



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



FENDT AGRICULTURAL TRACTOR FARMER 108 S TURBOMATIC

Manufactured by: X. FENDT u. Co. Maschinen- und Schlepperfabrik
D-8952 Marktoberdorf

Date of Tests: October till December 1974

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

DEUTSCHE LANDWIRTSCHAFTS GESELLSCHAFT e. V.
Prüfungsabteilung für Landmaschinen
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This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD-CODE for the Official Testing of Agricultural 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: 7th November 1975

Serial No.: 493

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

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Tractor manufacturer: X.FENDT u. 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 TRACTORTractor

Make: X. FENDT u. Co.
Model: Farmer 108 S Turbomatic
Type: Wheeled tractor, unit construction,
all-wheel driven
Serial No. 278/21/0009

Engine

Make: MWM, MOTORENWERKE MANNHEIM AG
Model: D 226-4
Type: 4 stroke Diesel engine with direct injection;
watercooled
Serial-No. 226.4.01506
Cylinders: 4 in line, bore 105 mm, stroke 120 mm;
displacement 4154 cm³, compression ratio 17:1
dry forced-in cylinder liners
Valves: overhead
Fuel system: SOLEX fuel feed pump PE 20136;
ROTO-DIESEL distributor type injection pump:
3443130 068019 SR;
manufacturer's production setting 58 mm³/stroke
at 2300 rev/min and full load;
injection timing 26° before TDC;
ROTO-DIESEL multihole injection nozzles
DLL 150 S 6542;
injection pressure 180 + 10 bar;
CAV fuel filter with replaceable cartridge
capacity of fuel tank 93 l
Governor: ROTO-DIESEL centrifugal variable speed type
governor incorporated in injection pump;
governed range of engine speed
650 to 2500 rev/min;
rated engine speed 2300 rev/min



Air cleaner: MANN UND HUMMEL
dry paper element filter with precleaner incorporated, with replaceable Micro-Top and safety-cartridge and maintenance indicator

Exhaust
silencer: EBERSPÄCHER
2 chamber-reflection type silencer;
118 x 213 mm oval, 600 mm long;
on the left hand side of tractor;
mouth showing rearward under 45° to the left;
(optional: silencer with mouth showing upwards is available)

Lubrication
system: Forced feed from gear type pump;
strainer in sump;
MANN micro-top oil filter in full flow with
by-pass valve and replaceable cartridge;
oil capacity 9,5 l;
oil changing period 100 hours;
recommended oil quality MIL-L-2104 B
or DEF-2101 D;
recommended oil viscosities:
winter HD SAE 10W
summer HD SAE 20W/20
tropics HD SAE 30

Cooling
system: Water cooling with impeller pump;
pressurized system adjusted to 0,3 bar
overpressure with by-pass thermostat;
fan with 7 blades, 450 mm diameter;
water capacity 14 l

Starting
system: Electrical;
BOSCH starter motor DJ 12 V 3,5 kW;
CAV or BERU flame plug in intake pipe

Electrical
equipment: 12 Volt, negative earth;
BOSCH 3 phase alternator:
G 1 14 V 28 A;
1 lead acid battery:
110 Ah at 20 hours rating



Transmission

Clutch:

1. VOITH GETRIEBE KG;
fluid clutch 358 TD
for travel and p.t.o. drive
2. FICHTEL UND SACHS AG;
dry disc type clutch G 250 K;
flexible coated;
for travel drive only;
pedal operated

Gear box:

Own make;
spur gear reduction gearing between
fluid-clutch and disc clutch;
synchromesh speed change gear with
3 forward and 1 reverse speed;
sliding gear shifted group gear with 2 groups
(field and road group);
fine stepped transmission with synchronized
slow and fast group, arranged before the
speed change gear and group gear;
(this fine stepped transmission may be fitted
out with a sliding gear shifted creep speed group,
not fitted on tractor tested,
with creep speed group engaged the road group
is locked automatically);
1 synchronized high speed gear independent
from fine stepped transmission and from
group gear;
total 13 forward and 4 reverse speeds;
(reversing gear optional available for all
forward speeds, fitted on tractor but not tested;
engaged by hand lever, operated by disc
clutch pedal.)

Rear axle
and

final drive:

Portal construction;
bevel gear drive with crown wheel and pinion;
bevel gear type differential, differential lock
fitted, pedal operated, self disengaging;
spur gear final drives in portals



Driven

front axle: Own make in cooperation with
BERGISCHE ACHSENFABRIK;
model TTLAN 3/3608;
driven by universal joint shaft;
joint shaft situated on the left hand side
of tractor;
under load engageable and disengageable by
a particular dry disc type clutch;
operated by hand lever
bevel gear type differential, not lockable;
planetary final drives in front wheels

Oil capacity:	Fluid clutch	5,6	1
	spur gear reduction gear	6,0	1
	speed change gear, group gear and fine stepped transmission	24,0	1
	final drives in rear wheels each	9,2	1
	front axle differential	5,0	1
	final drives of front axle each	0,25	1

Oil changing
period:

Fluid clutch 5000 hours
gears 1000 hours

Recommended

oil qualities: Fluid clutch: engine oil HD SAE 10 W
final drives: Hypoid oil SAE 90 MIL-L-2105 B
other gears: Transmissions oil
SAE 80 MIL-L-2105 A

Total ratios and speeds see page 8 and 9

Power take-off

Proportional Live p.t.o. at rear of tractor;
engine speed driven through an independent dry multiplate
p.t.o. clutch, operated by hand lever situated below
the steering wheel;
height above ground 645 mm, in median
plane of tractor,
29 x 34,9 x 8,7 mm = 1 3/8"; 6 splines;
(DIN 9611 Form A; BS 1495; ASAE S. 203.7);
2 speeds are preselectable by hand lever:

540 rev/min p.t.o.

574 rev/min at rated engine speed;
standard p.t.o. speed 540 rev/min at
2169 rev/min engine speed

(Continued on page 10)

Total ratios and speeds

Group	Fine stepped gear	Gear	Number of engine revolutions for one revolution of the driving wheel	Nominal travelling speed at rated engine speed *)	
				km/h	m/s
forward speeds					
field	slow	1	566,39	1,09	0,303
		2	342,58	1,80	0,501
		3	195,27	3,16	0,879
	fast	1	442,02	1,40	0,388
		2	267,35	2,31	0,642
		3	152,39	4,05	1,126
road	slow	1	137,03	4,51	1,253
		2	82,88	7,45	2,071
		3	47,24	13,08	3,633
	fast	1	106,94	5,78	1,605
		2	64,68	9,55	2,653
		3	36,87	16,76	4,655
independent high speed gear			25,26	24,46	6,795
reverse speeds					
field	slow	1	328,87	1,88	0,522
	fast	1	256,66	2,41	0,669
road	slow	2	79,57	7,77	2,157
	fast	2	62,10	9,95	2,764

*) calculated with the rolling radius 739 mm (DIN 7807)
3 % slippage of the fluid clutch is included



Total ratios and speeds (optional equipment)

Group	Fine stepped gear	Gear	Number of engine revolutions for one revolution of the driving wheel	Nominal travelling speed at rated engine speed *)	
				km/h	m/s
with creep speed gear forward speeds					
field	creep speeds	1	2202,63	0,28	0,078
		2	1332,23	0,47	0,131
		3	759,37	0,82	0,228
reverse speed					
field	creep speed		1278,95	0,49	0,136
with reversing gear forward speeds changed to reverse speeds					
field	slow	1	895,89	0,69	0,192
		2	541,87	1,14	0,317
		3	308,87	2,00	0,556
	fast	1	699,17	0,88	0,245
		2	422,89	1,46	0,406
		3	241,05	2,56	0,712
road	slow	1	216,75	2,85	0,792
		2	131,10	4,71	1,309
		3	74,73	8,27	2,297
	fast	1	169,15	3,65	1,015
		2	102,31	6,04	1,678
		3	58,32	10,59	2,943
indep. high speed gear			39,95	15,46	4,296

reverse speeds are not allowed to be changed to forward speeds
creep speeds are not reversible

*) calculated with the rolling radius 739 mm (DIN 7807)
3 % slippage of the fluid clutch is included

Power take-off (Continuation)1000 rev/min p.t.o.

1028 rev/min at rated engine speed;

standard p.t.o. speed 1000 rev/min at

2237 rev/min engine speed

3 % slippage of the fluid clutch is included
in all p.t.o. speeds quoted;all p.t.o. speeds may be set by aid of
tractormeter;direction of rotation clockwise, viewed from
tractor rearProportional
ground speed
p.t.o.:Optional, not fitted on tractor tested;
live p.t.o. may be changed by hand lever to
ground speed p.t.o.;dimensions, location and direction of
rotation when travelling forward see live p.t.o.;
travelling distance for one rev. of p.t.o. 0,166 m;
27,75 rev. of p.t.o. for one rev. of the
driving wheelP.t.o. in the
middle of the
tractor:

Live p.t.o.;

drive as proportional engine speed p.t.o.;

situated between the axles;

1120 mm before the rear axle;

600 mm above ground;

60 mm to the right hand side of the median
plane of tractor;

p.t.o. shaft stub showing forward;

B 6 x 26 x 30 DIN 5462;

1286 rev/min at rated engine speed;

3 % slippage of fluid clutch is included;

direction of rotation anticlockwise viewed
from tractor rear

Front p.t.o.:

Optional, not fitted on tractor tested;

drive as proportional engine speed p.t.o.;

attached on the p.t.o. shaft in the middle
of the tractor by aid of an intermediate
gearing;

drive and dimensions as live p.t.o.

**Front p.t.o. (Continuation)**

593 rev/min at rated engine speed;
standard p.t.o. speed 540 rev/min at
2094 rev/min engine speed;
3 % slippage of fluid clutch is included;
direction of rotation anticlockwise, viewed
from tractor rear

Belt pulley

Optional, not fitted on tractor tested;
at rear of tractor;
pulley drive attached on p.t.o. shaft;
only for use with 540 rev/min p.t.o.;
operated by p.t.o. hand lever;
225 mm diameter 150 mm width;
1443 rev/min at rated engine speed;
17,0 m/s linear belt speed;
direction of rotation clockwise and anti-
clockwise, changeable by turning drive device;
3 % slippage of fluid clutch is included

Power lift**Hydraulic
system:**

Own make;
hydraulic power lift, unit construction;
power control, position control, both stepless
mixable, floating position;
single acting ram:
bore 86 mm; stroke 138 mm;
2 external auxiliary rams:
bore 45 mm; stroke 180 mm;
BOSCH gear type pump with 16 cm³/rev. delivery;
directly driven by engine;
BOSCH control valve;
maximum oil pressure 175 bar;
overpressure relief valve for ram 210 bar;
2 oil tappings for single acting or 1 tapping
for double acting additional control valves;
hydraulically acting linkage lock for transport;
hydraulic oil tank with maximum 22 l
capacity;
max. 13 l may be taken off for remote rams
through the oil tappings when the tractor is
working driving and 18 l may be taken of when
stationary;
hydraulic fluid: engine oil HD 20 or HPL 36;
oil changing period 5000 hours



Implement

linkage:

Three point linkage, category II (DIN 9674);
operated by power lift;
lift rods length adjustable from 658 to 745 mm;
lifting range above ground with:
lift rods short from 250 to 908 mm
lift rods long from 42 to 765 mm;
(the ball joints of lower and upper links may
be changed against quick coupler;
not fitted on tractor tested;

Holed bar:

Fitted on the clevis of lower links;
length between the ball joints 830 mm;
thickness of the bar 30 mm;
centre hole and 3 holes on either side with
80 mm distance each, DIN 9676;
all holes 33 mm diameter;
height above ground adjustable by power lift
within the range from 57 to 923 mm,
depending on lifting rods length, measured
at the surface of the bar;
in 280 to 430 mm height above ground
mechanically-hydraulically lockable by
changing lifting rods length;
in 430 mm height above ground lifting rods
length 665 mm;
with lower links in horizontal position
distance of holes centre line:
to rear axle centre 1000 mm
to p.t.o. shaft end 700 mm

Pull attachment

Trailer hitch: Own make

height above ground 600, 650, 750 mm
850, 900, 950 mm
adjustable by shifting and turning hitch;
diameter of clevis hole 33 mm;
distance of clevis hole centre to rear axle
centre 473 mm;
permissible bearing load 1200 kg

Towing hitch: Height above ground 750 mm



Steering: ZAHNRADFABRIK FRIEDRICHSHAFEN AG;
ZF-Column hydrosteering gear, 7409,
with flow dividing valve;
operated by hand wheel;
acting on front wheels

Brakes

Parking brake: Band brake;
mechanically acting on 2 brake drums with
205 mm diameter on the differential half shafts;
operated by hand lever with ratchet

Foot brake: Own make in cooperation with
GIRLING BREMSEN, GmbH,
dry double disc type brakes, hydraulically
acting on two brake discs with 165 mm diameter
on both differential half shafts;
pedal operated

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

Wheels

Steering
wheels: Two pneumatics at front 11,2-24 AS 6 ply;
maximum permissible load on each tyre 1120 kg
at 1,8 bar inflation pressure and 25 km/h;
track width 1690 mm;
rims W 9 x 24

Driving
wheels: Two pneumatics at front and at rear;
specification of driving front wheels see at
steering wheels;
driving rear wheels:
2 pneumatics 16,9-34 AS, 6 ply;
maximum permissible load on each tyre 2150 kg
at 1,3 bar inflation pressure and 25 km/h;
track width 1510 and 1660 mm;
changeable by reversing wheels;
(track adjustment wheels are optional available
for track width from 1500 to 1920 mm in steps
of appr. 100 mm by turning wheels and
offset lug type rims, not fitted on tractor
tested);
rims DW 14 x 34

Wheel base: 2226 mm

Weights

Ready for use, as tested

without ballast:	without driver	with driver
front	1412 kg	1419 kg
rear	2188 kg	2257 kg
total	3600 kg	3676 kg
front ballast:		
1 groundplate		30 kg
6 front weights 35 kg each		210 kg
rear ballast:		
10 weights per wheel 63 kg each		1260 kg
water in the tyres		524 kg
with ballast:		
front	1687 kg	1699 kg
rear	3937 kg	4001 kg
total	5624 kg	5700 kg

Seat

Own make, in cooperation with GRAMMER;
upholstered mould seat with back rest;
back rest adjustable up and down;
adjustable spring with shock absorber;
parallelogram suspension;
height of seat platform above ground 780 mm;
height of seat above platform appr. 580 mm
seat not compressed, seat mould in downmost
position, in longitudinal direction in medium
position;
to and fro adjustable 110 mm;
up and down adjustable in 3 steps 35 mm each

Number of grease points (whole tractor) 12Dimensions

Total length: 3890 mm with 3 point linkage without ballast
4000 mm with 3 point linkage with ballast

Total width: 2125 mm at smallest track width
2349 mm at largest track width
without ballast

Total height: 1690 mm to top of steering hand wheel

Ground-clearance: 405 mm below front differential gear box

**PRÜFUNGS-ABTEILUNG**

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Fendt Farmer 108 S

Test No. 74-6

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	140 x 120	1015	383
Side lights *)	120 x 60	1520	183
Rear lights **)	160 x 65	1490	285
Reflectors			
1st pair	125 x 38	1420	278
2nd pair	70 ø	675	628

*) in combination with direction indicator

**) in combination with direction indicator and stop light

Permissible total weights and axle loads

for optional wheel equipment (not tested)

Wheel equipment		Permissible total weight	Permissible front axle load	Permissible rear axle load
front	rear	kg	kg	kg
11,2-24	13,6-38 8,3-44*)	5650 4980	2100	3550 2880
9,5-24	16,9-34 13,6-38 8,3-44*)	6000 5550 4880	2000	4300 3550 2880
12,5-20	13,6-38 16,9-34 18,4-30	5650 6000 6000	2100	3550 4300 4500

*) no standard tyre, special production by MICHELIN



FUELS AND LUBRICANTS USED IN TESTS

Fuel: ARAL-Diesel fuel (DIN 51601)
specific gravity at 15°C:
on laboratory tests and
on track tests 0,833 kg/l

Engine oil: ARAL-KOWAL HD 20 W/20

Transmission oil: Speed change gear, group gear,
fine stepped transmission and spur gear
reduction gearing:
Transmission oil: SAE 80 MIL-L-2105 A
Final drives:
Hypoid oil SAE 90 MIL-L- 2105 B

Fluid clutch: Engine oil HD SAE 10 W

Hydraulic oil: Hydraulic oil HLP 25

COMPULSORY TESTS(1) MAIN POWER TAKE-OFF PERFORMANCE

Date of tests: 14th and 15th October 1974

Type of dynamometer: Schenck hydraulic dynamometer U1-40

Maximum power

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

At maximum power 2-hour test

51,5	2300	574	15,95	13,29	258	3,23
------	------	-----	-------	-------	-----	------

At standard p.t.o. speed (540 rev/min)

50,1	2169	540	15,31	12,75	255	3,27
------	------	-----	-------	-------	-----	------

At the speed recommended for drawbar work

51,5	2300	574	15,95	13,29	258	3,23
------	------	-----	-------	-------	-----	------

Part loads(i) 85 % of the torque at maximum power

44,7	2336	585	14,14	11,78	264	3,16
------	------	-----	-------	-------	-----	------

(ii) unloaded

-	2484	637	3,66	3,05	-	-
---	------	-----	------	------	---	---

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

23,4	2420	612	9,10	7,58	324	2,57
------	------	-----	------	------	-----	------

(iv) maximum power

51,5	2300	574	15,95	13,29	258	3,23
------	------	-----	-------	-------	-----	------

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

11,9	2450	622	6,66	5,55	466	1,79
------	------	-----	------	------	-----	------

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

34,3	2390	600	11,55	9,62	281	2,97
------	------	-----	-------	------	-----	------

No load maximum engine speed: 2484 rev/min

Equivalent crankshaft torque at maximum power: 220 Nm *)

Maximum equivalent crankshaft torque: 253 Nm at 1600 rev/min *)
of the engine

Mean atmospheric conditions: temperature 18°C
 pressure 998 mbar
 relative humidity 68 %

Maximum temperatures: coolant 85°C
 engine oil 100°C
 fuel 17°C

*) The equiv. crankshaft torque reported is relative to the output shaft of the fluid clutch

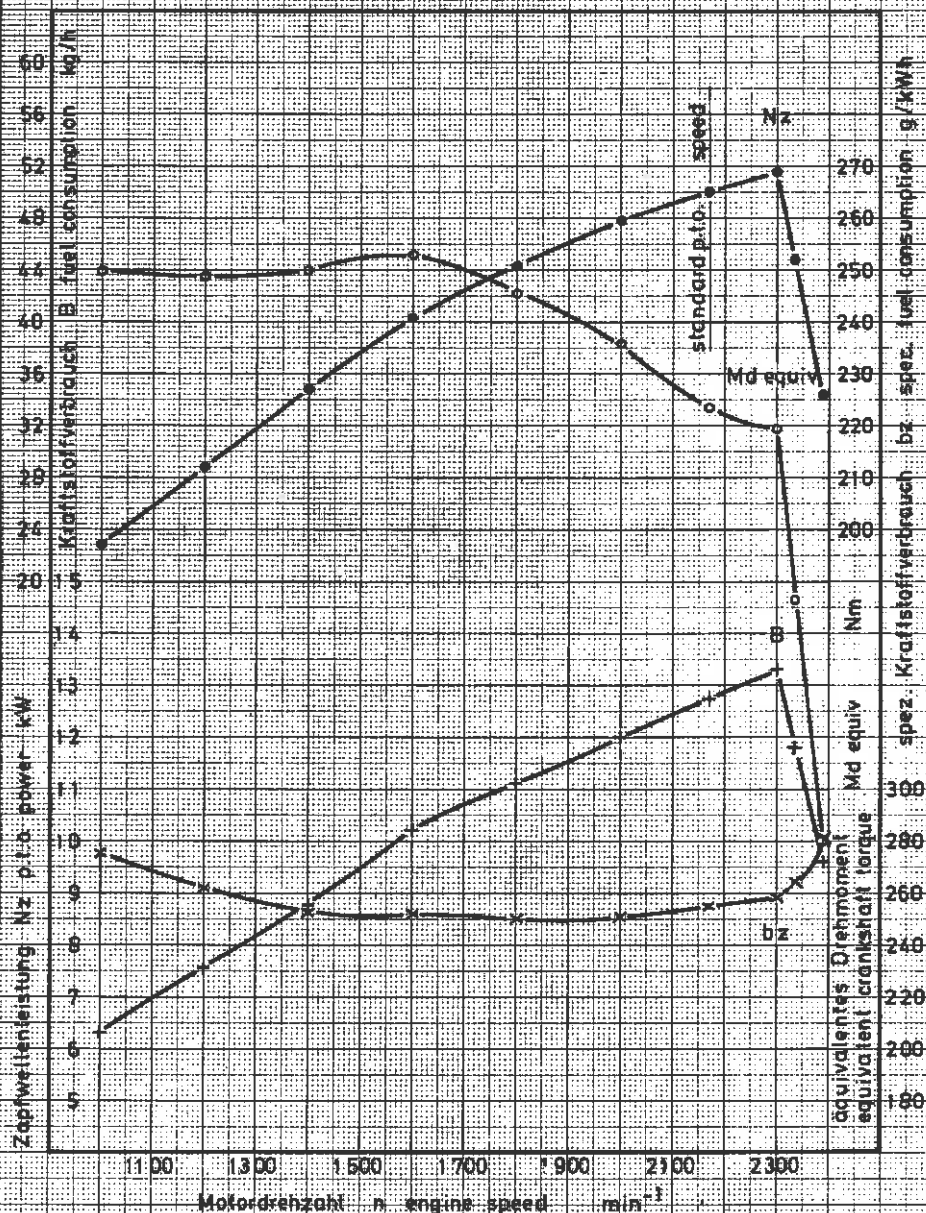


PRÜFUNGS-ABTEILUNG

Zapfwellenprüfung

P.t.o.-test

FARMER 108 S



Lufttemperatur 18°C Luftdruck 998 mb Kraftstoff 0.833 kg/l
 temperature pressure fuel

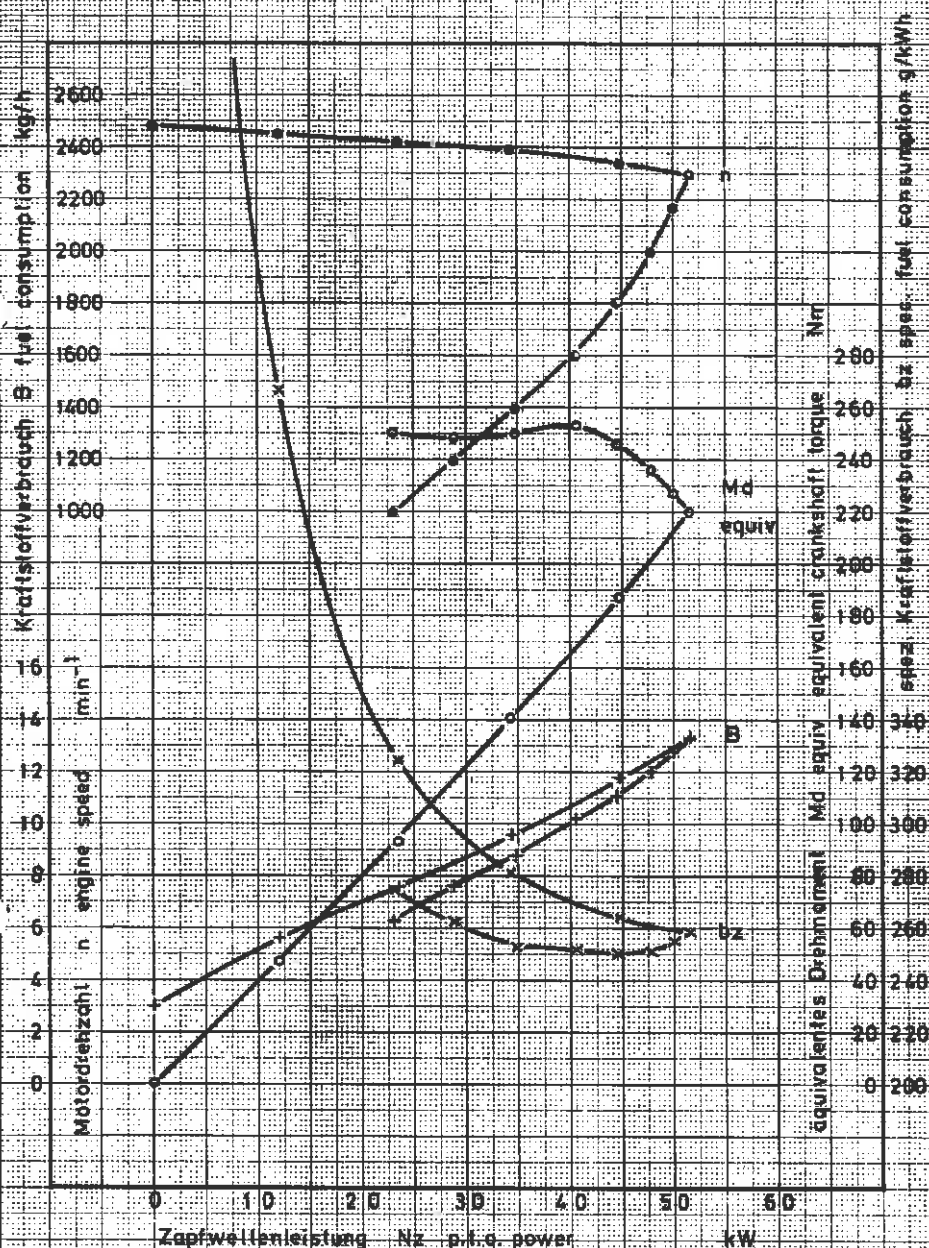


PRÜFUNGS-ABTEILUNG

Zapfwellenprüfung

P.t.o. test

FARMER 108 S



Lufttemperatur: 18°C
temperature

Luftdruck: 998 mb
pressure

Kraftstoff: 0.833 kg/l
fuel

(2) DRAWBAR PERFORMANCE

Date of test: 18th October till 27th November 1974

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
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(i) MAXIMUM POWER with ballast
height of drawbar above ground 530 mm

1 f slow	1,03	14,3	50000	2421	14,9	1,76
1 f fast	1,31	18,0	49400	2411	15,1	1,96
2 f slow	1,67	23,1	49750	2392	15,1	2,19
2 f fast	2,10	29,1	49750	2365	15,0	2,35
3 f slow	2,79	38,5	49650	2307	15,1	2,51
3 f fast	3,76	41,7	39900	2301	10,3	2,62
1 r slow	4,24	42,7	36200	2299	8,8	2,67
1 r fast	5,57	43,2	27900	2298	6,5	2,69
2 r slow	7,33	43,2	21220	2303	4,4	2,78
2 r fast	9,50	42,3	16030	2301	3,4	2,66

(ii) FIVE-HOUR-TEST
at 75 % of pull at max. power in 1st fast gear of road group

1 r fast	5,81	33,8	20930	2341	4,4	2,61
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(iii) FIVE HOUR TEST
at pull corresponding to 15 % wheel slip in test (i)

3 f slow	-	-	50000	2310	-	-
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(v) MAXIMUM POWER without ballast
height of drawbar above ground 550 mm

3 f slow	2,92	31,0	38150	2355	14,9	2,43
3 f fast	3,63	38,6	38150	2328	15,0	2,49
1 r slow	4,03	41,3	36900	2301	14,3	2,59
1 r fast	5,47	43,2	28400	2301	8,7	2,69
2 r slow	7,25	44,1	21900	2298	6,4	2,76
2 r fast	9,49	44,2	16810	2301	4,6	2,76
3 r slow	13,30	43,3	11720	2302	3,2	2,71

Total oil consumption during ten hours duration of tests

(ii) and (iii): 165 g/h



Tyres make: front: METZELER 11,2-24 6 ply
and size rear: DUNLOP 16,9-34 6 ply

Specific fuel consumpt. g/kWh	Temperatures			Atmospheric conditions		
	Fuel °C	Coolant °C	Engine oil °C	Tempe- rature °C	Relative humidity %	Pressure mbar
tyre inflation pressure at front 1,8 bar, at rear 1,3 bar active tyre radius under static load 753 mm at rear						
476	12	85	78	10	91	992
426	12	85	75	10	91	992
382	13	85	80	11	90	998
355	13	85	85	11	90	998
334	12	85	80	8	94	998
320	12	85	85	8	92	998
314	13	85	85	10	91	998
310	13	85	85	10	76	998
309	13	85	85	10	86	998
315	13	85	85	10	75	998

321	10	85	100	12	78	1015
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-	10	85	100	12	78	1015
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tyre inflation pressure: at front 1,4 bar; at rear 1,3 bar
active tyre radius under static load 757 mm at rear

346	15	85	90	12	77	1004
334	15	85	96	9	98	989
322	15	85	95	9	94	989
310	15	85	97	10	96	989
302	13	85	98	7	98	1008
302	14	85	93	7	97	1008
308	14	85	96	7	98	1008

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

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 11,2-24 AS Front 6 ply
rear: 16,9-34 AS 6 ply
Track of wheels front: 1690 mm
rear: 1660 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	3,97	3,94	5,18	5,27
Radius of turning circle	3,77	3,67	4,93	5,00

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	880 mm
Distance forward from the vertical plane containing the axis of the rear wheels	859 mm
Distance of the median plane of the tractor to the left-hand side	9 mm

**(5) BRAKING PERFORMANCE****A) FOOT BRAKE**

Date of tests: 22nd October and 19th November 1974

Type of track: Concrete

Type of decelerometer: MOTO METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor: 5700 kg with driver

Cold brakes

		with ballast	without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s ²	7,1	7,7
Stopping distance	m	4,0	4,6
Force on pedal	N	685	461
Force on pedal to achieve a deceleration of 2,5 m/s ²	N	255	196

Brake fade characteristics (hot tests)

		with ballast	without ballast
Deceleration	hot/cold %	99	101
Stopping distance	cold/hot %	105	115
Force on pedal	cold/hot %	100	98

B) PARK BRAKE

Tractor facing up slope:

Pull on hand brake 225 N, tractor does not roll

Tractor facing down slope:

Pull on hand brake 225 N, tractor does not roll

**(6) AMBIENT NOISE EMITTED BY THE TRACTOR**

Date of test: 14th November 1974
Type of track: Concrete
Type of sound level meter: Brüel and Kjaer type 2203

Results of test

Gear: independent high speed gear
Travelling speed before
acceleration: 19 km/h
Sound level: 92 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 13th November 1974
Type of track: Concrete
Type of sound level meter: Brüel and Kjaer type 2607
Type of frequency analyser: Brüel and Kjaer type 1614
(fitted with octave filter)

The tractor was fitted out with a safety frame *)

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 f slow	37200	1,09	0,80	93,5
1 f fast	37000	1,40	0,95	94
2 f slow	37200	1,80	1,38	94,5
2 f fast	36750	2,31	2,01	95,5
3 f slow	37650	3,16	2,43	97
3 f fast	36950	4,05	3,49	97,5
1 r slow	36550	4,51	3,86	98
1 r fast	28350	5,78	5,43	98
2 r slow†)	21000	7,45	7,26	98
2 r fast	16400	9,55	9,47	98
3 r slow	11840	13,08	13,12	98
3 r fast	8850	16,76	16,73	98
high speed	light load	24,46	26,60	94

*) This safety frame was tested acc. to the OECD-Standard Code under the No CS 425 with date from 25th July 1974

†) The 2nd road slow gear corresponds to the travelling speed nearest to 7,5 km/h

**(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE**

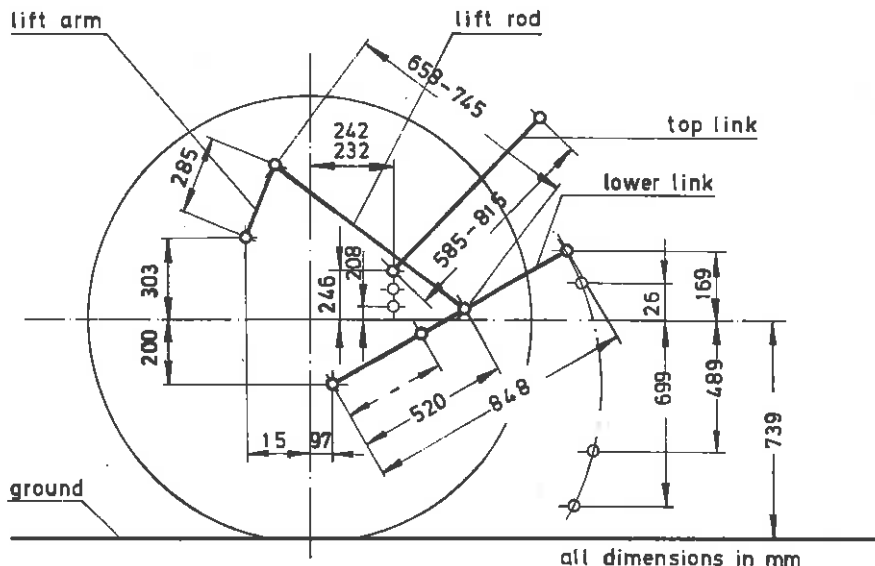
Date of tests: 28th and 29th October 1974

HYDRAULIC PUMP

- | | |
|--|-------------|
| (1) Opening pressure of relief valve
in remote circuit | 180 bar |
| Sustained pressure by open relief valve | 175 bar |
| (2) Pump delivery rate at minimum pressure
and maximum engine speed | 35,0 l/min |
| (3) Pump delivery rate | 31,25 l/min |
| Delivery pressure | 162 bar |
| Hydraulic Power | 8,44 kW |

POWER LIFT

Dimensions of linkage geometry for the table on page 28



LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-497	-484	-400	-300	-289	-200	-100	0
----	------	------	------	------	------	------	------	---

at hitch points maximum mechanical advantage

N					27600	29300	30550	30850
---	--	--	--	--	-------	-------	-------	-------

minimum mechanical advantage

N	25000		26600	27500		28050	28300	28050
---	-------	--	-------	-------	--	-------	-------	-------

Max. force exerted throughout the whole range 27600 N

Force at which front of tractor lifts with maximum
allowable front ballast - Nat test frame maximum mechanical advantage

N					30200	30600	30600	30500
---	--	--	--	--	-------	-------	-------	-------

minimum mechanical advantage

N		27950	27850	27350		27100	26450	25420
---	--	-------	-------	-------	--	-------	-------	-------

Max. force exerted throughout the whole range 24550 N

Force at which front of tractor lifts with maximum
allowable front ballast 23050 N

**PRÜFUNGS-ABTEILUNG**

Fendt Farmer 108 S

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Test No. 74-6

0	+100	+200	+226	+261	+300	+369	+376
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lift rods 658 mm long

30850	30600	30450			30200	30200	
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lift rods 745 mm long

28050	27850	27700	27600				
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lift rods 658 mm long

30500	28800	27600			18750		0
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lift rods 745 mm long

25420	24550	10990		0			
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All values of forces for pressure at max. hydraulic power
162 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 Lift arms Lift rods Top link Distance of lift rod connection point from pivot point of lower link	848 mm 285 mm 685 mm 648 mm 520 mm	848 mm 285 mm 745 mm 653 mm 520 mm
The following dimensions are given relative to rear axle centre line 739 mm above ground		
Lower link pivot point Top link pivot point Lift arm pivot point Maximum and minimum height of lower link hitch points Height of lower link hitch points when locked in the highest transport position	97 mm behind, 200 mm below 232 mm behind, 246 mm above 15 mm forward, 303 mm above 169 mm above, 489 mm below 908 mm above ground	97 mm behind, 200 mm below 242 mm behind, 208 mm above 15 mm forward, 303 mm above 26 mm above, 699 mm below



OPTIONAL TESTS

(9) ENGINE PERFORMANCE

Date of tests: 8th and 9th October 1974

Type of dynamometer: Schenck eddy-current dynamometer W 150

Maximum power

Power kW	Engine speed rev/min	Fuel consumption			Specific energy kWh/l
		total 1/h	kg/h	specific g/kWh	
At maximum power 2 hour test					
57,4	2300	15,94	13,28	231	3,60
At standard p.t.o. speed (540 rev/min)					
55,2	2162	15,28	12,73	231	3,60
At the speed recommended for drawbar work					
57,4	2300	15,94	13,28	231	3,60
Fuel consumption at part loads					
(i) 85 % of torque at maximum power					
49,6	2338	13,91	11,59	234	3,57
(ii) unloaded					
-	2479	3,57	2,97	-	-
(iii) 50 % of the load defined in (i)					
25,6	2419	8,51	7,09	277	3,01
(iv) maximum power					
57,4	2300	15,94	13,28	231	3,60
(v) 25 % of the load defined in (i)					
13,0	2447	6,07	5,06	389	2,14
(vi) 75 % of the load defined in (i)					
37,9	2384	11,03	9,19	242	3,44

Optimum fuel consumption: 218 g/kWh at 38,2 kW and 1700 rev/min

Standard fuel consumption 1/2 (DIN 9606): 6,25/12,75 l/h

No load maximum engine speed: 2479 rev/min

Torque at maximum power: 238 Nm

Maximum torque: 268 Nm at 1600 rev/min of the engine

Mean atmospheric conditions: temperature 16°C
pressure 982 mbar
relative humidity 75 %

Maximum temperatures: coolant 85°C
engine oil 100°C
fuel 20°C

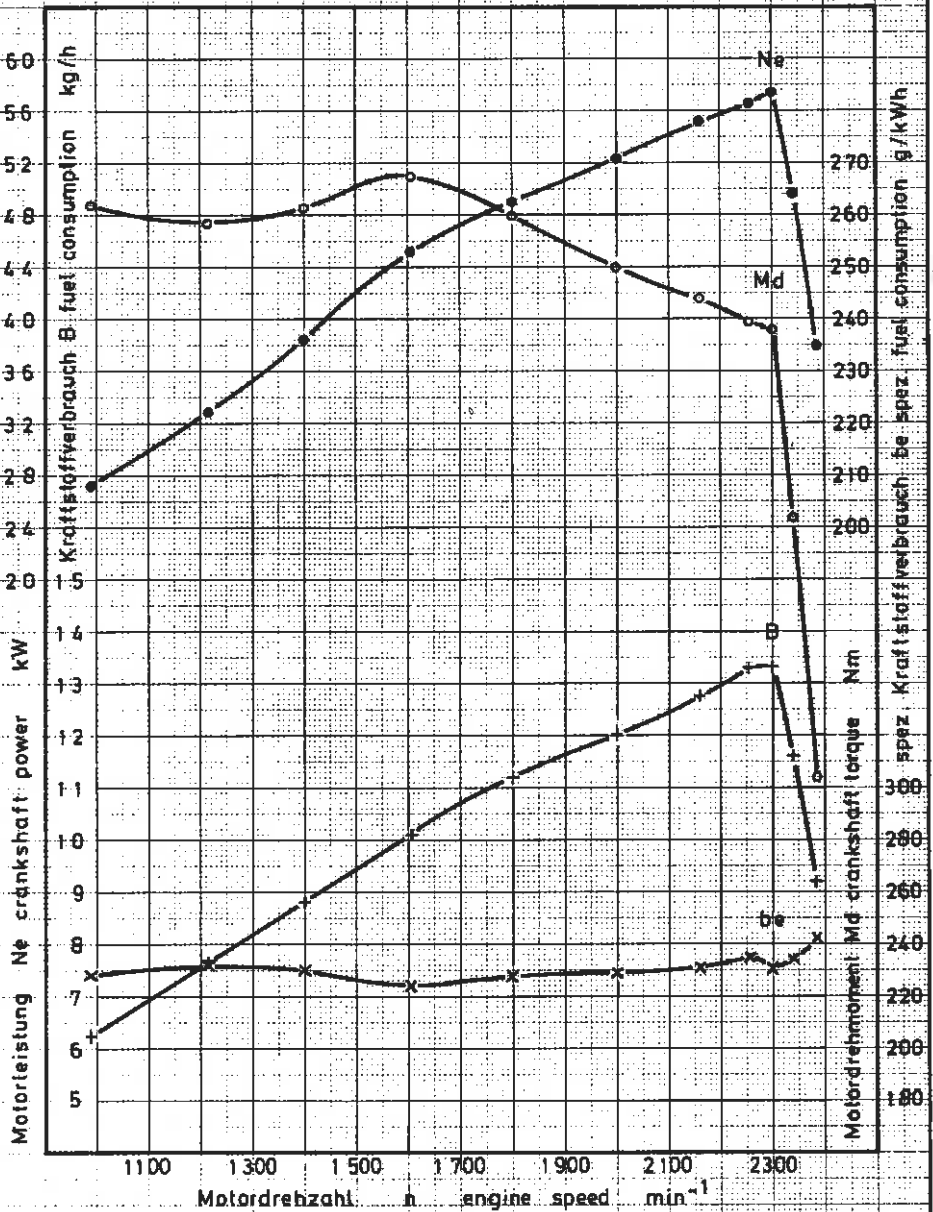


PRÜFUNGS-ABTEILUNG

Motorprüfung

Engine-test

FARMER 108 S



Lufttemperatur: 16°C
temperature

Luftdruck: 982 mb
pressure

Kraftstoff: 0.833 kg/l
fuel

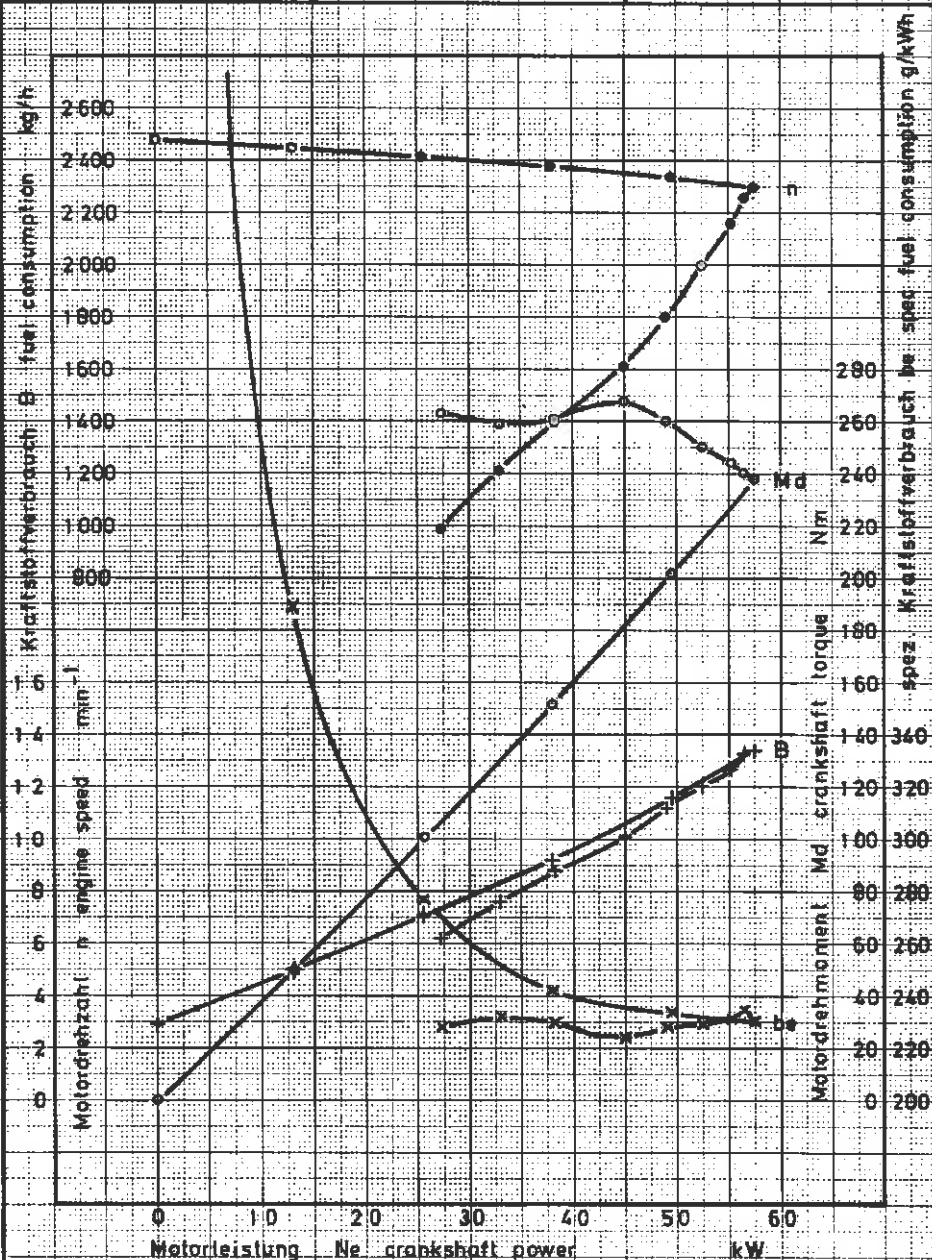


PRÜFUNGS-ABTEILUNG

Motorprüfung

Engine-test

FARMER 108 S



Lufttemperatur: +50°C
temperature : +50°C

Luftdruck: 992 mb
pressure : 992 mb

Kraftstoff: 0,833 kg/l
fuel : 0,833 kg/l



