DLG	Report on test in accordance with O.E.C.D. STANDARD CODE	O.E.C.D. No. 566



Agricultural Tractor
Fendt Favorit 614 LS Turbomatik

Manufacturer

X. Fendt u. 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 performance of the tractor on practical work.

Execution of tests:

February till August 1977

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: 18th November 1977 O.E.C.D. No. 566

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/cm²	or 1 kp/cm² = 0,981 bar
	1000 mbar = 750,1 mm Hg	

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TABLE OF CONTENTS

	Page
Specification of tractor	4 to 15
Fuel and lubricants used in tests	16
COMPULSORY TESTS	
(1) Main power take-off performance	17 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	
(1) Engine performance	29 to 32

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 614 LS TURBOMATIC
Type:	Wheeled tractor, unit construction semi-frame reinforced, all-wheel driven
Serial No:	284/21/0149

Engine

Make:	MOTORENWERKE MANNHEIM AG
Model:	TD 226.6
Type:	4 stroke DIESEL engine with direct injection, watercooled, supercharged
Serial No:	TD 226.6.06 150
Cylinders:	6, vertical, in-line, bore 105 mm, stroke 120 mm; displacement 6240 cm^3; compression ratio 17:1;
Valves:	Overhead
Fuel system:	SOLEX fuel feed pump PE 15509; BOSCH in-line injection pump: PE 6A 90D 320/3 RS 2464; manufacturer's production setting 67 mm^3; at 2400 rev/min and full load; injection timing 28° before TDC; BOSCH multihole injection nozzles; injection pressure 180 bar; KNECHT fuel filter with replaceable cartridge; capacity of fuel tank 220 l
Governor:	BOSCH centrifugal variable speed type governor: EP/RSV 325-1500 A 26529 DR; governed range of engine speed 650 to 2490 rev/min; rated engine speed 2300 rev/min

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS Test No. 76-121

Supercharger:	Exhaust type turbo-supercharger KÜHNLE, KOPP UND KAUSCH model 3 LEP 289 A/11.1 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 2690 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 12 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 19 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-F4; 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:	Own make in cooperation with ZAHNRADFABRIK FRIEDRICHSHAFEN AG; T 3450; 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; pedal operated, self disengaging; planetary final drives
Driven front axle:	ZAHNRADFABRIK FRIEDRICHSHAFEN AG APL-3052; 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	10,0	l
	gear box (in common with hydraulic power lift)	38,0	l
	final drives in the rear axle each	8,0	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	
Recommended oil qualities:	Fluid clutch	engine oil	HD SAE 10W
	final drives	hypoid oil	SAE 90 MIL-L-2104 C
	other gears	engine oil	HD SAE 20W/20 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 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 aid of tractormeter;
direction of rotation clockwise, viewed from tractor rear

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS

Test No. 76-121

Total ratios and speeds

Group		Gear	Total ratio engine : driving wheel	Nominal travelling speed *) at rated engine speed km/h	Nominal travelling speed *) at standard p.t.o. speed 1000 rev/min km/h
Forward speeds					
Creep group	slow	1	635,57	1,10	1,07
		2	403,34	1,73	1,69
	fast	1	512,40	1,36	1,33
		2	325,18	2,14	2,10
Normal group	slow	1	258,89	2,69	2,63
		2	164,29	4,24	4,15
		3	105,15	6,63	6,48
		4	69,08	10,09	9,86
		5	44,46	15,67	15,33
		6	29,24	23,83	23,31
	fast	1	208,71	3,34	3,27
		2	132,45	5,26	5,15
		3	84,77	8,22	8,04
		4	55,69	12,51	12,24
		5	35,84	19,44	19,01
		6	23,57	29,56	28,91
Reverse speeds					
Creep group	slow	1	406,47	1,71	1,68
		2	257,95	2,70	2,64
Normal group	fast	1	165,57	4,21	4,12
		2	105,07	6,63	6,49
		3	67,25	10,36	10,13
		4	44,18	15,77	15,42
		5	28,43	24,51	23,97

*) calculated with the RADIUS INDEX 820 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; 750 mm above ground, in tractor's median plane; drive, dimensions and direction of rotation same as main p.t.o.; 1168 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 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 38 l, in special cases up to 43 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 368 to 1085 mm long lift rods from 68 to 878 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 138 to 1155 mm dependent on lift rods length, measured at the surface of the bar; in any height above ground hydraulically lockable; a mechanically acting lift lock is optional 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 649 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 235 mm swingable to either side pivot point 295 mm behind rear axle centre

Trailer hitch:	Own make in cooperation with ROCKINGER; height above ground 934 or 999 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:	845 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 cm^3/rev delivery;
on the left hand side of the engine, directly driven by engine;
oil capacity 1,4 l
recommended oil: engine oil HD SAE 20W/20;
oil changing period 1000 hours;
2 double 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

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

Wheels

Steered wheels:	Two pneumatics at front 14,9-28 AS 6 ply; diagonal type tyre casing; maximum permissible load per tyre 1610 kg at 1,4 bar inflation pressure and 30 km/h; track width 1696 or 1838 mm adjustable by turning wheels; rims W 12 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 18,4R38 AS 6 ply; radial type tyre casing; maximum permissible load per tyre 2715 kg at 1,4 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 16 L x 38
Wheel base:	2715 mm

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

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS

Test No. 76-121

Cab: Own make
safety cab
OECD-tested
approval no. CS 1155a

Weights: Ready for use as tested, with cab

		without driver	with driver
Without ballast:	front	2520 kg	2530 kg
	rear	3370 kg	3440 kg
	total	5890 kg	5970 kg
Front ballast:	6 lower weights 40 kg each, fitted on the front axle support		240 kg
	1 base plate		50 kg
	3 front weights 40 kg each		120 kg
Rear ballast:	7 weights per wheel 65 kg each		910 kg
	water in the tyres		720 kg
With ballast:	front	2965 kg	2975 kg
	rear	4965 kg	5035 kg
	total	7930 kg	8010 kg

Number of grease points: 21

Dimensions

Total length:	4800 mm	with 3-point linkage without ballast
	4900 mm	with 3-point linkage with ballast
Total width:	2350 mm	
Total height:	2909 mm	to top of cab
Ground clearance:	470 mm	below front axle differential

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS

Test No. 76-121

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	960	930
Side lights	55 x 55	1620	270
Rear lights	160 x 60	1610	300
Reflectors			
1st pair	125 x 35	1560	300
2nd pair	75 ø	570	760

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS

Test No. 76-121

Permissible total weights and axle loads

for all available wheel equipments

Wheels equipment		Permissible total weight kg	Permissible front axle load kg	Permissible rear axle load kg
front	rear			
13,6-28	18,4-38	8000	2860	5430
14,9-26	18,4-38	8000	3000	5430
14,9-28	18,4-38	8000	3000	5430
16,9-26	20,8-38	8000	3000	6000
12,4-28	16,9-38	7590	2550	5040
	9,5-48 *)	6590		4040

*) no standard tyre, special production by MICHELIN

FUELS AND LUBRICANTS USED IN TESTS

Fuel:	ARAL-DIESEL-fuel DIN 51601
	specific gravity at 15°C
	during all tests 0,828 kg/l
Engine oil:	MOBIL DELVAC 1300 HD SAE 20W/20 MIL-L-2104 C
Transmission oil:	Speed change gear, group gear, rear axle and front axle differential:
	Engine oil MOBIL DELVAC 1300 SAE 20W/20 MIL-L-2104 C
	Final drives of front and rear axle:
	Hypoid oil ESSO SAE 90 MIL-L-2105 B
Hydraulic oil:	Engine oil MOBIL DELVAC 1300 SAE 20W/20 MIL-L-2104 C
Fluid clutch:	Engine oil ARAL SAE 10W

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS

Test No. 76-121

COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE

Date of tests: 7th March 1977
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						
95.5	2300	1022	27.53	22.79	239	3.47
At standard p.t.o. speed (1000 rev/min)						
95.1	2250	1000	27.01	22.37	235	3.52
At the speed recommended for drawbar work						
95.5	2300	1022	27.53	22.79	239	3.47
Part loads						
(i) 85% of the torque at maximum power at 2-hour test						
83.2	2362	1050	24.84	20.57	247	3.35
(ii) unloaded						
-	2453	1090	7.05	5.84	-	-
(iii) 50% of the load defined in (i)						
42.3	2400	1067	15.59	12.91	305	2.71
(iv) maximum power						
95.5	2300	1022	27.53	22.79	239	3.47
(v) 25% of the load defined in (i)						
21.4	2421	1076	11.38	9.42	441	1.88
(vi) 75% of the load defined in (i)						
62.9	2381	1058	20.35	16.85	268	3.09

No load maximum engine speed: 2453 rev/min
Equivalent crankshaft torque at maximum power (2 hours): 396 Nm
Maximum equivalent crankshaft torque: 456 Nm at 1551 rev/min of the engine

Mean atmospheric conditions:	temperature	21 °C
	pressure	1006 mbar
	relative humidity	40 %
Maximum temperatures:	coolant	80 °C
	engine oil	97 °C
	fuel	20 °C
	engine air intake	27 °C

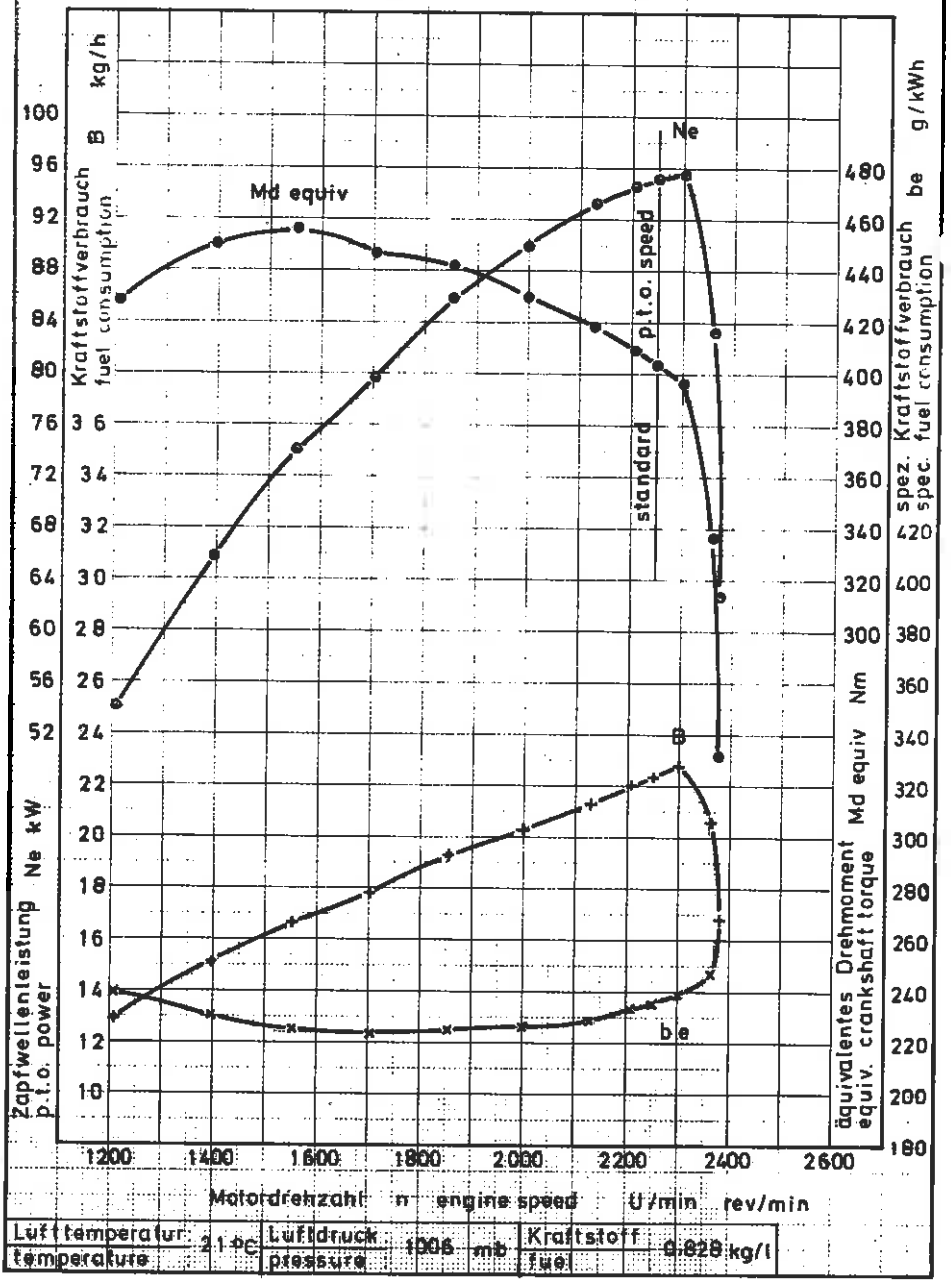
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FAVORIT 614 LS

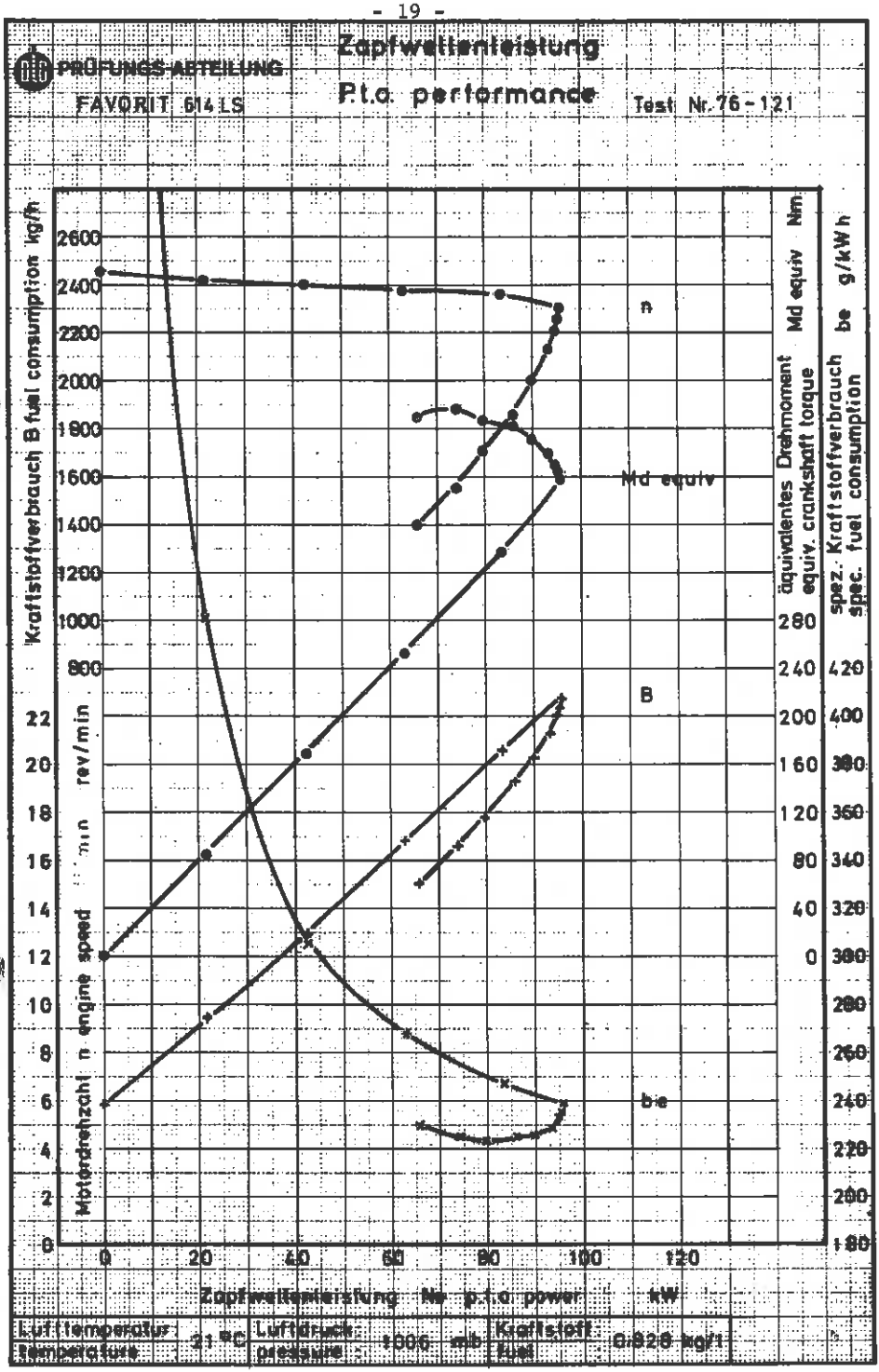
Zapfwellenleistung

P.t.o. performance

Test Nr. 76-121



Lufttemperatur temperature	21 °C	Luftdruck pressure	1006	mb	Kraftstoff fuel	0.828	kg/l


PRÜFUNGS-ABTEILUNG
FAVORIT 614 LS
Zapfwellenleistung
P.t.o. performance
Test Nr. 76 - 121
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed rev/min
äquivalentes Drehmoment Md equiv Nm
equiv. crankshaft torque
spez. Kraftstoffverbrauch be g/kWh
spec. fuel consumption
n
Md equiv
B
be
Zapfwellenleistung Ne p.t.o. power kW
Lufttemperatur temperature 21 °C
Luftdruck pressure 1006 mb
Kraftstoff fuel 0,828 kg/l

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS

(2) DRAWBAR PERFORMANCE (four-wheel-drive engaged)

Date of tests: 15th August till 25th August 1977
Type of track: Concrete

Gear No. and Group	Speed km/h	Power kW	Drawbar pull N	Engine speed rev/min	Slip of wheels %	Specific energy kWh/l
(i) MAXIMUM POWER with ballast height of drawbar above ground 510 mm						
1 slow	2,43	55,0	81480	2357	14,8	2,48
1 fast	2,98	67,4	81400	2338	14,9	2,62
2 slow	3,92	79,3	72800	2300	9,7	2,86
2 fast	5,09	82,5	58380	2300	5,8	2,97
3 slow	6,49	82,6	45800	2300	4,4	2,97
3 fast	8,14	82,6	36520	2300	3,2	2,98
4 slow	10,04	81,8	29330	2300	2,2	2,96
4 fast	12,51	80,6	23190	2300	1,7	2,89
(ii) FIVE-HOUR-TEST at 75% of pull at maximum power in 3rd gear of slow group						
3 slow	6,78	64,7	34350	2353	2,8	2,84
(iii) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (i)						
1 fast	-	-	81400	2338	-	-
(iv) MAXIMUM POWER without ballast height of drawbar above ground 520 mm						
1 fast	3,01	55,7	66630	2340	15,0	2,54
2 slow	3,78	69,9	66600	2334	14,9	2,64
2 fast	4,94	80,4	58580	2300	9,1	2,87
3 slow	6,39	81,5	45910	2300	6,1	2,93
3 fast	8,05	81,9	36610	2300	4,8	2,93
4 slow	9,98	82,0	29580	2299	3,3	2,95
4 fast	12,44	81,0	23450	2299	3,0	2,91

Total oil consumption during ten hours duration of tests (ii) and (iii): 83 g/h

Creep speeds shall not be used for drawbar work, see page 6, consequently drawbar tests on creep speeds were not carried out

Test No. 76-121

Tyres make and size front: DUNLOP 14,9-28 6 ply
rear: PIRELLI 18,4-38 8 ply CINTURATO

Tread bar height at the beginning of drawbar tests 67% of the value when new

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, 1,6 bar at rear rolling radius of tyres under static load 826 mm						
333	23	77	88	23	90	994
316	22	80	100	22	90	994
289	20	80	95	18	97	994
278	24	80	100	22	88	1000
278	24	81	99	21	93	1000
277	23	81	94	22	97	1000
280	20	80	100	22	98	1000
286	22	80	94	22	98	1000
291	24	81	99	21	93	1000
-	22	81	95	22	88	998
tyre inflation pressure 1,4 bar at front, 1,6 bar at rear rolling radius of tyres under static load 828 mm						
326	25	78	85	26	82	1001
314	23	78	90	25	88	1001
287	29	76	95	28	81	1000
281	28	77	98	28	80	1000
280	30	80	79	28	79	1000
280	25	80	98	25	87	1000
283	25	80	92	25	86	1000

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

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS

Test No. 76-121

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 14,9-28 AS 6 ply
rear: 18,4R38 AS 8 ply

Track of wheels front: 1838 mm
rear: 1850 mm

Front wheel drive disengaged

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	5,60	5,74	6,47	6,72
Radius of turning circle	5,24	5,38	6,11	6,36

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	1030 mm
Distance forward from rear axle centre	1150 mm
Distance left from tractor's median plane	4 mm

(5) BRAKING PERFORMANCE

A) SERVICE BRAKE

Date of tests: 1st and 2nd June 1977
Type of track: Concrete
Type of decelerometer: MOTO METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor: 8010 kg with driver

Front wheel drive disengaged

Cold brakes

		With ballast	Without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	6,2	5,0
Stopping distance	m	5,2	6,6
Force on pedal	N	700	380
Force on pedal to achieve a deceleration of 2,5 m/s^2	N	230	180

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	100	98
Stopping distance	cold/hot	%	100	97
Force on pedal	cold/hot	%	100	100

B) PARKING BRAKE

Tractor facing up 16%-slope:
Pull on hnad brake 140 N, tractor does not roll

Tractor facing down 16%-slope:
Pull on hand brake 140 N, tractor does not roll

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS

Test No. 76-121

(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 16th August 1977
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2203

Results of test

Gear: 6th fast
Travelling speed before acceleration: 24,2 km/h
Sound level: 86,5 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 16th August 1977
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2607
Type of frequency analyzer: BRÜEL AND KJAER model 1614
(fitted with octave filter)

A safety cab was fitted on tractor OECD-tested, approval no. CS 1155a

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level	Travelling speed nominal	Travelling speed effective	Sound level
	N	km/h	km/h	dB(A)
1 slow	58270	2,69	2,33	86
1 fast	58300	3,34	2,78	86
2 slow	58090	4,24	3,77	85
2 fast	57130	5,26	5,03	86
3 slow *)	44380	6,63	6,45	85,5
3 fast	35250	8,22	8,12	86,5
4 slow	28360	10,09	10,06	85,5
4 fast	22680	12,51	12,57	86
5 slow	17630	15,67	15,72	89
5 fast	13380	19,44	19,46	86,5
6 fast	light load	29,56	32,25	83,5

*) the 3rd slow gear corresponds to the travelling speed nearest to 7,25 km/h

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS

Test No. 76-121

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

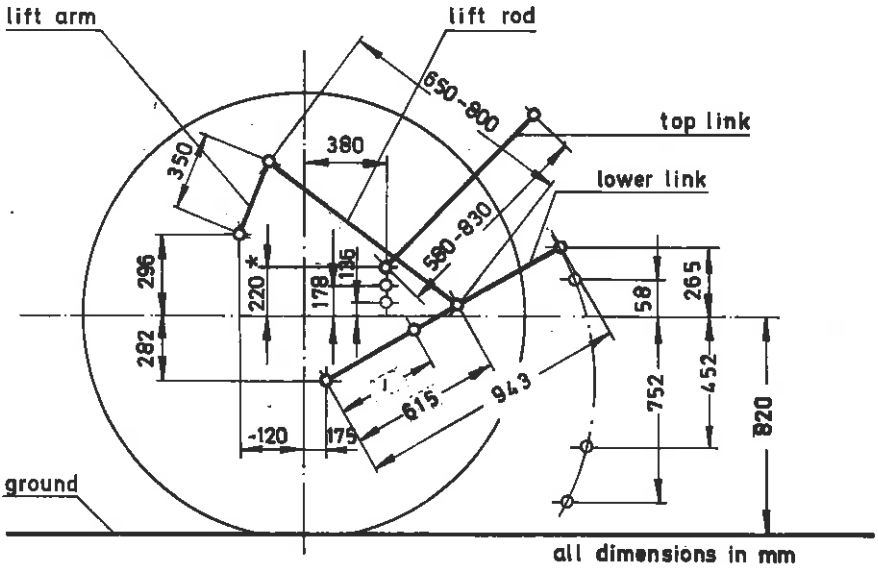
Date of tests: 27th May 1977

HYDRAULIC PUMP

(1) Opening pressure of relief valve in remote circuit	158 bar
Sustained pressure by open relief valve	172 bar
(2) Pump delivery rate at minimum pressure and maximum engine speed	43,5 l/min
(3) Pump delivery rate	39,0 l/min
Delivery pressure	158 bar
Hydraulic power	10,3 kW

POWER LIFT

Dimensions of linkage geometry for the table on page 28



*) only to be used in category III

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS

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							45500	46600	48000
minimum mechanical advantage									
N	40400		41400	42400	43500			44000	44100

Max. force exerted throughout the whole range 45500 N

Front of tractor does not lift

at test frame maximum mechanical advantage									
N		49700	49500	47100	45700			44800	43200
minimum mechanical advantage									
N						44300		44800	44300

Max. force exerted throughout the whole range 38000 N

Force at which front of tractor lifts with maximum allowable front ballast 46300 N

Test No. 76-121

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

lift rods 650 mm long

48900	49100	49000			49000	49000	48900		

lift rods 800 mm long

44100	44100	44000	43800						

lift rods 800 mm long, high top link pivot point

41700	40300	38900		38000					

lift rods 650 mm long, low top link pivot point

43400	41700	39900			38000	36200		34100	32800

All values of forces for pressure at max. hydraulic power 158 bar, see page 25; calculated from measurements at max. oil pressure 172 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 820 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	878 mm	1085 mm

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 614 LS

Test No. 76-121

OPTIONAL TESTS

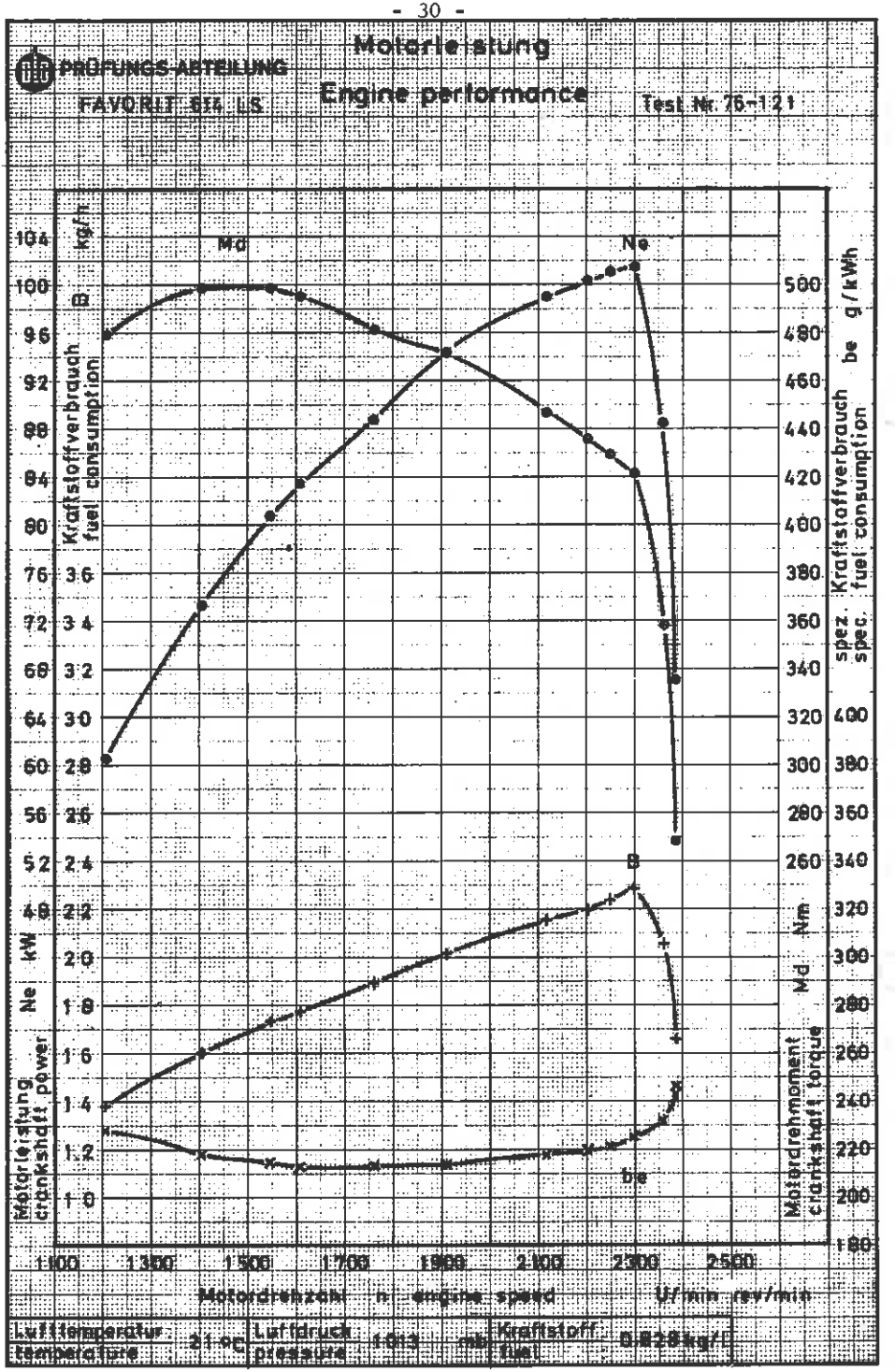
(1) ENGINE PERFORMANCE

Date of tests: 28th February 1977
Type of dynamometer: SCHENCK hydraulic dynamometer U1-30

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					
101.5	2300	27.66	22.90	226	3.67
At standard p.t.o. speed (1000 rev/min)					
101.1	2250	27.06	22.41	222	3.74
At the speed recommended for drawbar work					
101.5	2300	27.66	22.90	226	3.67
Part loads					
(i) 85% of the torque at maximum power at 2-hour test					
88.5	2360	24.84	20.57	232	3.56
(ii) unloaded					
-	2454	6.35	5.26	-	-
(iii) 50% of the load defined in (i)					
45.1	2403	15.17	12.56	279	2.97
(iv) maximum power					
101.5	2300	27.66	22.90	226	3.67
(v) 25% of the load defined in (i)					
22.7	2425	10.51	8.70	383	2.16
(vi) 75% of the load defined in (i)					
67.1	2386	20.02	16.57	247	3.35

Optimum fuel consumption: 212 g/kWh at 70.8 kW and 1600 rev/min
No load maximum engine speed: 2454 rev/min
Torque at maximum power (2 hours): 421 Nm
Maximum torque: 499 Nm at 1547 rev/min of the engine

Mean atmospheric conditions:	temperature	21 °C
	pressure	1013 mbar
	relative humidity	45 %
Maximum temperatures:	coolant	80 °C
	engine oil	94 °C
	fuel	22 °C
	engine air intake	23 °C

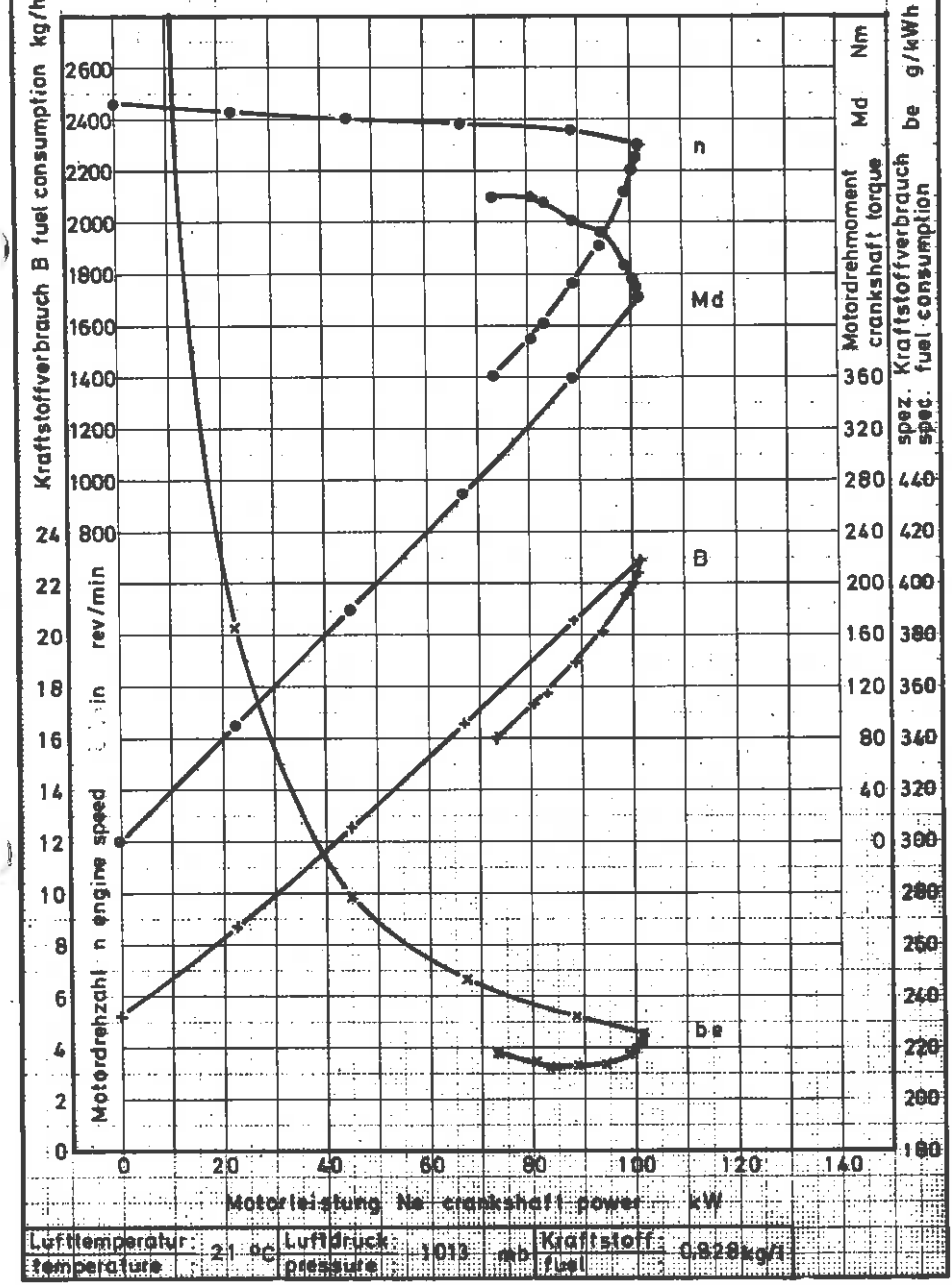

Motorleistung
Engine performance
PRÜFUNGS-ABTEILUNG
FAVORIT 614 LS
Test Nr. 76-121
Md
Ne
B
be
Motorleistung kurbelwellenleistung power Ne kW
Kraftstoffverbrauch fuel consumption B kg/h
Motordrehmoment kurbelwellenmoment torque Md Nm
spez. Kraftstoffverbrauch spec. fuel consumption be g/kWh
Motordrehzahl n engine speed U/min rev/min
Lufttemperatur temperature 21 °C
Luftdruck pressure 1013 mb
Kraftstoff fuel D 2-Dkg/l

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Motorleistung
Engine performance

FAVORIT 614 LS

Test Nr. 76-121



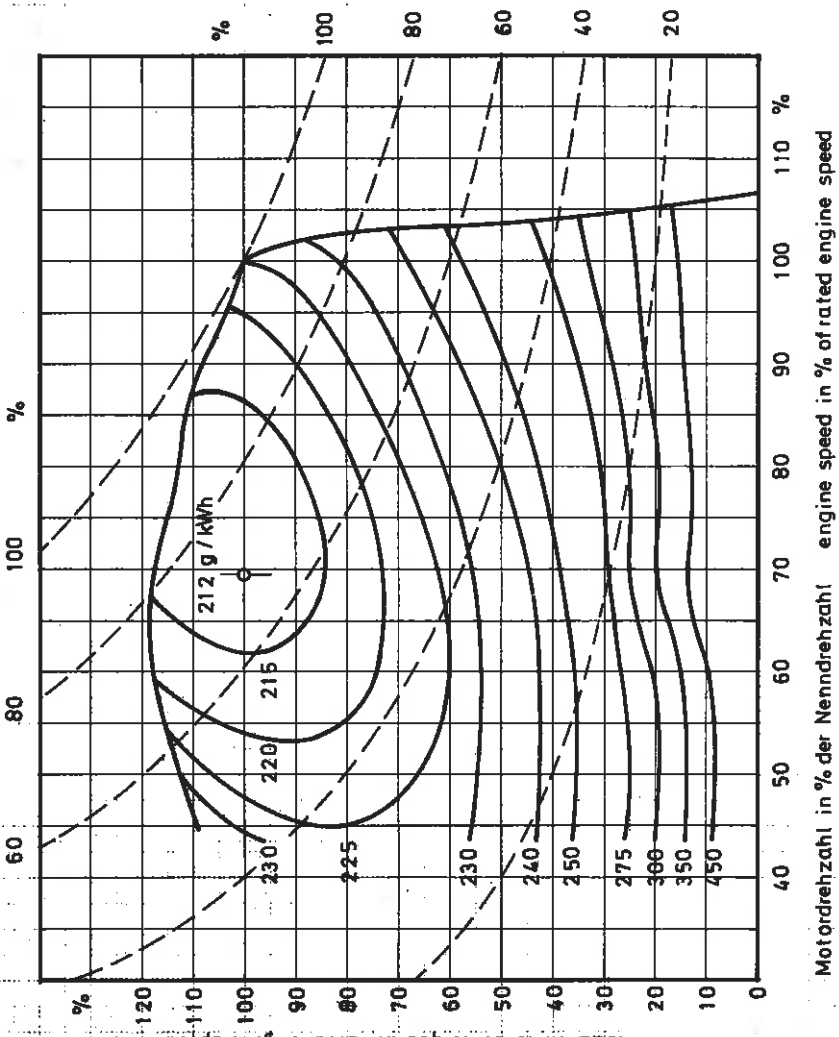
Lufttemperatur temperature	21 °C	Luftdruck pressure	1013 mb	Kraftstoff fuel	0,828kg/l

PRÜFUNGS-ABTEILUNG

FAVORIT 614 LS

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Engine performance

Test Nr. 76-121



Lufttemperatur: temperature	21 °C	Luftdruck: pressure	1013 mb	Kraftstoff: fuel	0,828 kg/l

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