Prüfstelle für Landmaschinen



REPORT on test in accordance with OECD STANDARD CODE 2 for the Official Testing of Agricultural Tractor Performance

OECD No. 2/1869

13th December 1999

Agricultural Tractor

MF 8280 (4WD)

Manufacturer

AGCO S.A.
B.P. 60307
F-60026 Beauvais

This is a report on a tractor test in accordance with OECD STANDARD CODE for the Official Testing of Agricultural Tractor Performance ('Yellow Code', January 1998, Code 2 (Restricted Code)).

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

Duration of tests: January 1998 till July 1999

DLG-Testing Station for Agricultural Machinery, Max-Eyth-Weg 1,
D-64823 Groß-Umstadt

This report has been approved by the OECD Co-Ordinating Centre (CEMAGREF, France) as being in accordance with the OECD STANDARD CODE.

Date of approval: 13th December 1999

OECD No. 2/1869
Code 2

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 kN	=	1000 N	=	102 kp
Powers			1 kW	=	1,36 PS
Pressures	1 MPa	=	10 bar	=	10,2 kp/cm^2
	100 kPa	=	1000 mbar	=	750,10 mm Hg

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Printed in Germany, January 2000
DLG-No. 311

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MF 8280 (4WD) **DLG-Test No. 99-116**

Tractor manufacturer:	AGCO S.A. B.P. 307 Avenue Blaise Pascal F-60026 Beauvais
Location of tractor assembly:	F-60026 Beauvais, France
Submitted for test by:	AGCO S.A., F-60026 Beauvais
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Beauvais and Groß-Umstadt
Duration of running-in:	153 h
Location of test:	DLG-Testing Station, D-64823 Groß-Umstadt

1 SPECIFICATION OF TRACTOR

1.1 Identification

- Make/Model/Type:	MF / 8280 / wheel tractor, unit construction with additional frame
- Number of driving- wheels:	4
- Serial No.:	G012043
- 1st serial No.:	G012043

1.2 Engine

Make/Model:	VALMET / 645DSBIE
Type:	water-cooled 4-stroke Diesel-engine, direct injection, supercharged, intercooled
Serial no.:	F2124

1.2.1 Cylinders

Number/disposition:	6 / in line
Bore/stroke:	111 / 145 mm
Capacity:	8419 cm^3
Compression ratio:	16 : 1
Arrangement of valves:	Overhead valves
Cylinder liners:	wet

1.2.2 Supercharging

- Make / Model:	SCHWITZER / 17D96-0025
- Type:	Exhaust driven supercharger
- Pressure	140 ± 20 kPa

1.2.3	**Fuel system**	
	- Fuel feed system:	BOSCH fuel supply pump, piston type
	- Fuel filter	
	Make/Model:	CAV / 2FASL
	Type :	2 replaceable paper element filters
	- Capacity of fuel tank:	410 dm³
	- Injection pump	
	Make/Model:	BOSCH / PES6P120B320RS3382
	Type :	inline injection pump
	Serial no.:	7630400020B
	Manufacturer's production setting:	138 ± 1 mm³/stroke at full load and rated speed
	Flow rate:	54.65 ± 0.35 dm³/h at 2200 rev/min and full load
	Timing:	Static 14°
	- Injectors	
	Make/Model:	BOSCH / DLLA 143 P 495
	Type :	multi hole
	Injection pressure:	26+2 MPa
1.2.4	**Governor**	
	- Make/Model:	BOSCH / RSV425..1100POA669
	- Type:	Centrifugal, variable speed, attached to injection pump, pressure compensating device
	- Governed range of engine speed:	850 to 2380 rev/min
	- Rated engine speed:	2200 rev/min
1.2.5	**Air cleaner**	
	- Pre-cleaner	
	Type:	Cyclone type, aspirated, incorporated in housing of main cleaner
	Location of air intake:	In front of engine, below bonnet
	- Main cleaner	
	Make/Model:	MANN & HUMMEL/ 700
	Type:	Dry paper element filter with safety cartridge
	- Maintenance indicator:	warning light on dashboard
1.2.6	Lubrication system	Pressure lubricated, engine oil/cooling water heat exchanger fitted to crankcase
	- Type of feed pump:	Gear pump
	- Type of filter:	Cartridge, full flow oil filter, exchangeable
	- Number of filter:	1

1.2.7	Cooling system	
	- Type of coolant:	Water-antifreeze mixture
	- Type of pump:	Centrifugal pump
	- Specification of fan:	EATON viscous drive fan, belt driven by crankshaft pulley
	Number of fan blades:	8
	Fan diameter:	654 mm
	- Coolant capacity:	34 dm^3
	- Type of temperature control:	Thermostat with by-pass
	- Superpressure system:	Overpressure relief valve set to 50 kPa
1.2.8	Starting system	
	- Make/Model:	MAGNETI MARELLI / -
	- Type:	Electrical, solenoid pre-engaged drive starter motor, 3.5 kW
	- Cold starting aid:	Thermostart, flame glow plug
	- Safety device:	Power shift lever in parking position
1.2.9	Electrical system	
	- Voltage:	12 V, negative earth
	- Generator:	
	Make/Model:	DELCO REMY / AGCO
	Type:	12 V, 3-phase alternator
	Power:	1700 W
	- Battery:	2 lead acid batteries, 80 Ah at 20 hours rating each
1.2.10	Exhaust system	
	- Make/Model:	TECHNOV / 135
	- Type:	Expansion type silencer, 250 x 290 mm oval, 280 mm long
	- Location:	Silencer below bonnet, vertical stack to the right of engine hood, mouth showing forward, 3100 mm above ground
1.2.11	Operating hours meter	Electronic, counts real operating hours when engine is running

1.3 Transmission

1.3.1 Clutch (travel alone)

- Make/Model/Type: FUNCK / - / wet multi-disc clutches
- Diameter of discs: 149 mm
- Method of operation: Hydraulical, by low pressure circuit, controlled by pedal

1.3.2 Gear box

- Make/Model: FUNCK / AG 250
- Type: Mechanical full powershift gearbox for all forward and reverse speeds
- Discription: Powershifted epicyclical gearbox, ratios electro-hydraulically selected by lever and controlled by wet multi-disc clutches

	Forward	Reverse
Number of gears	18	9
Number of ranges/groups	1	1
Total of arrangements	18	9

- Available options: Creeper gearbox : Ratio 4.09; mechanically acting on all speeds giving additional 18 forward and 9 reverse speeds; 1 additional lever
- Lubrication: Force feed lubrication by low pressure circuit, oil cooler in front of engine water cooler; oil filters in suction line; oil reservoir in common with hydraulic circuit

1.3.3 Rear axle and final drives

- Make/Model: GIMA / -
- Type: Bevel gear drive, bevel gear differential with lock, planetary final drives

Differential lock

- Type: Claw, electro-hydraulically operated
- Method of engagement and disengagement: engaged by switch, disengaged when brakes are actuated or power lift is raised

1.3.4 Front axle and final drives

- Make/Model: ZF / APL5052
- Type: 4WD axle, transmission via wet multi-plate clutch (electro-hydraulically operated by switch), central drive shaft without universal joints, bevel gear drive, planetary final drives
- Differential lock: Automatic limited slip multi-plate lock

  Method of engagement and disengagement: Automatic

1.3.5 Total ratios and travelling speeds

Gear No.	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed*) at rated engine speed 2200 min^{-1} km/h
Forward Speeds		
1	334.49	2.40
2	259.67	3.09
3	200.69	4.00
4	176.14	4.56
5	155.80	5.15
6	136.74	5.87
7	120.42	6.67
8	105.68	7.60
9	93.48	8.59
10	82.04	9.79
11	72.23	11.12
12	63.41	12.66
13	56.07	14.32
14	49.23	16.31
15	43.34	18.53
16	33.64	23.86
17	26.00	30.88
18	20.19	39.77
Reverse Speeds		
1	334.49	2.40
2	200.69	4.00
3	176.14	4.56
4	120.42	6.67
5	105.68	7.60
6	72.23	11.12
7	63.41	12.66
8	43.34	18.53
9	26.00	30.89

*) calculated with the radius index (ISO 4251-1/1992) 965 mm (acc. to information of tyre manufacturer)

Number of revolutions of front wheels for one revolution of rear wheels: 1.325

1.4 Power take-off

1.4.1 Main power take-off

- Type: Independent;
- Method of engagement: Electro-hydraulically operated multi-plate clutch controlled by rotary switch
- Number of shafts: 1
- Method of changing power take-off shaft ends and speeds: Flanged stub shaft changeable; 2 speeds are shiftable by separate lever

1.4.1.1 Power take-off proportional to engine speed

	540 min^{-1} PTO	1000 min^{-1} PTO
- Location:	at rear of tractor	
- Diameter of p.t.o shaft	35 mm	35 mm
- Number of splines:	6	21
- in conformity with ISO 500 : 1991	type 1	type 2
- Height above ground	890 mm	
- Distance from the median plane of tractor:	0 mm	
- Distance behind rear wheel axis	630 mm	
- PTO speed at rated engine speed 2200 min^{-1}	596 min^{-1}	1052 min^{-1}
- Engine speed at standard power take-off speed:	1993 min^{-1}	2091 min^{-1}
- Ratio of rotation speeds:	3.691	2.091
- Power restriction:	- kW	- kW
- Maximum torque transmissible:	3858 Nm	2182 Nm
- Direction of rotation (viewed from behind tractor):	clockwise	

1.4.1.2 Power take-off proportional to ground speed: None

1.5 Hydraulic power lift

- Make/Model: BOSCH /EH23LS
- Type
  - at rear: Electronic - hydraulic power lift, disintegrated construction; lower link sensing
  - at front: On request, fitted to tested tractor: Hydraulic power lift for lifting and lowering
- Type of hydraulic system: Closed, load sensing, pressure and flow compensated; oil cooler in front of engine coolant radiator

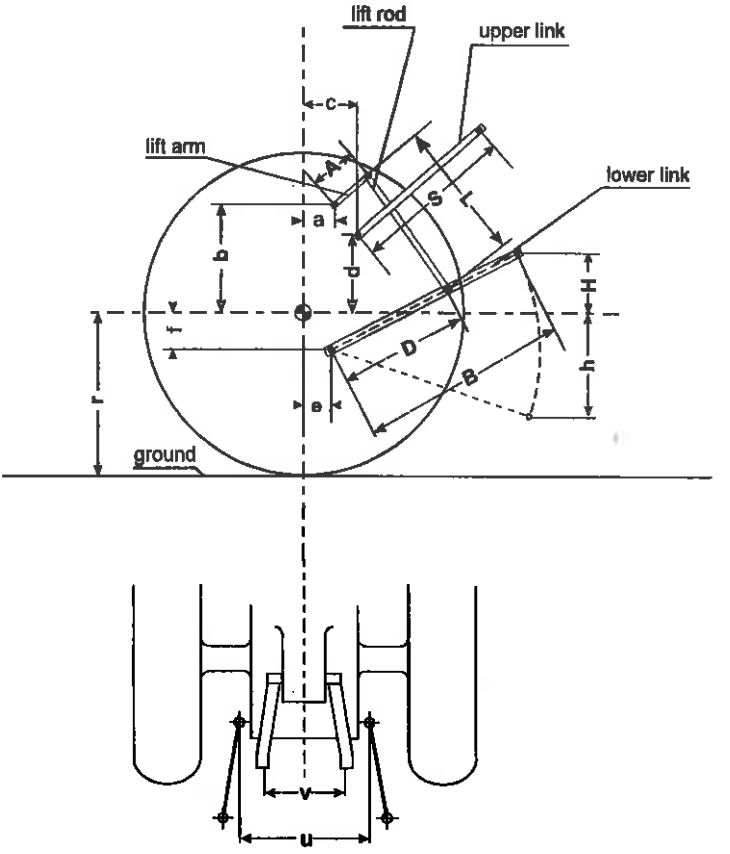
	rear power lift	front power lift
- Type and number of cylinders:	2	2
single or double acting	single	single
bore/stroke	105 / 250 mm	50/260
- Type of linkage lock for transport:	lowering throttle	stop cock in pressure line
- Opening pressure of cylinder safety valve:	22 ± 1 MPa	no safety valves

- Relief valve pressure setting: 20 - 1 MPa
- Lift pump type: BRUENINGHAUS HYDRAULIK variable displacement axial-piston pump
- Transmission between pump and engine: Pump driven by gearbox
- Type and number of filters: 1 screen filter in suction line, 1 external main filter in pressure line, changeable cartridge
- Site of oil reservoir: Oil reservoir in common with gear box
- Type, number and location of tapping points: 6 oil couplings and 1 low pressure return coupling, at rear of tractor; 3 additional control valves; 2 oil couplings at front of tractor connected with one of the coupling pairs at rear
- Maximum volume of oil available to external cylinders: 40 dm^3

1.6 Three-point linkage

1.6.1 Three-point linkage at rear:

- Category: 3, acc. to ISO 730-1/1994
  with WALTERSCHEID quick couplers
- Category adapter: none



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Dimensions of rear implement linkage			projected lengths in mm: dimensions (general)	projected lengths in mm: dimensions used for tests on page 26
Rear tyres 650/85 R 38 Front tyres 600/70 R 28		(r) *) (r') *)	965 745	
Length of lift arms		(A)	380	
Length of lower links		(B)	967	
Distance of lift arm pivot points from rear wheel axis	horizontal vertical	(a) (b)	206 447	
Horizontal distance between lower link pivot points		(u)	520	
Horizontal distance between lift arm end points		(v)	730	
Length of upper link		(S)	605 to 815	755
Distance of upper link pivot point from rear wheel axis	horizontal vertical	(c) (d)	470,450 220,280	470 220
Distance of lower link pivot points from rear wheel axis	horizontal vertical	(e) (f)	250 330	
Distance of lower link pivot points from lift rod pivot points on lower links		(D)	530,580	530
Length of lift rods		(L)	840 to 950	945

Heights (h, H, H') of lower link hitch points relative to rear wheel axis (situated 965 mm above ground), at different adjustments of L

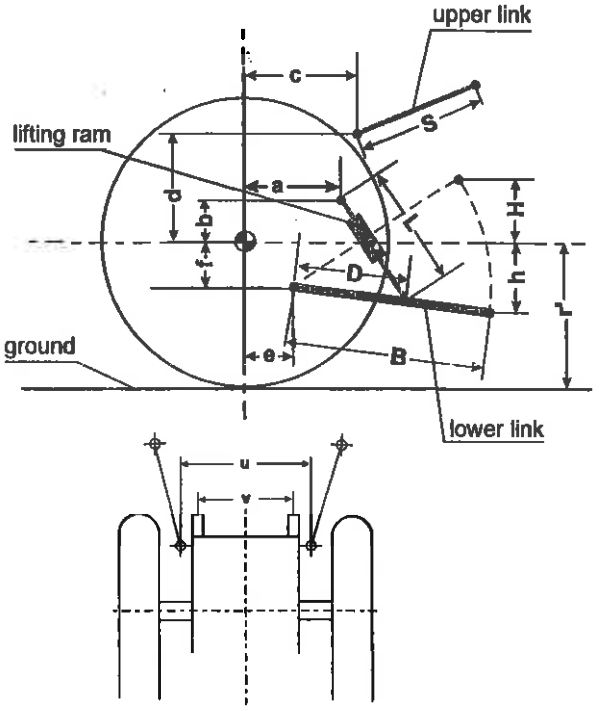
These data are valid for unloaded power lift

Length of lift rods	(L)	840	945	950
Linkage distance of lift rods	(D)	530		
Lowest position	(h)	495	735	740
Highest position	(H)	165	15	-5
Transport position	(H')	165	15	-5

*) Assuming r resp. r' = tyre dynamic radius index of ISO 4251-1/1992

1.6.2 Three-point linkage at front:

- Category: 2, acc. to ISO 730-1/1994
- Category adapter: none



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Dimensions of front implement linkage			projected lengths in mm	
			dimensions (general)	dimensions used for test on page 27
Rear tyres 650/85 R 38 Front tyres 600/70 R 28		(r) *) (r') *)	965 745	
Length of lower links		(B)	801	
Distance of lift cylinder pivot points from front wheel axis	horizontal vertical	(a) (b)	980 465	
Horizontal distance between the 2 lower link pivot points		(u)	365	
Horizontal distance between the 2 lift cylinder pivot points		(v)	365	
Length of upper link		(S)	from 430 to 560	560
Distance of upper link pivot point from front wheel axis	horizontal	(c)	1070	
	vertical	(d)	455/575	455
Distance of lower link pivot points from front wheel axis	horizontal vertical	(e) (f)	830 145	
Distance of lower link pivot points from fixing points of lift cylinders on lower links		(D)	275	
Length of lift cylinders		(L)	from 490 to 750	

Heights (h, H, H') of lower link hitch points relative to front wheel axis
(situated 745 mm above ground)

These data are valid for unloaded power lift

Lowest position	(h)	555
Highest position	(H)	245
Transport position	(H')	245

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1.7 Swinging drawbar

- Type:	Clevis	
- Height above ground (centre of clevis)		
maximum:		620 mm
minimum:		475 mm
- Type of adjustment:	Clevis, bolted either above or below the bar; bar horizontally shiftable	
- Distance of hitch point (centre of clevis)		
from rear wheel axis,	horizontal:	980, 1060, 1160 mm
from p.t.o. shaft end,	vertical:	270 or 415 mm
	horizontal:	350, 430, 530 mm
- Lateral adjustment (centre of clevis)		
right hand:		Min. 155, max. 192 mm
left hand:		Min. 155, max. 192 mm
drawbar can be fixed in central position		
- Distance of pivot point from rear wheel axis, horizontal:		0 mm
- Diameter of drawbar pin hole:		33 mm
- Maximum vertically permissible load:		17 kN

1.8 Trailer hitch Optionally available, not fitted

1.9 Holed drawbar Optionally available, not fitted

1.10 Piton fix

height above ground		665 mm
distance from rear wheel axis, horizontal:		640 mm
distance from p.t.o. shaft end,	vertical:	225 mm
	horizontal:	10 mm
- Pin diameter:		44 mm

1.10 Steering

- Make/Model:	DANFOSS / ORBITROL OSPC 200 LSD
- Type:	Hydrostatic front axle steering
- Method of operation:	By steering wheel and 2 cylinders acting on steering levers
Pump:	HYDROSTATIC 200 cc
Ram:	2 steering cylinders, double acting, 278 mm stroke, 50 mm bore, 25.4 mm piston rod
- Working pressure:	15 MPa

1.11 Brakes

1.11.1 Service brake

- Make/Model:	GIMA / -
- Type:	Power-assisted brake, acting on 2 axles, separate brake-fluid reservoir
- Method of operation:	pedal operated, hydraulic transmission; rear axle brake wet multi-plate brake with 2 discs per half shaft, outside diameter of discs 313 mm front axle brake automatic engagement of front wheel drive
- Trailer braking take-off:	On request available; hydraulic brake

1.11.2 Parking brake

- Make:	SIRMAC-HUSCO
- Type:	Multi-plate brake in final drives' housing, acting on rear axle
- Method of operation:	mechanically, actuated by hand lever; parking lock activated by power-shift gear lever

1.12 Wheels

- Number: 4
- front: Steering and driving, 2 pneumatics
- rear: Driving, 2 pneumatics
- Wheel base: 3075 mm

- Track width adjustment:

	Minimum	Maximum	Adjustment method
Front	1686 mm	2060 mm	Offset lug rims and reversing central wheel discs
Rear	1588 mm	1960 mm	central wheel disc shiftable on axle by clamping pieces

- Possible combinations of tyres sizes

Front	Rear
600/70 R 28	650/85 R 38
480/70 R 30	620/70 R 42

This is the list of the most popular tyres combinations, further tyres combinations are available

1.13 Protective structure

- Make/Model/Type: MASSEY FERGUSON / 5002 G5 / -
- Manufacturer's name and address: AGCO S.A. BP 307 Avenue Blaise Pascal - F-60026 Beauvais, France
- Protective device
  - Cab: OECD-tested safety cab with integrated safety frame
  - Tiltable: No
- OECD approval
  - Approval number: CSS 4/0588
  - Date of approval: 2nd August 1999
  - Nos. of minor modificatrion certificates:

1.14 Seat

1.14.1 Driver's seat

- Make/Model:	GRAMMER / MSG 95A / 20	
- Type:	Upholstered seat with back rest and arm rests	
- Seat and steering wheel reversible:	No	
- Type of suspension:	Pneumatic	
- Type of damping:	Hydraulic	
- Range of adjustment		
. Longitudinal:		180 mm
. Vertical:	Above platform	400 to 550 mm
- Safety belt:	No	

1.14.2 Optional Driver's seat(s) Available

1.14.3 Passenger seat

- Location: On the left mudguard
- Capacity (number): 1

1.15 Lighting

Electrical, 12 Volt

	Height above ground of centre mm	Size mm	Distance from outside edge of lights to median plane of tractor mm
Headlights	1335	150 x 95	248
Sidelights	2190	35 x 110	960
Rearlights	1885	70 x 55	853
Reflectors, 1st pair	1885	45 x 55	898
2nd pair	920	55 x 100	655

2. TEST CONDITIONS

2.1 Overall dimensions, unballasted

Length mm	Width (track widths as in 2.5) mm	Height at top of protective structure mm	Height at top of exhaust silencer pipe mm
5257	2518	3140	3100
6020*)	*) with front power lift		

2.2 Ground clearance 510 mm

- Clearance-limiting part: Bracket of swinging drawbar

2.3 Tractor mass (with cab)

	Without driver kg	With driver kg
Front	4000	4010
Rear	5770	5835
Total	9770	9845

2.4 Track specifications Not applicable

2.5 Tyres and track widths specifications

	Front	Rear
Tyres:	KLEBER	KLEBER
dimensions	600/70 R 28	650/85 R 38
load index speed index	A 8	A 8
type	radial	radial
maximum load (tyre manufacturer's)	3880 kN	6150 kN
at travelling speed	40 km/h	40 km/h
at tyre inflation pressure	160 kPa	160 kPa
maximum load (tractor manufacturer's)	3000 kN	4450 kN
dynamic radius index	745 mm	965 mm
Chosen track width:	1860 mm	1830 mm

2.6 Fuel

- Type: ARAL-Diesel-fuel, in conformity with DIN 51601
- Density at 15°C: At p.t.o. test 0.828 g/cm³

at drawbar power test 0.838 g/cm³

2.7 Oils and lubricants

2.7.1 Capacity and change interval

	Capacity dm³	Oil change h	Filter-change h
Engine	19	300	300
Gear box, rear axle, hydraulic system and steering	160	1000	500
Front axle	10		-
Final drives at front	4		-

2.7.2 Specifications:

	Recommended	Used during test
Engine oil:		
Type	Engine oil	BP TERRAC MANAGER
Viscosity	10W-40	10W/40
Classification	MIL-L-2104 D	MIL-L-2104 D
Transmission oil:		
Used in gearbox, rear axle, front axle, front axle drives, hydraulic- and steering system		
Type	Engine oil	BP TERRAC EXTRA
Viscosity	10 W/40	10 W/40
Classification	API-GL4	API-GL4

2.7.3 Grease Multi purpose grease

- Type: BP TERRAC CHARGE
- number of lubrication points: 10

3 COMPULSORY TESTS

3.1 MAIN POWER TAKE OFF PERFORMANCE (1000 min^{-1})

Date of tests: 1998-01-29
Location of tests: DLG-Testing Station Groß-Umstadt
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power kW	Speed Engine min^{-1}	Speed P.t.o. min^{-1}	Fuel consumption hourly dm³/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/dm³
Maximum power						
3.1 At 2-hour test						
178.5	1906	912	51.81	42.90	240	3.45
3.1.2 At rated speed						
168.9	2200	1053	54.64	45.24	268	3.09
3.1.3 At standard p.t.o. speed						
172.5	2087	999	53.53	44.32	257	3.22
3.1.4 Part loads, the governor hand lever in the position corresponding to maximum power at full load (curve a)						
3.1.4.1 the torque corresponding to maximum power at rated speed						
168.9	2200	1053	54.64	45.24	268	3.09
3.1.4.2 85% of the torque obtained in 3.1.4.1						
146.6	2246	1075	49.54	41.02	280	2.96
3.1.4.3 75% of the torque defined in 3.1.4.2						
112.2	2292	1097	40.85	33.82	301	2.75
3.1.4.4 50% of the torque defined in 3.1.4.2						
76.2	2330	1115	31.44	26.03	342	2.42
3.1.4.5 25% of the torque defined in 3.1.4.2						
38.5	2363	1131	22.74	18.83	489	1.69
3.1.4.6 unloaded						
-	2395	1146	15.15	12.54	-	-

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Power kW	Speed Engine min⁻¹	Speed P.t.o. min⁻¹	Fuel consumption hourly dm³/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/dm³
3.1.5 Part loads, the governor hand lever in the position corresponding to standard p.t.o. speed at full load (curve b)						
3.1.5.1 the torque corresponding to maximum power						
172.5	2087	999	53.53	44.32	257	3.22
1.5.2 85% of the torque obtained in 3.1.5.1						
150.0	2146	1027	48.20	39.91	266	3.11
3.1.5.3 75% of the torque defined in 3.1.5.2						
114.7	2188	1047	39.73	32.90	287	2.89
3.1.5.4 50% of the torque defined in 3.1.5.2						
77.9	2230	1067	30.51	25.26	324	2.55
3.1.5.5 25% of the torque defined in 3.1.5.2						
39.4	2261	1082	21.46	17.77	451	1.84
3.1.5.6 unloaded						
-	2296	1098	13.81	11.44	-	-

No load maximum engine speed:	**2395 rev/min**
Equivalent flywheel torque at rated engine speed:	**733 Nm**
Equivalent flywheel torque at 2-hour test:	**894 Nm**
at engine speed:	**1906 rev/min**
Maximum equivalent flywheel torque:	**1086 Nm**
at engine speed:	**1306 rev/min**

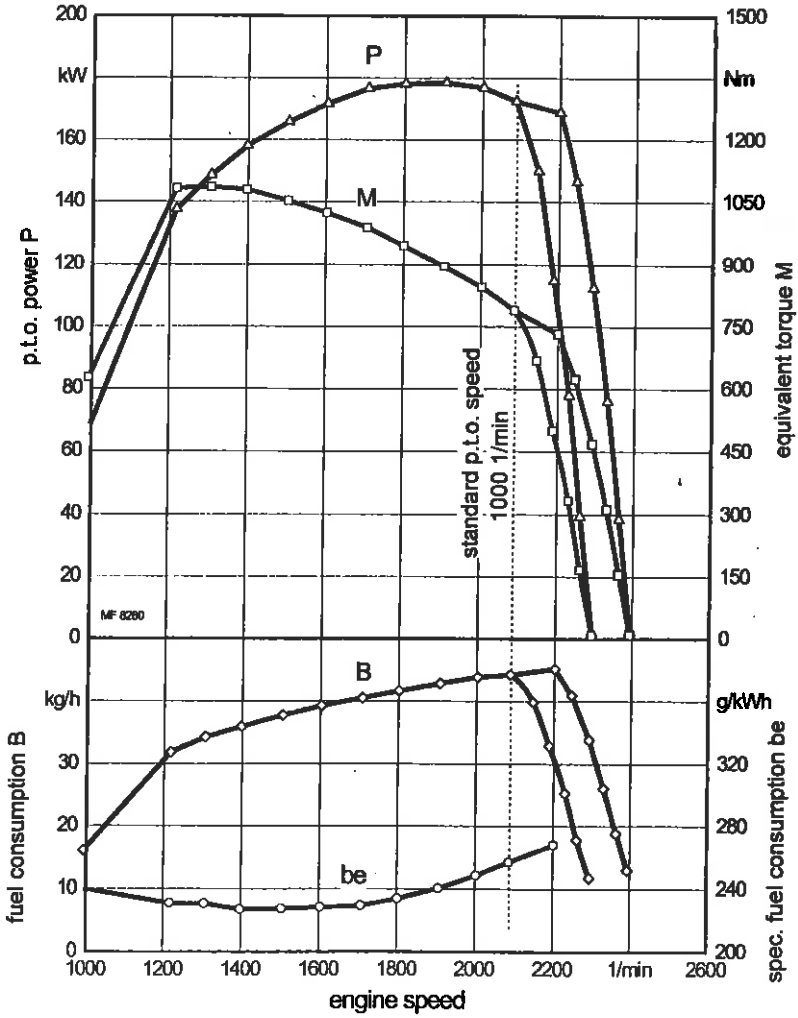
Mean atmospheric conditions

temperature:	20 °C
pressure:	1003 hPa
relative humidity:	33 %

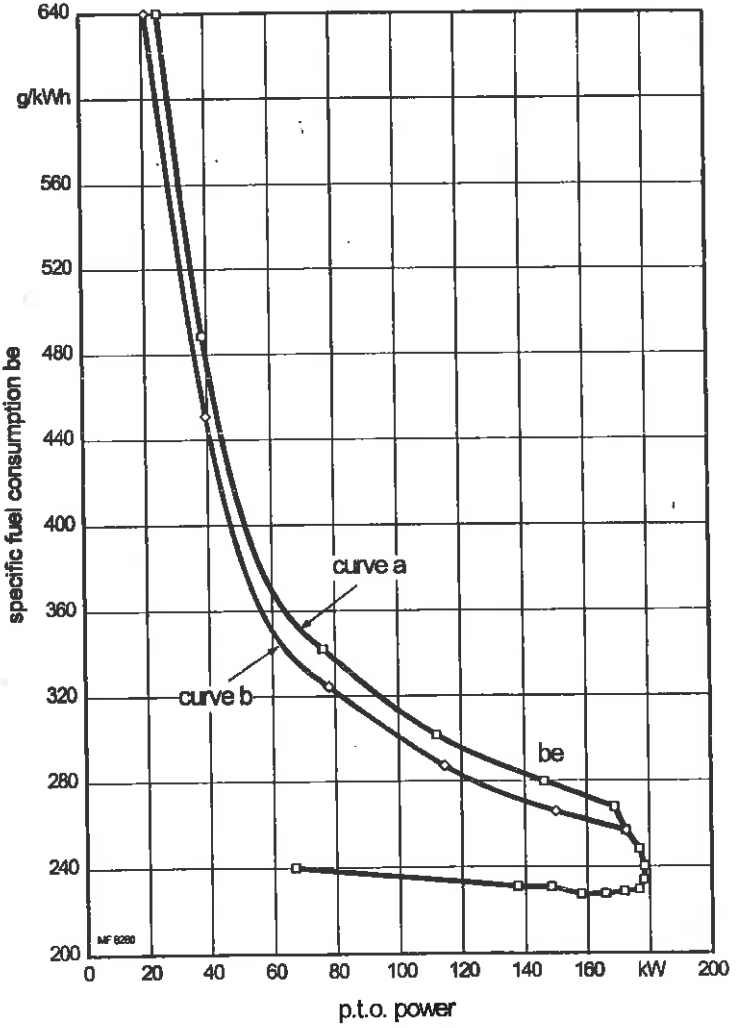
Maximum temperatures

coolant:	82 °C
oil:	117 °C
fuel:	54 °C
air intake:	20 °C

p.t.o. test


P
M
B
be
MF 8280
p.t.o. power P
kW
equivalent torque M
Nm
standard p.t.o. speed
1000 1/min
fuel consumption B
kg/h
spec. fuel consumption be
g/kWh
engine speed
1/min
200
160
140
120
100
80
60
40
20
0
1500
1200
1050
900
750
600
450
300
150
30
10
320
280
240
1000
1200
1400
1600
1800
2000
2200
2600

p.t.o. test


640
g/kWh
560
520
480
440
400
360
320
280
240
200
specific fuel consumption be
curve a
curve b
be
MF 8280
0
20
40
60
80
100
120
140
160
kW
200
p.t.o. power

3.2 HYDRAULIC POWER AND LIFTING FORCE

- Date of tests: 7th and 24th June 1999

3.2.1 Hydraulic power test

- Sustained pressure with relief valve open 19.3 MPa
- Pump delivery rate at minimum pressure 153.6 dm³/min

	Hydraulic power kW	Flow rate dm³/min	Pressure MPa	Oil Temperature °C
At 90% of the actual relief valve setting	24.7	85.2	17.4	65
Maximum	38.2	148.0	15.5	65

- Tapping point used for test: At rear of tractor, connected to 2 additional control valves (red and green)

3.2.2 Power lift test at rear power lift

	At the hitch points	On the frame
Height of lower hitch points above ground in down position	230 mm'	
Vertical movement without lifting forces	750 mm	865 mm
with lifting forces	730 mm	845 mm
Max. corrected force exerted through full range	80.60 kN	75.20kN
Corresponding pressure	17.4 MPa	
Moment about rear axle	-	136.9kNm
Max. tilt angle of mast from vertical		7°

Lifting heights relative to horizontal lower links												
mm	-480	-415	-400	-300	-200	-100	0	100	200	300	315	365
Lifting forces at hitch points. Corrected to 17.4 Mpa												
kN		80.60	81.50	85.10	89.10	92.40	95.90	98.40	100.20	100.40	99.90	
Lifting forces at standard frame. corrected to 17.4 Mpa												
kN	77.40		78.80	80.60	81.90	83.30	83.30	83.20	81.90	78.80		75.20

3.2.3 Power lift test at front power lift

	At the hitch points	On the frame
Height of lower hitch points above ground in down position	190 mm	
Vertical movement without lifting forces with lifting forces	800 mm 775 mm	790 mm 760 mm
Max. corrected force exerted through full range	60.80 kN	47.30kN
Corresponding pressure	MPa	
Moment about front axle	-	106.0 kNm
Max. tilt angle of mast from vertical	-	6°

Lifting heights relative to horizontal lower links												
mm	-410	-400	-360	-300	-200	-100	0	+100	+200	+300	+365	+400
Lifting forces at hitch points, corrected to 17.4 MPa												
kN	63.90	63.00		60.80	60.80	61.20	63.00	64.40	65.70	66.20	64.80	
Lifting forces at standard frame, corrected to 17.4 MPa												
kN			81.00	71.10	63.50	61.20	59.40	57.60	54.90	51.80		47.30

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3 DRAWBAR POWER TEST

- Date of test: 2nd till 9th February 1998
- Type of track: Concrete

Gear number and range	Power	Drawbar pull	Speed	Engine speed	Slip of wheels	Specific fuel consumption
	kW	kN	km/h	min^{-1}	%	g/kWh
3.3.1	MAXIMUM POWER IN TESTED GEARS (unballasted tractor)					
6	133.2	93.08	5.15	2162	11.0	347
7	140.0	91.65	5.50	2002	9.6	319
8	141.9	83.74	6.10	1900	8.3	307
9	144.5	73.53	7.03	1903	6.6	301
10	144.9	64.57	8.08	1905	5.6	300
11	142.0	55.20	9.26	1903	4.8	306
12	145.7	49.29	10.64	1903	3.9	299
13	143.6	42.77	12.09	1905	3.6	303
14	141.3	36.70	13.86	1907	3.1	308
3.3.2	FUEL CONSUMPTION					
3.3.2.1	in selected gear, at maximum power at rated speed					
12	133.5	38.69	12.42	2203	2.9	344
3.3.2.1.1	75 % of pull at maximum power at rated speed					
12	103.2	28.94	12.84	2258	2.1	376
3.3.2.1.2	50 % of pull at maximum power at rated speed					
12	70.9	19.37	13.18	2302	1.5	436
3.3.2.1.3	next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.1.1					
13	103.1	28.66	12.95	2012	2.1	332
3.3.2.1.4	next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.1.2					
13	72.8	19.78	13.25	2044	1.4	371
3.3.2.2	in selected gear nearest to 7.50 km/h at rated speed					
8	136.5	67.78	7.25	2202	5.5	340
3.3.2.2.1	75 % of pull at maximum power at rated speed					
8	106.8	50.65	7.59	2268	3.9	358
3.3.2.2.2	50 % of pull at maximum power at rated speed					
8	72.8	33.47	7.83	2313	2.7	412
3.3.2.2.3	next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.2.1					
9	106.9	50.91	7.56	2000	3.8	317
3.3.2.2.4	next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.2.2					
9	73.1	33.58	7.84	2045	2.6	357

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	Height of drawbar above ground	Tyre inflation pressure	
		Front	Rear
unballasted	600 mm	80 kPa	80 kPa

Specific energy	Temperature			Atmospheric conditions		
	Fuel	Coolant	Engine oil	Temperature	Relative humidity	Pressure
kWh/l	°C	°C	°C	°C	%	kPa
2.42	58	77	117	6	40	98.5
2.63	54	80	115	4	40	98.5
2.73	58	83	119	5	40	98.5
2.78	58	83	119	6	40	98.5
2.79	57	83	119	5	40	98.5
2.74	57	83	118	7	40	98.5
2.81	60	84	116	19	40	98.5
2.77	56	82	117	11	40	98.5
2.72	56	82	117	9	40	98.5
2.43	62	83	120	10	40	99.5
2.23	62	83	119	18	40	99.5
1.92	63	78	117	14	40	99.5
2.52	59	77	113	17	40	99.5
2.26	59	77	113	13	40	99.5
2.47	59	82	120	6	40	99.5
2.34	61	78	119	7	40	99.5
2.03	62	73	117	6	40	99.5
2.64	59	76	115	8	40	99.5
2.35	60	73	114	10	40	99.5

4 **Optional Test Results** None

4 **REPAIRS AND REMARKS**

The drawbar pull and wheel slip in 6th gear were limited to avoid excessive tractor bouncing

Head of tractor test section

M. Lober

Dip.-Ing. Manfred Lober

Deutsche Landwirtschafts-Gesellschaft

Test carried out by

B. Huber

Dipl.-Ing. Bodo Huber

Date: 19th January 2000

8. MINOR MODIFICATION CERTIFICATE

OECD approval number according to Code 2:	**2/1869**
Station test-no. for the original report:	99-116
Date and location of test:	January 1998 till July 1999, DLG Prüfstelle für Landmaschinen Max-Eyth-Weg 1 D-64823 Gross-Umstadt,
Date of approval:	13th December 1999
Modification number:	MOD 1
Previous Modification Certificates	-

8.1 Specification of the Tractor

8.1.1	Manufacturer's name and address:	AGCO S.A. B.P. 60307, Avenue Blaise Pascal F-60026 Beauvais
	Submitted for the test by:	AGCO S.A., F-60026 Beauvais
8.1.2	Make of the tractor: Model (trade name): Type:	MF 8280 4 WD
8.1.3	Serial Number from which modification applies:	L149034
8.1.4	Other Specifications:	-NA-

8.2 Details of Modifications

Since the original test report the following modifications have been made:

- **The tractor MF 8280 will be offered optionally under the second make "Challenger" with the model denomination MT 665.**
- **The colour red is changed for yellow.**

8.3 Statement

The effect of the modifications on performance has been examined.
The modifications are considered not to affect the results of the original test.
The original test report therefore applies also to the modified tractor.

Drafted on the responsibility of the national Designated Authority by the Station which carried out the original test, this certificate is circulated as an annex to the original test report.

Location: DLG-Prüfstelle für Landmaschinen
Max-Eyth-Weg 1
D-64823 Groß-Umstadt

Date: 17th June 2002

Test section tractors and vehicles

Responsible for tests

Dipl.-Ing. Lober

Deutsche Landwirtschafts-Gesellschaft

Dipl.-Ing. (FH) Feuerstein



Impulse für den Fortschritt

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