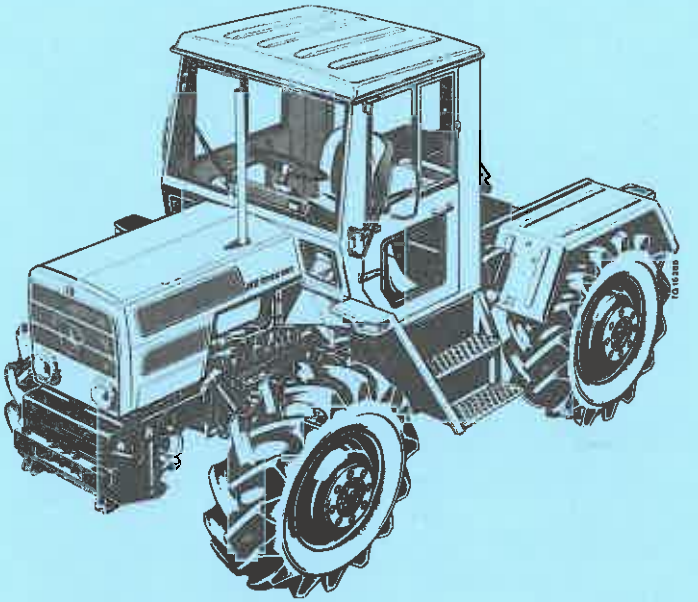
O.E.C.D. No.: 514
Printed: April 1976

Report on test in accordance with
O.E.C.D. STANDARD CODE for the Official Testing
of Agricultural Tractors



Agricultural Tractor MB trac 800

Manufactured by: DAIMLER-BENZ AG
D-7560 Gaggenau

Date of Tests: September 1975 till February 1976

DLG-Testing Station for Agricultural Machinery
D-6114 Groß-Umstadt

DEUTSCHE LANDWIRTSCHAFTS-GESELLSCHAFT e.V.
Prüfungsabteilung für Landmaschinen
D-6000 Frankfurt/Main 1, Zimmerweg 16

This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractors. It does not contain an evaluation of the performance of the tractor on practical work.

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

Date of Approval: 8th April, 1976

Serial No.: 514

In this report all performance characteristics are given according to the International System of Units.

The relation with the former used Technical System of Units is given by the following formulas:

Forces:	1 N = 0,102 kp	or 1 kp	= 9,81 N
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 = 750,1 mm Hg		

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Printed in Germany

PRÜFUNGS-ABTEILUNG
MB trac 800

Test No. 75-147

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Test No. 75-147

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 and tractor appr. 35 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	DAIMLER-BENZ AG
Model:	MB trac 800
Type:	Agricultural tractor, chassis construction, four-wheel driven, spring suspended front axle
Serial No.:	440 163 002 391

Engine

Make:	Own make
Model:	OM 313.VIII
Type:	4-stroke DIESEL engine with direct injection water-cooled
Serial No.:	314.957-10-215096
Cylinders:	4, in-line; bore 97 mm, stroke 128 mm; displacement 3782 cm^3; compression ratio 17:1
Valves:	Overhead
Fuel system:	BOSCH fuel feed pump FP/KS 22 AD 6/4; BOSCH in-line injection pump: PES 4 A 80 D 410 RS 2094 Z; manufacturer's production setting 52,5 mm^3/stroke at rated engine speed and full load; injection timing 21° before TDC; BOSCH multihole injection nozzles DLLA 150 S 187; injection pressure 200 bar; BOSCH fuel filter, pre- and main cleaner with replaceable cartridges; capacity of fuel tank 120 l

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Governor:	BOSCH centrifugal variable speed governor: EP/RSV 350-1275 A 2 B 1004 DL; governed range of engine speed: 700 to 2800 rev/min; rated engine speed 2550 rev/min
Air cleaner:	MANN UND HUMMEL paper element filter with pre-cleaner; PICLON 45 114 92314; service indicator
Exhaust silencer:	HEINRICH GILLET KG (optionally EBERSPÄCHER); multichamber muffler with holed central pipe; 120/230 mm oval; 445 mm long; 250 mm to the left hand side of tractor's median plane; mouth 2658 mm above ground, showing upward
Lubrication system:	Forced feed from gear type pump; strainer in sump; MANN oil filter in full flow with by-pass valve; replaceable cartridge; oil capacity 8 l; oil changing intervals 200 hours; recommended oil viscosity: winter SAE 10W summer SAE 30 tropics SAE 40
Cooling system:	Pressurized water cooling, impeller assisted; by-pass thermostat; overpressure relief valve set at 0,4 bar; fan with 6 blades, 470 mm diameter; cooling water capacity 15 l
Starting system:	Electrical; BOSCH screw-push starter motor: JD 12 V 2,9 kW
Electrical equipment:	12 V, negative earth BOSCH three phase alternator: U1 14 V 35 A 490 W; 1 lead acid battery 110 Ah at 20 hours rating

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Transmission

Clutch:	LAMELLEN UND KUPPLUNGSBAU GMBH or FICHTEL UND SACHS AG dry double disc clutch: LUK:DT 280/280 G or FUS:DUT 280S; tractor drive disc operated by pedal, p.t.o. drive disc pneumatically operated by a switch on the instrument panel
Gear box:	Own make; synchromesh reduction gear with 7 forward and 4 reverse speeds; an 8th forward speed is fitted but locked; additional group gear for duplication of speeds; totally 14 forward and 8 reverse speeds; optionally the 8th forward speed may be unlocked, then 16 forward speeds are available; maximum speeds: with 8th gear locked 23,33 km/h with 8th gear unlocked 38,84 km/h optionally the additional group gear may be fitted with a group for 4 creep speeds and a further group for 4 super creep speeds; maximum 24 forward and 16 reverse speeds
Rear axle and final drive:	Portal axle, rigidly fitted to tractor chassis; driven by universal joint shaft; bevel gear drive with crown wheel and pinion; bevel gear type differential fitted with lock; spur gear final drives in the wheel hubs
Front axle and final drive:	Portal axle; coil-spring suspended with shock absorber and travers stabilizer; driven by universal joint shaft in the thrust tube and double joints in the steering knuckles; pneumatically engageable under load; bevel gear drive with crown wheel and pinion; bevel gear type differential fitted with lock; spur gear final drives in the wheel hubs

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Total ratios and speeds (with tyres 14,5-24 MPT 14 ply)

Group	Gear No.	Total ratio engine : driving wheel	Nominal travelling speed at rated engine speed km/h	m/s *)
Forward speeds				
Normal speeds	1	189,51	2,84	0,79
	2	113,00	4,77	1,33
	3	69,30	7,78	2,16
	4	42,08	12,81	3,56
	5	63,17	8,53	2,37
	6	37,67	14,31	3,98
	7	23,10	23,33	6,48
Intermediate speeds	1	238,94	2,26	0,62
	2	142,47	3,78	1,05
	3	87,38	6,16	1,71
	4	53,05	10,16	2,82
	5	79,65	6,77	1,88
	6	47,49	11,35	3,16
	7	29,13	18,50	5,14
Reverse speeds				
Normal speeds	1	145,29	3,71	1,03
	2	86,63	6,22	1,73
	3	53,13	10,14	2,82
	4	32,26	16,71	4,64
Intermediate speeds	1	183,19	2,94	0,82
	2	109,23	4,94	1,38
	3	66,99	8,04	2,24
	4	40,68	13,25	3,68

*) calculated with the rolling radius 561 mm in accordance with WdK 182 sheet 1

Front and Rear axle:	Differential locks of front and rear axle pneumatically engageable in common under load			
Oil capacity and viscosity:	Gear box	7,0 l		SAE 80
	differentials	2,25 l	each	SAE 90
	final drives	0,3 l	each	SAE 90
Oil changing interval:	400 hours			

Power take off

Main p.t.o.:

Live p.t.o. at rear of tractor;
530 mm above ground;
25 mm left from tractor's median plane;
driven through the pneumatically operated disc of the double disc clutch

29 x 34,9 x 8,7 mm = 1 3/8"; 6 splines;
(DIN 9611 Form 1; BS 1495; ASAE S.203.7);
optionally 1 3/8"; 21 splines;
(DIN 9611 Form 2; ASAE S.204.6) or
36 x 44 x 11 mm = 1 3/4"; 6 splines

2 speeds are selectable:

540 rev/min p.t.o.
620 rev/min at rated engine speed;
p.t.o. standard speed 540 rev/min at 2220 rev/min engine speed

1000 rev/min p.t.o.
1132 rev/min at rated engine speed;
p.t.o. speed 1000 rev/min at 2252 rev/min engine speed

p.t.o. standard speeds may be set by aid of tractormeter;
direction of rotation clockwise, viewed from tractor rear

Secondary p.t.o.:	Optional, not fitted on tractor tested; live p.t.o. at front of tractor; 960 mm above ground; 213 mm left from tractor's median plane; drive, dimensions, speeds and direction of rotation same as main p.t.o.
	Main p.t.o. and secondary p.t.o. may be driven in common or each one for itself

Power lift

In the rear:	Hydraulic power lift, disintegrated construction; floating position; (optionally control system BOSCH-DAIMLER BENZ, draft control, position control, mixing control and floating position); WABCO gear pump 6 P 41; delivery nominal 40 l/min; V-belt driven by engine; 2 double acting rams, bore 80 mm diameter, rod 30 mm diameter, stroke 150 mm; BOSCH control valve, double acting with automatic hydr. release and lock for not intended operation; maximum oil pressure 180 bar pressure accumulator LANGEN operating as shock absorber; operating pressure 125 bar; hydraulic oil tank with 30 l capacity; 18 l may be taken off through oil tappings; recommended oil quality engine oil HD 30; oil changing interval 1800 hours
	Three point linkage category II (DIN 9674); (optionally with SERVOTRAC- device); lifting rods length variable from 445 to 620 mm; Lifting height above ground with short lifting rods from 478 to 1023 mm with long lifting rods from 163 to 783 mm; hydraulical linkage lock for transport

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Power lift (Continuation)

At front: Optional, fitted on tractor tested for power lift tests only;
hydraulic power lift, disintegrated construction;
oil supply from the front oil tappings;
1 double acting ram;
bore 80 mm, rod 30 mm diameter,
stroke 150 mm;
BOSCH additional control valve, double-acting with automatic hydraulical release and lock for not intended operation

Three-point implement quick hitch system of own construction;
the ram acts directly on a laterally stabilized linkage system with clevis as per DIN 9674 category II;
lifting range above ground from 268 to 1033 mm;
distance of clevis to front axle centre 1717 mm with linkage system in horizontal position;
hydraulic linkage lock for transport

Oil tappings 1 double-acting BOSCH additional control valve with 2 oil tappings in front as well as in the rear fitted on tractor tested;
up to 3 double-acting BOSCH additional control valves with automatic hydraulic release and lock for not-intended operation are optionally available;
1 pressureless oil return in front as in the rear is optionally available;
1 front-end loader oil-connection is fitted

Holed drawbar Fitted on clevis of lower links of the implement linkage in the rear;
length between the ball joints 830 mm;
thickness of the bar 25 mm (alloyed steel);
centre hole and 4 holes on either side 80 mm distance each;
all holes 33 mm diameter

Holed drawbar

Height above ground adjustable by power lift;
from 175 to 1035 mm depending on lifting rods length, measured at the surface of the bar, hydraulically lockable in standard height 450 mm above ground;
with lower links in horizontal position
distance of centre hole:
from rear axle centre 1074 mm
from p.t.o. shaft end 730 mm

Pull attachments

Trailer hitch:

ROCKINGER
271 U 140, not automatical;
optionally: 279 B, automatical;
height above ground adjustable in 4 steps;
748, 808, 868 and 928 mm;
distance of hitch hole to rear axle centre 450 mm;
permissible vertical load 1500 kg

Towing hitch:

At front of tractor;
height above ground 803 mm

Steering

ZAHNRADFABRIK FRIEDRICHSHAFEN AG
hydrostatic steering;
hand pump and control valve:
model 32, version 84;
unit construction, steering wheel operated;
ZF-rotary high pressure pump;
delivery 16 l/min at 100 bar;
V-belt driven by engine;
2 double acting rams;
bore 40 mm, stroke 250 mm;
propped to the thrust tube;
acting on the steering levers;
oil supply from the hydraulic oil tank of the power lift;
hydraulic oil-tank with partition for appr. 5 l steering supply

Brakes

Parking brake:	Mechanically operated disc brake acting on the rear wheels; disc diameter 413 mm; operated by hand lever with ratchet
Service brake:	Hydraulic single line disc brake acting on all wheels; optionally air assisted; disc diameter 413 mm; pedal operated
Trailer braking system:	Optional, not fitted on tractor tested; WABCO trailer brake valve; hydraulically operated by pedal; acting as single line air brake or as double line air brake or as combined single-dual -line air brake or as hydraulic brake
Compressed air equipment:	Air compressor of own design; directly driven by engine; air tank on the right hand side of chassis; air capacity 20 l, working pressure 8,1 bar

Wheels

Steering wheels:	In front, same size as driving wheels
Driving wheels:	In front and in the rear; front wheel drive disengageable (see page 6); 4 pneumatics 14,5-24 MPT 14 ply DIN 7793; maximum permissible load per tyre 3132 kg at 3,5 bar inflation pressure and 32 km/h or 2923 kg at 3,5 bar inflation pressure and 40 km/h; track width 1616 mm rims 11,0 x 24
Wheel base:	2430 mm

Cab	Own make; All-steel construction consisting of moulded elements, welded and bolted together; antivibration suspended on the chassis with 4 SILENT-BLOCKS; entry by doors on the right and left hand side; 2 mounting steps on either side; 560 and 865 mm above ground; height of the cab platform above ground 1180 mm; doors are not allowed to be removed; windscreen and windows of SEKURIT safety glass; (optionally compound glass); the rear-halves of the door-windows can be opened and secured in position; inside of the roof covered with anti-noise compound; further inner paddings for noise damping optionally available (fitted for noise tests); opening in the rear wall 1180 x 930 mm; may serve as escape hatch; closed by PVC-curtain with 2 zippers; this may be opened and rolled up from the inside; hot air heating and blower ventilation; windscreen defroster jet; electric windscreen wiper; 2 rear-view mirrors
Driver's seat	ISRINGHAUSEN upholstered seat with back rest; adjustable spring with shock absorber; parallelogram guidance; height above cab platform appr. 450 mm; inclination of back rest variable by 20°; 120 mm fore and aft adjustable; 90 mm at the right hand side of tractor's median plane
Passenger's seat	Left from driver's seat; folding seat, upholstered with back rest; not spring suspended, damped or otherwise adjustable

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Central implement-mounting area

Behind the cab;
between the rear mudguards;
length 1000 mm; width 970 mm;
covered with checkered steel plate

Number of grease points 22

Weights	Ready for use, as tested		
		without driver	with driver
Without ballast:	front	1985 kg	2020 kg
	rear	1515 kg	1555 kg
	total	3500 kg	3575 kg
Front ballast:	Frame		35 kg
	6 front weights on the frame 45 kg each		270 kg
Rear ballast:	in the implement-mounting area		2120 kg
With ballast:	front	2705 kg	2740 kg
	rear	3220 kg	3260 kg
	total	5925 kg	6000 kg

Dimensions

Total length:	5210 mm	with implement linkage in front and in the rear
	4480 mm	with implement linkage only in the rear
	4100 mm	without implement linkage
Total width:	2120 mm	at smallest track width 1610 mm
	2195 mm	at largest track width 1800 mm
Total height:	2665 mm	to top of cab-roof
Ground clearance:	465 mm	in tractor's median plane below the differentials

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Lighting equipment Electrical; 12 V
in accordance with German legislation

	Dimensions mm	Height above ground of centre mm	Distance from outside edge of tractor to centre *) mm
Head lights	130 Ø	1220	850
Side lights	90 x 50	1435	160
Rear lights	160 x 75	1220	295
Reflectors	75 Ø	870	290

*) at 1610 mm track width

Permissible total weights and axle loads
for all available wheel equipment

	Permissible front axle load kg	Permissible rear axle load kg	Permissible total weight kg
9,5-32 10 ply 9,5 R 32 10 ply	3060	3060	6000
11,2-28 8 ply 11,2 R 28 8 ply	2790	2790	5580
12,4-28 8 ply 12,4 R 28 8 ply	3230	3230	6000
14,9-24 8 ply 14,9 R 24 8 ply	3750	3750	6000
14,9-24 10 ply 14,9 R 24 10 ply	3750	3750	6000
14,9/80-24 10 ply 14,5-24 MPT 14 ply	3750	3750	6000

FUEL AND LUBRICANTS USED IN TESTS

Fuel:	ARAL DIESEL-fuel (DIN 51601)	
	specific gravity at 15°C	
	during laboratory tests	0,845 kg/l
	during drawbar tests	0,834 kg/l
Engine oil:	ARAL HD 30	
Transmission oil:	Gear box	SAE 80
	differentials and final drives	SAE 90
Hydraulic oil:	ARAL engine-oil HD 30	

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COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE (540 rev/min)

Date of tests: 11th September 1975
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Maximum power

Power kW	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
At maximum power 2-hour test						
49,3	2550	620	16,10	13,61	277	3,06
At standard p.t.o. speed (540 rev/min)						
45,7	2220	540	14,25	12,04	263	3,20
At the speed recommended for drawbar work						
49,3	2550	620	16,10	13,61	277	3,06
Part loads						
(i) 85% of the torque at maximum power						
42,6	2595	631	14,20	12,00	282	3,00
(ii) unloaded						
-	2745	668	5,09	4,30	-	-
(iii) 50% of the load defined in (i)						
21,7	2642	643	9,23	7,80	359	2,35
(iv) maximum power						
49,3	2550	620	16,10	13,61	277	3,06
(v) 25% of the load defined in (i)						
11,1	2701	657	7,17	6,06	546	1,55
(vi) 75% of the load defined in (i)						
32,3	2620	637	11,60	9,80	304	2,78

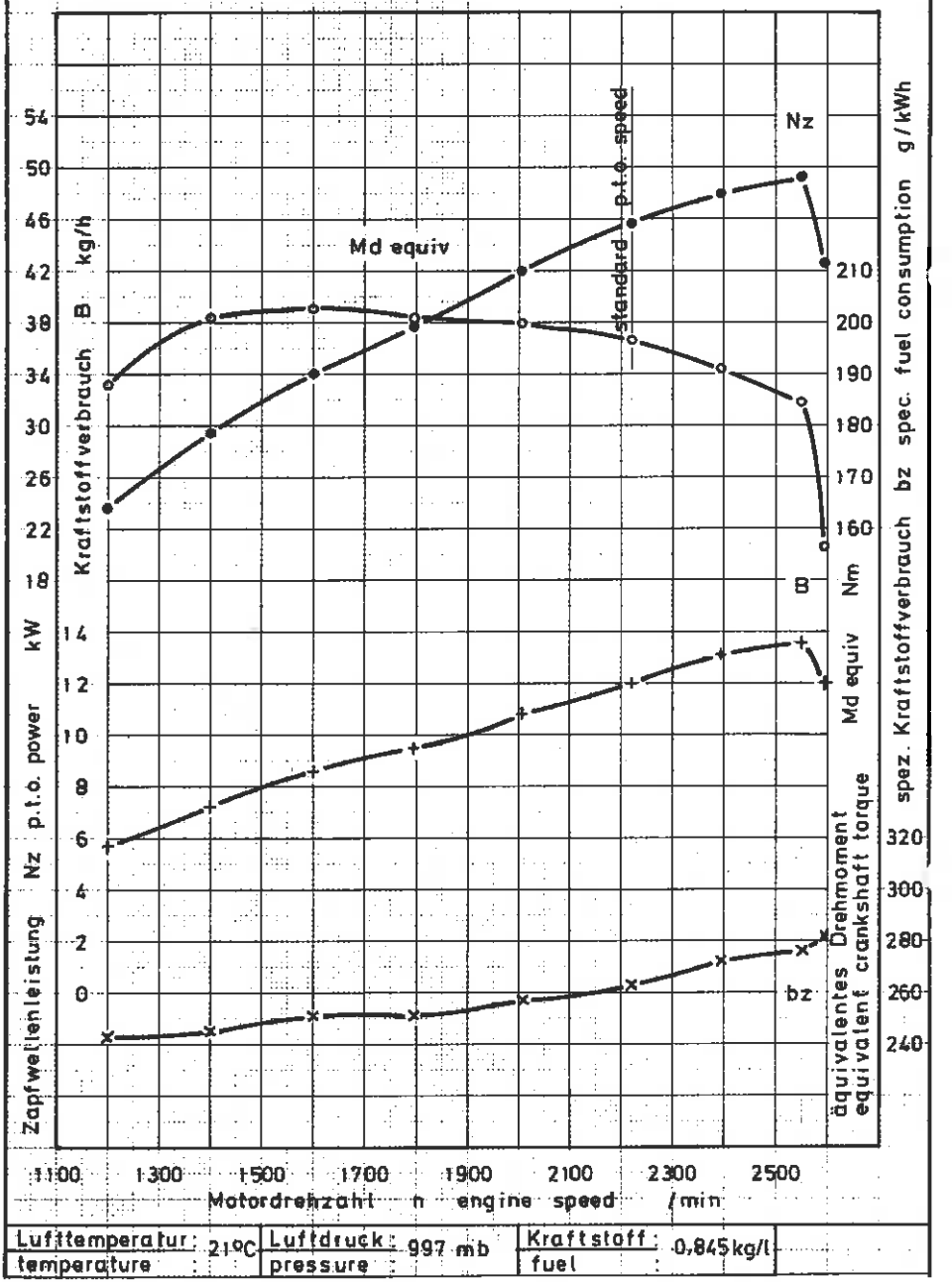
No load maximum engine speed: 2745 rev/min
Equivalent crankshaft torque at maximum power: 185 Nm
Maximum equivalent crankshaft torque: 203 Nm at 1600 rev/min of the engine

Mean atmospheric conditions:	temperature	21°C
	pressure	997 mbar
	relative humidity	95%
Maximum temperatures:	coolant	90°C
	engine oil	106°C
	fuel	30°C

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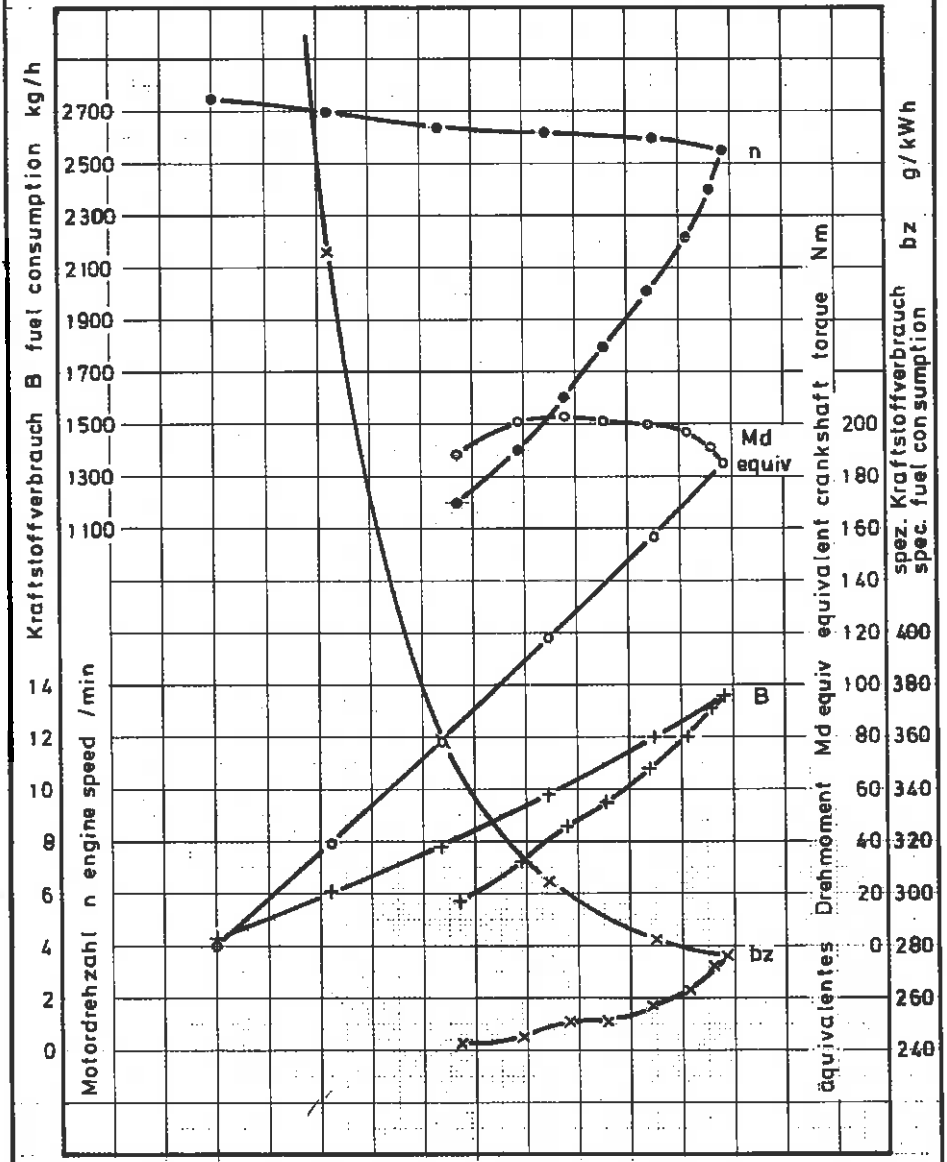
Zapfwellenprüfung
(540/min)
P.t.o.-test

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Lufttemperatur: temperature	21°C	Luftdruck: pressure	997 mb	Kraftstoff: fuel	0,845 kg/l

PRÜFUNGS-ABTEILUNG	Zapfwellenprüfung (540/min) P.t.o. - test	MBtrac 800



Lufttemperatur / temperature	21°C	Luftdruck / pressure	997 mb	Kraftstoff / fuel	0.845 kg/l

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(2) DRAWBAR PERFORMANCE

Date of tests: 18th till 30th September 1975
Type of track: Concrete

Gear No. and Group	Speed km/h	Power kW	Drawbar pull N	Engine speed rev/min	Slip of wheels %	Specific energy kWh/l
(i) MAXIMUM POWER with ballast height of drawbar above ground 500 mm						
1 inter	2,04	33,4	58860	2605	15,0	2,36
1 normal	2,58	41,4	57780	2550	13,1	2,55
2 inter	3,63	42,9	42550	2552	7,5	2,65
2 normal	4,71	44,4	33900	2553	5,3	2,73
3 inter	6,14	43,6	25560	2550	3,6	2,69
5 inter	6,77	44,7	23790	2553	3,3	2,75
3 normal	7,84	44,6	20470	2552	2,8	2,74
5 normal	8,66	43,8	18200	2553	2,3	2,71
4 inter	10,28	43,3	15150	2553	1,9	2,66
(ii) FIVE-HOUR-Test at 75% of pull at maximum power in 3rd gear of inter.group						
3 inter	6,34	33,8	19180	2606	2,5	2,57
(iii) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (i)						
1 inter	-	-	58860	2603	-	-
(v) MAXIMUM POWER without ballast height of drawbar above ground 500 mm						
1 normal	2,59	28,2	39244	2623	14,8	2,31
2 inter	3,38	36,8	39190	2594	14,9	2,44
2 normal	4,52	43,1	34320	2549	8,5	2,65
3 inter	6,02	43,4	25940	2550	5,2	2,68
5 inter	6,64	44,2	23970	2551	4,8	2,74
3 normal	7,74	44,3	20580	2551	3,8	2,76
5 normal	8,53	44,8	18900	2552	3,5	2,77
4 inter	10,16	44,0	15590	2550	2,6	2,71
6 inter	11,40	44,2	13970	2550	2,2	2,75
4 normal	12,95	44,2	12280	2550	2,2	2,74

Total oil consumption during ten hours duration of tests (ii) and (iii): 48 g/h

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Tyres make and size — front: METZELER 14,5-24 MPT 14 ply
rear: METZELER 14,5-24 MPT 14 ply

Specific fuel consumpt. g/kWh	Temperatures: Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions: Temperature °C	Relative humidity %	Pressure mbar
tyre inflation pressure 4,0 bar rolling radius of tyres under static load 578 mm						
356	15	90	98	13	97	1009
329	15	90	97	15	93	1009
318	15	90	105	15	91	1009
308	16	90	100	15	89	1009
314	16	90	102	15	89	1008
306	15	90	99	14	90	1008
307	16	90	99	13	91	1008
310	15	90	100	10	98	1000
315	15	90	100	10	98	1000
327	15	90	100	10	98	1000
-	14	90	100	10	97	1000
tyre inflation pressure 2,5 bar rolling radius of tyres under static load 580 mm						
363	17	90	103	15	85	1015
344	17	90	98	15	85	1015
317	15	90	100	14	89	1016
313	15	90	104	14	94	1016
307	15	90	100	13	96	1016
302	18	90	94	16	88	1014
301	18	90	92	16	85	1014
308	18	90	93	16	88	1014
306	15	90	101	14	95	1016
307	15	90	99	14	94	1016

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

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(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 14,5-24 MPT 14 ply
rear: 14,5-24 MPT 14 ply

Track of wheels front: 1616 mm
rear: 1616 mm

	With all wheel drive		With rear wheel drive	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	5,52	5,48	5,24	5,17
Radius of turning circle	5,30	5,26	5,02	4,95

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	924 mm
Distance forward from the vertical plane containing the axis of the rear wheels	1363 mm
Distance of the median plane of the tractor	0 mm

(5) BRAKING PERFORMANCE

A) SERVICE BRAKE

Date of tests: 24th September 1975
Type of track: Concrete
Type of decelerometer: MOTO METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor: 6000 kg with driver

Cold brakes

		With ballast	Without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	5,2	5,5
Stopping distance	m	6,0	5,8
Force on pedal	N	750	610
Force on pedal to achieve a deceleration of 2,5 m/s^2	N	390	330

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	106	100
Stopping distance	cold/hot	%	115	104
Force on pedal	cold/hot	%	100	111

B) PARKING BRAKE

Tractor facing up slope:
Pull on hand brake 220 N, tractor does not roll

Tractor facing down slope:
Pull on hand brake 220 N, tractor does not roll

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(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 23rd September 1975
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2203

Results of test

Gear: 7th normal gear
Travelling speed before acceleration: 18,75 km/h
Sound level: 90 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 23rd and 24th February 1976
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2607
Type of frequency analyser (fitted with octave filter): BRÜEL AND KJAER model 1614

The tractor was fitted with a safety cab

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level N	Travelling speed effective km/h	Sound level dB(A)
with all-wheel drive, cab closed			
1 inter	18890	2,32	87,5
1 normal	19370	2,96	87,5
2 inter	34940	3,65	87,5
2 normal	34810	4,59	87
3 inter	24690	5,99	86,5
5 inter	23500	6,64	88
3 normal*)	18620	7,90	86
5 normal	18740	8,59	86,5
4 inter	15110	10,21	87
6 inter	12710	11,43	86,5
4 normal	12430	12,87	86
6 normal	10880	14,35	86
7 inter	7560	18,70	86,5
7 normal	light load	25,71	85

*) the 3rd normal gear corresponds to the travelling speed nearest to 7,5 km/h

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Test No. 75-147

(7) NOISE AT THE DRIVER'S EAR LEVEL (Continuation)

Gear	Drawbar pull at which the tractor develops the maximum sound level N	Travelling speed effective km/h	Sound level dB(A)
with all-wheel drive, rear wall of cab opened windows removed			
1 inter	25180	2,32	89
1 normal	20600	2,99	89
2 inter	36910	3,61	89,5
2 normal	36110	4,53	90
3 inter	9280	6,54	89,5
5 inter	18270	6,61	89,5
3 normal*)	10570	8,18	90
5 normal	18270	8,67	89,5
4 inter	16670	10,09	90
6 inter	14850	11,32	88,5
4 normal	12430	12,94	88,5
6 normal	11510	14,46	89
7 inter	8400	18,70	88,5
7 normal	light load	25,71	88,5
with rear-wheel drive, cab closed			
1 normal	19350	2,79	87,5
2 normal	19140	4,72	86,5
3 normal*)	18050	7,41	87
5 normal	19240	8,07	86,5
4 normal	12010	12,50	86,5
6 normal	9890	14,18	86
7 normal	light load	25,71	85
with rear-wheel drive, rear wall of cab opened windows removed			
1 normal	19960	2,82	89
2 normal	11140	4,94	89,5
3 normal*)	11200	7,96	91,5
5 normal	18960	8,22	89,5
4 normal	13180	12,53	89,5
6 normal	11390	14,17	89
7 normal	light load	25,71	88,5

The cab was fitted with optionally available special paddings for noise damping

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Test No. 75-147

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

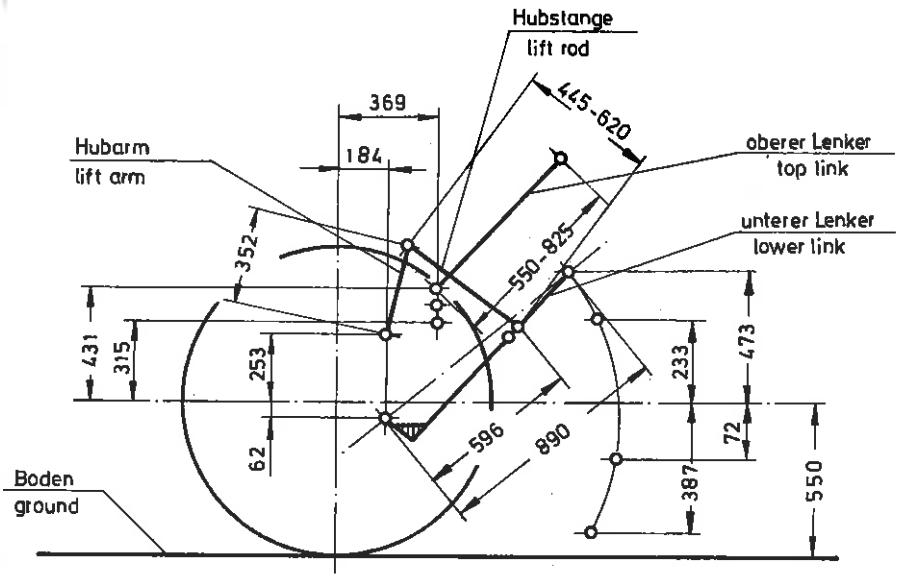
Date of tests: 2nd October 1975

HYDRAULIC PUMP

(1)	Opening pressure of relief valve	180 bar
	Sustained pressure by open relief valve	174 bar
(2)	Pump delivery rate at minimum pressure and maximum engine speed	46,7 l/min
(3)	Pump delivery rate	39,6 l/min
	delivery pressure	160 bar
	Hydraulic power	10,6 kW

POWER LIFT (in the rear)

Dimensions of linkage geometry for the table on page 27



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Power lift (in the rear)

LINKAGE GEOMETRY when connected to the standard frame	Maximum mechanical advantage	Minimum mechanical advantage
Projected length in side view:		
Lower links	890 mm	890 mm
Lift arms	352 mm	352 mm
Lift rods	620 mm	445 mm
Top link	705 mm	705 mm
Distance of lift rod connection point from pivot point of lower link	596 mm	596 mm
The following dimensions are given relative to rear axle centre line 550 mm above ground		
Lower link pivot point	184 mm behind, 62 mm below	184 mm behind, 62 mm below
Top link pivot point	369 mm behind, 431 mm above	369 mm behind, 315 mm above
Lift arm pivot point	184 mm behind, 253 mm above	184 mm behind, 253 mm above
Maximum and minimum height of lower link hitch points	233 mm above, 387 mm below	473 mm above, 72 mm below
Height of lower link hitch points above ground when locked in highest transport position	783 mm	1023 mm

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POWER LIFT (in the rear)

LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-325	-300	-200	-100	-20	-10	0	+100
at hitch points maximum mechanical advantage								
N						27700	27800	30100
minimum mechanical advantage								
N	24800	25100	26500	28000			29400	30300

Max. force exerted throughout the whole range 27700 N

With or without front ballast the front of tractor does not lift

at test frame maximum mechanical advantage								
N		31300	30400	30500			30600	30100
minimum mechanical advantage								
N					26100		26300	27200

Max. force exerted throughout the whole range 27800 N

With maximum allowable front ballast front of tractor does not lift

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+200	+270	+295	+300	+400	+500	+535	+600	+615
lift rods 445 mm long								
32100			33900	35100	34800	34100		
lift rods 620 mm long								
30800		29600						

lift rods 620 mm long, high top link pivot point

28800	27800							

lift rods 445 mm long, low top link pivot point

27700			27600	26800	25300		23000	22500

All values of forces for pressure at max. hydraulic power 160 bar, see page 26; calculated from measurements at max. oil pressure 174 bar

PRÜFUNGS-ABTEILUNG
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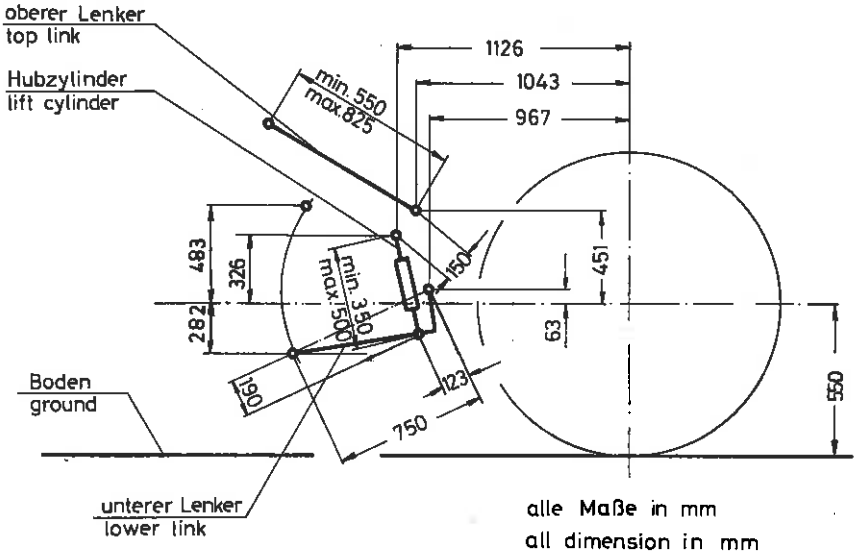
POWER LIFT (in the front)

LINKAGE GEOMETRY WHEN CONNECTED TO THE STANDARD FRAME

Projected length in side view:	
Lower links	750 mm
Lift ram	350 to 500 mm
Top link	680 mm
Distance of lift ram connection axle from pivot points of lower links	123 mm

The following dimensions are given relative to front axle centre line, 550 mm above ground

Lower link pivot point	967 mm forward, 63 mm above
Top link pivot point	1043 mm forward, 451 mm above
Upper pivot point of lift ram	1126 mm forward, 326 mm above
Maximum and minimum height of lower link hitch points	483 mm above, 282 mm below
Height of lower link hitch points above ground when locked in highest transport position	1033 mm



alle Maße in mm
all dimension in mm

LIFTING FORCES (in the front)

Lifting heights relative to horizontal lower links

mm	-390	-345	-300	-200	-100	0	+100	+200	+300	+400	+420	+490
at hitch points												
N		8200	8300	9100	10100	11100	12500	14300	16100	18100	18400	

Maximum force exerted throughout the whole range 8200 N

With or without ballast the rear of tractor does not lift

at test frame												
N	6900		7700	8400	9100	10100	10700	11700	12400	13300		13300

Maximum force exerted throughout the whole range 6900 N

With or without ballast the rear of tractor does not lift

All values of forces for pressure at max. hydraulic power 160 bar, see page 26; calculated from measurements at max. oil pressure 174 bar

PRÜFUNGS-ABTEILUNG
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Test No. 75-147

OPTIONAL TESTS

(1) ENGINE PERFORMANCE

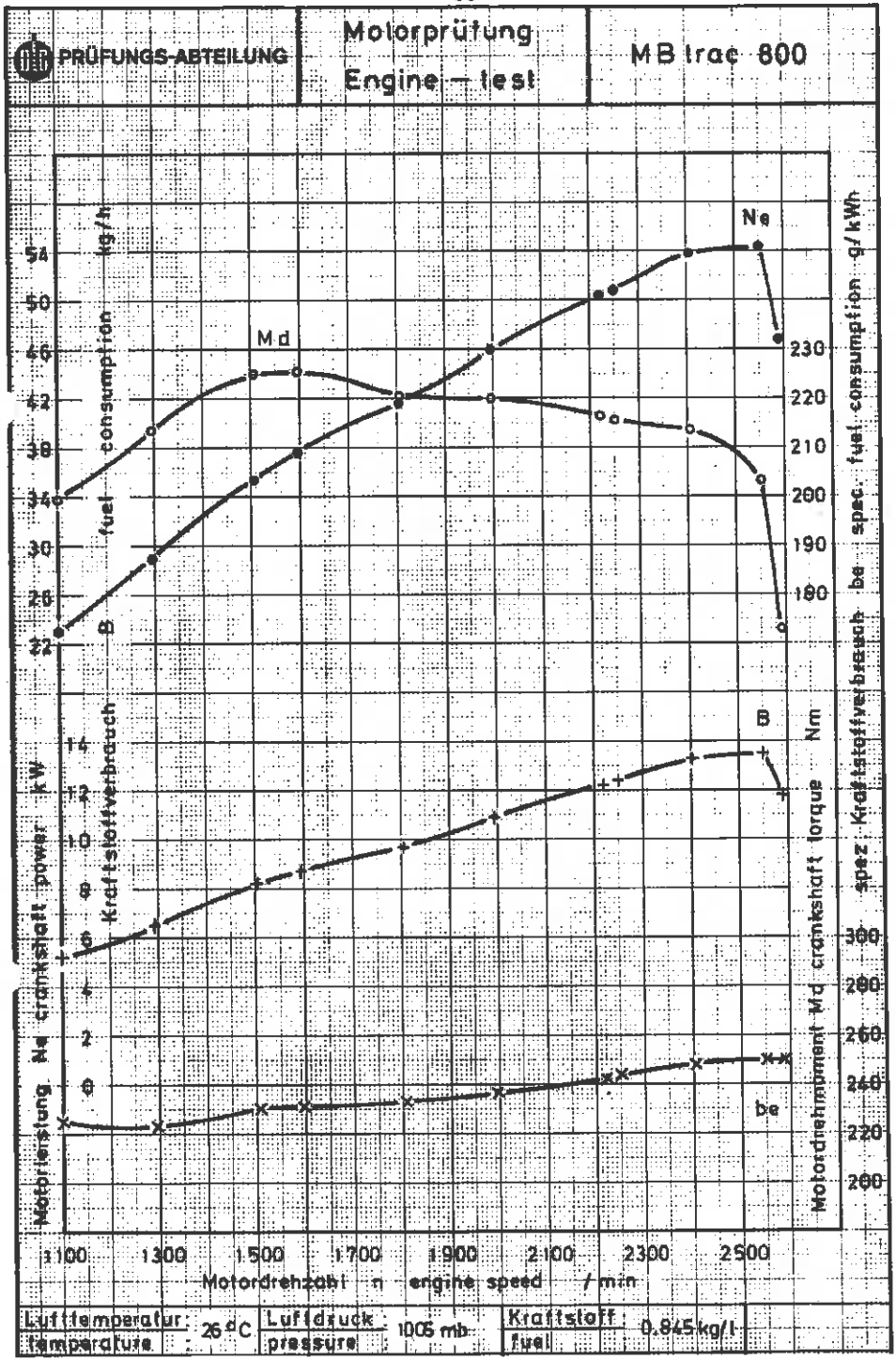
Date of tests: 8th and 9th September 1975
Type of dynamometer: SCHENCK eddy current dynamometer W 150

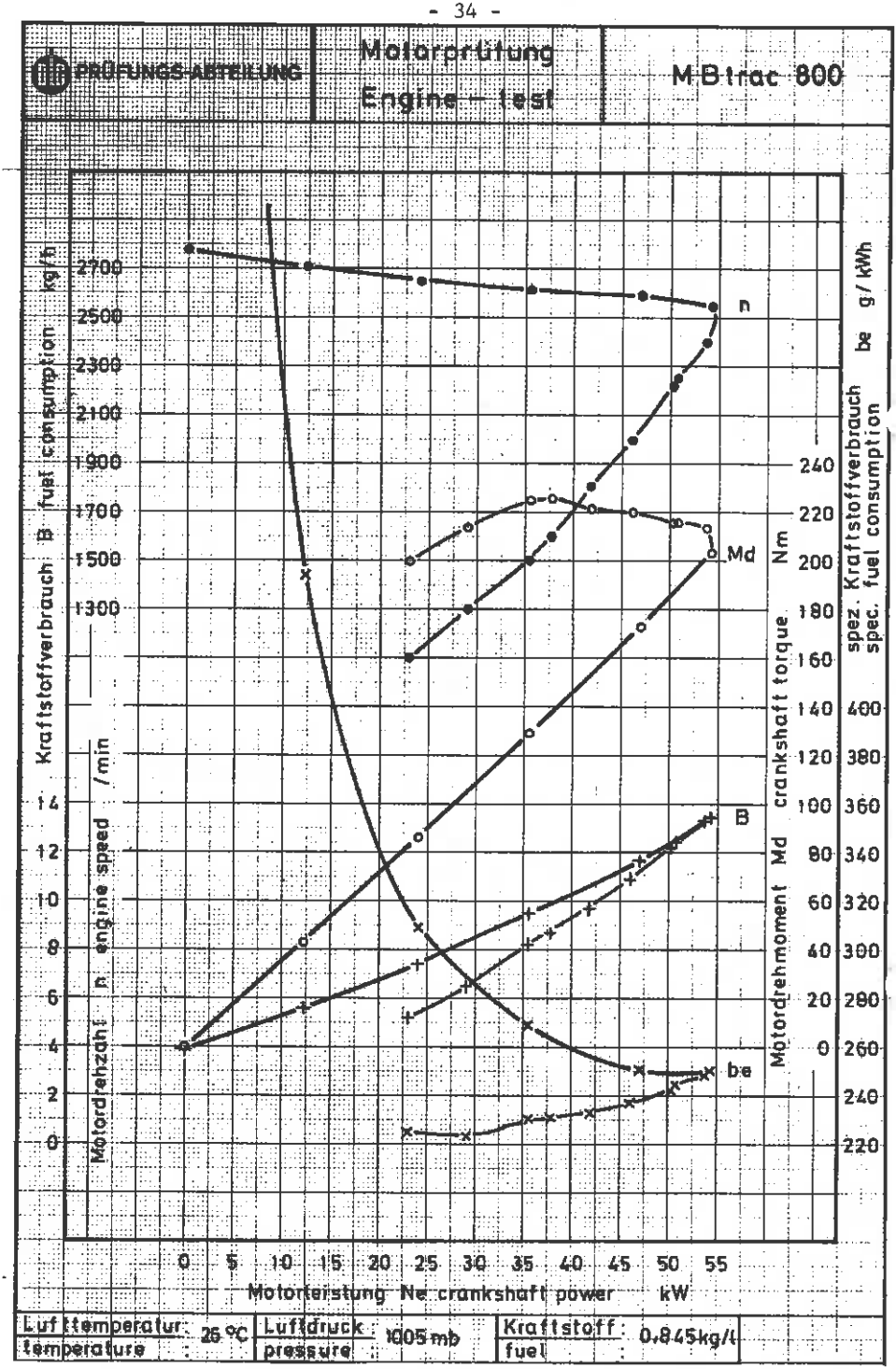
Maximum power

Power kW	Engine speed rev/min	Fuel consumption total 1/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
At maximum power 2-hour test					
54,3	2550	16,02	13,54	250	3,39
At standard p.t.o. speed (540 rev/min)					
50,3	2220	14,23	12,19	242	3,53
At the speed recommended for drawbar work					
54,3	2550	16,02	13,54	250	3,39
Part loads					
(i) 85% of torque at maximum power					
46,9	2592	13,88	11,73	250	3,38
(ii) unloaded					
-	2775	4,59	3,88	-	-
(iii) 50% of the load defined in (i)					
23,9	2645	8,24	7,39	309	2,90
(iv) maximum power					
54,3	2550	16,02	13,54	250	3,39
(v) 25% of the load defined in (i)					
12,3	2709	6,60	5,58	454	1,86
(vi) 75% of the load defined in (i)					
35,5	2621	11,29	9,54	269	3,14

Optimum fuel consumption: 226 g/kWh at 26,5 kW and 1205 rev/min
Standard fuel consumption 1/2 (DIN 9606): 6,62/13,34 1/h
No load maximum engine speed: 2775 rev/min
Torque at maximum power: 203 Nm
Maximum torque: 226 Nm at 1600 rev/min of the engine

Mean atmospheric conditions:	temperature	26°C
	pressure	1005 mbar
	relative humidity	74%
Maximum temperatures:	coolant	90°C
	engine oil	103°C
	fuel	24°C


PRÜFUNGS-ABTEILUNG
Motorprüfung
Engine — test
MB trac 800
Ne
Md
B
be
Motorleistung Ne crankshaft power kW
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehmoment Md crankshaft torque Nm
spez. Kraftstoffverbrauch be spec. fuel consumption g/kWh
Motordrehzahl n engine speed / min
1100 1300 1500 1700 1900 2100 2300 2500
Lufttemperatur temperature 26 °C
Luftdruck pressure 1005 mb
Kraftstoff fuel 0.845 kg/l


PRÜFUNGS-ABTEILUNG
Motorerprüfung
Engine – test
MB trac 800
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed /min
Motordrehmoment Md crankshaft torque Nm
spez. Kraftstoffverbrauch be spec. fuel consumption g/kWh
n
Md
B
be
Motorleistung Ne crankshaft power kW
Lufttemperatur: 26 °C
temperature
Luftdruck: 1005 mb
pressure
Kraftstoff: 0,845 kg/l
fuel

PRÜFUNGS-ABTEILUNG	Motorprüfung Engine – test	MB trac 800

Lufttemperatur: temperature : 26°C	Luftdruck: pressure : 1095 mb	Kraftstoff: fuel 0.845 kg/l

PRÜFUNGS-ABTEILUNG
MB trac 800

Test No. 75-147

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

Date of tests: 11th September 1975
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Maximum power

Power kW	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
At maximum power 2-hour test						
49,6	2550	1132	16,12	13,62	274	3,08
At standard p.t.o. speed (1000 rev/min)						
46,4	2252	1000	14,49	12,24	264	3,20
At the speed recommended for drawbar work						
49,6	2550	1132	16,12	13,62	274	3,08
Part loads						
(i) 85% of the torque at maximum power						
42,9	2597	1153	14,17	11,97	279	3,03
(ii) unloaded						
-	2755	1223	5,05	4,26	-	-
(iii) 50% of the load defined in (i)						
21,8	2641	1173	9,23	7,80	358	2,36
(iv) maximum power						
49,6	2550	1132	16,12	13,62	274	3,08
(v) 25% of the load defined in (i)						
11,1	2694	1196	7,16	6,05	545	1,55
(vi) 75% of the load defined in (i)						
32,5	2626	1166	11,61	9,81	302	2,80

No load maximum engine speed: 2755 rev/min
Equivalent crankshaft torque at maximum power: 187 Nm
Maximum equivalent crankshaft torque: 204 Nm at 1600 rev/min of the engine

Mean atmospheric conditions:	temperature	22°C
	pressure	997 mbar
	relative humidity	90%
Maximum temperatures:	coolant	90°C
	engine oil	105°C
	fuel	32°C

PRÜFUNGS-ABTEILUNG

MB trac 800

Test No. 75-147

ADDITIONAL TEST

out of the O.E.C.D. CODE under the responsibility of the DLG Testing Station

(1) FUEL CONSUMPTION AT PART LOADS

as per the French Standard NF U 10-54

Date of tests: 25th November 1975
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Results

	Fuel consumption hourly 1/h	Fuel consumption specific g/kWh
a) at p.t.o.-speed corresponding to rated engine speed and with 85% load	14,20	282
b) at p.t.o.-speed corresponding to rated engine speed and with 50% load from a)	9,23	359
a') at p.t.o.-standard speed 540 rev/min and 85% load	12,22	261
b') at p.t.o.-standard speed 540 rev/min and 50% load from a')	7,85	327

Tractor — Model and serial no.: see page 4

Engine — Make, model, type, serial no. and rated speed: see page 4

Fuel — ARAL DIESEL fuel (DIN 51601) specific gravity at 15°C 0,845 kg/l

PRÜFUNGS-ABTEILUNG

MB trac 800 Test No. 75-147

ADDITIONAL TEST

out of the O.E.C.D. CODE under the responsibility of the DLG Testing Station

(2) NOISE AT THE DRIVER'S EAR LEVEL

Octave analysis in the 3rd normal gear of which the nominal travelling speed is nearest to 7,5 km/h reported in the diagram of the NOISE RATING curves

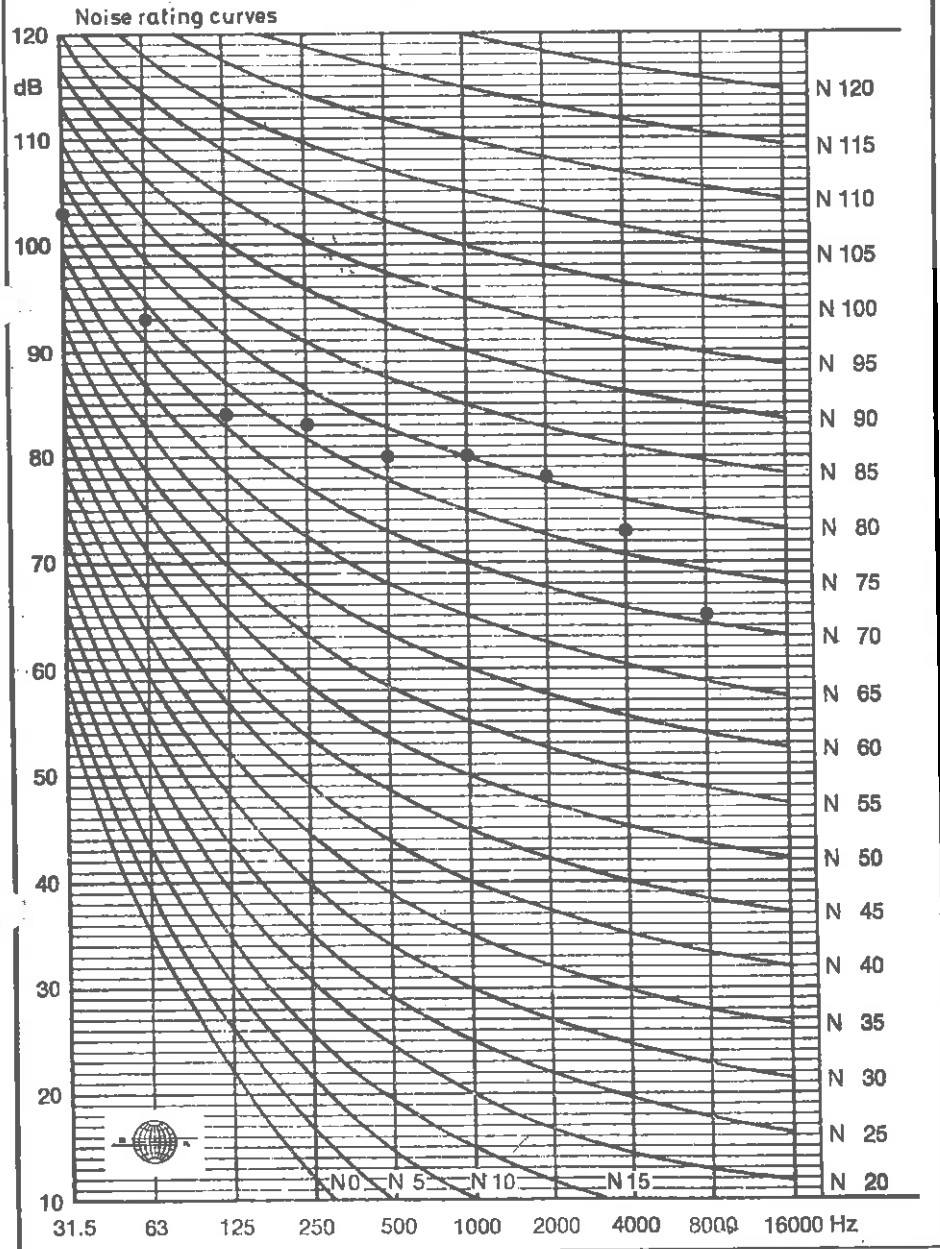
Date of test:	23rd February 1976
Test track:	Concrete
Type of sound level meter:	BRÜEL AND KJAER model 2607
Type of frequency analyser: (fitted with octave filter)	BRÜEL AND KJAER model 1614

The tractor was fitted with a safety cab
O.E.C.D. tested, approval no. CS

Results of test

Gear	Drawbar pull at which the tractor develops the maximum sound level N	Travelling speed effevtive km/h	Sound level dB(A)	Sound level noise rating
3 normal	18620	7,90	86	80

PRÜFUNGS-ABTEILUNG	Noise at the driver's ear level	MB trac 800



ANNEX

(1) SAFETY CAB

Extract from the test report no. 76-30 on the test of the safety cab

Approval no. CS 1137

Date of tests: 22nd of January 1976

TESTS RESULTS

1. Impact and crushing tests

a) Impact tests were made to the left-hand rear and to the right-hand front and to the right-hand side. The reference weight used for calculated impact energies and crushing forces was 3500 kg.

The requirements for these tests concerning freedom from fractures or cracks, maximum instantaneous deflection and entry of members into the zone of clearance were satisfactorily fulfilled. Therefore the cab is sufficiently strong to be classed as a safety-cab.

b) Deflection measured after the tests

Permanent deflection

back forwards	-	left-hand	15 mm
	-	right-hand	35 mm
front backwards	-	left-hand	- mm
	-	right-hand	- mm
side sideways			45 mm
Top downwards	-	rear	- mm
	-	front	50 mm
Total instananeous deflection during sideways impact test			31 mm

2. Overturning tests

The manufacturer did not claim that the cab was intended to prevent the tractor from continuing to roll during an overturning accident on sloping ground and therefore overturning tests were not carried out.

3. Noise in the cab

Type of sound level meter: BRÜEL AND KJAER model 2607

Type of sound octave filter: BRÜEL AND KJAER model 1614

Type of track: Concrete

Gear	Travelling speed km/h	Noise levels dB(A)	Sone
1 inter	2,32	87,5	65
1 normal	2,96	87,5	67
2 inter	3,65	87,5	54
2 normal	4,59	87	59
5 inter	6,64	88	58
3 normal*)	7,90	86	58
4 inter	10,21	87	57
7 normal	25,71	85	-

*) The 3rd normal gear corresponds to the travelling speed nearest to 7,5 km/h