

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



FENDT FARMER 5 S (FW 268)

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

Date of Tests: February till October 1970

DEUTSCHE LANDWIRTSCHAFTS-GESELLSCHAFT e.V.
Prüfungsabteilung für Landmaschinen
6000 Frankfurt/Main 1, Zimmerweg 16

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. Co-ordinating Centre (C.N.E.E.M.A., France) as being in accordance with the O.E.C.D. STANDARD-CODE.

Date of Approval: 17. December 1970

Serial No.: 347

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Printed in Germany



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N O T E

to O.E.C.D.-Report No. 347

The manufacturer has changed the designation of the tractor

FENDT FARMER 5 S (FW 268)

into

FENDT FARMER 106 S (FW 268).

No other modifications affecting the tractor's performance have been made.

The O.E.C.D. has confirmed the change of designation and has stated the further validity of the test report under the approval no. 347 on 16th July 1972.

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Fendt Farmer 5 S

Tractor manufacturer: Xaver Fendt & Co., Maschinen- und Schlepperfabrik
8952 Marktoberdorf/Allgäu
Submitted for test by: Manufacturer
Selected by: Manufacturer with the agreement of the
DLG testing station
Place of running-in: Marktoberdorf and Groß-Umstadt
Duration of running-in: Engine 40 hours, tractor 70 hours

SPECIFICATION OF TRACTORTractor

Make: Xaver Fendt & Co., Maschinen- und Schlepperfabrik
8952 Marktoberdorf/Allgäu
Model: Farmer 5 S (FW 268)
Type: Diesel tractor, unit construction
Serial No.: 268/0/0008

Engine

Make: Motorenwerke Mannheim A.G., 68 Mannheim
Model: D 225-4
Type: Water cooled 4 stroke engine
Serial No.: D 225.4.02283
Cylinders 4 cylinders, vertical in line; bore/stroke: 95/120 mm;
capacity 3402 cm³; compression ratio: 17,5 : 1; overhead
valves; replaceable wet cylinder liners
Fuel system: Fuel: Commercially available diesel oil; Bosch type PES 4A
80 C 320/3 RS injection pump; Bosch type DLL 150 S 393 multi
hole injection nozzles; injection pressure 180 +5 kp/cm²;
injection timing 28° before TDC; Solex diaphragma type feed
pump; Bosch fuel filter with replaceable cartridge;
capacity of fuel tank appr. 83 liter
Governor: Make: Robert Bosch GmbH, 7 Stuttgart, type EP/RSV, centrifugal
variable speed type governor;
governed range of engine speed 650 rev/min to 2550 rev/min;
rated engine speed for p.t.o.-work 2400 rev/min
for field-work 2400 rev/min
for transportation-work 2400 rev/min
for belt-work 2400 rev/min
Air cleaner: Main cleaner, make Mann & Hummel Filterwerke,
7 Stuttgart;
oil-bath filter type 32 036 75 101; oil capacity 0,7 liter
Pre cleaner (optional) make Mann & Hummel Filterwerke,
7 Stuttgart
centrifugal type filter



Lubrication system: Forced feed from gear type pump; metal strainer in sump; Mann & Hummel fine-filter with replaceable filter cartridge type W 9.40 in full flow; oil capacity 7,0 l; recommended oil changing period 100 - 120 hours;
recommended oil: Specification Mil-L-2104 B or DEF 2101 D
in summer HD SAE 10
in winter HD SAE 20
in tropics HD SAE 30

Cooling system: Pressurised water cooling, impeller pump, 4 blade fan 440 mm diameter, radiator, thermostat for temperature control; water capacity 14 l

Electrical equipment

Voltage: 12 Volt, negative earth
Starting device: Bosch 12 Volt type JD (R) 12 V 4 PS starter motor
Generators: Bosch 12 Volt type G (R) 14 V 16 A 21
Battery: Lead acid type 12 Volt 88 Ah capacity, special heavy duty cold starting battery

Transmission

Clutches:
1) Make: Voith Getriebe KG., 7920 Heidenheim
fluid clutch type 332 TD
2) Make: Fichtel & Sachs A.G., 872 Schweinfurt
dry disc type clutch type G 250 K with sprung coupling lining; foot pedal operated
Gearbox: Make: Xaver Fendt & Co., 8952 Marktoberdorf/ Allgäu
fully synchromesh selecting gear with 6 forward speeds and 2 reverse;
Additional group gear with slow and fast group;
1 fast road speed, independent from group gear;
Total 13 forward speeds and 4 reverse.
Reversing gear for all speeds, operated by clutch foot pedal after engaging by hand lever.
Optional: additional transmission for creep gears giving supplementary 3 forward speeds and 1 reverse, not reversible by reversing gear, not fitted on tractor tested

Rear axle and final drive: Make: Xaver Fendt & Co., 8952 Marktoberdorf/ Allgäu
bevel gear type differential gear with crown wheel and pinion; differential lock fitted, foot pedal operated, selfdisengaging.
Spur gear final drive in portal axle

Oil capacity: Fluid clutch 4,7 l, distributor transmission 2 l, selecting gear 24 l, final drives 4 l each
Recommended oil changing period: Fluid clutch 5000 hrs, transmission 1000 hrs or every year



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Total ratios and speeds
(3% slip of fluid clutch included)

A) Reversing gear not engaged

Group gear	Selecting gear No.	Number of engine revolutions for one revolution of the driving wheel	Theoretical travelling speed for 2400 rev/min rated engine speed without slip of driving wheels	
			km/h	m/s
Normal gear				
Forward speeds				
Slow group	1.	489,58 : 1	1,28	0,36
	2.	296,12 : 1	2,12	0,59
	3.	168,79 : 1	3,72	1,03
	4.	118,45 : 1	5,31	1,48
	5.	71,64 : 1	8,77	2,44
	6.	40,84 : 1	15,39	4,27
Fast group	1.	382,08 : 1	1,64	0,46
	2.	231,10 : 1	2,72	0,76
	3.	131,72 : 1	4,77	1,33
	4.	92,44 : 1	6,80	1,89
	5.	55,91 : 1	11,24	3,12
	6.	31,87 : 1	19,72	5,48
Fast road speed		21,83 : 1	28,78	7,99
Reverse speeds				
Slow group	1.R.	302,04 : 1	2,08	0,58
	2.R.	73,07 : 1	8,60	2,89
Fast group	1.R.	235,72 : 1	2,67	0,74
	2.R.	57,03 : 1	11,02	3,06
Creep speed gear, not fitted on tractor tested, figures acc. to manufacturer's specification				
Forward speeds				
Creep speed gear	1.	1903,92 : 1	0,33	0,092
	2.	1151,56 : 1	0,55	0,153
	3.	656,39 : 1	0,96	0,267
Reverse speed				
Creep speed gear	1.R.	1174,59 : 1	0,54	0,150

Continuation

Total ratios and speeds
(3% slip of fluid clutch included)

B) Reversing gear engaged

Group gear	Selecting gear No.	Number of engine revolutions for one revolution of the driving wheel	Theoretical travelling speed for 2400 rev/min rated engine speed without slip of driving wheels	
			km/h	m/s
Normal gear				
Forward speeds are changed to reverse speeds				
Slow group	1.	612,57 : 1	1,02	0,28
	2.	370,40 : 1	1,69	0,47
	3.	211,18 : 1	2,97	0,82
	4.	148,23 : 1	4,23	1,17
	5.	89,60 : 1	7,00	1,94
	6.	56,96 : 1	12,31	3,42
Fast group	1.	477,10 : 1	1,31	0,36
	2.	289,13 : 1	2,29	0,63
	3.	164,88 : 1	3,81	1,06
	4.	115,58 : 1	5,43	1,51
	5.	69,95 : 1	8,97	2,49
	6.	39,97 : 1	15,70	4,36
Fast road speed		27,31 : 1	22,99	6,38

Reverse speeds are not allowed to be changed to forward speeds

Creep speeds are not reversible



- Power take-off** a) Main p.t.o.: Live power take-off, operated by hand lever situated below steering wheel, two p.t.o. speeds engageable, preselectable
- Location:** At rear of tractor, 665 mm above ground, in median plane of tractor
- Dimensions:** Spline shaft 29 x 34,9 x 8,7 mm = $1\frac{3}{8}$ " , 6 splines (acc.to DIN 9611 Form A; B.S. 1495; ASAE S 203.5)
- Speeds:** 564 rev/min or 1004 rev/min at 2400 rev/min rated engine speed; p.t.o. standard speed 540 rev/min at engine speed 2304 rev/min; p.t.o. standard speed 1000 rev/min at 2400 rev/min rated engine speed. P.t.o. speed may be controlled by tractormeter. The p.t.o. speeds reported included 3% slip of the fluid clutch
- Direction of rotation:** Clockwise, viewed from tractor rear
- b) Ground speed p.t.o.: Main p.t.o. acc.to a), may be changed by hand lever to ground speed p.t.o.
- Location and dimensions** } Same as with main p.t.o. acc. to a)
- Speed:** Transmission ratio between p.t.o.shaft and driving wheels = 1 : 27,7; travelling distance for one revolution of p.t.o. = 1,63 m
- Direction of rotation:** Clockwise viewed from tractor rear in all forward speeds; anticlockwise in the reverse speeds
- c) P.t.o. for mower bar drive, independent from main clutch
- Location:** Between the two axles, 1120 mm in front of the rear axle centre line, 561 mm above ground, 60 mm to the right hand side of median plane of tractor
- Dimensions:** Spline shaft B6 x 26 x 30 DIN 5462
- Speed:** 1159 rev/min at 2400 rev/min engine rated speed, including 3% slip of fluid clutch
- Direction of rotation:** Anticlockwise using normal forward speeds transmission; clockwise when reversing gear is engaged
- Belt pulley** (Not fitted on tractor tested; figures acc. to manufacturer's specification)
- Location:** At rear of tractor; driving device mounted on p.t.o.-shaft, optional by aid of a quickcoupler
- Dimensions:** 225 mm diameter, 150 mm width
- Speed:** 1425 rev/min at 2400 rev/min rated engine speed; linear belt speed 16,75 m/s
- Direction of rotation:** Both directions possible by reversing driving device

Power lift

Make: Xaver Fendt & Co., 8952 Marktoberdorf/ Allgäu;
live hydraulic power lift with power control, position control, both infinitely variable mixable, floating position; unit construction with additional single acting ram; power lift mechanically to be locked in transport position; Bosch type HY/ZFR 1/16 gear type oil pump, directly driven by the engine; Bosch control valve type HY/SR 10 H3/175/4 with additional control valve for external rams; external tappings for 1 or 2 single acting and/or 1 dual acting ram available; maximum oil pressure 175 kp/cm²; oil capacity normally 7,5 l; with front loader fitted 9 l

All attachmentImplement

linkage: Three-point implement linkage category II (acc.to DIN 9674), controlled by power lift; lift height above ground from 65 mm to 950 mm dependent on lift rod length; optional: lower links fitted with quickcoupler joints

Drawbar:

Fixed on hydraulically controlled implement linkage with 4 holes apart either side of centre hole, 4 x 80 mm + 1 x 240 mm + 3 x 80 mm distance of the holes; height above ground adjustable from 65 mm to 910 mm by power lift and changing length of lift rods, fixable by means of a mechanical lock from 295 mm till 460 mm above ground dependent of length of lift rods; distance of drawbar from end of p.t.o. 645 mm at lower links in horizontal position

Trailer hitch:

At rear of tractor; height above ground in 12 positions from 515 mm to 985 mm adjustable by shifting the hitch; distance from rear axle 480 mm

Towing hitch:

At front of tractor; height above ground 710 mm

Steering device

Make: Zahnradfabrik Friedrichshafen A.G., 799 Friedrichshafen
ZF-Gemmer steering type 7340 or optional
ZF-Hydro-Column steering type 7409

Brakes

Parking brake: Mechanically operated external band type brake acting on drums on differential shafts

Foot brake: Mechanically operated disc type brake acting on differential gear shafts; brake pedal divided for steering brake

Steering brake: Operated by the single parts of the foot brake pedal; for normal use both parts are coupled by a safety bolt



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Wheels

Steering wheels:	Two at front; 7,50-18 AS Front 6 ply (acc.to DIN 7808); maximum permissible weight on each tyre 765 kp at 2,5 kp/cm ² , 955 kp when transporting mounted implements; tracks 1536 - 1639 - 1771 mm changed by extending front axle
Rims:	5,50F x 18
Driving wheels:	Two at rear; 18,4/15-30 AS 6 ply (acc.to DIN 7807); maximum permissible weight on each tyre 2415 kp at 1,4 kp/cm ² , 2780 kp when transporting mounted implements; tracks 1500 mm and 1639 mm by reversing wheels
Rims:	W 14 L x 30
Wheel bases:	2246 mm

Weights

With power lift, three-point linkage, full fuel tank, cooling water and oil, as tested

		without driver	with driver
Weight of tractor without ballast:	Front axle load:	1086 kp	1096 kp
	Rear axle load:	1965 kp	2030 kp
	Totals:	3051 kp	3126 kp
Ballast front:	9 weights, 33 kp each	total	297 kp
Ballast rear:	4 weights per wheel, 65 kp each	total	520 kp
Water in tyres:			575 kp
Weight of tractor with ballast:		without driver	with driver
	Front axle load:	1503 kp	1516 kp
	Rear axle load:	2940 kp	3002 kp
	Totals:	4443 kp	4518 kp

Seat

Make: Xaver Fendt & Co., 8952 Marktoberdorf/ Allgäu
upholstered seat with parallel linkage and hydraulically damped spring, adjustable to driver's weight; Position in median plane of tractor, distance of back rest till centre of drawbar 865 mm adjustable till 955 mm, therewith height above ground changes from 1180 mm till 1195 mm, in addition height above ground is adjustable to 1215 mm till 1230 mm and to 1250 mm till 1265 mm



Number of grease points (whole tractor) : 10

Overall dimensions

Overall length: 3780 mm with three-point linkage
Overall width: 1945 mm without ballast weights, track 1500 mm
Overall height: 1845 mm to top of back rest of attendant's seat
Maximum ground clearance: 410 mm in median plane of tractor
385 mm apart median plane

Lighting equipment Electric 12 Volt, acc.to StVZO
(German Govt. regulation)
additional long distance head light

	Height above ground of centre mm	Dimensions of area mm	Distance from outside edge of tractor to centre mm
Head lights	955	140 x 125	805
Side lights	1425	45 x 30	200
Rear lights*)	1410	180 x 55	285
Reflectors	1100	124 x 36	290

*) Combined with stop light and direction indicator light
(Three in one light)

FUELS AND LUBRICANTS USED IN TESTS

Laboratory tests and track tests

Fuel: Aral Diesel oil, specific gravity at 15°C : 0,821 kp/l
(commercially available quality acc.to DIN 51601)

Engine oil: Shell Rotella HD 20W/20

Transmission oil: Engine oil Aral HD 20W/20

Hydraulic oil: Engine oil Shell Rotella HD 20W/20


COMPULSORY TESTS
(1) MAIN POWER TAKE-OFF PERFORMANCE (with low p.t.o.-speed)

Date and location of tests: 2.3.1970, Groß-Umstadt

Type of dynamometer: Schenck hydraulic dynamometer U1-40

Maximum power

Horsepower metric hp	Speed		Fuel consumption		Specific work metric hp h/l
	engine rev/min	p.t.o. rev/min	total l/h	specific g/metric hp h	
<u>At maximum power 2-hour test</u>					
60,5	2400	565	14,51	195	4,67
<u>At standard p.t.o. speed (540 rev/min)</u>					
59,0	2309	541	14,15	196	4,17
<u>At the speed recommended by the manufacturer for drawbar work</u>					
60,5	2400	565	14,51	195	4,67
<u>Fuel consumption at part loads</u>					
<u>(i) 85% of torque at maximum power</u>					
52,5	2450	577	12,70	198	4,13
<u>(ii) unloaded</u>					
-	2530	613	3,80	-	-
<u>(iii) 50% of the load defined in (i)</u>					
27,1	2495	595	8,04	244	3,36
<u>(iv) maximum power</u>					
60,5	2400	565	14,51	195	4,67
<u>(v) 25% of the load defined in (i)</u>					
13,7	2513	603	5,93	355	2,31
<u>(vi) 75% of the load defined in (i)</u>					
40,1	2480	590	10,40	212	3,85

No load maximum engine speed: 2530 rev/min

 Equivalent^{*)} crankshaft torque at maximum power: 18,6 kpm

 Maximum equivalent^{*)} torque 21,9 kpm at 1465 rev/min of the engine

Mean atmospheric conditions:

 temperature 15°C
 pressure 736 mm Hg
 relative humidity 70%

Maximum temperatures:

 coolant 75°C
 engine oil 76°C
 fuel 15°C

^{*)} The equivalent crankshaft torque reported is relative to the input shaft of selective gear

(1) MAIN POWER TAKE-OFF PERFORMANCE (with high p.t.o.-speed)

Date and location of tests: 3.3.1970, Groß-Umstadt

Type of dynamometer: Schenck hydraulic dynamometer U1-40

Maximum power

Horsepower metric hp	Speed engine rev/min	p.t.o. rev/min	Fuel consumption total l/h	specific g/metric hp h	Specific work metric hp h/l
<u>At maximum power 2-hour test</u>					
60,4	2400	1006	14,48	197	4,17
<u>At standard p.t.o. speed (1000 rev/min)</u>					
60,4	2400	1006	14,48	197	4,17
<u>At the speed recommended by the manufacturer for drawbar work</u>					
60,4	2400	1006	14,48	197	4,17
<u>Fuel consumption at part loads</u>					
<u>(i) 85% of torque at maximum power</u>					
52,4	2450	1029	12,70	198	4,12
<u>(ii) unloaded</u>					
-	2530	1085	3,80	-	-
<u>(iii) 50% of the load defined in (i)</u>					
27,0	2503	1059	7,96	242	3,49
<u>(iv) maximum power</u>					
60,4	2400	1006	14,48	197	4,17
<u>(v) 25% of the load defined in (i)</u>					
13,7	2510	1072	5,84	350	2,34
<u>(vi) 75% of the load defined in (i)</u>					
37,8	2480	1048	9,94	216	3,81

No load maximum engine speed: 2530 rev/min

Equivalent^{*)} crankshaft torque at maximum power: 18,6 kpmMaximum equivalent^{*)} torque: 22,1 kpm at 1486 rev/min of the engine

Mean atmospheric conditions:

temperature	22°C
pressure	738 mm Hg
relative humidity	40°C

Maximum temperatures:

coolant	75°C
engine oil	80°C
fuel	21°C

^{*)} The equivalent crankshaft torque reported is relative to the input shaft of selective gear



PRÜFUNGS-ABTEILUNG

Zapfwellenprüfung

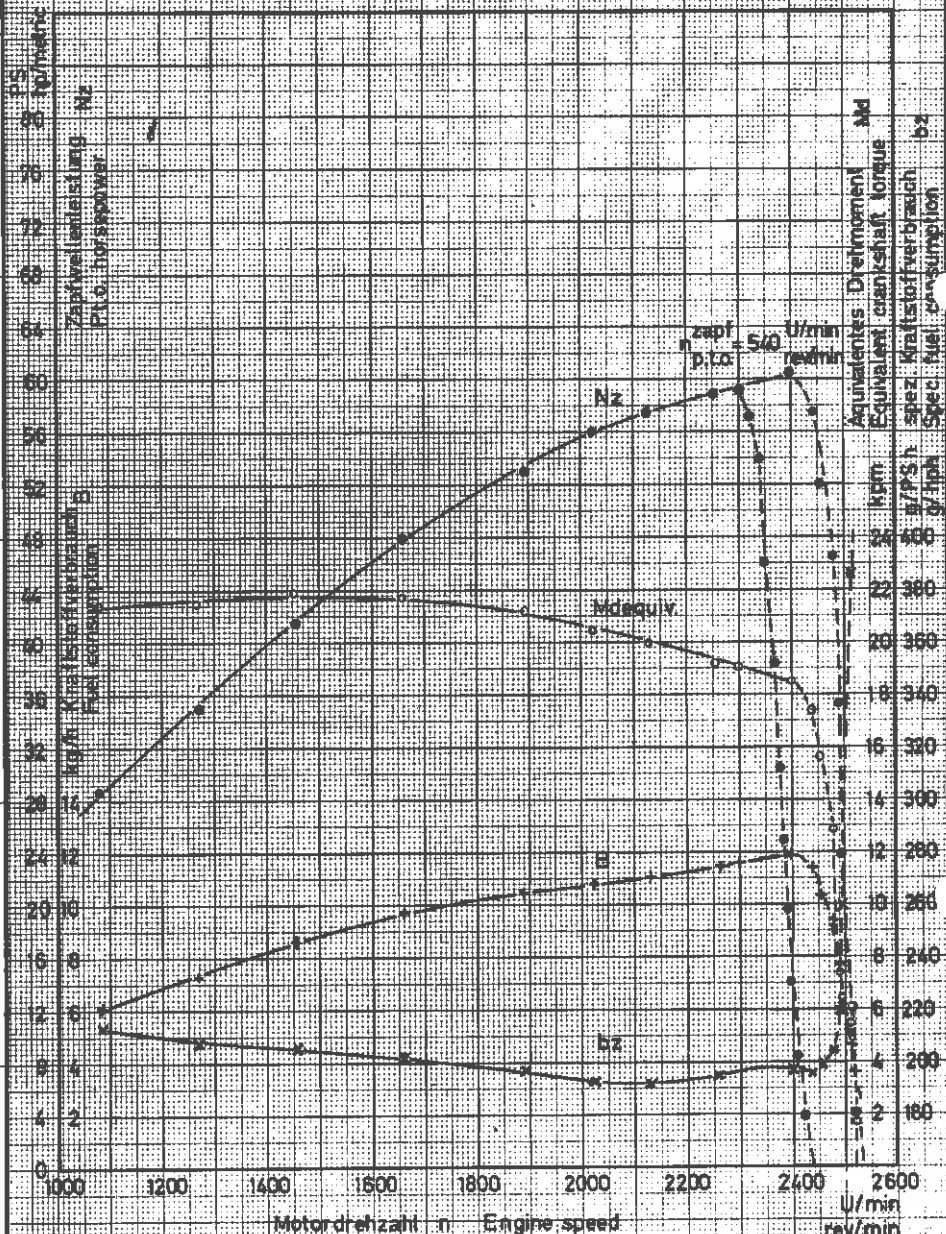
Pto- test

Fendt Dieselschlepper

Farmer 55

MWM Dieselmotor D225

Test Nr. 69-161



Motor-Nr. D 225.4.02283	Motoröl: Shell Rotella HD20	Versuchstag: 2.3.1970	Versuchstlg:
Schlepper-Nr. 255/0/0008	Lufttemperatur: 13°C	Versuch-Nr. 69/161/52	
Kraftstoff: DK O.821/15°C	Barometerst.: 736 mm Q.S.	Kurvenblatt:	



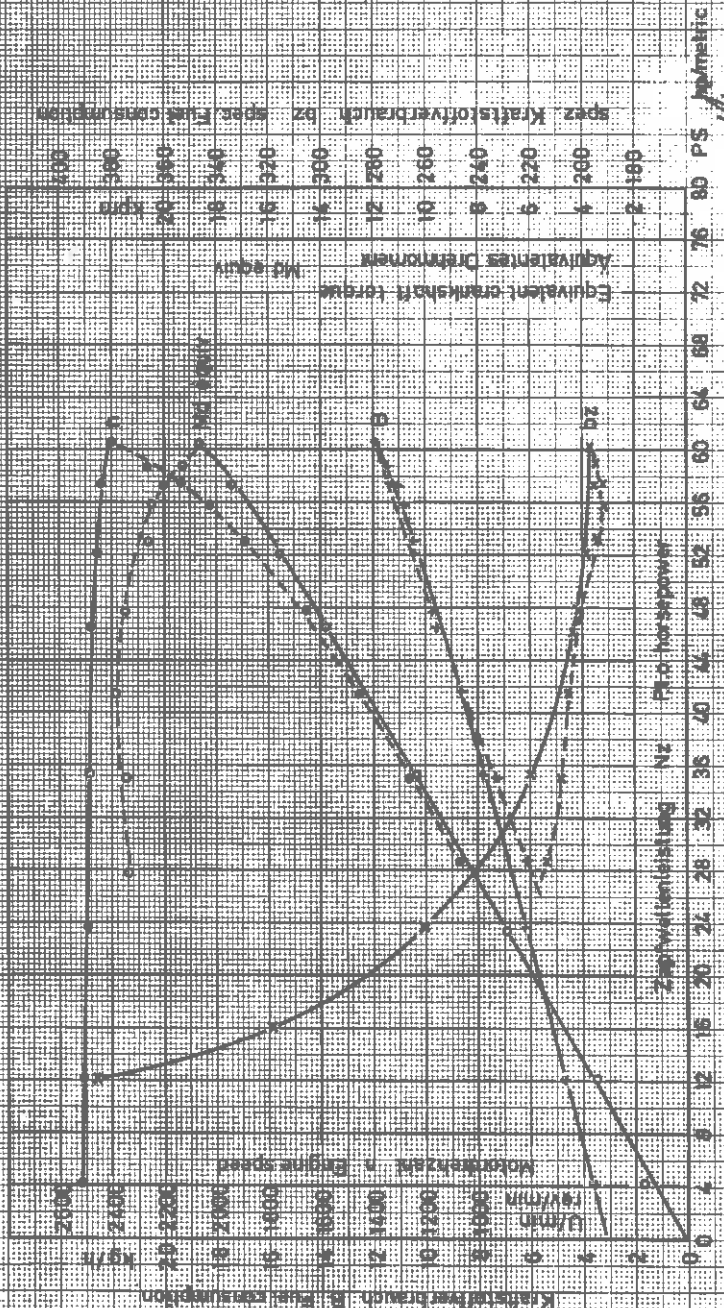
PROBES VERTEILUNG

Zapfwellenprüfung

Pto.-test

Gerät: Dieselmotor
 Typ: 5.5
 Motor: Dieselmotor D 225

Test Nr. 60-861



Motor-Nr. D 225 4.02283

Kraftstoff: Dk 0.8/21/15 °C

Lufttemperatur: 18 °C

Versuchsdatum: 2.3.1970

Versuchsflo. 1/1

Schlepp-Nr. 260/5/000-8

Motor-Nr. 260/5/000-8

Barometer: 765 mm Q.S.

Versuch-Nr. 69/161/52

Kurvenblatt: 2



Fendt Farmer 5 S

(2) DRAWBAR PERFORMANCE

Date of test:

16.10.1970 till 4.11.1970

Type of track:

concrete

Height of drawbar above ground: 620 mm

Gear No. and Group	Speed km/h	Horse- power metr.-hp.	Drawbar pull kp	Engine speed rev/min.	Slip of wheels %	Specific work metr.-hp h/l	Specific fuel consumpt. g/metr.-hp h	Temperatures		Atmospheric conditions	
								Fuel Coolant: Engine	oil	Tempe- rature	Relative humidity Pressure
								oC	oC	oC	% mm Hg
(i) MAXIMUM POWER with ballast											
1.slow	1,18	19,2	4380	2520	14,8	2,54	326	9	75	80	92
1.fast	1,52	24,6	4380	2515	14,1	2,87	291	7	75	80	75
2.slow	1,93	31,4	4400	2495	14,6	3,16	264	7	75	80	77
2.fast	2,45	39,9	4400	2480	14,6	3,35	234	8	75	80	96
3.slow	3,29	47,7	3910	2405	12,7	3,41	244	13	75	80	11
3.fast	4,39	49,0	3010	2400	9,3	3,45	240	11	75	80	88
4.slow	4,92	50,2	2750	2400	8,3	3,59	232	12	75	80	10
4.fast	6,45	51,8	2170	2400	6,3	3,67	226	13	75	80	12
5.slow	8,45	52,2	1670	2400	5,0	3,70	224	13	75	80	10
5.fast	10,95	52,0	1280	2400	3,9	3,65	228	13	75	80	10
6.slow	15,21	51,0	905	2400	2,9	3,62	228	17	75	80	15
(ii) FIVE-HOUR-TEST AT 75% OF PULL AT MAXIMUM POWER IN 4th GEAR OF SLOW GROUP											
4.slow	5,21	39,8	2060	2480	6,0	3,44	241	10	75	80	10
(iii) FIVE-HOUR-TEST AT PULL CORRESPONDING TO 15% WHEEL SLIP IN TEST (i)											
2.fast	-	-	4380	2485	-	-	-	10	75	80	10

Engine oil consumption during ten hours duration of tests (ii) and (iii): 61 g/h

Test (iii) was carried out with additional ballast and the results for power, slip and fuel consumption have no practical significance



PRÜFUNGS-ABTEILUNG

Fendt Farmer 5 S

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Test No. 69-161

(2) DRAWBAR PERFORMANCE (continuation)

Date of test: 7.10 1970 till 9.10.1970

Type of track: concrete

Height of drawbar above ground: 620 mm

Gear No. and Group	Speed km/h	Horse- power metr.hp	Drawbar pull kp	Engine speed rev/min	Slip of wheels %	Specific work metr.hp h/l	Specific fuel consumpt. g/metr.hp h	Temperatures			Atmospheric conditions		
								Fuel	Coolant	Engine oil	Tempe- rature °C	Relative humidity %	Pressure mm Hg
								°C	°C	°C			
(v) MAXIMUM POWER without ballast													
2.fast	2,45	30,3	3350	2490	15,2	3,03	274	20	75	80	20	75	744
3.slow	3,28	40,7	3350	2460	15,0	3,23	256	20	75	80	20	75	744
3.fast	4,23	47,7	3050	2400	12,9	3,35	247	16	75	80	15	93	750
4.slow	4,77	49,6	2810	2400	11,5	3,50	236	23	75	80	18	79	750
4.fast	6,32	51,1	2180	2400	8,1	3,57	231	22	75	80	21	74	750
5.slow	8,35	51,2	1660	2400	6,3	3,58	230	20	75	80	19	83	750
5.fast	11,85	52,2	1300	2400	4,8	3,63	228	21	75	80	18	83	750
6.slow	14,90	51,4	930	2400	2,6	3,56	232	18	75	80	15	98	755

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 7,50-18 AS, 6 ply, without ballast

rear: 18,4/15-30 AS, 6 ply, without ballast

Track of wheels front: 1536 mm

rear: 1500 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	3,77	3,79	4,17	4,23
Radius of turning circle	3,59	3,56	3,98	4,00

(4) LOCATION OF CENTRE OF GRAVITY

	Without ballast mm
Height above ground	769
Distance forward from the vertical plane containing the axis of the rear wheels	780
Distance of the median plane of the tractor	6 left



(5) BRAKING PERFORMANCE

A) FOOT BRAKE

Date of test: 14.10.1970

Type of track: concrete

Type of decelerometer: Moto Meter Bremsverzögerungs- und Pedalkraft-
schreiber, Mot⁸ Meter Hermann Schlaich
7 Stuttgart N

Travelling speed of tractor: 30,9 km/h

With cold brakes

		Tractor with ballast	Tractor without ballast
Deceleration	m/s ²	4,3	4,4
Stopping distance	m	9,4	9,0
Force on pedal	kp	36	28
Force on pedal to achieve a deceleration of 2,5 m/s ²	kp	22	13

BRAKE FADE CHARACTERISTICS

		Tractor with ballast	Tractor without ballast
Deceleration	hot/cold %	98	102
Stopping distance	cold/hot %	96	102
Force on pedal	cold/hot %	120	112

B) PARK BRAKE

Tractor facing up slope:

Pull on hand brake 25 kp, tractor does not roll.

Tractor facing down slope:

Pull on hand brake 25 kp, tractor does not roll.



(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 1.10.1970

Type of track: concrete

Type of sound level meter: Brüel & Kjær type 2203

Results of test

Speed: fast road speed

Travelling speed before acceleration: 21,25 km/h

Sound level: 90 dBA

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of test: 12.10.1970

Type of track: concrete

Type of sound level meter: EZGN, Rohde & Schwarz, 8 München

Type of octavefilter: PBO, Rohde & Schwarz, 8 München

No cab fitted on tractor

Results of tests

Gear	Drawbar pull at which the tractor develops the maximal sound level kp	Travelling speed		Sound level	
		nominal km/h	effective km/h	dBA	Sone
2nd fast	2700	2,27	2,6	96	
3rd slow	3300	3,72	3,6	96	
3rd fast	2900	4,77	4,3	97	99
4th slow	2200	5,31	5,1	96	
4th fast*)	1700	6,80	6,7	96	89
5th slow	1550	8,77	8,5	95	
5th fast	1000	11,24	11,2	95	
6th slow	550	15,39	15,9	95	

*) The 4th fast gear corresponds to the travelling speed nearest to 7,25 km/h

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date and location of tests: 6.3.1970, Groß-Umstadt

Hydraulic fluid: Aral engine oil HD 20 W/20

POWER LIFT

Height above ground in down position hitch point mm	test frame mm	Total vertical move- ment mm	Maximum force exerted through full lift range kp	Pressure of hydr. oil kp/cm ²	Linkage load at which unballasted front end of tractor lifts off the ground kp
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Measured on the hitch points of lower links

65	-	732	1860	175	*)
245	-	665	2095	175	2540

*) greater than max. force

Measured on the test frame 610 mm to the rear of the hitch points

65	80	715	2030	175	1555
245	243	695	2030	175	1555

Type of linkage lock for transport: mechanically

Opening pressure of the cylinder overpressure relief valve: no relief
valve providedPUMP CHARACTERISTICS

- (i) opening pressure of relief valve: 185 kp/cm²
sustained pressure by the open relief valve: 175 kp/cm²

Pump delivery rate at external tapping

- (ii) at minimum pressure: 37,0 l/min
(iii) at maximum hydraulic power: 32,8 l/min
maximum hydraulic power: 11,7 metric hp
delivery pressure: 160 kp/cm²



OPTIONAL TESTS

(9) ENGINE PERFORMANCE

Date and location of tests: 11.2.1970, Groß-Umstadt

Type of dynamometer: Schenck hydraulic dynamometer U1-30

Maximum power

Horsepower metric hp	Engine speed rev/min	Fuel consumption total l/h	specific g/metric hp h	Specific work metric hp h/l
<u>At maximum power 2-hour test</u>				
68,0	2400	14,40	174	4,72
<u>At standard p.t.o. speed (540 rev/min)</u>				
65,0	2230	13,75	173	4,72
<u>At the speed recommended by the manufacturer for drawbar work</u>				
68,0	2400	14,40	174	4,72
<u>Fuel consumption at part loads</u>				
<u>(i) 85% of torque at maximum power</u>				
59,1	2465	12,65	176	4,67
<u>(ii) unloaded</u>				
-	2535	3,17	-	-
<u>(iii) 5% of the load defined in (i)</u>				
30,1	2510	7,67	209	3,93
<u>(iv) maximum power</u>				
68,0	2400	14,40	174	4,72
<u>(v) 25% of the load defined in (i)</u>				
15,2	2525	5,50	298	2,75
<u>(vi) 75% of the load defined in (i)</u>				
44,9	2495	10,02	183	4,48

Optimum fuel consumption: 166 g/metric hp h at 33,4 metric hp and 1450 rev/min

Standard fuel consumption 1/2 (acc.to DIN 9606): 5,5/ 11,4 l/h

No load maximum engine speed: 2535 rev/min

Torque at maximum power: 20,3 kpm

Maximum torque: 22,9 kpm at 1500 rev/min of the engine

Mean atmospheric conditions:

temperature	16°C
pressure	745 mm Hg
relative humidity	60%

Maximum temperatures:

coolant	80°C
engine	75°C
fuel	21°C

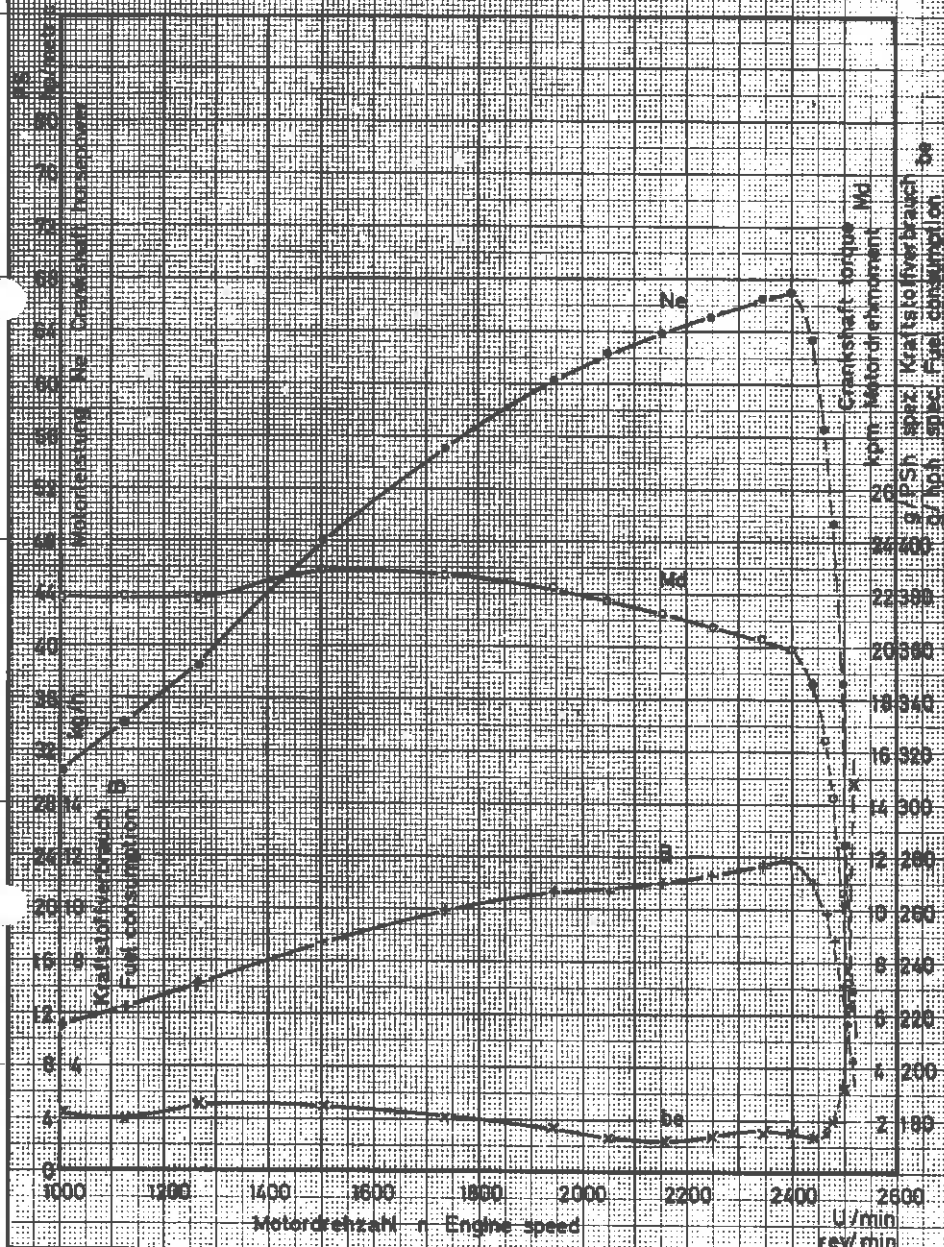


PRÜFUNGS-ABTEILUNG

Motorprüfung Engine - test

Fendt Dieselschlepper
Farmer 5 S
MWM Dieselmotor D 225

Test-Nr. 69-161



Motor-Nr.: D 225.4.92243 Motoröl: Shell Rotella-D20 Versuchstag: 11. 2. 1970 Versuchstg:
Schlepper-Nr.: 268/0/0008 Lufttemperatur: 15 °C Versuch-Nr.: 69/16/34
Kraftstoff: OK 0.821/15 °C Barometerst.: 740 mm QS Kurvenblatt: 9

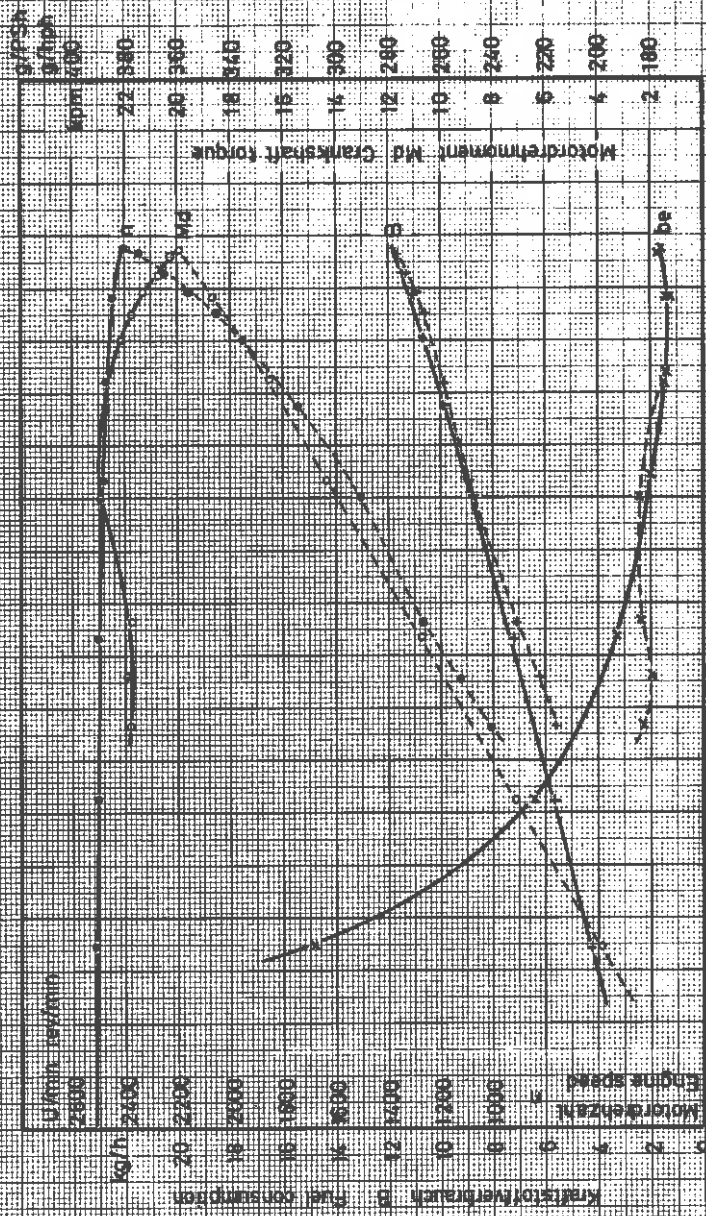


PRÜFUNGSAMTUNG

Motorprüfung Engine - test

Fendt Dieselschlepper
Partner 5.5
MWM Dieselmotor D 225

Last Nr. 69-15



Motorleistung Ne Crankshaft horsepower
Motorleistung Ne Crankshaft horsepower
Lufttemperatur 15°C
Lufttemperatur 15°C
Bemerkungen: 740 mm D.S.
Bemerkungen: 740 mm D.S.
Versuchstag: 11.2.1970
Versuchstag: 11.2.1970
Kurve: 134
Kurve: 134

