OECD APPROVAL No. 2/1767
Date of Approval: 24 July 1998

NEBRASKA TRACTOR TEST LABORATORY
DEPARTMENT OF BIOLOGICAL SYSTEMS ENGINEERING
INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA - EAST CAMPUS
LINCOLN, NEBRASKA 68583-0832, USA

REPORT ON TEST IN ACCORDANCE WITH OECD RESTRICTED CODE (CODE II) FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS



JOHN DEERE 9200 POWRSYNC (4WD) ARTICULATED- 24 SPEED
JOHN DEERE 9200 SYNCRO (4WD) ARTICULATED - 12 SPEED

MANUFACTURED BY	John Deere Waterloo Tractor Works, Tractor Division P.O. Box 270, Waterloo, Iowa 50704-0270
NEBRASKA TEST NO.	1731
TEST DATES	April 24 through May 15, 1997

This test report provides the results of the tests conducted in accordance with the OECD Standard Test Code for the Official Testing of Agricultural Tractor Performance - C(87)53 Final Annex II, Restricted Code.

This report has been approved by the OECD Coordinating Centre in Paris (CEMAGREF) on 24 July 1998 for the John Deere 9200 PowrSync (4WD) - Articulated, and the John Deere 9200 Syncro (4WD) - Articulated with OECD No. 2/1767.

The transmissions on these two models are mechanically similar. They have the same 12 gear ratios in forward and the same 3 in reverse. The tests were not carried out on both models. The test was performed on the 24-speed model PowrSync, which had all the gear ratios present in the Syncro transmission (See pages 6 and 7). The test results are considered valid for the 12-speed model (Syncro).

An error was made when the tractors: **John Deere 9200 PowrSync (4WD)) Articulated - 24-Speed Transmission - 30 km/h Version** and **John Deere 9200 Syncro (4WD) Articulated - 12-Speed Transmission - 30 km/h Version** were tested. The Co-ordinating Centre was informed of the error when the draft test report was submitted for approval.

No reproduction of this report or any part of it can be made without prior approval by the Nebraska Tractor Test Laboratory - University of Nebraska, Lincoln, Nebraska USA.

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Manufacturers name/address	John Deere Tractor Works, 3500 East Donald Street P.O. Box 270, Waterloo, Iowa, USA
Location of tractor assembly	Same
Submitted for test by	The manufacturer
Selected for test by	The manufacturer in agreement with the test station.
Place of running in	John Deere Product Eng. Ctr Waterloo, Iowa, USA
Duration of running in	184 hours
Location of Test	Nebraska Tractor Test Laboratory, Lincoln, Nebraska, USA.

SPECIFICATIONS OF TRACTOR

Make	John Deere
Model	9200 PowrSync
Type	Articulated frame, four-wheel drive
Number of driving wheels	8
Serial Number	RW9200H001113
1st Serial number	RW9200H001001

ENGINE.

Make	John Deere
Model	6105HRW01
Type	Diesel; 4-stroke; turbocharged, air-to-air intercooled, direct injection,
Serial Number	RG6105H001318

Cylinders

Number/Disposition	6, in-line, vertical
Bore/stroke	127 mm x 138 mm
Capacity	10489 cm^3
Compression Ratio	16.0 : 1
Arrangement of valves	Overhead
Cylinder liners	Wet; replaceable

Super charging

Make/Model/Type	Garrett/RE65352/Exhaust driven,
Pressure	135 ± 15 kPa at rated engine speed

Fuel System

Feed system	Engine driven transfer pump
Make/Type/Model of filters	
Primary filter	Parker Hannifin/RE500186/ Reinforced cellulose element
Secondary filter	Fleetgard/RE61552/Reinforced cellulose element
Fuel tank capacity	1026 l
Fuel Cooler	None

Make/Model/Type Injection Pump	Lucas/EUI200/Electronic Unit Injector combined with Lucas 24 CU 4620 ECU
Pump Serial number	
Production setting of pump flow rate (Rated Engine Speed & Full Load)	48.6 ± 2 kg/h
Fuel density	0.842 kg/l
Make/Model/Type Injectors	Lucas/RE64866 (EP2196)/Electronic unit injector
Injection pressure	150 MPa
Timing	Variable; controlled by ECU unit
Governor	
Make/Model/Type	Lucas/Electronic control
Governed engine speed range	From 900 to 2225 rev/min
Rated engine speed	2100 rev/min
High-idle speed range	2200 ± 25 rpm
Air Cleaner.	
Pre-cleaner	
Make/Model/type	Donaldson/R128190/Strato-tube precleaner with aspirator
Air intake location	Top of air stack, right front corner of cab
Main Cleaner	
Make/Model/Type	Donaldson/RE63931/pleated paper
Location	Below pre-cleaner, right front
Secondary cleaner	Donaldson/RE63932/pleated paper
Maintenance indicator	Dash mounted warning light and audio signal
Lubrication system.	
Type of feed pump	Full pressure; positive displacement
Type of filters	Full flow, with bypass
Number	One spin-on.
Oil cooler	Heat exchanger with engine coolant
Cooling system.	
Type of coolant	Liquid
Type of pump	Centrifugal, gear driven
Fan specification	Belt driven; Suction type; variable speed
Number of fan blades	8
Fan diameter	711 mm
Coolant system capacity	52 l
Type of temperature control	Two thermostats and variable speed fan
System pressure	69 ± 5 kPa

Starting system.

Make/Model/Type of starter	Delco-Remy/RE61547/Solenoid engaged
Power Rating	6.9 kW
Cold starting aid	Ether spray in intake manifold
Safety device	Electrical lockout on gearshift

Electrical system.

Voltage & grounding.	12 Volt DC;negative ground
Alternator	
Make/Model/Type	Nippondenso/RE46608/Belt driven
Power rating	140 Amp at rated engine speed and 25° C
Batteries	
Number & connection	Three; 12 Volt batteries in parallel.
Rating	925 cold cranking amps/battery, 175 Ah/battery at 20 h. rating

Exhaust system.

Muffler Make/Model/Type	Nelson/RE71295/Expansion chamber
Exhaust stack location	Vertical; right front corner of cab

TRANSMISSION.

Clutch. (travel)

Make/Model/Type	John Deere/Multiple plate/oil cooled
Number of plates	7
Plate diameter	279 mm
Method of operation	Hydraulic; pedal actuated

Gear Box. (tested version)

Make/Model/Type	John Deere/PowrSync/Mechanical
Arrangement	Countershaft and Planetary design consisting of one 3 speed gearbox with 4 synchronized ranges and one 2-speed planetary gear set with multiplate wet disc and brake; operated by three levers
Number of gears	24 forward, 6 reverse
Available options (Syncro)	12 forward and 3 reverse operated by 2 levers (same arrangement without the two speed planetary gearset)
Oil cooler	Heat exchanger with air

Rear axle and final drives.

Make/Model/Type	John Deere/Team Mate II 1600 Series/Spiral Bevel gear differential and inboard planetary reduction
Differential Lock (optional)	Electro-hydraulic
Method of engegement	Pedal operated switch
Method of disengegement	Self-disengaging with operation of brake pedal

Front Axle and final drives.	
Make/Model/Type	John Deere/Team Mate II 1600 Series/Spiral bevel gear differential and inboard planetary reduction
Differential lock (optional)	Electro-hydraulic
Method of engegement	Pedal operated switch
Method of disengegement	Self-disengaging with operation of brake pedal

GEAR RATIOS AND TRAVEL SPEEDS - PowrSync transmission.
(Tire dynamic radius of 905 mm ISO 4251/1-1992)

Gear Number		Number of engine revolutions for one revolution of the driving wheels	Nominal travel speed at rated engine speed of 2100 rev/min [km/h]
Forward			
1	A1 Lo	213.09	3.36
2	A1 Hi	177.76	4.03
3	A2 Lo	165.53	4.33
4	A2 Hi	138.08	5.19
5	A3 Lo	120.95	5.92
6	A3 Hi	100.89	7.10
7	B1 Lo	99.99	7.17
8	C1 Lo	90.70	7.90
9	B1 Hi	83.41	8.59
10	B2 Lo	77.67	9.22
11	C1 Hi	75.66	9.47
12	C2 Lo	70.46	10.17
13	B2 Hi	64.79	11.06
14	C2 Hi	58.77	12.19
15	B3 Lo	56.75	12.63
16	C3 Lo	51.48	13.92
17	B3 Hi	47.34	15.13
18	C3 Hi	42.94	16.69
19	D1 Lo	42.56	16.84
20	D1 Hi	35.50	20.18
21	D2 Lo	33.06	21.67
22	D2 Hi	27.58	25.98
23	D3 Lo	24.16	29.66
24	D3 Hi	20.15	35.56
Reverse			
1	A Lo	177.72	4.03
2	A Hi	148.24	4.83
3	B Lo	83.39	8.59
4	C Lo	75.65	9.47
5	B Hi	69.56	10.30
6	C Hi	63.10	11.36

Number of front wheel revolutions for one rear wheel revolution: 1.000

GEAR RATIOS AND TRAVEL SPEEDS - Syncro transmission.
(Tire dynamic radius of 905 mm ISO 4251/1-1992)

Gear Number		Number of engine revolutions for one revolution of the driving wheels	Nominal travel speed at rated engine speed of 2100 rev/min [km/h]
Forward			
1	A1	213.09	3.36
2	A2	165.53	4.33
3	A3	120.95	5.92
4	B1	99.99	7.17
5	C1	90.70	7.90
6	B2	77.67	9.22
7	C2	70.46	10.17
8	B3	56.75	12.63
9	C3	51.48	13.92
10	D1	42.56	16.69
11	D2	33.06	21.67
12	D3	24.15	29.66
Reverse			
1	A1	177.72	4.03
2	B1	83.39	8.59
3	C1	75.65	9.47

Number of front wheel revolutions for one rear wheel revolution: 1.000

POWER - TAKE - OFF.(Optional)

Main Power-Take-Off.

Type	Independent
Method of engagement	Hydraulically actuated multi-plate wet clutch operated by hand control lever
Number of shafts	One
Method of changing speeds	None

PTO Proportional to engine speed
Standard PTO-1000 rev/min.

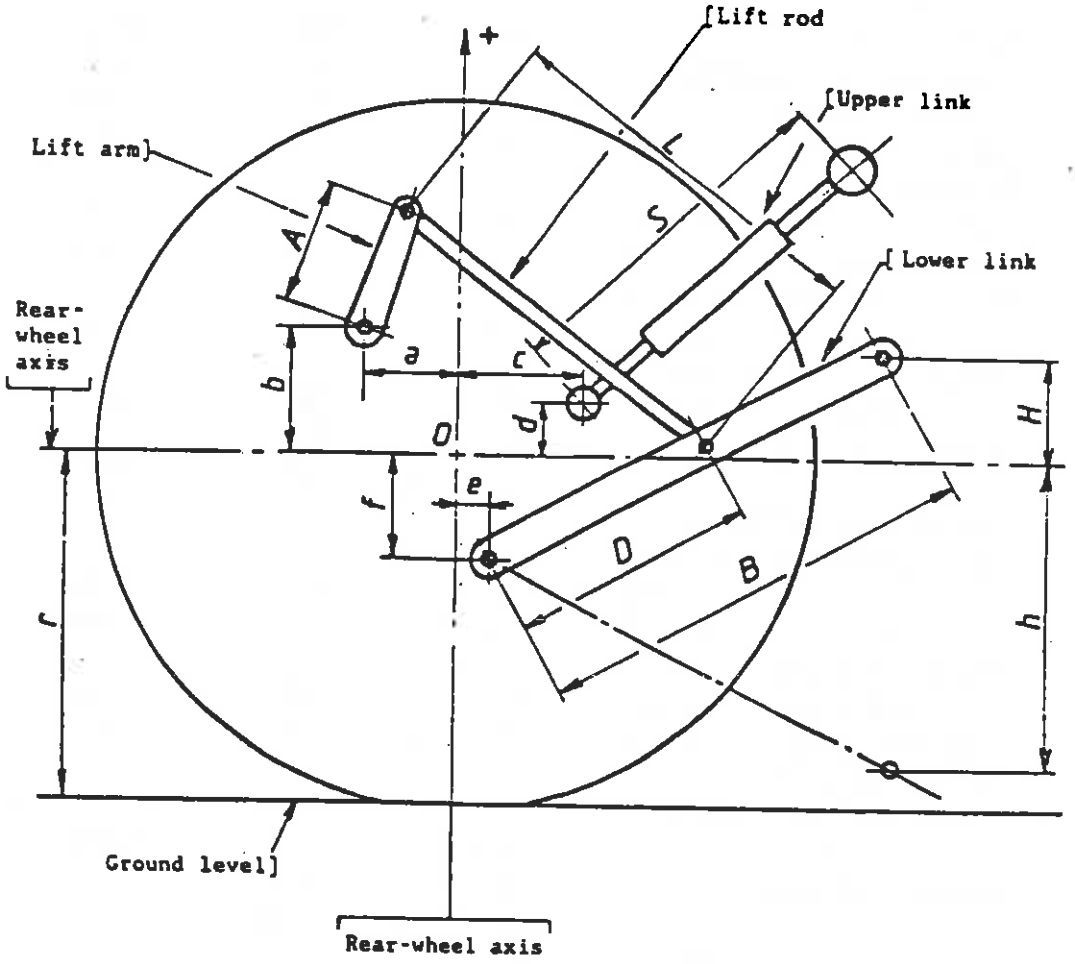
Location	Rear of tractor;center plane
Diameter of shaft	44.5 mm
Number of splines	20; conforms to ISO 500/1991.
Height above ground	799 mm
Distance from median plane of tractor	0 mm
Distance behind rear axle	760 mm
PTO Speed at rated engine spd	1108 rev/min
Engine speed at Std. PTO spd	1895 rev/min
Engine speed/PTO speed ratio	1.895:1
Power restriction	None
Direction of rotation when viewed from shaft end	Clockwise.

POWER LIFT - Optional.

Make/Model/Type	John Deere/Electro-hydraulic lower link sensing; variable mix of draft and position control; adjustable rate of drop
Type of hydraulic system	Closed center; pressure and flow compensated
Number/Type of cylinders	Two external, single acting
Bore x Stroke	Two; 90 x 276 mm
Type of linkage lock for transport	Electro-Hydraulic
Relief valve pressure setting (pump diagnostic port)	20.20 ± 0.40 MPa
Opening pressure of cylinder safety valve	23.25 ± 0.50 MPa
Lift pump type	Axial piston, variable pressure and flow; pressure and flow compensated
Power transmission to pump	Direct drive from transmission
Type/Number of filters	Spin-on canister/one
Location of oil reservoir	Under hood - engine compartment
Number/Type/Location of tapping points.	3 pairs of ISO standard couplings at rear of tractor; 4th and 5th coupler optional. Additional inlet/outlet pair for externally controlled implements
Max. oil volume available for external cylinders.	31.8 l

THREE POINT LINKAGE.

- Category 3 in conformity with ISO 730/1-1990
- Category adaptor -Quick attaching coupler



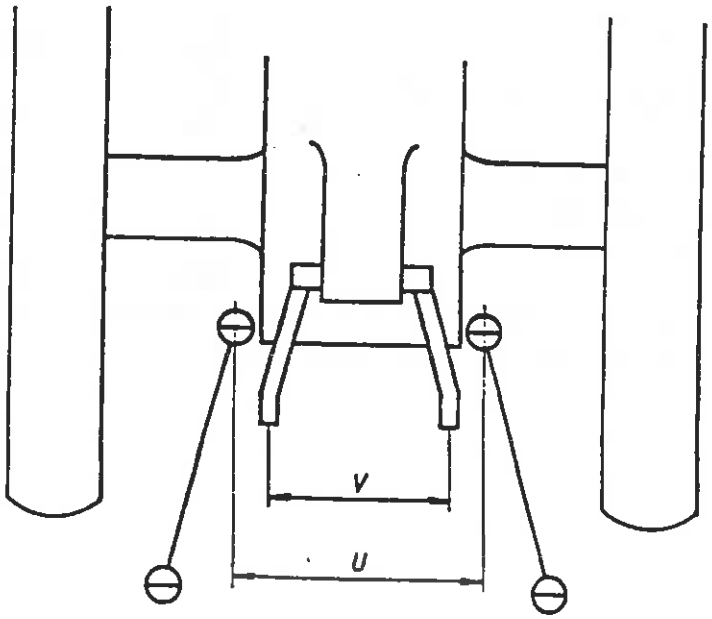


Table 1.1 - LINKAGE GEOMETRY DIMENSIONS *.

		Dimension or range [mm]	Settings used [mm]
Lift category		III	III
Rear Tire - Radius Index	(r)	905	same
Front Tire - Radius Index	(r')	905	same
Length of lift arms	(A)	472	same
Length of lower links	(B)	1117	same
Distance of lift arm pivot from: horizontal	(a)	244	same
rear wheel axis: vertical	(b)	620	same
Horizontal distance between the 2 lower link points	(U)	640	same
Horizontal distance between the 2 lift arm end points	(V)	750	same
Length of upper link	(S)	705 to 825	781
Distance of upper link pivot point from rear wheel axis horizontal	(c)	577	same
vertical	(d)	288	same
Distance of lower link pivot from: horizontal	(e)	288	same
rear wheel axis: vertical	(f)	350	same
Distance of lower link pivot points to lift rod pivot pts on lower links.	(D)	731	same
Length of lift rods	(L)	1030 to 1150	1121
Height of lower hitch points relative to rear wheel axis In low position	(h)	521 to 724	676
In high position	(H)	89 to 284	118
Height above ground of lower hitch points when locked in transport position.		1005 to 1201	1022

* Tire dynamic index of 905 mm - ISO 4251/1-1992

SWINGING DRAWBAR.

Type		Oscillating
Height above ground to top		
	Maximum	489 mm
	Minimum	464 mm
Adjustments		Invert drawbar; removable clevis
Distances of hitch point from		
rear wheel axis-	Horizontal	1118 and 1268 mm
Distance of hitch point from		
PTO shaft end:	Vertical	300 mm
	Horizontal	358 and 508 mm
Lateral adjustment-	Right side	200 mm
	Left side	200 mm
Distance of pivot point from		
rear wheel axis-horizontal		435 and 585 mm
Diameter of drawbar pin hole		52.5 mm
Maximum vertical static		
permissible load		20 kN - both positions

STEERING.

Make/Model/Type	Eaton/RE61112/Hydrostatic
Method of operation	Steering wheel
Pump(s)	Same as main hydraulic pump
Ram(s)	Two external; double acting
Working pressure	18.4 ± 0.4 MPa

BRAKE SYSTEM.

Service brake.	
Make/Model/Type	Vickers-John Deere/RE61213/load sensing power with manual backup
Method of operation	Hydraulic oil immersed disc operated by one pedal
Parking brake.	
Type	Transmission lock.
Method of operation	Gear selector lever
Trailer Brake	None

WHEELS.

Number.	
Front	Four; Driving and steering
Rear	Four; Driving and steering
Wheel base	3500 mm

TRACK WIDTH ADJUSTMENT.

	Minimum [mm]	Maximum [mm]	Adjustment method
Inner wheels	1600	2063	Rack axle, reversing wheels and offset rims
Outer wheels	2990	3453	Same as inner wheels

PROTECTIVE STRUCTURE.

Make/Model/Type	John Deere/SG-055/Sound-Gard body
Manufacturer's name/address	John Deere Tractor Works Waterloo, Iowa, USA
Protective device	Cab; not tiltable
OECD approval number - date	
John Deere 9200 24 spd PowrSync	CSS 0415/8 - 18 Feb. 1997
John Deere 9200 12 spd Syncro	CSS 0415/9 - 18 Feb. 1997

DRIVER'S SEAT.

Make/Model/Type	Sears/RE62264/Air suspension; Personal Posture Cushioning
Type of suspension	Air
Type of damping	Viscous three-position damper
Range of adjustment	
Longitudinal	167 mm
Vertical	140 mm
Rotation	20 degrees to the right and 14 degrees to the left

LIGHTING.

		Height above ground of center [mm]	Size [mm]	Distance from outside edge to median plane of tractor. [mm]
Head lights	**Outside**	2240	100 x 150	370
	Inside	2240	100 x 150	180
Side lights	**Front**	3475	100 dia	907
	Rear	3475	100 dia	896
Rear lights	**Outside**	2000	80 x 140	975
	Inside	2000	80 x 140	773
Reflectors				
front		1900	81 x 225	776
rear	**Upper**	3480	81 x 225	776
	Lower	2000	95 x 210	905

TEST CONDITIONS.

Overall dimenensions

Length		7315	mm
Width			
minimum		3453	mm
maximum		3910	mm
Height	Top of protective structure	3530	mm
	Top of exhaust	3896	mm
Ground clearance		360	mm
Clearance-limiting part		Drawbar rear support	

Tractor Mass (with cab,full fuel tank).

		Without driver [kg]	With driver [kg]
	Front	8772	8817
Unballasted	**Rear**	7158	7188
	Total	15930	16005

TIRE SPECIFICATIONS.

		Front Wheels		Rear Wheels	
Make		Armstrong		Armstrong	
Dimensions		20.8R42		20.8R42	
Number/Ply rating		2 star		2 star	
Type		Radial		Radial	
Max.load (tire mfg)		3875	kg/tire	3875	kg/tire
Inflation pressure(tire mfr)	max	160	kPa	160	kPa
Dynamic Radius Index		905	mm	905	mm
Chosen track width	inner	1610	mm	1610	mm
	outer	2970	mm	2970	mm

OILS AND LUBRICATION.

Capacity and change interval:

	Capacity liter	Oil change hours	Filter change hours
Engine (w/o filter)	42.0	250	250
Transmission with rear axle and front axle	131.0	1500	750
Hydraulic system and Steering system	80.0	1500	750

Oil and Lubricant specifications:

	Recommended	Used during test
Engine oil		
Type	John Deere, TORQ-GARD Supreme Plus 50; SAE 15W-40	same
Viscosity	12.8 cSt at 100^{0}C	
Classification	API CE or CD; CCMD specification D5 or D4	
Transmission		
Type	John Deere HY-GARD; J20C SAE 10W-30	same
Viscosity	58 cSt at 40^{0}C	
Classification	NA	
Hydraulic fluid	Same as transmission	same
Steering system	Same as transmission	same
Grease	John Deere Moly High Temperature EP Grease	same
Number of lube points	20	

FUEL

Type/grade	Premier; Grade 2-D, in conformity with the National Standard
Density (Pto test)	0.842 kg/l at 15^0 C
(Drawbar test)	same as Pto test.
Cetane number	50.6
Viscosity	2.51 cSt at 37.8^0 C

COMPULSORY TESTS

1. MAIN POWER TAKE OFF

Date: 25-Apr-97 Location: UNL Tractor Test Lab, Lincoln, NE, USA
Type of dynamometer: Eddy current, Eaton
Fuel Density 0.842 kg/l

Power kW / hp	Engine rev/min	PTO rev/min	l/h / gal/h	kg/h / lb/hr	kg/kW-h / lb/hp-h	kW-h/l / hp-h/gal
1.1 Maximum Power - 2 Hours						
221.41	1900	1003	61.38	51.65	0.233	3.61
296.92			*16.21*	*113.87*	*0.384*	*18.31*
1.2 Power at Rated Engine Speed - 1 hour						
198.14	2100	1108	58.04	48.84	0.247	3.41
265.72			*15.33*	*107.68*	*0.405*	*17.33*
1.3 Power at Standard Power Take Off Speed - 1 hour						
221.41	1900	1003	61.38	51.65	0.233	3.61
296.92			*16.21*	*113.87*	*0.384*	*18.31*
1.4 Part Loads						
1.4.1 Torque at maximum power at rated engine speed						
198.14	2100	1108	58.04	48.84	0.247	3.41
265.72			*15.33*	*107.68*	*0.405*	*17.33*
1.4.2 85% of torque obtained in 1.4.1						
171.17	2135	1127	51.42	43.27	0.253	3.33
229.55			*13.58*	*95.40*	*0.416*	*16.90*
1.4.3 75% of torque defined in 1.4.2						
129.32	2150	1135	41.40	34.84	0.269	3.12
173.42			*10.94*	*76.80*	*0.443*	*15.86*
1.4.4 50% of torque defined in 1.4.2						
86.62	2164	1142	31.86	26.81	0.309	2.72
116.17			*8.42*	*59.10*	*0.509*	*13.80*
1.4.5 25% of torque defined in 1.4.2						
43.68	2180	1150	22.84	19.05	0.436	1.93
58.57			*5.98*	*42.00*	*0.717*	*9.79*
1.4.6 unloaded						
0.82	2194	1158	14.23	11.97	14.567	0.06
1.10			*3.76*	*26.40*	*23.947*	*0.29*
1.5 Part Loads at Standard Power Take Off Speed						
1.5.1 Torque at maximum power						
221.41	1900	1003	61.38	51.65	0.233	3.61
296.92			*16.21*	*113.87*	*0.384*	*18.31*
1.5.2 85% of torque obtained in 1.5.1						
183.30	1850	976	51.26	43.14	0.235	3.58
245.81			*13.54*	*95.10*	*0.387*	*18.15*
1.5.3 75% of torque defined in 1.5.2						
139.37	1875	989	40.91	34.43	0.247	3.41
186.89			*10.81*	*75.90*	*0.406*	*17.29*
1.5.4 50% of torque defined in 1.5.2						
93.73	1896	1001	30.40	25.58	0.273	3.08
125.69			*8.03*	*56.40*	*0.449*	*15.65*
1.5.5 25% of torque defined in 1.5.2						
47.86	1936	1022	21.18	17.83	0.372	2.26
64.21			*5.60*	*39.30*	*0.612*	*11.48*
1.5.6 unloaded						
0.74	1984	1047	11.97	10.07	13.548	0.06
1.00			*3.16*	*22.20*	*22.273*	*0.32*

No load maximum engine speed:	2194	rev/min		
Equivalent torque at rated speed:	901	N.m	*665*	*lb-ft*
Equivalent torque at maximum power:	1113	N.m	*821*	*lb-ft*
(engine speed:	1900	rev/min)		
Maximum equivalent crankshaft torque:	1330	N.m	*981*	*lb-ft*
(engine speed:	1051	rev/min)		
Mean Dry bulb:	24	deg C	*76*	*deg F*
Wet bulb:	15	deg C	*59*	*deg F*
Relative Humidity	37	%		
Pressure:	98.7	kPa	*29.16*	*in Hg*
Maximum Coolant:	102	deg C	*215*	*deg F*
Engine Oil:	114	deg C	*237*	*deg F*
Fuel:	68	deg C	*154*	*deg F*
Air intake:	43	deg C	*110*	*deg F*
Transmission/hydraulic oil:	81	deg C	*177*	*deg F*
Intake manifold pressure at rated speed:	137	kPa	*19.9*	*psig*
Intake manifold pressure at maximum power:	154	kPa	*22.3*	*psig*

Date of Test: 9-May-97	John Deere 9200
Location of Test-City-State:	Tractor Test Lab, Lincoln, NE, USA
Tapping point used for test:	Remote hydraulic outlets

I. Sustained pressure with pump stalled:

20.55 MPa

2980 psig

II. Pump delivery rate at minumum pressure and rated engine speed:

168.5 l/min

44.5 gpm

III. Flow rate, pressure, power:

90% of relief valve setting

123.4 l/min	18.41 MPa	37.9 kW
32.6 gpm	*2670 psig*	*50.8 hp*

Maximum hydraulic power:

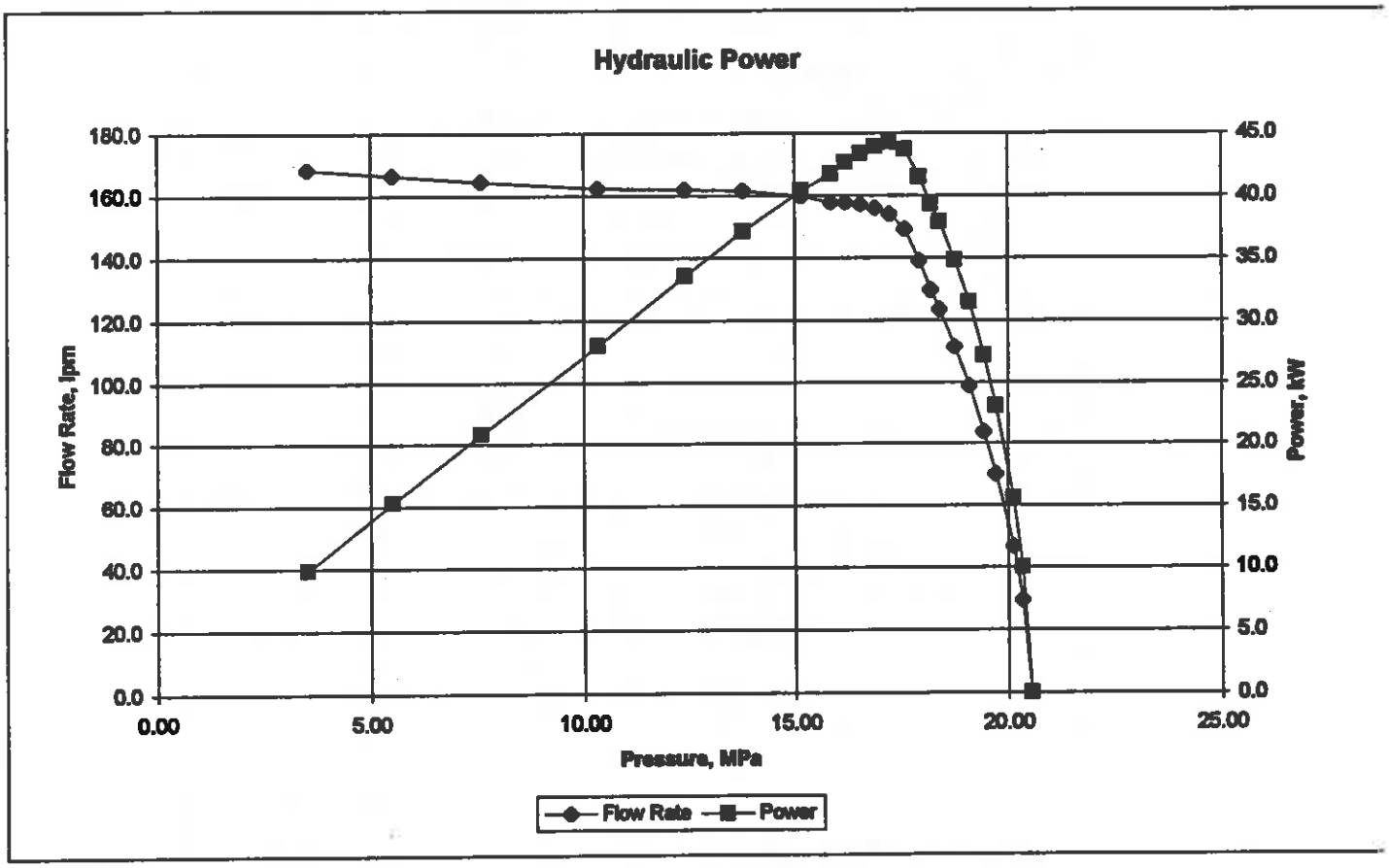
154.1 l/min	17.24 MPa	44.3 kW
40.7 gpm	*2500 psig*	*59.4 hp*

IV. Hydraulic fluid temperature at flow meter:

66.6 °C

152 °F

This hydraulic system does not use an accumulator. Opening and closing pressures of the unloading valve could not be measured.



2.2 POWER LIFT TEST. Cat III, quick attach, 90 mm cylinders

Date of test: 23 June 1997

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm/in]	229/9.0	231/9.1
Vertical movement:			
without load:	[mm/in]	793/31.3	861/33.9
with load:	[mm/in]	774/30.4	841/33.1
Maximum corrected force through full range:	[kN/lb]	62.2/13973	58.3/13104
Corresponding pressure:	[MPa/psi]	18.3/2655	
Moment about rear axle:	[kN.m/lb.ft]	97.6/71958	127.0/93694
Maximum mast tilt angle:	[deg]	--	6.7

Lifting height relative to horizontal position of lower links.

	[mm]	-318	-300	-201	-99	0
	[in]	-12.5	-11.8	-7.9	-3.9	0
Corrected lift forces						
Hitch point.	[kN]	63.6	62.2	64.6	66.6	68.6
	[lb]	14297	13973	14513	14981	14513
at frame	[kN]	63.8	63.0	63.3	63.9	63.9
	[lb]	14333	14153	14238	14364	14373

Lifting height relative to horizontal position of lower links.

	[mm]	99	201	300	401	455	526
	[in]	3.9	7.9	11.8	15.8	17.9	20.7
Corrected lift forces							
Hitch point	[kN]	70.2	71.5	72.6	73.6	73.7	--
	[lb]	15773	16079	16331	16538	16574	--
at frame	[kN]	63.6	62.9	61.6	--	59.8	58.3
	[lb]	14301	14130	13856	--	13437	13104

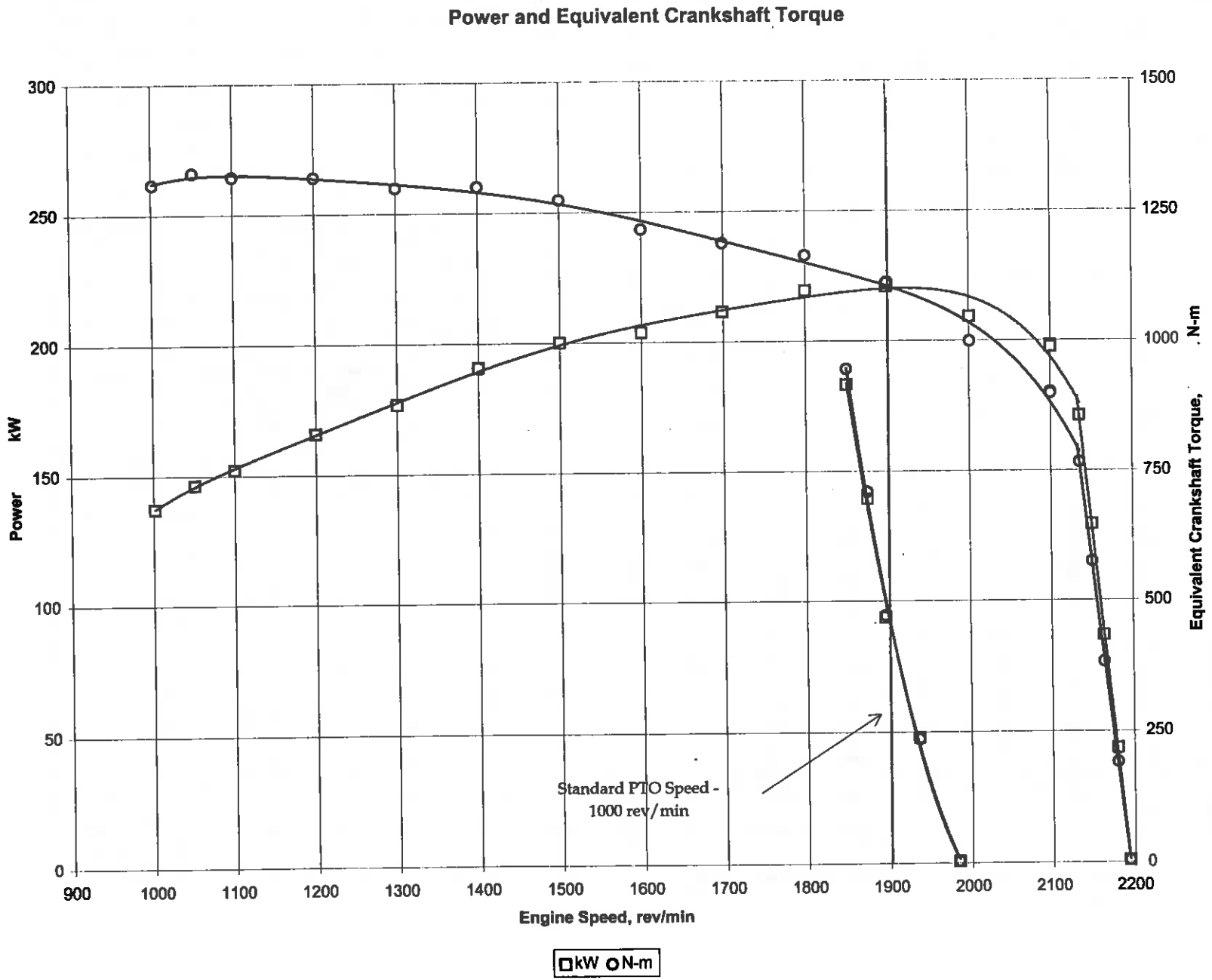
OECD Drawbar Data (SI)

Date of test 2-8 MAY 97					Fuel density:	0.842 kg/l									
Type of trac Concrete					Test number	1731									
Gear	Gear designation	Power kW	Pull kN	Speed km/h	Engine speed rev/min	Slip	SFC kg/kW.h	SFE kW.h/l	Temperature, deg C Fuel	Coolant	Oil	Dry	Wet	Rel hum-idity	Baro. Pres kPa
I. Maximum Power (unballasted, 4wd at 1900 rev/min)						Tire pressure:		55 kPa, rear		83 kPa, front		Drawbar height:		470 mm	
2	A1 HI	157.84	150.39	3.78	2132	9%	0.294	2.87	61	83	96	18	11	42%	98.31
3	A2 LO	170.33	150.93	4.06	2125	9%	0.286	2.95	66	90	107	17	11	44%	98.31
4	A2 HI	181.06	140.15	4.65	1990	7%	0.279	3.02	68	93	111	23	13	34%	98.21
5	A3 LO	193.53	135.83	5.13	1895	6%	0.268	3.14	68	94	111	22	13	36%	98.31
6	A3 HI	194.42	111.08	6.30	1897	4%	0.265	3.17	68	95	113	21	12	38%	98.34
7	B1 LO	198.25	112.14	6.36	1899	4%	0.260	3.24	68	96	113	21	12	38%	98.34
8	C1 LO	200.93	102.22	7.08	1902	3%	0.257	3.28	68	94	112	19	12	40%	98.41
9	B1 HI	198.21	92.22	7.74	1905	3%	0.261	3.23	67	95	112	18	11	42%	98.37
10	B2 LO	200.74	86.96	8.31	1902	2%	0.258	3.27	68	95	113	17	11	49%	98.34
11	C1 HI	199.76	84.18	8.54	1903	2%	0.258	3.26	70	95	112	16	12	70%	96.38
12	C2 LO	202.03	79.25	9.18	1901	2%	0.257	3.28	68	93	111	14	11	73%	96.31
13	B2 HI	200.92	72.25	10.01	1903	2%	0.257	3.28	69	95	111	14	11	73%	96.31
14	C2 HI	200.17	65.08	11.07	1906	2%	0.258	3.26	69	96	112	14	11	73%	96.31
15	B3 LO	201.61	63.45	11.44	1900	2%	0.256	3.29	69	96	112	13	11	73%	96.34
16	C3 LO	201.61	57.40	12.64	1903	2%	0.257	3.28	69	95	111	14	11	69%	96.34
17	B3 HI	198.49	51.97	13.75	1900	2%	0.262	3.21	67	92	107	15	12	69%	96.34
* Note: Slip limited to prevent excessive bouncing.															
II. Part loads (unballasted, 4wd)															
II.1 in selected gear at maximum power at rated engine speed.															
12	C2 LO	184.08	65.18	10.17	2099	2%	0.268	3.14	69	94	110	14	11	73%	96.31
II.1.1 75% of pull at maximum power at rated engine speed															
12	C2 LO	141.04	48.75	10.42	2142	1%	0.286	2.95	61	86	99	23	13	34%	98.07
II.1.2 50% of pull at maximum power at rated engine speed															
12	C2 LO	95.19	32.52	10.54	2159	1%	0.326	2.58	64	88	104	23	14	35%	98.04
II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1															
13	B2 HI	140.86	48.73	10.41	1968	1%	0.281	2.99	64	90	105	23	14	35%	98.04
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2															
13	B2 HI	95.09	32.51	10.53	1985	1%	0.316	2.66	58	81	93	23	14	35%	98.04
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3															
16	C3 LO	141.02	48.60	10.45	1570	1%	0.263	3.19	62	90	103	23	14	35%	98.04
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4															
16	C3 LO	95.13	32.33	10.59	1586	1%	0.293	2.87	58	82	95	23	14	35%	98.04
II.2 in selected gear nearest to 7.5 km/h at rated engine speed.															
7	B1 LO	183.79	93.19	7.10	2097	2%	0.268	3.14	68	94	111	20	12	41%	98.37
II.2.1 75% of pull at maximum power at rated engine speed															
7	B1 LO	141.11	69.64	7.30	2142	2%	0.285	2.96	63	87	101	23	14	35%	98.14
II.2.2 50% of pull at maximum power at rated engine speed															
7	B1 LO	95.68	46.53	7.40	2160	2%	0.318	2.65	64	87	103	23	13	34%	98.07
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1															
8	C1 LO	140.99	69.73	7.28	1938	2%	0.275	3.06	64	89	105	23	14	35%	98.14
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2															
8	C1 LO	95.56	46.52	7.39	1957	1%	0.305	2.76	62	83	100	23	13	34%	98.07
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3															
12	C2 LO	141.26	69.75	7.29	1508	2%	0.260	3.24	62	88	102	23	14	35%	98.10
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4															
12	C2 LO	95.71	46.51	7.41	1523	1%	0.278	3.03	59	82	96	23	13	34%	98.07

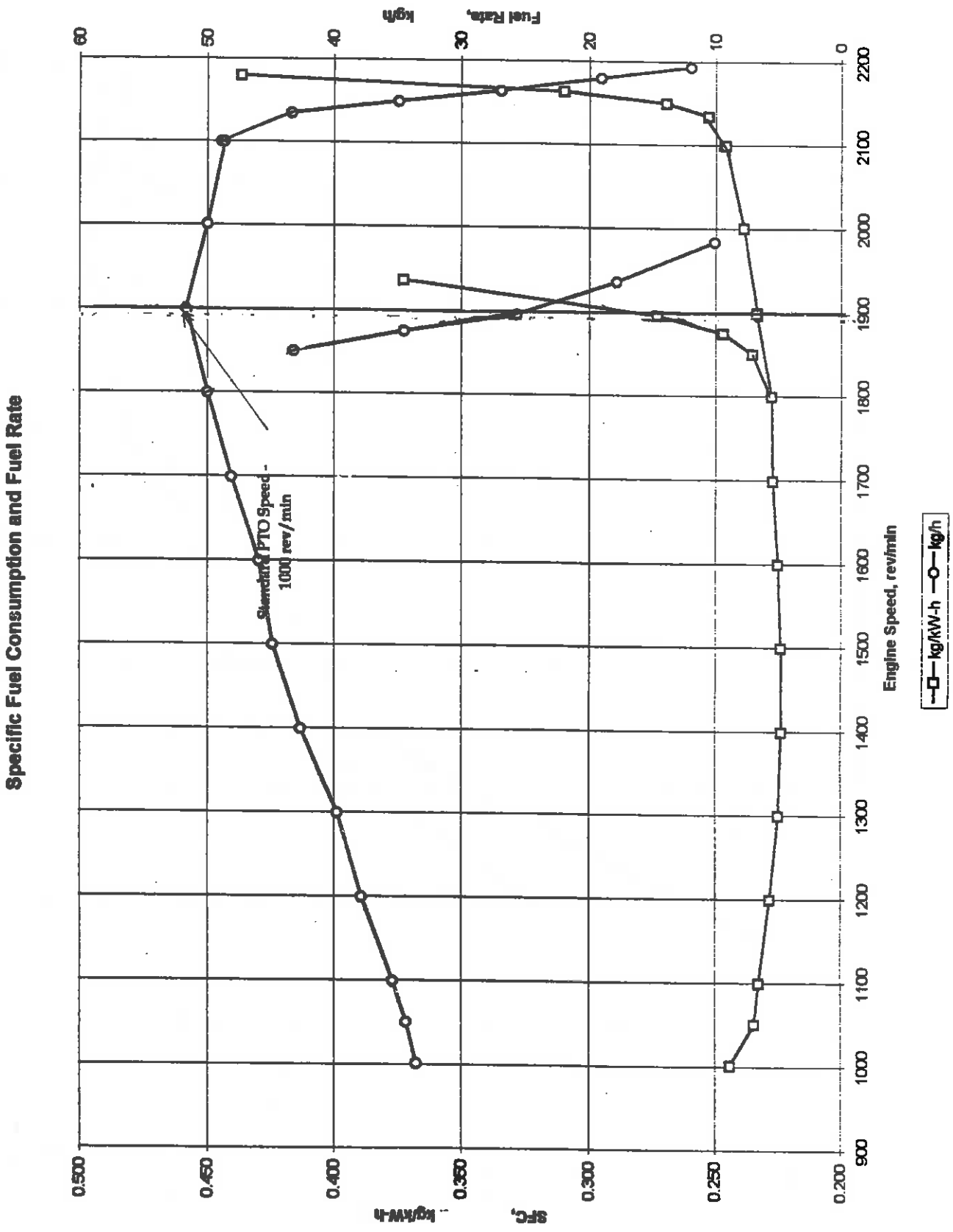
OECD Drawbar Data (US)

Date of test 2-8 MAY 97 | Fuel density: 7.023 lb/gal
Type of trac Concrete | Test number 1731

Gear	Gear designation	Power hp	Pull lb	Speed mph	Engine speed rev/min	Slip	SFC lb/hp.h	SFE hp.h/gal	Temperature, deg F Fuel	Coolant	Oil	Dry	Wet	Rel humidity	Baro. Pres in Hg
I. Maximum Power (unballasted, 4wd at 1900 rev/min)							Tire pressure:		8 psig, rear		12 psig, front		Drawbar height:	18.5 in	
2	A1 HI	211.66	33810	2.35	2132	9%	0.483	14.55	142	182	205	65	52	42%	29.03
3	A2 LO	220.42	33932	2.52	2125	9%	0.470	14.95	151	194	224	63	51	44%	29.03
4	A2 HI	242.81	31507	2.89	1990	7%	0.458	15.33	154	200	232	73	56	34%	29.00
5	A3 LO	259.52	30536	3.19	1895	6%	0.440	15.95	154	201	232	71	55	36%	29.03
6	A3 HI	260.72	24972	3.92	1897	4%	0.436	16.10	154	203	235	69	54	38%	29.04
7	B1 LO	265.86	25210	3.95	1899	4%	0.427	16.44	155	205	236	69	54	38%	29.04
8	C1 LO	269.45	22981	4.40	1902	3%	0.422	16.63	154	202	233	67	53	40%	29.06
9	B1 HI	269.80	20731	4.81	1905	3%	0.429	16.38	153	204	234	65	52	42%	29.05
10	B2 LO	269.19	19550	5.16	1902	2%	0.423	16.59	154	204	235	63	52	49%	29.04
11	C1 HI	267.88	18924	5.31	1903	2%	0.425	16.53	157	204	234	60	54	70%	28.46
12	C2 LO	270.93	17817	5.70	1901	2%	0.422	16.63	155	200	231	57	52	73%	28.44
13	B2 HI	269.44	16243	6.22	1903	2%	0.422	16.65	156	203	232	57	52	73%	28.44
14	C2 HI	268.43	14631	6.88	1906	2%	0.425	16.53	156	205	234	57	52	73%	28.44
15	B3 LO	270.36	14264	7.11	1900	2%	0.421	16.70	156	205	234	56	51	73%	28.45
16	C3 LO	270.36	12904	7.86	1903	2%	0.422	16.64	156	204	233	58	52	69%	28.45
17	B3 HI	266.17	11683	8.54	1900	2%	0.430	16.31	153	198	225	59	53	69%	28.45
* Note: Slip limited to prevent excessive bouncing.															
II. Part loads (unballasted, 4wd)															
II.1 in selected gear at maximum power at rated engine speed.															
12	C2 LO	246.86	14653	6.32	2099	2%	0.441	15.94	156	201	230	57	52	73%	28.44
II.1.1 75% of pull at maximum power at rated engine speed															
12	C2 LO	189.14	10959	6.47	2142	1%	0.470	14.95	143	187	210	73	56	34%	28.96
II.1.2 50% of pull at maximum power at rated engine speed															
12	C2 LO	127.65	7310	6.55	2159	1%	0.536	13.10	148	190	220	74	57	35%	28.95
II.1.3higher gear at reduced engine speed, same pull and travel speed as II.1.1															
13	B2 HI	188.90	10955	6.47	1968	1%	0.463	15.18	147	194	222	74	57	35%	28.95
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2															
13	B2 HI	127.52	7308	6.54	1985	1%	0.520	13.50	137	178	199	74	57	35%	28.95
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3															
16	C3 LO	189.11	10926	6.49	1570	1%	0.433	16.22	144	194	218	74	57	35%	28.95
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4															
16	C3 LO	127.57	7269	6.58	1586	1%	0.482	14.57	137	180	204	74	57	35%	28.95
II.2 in selected gear nearest to 4.6 mph at rated engine speed.															
7	B1 LO	246.46	20951	4.41	2097	2%	0.440	15.95	154	201	232	68	54	41%	29.05
II.2.1 75% of pull at maximum power at rated engine speed															
7	B1 LO	189.24	15655	4.53	2142	2%	0.468	15.01	146	188	213	74	57	35%	28.98
II.2.2 50% of pull at maximum power at rated engine speed															
7	B1 LO	128.31	10460	4.60	2160	2%	0.522	13.44	147	188	217	73	56	34%	28.96
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1															
8	C1 LO	189.07	15677	4.52	1938	2%	0.452	15.53	148	192	222	74	57	35%	28.98
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2															
8	C1 LO	128.14	10459	4.59	1957	1%	0.502	14.00	143	182	213	73	56	34%	28.96
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3															
12	C2 LO	189.43	15681	4.53	1508	2%	0.427	16.46	143	190	216	74	57	35%	28.97
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4															
12	C2 LO	128.36	10457	4.60	1523	1%	0.456	15.39	139	179	204	73	56	34%	28.96

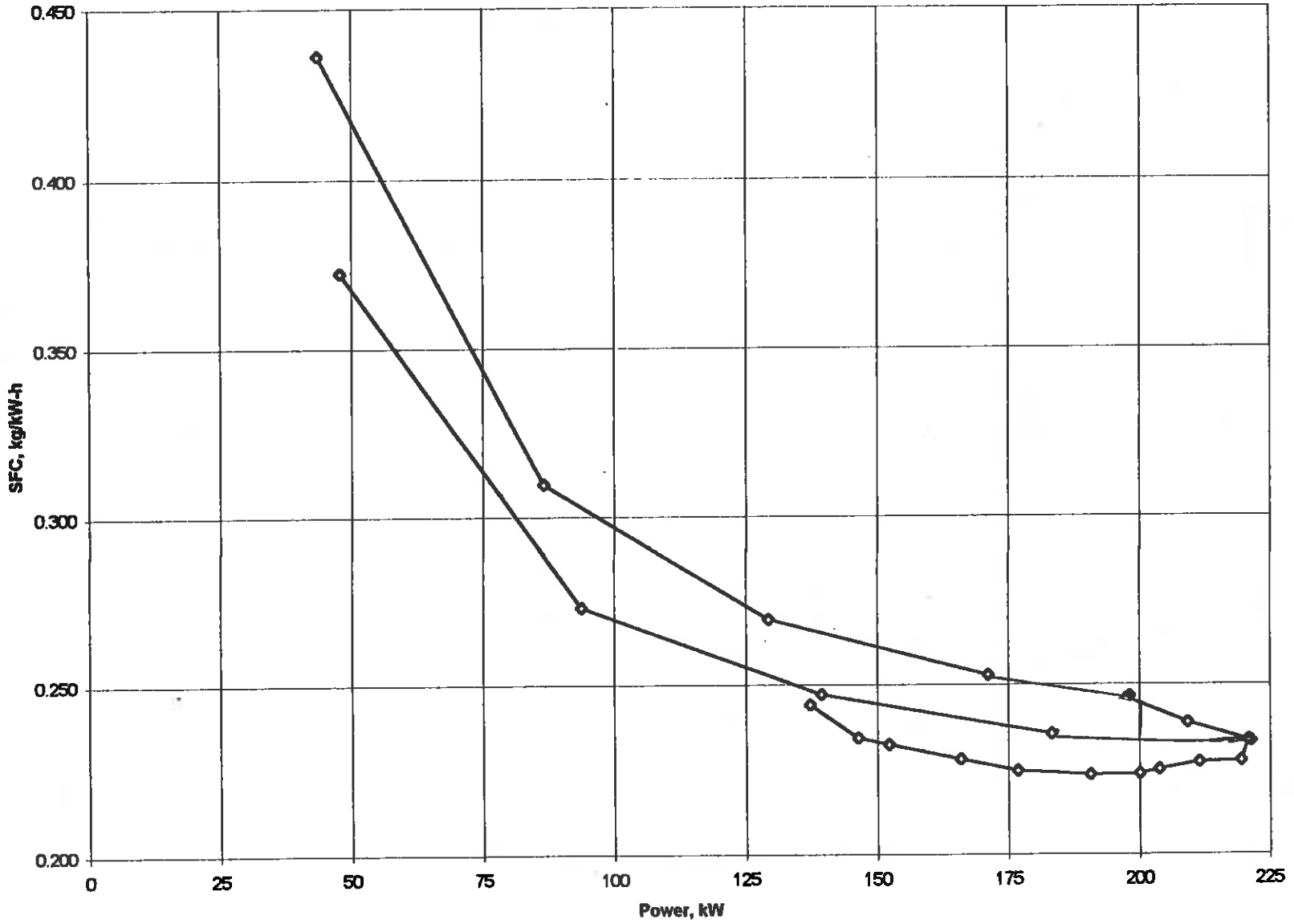

Power and Equivalent Crankshaft Torque
Power kW
Equivalent Crankshaft Torque, N-m
Engine Speed, rev/min
300
250
200
150
100
50
0
1500
1250
1000
750
500
250
0
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
Standard PTO Speed - 1000 rev/min
kW
N-m

John Deere 9200



John Deere 9200

Power and Specific Fuel Consumption



Optional Tests - Drawbar Performance at 2100 RPM

OECD Drawbar Data (SI)

Date of tests 2-8 MAY 97 — Fuel density: 0.842 kg/l
Type of trac Concrete — Test number: 1731

Gear	Gear designation	Power kW	Pull kN	Speed km/h	Engine speed rev/min	Slip	SFC kg/kW.h	SFE kW.h/l	Temperature, deg C Fuel	Coolant	Oil	Dry	Wet	Rel humidity	Baro. Pres kPa
I. Maximum Power (unballasted, 4wd at 2100 rev/min)							Tire pressure:		55 kPa, rear		83 kPa, front		Drawbar height:	470 mm	
*3	A2 LO	170.55	151.49	4.05	2125	9%	0.287	2.93	67	90	108	17	11	44%	98.31
4	A2 HI	178.77	128.00	5.03	2097	5%	0.277	3.04	67	92	109	22	13	37%	98.27
5	A3 LO	179.77	111.48	5.81	2095	3%	0.275	3.06	68	92	110	21	13	39%	98.34
6	A3 HI	177.16	90.49	7.05	2101	3%	0.279	3.01	67	92	109	21	12	38%	98.34
7	B1 LO	183.79	93.19	7.10	2097	2%	0.268	3.14	68	94	111	20	12	41%	98.37
8	C1 LO	185.42	84.99	7.85	2098	2%	0.266	3.16	66	92	108	18	11	42%	98.41
9	B1 HI	181.22	76.26	8.55	2097	2%	0.272	3.10	68	93	112	18	11	45%	98.37
10	B2 LO	183.51	71.76	9.21	2099	2%	0.269	3.13	67	93	109	17	11	48%	98.37
11	C1 HI	180.46	68.65	9.46	2099	2%	0.272	3.09	70	94	111	16	12	70%	96.38
12	C2 LO	184.08	65.18	10.17	2099	2%	0.268	3.14	69	94	110	14	11	73%	96.31
13	B2 HI	181.82	59.00	11.09	2103	1%	0.272	3.09	69	94	109	14	11	73%	96.31
14	C2 HI	180.94	53.31	12.22	2098	1%	0.271	3.10	69	94	110	14	11	73%	96.31
15	B3 LO	182.12	51.76	12.67	2099	1%	0.271	3.10	68	93	110	14	11	73%	96.31
16	C3 LO	180.84	46.69	13.94	2093	1%	0.273	3.08	68	93	109	14	11	73%	96.34

*Note: Slip limited to prevent excessive bouncing.

OECD Drawbar Data (US)

Date of tests 2-8 MAY 97 — Fuel density: 7.023 lb/gal
Type of trac Concrete — Test number: 1731

Gear	Gear designation	Power hp	Pull lb	Speed mph	Engine speed rev/min	Slip	SFC lb/hp.h	SFE hp.h/gal	Temperature, deg F Fuel	Coolant	Oil	Dry	Wet	Rel humidity	Baro. Pres in Hg
I. Maximum Power (unballasted, 4wd at 2100 rev/min)							Tire pressure:		8 psig, rear		12 psig, front		Drawbar height:	18.5 in	
*3	A2 LO	228.72	34057	2.52	2125	9%	0.472	14.89	152	194	227	63	51	44%	29.03
4	A2 HI	239.74	28775	3.12	2097	5%	0.455	15.44	153	198	228	72	56	37%	29.02
5	A3 LO	241.08	25063	3.61	2095	3%	0.452	15.54	154	198	230	70	55	39%	29.04
6	A3 HI	237.57	20343	4.38	2101	3%	0.459	15.29	153	198	229	69	54	38%	29.04
7	B1 LO	246.46	20951	4.41	2097	2%	0.440	15.95	154	201	232	68	54	41%	29.05
8	C1 LO	248.66	19108	4.88	2098	2%	0.437	16.06	151	198	227	65	52	42%	29.06
9	B1 HI	243.02	17145	5.32	2097	2%	0.447	15.71	154	200	233	64	52	45%	29.05
10	B2 LO	246.08	16133	5.72	2099	2%	0.442	15.89	153	200	228	62	51	48%	29.05
11	C1 HI	241.99	15433	5.88	2099	2%	0.448	15.68	158	201	233	60	54	70%	28.46
12	C2 LO	246.86	14653	6.32	2099	2%	0.441	15.94	156	201	230	57	52	73%	28.44
13	B2 HI	243.82	13263	6.89	2103	1%	0.448	15.68	156	201	229	57	52	73%	28.44
14	C2 HI	242.65	11985	7.59	2098	1%	0.446	15.74	156	201	231	57	52	73%	28.44
15	B3 LO	244.23	11636	7.87	2099	1%	0.446	15.75	155	200	230	57	52	73%	28.44
16	C3 LO	242.51	10496	8.66	2093	1%	0.449	15.64	155	200	229	57	52	73%	28.45

*Note: Slip limited to prevent excessive bouncing.

MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of Test	April 28, 1997
Sound Level Meter Make/Model/Type	Bruel and Kjaer 2236
Type of track	Concrete oval
Gear number	24th (D-3-HI)
Travel speed before acceleration	27.9 km/h
Sound Level	89.7 dB(A)

Repairs: None

Remarks: An error was made when the hand throttle was set back to perform the varying load tests. The hand throttle was set at a position that produced PTO speeds less than 1,000 rev/min. The tractor is not available for a retest.