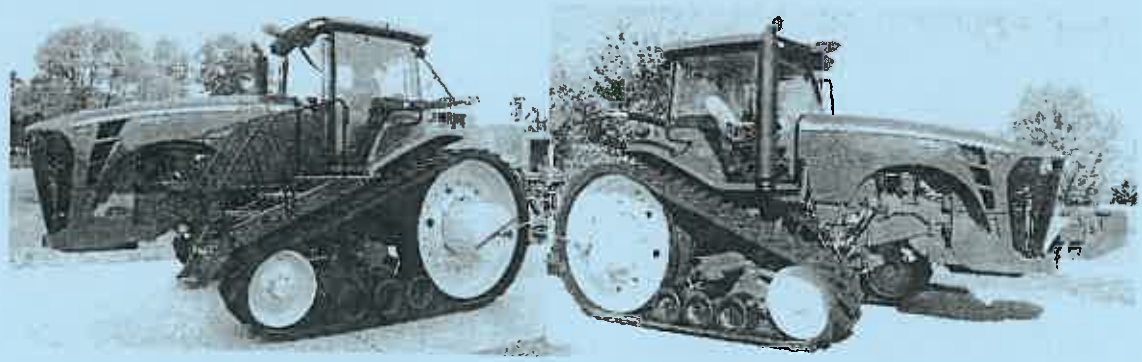
OECD APPROVAL NO. 2/2 370
CODE 2
DATE OF APPROVAL: 14 May 2007

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 8330T Power Shift
Rubber Tracklaying Tractor

MANUFACTURED BY:	**John Deere Tractor Works** **3500 East Donald Street** **Waterloo, IA 50704-0270**
NEBRASKA TEST NO.	**1888**
TEST DATES:	**June – October, 2006**

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 14 May 2007 for the John Deere 8330T Power Shift, Rubber Tracklaying tractor with OECD number 2/2 370.

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: DEC 0 6 2007

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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):	85 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):	8330T
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)*	Rubber tracks
		(*) *Possibly different from tractor manufacturer's name*	
	1.1.2	Numbers	
D		- 1st Serial No. or prototype:	CONFIDENTIAL
C		- Serial No.:	*RW8330T901179*
	1.1.3	Other specifications (if applicable)	
D		- Model(s) for other countries:	N/A
C		- Transmission type or gears x ranges:	30K Power Shift Transmission (PST)
C		- Speed version: • *30, 40, or 50 km/h*	30 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 / 6090HRW02 / Diesel; 4-stroke; turbocharged, direct injection, air to air intercooled
C		- Serial No.:	*RG6090L005576*
	1.2.1	Cylinders	
C		- Number / disposition:	6 / inline, vertical
D		- Bore / Stroke (mm / mm):	118.4 x 136
D		- Capacity (cm^3):	8984
D		- Compression ratio:	16.3 : 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 / RE529978 / Variable Geometry exhaust gas driven
D		- Pressure (MPa):	0.205
	1.2.3	Fuel System	
C		- Fuel feed system:	Electric transfer pump
		- Make / Model / Type of fuel filter(s)	
C		. Primary:	Racor / RE520906 / 10 micron multilayer water separating
C		. Secondary:	Racor / RE523236 / 2 micron multilayer water separating
D		- Capacity of fuel tank (dm^3):	492.1
C		- Make / Model / Type of injection pump:	Denso / RE519597 / HPCR; electronic
C		- Serial No.:	N/A
		- Manufacturer's production setting of injection pump	
C		. Flow rate (rated engine speed and full load) (dm^3/h):	50.7 +/- 2.0
D		. Timing:	Variable
D		- Make / Model / Type of injectors:	Denso / RE529151 / HPCR Injection
D		- Injection pressure (MPa):	125
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 2200
C		- Rated engine speed (min^{-1} (rev/min)):	2100

	1.2.5	Air Cleaner	
		- Pre-cleaner	
C		. Make / Model / Type:	Fleetguard / RE242336 / 25 tube precleaner with fan source scavenge
C		. Location of air intake:	Under hood, middle of tractor
		- Main cleaner	
		. Make / Model / Type	
C		- Primary:	Fleetguard / RE210102 / Opti-Air™ pleated paper media
C		- Secondary:	Fleetguard / RE210103 / Pleated paper
C		. Location of air intake (in case of no pre-cleaner):	Under hood, in front of cab
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 top load
	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):	788
D		- Coolant capacity (dm^3):	40
C		- Type of temperature control:	Two thermostats and variable speed fan
D		- Superpressure system (Kpa):	69 +/- 6.9
	1.2.8	Starting system	
C		- Make / Model / Type:	Denso / RE529661 / Solenoid engaged
D		- Starter motor power rating (kW):	4.0
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:	Bosch/ RE210793 / Belt driven alternator with built-in regulator
D		. Power (kW):	2.8
		- Battery of accumulators	
C		. Number:	Two; 950 CCA, RC 180
D		. Rating (Ah at ____ hours):	154 Ah at 20 hours

	1.2.10	Exhaust system	
C		- Make / Model / Type:	Fleetguard / RE210829 / 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):	232
C		- Method of operation:	Electro-Hydraulic; pedal actuated
	1.3.2	Gear box	
D		- Make / Model / Type:	John Deere / 30K PST / 16 Speed full power shift
		- Description:	Countershaft design consisting of 8 multiple disk hydraulically cooled clutches and multiple disk hydraulically cooled planetary brake

	Forward	Reverse
Number of ranges	NA	NA
Number of gears	16	4
Total of arrangements	N/A	N/A

D		- Available options:	16 x 5 (specialty market)
	1.3.3	Rear axle and final drives	
D		- Make / Model / Type:	John Deere / AR221933 / Spiral bevel gear and pinion, differential and inboard planetary reduction
		- Differential lock	
D		. Type:	N/A
C		. Method of engagement:	N/A
C		. Method of disengagement:	N/A
	1.3.4	Front axle and final drives	
D		- Make / Model / Type:	N/A
		- Differential lock	
D		. Type:	N/A
C		. Method of engagement:	N/A
C		. Method of disengagement:	N/A

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	416.493	1.47
2	2	310.956	1.96
3	3	233.563	2.61
4	4	174.380	3.50
5	5	155.491	3.93
6	6	134.864	4.53
7	7	116.090	5.26
8	8	100.691	6.06
9	9	87.197	7.00
10	10	75.630	8.07
11	11	65.102	9.38
12	12	56.466	10.81
13	13	47.910	12.74
14	14	35.770	17.06
15	15	26.867	22.72
16	16	20.059	30.43
1R	1R	-445.253	-1.37
2R	2R	-166.228	-3.67
3R	3R	-144.177	-4.64 [1]
4R	4R	-51.219	-8.51 [2]
5R	5R	-51.219	-11.92 [3]

(*) Calculated with drive wheel dynamic radius index of 771 mm
[1] Travel Speed at 2300 engine rpm
[2] Travel Speed at 1500 engine rpm
[3] Specific market feature only

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

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): Electro-hydraulically actuated multi-plate wet clutch operated by single hand switch
- Number of shafts: One
- Method of changing power take-off shaft ends and speeds: N/A

	1.4.1.1	Power take-off proportional to engine speed	
		Power take-off at 540 min^{-1} (rev / min)	
C		- Location:	N/A
C		- Diameter of power take-off shaft end (mm):	N/A
C		- Number of splines: (Conformity to ISO 500:1991)	N/A
C		- Height above ground (mm):	N/A
C		- Distance from the median plane of the tractor (mm):	N/A
C		- Distance behind rear-wheel axis (mm):	N/A
C		- PTO speed at rated engine speed (min^{-1} (rev/min)):	N/A
C		- Engine speed at standard power take-off speed (min^{-1} (rev/min)):	N/A
C		- Ratio of rotation speeds (engine speed / p.t.o. speed):	N/A
D		- Power restriction (kW):	N/A
D		- Maximum torque transmissible (Nm):	N/A
		- Direction of rotation: (viewed from behind tractor)	N/A
		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):	800
C		- Distance from the median plane of the tractor (mm):	0
C		- Distance behind rear-wheel axis (mm):	583.3
C		- PTO speed at rated engine speed (min^{-1} (rev/min)):	1048
C		- Engine speed at standard power take-off speed (min^{-1} (rev/min)):	2003
C		- Ratio of rotation speeds (engine speed / p.t.o. speed):	2.003 : 1
D		- Power restriction (kW):	None
D		- Maximum torque transmissible (Nm):	None
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

C		- Traveling distance for one revolution of take-off shaft (m):	N/A
C		- Number of power take-off shaft revolutions for one revolution of (rear) driving wheels:	N/A
C		- Direction of rotation with forward gear engaged (viewed from behind tractor):	N/A
	1.4.2	Optional power take-off	
C		- Give the same description as for the main PTO:	N/A
	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 (100 mm)
C		- Type of linkage lock for transport:	Electro-hydraulic
D		- Relief valve pressure setting (tolerance) (MPa):	20.4 +/- 0.3
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 partial flow charge pump with combined return flow charge
D		- Transmission between pump and engine:	Gear driven; Rear Differential case hypoid gear set
C		- Type and number of filters:	Synthetic spin on filter; one
C		- Site of oil reservoir:	Differential case housing
C		- Type, number, and location of tapping points:	ISO standard breakaway couplers / 4 standard with 5th and power beyond optional; rear of tractor
D		- Maximum volume of oil available to external cylinders (dm^3):	25; Optional 50

1.6 Three point linkage

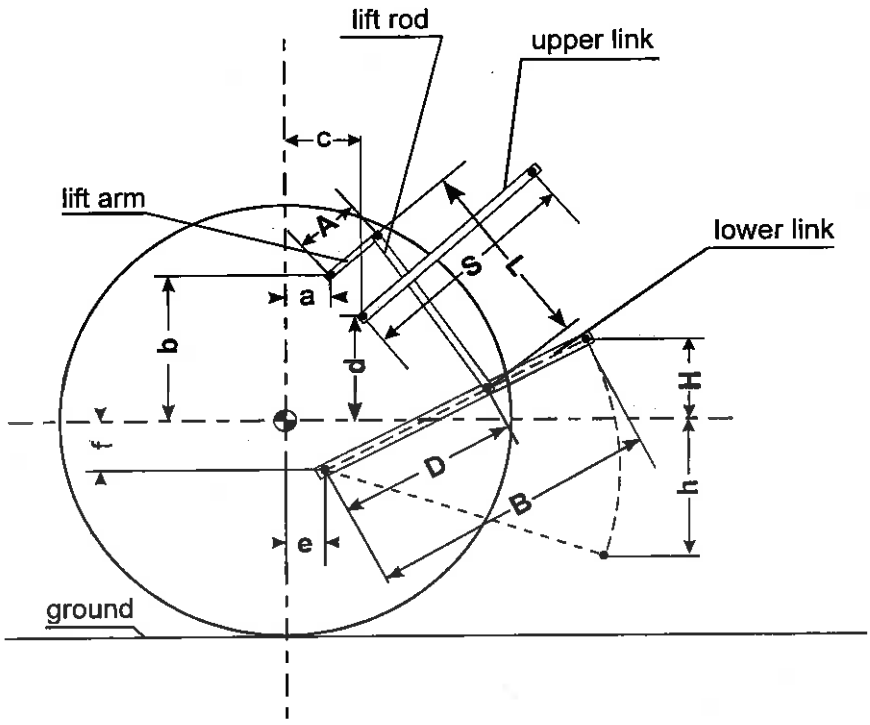


Figure 2.1
Lift Test – Linkage geometry

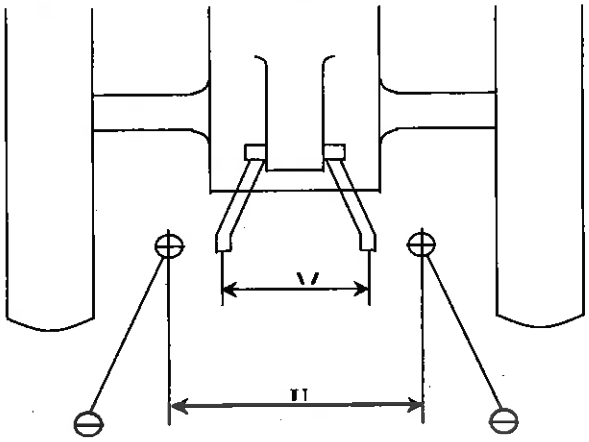


Figure 2.2
Lift Test – Linkage geometry

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*	Specific Market Version
C	- Category adapter:	None

			Dimension or range	Settings used in test(s)
			mm	mm
C	Length of arms:	(A)	520	Same
C	Length of lower links:	(B)	1081	Same
	Distance of lift arm pivot point from rear wheel axis			
C	- horizontally:	(a)	230	Same
C	- vertically:	(b)	480	Same
C	Horizontal distance between the 2 lower link points:	(u)	871	Same
C	Horizontal distance between the 2 lift arm end points:	(v)	758	Same
C	Length of upper arm link:	(S)	727 to 906	800
	Distance of upper link pivot point from rear wheel axis			
C	- horizontally:	(c)	555	Same
C	- vertically:	(d)	304	Same
	Distance of lower link pivot point from rear wheel axis			
C	- horizontally:	(e)	276	Same
C	- vertically:	(f)	365	Same
C	Distance of lower link pivot points to lift rod pivot points on lower links:	(D)	733	Same
C	Length of lift rods:	(L)	1028 to 1120	1060
	Height of lower hitch points relative to the rear wheel axis			
C	- in low position:	(h)	590 – 739	650
C	- in high position:	(H)	119 – 237	204
C	Height above ground of lower hitch points when locked in transport position (*):		1010 – 1127	1084
	(*) Assuming r = 880 mm			

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):	482
C		. Maximum (mm):	580
C		- Type of adjustment:	Offset drawbar
		- Distance of hitch point from rear wheel axis	
C		. Horizontally (mm):	1040, 1091
		- Distance of hitch point from power take-off shaft end	
C		. Horizontally (mm):	508, 457
C		. Vertically (mm):	220, 318
C		- Lateral adjustment (center of clevis)	
C		. Left hand (mm):	213, 205
C		. Right hand (mm):	213, 205
		- Distance of pivot point from rear wheel axis	
C		. Horizontally (mm):	290.5 (forward)
C		- Diameter of drawbar pinhole (mm):	40.3
D		- Maximum vertical permissible load (kN):	18.0 kN – standard (as tested) 48.9 kN – optional
	1.8	**Trailer hitch**	
C		- Type:	N/A
C		- Hole diameter (mm):	
C		- Height above ground (mm):	
		- Distance of hitch point from rear wheel axis	
C		. Horizontally (mm):	
		- Distance of hitch point from take-off shaft end	
C		. Horizontally (mm):	
C		. Vertically (mm):	
D		- Maximum vertical permissible load (kN):	
	1.9	Holed drawbar	
C		- Number of holes:	N/A
C		- Distance between holes (mm):	
C		- Hole diameter (mm):	
C		- Thickness / width of the drawbar (mm /mm):	
		- Height above ground	
C		. Minimum (mm):	
C		. Maximum (mm):	
C		- Horizontal distance to power take-off shaft end (rear) (mm):	

	1.10	Steering	
D		- Make / Model / Type:	John Deere Hydrostatic Differential Steering / N/A / Electro-hydraulic differential steering controlled by steering wheel
		- Method of operation	
D		. Pump(s):	Same as main hydraulic pump
D		. Rams(s):	Integrated symmetrical design
D		- Working pressure (MPa):	20.7
	1.11	**Brakes**	
	1.11.1	Service brake	
D		- Make / Model / Type:	Vickers / RE211865 / John Deere Oil immersed
C		- Method of operation:	Hydraulic, operated by foot pedal
C		- Trailer braking take-off (hydraulic or air brakes):	Optional air or hydraulic (not installed)
	1.11.2	Parking brake	
C		- Type:	Spring applied; hydraulically released multiple disk
C		- Method of operation:	Gear selector lever
	1.12	**Wheels**	
		- Number	
C		. Front (driving / steering):	None
C		. Rear (driving / steering):	Two; Driving and steering
C		- Wheelbase (mm):	2261
		- Track width adjustment:	

		Minimum mm	Maximum mm	Adjustment method
D	Rear	2335	3035	8 positions available by adjusting track frame and rear wheel: 2335, 2435, 2485, 2535, 2635, 2735, 2835, 3035

	1.13	**Protective structure**	
C		- Make / Model / Type:	John Deere/CG005/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:	4/0 916
C		. Date of approval:	8 November 2005
C		. Nos. of minor modification certificates, if any:	None

	1.14	**Seat(s)**	
	1.14.1	Driver's seat	
C		- Make / Model / Type	John Deere/ 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	
D		- Type of suspension:	
D		- Type of damping:	
		- Range of adjustment	
D		. Longitudinally (mm):	
D		. Vertically (mm):	
	1.14.2.2	Option 2	
D		- Make / Model / Type	
D		- Type of suspension:	
D		- Type of damping:	
		- Range of adjustment	
D		. Longitudinally (mm):	
D		. Vertically (mm):	
	1.14.3	Passenger seat	
C		- Location:	Optional Instruction 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
Headlights			
Inner Pair	1719	155 x 110	238
Outer Pair	1719	122 x 86	376
Sidelights			
Midbody	2392	160 x 110	700
Rearlights			
Roof	2991	160 x 110	508
Fender	2220	160 x 110	914
Reflectors			
Front	2972	180 x 72	736
Rear	2972	180 x 72	743
Brake	1948	210 x 95	910
Extremity	2274	140 x 72	1855

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	6373	3410	3670	3200	3266
Unballasted	5813	3410	3670	3200	3266

2.2 Ground clearance (unballasted tractor)

(mm): 390

- Clearance – limiting part: Drawbar safety support

2.3 Tractor mass

- Mass (with cab)

	Without driver	With driver
	kg	kg
Unballasted		
Total	12784	12859
Ballasted		
Total	13739	13814

Ballast Added	Number of Weights	Total Mass
		kg
Weight bracket	1	186
Front weights	16	769

2.4 Track specifications

Track materials:	Rubber with steel reinforcement
Track width and base (mm):	635 and 2261
Dynamic radius (rolling radius) (mm):	771
Track support system:	Oscillating front idler & three mid-rollers supported by midframe and rear wheel attached to drive axle
Treadbars	
. Number of treadbars per metre:	5.706
. Height, width, and length (mm):	66.5, 57 (top of bar), and 262.5 (top of bar)
Other specifications:	Camoplast DURABUILT 3500 – standard Camoplast DURABUILT 5500 – as tested

2.5 Tyres and track specifications

	Front	Rear
Tyres	N/A	
- dimensions:		
- ply rating:		
- type:		
- maximum load (tyre manufacturer's) (kN):		
- maximum load (tractor manufacturer's) (kN):		
- inflation pressure (tyre manufacturer's) (kPa):		
- dynamic radius index (mm):		
Chosen track width (mm):	2335	

2.6 Fuel

- Type: No. 2 Diesel in conformity with national standards
  - *in conformity / not in conformity with national standards*
- Density at 15° C: 0.839 kg/l

2.7 Oil and lubricants

2.7.1 Capacity and change interval

	Capacity	Oil Change	Filter change
	Dm^3	H	h
Engine	24	250 (375 with John Deere PLUS-50 and John Deere filter)	Same
Gear Box	246	1500	750
Front Axle	N/A	N/A	N/A
Rear Axle	Common w/gearbox	1500	Common w/gearbox
Final Drive (front)	N/A	N/A	N/A
Final Drive (rear)	Common w/gearbox	1500	Common w/gearbox
Hydraulic System (*)	Common w/gearbox	1500	Common w/gearbox
Steering	Common w/gearbox	1500	750
(*) 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:	Same as transmission	Same
. Viscosity:		
. Classifications:		
Steering oil		
. Type:	Same as transmission	Same
. Viscosity:		
. Classifications:		

2.7.3 Grease

- Number of lubrication points: 16

3. COMPULSORY TESTS RESULTS

3.1 Main power take-off

- Date and location of tests: 28-Sep-06 Nebraska Tractor Test Laboratory, Lincoln, NE, USA
- Type of dynamometer bench: Eaton

Power	Speed			Fuel consumption			Specific energy
	Engine	PTO	Fan	Hourly		Specific	
kW	rev/min			kg/h	l/h	g/kWh	kW-h/l
3.1 MAXIMUM POWER - ONE HOUR TEST							
201.50	1700	848	1439	47.87	57.05	238	3.53
3.1.2 POWER AT RATED ENGINE SPEED							
177.20	2100	1048	1230	42.15	50.24	238	3.53
3.1.3 STANDARD POWER TAKE-OFF SPEED (1000 +/- 25 rev/min							
191.04	2003	1000	1319	44.24	52.73	232	3.62
3.1.4 PART LOADS							
3.1.4.1 the torque corresponding to maximum power at rated engine speed							
177.20	2100	1048	1230	42.15	50.24	238	3.53
3.1.4.2 85% of torque obtained in 3.1.4.1							
154.35	2154	1075	1181	38.10	45.41	247	3.40
3.1.4.3 75% of torque defined in 3.1.4.2							
116.50	2165	1080	1173	31.25	37.25	268	3.13
3.1.4.4 50% of torque defined in 3.1.4.2							
77.79	2174	1085	1182	24.40	29.09	314	2.67
3.1.4.5 25% of torque defined in 3.1.4.2							
39.11	2186	1091	1198	16.78	20.00	429	1.96
3.1.4.6 unloaded							
1.13	2193	1095	1198	12.56	14.98	11147	0.08
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							
191.04	2003	1000	1319	44.24	52.73	232	3.62
3.1.5.2 85% of torque obtained in 3.1.5.1							
167.55	2064	1030	1220	39.83	47.47	238	3.53
3.1.5.3 75% of torque defined in 3.1.5.2							
125.98	2076	1036	1145	32.39	38.60	257	3.26
3.1.5.4 50% of torque defined in 3.1.5.2							
84.92	2088	1042	1139	24.90	29.68	293	2.86
3.1.5.5 25% of torque defined in 3.1.5.2							
42.45	2102	1049	1137	16.69	19.89	393	2.13
3.1.5.6 unloaded							
1.12	2110	1053	1144	11.16	13.30	9951	0.08

- No load maximum engine speed: 2193 rev/min
- Torque (equivalent crankshaft) at rated speed:
  - At rated engine speed 806 Nm
  - At maximum power 1132 Nm
- Maximum torque (equivalent crankshaft): 1192 Nm
  (engine speed: 1599 rev/min)

Mean atmospheric conditions:		
Dry bulb	24	°C
Pressure	97.9	kPa
Relative Humidity	24	%
Maximum temperatures:		
Coolant	98	°C
Engine oil	118	°C
Fuel	53	°C
Engine air intake	38	°C

3. COMPULSORY TESTS RESULTS

3.1 Main power take-off

- Date and location of tests: 28-Sep-06 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							
177.20	2100	1048	1230	42.15	50.24	238	3.53
3.1.6.2 80% of power obtained in 3.1.6.1 at max speed setting							
141.71	2157	1077	1200	35.83	42.71	253	3.32
3.1.6.3 80% of power obtained in 3.1.6.1 with governor control set to 90% of rated engine speed							
142.26	1890	943	1043	33.97	40.49	239	3.51
3.1.6.4 40% of power obtained in 3.1.6.1 with governor control set to 90% of rated engine speed							
71.19	1890	943	1027	20.46	24.38	287	2.92
3.1.6.5 60% of power obtained in 3.1.6.1 with governor control set to 60% of rated engine speed							
106.36	1261	629	704	23.86	28.44	224	3.74
3.1.6.6 40% of power obtained in 3.1.6.1 with governor control set to 60% of rated engine speed							
70.96	1264	631	690	17.83	21.25	251	3.34

3.2 HYDRAULIC POWER AND LIFTING FORCE

3.2.1 Hydraulic Power Test – 45 cc pump

Date of Test: 2-Oct-06 Location of Test-City-State: Tractor Test Lab, Lincoln, NE, USA

Tractor Model: John Deere 8230T Tapping point used for test: Remote hydraulic outlets

3.2.1.1 Hydraulic Fluid Characteristics

Found in: **2.7.2 Specifications**

Viscosity at 65C - 25 cSt

3.2.1.2 Compulsory Report(Test Results):

	Pressure	Reservoir oil Temperature	Engine Speed	Flow Rate	Power
	MPa	°C	rev/min^{-1}	l/min	kW
Rated Engine Speed: (Manufactures Specification)			2100		
Maximum (sustained) pressure with relief valve open as measured at the coupler Pump stalled: Yes	20.80	74	2190		
Flow rate corresponding to a hydraulic pressure equivalent to 90 percent of the actual relief valve pressure setting and corresponding hydraulic power through two coupler pairs:	18.55	73	2177	126.4	39.1
Maximum available flow from one coupler pair:	5.11	73	2188	134.4	11.4
Maximum available power from one coupler pair:	14.59	79	2177	124.5	30.3
Maximum available flow from coupler pairs operating simultaneously (flow through two or more coupler pairs if required):	1.59	67	2190	137.0	3.6
Maximum power from coupler pairs operating simultaneously (flow through two or more coupler pairs if required):	18.97	73	2178	124.9	39.5

3.2 HYDRAULIC POWER AND LIFTING FORCE

3.2.1 Hydraulic Power Test - 57 cc pump

Date of Test: 2-Oct-06 Location of Test-City-State: Tractor Test Lab, Lincoln, NE, USA

Tractor Model: John Deere 8330T Tapping point used for test: Remote hydraulic outlets

3.2.1.1 Hydraulic Fluid Characteristics

Found in: **2.7.2 Specifications**

Viscosity at 65C - 25 cSt

3.2.1.2 Compulsory Report(Test Results):

	Pressure	Reservoir oil Temperature	Engine Speed	Flow Rate	Power
	MPa	°C	rev/min^{-1}	l/min	kW
Rated Engine Speed: (Manufactures Specification)			2100		
Maximum (sustained) pressure with relief valve open as measured at the coupler Pump stalled: Yes	20.82	81	2192		
Flow rate corresponding to a hydraulic pressure equivalent to 90 percent of the actual relief valve pressure setting and corresponding hydraulic power through two coupler pairs:	18.68	81	2183	128.7	40.1
Maximum available flow from one coupler pair:	4.43	79	2099	143.8	10.6
Maximum available power from one coupler pair:	13.77	84	2181	132.5	30.4
Maximum available flow from coupler pairs operating simultaneously (flow through two or more coupler pairs if required):	2.21	72	2190	168.5	6.2
Maximum power from coupler pairs operating simultaneously (flow through two or more coupler pairs if required):	17.66	80	2178	157.9	46.5

3.2.2 POWER LIFT TEST Category III, Specific Market, Walterscheid lower links.
Date of test: 19 June 2006.

	Hitch points	Frame
Lower hitch points above ground - down position:	229 mm	246 mm
Vertical movement - without load:	854 mm	875 mm
with load:	806 mm	813 mm
Maximum corrected force exerted through full range:	65.6 kN	72.3 kN
Corresponding pressure:	18.8 MPa	18.8 MPa
Moment about rear axle:	89.1 kNm	142.4 kNm
Maximum mast tilt angle	--	*2.3 degrees

Lifting height relative to horizontal position of lower links.

mm	-370	-353	-299	-200	-100	0	100	200	300	400	436	460
Corrected lift forces												
At the hitch point kN	65.6	--	67.7	71.2	74.3	77.0	79.0	80.0	82.7	84.7	86.0	--
At the frame kN	--	73.9	--	73.5	74.3	74.9	75.6	75.3	74.4	73.3	72.6	72.3
Corresponding pressure 18.8 MPa												

*Maximum tilt angle available with settings on tractor

OECD Drawbar Data (SI)

Date of tests:	20, 23-Oct-2006				**Fuel density:**	0.839 kg/l								
Type of track:	Concrete				**Test number:**	1888								
3.3.1 Maximum power in tested gears (unballasted, CRWL)							**Tire pressure:**	0 kPa, rear	0 kPa, front		**Drawbar Height:**	470 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}	g/kW.h	kW.h/l	°C	°C	°C	°C	%	kPa
5	115.92	117.91	3.54	2154	13.5	978	333	2.52	47	82	105	8	60	98.2
6	133.11	119.13	4.02	2100	12.5	934	320	2.62	47	83	107	6	56	98.2
7	145.79	109.88	4.78	2060	8.9	914	298	2.81	47	84	109	8	60	98.2
8	156.76	103.81	5.44	1998	7.2	896	284	2.95	49	87	110	8	61	98.2
9	165.91	101.53	5.88	1864	6.9	811	281	2.98	50	92	115	8	66	98.2
10	169.62	97.19	6.28	1702	5.5	933	282	2.97	53	94	116	14	53	96.6
11	171.99	83.17	7.44	1699	3.4	977	279	3.01	49	94	117	16	51	96.6
12	175.60	72.69	8.70	1701	2.3	962	272	3.08	48	94	117	17	53	96.6
13	176.91	61.65	10.33	1702	1.5	855	271	3.09	50	94	117	9	55	98.2
14	174.08	44.87	13.97	1705	0.8	896	276	3.04	49	93	117	9	55	98.2
3.3.2 Fuel consumption														
3.3.2.1	In selected gear/speed setting nearest 7.5 km/hr, at maximum power at rated engine speed													
9	151.03	78.86	6.89	2098	3.0	930	281	2.99	50	89	112	14	54	96.6
3.3.2.1.1	75% of pull corresponding to maximum power at rated engine speed													
9	118.37	59.14	7.20	2157	1.4	968	301	2.79	47	82	105	9	56	98.2
3.3.2.1.2	50% of pull corresponding to maximum power at rated engine speed													
9	79.98	39.44	7.30	2170	0.7	954	355	2.36	48	81	104	9	56	98.2
3.3.2.1.3	Highest gear/speed setting at reduced engine speed able to achieve both 3.3.2.1.1 and 3.3.2.1.2; same pull and traveling speed as in 3.3.2.1.1													
11	118.47	59.11	7.21	1612	1.3	764	285	2.95	47	85	103	10	52	98.2
3.3.2.1.4	Same gear/speed selection as 3.3.2.1.3 at reduced engine speed; same pull and traveling speed as in 3.3.2.1.2													
11	79.98	39.51	7.29	1617	0.7	760	312	2.69	47	81	100	10	52	98.2
3.3.2.2	In selected gear/speed setting nearest between 7 km/hr and 10 km/hr at rated engine speed													
11	151.86	58.09	9.41	2101	1.3	929	278	3.02	50	92	114	15	50	96.6
3.3.2.2.1	75% of pull corresponding to maximum power at rated engine speed													
11	117.47	43.63	9.69	2153	0.8	979	311	2.70	46	82	105	11	53	98.2
3.3.2.2.2	50% of pull corresponding to maximum power at rated engine speed													
11	78.88	29.02	9.79	2167	0.5	966	370	2.27	47	80	105	11	53	98.2
3.3.2.2.3	Highest gear/speed setting at reduced engine speed able to achieve both 3.3.2.2.1 and 3.3.2.2.2; same pull and traveling speed as in 3.3.2.2.1													
13	117.42	43.40	9.74	1592	0.8	753	290	2.89	47	89	106	11	54	98.2
3.3.2.2.4	Same gear/speed setting 3.3.2.2.3 at reduced engine speed; same pull and traveling speed as in 3.3.2.2.2													
13	79.39	29.10	9.82	1600	0.4	743	324	2.59	47	82	101	11	53	98.2

OECD Drawbar Data (SI)

Date of tests:	20, 23-Oct-2006					Fuel density:	0.839 kg/l							
Type of track:	Concrete					Test number:	1888							
4.2 Maximum power in tested gears (unballasted, CRWL)							Tire pressure:	0 kPa, rear	0 kPa, front			Drawbar Height:	470 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}	g/kW.h	kW.h/l	°C	°C	°C	°C	%	kPa
5	115.66	118.05	3.53	2153	13.8	979	335	2.50	47	82	105	8	60	98.2
6	131.60	118.44	4.00	2106	13.3	942	321	2.62	47	83	107	7	57	98.2
7	144.20	104.33	4.98	2100	6.8	926	295	2.84	47	83	108	7	58	98.2
8	148.55	91.00	5.88	2099	4.6	936	287	2.93	48	84	107	8	54	98.2
9	151.03	78.86	6.89	2098	3.0	930	281	2.99	50	89	112	14	54	96.6
10	152.68	68.34	8.04	2098	1.8	939	277	3.03	50	88	112	13	57	96.7
11	151.86	58.09	9.41	2101	1.3	929	278	3.02	50	92	114	15	50	96.6
12	151.48	50.11	10.88	2100	0.9	932	279	3.00	49	92	116	16	52	96.6
13	150.55	42.22	12.84	2098	0.7	968	282	2.98	48	93	117	17	53	96.5

OECD (SI) BALLASTED CRWL

OECD Drawbar Data (SI)

Date of tests:	24-Oct-06						Fuel density:	0.839 kg/l						
Type of track:	Concrete						Test number:	1888						
4.1 Maximum power in tested gears (ballasted, CRWL)							Tire pressure:	0 kPa, rear	0 kPa, front			Drawbar Height:	483 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}	g/kW.h	kW.h/l	°C	°C	°C	°C	%	kPa
5	129.13	132.96	3.50	2120	13.3	926	325	2.58	48	83	107	11	53	98.0
6	142.74	122.85	4.18	2087	8.6	918	299	2.81	48	84	106	12	45	97.9
7	153.76	117.50	4.71	2008	8.0	889	290	2.89	49	88	111	12	45	97.8
8	163.79	113.77	5.18	1900	7.2	829	284	2.96	51	94	116	13	46	97.8
9	168.23	109.21	5.55	1741	6.1	849	283	2.96	50	96	116	13	47	97.8
10	172.39	97.51	6.36	1701	4.3	903	279	3.01	50	94	117	13	47	97.7
11	175.55	84.14	7.51	1701	2.8	897	273	3.08	50	95	117	13	47	97.7
12	177.58	73.10	8.75	1702	1.9	913	271	3.10	50	94	117	14	48	97.7
13	176.97	61.38	10.38	1704	1.3	922	271	3.10	50	94	117	14	48	97.6
14	172.52	44.52	13.95	1701	0.8	951	279	3.01	48	93	117	14	49	97.6

4.3 Measurement of External Noise Level – John Deere 8330T

-- Date of Test	October 2, 2006
-- Location of Test	Nebraska Tractor Test Laboratory
-- Sound Level Meter	Bruel and Kjaer 2236
-- Type of Track	Concrete Oval
-- Gear Number	16
-- Speed Prior to Acceleration	23.5 km/h
-- Noise Level	87.7 dB(A)

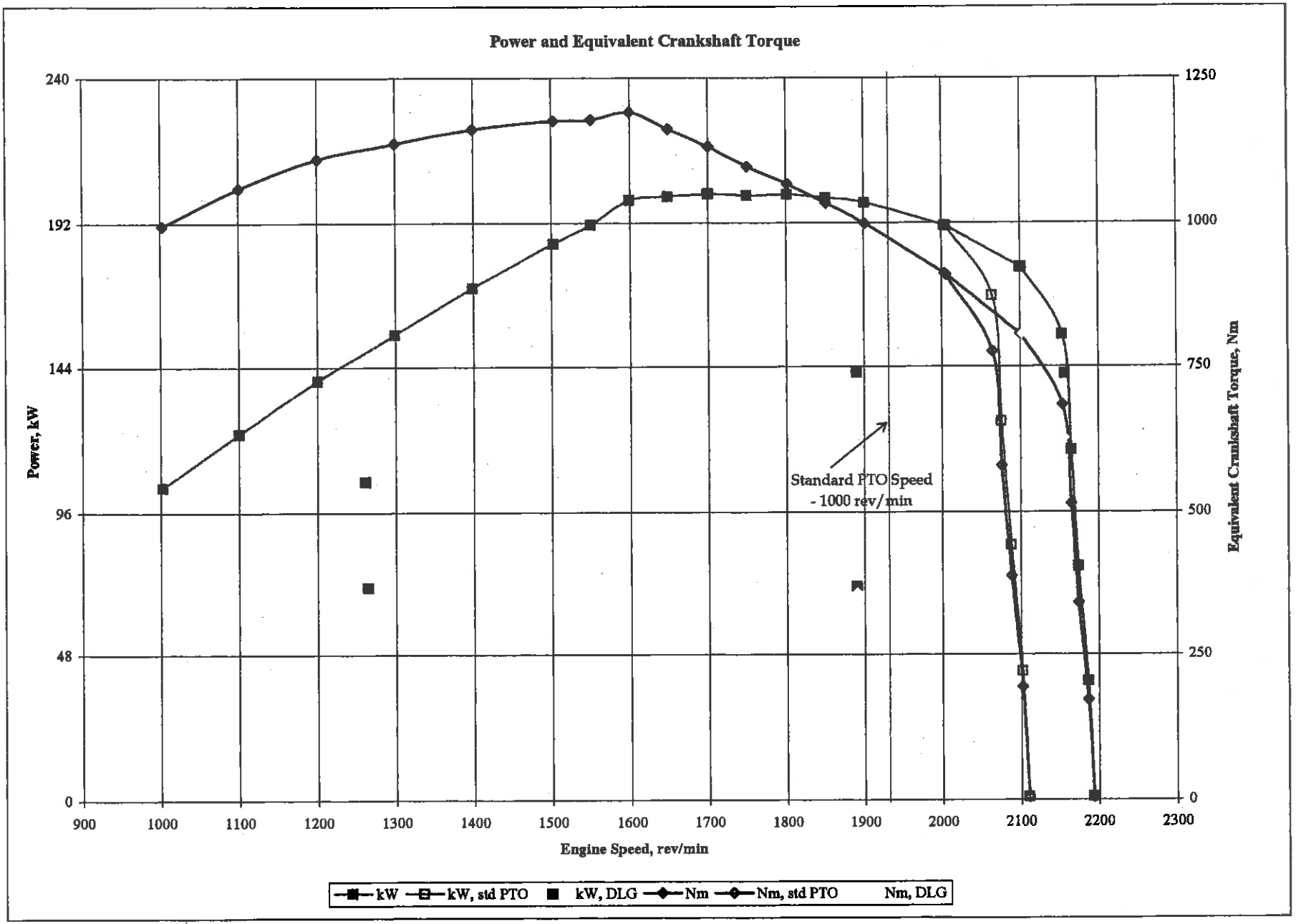
4.4 Measurement of Noise Level at Operator's Ear*

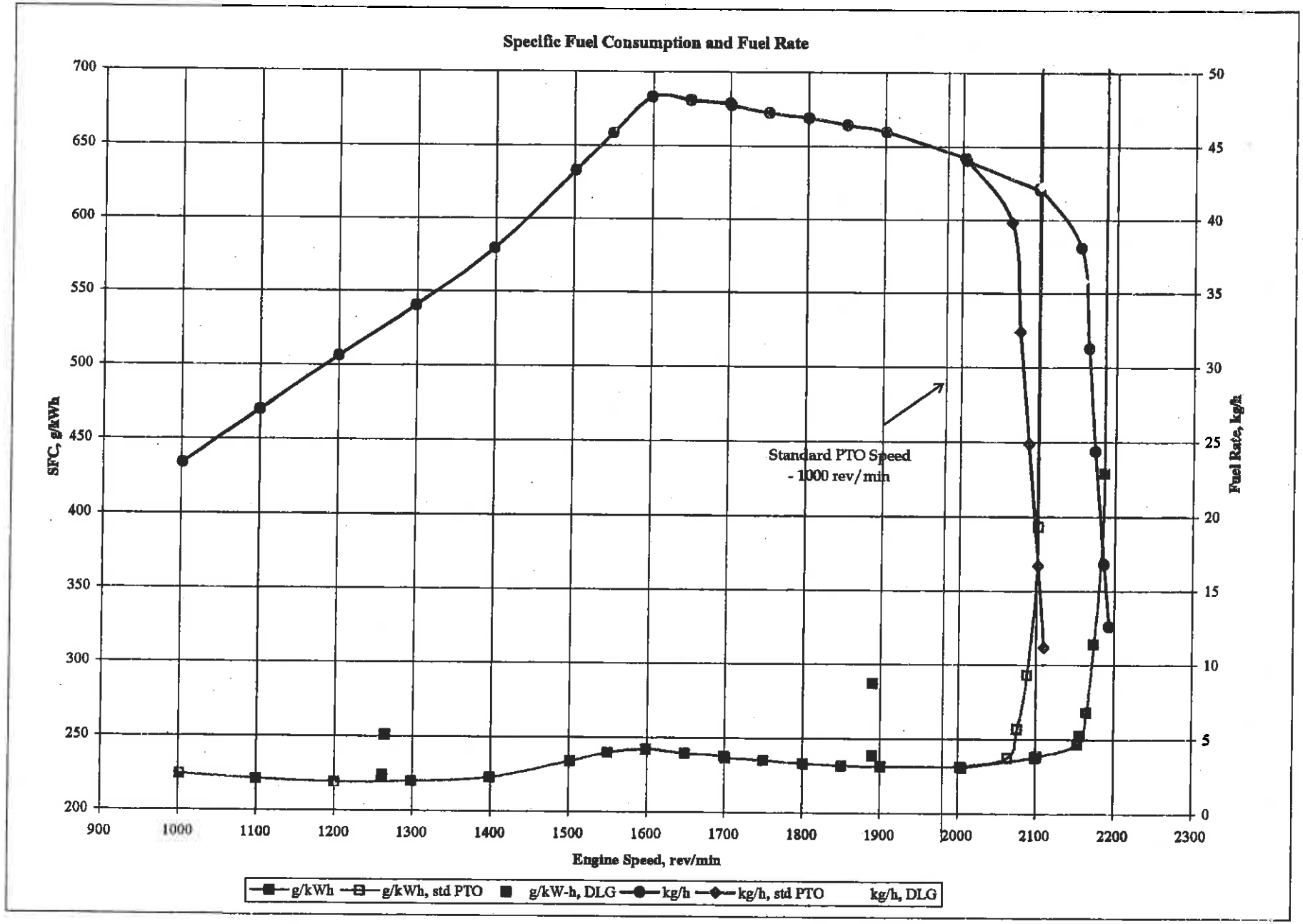
-- Date of Test	October 2, 2006
-- Location of Test	Nebraska Tractor Test Laboratory
-- Sound Level Meter	Bruel and Kjaer 2236
-- Type of Track	Concrete Oval
-- Gear Number	9
-- Drawbar Load	None
-- Noise at Operator Ear	72.2 dB(A)

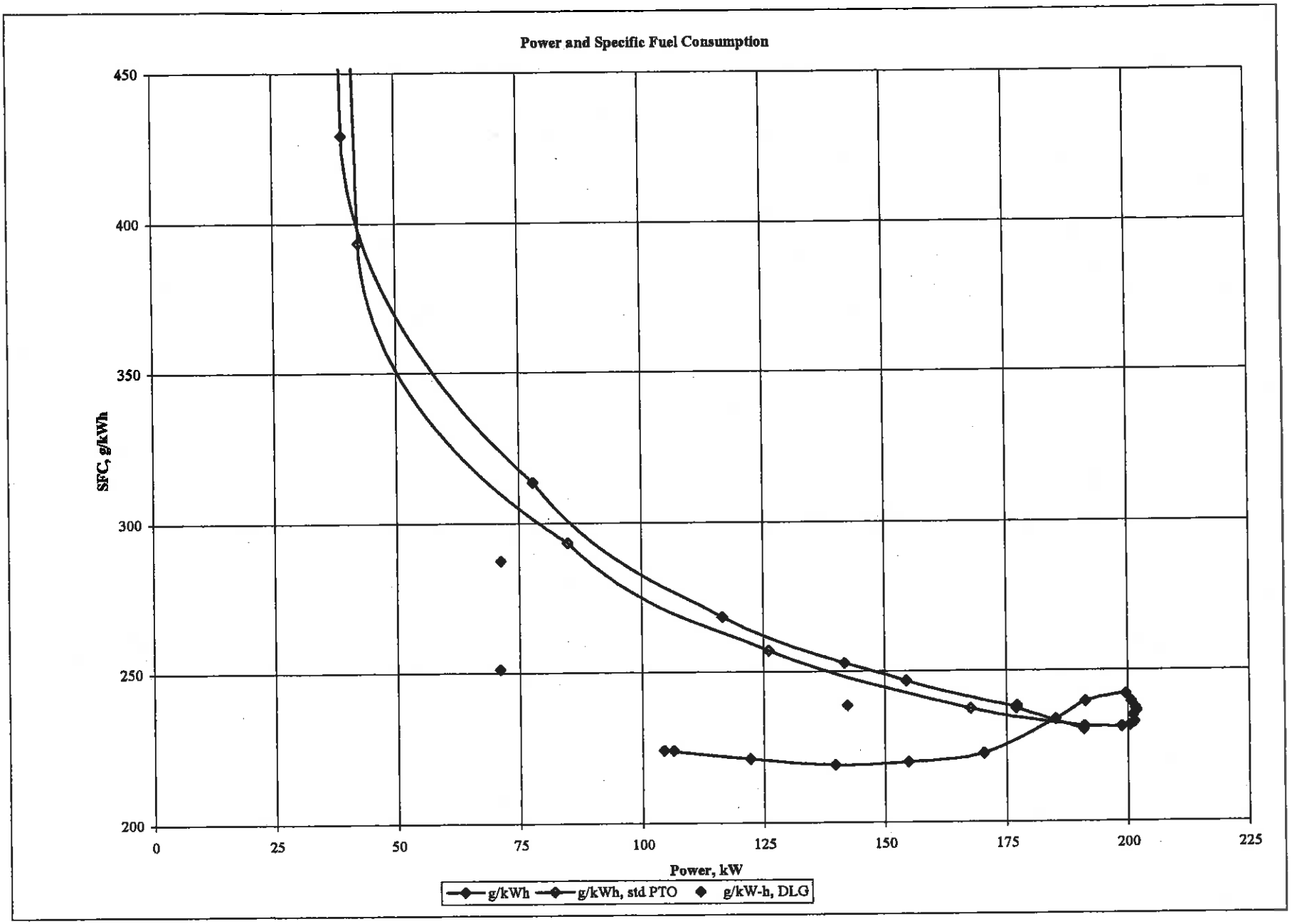
* Note: Nebraska tractor test station guidelines. Not covered by OECD approval

5. Repairs and Adjustments: None

6. Remarks: None


Power and Equivalent Crankshaft Torque
Power, kW
240
192
144
96
48
0
Equivalent Crankshaft Torque, Nm
1250
1000
750
500
250
0
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
Engine Speed, rev/min
Standard PTO Speed
- 1000 rev/min
kW
kW, std PTO
kW, DLG
Nm
Nm, std PTO
Nm, DLG


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
Power, kW
g/kWh
g/kWh, std PTO
g/kW-h, DLG