



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

O.E.C.D.

No. 597



Agricultural Tractor Fendt Favorit 615 LS Turbomatik

Manufacturer

X. Fendt & Co., Maschinen- und Schlepperfabrik, D-8952 Marktoberdorf

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.

Performance of tests: January till June 1978

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.N.E.E.M.A., France) as being in accordance with the O.E.C.D. STANDARD CODE.

Date of Approval: 29th August 1978

O.E.C.D. No. 597

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 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/cm ²	or 1 kp/cm ² = 0,981 bar
	1000 mbar = 750,1 mm Hg	

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Printed in the Federal Republic of Germany
September 1978; DLG-No. 119



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Tractor manufacturer: X. FENDT UND CO
D-8952 Marktoberdorf

Submitted for test by: Manufacturer

Selected by: Manufacturer with agreement by DLG

Place of running-in: Marktoberdorf and Groß-Umstadt

Duration of running-in: Engine and tractor appr. 100 hours

SPECIFICATION OF TRACTOR

Tractor

Make: X. FENDT UND CO
Model: FAVORIT 615 LS TURBOMATIC
Type: Wheeled tractor, unit construction semi-frame reinforced, all-wheel driven

Serial No: 285/21/0002

Engine

Make: MOTORENWERKE MANNHEIM AG
Model: TD 226.26
Type: 4 stroke DIESEL engine with direct injection, watercooled, turbo-supercharged

Serial No: TD 226.26.90135

Cylinders: 6, vertical, in-line, bore 105 mm, stroke 120 mm; displacement 6240 cm³; compression ratio 17:1;

Valves: Overhead

Fuel system: BOSCH fuel feed pump FP/KE 22 ADV 66;
BOSCH in-line injection pump:
PE 6A 90D 320/3 RS 2464;
manufacturer's production setting 78 mm³/stroke at 2300 rev/min and full load;
injection timing 28° before TDC;
BOSCH multihole injection nozzles, DLL 150 S 246 injection pressure 180 bar;
BOSCH - fuel filter with replaceable cartridge;
capacity of fuel tank 220 l

Governor: BOSCH centrifugal variable speed type governor:
EP/RSV 325-1500 A2B 529 DR;
governed range of engine speed
650 to 2465 rev/min;
rated engine speed 2300 rev/min



Supercharger:	Exhaust type turbo-supercharger KÜHNLE, KOPP UND KAUSCH model 3 LEP 289 A/13.1; supercharge pressure appr. 800 mbar; without air intercooler
Air cleaner:	MANN UND HUMMEL dry paper element filter with precleaner incorporated, with replaceable maincartridge and additional safety cartridge; maintenance indicator
Exhaust silencer:	EBERSPÄCHER multichamber-reflection-absorption type muffler, 181 mm diameter, 660 mm long; on the left hand side of engine; mouth showing upwards; mouth 2716 mm above ground
Lubrication system:	Forced feed from gear type pump; strainer in sump; MANN full flow filter with by-pass and replaceable cartridge; cartridge change at all oil changes; oil capacity 13 l; oil and cartridge changing interval 200 hours; recommended oil quality MIL-L-2104 C; recommended oil viscosities: winter SAE 10W summer SAE 20W/20 tropics SAE 30
Cooling system:	Water cooling with impeller pump; pressurized system set to 0,3 bar overpressure with by-pass thermostat; fan with 7 blades, 515 mm diameter; water capacity 22 l
Starting system:	Electrical; BOSCH screw-push starter motor, 2,9 kW; BERU flame plug 138 G in intake pipe
Electrical equipment:	12 Volt, negative earth; BOSCH 3 phase alternator 0120 300 585; 1 lead acid battery 143 Ah at 20 hours rating



Transmission

Clutch

1. VOITH GETRIEBE KG
fluid clutch 422 TD-F3;
for travel drive only
2. FICHTEL UND SACHS AG
dry single disc type clutch G 350 K
hydraulically pedal operated;
self-adjusting;
for travel drive only;
disc clutch and service brake have the
fluid tank in common
p.t.o. clutch see page 7

Gear box:

ZAHNRADFABRIK FRIEDRICHSHAFEN AG
T 3550;
speed change gear with 6 speeds;
1st and 2nd gear collar shifted;
3rd to 6th gear synchronized;
synchromesh group gear with 2 forward groups
and 1 reverse group;
the 6th gear of speed change gear is locked
if the reverse group is shifted;
creep speed group for the 1st and 2nd gear
of speed change gear;
optional a super creep speed group may be
fitted instead of the creep speed group for
the 1st to 4th gears of the speed change gear;
not fitted on tractor tested;
creep speeds and super creep speeds shall not
be used for drawbar work;
totally 16 forward and 7 reverse speeds at
tractor tested

Rear axle and
final drive:

Bevel gear drive with crown wheel and pinion;
bevel gear type differential with lock;
engageable by pedal under load;
self-disengageable;
planetary final drives

Driven
front axle:

ZAHNRADFABRIK FRIEDRICHSHAFEN AG
APL-4053 CK;
driven by universal joint shaft;
joint shaft situated on the left hand side
of gear box



Driven front axle: (Continuation)
under load engageable and disengageable by a particular wet disc type clutch;
handlever operated;
bevel gear drive with crown wheel and pinion;
bevel gear type self locking differential:
LOC-O-MATIC;
planetary final drives in front axle

Oil capacity: Fluid clutch 9,3 l
gear box (in common with
hydraulic power lift) 36,0 l
final drives in the rear axle each 9,5 l
front axle differential 8,25 l
final drives in the front axle each 1,15 l

Oil changing period: Fluid clutch 5000 hours
gears 1000 hours or once a year

Recommended oil qualities: Fluid clutch engine oil HD SAE 10W
MIL-L-2104C
final drives hypoid oil SAE 90
MIL-L-2105B
other gears engine oil HD SAE 20W/20
MIL-L-2104C

Power take-off

Main p.t.o.: Independent p.t.o. (live p.t.o.);
at rear of tractor;
driven through a dry multiplate clutch
independent from fluid clutch and single
disc type clutch;
operated by hand lever situated below the
steering wheel;
height above ground 690 mm in tractor's
median plane;
29 x 34,9 x 8,7 mm = 1 3/8", 6 splines
DIN 9611 Form 1, BS.1495, ASAE S.203.7;
1022 rev/min at rated engine speed;
standard p.t.o. speed 1000 rev/min at
2250 rev/min engine speed

p.t.o. speeds may be set by tractormeter;
direction of rotation clockwise, viewed
from tractor rear;
optional: involute profile with 21 splines
DIN 9611 Form 2, ASAE S. 204.4 available


Total ratios and speeds

Group		Gear	Total ratio engine : driving wheel	Nominal travelling speed *) at rated engine speed at standard km/h p.t.o. speed 1000 rev/min km/h	
Forward speeds					
Creep group	slow	1	756,89	0,96	0,94
		2	480,34	1,51	1,48
Normal group	fast	1	610,21	1,19	1,16
		2	387,25	1,88	1,84
	slow	1	308,30	2,36	2,31
		2	195,65	3,71	3,63
		3	125,22	5,80	5,68
		4	82,26	8,83	8,64
		5	52,95	13,72	13,42
		6	31,13	23,34	22,83
	fast	1	248,55	2,92	2,86
		2	157,74	4,61	4,51
		3	100,95	7,20	7,04
		4	66,32	10,95	10,72
		5	42,69	17,02	16,65
		6	25,09	28,95	28,32
Reverse speeds					
Creep group		1	484,06	1,50	1,47
		2	307,19	2,37	2,31
Normal group		1	197,17	3,68	3,60
		2	125,13	5,81	5,68
		3	80,08	9,07	8,88
		4	52,61	13,81	13,51
		5	33,86	21,46	20,99

*) calculated with the RADIUS INDEX 855 mm WdK 154
2% slippage of the fluid clutch is included



Secondary
p.t.o.:

Optional, not fitted on tractor tested;
independent p.t.o. at front of tractor;
800 mm above ground, in tractor's median plane;
drive, dimensions and direction of rotation
same as main p.t.o.;
1097 rev/min at rated engine speed;
p.t.o. speed 1000 rev/min at
2098 rev/min engine speed

Power lift

Hydraulic
system:

ZAHNRADFABRIK FRIEDRICHSHAFEN AG;
open system;
BOSCH gear pump with 19 cm³/rev delivery;
driven by transmission;
ram, lift shaft and control valve in unit
construction;
BOSCH control valve for lifting and sinking,
power control, position control, both stepless
mixable, floating position;
maximum oil pressure 175 bar;
single acting main ram with 120 mm bore,
126 mm stroke and 2 single acting additional
external rams with 50 mm bore and
246 mm stroke;
up to 3 oil tappings, single or double
acting at rear of tractor available;
hydraulic oil tank in common with gear box;
oil capacity 36 l, in special cases
up to 41 l;
max. 5 l may be taken off through oil
tappings when tractor is travelling,
12,5 l when tractor is stationary,
in special cases 10 or 17,5 l respectively;
oil changing period and quality see page 7



Implement
linkage:

Three point linkage category II DIN 9674;
optional category III;
with quick-coupling device DIN 9675
lift rods adjustable from 650 to 800 mm;
lifting range above ground with:
short lift rods from 396 to 1113 mm
long lift rods from 96 to 906 mm

Holed bar:

Long bar fitted on the clevis of lower links;
total length 1700 mm;
length between the ball joints 830 mm;
thickness of the bar 25 mm, width 100 mm;
centre hole and 4 holes on either side with
80 mm distance each; with 245 mm distance
right and left from this hole range further
4 holes with 80 mm distance each;
totally 17 holes;
all holes 33 mm diameter;
height above ground adjustable by power lift
from 166 to 1183 mm, depending on lifting
rods length, measured at the surface of the bar;
in any height above ground hydraulically
lockable; mechanical lock optional;
with lower links in horizontal position
distance of holes centre line:
to rear axle centre 1189 mm
to p.t.o. shaft end 862 mm

Pull attachment

Swinging
drawbar:

Height above ground 684 mm;
diameter of clevis hole 33 mm;
distance of clevis hole centre to
rear axle centre 729 or 859 mm
p.t.o. shaft end 402 or 532 mm
adjustable by shifting swinging drawbar in
longitudinal direction;
about 253 mm swingable to either side
pivot point 295 mm behind rear axle centre



Trailer hitch: Own make in cooperation with
ROCKINGER;
height above ground 964 or 1029 mm;
adjustable by turning hitch;
diameter of clevis hole 33 mm;
distance of clevis hole centre to rear axle
centre 580 mm;
permissible vertical load 1500 kg

Towing hitch: 899 mm above ground

Steering Own make in cooperation with
ZAHNRADFABRIK FRIEDRICHSHAFEN AG;
hydrostatic steering model 8452 with
own oil circuit;
BOSCH gear pump with 16 cm³/rev delivery;
on the left hand side of engine;
driven by engine;
oil capacity 1,4 l,
recommended oil: HD 20W/20, MIL-L-2104 C;
oil changing period 1000 hours;
2 single acting rams,
45 mm bore, 195 mm stroke;
directly acting on the front axle;
steering hand wheel vertically adjustable to
driver's size

Brakes

Parking brake: Mechanically acting shoe type brake
with 2 brake drums 249 mm diameter
on the differential half shafts;
operated by hand lever with ratchet

Service brake: Own make in cooperation with
KNOTT and GIRLING;
hydraulically acting shoe type brake with
2 brake drums 270 mm diameter on the
differential half shafts; self-adjusting;
additional partial disc brake with 274 mm
disc diameter on the joint shaft;
pedal operated;
service brake and single disc clutch
have the fluid tank in common,
recommended fluid SAE J 1703 a

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



when using steering brakes disc brake on joint shaft is automatically disengaged

Wheels

- Steered wheels:** Two pneumatics at front 14,9 R 30 AS, 6 ply;
radial type tyre casing;
maximum permissible load per tyre 1665 kg at
1,3 bar inflation pressure and 30 km/h;
track width 1696 and 1830 mm, adjustable by
turning wheels; rims W12 x 30
- Driving wheels:** Two pneumatics at front and at rear;
specification of driving front wheels see
at steered wheels;
driving rear wheels:
2 pneumatics 20,8 R 38, 8 ply;
radial type tyre casing;
maximum permissible load per tyre 3090 kg
at 1,3 bar inflation pressure and 30 km/h;
track width 1850 or 2020 mm adjustable
by turning wheels;
rims W 18 L x 38
- Wheel base:** 2715 mm

Seat

GRAMMER
DS 80;
upholstered seat with back and arm rests;
back rest adjustable in inclination;
arm rests may be turned up;
adjustable spring with shock absorber;
height of seat platform 1230 mm above ground;
height of seat above platform adjustable
from 395 to 455 mm in 3 steps;
for and aft adjustable about 250 mm;
seat adjustable in inclination in 3 steps

Cab

Own make;
safety cab
O.E.C.D. tested
approval no. CS 1273



Weights

Ready for use as tested
with cab

without driver with driver

Without ballast:	front	2570 kg	2580 kg
	rear	3575 kg	3640 kg
	total	6145 kg	6220 kg
Front ballast:	1 base plate		47 kg
	6 front weights 40 kg each		240 kg
	1 front weight 35 kg		35 kg
	water in the front tyres		350 kg
Rear ballast:	4 weights per wheel 64 kg each		512 kg
	water in the rear tyres		1096 kg
With ballast:	front	3290 kg	3300 kg
	rear	5135 kg	5200 kg
	total	8425 kg	8500 kg

Number of grease points 21

Dimensions

Total length:	4800 mm with 3 point linkage, without ballast
	4800 mm with 3 point linkage, with ballast
Total width:	2317 mm at smallest track width
	2487 mm at largest track width
Total height:	2925 mm to top of cab
Ground clearance:	495 mm below front axle differential



Lighting equipment Electrically, 12 Volt
acc. to German governmental regulations

	Dimensions of area mm	Height above ground to centre mm	Distance from outside edge of tractor to centre *) mm
Head lights	135 x 120	870	850
Side lights	55 x 55	1670	185
Rear lights	160 x 60	1690	210
Reflectors			
1st pair	125 x 25	1590	210
2nd pair	60 Ø	590	635

*) at 1850 mm track width



Permissible total weights and axle loads
for all available wheel equipments

Wheel equipment		Permissible total weight kg	Permissible front axle load kg	Permissible rear axle load kg
front	rear			
12,4-28	9,5-48 *)	6760	2720	4040
13,6-28	18,4-38	8500	3060	5810
14,9-26	18,4-38	8500	3300	5810
	20,8-38	8500		6610
14,9-28	18,4-38	8500	3300	5810
	20,8-38	8500		6610
14,9-30	18,4-38	8500	3300	5810
	20,8-38	8500		6610
16,9-26	18,4-38	8500	3300	5810
	20,8-38	8500		6610
16,9-28	20,8-38	8500	3300	6610

*) no standard tyre, special product of MICHELIN
and KLEBER COLOMBES

For the tyres 9,5-48, 11,2-48 and 18,4-38 track adjustment wheels are optionally available. Herewith track widths from 1638 to 2242 mm are adjustable in steps of appr. 100 mm by turning wheels and offset lug type rims.



FUELS AND LUBRICANTS USED IN TESTS

Fuel: ARAL-DIESEL-fuel DIN 51601
specific gravity at 15°C
during engine tests 0,823 kg/l
during p.t.o. tests 0,823 kg/l
during drawbar tests 0,822 kg/l

Engine oil: MOBIL-DELVAC 1320 HD SAE 10W
MIL-L-2104 C

Transmission oil: Fluid clutch:
MOBIL-MOTREX 8910 HD SAE 10W
MIL-L-2104 C
Speed change gear:
MOBIL-MOTREX 8920 HD SAE 20W/20
MIL-L-2104 C
Rear axle final drives;
front axle differential and
front axle final drives:
MOBIL-MOBILUBE SAE 90
MIL-L-2105 B

Hydraulic oil: As speed change gear

Steering oil: MOBIL-MOTREX 8920 HD SAE 20W/20
MIL-L-2004 C



COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE

Date of tests: 10th February 1978
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power kW	engine rev/min	Speed p.t.o. rev/min	Fuel consumption		specific g/kWh	Specific energy kWh/l
			total l/h	kg/h		
<u>Maximum power</u>						
At 2-hour test						
109.0	2300	1022	31.94	26.29	241	3.41
At standard p.t.o. speed (1000 rev/min)						
108.9	2250	1000	31.56	25.97	239	3.45
At the speed recommended for drawbar work						
109.0	2300	1022	31.94	26.29	241	3.41
<u>Part loads</u>						
(i) 85% of the torque at maximum power at 2-hour test						
94.3	2339	1040	27.90	22.96	244	3.38
(ii) unloaded						
-	2445	1087	6.87	5.66	-	-
(iii) 50% of the load defined in (i)						
47.9	2377	1056	16.74	13.78	287	2.86
(iv) maximum power						
109.0	2300	1022	31.94	26.29	241	3.41
(v) 25% of the load defined in (i)						
24.1	2397	1065	11.61	9.55	396	2.08
(vi) 75% of the load defined in (i)						
71.3	2360	1049	22.18	18.26	256	3.22

No load maximum engine speed: 2445 rev/min
Equivalent crankshaft torque at maximum power (2 hours): 453 Nm
Maximum equivalent crankshaft torque: 531 Nm at 1498 rev/min
of the engine

Mean atmospheric conditions: temperature 16 °C
pressure 985 mbar
relative humidity 40 %

Maximum temperatures: coolant 83 °C
engine oil 103 °C
fuel 23 °C
engine air intake 28 °C



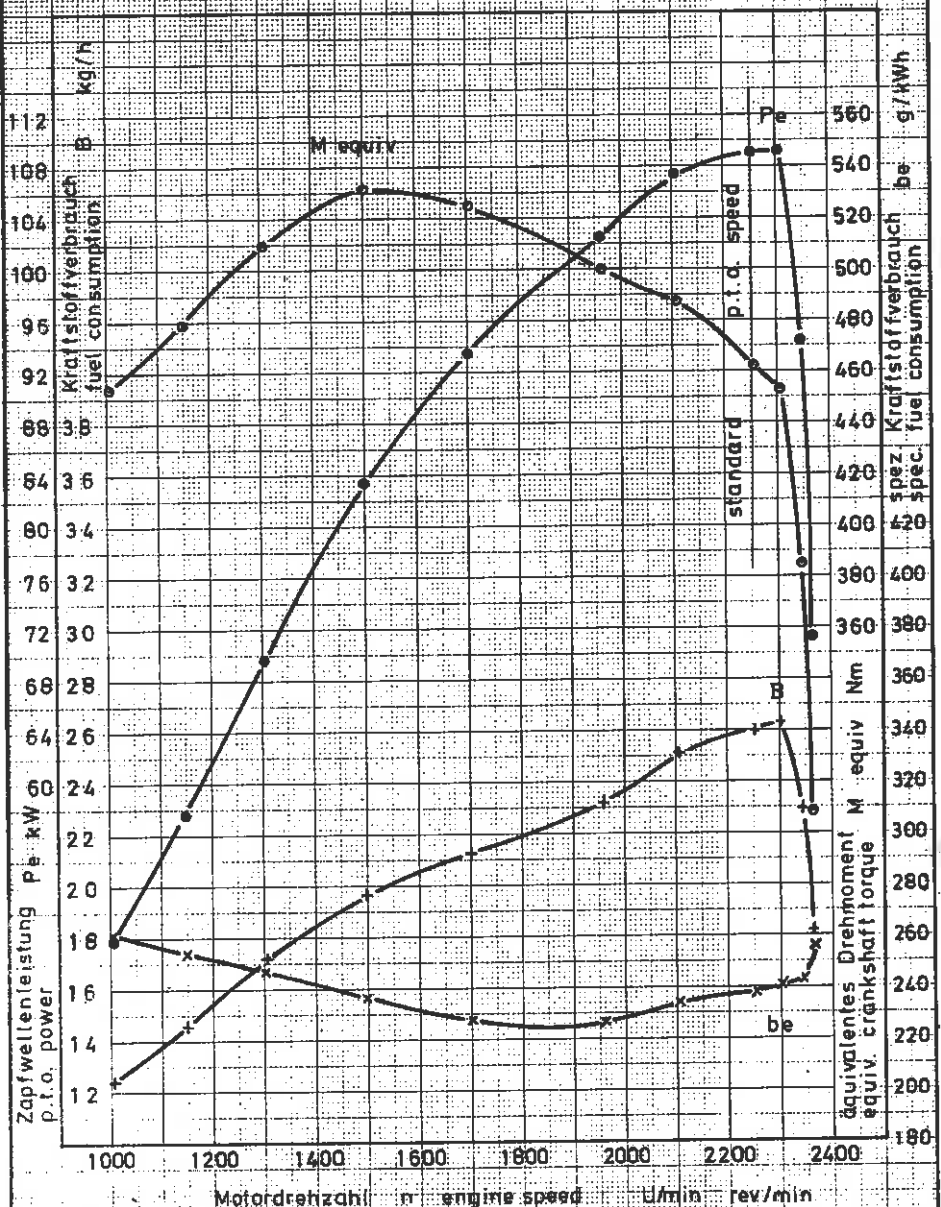
PRÜFUNGS-ABTEILUNG
FAVORIT 615 LS

Zapfwellenleistung

P.t.o. performance

Test Nr. 77-120

1000 U/min rev/min



Lufttemperatur: 16 °C Luftdruck: 985 mb Kraftstoff: 0.823 kg/l
temperature pressure fuel



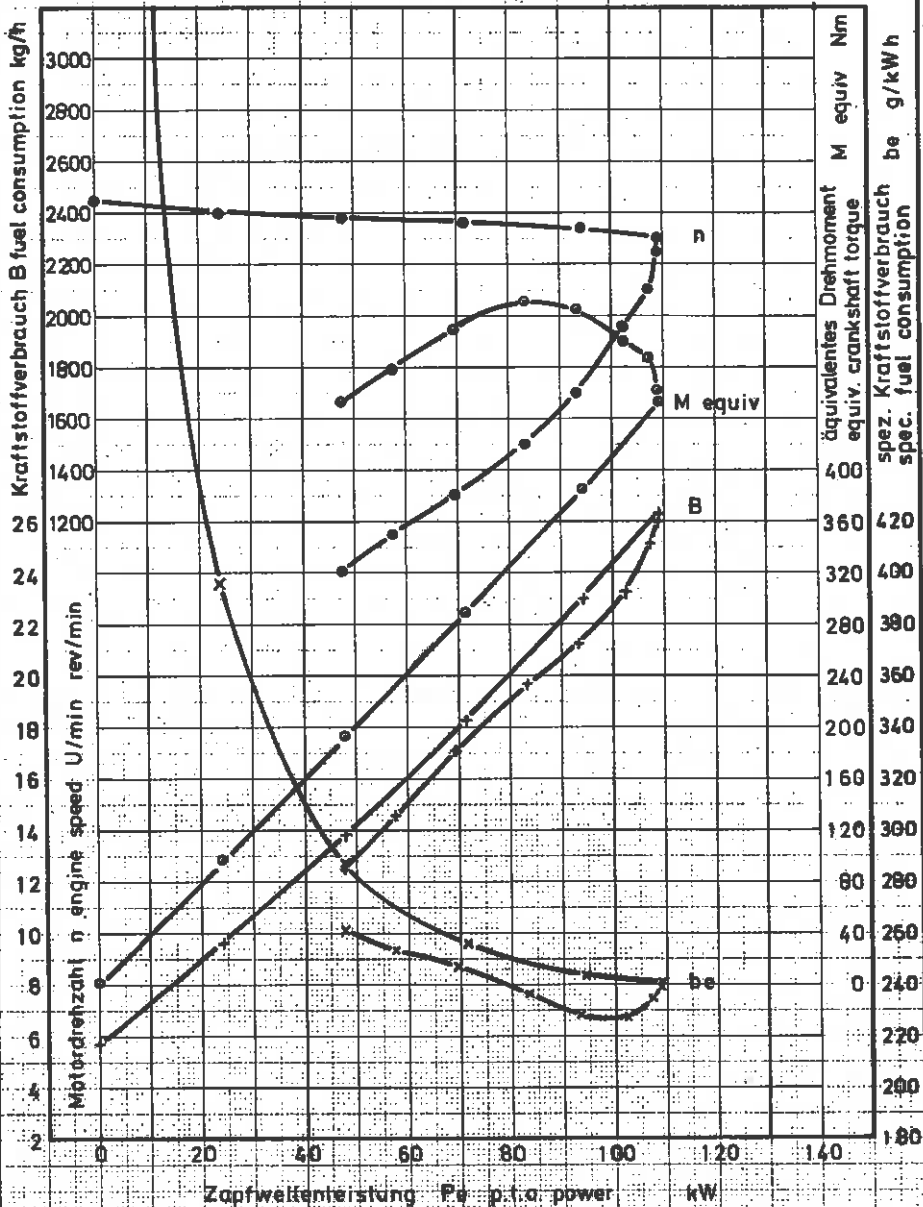
PRÜFUNGS-ABTEILUNG
FAVORIT 615 LS

Zapfwellenleistung

P.t.o. performance

Test Nr. 77-120

1000 U/min rev/min



Lufttemperatur temperature	16 °C	Luftdruck pressure	985 mb	Kraftstoff fuel	0.823 kg/l
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(2) DRAWBAR PERFORMANCE

Date of tests: 2nd till 15th June 1978

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) <u>MAXIMUM POWER</u> with ballast height of drawbar above ground 545 mm						
1 slow	2,14	50,7	85360	2367	15,1	2,48
1 fast	2,63	62,5	85400	2351	15,0	2,57
2 slow	3,31	78,3	85190	2332	15,0	2,70
2 fast	4,22	92,2	78660	2300	11,0	2,86
3 slow	5,53	94,7	61650	2300	7,1	2,94
3 fast	7,00	96,4	49580	2300	5,5	2,98
4 slow	8,68	95,0	39390	2300	4,0	2,95
(ii) <u>FIVE-HOUR-TEST</u> at 75% of pull at maximum power in 3rd gear of fast group						
3 fast	7,26	75,0	37190	2342	4,0	2,87
(iii) <u>FIVE-HOUR-TEST</u> at pull corresponding to 15% wheel slip in test (i)						
2 slow	-	-	85400	-	-	-
(iv) <u>MAXIMUM POWER</u> without ballast height of drawbar above ground 560 mm						
2 slow	3,35	59,4	63790	2349	14,9	2,55
2 fast	4,10	72,1	63330	2334	14,9	2,64
3 slow	5,13	89,8	63000	2300	13,6	2,75
3 fast	6,82	91,1	48070	2300	7,9	2,85
4 slow	8,55	93,3	39230	2300	6,0	2,91
4 fast	10,76	94,5	31600	2300	4,4	2,94
5 slow	13,65	93,5	24650	2298	3,2	2,90

**Total oil consumption during ten hours duration of tests
(ii) and (iii): 45 g/h**

**Creep speeds shall not be used for drawbar work, therefore
they are not tested**



Tyres make front: 14,9 R 30 CONTINENTAL FARMER 6 ply
and size rear: 20,8 R 38 CONTINENTAL CONTRACT 8 ply

Tread bar height at the beginning of drawbar tests 89%
of the value when new

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

tyres inflation pressure 1,4 bar at front, 1,0 bar at rear
rolling radius of tyres under static load 861 mm

327	40	85	85	22	87	998
316	40	85	85	25	77	996
302	38	85	85	20	90	998
284	42	85	85	24	80	997
276	40	85	85	20	86	997
273	38	85	85	20	90	998
275	46	85	85	25	79	996

283	38	85	85	20	85	997
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-	38	85	85	22	82	996
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tyre inflation pressure 1,0 bar at front and at rear
rolling radius of tyres under static load 855 mm

324	28	85	84	29	81	1001
313	27	85	80	29	84	1001
298	34	85	85	28	91	1005
286	39	85	85	29	82	1005
280	40	85	85	32	80	1004
278	40	85	85	32	80	1004
284	30	85	85	28	82	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: 14,9-30 AS Front 6 ply
rear: 20,8-38 AS 8 ply

Track of wheels front: 1830 mm
rear: 1830 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	5,76	5,56	6,94	6,65
Radius of turning circle	5,35	517	6,53	6,26

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	1016 mm
Distance forward from rear axle centre	1132 mm
Distance from tractor's median plane	left 6 mm



(5) BRAKING PERFORMANCE

A) SERVICE BRAKE

Date of tests: 12th and 13th June 1978
Type of track: Concrete
Type of decelerometer: MOTO-METER-Bremsverzögerungs-
und Pedalkraftschreiber

Weight of ballasted tractor with driver 8500 kg

Cold brakes

		With ballast	Without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s ²	5,9	5,2
Stopping distance	m	5,0	6,4
Force on pedal	N	540	410
Force on pedal to achieve a deceleration of 2,5 m/s ²	N	190	140

Brake fade characteristics (hot tests)

Deceleration	hot/cold %	90	110
Stopping distance	cold/hot %	89	97
Force on pedal	cold/hot %	93	102

B) PARKING BRAKE

Tractor facing up 16 % slope
Pull on hand brake 120 N, tractor does not roll

Tractor facing down 16 % slope
Pull on hand brake 110 N, tractor does not roll



(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 12th June 1978
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2203

Results of test

Gear: 6th fast gear
Travelling speed before
acceleration: 23,5 km/h
Sound level: 86 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 5th June 1978
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2607

A safety cab was fitted on tractor
O.E.C.D. tested, approval no. GS 1273

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level N	Travelling speed		Sound level dB(A)
		nominal km/h	effective km/h	
1 slow	62700	2,36	2,16	84
1 fast	61500	2,92	2,60	84
2 slow	63130	3,71	3,35	84
2 fast	62790	4,61	4,08	85
3 slow	60000	5,80	5,27	84
3 fast *)	47010	7,20	6,77	86
4 slow	37970	8,83	8,58	85,5
4 fast	30570	10,95	10,72	85,5
5 slow	23840	13,72	13,65	86,5
5 fast	18710	17,02	17,00	86
6 fast	light load	28,95	31,30	86

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



(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

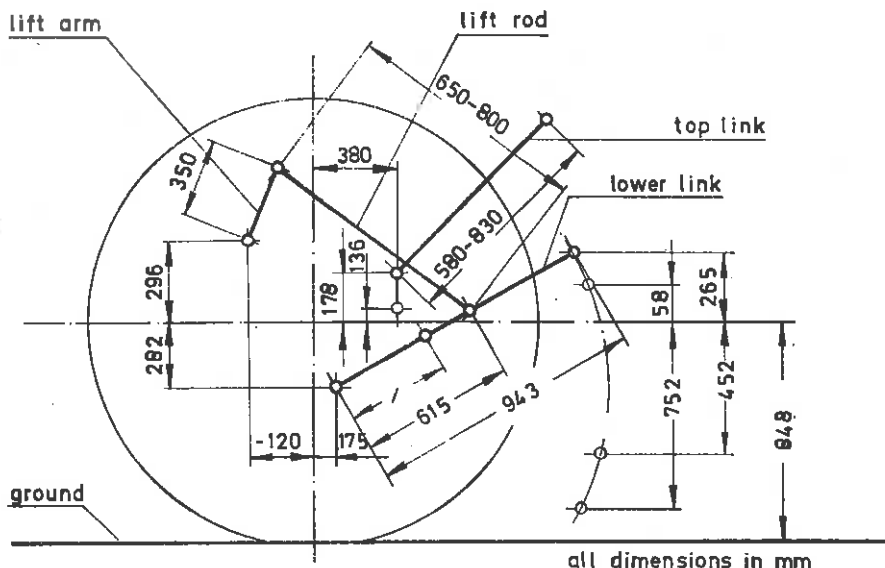
Date of tests: 23rd February till 4th March 1978

HYDRAULIC PUMP

- | | |
|--|------------|
| (1) Opening pressure of relief valve
in remote circuit | 169 bar |
| Sustained pressure by open relief valve | 175 bar |
| (2) Pump delivery rate at minimum pressure
and maximum engine speed | 44,3 l/min |
| (3) Pump delivery rate | 34,1 l/min |
| Delivery pressure. | 167 bar |
| Hydraulic Power | 9,5 kW |

POWER LIFT

Dimensions of linkage geometry for the table on page 28





LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-470	-415	-400	-300	-200	-185	-170	-100	0
----	------	------	------	------	------	------	------	------	---

At hitch points maximum mechanical advantage

N							47760	49040	50420
---	--	--	--	--	--	--	-------	-------	-------

minimum mechanical advantage

N	42440		43510	44570	45740			46160	46380
---	-------	--	-------	-------	-------	--	--	-------	-------

Max. force exerted throughout the whole range 47760 N
Front of tractor does not lift

At test frame maximum mechanical advantage

N		52230	52010	49570	49970			47020	45420
---	--	-------	-------	-------	-------	--	--	-------	-------

minimum mechanical advantage

N						46590		47020	46590
---	--	--	--	--	--	-------	--	-------	-------

Max. force exerted throughout the whole range 34000 N
Force at which front of tractor lifts with maximum
allowable front ballast 48860 N



+100	+200	+300	+340	+370	+400	+500	+547	+600	+675
------	------	------	------	------	------	------	------	------	------

lift rods 650 mm long

51380	51590	51480			51480	51480	51380		
-------	-------	-------	--	--	-------	-------	-------	--	--

lift rods 800 mm long

46380	46380	46160	46060						
-------	-------	-------	-------	--	--	--	--	--	--

lift rods 800 mm long, high top link pivot point

43820	42340	40950		34000					
-------	-------	-------	--	-------	--	--	--	--	--

lift rods 650 mm long, low top link pivot point

45630	43820	41910			40000	38080		35850	34460
-------	-------	-------	--	--	-------	-------	--	-------	-------

All values of forces for pressure at max. hydraulic power
167 bar, see page 25; calculated from measurements at max.
oil pressure 175 bar



LINKAGE GEOMETRY when connected to the standard frame	Maximum mechanical advantage	Minimum mechanical advantage
Projected length in side view:		
Lower links	943 mm	943 mm
Lift arms	350 mm	350 mm
Lift rods	800 mm	650 mm
Top link	742 mm	750 mm
Distance of lift rod connection point from pivot point of lower link	615 mm	615 mm
The following dimensions are given relative to rear axle centre line 848 mm above ground		
Lower link pivot point	175 mm behind, 282 mm below	175 mm behind, 282 mm below
Top link pivot point	380 mm behind, 178 mm above	380 mm behind, 136 mm above
Lift arm pivot point	120 mm behind, 296 mm above	120 mm behind, 296 mm above
Maximum and minimum height of lower link hitch points	58 mm above, 752 mm below	265 mm above, 452 mm below
Height of lower link hitch points above ground when locked in highest transport position	908 mm	1115 mm



OPTIONAL TESTS

(1) ENGINE PERFORMANCE

Date of tests: 3rd and 6th February 1978
Type of dynamometer: SCHENCK eddy-current dynamometer W 400

Power kW	Engine speed rev/min	Fuel consumption			Specific energy kWh/l
		total l/h	kg/h	specific g/kWh	

Maximum power

At 2-hour test

115.0	2300	32.26	26.55	231	3.56
-------	------	-------	-------	-----	------

At standard p.t.o. speed (1000 rev/min)

114.8	2251	32.07	26.39	230	3.58
-------	------	-------	-------	-----	------

At the speed recommended for drawbar work

115.0	2300	32.26	26.55	231	3.56
-------	------	-------	-------	-----	------

Part loads

(i) 85% of the torque at maximum power at 2-hour test

99.1	2332	27.83	22.90	231	3.56
------	------	-------	-------	-----	------

(ii) unloaded

-	2447	5.41	4.45	-	-
---	------	------	------	---	---

(iii) 50% of the load defined in (i)

50.7	2381	16.42	13.51	266	3.09
------	------	-------	-------	-----	------

(iv) maximum power

115.0	2300	32.26	26.55	231	3.56
-------	------	-------	-------	-----	------

(v) 25% of the load defined in (i)

25.5	2401	10.81	8.89	348	2.36
------	------	-------	------	-----	------

(vi) 75% of the load defined in (i)

75.3	2361	21.65	17.81	237	3.48
------	------	-------	-------	-----	------

Optimum fuel consumption: 215 g/kWh at 80.2 kW and 1725 rev/min

No load maximum engine speed: 2447 rev/min

Torque at maximum power (2 hours): 477 Nm

Maximum torque: 551 Nm at 1500 rev/min of the engine

Mean atmospheric conditions: temperature 19 °C
pressure 995 mbar
relative humidity 45 %

Maximum temperatures: coolant 84 °C
engine oil 95 °C
fuel 30 °C
engine air intake 27 °C

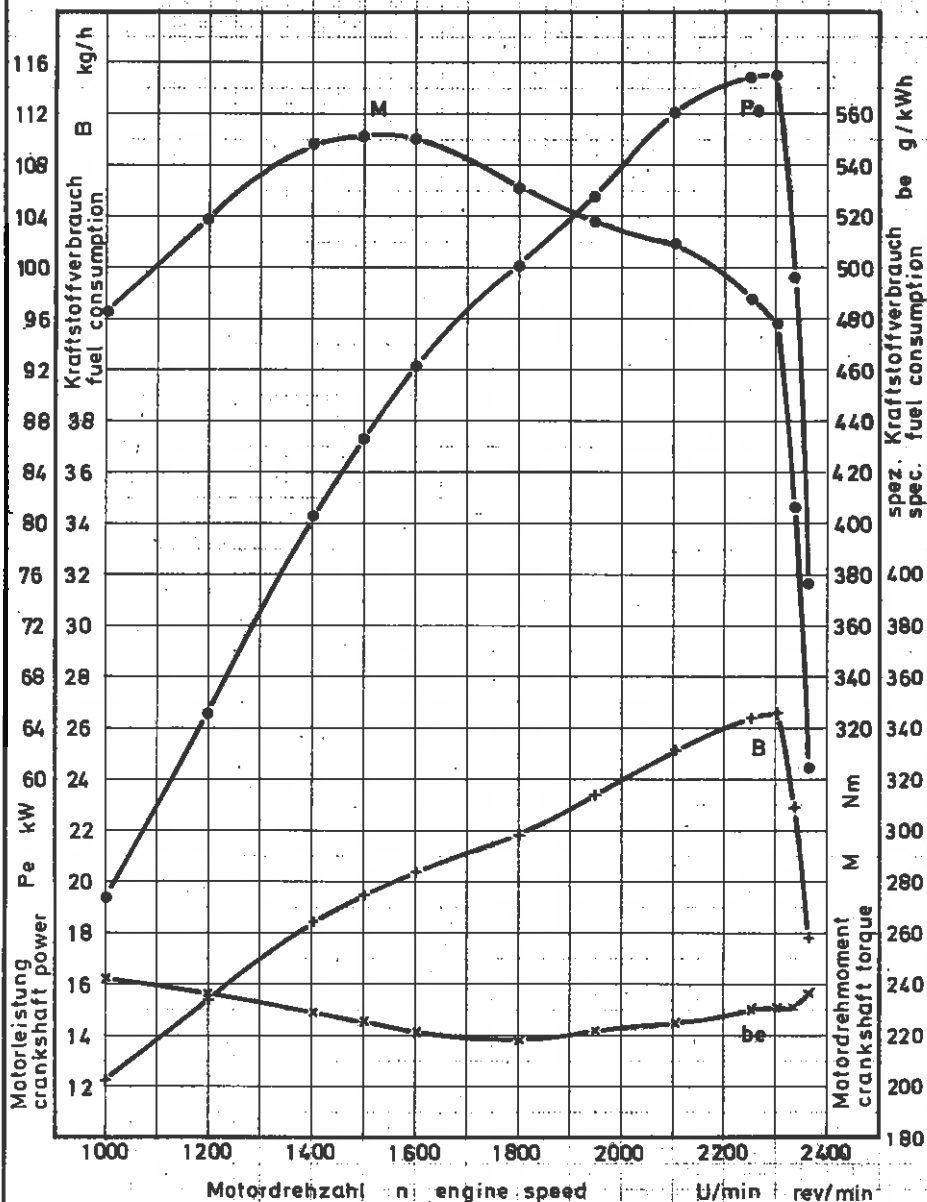
**PRÜFUNGS-ABTEILUNG**

FAVORIT 615 LS

Motorleistung

Engine performance

Test Nr. 77-120



Lufttemperatur:	19 °C	Luftdruck:	995 mb	Kraftstoff:	0,823 kg/l
temperature:		pressure:		fuel:	

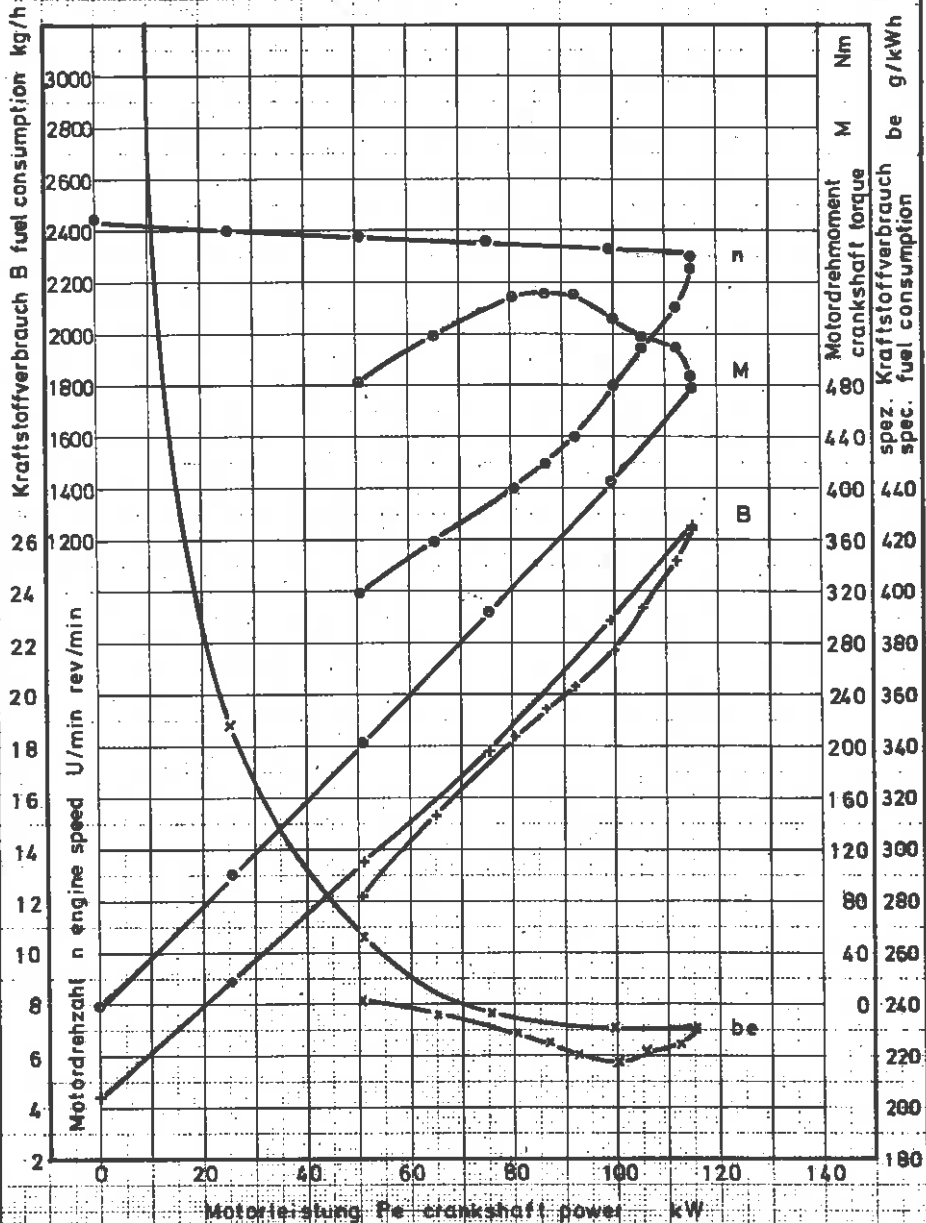


PRÜFUNGS-ABTEILUNG

FAVORIT 615 LS

Motorleistung Engine performance

Test Nr.77-120



Lufttemperatur: 19 °C	Luftdruck: 995 mb	Kraftstoff: 0.823 kg/l
Temperature	pressure	fuel



RÜFUNGS-ABTEILUNG

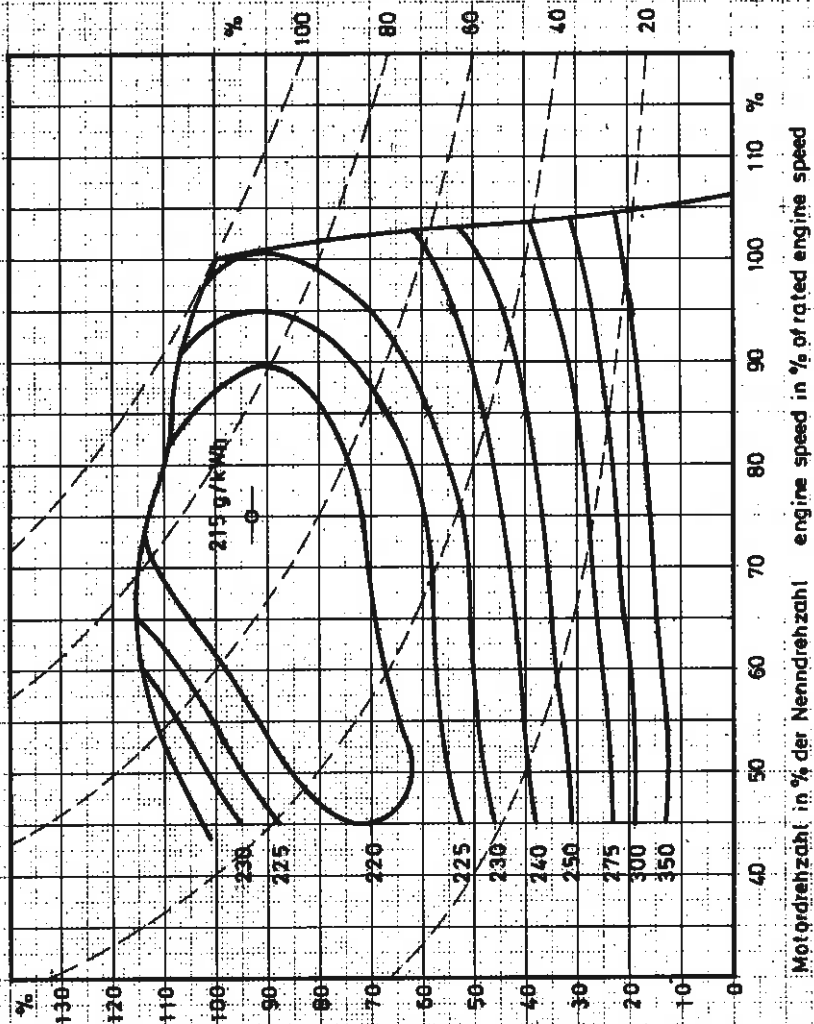
Motorleistung

Engine performance

Test Nr. 77-120

Motorleistung in % der Leistung bei Nenn Drehzahl

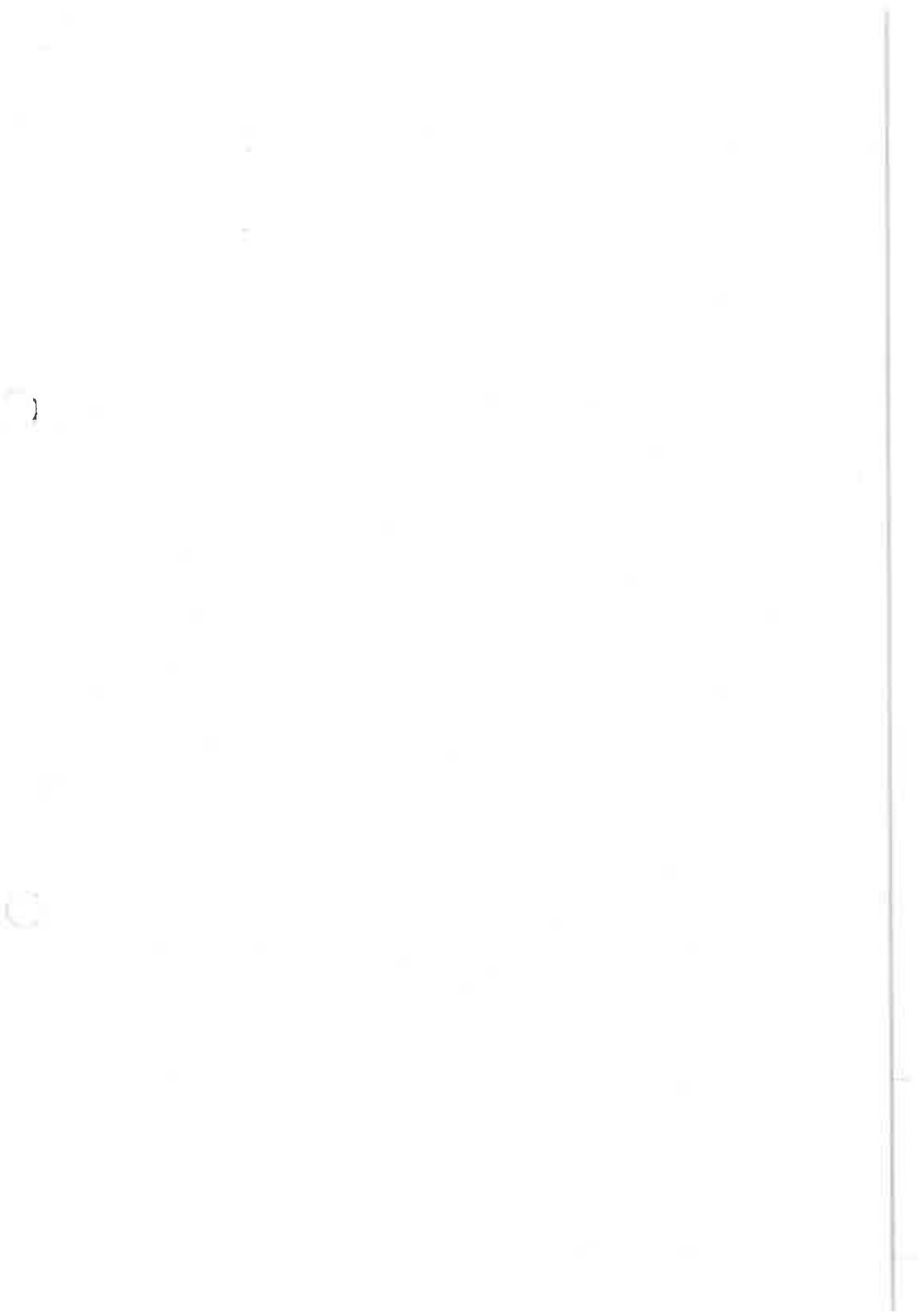
engine power in % of power at rated engine speed



Belastung in % des Drehmomentes bei Nenndrehzahl

load in % of torque at rated engine speed

Lufttemperatur:	13 °C	Luftdruck:	995 mb	Kraftstoff:	0.823 kg/l
Temperature:		pressure:		fuel:	



Published
with the support of the Federal Minister for Food, Agriculture and Forestry
Deutsche Landwirtschafts-Gesellschaft e.V. (DLG)
Fachbereich Landtechnik – Prüfungsabteilung –
Zimmerweg 16 (DLG-Haus)
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