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

Restricted Code

OECD No. 1540/1
1540/2



Agricultural Tractor
JOHN DEERE 6200 (NA) POWRQUAD (2WD)

Agricultural Tractor
JOHN DEERE 6200 (NA) SYNCHRO-PLUS (2WD)

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 September 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: 21st November 1994

		OECD No. Restricted Code
JOHN DEERE 6200 (NA) POWRQUAD	(2WD)	1540/1
JOHN DEERE 6200 (NA) SYNCHRO-PLUS	(2WD)	1540/2

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 6200 (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 70 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	JOHN DEERE
Trade name:	6200 (NA) SYNCHRO-PLUS respectively 6200 (NA) POWRQUAD
Type:	Wheel tractor in full frame design, rear wheel driven
Serial no.:	100 037
1st serial no.:	100 001

Engine

Make:	JOHN DEERE
Model:	4039 TL 004
Type:	Watercooled 4-stroke Diesel-engine (antivibration mounted), direct injection, supercharged
Serial no.:	CD 4039 T 10 17 84
Cylinders:	4, in line, bore 106,5 mm, stroke 110 mm, displacement 3920 cm^3; compression ratio 17,8 ± 0,5:1; replaceable, wet cylinder liners
Valves:	Overhead

Supercharging

Make:	GARRETT
Model:	T 300 exhaust driven
Max. pressure:	65 ± 5 kPa

Fuel system:	VDO electrical fuel supply pump; LUCAS-CAV distributor injection pump RE 47 706, serial no.: 323 93/AJG; manufacturer's production setting 50 + 5 mm³/stroke at full load and rated speed; automatic injection timing device, injection timing 17 + 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 left of engine, mouth showing upwards, forward, 2415 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, separate clutch case in front of gearbox; 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:	JOHN DEERE not driven, extendable

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	272,04	2,37	1,48
	2	194,38	3,32	2,07
	3	147,24	4,39	2,73
B	1	135,48	4,77	2,96
	2	96,81	6,67	4,15
	3	73,33	8,81	5,47
C	1	83,10	7,77	4,83
	2	59,37	10,88	6,76
	3	44,97	14,36	8,93
D	1	38,65	16,71	10,39
	2	27,62	23,39	14,54
	3	20,92	30,88	19,19
Reverse speeds				
A	R	222,58	2,90	1,80
B	R	110,85	5,83	3,62
C	R	67,99	9,50	5,90
D	R	31,62	20,43	12,69

*) calculated with the radius index (ISO 4251/1-1992) 745 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	260,14	2,48	1,54
	2	215,89	2,99	1,86
	3	180,37	3,58	2,23
	4	147,24	4,39	2,73
B	1	129,55	4,99	3,10
	2	107,52	6,01	3,73
	3	89,83	7,19	4,47
	4	73,33	8,81	5,47
C	1	79,46	8,13	5,05
	2	65,94	9,80	6,09
	3	55,10	11,72	7,29
	4	44,97	14,36	8,93
D	1	36,96	17,48	10,86
	2	30,67	21,06	13,09
	3	25,63	25,21	15,66
	4	20,92	30,88	19,19
Reverse speeds				
A	1	219,34	2,95	1,83
	2	182,03	3,55	2,21
	3	152,08	4,25	2,64
	4	124,15	5,20	3,23
B	1	109,24	5,91	3,67
	2	90,66	7,13	4,43
	3	75,74	8,53	5,30
	4	61,83	10,45	6,49
C	1	67,00	9,64	5,99
	2	55,60	11,62	7,22
	3	46,45	13,91	8,64
	4	37,92	17,03	10,59

*) calculated with the radius index (ISO 4251/1-1992) 745 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,
35 mm dia, 6 splines, ISO 500-1991 type 1

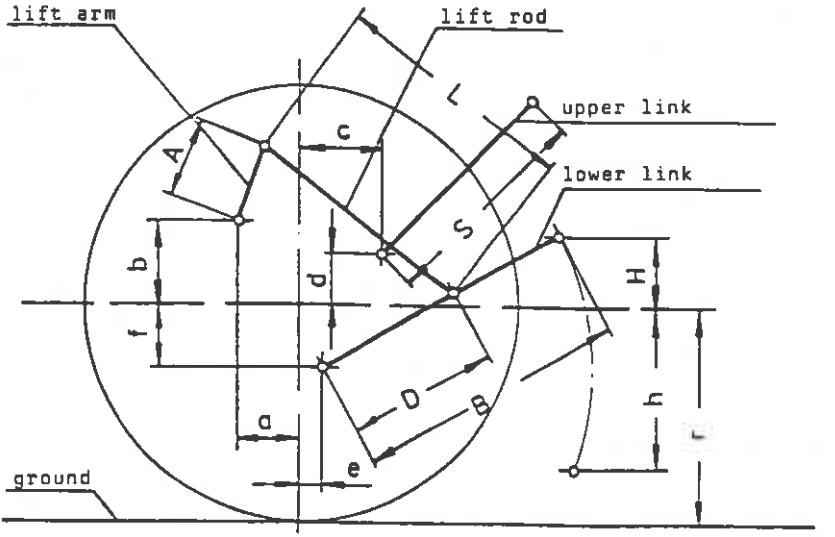
665 mm above ground, 530 mm behind rear wheel
centre, in tractor's median plane;
direction of rotation clockwise (seen from tractor's rear)

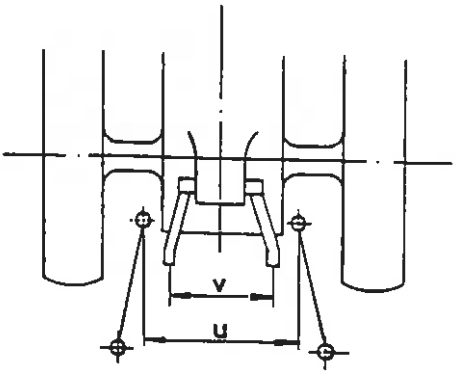
p.t.o. type	p.t.o. speed rev/min	engine speed rev/min	p.t.o. transmission ratio	Power restriction kW
540	540 585	2124 2300	3,9333	-

further p.t.o. option available:
Interchangeable p.t.o. shaft ends 540/1000

Power lift	JOHN DEERE; electronic-hydraulic power lift, with external lift cylinders; draft-, position- and mixed control, floating position, raise limit, fast raising, 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 65 mm bore and 175 mm stroke, safety valve set to 21,5 ± 0,7 MPa; 2 double acting additional HUSCO 200 series control valves, 4 oil couplings at rear of tractor; maximum volume of oil, available to external cylinders : 20 dm³ stationary 10 dm³ 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 a 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) and differential lock

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





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

Rear tyres 16.9 - 34 Front tyres 10.00 - 16	*) radius index static radius	(r) (r')	745 401
Length of lift arms		(A)	305
Length of lower links		(B)	945
Distance of lift arm pivot points from rear axle centre	horizontal vertical	(a) (b)	-170 475
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, 650
Distance of upper link pivot point from rear wheel axis	horizontal vertical	(c) (d)	452, 442, 432 173, 243, 313
Distance of lower link pivot points from rear wheel axis	horizontal vertical	(e) (f)	135 225
Distance of lower link pivot points from lift rod pivot points on lower links		(D)	503, 560
Length of lift rods		(L)	705 to 865, 770

Height of lower link hitch points relative to rear wheel axis (situated 745 mm above ground), these data are valid for unloaded power lift:

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

Length of lift rods	(L)	705	770	865	800
Linkage distance of lift rods	(D)	503			560
Lowest position	(h)	398	545	727	545
Highest position	(H)	236	120	-47	65
Transport position	(H')	236	120	-47	65

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

Pull equipment

Swinging drawbar:	Longitudinally adjustable	
	height above ground	401 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 retracted:	187 mm
	with drawbar fully extended:	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 retracted):	2250 kg
Trailer hitch:	Optionally available, not fitted	
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	18 mm
	maximum	981 mm
	horizontal distance to p.t.o.	
	shaft end (lower links in horizontal	
	position)	550 mm
Towing hitch:	At front, height above ground	820 mm

Steering

DANFOSS, OSPC 125 LS
hydrostatic steering, connected to hydraulic circuit;
2 WEBER rams, single acting,
215 mm stroke, 50 mm bore,
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; oil-immersed disc brake with 1 ring-piston on each differential half shaft, disc diameter 313 mm;
Trailer brake:	None
Parking brake:	Park lock, operated by range shift lever
Steering brake:	Divided pedal of service brake, for normal use locked together

Wheels

Front:	Steering, 2 pneumatics
Rear:	Driving, 2 pneumatics
Wheelbase:	2400 mm
Track width:	At front adjustable by extending the axle from 1487 to 1997 mm, in steps of 102 mm each and after turning the wheels adjustable from 1533 to 2043 mm 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)	11 L - 15 7.50 - 18
18.4 - 26	(D)	27/9.5 - 15 11 L - 15
16.9 - 30	(D)	11 L - 15 7.50 - 18
18.4 - 30	(D)	11 L - 15 7.50 - 18 10.00 - 16
15.5 - 38	(D)	11L - 15 7.50 - 18
16.9 - 34	(D)	11 L - 15 7.50 - 18 10.00 - 16
12.4 - 42	(D)	7.50 - 18 10.00 - 16
18.4 - 34	(D/R)	7.50 - 18 10.00 - 16

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 by antivibration silent-blocks on tractor; OECD approval no. CSS 0201/9 2 doors and 2 steps each, steps 500 and 800 mm, driver's platform 1060 mm above ground, rear window and side windows to open, roof hatch; combined heating/ventilation system with 4-speed blower incorporated in steering console, 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 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 about 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	1220	162x101	225
Auxiliary lights	1600	135x80	590
Rearlights	1727	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 (mouth) mm
Unballasted	4150	2200	2643	2470

Ground clearance 401 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	1400	1410	1415	1425
rear	2545	2610	2600	2665
total	3945	4020	4015	4090

Tyres and track widths specifications

	Front	Rear
Tyres:	FIRESTONE	GOODYEAR
dimensions	10.00 - 16	16.9 - 34
ply rating	8	10
load index / speed index	- / -	- / -
type	diagonal-ply	diagonal-ply
maximum load (tyre manufacturer's) 30 km/h	11,9 kN	25,54 kN
inflation pressure (tyre manufacturer's)	280 kPa	200 kPa
radius	static 401 mm	index 745 mm
Chosen track width:	1589 mm	1712 mm
Rims:	W 8Lx16	DW 15LAx34
Technically permissible axle load	20,5 kN	53,0 kN
Technically permissible total weight:	68,0 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	47	1500	750

Specification:

	Recommended	Used during test
Engine oil: Type Viscosity Winter Summer Tropics Classification	Engine oil SAE 10W/40 SAE 15W/40 SAE 20W/40 API CD-SE or MIL-L-2104 C	FUCHS TITAN SAE 10W/40 API CD-SE MIL-L-2104 C
Transmission oil: Used in gearbox, rear axle and rear final drives, hydraulic system, steering, brake system Type Viscosity Classification for cold weather areas Type Viscosity Classification	 Transmission oil SAE 75 JD specific. J 20 C Transmission oil SAE 70 JD specific. J 20 D	 JOHN DEERE HY-GARD SAE 75 JD specific. J 20 C

Grease: Admissible are greases NLGI-class 2
on mineral oil base
and on rape-seed oil base

number of lubrication points 23

Fuel

Type:	ARAL-Diesel-fuel, in conformity with DIN 51601	
Density at 15°C:	At p.t.o. test	
	with SYNCHRO-PLUS gear box	0,821 g/cm³
	with POWRQUAD gear box	0,841 g/cm³
	at drawbar power test	
	with SYNCHRO-PLUS gear box	0,839 g/cm³
	with POWRQUAD gear box	0,842 g/cm³

John Deere 6200 (NA) **Test No. 94-036**

COMPULSORY TESTS

Tractor equipment with SYNCHRO-PLUS transmission

1. MAIN POWER TAKE OFF PERFORMANCE (540 rev/min)

Date of tests: 24th 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						
52,6	1900	483	14,82	12,17	231	3,55
1.2 At rated speed						
50,9	2300	585	15,07	12,37	243	3,38
1.3 At standard p.t.o. speed						
51,9	2124	540	14,83	12,18	235	3,50
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						
50,9	2300	585	15,07	12,37	243	3,38
1.4.2 85% of the torque obtained in 1.4.1						
44,5	2367	602	13,95	11,45	257	3,19
1.4.3 75% of the torque defined in 1.4.2						
33,7	2389	607	11,66	9,57	284	2,89
1.4.4 50% of the torque defined in 1.4.2						
22,7	2407	612	9,52	7,81	345	2,38
1.4.5 25% of the torque defined in 1.4.2						
11,5	2420	615	7,26	5,96	519	1,58
1.4.6 unloaded						
-	2441	621	5,09	4,18	-	-

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
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						
51,9	2124	540	14,83	12,18	235	3,50
1.5.2 85% of the torque obtained in 1.5.1						
45,4	2188	556	13,55	11,12	245	3,35
1.5.3 75% of the torque defined in 1.5.2						
34,5	2209	562	11,17	9,17	266	3,08
1.5.4 50% of the torque defined in 1.5.2						
23,2	2229	567	8,95	7,34	317	2,59
1.5.5 25% of the torque defined in 1.5.2						
11,7	2251	572	6,68	5,48	469	1,75
1.5.6 unloaded						
-	2277	579	4,48	3,68	-	-

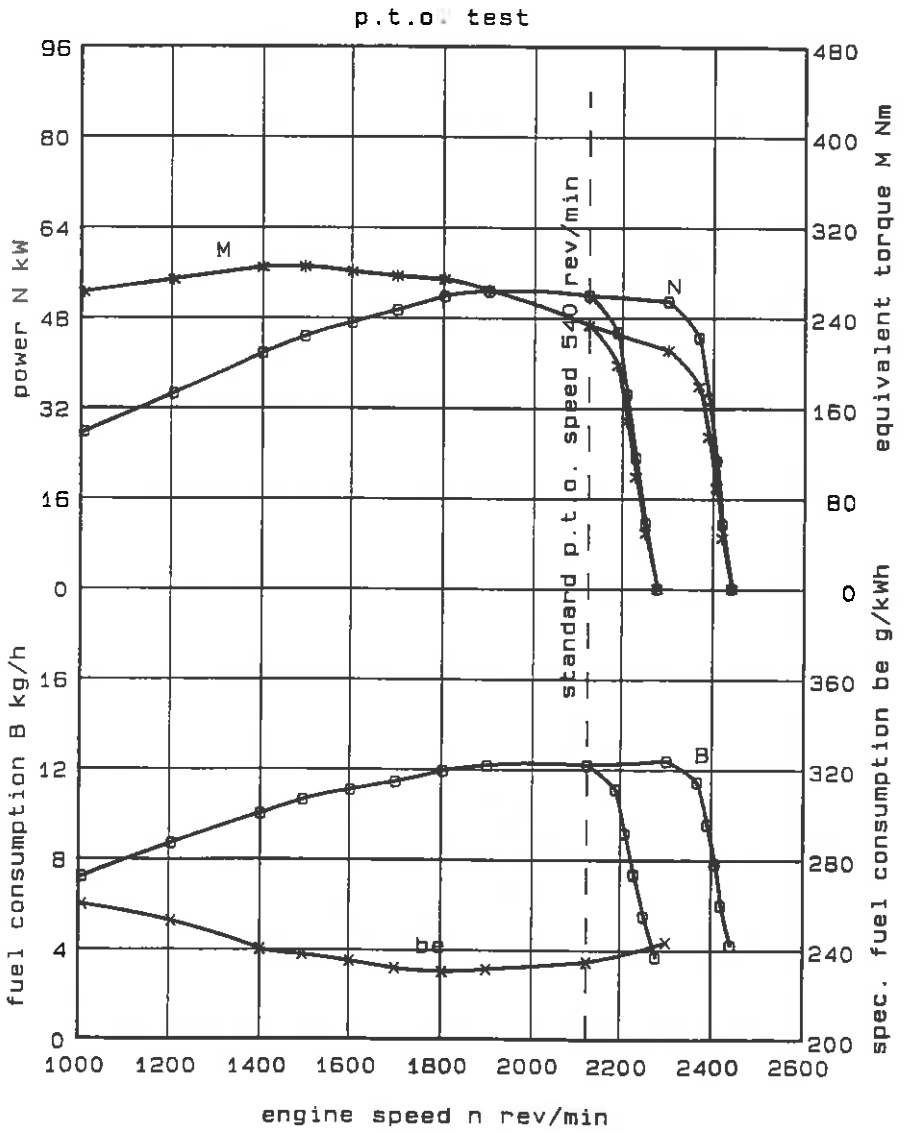
No load maximum engine speed: 2441 rev/min
Equivalent flywheel torque at rated engine speed: 211 Nm
Equivalent flywheel torque at 2-hour test: 264 Nm
Maximum equivalent flywheel torque: 285 Nm at 1495 rev/min of the engine

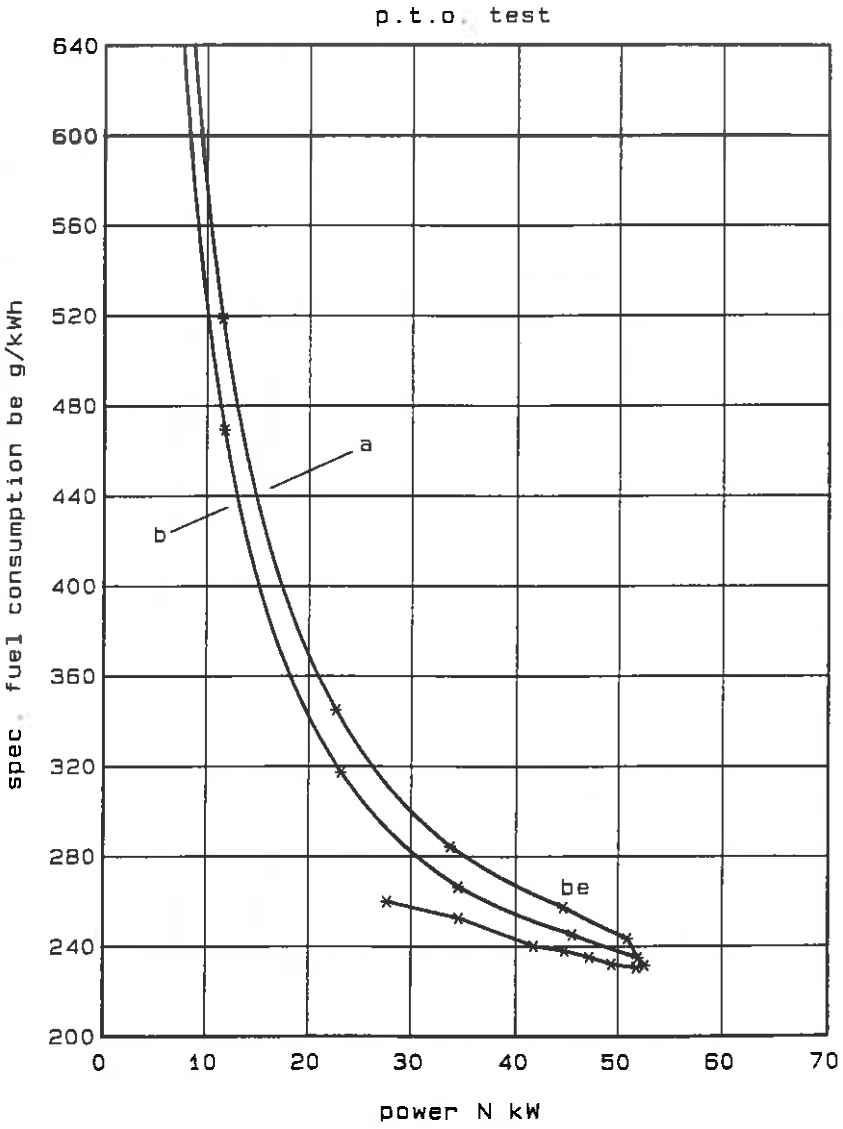
Mean atmospheric conditions

temperature	20 °C
pressure	100 kPa
rel. humidity	35 %

Maximum temperatures

coolant	86 °C
oil	105 °C
fuel	27 °C
air intake	23 °C


p.t.o. test
power N kW
equivalent torque M Nm
fuel consumption B kg/h
spec. fuel consumption be g/kWh
engine speed n rev/min
standard p.t.o. speed 540 rev/min
M
N
B
be
96
80
64
48
32
16
0
480
400
320
240
160
80
0
16
12
8
4
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 (540 rev/min)

Date of tests: 12th September 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						
52,2	1900	483	14,48	12,18	233	3,61
2.2 At rated speed						
49,8	2300	585	14,76	12,41	249	3,37
2.3 At standard p.t.o. speed						
50,9	2124	540	14,50	12,20	240	3,51
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						
49,8	2300	585	14,76	12,41	249	3,37
2.4.2 85% of the torque obtained in 2.4.1						
43,5	2371	603	13,76	11,57	266	3,17
2.4.3 75% of the torque defined in 2.4.2						
32,9	2391	608	11,56	9,72	296	2,84
2.4.4 50% of the torque defined in 2.4.2						
22,0	2404	611	9,50	7,99	363	2,32
2.4.5 25% of the torque defined in 2.4.2						
11,1	2425	616	7,36	6,19	556	1,51
2.4.6 unloaded						
-	2442	621	5,31	4,47	-	-

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						
50,9	2124	540	14,50	12,20	240	3,51
2.5.2 85% of the torque obtained in 2.5.1						
44,3	2182	555	13,20	11,10	250	3,36
2.5.3 75% of the torque defined in 2.5.2						
33,6	2196	558	10,94	9,20	274	3,07
2.5.4 50% of the torque defined in 2.5.2						
22,6	2218	564	8,84	7,43	329	2,56
2.5.5 25% of the torque defined in 2.5.2						
11,4	2238	569	6,69	5,62	493	1,71
2.5.6 unloaded						
-	2270	577	4,66	3,92	-	-

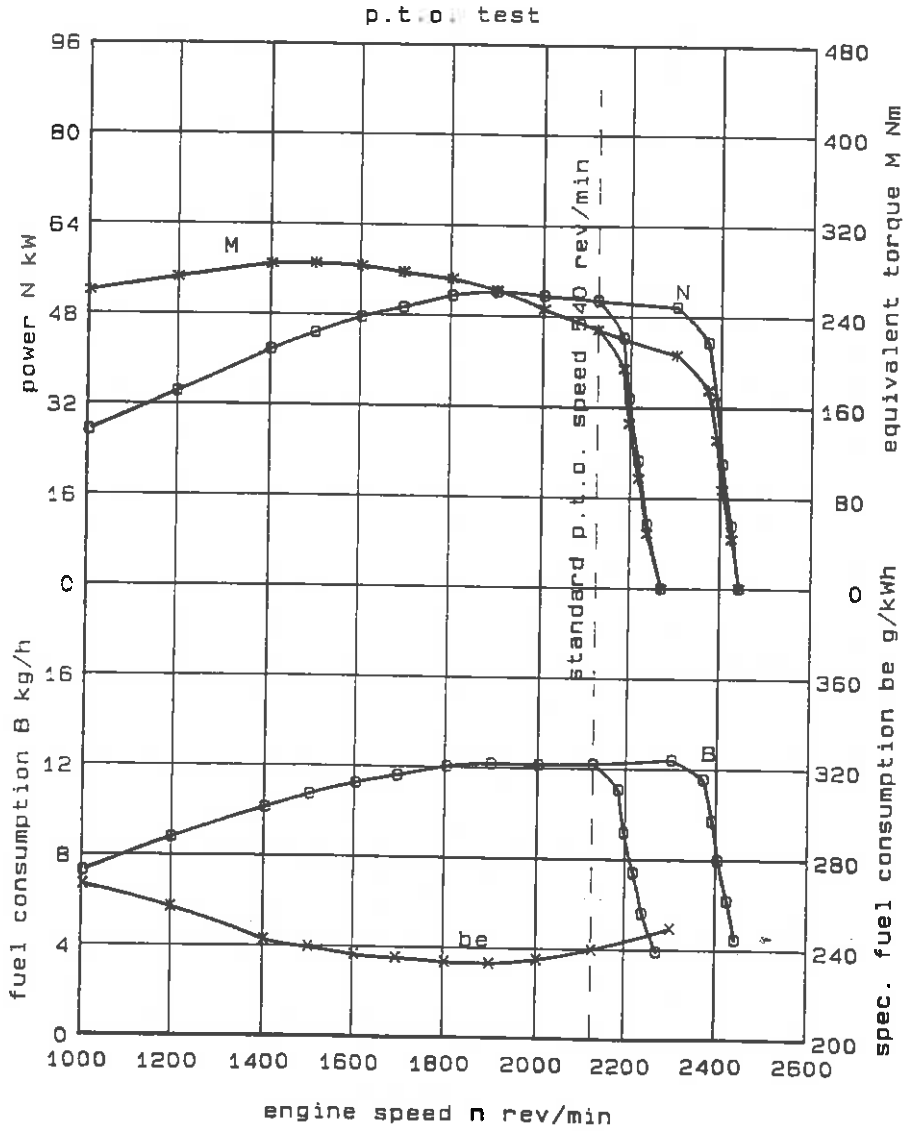
No load maximum engine speed: 2442 rev/min
Equivalent flywheel torque at rated engine speed: 207 Nm
Equivalent flywheel torque at 2-hour test: 263 Nm
Maximum equivalent flywheel torque: 285 Nm at 1499 rev/min of the engine

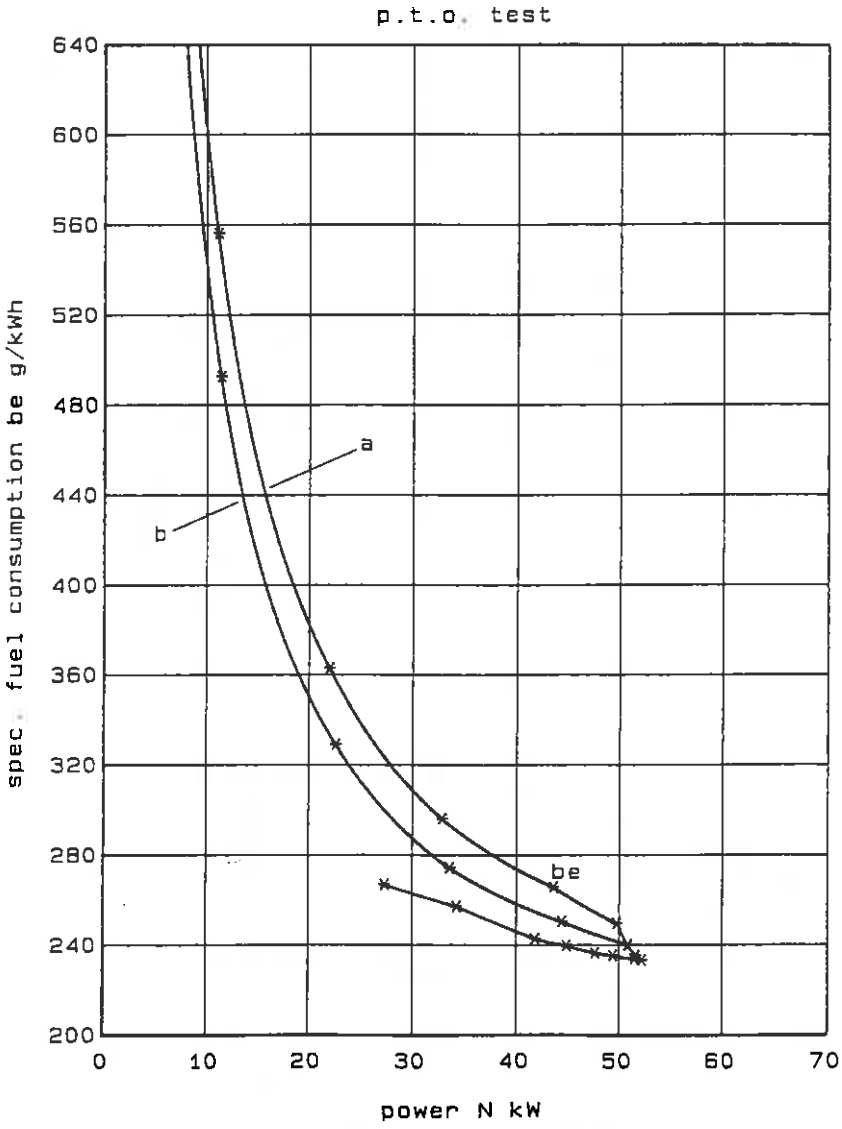
Mean atmospheric conditions

temperature	22 °C
pressure	99 kPa
rel. humidity	65 %

Maximum temperatures

coolant	85 °C
oil	109 °C
fuel	37 °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
engine speed n rev/min
standard p.t.o. speed 540 rev/min
M
N
B
be
96
80
64
48
32
16
0
480
400
320
240
160
80
0
16
12
8
4
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

3 HYDRAULIC POWER AND LIFTING FORCE

Date of tests: 1st till 9th February 1994

The measurements below are valid for both transmission variations

3.1 Hydraulic power test

Sustained pressure with relief valve open 20,2 MPa
Pump delivery rate at minimum pressure 70,4 l/min

	Hydraulic power kW	Flow rate l/min	Pressure MPa	Oil temperature °C
At 90% of the actual relief valve setting	18,5	61,1	18,2	65
Maximum	18,5	61,1	18,2	65

Tapping point used for test: at rear of tractor, connected with additional control valve no.1

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	665 mm 650 mm	830 mm 805 mm
Max. corrected force exerted through full range	22,2 kN	21,1 kN
Corresponding pressure	18,2 MPa	
Moment about rear axle	-	37,5 kNm
Max. tilt angle of mast from vertical		11°

Lifting heights relative to horizontal lower links

mm	-375	-320	-300	-200	-100	0	+100	+200	+300	+330	+400	+ 430
Lifting forces at hitch points, corrected to 18,2 MPa												
kN		22,2	23,0	26,2	28,7	30,8	32,6	34,7	36,0	36,5		
Lifting forces at standard frame, corrected to 18,2 MPa												
kN	21,1		23,2	24,8	25,5	25,9	26,2	25,7	25,5		24,4	23,5

John Deere 6200 (NA)

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

Date of test: 8th till 11th 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	3,78	30,99	32,5	2361	15,1
1 B	4,06	31,27	35,3	2358	15,0
2 B	4,52	31,36	39,4	1899	15,0
1 C	5,54	25,66	39,5	1903	11,6
3 B	6,30	23,92	41,9	1900	10,6
2 C	8,02	18,56	41,3	1901	8,5
3 C	10,93	13,41	40,7	1900	5,9
4.2 FUEL CONSUMPTION					
4.2.1 gear with max. drawbar power (at rated speed)					
3 B	7,86	18,16	39,6	2295	8,1
4.2.1.1 75 % of pull at maximum power at rated speed					
3 B	8,32	13,62	31,5	2373	6,2
4.2.1.2 50 % of pull at maximum power at rated speed					
3 B	8,55	9,08	21,6	2390	4,2
4.2.1.3 next higher gear at reduced engine speed; same pull and travelling speed					
2 C	8,30	13,62	31,4	1917	6,4
4.2.1.4 next higher gear at reduced engine speed; same pull and travelling speed					
2 C	8,57	9,07	21,6	1936	4,3
4.2.2 in selected gear, nearest to 7,5 km/h (at rated speed)					
1 C	6,87	19,93	38,0	2299	9,1
4.2.2.1 75 % of pull at maximum power at rated speed					
1 C	7,27	14,95	30,2	2373	6,8
4.2.2.2 50 % of pull at maximum power at rated speed					
1 C	7,48	9,97	20,7	2384	4,7
4.2.2.3 next higher gear at reduced engine speed; same pull and travelling speed					
3 B	7,25	14,95	30,1	2084	6,5
4.2.2.4 next higher gear at reduced engine speed; same pull and travelling speed					
3 B	7,48	9,99	20,8	2102	4,2

Height of drawbar above ground	Tyre inflation pressure	
	Front	Rear
835 mm	200 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
356	2,35	28	78	78	15	75	99,6
339	2,48	33	80	83	15	75	99,6
308	2,73	33	79	80	15	76	99,6
307	2,74	31	80	82	14	80	99,4
290	2,90	32	83	90	17	76	99,5
294	2,86	31	81	84	15	74	99,4
302	2,78	31	78	80	9	80	99,6
311	2,69	33	83	90	17	76	99,5
343	2,45	31	80	83	17	78	99,5
406	2,07	31	83	87	16	80	99,5
as in 4.2.1.1							
309	2,72	32	80	81	16	79	99,4
as in 4.2.1.2							
340	2,46	30	80	81	16	79	99,4
326	2,58	31	83	87	14	80	99,4
362	2,32	32	81	84	15	80	99,4
436	1,92	31	83	87	14	79	99,4
as in 4.2.2.1							
322	2,60	33	83	87	16	80	99,5
as in 4.2.2.2							
381	2,20	33	82	85	16	80	99,5

JOHN DEERE 6200 (NA)

5 DRAWBAR POWER AND FUEL CONSUMPTION
Tractor equipped with POWRQUAD transmission

Date of test: 22nd September 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					
1 B	3,99	34,17	37,9	2247	15,1
2 B	4,28	34,13	40,6	1973	14,9
3 B	5,04	29,11	40,8	1904	12,6
1 C	5,79	25,30	40,7	1904	10,7
4 B	6,40	22,72	40,4	1903	9,6
2 C	7,13	20,96	41,5	1901	8,9
3 C	8,60	17,02	40,7	1902	7,3
4 C	11,01	13,30	40,7	1897	5,5
1 D	13,21	10,80	39,6	1902	4,6
5.2 FUEL CONSUMPTION					
5.2.1 gear with max. drawbar power (at rated speed)					
2 C	8,77	16,33	39,8	2296	6,8
5.2.1.1 75 % of pull at maximum power at rated speed					
2 C	9,25	12,21	31,4	2376	5,2
5.2.1.2 50 % of pull at maximum power at rated speed					
2 C	9,53	8,19	21,7	2395	3,7
5.2.1.3 next higher gear at reduced engine speed; same pull and travelling speed					
3 C	9,12	12,42	31,5	1940	5,2
5.2.1.4 next higher gear at reduced engine speed; same pull and travelling speed					
3 C	9,38	8,18	21,3	1968	3.6
5.2.2 in selected gear, nearest to 7,5 km/h (at rated speed)					
+) 1 C	7,23	19,60	39,4	2297	8,2
5.2.2.1 75 % of pull at maximum power at rated speed					
1 C	7,64	14,70	31,2	2376	6,2
5.2.2.2 50 % of pull at maximum power at rated speed					
1 C	7,85	9,79	21,4	2392	4,0
5.2.2.3 next higher gear at reduced engine speed; same pull and travelling speed					
4 B	7,58	14,80	31,2	2173	6,1
5.2.2.4 next higher gear at reduced engine speed; same pull and travelling speed					
4 B	7,81	9,81	21,3	2194	4,0

+) The 1 C gear has been chosen inadvertently in stead of the 3 B gear

Height of drawbar above ground	Tyre inflation pressure	
	Front	Rear
780 mm	200 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
324	2,59	29	84	94	17	60	100,5
300	2,80	30	83	93	17	60	100,5
297	2,83	30	84	94	16	60	100,5
300	2,81	31	83	93	14	60	100,5
300	2,80	29	82	92	15	60	100,5
292	2,88	30	83	93	16	60	100,5
301	2,79	31	83	93	15	60	100,5
298	2,82	30	82	91	16	60	100,5
305	2,76	29	82	91	19	60	100,5
309	2,72	30	82	92	19	60	100,5
341	2,47	30	86	98	20	60	100,5
413	2,03	29	80	87	19	60	100,5
as in 5.2.1.1							
307	2,74	30	82	91	20	60	100,5
as in 5.2.1.2							
359	2,34	29	81	90	19	60	100,5
314	2,68	31	82	91	19	60	100,5
346	2,43	31	84	94	19	60	100,5
411	2,04	30	85	96	20	60	100,5
as in 5.2.2.1							
330	2,55	31	83	93	19	60	100,5
as in 5.2.2.2							
392	2,15	30	82	92	20	60	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: 11th March and 23rd September 1994

According to OECD CODE V

Gear number	Drawbar pull kN	Measured travelling speed km/h	Sound level dB(A)
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	-	7,20	72,5
Unloaded test in the gear giving the maximum forward speed			
3 D	-	31,76	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	18,46	7,12	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			
3 B	-	7,32	73,0
Unloaded test in the gear giving the maximum forward speed			
4 D	-	31,44	75,0
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))			
3 B	20,00	6,55	74,0
2 C	14,98	9,04	75,0
3 C	12,36	10,91	75,0
1 B	29,52	4,34	75,0
2 B	25,59	5,32	75,0
4 B	15,94	8,08	75,0
1 D	5,89	17,01	75,0

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