O.E.C.D. No.: 530
Printed: September 1976

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

Agricultural Tractor UNIMOG U 125/425

Manufactured by: DAIMLER-BENZ AG
D-7560 Gaggenau

Date of Tests: October 1975 till April 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: 20th August 1976

Serial No.: 530

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						

Printed in Germany

PRÜFUNGS-ABTEILUNG
DB-UNIMOG 125/425 Test No. 76-51

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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 and tractor appr. 50 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	DAIMLER-BENZ AG
Model:	U 125, version 425
Type:	All wheel drive tractor, chassis construction, spring suspended front and rear axle
Serial No.:	425.121-10-900010

Engine

Make:	Own make
Model:	OM 352 A VII model 353.973
Type:	supercharged 4-stroke DIESEL engine with direct injection, watercooled
Serial No.:	353.973-10-327 057
Cylinders:	6 in-line, bore 97 mm; stroke 128 mm; displacement 5675 cm³; compression ratio 17:1
Valves:	Overhead
Fuel system:	BOSCH fuel-feed pump FP/KE 22 AD 112/2; BOSCH in-line injection pump: PES 6 A 90 D 410 RS 2293; manufacturer's production setting 58 mm³/stroke at rated engine speed and full load; injection timing 18° before TDC; BOSCH multihole injection nozzles DLLA S 187; injection pressure 200 bar; BOSCH dual fuel filter with replaceable cartridges; capacity of fuel tank 160 l
Governor:	BOSCH centrifugal variable speed governor: EP/RSV 350-1300 AOB 1105 DL; governed range of engine speed: 700 to 2800 rev/min; rated engine speed 2600 rev/min

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Supercharger:	Exhaust type turbo-supercharger; KÜHNLE, KOPP UND KAUSCH; (optional GARRET) model 3 LKS/352; supercharge pressure appr. 580 mbar without air intercooler
Air cleaner:	MANN UND HUMMEL; paper element filter with pre-cleaner; PICLON 45 585 92 104; service indicator
Exhaust silencer:	Own make; multi-chamber muffler 200 mm diameter; 700 mm long; on the left hand side of the chassis; mouth showing rearward at an angle of 45°
Lubrication system:	Forced feed from gear pump; strainer in sump MANN dual oil filter with by-pass in full flow, overpressure relief valve; replaceable cartridges; oil capacity 13 l; oil changing interval 200 hours; recommended oil viscosities: 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, 515 mm diameter; water capacity 23 l
Starting system:	Electrical; BOSCH screw-push starter motor ID 3 kW; Startpilot PRO-COMBUR; VISO F 27
Electrical equipment:	12 V, negative earth; BOSCH three phase alternator Kl 12 V 35 A 20; 1 lead acid battery 110 Ah at 20 hours rating

Transmission

Clutch:	LAMELLEN UND KUPPLUNGSBAU dry dual disc clutch DT 330/310 G; tractor drive disc hydr. operated by pedal; p.t.o. drive disc operation see page 7
Gear box:	Own make; speed change gear with 4 speeds and planetary group for duplication, pneumatically shifted; all speeds synchronized; (optional: additional planetary group gear for field and creep speeds available, at tractor tested fitted with field speeds only) reversing gear with locking synchronization for all gears; totally 16 forward and 16 reverse speeds at tractor tested
Rear axle and final drive:	Portal construction; bevel gear with crown wheel and pinion; driven by universal joint shaft in the thrust tube; bevel gear type differential fitted with lock; spur gear final drive
Front axle and final drive:	Like rear axle; pneumatically engageable under load; double joints in the steering knuckles differential locks of front and rear axle pneumatically engageable and disengageable in common under load
Oil capacities:	Speed change gear and field group gear: 12 l differentials: each 2,5 l final drives: each 0,6 l
Oil qualities:	Speed change gear and field group gear and main p.t.o.: transmission oil SAE 80 axles: transmission oil SAE 90
Oil changing interval:	400 hours

Total ratios and speeds s. page 8 and 9

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Power take-off

Main p.t.o.: Live p.t.o. in the rear of tractor;
either 916 mm above ground, 183 mm to the right hand side of tractor's median plane
or optionally 720 mm above ground, 10 mm right of tractor's median plane
with chassis springs not compressed;

driven through the second disc of the dry dual disc clutch, independent from the tractor drive disc;
pneumatically pilot controlled, hydraulically engaged or disengaged by a servo hand valve

1 3/4 in involute profile, 20 splines;
DIN 9611 Form 3; ASAE S 204.6

The following 3 p.t.o.-shafts are optionally available:

a) 29 x 34,9 x 8,7 mm = 1 3/8 in; 6 splines;
DIN 9611 Form 1; BS 1495; ASAE S 203.7

b) 1 3/8 in involute profile, 21 splines;
DIN 9611 Form 2; ASAE S 204.4

c) 36x44,3x11 mm = 1 3/4 in 6 splines;

2 speeds are preselectable by hand lever:

540 rev/min p.t.o.
601 rev/min at rated engine speed;
standard p.t.o.-speed 540 rev/min at 2336 rev/min engine speed

1000 rev/min p.t.o.
1058 rev/min at rated engine speed;
standard p.t.o.-speed 1000 rev/min at 2456 rev/min engine speed

Direction of rotation clockwise, viewed from tractor rear

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Total ratios and speeds

Forward speeds

Group	Gear	Total ratio engine : driving wheel	Nominal travelling speed at rated engine speed km/h	m/s *)
speed combinations as tested				
Road group	1	59,65	9,2	2,55
	2	42,95	12,8	3,56
	3	31,47	17,4	4,83
	4	23,10	23,8	6,61
	5	16,47	33,3	9,25
	6	11,86	46,3	12,9
	7	8,69	63,2	17,6
	8	6,38	86,1	23,9
Field group	1	343,39	1,60	0,44
	2	247,26	2,22	0,62
	3	181,17	3,03	0,84
	4	132,96	4,13	1,15
	5	94,84	5,79	1,61
	6	68,30	8,04	2,23
	7	50,05	10,97	3,05
	8	36,72	14,96	4,16
optional creep speeds, not tested				
Creep group	1	3332,72	0,165	0,046
	2	2399,76	0,229	0,064
	3	1758,30	0,312	0,087
	4	1290,40	0,426	0,118
	5	920,49	0,597	0,166
	6	662,84	0,828	0,230
	7	485,73	1,131	0,314
	8	356,36	1,541	0,428

*) calculated with the rolling circumference 3520 mm as per WdK 182

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Reverse speeds:

Group	Gear	Total ratio engine : driving wheel	Nominal travelling speed at rated engine speed km/h	m/s *)
Road group	1	57,77	9,5	2,64
	2	41,60	13,2	3,67
	3	30,84	18,0	5,00
	4	22,37	24,5	6,81
	5	15,96	34,4	9,56
	6	11,49	47,8	13,3
	7	8,42	65,2	18,1
	8	6,18	88,9	24,7
Field group	1	332,59	1,65	0,46
	2	239,52	2,29	0,64
	3	175,48	3,13	0,87
	4	128,77	4,26	1,18
	5	91,87	5,98	1,66
	6	66,17	8,30	2,31
	7	48,47	11,33	3,15
	8	35,58	15,43	4,29
Creep group	1	3227,95	0,170	0,047
	2	2324,57	0,236	0,066
	3	1703,07	0,322	0,089
	4	1249,77	0,439	0,122
	5	891,62	0,616	0,171
	6	642,17	0,855	0,238
	7	470,40	1,167	0,324
	8	345,32	1,590	0,442

Power take-off (Continuation)

The following powers may be taken off from the different p.t.o.-shafts as per manufacturer's handbook:

Profile	p.t.o. 540 rev/min	p.t.o. 1000 rev/min
1 3/8 in 6 splines	33 kW	60 kW
1 3/8 in involute	50 kW	full power
1 3/4 in 6 splines	full power	full power
1 3/4 in involute	full power	full power

Secondary p.t.o.:

In front of tractor;
fitted but not tested;
160 mm to the left hand side of tractor's median plane, 1023 mm above ground with chassis springs not compressed;
drive, profiles, speeds, direction of rotation and performance restrictions same as for 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, open system;
floating position only;
mechanically acting load transfer system;
SERVOTRAC;
WABCO gear type pump IPM 16;
delivery nominal 15,8 cm^3/rev;
V-belt driven by engine;
2 double acting rams, bore 100 mm, stroke 200 mm, rod 40 mm diameter;
WABCO control valve, double acting;
maximum pressure 200 bar;
pressure accumulator LANGEN acting as shock absorber;
maximum accumulator pressure 130 bar
hydraulic oil tank with 27 l capacity;
20 l may be taken off through oil tappings;
recommended oil: engine oil HD SAE 10W;
oil changing intervals 1800 hours

Power lift	(Continuation)
In front:	Optional, not fitted on tractor tested; figures acc. to manufacturer's specification; hydraulic power lift, disintegrated construction; connected to the hydraulic circuit of a supplementary control valve 1 double acting ram, bore 80 mm, stroke 175 mm, rod 30 mm diameter; WABCO control valve, double acting
Implement linkage	
In the rear:	Three point linkage, category III, DIN 9674; (optionally category II); lift rods adjustable from 475 to 645 mm lifting range above ground with long lift rods from 515 to 1188 mm short lift rods from 245 to 975 mm with chassis springs not compressed; hydraulically acting linkage lock for transport
In front:	Three point implement linkage of own construction; the ram acts over a lift shaft, lift arm and a lift rod not adjustable in length on a lateral stabilized balancer, with clevis as per DIN 9674 category II; lifting range above ground from 280 to 1070 mm; maximum distance of clevis to front axle centre 1760 mm; hydraulically acting linkage lock for transport
Oil tappings	1 double-acting WABCO supplementary control valve with 2 oil tappings in front and 2 in the rear fitted on tractor tested; up to 3 double acting WABCO-supplementary control valves with 2 oil tappings and 1 pressureless oil return each in front as well as in the rear are available

Holed drawbar	Fitted on clevis of lower links of the 3-point implement linkage in the rear; length between the ball joints 1065 mm; thickness of the bar 25 mm, alloyed steel; centre hole and 5 holes on either side; 80 mm distance each; all holes 36,5 mm diameter; height above ground infinitely adjustable by power lift in the range from 528 mm to 1200 mm depending on lift rods length, measured at the surface of the bar, with chassis springs not compressed, distance of centre hole: from rear axle centre 1280 mm from p.t.o.-shaft end 510 mm (optional: a rigidly mounted holed drawbar is available, height above ground 490 mm)
Pull attachment	
Trailer hitch:	RINGFEDER model 605/G 110 automatic DIN 74051; height above ground 1075 mm with chassis springs not compressed, in tractor's median plane; hitch bolt diameter 38 mm; distance from hitch bolt centre to rear axle centre 745 mm; permissible vertical load 1500 kg; permissible drawing pull 85000 N
Towing hitch:	At front of tractor; height above ground 965 mm with chassis springs not compressed, 160 mm to the right hand side of tractor's median plane
Steering	Own make ball-nut hydrosteering with own oil circuit; ZF rotary pump, 12 l/min delivery; max. pressure 130 bar; acting on front wheels by a normal steering linkage; recommended oil: engine oil HD SAE 10W

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Brakes	Air brake assembly in accordance with EEC
Compressed air equipment:	BOSCH air compressor; V-belt driven by engine; 2 air tanks with 10 l capacity each on the right hand side of chassis parallelly connected; protective valve for 4 circuits; 1st and 2nd circuit: service brake 3rd circuit: parking brake and trailer brake 4th circuit: other pneumatically operated units; maximum air pressure 18 bar, braking operating pressure: 9,5 bar when tractor is driving solo 7,0 bar when tractor is driving with trailer
Parking brake:	Mechanically acting spring loaded brake; acting on the rear wheels only; locked by pressure release; dry disc type brake; 2 discs with 380 mm diameter, fitted on the rear axle final drive gear boxes; operated by hand valve
Service brake:	Own make; 2 circuits, hydraulically acting, compressed air assisted,acting on all wheels; dry disc type brake with 2 brake discs each on the front and rear axle, fitted on the final drive gear boxes; 2 brake saddles on each disc of the front axle; 1 brake saddle on each disc of the rear axle; pedal operated
Steering brake:	None
Trailer braking system:	WABCO-BOSCH; dual line type or combined single-dual line type pneumatically controlled
Safety cab	Own make; O.E.C.D. tested approval no. CS 424b, 25th July 1974

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, 16 ply DIN 7793; maximum permissible weight per tyre 2800 kg at 4,0 bar inflation pressure and 80 km/h; track width 1840 mm in front and in the rear; rims 11 x 24
Wheel base:	2810 mm

Weights — Ready for use as tested

		without driver	with driver
Without ballast:	front	2988 kg	3040 kg
	rear	2242 kg	2265 kg
	total	5230 kg	5305 kg
Ballast:	Iron weights on the auxiliary platform		2695 kg
With ballast:	front	3955 kg	4000 kg
	rear	3970 kg	4000 kg
	total	7925 kg	8000 kg

Driver's seat and passenger's seat

Own make;
upholstered seat with back rest;
neither spring suspended nor damped because the chassis is spring suspended;
mounting steps on both sides 620 mm above ground with chassis springs not compressed;
height of seat above cab platform adjustable from 370 to 430 mm in 4 steps of 15 mm each;
150 mm adjustable fore and aft;
adjustabilities are independent

Auxiliary platform

Behind the cab;
inside measurements:
2320 mm long, 2140 mm wide,
height of boards 450 mm;
(optionally available as threeway tipper;
hydraulically operated by telescopic ram)

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Number of grease points 15

Dimensions

Total length:	4750 mm	without implement linkage
	5210 mm	with implement linkage
Total width:	2300 mm	
Total height:	2640 mm	with cab
Ground clearance:	550 mm	below differential cases

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	290 x 160 oval	1020	380
Side lights	not necessary	-	-
Rear lights	280 x 100	936	380
Reflectors	80 Ø	630	200

Permissible total weights and axle loads
for all available wheel equipment

Tyres	Permissible total weight kg	Permissible axle kg
14,5-20 MPT 18 ply 14,5 R 20 MPT 18 ply	9000	5300
14,5-24 MPT 16 ply 14,5 R 24 MPT 16 ply	9000	5300
16/70-24 MPT 14 ply	9000	5300

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FUELS AND LUBRICANTS USED IN TESTS

Fuel:	ARAL DIESEL fuel DIN 51 601	
	specific gravity at 15°C	
	during engine tests	0,831 kg/l
	during p.t.o. tests	0,831 kg/l
	during drawbar tests	0,831 kg/l
Engine oil:	ARAL KOWAL HD 10	
Transmission oil:	Speed change gear and group gear	SAE 80
	Differentials and final drives	SAE 90
	Main p.t.o. gear	SAE 80
Power lift and steering:	Engine oil HD 10	

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COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE

Date of tests: 18th March 1976
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

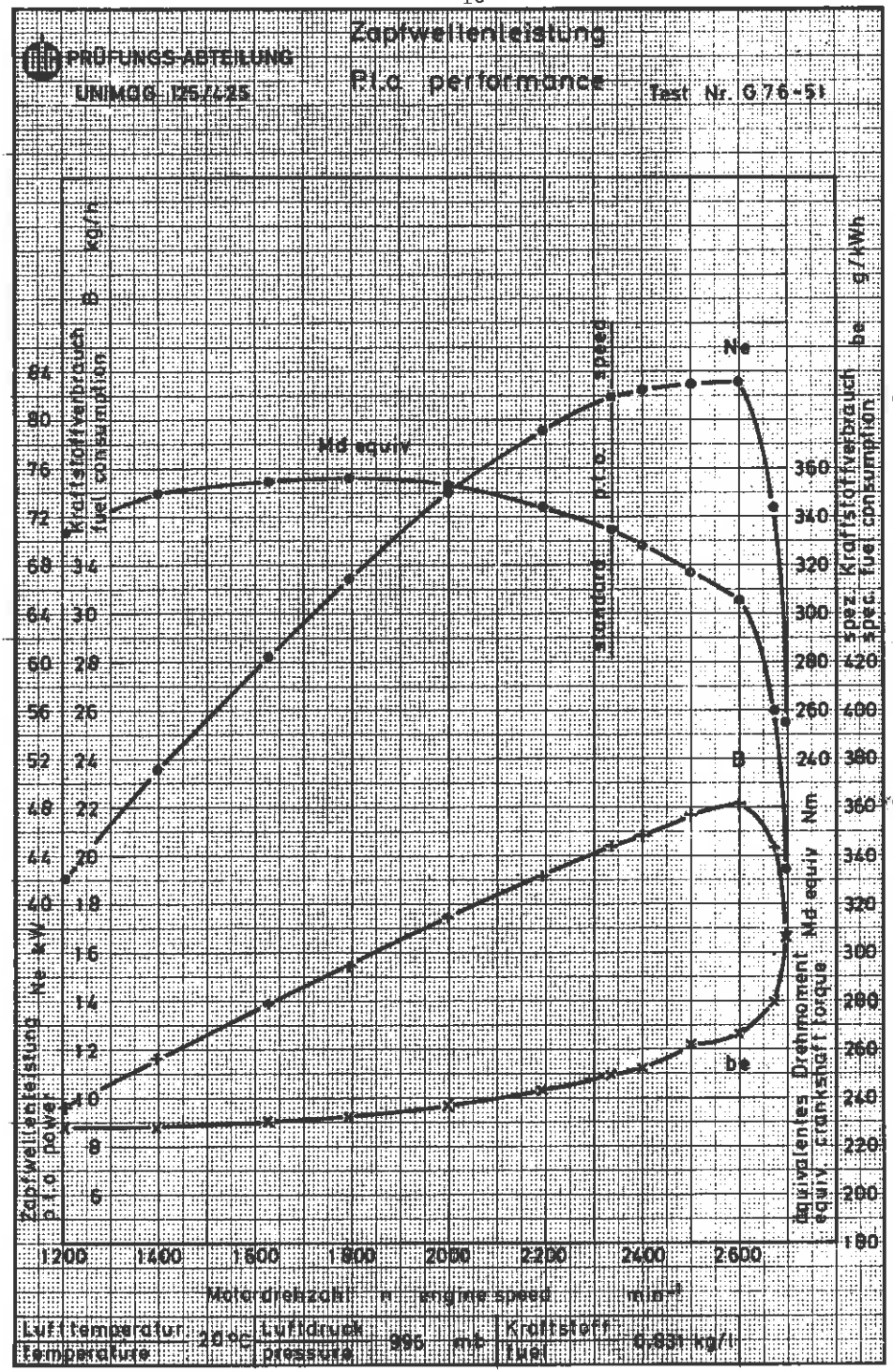
Maximum power

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						
83.1	2600	601	26.67	22.16	267	3.12
At standard p.t.o. speed (540 rev/min)						
81.9	2336	540	24.59	20.43	250	3.33
At the speed recommended for drawbar work						
83.1	2600	601	26.67	22.16	267	3.12
Part loads						
(i) 85% of the torque at maximum power						
72.7	2674	618	24.48	20.34	280	2.97
(ii) unloaded						
-	2799	647	8.39	6.97	-	-
(iii) 50% of the load defined in (i)						
37.1	2726	630	15.87	13.19	356	2.34
(iv) maximum power						
83.1	2600	601	26.67	22.16	267	3.12
(v) 25% of the load defined in (i)						
18.8	2759	638	12.08	10.04	535	1.55
(vi) 75% of the load defined in (i)						
55.0	2698	624	20.28	16.85	306	2.71

No load maximum engine speed: 2799 rev/min
Equivalent crankshaft torque at maximum power: 305 Nm
Maximum equivalent crankshaft torque: 356 Nm at 1794 rev/min of the engine

Mean atmospheric conditions:
- temperature 20 °C
- pressure 996 mbar
- relative humidity 95 %

Maximum temperatures:
- coolant 85 °C
- engine oil 100 °C
- fuel 27 °C


Zapfwellenleistung
P.t.o. performance
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Ne
Md equiv
B
be
standard p.t.o. speed
Zapfwellenleistung p.t.o. power kW
Kraftstoffverbrauch fuel consumption kg/h
äquivalentes Drehmoment equiv. crankshaft torque Md equiv Nm
spez. Kraftstoffverbrauch be spec. fuel consumption g/kWh
Motordrehzahl n engine speed min⁻¹
Lufttemperatur temperature 20 °C
Luftdruck pressure 995 mb
Kraftstoff fuel 0.831 kg/l

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Zapfwellenleistung

P.t.o. performance

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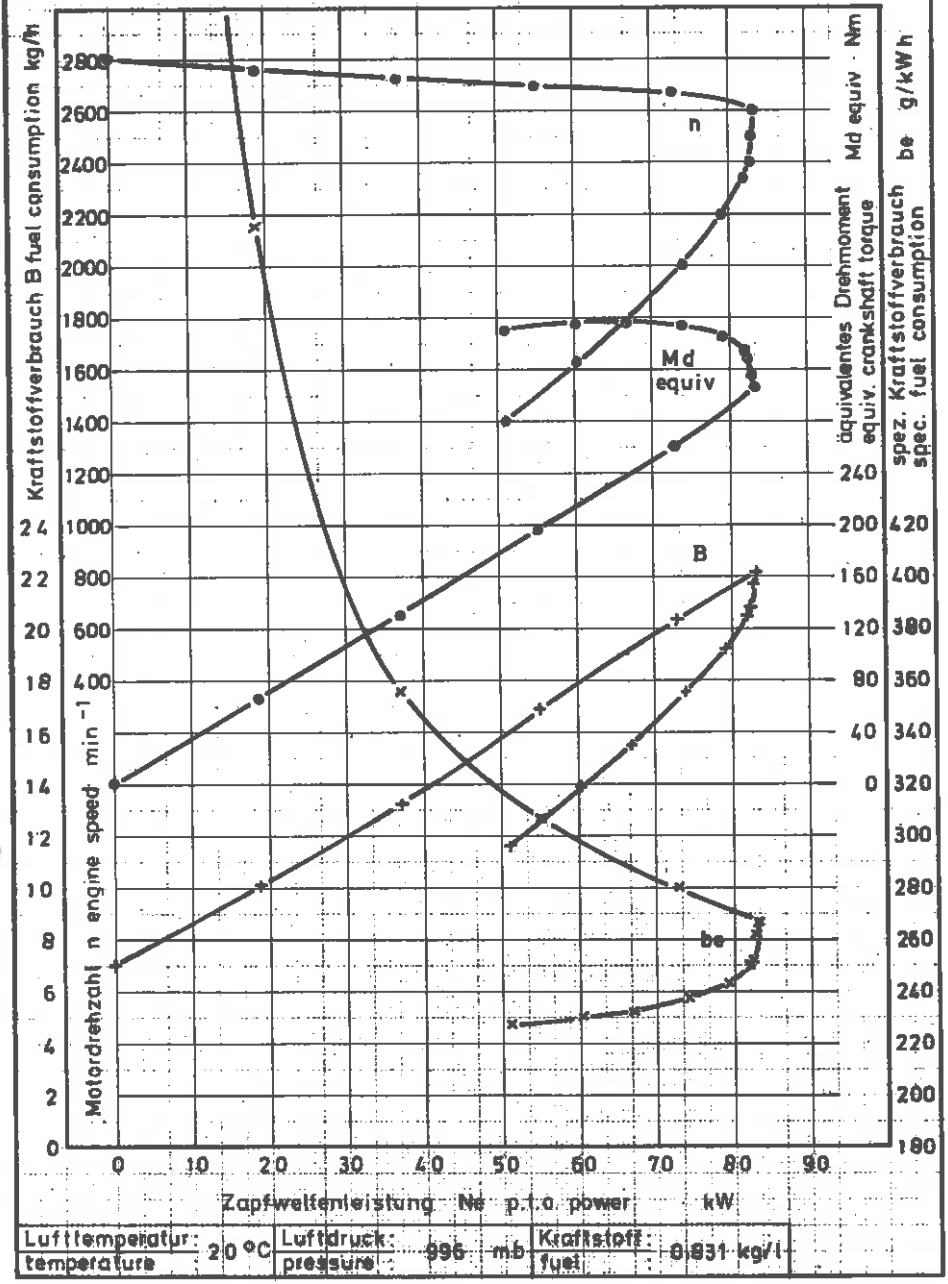

Lufttemperatur: temperature	20 °C	Luftdruck: pressure	996 mb	Kraftstoff: fuel	0,831 kg/l

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(2) DRAWBAR PERFORMANCE

Date of tests: 1st till 12th April, 1976
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 450 mm						
1 field	1,48	32,8	79740	2726	14,9	1,94
2 field	2,03	45,0	79740	2703	15,0	2,18
3 field	2,73	60,5	79720	2671	14,8	2,38
4 field	3,85	70,5	65880	2600	9,2	2,63
5 field	5,61	73,7	47320	2600	5,4	2,76
6 field	7,95	74,2	33600	2600	3,6	2,78
1 road	9,15	74,7	29370	2600	3,0	2,80
7 field	10,96	74,9	24610	2600	2,5	2,81
2 road	12,81	75,1	21110	2600	1,9	2,82
8 field	14,97	73,2	17600	2600	2,0	2,74
(ii) FIVE-HOUR-TEST at 75% of pull at maximum power in 5th gear of the field group						
5 field	5,89	58,1	35490	2688	3,9	2,61
(iii) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (i)						
3 field	-	-	79740	-	-	-
(v) MAXIMUM POWER without ballast height of drawbar above ground 550 mm						
3 field	2,73	43,4	57230	2691	15,1	2,23
4 field	3,69	58,6	57190	2669	15,0	2,35
5 field	5,45	71,6	47300	2600	7,7	2,66
6 field	7,82	72,5	33360	2600	4,7	2,69
1 road	9,03	73,2	29190	2600	4,0	2,74
7 field	10,84	73,8	24500	2600	3,1	2,72
2 road	12,69	74,0	20990	2600	2,5	2,74
8 field	14,92	73,1	17630	2600	2,0	2,77

Total oil consumption during ten hours duration of tests (ii) and (iii): 88 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 574 mm						
428	19	80	91	19	65	997
382	19	80	85	17	67	997
349	18	80	95	16	68	997
316	15	80	95	14	74	997
302	15	80	105	10	82	997
300	14	80	115	9	86	1014
298	14	80	103	9	87	1014
296	15	80	102	9	85	1014
296	15	80	102	10	85	1014
304	16	80	114	10	87	997
318	15	80	99	16	85	1003
-	15	80	98	17	83	1003
tyre inflation pressure 2,5 bar rolling radius of tyres under static load 570 mm						
372	22	80	74	20	66	1001
353	21	80	94	20	67	1001
311	20	80	84	16	72	1001
308	22	80	100	25	69	1006
302	25	80	88	25	62	1006
304	25	80	85	25	62	1006
302	27	80	92	25	68	1006
300	20	80	96	16	72	1001

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

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 14,5-20 MPT 16 ply
rear: 14,5-20 MPT 16 ply

Track of wheels front: 1840 mm
rear: 1840 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	6,69	6,71	6,43	6,43
Radius of turning circle	6,08	6,10	5,82	5,82

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	990 mm
Distance forward from the vertical plane containing the axis of the rear wheels	1625 mm
Distance of the median plane of the tractor to the right hand side	40 mm

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(5) BRAKING PERFORMANCE

A) SERVICE BRAKE

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

Weight of ballasted tractor: 8000 kg with driver

Cold brakes

		With ballast	Without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	5,9	7,6
Stopping distance	m	6,4	5,4
Force on pedal	N	340	235
Force on pedal to achieve a deceleration of 2,5 m/s^2	N	50	20

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	101	101
Stopping distance	cold/hot	%	103	102
Force on pedal	cold/hot	%	100	100

B) PARKING BRAKE

Mechanically acting spring-loaded brake locked by air pressure release, operated by hand valve

Tractor facing up slope: tractor does not roll
Tractor facing down slope: tractor does not roll

(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 6th April, 1976
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2203

Results of test

Gear: 4th road gear
Travelling speed before acceleration: 19,3 km/h
Sound level: 86 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 5th April, 1976
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2607
Type of frequency analyser: BRÜEL AND KJAER model 1614
(fitted with octave filter)

The tractor was fitted with a safety cab O.E.C.D. tested, approval no. CS 424b from 25th July, 1974

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level	Travelling speed nominal	Travelling speed effective	Sound level
	N	km/h	km/h	dB(A)
1 field	51200	1,60	1,29	84
2 field	51200	2,22	2,04	84,5
3 field	50700	3,03	2,85	84,5
4 field	50750	4,13	3,67	85
5 field	42850	5,79	5,64	85
6 field*)	32130	8,04	8,02	85,5
1 road	27030	9,20	9,26	85,5
7 field	22900	10,97	11,02	85,5
2 road	19870	12,80	12,97	85,5
8 field	16680	14,96	15,20	85
3 road	14300	17,40	17,75	85,5
4 road	light load	24,80	25,70	84,5

*) The 6th field gear corresponds to the travelling speed nearest to 7,5 km/h

PRÜFUNGS-ABTEILUNG
DB-UNIMOG 125/425 Test No. 76-51

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

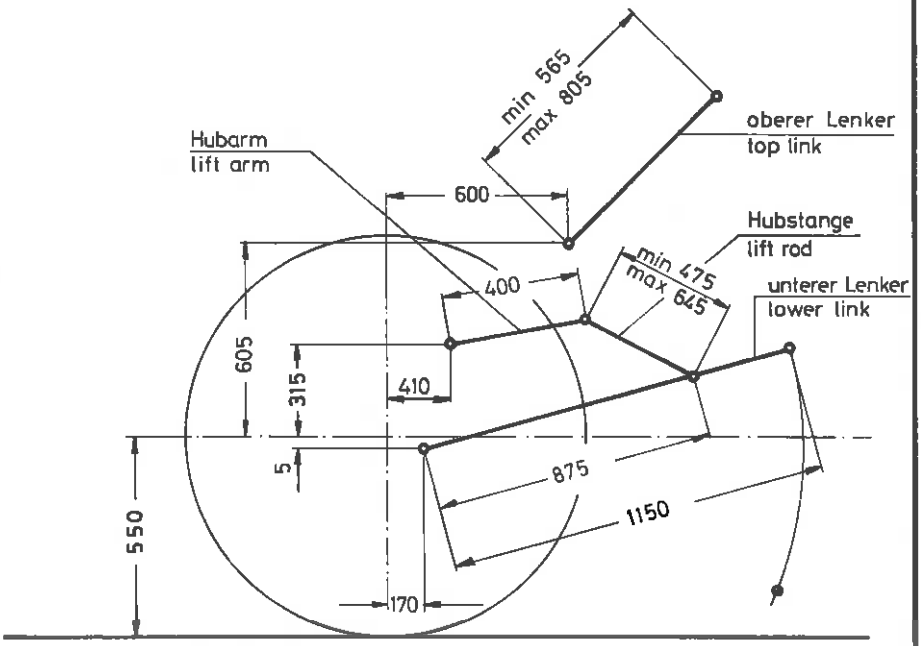
Date of tests: 28th and 30th October 1975

HYDRAULIC PUMP

(1) Opening pressure of relief valve in remote circuit	200 bar
Sustained pressure by open relief valve	193 bar
(2) Pump delivery rate at minimum pressure and maximum engine speed	63,0 l/min
(3) Pump delivery rate	54,1 l/min
Delivery pressure	167 bar
Hydraulic power	15,1 kW

POWER LIFT

Dimensions of linkage geometry (category III)



alle Maße in mm all dimensions in mm

LIFTING FORCES at hitch points

(no measurements carried out at the test frame, because category III fitted)

Lifting heights relative to horizontal lower links

mm	-300	-200	-100	-70	0	+100	+200	+300	+400	+430	+500	+600	+645
maximum mechanical advantage, lift rods 475 mm long													
N				46560	48250	52490	55870	58410	60100		60100	56720	54010
minimum mechanical advantage, lift rods 645 mm long													
N	43170	46560	49950		52910	55030	56550	56300	52060	49100			

Max. force exerted throughout the whole range 46560 N

Front of tractor does not lift with max. allowable front ballast

All values of forces for pressure at max. hydraulic power 167 bar, see page 25, calculated from measurements at max. oil pressure 193 bar

PRÜFUNGS-ABTEILUNG

DB-UNIMOG 125/425

Test No. 76-51

OPTIONAL TESTS

(1) ENGINE PERFORMANCE

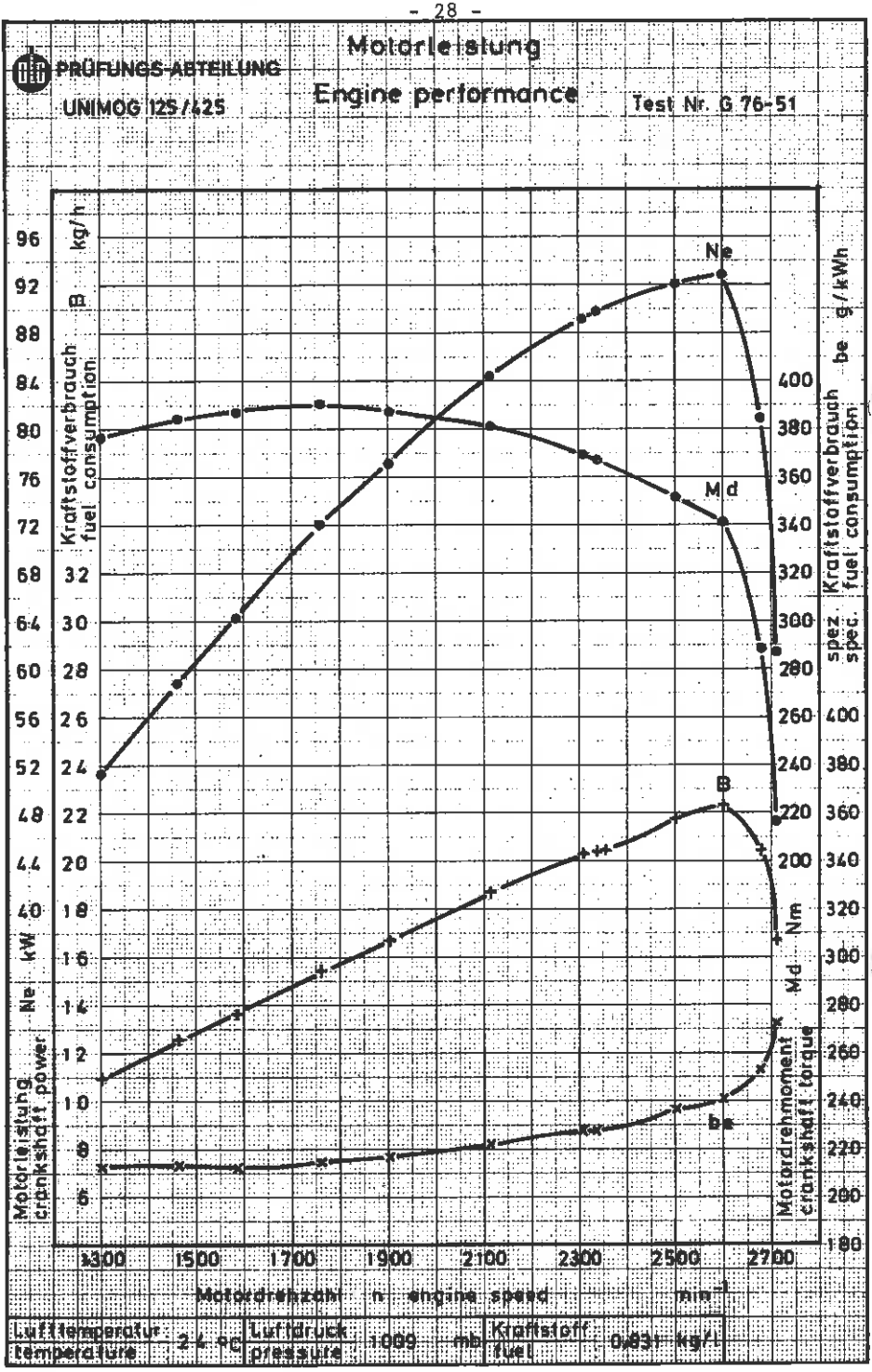
Date of tests: 11th March 1976
Type of dynamometer: SCHENCK hydraulic dynamometer U1-30

Maximum Power

Power kW	Engine speed 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					
92.7	2600	26.89	22.35	241	3.45
At standard p.t.o. speed (540 rev/min)					
89.7	2336	24.59	20.43	228	3.65
At the speed recommended for drawbar work					
92.7	2600	26.89	22.35	241	3.45
Fuel consumption at part loads					
(i) 85% of torque at maximum power					
80.7	2678	24.59	20.43	253	3.28
(ii) unloaded					
-	2820	6.65	5.53	-	-
(iii) 50% of the load defined in (i)					
41.4	2744	15.30	12.71	307	2.70
(iv) maximum power					
92.7	2600	26.89	22.35	241	3.45
(v) 25% of the load defined in (i)					
21.0	2778	11.11	9.23	439	1.89
(vi) 75% of the load defined in (i)					
61.4	2709	20.13	16.73	273	3.05

Optimum fuel consumption: 212 g/kWh at 62.7 kW and 1534 rev/min
Standard fuel consumption 1/2 (DIN 9606): 10.66/23.69 l/h
No load maximum engine speed: 2820 rev/min
Torque at maximum power: 341 Nm
Maximum torque: 390 Nm at 1760 rev/min of the engine

Mean atmospheric conditions:	temperature	24 °C
	pressure	1009 mbar
	relative humidity	40 %
Maximum temperatures:	coolant	85 °C
	engine oil	98 °C
	fuel	26 °C


PRÜFUNGS-ABTEILUNG
UNIMOG 125/425
Motorleistung
Engine performance
Test Nr. G 76-51
Ne
Md
B
be
Kraftstoffverbrauch fuel consumption B kg/h
Kraftstoffverbrauch spez. fuel consumption be g/kWh
Motorleistung crankshaft power Ne kW
Motordrehmoment crankshaft torque Md Nm
Motordrehzahl n engine speed min⁻¹
1300 1500 1700 1900 2100 2300 2500 2700
Lufttemperatur temperature 24 °C
Luftdruck pressure 1009 mb
Kraftstoff fuel 0,831 kg/l

PRÜFUNGS-ABTEILUNG

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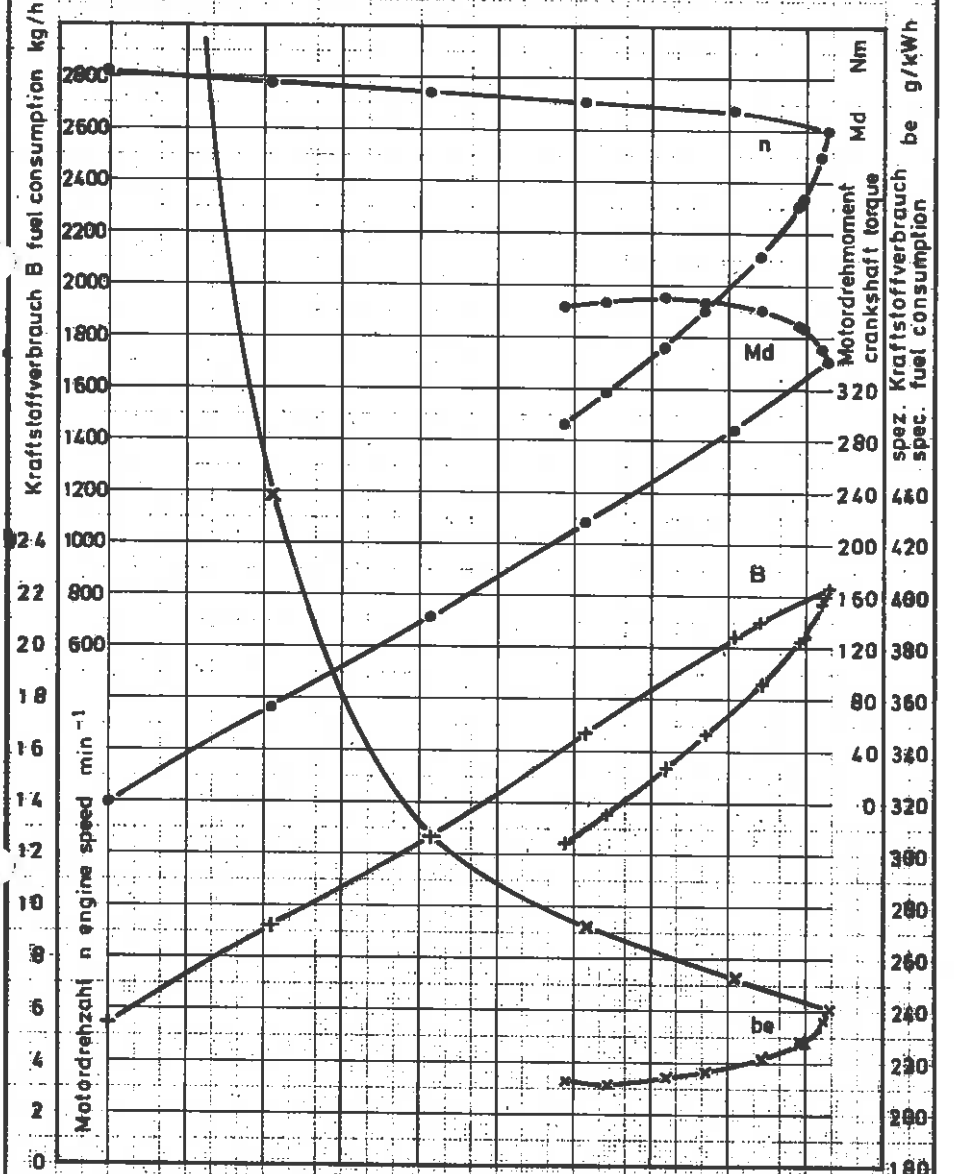
Motorleistung
Engine performance

Test Nr. G 76-51



Lufttemperatur temperature	24 °C	Luftdruck pressure	1009	mb	Kraftstoff fuel	0,831	kg/l

PRÜFUNGS-ABTEILUNG

UNIMOG 125/425

Motorleistung

Engine performance

Test Nr. G 76-51

Motordrehzahl in % der Nenndrehzahl engine speed in % of rated engine speed

Motorleistung in % der Leistung bei Nenndrehzahl

engine power in % of power at rated engine speed

Belastung in % des Drehmomentes bei Nenndrehzahl

load in % of torque at rated engine speed

212 g/kWh

Lufttemperatur temperature	24 °C	Luftdruck pressure	1009 mb	Kraftstoff fuel	0,831 kg/l		

PRÜFUNGS-ABTEILUNG

DB-UNIMOG 125/425 Test No. 76-51

OPTIONAL TESTS

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

Date of tests: 18th March 1976
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						
83.0	2600	1058	26.69	22.18	267	3.11
At standard p.t.o. speed (1000 rev/min)						
81.8	2457	1000	25.56	21.24	260	3.20
At the speed recommended for drawbar work						
83.0	2600	1058	26.69	22.18	267	3.11

Part loads

(i) 85% of the torque at maximum power						
72.5	2667	*1085	24.34	20.22	279	2.98
(ii) unloaded						
-	2794	1137	8.49	7.05	-	-
(iii) 50% of the load defined in (i)						
37.0	2721	1108	16.07	13.35	361	2.30
(iv) maximum power						
83.0	2600	1058	26.69	22.18	267	3.11
(v) 25% of the load defined in (i)						
18.7	2757	1122	12.15	10.09	539	1.54
(vi) 75% of the load defined in (i)						
55.0	2698	1098	20.22	16.81	306	2.72

No load maximum engine speed: 2794 rev/min
Equivalent crankshaft torque at maximum power: 305 Nm
Maximum equivalent crankshaft torque: 352 Nm at 1713 rev/min of the engine

Mean atmospheric conditions:
temperature 20 °C
pressure 995 mbar
relative humidity 98 %

Maximum temperatures:
coolant 85 °C
engine oil 100 °C
fuel 27 °C

PRÜFUNGS-ABTEILUNG
DB-UNIMOG 125/425

Test No. 76-51

ADDITIONAL TEST

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

(1) NOISE AT THE DRIVER'S EAR LEVEL

Octave analysis in the 6th field gear of which the nominal travelling speed is nearest to 7,5 km/h reported in the diagram of the NOISE RATING curves

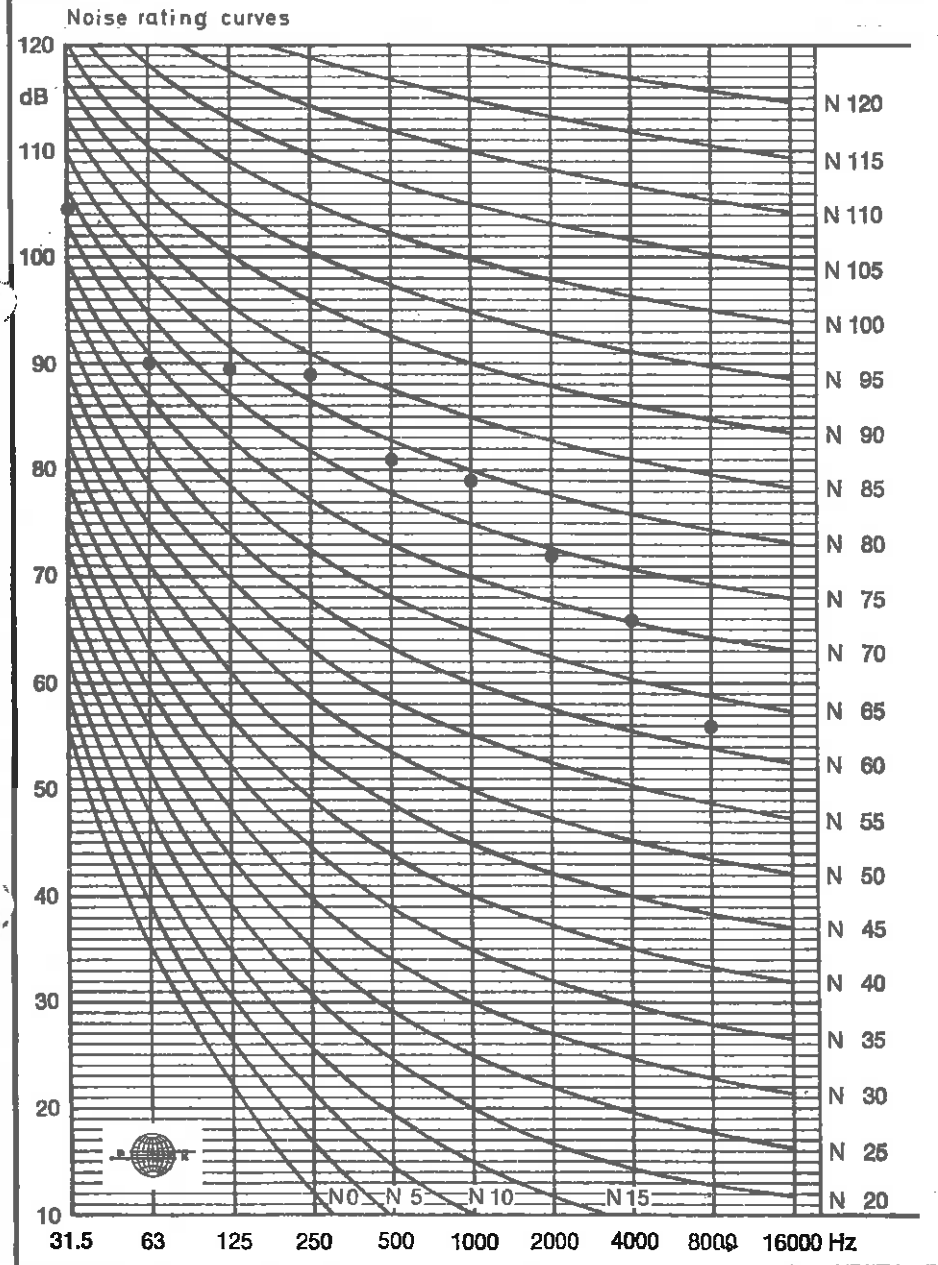
Date of test:	5th April, 1976
Test track:	Concrete
Type of sound level meter:	BRÜEL AND KJAER model 2607
Type of frequency analyser: (fitted with octave filter)	BRÜEL AND KJAER model 1614

The tractor was fitted with a safety cab O.E.C.D. tested, approval no. CS 424b from 25th July, 1974

Results of test

Gear	Drawbar pull at which the tractor develops the maximum sound level N	Travelling speed nominal km/h	Travelling speed effective km/h	Sound level dB(A)	Sound level noise rating
6 field	32130	8,04	8,02	85,5	83

PRÜFUNGS-ABTEILUNG	Noise at the driver's ear level	UNIMOG 125/425



PRÜFUNGS-ABTEILUNG

DB-UNIMOG 125/425 Test No. 76-51

ADDITIONAL TEST

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

(2) MAIN POWER TAKE-OFF PERFORMANCE

at engine speed corresponding to standard p.t.o. speed (540 rev/min)

Date of tests: 18th March 1976
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

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
Maximum power at standard p.t.o. speed						
81.9	2337	540	24.59	20.43	250	3.33
Part loads at standard p.t.o. speed						
(i) 85% of the torque at maximum power						
71.6	2407	556	22.24	18.48	258	3.22
(ii) unloaded						
-	2514	581	6.86	5.70	-	-
(iii) 50% of the load defined in (i)						
36.6	2460	569	13.97	11.61	317	2.62
(iv) maximum power						
81.9	2337	540	24.59	20.43	250	3.33
(v) 25% of the load defined in (i)						
18.6	2492	576	10.31	8.57	462	1.80
(vi) 75% of the load defined in (i)						
54.2	2428	561	18.05	15.00	277	3.00

Equivalent crankshaft torque at standard p.t.o. speed 334 Nm

Mean atmospheric conditions:	temperature	20 °C
	pressure	995 mbar
	relative humidity	98 %
Maximum temperatures:	coolant	85 °C
	engine oil	100 °C
	fuel	27 °C

PRÜFUNGS-ABTEILUNG

DB-UNIMOG 125/425 Test No. 76-51

ADDITIONAL TEST

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

(3) MAIN POWER TAKE-OFF PERFORMANCE

at engine speed corresponding to standard p.t.o. speed (1000 rev/min)

Date of tests: 18th March 1976
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

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
Maximum power at standard p.t.o. speed						
81.7	2460	1001	25.33	21.05	258	3.23
Part loads at standard p.t.o. speed						
(i) 85% of the torque at maximum power						
71.8	2538	1033	23.14	19.23	268	3.10
(ii) unloaded						
-	2639	1074	8.00	6.64	-	-
(iii) 50% of the load defined in (i)						
36.7	2590	1054	14.90	12.38	338	2.46
(iv) maximum power						
81.7	2460	1001	25.33	21.05	258	3.23
(v) 25% of the load defined in (i)						
18.5	2617	1065	10.96	9.10	492	1.69
(vi) 75% of the load defined in (i)						
54.3	2560	1042	18.95	15.75	290	2.86

Equivalent crankshaft torque at standard p.t.o. speed 317 Nm

Mean atmospheric conditions:	temperature	21 °C
	pressure	995 mbar
	relative humidity	95 %
Maximum temperatures:	coolant	85 °C
	engine oil	100 °C
	fuel	27 °C