O.E.C.D. No.: 521
Printed: June 1976

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



Fendt Agricultural Tractor F 275 GT

Implement Carrier

Manufactured by: X. FENDT & CO. Maschinen- und Schlepperfabrik
D-8952 Marktoberdorf/Allgäu

Date of Tests: November 1975 till January 1976

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

DEUTSCHE LANDWIRTSCHAFTS-GESELLSCHAFT e.V.
Prüfungsabteilung für Landmaschinen
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This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD-CODE for the Official Testing of Agricultural Tractors. It does not contain an evaluation of the performance of the tractor on practical work.

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

Date of Approval: 28th April 1976

Serial No.: 521

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

The relation with the former used Technical System of Units is given by the following formulas:

Forces:	1 N = 0,102 kp	or 1 kp	= 9,81 N
Powers:	1 kW = 1,36 PS	or 1 PS	= 0,736 kW
Pressures:	1 bar = 1,02 kp/cm²	or 1 kp/cm²	= 0,981 bar
	1000 mbar = 750,1 mm Hg		

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Printed in Germany

PRÜFUNGS-ABTEILUNG
FENDT F 275 GT

Test No. 75-44

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PRÜFUNGS-ABTEILUNG
FENDT F 275 GT

Test No. 75-44

Tractor manufacturer: X.FENDT U.CO.
D-8952 Marktoberdorf

Submitted for test by: Manufacturer

Selected by: Manufacturer with agreement by DLG

Place of running-in: Marktoberdorf and Groß Umstadt

Duration of running-in: Engine and tractor appr. 100 hours

SPECIFICATION OF TRACTOR

Tractor

Make: X. FENDT U. CO.
Model: F 275 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.: 275/0007

Engine

Make: KLÖCKNER-HUMBOLDT-DEUTZ AG.
Model: F 4 L 912
Type: 4-stroke DIESEL engine with direct injection; air cooled

Serial No.: F 4 L 912/5 105 208

Cylinders: 4 horizontal in-line, bore 100 mm, stroke 120 mm, displacement 3768 cm^3, compression ratio 17:1, replaceable ribbed cylinder liners

Valves: Overhead

Fuel system: PIERBURG fuel feed pump PE 15 264;
BOSCH in-line injection pump:
PES 4 A 75 D 410/3 RS 1183;
manufacturer's production setting 58 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 82 l

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Governor:	BOSCH centrifugal variable speed type governor: EP/RSV 325 - 1150 A 8 B 657 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; oil capacity 13 l; oil changing interval 200 hours; recommended oil quality MIL-L-2104 C or MIL-L 46152; recommended oil viscosities: winter HD SAE 10 W summer HD SAE 20 W/20 tropics HD SAE 30
Cooling system:	Air cooling with axial blower; V-belt driven
Starting system:	Electrical; BOSCH starter motor 2,9 kW; flame plug in intake pipe
Electrical equipment:	12 Volt; BOSCH 3 phase alternator: 0120 339 514; 1 lead acid battery, 110 AH at 20 hours rating

Transmission

Clutch:	FICHTEL UND SACHS, dry double disc clutch. DUT 295 L; travel drive disc pedal operated; p.t.o. drive disc hand lever operated
Gear box:	Own make; synchromesh speed change gear with 3 forward and 1 reverse speed; group gear with 1 field and 1 road group; 1 independent high speed gear; fine stepped transmission with 1 slow and 1 fast step; the independent high speed gear can be locked in the fast step of the fine stepped transmission; maximum speeds of the tractor with independent gear locked 24,24 km/h not locked 30,23 km/h; total 14 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-2105 A 26,2 l final drives SAE 90 MIL-2105 B 8 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; 660 mm above ground, in median plane of the tractor; 29 x 34,9 x 8,7 mm = 1 3/8", 6 splines; DIN 9611 Form 1; BS 1495; ASAE S 203.7

PRÜFUNGS-ABTEILUNG

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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	551,09	1,17	1,04
		2	333,32	1,94	1,72
		3	189,99	3,40	3,02
	fast	1	441,83	1,46	1,30
		2	267,24	2,42	2,15
		3	152,33	4,24	3,77
road	slow	1	133,33	4,84	4,31
		2	80,64	8,01	7,12
		3	45,97	14,05	12,49
	fast	1	106,89	6,05	5,37
		2	64,65	9,99	8,88
		3	36,85	17,52	15,58
independent	slow		26,64	24,24	21,56
	fast		21,36	30,23	26,89
Reverse speeds					
field	slow	R	319,99	2,02	1,79
	fast	R	77,42	8,34	7,42
road	slow	R	256,55	2,52	2,24
	fast	R	62,07	10,40	9,52

*) calculated with the Index Radius 745 mm in accordance with WdK 154

Power take-off (Continuation)

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 1487 mm before rear axle centre, 637 mm above ground,
350 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
2112 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
2122 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

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Power take-off

Proportional ground speed p.t.o.	The p.t.o. between the axles and the front p.t.o. can be changed to proportional ground speed p.t.o.; direction of rotation clockwise when driving forward; travelling distance for 1 rev of the p.t.o. 0,99 m, 4,7 rev of p.t.o. for 1 rev of the driving wheel

Power lift

At rear:	Own make; disintegrated construction; power control, position control, both stepless mixable, floating position, BOSCH gear type pump with 16 cm^3/rev delivery; directly driven by engine; BOSCH control valve; maximum oil pressure 175 bar; 2 single acting rams; 63 mm bore, 200 mm stroke; hydraulic linkage lock for transport: 2 single-acting or 2 double-acting or 1 single and 1 double-acting BOSCH additional control valve for oil tappings at rear of tractor and 1 single-acting BOSCH additional control valve for oil tapping in front of tractor available; hydraulic oil tank with 20 l capacity; 13 l may be taken off through oil tappings when tractor is working driving, 18 l when tractor is stationary; recommended oil quality: engine oil HD SAE 20W/20 MIL-L-2104 C or MIL-L-46152; oil changing interval 1000 hours
Between the axles:	fed from the hydraulic system of the rear power lift; BOSCH control valve 2 single-acting rams 63 mm bore, 500 mm stroke

Power lift	(Continuation)
At front:	Optional, not fitted on tractor tested; fed from the hydraulic system of the rear power lift; BOSCH control valve; 2 single-acting rams; 63 mm bore, 162 mm stroke
Implement linkage	
At rear:	Three point linkage, category II DIN 9674; lift rods length adjustable from 658 to 773 mm; lifting range above ground with short lift rods from 350 to 945 mm long lift rods from 127 to 782 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 140 to 968 mm dependent on lift rods length measured at the surface of the bar; in 450 mm above ground mechanically - hydraulically lockable with lift rods 730 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

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Pull attachment

Trailer hitch: Own make, not automatical;
height above ground:
480, 550, 600, 700, 800, 850 and 900 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 1200 kg

Towing hitch: At front of tractor;
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

Brakes

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

Sevice brake: Dry double disc type brake;
hydraulically acting on two discs with 165 mm diameter on the differential half shafts;
pedal operated

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

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

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Wheels

Steering wheels: Two pneumatics at front 7,50-16 AS 8 ply;
maximum permissible load per tyre 870 kg
at 3,75 bar 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 - 1800 mm;
rims 5,5 F x 16

Driving wheels: Two pneumatics at rear 16,9-34 AS 6 ply;
maximum permissible load per tyre 2015 kg
at 1,3 bar inflation pressure and 30 km/h;
track width 1500 and 1640 mm;
changeable by turning wheels;
optional: track adjustment wheels for track
widths from 1536 to 1936 mm in steps of
100 mm; adjustable by turning wheels and
offset lug type rims;
rims DW 14 x 34

wheel base: 3128 mm

Weights — Ready for use, as tested with safety cab

		without driver	with driver
Without ballast:	front	665 kg	670 kg
	rear	2755 kg	2830 kg
	total	3420 kg	3500 kg
Front ballast:	1 front weight		33 kg
	platform		148 kg
	iron weights on the platform		575 kg
Rear ballast:	3 weights per wheel 63 kg each		378 kg
	water in the tyres		566 kg
With ballast:	front	1395 kg	1400 kg
	rear	3725 kg	3800 kg
	total	5120 kg	5200 kg

Number of grease points 10

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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 1120 mm;
height of seat above platform 410 mm, seat not compressed, seat mould in downmost position;
in longitudinal direction in medium position;
150 mm adjustable fore and aft;
60 mm adjustable up and down in 3 steps

Dimensions

Total length: 4665 mm with 3 point linkage without platform
4790 mm with 3 point linkage and platform

Total width: 1880 mm at track width 1500 mm
2005 mm at track width 1660 mm

Total height: 2592 mm to top of cab

Ground clearance: 480 mm below the engine casing

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 ⌀	875	390
Side lights	-	-	-
Rear lights	160 x 60	1570	230
Reflectors			
1st pair	125 x 37	1445	230
2nd pair	80 ⌀	565	650

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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	16,9-34 6 ply	1740 (2000)	4030 (4310)	5770 (6000)
	13,6-38 6 ply		3320 (3550)	5060 (5550)
	8,3-44 6 ply		2880 (2880)	4620 (4880)
	9,5-44 8 ply		3900 (3900)	5640 (5900)
	9,5-48 8 ply		- (4080)	- (6000)
	18,4-30 g ply		4240 (4350)	5980 (6000)

Values in brackets are valid for tractors with appr. 25 km/h maximum speed (independent gear locked in high speed step)

The tyres 8,3-44, 9,5-44 and 9,5-48 are not standard tyres, they are special production of MICHELIN and KLEBER, with these tyres track widths of 1360, 1500, 1800 and 2000 mm are optionally possible

FUEL AND LUBRICANTS USED IN TESTS

Fuel: ARAL DIESEL fuel (DIN 51 601)
specific gravity at 15°C:

during engine tests	0,835 kg/l
during p.t.o. tests	0,835 kg/l
during drawbar tests	0,838 kg/l

Engine oil: ARAL KOWAL HD SAE 20W/20

Transmission oil: Speed change gear, group, gear, fine stepped transmission:

ARAL transmission oil SAE 80

final drives:

MOBIL transmission oil SAE 90

Power lift: Engine oil HD SAE 20W/20

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COMPULSORY TESTS

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

Date of tests: 9th December 1975
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

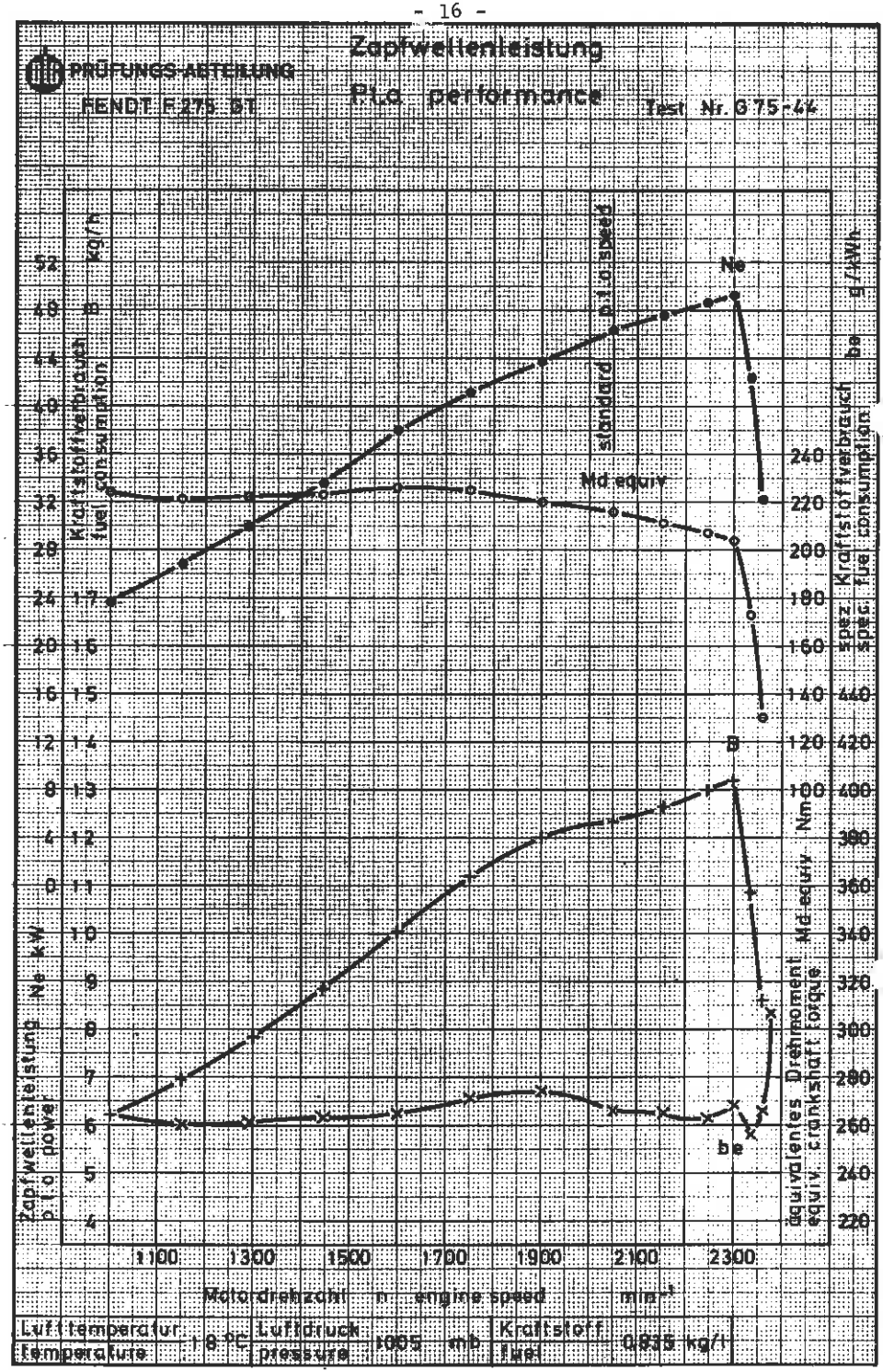
Maximum power

Power kW	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total 1/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
At maximum power 2-hour test						
49,2	2300	607	15,83	13,22	269	3,11
At standard p.t.o. speed (540 rev/min)						
46,3	2046	540	14,78	12,34	266	3,13
At the speed recommended for drawbar work						
49,2	2300	607	15,83	13,22	269	3,11
Part loads						
(i) 85% of the torque at maximum power						
42,4	2336	617	12,99	10,85	256	3,26
(ii) unloaded						
-	2412	637	4,07	3,40	-	-
(iii) 50% of the load defined in (i)						
21,6	2380	628	7,95	6,64	307	2,72
(iv) maximum power						
49,2	2300	607	15,83	13,22	269	3,11
(v) 25% of the load defined in (i)						
10,9	2397	633	5,82	4,86	446	1,87
(vi) 75% of the load defined in (i)						
32,2	2362	624	10,26	8,57	266	3,14

No load maximum engine speed: 2412 rev/min
Equivalent crankshaft torque at maximum power 204 Nm
Maximum equivalent crankshaft torque: 226 Nm at 1600 rev/min of the engine

Mean atmospheric conditions:
temperature 18°C
pressure 1005 mbar
relative humidity 80%

Maximum temperatures:
coolant not recorded
engine oil 90°C
fuel 20°C

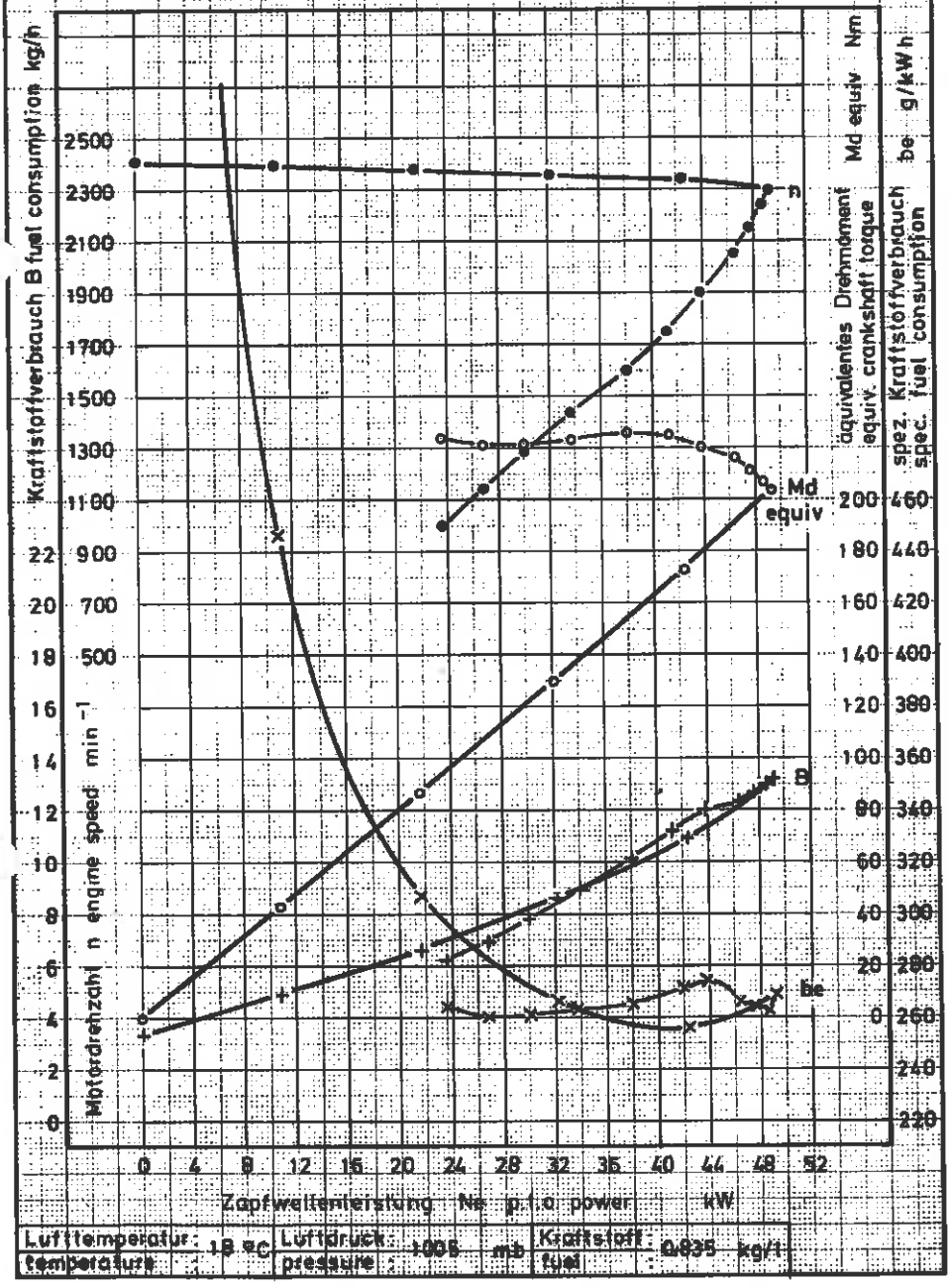

Zapfwellenleistung
P.t.o. performance
PRÜFUNGS-ABTEILUNG
FENDT F 275 GT
Test Nr. G 75-44
Ne
Md equiv
be
standard p.t.o. speed
Zapfwellenleistung p.t.o. power Ne kW
Kraftstoffverbrauch fuel consumption kg/h
spez. Kraftstoffverbrauch spec. fuel consumption be g/kWh
äquivalentes Drehmoment equiv. crankshaft torque Md equiv Nm
Motordrehzahl n engine speed min⁻¹
1100
1300
1500
1700
1900
2100
2300
Lufttemperatur temperature 18 °C
Luftdruck pressure 1005 mb
Kraftstoff fuel 0.835 kg/l

PRÜFUNGS-ABTEILUNG

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Zapfwellenleistung
P.t.o. performance

Test Nr. G 75-44



Lufttemperatur temperature	18 °C	Luftdruck pressure	1005	mb	Kraftstoff fuel	0,835	kg/l

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(2) DRAWBAR PERFORMANCE

Date of tests: 12th December 1975 till 19th January 1976
Type of track: Concrete

Gear No. and Group	Driving 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 690 mm						
1 field slow	1,04	14,0	48410	2391	15,0	1,90
1 field fast	1,30	17,4	48360	2390	14,9	2,13
2 field slow	1,70	23,0	48480	2376	15,0	2,38
2 field fast	2,12	28,5	48370	2372	14,9	2,51
3 field slow	2,91	39,1	48400	2321	15,0	2,50
3 field fast	3,74	41,7	40150	2300	11,6	2,58
1 road slow	4,34	43,2	35820	2300	10,1	2,69
1 road fast	5,57	43,5	28100	2300	7,4	2,71
2 road slow	7,53	44,6	21300	2300	5,4	2,79
2 road fast	9,49	43,7	16590	2300	4,4	2,73
(ii) FIVE-HOUR-TEST at 75% of pull at maximum power in 1st fast gear of road group						
1 road fast	5,80	34,0	21070	2355	5,8	2,77
(iii) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (i)						
3 field slow	-	-	48480	2320	-	-
(v) MAXIMUM POWER without ballast height of drawbar above ground 450 mm						
3 field slow	2,98	30,2	36480	2362	15,0	2,61
3 field fast	3,67	37,1	36390	2339	14,9	2,65
1 road slow	4,13	41,7	36350	2300	14,9	2,61
1 road fast	5,43	42,5	28180	2300	9,9	2,66
2 road slow	7,39	44,8	21820	2300	7,4	2,80
2 road fast	9,42	45,0	17200	2301	5,2	2,80
3 road slow	13,47	44,1	11790	2300	3,8	2,75

Total oil consumption during ten hours duration of tests (ii) and (iii): 72 g/h

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Tyres make and size — Front: VEITH-PIRELLI 7,50-16 6 ply
Rear: VEITH-PIRELLI 16,9-34 8 ply

Specific fuel consumpt. g/kWh	Temperatures: Fuel °C	Coolant °C	Engine oil °C	Atmospheric conditions: Temperature °C	Relative humidity %	Pressure mbar
tyre inflation pressure 1,7 bar rolling radius of tyres under static load 739 mm						
442	6	-	70	6	98	1010
398	9	-	65	9	100	1010
351	10	-	67	12	100	1010
334	10	-	67	9	96	1009
334	12	-	67	10	91	1013
323	14	-	65	10	92	1013
310	14	-	76	10	86	1013
308	12	-	71	10	95	1013
299	13	-	79	10	96	1013
306	13	-	72	10	96	1013
303	6	-	64	6	98	1010
-	6	-	62	7	99	1010
tyre inflation pressure 1,1 bar rolling radius of tyres under static load 739 mm						
321	10	-	66	4	97	1016
315	10	-	68	3	95	1016
321	10	-	77	3	94	1016
315	10	-	72	3	91	1016
299	8	-	76	0	99	1016
300	7	-	74	0	99	1016
306	9	-	75	-1	92	1016

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

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(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 7,50-16 AS Front 8 ply

rear: 16,9-34 AS 6 ply

Track of wheels front: 1500 mm

rear: 1500 mm

	With brakes left-hand m	With brakes right-hand m	Without brakes left-hand m	Without brakes right-hand m
Radius of turning space	4,07	4,12	4,74	4,78
Radius of turning circle	3,98	4,05	4,65	4,71

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	896 mm
Distance forward from the vertical plane containing the axis of the rear wheels	599 mm
Distance of the median plane of the tractor	0 mm

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(5) BRAKING PERFORMANCE

A) SERVICE BRAKE

Date of tests: 18th and 22nd December 1975
Type of track: Concrete
Type of decelerometer: MOTO METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor: 5200 kg with driver

Cold brakes

		with ballast	without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	5,4	5,2
Stopping distance	m	5,6	5,9
Force on pedal	N	460	390
Force on pedal to achieve a deceleration of 2,5 m/s^2	N	195	165

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	102	102
Stopping distance	cold/hot	%	100	103
Force on pedal	cold/hot	%	100	94

B) PARKING BRAKE

Tractor facing up slope:
Pull on hand brake 255 N, tractor does not roll

Tractor facing down slope:
Pull on hand brake 255 N, tractor does not roll

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(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 17th December 1975
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2203

Results of test

Gear: Independent high speed gear
Travelling speed before acceleration: 23,8 km/h
Sound level: 91 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 17th December 1975
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2607
Type of frequency analyser: BRÜEL AND KJAER model 1614
(fitted with octave filter)

A safety cab was fitted
O.E.C.D. tested, approval no. CS from

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	36300	1,17	1,02	88,5
1 f.fast	36200	1,46	1,27	89
2 f.slow	36200	1,94	1,67	89
2 f.fast	36210	2,42	2,07	89,5
3 f.slow	36200	3,40	2,89	89,5
3 f.fast	36190	4,24	3,68	89,5
1 r.slow	36170	4,84	4,03	89
1 r.fast	28150	6,04	5,45	89,5
2 r.slow *)	21780	8,01	7,39	90
2 r.fast	17170	9,99	9,40	90
3 r.slow	11770	14,05	13,43	90
3 r.fast	9370	17,52	16,90	90
high slow	light load	24,24	25,20	89
high fast	light load	30,23	31,45	90

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

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(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

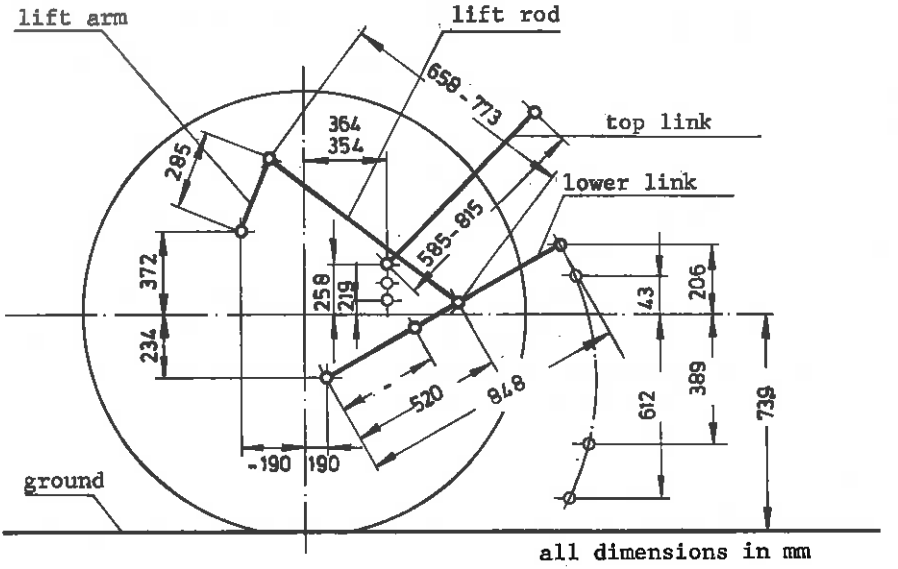
Date of tests: 7th January 1975

HYDRAULIC PUMP

(1)	Opening pressure of relief valve	180 bar
	Sustained pressure by open relief valve	175 bar
(2)	Pump delivery rate at minimum pressure and maximum engine speed	35,1 l/min
(3)	Pump delivery rate	31,76 l/min
	Delivery pressure	160 bar
	Hydraulic Power	8,47 kW

POWER LIFT

Dimensions of linkage geometry for the table on page 28



PRÜFUNGS-ABTEILUNG
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LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-378	-323	-300	-200	-155	-153	-100	0
at hitch points	maximum mechanical advantage							
N					27370		29330	31020
	minimum mechanical advantage							
N	25360		25300	28550			29740	30560

Max. force exerted throughout the whole range 27370 N

Front of tractor does not lift with maximum allowable front ballast

at test frame	maximum mechanical advantage							
N		34450	33850	32760			32350	31930
	minimum mechanial advantage							
N						29010	29600	30380

Max. force exerted throughout the whole range 30110 N

Force at which front of tractor lifts with maximum allowable front ballast: 25510 N

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0	+100	+200	+260	+277	+300	+400	+440	+480
lift rods 658 mm long								
31020	32210	32990			33580	34040	33850	
lift rods 773 mm long								
30560	31110	31300		30610				
lift rods 773 mm long								
31930	31340	30560	30110					
lift rods 658 mm long								
30380	30380	29830			29920	27780		26410

All values of forces for pressure at max. hydraulic power 160 bar, see page 23; 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	773 mm	658 mm
Top link	700 mm	685 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 739 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	43 mm above, 612 mm below	206 mm above, 389 mm below
Height of lower link hitch points above ground when locked in highest transport position	782 mm	945 mm

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OPTIONAL TESTS

(1) ENGINE PERFORMANCE

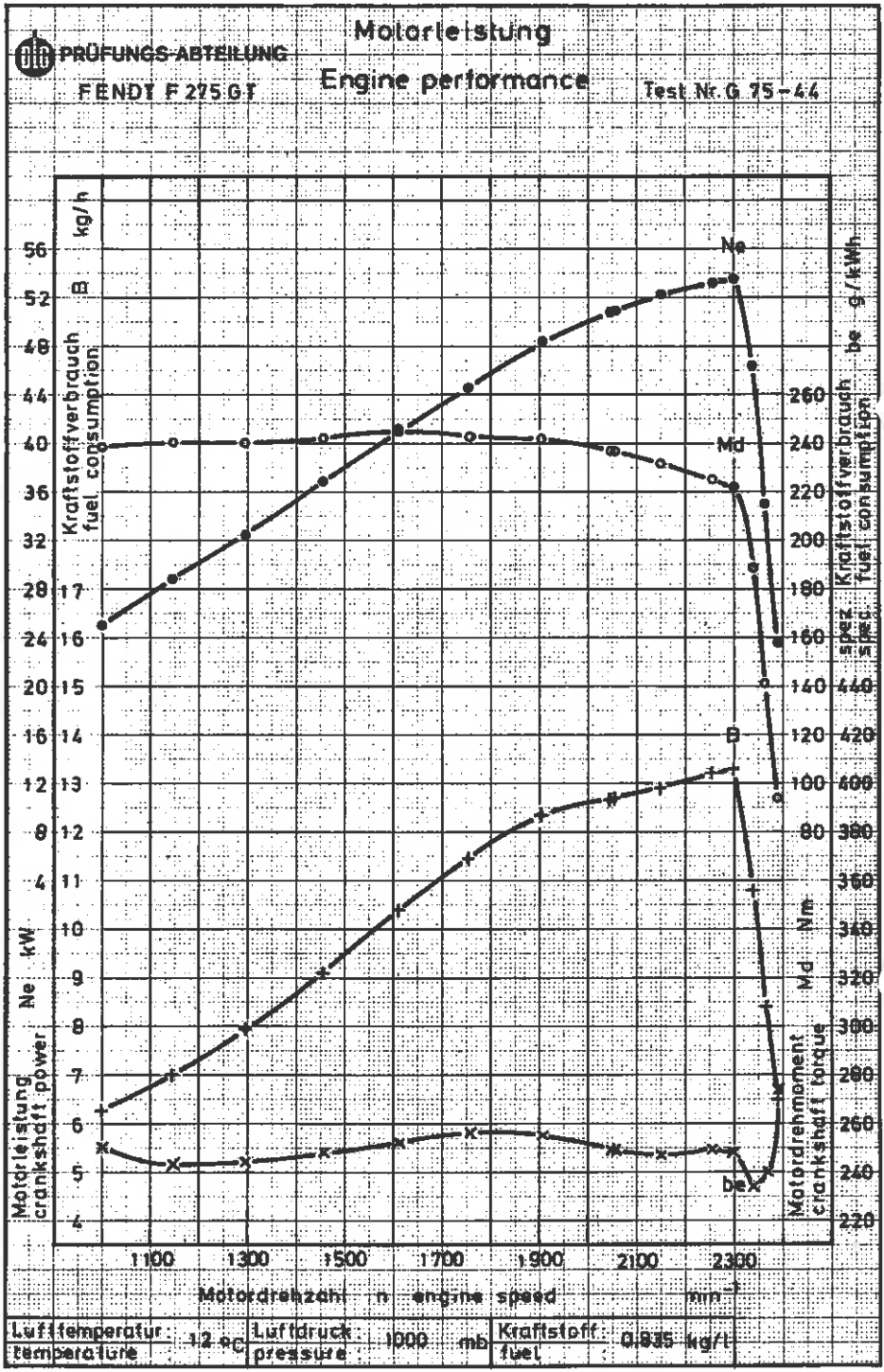
Date of tests: 1st December 1975
Type of dynamometer: SCHENCK eddy current dynamometer W 150

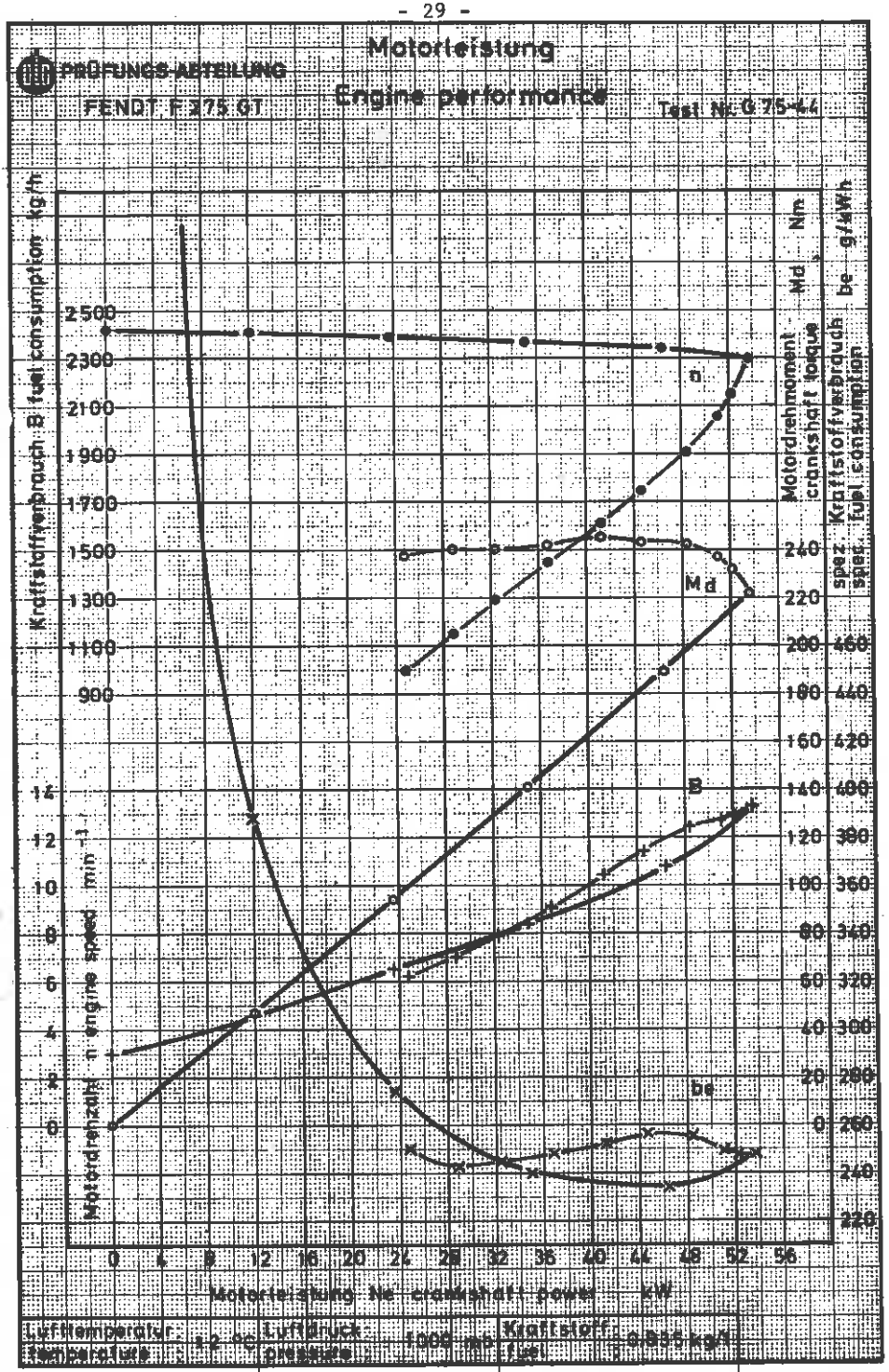
Maximum power

Power kW	Engine speed rev/min	Fuel consumption total 1/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
At maximum power 2-hour test					
53,5	2300	15,90	13,28	248	3,36
At standard p.t.o. speed (540 rev/min)					
50,9	2046	15,17	12,67	249	3,36
At the speed recommended for drawbar work					
53,5	2300	15,90	13,28	248	3,36
Part loads					
(i) 85% of torque at maximum power					
46,3	2338	13,08	10,82	234	3,54
(ii) unloaded					
-	2423	3,58	2,99	-	-
(iii) 50% of the load defined in (i)					
23,6	2391	7,75	6,47	274	3,05
(iv) maximum power					
53,5	2300	15,90	13,28	248	3,36
(v) 25% of the load defined in (i)					
11,9	2410	5,53	4,62	388	2,15
(vi) 75% of the load defined in (i)					
35,0	2365	10,05	8,39	240	3,48

Optimum fuel consumption: 225 g/kWh at 31,3 kW and 1700 rev/min
Standard fuel consumption 1/2 (DIN 9606): 5,98/12,29 1/h
No load maximum engine speed: 2423 rev/min
Torque at maximum power: 222 Nm
Maximum torque: 245 Nm at 1610 rev/min of the engine

Mean atmospheric conditions:	temperature	12°C
	pressure	1000 mbar
	relative humidity	80%
Maximum temperatures:	coolant	not recorded
	engine oil	90°C
	fuel	16°C


Motorleistung
Engine performance
PRÜFUNGS-ABTEILUNG
FENDT F 275 GT
Test Nr. G 75-44
Kraftstoffverbrauch fuel consumption B kg/h
Motorleistung crankshaft power Ne kW
Motordrehmoment crankshaft torque Md Nm
spez. Kraftstoffverbrauch spec. fuel consumption be g/kWh
Ne
Md
B
be
Motordrehzahl n engine speed min⁻¹
1100
1300
1500
1700
1900
2100
2300
Lufttemperatur temperature 12 °C
Luftdruck pressure 1000 mb
Kraftstoff fuel 0.835 kg/l


Motorleistung
PRÜFUNGS-ABTEILUNG
FENDT F 275 GT
Engine performance
Test Nr. G 75-44
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehmoment Md crankshaft torque Nm
Kraftstoffverbrauch be spez. fuel consumption g/kWh
n
Md
B
be
Motordrehzahl n engine speed min⁻¹
Motorleistung Ne crankshaft power kW
Lufttemperatur air temperature °C
Luftdruck air pressure mbar
Kraftstoff fuel kg/l

PRÜFUNGS-ABTEILUNG
FENDT F275 GT
Motorleistung
Engine performance
Test Nr. G 75-44
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 Drehmomentes bei Nenndrehzahl
load in % of torque at rated engine speed
230
225 g/kWh
250
240
275
300
350
450
Lufttemperatur temperature 12 °C
Luftdruck pressure 1000 mb
Kraftstoff fuel 0,835 kg/l

PRÜFUNGS-ABTEILUNG
FENDT F 275 GT

Test No. 75-44

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

Date of tests: 10th December 1975
Type of dynamometer SCHENCK hydraulic dynamometer U1-40

Maximum power

Power kW	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total 1/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
At maximum power 2-hour test						
49,4	2300	1119	15,88	13,26	268	3,11
At standard p.t.o. speed (1000 rev/min)						
46,6	2055	1000	15,04	12,56	270	3,10
At the speed recommended for drawbar work						
49,4	2300	1119	15,88	13,26	268	3,11

Part loads

(i) 85% of the torque at maximum power						
42,6	2338	1138	13,09	10,93	257	3,25
(ii) unloaded						
-	2410	1172	4,06	3,39	-	-
(iii) 50% of the load defined in (i)						
21,8	2382	1159	8,06	6,73	309	2,70
(iv) maximum power						
49,4	2300	1119	15,88	13,26	268	3,11
(v) 25% of the load defined in (i)						
10,9	2402	1169	5,95	4,97	446	1,83
(vi) 75% of the load defined in (i)						
32,3	2363	1150	10,40	8,68	269	3,11

No load maximum engine speed: 2410 rev/min
Equivalent crankshaft torque at maximum power: 205 Nm
Maximum equivalent crankshaft torque: 229 Nm at 1600 rev/min of the engine

Mean atmospheric conditions:
temperature 15°C
pressure 1008 mbar
relative humidity 59%

Maximum temperatures:
coolant not recorded
engine oil 90°C
fuel 18°C

PRÜFUNGS-ABTEILUNG
FENDT F 275 GT

Test No. 75-44

ADDITIONAL TESTS

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

MAIN POWER TAKE-OFF PERFORMANCE (Continuation)

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

Date of tests: 10th December 1975
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						
46,3	2046	540	14,78	12,34	266	3,13
Part loads at standard p.t.o. speeds						
(i) 85% of the torque at maximum power						
40,0	2079	549	11,88	9,92	248	3,37
(ii) unloaded						
-	2148	567	3,34	2,79	-	-
(iii) 50% of the load defined in (i)						
20,4	2117	559	7,08	5,91	290	2,88
(iv) maximum power						
46,3	2046	540	14,78	12,34	266	3,13
(v) 25% of the load defined in (i)						
10,3	2134	563	5,07	4,23	410	2,03
(vi) 75% of the load defined in (i)						
30,3	2097	554	9,22	7,70	254	3,29

Mean atmospheric conditions:
temperature 15°C
pressure 1005 mbar
relative humidity 59%

Maximum temperatures:
coolant not recorded
engine oil 90°C
fuel 18°C

PRÜFUNGS-ABTEILUNG
FENDT F 275 GT

Test No. 75-44

ADDITIONAL TESTS

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

MAIN POWER TAKE-OFF PERFORMANCE (Continuation)

at the engine speed corresponding to the standard p.t.o. speed (1000 rev/min)

Date of tests: 10th December 1975
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						
46,6	2055	1000	15,04	12,56	270	3,10
Part loads at standard p.t.o. speed						
(i) 85% of the torque at maximum power						
40,9	2122	1033	12,30	10,27	251	3,33
(ii) unloaded						
-	2187	1064	5,10	4,26	-	-
(iii) 50% of the load defined in (i)						
20,9	2165	1054	7,22	6,03	288	2,89
(iv) maximum power						
46,6	2055	1000	15,04	12,56	270	3,10
(v) 25% of the load defined in (i)						
10,5	2179	1061	5,17	4,32	412	2,03
(vi) 75% of the load defined in (i)						
31,0	2146	1044	9,52	7,95	256	3,26

Mean atmospheric conditions:
temperature 12°C
pressure 1000 mbar
relative humidity 59%

Maximum temperatures:
coolant not recorded
engine oil 90°C
fuel 18°C