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

O.E.C.D. No. 811



Agricultural Tractor
FENDT FARMER 305 LS TURBOMATIK

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

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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 Tractor Performance. It does not contain an evaluation of the tractor performance on practical work.

Duration of Tests: December 1980 till February 1981
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: 21th August 1981 O.E.C.D. No. 811

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

The reference to the former used Technical System of Units is given by the following relations:

Forces	1 daN = 10 N = 1,02 kp	or 1 kp	= 0,981 daN
Powers	1 kW = 1,36 PS	or 1 PS	= 0,736 kW
Pressures	1 bar = 1,02 kp/cm²	or 1 kp/cm²	= 0,981 bar
	1000 mbar = 750,1 mm Hg		

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PRÜFUNGS-ABTEILUNG
FENDT FARMER 305 LS

Test No. 79-244

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. 80 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	X. FENDT UND CO.
Model:	FARMER 305 LS TURBOMATIK
Type:	Wheel tractor, unit construction, all wheel drive
Serial-No.:	162/21/0001

Engine

Make:	MOTORENWERKE MANNHEIM AG
Model:	D 227-4
Type:	Watercooled 4-stroke Diesel-engine, direct injection
Serial-No.:	D 227.4.2. 01005
Cylinders:	4, in line, bore 100 mm, stroke 120 mm, displacement 3770 cm^3, compression ratio 16,5; replaceable wet cylinder liners
Valves:	Overhead
Fuel system:	SOLEX fuel feed pump PE 20136; BOSCH in line injection pump: PES 4A 80D320/3 RS 1301, manufacturer's production setting 48,5 mm^3/stroke at rated speed and full load; injection timing 28° before TDC; BOSCH multihole injection nozzles DLLB 150 S 821, injection pressure 180 bar; BOSCH fuel filter with replaceable cartridge; capacity of fuel tank 108 l
Governor:	BOSCH centrifugal variable speed type governor EP/RSV 325-1500 A 2 B 505 DR; governed range of engine speed 650 to 2345 rev/min; rated engine speed 2175 rev/min

Air cleaner:	MANN dry paper element filter with replaceable main cartridge and safety cartridge, electrical maintenance indicator; air intake above bonnet
Exhaust silencer:	EBERSPÄCHER reflection-absorption-type silencer; 110 mm dia, 700 mm long; on the left hand side above bonnet; mouth showing upwards, 2400 mm above ground; optionally available silencer with mouth showing rearwards to the left
Lubrication system:	Forced feed from gear type pump; strainer in sump; filter in full flow with by-pass valve and replaceable cartridge; oil- and cartridge change period 200 operating hours; oil capacity 9,5 l; specified oil quality MIL-L-46 152 or MIL-L-2104 C recommended oil viscosities: tropics SAE 40 over + 5°C SAE 30 over -10°C to +10°C SAE 20W/20 below - 5°C SAE 10W
Cooling system:	Watercooling with impeller pump; overpressure valve set to 0,4 bar; cooling circuit with by-pass and thermostat; fan with 7 blades, 455 mm dia; water capacity 13 l for use in tropics fan with 8 blades and engine oil cooling system available
Starting system:	Electrical BOSCH pre engaged-drive starting motor, 3 kW; BERU flame plug in intake manifold optional, fitted on tested tractor
Electrical equipment:	12 Volt, negative earth BOSCH 3-phase alternator G1-14V 33A 27, 462 W; 1 lead acid battery, 110 Ah at 20 hours rating

Transmission

Clutch:	1. VOITH GETRIEBE KG fluid clutch 358 TD-F for travel and p.t.o. drive 2. FICHTEL UND SACHS AG dry disc type clutch GTNX 310, 310 mm dia, hydraulically by pedal operated, self readjusting
Gear box:	Own make synchromesh speed change gear with 3 forward speeds and 1 reverse speed; 2 group gears: synchronized fine stepped group gear high/low (FS/FL); collar shifted road group (S), sliding gear shifted field group (A); 2 independent synchronized overdrive speeds, optionally third overdrive speed (40 km/h) available; totally 14 forward speeds and 4 reverse speeds on tested tractor; optionally available creeper group
Rear axle:	Own make portal construction; bevel gear drive; bevel gear differential with pedal operated lock, not selfdisengaging; spur gear final drives in portals
Driven front axle:	ZAHNRADFABRIK FRIEDRICHSHAFEN AG APL 1351 driven by universal joint shaft on the left hand side of gear box, dry multi-disc clutch to be shifted by hand lever under load; bevel gear drive; bevel gear differential, optionally available with automatic lock; planetary final drives in wheel hubs
Oil change:	Fluid clutch all 5000 operating hours other gears all 1000 operating hours or once a year
Recommended oil qualities:	Gear box MIL-L-2105 final drives and front axle differential MIL-L-2105B

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Oil capacity and viscosity:

Fluid clutch	5,8 l	SAE 10W
gear box	32,5 l	SAE 80
rear axle final drives	3 l each	SAE 90
front axle differential	4,8 l	SAE 90
front axle final drives	0,5 l each	SAE 90

Total ratios and speeds

Group	Fine stepped group	Gear	Total ratio engine : driving wheel	Nominal travelling speed at rated engine speed *) km/h
Forward speeds				
A	FL	1	429,81	1,39
		2	268,63	2,22
		3	165,92	3,60
	FS	1	352,22	1,69
		2	220,14	2,71
		3	135,97	4,39
S	FL	1	107,45	5,55
		2	67,16	8,88
		3	41,48	14,38
	FS	1	88,06	6,77
		2	55,03	10,84
		3	33,99	17,55
1st overdrive			25,46	23,43
2nd overdrive			20,22	29,50
Reverse speeds				
A	FL	R	268,63	2,22
	FS	R	220,14	2,71
S	FL	R	67,16	8,88
	FS	R	55,03	10,84

*) calculated with the radius index 745 mm and the slip of the fluid clutch of 2,4%, measured at rated speed and maximum power

Power take-off

Main p.t.o.:	At rear of tractor; driven by a dry multiplate clutch, independent from driving clutch, operated by hand lever on console; height above ground 680 mm, in median plane of tractor, 337 mm behind rear axle centre line; 35 mm dia, 6 splines ISO 500/DIN 9611, type 1; 2 speeds preselectable by hand lever: 540 rev/min p.t.o. 562 rev/min at rated engine speed and full load, 575 rev/min at rated engine speed with no load, standard p.t.o. speed 540 rev/min at 2094 rev/min engine speed at full load or 2042 rev/min engine speed at no load 1000 rev/min p.t.o. (with pilot lamp) 1050 rev/min at rated engine speed with no load, standard p.t.o. speed 1000 rev/min at 2072 rev/min engine speed with no load fluid clutch slippage at full load at rated engine speed 2,4% at standard p.t.o. speed 2,5% direction of rotation clockwise, viewed from tractor rear optionally available p.t.o. with 750 rev/min instead of 1000 rev/min p.t.o.
Ground speed p.t.o.:	Optional, not fitted on tested tractor
Secondary p.t.o.:	Optionally available front p.t.o. (1000 rev/min), not fitted on tested tractor

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Power lift

Own make
hydraulic power lift, unit construction,
draft and position control
both steplessly mixable,
floating position;
top link sensing, lowering throttle

Hydraulic system:

Open centre system;
BOSCH tandem gear type pump HY/ZFFS 11/16+14
directly driven by engine,
delivery 16 cm^3/rev or 37 l/min
at rated engine speed;
hydraulic filter with replaceable cartridge
incorporated in return oil line, cartridge change
after 1000 operating hours or once a year;
BOSCH control valve HY/SR 175/60L,
maximum working pressure 175 + 12 bar;
single acting cylinder with 86 mm bore and
138 mm stroke, without safety valve;
1 external additional cylinder with 50 mm bore
and 185 mm stroke, fitted on tested tractor,
optionally 2nd additional cylinder available;

1 single acting auxiliary BOSCH control valve
with return line fitted;
up to 5 single, partially double acting
auxiliary valves with oil tappings and
return lines in the rear and middle of tractor
available;
optional flow dividing valve in steering oil
circuit and additional control valve:
residual oil flow of steering circuit may be
taken off directly or in common with oil flow of
hydraulic circuit through oil tappings

separate hydraulic tank with 20 l capacity;
max. 8 l may be taken off through oil tappings
when tractor is travelling,
16 l when tractor is working stationary

recommended oil:
engine oil SAE 20W/20 (tropics SAE 30)
MIL-L-2104C or MIL-L-46 152

oil change after 1000 operating hours
or once a year

Implement linkage at rear:	Three point linkage ISO 730/I or DIN 9674, category 2; length of lift rods adjustable by crank handles from 633 to 762 mm, mean length of lift rods 698 mm with lifting range above ground from 170 to 1275 mm
Implement linkage at front:	Optionally available, not fitted on tested tractor
Holed drawbar:	Long bar, fitted on clevis of lower links, can be used as towing bar; short bar available; total length 1700 mm; length between joint balls 830 mm, thickness 25 mm, width 100 mm, centre hole and 8 holes to each side, all holes 33 mm Ø; height above ground adjustable by power lift; holed drawbar can be fixed hydraulically-mechanically to a height of 370 mm above ground measured at surface of bar; lower links stabilization by quick clamping devices; distance of holes' centre line with lower links in horizontal position: from rear axle centre 970 mm from p.t.o. shaft end 633 mm

Pull attachment

Trailer hitch:	ROCKINGER 273 U 140 non-automatical, optionally automatical hitch available; height above ground adjustable by one-hand quick adjustment to 483, 543, 727, 769, 811, 853 and 895 mm; hitch hole 33 mm dia, distance of hitch hole centre to rear axle centre 510 mm, to p.t.o. shaft end 173 mm, permissible vertical load 1500 kg

Swinging drawbar: Optionally available,
not fitted on tested tractor;
optionally available fixed pin (piton fix)
or hitch

Towing hitch: 720 mm above ground at front of tractor

Steering

Own make in cooperation with
ZAHNRADFABRIK FRIEDRICHSHAFEN AG
hydrostatic steering model 8491 with
own oil circuit and oil filter,
filter change after 1000 operating hours or
once a year;
oil supply by tandem part of hydraulic pump,
displacement 14 cm^3/rev or 32 l/min at rated
engine speed;
optional flow dividing valve in oil circuit
of steering (see page 9, hydraulic system);
oil reservoir in common with power lift tank;
1 double acting ram,
directly acting on front axle,
235 mm stroke, 50 mm dia,
piston rod 22 mm dia

Brakes

Parking brake: Internal-expanding-shoe brake;
mechanically acting on 2 brake drums
on each differential half shaft,
180 mm dia, 30 mm width,
operated by pulling handle with ratchet

Service brake: Own make in cooperation with
GIRLING BREMSEN GMBH
muscle power brake with hydraulic
transmission to 2 disc brakes on the
differential half shafts with 2 lining
discs each;
optional additional disc brake situated
on joint shaft to front wheel drive;
not fitted on tested tractor

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

Wheels

Steered wheels:	2 pneumatics in front 12,4-24 6 ply, diagonal type casing; max. permissible load per tyre 1200 kg at 1,7 bar inflation pressure and 30 km/h; track width 1573 mm; track width adjustable to 1713 mm by reversing wheels; rims W9 x 24, optionally offset lug type rims available
Driven wheels:	At front and at rear driving rear wheels: radial type casing 2 pneumatics 16,9 R 34 8 ply; max. permissible load per tyre 2380 kg at 1,7 bar inflation pressure and 30 km/h; track width 1652 mm, adjustable to 1508 mm by reversing wheels; rims DW 14L x 34, optionally offset lug type rims available
Wheel base:	2320 mm

Cab

Own make
OECD-tested safety-cab
OECD-No. CSD 0274/5;
optionally OECD-tested safety frame with roof available;
cab mounted to tractor by 4 silent blocks;
front-, rear- and side windows tiltable;
doors on both sides with additional stop devices for ventilation;
2 steps each on either side;
combined heating and ventilation system with blower, connected to the cooling circuit;
air outlet jets near the cab floor and at the windscreen;
additional fan-assisted ventilation system in the roof optionally available

noise-reduction materials
floor:
2-layer-bitumen-mat 4 mm,
heavy-layer nap pattern mat with rubber foam lining 12 mm

mudguards:
PUR-foam coated with imitation leather 15 mm
roof:
cotton-fibre layer 20 mm,
moulded resin-impregnated, cotton fibres 6 mm
instrument and steering console:
sheet metal plates coated with bitumen-mat 4 mm,
rubber foam mat 40 mm below instrument panel,
additional rubber foam stripes 50 to 70 mm in lower part of console

Seat

GRAMMER DS 85H/50R
upholstered seat with arm rests and folding back rest (upper part),
adjustable spring with shock absorber;
additional horizontal spring suspension with shock absorber; in longitudinal direction;
height of platform above ground 1035 mm,
height of unballasted seat above platform adjustable in 2 steps from 492 to 552 mm;
longitudinal adjustment range 170 mm;
optionally seat GRAMMER DS 85H/90 AR available

Number of grease points 18

Dimensions

Total length:	3923 mm	without ballast
	4363 mm	with ballast
Total width:	2085 mm	without ballast
	2085 mm	with ballast
Total height:	2597 mm	to top of cab roof, optionally cab with roof which is 70 mm lower available
Ground clearance:	437 mm	below front axle differential

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Lighting equipment — Electrical, 12 Volt
as per German legislation

	Dimensions mm	Height above ground to centre mm	Distance from outside edge of tractor to centre mm
Head lamps	135 x 115	1020	850
Side lamps	65 x 20	1445	210
Rear lamps	33 x 60	1490	340
Reflectors			
1st pair	115 x 25	1435	340
2nd pair	70 ø	590	660

Permissible total weights and axle loads

for all available wheel equipment
all reported tyre sizes front and rear may be combined together

Wheel equipment front	Wheel equipment rear	Permissible total weight kg	Permissible axle load front kg	Permissible axle load rear kg
11,2-24 6 ply	9,5-44 8 ply	5000	2000	3890
11,2-28 6 ply	13,6-36 6 ply			3230
13,6-24 8 ply	13,6-38 6 ply			3320
14,9/80-24 10 ply	16,9-30 6 ply			3800
12,4-24 6 ply	16,9R34 6 ply			4030

Running-time meter — Mechanical, with tachometer combined, driven by camshaft of engine; reference engine speed for one really counted hour 1635 rev/min

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TEST CONDITIONS

Track of wheels

front	1573 mm
rear	1652 mm

Weights during drawbar performance tests

		without driver	with driver
Without ballast:	front	1415 kg	1430 kg
	rear	2220 kg	2290 kg
	total	3635 kg	3720 kg
Ballast in front:	13 weights 35 kg each		455 kg
Ballast at rear:	2 weights per tyre 64 kg each		256 kg
	water in the tyres		569 kg
With ballast:	front	1985 kg	2000 kg
	rear	2930 kg	3000 kg
	total	4915 kg	5000 kg

Fuels and lubricants used in test

Fuel:	ARAL Diesel-fuel DIN 51 601
	specific gravity at 15°C
	at engine test 0,822 kg/l
	at p.t.o. test 0,826 kg/l
	at drawbar test
	with ballast 0,822 kg/l
	without ballast 0,827 kg/l
Engine:	ARAL SUPER ELASTIC SAE 10W
Fluid clutch:	MOBIL DELVAC 1310 SAE 10W
Transmission:	MOBIL MOBILUBE HD 90 SAE 90
Differential in front, final drives at rear and in front:	MOBIL MOBILUBE HD 90 SAE 90
Power lift and power steering:	MOBIL MOTREX 8920 SAE 20W/20

PRÜFUNGS-ABTEILUNG
FENDT FARMER 305 LS

Test No. 79-244

COMPULSORY TESTS

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

Date of tests: 10th December 1980
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power	Speed engine	Speed fl.clutch output	Speed p.t.o.	Fuel consumption total		Fuel consumption spec.	Specific energy
kW	rev/min	rev/min	rev/min	l/h	kg/h	g/kWh	kWh/l
Maximum power							
At 2-hour test							
42.0	2175	2125	562	12.76	10.54	251	3.29
At the speed recommended for drawbar work							
42.0	2175	2125	562	12.76	10.54	251	3.29
Part loads, the governor hand lever in the position corresponding to the maximum power at full load							
(i) 85% of the torque at maximum power at 2-hour test							
36.6	2228	2179	576	11.40	9.42	258	3.21
(ii) unloaded							
-	2337	2336	618	3.61	2.98	-	-
(iii) 50% of the torque defined in (i)							
18.9	2286	2255	596	7.18	5.93	314	2.63
(iv) maximum power							
42.0	2175	2125	562	12.76	10.54	251	3.29
(v) 25% of the torque defined in (i)							
9.6	2312	2300	608	5.35	4.42	458	1.80
(vi) 75% of the torque defined in (i)							
27.9	2262	2219	587	9.21	7.60	272	3.03

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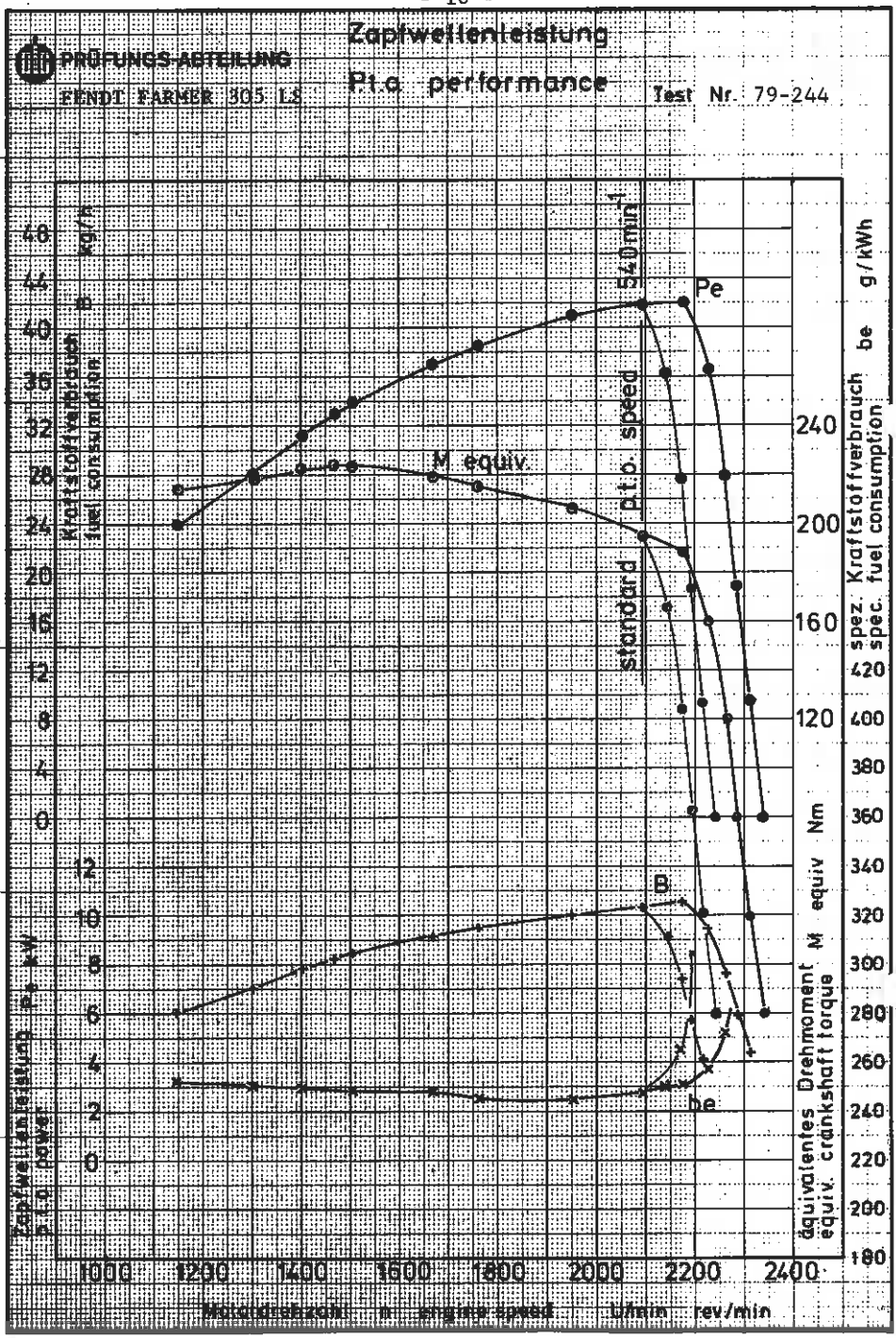
Power	Speed engine	Speed fl.clutch output	Speed p.t.o.	Fuel consumption total		Fuel consumption spec.	Specific energy
kW	rev/min	rev/min	rev/min	l/h	kg/h	g/kWh	kWh/l
Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load							
(i) 85% of the torque at maximum power at standard p.t.o speed							
36.3	2140	2091	553	10.99	9.08	250	3.30
(ii) unloaded							
-	2238	2238	592	3.23	2.67	-	-
(iii) 50% of the torque defined in (i)							
18.8	2190	2164	572	6.90	5.70	304	2.72
(iv) maximum power							
41.8	2094	2042	540	12.51	10.33	247	3.34
(v) 25% of the torque defined in (i)							
9.5	2214	2196	581	5.06	4.18	438	1.88
(vi) 75% of the torque defined in (i)							
27.7	2170	2130	563	8.91	7.36	266	3.11

Standard specific fuel consumption (g/kWh): 258/314/250/304

No load maximum engine speed: 2337 rev/min
Equivalent flywheel torque at maximum power (2 hours): 189 Nm
Maximum equivalent flywheel torque: 224 Nm at 1466 rev/min of the engine

Mean atmospheric conditions:	temperature	20 °C
	pressure	1015 mbar
	relative humidity	25 %
Maximum temperatures:	coolant	98 °C
	engine oil	103 °C
	fuel	25 °C
	engine air intake	25 °C

The equivalent flywheel torques are given relative to the output shaft of the fluid clutch

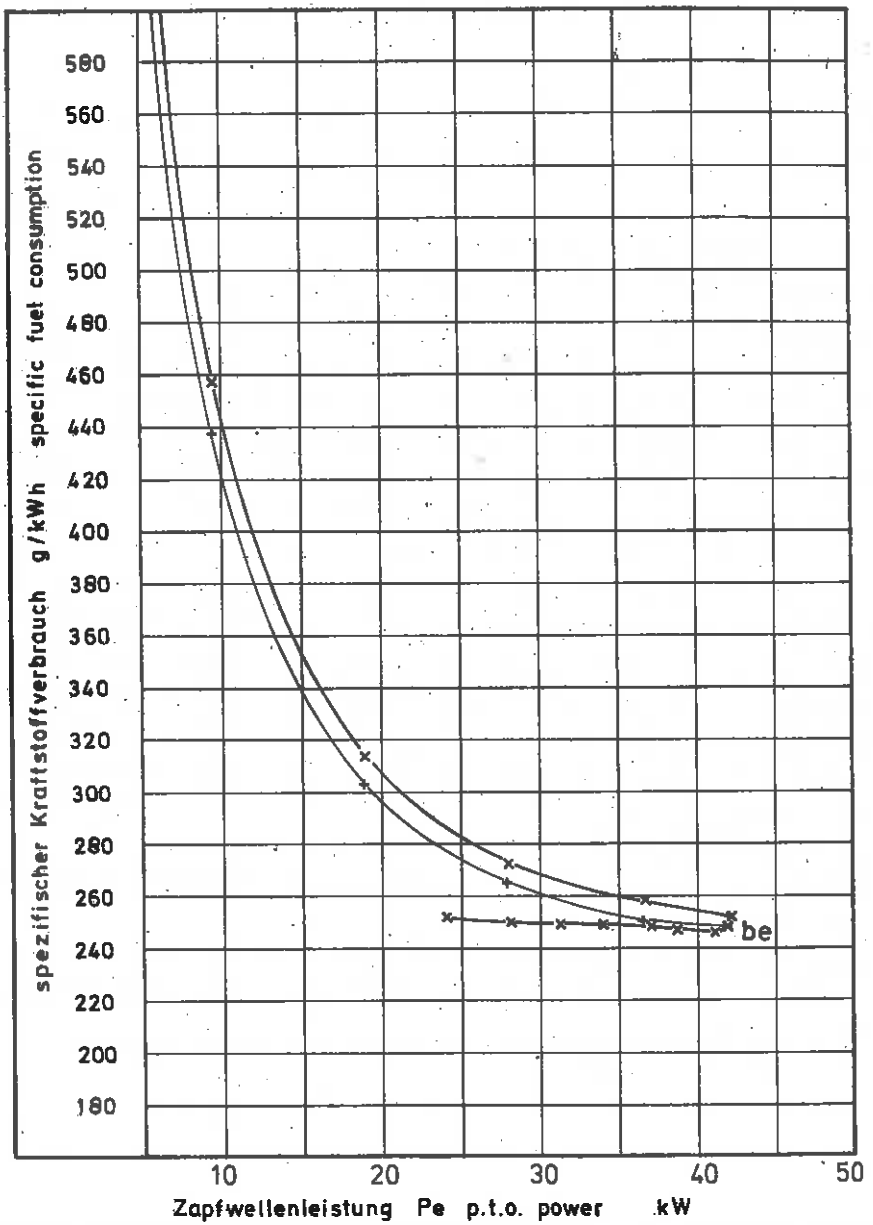

Zapfwellenleistung
PRÜFUNGS-ABTEILUNG
FENDT FARMER 305 LS
P.t.o. performance
Test Nr. 79-244
Kraftstoffverbrauch
fuel consumption
kg/h
Zapfwellenleistung
p.t.o. power
kW
standard p.t.o. speed 540 min⁻¹
Pe
M equiv.
B
be
äquivalentes Drehmoment M equiv Nm
equiv. crankshaft torque
spez. Kraftstoffverbrauch be g/kWh
spec. fuel consumption
Motordrehzahl n engine speed U/min rev/min
1000
1200
1400
1600
1800
2000
2200
2400

PRÜFUNGS-ABTEILUNG

FENDT FARMER 305 LS

Zapfwellenleistung
P.t.o. performance

Test Nr. 79-244



PRÜFUNGS-ABTEILUNG
FENDT FARMER 305 LS

(2) DRAWBAR PERFORMANCE

Date of tests: 11th December 1980 to 27th January 1981
Type of track: Concrete

Gear no. and group	Driving speed km/h	Power kW	Drawbar pull daN	Engine speed rev/min	Slip of wheels %
(i) MAXIMUM POWER (unballasted) height of drawbar above ground 530 mm					
2 A FS	2,40	26,6	4002	2248	15,0
3 A FL	3,07	34,1	3999	2187	15,1
3 A FS	4,02	36,4	3263	2173	8,4
1 S FL	5,25	37,2	2551	2175	5,2
1 S FS	6,49	37,5	2079	2175	4,0
2 S FL	8,61	37,3	1561	2173	2,8
2 S FS	10,54	37,0	1265	2173	2,3
3 S FL	14,08	35,3	902	2173	1,6
(ii) MAXIMUM POWER (ballasted) height of drawbar above ground 510 mm					
1 A FL	1,24	17,4	5043	2271	14,9
1 A FS	1,50	21,0	5044	2265	15,0
2 A FL	1,95	27,4	5066	2235	15,0
2 A FS	2,34	32,6	5020	2216	15,1
3 A FL	3,34	36,7	3951	2174	6,6
3 A FS	4,16	36,7	3178	2172	4,7
1 S FL	5,34	37,4	2523	2178	3,4
1 S FS	6,57	36,8	2014	2177	2,6
(iii) FIVE-HOUR-TEST at 75% of pull at maximum power in 1 FS gear					
1 S FS	6,83	28,7	1511	2239	1,9
(iv) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (ii)					
2 A FS	2,41	33,9	5068	2204	-

Total oil consumption during ten hours duration of tests (iii) and (iv) 23 g/h

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Tyre size front: 12,4-24 6 ply
rear: 16,9R34 8 ply

Tread bar height at the beginning of drawbar tests 94% front, 92% rear of the values when new

Specific fuel consumpt. g/kWh	Specific energy kWh/l	Temperatures Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure mbar
tyre inflation pressure 0,8 bar rear, o,8 bar front							
334	2,46	12	73	91	7	64	1009
310	2,65	12	75	94	7	60	1009
292	2,82	11	76	96	7	67	1009
285	2,89	10	76	95	7	70	1009
282	2,91	10	76	94	7	69	1008
284	2,90	10	75	96	7	68	1008
286	2,87	10	76	95	7	69	1008
297	2,76	10	76	95	7	68	1008
tyre inflation pressure 0,8 bar rear, 1,3 bar front							
388	2,13	4	70	91	-1	78	1016
361	2,29	4	72	91	-1	80	1016
336	2,46	4	75	91	-1	82	1016
316	2,61	4	75	95	-1	79	1016
290	2,86	11	76	96	5	91	1013
290	2,86	11	76	96	5	91	1014
283	2,92	11	76	96	6	84	1014
289	2,83	11	75	95	6	81	1014
306	2,70	6	78	99	2	99	1021
-	-	9	79	108	5	80	1021

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

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 12,4-24 6 ply
rear: 16,9R34 6 ply

Track of wheels front: 1573 mm
rear: 1652 mm

Front wheel drive disengaged

	With brakes left-hand m	With brakes right-hand m	Without brakes left-hand m	Without brakes right-hand m
Radius of turning space	4,78	4,76	5,56	5,42
Radius of turning circle	4,48	4,44	5,26	5,10

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	934 mm
Distance forward from rear axle centre	893 mm
Distance from tractor's median plane, to the right	2 mm

PRÜFUNGS-ABTEILUNG
FENDT FARMER 305 LS

Test No. 79-244

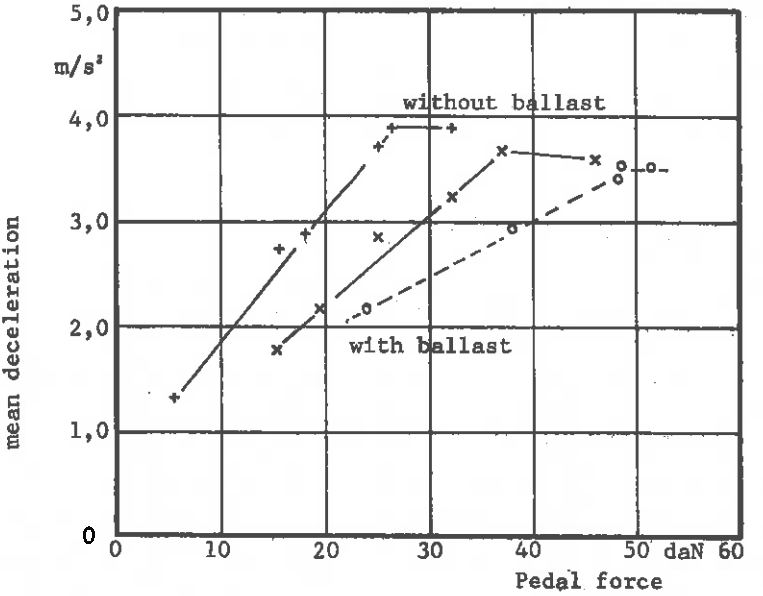
(5) Braking

Date of tests:

Tractor masses during tests with driver:	front kg	rear kg	total kg
without ballast	1430	2290	3720
with ballast	2000	3000	5000

A) Service brake

Type-0-test (cold brakes) ——, Type-I-(fade)test – – –



Speed before application of brakes, without ballast 31,8 km/h
with ballast 30,0 km/h

The brakes were heated by towing of the tractor for 1 km

B) Parking brake

	Ballasted tractor on 18%-slope		Unballasted tractor on 12%-slope with trailer of 3000 kg	
	up	down	up	down
Braking device control force daN	24	22	21	20

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(6) MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of test: 8th and 9th January 1981
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2209

Results of test

Gear: 2nd Overdrive
Travelling speed before acceleration: 22,8 km/h
Sound level: 87,5 dB(A)

(7) NOISE MEASUREMENT AT THE DRIVER'S EAR

Date of tests: 11th December 1980
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2209

The tractor was fitted with FENDT safety cab

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level daN	Travelling speed nominal km/h	Travelling speed effective km/h	Sound level dB(A)
1 A FL	3952	1,39	1,24	80,5
1 A FS	3950	1,69	1,49	80,5
2 A FL	3983	2,22	2,00	81,0
2 A FS	3952	2,71	2,38	81,5
3 A FL	4001	3,60	3,09	81,0
3 A FS	3008	4,39	4,21	82,0
1 S FL	2542	5,55	5,24	80,5
1 S FS *)	2070	6,77	6,48	81,0
2 S FL	1569	8,88	8,55	80,5
2 S FS	1262	10,84	10,53	80,0
3 S FL	811	14,38	14,14	82,0
3 S FS	706	17,55	17,18	81,0
2nd Overdrive	light load	29,51	31,76	81,0
1 S FS *)	light load	6,77	7,40	79,0

*) The 1 S FS gear corresponds to the travelling speed nearest to 7,5 km/h

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(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date of tests: 6th February 1981

Power Lift

	Height of lower hitch point above ground in down pos. mm	Vertical movement mm	Max. force exerted through full range daN	Corresp. pressure of hydraul. fluid bar	Moment about rear axle daNm	Max. tilt angle of mast over range of lift degrees
At hitch points	170	705	2100	158	-	-
On the frame	170	805	1710	158	2657	13 *)

Temperature of hydraulic fluid at start of test 65 °C

*) max. tilting angle of mast from vertical position to max. height 9°

Lifting heights relative to horizontal lower links

mm	-425	-400	-375	-300	-200	-100	0	+100	+200	+300	+330	+380
Lifting forces at hitch points												
daN			2100	2200	2310	2400	2420	2400	2400	2400	2400	
Lifting forces at test frame												
daN	1910	1930		2000	2040	2040	2010	1950	1890	1800		1710

Hydraulic Pump Performance

Opening pressure of the relief valve in remote circuit	167 bar
Sustained pressure with relief valve open	182 bar
Pump delivery rate at minimum pressure, the governor control lever being set for max. power	41,2 l/min
Hydraulic power at 90% of relief valve setting	10,7 kW
Corresponding delivery rate	39,2 l/min
Pressure	164 bar
Temperature of hydraulic fluid	65 °C

Tapping point used for test: At rear of tractor

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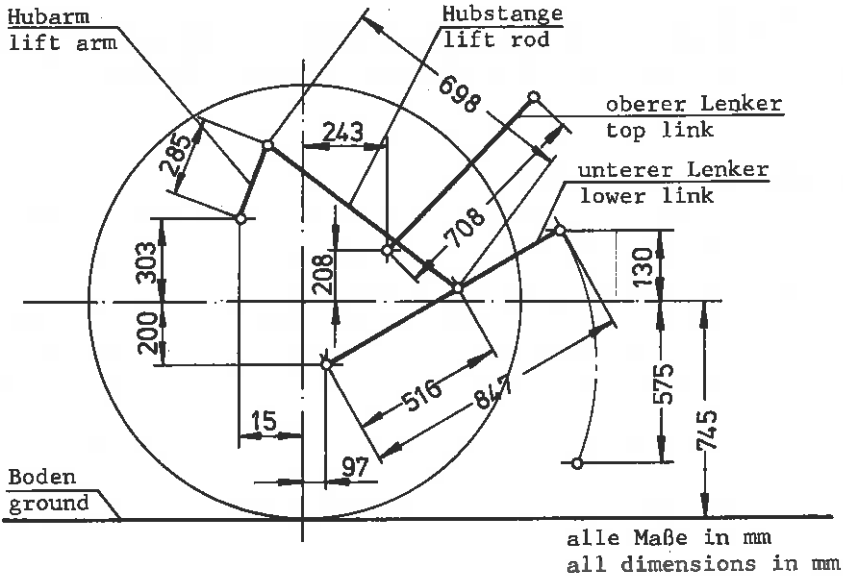
LINKAGE GEOMETRY when connected to the standard frame

Projected length in side view:

Lower links	847 mm
Lift arms	285 mm
Lift rods	698 mm
Top link	708 mm
Distance of lift rod connection point from pivot point of lower link	516 mm

The following dimensions are given relative to the rear wheel centre line, situated 745 mm above ground:

Lower link pivot point	97 mm behind,	200 mm below
Top link pivot point	243 mm behind,	208 mm above
Lift arm pivot point	15 mm forward,	303 mm above
Maximum and minimum height of lower link hitch points	575 mm below,	130 mm above
Height of lower link hitch points when locked in transport position	375 mm below	



alle Maße in mm
all dimensions in mm

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OPTIONAL TESTS

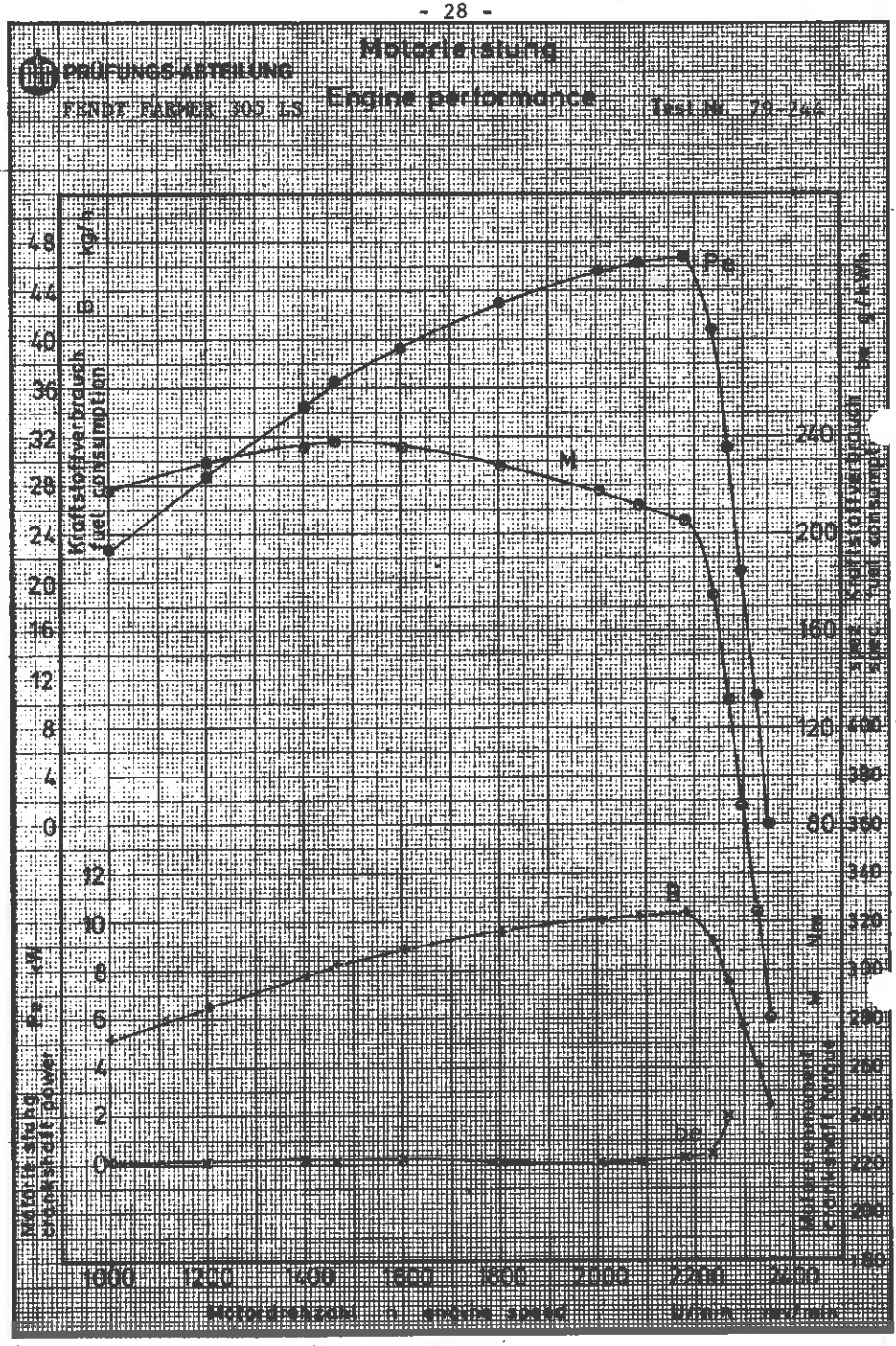
(9) ENGINE PERFORMANCE

Date of tests: 27th November 1980
Type of dynamometer: SCHENCK eddy-current dynamometer W 150

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
Maximum power					
At 2-hour test					
46.8	2175	12.64	10.39	222	3.70
At standard p.t.o. speed (540 rev/min)					
46.4	2094	12.48	10.26	222	3.71
At the speed recommended for drawbar work					
46.8	2175	12.64	10.39	222	3.70
Part loads					
(i) 85% of the torque at maximum power at 2-hour test					
40.8	2230	11.10	9.13	224	3.67
(ii) unloaded					
-	2344	2.89	2.38	-	-
(iii) 50% of the load defined in (i)					
20.9	2286	6.90	5.67	271	3.03
(iv) maximum power					
46.8	2175	12.64	10.39	222	3.70
(v) 25% of the load defined in (i)					
10.6	2319	4.91	4.03	380	2.16
(vi) 75% of the load defined in (i)					
31.0	2261	9.02	7.42	239	3.44

Optimum fuel consumption: 216 g/kWh at 34 kW and 1631 rev/min
No load maximum engine speed: 2344 rev/min
Torque at maximum power (2 hours): 206 Nm
Maximum torque: 239 Nm at 1463 rev/min of the engine

Mean atmospheric conditions:	temperature	21 °C
	pressure	997 mbar
	relative humidity	33 %
Maximum temperatures:	coolant	96 °C
	engine oil	95 °C
	fuel	25 °C
	engine air intake	23 °C

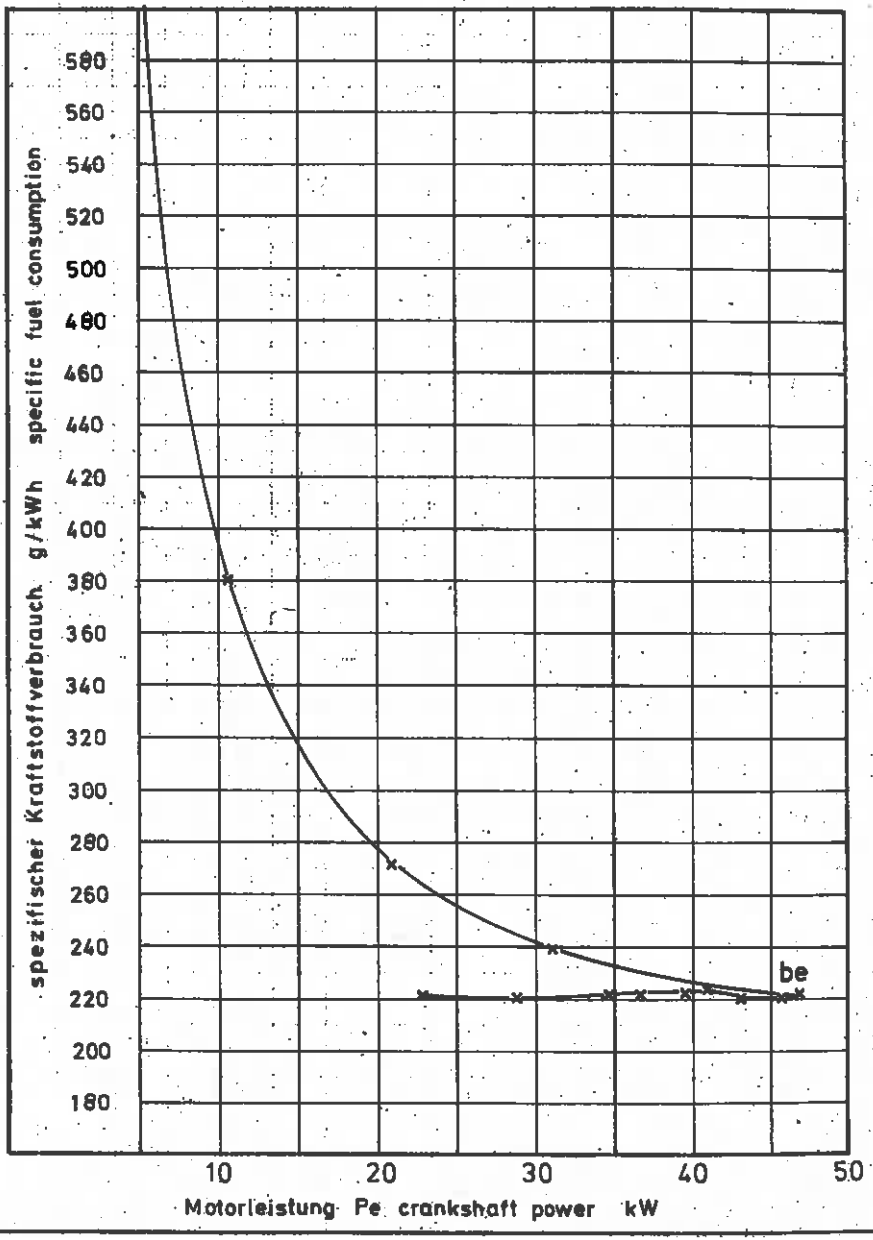

Motorleistung
PRÜFUNGS-ABTEILUNG
FIAT FABRIK 305 LS Engine performance Test N. 29-244
Kraftstoffverbrauch fuel consumption
kg/h
g/PSh
Pe
M
P
Motorleistung brake horsepower
Kw
PS
Motordrehzahl n engine speed
U/min rev/min
1000
1200
1400
1600
1800
2000
2200
2400

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FENDT FARMER 305 LS

Motorleistung
Engine performance

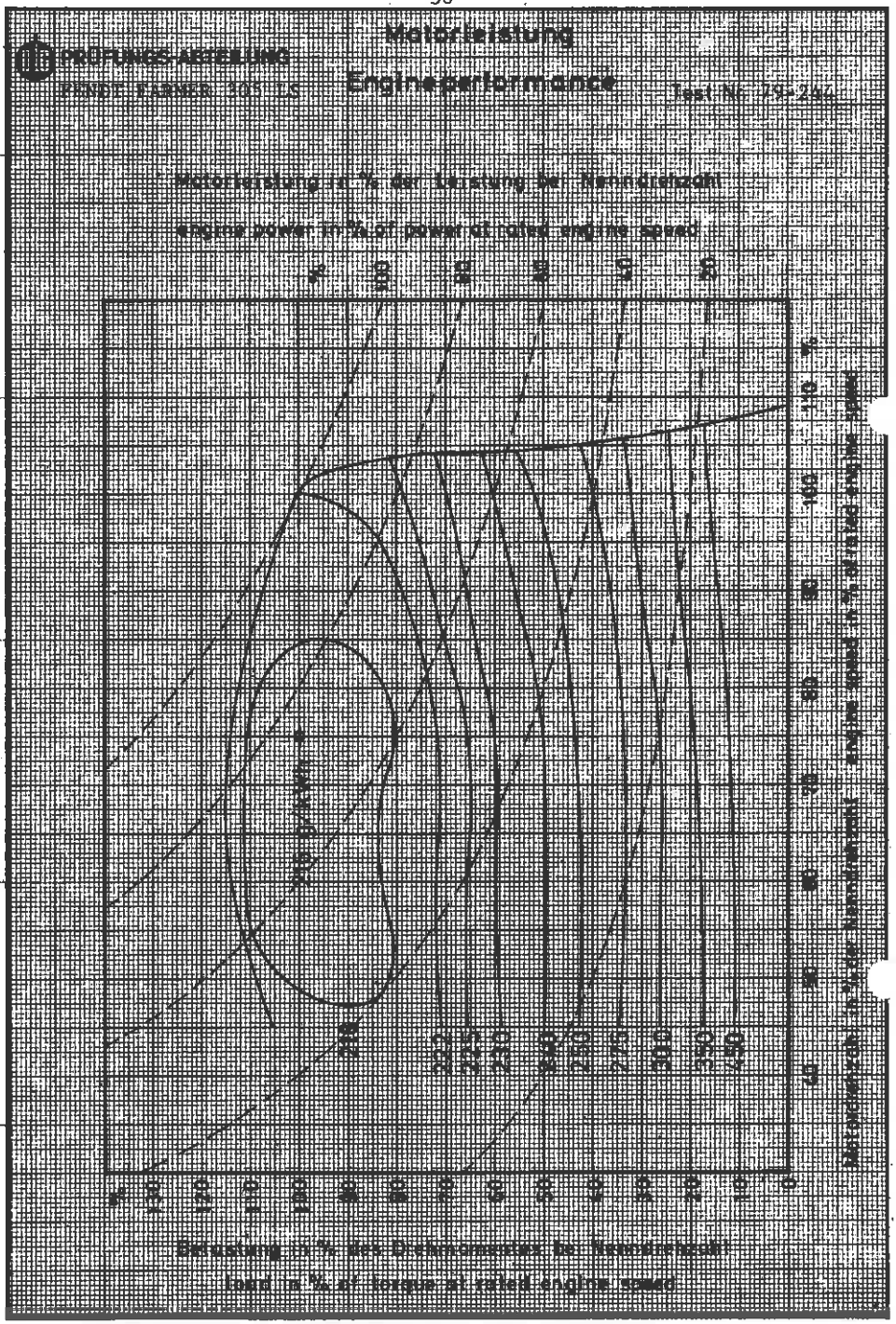
Test Nr. 79-244



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Motorleistung

Peugeot Diesel 305 TS Engine performance Test Nr. 79-244



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