DLG	Report on test in accordance with O.E.C.D. STANDARD CODE	O.E.C.D. No. 596



Agricultural Tractor
Fendt Implement Carrier F 255 GT

Manufacturer

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

This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractor Performance. It does not contain an evaluation of the tractor performance on practical work.

Performance of tests: January till May 1978

DLG-Testing-Station for Agricultural Machinery, Max-Eyth-Weg 1, D-6114 Groß Umstadt

This report has been approved by the O.E.C.D. Coordinating Centre (C.N.E.E.M.A., France) as being in accordance with the O.E.C.D. STANDARD CODE.

Date of Approval: 22nd August, 1978 O.E.C.D. No. 596

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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Printed in the Federal Republic of Germany
September 1978; DLG-No. 118

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PRÜFUNGS-ABTEILUNG
FENDT F 255 GT

Test No. 77-121

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:	F 255 GT
Type:	Implement carrier; engine, transmission and rear axle in unit construction connected to the front axle by a central tubular spar with rectangular profile
Serial No.:	255/0051

Engine

Make:	KLÖCKNER-HUMBOLDT-DEUTZ AG
Model:	F3L 912H
Type:	4-stroke DIESEL engine with direct injection; air cooled
Serial No.:	F3L 912/5778959
Cylinders:	3, horizontal in-line, bore 100 mm, stroke 120 mm, displacement 2826 cm^3, commpression ratio 17:1, replaceable ribbed cylinder liners
Valves:	Overhead
Fuel system:	PIERBURG fuel feed pump PE 15 264; BOSCH in-line injection pump: PES 3 A 75 D 410/3 RS 1183; manufacturer's production setting 54 mm^3/stroke at rated engine speed and full load; injection timing 28° before T.D.C.; BOSCH multihole injection nozzles DLLA 149 S 394; injection pressure 175 bar; BOSCH fuel filter with replaceable cartridge; capacity of fuel tank 77 l

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Governor:	BOSCH centrifugal variable speed type governor: EP/RSV 325-1150 A 8 B 494 DL; governed range of engine speed: 700 to 2430 rev/min; rated engine speed 2300 rev/min
Air cleaner:	MANN UND HUMMEL dry paper element filter with pre-cleaner incorporated, with replaceable cartridge; service indicator; (optional: safety cartridge) air intake trough a cab-spar in the cab-roof
Exhaust silencer:	Own make; multichamber-reflection type silencer; 130 mm Ø, 415 mm long; on the left hand side of engine; mouth showing rearward under 45° to the left
Lubrication system:	Forced feed from rotary type pump; strainer in sump; MANN oil filter in full flow with by-pass valve and replaceable cartridge; cartridge changing at all oil changes; oil capacity 10 l; oil changing interval 200 hours; recommended oil quality MIL-L-2104 C; recommended oil viscosities: winter HD SAE 10W summer HD SAE 20W/20 tropics HD SAE 30
Cooling system:	Air cooling with axial blower; V-belt driven
Starting system:	Electrical; BOSCH screw push starter motor 1,8 kW BERU flame plug in intake pipe
Electrical equipment:	12 Volt; negative earth; BOSCH 3 phase alternator: 0120 339 514; 1 lead acid battery, 110 Ah at 20 hours rating

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Transmission

Clutch:	FICHTEL UND SACHS dry double disc clutch DUT 280L-295/280; travel drive disc pedal operated; 295 mm Ø; p.t.o. drive disc hand lever operated, 280 mm Ø
Gear box:	Own make; synchromesh speed change gear with 3 forward and 1 reverse speed; group gear with 1 field group sliding gear shifted and 1 road group collar shifted; 1 high speed gear independent from group gear, synchronized; fine stepped transmission with 1 slow and 1 fast step, both collar shifted; on tractor tested the independent high speed gear is locked in the fast step of the fine stepped transmission; total 13 forward and 4 reverse speeds
Rear axle and final drive:	Bevel gear drive with crown wheel and pinion; bevel gear differential fitted with lock; pedal operated, self disengaging; spur gear final drive
Oil quality and capacity:	Speed change gear, group gear and fine stepped transmission SAE 80 MIL-L-2105 A 27,0 l final drives SAE 90 MIL-L-2105 B 8,6 l each
Oil changing intervals:	1000 hours or once a year

Power take-off

Main p.t.o.:	Independent p.t.o.; driven through the second disc of the double disc clutch; engageable and disengageable by hand lever, at rear of tractor; 650 mm above ground, in median plane of the tractor; 29 x 34,9 x 8,7 mm = 1 3/8 in 6 splines; DIN 9611 Form 1; BS 1495; ASAE S 203.7, Continuation on page 8

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Total ratios and speeds

Group	Fine stepped gear	Gear	Total ratio engine : driving wheel	Nominal travelling speed * at rated engine speed km/h	Nominal travelling speed * at p.t.o. standard speed 540 rev/min km/h
Forward speeds					
field	slow	1	542,02	1,18	1,05
		2	327,84	1,96	1,74
		3	186,87	3,43	3,05
	fast	1	442,46	1,45	1,29
		2	267,62	2,40	2,13
		3	152,54	4,21	3,74
road	slow	1	131,13	4,89	4,35
		2	79,32	8,09	7,20
		3	45,21	14,19	12,62
	fast	1	107,05	5,99	5,33
		2	64,75	9,91	8,81
		3	36,91	17,39	15,46
independent	slow		24,47	26,22	23,32
	fast		locked	-	-
Reverse speeds					
field	slow	R	314,72	2,04	1,81
	fast	R	256,91	2,50	2,22
road	slow	R	76,14	8,43	7,49
	fast	R	62,16	10,32	9,18

*) calculated with the Index Radius 740 mm in accordance with WdK 154

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Main p.t.o.:	2 speeds are preselectable: 540 rev/min p.t.o. 607 rev/min at rated engine speed; standard p.t.o. speed 540 rev/min at 2046 rev/min engine speed 1000 rev/min p.t.o. 1119 rev/min at rated engine speed; p.t.o. speed 1000 rev/min at 2055 rev/min engine speed
P.t.o. between the axles:	Drive and profile same as main p.t.o.; end of p.t.o. shaft 1642 mm before rear axle centre, 610 mm above ground, 353 mm left from tractor's median plane; 2 speeds are preselectable: 540 rev/min p.t.o. 588 rev/min at rated engine speed standard p.t.o. speed 540 rev/min at 2140 rev/min engine speed 1000 rev/min p.t.o. 1084 rev/min at rated engine speed p.t.o. speed 1000 rev/min at 2120 rev/min engine speed
Front p.t.o.:	The p.t.o. between the axles can be lengthened to a front p.t.o.; drive and profile same as main p.t.o.; speeds same as at p.t.o. between the axles; end of p.t.o. shaft 270 mm before front axle centre, 640 mm above ground, 120 mm left from tractor's median plane With front p.t.o. fitted the p.t.o. between the axles can not be used All p.t.o. speeds may be set by aid of tractormeter Direction of rotation of all p.t.o. shafts clockwise, viewed from tractor rear Two independent preselectors but the same hand lever operated clutch for main p.t.o. and p.t.o. between the axles

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Belt pully	Optional, not fitted on tractor tested; figures according to manufacturer's specification; at rear of tractor; driving device attached to p.t.o. shaft; only for use with 540 rev/min p.t.o.; 226 mm diameter, 150 mm width; 1518 rev/min at rated engine speed; belt speed 17,95 m/s; direction of rotation clockwise as well as anticlockwise
Power lift	
At rear:	Own make; hydraulic power lift disintegrated construction; open system; BOSCH gear pump HY/ZFR 1/16 CL; delivery 16 cm^3/rev as per 39,6 l/min at rated engine speed; directly driven by engine; BOSCH control valve HY/SR 10 H3 for lifting, sinking, floating position, power control, position control, both stepless mixable; maximum oil pressure 175 bar; 2 single acting rams, right hand side ram 63 mm diameter, left hand side ram 45 mm diameter, stroke 200 mm
between the axles:	Fed from the hydraulic system of the rear power lift; BOSCH additional control valve: HY/SRZ 10 H3 C3; 2 single acting rams: 45 mm bore, 500 mm stroke
At front:	Optional, not fitted on tractor tested fed from the hydraulic system of the rear power lift; BOSCH additional control valves: HY/SRZ 10 H3 C3; 2 single acting rams: 63 mm bore, 162 mm stroke

Oil tappings:	2 single or double acting oil tappings at rear of tractor, 1 double acting oil tapping between the axles and 1 single acting oil tapping before the front axle with the corresponding BOSCH additional control valves
Hydraulic oil:	Oil tank with 22,5 l capacity; 6 l may be taken off through oil tappings when tractor is working driving, 18 l when tractor is stationary; recommended oil: engine oil HD SAE 20W/20 MIL-L-2104C; oil changing interval 1000 hours

Implement linkage

At rear:	Three point linkage category II DIN 9674; lift rods adjustable from 630 to 775 mm; lifting range above ground with short lift rods from 410 to 980 mm long lift rods from 130 to 765 mm optional: the ball joints of lower and upper links may be changed against quick hitch; not fitted on tractor tested
Between the axles:	Implement linkage of own construction; not fitted on tractor tested
At front:	Implement linkage of own construction; not fitted on tractor tested; hitch points as per category II
Holed bar	Long bar; fitted on the clevis of lower links; length between the ball joints 815 mm; maximum length 1695 mm; width 90 mm; thickness 25 mm; centre hole and 4 holes on either side with 80 mm distance each; 4 further holes on either side with 80 mm distance each in 210 mm distance from the outermost hole, all holes 33 mm diameter

Height above ground adjustable by power lift from 205 to 1055 mm dependent on lift rods length measured at the surface of the bar; in 450 mm above ground mechanically-hydraulically lockable with lift rods 690 mm long;
with lower links in horizontal position distance of holes centre line to:
rear axle centre 1074 mm
p.t.o. shaft end 533 mm

Pull attachment

Trailer hitch: Own make, not automatical;
height above ground:
470, 540, 590, 690, 790, 840, 890 and 940 mm;
adjustable by shifting and turning hitch;
diameter of clevis hole 33 mm;
distance of clevis hole centre to rear axle centre 610 mm;
permissible vertical load 1000 kg

Swinging drawbar: Height above ground 515 mm;
diameter of clevis hole 33 mm;
distance of clevis hole centre:
to rear axle centre 925, 845 and 765 mm
to p.t.o. end 428, 348 and 268 mm
adjustable by longitudinal shifting;
400 mm swingable to either side;
lockable in median position;
pivot point 130 mm behind rear axle centre

Towing hitch: 680 mm above ground

Steering

Own make in cooperation with ZAHNRADFABRIK FRIEDRICHSHAFEN AG;
hydrostatic steering;
model 8450 955 164;
fed from the oil circuit of the power lift with BOSCH flow dividing valve HY/VH 4/6/1;
1 double acting ram
bore 45 mm, stroke 195 mm;
acting on front wheels
operated by hand wheel

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Brakes

Parking brake:	Band brake; mechanically acting on 2 brake drums on the differential half shafts; diameter of brake drums 180 mm; width of brake bands 30 mm operated by hand lever with ratchet
Service brake:	Shoe type brake; mechanically acting on 2 brake drums on the differential half shafts; diameter of brake drums 180 mm; width of brake shoes 60 mm; pedal operated
Steering brake:	Divided pedal of service brake; for normal use locked together

Wheels

Steered wheels:	Two pneumatics at front 7,50-16 AS Front 8 ply; maximum permissible load per tyre 870 kg at 3,75 inflation pressure and 30 km/h; track width adjustable from 1500 to 2000 mm in steps of 100 mm; changeable by extending telescopic half axles; optional: track width 1360 or 1800 mm; rims 5,5 F x 16
Driving wheels:	Two pneumatics at rear 13,6-38 AS 8 ply diagonal type tyre casing; maximum permissible load per tyre 1910 kg at 1,6 bar inflation pressure and 30 km/h; track width 1360 and 1506 mm; adjustable by turning wheels; optional: track adjustment wheels for track widths from 1390 to 2010 mm in steps of 100 mm; adjustable by turning wheels and offset lug type rims; rims W10 x 38
Wheel base:	2998 mm

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Safety cab

Own make
steel tube construction;
OECD tested;
approval no. CS 1104a
from 15th January 1976

Seat

GRAMMER
DS 85;
upholstered mould seat with back and arm rests;
inclination of back rest stepless adjustable;
adjustable spring with shock absorber;
parallelogram suspension;
height of seat platform above ground 1139 mm;
height of seat above platform 390 mm, seat not compressed, seat mould in downmost position,
in longitudinal direction in medium position;
height of entrance steps above ground 520 and 860 mm on tractor's left hand side;
250 mm adjustable fore and aft;
60 mm adjustable up and down in 3 steps

Weights

Ready for use, as tested
with safety cab

		without driver	with driver
Without ballast:	front	685 kg	690 kg
	rear	2415 kg	2485 kg
	total	3100 kg	3175 kg
Front ballast:	platform		140 kg
	iron weights on the platform		576 kg
Rear ballast:	4 weights per wheel 63 kg each		504 kg
	water in the tyres		405 kg
With ballast:	front	1330 kg	1350 kg
	rear	3395 kg	3450 kg
	total	4725 kg	4800 kg

Number of grease points 10

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Dimensions

Total length:	4500 mm with 3 point linkage without platform 4655 mm with 3 point linkage and platform
Total width:	1890 mm at track width 1360 mm 1890 mm at track width 1506 mm
Total height:	2635 mm to top of cab
Ground clearance:	370 mm below swinging drawbar

Permissible total weights and axle loads
for all available wheel equipment

Wheel equipment front	Wheel equipment rear	Permissible front axle load kg	Permissible rear axle load kg	Permissible total weight kg
7,50 - 16 8 ply	8,3 - 44 6 ply	2000	2800	4880
	8,3 R 44 6 ply		2880	4880
	9,5 - 44 12 ply		3900	5000
	9,5 R 44 8 ply		3900	5000
	11,2 - 36 6 ply		2680	4680
	12,4 - 36 6 ply		3080	5000
	12,4 - 38 6 ply		3160	5000
	13,6 - 36 6 ply		3450	5000
	14,9 - 30 6 ply		3560	5000
	16,9 - 30 6 ply		4060	5000
	13,6 - 38 8 ply		4080	5000

The tyres 8,3-44, 8,3 R 44, 9,5 - 44 and 9,5 R 44 are not standard tyres; the tyres 8,3-44 are manufactured by MICHELIN , the tyres 9,5 R 44 by DUNLOP and the tyres 9,5-44 and 9,5 R 44 by KLEBER COLOMBES

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Lighting equipment 12 Volt
as per German legislation

	Dimensions mm	Height above ground of centre mm	Distance from outside edge of tractor to centre mm
Head lights	100 Ø	875	390
Rear lights	160 x 60	1525	230
Reflectors			
1st pair	125 x 37	1470	230
2nd pair	80 Ø	570	650

The manufacturer claimed for additional drawbar tests with tyres 16,9-30 with grassland profile. With these tyres some dimensions of the tractor change, they are reported here:

Height of main p.t.o. above ground 600 mm

lifting range of power lift with
short lift rods from 360 to 930 mm
long lift rods from 80 to 715 mm

height of drawbar adjustable from 155 to 1005 mm

height of trailer hitch above ground:
420, 490, 540, 640, 740, 790, 840 and 890 mm

height of swinging drawbar above ground 465 mm

height of driver's platform above ground 1089 mm;

height of entrance steps 470 and 810 mm above ground

total height 2585 mm to top of cab

total width 1890 mm at 1360 mm track width
at 1506 mm track width

ground clearance 320 mm below swinging drawbar

rear lights 1475 mm height of centre above ground

reflectors 1st pair 1425 mm height of centre above ground
2nd pair 525 mm height of centre above ground

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Driving wheels	2 pneumatics at rear of tractor 16,9-30 6 ply with grassland profile diagonal type tyre casing; maximum permissible load per tyre 1900 kg at 1,3 bar inflation pressure and 30 km/h; rims W 15 L x 30		
Weights	Ready for use as tested		
		without driver	with driver
Without ballast:	front	675 kg	680 kg
	rear	2470 kg	2540 kg
	total	3145 kg	3220 kg
Front ballast:	platform		140 kg
	iron weights on the platform		582 kg
Rear ballast:	3 weights per wheel 63 kg each		378 kg
	water in the tyres		480 kg
With ballast:	front	1340 kg	1350 kg
	rear	3385 kg	3450 kg
	total	4725 kg	4800 kg

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Total ratios and speeds

Group	Fine stepped gear	Gear	Total ratio engine : driving wheel	Nominal travelling speed *) at rated engine speed km/h	Nominal travelling speed *) at p.t.o. standard speed 540 rev/min km/h
Forward speeds					
field	slow	1	542,02	1,11	0,99
		2	327,84	1,83	1,63
		3	186,87	3,22	2,86
	fast	1	442,46	1,36	1,21
		2	267,62	2,25	2,00
		3	152,54	3,95	3,51
road	slow	1	131,13	4,59	4,09
		2	79,32	7,60	6,76
		3	45,21	13,33	11,85
	fast	1	107,05	5,63	5,01
		2	64,75	9,31	8,27
		3	36,91	16,33	14,52
independent	slow		24,47	24,63	21,90
	fast		locked	-	-
Reverse speeds					
field	slow	R	314,72	1,92	1,70
	fast	R	256,91	2,35	2,08
road	slow	R	76,14	7,92	7,03
	fast	R	62,16	9,69	8,62

*) calculated with the Index Radius 695 mm in accordance with WdK 154

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FUELS AND LUBRICANTS USED IN TESTS

Fuel:	ARAL-DIESEL fuel DIN 51601	
	specific gravity at 15°C	
	during engine tests	0,824 kg/l
	during p.t.o. tests	0,832 kg/l
	during drawbar tests	0,832 kg/l
Engine oil:	MOBIL-DELVAC 1320 SAE 20W/20	
Transmission oil:	Speed change gear, group gear, fine stepped gear and rear axle: MOBIL-MOBILUBE GX 80	
	Final drives: MOBIL-MOBILUBE SAE 90	
Hydraulic oil:	MOBIL-MOTREX 8920	

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COMPULSORY TESTS

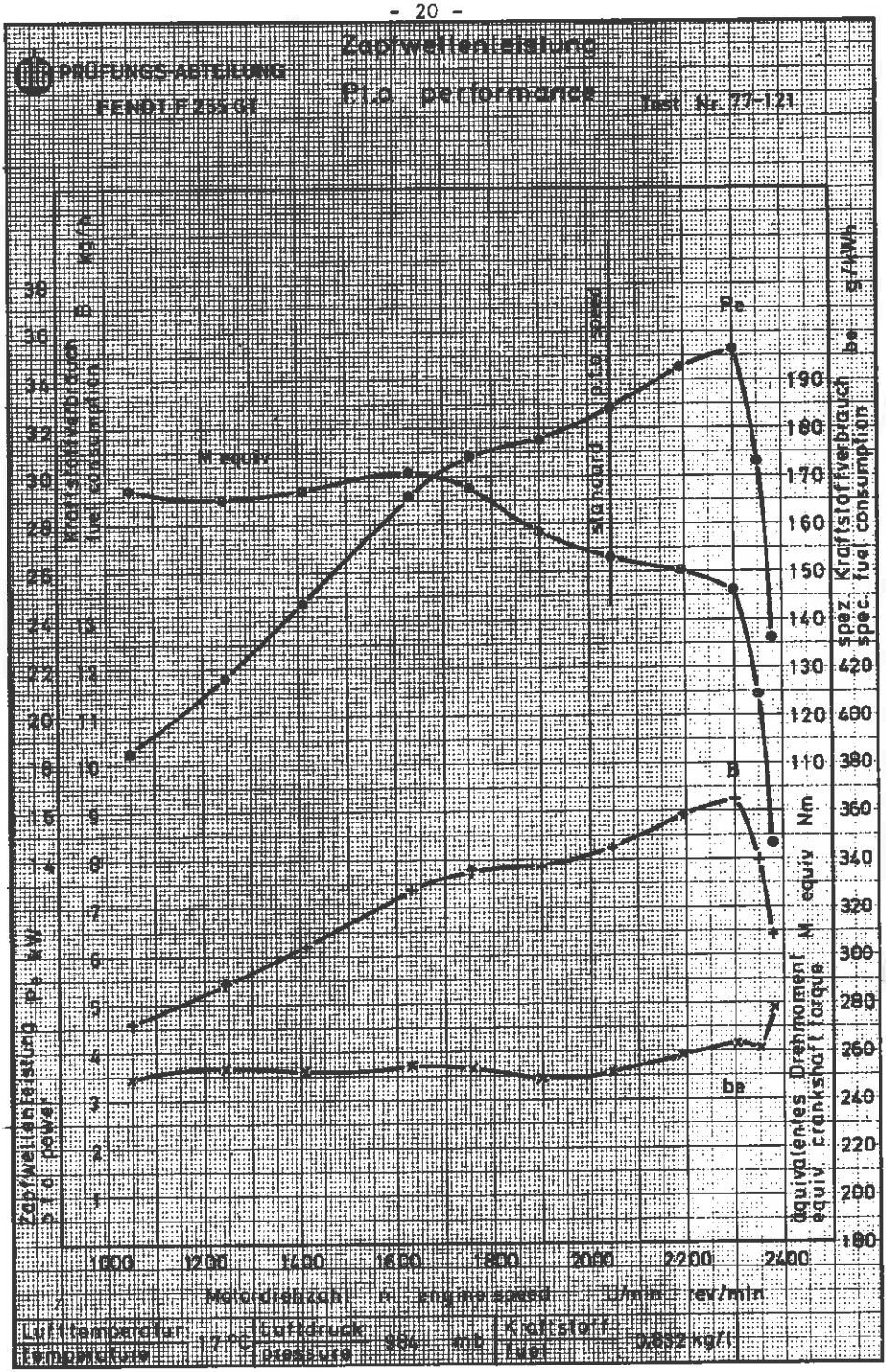
(1) MAIN POWER TAKE-OFF PERFORMANCE

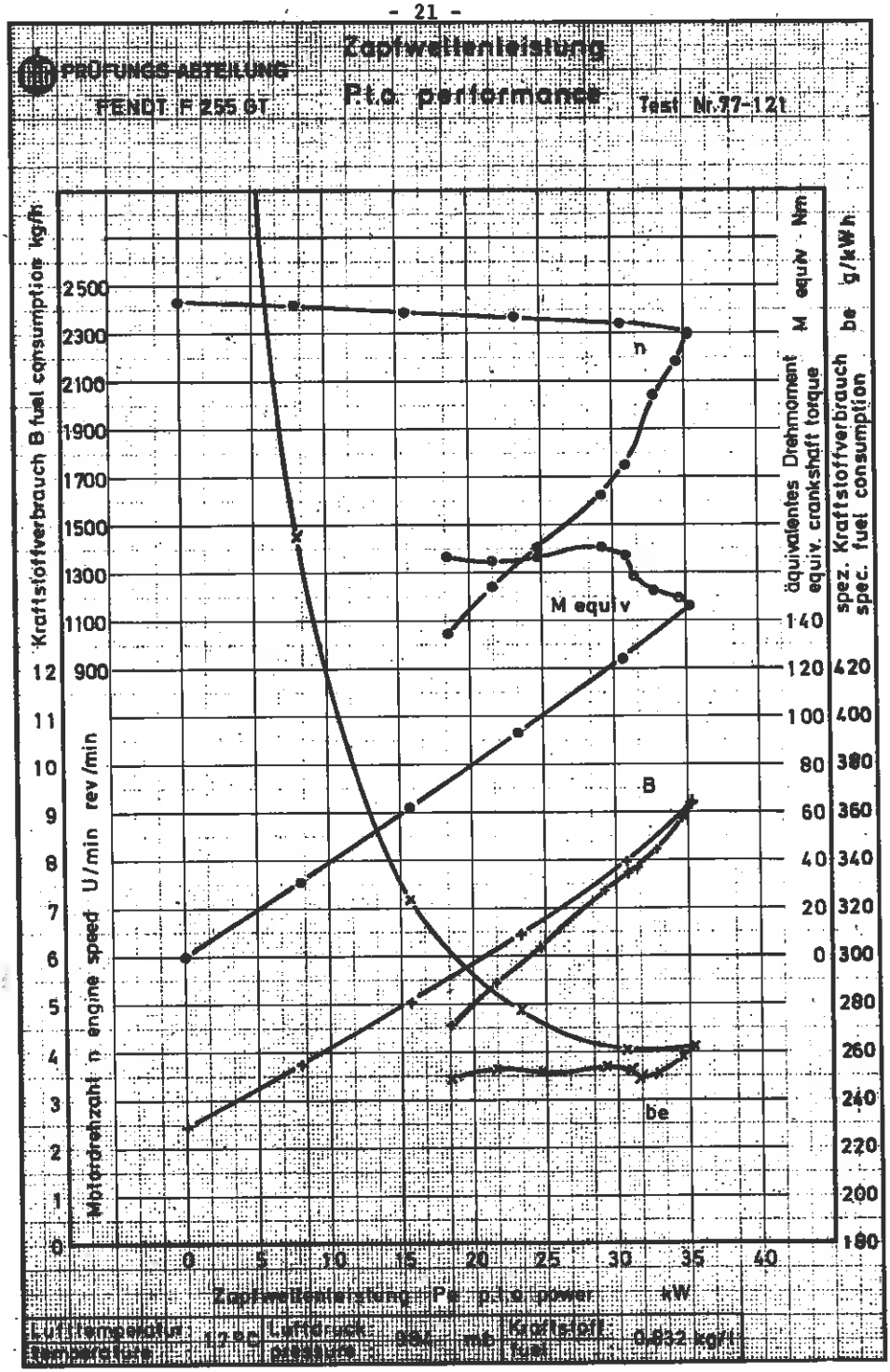
Date of tests: 18th January 1978
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

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						
35.2	2300	607	11.11	9.25	263	3.17
At standard p.t.o. speed (540 rev/min)						
32.8	2046	540	9.91	8.25	252	3.31
At the speed recommended for drawbar work						
35.2	2300	607	11.11	9.25	263	3.17
Part loads						
(i) 85% of the torque at maximum power at 2-hour test						
30.6	2350	620	9.60	7.99	261	3.18
(ii) unloaded						
-	2439	644	2.92	2.43	-	-
(iii) 50% of the load defined in (i)						
15.6	2398	633	6.09	5.06	325	2.56
(iv) maximum power						
35.2	2300	607	11.11	9.25	263	3.17
(v) 25% of the load defined in (i)						
7.9	2427	641	4.53	3.77	476	1.75
(vi) 75% of the load defined in (i)						
23.2	2377	628	7.76	6.46	278	2.99

No load maximum engine speed: 2439 rev/min
Equivalent crankshaft torque at maximum power (2 hours): 146 Nm
Maximum equivalent crankshaft torque: 171 Nm at 1630 rev/min of the engine

Mean atmospheric conditions:	temperature	17 °C
	pressure	984 mbar
	relative humidity	56 %
Maximum temperatures:	coolant	-
	engine oil	92 °C
	fuel	16 °C
	engine air intake	20 °C


Zapfwellenleistung
PTO performance
PRÜFUNGS-ABTEILUNG
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Test Nr. 77-121
Zapfwellenleistung P.t.o. power kW
Kraftstoffverbrauch fuel consumption g/kWh
M equiv
standard p.t.o. power
Pe
B
be
spez. Kraftstoffverbrauch spec. fuel consumption
äquivalentes Drehmoment M equiv Nm
equiv. crankshaft torque
Motordrehzahl n engine speed U/min rev/min
1000
1200
1400
1600
1800
2000
2200
2400
Lufttemperatur temperature 17 °C
Luftdruck pressure 986 mb
Kraftstoff fuel 0,832 kg/l


Zapfwellenleistung
PRÜFUNGS-ABTEILUNG
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P.t.o. performance
Test Nr. 77-121
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed U/min rev/min
äquivalentes Drehmoment M equiv Nm
equiv. crankshaft torque
spez. Kraftstoffverbrauch be
spec. fuel consumption g/kWh
n
M equiv
B
be
Zapfwellenleistung Pe p.t.o. power kW
Kraftstoff
fuel
0,832 kg/l

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(2) DRAWBAR PERFORMANCE

Date of tests: 26th April till 18th May 1978
Type of track: Concrete

Gear No. and Group	Speed km/h	Power kW	Drawbar pull N	Engine speed rev/min	Slip of wheels %	Specific energy kWh/l
(i) MAXIMUM POWER with ballast height of drawbar above ground 900 mm						
1 field slow	1,06	9,22	31250	2405	15,0	1,68
1 field fast	1,27	11,26	31920	2402	15,0	1,84
2 field slow	1,70	15,01	31720	2383	15,0	2,11
2 field fast	2,08	18,53	32100	2373	15,0	2,30
3 field slow	2,90	25,73	31940	2318	15,0	2,43
3 field fast	3,62	27,06	26910	2300	12,8	2,40
1 road slow	4,29	27,73	23270	2299	11,2	2,46
1 road fast	5,36	28,01	18810	2300	9,0	2,50
2 road slow	7,41	27,89	13550	2299	6,7	2,47
2 road fast	9,25	27,06	10530	2298	4,8	2,39
(ii) FIVE-HOUR-TEST at 75% of pull at maximum power in 1st fast gear of road group						
1 road fast	5,61	22,30	14110	2380	6,8	2,52
(iii) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (i)						
3 field slow	-	-	32100	-	-	-
(iv) MAXIMUM POWER without ballast height of drawbar above ground 600 mm						
3 field slow	2,97	20,2	24500	2370	14,9	2,31
3 field fast	3,56	23,9	24160	2327	15,0	2,36
1 road slow	4,11	26,6	23260	2299	14,4	2,34
1 road fast	5,20	27,2	18830	2301	11,7	2,41
2 road slow	7,27	28,0	13840	2301	8,5	2,48
2 road fast	9,05	28,0	11150	2299	7,0	2,49
3 road slow	13,29	27,5	7450	2300	4,6	2,43

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

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Tyres make and size — front: 7,50-16 FULDA 8 ply
rear: 13,6-38 MICHELIN BIBAGRIP 8 ply

Tread bar height at the beginning of drawbar tests:
82% 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 2,0 bar rolling radius of tyres under static load 725 mm						
494	20	-	80	20	85	998
450	20	-	80	20	80	998
394	20	-	80	20	78	998
361	20	-	80	20	80	998
342	18	-	80	15	100	1000
346	20	-	85	17	87	998
337	20	-	85	20	90	998
332	20	-	80	20	80	998
335	20	-	80	20	80	998
347	23	-	82	22	80	998
329	20	-	82	20	78	995
-	20	-	83	20	75	995
tyre inflation pressure 1,3 bar rolling radius of tyres under static load 722 mm						
359	20	-	82	15	92	982
351	24	-	75	23	70	980
353	20	-	73	18	76	984
343	22	-	82	22	70	982
333	23	-	82	23	70	982
332	23	-	80	23	70	981
340	24	-	80	24	70	980

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

PRÜFUNGS-ABTEILUNG
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(2) DRAWBAR PERFORMANCE

Date of tests: 22nd till 31st May 1978
Type of track: Concrete

Gear No. and Group	Speed km/h	Power kW	Drawbar pull N	Engine speed rev/min	Slip of wheels %	Specific energy kWh/l
(i) MAXIMUM POWER with ballast height of drawbar above ground 600 mm						
1 field slow	0,95	13,1	49860	2375	15,0	2,03
1 field fast	1,16	16,0	49640	2360	15,0	2,20
2 field slow	1,55	21,4	49600	2343	15,0	2,45
2 field fast	1,87	25,8	49620	2312	14,9	2,42
3 field slow	2,82	28,8	36710	2300	9,6	2,53
3 field fast	3,53	29,9	30510	2299	7,5	2,67
1 road slow	4,17	29,8	25700	2299	6,3	2,66
1 road fast	5,17	30,4	21150	2301	4,9	2,70
2 road slow	7,04	30,8	15740	2300	3,7	2,73
2 road fast	8,69	30,6	12660	2300	3,0	2,72
3 road slow	12,55	29,1	8340	2298	2,0	2,57
(iv) MAXIMUM POWER without ballast height of drawbar above ground 440 mm						
2 field slow	1,57	15,6	35710	2377	15,0	2,23
2 field fast	1,93	19,1	35660	2362	15,0	2,42
3 field slow	2,70	26,4	35250	2300	13,8	2,34
3 field fast	3,45	28,6	29820	2298	9,5	2,52
1 road slow	4,10	29,5	25930	2300	7,6	2,62
1 road fast	5,08	30,3	21480	2300	5,6	2,69
2 road slow	7,03	30,8	15760	2297	4,1	2,71
2 road fast	8,67	30,4	12620	2300	3,4	2,69
3 road slow	12,58	29,6	8480	2300	2,3	2,62

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Tyres make and size
front: 7,50-16 FULDA AS FRONT 8 ply
rear: 16,9-30 VEITH GOLF 6 ply

Tread bar height at the beginning of drawbar tests: 96% 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 1,3 bar rolling radius of tyres under static load 665 mm						
408	25	-	80	23	84	1002
375	29	-	80	27	70	1002
338	27	-	80	26	80	1004
342	22	-	80	21	90	1000
326	23	-	80	21	90	1004
310	25	-	80	25	85	1004
311	27	-	80	27	78	1004
307	23	-	80	22	85	1002
303	23	-	80	22	87	1002
304	23	-	80	23	85	1002
322	23	-	80	23	84	1002
tyre inflation pressure 1,0 bar rolling radius of tyres under static load 675 mm						
373	18	-	80	15	100	995
343	20	-	80	20	98	980
354	20	-	80	20	97	979
330	18	-	80	15	100	996
316	20	-	80	19	100	1005
309	20	-	80	20	100	1005
306	20	-	80	20	100	1005
308	20	-	80	22	92	1008
316	23	-	80	22	92	1008

PRÜFUNGS-ABTEILUNG
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Test No. 77-121

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 7,50-38 AS Front 8 ply
rear: 13,6-38 AS 8 ply

Track of wheels front: 1500 mm
rear: 1486 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	4,25	4,18	4,76	4,66
Radius of turning circle	4,13	4,02	4,64	4,51

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	906 mm
Distance forward from rear axle centre	639 mm
Distance from tractor's median plane	left 3 mm

PRÜFUNGS-ABTEILUNG
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Test No. 77-121

(5) BRAKING PERFORMANCE

A) SERVICE BRAKE

Date of tests: 11th and 16th May 1978
Type of track: Concrete
Type of decelerometer: MOTO-METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor with driver 4800 kg

Cold brakes

		With ballast	Without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	4,6	4,9
Stopping distance	m	6,6	6,2
Force on pedal	N	470	275
Force on pedal to achieve a deceleration of 2,5 m/s^2	N	186	147

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	89	82
Stopping distance	cold/hot	%	97	86
Force on pedal	cold/hot	%	120	127

B) PARKING BRAKE

Tractor facing up 16 % slope
Pull on hand brake 225 N, tractor does not roll

Tractor facing down 16 % slope
Pull on hand brake 245 N, tractor does not roll

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(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 11th May 1978
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2203

Results of test

Gear: independent slow gear
Travelling speed before acceleration: 19,1 km/h
Sound level: 88,5 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 9th May 1978
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2209

A safety cab was fitted on tractor
OECD tested, approval no. 1104a

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level N	Travelling speed nominal km/h	Travelling speed effective km/h	Sound level dB(A)
1 f.slow	24280	1,18	1,04	89
1 f.fast	24140	1,45	1,28	89
2 f.slow	24050	1,96	1,70	89,5
2 f.fast	24420	2,40	2,07	89,5
3 f.slow	24040	3,43	2,97	90
3 f.fast	23950	4,21	3,21	90
1 r.slow	22900	4,89	4,12	90
1 r.fast	17830	5,99	5,19	90
2 r.slow*)	13830	8,09	7,26	89,5
2 r.fast	10500	9,91	9,08	89,5
3 r.slow	7110	14,19	13,07	89,5
3 r.fast	5540	17,39	16,45	89,5
indep.	light load	26,22	25,41	88

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

PRÜFUNGS-ABTEILUNG
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(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

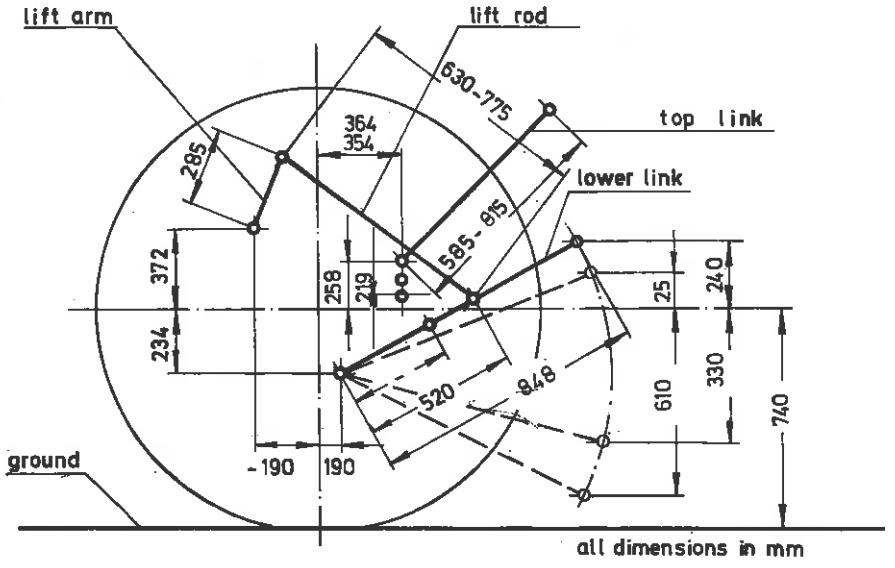
Date of tests: 2nd and 3rd February 1978

HYDRAULIC PUMP

(1) Opening pressure of relief valve in remote circuit	157 bar
Sustained pressure by open relief valve	175 bar
(2) Pump delivery rate at minimum pressure and maximum engine speed	35,8 l/min
(3) Pump delivery rate	30,9 l/min
Delivery pressure	157 bar
Hydraulic Power	8,09 kW

POWER LIFT

Dimensions of linkage geometry for the table on page 32



PRÜFUNGS-ABTEILUNG
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LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-376	-322	-300	-200	-100	-96	-90	0

at hitch points maximum mechanical advantage

N						20550		21680

minimum mechanical advantage

N	17850		19010	20110	20950			21540

Max. force exerted throughout the whole range 20550 N

Front of tractor does not lift with maximum allowable front ballast

at test frame maximum mechanical advantage

N		25300	24320	23440	23100			22100

minimum mechanical advantage

N							20860	21680

Max. force exerted throughout the whole range 21740 N

Front of tractor does not lift with maximum allowable front ballast

PRÜFUNGS-ABTEILUNG

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+100	+200	+245	+259	+300	+400	+474	+500	+523
lift rods 630 mm long								
22970	23750			24250	24600	25390		
lift rods 775 mm long								
21980	22310		22420					

lift rods 775 mm long								
22620	22160	21740						
lift rods 630 mm long								
21830	21460			20900	20020		18700	18480

All values of forces for pressure at max. hydraulic power 157 bar, see page 29; 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	848 mm	848 mm
Lift arms	285 mm	285 mm
Lift rods	775 mm	630 mm
Top link	700 mm	682 mm
Distance of lift rod connection point from pivot point of lower link	520 mm	520 mm
The following dimensions are given relative to rear axle centre line 740 mm above ground		
Lower link pivot point	190 mm behind, 234 mm below	190 mm behind, 234 mm below
Top link pivot point	354 mm behind, 258 mm above	364 mm behind, 219 mm above
Lift arm pivot point	190 mm behind, 372 mm above	190 mm behind, 372 mm above
Maximum and minimum height of lower link hitch points	25 mm above, 610 mm below	240 mm above, 330 mm below
Height of lower link hitch points above ground when locked in highest transport position	765 mm	980 mm

PRÜFUNGS-ABTEILUNG
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Test No. 77-121

OPTIONAL TESTS

(9) ENGINE PERFORMANCE

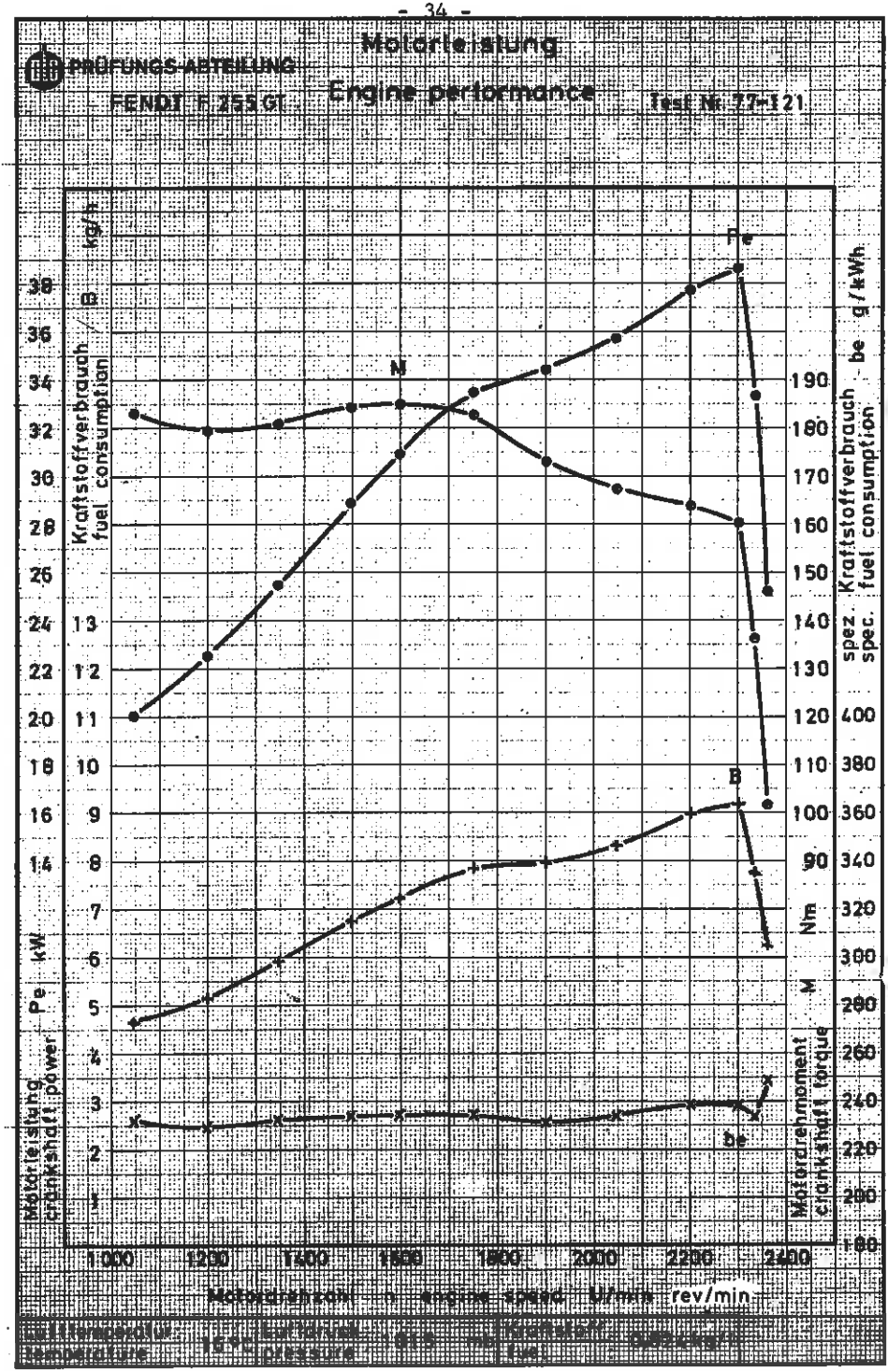
Date of tests: 5th and 6th January 1978
Type of dynamometer: SCHENCK eddy-current dynamometer W 150

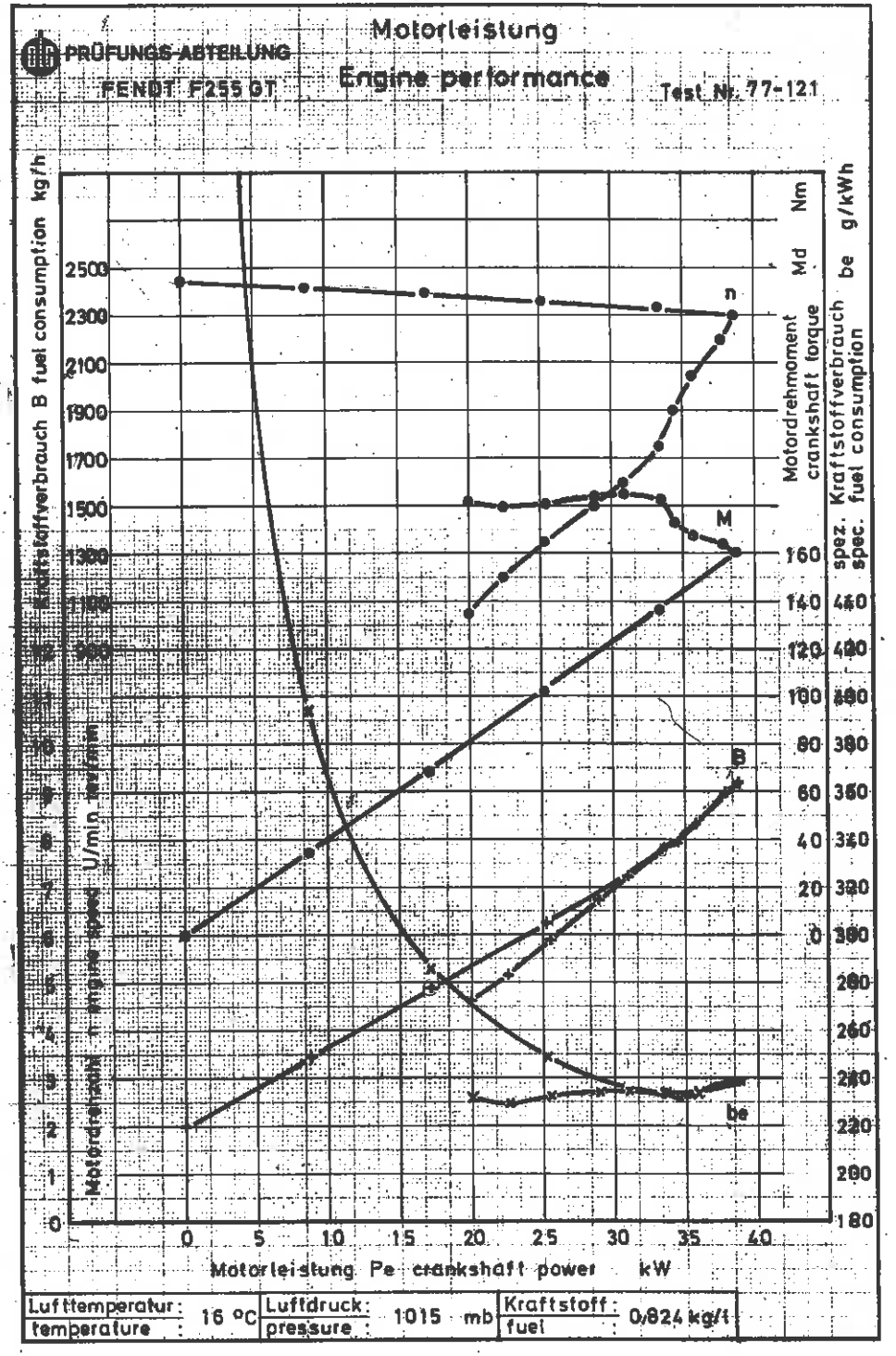
Power kW	Engine speed rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power					
At 2-hour test					
38.6	2300	11.16	9.19	238	3.46
At standard p.t.o. speed (540 rev/min)					
35.7	2046	10.13	8.35	234	3.53
At the speed recommended for drawbar work					
38.6	2300	11.16	9.19	238	3.46
Part loads					
(i) 85% of the torque at maximum power at 2-hour test					
33.3	2335	9.45	7.79	234	3.53
(ii) unloaded					
-	2441	2.43	2.01	-	-
(iii) 50% of the load defined in (i)					
17.1	2394	5.92	4.88	286	2.89
(iv) maximum power					
38.6	2300	11.16	9.19	238	3.46
(v) 25% of the load defined in (i)					
8.7	2418	4.17	3.44	394	2.09
(vi) 75% of the load defined in (i)					
25.2	2360	7.60	6.26	249	3.31

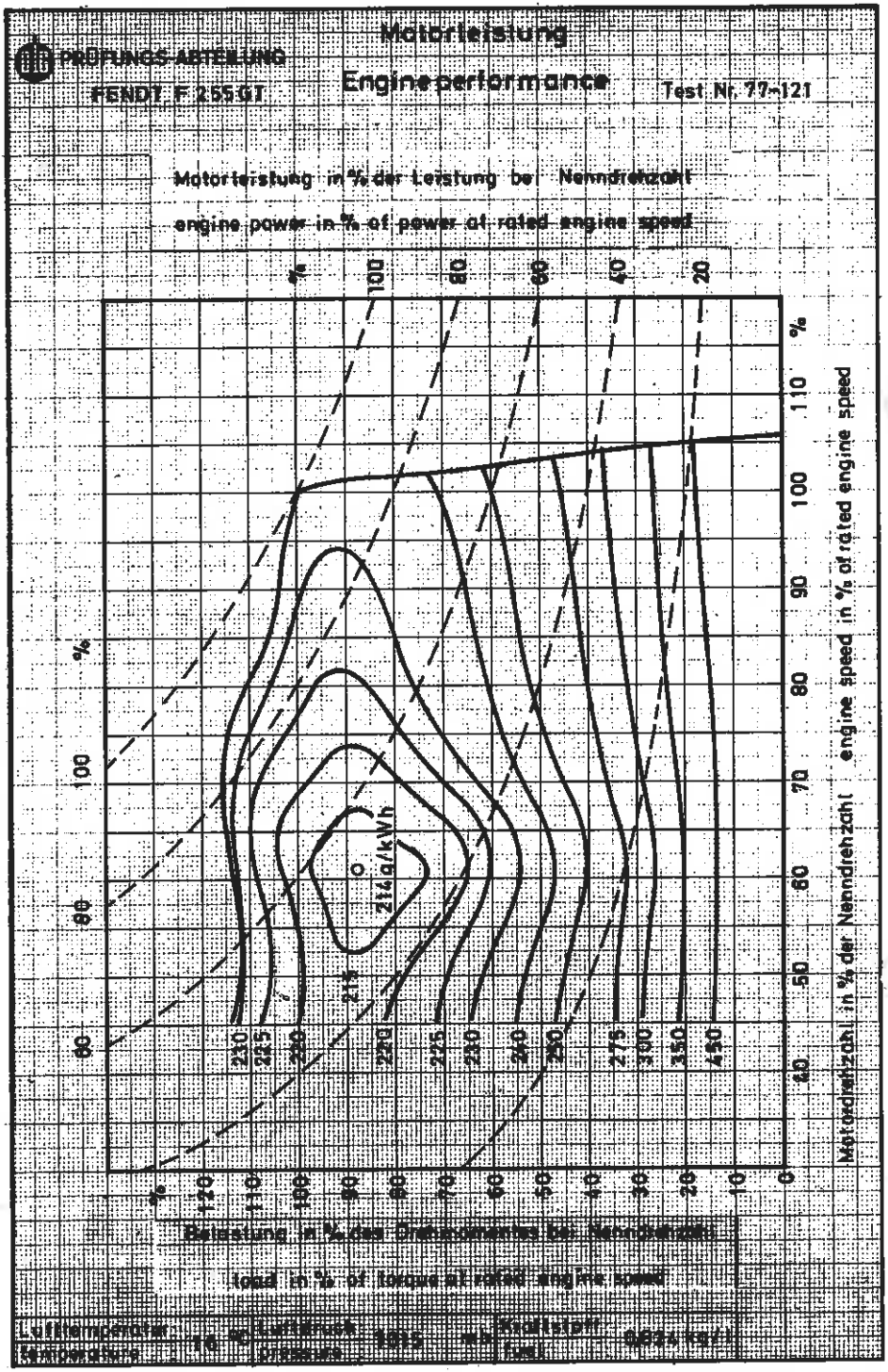
Optimum fuel consumption: 214 g/kWh at 20.6 kW and 1399 rev/min
No load maximum engine speed: 2441 rev/min
Torque at maximum power (2 hours): 160 Nm
Maximum torque: 185 Nm at 1598 rev/min of the engine

Mean atmospheric conditions:
- temperature 16 °C
- pressure 1015 mbar
- relative humidity 40 %

Maximum temperatures:
- coolant -
- engine oil 94 °C
- fuel 19 °C
- engine air intake 18 °C


Motorleistung
PRÜFUNGS-ABTEILUNG
FENDT F 255 GT
Engine performance
Test Nr. 77-121
Kraftstoffverbrauch B kg/h
fuel consumption
Pe
M
B
be
Kraftstoffverbrauch be g/kWh
spez. fuel consumption
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


PRÜFUNGS-ABTEILUNG
FENDT F255 GT
Motorleistung
Engine performance
Test Nr. 77-121
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed U/min revs/min
Motordrehmoment crankshaft torque Md Nm
spez. Kraftstoffverbrauch spec. fuel consumption be g/kWh
n
M
B
be
Motorleistung Pe crankshaft power kW
Lufttemperatur : temperature : 16 °C
Luftdruck : pressure : 1015 mb
Kraftstoff : fuel : 0,824 kg/l


PRÜFUNGS-ABTEILUNG
FENDT F 255 GT
Motorleistung
Engine performance
Test Nr. 77-121
Motorleistung in % der Leistung bei Nenndrehzahl
engine power in % of power at rated engine speed
Motordrehzahl in % der Nenndrehzahl engine speed in % of rated engine speed
Belastung in % des Drehmoments bei Nenndrehzahl
load in % of torque at rated engine speed
214 g/kWh
Lufttemperatur
Kühlmittel
Kraftstoff

PRÜFUNGS-ABTEILUNG
FENDT F 255 GT

Test No. 77-121

ADDITIONAL TEST

out of the O.E.C.D. CODE under the responsibility of the DLG Testing Station

(1) MAIN POWER TAKE-OFF PERFORMANCE

at engine speed corresponding to standard p.t.o. speed (540 rev/min)

Date of tests: 18th January 1978
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 standard p.t.o. speed						
32.8	2046	540	9.91	8.25	252	3.31
Part loads at standard p.t.o. speed						
(i) 85% of the torque at maximum power						
28.5	2097	554	8.59	7.14	250	3.32
(ii) unloaded						
-	2202	581	2.37	1.97	-	-
(iii) 50% of the load defined in (i)						
14.6	2149	567	5.33	4.43	303	2.75
(iv) maximum power						
32.8	2046	540	9.91	8.25	252	3.31
(v) 25% of the load defined in (i)						
7.4	2173	574	3.88	3.23	437	1.90
(vi) 75% of the load defined in (i)						
21.7	2121	560	6.86	5.70	263	3.16

Equivalent crankshaft torque at standard p.t.o. speed 153 Nm

Mean atmospheric conditions:	temperature	18 °C
	pressure	984 mbar
	relative humidity	56 %
Maximum temperatures:	coolant	-
	engine oil	90 °C
	fuel	14 °C
	engine air intake	22 °C

Published
with the support of the Federal Minister for Food, Agriculture and Forestry

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