper disc brake between universal joint shaft and bevel gear drive of front axle;
brake disc 282 mm dia;
front axle brake at 40 km/h version standard, for 30 km/h version optional

Steering brake: Divided pedal of service brake;
for normal use locked together

Trailer brake: optionally available;
dual line or combined single-dual line compressed air brake

Wheels

Steering wheels:	At front, 2 radial-ply tyres CONTINENTAL 14.9 R 28 6 ply; maximum permissible load per tyre 1610 kg at 1,4 bar inflation pressure and 30-40 km/h road speed; track width adjustable to 1800 mm or by turning the wheels to 2000 mm; rims W 12 x 28
Driving wheels:	At front and at rear; rear wheels: 2 radial-ply tyres CONTINENTAL 18.4 R 38 8 ply; maximum permissible load per tyre 2715 kg at 1,4 bar inflation pressure and 30-40 km/h road speed; track width adjustable from 1600 to 2200 mm in steps of 100 mm each by adjustable-gauge bowl wheels; rims W 15 L x 38
Wheel base:	2703 mm

Cab

DEUTZ-FAHR
OECD-tested safety cab SK 1905-37/4
approval no. CSD 0501/1 (model D 1023 A-S)
CSD 0501/5 (model D 1023 A-T)
antivibration mounted by 4 silent blocks on tractor;
1 door and 2 steps each on the left and right hand side, steps 600 mm and 900 mm above ground; driver's platform 1200 mm above ground

windscreen and upper rear window tiltable;
engine-oil heat exchanger heating-system,
3-step blower for fresh and warm air incorporated in instrument and steering support;
air intake above engine bonnet, air outlet jets at cab floor, at instrument panel and at windscreen;
heating by circulating air possible

noise reduction materials:

floor	foam PUR	25 mm
	in PE-foil	0,05 mm
	rubber mat	5 mm
mudguards	imitation leather on moltoprene foam	8 mm
front wall	impregnated foam	30 mm
	impregnated foam	7,5 mm
	TEROFORM-heavy layer	2,5 mm
instrument panel and steering support	bottom: foam block	300x130x100 mm
	side parts: foam	20 mm
seat support	rubber mat	4 mm
roof	cotton fleece, phenolic resin bonded	2-6 mm
	needle fleece	2 mm
	foam	30 mm
	needle fleece	3 mm

Seat

GRAMMER, DS 85 H/90 AR;
upholstered seat with back rest and arm rests, adjustable spring with shock absorber; height of unloaded seat above driver's platform adjustable in 2 steps from 480 to 540 mm, back rest inclination adjustable about 10°, longitudinal adjustment 160 mm, seat revolving about vertical axle to the left and right each about 25°

Number of grease points

18

Dimensions

Total length:	4552 mm without ballast 4872 mm with ballast
Total width:	2304 mm with and without ballast
Total height:	2800 mm to mouth of exhaust silencer 2700 mm to top of cab roof
Ground clearance:	415 mm below side fixation of lower links

Possible combinations of tyres

tyre size at front		tyre size at rear	
9.5 - 36	10 ply	11.2 - 48	8 ply
x) 9.5 - 36	10 ply	x) 12.4 - 46	10 ply
14.9 - 24	6 ply	18.4 - 34	8 ply
13.6 - 28	6 ply	16.9 - 38	8 ply
14.9 - 28	6 ply	18.4 - 38	8 ply

x) only for model D 1023 A-S

Lighting equipment — Electrical, 12 V, in accordance with German legislation

	Dimensions mm	Height above ground to centre mm	Distance from outside edge of tractor to centre mm
Head lights	130 dia	1166	944
Side lights	50x50	1655	379
Rear lights	45x64	1635	340
Reflectors			
1st pair	103x58	1335	143
2nd pair	103x58	665	663

Running-time meter — Mechanical, combined with tachometer, driven by camshaft of engine; reference engine speed for one really counted hour 1500 rev/min

TEST CONDITIONS

Track setting 1800 mm at front and at rear

Weights

		without driver	with driver
Without ballast:	at front	1785 kg	1795 kg
	at rear	2885 kg	2945 kg
	total	4670 kg	4740 kg
Front ballast:	water in the tyres		365 kg
	11 front weights, total		440 kg
Rear ballast:	water in the tyres		760 kg
	5 weights per wheel, total		490 kg
With ballast:	at front	2695 kg	2705 kg
	at rear	4030 kg	4090 kg
	total	6725 kg	6795 kg

Fuels and lubricants used in tests

Fuel:	ARAL Diesel-fuel DIN 51601	
	density at 15°C	
	at engine test	0,832 kg/l
	at p.t.o. test	0,836 kg/l
	at drawbar test	
	without ballast	0,838 kg/l
	with ballast	0,840 kg/l
Engine oil:	DEUTZ HDC SAE 15W/40	
Gear oil:	DEUTZ HDC SAE 15W/40 in gearbox including rear axle	
	DEUTZ gear oil API-GL5 hypoid SAE 90 in front axle including final drives	
Hydraulic oil:	DEUTZ SGHD-B SAE 20W/20 in power lift and in steering	

PRÜFUNGS-ABTEILUNG
DEUTZ-FAHR DX 6.30

Test No. 83-190

COMPULSORY TESTS

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

Date of tests: 16th December 1983
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						
At 2-hour test						
75.7	2400	1084	22.97	19.20	254	3.29
At standard p.t.o. speed						
75.5	2214	1000	22.49	18.81	249	3.36
At rated engine speed						
75.7	2400	1084	22.97	19.20	254	3.29
Part loads, the governor hand lever in the position corresponding to the maximum power at full load (curve a)						
(i) 85% of the torque at maximum power at 2-hour test						
65.0	2426	1096	20.19	16.88	260	3.22
(ii) unloaded						
-	2524	1140	5.95	4.97	-	-
(iii) 50% of the load defined in (i)						
33.3	2478	1119	12.95	10.83	326	2.57
(iv) maximum power						
75.7	2400	1084	22.97	19.20	254	3.29
(v) 25% of the load defined in (i)						
16.8	2502	1130	9.33	7.80	465	1.80
(vi) 75% of the load defined in (i)						
49.2	2451	1107	16.29	13.62	277	3.02

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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
Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load (curve b)						
(i) 85% of the torque at maximum power at standard p.t.o. speed						
66.3	2288	1033	19.91	16.64	251	3.33
(ii) unloaded						
-	2388	1078	5.19	4.34	-	-
(iii) 50% of the load defined in (i)						
33.9	2342	1057	12.37	10.34	305	2.74
(iv) maximum power						
75.5	2214	1000	22.49	18.81	249	3.36
(v) 25% of the load defined in (i)						
17.2	2377	1073	8.63	7.21	419	2.00
(vi) 75% of the load defined in (i)						
50.3	2316	1046	15.88	13.27	264	3.17

Standard specific fuel consumption (g/kWh): 260/326/251/305

No load maximum engine speed: 2524 rev/min
Equivalent crankshaft torque at maximum power (2 hours): 301 Nm
Maximum equivalent crankshaft torque: 355 Nm at 1661 rev/min of the engine

Mean atmospheric conditions:	temperature	16 °C
	pressure	983 mbar
	relative humidity	20 %
Maximum temperatures:	cylinder head	105 °C
	engine oil	89 °C
	fuel	20 °C
	engine air intake	19 °C

PRÜFUNGS-ABTEILUNG
DEUTZ-FAHR DX 6.30

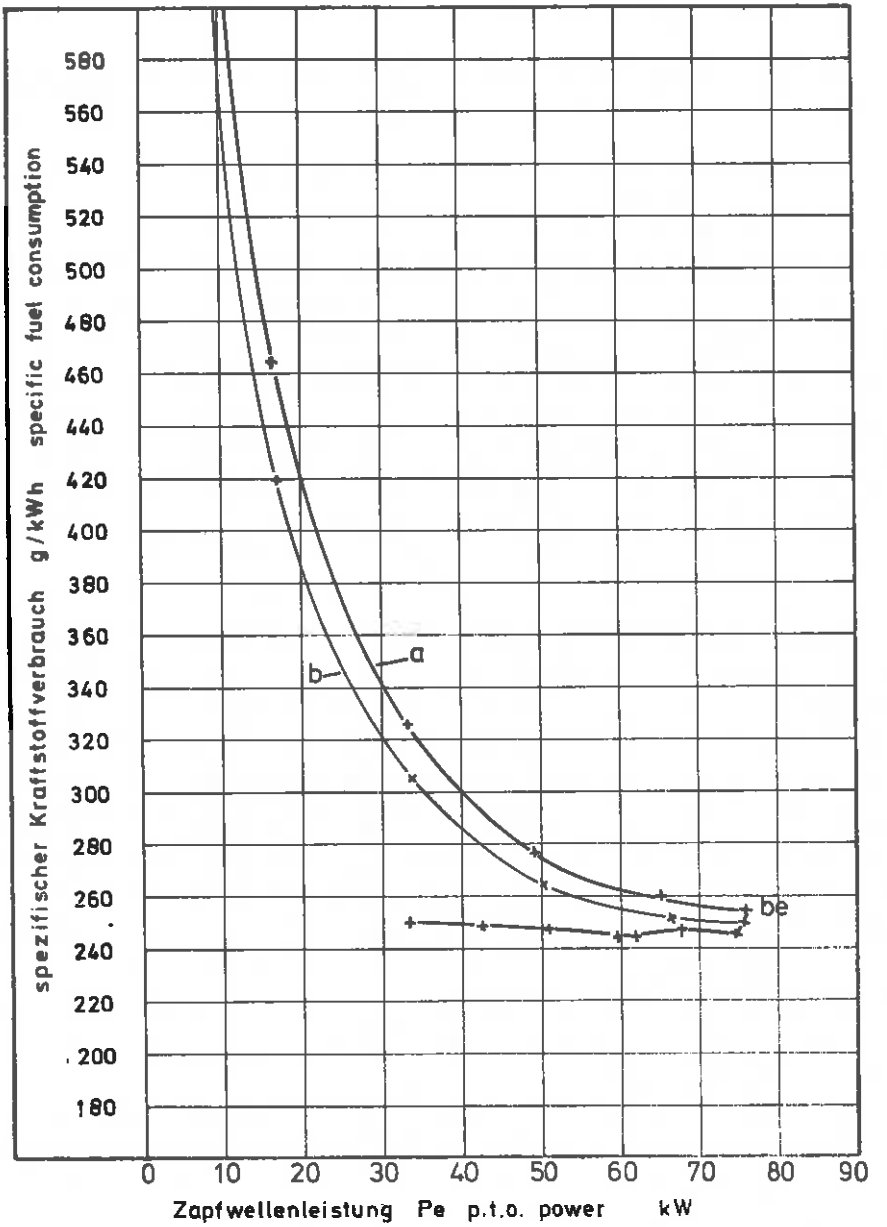
Zapfwellenleistung
P.t.o. performance

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Zapfwellenleistung

P.t.o. performance

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PRÜFUNGS-ABTEILUNG
DEUTZ-FAHR DX 6.30

(2) DRAWBAR PERFORMANCE

Date of tests: 14th till 21st February 1984
Type of track: Concrete

Gear	Driving speed km/h	Power kW	Drawbar pull daN	Engine speed 1/min	Slip of wheels %
(i)	MAXIMUM POWER (unballasted) height of drawbar above ground 530 mm				
3 L	3,50	47,3	4870	2440	14,9
1 M	4,21	57,1	4884	2412	15,1
4 L	5,23	62,6	4309	2399	10,8
2 M	6,06	62,8	3731	2399	8,4
5 L	6,68	62,2	3352	2401	7,2
3 M	7,84	62,8	2883	2397	6,0
6 L	8,58	62,5	2622	2399	5,3
1 H	9,51	62,7	2374	2402	4,7
4 M	11,62	63,3	1962	2402	3,8
2 H	12,94	61,9	1722	2401	3,3
5 M	14,34	61,4	1542	2398	2,9
(ii)	MAXIMUM POWER (ballasted) height of drawbar above ground 510 mm				
1 L	2,10	39,8	6824	2446	15,0
2 L	2,79	52,7	6801	2420	14,9
3 L	3,72	63,2	6118	2403	9,7
1 M	4,66	64,8	5008	2400	6,5
4 L	5,64	65,0	4151	2399	4,8
2 M	6,42	64,7	3630	2400	4,0
5 L	7,01	65,0	3340	2402	3,7
3 M	8,18	64,7	2849	2400	2,9
6 L	8,91	63,0	2546	2401	2,6
1 H	9,84	63,8	2334	2403	2,4
4 M	11,94	64,0	1929	2400	1,9
2 H	13,30	61,4	1662	2402	1,5
(iii)	FIVE-HOUR-TEST at 75 % of pull at maximum power in 3 M gear				
3 M	8,35	49,6	2137	2431	2,1
(iv)	FIVE-HOUR-TEST at pull corresponding to 15 % wheel slip in test (ii)				
2 L	2,81	53,3	6824	2428	-

Total oil consumption during ten hours duration of tests (iii) and (iv) 139 g/h

PRÜFUNGS-ABTEILUNG

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Tyre size front: 14.9 R 28 6 ply
rear: 18.4 R 38 8 ply

Tread bar height at the beginning of drawbar tests: at front 97 % and at rear 75 % of the value when new

Specific fuel consumpt. g/kWh	Specific energy kWh/l	Temperatures Fuel °C	Cylinder head °C	Engine-oil °C	Atmospheric conditions Temperature °C	Relative humidity %	Pressure mbar
tyre inflation pressure: 0,8 bar at front; 1,0 bar at rear							
330	2,54	18	65	85	0	78	1020
326	2,57	18	68	84	0	77	1020
310	2,71	20	85	86	1	75	1020
308	2,72	22	84	87	2	71	1020
311	2,70	22	79	87	3	68	1020
306	2,74	24	76	84	2	68	1020
309	2,71	23	81	86	3	68	1020
306	2,74	24	79	85	3	67	1020
303	2,76	23	81	86	3	59	1020
313	2,68	25	79	86	3	57	1020
315	2,66	19	82	87	0	71	1019
tyre inflation pressure: 1,1 bar at front; 1,0 bar at rear							
346	2,43	29	75	81	6	77	1001
328	2,56	21	80	82	3	64	1001
305	2,76	29	78	83	3	87	1001
299	2,81	24	78	81	3	88	1001
298	2,82	26	83	88	3	87	1001
298	2,81	28	79	90	4	84	1001
298	2,82	26	78	88	4	83	1001
297	2,83	26	83	84	4	79	1001
304	2,76	27	80	86	5	76	1001
301	2,79	26	82	87	5	78	1001
302	2,78	26	79	86	5	78	1001
313	2,68	28	81	86	6	78	1001
311	2,71	19	63	82	0	95	1001
-	-	24	50	82	3	95	1002

Test (iv) was carried out with additional ballast, the figures not quoted are therefore irrelevant

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 14.9 R 28 6 ply
rear: 18.4 R 38 8 ply

Track of wheels front: 1800 mm
rear: 1800 mm

Front wheel drive disengaged

	With brakes left-hand m	With brakes right-hand m	Without brakes left-hand m	Without brakes right-hand m
Radius of turning space	4,94	4,93	5,90	5,90
Radius of turning circle	4,49	4,50	5,45	5,47

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	1031 mm
Distance forward from rear axle centre	1024 mm
Distance from tractor's median plane, to the left	2 mm

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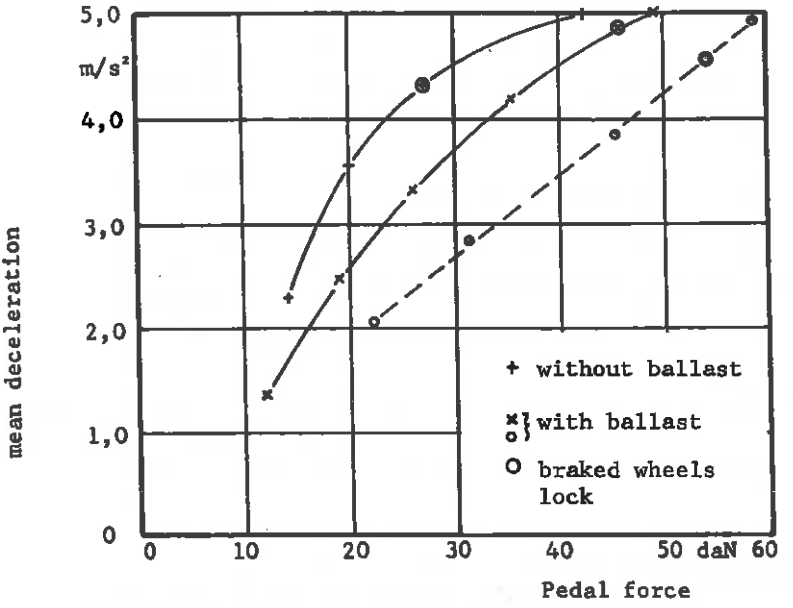
(5) Braking

Date of tests: 16th till 20th February 1984

Tractor masses during tests with driver:	front kg	rear kg	total kg
without ballast	1795	2945	4740
with ballast	2705	4090	6795

A) Service brake 30 km/h-version, front wheel drive disengaged

Type-0-test (cold brakes) ——, Type-I-(fade)test – – –



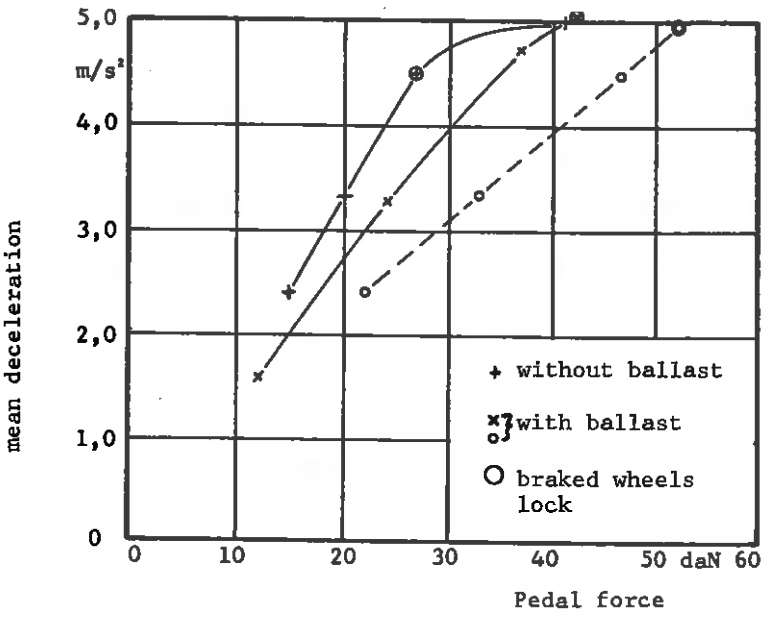
Speed before application of brakes, without ballast 31,3 km/h
with ballast 31,1 km/h

The brakes were heated by towing of the tractor for 1 km

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(B) Service brake 40 km/h-version, front wheel drive disengaged
Type-0-test (cold brakes) ——, Type-I-(fade)test – – –



Speed before application of brakes, without ballast 39,3 km/h
with ballast 38,9 km/h

The brakes were heated by towing of the tractor for 1 km

(C) Parking brake 30 and 40 km/h-version

	Ballasted tractor on 18%-slope		Unballasted tractor on 12%-slope with trailer of 3000 kg	
	up	down	up	down
Braking device control force daN	19	21	16	17

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(6) MEASUREMENT OF EXTERNAL NOISE LEVEL +)

Date of test: 16th February 1984
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2203

Results of test	30 km/h-version	40 km/h-version
Gear:	5 H	6 H
Travelling speed before acceleration:	23,5 km/h	29,5 km/h
Sound level:	91,0 dB(A)	89,5 dB(A)

(7) NOISE MEASUREMENT AT THE DRIVER'S EAR

Date of tests: 15th February 1984
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2209

tractor fitted out with DEUTZ-FAHR safety cab 1905-37/4

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level daN	Travelling speed nominal km/h	Travelling speed effective km/h	Sound level dB(A)
1 L	4817	2,37	2,14	83,5
2 L	4840	3,19	2,75	84,0
3 L	4862	4,03	3,47	84,5
1 M	4833	4,90	4,19	84,5
4 L	4250	5,84	5,22	84,5
2 M	3716	6,59	6,04	84,5
5 L +)	3322	7,17	6,67	84,0
5 L +)	light load	7,17	7,51	83,0
3 M	2871	8,33	7,90	84,0
6 L	2624	9,05	8,54	84,0
1 H	1836	9,97	9,81	84,5
4 M	1912	12,08	11,64	84,0
2 H	1710	13,41	12,93	84,5
5 M	1534	14,83	14,32	83,5
3 H	1293	16,96	16,52	84,0
6 M	1094	18,73	18,27	84,5
5 H *)	light load	30,18	31,30	83,0
6 H *)	light load	38,12	39,30	83,0

+) front wheel drive disengaged
*) the 5 L gear corresponds to the nominal travelling speed nearest to 7,5 km/h

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(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date of tests: 13th December 1983

Power Lift

	Height of lower hitch point above ground in down pos. mm	Vertical movement mm	Max. force exerted through full range daN	Corresp. pressure of hydraul. fluid bar	Moment about rear axle daNm	Max. tilt angle of mast over range of lift degrees
At hitch points	280	610	3765	158	-	-
On the frame	280	669	2975	158	5049	8 +)

Temperature of hydraulic fluid at start of test 65 °C

+) tilt angle of mast from vertical position to uppermost position 7°

Lifting heights relative to horizontal lower links

mm	-294	-280	-200	-100	0	+100	+200	+300	+330	+375
Lifting forces at hitch points										
daN		3765	3980	4110	4195	4195	4155	4155	4110	
Lifting forces at test frame										
daN	3845		3800	3760	3670	3540	3370	3195		2975

Hydraulic Pump Performance

Opening pressure of the relief valve in remote circuit	155 bar
Sustained pressure with relief valve open	178 bar
Pump delivery rate at minimum pressure, the governor control lever being set for max. power	60,4 l/min
Hydraulic power at 90% of relief valve setting	12,5 kW
Corresponding delivery rate	46,9 l/min
Pressure	160 bar
Temperature of hydraulic fluid	65 °C

Tapping point used for test: at rear of tractor

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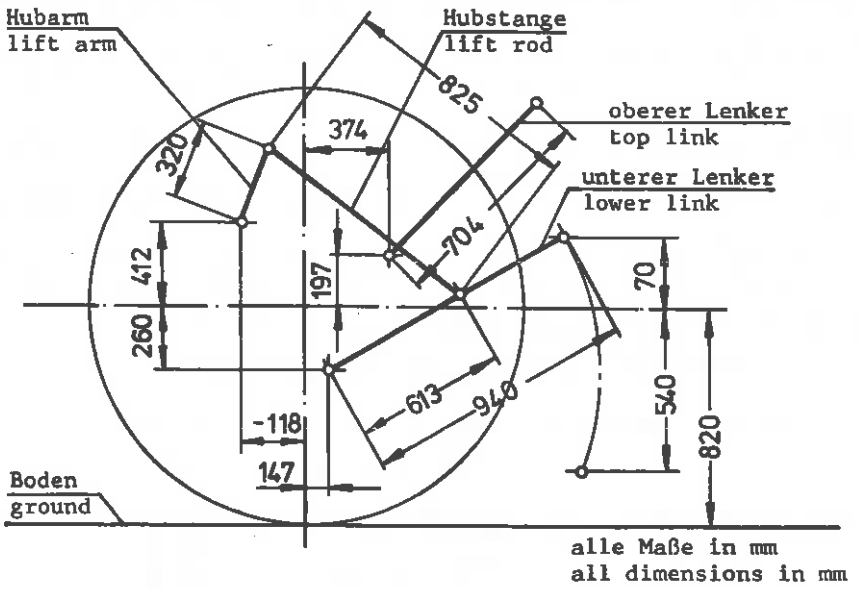
LINKAGE GEOMETRY when connected to the standard frame

Projected length in side view:

Lower links	940 mm
Lift arms	320 mm
Lift rods	825 mm
Top link	704 mm
Distance of lift rod connection point from pivot point of lower link	613 mm

The following dimensions are given relative to the rear wheel centre line, situated 820 mm above ground:

Lower link pivot point	260 mm below,	147 mm behind
Top link pivot point	197 mm above,	374 mm behind
Lift arm pivot point	412 mm above,	118 mm behind
Maximum and minimum height of lower link hitch points	70 mm above,	540 mm below
Height of lower link hitch points when locked in transport position	70 mm above or	242 mm below



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OPTIONAL TESTS

(9) ENGINE PERFORMANCE

Date of tests: 29th November 1983
Location of tests: DLG-Testing-Station Groß-Umstadt
Type of dynamometer: SCHENCK eddy-current dynamometer W 400

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					
At 2-hour test					
83.2	2400	23.33	19.41	233	3.57
At standard p.t.o. speed (1000 rev/min)					
82.8	2214	22.75	18.93	228	3.64
At rated engine speed					
83.2	2400	23.33	19.41	233	3.57
Part loads					
(i) 85% of the torque at maximum power at 2-hour test					
71.4	2422	20.29	16.88	237	3.52
(ii) unloaded					
-	2528	5.21	4.34	-	-
(iii) 50% of the torque defined in (i)					
36.5	2481	12.42	10.33	283	2.94
(iv) maximum power					
83.2	2400	23.33	19.41	233	3.57
(v) 25% of the torque defined in (i)					
18.5	2510	8.60	7.15	387	2.15
(vi) 75% of the torque defined in (i)					
54.1	2451	16.30	13.56	250	3.32

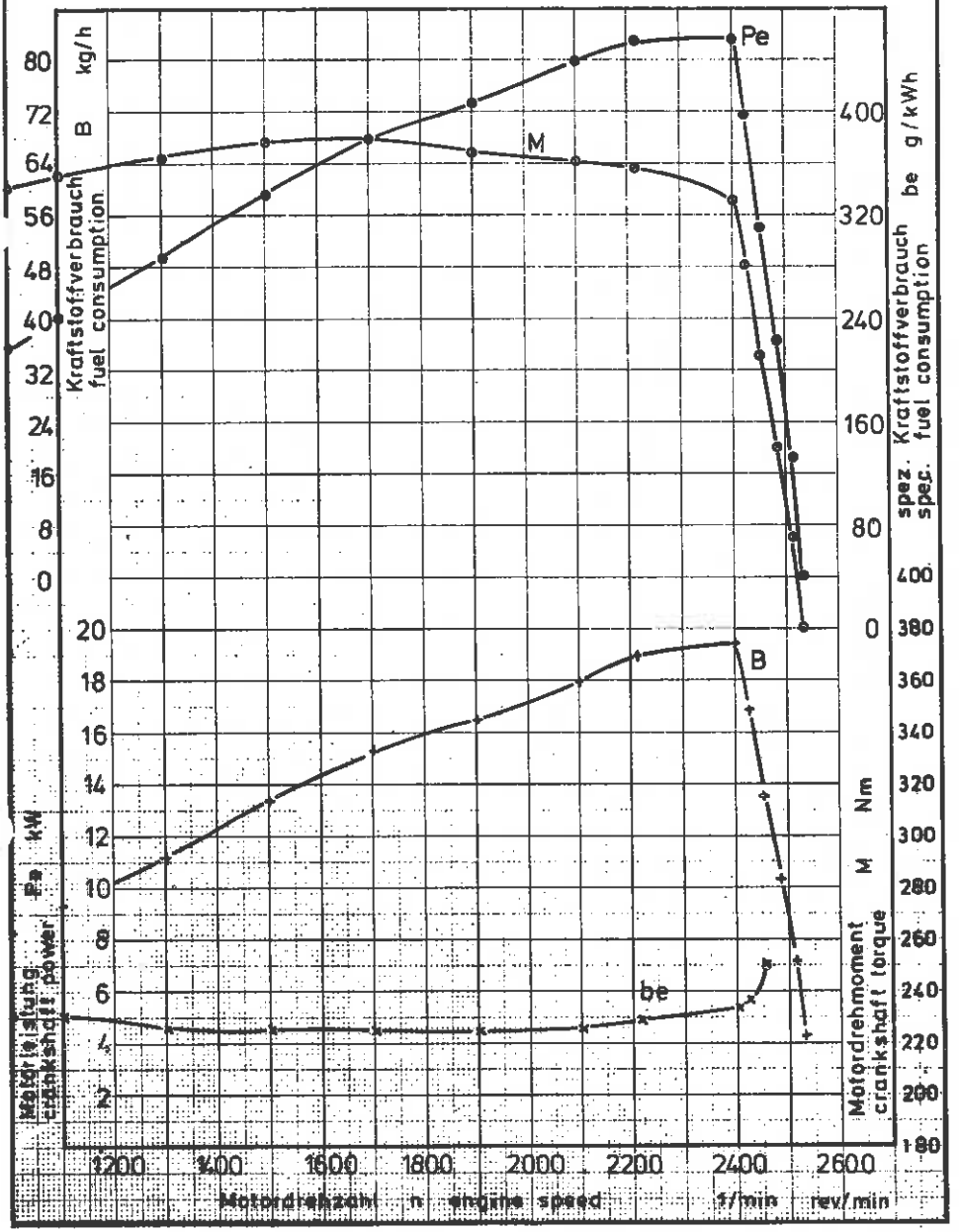
Optimum fuel consumption: 218 g/kWh at 52.4 kW and 1680 rev/min
No load maximum engine speed: 2528 rev/min
Torque at maximum power (2 hours): 331 Nm
Maximum torque: 381 Nm at 1699 rev/min of the engine

Mean atmospheric conditions:	temperature	16 °C
	pressure	993 mbar
	relative humidity	40 %
Maximum temperatures:	cylinder head	86 °C
	engine oil	83 °C
	fuel	18 °C
	engine air intake	18 °C

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Motorleistung
- 29 -
Engine performance

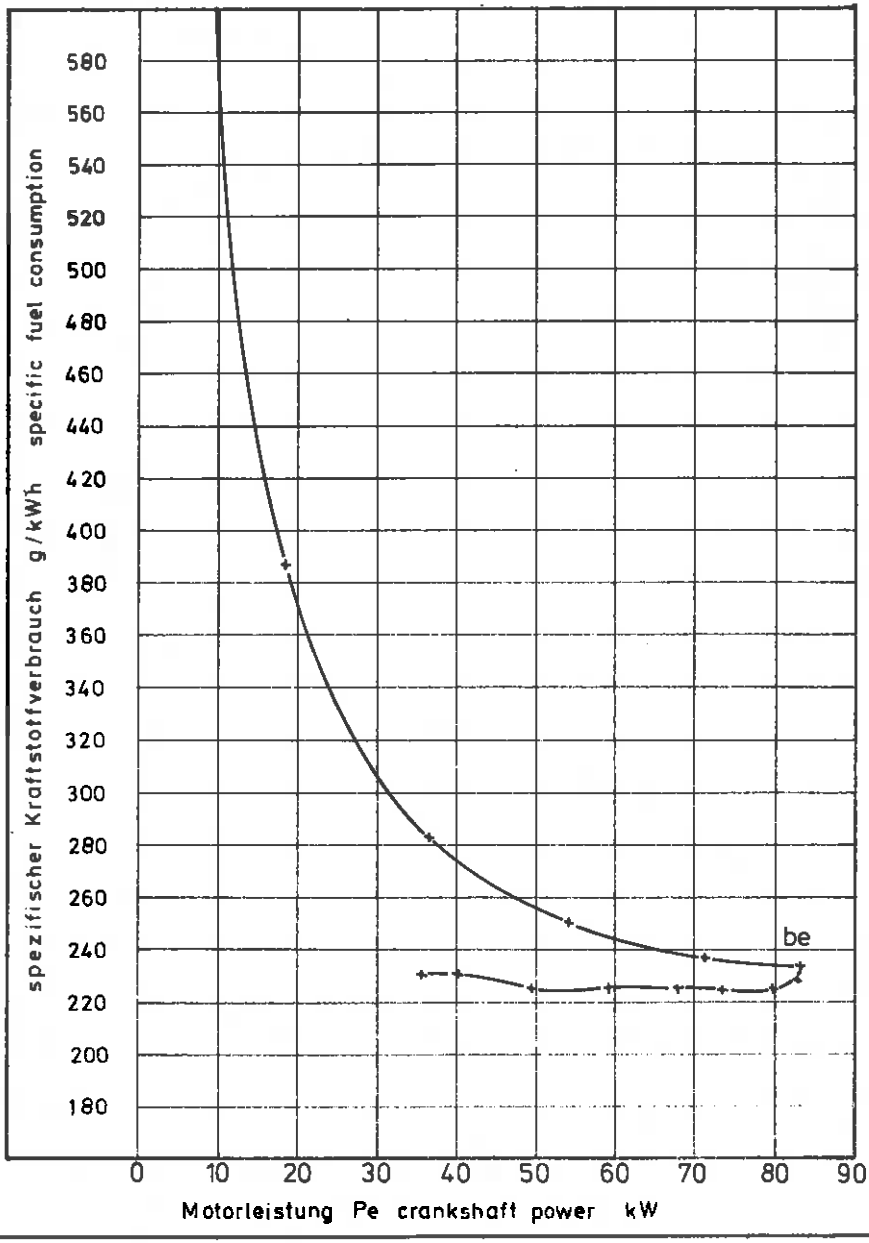
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Motorleistung
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Engine performance

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Motorleistung

Engine performance

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Motorleistung in % der Leistung bei Nenndrehzahl

engine power in % of power at rated engine speed

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