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

Restricted Code

OECD No. 1524/1
1524/2



Agricultural Tractor
JOHN DEERE 6300 FWD (NA) POWRQUAD (4WD)

Agricultural Tractor
JOHN DEERE 6300 FWD (NA) SYNCHRO-PLUS (4WD)

Manufacturer

John Deere Werke Mannheim
D-68008 Mannheim

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This is a report on a tractor test in accordance with OECD STANDARD CODE for the Official Testing of Agricultural Tractor Performance (C(87)53(Final), CODE II) and amendments (C(90)79, C(92)52, C(93)52).

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

Duration of tests: January till June 1994

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: 30th August 1994

		OECD No. Restricted Code
JOHN DEERE 6300 FWD (NA) POWRQUAD	(4WD)	1524/1
JOHN DEERE 6300 FWD (NA) SYNCHRO-PLUS	(4WD)	1524/2

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/cm²
	100	kPa	=	1000	mbar	=	750,10 mm Hg

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Printed in Germany,
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PRELIMINARY REMARK

The agricultural tractor JOHN DEERE 6300 (FWD) NA is offered with 2 different transmission systems:

SYNCHRO-PLUS gearbox	POWRQUAD gearbox
12 F/4 R	16 F/12 R

Both versions are otherwise identical.

During the 1st part of test the tractor was fitted with the SYNCHRO-PLUS gearbox (12 F/4 R). Without any modification of engine adjustment, the POWRQUAD gearbox (16 F/12 R) was installed then for further measurements in place of SYNCHRO-PLUS gearbox (12F/4 R).

The measurements main power take-off performance,
drawbar power and fuel consumption
and noise in the protective structure
were repeated with the POWRQUAD gearbox (16 F/12 R) fitted on the tractor.

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Tractor manufacturer:	JOHN DEERE D-68008 Mannheim
Location of tractor assembly:	D-68008 Mannheim, Germany
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Mannheim and Groß-Umstadt
Duration of running-in:	Engine 100 hours, tractor 60 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	JOHN DEERE
Trade name:	6300 (FWD) NA variation SYNCHROPLUS respectively variation POWRQUAD
Type:	Wheel tractor in full frame design, four wheel driven
Serial no.:	1000 38
1st serial no.:	100 001

Engine

Make:	JOHN DEERE
Model:	4039 TL 007
Type:	Watercooled 4-stroke Diesel-engine (antivibration mounted), direct injection, supercharged
Serial no.:	10 19 67
Cylinders:	4, in line, bore 106,5 mm, stroke 110 mm, displacement 3920 cm^3; compression ratio 17,2 ± 0,5:1; replaceable, wet cylinder liners
Valves:	Overhead

Supercharging

Make:	GARRETT
Model:	T 300 exhaust turbo-supercharger
Max. pressure:	66 ± 5 kPa

Fuel system:	VDO electrical fuel supply pump; LUCAS-CAV distributor injection pump RE 51 743, serial no.: 00488 ALG; manufacturer's production setting 60 + 5 mm³/stroke at full load and rated speed; automatic injection timing device, injection timing 15 + 15 degrees before TDC; STANADYNE multihole injection nozzles 28485; injection pressure 24,5 MPa ± 0,5 MPa; replaceable fuel filter; capacity of fuel tank 160 dm³
Governor:	LUCAS-CAV centrifugal variable speed governor, without supercharge pressure compensating device, governed range of engine speed 800 + 50 to 2460 ± 50 rev/min, rated engine speed 2300 rev/min
Air cleaner:	MANN dry paper element filter with integrated cyclone type precleaner, replaceable cartridge; electric warning indicator lamp; air intake below hood
Exhaust silencer:	ROTH, AL 78267 single-chamber absorption type, 160x275 mm oval, 200 mm long, on the left above the engine, below hood; vertical stack, on the right of corner post of cab, mouth showing upwards, forward, 2701 mm above ground
Lubrication system:	Pressure lubricated by gear pump; oil filter in full flow with replaceable cartridge, engine oil/cooling-water heat exchanger between oil filter and socket
Cooling system:	Water cooling with impeller pump, overpressure relief valve set to 70 + 20 kPa; thermostat and by-pass circuit; EATON model 610 viscous drive fan, belt driven, variable fan speed controlled by air flow temperature; 7 blades with 550 mm dia; water capacity 17,5 dm³
Starting system:	Electrical; BOSCH solenoid pre-engaged drive starter motor 3,0 kW; cold starting aid: BERU heating spiral in air intake manifold; safety device: range gear in neutral position
Electrical system:	12 Volt, negative earth; BOSCH 3-phase alternator K1-14V30/85A 1190 W; 1 lead acid battery, 110 Ah at 20 hours rating

Transmission	Universally-jointed propeller shaft between engine and gearbox
Clutch (travel alone):	JOHN DEERE, wet multi-plate, 225 mm dia, mechanically actuated by pedal, additionally assisted by low pressure hydraulic circuit
Gearbox:	JOHN DEERE SYNCHRO-PLUS 12 F/4 R synchronized speed change gear with 3 forward speeds and 1 reverse speed, synchronized range gear with 4 ranges (A to D) total 12 forward and 4 reverse speeds POWRQUAD 16 F/12 R power shifted speed change gear with 4 speeds, power shifted forward-reverse direction, synchronized range gear with 4 ranges (A to D) range D locked in reverse, total 16 forward, 12 reverse speeds 2 levers, forced fed lubrication, oil cooler in front of engine water cooler
Rear axle and final drives:	JOHN DEERE bevel gear drive, bevel gear differential; multi-plate differential lock, under load engageable by foot switch and low pressure hydraulic circuit, disengagement by brake pedals; planetary final drives
Front axle and final drives:	ZF APL 2035 driven by wet multi-plate clutch, propeller shaft (in tractor's median plane) and bevel gear; clutch electro-hydraulically operated by toggle switch through low pressure hydraulic circuit; bevel gear differential with automatic limited slip type lock; planetary final drives

Number of revolutions of front wheels for one revolution of rear wheels: 1,3828

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Total ratios and speeds

SYNCHRO-PLUS gearbox (12 F/4 R)

Range	Gear	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed 2300 rev/min *) km/h	miles/hr
Forward speeds				
A	1	302,27	2,28	1,42
	2	215,98	3,19	1,98
	3	163,60	4,21	2,62
B	1	150,54	4,58	2,85
	2	107,56	6,41	3,98
	3	81,48	8,46	5,26
C	1	92,33	7,47	4,64
	2	65,97	10,45	6,49
	3	49,97	13,79	8,57
D	1	42,94	16,05	9,98
	2	30,68	22,47	13,96
	3	23,24	29,66	18,43
Reserve speeds				
A	R	247,31	2,79	1,73
B	R	123,17	5,60	3,48
C	R	75,54	9,13	5,67
D	R	35,14	19,62	12,19

*) calculated with the radius index (ISO 4251/1-1984) 795 mm
1 mile (US) = 1.609 km

POWRQUAD gearbox (16 F/12 R)

Range	Gear	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed 2300 rev/min *) km/h	miles/hr
Forward speeds				
A	1	289,04	2,38	1,48
	2	239,88	2,87	1,79
	3	200,41	3,44	2,14
	4	163,60	4,21	2,62
B	1	143,95	4,79	2,98
	2	119,46	5,77	3,59
	3	99,81	6,91	4,29
	4	81,47	8,46	5,26
C	1	88,29	7,81	4,85
	2	73,27	9,41	5,85
	3	61,22	11,26	7,00
	4	49,97	13,79	8,57
D	1	41,06	16,79	10,43
	2	34,08	20,23	12,57
	3	28,47	24,21	15,05
	4	23,24	29,66	18,43
Reserve speeds				
A	R	243,71	2,83	1,76
		202,26	3,41	2,12
		168,98	4,08	2,54
		137,94	5,00	3,11
B	R	121,37	5,68	3,53
		100,73	6,84	4,25
		84,16	8,19	5,09
		68,70	10,03	6,24
C	R	74,44	9,26	5,76
		61,78	11,16	6,93
		51,62	13,35	8,30
		42,13	16,36	10,17

*) calculated with the radius index (ISO 4251/1-1984) 795 mm
1 mile (US) = 1,609 km

Main p.t.o.: Independent;
driven by wet multi-plate clutch with
197 mm dia; electro-hydraulically operated
by rotary switch through control valve,
response of valve automatically controlled;
1 shaft at tractor's rear, 2 p.t.o. speeds selectable by
reversing the shaft;
35 mm dia, 6 splines, ISO 500-1979 type 1
and
35 mm dia, 21 splines, ISO 500-1979 type 2

715 mm above ground, 530 mm behind rear wheel centre,
in tractor's median plane;
direction of rotation clockwise (seen from tractor's rear)

p.t.o. type	p.t.o. speed rev/min	engine speed rev/min	p.t.o. transmission ratio	Power restriction kW
1	540 580	2143 2300	3.9681	-
2	1000 1042	2208 2300	2.2083	-

Power lift

JOHN DEERE;
electronic-hydraulic power lift, with external lift cylinders;
draft-, position- and mixed control, floating position, raise limit, fast raising and lowering, rate of drop control, electronic lower link sensing.

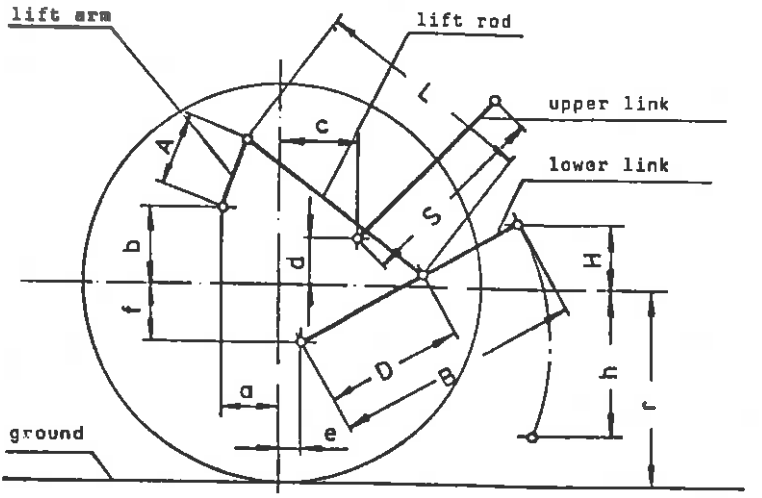
Hydraulic system:

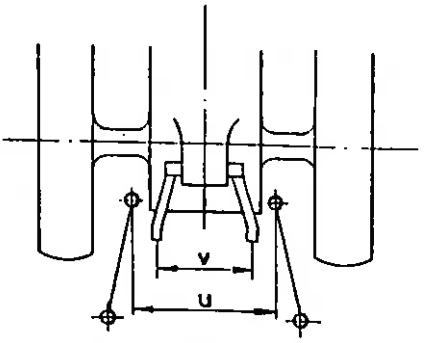
Load sensing, pressure and flow compensated system;
VICKERS variable displacement axial-piston pump, driven by gear box, independent of travel clutch, max. delivery 60 dm³/min at rated engine speed (optionally available pump with 96 dm³/min), oil filter in feed line,
cooler see page -6-, gear box;

JOHN DEERE control valve, no separate linkage lock for transport;
pressure limitating valve set to 20 ± 0,5 MPa;
2 single acting cylinders with 70 mm bore and 175 mm stroke, safety valve set to 21,5 ± 0,7 MPa;
2 double acting additional HUSCO series 300 control valves,
4 oil couplers at rear of tractor;
maximum volume of oil, available to external cylinders :
15 dm³ stationary or during driving operation;
if required 10 dm³ oil may be added,
then max. available volume increases correspondingly;
oil reservoir in common with gear box

the hydraulic system further delivers a high pressure circuit to actuate steering and by
a separate pump low pressure circuit for transmission lubrication and for actuating of:
Drive clutch, p.t.o. clutch and p.t.o. brake, power shift (if fitted), differential lock and front wheel drive clutch

Three-point linkage: Category 2 acc. to ISO 730/1-1990, with telescopic lower links





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Dimensions of rear implement linkage (projected lengths in mm, underlined dimensions are valid for power lift measurements p. 29)

Rear tyres 16.9 - 38	*) radius index	(r)	795
Front tyres 14.9 - 24	*) radius index	(r')	590
Length of lift arms		(A)	305
Length of lower links		(B)	945
Distance of lift arm pivot points from rear axle centre	horizontal	(a)	-170
	vertical	(b)	475
Horizontal distance between lower link pivot points		(u)	478
Horizontal distance between lift arm end points		(v)	535
Length of upper link		(S)	530 to 725, 660
Distance of upper link pivot point from rear wheel axis	horizontal	(c)	452, 442, 432
	vertical	(d)	173, 243, 313
Distance of lower link pivot point from rear wheel axis	horizontal	(e)	135
	vertical	(f)	225
Distance of lower link pivot points from lift rod pivot points on lower links		(D)	503
Length of lift rods		(L)	705 to 865, 785

Height of lower link hitch points relative to rear wheel axis (situated 795 mm above ground), these data are valid for unloaded power lift:

Length of lift rods	(L)	705	785	865
Linkage distance of lift rods	(D)		503	
Lowest position	(h)	416	595	820
Highest position	(H)	225	77	-58
Transport position	(H')	225	77	-58

*) Assuming r resp. r'= tyre dynamic radius index of ISO 4251/1-1984

Pull equipment

Swinging drawbar:	Longitudinally adjustable	
	height above ground	451 mm
	distance of hitch point	
	from rear wheel axis,	
	horizontally:	780, 880, 930, 1080 mm
	from p.t.o. shaft end	
	vertically:	264 mm
	horizontally:	250, 350, 400,550 mm
	centre of clevis swingable to both sides,	
	with drawbar fully pushed in:	187 mm
	with drawbar fully drawn out:	259 mm
	distance of pivot point from	
	rear wheel axis, horizontally	0 mm
	diameter of drawbar pin hole:	33 mm
	maximum vertical permissible	
	load (drawbar fully pushed in):	2250 kg
Holed drawbar:	Short bar;	
	length between ball guides	825 mm
	9 holes, 33 mm dia with 80 mm distance each,	
	thickness/width of the drawbar	25/80 mm
	height above ground: minimum	0 mm
	maximum	1020 mm
	horizontal distance to p.t.o.	
	shaft end (lower links in horizontal	
	position)	550 mm
Towing hitch:	At front, height above ground	875 mm

Steering

DANFOSS, OSPC 160 LS
hydrostatic steering, connected to
hydraulic circuit; 1 integrated cylinder of
symmetrical design; 114 mm stroke, 70 mm bore,
36 mm piston rod, acting on steering levers,
working pressure 18,5 MPa

Brakes

Service brake:	JOHN DEERE self-adjusting pedal operated muscle power brake, hydraulically actuated with transmission oil, acting on rear wheels, front axle drive is automatically engaged during braking; oil-immersed di- brake with 1 ring-piston on each differential half shaft, disc diameter 313 mm
Trailer brake:	None
Parking brake:	Park lock, operated by gear shift lever
Steering brake:	Divided pedal of service brake, for normal use locked together

Wheels

Front:	Steering and driving, 2 pneumatics
Rear:	Driving, 2 pneumatics
Wheel base:	2400 mm
Track width:	At front from 1516 up to 2016 mm adjustable in steps of 100 mm by adjustable gauge bowl wheels at rear from 1612 up to 1912 mm adjustable in steps of 100 mm by adjustable gauge bowl wheels; with spacers adjustable to 2012 mm

Possible combinations of tyres sizes rear/front

Type of tyres: Diagonal-ply = (D)
radial-ply = (R)

Rear		Front	
16.9 - 24	(D)	10.5/80 - 18	(D)
18.4 - 26	(D)	10.5/80 - 18	(D)
16.9 - 30	(D/R)	12.4 - 24 14.9 R 20	(D/R) (R)
18.4 - 30	(D/R)	12.4 -24	(D/R)
13.6 - 38	(D/R)	13.6 - 24 11.2 - 28	(D/R) (D/R)
15.5 - 38	(D/R)	13.6 - 24 380/70 R 24	(D/R) (R)
16.9 - 34	(D/R)	12.4 - 24 13.6 - 24 11.2 - 28 380/70R24	(D) (D/R) (D) (R)
23.1 - 26	(D)	13.6 - 24	(D)
12.4 - 42	(D)	11.2 - 28	(D)
18.4 - 34	(D/R)	14.9 - 24 13.6 R 24 420/70R24	(D/R) (R) (R)
16.9 - 38	(D/R)	14.9 - 24 12.4 R 28 13.6 - 28 420/70 R 24	(D/R) (R) (D/R) (R)
480/70 R 34	(R)	13.6 R 24 380/70 R 24 420/70 R 24	(R) (R) (R)
14.9 R 38	(R)	11.2 R 28 12.4 R 28 14.9 R 24	(R) (R) (R)
520/70 R 34	(R)	14.9 R 24 420/70 R 24	(R) (R)
480/70 R 38	(R)	14.9 R 24 420/70 R 24	(R) (R)

This is the list of the most popular tyres combinations.
More combinations are available.

Protective structure

JOHN DEERE, cab model SG 048;
OECD-tested safety cab with integrated safety frame RG 017;
by separate device tiltable to the side; mounted with antivibration silent-blocks on tractor;
OECD approval no. CSS 0201/4

2 doors and 2 steps each,
steps 565 and 865 mm,
driver's platform 1120 mm above ground,
rear window and side windows to open;

combined heating/ventilation system with 4-step blower and cooling-water heat exchanger below cab's floor:
air intake at left and right above side windows,
2 dry air filters;

air outlet jets and defroster louvers in the steering console,
2 recirculation louvers behind the seat

air conditioner standard, installed under seat in cab floor

Noise reduction materials:

Roof,		
head liner	foam with perforated vinyl-coating plus self-supporting foam substrate	23 mm
Mudguards and uprights	foam with vinyl-coating plus substrate	6 mm
Floor	molded rubber mat	30 mm
Seat support	molded rubber mat	8 mm
Rear wall (pump cover)	composite material and sound barrier	9 mm

Driver's seat

GRAMMER DS 85 H1/90 A
upholstered seat with back rest and arm rests, mechanical weight adjustment, hydraulic shock absorber, horizontal suspension, seat rotatable to both sides up to 20°, additionally turnable to the left hand side 180°;

height of unloaded seat above platform adjustable in 3 steps from 485 to 565 mm,
horizontal adjustment 180 mm

Operating hours meter

Electronic, counts real operating hours when engine is running

Lighting

Electrical, 12 Volt, acc. to US legislation

	Height above ground of centre mm	Size mm	Distance from outside edge of lights to median plane of tractor mm
Headlights	1270	162x101	223
Auxiliary lights	1653	135x80	590
Rearlights	1777	210x48	884

additional SMV sign

TEST CONDITIONS

Overall dimensions

	Length mm	Width mm	Height at top of protective structure mm	Height at top of exhaust silencer mm
Unballasted	4167	216	2675	2670

Ground clearance : 470 mm

Clearance-limiting part: Swinging drawbar

Tractor mass (with cab)

	with SYNCHRO-PLUS transmission		with POWRQUAD transmission	
	without driver kg	with driver kg	without driver kg	with driver kg
front	1545	1555	1570	1580
rear	2670	2735	2730	2795
total	4215	4290	4300	4375

Tyres and track widths specifications

	Front	Rear
Tyres:	GOODYEAR	GOODYEAR
dimensions	14.9 - 24	16.9 - 38
ply rating	8	8
type	diagonal-ply	diagonal-ply
maximum load (tyre manufacturer's) 30 km/h	17,6 kN	25,2 kN
inflation pressure (tyre manufacturer's)	180 kPa	170 kPa
radius index	590 mm	795 mm
Chosen track width:	1716 mm	1712 mm
Rims:	W12x24	DW 14x38
Technically permissible axle load	30,0 kN	60,0 kN
Technically permissible total weight:	75,0 kN	

Oils and lubrication

Capacity and change interval:

	Capacity dm³	Oil change h	Filter-change h
Engine	12	250	
Gear box, rear axle and final drives, hydraulic system, steering, brake system	52 SynchroPlus 49 PowrQuad	1500	750
Front axle final drives	6,5 2 x 1,0	1500	-

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Specification:

	Recommended	Used during test
Engine oil:		
Type	Engine oil	FUCHS TITAN
Viscosity		SAE 10W/40
Winter	SAE 10W/40	
Summer	SAE 15W/40	
Tropics	SAE 20W/40	
Classification	API CD-SE or MIL-L-2104 C	API CD-SE MIL-L-2104 C
Transmission oil: Used in gearbox, rear axle and rear final drives, hydraulic system, steering, brake system		
Type	Transmission oil	JOHN DEERE HY-GARD
Viscosity	SAE 75	SAE 75
Classification	JD spezif. J 20 C	JD spezif. J 20 C
used in front axle and front final drives		
Type	Transmission oil	FUCHS RENOGEAR
Viscosity	SAE 80W/90	SAE 80W/90
Classification	API GL-5	API GL-5

Grease: Multi purpose grease
number of lubrication points 22

Fuel

Type: ARAL-Diesel-fuel, in conformity with DIN 51601

Density at 15°C:

SYNCHRO PLUS	PTO-tests	0,821 g/cm³
	Drawbar Tests	0,828 g/cm³
POWRQUAD	PTO-tests	0,829 g/cm³
	Drawbar tests	0,851 g/cm³

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COMPULSORY TESTS

Tractor equipment with SYNCHRO-PLUS transmission

1. MAIN POWER TAKE OFF PERFORMANCE (1000 rev/min)

Date of tests: 17th January 1994
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 l/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power						
1.1 At 2-hour test						
59,5	2100	951	16,81	13,80	232	3,54
1.2 At rated speed						
57,9	2300	1042	16,86	13,85	239	3,43
1.3 At standard p.t.o. speed						
59,3	2208	1000	17,00	13,95	235	3,49
1.4 Part loads, the governor hand lever in the position corresponding to maximum power at full load (curve a)						
1.4.1 the torque corresponding to maximum power at rated speed						
57,9	2300	1042	16,86	13,85	239	3,43
1.4.2 85% of the torque obtained in 1.4.1						
50,4	2358	1068	15,44	12,68	251	3,27
1.4.3 75% of the torque defined in 1.4.2						
38,5	2390	1082	12,87	10,56	275	2,99
1.4.4 50% of the torque defined in 1.4.2						
25,7	2406	1090	10,40	8,53	332	2,47
1.4.5 25% of the torque defined in 1.4.2						
13,1	2419	1096	7,85	6,44	493	1,66
1.4.6 unloaded						
-	2443	1106	5,34	4,39	-	-

Power	Speed		Fuel consumption			Specific
	Engine	P.t.o.	hourly		specific	energy
kW	rev/min	rev/min	l/h	kg/h	g/kWh	kWh/l
1.5 Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load (curve b)						
1.5.1 the torque corresponding to maximum power						
59,3	2208	1000	17,00	13,95	235	3,49
1.5.2 85% of the torque obtained in 1.5.1						
51,4	2251	1020	15,29	12,55	244	3,36
1.5.3 75% of the torque defined in 1.5.2						
39,1	2282	1033	12,60	10,34	265	3,10
1.5.4 50% of the torque defined in 1.5.2						
26,4	2309	1046	10,12	8,31	315	2,60
1.5.5 25% of the torque defined in 1.5.2						
13,3	2325	1053	7,45	6,12	460	1,79
1.5.6 unloaded						
-	2357	1068	4,89	4,01	-	-

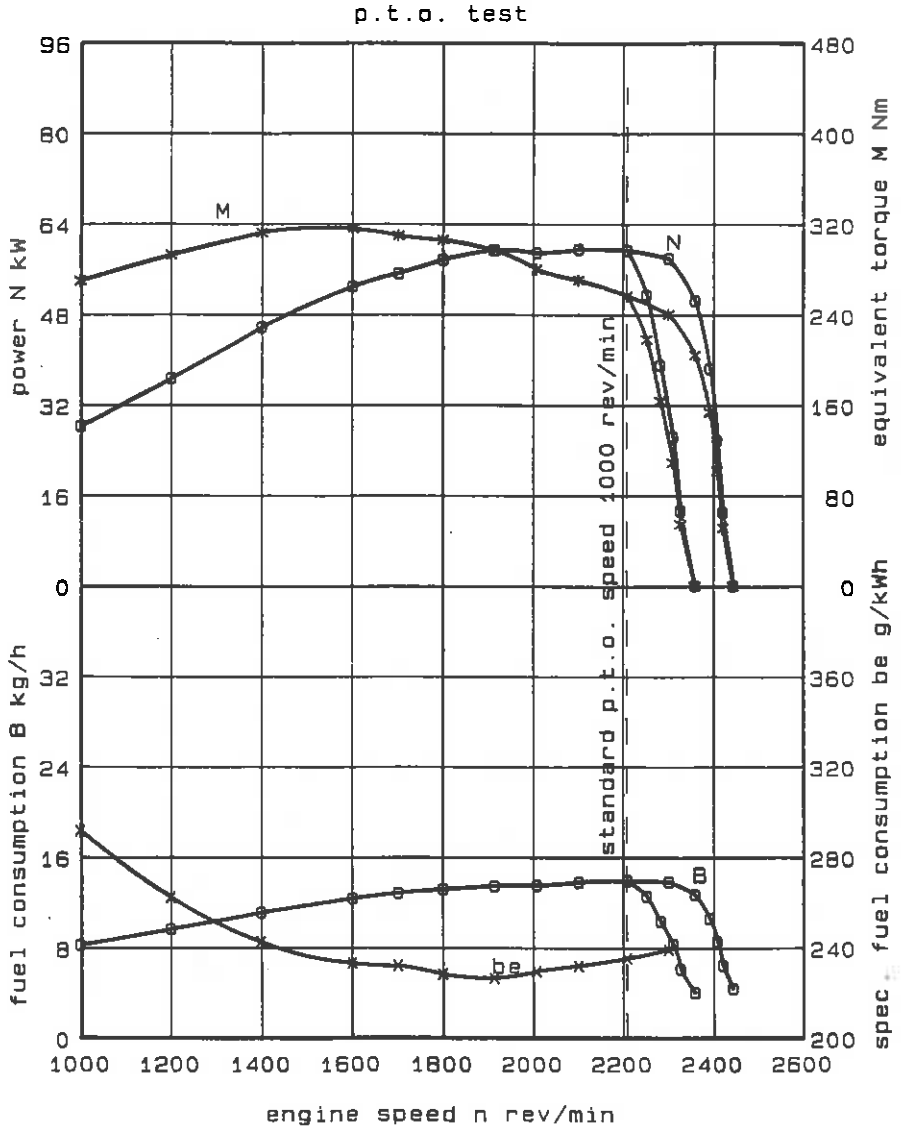
No load maximum engine speed: 2443 rev/min
Equivalent flywheel torque at rated engine speed: 240 Nm
Equivalent flywheel torque at 2-hour test: 271 Nm
Maximum equivalent flywheel torque: 316 Nm at 1599 rev/min of the engine

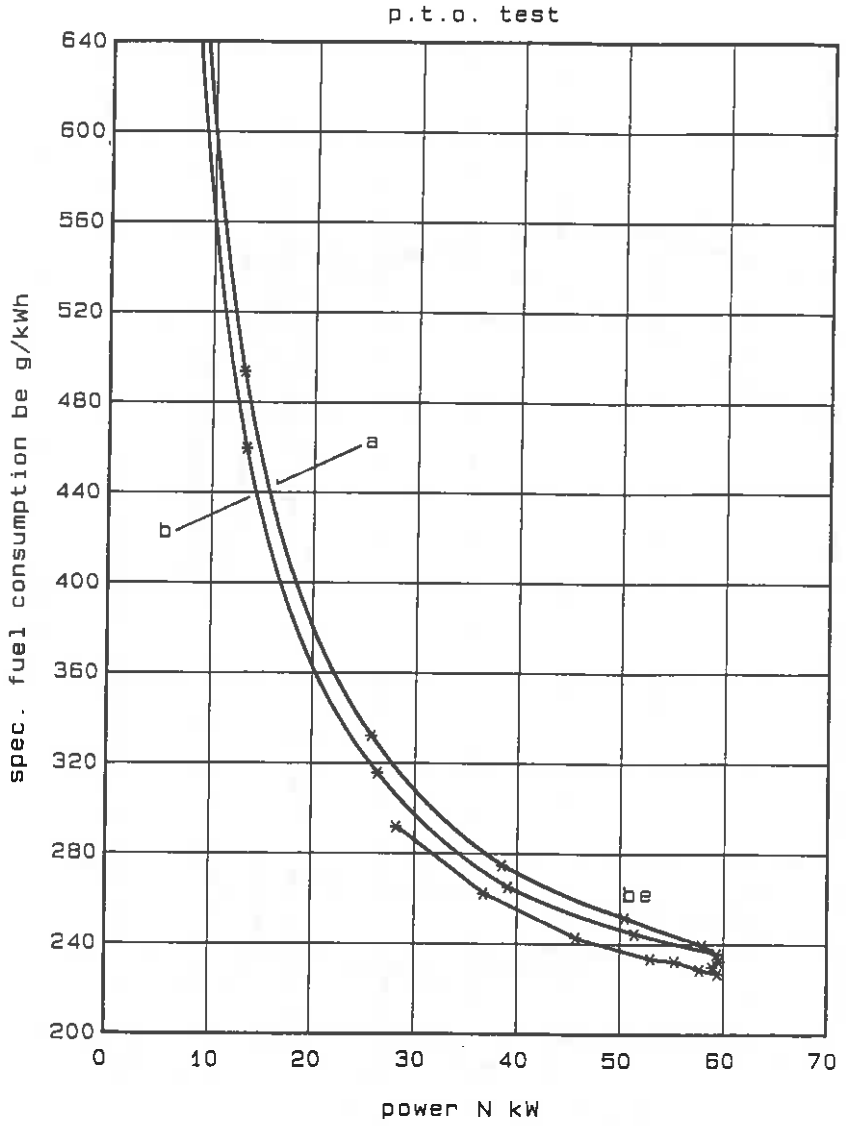
Mean atmospheric conditions

temperature	20 °C
pressure	100 kPa
rel. humidity	25 %

Maximum temperatures

coolant	85 °C
oil	117 °C
fuel	23 °C
air intake	21 °C


p.t.o. test
power N kW
equivalent torque M Nm
fuel consumption B kg/h
spec. fuel consumption be g/kWh
standard p.t.o. speed 1000 rev/min
engine speed n rev/min
M
N
B
be
96
80
64
48
32
16
0
480
400
320
240
160
80
0
32
24
16
8
0
360
320
280
240
200
1000
1200
1400
1600
1800
2000
2200
2400
2600


p.t.o. test
spec. fuel consumption be g/kWh
640
600
560
520
480
440
400
360
320
280
240
200
0
10
20
30
40
50
60
70
power N kW
a
b
be

Tractor equipment with POWRQUAD transmission

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

Date of tests: 1st June 1994
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 l/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power						
2.1 At 2-hour test						
57,8	2208	1000	16,87	13,99	242	3,43
2.2 At rated speed						
56,7	2300	1042	16,83	13,95	246	3,37
2.3 At standard p.t.o. speed						
57,8	2208	1000	16,87	13,99	242	3,43
2.4 Part loads, the governor hand lever in the position corresponding to maximum power at full load (curve a)						
2.4.1 the torque corresponding to maximum power at rated speed						
56,7	2300	1042	16,83	13,95	246	3,37
2.4.2 85% of the torque obtained in 2.4.1						
49,2	2355	1067	15,38	12,75	259	3,20
2.4.3 75% of the torque defined in 2.4.2						
37,6	2385	1080	12,96	10,74	285	2,90
2.4.4 50% of the torque defined in 2.4.2						
25,3	2406	1089	10,61	8,80	347	2,39
2.4.5 25% of the torque defined in 2.4.2						
12,7	2416	1094	8,12	6,73	530	1,56
2.4.6 unloaded						
-	2440	1105	5,56	4,61	-	-

Power kW	Speed Engine rev/min	Speed P.t.o. rev/min	Fuel consumption hourly l/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
2.5 Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load (curve b)						
2.5.1 the torque corresponding to maximum power						
57,8	2208	1000	16,87	13,99	242	3,43
2.5.2 85% of the torque obtained in 2.5.1						
50,1	2242	1015	15,14	12,55	250	3,31
2.5.3 75% of the torque defined in 2.5.2						
37,8	2275	1030	12,52	10,38	274	3,02
2.5.4 50% of the torque defined in 2.5.2						
25,5	2304	1043	10,15	8,42	330	2,52
2.5.5 25% of the torque defined in 2.5.2						
12,9	2318	1050	7,67	6,36	493	1,68
2.5.6 unloaded						
-	2349	1064	5,17	4,29	-	-

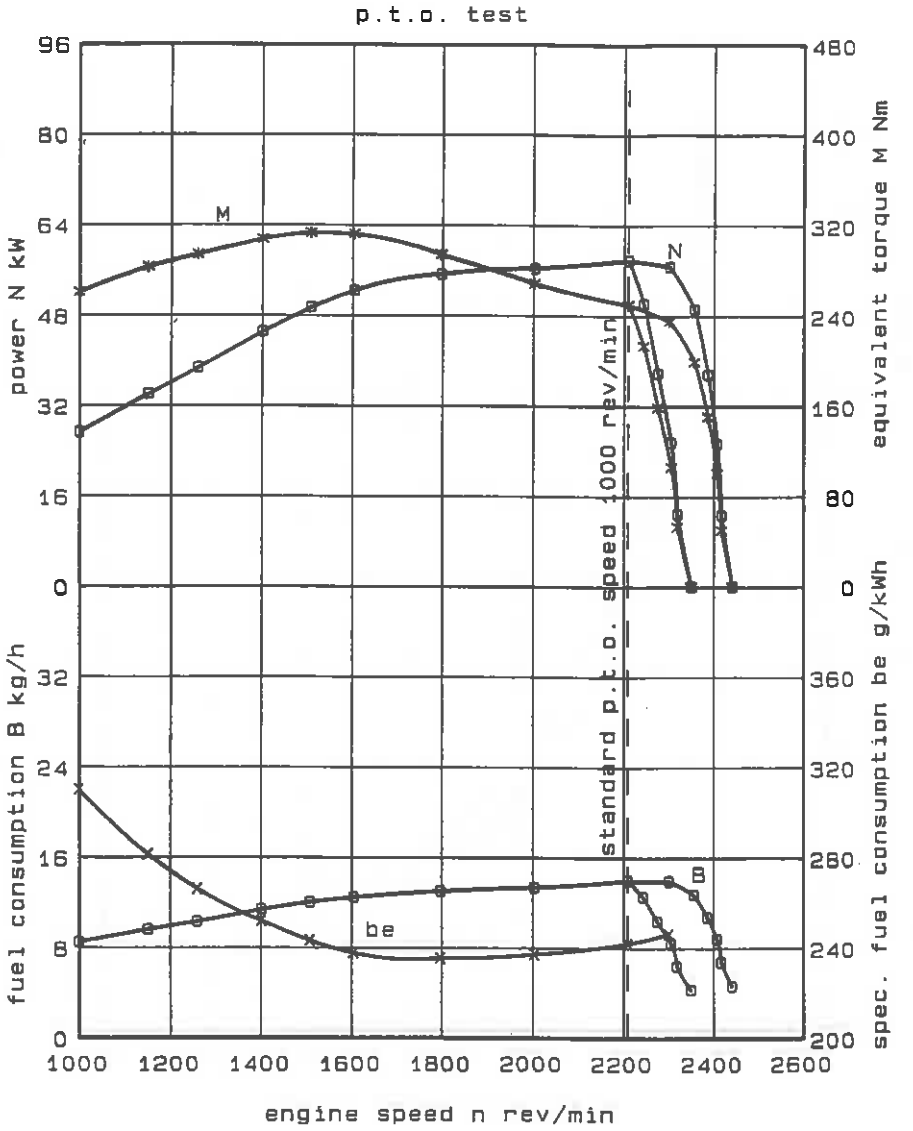
No load maximum engine speed: 2440 rev/min
Equivalent flywheel torque at rated engine speed: 235 Nm
Equivalent flywheel torque at 2-hour test: 250 Nm
Maximum equivalent flywheel torque: 313 Nm at 1507 rev/min of the engine

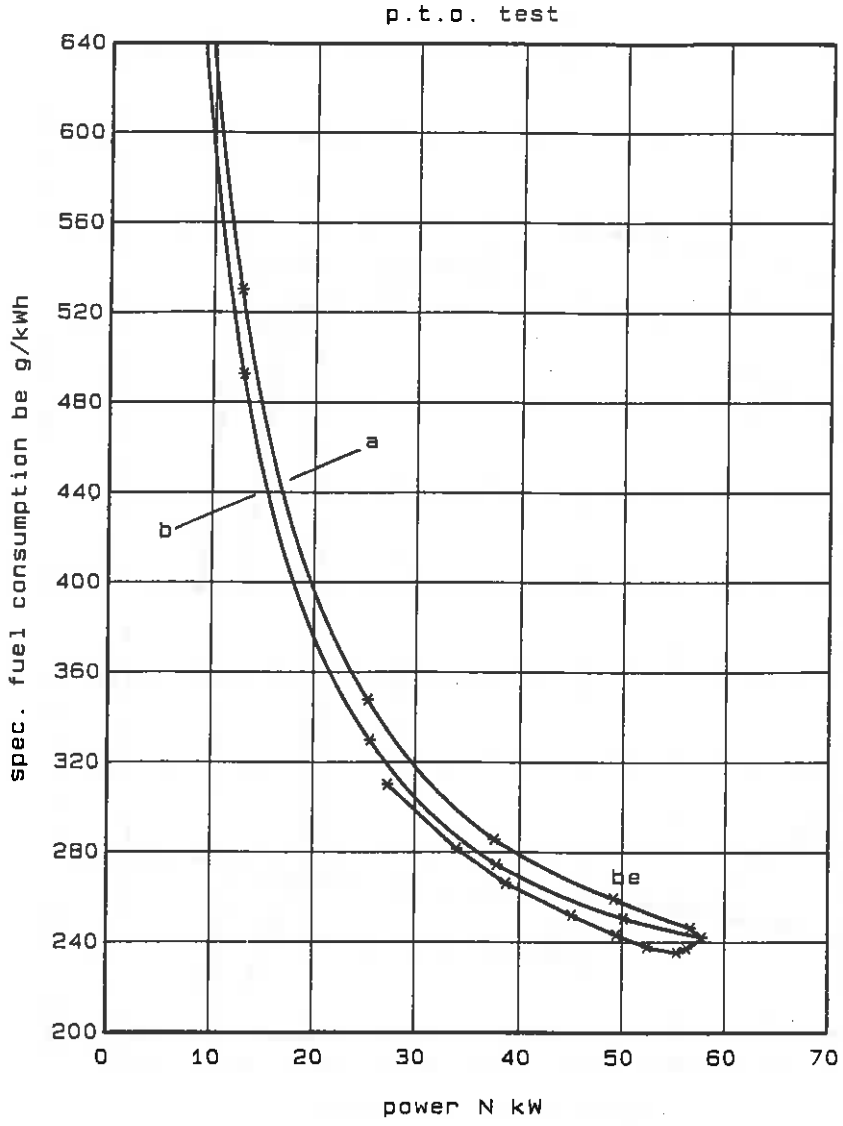
Mean atmospheric conditions

temperature	21 °C
pressure	100 kPa
rel. humidity	38 %

Maximum temperatures

coolant	86 °C
oil	117 °C
fuel	30 °C
air intake	24 °C


p.t.o. test
power N kW
equivalent torque M Nm
fuel consumption B kg/h
spec. fuel consumption be g/kWh
standard p.t.o. speed 1000 rev/min
engine speed n rev/min
M
N
B
be
96
80
64
48
32
16
0
480
400
320
240
160
80
0
32
24
16
8
0
360
320
280
240
200
1000
1200
1400
1600
1800
2000
2200
2400
2600


p.t.o. test
spec. fuel consumption be g/kWh
640
600
560
520
480
440
400
360
320
280
240
200
0
10
20
30
40
50
60
70
power N kW
a
b
be

The measurements below are valid for both transmission variations.

3 HYDRAULIC POWER AND LIFTING FORCE

Date of tests: 10th June 1994

3.1 Hydraulic power test

Sustained pressure with relief valve open 19,5 MPa
Pump delivery rate at minimum pressure 68,2 l/min

	Hydraulic power kW	Flow rate l/min	Pressure MPa	Oil temperature °C
At 90% of the actual relief valve setting	13,4	45,9	17,6	65
Maximum	18,1	63,8	17,0	65

Tapping point used for test: at rear of tractor, connected with additional control valve no.2

3.2 Power lift test

	At the hitch points	On the frame
Height of lower hitch points above ground in down position	200 mm	
Vertical movement without lifting forces with lifting forces	672 mm 655 mm	890 mm 855 mm
Max. corrected force exerted through full range	24,9 kN	21,8 kN
Corresponding pressure	17,6 MPa	
Moment about rear axle	-	36,8 kNm
Max. tilt angle of mast from vertical		13°

Lifting heights relative to horizontal lower links												
mm	-455	-400	-370	-300	-200	-100	0	-100	+200	+285	+300	+400
Lifting forces at hitch points, corrected to 17,6 MPa												
kN			24,9	27,4	31,4	34,1	36,1	38,0	40,4	41,6		
Lifting forces at standard frame, corrected to 17,6 MPa												
kN	21,8	23,2		24,9	26,3	26,7	27,0	27,0	26,9		26,5	25,5

John Deere 6300 FWD (NA)

4 DRAWBAR POWER AND FUEL CONSUMPTION
Tractor equipped with SYNCHRO-PLUS transmission

Date of test: 16th and 21st March 1994
Type of track: Concrete

Gear and range	Speed km/h	Drawbar pull kN	Power kW	Engine speed rev/min	Slip of wheels %
4.1 MAXIMUM POWER IN TESTED GEARS					
3 A	3,70	38,26	39,3	2355	15,1
1 B	4,00	38,20	42,4	2340	15,1
2 B	5,22	31,98	46,4	2104	11,9
1 C	6,21	27,66	47,7	2109	9,4
3 B	7,18	23,51	46,9	2099	7,9
2 C	9,08	18,56	46,8	2106	5,5
4.2 FUEL CONSUMPTION					
4.2.1 gear with max. drawbar power (at rated speed)					
1 C	6,91	24,30	46,6	2300	8,2
4.2.1.1 75 % of pull at maximum power at rated speed					
1 C	7,32	18,28	37,2	2368	5,7
4.2.1.2 50 % of pull at maximum power at rated speed					
1 C	7,57	12,14	25,5	2397	3,7
4.2.1.3 next higher gear at reduced engine speed; same pull and travelling speed					
3 B	7,31	18,35	37,3	2085	5,3
4.2.1.4 next higher gear at reduced engine speed; same pull and travelling speed					
3 B	7,58	12,15	25,6	2122	3,4
4.2.2 in selected gear, nearest to 7,5 km/h (at rated speed)					
3 B	7,93	21,05	46,4	2299	6,5
4.2.2.1 75 % of pull at maximum power at rated speed					
3 B	8,40	15,67	36,6	2370	4,3
4.2.2.2 50 % of pull at maximum power at rated speed					
3 B	8,61	10,52	25,2	2396	2,9
4.2.2.3 next higher gear at reduced engine speed; same pull and travelling speed					
2 C	8,41	15,79	36,9	1927	4,5
4.2.2.4 next higher gear at reduced engine speed; same pull and travelling speed					
2 C	8,58	10,67	25,4	1938	3,0

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

Specific fuel consumption g/kWh	Specific energy kWh/l	Temperatures Fuel °C	Coolant °C	Engine oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure kPa
326	2,54	45	78	106	2	80	100,3
318	2,60	45	78	110	3	78	100,3
297	2,79	49	81	107	3	75	100,3
289	2,86	49	80	111	0	74	100,5
294	2,81	49	80	107	3	74	100,3
294	2,82	50	82	113	1	78	100,3
298	2,78	52	82	113	0	74	100,5
320	2,59	52	81	111	0	74	100,5
378	2,19	49	80	110	0	74	100,5
as in 4.2.1.1							
294	2,81	48	80	107	0	74	100,5
as in 4.2.1.2							
345	2,40	48	78	105	0	74	100,5
300	2,75	52	82	110	0	75	100,6
319	2,59	51	82	109	0	75	100,6
386	2,14	50	81	107	0	75	100,6
as in 4.2.2.1							
292	2,83	52	82	113	0	76	100,3
as in 4.2.2.2							
326	2,54	51	81	111	0	78	100,3

JOHN DEERE 6300 FWD (NA)

5 Tractor equipped with POWRQUAD transmission

Date of test: 13th and 14th June 1994
Type of track: Concrete

Gear and range	Speed km/h	Drawbar pull kN	Power kW	Engine speed rev/min	Slip of wheels %
5.1 MAXIMUM POWER IN TESTED GEARS					
4 A	3,71	38,53	39,8	2355	15,2
1 B	4,17	37,73	43,7	2325	14,9
2 B	4,88	34,09	46,2	2206	13,4
3 B	6,10	27,91	47,3	2208	10,1
1 C	6,97	23,91	46,3	2205	8,0
4 B	7,70	21,65	46,3	2205	7,4
2 C	8,58	19,51	46,5	2204	6,5
3 C	10,35	16,24	46,7	2210	5,2
4 C	12,69	12,91	45,5	2203	4,2
5.2 FUEL CONSUMPTION					
5.2.1 gear with max. drawbar power (at rated speed)					
3 B	6,38	25,68	45,5	2301	8,9
5.2.1.1 75 % of pull at maximum power at rated speed					
3 B	6,74	19,26	36,1	2361	6,2
5.2.1.2 50 % of pull at maximum power at rated speed					
3 B	6,98	12,82	24,9	2388	3,9
5.2.1.3 next higher gear at reduced engine speed; same pull and travelling speed					
1 C	6,74	19,23	36,0	2084	6,2
5.2.1.4 next higher gear at reduced engine speed; same pull and travelling speed					
1 C	6,99	12,83	24,9	2110	4,1
5.2.2 in selected gear, nearest to 7,5 km/h (at rated speed)					
1 C	7,34	22,51	45,9	2303	7,5
5.2.2.1 75 % of pull at maximum power at rated speed					
1 C	7,71	16,87	36,1	2366	5,3
5.2.2.2 50 % of pull at maximum power at rated speed					
1 C	7,94	11,29	24,9	2391	3,5
5.2.2.3 next higher gear at reduced engine speed; same pull and travelling speed					
4 B	7,68	17,07	36,4	2168	5,5
5.2.2.4 next higher gear at reduced engine speed; same pull and travelling speed					
4 B	7,87	11,27	24,7	2188	3,5

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

Specific fuel consumption g/kWh	Specific energy kWh/l	Temperatures Fuel °C	Coolant °C	Engine oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure kPa
339	2,51	51	80	107	17	95	100,5
321	2,65	53	81	113	18	95	100,5
305	2,79	53	81	118	22	59	100,5
299	2,85	54	82	120	23	59	100,5
303	2,81	54	82	121	24	59	100,5
304	2,80	54	82	120	21	59	100,5
302	2,82	53	82	119	23	59	100,5
301	2,83	53	81	118	20	59	100,5
309	2,75	52	80	116	22	59	100,5
308	2,76	50	82	120	21	60	100,5
335	2,54	51	81	119	22	60	100,5
399	2,13	48	81	115	24	60	100,5
as in 5.2.1.1							
313	2,72	47	81	111	25	60	100,5
as in 5.2.1.2							
361	2,36	47	81	113	24	60	100,5
307	2,77	52	82	120	19	90	100,5
333	2,56	52	82	119	20	90	100,5
396	2,15	51	82	118	17	90	100,5
as in 4.2.2.1							
324	2,63	51	81	113	17	90	100,5
as in 4.2.2.2							
379	2,25	50	81	111	17	90	100,5

6 REPAIRS AND REMARKS None

ADDITIONAL TESTS UNDER THE RESPONSIBILITY OF THE DLG-TESTING-STATION

7 MEASUREMENTS OF NOISE IN THE SAFETY CAB

Type of track: Concrete
Type of sound level meter: BRÜEL & KJAER model 2233
Date of test: 21st February and 15th June 1994

According to OECD CODE V

Gear number	Drawbar pull kN		Measured travelling speed km/h		Sound level dB(A)	
	1)	2)	1)	2)	1)	2)
7.1 Tractor equipped with SYNCHRO-PLUS transmission (12 F/4 R) Unloaded test in the gear giving the forward speed nearest to 7,5 km/h						
1 C	-	-	7,86	7,98	70,0	72,0
Unloaded test in the gear giving the maximum forward speed						
3 D	-	-	31,08	-	74,5	-
Tests with the drawbar pull for which the tractor gives the maximum sound level (combination of gear giving the nominal forward speed nearest to 7,5 km/h and also in any gear with a sound level increase of at least 1 dB(A))						
1 C	22,65	22,18	6,80	7,20	73,0	73,5
3 C	12,55	9,27	12,97	14,06	75,0	75,0
1 D	10,75	6,36	15,26	16,27	74,0	74,0
7.2 Tractor equipped with POWRQUAD transmission (16 F/12 R) Unloaded test in the gear giving the forward speed nearest to 7,5 km/h						
1 C	-	-	8,23	8,30	72,0	72,0
Unloaded test in the gear giving the maximum forward speed						
4 D	-	-	30,64	-	74,0	-
Tests with the drawbar pull for which the tractor gives the maximum sound level (combination of gear giving the nominal forward speed nearest to 7,5 km/h and also in any gear with a sound level increase of at least 1 dB(A))						
1 C	22,46	21,02	7,02	7,49	72,5	73,5

1) front axle drive disengaged
2) front axle drive engaged

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