DLG	Report on test in accordance with O.E.C.D. STANDARD CODE	O.E.C.D. No. 559



Agricultural Tractor
Fendt Favorit 612 LS Turbomatik

Manufacturer

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

Editor

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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 Tractor Performance. It does not contain an evaluation of the performance of the tractor on practical work.

Performance of tests:

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

February till June 1977

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: 16th September 1977 O.E.C.D. No. 559

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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PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 612 LS

Test No. 76-120

Tractor manufacturer:	X. FENDT UND CO D-8952 Marktoberdorf
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Marktoberdorf and Groß-Umstadt
Duration of running-in:	Engine and tractor appr. 100 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	X. FENDT UND CO
Model:	FAVORIT 612 LS TURBOMATIC
Type:	Wheeled tractor, unit construction semi-frame reinforced, all-wheel driven
Serial No:	283/21/0147

Engine

Make:	MOTORENWERKE MANNHEIM AG
Model:	D 226.6
Type:	4 stroke DIESEL engine with direct injection, watercooled
Serial No:	D 226.6.06 149
Cylinders:	6, vertical, in-line, bore 105 mm, stroke 120 mm; displacement 6240 cm^3; compression ratio 18:1;
Valves:	Overhead
Fuel system:	SOLEX fuel feed pump PE 15509; BOSCH in-line injection pump: PE 6A 80D 320/3 RS 1302; manufacturer's production setting 58,5 mm^3 at 2400 rev/min and full load; injection timing 28° before TDC; BOSCH multihole injection nozzles; injection pressure 180 bar; KNECHT fuel filter with replaceable cartridge; capacity of fuel tank 220 l
Governor:	BOSCH centrifugal variable speed type governor: EP/RSV 325-1500 A2B 505 DR; governed range of engine speed 650 to 2580 rev/min; rated engine speed 2400 rev/min

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Air cleaner:	MANN UND HUMMEL dry paper element filter with precleaner incorporated, with replaceable maincartridge and additional safety cartridge; maintenance indicator
Exhaust silencer:	EBERSPÄCHER multichamber-reflection type silencer; 185 mm diameter, 625 mm long; on the left hand side of engine; mouth showing upwards; mouth 2666 mm above ground
Lubrication system:	Forced feed from gear type pump; strainer in sump; MANN full flow filter with by-pass and replaceable cartridge; oil capactity 12 l; oil and cartridge changing period 200 hours; recommended oil quality MIL-L-46152; recommended oil viscosities: winter SAE 10W summer SAE 20W/20 tropics SAE 30
Cooling system:	Water cooling with impeller pump; pressurized system set to 0,3 bar overpressure with by-pass thermostat; fan with 5 blades, 474 mm diameter; water capacity 19 l
Starting system:	Electrical; BOSCH screw-push starter motor, 2,9 kW; BERU flame plug in intake pipe
Electrical equipment:	12 Volt, negative earth; BOSCH 3 phase alternator 0120 300 585; 1 lead acid battery 143 Ah at 20 hours rating

Transmission

Clutch:	1. VOITH GETRIEBE KG fluid clutch 422 TD-F4; for travel drive only 2. FICHTEL UND SACHS AG dry single disc type clutch G 350 K hydraulically pedal operated; self-adjusting; for travel drive only; disc clutch and service brake have the fluid tank in common p.t.o. clutch see page 7
Gear box:	Own make in cooperation with ZAHNRADFABRIK FRIEDRICHSHAFEN AG; T 3445; speed change gear with 6 speeds; 1st and 2nd gear collar shifted; 3rd to 6th gear synchronized; synchromesh group gear with 2 forward groups and 1 reverse group; the 6th gear of speed change gear is locked if the reverse group is shifted; creep speed group for the 1st and 2nd gear of speed change gear; optional a super creep speed group may be fitted instead of the creep speed group for the 1st to 4th gears of the speed change gear; not fitted on tractor tested; creep speeds and super creep speeds shall not be used for drawbar work totally 16 forward and 7 reverse speeds at tractor tested
Rear axle and final drive:	Bevel gear drive with crown wheel and pinion; bevel gear type differential with lock; pedal operated, self disengaging; planetary final drives
Driven front axle:	ZAHNRADFABRIK FRIEDRICHSHAFEN AG APL-3052; driven by universal joint shaft; joint shaft situated on the left hand side of gear box

Driven front axle:	(Continuation) under load engageable and disengageable by a particular wet disc type clutch; handlever operated; bevel gear drive with crown wheel and pinion; bevel gear type self locking differential: LOC-O-MATIC; planetary final drives in front axle	
Oil capacity:	Fluid clutch	10,0 l
	gear box (in common with hydraulic power lift)	38,0 l
	final drives in the rear axle each	8,0 l
	front axle differential	8,25 l
	final drives in the front axle each	1,15 l
Oil changing period:	Fluid clutch 5000 hours gears 1000 hours	
Recommended oil qualities:	Fluid clutch — engine oil — HD SAE 10W final drives — hypoid oil — SAE 90 MIL-L-2104 C other gears — engine oil — HD SAE 20W/20 MIL-L-2104 C	

Power take-off

Main p.t.o.: Independent p.t.o. (live p.t.o.);
at rear of tractor;
driven through a dry multiplate clutch independent from fluid clutch and single disc type clutch;
operated by hand lever situated below the steering wheel;
height above ground 690 mm in tractor's median plane;
29 x 34,9 x 8,7 mm = 1 3/8", 6 splines
DIN 9611 Form 1, BS.1495, ASAE S.203.7;
2 speeds are preselectable by hand lever:

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

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Total ratios and speeds

Group		Gear	Total ratio engine : driving wheel	Nominal travelling speed *) at ratèd engine speed km/h	Nominal travelling speed *) at standard p.t.o. speed 540 rev/min km/h
Forward speeds					
Creep group	slow	1	693,71	1,o5	0,95
		2	440,24	1,65	1,51
	fast	1	570,36	1,27	1,16
		2	361,96	2,01	1,83
Normal group	slow	1	282,57	2,58	2,34
		2	179,32	4,05	3,64
		3	114,77	6,33	5,77
		4	75,40	9,64	8,78
		5	48,53	14,98	13,64
		6	29,89	24,33	22,13
	fast	1	232,33	3,13	2,85
		2	147,44	4,93	4,48
		3	94,36	7,71	7,01
		4	61,99	11,73	10,67
		5	39,90	18,23	16,57
		6	24,57	29,59	26,92
Reverse speeds					
Creep group	slow	1	484,58	1,51	1,36
		2	307,52	2,36	2,15
Normal group	fast	1	197,38	3,69	3,35
		2	125,26	5,81	5,28
		3	80,17	9,07	8,25
		4	52,67	13,80	12,55
		5	33,90	21,44	19,51

*) Calculated with the RADIUS INDEX 820 mm WdK 154
2% slippage of the fluid clutch is included

Main p.t.o. (Continuation)	1000 rev/min p.t.o. 1067 rev/min at rated engine speed; p.t.o. speed 1000 rev/min at 2249 rev/min engine speed p.t.o. speeds may be set by aid of tractormeter; direction of rotation clockwise, viewed from tractor rear
Secondary p.t.o.:	Optional, not fitted on tractor tested; independent p.t.o. at front of tractor; 750 mm above ground, in tractor's median plane; drive, dimensions and direction of rotation same as main p.t.o.; 1168 rev/min at rated engine speed; p.t.o. speed 1000 rev/min at 2055 rev/min engine speed

Power lift

Hydraulic system:	Own make in cooperation with ZAHNRADFABRIK FRIEDRICHSHAFEN AG; open system; BOSCH gear pump with 19 cm^3/rev delivery; driven by transmission; ram, lift shaft and control valve in unit construction; BOSCH control valve for lifting and sinking, power control, position control, both stepless mixable, floating position; maximum oil pressure 175 bar; single acting main ram with 120 mm bore, 126 mm stroke and 2 single acting additional external rams with 50 mm bore and 246 mm stroke; up to 3 oil tappings, single or double acting at rear of tractor available; hydraulic oil tank in common with gear box; oil capacity 38 l, in special cases up to 43 l; max. 5 l may be taken off through oil tappings when tractor is travelling, 12,5 l when tractor is stationary, in special cases 10 or 17,5 l respectively; oil changing period and quality see page 7

Implement linkage:	Three point linkage category II DIN 9674; optional category III; with quick-coupling device DIN 9675 lift rods adjustable from 650 to 800 mm; lifting range above ground with: short lift rods from 368 to 1085 mm long lift rods from 68 to 878 mm
Holed bar:	Long bar fitted on the clevis of lower links; total length 1700 mm; length between the ball joints 830 mm; thickness of the bar 25 mm, width 100 mm; centre hole and 4 holes on either side with 80 mm distance each; with 245 mm distance right and left from this hole range further 4 holes with 80 mm distance each; totally 17 holes; all holes 33 mm diameter; height above ground adjustable by power lift from 138 to 1155 mm, depending on lifting rods length, measured at the surface of the bar; in any height above ground hydraulically lockable; with lower links in horizontal position distance of holes centre line: to rear axle centre 1189 mm to p.t.o. shaft end 862 mm

Pull attachment

Swinging drawbar:	Height above ground 654 mm; diameter of clevis hole 33 mm; distance of clevis hole centre to rear axle centre 729 or 859 mm p.t.o. shaft end 402 or 532 mm adjustable by shifting swinging drawbar in longitudinal direction; about 253 mm swingable to either side pivot point 295 mm behind rear axle centre

Trailer hitch: Own make in cooperation with ROCKINGER;
height above ground 934 or 999 mm;
adjustable by turning hitch;
diameter of clevis hole 33 mm;
distance of clevis hole centre to rear axle centre 580 mm;
permissible vertical load 1500 kg

Towing hitch: 820 mm above ground

Steering

Own make in cooperation with ZAHNRADFABRIK FRIEDRICHSHAFEN AG;
hydrostatic steering model 8452 with own oil circuit;
BOSCH gear pump with 16 cm^3/rev delivery;
on the left hand side of engine;
driven by engine;
oil capacity 1,4 l
recommended oil: engine oil HD SAE 20W/20;
oil changing period 1000 hours;
2 single acting rams,
45 mm bore, 195 mm stroke;
directly acting on the front axle;
steering hand wheel vertically adjustable to driver's size

Brakes

Parking brake: Mechanically acting shoe type brake with 2 brake drums 249 mm diameter on the differential half shafts;
operated by hand lever with ratchet

Service brake: Own make in cooperation with KNOTT and GIRLING;
hydraulically acting shoe type brake with 2 brake drums 270 mm diameter on the differential half shafts; self-adjusting;
additional partial disc brake with 274 mm disc diameter on the joint shaft;
pedal operated;
service brake and single disc clutch have the fluid tank in common

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

Wheels

Steered wheels:	Two pneumatics at front 13,6-28 AS 6 ply; maximum permissible load per tyre 1430 kg at 1,6 bar inflation pressure and 30 km/h; track width 1696 or 1838 mm adjustable by turning wheels; rims W 12 x 28
Driving wheels:	Two pneumatics at front and at rear; specification of driving front wheels see at steered wheels; driving rear wheels: 2 pneumatics 18,4 R 38, 8 ply, radial type; maximum permissible load per tyre 2715 kg at 1,4 bar inflation pressure and 30 km/h; track width 1700 or 1850 mm adjustable by turning wheels (optional: track adjustment wheels for track widths from 1520 to 2124 mm in steps of appr. 100 mm by turning wheels and offset lug type rims, not fitted on tractor tested) rims W 16L x 38
Wheel base:	2715 mm

Seat	GRAMMER DS 85 upholstered seat with back and arm rests; back rest adjustable in inclination; arm rests may be turned up; adjustable spring with shock absorber; height of seat platform 1200 mm above ground; height of seat above platform adjustable from 395 to 455 mm in 3 steps; for and aft adjustable about 250 mm; seat adjustable in inclination in 3 steps

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Cab: Own make;
safety cab
OECD tested
approval no.: CS 1155 b

Weights: Ready for use as tested
with cab

		without driver	with driver
Without ballast:	front	2445 kg	2455 kg
	rear	3320 kg	3385 kg
	total	5765 kg	5840 kg
Front ballast:	1 base plate		50 kg
Rear ballast:	6 weights per wheel 65 kg each		780 kg
	water in the tyres		825 kg
With ballast:	front	2500 kg	2510 kg
	rear	4920 kg	4985 kg
	total	7420 kg	7495 kg

Number of grease points: 21

Dimensions

Total length:	4800 mm	with 3 point linkage without ballast
	4800 mm	with 3 point linkage with ballast
Total width:	2167 mm	at smallest track width
	2317 mm	at largest track width
Total height:	2805 mm	to top of cab
Ground clearance:	450 mm	below front axle differential

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Lighting equipment — Electrically, 12 Volt acc. to German governmental regulations

	Dimensions of area mm	Height above ground to centre mm	Distance from outside edge of tractor to centre *) mm
Head lights	135 x 120	850	830
Side lights	55 x 55	1590	165
Rear lights	160 x 60	1610	190
Reflectors			
1st pair	125 x 25	1510	190
2nd pair	60 Ø	510	615

*) at smallest track width

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Permissible total weights and axle loads

for all available wheel equipments

Wheel equipment front	Wheel equipment rear	Permissible total weight kg	Permissible front axle load kg	Permissible rear axle load kg
13,6-28	18,4-38	7500	2860	5430
	16,9-38	7500		5040
	9,5-48*)	6900		4040
14,9-26	18,4-38	7500	3000	5430
	9,5-48*)	7040		4040
14,9-28	18,4-38	7500	3000	5430
	20,8-38	7500		6000
	9,5-48*)	7040		4040
16,9-26	20,8-38	7500	3000	6000
12,4-28	16,9-38	7500	2550	5040
	9,5-48*)	6590		4040

*) no standard tyre, special production by MICHELIN

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FUELS AND LUBRICANTS USED IN TESTS

Fuel:	ARAL-DIESEL-fuel DIN 51601	
	specific gravity at 15°C	
	during engine tests	0,828 kg/l
	during p.t.o. tests	0,828 kg/l
	during drawbar tests	0,831 kg/l
Engine oil:	MOBIL DELVAC 1200	HD SAE 20W/20 MIL-L-46152
Transmission oil:	Speed change gear, group gear, rear axle and front axle differential:	
	MOBIL DELVAC 1200	HD SAE 20W/20 MIL-L-2104C
	Final drives of front and rear axle:	
	Hypoid oil	SAE 90 MIL-L-2104 C
Hydraulic oil:	MOBIL DELVAC 1200	HD SAE 20W/20 MIL-L-2104C
Fluid clutch:	ARAL Motorenöl HD 10	

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Test No. 76-120

COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE

Date of tests: 23rd February 1977
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power kW	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power						
At 2-hour test						
84.4	2400	612	24.72	20.47	242	3.42
At standard p.t.o. speed (540 rev/min)						
82.7	2117	540	24.02	19.89	241	3.44
At the speed recommended for drawbar work						
84.4	2400	612	24.72	20.47	242	3.42
Part loads						
(i) 85% of the torque at maximum power at 2-hour test						
72.7	2431	620	21.10	17.47	240	3.45
(ii) unloaded						
-	2536	647	5.67	4.70	-	-
(iii) 50% of the load defined in (i)						
37.1	2478	632	12.69	10.51	284	2.92
(iv) maximum power						
84.4	2400	612	24.72	20.47	242	3.42
(v) 25% of the load defined in (i)						
18.6	2491	636	9.07	7.51	404	2.05
(vi) 75% of the load defined in (i)						
55.2	2462	628	16.53	13.69	248	3.34

No load maximum engine speed: 2536 rev/min
Equivalent crankshaft torque at maximum power (2 hours): 336 Nm
Maximum equivalent crankshaft torque: 405 Nm at 1600 rev/min of the engine

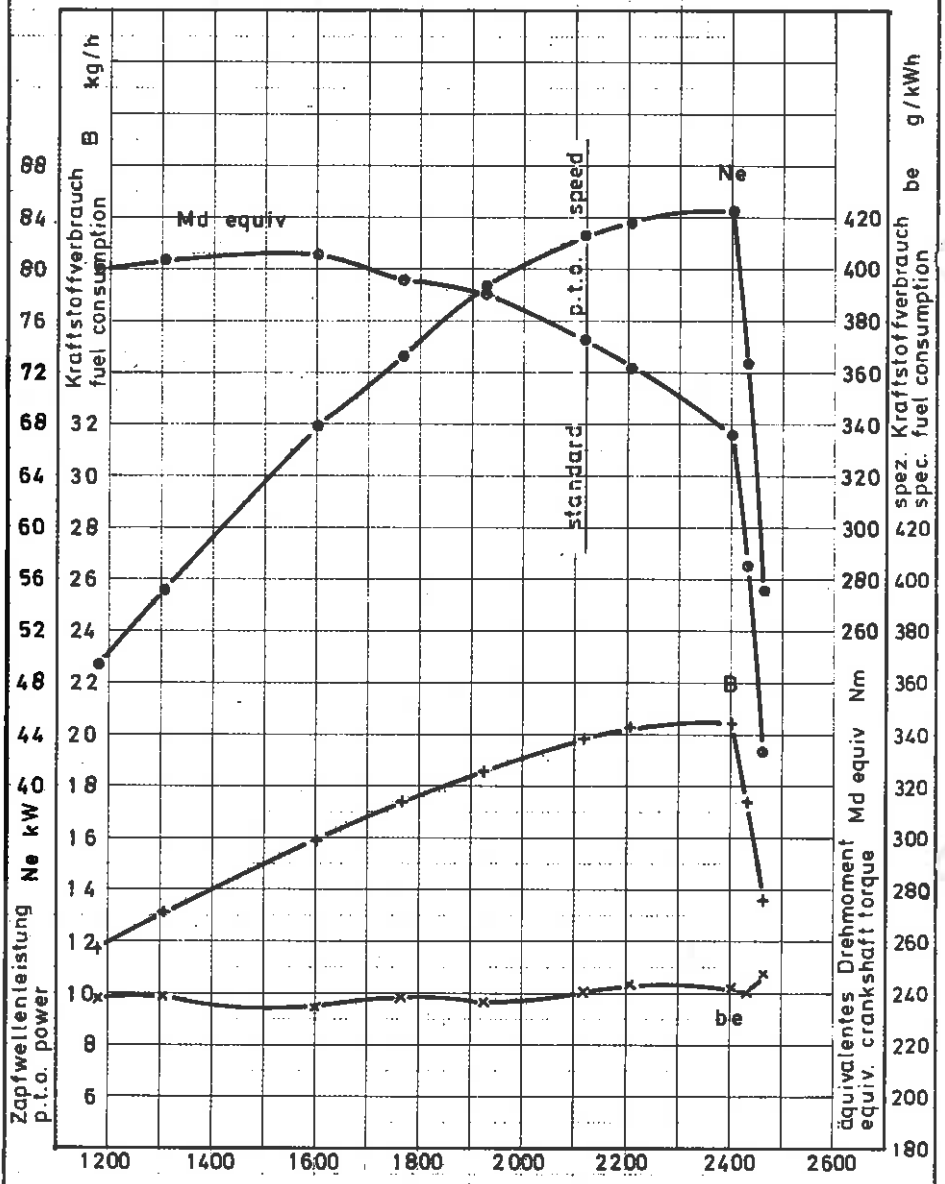
Mean atmospheric conditions:	temperature	15 °C
	pressure	992 mbar
	relative humidity	85 %
Maximum temperatures:	coolant	82 °C
	engine oil	95 °C
	fuel	16 °C
	engine air intake	22 °C

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FAVORIT 612 LS

Zapfwellenleistung
P.t.o. performance

Test Nr. 76-120



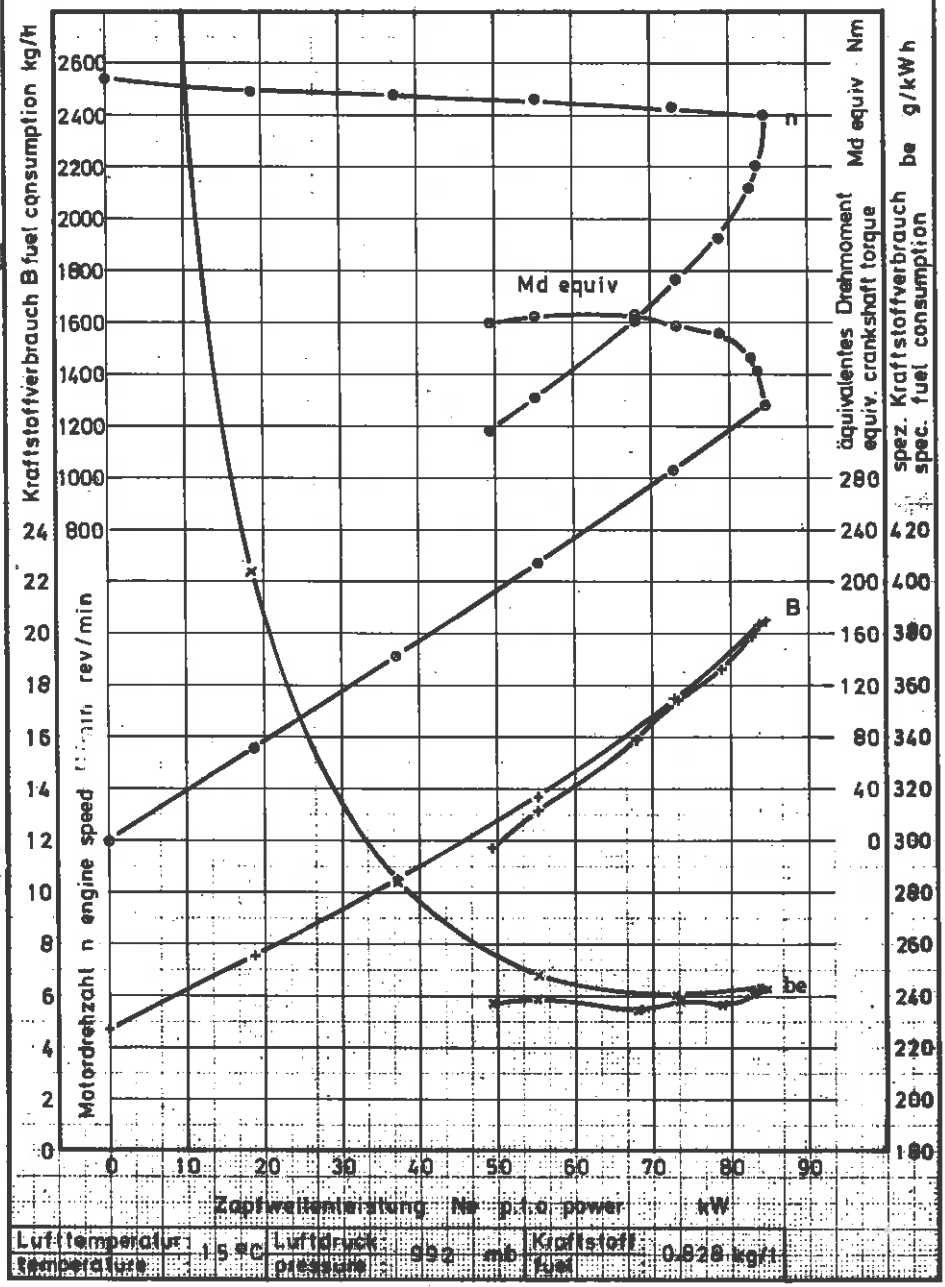
Lufttemperatur: temperature	15 °C	Luftdruck: pressure	992 mb	Kraftstoff: fuel	0,828 kg/l

PRÜFUNGS-ABTEILUNG

FAVORIT 612 LS

Zapfwellenleistung
P.t.o. performance

Test Nr. 76-120



Lufttemperatur temperature	15 °C	Luftdruck pressure	992	mb	Kraftstoff fuel	0.828 kg/l	

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(2) DRAWBAR PERFORMANCE

Date of tests: 17th March till 26th April 1977
Type of track: Concrete

Gear No. and Group	Speed km/h	Power kW	Drawbar pull N	Engine speed rev/min	Slip of wheels %	Specific energy kWh/l
(i) MAXIMUM POWER with ballast height of drawbar above ground 530 mm						
1 slow	2,31	48,8	75990	2473	15,0	2,68
1 fast	2,79	58,7	75700	2458	15,0	2,72
2 slow	3,77	72,8	69550	2400	9,1	2,89
2 fast	4,74	74,4	56520	2400	5,3	2,96
3 slow	6,20	76,0	44110	2400	3,5	3,02
3 fast	7,62	76,5	36160	2401	2,9	3,03
4 slow	9,58	75,8	28500	2400	2,2	3,00
4 fast	11,67	75,3	23240	2400	1,6	2,98
5 slow	14,97	74,1	17820	2400	1,1	2,93
(ii) FIVE-HOUR-TEST at 75% of pull at maximum power in 3rd gear of slow group						
3 slow	6,48	59,5	33080	2471	2,2	3,03
(iii) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (i)						
1 fast	-	-	76000	-	-	-
(iv) MAXIMUM POWER without ballast height of drawbar above ground 535 mm						
1 fast	2,78	50,2	64950	2456	15,0	2,56
2 slow	3,55	64,0	64860	2416	15,0	2,61
2 fast	4,63	73,6	57200	2400	8,1	2,89
3 slow	6,11	75,3	44370	2399	5,2	2,98
3 fast	7,51	75,6	36220	2399	4,0	3,00
4 slow	9,50	75,7	28690	2400	3,0	3,00
4 fast	11,64	75,0	23210	2400	2,3	2,97
5 slow	14,94	73,5	17720	2399	1,5	2,93

Total oil consumption during ten hours duration of tests (ii) and (iii): 58 g/h

Test No. 76-120

Tyres make and size front: CONTINENTAL 13,6-28 AS 6 ply
rear: PIRELLI CINTURATO 18,4 R 38 8 ply

Tread bar height at the beginning of drawbar tests: 94% of the value when new

Specific fuel consumpt. g/kWh	Temperatures Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure mbar
tyre inflation pressure 1,6 bar at front, 1,4 bar at rear rolling radius of tyres under static load 830 mm						
310	17	82	85	15	81	1000
305	15	82	90	14	82	1000
286	19	82	86	20	88	1001
280	17	82	83	19	86	1001
275	17	82	85	15	90	1001
274	18	82	84	15	60	1010
276	18	82	84	16	59	1010
278	18	82	85	16	58	1010
283	18	82	86	16	58	1010
274	18	82	92	16	90	1000
-	20	82	96	20	75	1000
tyre inflation pressure 1,4 bar at front and at rear rolling radius of tyres under static load 834 mm						
324	16	82	84	7	96	995
318	15	82	86	12	94	994
286	17	82	84	10	94	993
276	20	82	82	18	70	1001
274	20	82	83	17	70	1001
274	20	82	83	18	69	1002
277	20	82	80	14	72	1001
281	20	82	84	15	72	1002

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

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 13,6-28 AS 6 ply
rear: 18,4 R 38 8 ply

Track of wheels front: 1696 mm
rear: 1700 mm

Front wheel drive disengaged

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	5,68	5,83	6,38	6,61
Radius of turning circle	5,35	5,44	6,05	6,22

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	998 mm
Distance forward from rear axle centre	1143 mm
Distance left from tractor's median plane	12 mm

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(5) BRAKING PERFORMANCE

A) SERVICE BRAKE (Front wheel drive disengaged)

Date of tests: 23rd March and 12th April 1977
Type of track: Concrete
Type of decelerometer: MOTO METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor: 7495 kg with driver

Cold brakes

		With ballast	Without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	4,9	5,2
Stopping distance	m	6,2	5,8
Force on pedal	N	500	390
Force on pedal to achieve a deceleration of 2,5 m/s^2	N	270	190

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	99	100
Stopping distance	cold/hot	%	100	104
Force on pedal	cold/hot	%	100	100

B) PARKING BRAKE

Tractor facing up 16%-slope:
Pull on hand brake 100 N, tractor does not roll

Tractor facing down 16%-slope:
Pull on hand brake 90 N, tractor does not roll

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Test No. 76-120

(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test:	10th June 1977
Type of track:	Concrete
Type of sound level meter:	BRÜEL AND KJAER model 2203

Results of test

Gear:	6th fast
Travelling speed before acceleration:	23,2 km/h
Sound level:	90,0 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests:	13th June 1977
Type of track:	Concrete
Type of sound level meter:	BRÜEL AND KJAER model 2607
Type of frequency analyzer: (fitted with octave filter)	BRÜEL AND KJAER model 1614

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

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 slow	62080	2,58	2,18	86,5
1 fast	62010	3,13	2,82	86,5
2 slow	58170	4,05	3,40	87,5
2 fast	53360	4,93	4,69	87,5
3 slow	39680	6,33	6,24	87
3 fast*)	31400	7,71	7,70	87
4 slow	26210	9,64	9,63	87
4 fast	17870	11,73	11,80	87,5
5 slow	13540	14,98	15,34	88
5 fast	10830	18,23	18,62	87
6 fast	light load	29,59	30,90	86

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

PRÜFUNGS-ABTEILUNG
FENDT FAVORIT 612 LS

Test No. 76-120

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

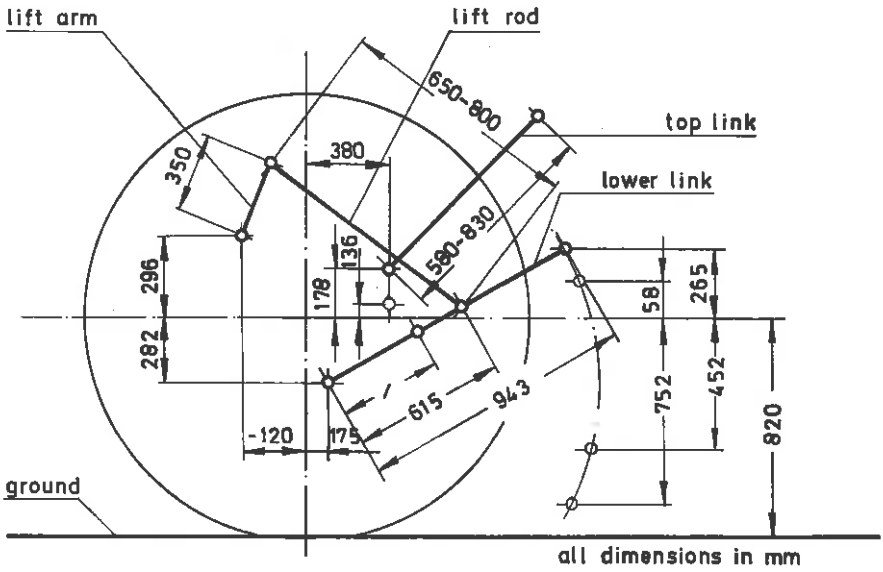
Date of tests: 15th April and 7th June 1977

HYDRAULIC PUMP

(1) Opening pressure of relief valve in remote circuit	157 bar
Sustained pressure by open relief valve	173 bar
(2) Pump delivery rate at minimum pressure and maximum engine speed	46,1 l/min
(3) Pump delivery rate	43,4 l/min
Delivery pressure	157 bar
Hydraulic Power	11,4 kW

POWER LIFT

Dimensions of linkage geometry for the table on page 28



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LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-470	-415	-400	-300	-200	-185	-170	-100	0
At hitch points maximum mechanical advantage									
							44900	46100	47400
minimum mechanical advantage									
N	39900		40900	41900	43000			43400	43600

Max. force exerted throughout the whole range 44900 N

Front of tractor does not lift

At test frame maximum mechanical advantage									
N		49100	48900	46600	45100			44200	42700
minimum mechanical advantage									
N						43800		44200	43800

Max. force exerted throughout the whole range 37600 N

Force at which front of tractor lifts with maximum allowable front ballast 44100 N

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+100	+200	+300	+340	+370	+400	+500	+547	+600	+675
lift rods 650 mm long									
48300	48500	48400			48400	48400	48300		
lift rods 800 mm long									
43600	43600	43400	43300						
lift rods 800 mm long, high top link pivot point									
41200	39800	38500		37600					
lift rods 650 mm long, low top link pivot point									
42900	41200	39400			37600	35800		33700	32400

All values of forces for pressure at max. hydraulic power 157 bar, see page 25; calculated from measurements at max. oil pressure 173 bar

LINKAGE GEOMETRY when connected to the standard frame	Maximum mechanical advantage	Minimum mechanical advantage
Projected length in side view:		
Lower links	943 mm	943 mm
Lift arms	350 mm	350 mm
Lift rods	800 mm	650 mm
Top link	742 mm	750 mm
Distance of lift rod connection point from pivot point of lower link	615 mm	615 mm
The following dimensions are given relative to rear axle centre line 820 mm above ground		
Lower link pivot point	175 mm behind, 282 mm below	175 mm behind, 282 mm below
Top link pivot point	380 mm behind, 178 mm above	380 mm behind, 136 mm above
Lift arm pivot point	120 mm behind, 296 mm above	120 mm behind, 296 mm above
Maximum and minimum height of lower link hitch points	58 mm above, 752 mm below	265 mm above, 452 mm below
Height of lower link hitch points above ground when locked in highest transport position	878 mm	1085 mm

PRÜFUNGS-ABTEILUNG
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OPTIONAL TESTS

(1) ENGINE PERFORMANCE

Date of tests: 14th February 1977
Type of dynamometer: SCHENCK hydraulic dynamometer U1-30

Power kW	Engine speed rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power					
At 2-hour test					
90.4	2400	25.47	21.09	233	3.55
At standard p.t.o. speed (540 rev/min)					
87.3	2117	24.38	20.19	231	3.58
At the speed recommended for drawbar work					
90.4	2400	25.47	21.09	233	3.55
Part loads					
(i) 85% of the torque at maximum power at 2-hour test					
78.1	2441	20.94	17.34	222	3.73
(ii) unloaded					
-	2554	4.61	3.82	-	-
(iii) 50% of the load defined in (i)					
39.8	2480	12.24	10.14	255	3.25
(iv) maximum power					
90.4	2400	25.47	21.09	233	3.55
(v) 25% of the load defined in (i)					
20.0	2500	8.34	6.90	344	2.40
(vi) 75% of the load defined in (i)					
59.1	2464	16.09	13.32	226	3.67

Optimum fuel consumption: 207 g/kWh at 43.6 kW and 1410 rev/min
No load maximum engine speed: 2554 rev/min
Torque at maximum power (2 hours): 360 Nm
Maximum torque: 424 Nm at 1565 rev/min of the engine

Mean atmospheric conditions:	temperature	21 °C
	pressure	990 mbar
	relative humidity	44 %
Maximum temperatures:	coolant	85 °C
	engine oil	97 °C
	fuel	20 °C
	engine air intake	29 °C

PRÜFUNGS-ABTEILUNG

Motorleistung
Engine performance

FAVORIT 612 LS

Test Nr. 76-120

Ne

Md

B

be

Motorleistung Ne kW
engine power

Motordrehmoment Md Nm
engine torque

Kraftstoffverbrauch B kg/h
fuel consumption

spez. Kraftstoffverbrauch be g/kWh
spec. fuel consumption

Motordrehzahl n engine speed U/min rev/min

Lufttemperatur °C
temperature

Luftdruck mb
pressure

Kraftstoff 0,820 kg/l
fuel

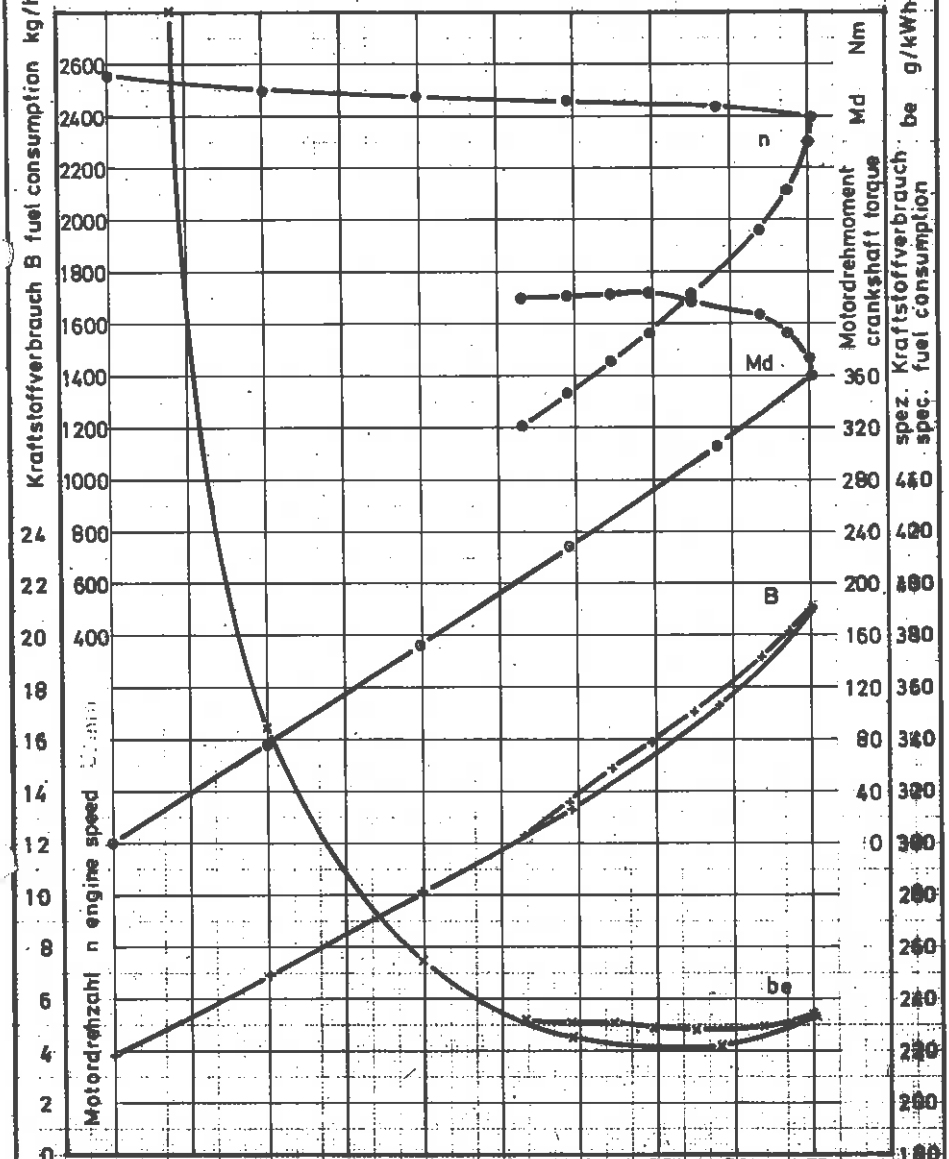
PRÜFUNGS-ABTEILUNG

FAVORIT 612 LS

Motorleistung

Engine performance

Test Nr. 76-120



Lufttemperatur / temperature	21	°C	Luftdruck / pressure	988	mb	Kraftstoff / fuel	0,828 kg/l

PRÜFUNGS-ABTEILUNG
FAVOR T 612 LS
Motorleistung
Engine performance
Test Nr. 76-120
Motorleistung in % der Leistung bei Nenndrehzahl
engine power in % of power at rated engine speed
%
100
80
60
40
20
%
110
100
90
80
70
60
50
40
Motordrehzahl in % der Nenndrehzahl engine speed in % of rated engine speed
207 g/kWh
210
215
220
230
240
250
275
300
350
430
Belastung in % des Drehmomentes bei Nenndrehzahl
load in % of torque at rated engine speed
%
120
110
100
90
80
70
60
50
40
30
20
10
0
Lufttemperatur temperature 21 °C
Luftdruck pressure 998 mb
Kraftstoff fuel 0828kg/l