

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



O.E.C.D. No.

**954**



**Agricultural Tractor MB trac 800 (4WD)**  
**Type denomination 440168 S**

**Manufacturer**

Daimler-Benz AG  
D-7560 Gaggenau

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: February till June 1985

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: 18th September 1985

O.E.C.D. No. 954

This is an OECD-report on a retest of the agricultural tractor MB-trac 800 (see OECD-report no. 637). Retesting has been necessary due to the following changes:

- helical gear teeth, gearbox ratios partially changed,
- p.t.o. ratio changed (2,196 instead of 2,333 resp. 4,009 instead of 4,259),
- newly designed cab.

The tractor is offered in 4 variants

1 - max. 40 km/h

2 - max. 25 km/h: 4th speed locked in range II

3 - max. 30 resp. 32 km/h: engine-speed automatically limited when using 4th II-H gear

4 - max. 30 km/h: 4th speed locked in range II,

axle drive ratio: variants 1 to 3 24:27 - variant 4 22:7.

Variant 1 has been tested.

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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/cm<sup>2</sup> or 1 kp/cm<sup>2</sup>      = 0,981 bar

1000 mbar = 750,10 mm Hg

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Tractor manufacturer: DAIMLER-BENZ AG  
D-7560 Gaggenau

Submitted for test by: Manufacturer

Selected by: Manufacturer with agreement by DLG

Place of running in: Gaggenau and Groß-Umstadt

Duration of running in: Engine 70 hours and tractor  
appr. 50 hours

### SPECIFICATION OF TRACTOR

#### Tractor

Make: MERCEDES-BENZ

Trade name: MB-trac 800

Type  
denomination: 440168 S

Type: Four wheel drive agricultural tractor,  
chassis construction with implement mounting  
area above rear axle, 4 equal sized wheels,  
spring suspended front axle

Serial No.: 440168 00 114550

1st Serial No.: 440168 00 090001

#### Engine

Make: MERCEDES-BENZ

Model: OM 314.LII;

Type: 4-stroke Diesel-engine with direct injection,  
watercooled

Serial No.: 314957 10 468547

Cylinders: 4, in-line, bore 97 mm, stroke 128 mm, no liners,  
displacement 3784 cm<sup>3</sup>, compression ratio 17/1

Valves: Overhead

Fuel system: BOSCH fuel supply pump,  
BOSCH in-line injection pump PES 4A 90D410 RS 2570  
EP 3002, with timing device; Serial No.: 44504895;  
manufacturer's production setting 53+2 mm<sup>3</sup>/stroke  
at rated engine speed and full load;  
injection timing 15 + 8° before TDC;  
BOSCH multihole injection nozzles DLLA 142 S 791,  
injection pressure 200 + 8 bar;  
KNECHT (optional BOSCH or H-FILTER) dual fuel filter  
FB 733 CC with replaceable cartridges;  
capacity of fuel tank 120 l



- Governor:** BOSCH centrifugal variable speed governor  
RSV 350-1300 A2B 1126-2L-RS 3003,  
governed range of engine speed 700 to  
2740 1/min,  
rated engine speed 2600 1/min
- Air cleaner:** KNECHT FP 9008, optional MANN  
dry paper element filter with pre-cleaner,  
replaceable cartridge with safety cartridge,  
electrically operating maintenance indicator,  
air intake above engine bonnet
- Exhaust silencer:** GILLET KG  
multi chamber expansion type silencer  
118 x 228 mm oval, 425 mm long,  
on the left hand side below bonnet,  
mouth showing upwards,  
mouth 2740 mm above ground
- Lubrication system:** Forced-feed lubrication with gear type pump,  
MANN oil filter in full flow, replaceable  
cartridge;  
engine oil and filter change period 300  
operating hours, oil capacity 9 l;  
specified oil quality API-CC respectively  
MIL-L-46152,  
recommended oil viscosities  
winter SAE 10W, 20W/20, 20W/30 or 15W/40  
summer SAE 30 or 15W/40  
tropics SAE 40
- Cooling system:** Water cooling with centrifugal pump and  
thermostat, overpressure relief valve set  
to 0,4 bar;  
fan with 7 blades, 470 mm dia;  
water capacity 16,5 l
- Starting system:** Electrical  
BOSCH solenoid pre-engaged-drive starting motor  
JD 12 V 3 kW; STARTPILOT start assisting device
- Safety device:** Travel- and p.t.o. clutch disengaged,  
p.t.o. selector in neutral position
- Electrical equipment:** 12 Volt, negative earth;  
BOSCH 3-phase alternator K1-14 V 55 A 770 W,  
1 lead acid battery 120 Ah at 20 hours rating,  
154 Ah optional



Transmission

- Clutch:** LUK  
dry dual disc clutch DT 295/280 G;  
travel drive hydraulically operated by pedal,  
disc 295 mm dia;  
p.t.o. drive pneumatically operated by hand  
valve,  
disc 280 mm dia
- Gear box:** MERCEDES-BENZ  
UG 2/30-8/13,43 GA;  
synchromesh gear box with 4 speeds;  
synchromesh range gear with 2 forward  
ranges (I and II) and 1 reverse range (R);  
close stepped range gear with pre-selecting of  
range H and L, shifted automatically by  
depressing clutch pedal; 2 levers, 1 preselector  
on speed change lever,  
total 16 forward and 8 reverse speeds;  
optionally available additional creeper range  
or super creeper range gear box
- Rear axle and  
final drives:** MERCEDES-BENZ  
portal axle, rigidly fitted to tractor's chassis,  
driven by universally jointed propeller shaft;  
bevel gear drive, bevel gear differential;  
spur gear final drives
- Front axle and  
final drives:** MERCEDES-BENZ  
portal axle, by coil springs, shock absorber and  
PANHARD rod linked to chassis,  
driven by universally jointed propeller shaft in  
thrust tube, under load pneumatically engageable  
and disengageable by rotary knob;  
bevel gear drive, bevel gear differential;  
spur gear final drives
- Both axles:** Axle drives are optionally available with  
transmission ratios 24:7 or 22:7, tested  
tractor with transmission ratio 24:7;  
differential locks in rear and front axle  
may be pneumatically engaged and disengaged  
in common under load by rotary knob

**PRÜFUNGS-ABTEILUNG**

MB-trac 800

- 7 -

Test No. 85-46

Total ratios and speeds (tyres 14.9 R 24)

Range	Close step range	Gear	Total ratio engine : driving wheels		Nominal travelling speed at rated engine speed *)	
					km/h	
			1)	2)	1)	2)
I	L	1	240,10	220,01	2,41	2,63
		2	142,28	130,42	4,06	4,43
		3	87,81	80,40	6,50	7,18
		4	53,31	48,87	10,85	11,83
	H	1	188,34	172,64	3,07	3,35
		2	111,61	102,31	5,18	5,65
		3	68,88	63,14	8,40	9,16
		4	41,82	38,33	13,83	15,08
II	L	1	80,53	73,81	7,18	7,83
		2	47,72	43,74	12,12	13,22
		3	29,45	27,00	19,64	21,42
		4	17,88	-	32,34 **)	-
	H	1	63,17	57,90	9,15	9,98
		2	37,43	34,31	15,45	16,85
		3	23,10	21,18	25,03	27,30
		4	14,03	-	41,23 +)**)	-
R	L	1	185,22	169,78	3,12	3,40
		2	109,76	100,61	5,27	5,75
		3	67,74	62,09	8,53	9,31
		4	41,13	37,70	14,06	15,33
	H	1	145,29	133,18	3,98	4,32
		2	86,10	78,92	6,71	7,32
		3	53,13	48,71	10,88	11,87
		4	32,26	29,57	17,92	19,55
Creep range ***)	I	1	1765,26	1618,13	0,33	0,36
		2	1046,07	958,89	0,55	0,60
		3	645,57	591,77	0,90	0,98
	II	1	592,07	542,72	0,98	1,07
		2	350,86	321,62	1,65	1,80
	R	3	216,53	198,49	2,67	2,91
		1	1134,80	1040,22	0,51	0,56
		2	672,48	616,43	0,86	0,94
	3	415,02	380,43	1,39	1,52	

\*) calculated with the radius index 590 mm

1) tested variant with axle transmission ratio 24:7

2) optionally available variant with axle transmission 22:7

+) optionally available with maximum speed 30 km/h or 32 km/h by automatic engine speed limitation in 4th II H-gear

\*\*) locked in 25 km/h-version

\*\*\*) not fitted



**Gear oils:**

	oil quality API MIL-L	oil viscosity SAE	oil capacity l	oil change interval operating hours
gear box	GL - 4 2105	80, 80W 80W/85	7,5	1200
rear axle	GL - 5 2105 B	90 or 85W/90	2,0	1200
rear final drives	GL - 5 2105 B	90 or 85W/90	0,6 each	1200
front axle	GL - 5 2105 B	90 or 85W/90	2,0	1200
front final drives	GL - 5 2105 B	90 or 85W/90	0,6 each	1200

Power-take-off

**Main p.t.o.:** Independent p.t.o., driven by the second disc of dual disc clutch;  
 1 p.t.o. shaft at rear of tractor, 590 mm above ground, 25 mm to the left of tractor's median plane, 420 mm behind rear axle centre line; direction of rotation clockwise, viewed to tractor's rear;  
 35 mm dia, 6 splines ISO 500/DIN 9611, type 1, optionally available  
 35 mm dia, 21 splines ISO 500/DIN 9611, type 2 or 45 mm dia, 6 splines  
 2 speeds preselectable by hand lever:

p.t.o.	p.t.o. speed 1/min	engine speed 1/min	ratio engine : p.t.o.
540	540	2165	4,0093
	648	2600	
1000	1000	2196	2,1962
	1184	2600	

**Secondary p.t.o.:** Optionally available, installed to tested tractor,  
 1 p.t.o. shaft at front of tractor, 1050 mm above ground, 213 mm to the left of tractor's median plane, 750 mm before front axle centre; sense of rotation, drive, available profiles and speeds like main p.t.o.,  
 front and rear p.t.o. shaft operation can be shifted simultaneously or separately





Power lift

**MERCEDES-BENZ**  
hydraulic power lift, desintegrated  
construction

**Hydraulic system:** Open centre system,  
ECKERLE internal gear pump IPSF-3-13144,  
directly driven by V-belt by engine,  
delivery 44 l/min at rated engine speed,  
relief valve pressure setting 180 + 10 bar;  
hydraulic oil filter in return line,  
filter change period 1800 operating hours

**Power lift  
at rear:**

BOSCH control valve SR 60,  
draft control and position control,  
infinitely mixable, floating position;  
lower link sensing, lowering throttle;  
2 single acting WEBER rams with 150 mm  
stroke and 80 mm bore, no safety valve

**Power lift  
at front:**

Optionally available, installed to tested  
tractor, only for power lift measurements;  
connected by couplings to double acting  
additional BOSCH control valve SRZ 60;  
2 double acting WEBER rams with 140 mm stroke  
and 63 mm bore, directly acting on laterally  
stabilized lower links;  
stop valve in pressure line for safety  
during transport

**Remote circuit:**

Up to 3 double acting additional BOSCH control  
valves SRZ 60 available (installed to tested  
tractor), with 4 couplings at front and  
6 couplings at rear;  
1 additional return line coupling each at  
front and at rear; up to 15 l oil may be  
taken off by tappings if tractor is working  
stationary as well as tractor is travelling,  
up to 20 l on horizontal ground

**Hydraulic oil:**

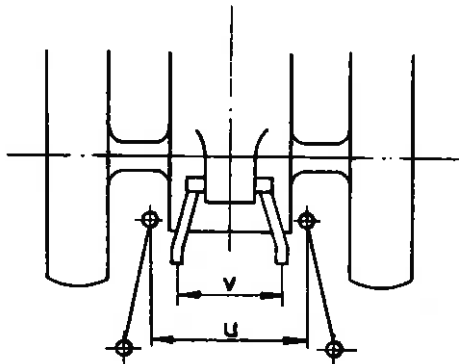
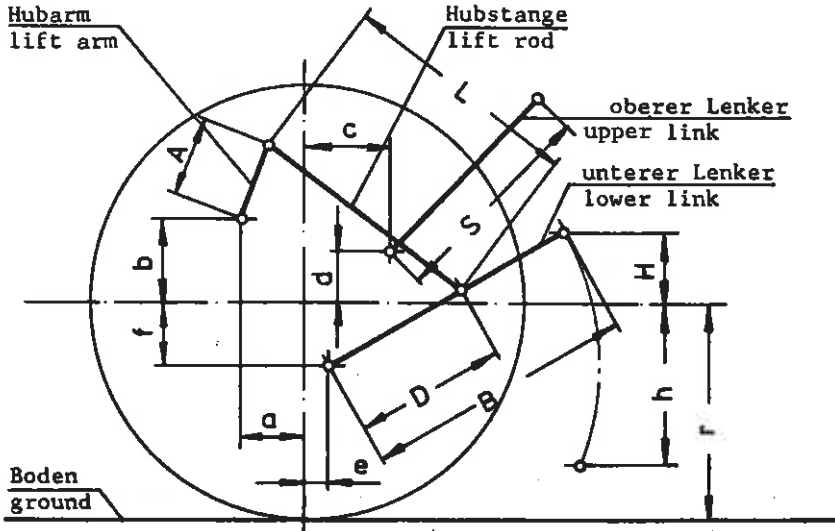
Separate oil tank with 30 l capacity; \*)  
recommended engine oil SAE 10W API-CC  
or MIL-L-46152, or hydraulic oil  
HLP/HLP-D46(ISO-VG);  
oil change interval 1800 operating hours

\*) at front end of chassis



Implement linkage  
at rear:

Three point linkage with (optional)  
WALTERSCHEID quick-couplers; coupler  
points categorie 2 acc. to ISO 730/I,  
DIN 9674





Dimensions of rear implement linkage (projected lengths in mm, underlined dimensions are valid for power lift measurements p. 29)

Rear and front tyres	radius index (r)	590
Length of lift arms	(A)	378
Length of lower links	(B)	890
Distance of lift arm pivot points from rear axle centre	horizontal (a)	-208
	vertical (b)	253
Horizontal distance between lower link pivot points	(u)	480
Horizontal distance between lift arm end points	(v)	760
Length of upper link	(S)	553 to 753, <u>702</u>
Distance of upper link pivot point from rear axle centre	horizontal (c)	393
	vertical (d)	<u>373</u> , 431
Distance of lower link pivot point from rear axle centre	horizontal (e)	205
	vertical (f)	62
Distance of lower link pivot points from lift rod pivot points on lower links	(D)	<u>605</u> , 701
Length of lift rods	(L)	450 to 630, <u>588</u>

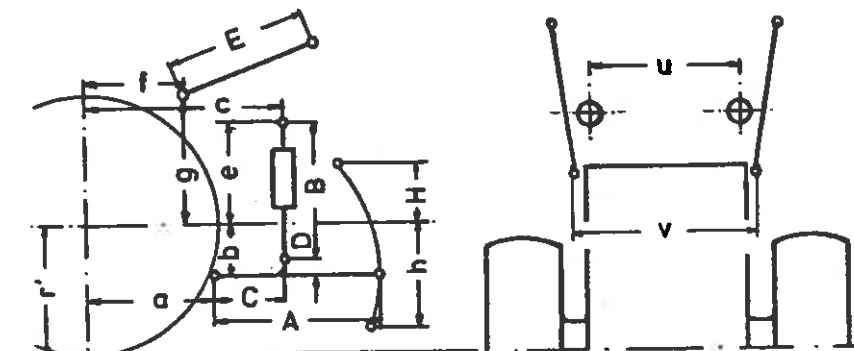
Height of lower link hitch points relative to rear axle centre line (situated 590 mm above ground), these data are valid for unloaded power lift

Length of lift rods	(L)	<u>588</u>	630 (max)	450 (min)	
Linkage distance of lift rods	(D)	605	605	701	605
Lowest position	(h)	390	474	368	150
Highest position	(H)	265	186	237	437
Transport position	(H')	265	186	237	437



Implement linkage  
at front:

Three point linkage, all dimensions in mm,  
underlined dimensions are valid for power  
lift measurement



category 2 acc. to ISO 730/I resp. DIN 9611

Front tyres	radius index	(r')	590
Length of lower links		(A)	<u>878</u> , 1008
Length of rams		(B)	365 to 505
Distance of lower link pivot point to fixing point of ram		(C)	178, <u>213</u> , 248
Distance of ram's fixing point to lower link		(D)	64
Length of upper link		(E)	<u>687</u> , 553 to 753
Distances of front axle centre to	horizontal		vertical
	pivot point of lower link	(a) 670	(b) -12
	pivot point of ram	(c) 743	(e) 440
pivot point of upper link	(f) 880	(g) 430	
Horizontal distance of lower links' pivot points	(v)	760	
Horizontal distance of rams' pivot points	(u)	810	
Range of position of lower links' coupling points	high	(H)	341 to 500
	(depending on A and C) low	(h)	105 to 265



Pull attachment

Swinging drawbar: Optionally available, not fitted on tested tractor

Holed bar: Short bar,  
length between joint balls 830 mm  
thickness 25 mm, width 80 mm,  
9 holes, 33 mm dia with 80 mm distance each  
height above ground, minimum 116 mm  
maximum 1041 mm  
centre of holes behind p.t.o.  
shaft end 675 mm

Trailer hitch: ROCKINGER, type 248 B, automatical;  
coupling pin 30 mm dia;  
hitch point  
above ground 760, 818, 876 or 934 mm  
behind rear axle centre 552 mm  
above p.t.o. 170, 228, 286 or 344 mm  
behind p.t.o. shaft end 132 mm  
permissible vertical load 1500 kg  
optional ROCKINGER 278 B or 279 B

Towing hitch: At front; 790 mm above ground

Steering

ZF  
hydrostatic steering, SERVOSTAT 8493;  
ZF vane type pump, V-belt driven by engine,  
delivery 16 l/min; working pressure 100 bar;  
own oil circuit with filter, oil capacity 3 l;  
specified engine oil SAE 10W API-CC or  
MIL-L-46152;  
oil filter and oil change interval 2400  
operating hours;  
2 double acting BOSCH differential rams,  
240 mm stroke, 45 mm dia,  
acting on steering levers



Brakes

- Service brake: MERCEDES-BENZ  
pedal operated single circuit power assisted  
brake (compressed air assisted), with  
hydraulic transmission;  
dual circuit brake optionally available;  
at each wheel 1 caliper disc brake,  
disc 420 mm dia, at front wheels optionally  
2 brake calipers per disc available (fitted)
- Parking brake: Spring loaded brake operated by hand valve  
with mechanical transmission, acting on discs  
of service brake at rear wheels
- Steering brake: None
- Trailer brake: Optionally available; combined single/dual  
line typ, compressed air controlled;  
optional hydraulic brake for some countries,  
oil pressure supplied by hydraulic system
- Source of energy: MERCEDES-BENZ  
single-cylinder type compressor, directly  
driven by engine, 2 air reservoirs with  
26 and 9,5 l capacity, working pressure  
8,1 bar;  
optional additional compressor

Wheels

- Steered wheels: At front
- Driving wheels: At front and at rear  
4 pneumatics 14.9 R 24 126 A8 PIRELLI,  
radial-ply tyres;  
maximum permissible load per tyre 1700 kg  
at 1.6 bar inflation pressure and 40 km/h;  
track width 1602 mm or 1792 mm at front  
and at rear;  
adjustable-gauge bowl wheels for track  
widths 1598, 1800 and 1984 mm available  
rims W 12 x 24
- Wheel base: 2400 mm



Cab

MERCEDES-BENZ, model 441.82;  
OECD-tested, approval no. CSD 0568/3;  
welded sheet steel structure, antivibration  
mounted by 3 silent blocks on chassis,  
tiltable for maintenance;  
1 door and 2 steps on each side,  
steps 560 and 910 mm above ground,  
optional 3 steps;  
driver's platform 1230 mm above ground;  
roof hatch tiltable, rear sliding, optional  
tilting window;  
drop windows in the doors, windscreen fixed,  
optionally tiltable;  
hot water heating, in circuit with cooling  
system;  
heat exchanger and 2 step ventilation system  
combined, incorporated below instrument panel;  
in roof incorporated 3 step ventilation system  
with lateral air intake, optionally available;  
air outlet jets at cab floor, at instrument  
panel and at wind screen;  
cab optionally available with air conditioner  
noise reduction materials:

floor	rubber mat	4 mm
	with foiled foam	10 mm
doors, side walls and rear wall	foil-coated hard- board	2,5 mm
	flame resistant foam on cardboard with fabric coating	30 mm
instrument panel	ABS-coating	2,5 mm
hydraulic control valves' cover		
	heavy layer foil	2,5 mm
floor-bottom side and front wall		
	PVC damping material (sprayed on outside)	4 mm

optional available cab with reduced height,  
total height reduced by 170 mm (see OECD report  
No. CSD 0862/3, DAIMLER-BENZ cab 441.825)



Seat

ISRINGHAUSEN, model 6500/516  
upholstered seat with back rest and arm rests,  
pneumatic suspension with shock absorber,  
additional horizontal suspension, lockable;  
height of front end and rear end of  
seat above platform adjustable in  
6 steps each from 430 to 480 mm,  
longitudinal adjustment 185 mm

basic model:  
ISRINGHAUSEN model 6000/516 with steel spring  
suspension

Implement  
mounting area

Behind cab, above rear axle;  
width between mudguards 970 mm,  
length of bottom plate 900 mm

Number of  
grease points

21



Overall Dimensions

Total length: 4550 mm without front power lift, without ballast  
5045 mm with front power lift, without ballast  
5045 mm with front power lift, with ballast

Total width: 2090 mm with and without ballast

Total height: 2810 mm to top of cab roof  
2740 mm to mouth of exhaust silencer

Ground

clearance: 470 mm below lower links pivotal points

Available tyres

Tyre sizes at front and at rear	
9.5 - 32	10 ply x)
12.4 - 28	8 ply x)
13.6 - 28	6 ply or 8 ply x)
14.9 - 24	8 ply or 10 ply x)
14.9/80 - 24	10 ply or 12 ply
13.6 R 28	123 A8
14.9 R 24	126 A8
17.5 LR 24	139 A8 **)
14.5 - 24	MPT 16 ply x) **)
16/70 - 24	MPT 14 ply **)

x) available as cross-ply or radial-ply tyres

\*\* ) not for agricultural purposes



Lighting equipment Electrical 12 V, in accordance  
with German legislation

	Dimensions mm	Height above ground to centre mm	Distance from outside edge to centre mm
Head lamps	135 x 120	860	565
Auxiliary lamps	135 x 120	2660	560
Side lamps	30 x 58	1470	120
Rear lamps	50 x 80	1260	290
Reflectors	75 dia	920	290

Running-time  
meter

Electronic, controlled by 3-phase  
alternator;  
reference engine speed for one really  
counted hour 1600 rev/min

TEST CONDITIONS

Track setting 1602 mm at front and at rear

Weights

		without driver	with driver
Without ballast:	front	2310 kg	2350 kg
	rear	1680 kg	1730 kg
	total	3990 kg	4080 kg
Front ballast:	front power lift and 1 weight		610 kg
Rear ballast:	weights on the implement mounting area, total		1330 kg
With ballast:	front	3360 kg	3400 kg
	rear	2570 kg	2620 kg
	total	5930 kg	6020 kg

Fuels and lubricants used in tests

Fuel:	ARAL Diesel-fuel DIN 51601	
	density at 15°C	
	at engine test	0,834 kg/l
	at p.t.o. test	0,836 kg/l
	at drawbar test	0,841 kg/l
Engine oil:	SCHLEIFENBAUM PENAXOLINE	SAE 15W/40
Transmission oil:	ESSO GP-D 80, SAE 80	
	in gear box and range gear	
	ESSO HYPOID GX-D 90	
	in differentials and final drives at front and at rear	
Hydraulic oil:	SCHLEIFENBAUM PENAXOLINE, DBU	
Grease:	Multi-purpose grease	
<u>Repairs</u>	None	



COMPULSORY TESTS

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

Date of tests: 1st April 1985  
 Location of tests: DLG-Testing-Station Groß-Umstadt  
 Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power kW	Speed		Fuel consumption			Specific energy kWh/l
	engine 1/min	p.t.o. 1/min	hourly l/h	kg/h	specific g/kWh	

MAXIMUM POWER

At 2-hour test

51.2	2600	1184	16.26	13.72	268	3.15
------	------	------	-------	-------	-----	------

At rated engine speed

51.2	2600	1184	16.26	13.72	268	3.15
------	------	------	-------	-------	-----	------

At standard p.t.o. speed

46.9	2196	1000	14.09	11.89	253	3.33
------	------	------	-------	-------	-----	------

Part loads, the governor hand lever in the position corresponding to the maximum power at full load (curve a)

(i) the torque corresponding to maximum power at rated speed

51.2	2600	1184	16.26	13.72	268	3.15
------	------	------	-------	-------	-----	------

(ii) 85% of the torque obtained in (i)

44.0	2631	1198	14.45	12.20	277	3.05
------	------	------	-------	-------	-----	------

(iii) 75% of the torque defined in (ii)

33.5	2668	1215	12.06	10.18	304	2.78
------	------	------	-------	-------	-----	------

(iv) 50% of the torque defined in (ii)

22.6	2697	1228	9.65	8.14	361	2.34
------	------	------	------	------	-----	------

(v) 25% of the torque defined in (ii)

11.4	2721	1239	7.45	6.29	553	1.53
------	------	------	------	------	-----	------

(vi) unloaded

-	2753	1253	5.40	4.56	-	-
---	------	------	------	------	---	---



Power kW	Speed		Fuel consumption		Specific energy kWh/l	
	engine 1/min	p.t.o. 1/min	hourly l/h	specific g/kWh		
Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load (curve b)						
(i) the torque corresponding to maximum power						
46.9	2196	1000	14.09	11.89	253	3.33
(ii) 85% of the torque obtained in (i)						
40.7	2245	1022	12.41	10.48	257	3.28
(iii) 75% of the torque defined in (ii)						
31.1	2285	1040	10.24	8.65	278	3.04
(iv) 50% of the torque defined in (ii)						
21.1	2324	1058	8.13	6.86	325	2.59
(v) 25% of the torque defined in (ii)						
10.7	2354	1072	6.09	5.14	481	1.75
(vi) unloaded						
-	2384	1085	4.09	3.45	-	-

Standard specific fuel consumption (g/kWh): 277/361/257/325

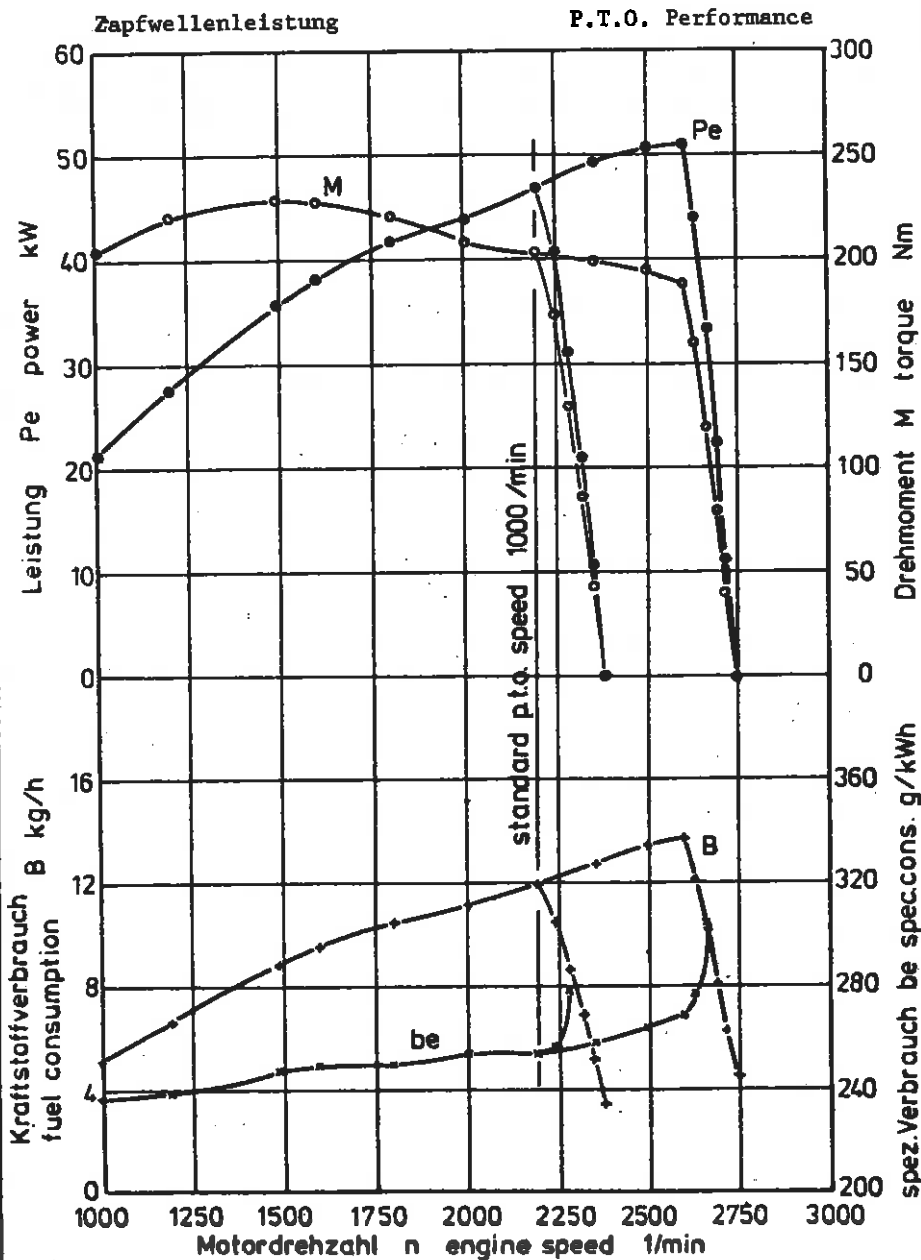
No load maximum engine speed: 2753.1/min

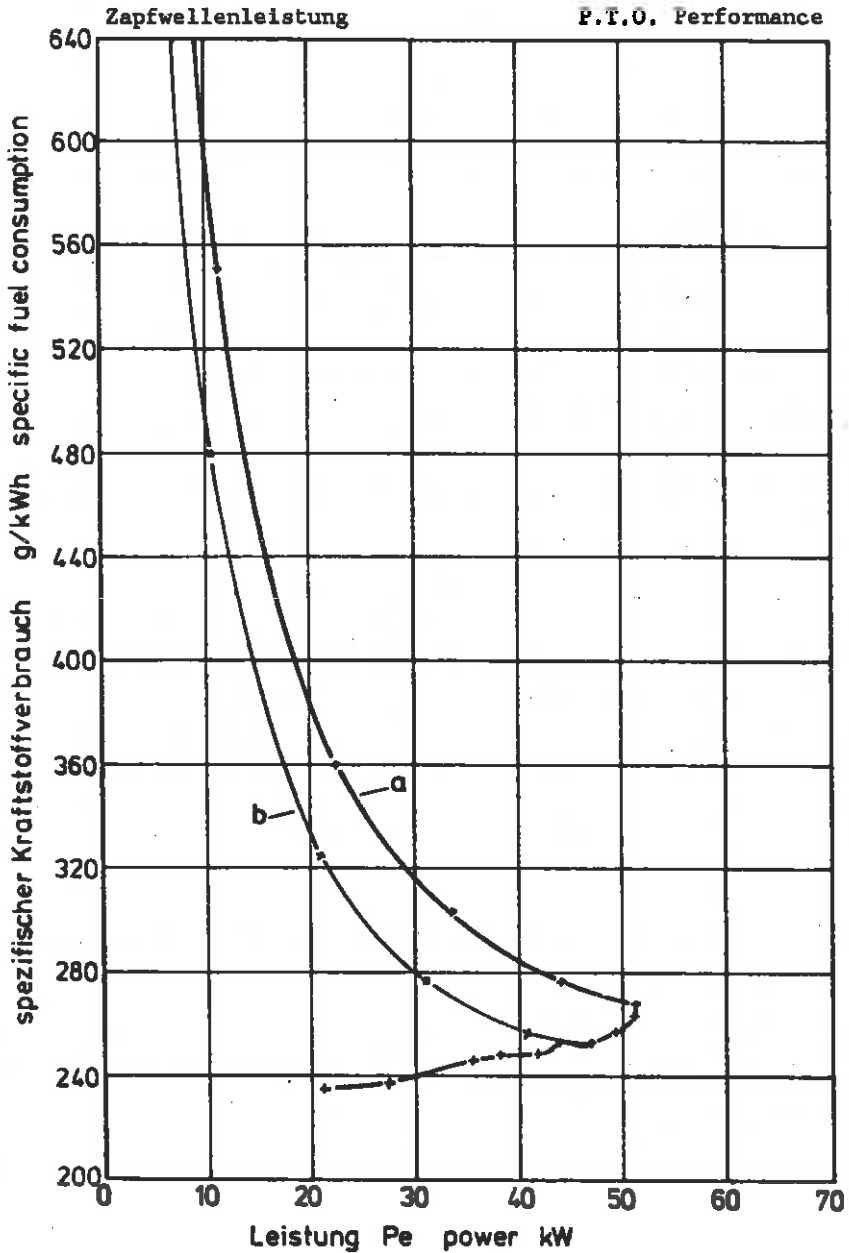
Equivalent flywheel torque at maximum power (2 hours): 188 Nm

Maximum equivalent flywheel torque: 228 Nm at 1488 1/min  
of the engine

Mean atmospheric conditions: temperature 19 °C  
pressure 997 mbar  
relative humidity 60%

Maximum temperatures: coolant 85 °C  
engine oil 114 °C  
fuel 25 °C  
engine air intake 20 °C







**(2) DRAWBAR PERFORMANCE**

Date of tests: 8th till 24th May 1985

Type of track: Concrete

Gear	Driving speed km/h	Power kW	Drawbar pull daN	Engine speed 1/min	Slip of wheels %
<b>(i) <u>MAXIMUM POWER</u> (unballasted) height of drawbar above ground 505 mm</b>					
1 I H	2,62	30,2	4155	2656	15,1
2 I L	3,41	39,2	4138	2610	14,9
2 I H	4,60	42,1	3291	2596	9,4
3 I L	6,04	42,1	2511	2596	6,3
1 II L	6,64	42,9	2327	2598	5,7
3 I H	7,82	42,8	1971	2596	4,7
1 II H	8,57	42,9	1802	2596	4,2
4 I L	10,25	42,9	1506	2598	3,4
2 II L	11,51	41,9	1309	2600	2,9

**(ii) MAXIMUM POWER (ballasted)  
height of drawbar above ground 490 mm**

1 I L	2,03	33,2	5892	2642	15,1
1 I H	2,64	39,9	5447	2600	12,3
2 I L	3,67	41,8	4105	2598	8,0
2 I H	4,78	42,7	3213	2598	6,0
3 I L	6,19	42,0	2441	2598	4,1
1 II L	6,78	42,6	2260	2602	3,8
3 I H	7,97	42,5	1918	2602	3,2
1 II H	8,73	42,1	1736	2600	2,7
4 I L	10,38	41,6	1444	2604	2,3

**(iii) FIVE-HOUR-TEST at 75% of pull at maximum power  
in 3 I H speed**

3 I H	8,18	32,7	1439	2644	2,2
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**(iv) FIVE-HOUR-TEST  
at pull corresponding to 15% wheel slip in test (ii)**

1 I L	2,00	32,7	5892	2645	-
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Total oil consumption during ten hours duration of tests  
(iii) and (iv) 40 g/h





Tyre size front and rear: 14.9 R 24 126 A8 PIRELLI

Tread bar height at the beginning of drawbar tests  
87% of the value when new

Specific fuel consumpt. g/kWh	Specific energy kWh/l	Temperatures			Atmospheric conditions		
		Fuel °C	Coolant °C	Engine-oil °C	Temperature °C	Relative humidity %	Pressure mbar

tyre inflation pressure 1,1 bar at front, 1,0 bar at rear

376	2,23	22	80	91	15	82	981
349	2,41	23	80	92	15	84	981
327	2,57	27	84	95	15	85	981
324	2,59	25	83	97	16	84	981
320	2,63	26	84	98	15	84	981
319	2,64	25	82	95	15	88	982
320	2,63	26	83	96	15	85	982
319	2,64	26	83	95	16	84	982
325	2,59	28	83	97	16	80	982

tyre inflation pressure 1,6 bar at front, 1,6 bar at rear

364	2,31	22	81	95	13	91	997
342	2,45	23	82	94	18	81	998
325	2,59	27	83	97	18	86	998
320	2,63	25	83	100	17	91	990
327	2,57	25	84	100	20	75	991
322	2,62	25	82	98	20	75	992
323	2,61	27	83	97	19	72	993
324	2,59	28	82	99	19	73	992
328	2,57	29	84	98	22	68	994

345	2,44	32	84	100	22	74	996
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-	-	25	81	102	12	95	988
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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 24 126 A8  
rear: 14.9 R 24 126 A8

Track of wheels front: 1602 mm  
rear: 1602 mm

	With 4 wheel drive		With 2 wheel drive	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	6,06	6,10	5,72	5,69
Radius of turning circle	5,62	5,66	5,28	5,25

**(4) LOCATION OF CENTRE OF GRAVITY**

Height above ground	997 mm
Distance forward from rear axle centre	1385 mm
Distance from tractor's median plane, to the right	5 mm



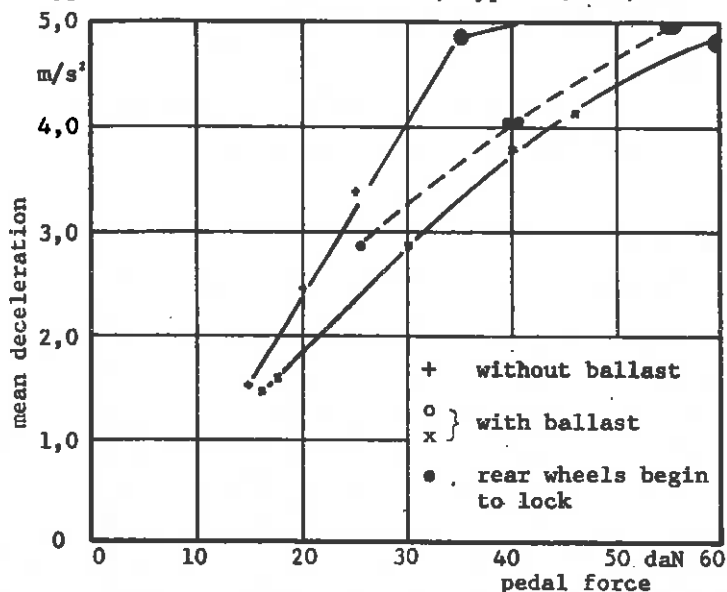
(5) BRAKING

Date of tests: 9th till 13th May 1985

	Tractor mass (with driver)			Speed before application of brakes km/h
	front kg	rear kg	total kg	
Without ballast	2350	1730	4080	41,6
With ballast	3400	2620	6020	41,2

A) Service brake

Type-0-test (cold brakes) ———, Type-I-(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/s<sup>2</sup>

B) Parking brake

Braking device control force daN	Ballasted tractor on 18%-slope		Unballasted tractor on 12%-slope with trailer of 3000 kg	
	up	down	up	down
	Parking brake pneumatically controlled by hand valve; tractor does not roll			



**(6) MEASUREMENT OF EXTERNAL NOISE LEVEL \*)**

Date of test: 8th May 1985  
 Type of track: Concrete  
 Type of sound level meter: BRÜEL AND KJAER model 2209

Results of test

Gear: 4 II H                                    4 II H\*\*)  
 Travelling speed before acceleration: 31,1 km/h                    24,0 km/h  
 Sound level: 84,0 dB(A)                    82,5 dB(A)

**(7) NOISE MEASUREMENT AT THE DRIVER'S EAR**

Date of tests: 8th May 1985  
 Type of track: Concrete  
 Type of sound level meter: BRÜEL AND KJAER model 2209

equipped with MERCEDES-BENZ safety cab 441.82

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level daN	Travelling speed		Sound level dB(A)
		nominal km/h	effective km/h	
1 I L	4032	2,41	2,01	83,0
1 I H	4024	3,07	2,60	83,5
2 I L	3731	4,06	3,44	83,5
2 I H	3107	5,18	4,63	83,5
3 I L	2333	6,59	6,13	83,5
1 II L +)	2171	7,18	6,70	84,0
1 II L +)	light load	7,18	7,42	83,0
3 I H	1833	8,40	7,92	83,5
1 II H	1675	9,15	8,67	84,5
4 I L	1379	10,85	10,30	84,0
2 II L	1179	12,12	11,61	84,5
4 I H	1039	13,83	13,28	84,5
2 II H	843	15,45	14,92	84,5
4 II H *)	light load	41,23	41,46	83,5

+ ) 1 II H-speed corresponds to the travelling speed nearest to 7,5 km/h

\*) Front axle - drive disengaged

\*\* ) with reduced engine speed according to maximum speed 32 km/h



**(8) POWER LIFT AND HYDRAULIC POWER TEST**

Date of tests: 20th and 21st June 1985

Power Lift (Dimensions of implement linkage see page 11)

	Height of lower hitch point above ground in down pos. mm	Vertical movement mm	Max. force exerted through full range daN	Corresp. pressure of hydraulic fluid bar	Moment about rear axle daNm	Max. tilt angle of mast over range of lift degrees
At hitch points	200	623	2430	160	-	-
On the frame	200	686	2360	160	4024	9

Temperature of hydraulic fluid at start of test 65°C

Lifting heights relative to horizontal lower links

mm	-356	-328	-300	-200	-100	+0	+100	+200	+295	+300	+330

Lifting forces at hitch points

daN		2430	2450	2640	2790	2810	3020	3080	3040		

Lifting forces at test frame

daN	2440		2440	2490	2550	2570	2570	2510		2400	2360

Hydraulic power test

Sustained pressure with relief valve open 185 bar

Pump delivery rate at minimum pressure 48,7 l/min

	Hydraulic power kW	Flow rate l/min	Pressure bar	Oil temperature °C
At 90% of actual relief valve setting	11,5	41,2	167	65
Maximum	12,0	44,8	160	65

Tapping point used for test: at rear of tractor



OPTIONAL TESTS

(9) ENGINE PERFORMANCE

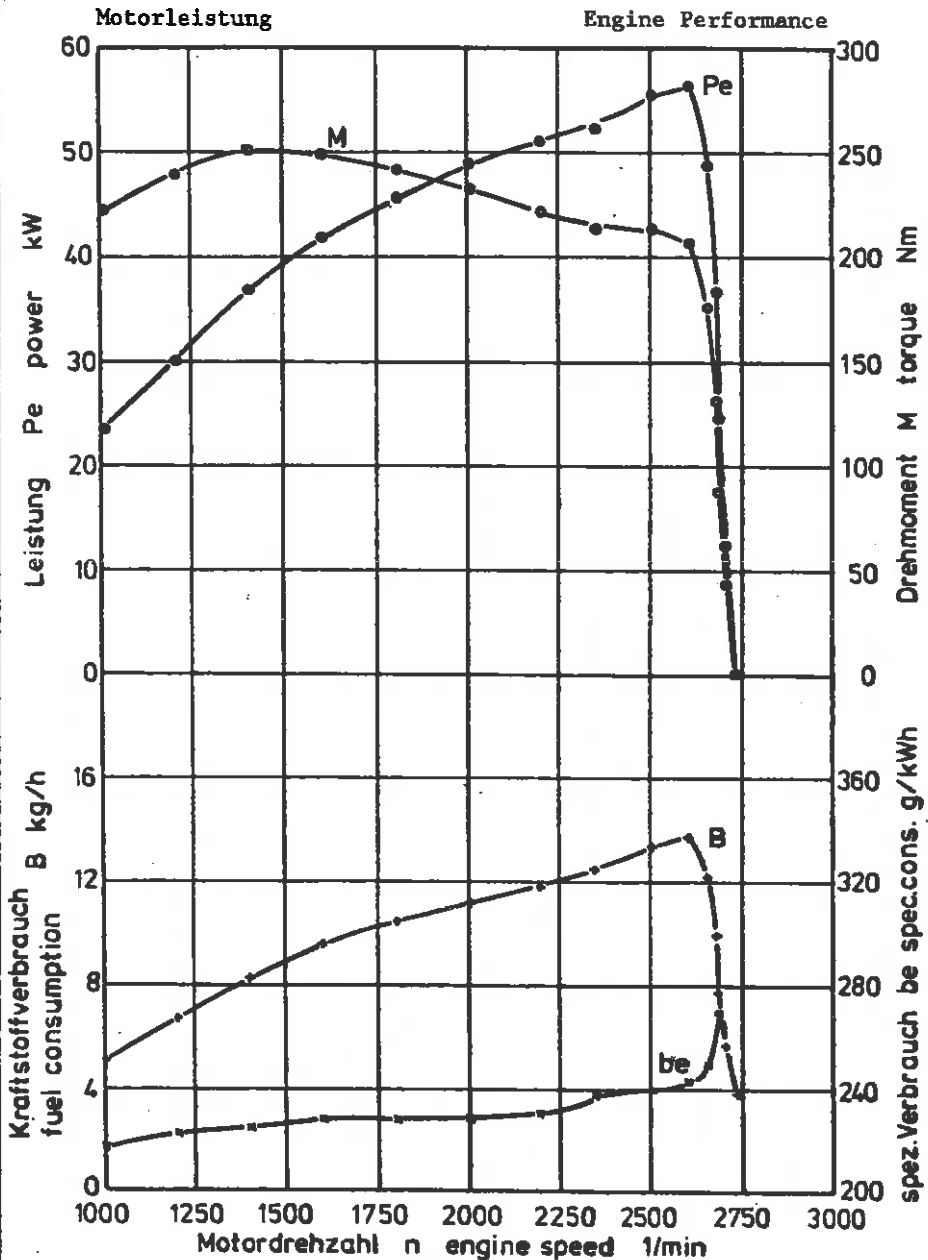
Date of tests: 27th February 1985  
 Location of tests: DLG-Testing-Station Groß-Umstadt  
 Type of dynamometer: SCHENCK eddy-current dynamometer W 150

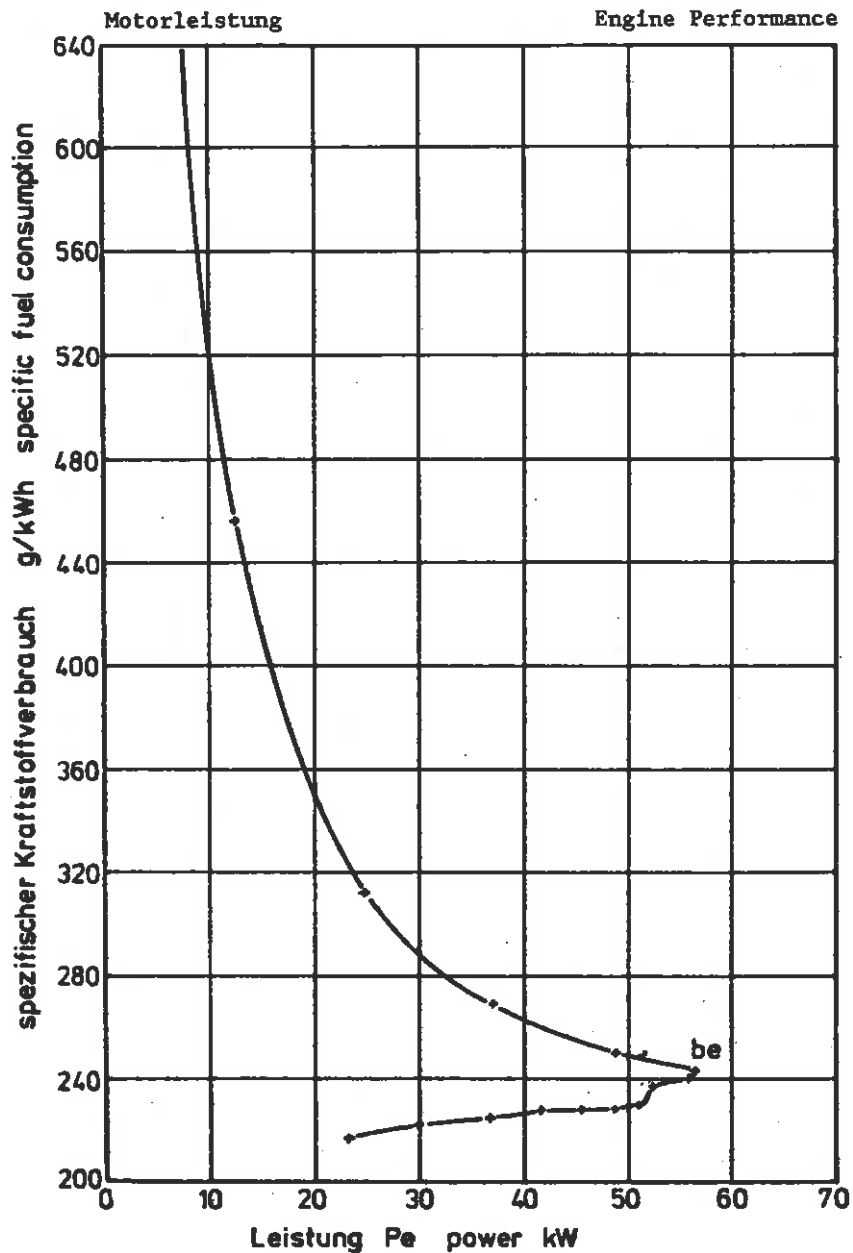
Power kW	Engine speed 1/min	Fuel consumption			Specific energy kWh/l
		l/h	hourly kg/h	specific g/kWh	
<u>Maximum power</u>					
At 2-hour test					
56.4	2600	16.46	13.72	243	3.43
At rated engine speed					
56.4	2600	16.46	13.72	243	3.43
At standard p.t.o. speed (1000 1/min)					
51.1	2196	14.07	11.73	230	3.63
<u>Part loads</u>					
(i) the torque corresponding to maximum power at rated speed					
56.4	2600	16.46	13.72	243	3.43
(ii) 85% of the torque obtained in (i)					
48.9	2650	14.64	12.21	250	3.34
(iii) 75% of the torque defined in (ii)					
37.0	2676	11.96	9.98	269	3.10
(iv) 50% of the torque defined in (ii)					
24.8	2682	9.27	7.73	312	2.67
(v) 25% of the torque defined in (ii)					
12.5	2702	6.83	5.70	457	1.82
(vi) unloaded					
-	2739	4.64	3.87	-	-

Optimum fuel consumption: 218 g/kWh at 30.1 kW and 1430 1/min  
 No load maximum engine speed: 2739 1/min  
 Torque at rated engine speed: 207 Nm  
 Maximum torque: 250 Nm at 1402 1/min of the engine

Mean atmospheric conditions: temperature 20 °C  
 pressure 1006 mbar  
 relative humidity 31 %

Maximum temperatures: coolant 85 °C  
 engine oil 90 °C  
 fuel 19 °C  
 engine air intake 21 °C











**ADDITIONAL TESTS**

**(10) REAR POWER LIFT with modified linkage geometry \*)**

**Date of test: 20th and 21st June 1985**

	Height of lower hitch point above ground in down pos. mm	Ver-tical move-ment 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	545	473	3340	160	-	-
On the frame	545	543	2490	160	4245	9,5

Temperature of hydraulic fluid at start of test 65°C

Lifting heights relative to horizontal lower links

mm	+17	+100	+200	+300	+400	+490	+500	+560
----	-----	------	------	------	------	------	------	------

Lifting forces at hitch points

daN	3340	3400	3490	3570	3610	3550		
-----	------	------	------	------	------	------	--	--

Lifting forces at test frame

daN	3100	3100	3080	3040	2910		2700	2490
-----	------	------	------	------	------	--	------	------

- \*) Length of lift rods (L) 450 mm  
 Lift rod's linkage point (D) 701 mm  
 Distance of upper link pivot point above rear axle (d) 431 mm  
 Length of upper link (S) 690 mm

see page 11





(12) NOISE AT THE DRIVER'S EAR

Date of test: 23rd May 1985  
Test track: Concrete  
Type of sound level meter: BRÜEL & KJAER model 2209  
Type of frequency analyser: BRÜEL & KJAER model 1613  
(fitted with octave filter)

The tractor was fitted with MERCEDES-BENZ safety cab  
441.82

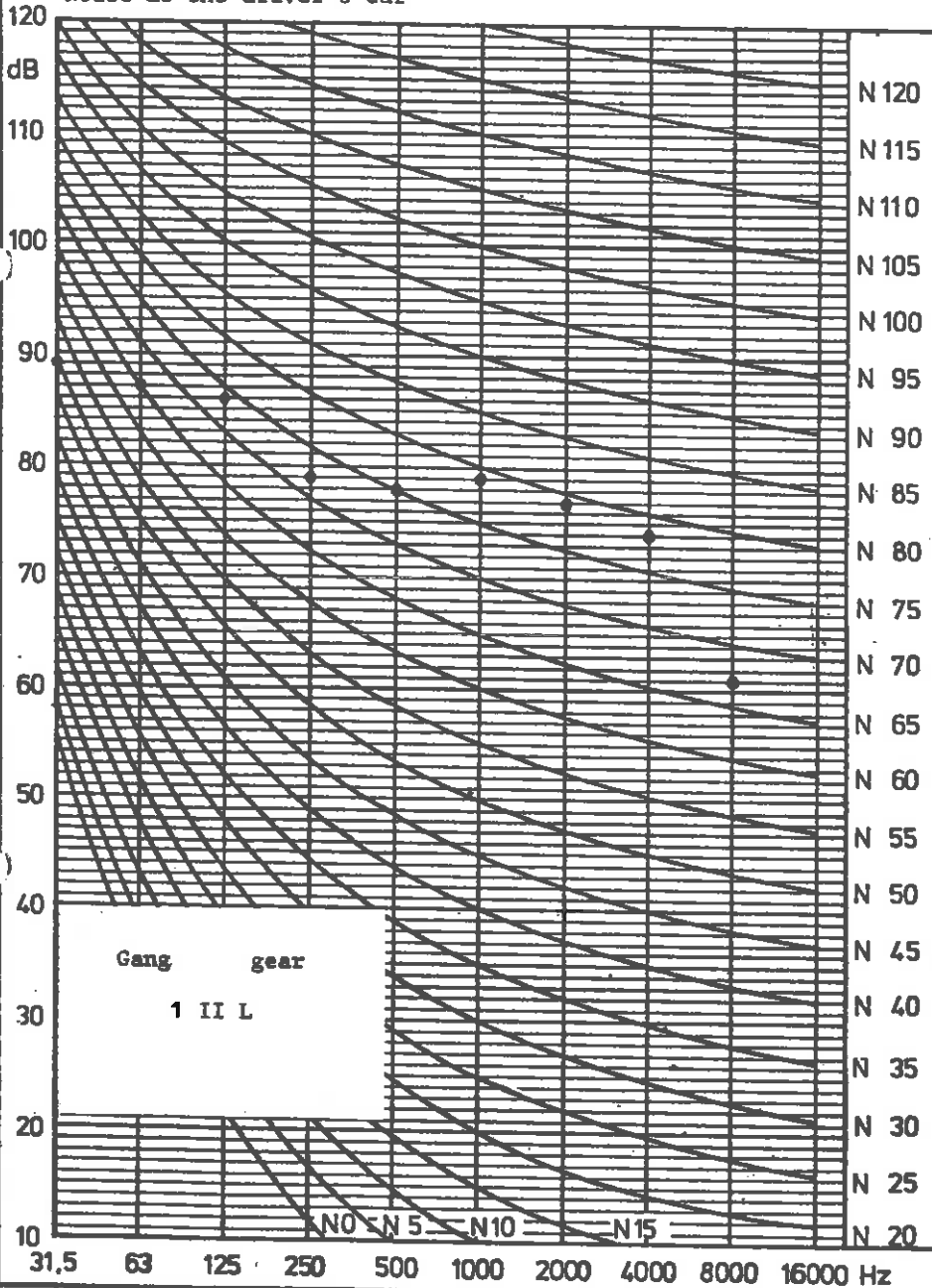
Results of test

Gear	Drawbar pull at which the tractor develops the maximum sound level daN	Travelling speed		Sound level	
		nominal km/h	effective km/h	dB(A)	noise rating
1 II L	2171	7,18	6,70	84,0	79

There is no gear combination in which the NOISE RATING number  
is higher than 79



Schleppergeräusch am Ohr des Fahrers  
Noise at the driver's ear





the 1990s, the number of people with a disability in the Netherlands has increased from 1.3 million to 2.1 million (2000).

There are a number of reasons for this increase. First, the number of people with a physical disability has increased from 0.7 million in 1990 to 1.1 million in 2000. This increase is due to the fact that the number of people with a physical disability has increased from 0.7 million in 1990 to 1.1 million in 2000. This increase is due to the fact that the number of people with a physical disability has increased from 0.7 million in 1990 to 1.1 million in 2000. This increase is due to the fact that the number of people with a physical disability has increased from 0.7 million in 1990 to 1.1 million in 2000.

Second, the number of people with a mental disability has increased from 0.4 million in 1990 to 0.6 million in 2000. This increase is due to the fact that the number of people with a mental disability has increased from 0.4 million in 1990 to 0.6 million in 2000. This increase is due to the fact that the number of people with a mental disability has increased from 0.4 million in 1990 to 0.6 million in 2000. This increase is due to the fact that the number of people with a mental disability has increased from 0.4 million in 1990 to 0.6 million in 2000.

Third, the number of people with a sensory disability has increased from 0.2 million in 1990 to 0.4 million in 2000. This increase is due to the fact that the number of people with a sensory disability has increased from 0.2 million in 1990 to 0.4 million in 2000. This increase is due to the fact that the number of people with a sensory disability has increased from 0.2 million in 1990 to 0.4 million in 2000. This increase is due to the fact that the number of people with a sensory disability has increased from 0.2 million in 1990 to 0.4 million in 2000.

Fourth, the number of people with a cognitive disability has increased from 0.1 million in 1990 to 0.2 million in 2000. This increase is due to the fact that the number of people with a cognitive disability has increased from 0.1 million in 1990 to 0.2 million in 2000. This increase is due to the fact that the number of people with a cognitive disability has increased from 0.1 million in 1990 to 0.2 million in 2000. This increase is due to the fact that the number of people with a cognitive disability has increased from 0.1 million in 1990 to 0.2 million in 2000.

Fifth, the number of people with a learning disability has increased from 0.1 million in 1990 to 0.2 million in 2000. This increase is due to the fact that the number of people with a learning disability has increased from 0.1 million in 1990 to 0.2 million in 2000. This increase is due to the fact that the number of people with a learning disability has increased from 0.1 million in 1990 to 0.2 million in 2000. This increase is due to the fact that the number of people with a learning disability has increased from 0.1 million in 1990 to 0.2 million in 2000.

Sixth, the number of people with a chronic illness has increased from 0.3 million in 1990 to 0.5 million in 2000. This increase is due to the fact that the number of people with a chronic illness has increased from 0.3 million in 1990 to 0.5 million in 2000. This increase is due to the fact that the number of people with a chronic illness has increased from 0.3 million in 1990 to 0.5 million in 2000. This increase is due to the fact that the number of people with a chronic illness has increased from 0.3 million in 1990 to 0.5 million in 2000.

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