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

Full Code **OECD No.** **1447**



Agricultural Tractor
JOHN DEERE 6300 A (4WD)
30 km/h version

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(92)52(Final), Code I).

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

Duration of tests: June till December 1992

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: 18th May 1993

OECD No. 1447
Full Code

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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Tractor manufacturer:	JOHN DEERE Werke Mannheim D-68008 Mannheim
Location of tractor assembly:	D-68008 Mannheim
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 50 hours, tractor 20 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	JOHN DEERE
Trade name:	6300 A, 30 km/h version
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 006
Type:	Watercooled 4-stroke Diesel-engine direct injection, supercharged
Serial no.:	CD 4039 T 10 19 67
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:	66 ± 5 kPa

Fuel system:	VDO electrical fuel supply pump; LUCAS-CAV distributor injection pump RE 50 593, serial no.: 18127 LJG; 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 dm^3
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 incorporated cyclone type precleaner, replaceable cartridge; electric warning indicator lamp; air intake below bonnet
Exhaust silencer:	ROTH, AL 78267 C single-chamber absorption type, 160x275 mm oval, 200 mm long, on the left above the engine, below bonnet; vertical stack, on the right of corner post of cab, mouth showing upwards, forward, 2615 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 dm^3
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
Gear box:	JOHN DEERE FST (12/4) 30 km/h synchromesh speed change gear with 3 forward speeds and 1 reverse speed, synchromesh 4 speed (A, B, C, D) range gear; total 12 forward and 4 reverse speeds, 2 control levers; forced-feed lubrication, oil cooler in front of engine's water cooler optionally available transmission versions: FST (18/6) 40 km/h identical with FST 30 km/h, but 6 speed range gear PPST (16/12) 30 km/h 4 speed power shift change gear, synchromesh 4 speed range gear and power shift reverser (range D is locked in reverse gear) PPST (24/16) 40 km/h identical with PPST 30 km/h, but 6 speed range gear (ranges E and F are locked in reverse gear)
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

Total ratios and speeds

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 *)
Forward speeds			
A	1	302,27	2,28
	2	215,98	3,19
	3	163,60	4,21
B	1	150,54	4,58
	2	107,56	6,41
	3	81,48	8,46
C	1	92,33	7,47
	2	65,97	10,45
	3	49,97	13,79
D	1	42,94	16,05
	2	30,68	22,47
	3	23,24	29,66
Reverse speeds			
A	R	247,31	2,79
B	R	123,17	5,60
C	R	75,54	9,13
D	R	35,14	19,62

*) calculated with the radius index (ISO 4251/1-1984) 795 mm

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 reversible shaft at tractor's rear,
2 p.t.o. speeds selectable by lever;
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;
sense 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	540 616	2017 2300	3,7347	-
1000	1000 1042	2208 2300	2,2983	-

Power lift

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

Hydraulic system:

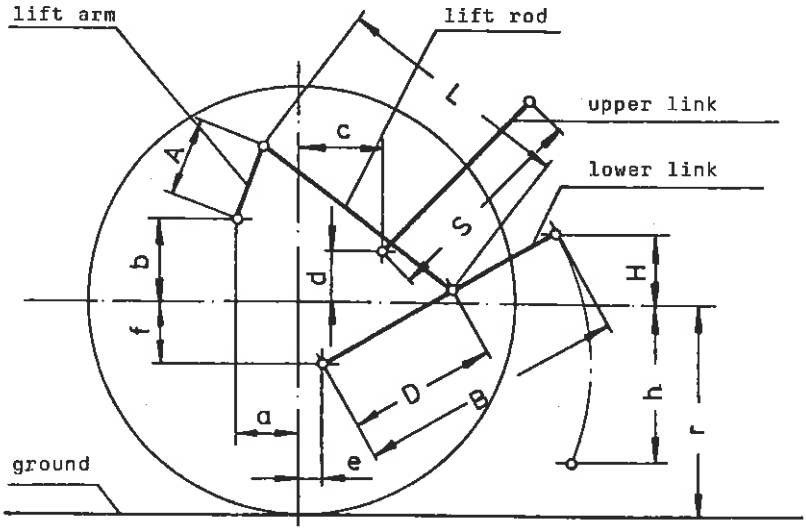
Load sensing, pressure and flow compensated system;
VICKERS variable displacement axial-piston pump,
driven by gear box, independent of travel clutch,
max. delivery 60 dm^3/min at rated engine speed,
oil filter in feed line, cooler see page -6-, gear box;

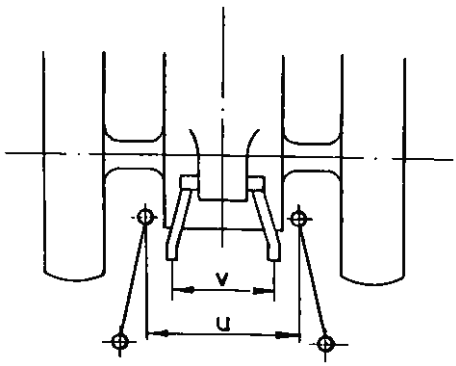
JOHN DEERE control valve,
no separate linkage lock for transport;
pressure limitating valve set to 20 ± 0,5 MPa;
2 single acting cylinders with 75 mm bore and
175 mm stroke, safety valve set to 21,5 ± 0,7 MPa;

2 double acting additional HUSCO de-luxe control valves,
4 oil couplings at rear of tractor;
maximum volume of oil, available to external cylinders :
20 dm^3 stationary
10 dm^3 during driving operation;
if required 15 dm^3 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), differential lock and front wheel drive clutch

Three-point linkage: Category 2 acc. to ISO 730/1-1990, with WALTERSCHEID quick couplers





Dimensions of rear implement linkage (projected lengths in mm, underlined dimensions are valid for power lift measurements p. 25)

Rear tyres 480/70 R 38	*) radius index	(r)	795
Front tyres 420/70 R 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, <u>660</u>
Distance of upper link pivot point from rear wheel axis	horizontal	(c)	<u>452</u>, 442, 432
	vertical	(d)	<u>173</u>, 243, 313
Distance of lower link pivot points 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)	<u>503</u>, 560
Length of lift rods		(L)	705 to 865, <u>785</u>

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	<u>785</u>	865	830
Linkage distance of lift rods	(D)		503		560
Lowest position	(h)	416	595	820	615
Highest position	(H)	225	77	-58	20
Transport position	(H')	225	77	-58	20

*) 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
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	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 disc brake with 1 ring-piston on each differential half shaft, disc diameter 313 mm; hydraulic trailer braking take-off optional, not fitted
Parking brake:	Mechanically operated oil-immersed band type brake, acting on rear wheels, fitted to differential housing; 1 drum, 317 mm dia, 40 mm width, operated by lever with ratchet; additional park lock, operated by range 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
Wheelbase:	2400 mm
Track width:	At front from 1520 up to 2015 mm adjustable in steps of about 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 - 30	(D/R)	11.2 - 24	(D/R)
18.4 - 30	(D/R)	12.4 - 24	(D/R)
23.1 - 26	(D)	13.6 - 24 14.9 - 24	(D) (D)
13.6 - 38	(D/R)	13.6 - 24 11.2 - 28	(D/R) (D/R)
15.5 - 38	(D/R)	13.6 - 24 380/70R24	(D/R) (R)
16.9 - 34	(D/R)	13.6 - 24 11.2 - 28 380/70R24	(D/R) (D) (R)
480/70R34	(R)	13.6 - 24 380/70R24	(D/R) (R)
14.9R38	(R)	12.4R28 14.9R24	(R) (R)
18.4 - 34	(D/R)	13.6 - 24 12.4 - 28 14.9 - 24 420/70R24	(D/R) (D) (D/R) (R)
520/70R34	(R)	14.9R24 420/70R24	(R) (R)
16.9 - 38	(D/R)	12.4 - 28 14.9 - 24 13.6 - 28 420/70R24	(D/R) (D/R) (D/R) (R)
480/70R38	(R)	14.9R24 420/70R24	(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 by 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, roof hatch;

combined heating/ventilation system with 4-step 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 optionally available, not fitted

Noise reduction materials:

Roof,		
head liner	foam with perforated vinyl-coating plus self-supporting foam substrate	23 mm
hatch	foam with perforated vinyl-coating	50 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 extension 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 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, as per GERMAN legislation

	Height above ground of centre mm	Size mm	Distance from outside edge of lights to median plane of tractor mm
Headlights	1270	162x101	225
Sidelights	1670	110x35	870
Rearlights	1665	210x48	900
Reflectors	850	72 dia	515

TEST CONDITIONS

Overall dimensions

	Length mm	Width mm	Height at top of protective structure mm	Height at top of exhaust silencer pipe mm
Unballasted	4167	2200	2675	2670
Ballasted	4575	2200		

Ground clearance (unballasted tractor): 470 mm

Clearance-limiting part: Swinging drawbar

Tractor mass (with cab)

	Unballasted		Ballasted	
	without driver kg	with driver kg	without driver kg	with driver kg
front	1580	1600	2990	3000
rear	2735	2790	4435	4500
total	4315	4390	7425	7500

Ballast

	Weights		Water
	Number	Total mass kg	kg
front	18	1100	370
rear	9	1125	515

Tyres and track widths specifications

	Front	Rear
Tyres:	KLEBER SUPER 8L	PIRELLI TM 700
dimensions	420/70 R 24	480/70 R 38
load index speed index	130 A8	145 A8
type	radial	radial
maximum load (tyre manufacturer's) 40 km/h	19,0 kN	29,0 kN
maximum load (tyre manufacturer's) 30 km/h	20,3 kN	31,0kN
inflation pressure	160 kPa	160 kPa
radius index	590 mm	795 mm
Chosen track width:	1600 mm	1720 mm
Rims:	W 12x24	DW 15x38
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	1500	750
Front axle, final drives	6,5 2 x 1,0	1500	-

Specification:

	Recommended	Used during test
Engine oil:		
Type	Engine oil	FUCHS TITAN SAE 10W/40
Viscosity		
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:

At p.t.o. test	0,820 g/cm³
at drawbar power test	0,835 g/cm³
at engine test	0,828 g/cm³

TEST RESULTS

COMPULSORY TESTS

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

Date of tests: 14th September 1992
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						
63,3	2100	951	17,42	14,29	226	3,63
1.2 At rated speed						
59,2	2300	1042	17,06	13,99	236	3,47
1.3 At standard p.t.o. speed						
61,1	2208	1000	17,14	14,05	230	3,57
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						
59,2	2300	1042	17,06	13,99	236	3,47
1.4.2 85% of the torque obtained in 1.4.1						
51,9	2372	1074	15,69	12,86	248	3,31
1.4.3 75% of the torque defined in 1.4.2						
39,2	2390	1082	13,07	10,71	273	3,00
1.4.4 50% of the torque defined in 1.4.2						
26,4	2411	1092	10,70	8,77	333	2,47
1.4.5 25% of the torque defined in 1.4.2						
13,3	2422	1097	8,06	6,61	499	1,64
1.4.6 unloaded						
-	2425	1098	5,41	4,43	-	-

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						
61,2	2208	1000	17,17	14,08	230	3,56
1.5.2 85% of the torque obtained in 1.5.1						
53,6	2279	1032	15,65	12,83	239	3,43
1.5.3 75% of the torque defined in 1.5.2						
40,6	2299	1041	12,93	10,60	261	3,14
1.5.4 50% of the torque defined in 1.5.2						
27,4	2326	1053	10,47	8,59	314	2,61
1.5.5 25% of the torque defined in 1.5.2						
13,8	2341	1060	7,83	6,42	467	1,76
1.5.6 unloaded						
-	2347	1063	5,07	4,15	-	-

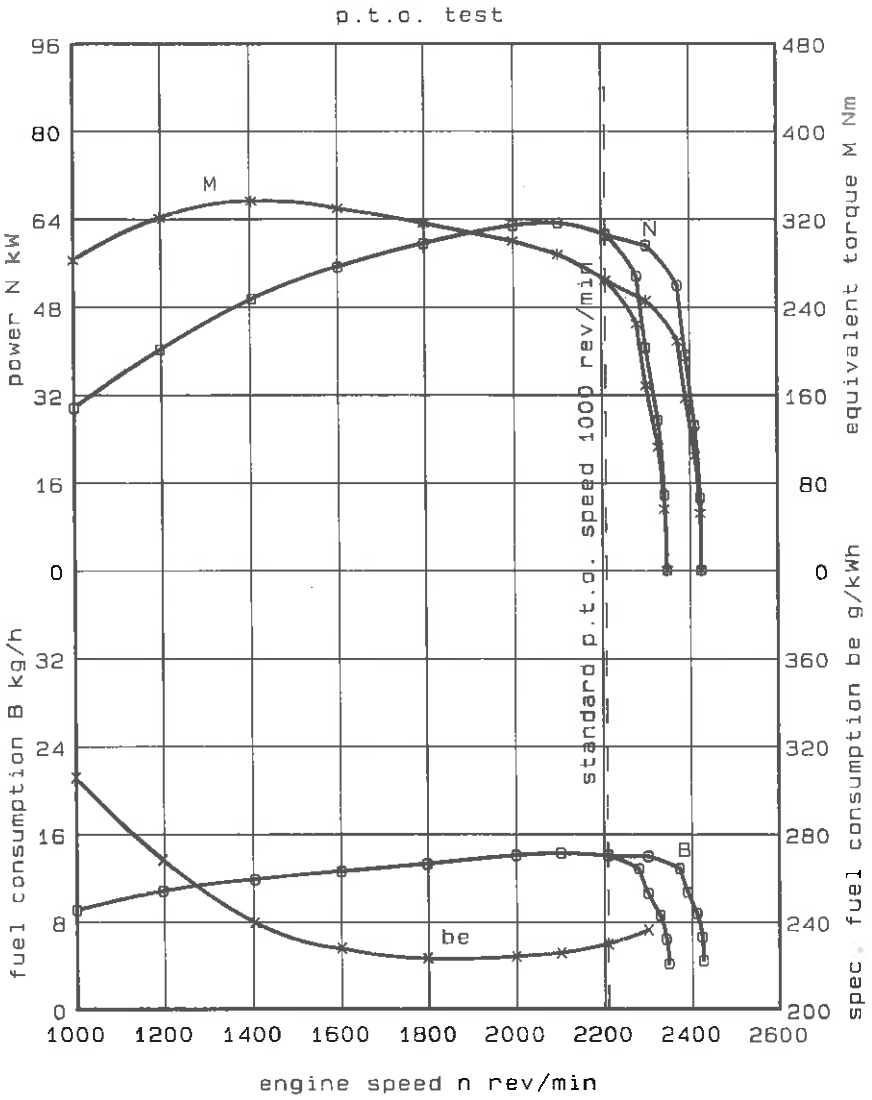
No load maximum engine speed: 2425 rev/min
Equivalent flywheel torque at rated engine speed: 246 Nm
Equivalent flywheel torque at 2-hour test: 288 Nm
Maximum equivalent flywheel torque: 336 Nm at 1403 rev/min of the engine

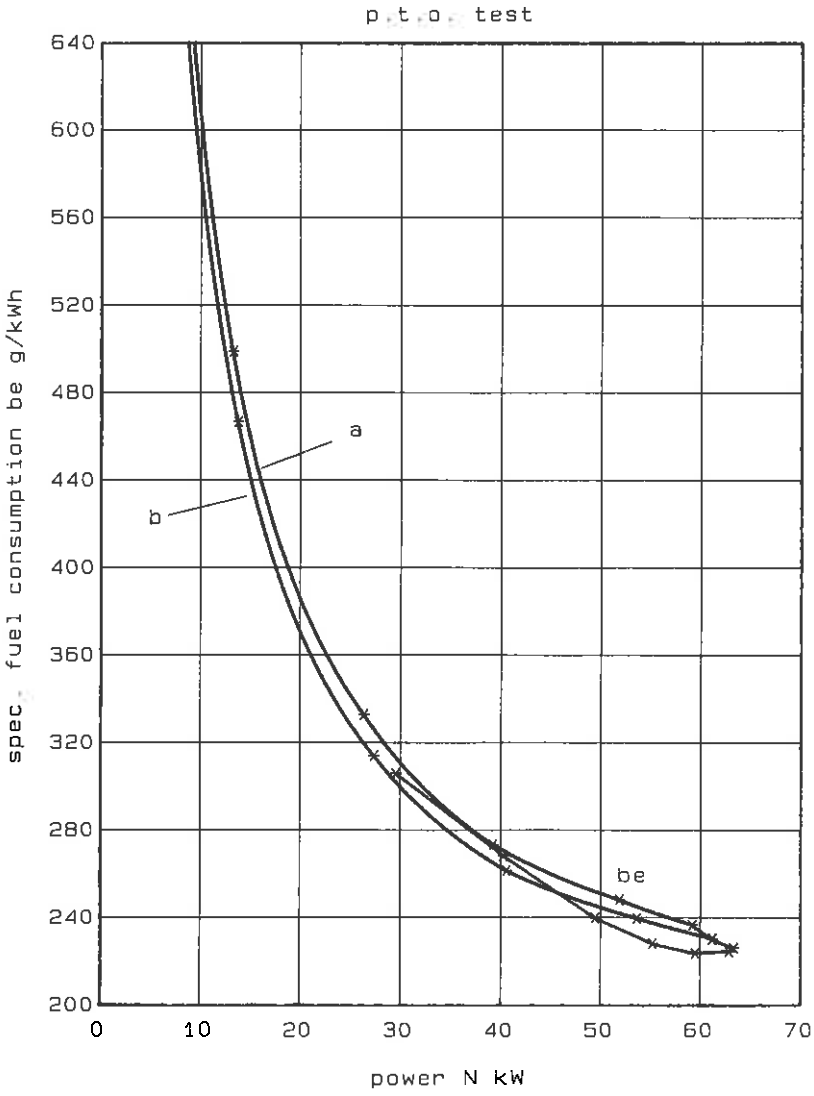
Mean atmospheric conditions

temperature	20 °C
pressure	100 kPa
rel. humidity	56 %

Maximum temperatures

coolant	89 °C
oil	115 °C
fuel	23 °C
air intake	25 °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

2 HYDRAULIC POWER AND LIFTING FORCE

Date of tests: 30th October and 9th November 1992

2.1 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 dm³/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

2.2 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	28,6 kN	25,0 kN
Corresponding pressure	17,6 MPa	
Moment about rear axle	-	42,3 kNm
Max. tilt angle of mast from vertical		13°

Lifting heights relative to horizontal lower links												
mm	-455	-400	-365	-300	-200	-100	0	+100	+200	+290	+300	+400
Lifting forces at hitch points, corrected to 17,6 MPa												
kN			28,6	31,5	36,0	39,2	41,4	43,7	46,4	47,7		
Lifting forces at standard frame, corrected to 17,6 MPa												
kN	25,0	26,7		28,6	30,2	30,6	31,1	31,1	30,9		30,4	29,3

JOHN DEERE 6300 A (4WD)

3 DRAWBAR PERFORMANCE

Date of test: 30th November 1992 till 11th December 1992
Type of track: Concrete

Gear and range	Speed km/h	Drawbar pull kN	Power kW	Engine speed rev/min	Slip of wheels %
3.1 MAXIMUM POWER IN TESTED GEARS (unballasted tractor)					
3 A	3,62	44,85	45,1	2256	15,1
1 B	3,71	45,57	47,0	2129	14,9
2 B	5,63	33,19	51,9	2100	6,5
1 C	6,65	27,97	51,7	2100	5,2
3 B	7,56	25,13	52,8	2100	4,5
2 C	9,45	19,28	50,6	2098	3,3
3 C	12,58	14,14	49,4	2100	2,4
3.2 MAXIMUM POWER IN TESTED GEARS (ballasted tractor)					
1 A	2,01	73,33	40,9	2347	15,0
2 A	2,67	66,34	49,2	2096	9,5
3 A	3,71	49,94	51,5	2105	4,9
1 B	4,04	45,31	50,8	2096	4,5
2 B	5,74	31,15	49,7	2102	3,1
1 C	6,70	26,63	49,6	2096	2,5
3 B	7,64	23,14	49,1	2100	2,1
3.3.1 FIVE-HOUR-TEST at 75% of pull at maximum power (at rated engine speed)					
1 C	7,62	16,10+)	34,1	2365	1,6
+) drawbar pull at maximum power (measured at rated engine speed): 21,40 kN					
3.3.2 FIVE-HOUR TEST at pull corresponding to 15% wheel slip					
1 A	1,98	73,37	40,4	2345	-

Oil consumption during ten hours duration of tests 3.3.1 and 3.3.2 : 12 g/h

	Height of drawbar above ground	Tyre inflation pressure	
		Front	Rear
unballasted	470 mm	80 kPa	80 kPa
ballasted	467 mm	100 kPa	100 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
307	2,72	52	80	105	16	85	100,0
300	2,78	50	80	105	16	85	100,0
275	3,04	52	83	102	16	82	100,0
275	3,04	53	82	105	15	81	100,0
272	3,07	49	84	105	15	80	100,0
282	2,96	48	83	103	17	82	100,0
288	2,90	51	84	102	16	82	100,0
330	2,53	44	82	102	5	98	100,5
289	2,89	44	82	102	3	96	100,5
277	3,01	44	82	102	3	96	100,5
279	3,00	44	81	102	5	92	100,5
285	2,93	44	83	102	5	80	100,5
287	2,91	45	81	103	5	96	100,5
290	2,88	45	82	103	3	96	100,5
in 1 C gear							
354	2,36	44	82	102	3	98	100,5
with additional ballast: 500 kg							
-	-	45	82	103	5	96	101,0

Those figures not quoted are irrelevant due to the additional ballast.

*) measured in the injection pump

4 TURNING AREA AND TURNING CIRCLE (front wheel drive disengaged)

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning area	4,09	4,20	4,99	5,03
Radius of turning circle	3,82	3,93	4,72	4,76

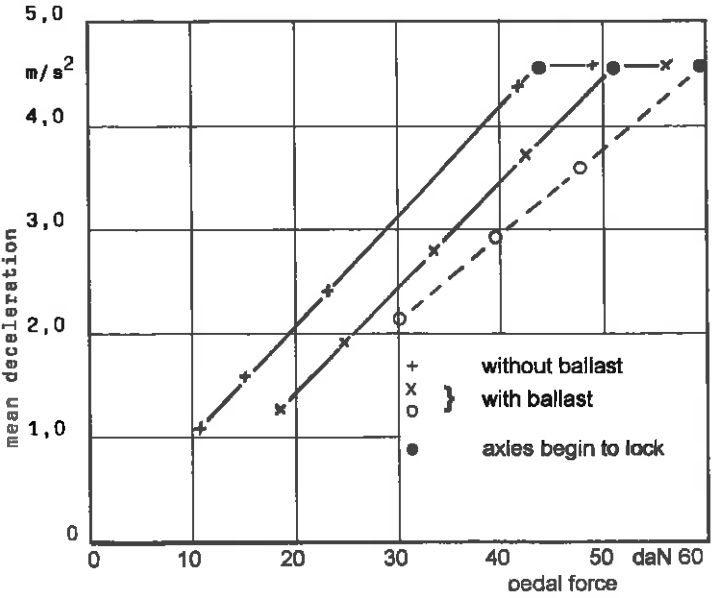
5 LOCATION OF CENTRE OF GRAVITY

Height above ground	980 mm
Distance forward from rear axle centre	875 mm
Distance from tractor's median plane, to the right	8 mm

6 BRAKING (front wheel drive disengaged)
Date of tests: 2nd and 8th December 1992

	Tractor mass (with driver) front kg	rear kg	total kg	Speed before application of brakes km/h
Without ballast	1600	2790	4390	31,4
With ballast	3000	4500	7500	31,0

6.1 Type-O-test (cold brakes) ———— 6.2 Type-I-(fade)test ----------



No significant deviation of tractor from original course and no abnormal vibrations

Brakes-heating: Actuating of brake for 1 km with pedal force corresponding to 1 m/s²

6.3 Parking brake

	Ballasted tractor on 18%-slope up	down
Braking device control force daN	38	38

JOHN DEERE 6300 A (4WD) **Test No. 92-171**

7 MEASUREMENT OF EXTERNAL NOISE LEVEL
(Front wheel drive disengaged)

Date of test:	1st December 1992
Type of track:	Concrete
Type of sound level meter:	BRÜEL & KJAER model 2203

Results of test

Gear number:	3 D
Travelling speed before acceleration:	23,6 km/h
Sound level:	81,0 dB(A)

8 REPAIRS AND REMARKS None

JOHN DEERE 6300 A (4WD) **Test No. 92-171**

OPTIONAL TEST

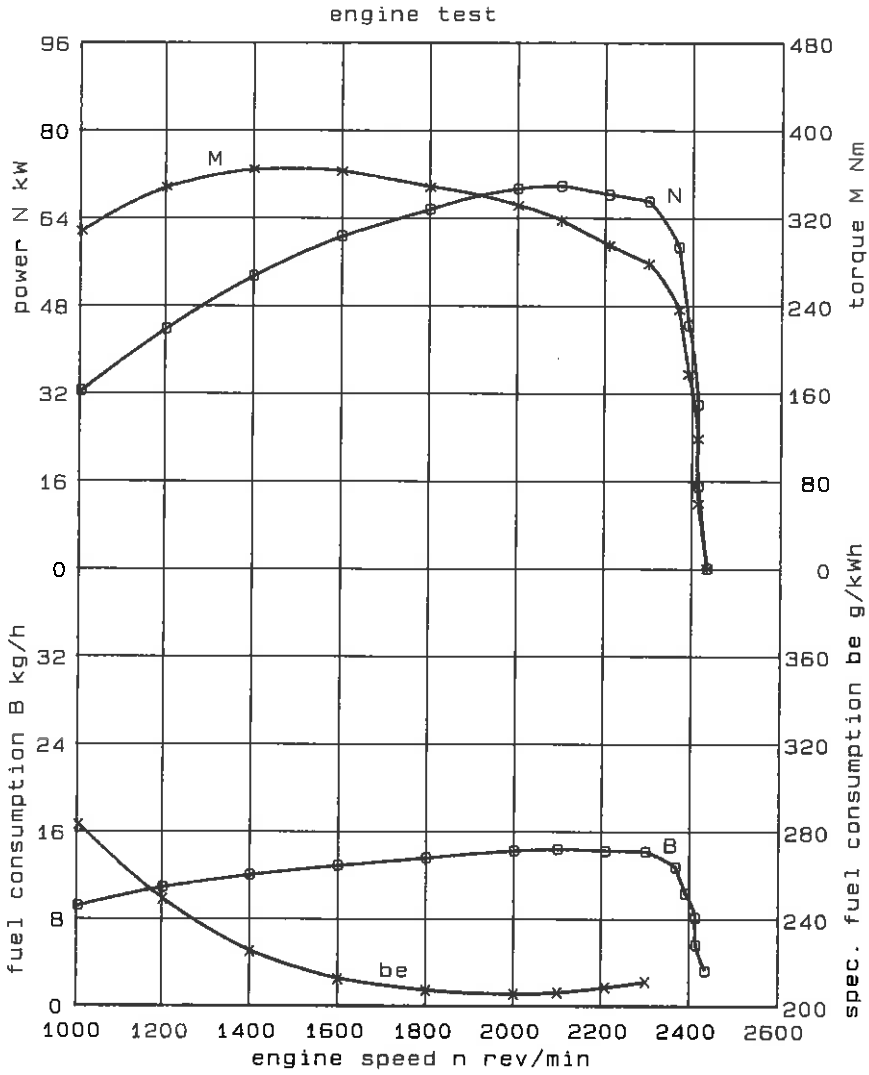
9 ENGINE PERFORMANCE

Date of tests: 25th June 1992
Location of tests: DLG-Testing-Station Groß-Umstadt
Type of dynamometer: SCHENCK eddy-current-dynamometer W 150

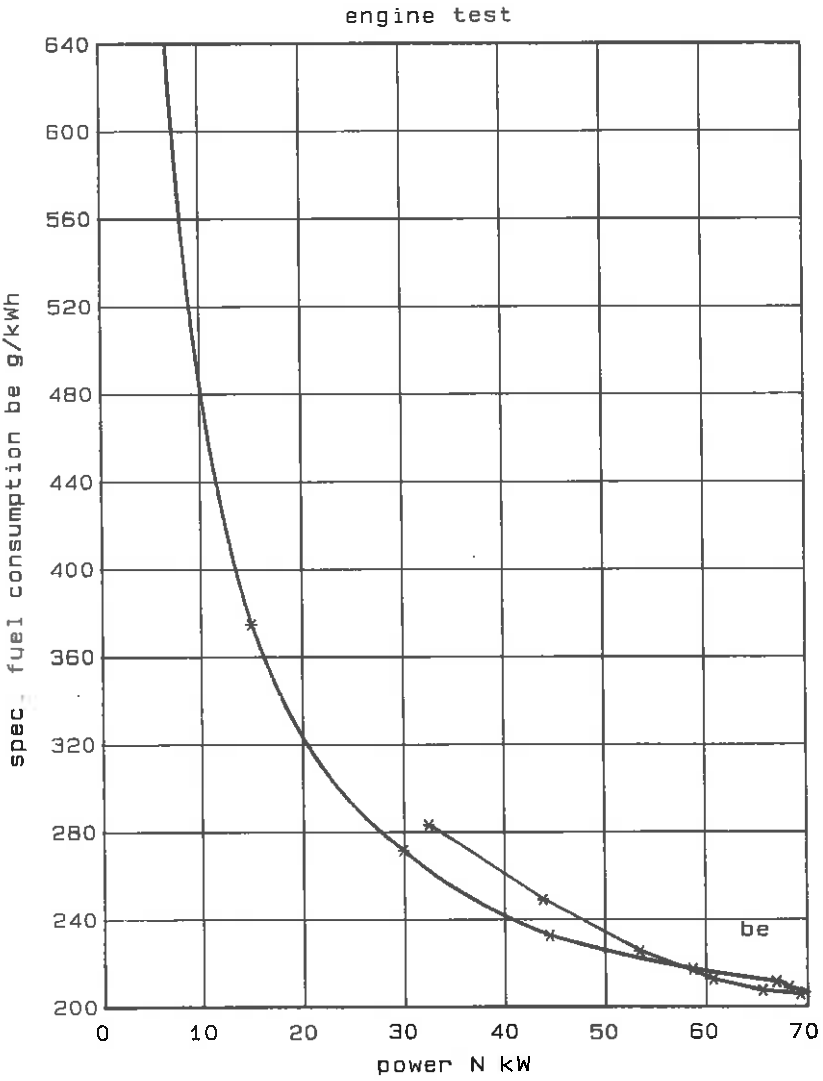
	Power kW	Engine speed rev/min	Fuel consumption hourly l/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
	Maximum power					
9.1	At 2-hour test					
	69,8	2100	17,40	14,41	206	4,01
9.2	At rated engine speed					
	67,0	2300	17,09	14,15	211	3,92
9.3	At standard p.t.o. speed (1000 rev/min)					
	68,2	2208	17,19	14,23	209	3,97
9.4	Part loads					
9.4.1	the torque corresponding to maximum power at rated speed					
	67,0	2300	17,09	14,15	211	3,92
9.4.2	85% of the torque obtained in 8.4.1					
	58,7	2369	15,37	12,73	217	3,82
9.4.3	75% of the torque obtained in 8.4.2					
	44,4	2391	12,47	10,32	232	3,56
9.4.4	50% of the torque obtained in 8.4.2					
	29,9	2414	9,79	8,11	271	3,05
9.4.5	25% of the torque obtained in 8.4.2					
	14,9	2415	6,77	5,60	375	2,21
9.4.6	unloaded					
	-	2436	3,90	3,23	-	-

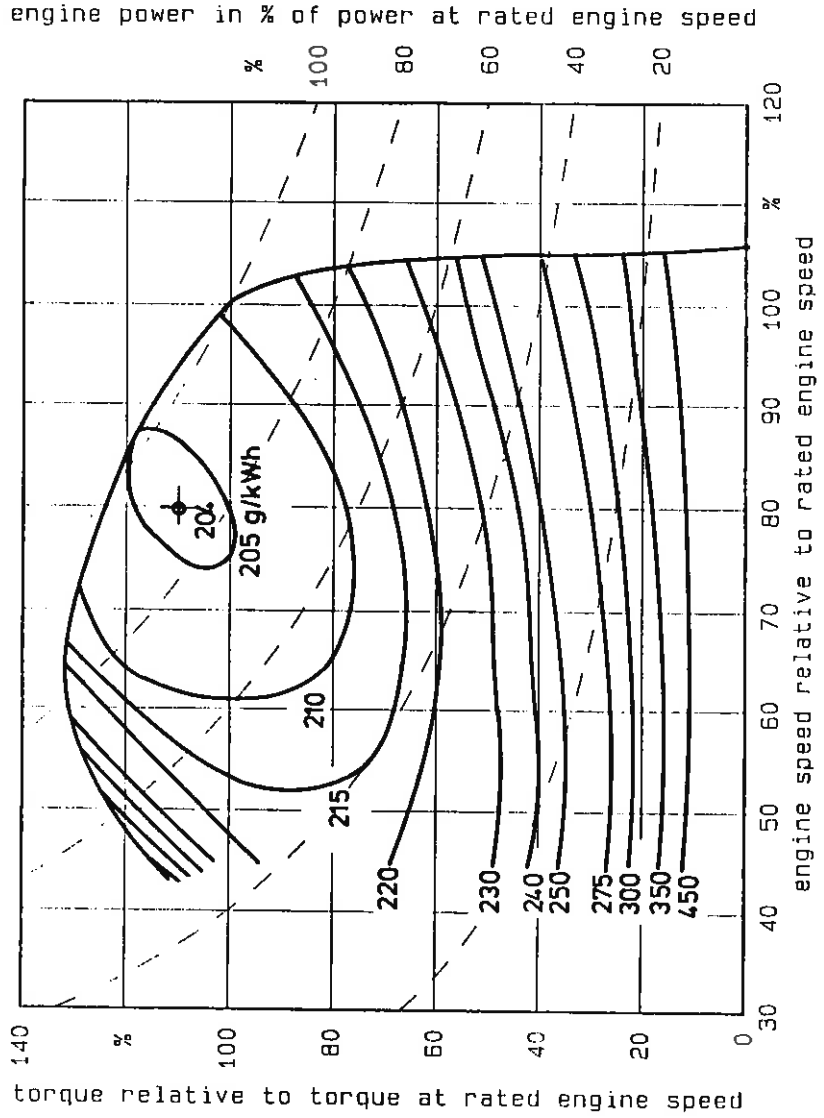
Optimum fuel consumption: 204 g/kWh at 59,0 kW and 1840 rev/min
No load maximum engine speed: 2436 rev/min
Torque at rated engine speed: 278 Nm
Torque at maximum power: 318 Nm
Maximum torque: 364 Nm at 1400 rev/min of the engine

Mean atmospheric conditions	temperature	21 °C
	pressure	100 kPa
	relative humidity	60 %
Maximum temperatures	coolant	71 °C
	oil	100 °C
	fuel	25 °C
	engine air intake	25 °C


engine test
power N kW
torque M Nm
fuel consumption B kg/h
spec. fuel consumption be g/kWh
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

JOHN DEERE 6300 A (4WD) **Test No. 92-171**




engine power in % of power at rated engine speed
%
100
80
60
40
20
120
%
100
90
80
70
60
50
40
30
engine speed relative to rated engine speed
205 g/kWh
210
215
220
230
240
250
275
300
350
450
20
140
%
100
80
60
40
20
0
torque relative to torque at rated engine speed

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

10 MEASUREMENTS OF NOISE IN THE SAFETY CAB

Type of track: Concrete
Type of sound level meter: BRÜEL & KJAER model 2233
Date of test: 23th November and 1st December 1992

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)
Unloaded test in the gear giving the speed nearest to 7,5 km/h						
1 C	-	-	7,93	8,00	72,0	72,0
Unloaded test in the gear giving the maximum speed						
3 D	-	-	31,44	-	73,5	-
Tests with the drawbar pull for which the tractor gives the maximum sound level (combination of gear giving the nearest nominal speed to 7,5 km/h and also in any gear with a sound level increase of at least 1 dB(A))						
1 C	23,02	23,41	7,16	7,25	73,0	73,0
2 C	15,75	16,11	10,22	10,29	74,0	74,0
3 C	11,31	11,56	13,52	13,69	74,5	75,0
1 D	9,46	9,60	15,75	15,70	73,0	74,5

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

11 LIFTING FORCE (with modified 3-point linkage setting)

Date of tests: 4th and 5th November 1992

Length of lift rods		(L)	830 mm
Distance of lower link pivot points to lift rod pivot points on lower links		(D)	560 mm
Distance of upper link pivot point from rear wheel axis,	horizontal	(c)	432 mm
	vertical	(d)	313 mm
Length of upper link		(S)	650 mm

see on pages 10 and 11 for more information

	At the hitch-point	On the frame
Height of lower hitch points above ground in down position	200 mm	
Vertical movement without lifting forces	615 mm	658 mm
Vertical movement with lifting forces	600 mm	635 mm
Max. corrected force exerted through full range	32,0 kN	35,3 kN
Corresponding pressure	17,6 MPa	
Moment about rear axle	-	59,7 kNm
Max. tilt angle of mast from vertical	-	5°

Lifting heights relative to horizontal lower links										
mm	-375	-365	-300	-200	-100	0	+100	+200	+235	+260
Lifting forces at hitch points, corrected to 17,6 MPa										
kN		32,0	35,6	40,1	43,7	46,4	48,6	50,4	49,5	
Lifting forces at standard frame, corrected to 17,6 MPa										
kN	35,3		38,0	39,8	41,4	41,9	41,6	41,0		40,3

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