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

O.E.C.D. No. 655



Agricultural Tractor
Fendt Favorit 600 LS Turbomatik

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

Deutsche Landwirtschafts-Gesellschaft e.V.
Zimmerweg 16 · D-6000 Frankfurt a. M. 1
Telefon: (0611) 7207 11 · Telex: 04 131 85 dlg-d

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: April till July 1979

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: 6th March 1980 O.E.C.D. No. 655

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

All rights including the right of translation, reprint and photomechanical copying — also of excerpts — reserved by the DLG.

Printed in the Federal Republic of Germany

April 1980; DLG-No. 140

TABLE OF CONTENTS

	Page
Specification of tractor	4 to 14
Fuel and lubricants used in tests	15
COMPULSORY TESTS	
(1) Main power take-off performance	16 to 19
(2) Drawbar performance on a concrete track	20 and 21
(3) Turning space and turning circle	22
(4) Location of centre of gravity	22
(5) Braking performance	23
(6) Ambient noise, emitted by the tractor	24
(7) Noise at the driver's ear level	24
(8) Power lift and hydraulic pump performance	25 to 28
OPTIONAL TESTS	
(9) Engine performance	29 to 32

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

Test No. 78-117

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

Duration of running-in: Engine and tractor appr. 200 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	X. FENDT UND CO
Model:	FAVORIT 600 LS TURBOMATIK
Type:	Wheeled tractor, unit construction semi-frame reinforced, all-wheel driven
Serial No:	280/21/0001

Engine

Make:	MOTORENWERKE MANNHEIM AG
Model:	D 227.6
Type:	4 stroke DIESEL engine with direct injection, watercooled
Serial No:	D 227.6.201002
Cylinders:	6, vertical, in-line, bore 100 mm, stroke 120 mm; displacement 5655 cm^3; compression ratio 18;
Valves:	Overhead
Fuel system:	BOSCH fuel feed pump FP/KE 22 AD 301/2; BOSCH in-line injection pump: PES 6A 80D 320/3 RS 1302; manufacturer's production setting 46 mm^3/stroke at 2300 rev/min and full load; injection timing 29° before TDC; BOSCH multihole injection nozzles; 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 505 DR; governed range of engine speed 650 to 2490 rev/min; rated engine speed 2300 rev/min

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

Test No. 78-117

Air cleaner:	MANN UND HUMMEL dry paper element filter with precleaner incorporated, with replaceable main cartridge and additional safety cartridge; maintenance indicator
Exhaust silencer:	EBERSPÄCHER multichamber-reflection type silencer; 185 mm diameter, 625 mm long; on the left hand side of engine; mouth showing upwards; mouth 2645 mm above ground
Lubrication system:	Forced feed from gear-type pump; strainer in sump; MANN full flow filter with by-pass and replaceable cartridge; oil capacity 13 l; oil and cartridge changing period 200 hours; recommended oil quality MIL-L-46152 or 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 5 blades, 474 mm diameter; water capacity 19 l
Starting system:	Electrical; BOSCH screw-push starter motor, 2,9 kW; BERU flame plug 129 MJ in intake pipe
Electrical equipment:	12 Volt, negative earth; BOSCH 3 phase alternator 14V 33 A; 1 lead acid battery 143 Ah at 20 hours rating

Transmission

Clutch:
1. VOITH GETRIEBE KG
fluid clutch 422 TDF
for travel drive only

2. FICHTEL UND SACHS AG
dry single disc-type clutch G 310 K,
310 mm diameter,
hydraulically pedal operated,
self-adjusting,
for travel drive only

p.t.o. clutch see page 7

Gear box:
Own make in cooperation with
ZAHNRADFABRIK FRIEDRICHSHAFEN AG;
T 3340;
speed change gear with 6 speeds;
1st and 2nd gear collar shifted;
3rd to 6th gear synchronized;
synchromesh group gear with
2 forward groups (L and S)
and 1 reverse group (R);
the 6th gear of speed change gear is locked
if the reverse group is shifted;
optionally a creep group for the
1st and 2nd gear of speed change gear
or a super creep group for the
1st to 4th gear of the speed change gear available
(not fitted on tractor tested);
creep speeds and super creep speeds shall not
be used for heavy drawbar work;
totally 12 forward and 5 reverse speeds
at tractor tested

Rear axle and final drive:
Bevel gear drive with crown wheel and pinion;
bevel gear-type differential with lock;
pedal operated, self disengaging;
planetary final drives

Driven front axle:
BERGISCHE ACHSENFABRIK
TL 0521
driven by universal joint shaft;
joint shaft situated on the left hand side
of gear box

under load engageable and disengageable
by a particular wet multi-disc-type clutch;
handlever operated;
bevel gear drive with crown wheel and pinion;
bevel gear-type differential without locking;
planetary final drives

Oil capacity:	Fluid clutch	9,3 l
	gear box (in common with hydraulic power lift)	42,0 l
	final drives in the rear axle each	6,5 l
	front axle differential	5,8 l
	final drives in the front axle each	0,8 l

Oil changing period:	Fluid clutch	5000 hours
	gears	1000 hours

Recommended oil qualities:	Fluid clutch	engine oil	SAE 10W
	final drives	hypoid oil	SAE 90 MIL-L-2105 B
	other gears	engine oil	SAE 20W/20 MIL-L-46152 or MIL-L-2104 C

Power take-off

Main p.t.o.: Independent p.t.o. (live p.t.o.);
at rear of tractor;
driven through a dry multi-disc-type clutch
independent from fluid clutch and single
disc-type-cluth;
operated by hand lever situated below
the steering wheel;
height above ground 666 mm in tractor's
median plane;
35 mm diameter, 6 splines acc. to DIN 9611 and
ISO 500 type 1

2 speeds are preselectable by hand lever:

540 rev/min p.t.o.

586 rev/min at rated engine speed;
standard p.t.o. speed 540 rev/min at
2118 rev/min engine speed

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

Test No. 78-117

Total ratios and speeds (tyres 16,9 R 38)

Group		Gear	Total ratio engine : driving wheels	Nominal travelling speed *) at rated engine speed km/h
Forward speeds				
Creep Group	slow L	1	638,48	1,05
		2	405,19	1,65
	fast S	1	511,13	1,31
		2	324,37	2,06
slow L		1	260,07	2,57
		2	165,05	4,05
		3	105,63	6,33
		4	69,39	9,64
		5	44,66	14,97
		6	27,51	24,31
fast S		1	208,20	3,21
		2	132,12	5,06
		3	84,56	7,91
		4	55,55	12,04
		5	35,75	18,70
		6	22,02	30,36
Reverse speeds				
Creep +) group	R	1	461,48	1,45
		2	292,86	2,28
reverse R		1	187,97	3,56
		2	119,29	5,61
		3	76,35	8,76
		4	50,16	13,33
		5	32,28	20,71

*) calculated with the RADIUS INDEX 795 mm WdK 154
3% slippage of the fluid clutch is included

+) optional, not fitted on tractor tested

Main p.t.o. (Continuation)	1000 rev/min p.t.o. 1022 rev/min at rated engine speed; p.t.o. speed 1000 rev/min at 2250 rev/min engine speed p.t.o. speeds may be set by aid of tractormeter; direction of rotation clockwise, viewed from tractor rear
Secondary p.t.o.	Optional, not fitted on tractor tested; independent p.t.o. at front of tractor; 723 mm above ground, in tractor's median plane; drive, dimensions and direction of rotation same as main p.t.o.; 1119 rev/min at rated engine speed; p.t.o. speed 1000 rev/min at 2055 rev/min engine speed

Power lift

Hydraulic system:	Own make in cooperation with ZAHNRADFABRIK FRIEDRICHSHAFEN AG; open system; BOSCH gear pump with 19 cm^3/rev delivery; driven by transmission; ram, lift shaft and control valve in unit construction; BOSCH control valve for lifting and lowering, 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 1 single acting additional external ram 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 42 l; in special cases up to 47 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

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

Test No. 78-117

Implement linkage:	Three point linkage category II DIN 9674, optional category III; with quick-coupling device; lift rods adjustable from 612 to 680 mm lifting range above ground with short lift rods from 353 to 1033mm long lift rods from 218 to 938 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 293 to 1108mm depending on lift rods length, measured at the surface of the bar; in any height above ground hydraulically lockable; a mechanically acting lift lock is optionally available; 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 483 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 860 or 930 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 2000 kg at max. 25 km/h,
1500 kg for speeds from 25 to 30 km/h

Towing hitch: 780 mm above ground

The tractor can be fitted optionally with a MÖBIUS hitch

Steering

Own make in cooperation with ZAHNRADFABRIK FRIEDRICHSHAFEN AG
hydrostatic steering model 8451 with own oil circuit;
BOSCH gear pump with 16 cm^3/rev delivery;
on the left hand side of engine;
directly driven by engine;
oil capacity 1,4 l;
recommended oil: engine oil SAE 20W/20;
oil changing period 1000 hours;
1 double acting ram,
45 mm bore, 250 mm stroke;
directly acting on the front axle;
steering wheel vertically adjustable to driver's size

Brakes

Parking brake: Mechanically acting shoe-type brake with 2 brake drums 250 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 disc brake with 274 mm disc diameter on the joint shaft;
with electrical wear indicator;
pedal operated;

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

Wheels

Steered wheels: Two pneumatics at front 12,4 R 28 AS 6 ply radial-type tyre casing;
maximum permissible load per tyre 1275 kg at 1,7 bar inflation pressure and 30 km/h;
track width 1680 or 1820 mm,
adjustable by turning wheels;
rims W 10 x 28

Driving wheels: Two pneumatics at front and at rear;
specification of driving front wheels see at steered wheels;
driving rear wheels:
2 pneumatics 16,9 R 38 AS 8 ply;
radial-type tyre casing;
maximum permissible load per tyre 2520 kg at 1,7 bar inflation pressure and 30 km/h;
track width 1700 or 1850 mm adjustable by turning wheels;
(optional: track adjustment wheels for track widths from 1520 to 2124 mm in steps of appr. 100 mm by turning wheels and offset lug type rims, not fitted on tractor tested);
rims W 14L x 38

Wheel base: 2727 mm

Cab

Own make
safety cab
O.E.C.D. tested, approval no. CS 1273b
antivibration mounts;
windscreen and upper back window tiltable;
right hand side and lower rear part of cab equipped with sliding windows;
inside of cab totally covered with noise damping material;
door on the left hand side;
3 mounting steps;
hot-water heating with ventilation system connected to the water cooling circuit

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

Test No. 78-117

Seat

GRAMMER DS 85
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 1200 mm above ground;
height of seat above platform adjustable
from 395 to 455 mm in 3 steps;
for and aft adjustable about 250 mm;
inclination of seat surface
in longitudinal direction,
adjustable in 3 steps

Weights

Ready for use as tested, with cab

		without driver	with driver
Without ballast:	front	1835 kg	1850 kg
	rear	3370 kg	3430 kg
	total	5205 kg	5280 kg
Front ballast:	1 base weight		47 kg
	2 front weights, 35 kg each		70 kg
	water in the tyres		220 kg
Rear ballast:	2 weights per wheel 64 kg each		256 kg
	water in the tyres		637 kg
With ballast:	front	2185 kg	2200 kg
	rear	4250 kg	4310 kg
	total	6435 kg	6510 kg

Number of grease points 21

Dimensions

Total length: 4570 mm without ballast
4660 mm with ballast

Total width: 2150 mm without ballast
2150 mm with ballast

Total height: 2790 mm to top of cab

Ground clearance: 405 mm below swinging drawbar

Track setting during tests: front axle 1680 mm
rear axle 1700 mm

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

Test No. 78-117

Lighting equipment

	Dimensions of area mm	Height above ground to centre mm	Distance from outside edge of tractor to centre mm
Head lights	135 x 120	850	830
Side lights	55 x 55	1570	165
Rear lights	160 x 60	1585	190
Reflectors			
1st pair	125 x 25	1485	190
2nd pair	60 Ø	485	615

Permissible total weights and axle loads

for all available wheel equipment

Wheel equipment front	Wheel equipment rear	Permissible total weight kg	Permissible front axle load kg	Permissible rear axle load kg
11,2-28	18,4-34	6500	2230	4800
	16,9-38	6500		4800
	9,5-48	6310		4080
12,4-28	18,4-34	6500	2550	4800
	16,9-38	6500		4800
	9,5-48	6500		4080
14,9-24	18,4-34	6500	3000	4800
	16,9-38	6500		4800
	9,5-48	6500		4080

All tyres are available as diagonal-type as well as radial-type tyre casings

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

Test No. 78-117

FUELS AND LUBRICANTS USED IN TESTS

Fuel:	ARAL-DIESEL-fuel DIN 51601	
	specific gravity at 15 °C	
	during engine tests	0,826 kg/l
	during p.t.o. tests	0,826 kg/l
	during drawbar tests	0,832 kg/l

Engine, speed change gear, group gear, rear axle and hydraulic system:

Engine oil ESSO ESSOLUBE HDX PLUS SAE 20W/20

Front axle differential and final drives of front and rear axle:

ESSO hypoid oil SAE 90

Fluid clutch: ARAL engine oil SAE 10W

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

Test No. 78-117

COMPULSORY TESTS

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

Date of tests: 28th May 1979
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 2-hour test						
61.0	2300	1022	19.04	15.73	258	3.20
At standard p.t.o. speed						
60.5	2250	1000	18.53	15.31	253	3.26
At the speed recommended for drawbar work						
61.0	2300	1022	19.04	15.73	258	3.20
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						
52.7	2340	1040	16.58	13.70	260	3.18
(ii) unloaded						
-	2490	1107	5.61	4.63	-	-
(iii) 50% of the load defined in (i)						
27.4	2425	1078	10.87	8.98	328	2.52
(iv) maximum power						
61.0	2300	1022	19.04	15.73	258	3.20
(v) 25% of the load defined in (i)						
13.8	2449	1089	8.14	6.73	488	1.69
(vi) 75% of the load defined in (i)						
40.2	2382	1058	13.71	11.32	281	2.94

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

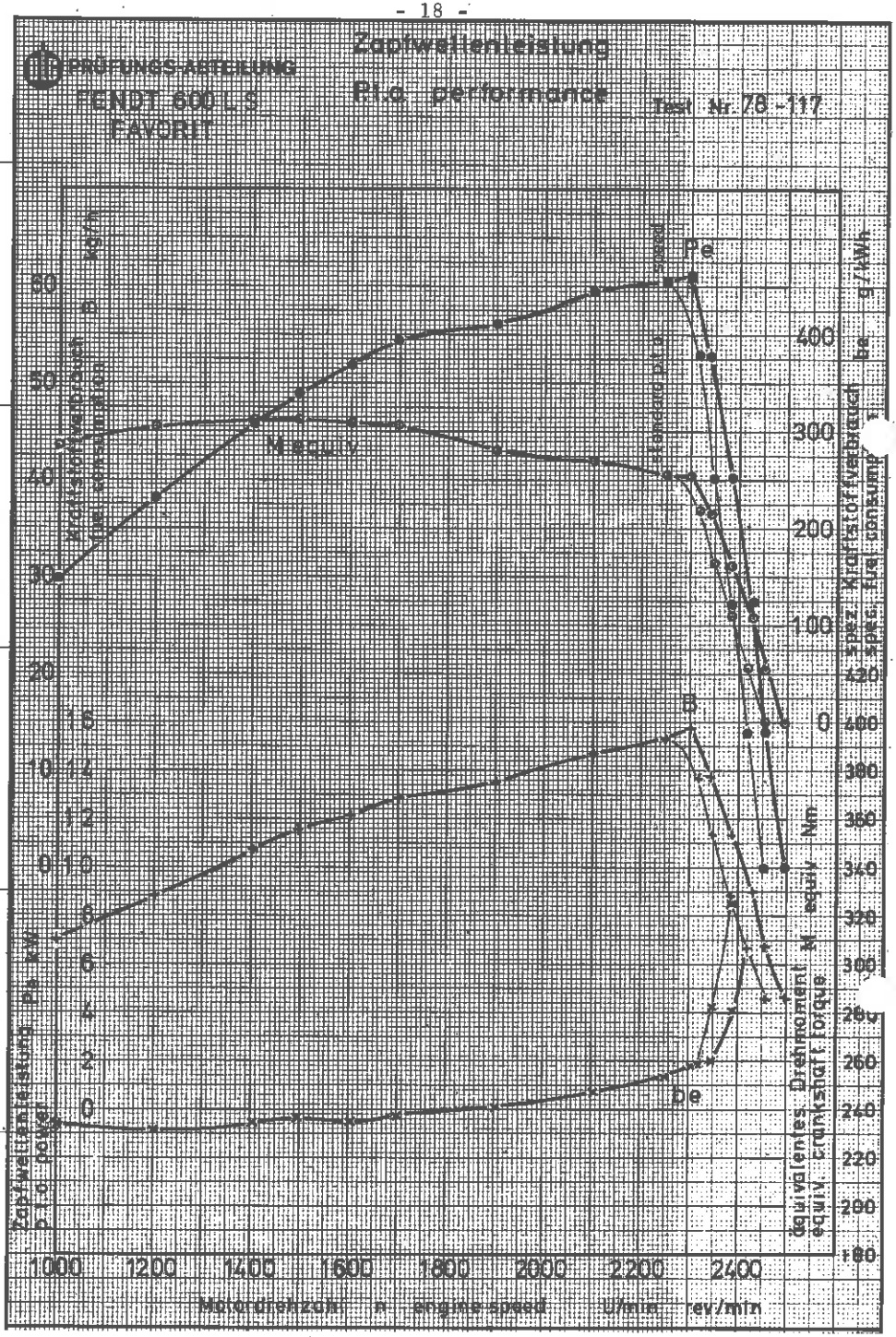
Test No. 78-117

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
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 2-hour test						
52.9	2315	1029	16.56	13.68	259	3.19
(ii) unloaded						
-	2450	1089	5.53	4.57	-	-
(iii) 50% of the load defined in (i)						
27.2	2381	1058	10.71	8.85	326	2.53
(iv) maximum power						
60.5	2250	1000	18.53	15.31	253	3.26
(v) 25% of the load defined in (i)						
13.8	2414	1073	8.04	6.64	481	1.72
(vi) 75% of the load defined in (i)						
40.1	2344	1042	13.72	11.34	282	2.93

Standard specific fuel consumption (g/kWh): 260/328/259/326

No load maximum engine speed: 2490 rev/min
Equivalent crankshaft torque at maximum power (2 hours): 253 Nm
Maximum equivalent crankshaft torque: 312 Nm at 1492 rev/min of the engine

Mean atmospheric conditions:	temperature	20 °C
	pressure	1000 mbar
	relative humidity	70 %
Maximum temperatures:	coolant	85 °C
	engine oil	100 °C
	fuel	22 °C
	engine air intake	26 °C


Zapfwellenleistung
PTO performance
PRÜFUNGS-ABTEILUNG
FENDT 600 L S
FAVORIT
Test Nr. 78 - 117
Pe
Me equiv
Be
De
B
Zapfwellenleistung PTO power Pe kW
equivalentes Drehmoment Me 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

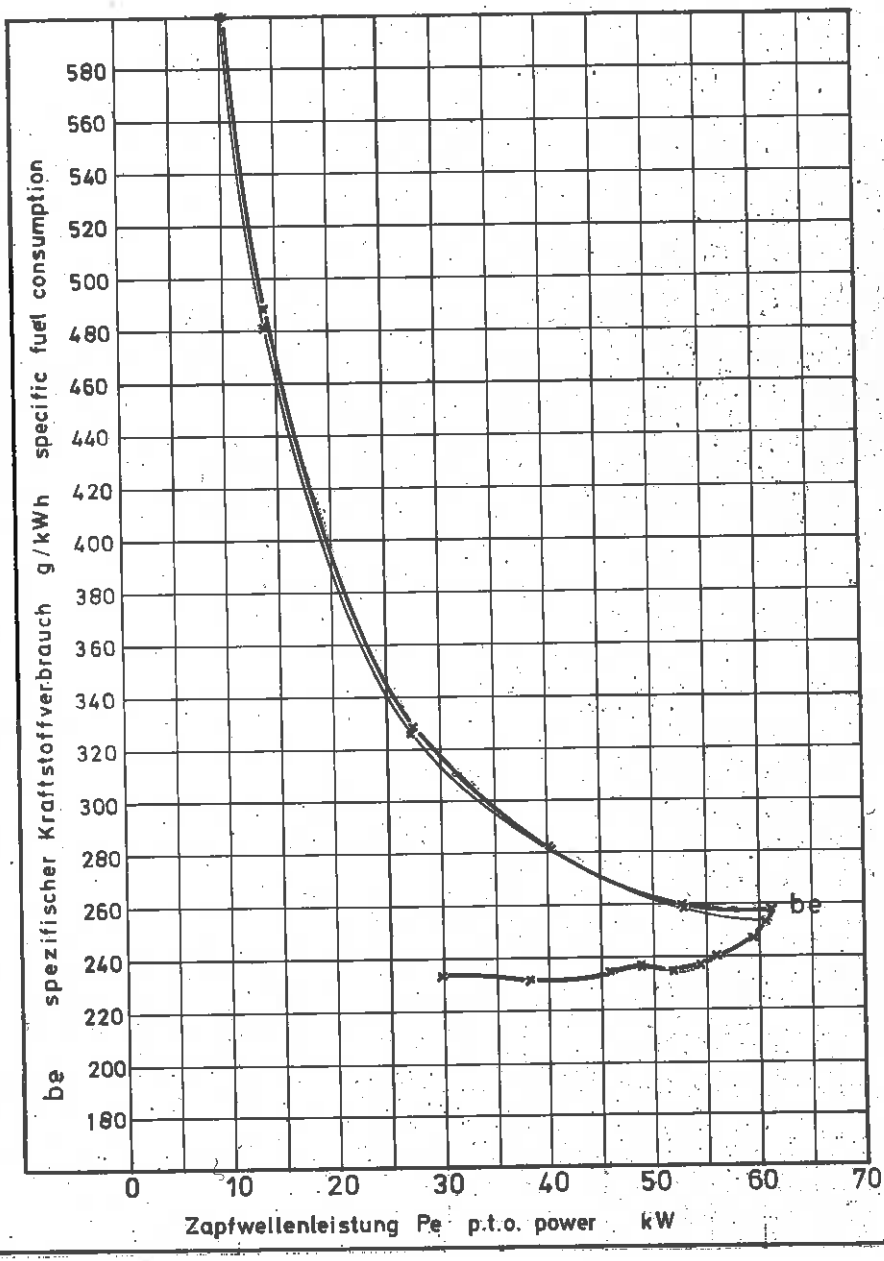
PRÜFUNGS-ABTEILUNG

FENDT 600 LS
FAVORIT

Zapfwellenleistung

P.t.o. performance

Test Nr. 78–117



(2) DRAWBAR PERFORMANCE

Date of tests: 5th to 19th June 1979
Type of track: Concrete

Gear	Driving speed km/h	Power kW	Drawbar pull daN	Engine speed rev/min	Slip of wheels %
(i) MAXIMUM POWER with ballast height of drawbar above ground 480 mm					
1 L	2,28	38,2	6039	2343	15,1
1 S	2,82	46,7	5958	2301	14,5
2 L	3,76	49,6	4745	2300	9,4
2 S	4,83	50,7	3778	2301	6,8
3 L	6,13	52,0	3051	2299	5,2
3 S	7,76	51,5	2391	2297	3,9
4 L	9,53	50,5	1907	2296	3,0
4 S	11,99	49,0	1471	2298	2,3
(ii) FIVE-HOUR-TEST at 75 % of pull at maximum power in 3rd L gear					
3 L	6,36	40,4	2288	2338	3,7
(iii) FIVE-HOUR-TEST at pull corresponding to 15 % wheel slip in test (i)					
1 L	2,31	38,8	6039	-	-
(iv) MAXIMUM POWER without ballast height of drawbar above ground 490 mm					
1 L	2,31	33,1	5159	2364	15,0
1 S	2,84	41,1	5213	2333	15,1
2 L	3,59	48,7	4880	2296	12,9
2 S	4,73	49,6	3772	2299	8,4
3 L	6,06	49,8	2959	2298	6,1
3 S	7,69	51,0	2388	2299	4,7
4 L	9,44	50,6	1931	2297	3,7
4 S	11,91	49,3	1490	2297	2,7
5 L	14,92	49,1	1184	2300	2,2

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

PRÜFUNGS-ABTEILUNG Test No. 78-117

Tyres size front: 12,4 R 28 6 ply
rear: 16,9 R 38 8 ply

Tread bar height at the beginning of drawbar tests 80 % at front, 84 % at rear of the value when new

Specific energy kWh/l	Specific fuel consumpt. g/kWh	Temperatures Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions Temperature °C	Relative humidity %	Pressure mbar
tyre inflation pressure 1,4 bar at front and at rear							
2,42	339	25	83	87	24	73	995
2,42	339	25	83	86	24	78	995
2,57	319	25	83	83	23	77	996
2,63	312	25	83	85	23	78	990
2,68	306	25	83	86	23	79	995
2,64	311	25	83	83	24	77	995
2,60	316	26	83	83	24	76	996
2,54	323	26	83	82	24	75	996
2,57	320	24	85	96	23	74	1006
-	-	24	83	90	22	78	1000
tyre inflation pressure 1,0 bar at front and at rear							
2,27	361	27	83	86	25	72	995
2,44	337	27	83	88	24	74	995
2,47	330	33	83	91	32	66	990
2,55	319	33	83	89	32	65	995
2,59	317	29	83	92	28	66	995
2,64	310	29	83	93	27	68	995
2,61	314	29	83	91	29	67	995
2,55	320	30	83	92	29	65	995
2,54	322	30	83	91	28	66	996

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

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 12,4 R 28 6 ply
rear: 16,9 R 38 8 ply

Track of wheels front: 1680 mm
rear: 1700 mm

Front axle drive disengaged

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	5,12	5,18	6,59	6,62
Radius of turning circle	4,80	4,93	6,27	6,37

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	974 mm
Distance forward from rear axle centre	961 mm
Distance from tractor's median plane to the left	14 mm

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

Test No. 78-117

(5) BRAKING PERFORMANCE

A) SERVICE BRAKE

Date of tests: 21st June 1979
Type of track: Concrete
Type of decelerometer: MOTO-METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor with driver 6510 kg

Front axle drive disengaged

Cold brakes

		With ballast	Without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	5,4	6,6
Stopping distance	m	5,8	4,8
Force on pedal	daN	70	70
Force on pedal to achieve a deceleration of 2,5 m/s^2	daN	28	17

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	111	106
Stopping distance	cold/hot	%	112	104
Force on pedal	cold/hot	%	101	100

B) PARKING BRAKE

Tractor facing up 16% slope
Pull on hand brake 22 daN, tractor does not roll

Tractor facing down 16% slope
Pull on hand brake 18 daN, tractor does not roll

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

Test No. 78-117

(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 19th April 1979
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2209

Results of test

Gear: 6th S
Travelling speed before acceleration: 25,1 km/h
Sound level: 87,5 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 18th and 19th April 1979
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2209

A safety cab was fitted on tractor, O.E.C.D. tested, see page 12, with additional noise damping material: Inside of all parts of engine cowling and bottom side of cab floor coated with 40 mm foam; power supply for front axle drive covered with a sheet metal box, stuffed with insulation material

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level	Travelling speed nominal	Travelling speed effective	Sound level
	daN	km/h	km/h	dB(A)
1 L	4868	2,58	2,30	82,0
1 S	4840	3,22	2,80	81,0
2 L	3178	4,06	4,10	81,0
2 S	3677	5,08	4,87	81,0
3 L	2686	6,35	6,36	81,0
3 S *)	2332	7,93	7,86	81,0
4 L	1893	9,67	9,64	81,5
4 S	1441	12,07	12,15	81,0
5 L	1144	15,02	15,13	81,0
5 S	858	18,76	19,01	81,0
6 S	light load	30,36	33,6	81,5

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

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

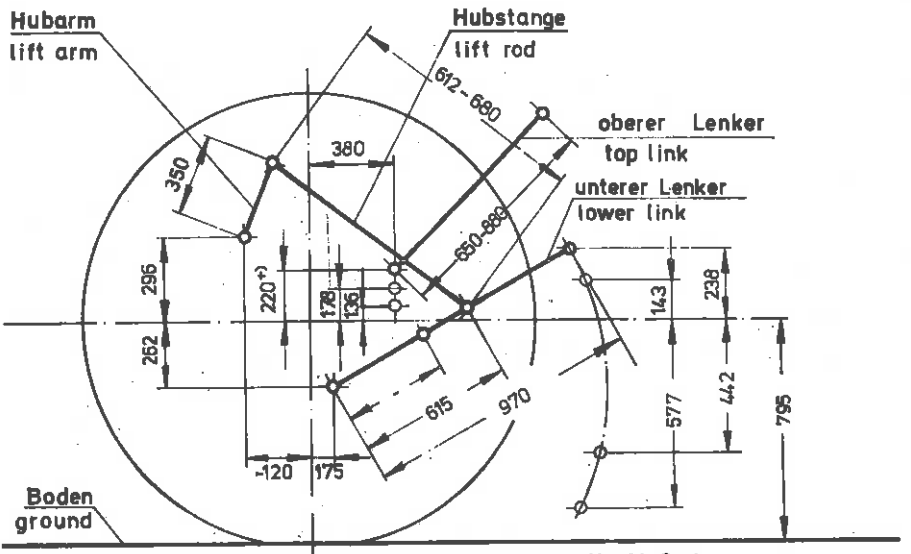
Date of tests: 16th and 17th July 1979

HYDRAULIC PUMP

(1) Opening pressure of relief valve in remote circuit	152	bar
Sustained pressure by open relief valve	174	bar
(2) Pump delivery rate at minimum pressure and rated engine speed	**45,4**	**l/min**
(3) Pump delivery rate at max. hydraulic power	42,5	l/min
corresponding delivery pressure	159	bar
power	11,3	kW

POWER LIFT

Dimensions of linkage geometry for the table on page 28



+) only for category III

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-315	-310	-300	-200	-180	-100	0
at hitch points maximum mechanical advantage							
daN					3760	3780	3800
minimum mechanical advantage							
daN	3420		3440	3550		3590	3590

Max. force exerted throughout the whole range 3650 daN

Front of tractor does not lift

at test frame maximum mechanical advantage

daN		3890	3880	3770		3640	3530
minimum mechanical advantage							
daN				3630		3540	3460

Max. force exerted throughout the whole range 2880 daN

Force at which front of tractor lifts
when front axle is ballasted to its max. permissible
load (2550 kg): 3948 daN

+100	+200	+300	+400	+405	+420	+500	+590
lift rods 612 mm long							
3810	3750	3700	3650				
lift rods 680 mm long							
3550	3510	3480	3470	3470			
lift rods 680 mm long, high top link pivot point							
3390	3230	3070	2880		2880		
lift rods 612 mm long, low top link pivot point							
3320	3190	3030	2840			2670	2520

All values of forces for pressure 179 bar at max. hydraulic power, see page 25; calculated from measurements at max. oil pressure 174 bar

LINKAGE GEOMETRY when connected to the standard frame	Maximum mechanical advantage	Minimum mechanical advantage
Projected length in side view:		
Lower links	970 mm	970 mm
Lift arms	350 mm	350 mm
Lift rods	680 mm	612 mm
Top link	767 mm	764 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 795 mm above ground		
Lower link pivot point	175 mm behind, 262 mm below	175 mm behind, 262 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	143 mm above, 577 mm below	238 mm above, 442 mm below
Height of lower link hitch points above ground when locked in highest transport position	938 mm	1033 mm

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 600 LS

Test No. 78-117

OPTIONAL TESTS

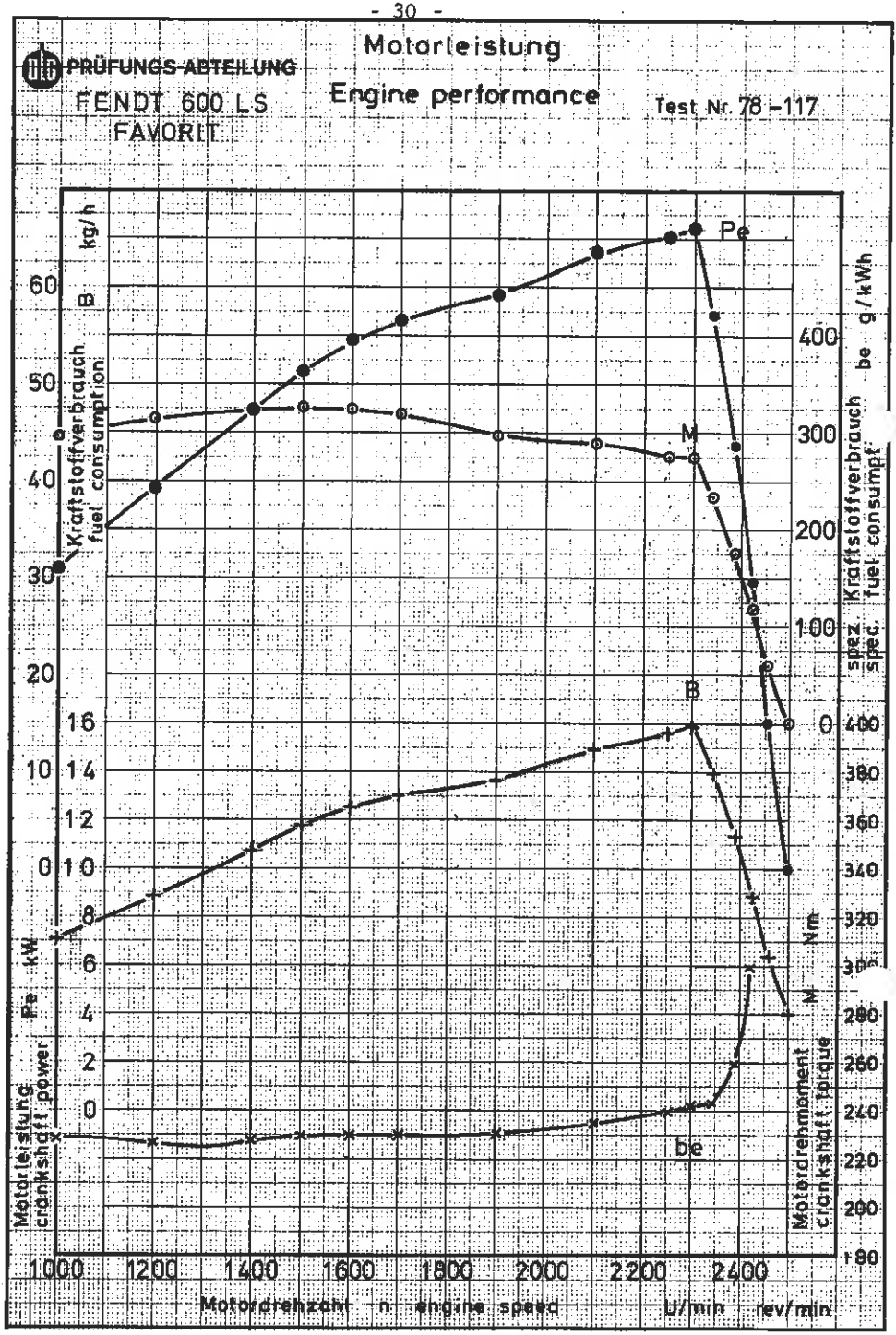
(9) ENGINE PERFORMANCE

Date of tests: 9th May 1979
Type of dynamometer: SCHENCK eddy-current dynamometer W 400

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					
66.0	2300	19.28	15.93	241	3.42
At standard p.t.o. speed (1000 rev/min)					
65.0	2250	18.82	15.54	239	3.46
At the speed recommended for drawbar work					
66.0	2300	19.28	15.93	241	3.42
Part loads					
(i) 85% of the torque at maximum power at 2-hour test					
57.1	2339	16.80	13.87	243	3.40
(ii) unloaded					
-	2493	4.86	4.02	-	-
(iii) 50% of the load defined in (i)					
29.5	2421	10.68	8.82	299	2.76
(iv) maximum power					
66.0	2300	19.28	15.93	241	3.42
(v) 25% of the load defined in (i)					
14.9	2451	7.70	6.36	426	1.94
(vi) 75% of the load defined in (i)					
43.6	2383	13.68	11.30	259	3.19

Optimum fuel consumption: 219 g/kWh at 43,8 kW and 1495 rev/min
No load maximum engine speed: 2493 rev/min
Torque at maximum power (2 hours): 274 Nm
Maximum torque: 327 Nm at 1500 rev/min of the engine

Mean atmospheric conditions:	temperature	21 °C
	pressure	996 mbar
	relative humidity	48 %
Maximum temperatures:	coolant	85 °C
	engine oil	96 °C
	fuel	24 °C
	engine air intake	24 °C

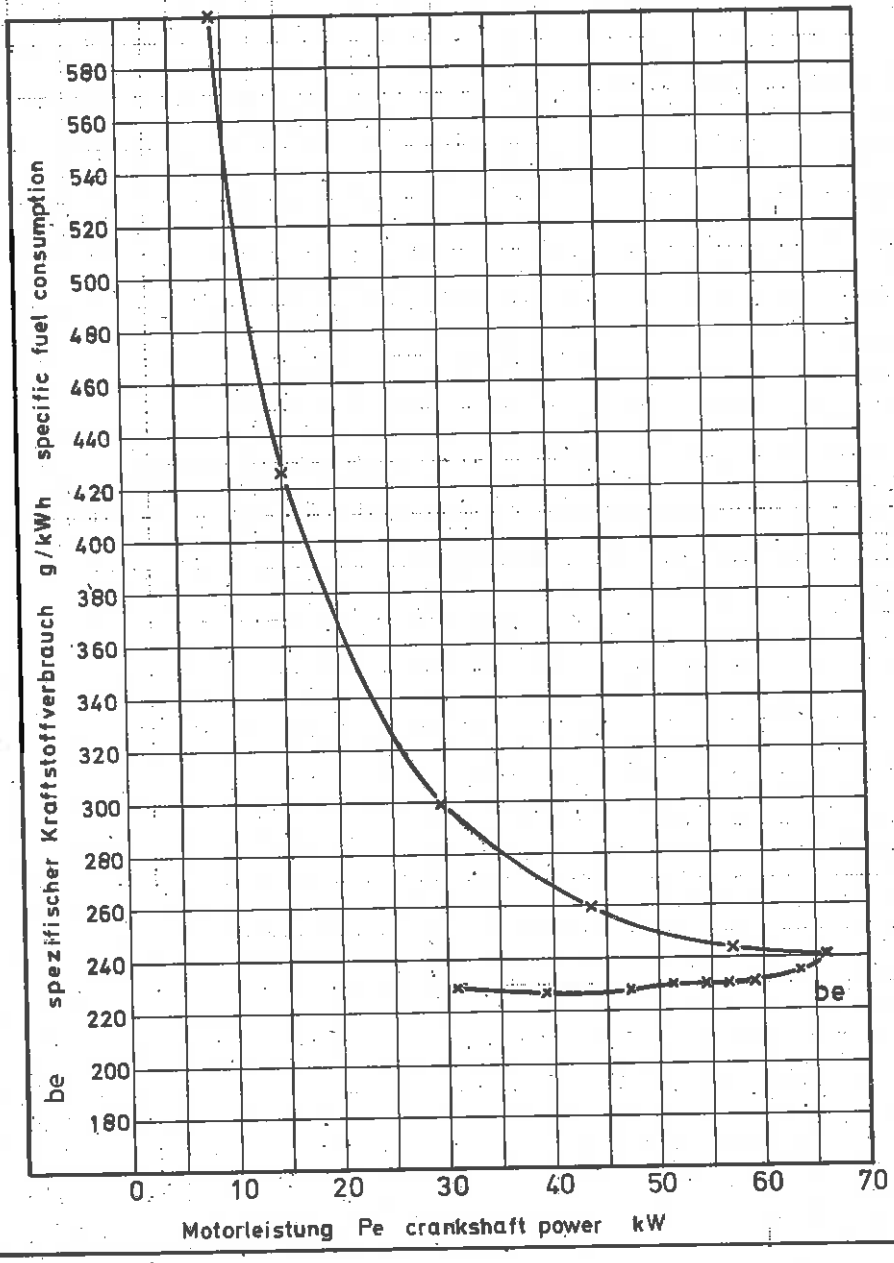

Motorleistung
Engine performance
PRÜFUNGS-ABTEILUNG
FENDT 600 LS
FAVORIT
Test Nr. 78-117
Pe
M
B
be
Kraftstoffverbrauch B kg/h
fuel consumption
Kraftstoffverbrauch be g/kWh
spez. fuel consumpt.
Motorleistung Pe kW
crankshaft power
Motordrehmoment M Nm
crankshaft torque
Motordrehzahl n engine speed U/min rev/min
1000 1200 1400 1600 1800 2000 2200 2400
60 50 40 30 20 16 14 12 10 8 6 4 2 0
400 300 200 100 0
400 380 360 340 320 300 280 260 240 220 200 180

PRÜFUNGS-ABTEILUNG

FENDT 600 LS
FAVORIT

Motorleistung
Engine performance

Test Nr. 78-117

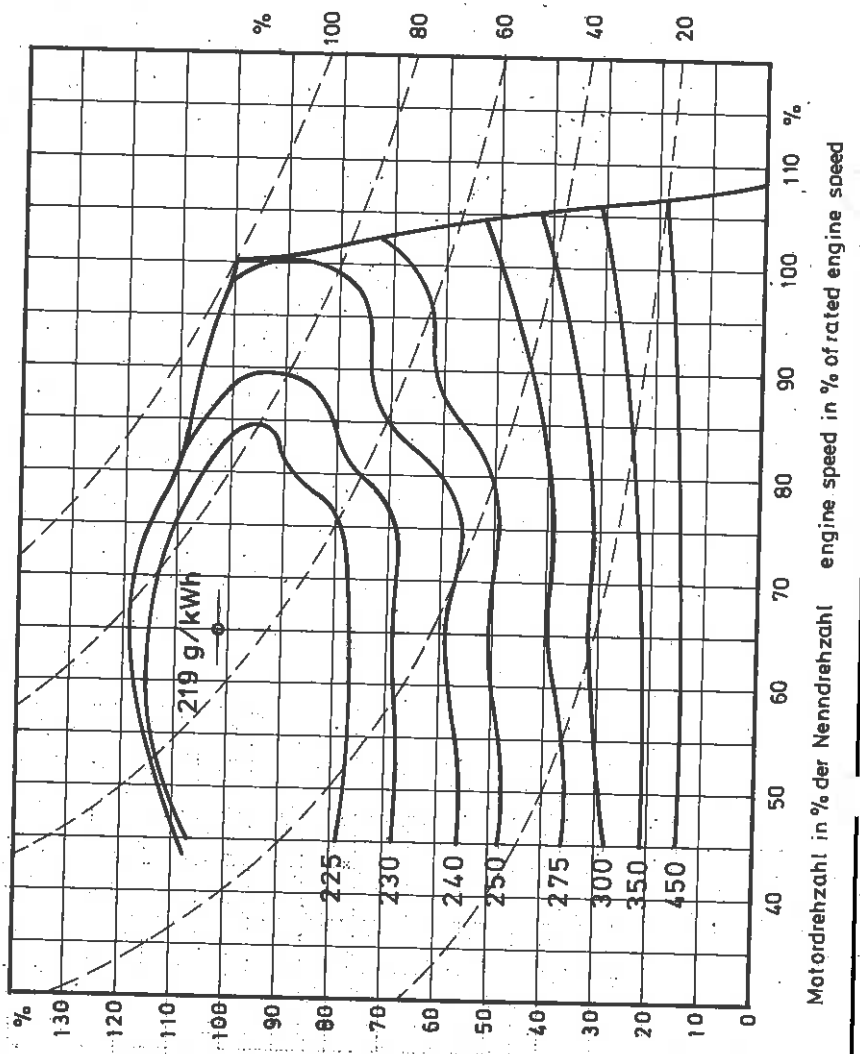


PRÜFUNGS-ABTEILUNG

FENDT 600 LS
FAVORIT

Motorleistung
Engine performance

Test Nr. 78-117



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)
D-6000 Frankfurt am Main 1