

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

OECD No. 2/1770
24th August 1998

Agricultural Tractor
MF 8170 (4WD)

Manufacturer
AGCO A.S.
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: April 1998 till May 1998

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: 24th August 1998

OECD No. 2/1770
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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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:	50 h
Location of test:	DLG-Testing Station, D-64823 Groß-Umstadt

1 SPECIFICATION OF TRACTOR

1.1 Tractor

- Make/Model/Type:	MF 8170 / Wheel tractor, unit construction
- Number of driving- wheels:	4
- Serial No.:	G021110
- 1st serial No.:	G021110

1.2 Engine

Make/Model/Type:	VALMET / 645DSBIE water-cooled 4-stroke Diesel-engine, direct injection, supercharged, intercooled
Serial no.:	G08405
Rated engine power:	181 kW

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 / Type:	SCHWITZER / 17D96-0025 / Exhaust driven supercharger
	- Pressure	140 ± 20 kPa
1.2.3	Fuel system	
	- Fuel feed system:	BOSCH fuel supply pump, PN FPKG24P307, piston type pump
	- Fuel filter	
	Make:	CAV
	Type :	2 replaceable paper element filters
	- Capacity of fuel tank:	410 dm^3
	- Injection pump	
	Make/Model:	BOSCH / PES6P120B320RS3382
	Type :	inline injection pump
	Serial no.:	760400006B
	Manufacturer's production setting:	123 ± 2.5 mm^3/stroke at full load and rated speed;
	Flow rate:	49 ± 2.0 dm^3/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/Type:	BOSCH / RSV425..1100POA669 / centrifugal, attached to injection pump, pressure compensating device
	- Governed range of engine speed:	850 to 2340 rev/min
	- Rated engine speed:	2200 rev/min
1.2.5	Air cleaner	
	- Pre-cleaner	Incorporated in housing of main cleaner
	Type:	Cyclone type, aspirated
	Location of air intake:	In front of engine, below bonnet
	- Main cleaner	
	Make/Model:	MANN & HUMMEL/ 44 711 93 501
	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	Water cooling
	- Type of pump:	Centrifugal pump
	- Specification of fan:	EATON viscous drive fan, belt driven by crankshaft pulley
	Number of fan blades:	8
	Fan diameter:	650 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	Electrical
	- Make/Type:	MAGNETI MARELLI / 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:	Alternator
	Make/Model/Type:	DELCO REMY / AGCO / 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/Type:	TECHNOV / 135 / 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, 3110 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 pedal, power assisted by low pressure circuit

1.3.2 Gear box

- Make/Model/Type:	FUNCK / AG 250 / Mechanical full powershift gearbox for all forward and reverse speeds
- Arrangement:	Powershifted epicyclical gearbox, ratios electro-hydraulically selected by lever and controlled by wet multi-disc clutches
- Number of gears:	Total 18 forward and 9 reverse gears, 1 lever
- 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 on the right 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/Type:	GIMA / bevel gear drive, bevel gear differential with multi-plate lock, planetary final drives
- Differential lock:	Electro-hydraulically operated 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:	driven by wet multi-disc clutch, electro-hydraulically operated by switch, central drive shaft without universal joints, bevel gear drive, planetary final drives
- Differential lock:	Automatic multi-disc limited slip lock
Engagement:	Automatic
Disengagement:	Automatic

1.3.5 Total ratios and travelling speeds

Gear	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed*) at rated engine speed 2200 rev/min 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

Independent;
electro-hydraulically operated multi-disc clutch controlled by rotary switch
1 shaft at rear of tractor, 35 mm diameter, 21 splines in conformity with ISO 500 / 1991, type 2; 890 mm above ground, in tractor's median plane, 630 mm behind rear- wheel axis

P.t.o. speeds: 3 p.t.o. speeds are shiftable by lever

Direction of rotation: Clockwise (viewed from behind tractor)

1.4.1.1 Power take-off proportional to engine speed

p.t.o. type	p.t.o. transmission ratio	p.t.o. speed rev/min	Engine Speed Rev/min	power restriction kW
540	3,691	540 596	1993 2200	-
1000	2,091	1000 1052	2091 2200	-
540 E	2,676	540 822	1445 2200	-

1.4.1.2 Power take-off proportional to ground speed: No

1.5 Hydraulic power lift

- Make/Model: BOSCH /EH23LS
- Type: Electronic - hydraulic power lift, disintegrated construction

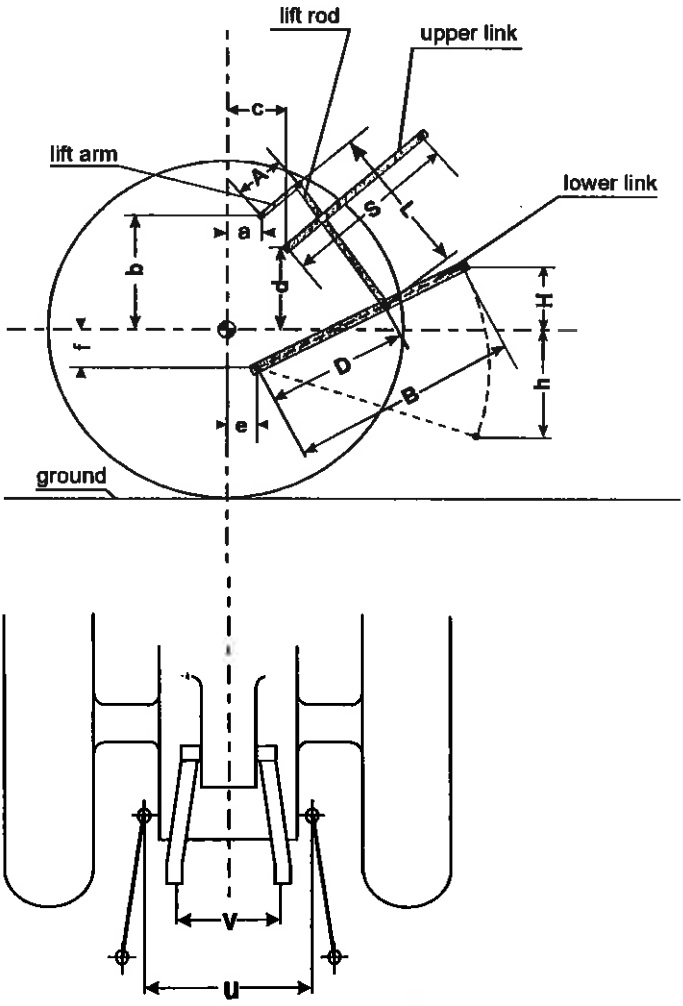
- Hydraulic system: Closed, load sensing, pressure and flow compensated system;
BRUENINGHAUS HYDRAULIK variable displacement axial-piston pump, driven by gearbox, max. delivery 110 dm³/min at rated engine speed, oil cooler in front of engine coolant radiator, oil filter in feed line;

1 BOSCH control valve,
relief valve pressure setting 20.2 ± 0.2 MPa;
2 single acting cylinders with 105 mm bore and 250 mm stroke, safety valve set to 22 ± 2 MPa;

3 double acting additional BOSCH control valves,
6 oil couplings at rear of tractor;
maximum volume of oil available to external cylinders : 40 dm³

1.6 Three-point linkage:

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



Dimensions of rear implement linkage			projected lengths in mm			
			dimensions (general)	dimensions used for tests on page 24	extra measurement page 25	
Rear tyres 650/85 R 38 Front tyres 600/70 R 28		(r) *) (r') *)	965 745			
Length of lift arms		(A)	385			
Length of lower links		(B)	960			
Distance of lift arm pivot points from rear wheel axis	horizontal vertical	(a) (b)	210 455			
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)	470,450 220,275	470 220	-	
Distance of lower link pivot points from rear wheel axis	horizontal vertical	(e) (f)	250 320			
Distance of lower link pivot points from lift rod pivot points on lower links		(D)	530,580	530	580	
Length of lift rods		(L)	840 to 950	945	950	840

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				Data for tests on page 25	
Length of lift rods	(L)	840	945	950	840
Linkage distance of lift rods	(D)	530		580	
Lowest position	(h)	495	735	695	485
Highest position	(H)	165	0	0	165
Transport position	(H')	165	0	0	165

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

1.7 Swinging drawbar

- Type:	clevis	
- Height above ground		620 mm
- Distance from rear wheel axis,	horizontally	980, 1060, 1160 mm
- Distance from p.t.o. shaft end,		
	vertically	270 mm
	horizontally	350, 430, 530 mm
- Laterally swingable to both sides		min. 155 mm, max. 192 mm
drawbar can be fixed in central position		
- Distance of pivot point from rear wheel axis,	horizontally	0 mm
- Drawbar pin hole diameter		33 mm
- Maximum vertically permissible load		17 kN
Piton fix height above ground		665 mm
distance from rear wheel axis,	horizontally	640 mm
distance from p.t.o. shaft end,		
	vertically	225 mm
	horizontally	10 mm
- Pin diameter		44 mm

1.8 Trailer hitch

- Type:	non automatic	
- Diameter of pin		33 mm
- Hitch adjustable above ground to:		920, 1120, 1070, 1170mm
- Distance of hitch point from:		
Rear wheel axis	horizontally	795 mm
p.t.o. shaft end	horizontally	165 mm
- Maximum vertically permissible load		20 kN
- Maximum horizontally permissible load		102.4 kN

1.9 Holed drawbar

Optionally available, not fitted

1.10 Steering

- Make/Model/Type:	DANFOSS ORBITROL OSPC 200 LSD hydrostatic front axle steering, fed by 200 CC pump, closed center oil circuit - see on page 9 -
	2 steering cylinders, double acting, 278 mm stroke, 50 mm bore, 25.4 mm piston rod, acting on steering levers;
	max. working pressure 15,5 to 16 MPa 2 shock valves 22,5 to 24,5 MPa

1.11 Brakes

1.11.1 Service brake

- Make/Model:	GIMA / - /
- Method of operation	pedal operated muscle power brake with hydraulic transmission power assisted, separate brake-fluid reservoir;
	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
- Steering brake:	Divided pedal of service brake, for normal use locked together
- Trailer brake:	On request available, hydraulic brake

1.11.2 Parking brake

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

1.12 Wheels

- At front: Steering and driving, 2 pneumatics
- At 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	

- 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: MF 5002D9 / cab
- Manufacturer's name and address: AGCO S.A.
  BP 307 Avenue Blaise Pascal
  F-60026 Beauvais, France
- Protective device: OECD-tested safety cab with integrated safety frame, approval no. CSS 4/0526, date of approval 4th June, 1998; mounted by antivibration silent blocks on tractor, not tiltable;
  2 doors and 4 steps each at the left and right, steps 490, 750, 1000, 1250 mm, driver's platform 1510 mm above ground, rear window, roof hatch and side windows to open;
  ventilation - heating - air conditioning unit incorporated in front part of roof,
  air intake filtered by paper element filters, to both sides of cab roof;
  air outlets in the roof; air conditioning

- Noise reduction materials:

Roof	cotton fleece and felt coating	8 mm
Steering column and instrument panel	moulded ABS	20 mm
Rear panel	moulded ABS	3 mm
	partially cotton fleece and felt coating	15 mm
Mudguards	moulded ABS	3 mm
	felt	20 mm
	adhesive foil	2 mm
Floor	rubber mat with alveoles	40 mm
	aluminium coated septum	5 mm
B-post	moulded cotton fleece and felt coating	8 mm

The front wall of cab is externally protected from the engine by an adhesive sheet of tar material covered with a foil of aluminium 7 mm

1.14 Seat

1.14.1 Driver's seat

- Make/Model:	KAB Seating / 856	
- Type:	Upholstered seat with back rest	
- Seat and steering wheel reversible:	No	
- Type of suspension:	Pneumatic suspension	
- Type of damping:	Hydraulic	
- Range of adjustment		
• Longitudinally:		150 mm
• Vertically:	above platform	580 to 740 mm
- Safety belt:	No	

1.14.2 Optional Driver's seat(s) No

1.14.3 Passenger seat No

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	15 x 95	248
Sidelights	2190	35 x 110	960
Rearlights	1885	70 x 55	853
Reflectors, 1st pair 2nd pair	1885 920	45 x 55 55 x 100	898 655

2. TEST CONDITIONS

2.1 Overall dimensions, unballasted

Length	Width (track widths as in 2.5)	Height at top of	
		protective structure	exhaust silencer pipe
mm	mm	mm	mm
5220	2518	3140	3110

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	4020	4030
Rear	5775	5840
Total	9795	9870

2.4 N.A.

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
radius index	745 mm	965 mm
Chosen track width:	1860 mm	1880 mm
Rims:	W 18 L x 28	DW 23A x 38

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	0.830 g/cm³

2.7 Oils and lubrication

2.7.1 Capacity and change interval

	Capacity dm³	Oil change h	Filter-change h
Engine	21	300	300
Gear box, rear axle, hydraulic system and steering	160	1000	500
Final drives at front	4		-

2.7.2 Specifications:

	Recommended	Used during test
Engine oil:		
Type	Engine oil	BP TRACTO MOTOR
Viscosity	20W-40	20W/40
Classification	API - CD	API - CD
Transmission oil:		
Used in gearbox, rear axle, hydraulic- and steering system		
Type	Engine oil	BP TERRAC EXTRA
Viscosity	10 W 40	10 W 40
Classification	MIL 2104 C	MIL 2104 C
used in front final drives		
Type	Gear oil	BP TERRAC TRANS
Viscosity	80 W 90	80 W 90
Classification	API GL5	API GL5

2.7.3 Grease Multi purpose grease

- number of lubrication points: 10

3 COMPULSORY TESTS

3.1 MAIN POWER TAKE OFF PERFORMANCE (1000 rev/min)

Date of tests: 8th April 1998

Location of tests: DLG-Testing Station Groß-Umstadt

Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power kW	Speed Engine rev/min	Speed P.t.o. rev/min	Fuel consumption hourly dm³/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/dm³
Maximum power						
3.1.1 At 2-hour test						
161,6	1900	909	47,02	38,94	241	3,44
3.1.2 At rated speed						
153,2	2200	1052	49,56	41,04	268	3,09
3.1.3 At standard p.t.o. speed						
158,3	2093	1001	48,78	40,39	255	3,24
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						
153,2	2200	1052	49,56	41,04	268	3,09
3.1.4.2 85% of the torque obtained in 3.1.4.1						
132,4	2237	1070	44,43	36,79	278	2,98
3.1.4.3 75% of the torque defined in 3.1.4.2						
100,5	2264	1083	36,55	30,26	301	2,75
3.1.4.4 50% of the torque defined in 3.1.4.2						
67,7	2285	1093	28,43	23,54	348	2,38
3.1.4.5 25% of the torque defined in 3.1.4.2						
34,2	2310	1105	20,57	17,03	498	1,66
3.1.4.6 unloaded						
-	2337	1118	13,40	11,10	-	-

Power kW	Speed Engine rev/min	Speed P.t.o. rev/min	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						
158,3	2093	1001	48,78	40,39	255	3,24
3.1.2 85% of the torque obtained in 3.1.5.1						
136,8	2130	1019	43,62	36,12	264	3,14
3.1.5.3 75% of the torque defined in 3.1.5.2						
103,8	2155	1031	35,22	29,16	281	2,95
3.1.5.4 50% of the torque defined in 3.1.5.2						
70,1	2170	1038	27,11	22,45	321	2,58
3.1.5.5 25% of the torque defined in 3.1.5.2						
35,5	2206	1055	19,15	15,86	446	1,85
3.1.5.6 unloaded						
-	2241	1072	11,79	9,77	-	-

No load maximum engine speed:	2337 rev/min
Equivalent flywheel torque at rated engine speed:	664 Nm
Equivalent flywheel torque at 2-hour test:	812 Nm
at engine speed:	1900 rev/min
Maximum equivalent flywheel torque:	963 Nm
at engine speed:	1400 rev/min

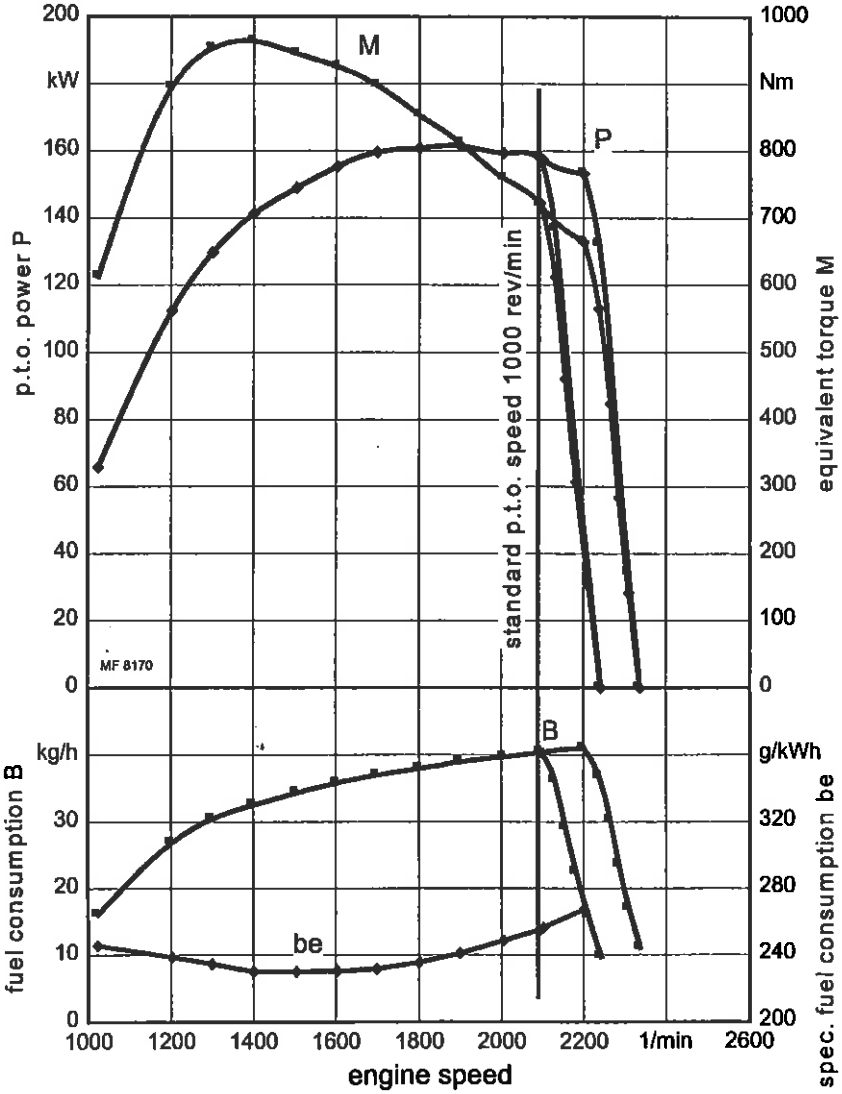
Mean atmospheric conditions

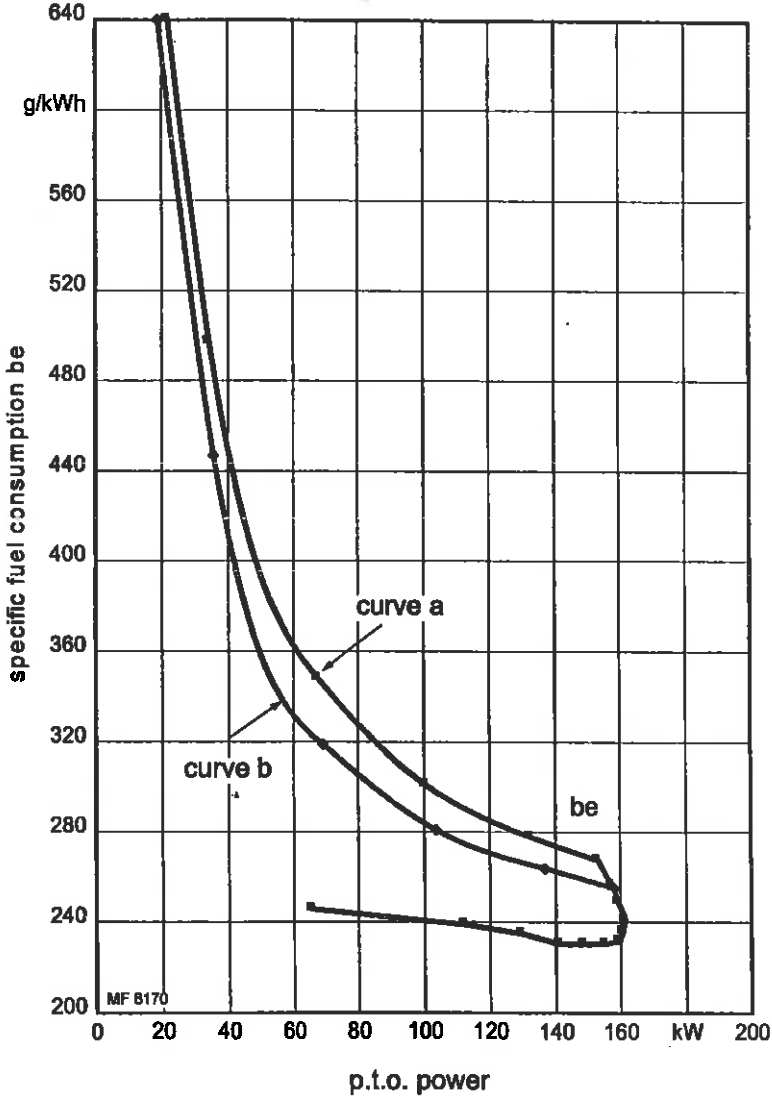
temperature:	24 °C
pressure:	995 hPa
relative humidity:	33 %

Maximum temperatures

coolant:	80 °C
oil:	108 °C
fuel:	55 °C
air intake:	24 °C

P.T.O. Test


M
P
B
be
MF 8170
p.t.o. power P
kW
standard p.t.o. speed 1000 rev/min
equivalent torque M
Nm
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
1000
800
700
600
500
400
300
200
100
0
30
10
320
280
240
1000
1200
1400
1600
1800
2000
2200
2600


640
g/kWh
560
520
480
440
400
360
320
280
240
200
specific fuel consumption be
curve a
curve b
be
MF 8170
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: 29th April and 14th May 1998

3.2.1 Hydraulic power test

- Sustained pressure with relief valve open 19.7 MPa
- Pump delivery rate at minimum pressure 122.5 dm³/min

	Hydraulic power kW	Flow rate dm³/min	Pressure MPa	Oil Temperature °C
At 90% of the actual relief valve setting	25.1	85.0	17.7	65
Maximum	29.35	106.7	16.5	65

- Tapping point used for test: At rear of tractor, connected to 2 additional control valves

3.2.2 Power lift test

	At the hitch points	On the frame
Height of lower hitch points above ground in down position	230 mm	
Vertical movement without lifting forces with lifting forces	735 mm 730 mm	850 mm 845 mm
Max. corrected force exerted through full range	83.25 kN	77.40 kN
Corresponding pressure	17.7 MPa	
Moment about rear axle		93.65 kNm
Max. tilt angle of mast from vertical		7°

Lifting heights relative to horizontal lower links											
mm	-480	-415	-300	-200	-100	0	100	200	300	315	365
Lifting forces at hitch points. Corrected to 17.7 Mpa											
kN		83.25	87.75	91.35	94.05	96.30	98.55	100.35	101.25	101.70	
Lifting forces at standard frame. corrected to 17.7 Mpa											
kN	79.2	80.1	81.0	82.35	82.8	82.8	82.35	81.45	79.65		77.4

Additional measurements with different rear power lift linkage adjustments to obtain maximum lifting forces:

	At the hitch points	
Height of lower hitch points above ground in down position	270 mm	485 mm
Vertical movement without lifting forces with lifting forces	695 mm 675 mm	645 mm 625 mm
Max. corrected force exerted through full range	90.00 kN	96.25 kN
Corresponding pressure	17.7 MPa	
Moment about rear axle	-	-
Max. tilt angle of mast from vertical	-	-

Lifting heights relative to horizontal lower links										
mm	-375	-300	-200	-160	-100	0	100	200	300	465
Lifting forces at hitch points (adjusted to 270 mm above ground in lowest position of lower links), corrected to 17.7 MPa										
kN	90.00	93.60	96.30		99.45	102.15	103.95	105.75	106.20	
Lifting forces at hitch points (adjusted to 485 mm above ground in lowest position of lower links), corrected to 17.7 MPa										
kN				96.25	100.35	106.50	110.50	114.65	117.20	118.75

3 DRAWBAR PERFORMANCE

- Date of test: 17th till 22nd April 1998
- Type of track:: Concrete

Gear number and range	Power	Drawbar pull	Speed	Engine speed	Slip of wheels and/or tracks	Specific fuel consumption
	kW	kN	Km/h	min^{-1}	%	g/kWh
3.3.1	MAXIMUM POWER IN TESTED GEARS (unballasted tractor)					
6	118.8	92.38	4.63	1954	11.3	332
7	125.2	84.42	5.34	1902	7.7	310
8	125.4	72.59	6.22	1902	5.5	311
9	129.6	65.80	7.09	1903	4.9	302
10	131.0	58.08	8.12	1901	4.1	299
11	127.3	49.40	9.28	1897	3.5	305
12	129.6	43.80	10.65	1900	3.0	300
13	129.1	38.51	12.07	1896	2.4	302
14	125.5	32.67	13.83	1903	2.4	309
3.3.2	FUEL CONSUMPTION					
3.3.2.1	in selected gear, at maximum power at rated speed					
10	123.1	46.71	9.49	2199	3.1	336
3.2.2.1.1	75 % of pull at maximum power at rated speed					
10	95.4	35.11	9.78	2243	2.1	367
3.2.2.1.2	50 % of pull at maximum power at rated speed					
10	64.8	23.38	9.97	2269	1.5	434
3.3.2.1.3	next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.1.1					
11	95.2	34.97	9.80	1981	2.4	327
3.3.2.1.4	next higher gear at reduced engine speed; same pull and travelling speed as in 3.3:2.1.2					
11	65.1	23.36	10.04	2010	1.6	376
3.3.2.2	in selected gear nearest to 7.50 km/h at rated speed					
8	118.6	58.41	7.31	2203	4.0	347
3.2.2.2.1	75 % of pull at maximum power at rated speed					
8	91.8	43.79	7.55	2247	2.8	374
3.2.2.2.2	50 % of pull at maximum power at rated speed					
8	62.8	29.22	7.74	2275	1.7	428
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	91.9	43.76	7.56	1991	3.1	328
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	62.9	29.19	7.76	2021	2.0	372

	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
2.50	65	84	111	21	65	96.9
2.68	66	86	111	22	65	96.9
2.67	63	82	108	20	65	96.9
2.75	62	80	107	25	65	96.9
2.78	60	79	106	28	65	96.9
2.72	65	84	107	27	45	100.1
2.77	65	83	107	24	45	100.1
2.75	65	79	107	27	45	100.1
2.68	66	82	107	27	45	100.1
2.47	64	83	109	28	55	100.1
2.26	66	79	109	30	55	100.1
1.91	65	74	107	27	55	100.1
2.54	65	78	107	25	45	100.1
2.21	65	75	105	24	45	100.1
2.39	65	85	110	21	65	100.1
2.22	65	81	110	19	65	100.1
1.94	65	76	108	23	65	100.1
2.53	63	76	104	26	55	100.1
2.23	64	74	103	27	55	100.1

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

Dip.-Ing. Manfred Lober

Deutsche Landwirtschafts-Gesellschaft

Test carried out by

Dipl.-Ing. Heinz Röthemeyer

Date: 23 Dec 1998



Deutsche Landwirtschafts-Gesellschaft e.V.
Prüfstelle für Landmaschinen
Max-Eyth-Weg 1, D-64823 Groß-Umstadt
Telefon: 0 60 78 / 96 35 0 Fax: 0 60 78 / 96 35 90
E-mail: Tech@DLG-Frankfurt.de, Internet: www.DLG-Frankfurt.de