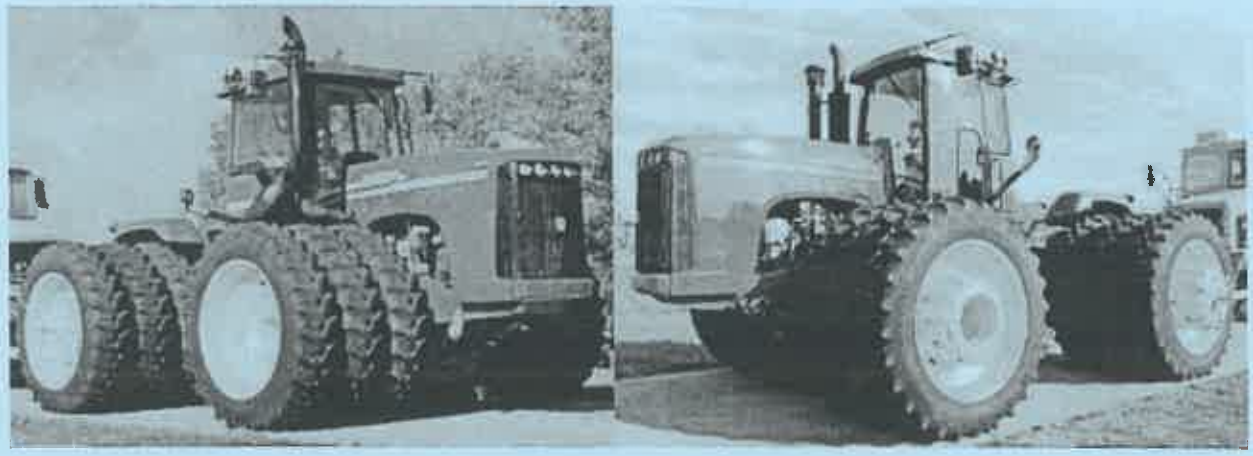
OECD APPROVAL NO. 2/2 264
CODE 2
DATE OF APPROVAL: AUGUST 4, 2005

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 STANDARD CODE 2 FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS



JOHN DEERE 9620
Powershift
Articulated 4 Wheel Drive with Triple Wheels

MANUFACTURED BY:	John Deere Tractor Works 3500 East Donald Street P.O. Box 270 Waterloo, Iowa 50704-0270
NEBRASKA TEST NO.	1844
TEST DATES:	November 2- November 18, 2004

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, Code 2.

This report has been approved by the OECD Coordinating Centre in Paris on August 4, 2005 for the John Deere 9620 Powershift, articulated four-wheel drive tractor with OECD Number 2/2 264.

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

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Date: AUG 2 4 2005

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SPECIMEN TEST REPORT

Note: Units shown below, which appear in ISO 1000:1992, shall be stated and followed by national units in parentheses, if necessary.

C[1]	- Tractors manufacturer's name and address:	John Deere Tractor Works 3500 East Donald St. P.O. Box 270 Waterloo, IA 50704-0270
D[1]	- Location of tractor assembly:	Same
D	- Submitted for test by:	The Manufacturer
C	- Selected for test by:	The Manufacturer in agreement with the Nebraska Tractor Test Laboratory
D	- Place of running-in:	John Deere Product Engineering Center, Waterloo, Iowa
D	- Duration of running-in (hours):	126.8 hours
C	- Location of test:	Nebraska Tractor Test Laboratory, Lincoln, Nebraska U.S.A.

1. SPECIFICATIONS OF TRACTOR

1.1 Identification

C	1.1.1	- Make of tractor (*):	John Deere
C		- Model (trade name):	9620
C		- Type: • *2 WD or 4 WD; rubber or steel tracks (if applicable); articulated 4 WD or articulated 4WD with twin (dual) wheels (if applicable)*	Articulated 4WD with triple wheels

(*) *Possibly different from tractor manufacturer's name*

	1.1.2	Numbers	
D		- 1st Serial No. or prototype:	CONFIDENTIAL
C		- Serial No.:	*RW9620P021947*
	1.1.3	Other specifications (if applicable)	
D		- Model(s) for other countries:	N/A
C		- Transmission type or gears x ranges:	18 Speed Full Powershift
C		- Speed version: ◦ *30, 40, or 50 km/h*	40 km/h
D		- Manufacturer identification or Technical type number:	N/A

1. The information opposite each item shall be validated by the Testing Station. An item marked "C" indicates to the test report user that the information declared by the manufacturer has been checked; an item marked "D" that the manufacturer's declaration has been endorsed. For example, the make of the supercharging device is declared by the manufacturer and checked "C" as consistent with the tractor by the testing station, while the pressure of the supercharging device is simply declared "D" by the manufacturer. Testing station's markings show compliance with article 8 of Appendix 3 to the Decision.

	1.2	Engine	
C		- Make / Model / Type:	John Deere / 6125HRW18 / Diesel; 4-stroke; turbocharged, direct injection, air to air intercooled
C		- Serial No.:	*RG6125H041870*
	1.2.1	Cylinders	
C		- Number / disposition:	6 / inline, vertical
D		- Bore / Stroke (mm / mm):	127 x 165
D		- Capacity (cm^3):	12536
D		- Compression ratio:	14.7 : 1
D		- Arrangement of valves:	Overhead; 4 valves per cylinder
D		- Cylinder liners (wet or dry):	Wet; replaceable
	1.2.2	Supercharging	
C		- Make / Model / Type:	Borg Warner / RE522343 / Exhaust gas driven
D		- Pressure (MPa):	162 kPa at rated engine speed and full load
	1.2.3	Fuel System	
C		- Fuel feed system:	Mechanical Transfer Pump
		- Make / Model / Type of fuel filter(s)	
C		. Primary:	Racor / RE515345 / 10 micron multilayer water separating
C		. Secondary:	Racor / RE506428 / 2 micron multilayer water separating
D		- Capacity of fuel tank (dm^3):	1022
C		- Make / Model / Type of injection pump:	Delphi / EUI 200 / Electronic Unit Injector
C		- Serial No.:	NA
		- Manufacturer's production setting of injection pump	
C		. Flow rate (rated engine speed and full load) (dm^3/h):	94.5 +/- 4.0
D		. Timing:	Variable
D		- Make / Model / Type of injectors:	Delphi / RG33967 / Electronic Unit Injector
D		- Injection pressure (MPa):	170
C		- Make / Model / Type of carburetor:	N/A
	1.2.4	Governor	
C		- Make / Model / Type:	John Deere / FOCUS / Electronic Control
C		- Governed range of engine speed from ____ to ____ (min^{-1} (rev/min)):	900 to 2255
C		- Rated engine speed (min^{-1} (rev/min)):	2100

	1.2.5	Air Cleaner	
		- Pre-cleaner	
C		. Make / Model / Type:	Donaldson / RE218404 / Stratotube precleaner with fan aspirator
C		. Location of air intake:	Top of Air Stack, right front corner of cab
		- Main cleaner	
		. Make / Model / Type	
C		- Primary:	Donaldson / RE63931 / pleated paper
C		- Secondary:	Donaldson / RE63932 / pleated paper
C		. Location of air intake (in case of no pre-cleaner):	
C		- Maintenance indicator:	Console mounted warning light and audible signal
	1.2.6	Lubrication system	
D		- Type of feed pump:	Full pressure, positive displacement
C		- Type of filter(s):	Full Flow
C		- Number of filter(s):	1 spin-on
	1.2.7	Cooling system	
C		- Type of coolant:	Liquid
D		- Type of pump:	Centrifugal, gear driven
		- Specification of fan or blower	
C		. Number of fan blades:	8
C		. Fan diameter (mm):	785
D		- Coolant capacity (dm^3):	60
C		- Type of temperature control:	Two thermostats and variable speed fan
D		- Superpressure system (Kpa):	69 +/- 5
	1.2.8	Starting system	
C		- Make / Model / Type:	Denso / RE522851 / Solenoid engaged
D		- Starter motor power rating (kW):	5.0
C		- Cold starting aid:	Ether spray in intake manifold
C		- Safety device:	Electrical lockout on gearshift lever
	1.2.9	Electrical system	
C		- Voltage (V):	12
		- Generator	
C		. Make / Model / Type:	Denso / RE186320 / Belt driven alternator with built-in regulator
D		. Power (kW):	2.1
		- Battery of accumulators	
C		. Number:	Three; 950 CCA, RC 180
D		. Rating (Ah at ____ hours):	154 Ah at 20 hours

	1.2.10	Exhaust system	
C		- Make / Model / Type:	Nelson / RE234654 / Expansion Chamber
C		- Location:	Vertical muffler, right front corner of cab
	1.3	Transmission	
	1.3.1	Clutch (travel and power take-off / travel alone)	
D		- Make / Model / Type:	John Deere / Multiple plate / Oil cooled
D		- Number of plates:	7
D		- Diameter of plates (mm):	279
C		- Method of operation:	Electro-Hydraulic; pedal actuated
	1.3.2	Gear box	
D		- Make / Model / Type:	John Deere / 18 Speed PowerShift / Full PowerShift
		- Description:	Countershaft design consisting of 8 multi-disk hydraulically cooled clutches and multi-disk hydraulically cooled planetary brake

		Forward	Reverse
C	Number of ranges		
C	Number of gears	18	6
C	Total of arrangements	18	6

D	- Available options:	None
	1.3.3 Rear axle and final drives	
D	- Make / Model / Type:	John Deere / AR188112 / Spiral bevel with pinion differential and inboard planetary reduction
	- Differential lock	
D	. Type:	Wet multi-plate
C	. Method of engagement:	Electro-hydraulic foot operated switch
C	. Method of disengagement:	Self disengaging with brake pedal operation
	1.3.4 Front axle and final drives	
D	- Make / Model / Type:	John Deere / AR188112 / Spiral bevel with pinion differential and inboard planetary reduction
	- Differential lock	
D	. Type:	Limited slip
C	. Method of engagement:	Electro-hydraulic foot operated switch
C	. Method of disengagement:	Self disengaging with brake pedal operation

1.3.5 Total ratios and traveling speeds

Gear No.	Group or range	Number of engine revolutions for one revolution of the driving wheels	Nominal traveling speed (*) at rated engine of 2100 min^{-1} (rev / min) km/h
1	1	192.4840	3.72
2	2	156.4829	4.58
3	3	141.2239	5.07
4	4	126.5060	5.66
5	5	114.8168	6.24
6	6	102.7900	6.97
7	7	92.8382	7.72
8	8	83.1354	8.62
9	9	75.4310	9.50
10	10	67.5676	10.60
11	11	61.0288	11.74
12	12	55.2196	12.97
13	13	49.5868	14.45
14	14	44.8718	15.97
15	15	36.2945	19.74
16	16	29.4985	24.29
17	17	23.8636	30.02
18	18	19.3888	36.95
Reverse			
1	1	-192.4840	-3.72
2	2	-141.2239	-5.07
3	3	-126.5060	-5.66
4	4	-92.8382	-7.72
5	5	-83.1354	-8.62
6	6	-61.0288	-11.74
(*) Calculated with a tyre dynamic radius index of 905 mm (pneumatic tyred tractors only)			

- Number of revolutions of front wheels for one revolution of rear-wheels (For 4WD tractors only): 1.000

1.3.6 Enter optional transmission information (i.e. IVT speeds)

1.4 Power take-off (PTO)

1.4.1 Main power take-off

- Type (independent, semi-independent or not independent): Independent
- Method of engagement (if necessary describe the type of clutch): Hydraulically actuated multi-plate wet clutch operated by single hand control lever
- Number of shafts: One
- Method of changing power take-off shaft ends and speeds: None

		Power take-off at 1000 min^{-1} (rev / min)	
C		- Location:	Rear of tractor, center plane
C		- Diameter of power take-off shaft end (mm):	45
C		- Number of splines: (Conformity to ISO 500:1991)	20; conforms to ISO 500 / 1991
C		- Height above ground (mm):	817
C		- Distance from the median plane of the tractor (mm):	0
C		- Distance behind rear-wheel axis (mm):	968
C		- PTO speed at rated engine speed (min^{-1} (rev/min)):	1108
C		- Engine speed at standard power take-off speed (min^{-1} (rev/min)):	1895
C		- Ratio of rotation speeds (engine speed / p.t.o. speed):	1.895 : 1
D		- Power restriction (kW):	285 kW
D		- Maximum torque transmissible (Nm):	1680
C		- Direction of rotation: (viewed from behind tractor)	Clockwise
	1.4.1.2	Power take-off proportional to ground speed	
C		- Indicate 540 or 1000 min^{-1} (rev / min):	N/A
	1.4.2	Optional power take-off	
C		- Give the same description as for the main PTO:	NA

	1.5	**Hydraulic power lift**	
C		- Make / Model / Type:	John Deere / N/A / Electro-hydraulic lower link sensing; variable mix of draft and position control; adjustable rate of drop
C		- Type of hydraulic system:	Closed center; pressure and flow compensated
C		- Type and number of cylinders (single or double acting):	Two external, single acting
C		- Type of linkage lock for transport:	Electro-hydraulic
D		- Relief valve pressure setting (tolerance) (MPa):	20.2 +/- 0.4
D		- Opening pressure of cylinder safety valve (if fitted) (MPa):	23.25 +/- 0.5
D		- Lift pump type:	Closed center, load sensing pressure-flow compensated axial piston pump with full flow charge pump
D		- Transmission between pump and engine:	Gear driven; transmission front housing
C		- Type and number of filters:	Synthetic spin on filter; one
C		- Site of oil reservoir:	Under hood; engine compartment
C		- Type, number, and location of tapping points:	ISO standard breakaway couplers / 4 standard with 5th optional and power beyond optional; rear of tractor
D		- Maximum volume of oil available to external cylinders (dm^3):	31.81

1.6 Three point linkage

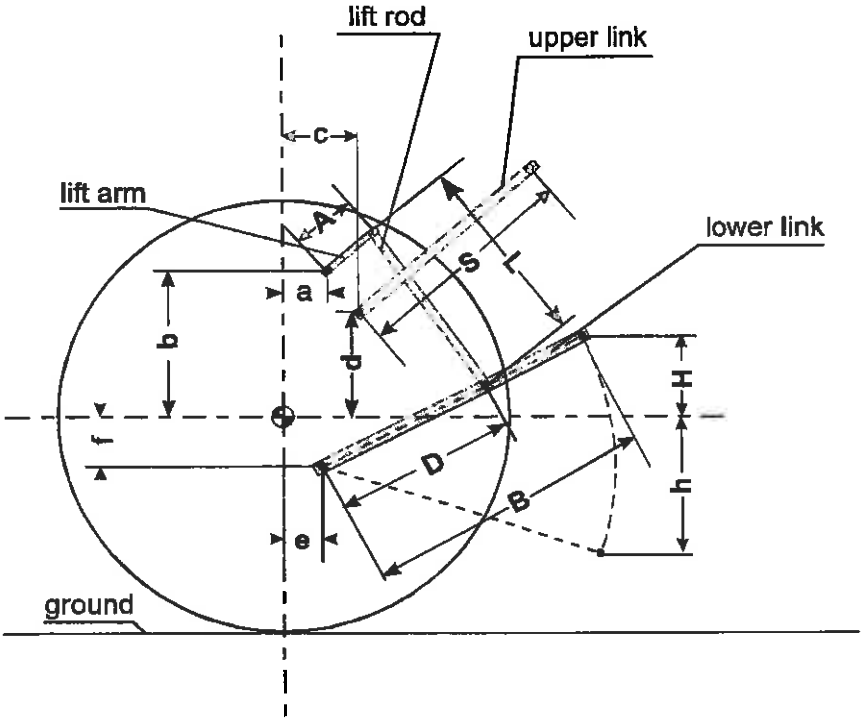


Figure 2.1
Lift Test – Linkage geometry

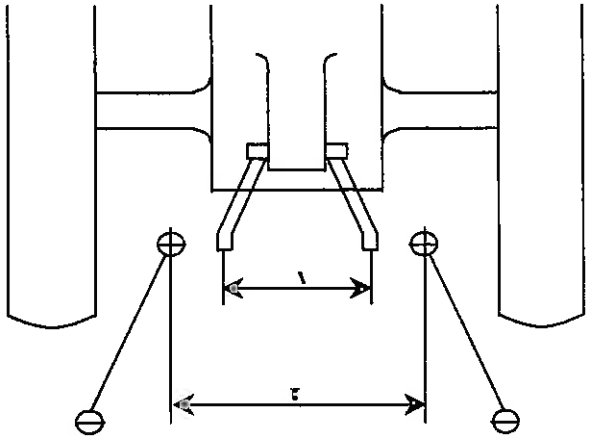


Figure 2.2
Lift Test – Linkage geometry

C	- Category:	3
	• *Conformity with categories 1, 2, 3, 4, 3N, or 4N of ISO 730-1:1994 + Cor.1:1995 and ISO 730-2:1979*	Standard Lift
C	- Category adapter:	3

			Dimension or range	Settings used in test(s)
			mm	mm
C	Length of arms:	(A)	472	Same
C	Length of lower links (with quick attach):	(B)	1117	Same
C	Length of lower links (without quick attach):		952	NA
	Distance of lift arm pivot point from rear wheel axis			
C	- horizontally:	(a)	244	Same
C	- vertically:	(b)	620	Same
C	Horizontal distance between the 2 lower link points:	(u)	640	Same
C	Horizontal distance between the 2 lift arm end points:	(v)	750	Same
C	Length of upper arm link:	(S)	from 705 to 825	781
	Distance of upper link pivot point from rear wheel axis			
C	- horizontally:	(c)	577	Same
C	- vertically:	(d)	288	Same
	Distance of lower link pivot point from rear wheel axis			
C	- horizontally:	(e)	288	Same
C	- vertically:	(f)	350	Same
C	Distance of lower link pivot points to lift rod pivot points on lower links:	(D)	731	Same
C	Length of lift rods:	(L)	From 1030 to 1150	1121
	Height of lower hitch points relative to the rear wheel axis			
C	- in low position:	(h)	521 to 724	676
C	- in high position:	(H)	89 to 284	118
C	Height above ground of lower hitch points when locked in transport position (*):		1005 to 1201	1022
	(*) Assuring r = 905 Tyre dynamic radius			

Table 1.1

Dimensions of linkage geometry when connected to the standard frame

C	- Category: • *Conformity with categories 1, 2, 3, 4, 3N, or 4N of ISO 730-1:1994 + Cor.1:1995 and ISO 730-2:1979*	4 North American Version Standard Lift
C	- Category adapter:	4

			Dimension or range	Settings used in test(s)
			mm	mm
C	Length of arms:	(A)	472	Same
C	Length of lower links (with quick attach):	(B)	1097	Same
	Length of lower links (without quick attach):		944	NA
	Distance of lift arm pivot point from rear wheel axis			
C	- horizontally:	(a)	244	Same
C	- vertically:	(b)	620	Same
C	Horizontal distance between the 2 lower link points:	(u)	640	Same
C	Horizontal distance between the 2 lift arm end points:	(v)	750	Same
C	Length of upper arm link:	(S)	from 705 to 825	770
	Distance of upper link pivot point from rear wheel axis			
C	- horizontally:	(c)	577	Same
C	- vertically:	(d)	288	Same
	Distance of lower link pivot point from rear wheel axis			
C	- horizontally:	(e)	288	Same
C	- vertically:	(f)	350	Same
C	Distance of lower link pivot points to lift rod pivot points on lower links:	(D)	718	Same
C	Length of lift rods:	(L)	From 1030 to 1150	1124
	Height of lower hitch points relative to the rear wheel axis			
C	- in low position:	(h)	521 to 724	669
C	- in high position:	(H)	89 to 284	118
C	Height above ground of lower hitch points when locked in transport position (*):		1005 to 1201	1023
	(*) Assuring r = 905 Tyre dynamic radius			

Table 1.1

Dimensions of linkage geometry when connected to the standard frame

	1.7	Swinging drawbar	
C		- Type:	Oscillating
		- Height above ground	
C		. Minimum (mm):	489
C		. Maximum (mm):	464
C		- Type of adjustment:	None
		- Distance of hitch point from rear wheel axis	
C		. Horizontally (mm):	1268
		- Distance of hitch point from power take-off shaft end	
C		. Horizontally (mm):	508
C		. Vertically (mm):	300
C		- Lateral adjustment (center of clevis)	
C		. Left hand (mm):	200
C		. Right hand (mm):	200
		- Distance of pivot point from rear wheel axis	
C		. Horizontally (mm):	585
C		- Diameter of drawbar pinhole (mm):	52.5
D		- Maximum vertical permissible load (kN):	20 kN
	1.10	Steering	
D		- Make / Model / Type:	Eaton / RE61112 / Hydrostatic
		- Method of operation	
D		. Pump(s):	Same as main hydraulic pump
D		. Rams(s):	Two external; double acting
D		- Working pressure (MPa):	18.4 +/- 0.4
	1.11	**Brakes**	
	1.11.1	Service brake	
D		- Make / Model / Type:	Vickers / RE175393 / John Deere Oil immersed
C		- Method of operation:	Hydraulic, operated by one pedal
C		- Trailer braking take-off (hydraulic or air brakes):	Optional hydraulic (not installed)
	1.11.2	Parking brake	
C		- Type:	Spring applied; hydraulic release
C		- Method of operation:	Gear selector lever

1.12 **Wheels**

- Number

C . Front (driving / steering): 2;4;6; driving and steering

C . Rear (driving / steering): 2;4;6; driving and steering

C - Wheelbase (mm): 3500

- Track width adjustment:

		Minimum mm	Maximum mm	Adjustment method
D	Inner	1460	1910	Rack and pinion axle; reversing wheels and offset lug rims
D	Center	2610	2820	Rack and pinion axle; reversing wheels and offset lug rims
D	Outer	3950	4160	Spacer between center and outer wheels

1.13 **Protective structure**

C - Make / Model / Type: John Deere / SG079 / Cab

C - Manufacturer's name and address: John Deere Waterloo Works Waterloo, Iowa, USA

- Protective device

C . Cab / frame / rollguard / other: Cab

C . Tiltable / not tiltable: Not tiltable

- OECD approval

C . approval number: 4/0 717

C . Date of approval: 04 April 2002

C . Nos. of minor modification certificates, if any: 1st extension 08Sep04

1.14 **Seat(s)**

1.14.1 Driver's seat

C - Make / Model / Type: Sears Manufacturing / Comfort Command / air cushion suspension

C - Seat and steering wheel reversible: Yes / No: No

C - Type of suspension: Air ride

C - Type of damping: Adjustable viscous damping

- Range of adjustment

C . Longitudinally (mm): 178

C . Vertically (mm): 172

C - Safety belt: Yes

. Type: 2 point, fully retractable

1.14.2. Optional driver's seat(s)

1.14.2.1 Option 1

D	- Make / Model / Type	John Deere/ Sears Manufacturing/ John Deere Active Seat
D	- Type of suspension:	Air/Hydraulic
D	- Type of damping:	Active position control
	- Range of adjustment	
D	. Longitudinally (mm):	178
D	. Vertically (mm):	172; (92 mm adjustment range)

1.14.3 Passenger seat

C	- Location:	Optional Instructional Seat located left of driver's seat
C	- Capacity (number)	One

1.15 Lighting

		Height above ground of centre	Size	Distance from outside edge of lights to median plane of tractor
		mm	mm	mm
C	Headlights			
C	Inner	2185	135 x 90	445
C	Outer	2185	155 x 115	270
C	Center	2185	130 x 85	65
C	Sidelights			
C	Front	3480	160 x 110	955
C	Rear	3480	160 x 110	955
C	Rearlights			
C	Roof	2050	160 x 110	980
C	Fender	2050	160 x 110	785
C	Reflectors			
C	Front (Wrap around)	3380	82 x 240	715
C	Rear (Wraparound)	3340	82 x 240	715
C	Tail lights	1855	210 x 95	900
C	Extremity		110 dia	

2. TEST CONDITIONS

Separate tables may be added to report other test conditions or equipments.

2.1 Overall dimensions

	Length	Width		Height at top of:	
		minimum	maximum	protective structure	exhaust pipe
	mm	mm	mm	mm	mm
Ballasted	7315	5138	5826	3530	3896
Unballasted	7315	3437	3815	3530	3896

2.2 Ground clearance (unballasted tractor)

(mm): 315

- Clearance – limiting part: Drawbar rear support

2.3 Tractor mass

Mass (with cab, full fuel tank):

	Without driver	With driver
	kg	kg
Unballasted		
Front	10290	10349
Rear	7450	7466
Total	17740	17815
Ballasted		
Front	12505	12564
Rear	10120	10136
Total	22625	22700

Ballast Added	Number of Weights	Total Mass	Liquid
		kg	kg
Front (weights)	6	2215	-
Rear (weights)	8	2670	-

2.4 Track specifications

Not Applicable

2.5 Tyres and track specifications

		Front	Rear
Tyres			
- dimensions:		Goodyear 480/80R46	Goodyear 480/80R46
- ply rating:		158 A8	158 A8
- type:		Radial	Radial
- maximum load (tyre manufacturer's) (kN):		41.6 kN	41.6 kN
- maximum load (tractor manufacturer's) (kN):		Same	Same
- inflation pressure (tyre manufacturer's) (kPa):		From 60 to 160	From 60 to 160
- dynamic radius index (mm):		905	905
Chosen track width with triple wheels (mm)	Inner:	1562.1	1562.1
	Center:	2743.2	2743.2
	Outer:	3924.3	3924.3

2.6 Fuel

- Type:
  - *in conformity / not in conformity with national standards*

  No. 2 Diesel in Conformity with National Standard
- Density at 15° C: 0.840

2.7 Oil and lubricants

2.7.1 Capacity and change interval

	Capacity	Oil Change	Filter change
	Dm^3	h	h
Engine	42	250 (375 with John Deere PLUS-50 and John Deere filter)	250
Gear Box	174	1500	750
Front Axle	Common w/gearbox	1500	Common w/gearbox
Rear Axle	Common w/gearbox	1500	Common w/gearbox
Final Drive (front)	Common w/gearbox	1500	Common w/gearbox
Final Drive (rear)	Common w/gearbox	1500	Common w/gearbox
Hydraulic System (*)	102; separate from gearbox	1500	750
Other (steering, ___)	Steering common w/hydraulic system	1500	Steering common w/hydraulic system
(*) State if common with gear box and rear axle.			

2.7.2 Specifications (SAE, API, CCMC, ACEA, Mil.L, ISO)

	Recommended	Used during test
Engine oil		
. Type:	John Deere; Torq-Gard Supreme SAE 5W30: PLUS-50 SAE 15W40 or 0W40	John Deere; Torq-Gard Supreme SAE 15W40
. Viscosity:	12.5 - 16.3 cSt @ 100 C	12.5 - 16.3 cSt @ 100 C
. Classifications:	API CF-4; CH - 4; ACEA E2	Same
Transmission oils		
. Type:	John Deere HY-GARD; J20C SAE 10W-30	Same
. Viscosity:	58 cSt at 43 C	Same
. Classifications:	NA	NA
Hydraulic fluid		
. Type:	John Deere HY-GARD; J20C SAE 10W-30	Same
. Viscosity:	58 cSt at 43 C	Same
. Classifications:	NA	NA
Steering oil		
. Type:	Same as hydraulic	Same
. Viscosity:		
. Classifications:		

2.7.3 Grease

- **Number of lubrication points:** 20

3. COMPULSORY TESTS RESULTS

3.1 Main power take-off

- Date and location of tests: 04-Nov-04 Nebraska Tractor Test Laboratory, Lincoln, NE, USA
- Type of dynamometer bench: Eaton

	Speed			Fuel consumption			Specific
Power	Engine	PTO	Fan	Hourly		Specific	energy
kW	rev/min			kg/h	l/h	g/kWh	kW-h/l
3.1 MAXIMUM POWER - ONE HOUR TEST*							
280.91	1700	898	1411	62.48	74.37	222	3.78
3.1.2 POWER AT RATED ENGINE SPEED							
248.43	2100	1109	1607	59.67	71.03	240	3.50
3.1.3 STANDARD POWER TAKE-OFF SPEED (1000 +/- 25 rev/min)							
276.41	1894	1000	1520	63.64	75.76	230	3.65
3.1.4 PART LOADS							
3.1.4.1 the torque corresponding to maximum power at rated engine speed							
248.43	2100	1109	1607	59.67	71.03	240	3.50
3.1.4.2 85% of torque obtained in 3.1.4.1							
216.66	2156	1139	1590	56.06	66.73	259	3.25
3.1.4.3 75% of torque defined in 3.1.4.2							
164.24	2179	1151	1278	45.04	53.61	274	3.06
3.1.4.4 50% of torque defined in 3.1.4.2							
110.54	2200	1162	1281	35.11	41.79	318	2.65
3.1.4.5 25% of torque defined in 3.1.4.2							
55.79	2221	1173	1042	24.09	28.67	432	1.95
3.1.4.6 unloaded							
1.26	2237	1181	1010	14.70	17.49	11686	0.07
3.1.5 PART LOADS AT STANDARD POWER TAKE-OFF SPEED (1000 +/- 25 rev/min)							
3.1.5.1 the torque corresponding to maximum power at standard PTO speed							
276.41	1894	1000	1520	63.64	75.76	230	3.65
3.1.5.2 85% of torque obtained in 3.1.5.1							
240.38	1937	1023	1489	55.79	66.41	232	3.62
3.1.5.3 75% of torque defined in 3.1.5.2							
182.57	1964	1037	1216	45.04	53.61	247	3.41
3.1.5.4 50% of torque defined in 3.1.5.2							
123.41	1990	1051	1207	34.97	41.63	283	2.96
3.1.5.5 25% of torque defined in 3.1.5.2							
62.43	2018	1066	963	22.59	26.89	362	2.32
3.1.5.6 unloaded							
1.14	2035	1075	901	12.25	14.58	10699	0.08

- No load maximum engine speed: 2237 rev/min
- Torque (equivalent crankshaft) at rated speed:
  - At rated engine speed 1130 Nm
  - At 2-hour test 1578 Nm
- Maximum torque (equivalent crankshaft) 1679 Nm
  (engine speed: 1252 rev/min)

Mean atmospheric conditions:		
Dry bulb	24	°C
Pressure	98.8	kPa
Relative Humidity	30	%
Maximum temperatures:		
Coolant	90	°C
Engine oil	113	°C
Fuel	59	°C
Engine air intake	48	°C

*Note The JD 9620 has an electronic control system to prevent it from transmitting full engine power through the PTO

3. COMPULSORY TESTS RESULTS (OPTIONAL PTO PART LOAD TEST)

3.1 Main power take-off

- Date and location of tests: 04-Nov-04 Nebraska Tractor Test Laboratory, Lincoln, NE, USA
- Type of dynamometer bench: Eaton

Power	Speed			Fuel consumption			Specific energy
				Hourly		Specific	
kW	Engine	PTO	Fan	kg/h	l/h	g/kWh	kW-h/l
3.1.6 PART LOADS AT DIFFERENT ENGINE SPEEDS							
3.1.6.1 maximum power at rated engine speed							
248.43	2100	1109	1607	59.67	71.03	240	3.50
3.1.6.2 80% of power obtained in 3.1.6.1 at max speed setting							
199.20	2165	1143	1557	52.39	62.36	263	3.19
3.1.6.3 80% of power obtained in 3.1.6.1 with governor control set to 90% of rated engine speed							
199.08	1889	998	1246	47.76	56.85	240	3.50
3.1.6.4 40% of power obtained in 3.1.6.1 with governor control set to 90% of rated engine speed							
99.19	1890	998	936	28.71	34.18	289	2.90
3.1.6.5 60% of power obtained in 3.1.6.1 with governor control set to 60% of rated engine speed							
148.42	1262	667	808	33.75	40.17	227	3.69
3.1.6.6 40% of power obtained in 3.1.6.1 with governor control set to 60% of rated engine speed							
99.41	1268	670	748	23.95	28.51	241	3.49

2.1 Hydraulic Power

te of Test:	11-Nov-04	JD 9620 Wheeled
cation of Test-City-State:		Tractor Test Lab, Lincoln, NE, USA
pping point used for test:		Remote hydraulic outlets

Sustained pressure with pump stalled:
20.44 MPa
2964 psig

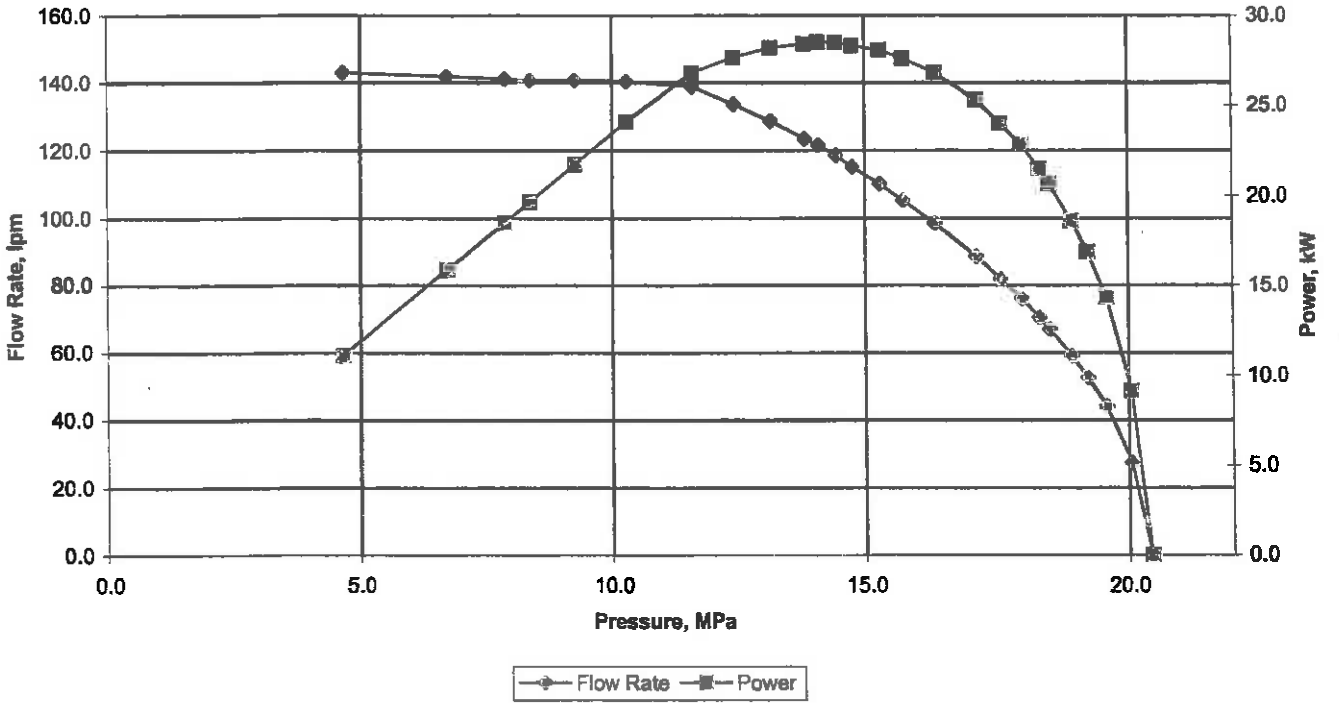
Pump delivery rate at minimum pressure at high idle:
143.1 l/min
37.8 gpm

I. Flow rate, pressure, power:

90% of relief valve setting		
67.0 l/min	18.50 MPa	20.7 kW
17.7 gpm	*2683 psig*	*27.7 hp*
Maximum hydraulic power:		
121.5 l/min	14.08 MPa	28.5 kW
32.1 gpm	*2042 psig*	*38.2 hp*

V. Hydraulic fluid temperature at flow meter:
81 °C
177 ° F

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



3.2.2 POWER LIFT TEST Category III, Quick attach linkage, 90 mm cylinders
Date of test: 23 June 1997. Test conducted on John Deere 9400 which is technically equivalent.

	Hitch points	Frame
Lower hitch points above ground - down position:	229 mm	231 mm
Vertical movement - without load:	793 mm	861 mm
with load:	774 mm	841 mm
Maximum corrected force exerted through full range:	62.2 kN	58.3 kN
Corresponding pressure:	18.3 MPa	18.3 MPa
Moment about rear axle:	97.6 kNm	127.0 kNm
Maximum mast tilt angle	--	6.7 degrees

Lifting height relative to horizontal position of lower links.

mm	-318	-300	-201	-99	0	99	201	300	401	455	526
Corrected lift forces											
At the Hitch point kN	63.6	62.2	64.6	66.6	68.6	70.2	71.5	72.6	73.6	73.7	--
at the frame kN	63.8	63.0	63.3	63.9	63.9	63.6	62.9	61.6	--	59.8	58.3
Corresponding pressure 18.3 MPa											

Date of tests:	2,3,5-Nov-2004						Fuel density:	0.840 kg/l						
Type of track:	Concrete						Test number:	1844						
3.3.1 Maximum power in tested gears (unballasted, 4wd)							Tire pressure:	55 kPa, rear		83 kPa, front		Drawbar Height:	495 mm	
Gear Number and range	Power	Drawbar pull	Speed	Engine speed	Slip of wheels and/or tracks	Fan speed	Fuel		Temperature			Atmospheric conditions		
							Specific fuel consumption	Specific energy	Fuel	Coolant	Oil	Temperature	Relative humidity	Pressure
	kW	kN	km/h	min^{-1}	%	min^{-1}	kg/kW.h	kW.h/l	°C	°C	°C	°C	%	kPa
*1	180.47	180.13	3.61	2166	6.8	999	0.294	2.86	62	82	107	10	52	98.0
*2	217.99	180.66	4.34	2123	6.8	978	0.275	3.06	62	83	109	8	66	98.2
3	230.43	174.97	4.74	2075	6.1	1007	0.264	3.18	62	83	109	9	80	98.1
4	253.27	174.51	5.22	2041	5.8	1116	0.262	3.21	61	83	110	9	69	98.0
5	274.28	173.28	5.70	2022	6.0	1169	0.259	3.24	62	84	111	11	64	97.9
6	293.54	173.12	6.10	1941	6.0	1259	0.261	3.22	61	85	113	12	60	97.9
7	319.89	172.63	6.67	1908	5.6	1264	0.261	3.22	61	85	113	11	65	98.8
8	342.93	170.54	7.24	1850	5.3	1359	0.262	3.21	61	86	115	11	64	98.8
9	347.37	158.06	7.91	1809	3.9	1452	0.259	3.25	61	86	116	11	64	98.8
10	349.22	140.73	8.93	1809	2.9	1452	0.255	3.30	60	86	116	11	54	98.8
11	349.63	126.73	9.93	1810	2.5	1449	0.254	3.30	60	87	117	11	54	98.8
12	350.70	114.85	10.99	1805	2.1	1411	0.254	3.30	59	86	117	9	62	98.8
13	346.05	101.52	12.27	1803	1.8	1437	0.256	3.28	60	86	117	11	54	98.8
14	349.48	92.56	13.59	1803	1.5	1457	0.252	3.33	60	86	116	11	54	98.8
* Note: Slip limited to avoid excessive bouncing.														
3.3.2 Fuel consumption														
3.3.2.1		In selected gear at maximum power at rated engine speed.												
7	296.39	141.68	7.53	2100	3.1	1229	0.257	3.27	61	82	111	11	65	98.8
3.3.2.1.1		75% of pull at maximum power at rated engine speed												
7	231.86	106.08	7.87	2168	2.1	1304	0.276	3.04	63	83	110	14	58	97.9
3.3.2.1.2		50% of pull at maximum power at rated engine speed												
7	157.47	70.62	8.03	2195	1.2	1087	0.301	2.80	63	80	107	12	45	98.0
3.3.2.1.3		Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.1												
8	232.22	106.02	7.89	1945	2.0	1091	0.262	3.21	62	83	108	13	46	98.0
3.3.2.1.4		Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.2												
8	157.57	70.71	8.02	1964	1.3	1017	0.285	2.95	63	80	106	13	52	98.0
3.3.2.1.5		Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.1												
9	232.08	106.03	7.98	1763	2.0	1107	0.254	3.30	62	85	109	15	55	97.9
3.3.2.1.6		Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.2												
9	157.92	70.71	8.04	1785	1.3	923	0.270	3.12	62	83	105	16	55	97.9
3.3.2.2		In selected gear nearest to 7.5 km/h at rated engine speed.												
12	306.72	85.67	12.89	2101	1.4	1412	0.259	3.24	61	84	115	9	68	98.8
3.3.2.2.1		75% of pull at maximum power at rated engine speed												
12	238.98	64.34	13.37	2171	1.0	1389	0.288	2.92	63	84	109	16	56	97.9
3.3.2.2.2		50% of pull at maximum power at rated engine speed												
12	161.61	42.89	13.57	2192	0.8	1253	0.316	2.66	63	81	108	16	56	97.9
3.3.2.2.3		Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.1												
13	239.10	64.38	13.37	1948	1.2	1251	0.269	3.12	61	84	110	17	52	97.8
3.3.2.2.4		Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.2												
13	162.08	42.83	13.62	1977	0.6	1124	0.298	2.82	62	82	107	17	52	97.8
3.3.2.2.5		Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.1												
14	239.06	64.36	13.37	1762	1.0	1218	0.261	3.22	62	85	110	17	49	97.8
3.3.2.2.6		Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.2												
14	161.92	42.82	13.61	1786	0.5	977	0.279	3.02	60	83	106	17	49	97.8

OECD Drawbar Data (SI)

Date of tests:	2,3,5-Nov-2004					Fuel density:	0.840 kg/l							
Type of track:	Concrete					Test number:	1844							
4.1 Maximum power in tested gears (unballasted, 4wd)							Tire pressure:	55 kPa, rear	83 kPa, front			Drawbar Height:	495 mm	
Gear Number and range	Power	Drawbar pull	Speed	Engine speed	Slip of wheels and/or tracks	Fan speed	Fuel		Temperature			Atmospheric conditions		
							Specific fuel consumption	Specific energy	Fuel	Coolant	Oil	Temperature	Relative humidity	Pressure
	kW	kN	km/h	min^{-1}	%	min^{-1}	kg/kW.h	kW.h/l	°C	°C	°C	°C	%	kPa
*1	180.79	180.01	3.62	2167	6.5	949	0.292	2.88	62	84	108	10	52	98.0
*2	217.48	179.98	4.35	2128	7.0	1006	0.275	3.05	62	83	109	8	66	98.2
3	229.52	170.35	4.85	2099	5.6	981	0.262	3.20	62	84	109	8	67	98.1
4	244.21	160.71	5.47	2101	4.3	1036	0.261	3.22	61	83	109	9	69	98.0
5	263.39	157.08	6.04	2100	4.0	1107	0.257	3.27	61	82	109	10	63	98.0
6	277.41	147.30	6.78	2099	3.6	1196	0.258	3.26	62	83	110	11	59	97.9
7	296.39	141.68	7.53	2100	3.1	1229	0.257	3.27	61	82	111	11	65	98.8
8	313.41	133.41	8.46	2104	2.7	1317	0.254	3.31	61	83	113	11	64	98.8
9	312.49	120.31	9.35	2100	2.3	1333	0.254	3.31	62	84	114	11	54	98.8
10	309.16	106.02	10.50	2103	1.9	1404	0.257	3.27	61	85	112	11	54	98.8
11	309.70	95.94	11.62	2097	1.6	1416	0.256	3.28	61	83	113	11	54	98.8
12	306.72	85.67	12.89	2101	1.4	1412	0.259	3.24	61	84	115	9	68	98.8

* Note: Slip limited to avoid excessive bouncing.

OECD Drawbar Data (SI)

Date of tests:	2,3,5-Nov-2004					**Fuel density:**	0.840 kg/l							
Type of track:	Concrete					**Test number:**	1844							
Maximum power in tested gears (unballasted)							**Tire pressure:**	55 kPa, rear	83 kPa, front			**Drawbar Height:**	495 mm	
Gear Number and range	**Power**	**Drawbar pull**	**Speed**	**Engine speed**	**Slip of wheels and/or tracks**	**Fan speed**	**Fuel**		**Temperature**			**Atmospheric conditions**		
							Specific fuel consumption	**Specific energy**	**Fuel**	**Coolant**	**Oil**	**Temperature**	**Relative humidity**	**Pressure**
	kW	kN	km/h	min^{-1}	%	min^{-1}	kg/kW.h	kW.h/l	°C	°C	°C	°C	%	kPa
4.2	Two hour maximum drawbar power test*													
12	344.16	111.58	11.10	1847	3.7	1521	0.262	3.20	61	89	120	11	65	97.6
4.3	Drawbar full load (lugging run) test													
12	306.72	85.67	12.89	2101	1.4	1412	0.259	3.24	61	84	115	9	68	98.8
12	333.20	97.95	12.25	2003	1.7	1572	0.262	3.21	60	83	116	9	68	98.8
12	345.35	107.02	11.62	1904	1.9	1399	0.259	3.25	61	86	117	9	62	98.8
12	350.70	114.85	10.99	1805	2.1	1411	0.254	3.30	59	86	117	9	62	98.8
12	348.39	121.22	10.35	1703	2.3	1376	0.251	3.35	59	86	117	9	62	98.8
12	340.03	125.64	9.74	1605	2.4	1300	0.249	3.37	60	86	116	9	62	98.8
12	318.48	126.03	9.10	1499	2.5	1240	0.243	3.45	60	86	117	9	62	98.8
12	295.67	125.22	8.50	1401	2.4	1114	0.239	3.52	60	88	116	9	62	98.8
12	274.70	125.02	7.91	1304	2.5	1074	0.239	3.52	61	88	116	9	62	98.8
12	253.76	125.24	7.29	1202	2.4	922	0.242	3.47	61	90	116	9	62	98.8
12	232.21	125.27	6.67	1102	2.5	1213	0.249	3.38	61	88	117	9	62	98.8
4.4	75% of pull at maximum power at rated engine speed													
12	238.98	64.34	13.37	2171	1.0	1389	0.288	2.92	63	84	109	16	56	97.9
4.5	50% of pull at maximum power at rated engine speed													
12	161.61	42.89	13.57	2192	0.8	1253	0.316	2.66	63	81	108	16	56	97.9

*Maximum drawbar power sustained for two hours

OECD Drawbar Data (SI)

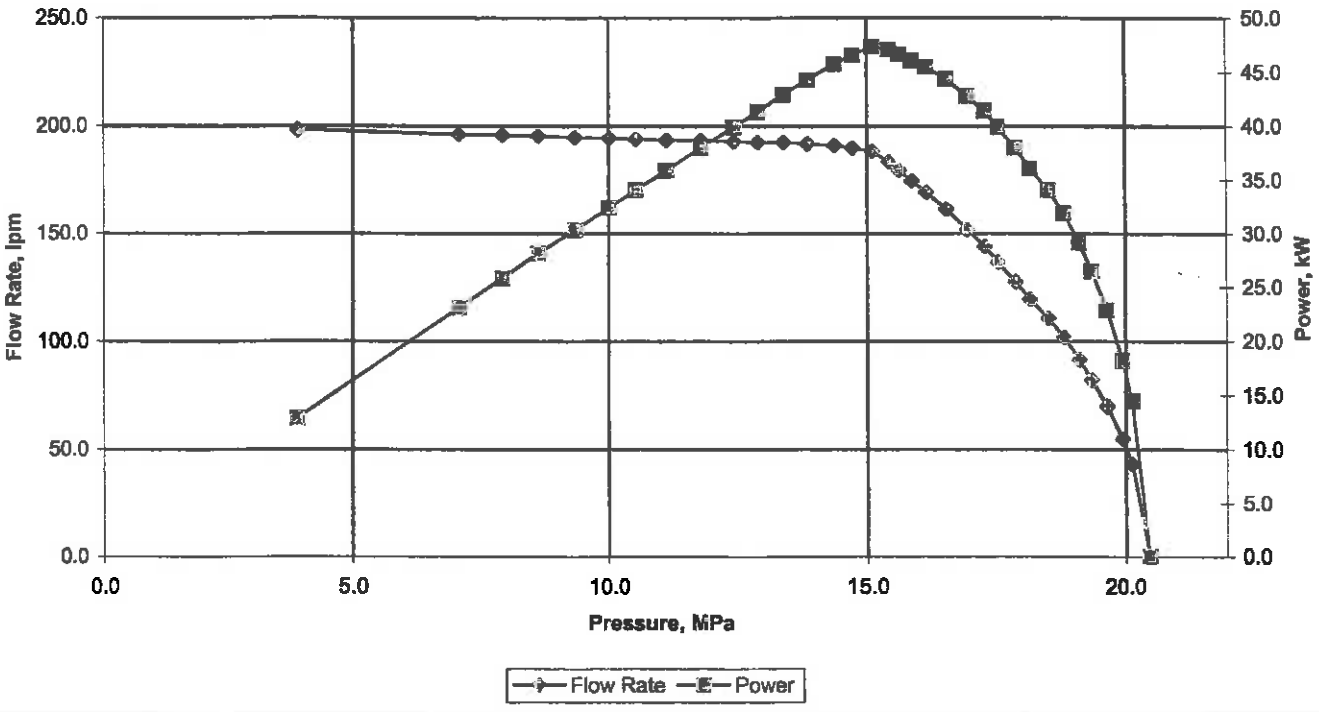
Date of tests:	9,12-Nov-2004					Fuel density:	0.840 kg/l							
Type of track:	Concrete					Test number:	1844							
4.6 Maximum power in tested gears (ballasted, 4wd)							Tire pressure:	83 kPa, rear	110 kPa, front			Drawbar Height:	495 mm	
Gear Number and range	Power	Drawbar pull	Speed	Engine speed	Slip of wheels and/or tracks	Fan speed	Fuel		Temperature			Atmospheric conditions		
							Specific fuel consumption	Specific energy	Fuel	Coolant	Oil	Temperature	Relative humidity	Pressure
	kW	kN	km/h	min^{-1}	%	min^{-1}	kg/kW.h	kW.h/l	°C	°C	°C	°C	%	kPa
1	219.81	227.74	3.47	2103	8.1	912	0.273	3.08	60	84	108	6	62	99.1
2	239.79	217.37	3.97	1937	6.9	1285	0.268	3.14	64	84	110	16	74	98.0
3	248.28	212.21	4.21	1843	6.2	1276	0.260	3.23	62	85	109	17	71	97.9
4	264.30	205.79	4.62	1802	6.2	1273	0.257	3.27	61	86	111	19	67	97.9
5	288.75	203.81	5.10	1801	5.8	1306	0.256	3.29	60	87	112	20	64	97.9
6	304.57	190.35	5.76	1799	4.5	1431	0.255	3.29	61	88	115	20	64	97.9
7	325.91	183.22	6.40	1800	4.2	1472	0.249	3.37	62	90	117	20	64	97.8
8	349.93	175.23	7.19	1802	3.7	1616	0.249	3.37	63	91	119	20	64	97.8
9	348.97	157.28	7.99	1804	3.0	1589	0.253	3.32	64	92	120	20	64	97.8
10	349.72	140.63	8.95	1800	2.4	1577	0.253	3.32	62	91	120	20	64	97.8
11	351.29	126.93	9.96	1803	2.1	1591	0.252	3.33	61	92	122	20	64	97.8
12	352.27	115.10	11.02	1800	1.8	1588	0.248	3.38	60	93	122	19	64	97.7
13	347.71	101.78	12.30	1797	1.5	1603	0.253	3.31	61	94	123	19	64	97.7
14	350.60	92.62	13.63	1799	1.3	1629	0.253	3.32	62	93	123	19	64	97.7

7 Hydraulic Power

te of Test:	11-Nov-04	JD 9620
cation of Test-City-State:		Tractor Test Lab, Lincoln, NE, USA
pping point used for test:		Remote hydraulic outlets

	Sustained pressure with pump stalled:		
	20.48 MPa		
	2970 psig		
I.	Pump delivery rate at minimum pressure at high idle:		
	198.0 l/min		
	52.3 gpm		
II.	Flow rate, pressure, power:		
	90% of relief valve setting		
	110.5 l/min	18.49 MPa	34.1 kW
	29.2 gpm	*2682 psig*	*45.7 hp*
	Maximum hydraulic power:		
	188.1 l/min	15.10 MPa	47.4 kW
	49.7 gpm	*2190 psig*	*63.5 hp*
V.	Hydraulic fluid temperature at flow meter:		
	81 °C		
	177 °F		

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



4.8 POWER LIFT TEST Category IV, Quick attach linkage, 90 & 100 mm cylinders
Date of test: 22 June 1997. Test conducted on John Deere 9400 which is technically equivalent.

	Hitch points	Frame
Lower hitch points above ground - down position:	236 mm	216 mm
Vertical movement - without load:	787 mm	861 mm
with load:	765 mm	831 mm
Maximum corrected force exerted through full range:	68.6 kN	64.0 kN
Corresponding pressure:	18.3 MPa	18.3 MPa
Moment about rear axle:	105.4 kNm	137.3 kNm
Maximum mast tilt angle	--	5.3 degrees

Lifting height relative to horizontal position of lower links.

mm	-330	-310	-300	-201	-99	0	99	201	300	401	455	511
Corrected lift forces												
At the Hitch point kN	--	69.5	68.6	70.8	73.6	75.8	77.6	79.0	80.3	81.2	81.4	--
at the frame kN	70.1	69.0	--	69.4	70.3	70.4	70.0	69.2	67.8	--	65.7	64.0
Corresponding pressure 18.3 MPa												

Ag High Flow- 1 Coupler Set

e of Test:	17-Feb-04	John Deere 9620
ation of Test-City-State:		Tractor Test Lab, Lincoln, NE, USA
ping point used for test:		Remote hydraulic outlets

Sustained pressure with pump stalled:
19.51 MPa
2829 psig

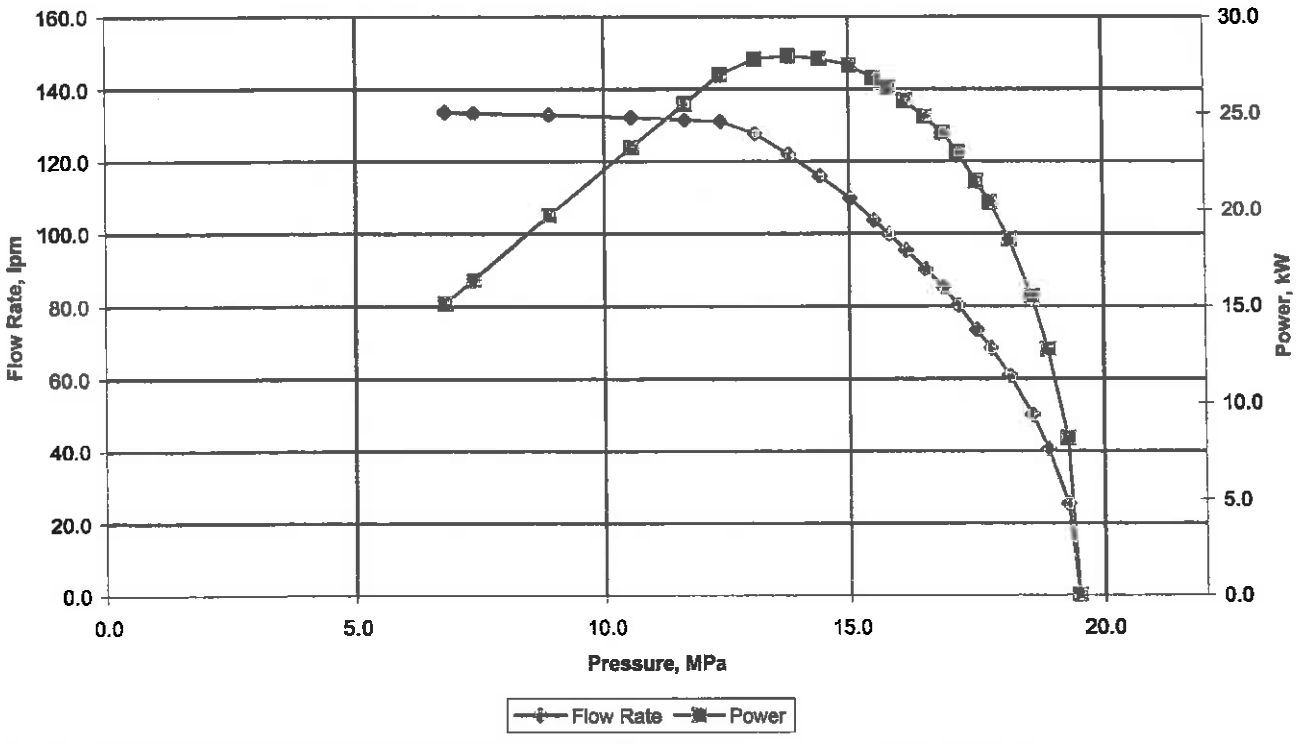
Pump delivery rate at minimum pressure at high idle:
133.6 l/min
35.3 gpm

Flow rate, pressure, power:

90% of relief valve setting		
73.4 l/min	17.54 MPa	21.5 kW
19.4 gpm	*2544 psig*	*28.8 hp*
Maximum hydraulic power:		
121.9 l/min	13.77 MPa	28.0 kW
32.2 gpm	*1997 psig*	*37.5 hp*

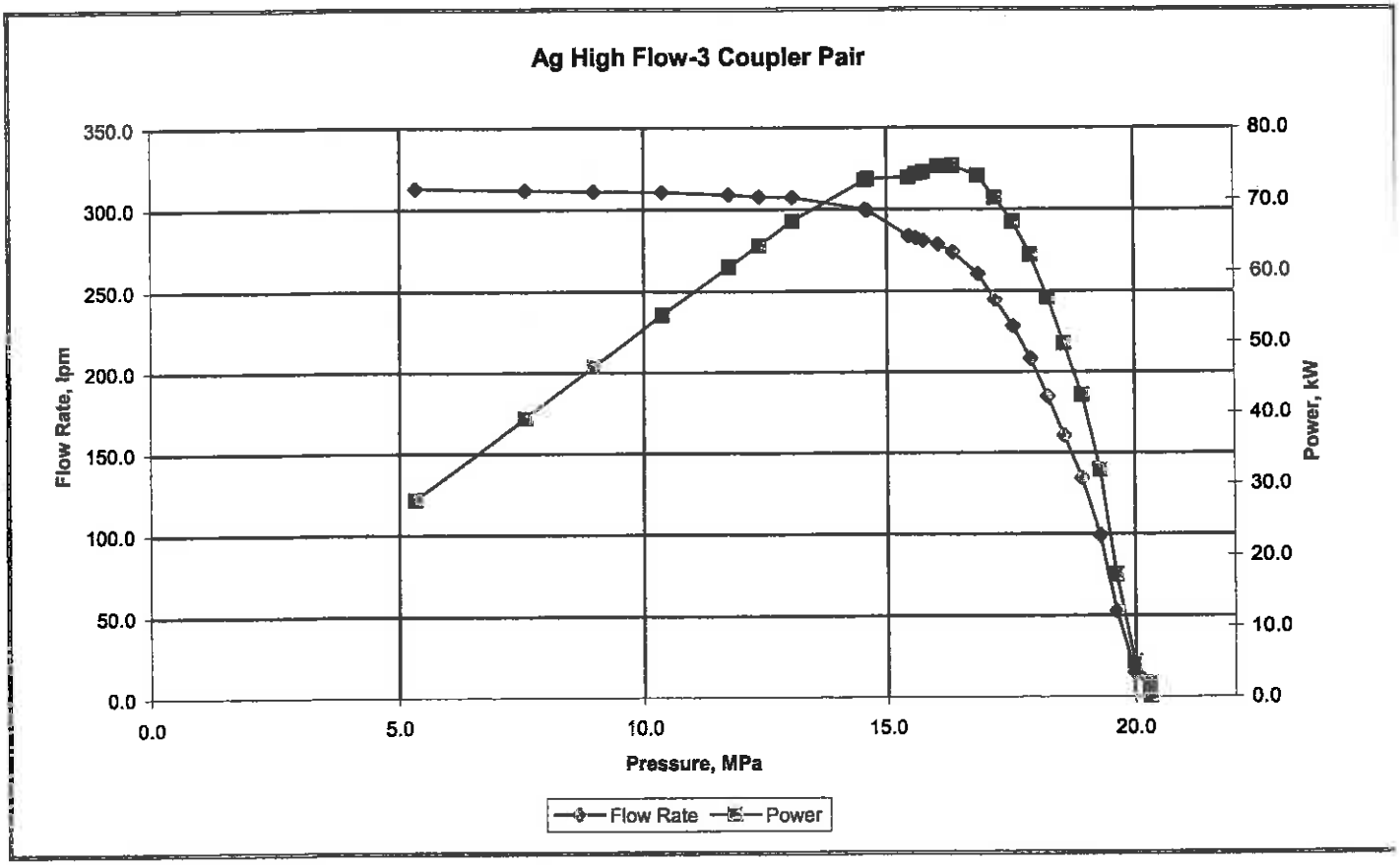
Hydraulic fluid temperature at flow meter:
78 °C
172 °F

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



4.10 Ag High Flow-3 Coupler Pair

Date of Test:	17-Feb-04	John Deere 9620	
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:		
	20.31 MPa		
	2945 psig		
II.	Pump delivery rate at minimum pressure at high idle:		
	313.1 l/min		
	82.7 gpm		
III.	Flow rate, pressure, power:		
	90% of relief valve setting		
	184.7 l/min	18.26 MPa	56.2 kW
	48.8 gpm	*2649 psig*	*75.4 hp*
	Maximum hydraulic power:		
	273.7 l/min	16.36 MPa	74.6 kW
	72.3 gpm	*2373 psig*	*100.1 hp*
IV.	Hydraulic fluid temperature at flow meter:		
	71 °C		
	159 °F		
	This hydraulic system does not use an accumulator. Opening and closing pressures of the unloading valve could not be measured.		



4.11 Measurement of Noise Level at Operator's Ear*

-- Date of Test	November 5, 2004
-- Location of Test	Nebraska Tractor Test Laboratory
-- Sound Level Meter	Bruel and Kjaer 2236
-- Type of Track	Concrete Oval
-- Gear Number	7
-- Drawbar Load	None
-- Noise at Operator Ear	73.6 dB(A)

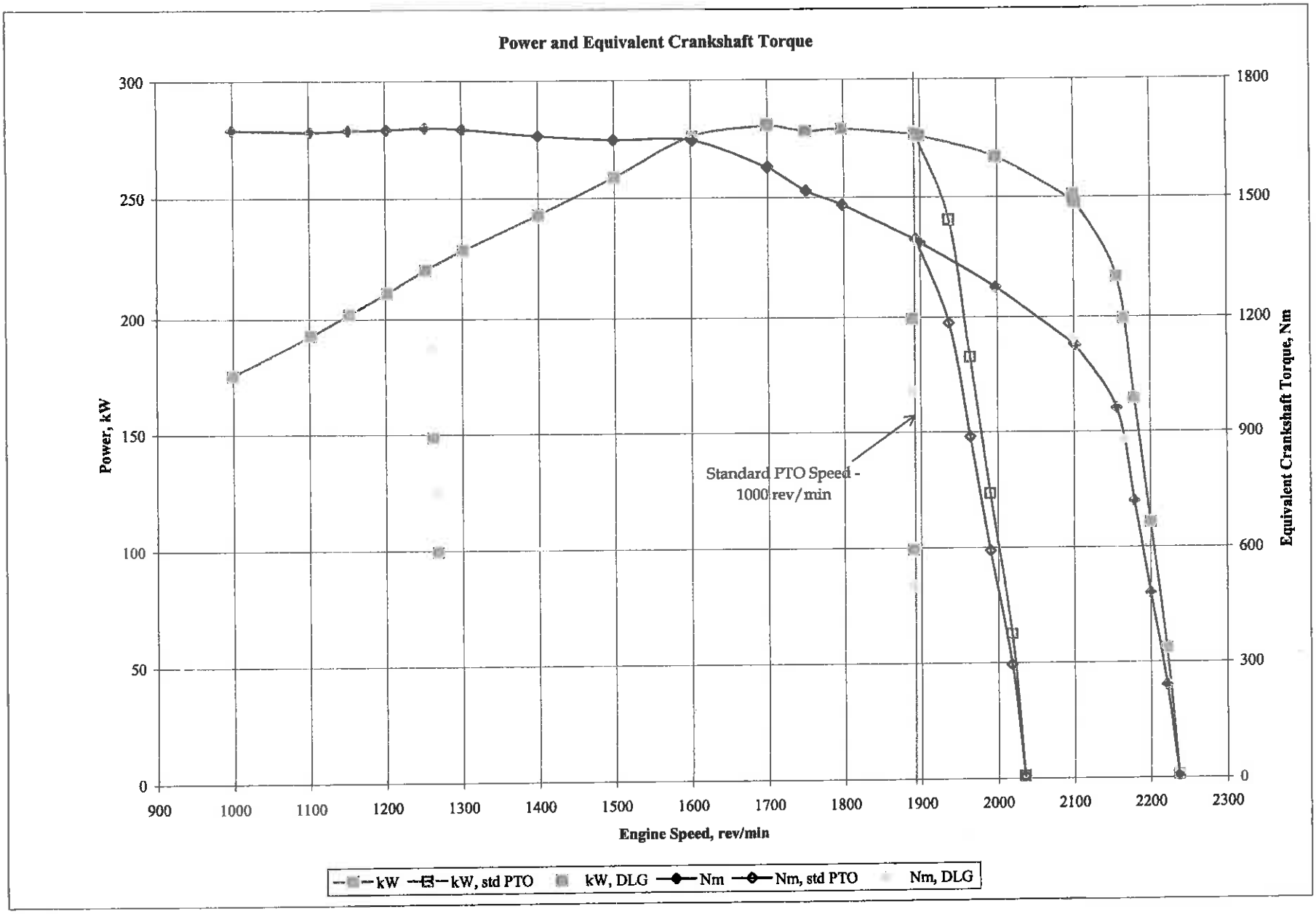
* Note: Nebraska tractor test station guidelines.

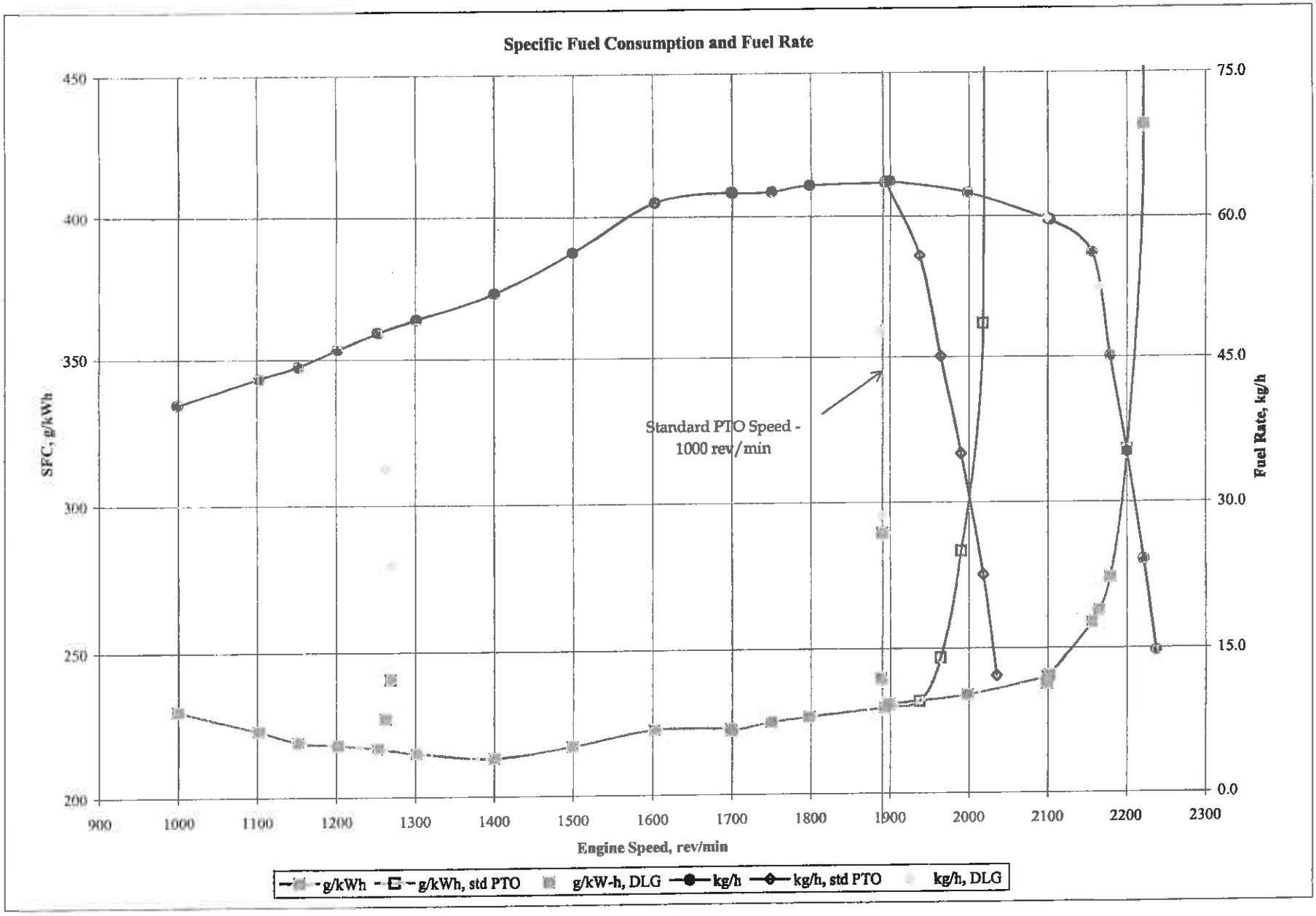
5. Repairs and Adjustments: None

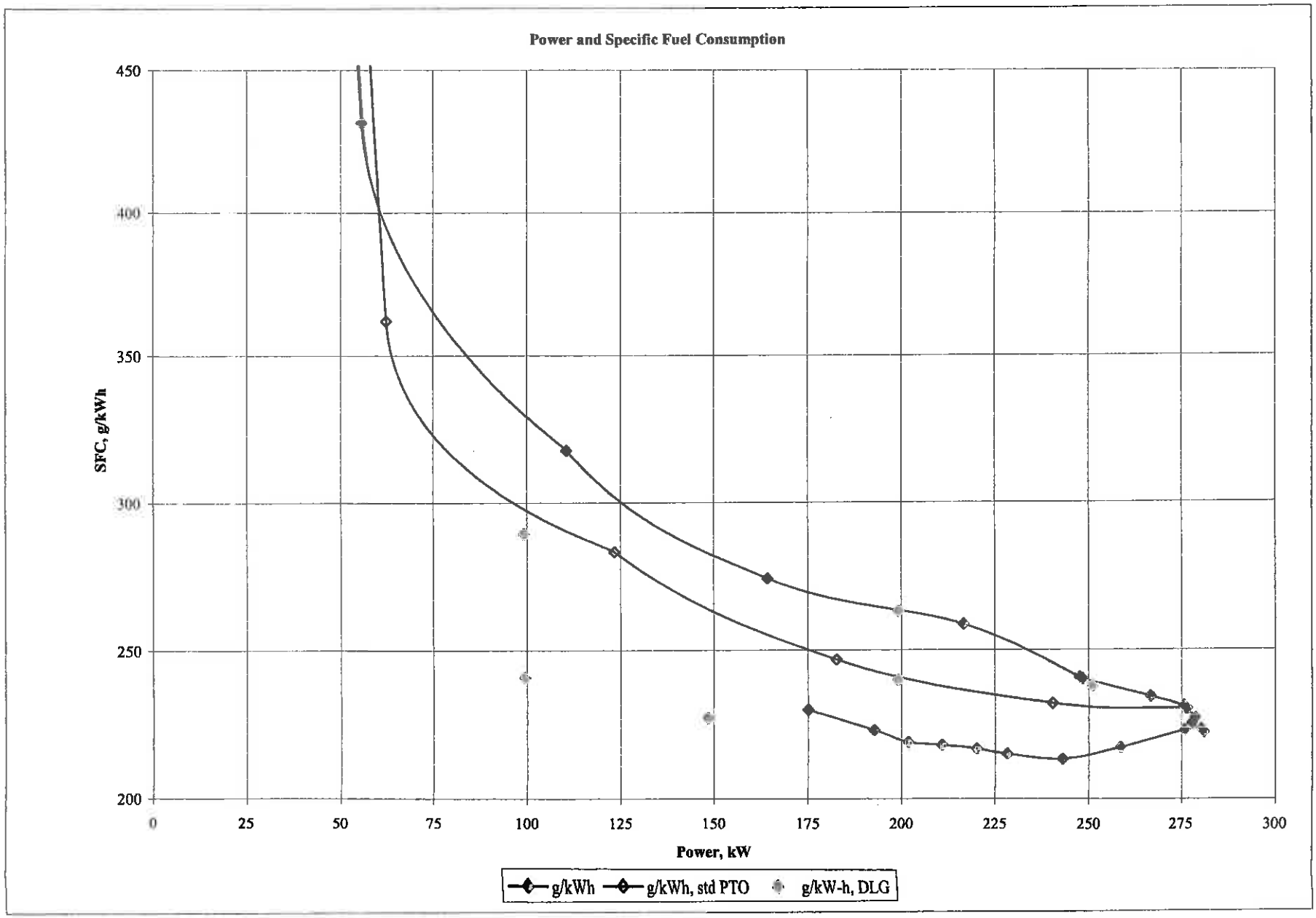
6. Remarks:

Note: The 9620 engine has an electronic control system which provides a vehicle protection system to avoid overloading the drive train. This system provides six different engine power levels. At 2100 rpm the engine produces up to 280 kW (375 hp) when the transmission is in forward gears 1 through 3 or when the tractor is being used for stationary PTO operations. At 2100 rpm the engine produces 298 kW (400 hp) when the transmission is in gear 4. At 2100 rpm the engine produces 336 kW (450 hp) when the transmission is in gear 6. At 2100 rpm the engine produces 354 kW (475 hp) when the transmission is in gear 7. At 2100 rpm the engine produces 373 kW (500 hp) in all other applications.

John Deere 9620




Specific Fuel Consumption and Fuel Rate
SFC, g/kWh
Fuel Rate, kg/h
Engine Speed, rev/min
Standard PTO Speed - 1000 rev/min
g/kWh
g/kWh, std PTO
g/kW-h, DLG
kg/h
kg/h, std PTO
kg/h, DLG


Power and Specific Fuel Consumption
SFC, g/kWh
450
400
350
300
250
200
0
25
50
75
100
125
150
175
200
225
250
275
300
Power, kW
g/kWh
g/kWh, std PTO
g/kW-h, DLG