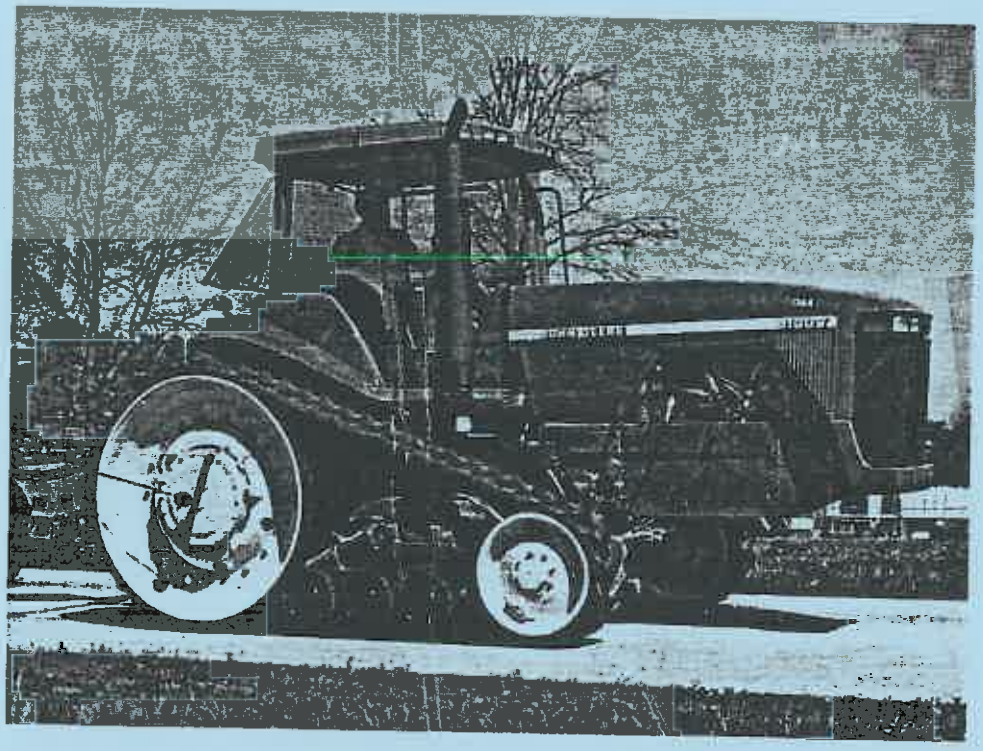
OECD APPROVAL NO. 2/1780
CODE 2
DATE OF APPROVAL: 22 September 1998

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 STANDARD CODE 2 FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS



JOHN DEERE 8100T POWERSHIFT
Rubber Tracked - 30 km/h Version

MANUFACTURED BY:	**John Deere Tractor Works** **3500 East Donald Street, P.O. Box 270** **Waterloo, Iowa 50704-0270**
NEBRASKA TEST NO.	**1744**
TEST DATES:	**April 15-28, 1998**

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 22 September 1998 for the John Deere 8100T Powershift, Rubber Tracked - 30 km/h version, 16-speed transmission with OECD Number 2/1780.

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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- Manufacturers Name/Address.	John Deere Tractor Works 3500 East Donald St. P.O. Box 270 Waterloo, Iowa 50704-0270
- Location of tractor assembly	Same
- Submitted for test by	The Manufacturer
- Selected for test by	The Manufacturer in agreement with the Tractor Test Lab
- Place of running in	John Deere Product Engineering Center, Waterloo, Iowa
- Duration of running in	144 hr
- Location of test	Nebraska Tractor Test Laboratory Lincoln, Nebraska U.S.A.

1. SPECIFICATIONS OF TRACTOR

1.1 IDENTIFICATION

- Make	John Deere
- Model	8100T Powershift
- Type	Rubber Tracked - 30 km/h Version
- Number of driving wheels	2 tracks (rubber belts)
- Serial Number	*RW8100T902006*
- 1st Serial number	*RW8100T901001*

1.2 ENGINE

- Make	John Deere
- Model	6081HRW10
- Type	4-stroke Diesel; turbocharged, air-to-air aftercooled, direct injection
- Serial Number	*RG6081H039776*

1.2.1 Cylinders

- Number and Disposition	6, in-line, vertical
- Bore x Stroke	115.8 mm x 128.5 mm
- Cubic Capacity	8132 cm^3
- Compression Ratio	16.5:1
- Arrangement of Valves	Overhead
- Cylinder Liner (wet or dry)	Wet; replaceable

1.2.2 Supercharging

- Make	Schwitzer
- Model	RE64765
- Type	Exhaust gas driven
- Pressure	113 ± 15 kPa (at rated engine speed and load)

1.2.3 Fuel System

- Fuel Feed System		Transfer pump integral with injection pump
- Make/Model/Type of Filter(s)	primary secondary	Stanadyne/AR103220/Fuel Strainer Stanadyne/AR86745/Paper element
- Fuel Tank Capacity		492 liters
- Fuel Cooler		Heat exchanger with air in fuel return line
- Make/Model/Type of Injection Pump		Bosch/RE67771/In-line; electric shut off
- Injection Pump Serial Number		7701066308
- Production setting of injection Pump		
· Flow Rate (at rated engine speed and full load)		31.2 ± 1.7 kg/h
· Fuel Density		0.845 g/cm^3
- Make/Model/Type of Injectors		Bosch/RE64391/P-type nozzle
- Injection Pressure		29.0 +1.2/-0.0 MPa
- Timing		17° ± 1° BTDC

-

1.2.4 Governor

- Make/Model/Type	John Deere Focus/Electronic Control
- Governed engine speed range	800 - 2400 rev/min
- Rated engine speed	2200 rev/min
- High idle speed range	2300 ± 25 rev/min

1.2.5 Air Cleaner

- Pre-cleaner	
· Make/Model/Type	Donaldson/RE51631/Strato-tube pre-cleaner with aspirator
· Air intake location	Under hood, front of tractor
- Main Cleaner	
· Make/Model/Type	Donaldson/RE51629/pleated paper
· Location	Under hood, engine compartment
- Secondary element	
· Make/Model/Type	Donaldson/RE51630/pleated paper
- Maintenance Indicator	Dash mounted warning light and audible signal

1.2.6 Lubrication System

- Type of Feed pump	Full pressure; positive displacement
- Type of filter(s)	Full flow
- Number of filters:	One; spin-on
- Oil Cooler	Heat exchanger with engine coolant

1.2.7 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	34 liters
- Type of temperature control	Two thermostats and variable speed fan
- System pressure	69 ± 5 kPa

1.2.8 Starting System

- Make/Model/Type of starter	Nippondenso/RE69704/Solenoid engaged
- Power rating	4.0 kW
- Cold starting aid	Ether spray in intake manifold
- Safety device	Electrical lockout on gearshift lever

1.2.9 Electrical System

- Voltage and 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 and connection	Two; 12 Volt batteries in parallel; SAE tapered post
· Rating	925 Cold Cranking Amps/battery 175 Ah/battery at 20 hour rating

1.2.10 Exhaust System

- Muffler Make/Model/Type	Nelson/RE44716/Expansion Chamber
- Location	Vertical muffler
- Exhaust stack location	Vertical; right front corner of cab

1.3 TRANSMISSION

1.3.1 Clutch (travel)

- Make/Model/Type	John Deere/Multiple plate/Oil cooled
- Number of plates	7
- Plate diameter	232 mm
- Method of operation	Hydraulic; pedal actuated

1.3.2 Gear Box

- Make/Model/Type	John Deere/Full Powershift/Mechanical
- Arrangement	Countershaft design consisting of 8 multidisc hydraulically cooled clutches and 1 multidisc hydraulically cooled planetary brake
- Number of Gears	16 forward and 4 (SM: 5) reverse gears controlled by one lever
- Oil cooler	Heat exchanger with air
- Available options	None available

1.3.3 Rear axle and final drives

- Make/Model/Type: John Deere/Outboard planetary final drives with electronically controlled hydrostatic differential steering
- Differential lock: Not applicable

1.3.4 Front axle and final drives

Not applicable

1.3.4 Differential lock

Not applicable

1.3.5 Total ratios and traveling speeds

Gear Number	Number of engine revolutions for one revolution of the driving wheels	Nominal travel speed (*) at rated engine speed of 2200 rev/min (km/h)
Forward		
1	346.0220	1.87
2	270.8786	2.39
3	212.8132	3.04
4	166.5978	3.88
5	137.5825	4.70
6	121.9316	5.31
7	107.7045	6.01
8	95.4524	6.78
9	84.6171	7.65
10	74.9913	8.63
11	66.2413	9.77
12	58.7059	11.02
13	46.1282	14.02
14	36.1109	17.91
15	28.3701	22.80
16	22.2092	29.13
Reverse		
1	-396.6818	-1.63
2	-157.7254	-4.10
3 (**)	-139.7831	-4.63
4 (***)	-52.8817	-8.90
5 (****)	-52.8817	-12.23

(*) Calculated with a rear track dynamic radius index of 780 mm
(**) Engine speed is adjustable to 2400 RPM in the Reverse Gear Number 3
(***) Engine speed is limited to 1600 RPM in the Reverse Gear Number 4
(****) Available in Specialty Markets only

1.4 POWER-TAKE-OFF

1.4.1 Main Power-Take-Off

- Type	Independent
- Method of engagement	Electro-hydraulically actuated multi-plate wet clutch operated by single hand control switch
- Number of shafts	1, Single Speed
- Method of changing speeds	None

1.4.1.1 Standard Single Speed PTO-1000 rev/min

- Location	Rear of tractor; center plane
- Diameter of PTO shaft end	44.5 mm
- Number of splines, in conformity with ISO 500/1991	20; conforms to ISO 500/1991
- Height above ground	772.4 mm
- Distance from median plane of tractor	0 mm
- Distance behind rear axle	583.6 mm
- PTO speed at rated engine speed (2200 rev/min)	1009 rev/min
- Engine speed at Standard PTO speed	2180 rev/min
- Ratio of Engine rev/min to PTO rev/min	2.18 : 1
- Power restriction	None
- Direction of rotation(viewed facing driving end)	Clockwise

1.4.2 Optional Power-Take-Off

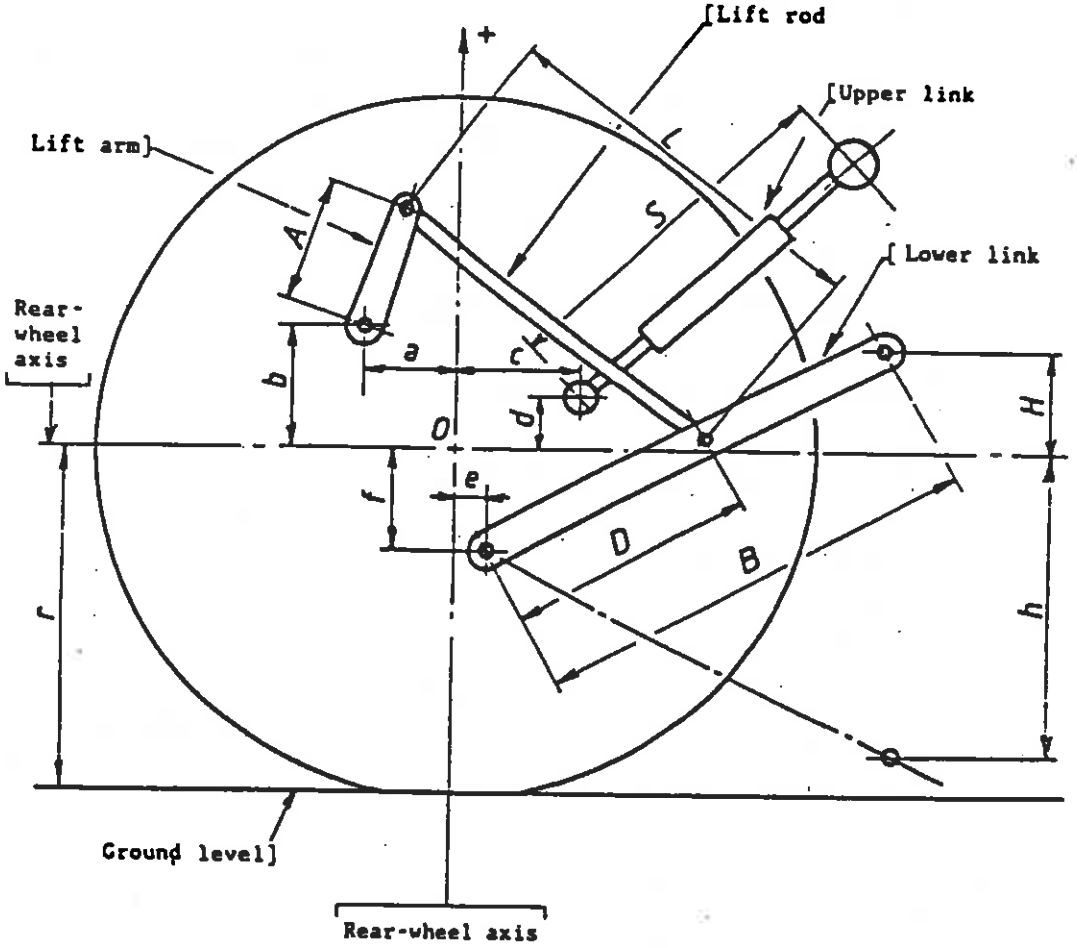
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1.5 POWER LIFT

- 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
- Type of linkage lock for transport	Electro-hydraulic
- Relief valve pressure setting	20.30 ± 0.3 Mpa (Pump Stall Pressure)
- Opening pressure of cylinder safety valve	23.25 ± 0.5 MPa
- Lift Pump type	Axial piston, variable pressure and flow, pressure and flow compensated
- Transmission between pump and engine	Direct spur gear drive
- Type/Number of filters	Synthetic media, screw-on canister/one
- Location of oil reservoir	Differential case housing
- Type/Number/Location of tapping points	ISO standard breakaway couplers/3 standard with 4th, 5th and additional inlet/outlet pair for externally controlled implements/rear of tractor
- Maximum oil volume available for external cylinders	20 liters; additional 10 liters allowable overfill for total of 30 liters.

1.6 THREE POINT LINKAGE

- Category 3, in conformity with ISO 730/1-1990



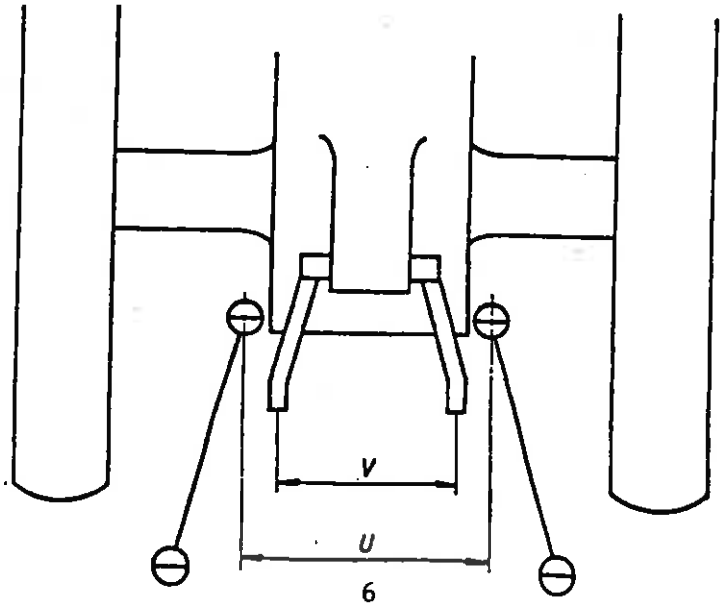


Table 1.6.1 - Linkage Geometry Dimensions - SM version

Category adapter: Walterscheid lower links		Dimension or range (mm)	Setting used on test (mm)
Lift category		III	III
Rear Wheel-Radius Index	r	852.55	same
Front Wheel-Radius Index	r'	NA	--
Length of lift arms	(A)	495	same
Length of lower links	(B)	1066	same
Distance of lift arm pivot point from rear-wheel axis: horizontally vertically	 (a) (b)	 -140 565	 same same
Horizontal distance between the two lower link points	(U)	600	same
Horizontal distance between the two lift arm ends points	(V)	750	same
Length of upper link	(S)	748 to 889.9	822
Distance of upper link pivot point from rear-wheel axis: horizontally vertically	 (c) (d)	 395, 395, 424 192.5, 259.5, 321.1	 424 321
Distance of lower link pivot point from rear-wheel axis: horizontally vertically	 (e) (f)	 175 280	 same same
Distance of lower link pivot points to lift rod pivot points on lower links	(D)	723.2	same
Length of lift rods	(L)	968.5 to 1072	1072
Height of lower hitch points relative to rear wheel axis: In low position In high position	 (h) (H)	 500 to 650 206 to 339	 650 206
Height above ground of lower hitch points when locked in transport position		1059 to 1191	1059

Rear track static radius index of 852.55 mm

Table 1.6.2 - Linkage Geometry Dimensions - North American version

Category adapter: Quick Attach linkage		Dimension or range (mm)	Setting used on test (mm)
Lift category		III	III
Rear Wheel-Radius Index	r	852.55	same
Front Wheel-Radius Index	r'	NA	--
Length of lift arms	(A)	495	same
Length of lower links	(B)	1055.6	same
Distance of lift arm pivot point from rear-wheel axis: horizontally vertically	 (a) (b)	 -140 565	 same same
Horizontal distance between the two lower link points	(U)	600	same
Horizontal distance between the two lift arm ends points	(V)	750	same
Length of upper link	(S)	686 to 958	733
Distance of upper link pivot point from rear-wheel axis: horizontally vertically	 (c) (d)	 395 192.5,,259.5	 same 259.5
Distance of lower link pivot point from rear-wheel axis: horizontally vertically	 (e) (f)	 175 280	 same same
Distance of lower link pivot points to lift rod pivot points on lower links	(D)	718.1	same
Length of lift rods	(L)	968 to 1089	1089
Height of lower hitch points relative to rear wheel axis: In low position In high position	 (h) (H)	 482 to 650 140 to 299	 650 140
Height above ground of lower hitch points when locked in transport position		993 to 1161	993

Rear track static radius index of 852.55 mm

1.7 SWINGING DRAWBAR

	NA Option Tested Version	SM Option Not Tested
- Type	Oscillating	same
- Height above ground · Maximum (offset flipped up) · Minimum (offset flipped down)	 565.4 mm 467.4 mm	 same same
- Type of adjustment	Removable Clevis	same
- Distance of hitch point from rear wheel axis, horizontally	1040.7, 1091.5 mm	1090, 1178 mm
- Distance of hitch point from PTO shaft end		
· Vertically · Horizontally (shaft diameter)	305, 207 mm 457, 508 mm	same 506, 595 mm
- Lateral adjustment:		
· Right side · Left side	203.75, 211.4 mm 203.75, 211.4 mm	212, 225.5 mm 212, 225.5 mm
- Distance of pivot point from rear wheel axis, horizontally	290.5 mm (forward)	same
- Diameter of drawbar pin hole	40 mm	33 mm
- Maximum vertical static permissible load:		
· Short position · Extended position	17.35 kN 17.35 kN	23.58 kN 16.24 kN

1.8 TRAILER HITCH

Not available

1.9 HOLED DRAWBAR

Not available

1.10 STEERING

- Make/Model/Type: John Deere Hydrostatic Differential Steering/Pump and motor/Electro-Hydraulic Differential steering controlled by steering wheel
- Method of operation: Steering wheel angle determines difference in speed between the 2 rubber track drive wheels
- Pump(s): Axial Piston Variable Displacement Pump and Axial Piston Fixed Displacement Motor
- Ram(s): None
- Working pressure: Up to 45.0 MPa +0.5/+2.5 MPa
- Filter Make/Model/Type: Donaldson/RE69054/Paper Element

1.11 BRAKE SYSTEM

1.11.1 Service Brakes

- Make/Model/Type: Vickers-John Deere/ Load sensing power with manual backup
- Method of operation: Hydraulically actuated oil immersed disc operated by one pedal
- Trailer Brake type: Not available

1.11.2 Parking Brake

- Type: Spring applied, hydraulically released multi-disc
- Method of operation: Gear selector lever

1.12 WHEELS

- Number
  - · Front: None
  - · Rear: Two; Driving and steering
- Wheelbase: Not applicable
- Track width adjustment

	Minimum mm	Maximum mm	Adjustment method
Rear	1524	2235	8 positions available by adjusting track frame and rear wheel: 1524-, 1626-, 1676*-, 1727-, 1829-, 1930-, 2032-, 2235-mm

* Requires exchange of right and left track frames

1.13 PROTECTIVE STRUCTURE

- Make/Model/Type: John Deere/SG-058/SG-058 (CommandView™ cab)
- Manufactures Name/Address: John Deere Waterloo Works
Waterloo, Iowa, USA
- Protective device
  - · Cab/frame/rollguard/other: Cab
  - · Tiltable/not tiltable: Not Tiltable
- OECD Approval Number: 4/0 547
(Certified to SAE-J2194 and CSA-B352.0, including OSHA #1928.51)
- Date of Approval: 2 September 1998
- Nos. of Minor Modification Certificates, if any: None

1.14.1 DRIVER'S SEAT

- Make/Model/Type: Sears Mfg/RE70299 (SM: RE70300)/Air cushion suspension (Personal-Posture™)
- Seat and steering wheel reversible: No
- Type of suspension: Air
- Type of damping: Three position damper, viscous damping
- Range of adjustment
  - · Longitudinal: 167 mm
  - · Vertical: 140 mm
  - · Right Rotation: 20°
  - · Left Rotation: 14°
- Safety belt: Yes

1.14.2 OPTIONAL DRIVER'S SEAT Not available

1.14.3 PASSENGER SEAT Not available

1.15 LIGHTING

	Height above ground of center (mm)	Size (mm)	Distance from outside edge to median plane of tractor (mm)
Headlights			
Hood inner	1800	70 x 127	200
outer	1800	70 x 127	335
Roof inner	3040	51 x 127	350
outer	3040	51 x 127	500
Upper mid body	2195	70 x 127	930
Lower mid body			
left	1380	70 x 127	1400
right	1300	70 x 127	1010
Rear lights			
roof	3050	70 x 127	640
fender	2100	70 x 127	890
Tail lights	1920	89 x 210	870
Reflectors			
roof front	3040	82 x 240 (*)	770
roof rear	3050	82 x 240 (*)	790

(*) Wrap-around lights

2. TEST CONDITIONS

2.1 OVERALL DIMENSIONS

Length-Overall:	without front weights	5487 mm
	with front weights	6012 mm
Width:	minimum	2591 mm
	maximum	2775 mm (left egress step swiveled fully outward)
Height at top of:	protective structure	3135 mm
	exhaust	3245 mm

2.2 GROUND CLEARANCE

360 mm

Clearance-limiting part: Drawbar rear support (Rear hitch frame)

2.3 TRACTOR MASS

With cab, full fuel tank

	Unballasted		Ballasted	
	Without driver (kg)	With driver (kg)	Without driver (kg)	With driver (kg)
Total	11100	11175	Not Applicable	Not Applicable

Note: Maximum tractor dry weight must be less than 31500 lb (14288 kg)

Ballast Added

	Number of weights	Weight mass (kg)	Liquid (kg)
Front Weight Support	0	0	0
Front Weights	0	0	0
Additional test equipment	1	14	0

Note: Maximum front tractor weight must be less than 2200 lb (998 kg), or 20 weights w/ support

2.4 TRACK SPECIFICATIONS

Make	Goodyear (Trackman™)
Track Materials	Rubber with steel reinforcement
Track width and base	406.4 mm and 2235 mm
Dynamic rolling radius under drive wheel	780 mm
Static distance of rear axle to ground	852.55 mm
Track support system	Oscillating front idler & three mid-rollers supported by midframe and rear wheel attached to drive axle
Treadbars	
Total per track	54
Number per meter	6.56 per meter
Bar length at top	191 mm
Bar width at top	40 mm
Bar width at center	53 mm
Bar height	48 mm
Track length	8230 mm
Track ground contact length	2261 mm

2.5 TIRE AND TRACK WIDTH SPECIFICATIONS

2.6 FUEL

- Type/grade — Grade 2-D, in conformity with the national standard
- Density at 15C:
  - (PTO tests) — 0.845 g/cm³
  - (Drawbar tests) — same as PTO tests

2.7 OILS AND LUBRICATION

2.7.1 Capacity and change interval

	Capacity	Oil Change	Filter(s) Change
	liters	hours	hours
Engine (with filter)	21.5	250 (300 with John Deere PLUS-50 oil and filter)	Same as Oil Change
Transmission, rear axle, Hydraulics and Steering	246	1500	As required or 750
Wheel Hubs	50	1500	No filter

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

	Recommended	Used during test
Engine oil:		
Type	John Deere, Torq-Gard Supreme Plus 50; SAE 15W-40	same
Viscosity	12.8 cSt at 100° C	
Classification	API CE or CD; CCMD specification D5 or D4	
Transmission oils		
Type	John Deere, HY-GARD (J20C); SAE 10W-30	same
Viscosity	58 cSt at 43°C	
Classification	NA	
Hydraulic Fluid		
Type	Same as transmission	same
Viscosity		
Classification		
Steering oil		
Type	Same as transmission	same
Viscosity		
Classification		
Grease	John Deere MOLY HIGH TEMPERATURE EP GREASE	same
Number of lube points	13	

3. COMPULSORY TESTS RESULTS

3.1 Main power take-off

-Date and location of tests: 15-Apr-98 Nebraska Tractor Test Laboratory, Lincoln, NE, USA
- Type of dynamometer bench: Eaton eddy current

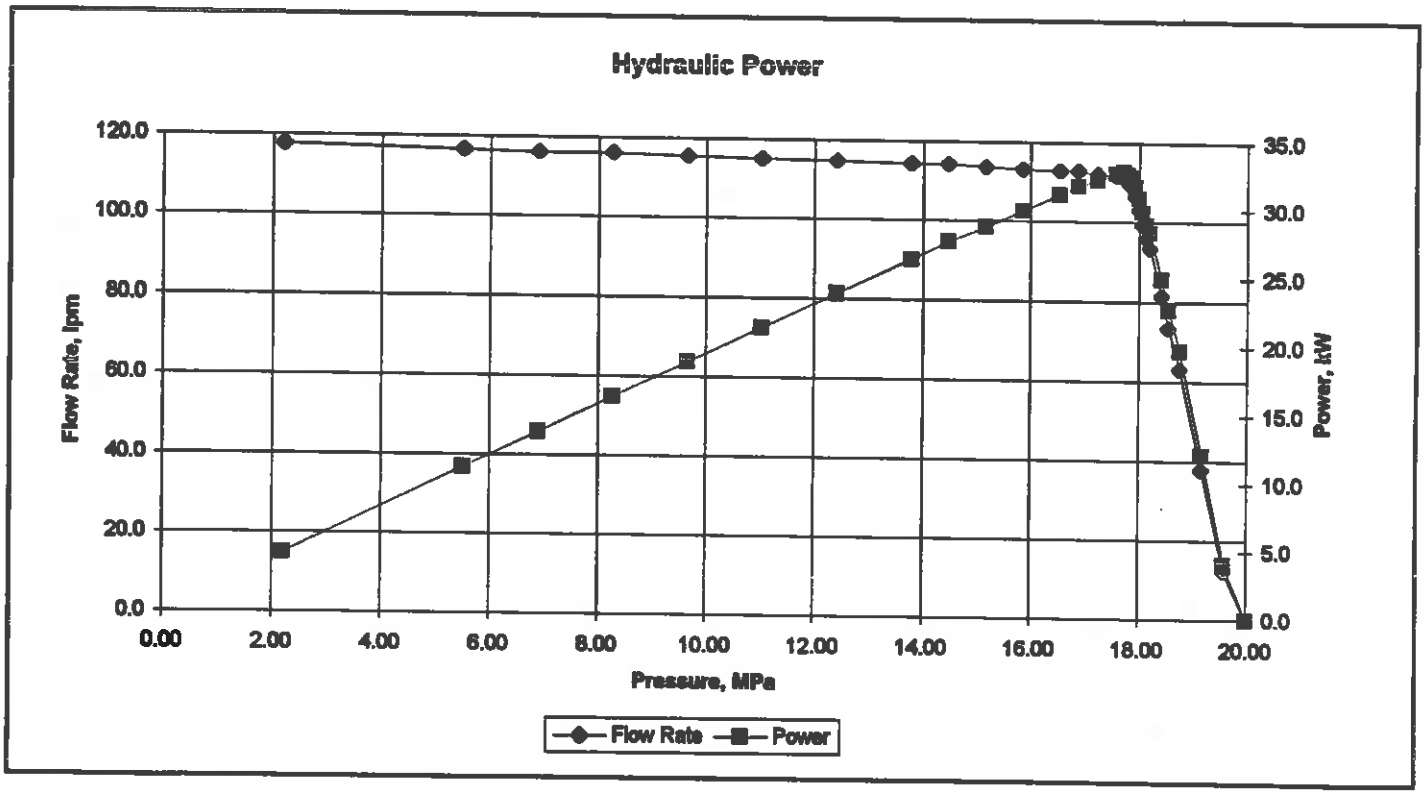
Power	Speed		Fuel consumption			Specific energy
	Engine	P.T.O.	Hourly		specific	
kW	rev/min		kg/h	l/h	g/kWh	kWh/l
3.1.1 MAXIMUM POWER - TWO-HOUR TEST						
133.34	2001	916	31.85	37.69	239	3.54
3.1.2 POWER AT RATED ENGINE SPEED						
120.88	2200	1007	31.29	37.02	259	3.27
3.1.3 STANDARD POWER TAKE-OFF SPEED						
120.88	2200	1007	31.29	37.02	259	3.27
3.1.4 PART LOADS						
3.1.4.1 the torque corresponding to maximum power at rated engine speed						
120.88	2200	1007	31.29	37.02	259	3.27
3.1.4.2 85% of torque obtained in 3.1.4.1						
105.33	2257	1034	28.58	33.81	271	3.12
3.1.4.3 75% of torque defined in 3.1.4.2						
79.40	2267	1038	23.81	28.18	299	2.82
3.1.4.4 50% of torque defined in 3.1.4.2						
53.31	2276	1043	18.50	21.90	347	2.43
3.1.4.5 25% of torque defined in 3.1.4.2						
26.72	2286	1047	13.61	16.10	509	1.66
3.1.4.6 unloaded						
0.75	2295	1051	8.85	10.47	11854	0.07
3.1.5 PART LOADS AT STANDARD POWER TAKE-OFF SPEED						
3.1.5.1 the torque corresponding to maximum power						
120.88	2200	1007	31.29	37.02	259	3.27
3.1.5.2 85% of torque obtained 3.1.5.1						
105.33	2257	1034	28.58	33.81	271	3.12
3.1.5.3 75% of torque defined in 3.1.5.2						
79.40	2267	1038	23.81	28.18	299	2.82
3.1.5.4 50% of torque defined in 3.1.5.2						
53.31	2276	1043	18.50	21.90	347	2.43
3.1.5.5 25% of torque defined in 3.1.5.2						
26.72	2286	1047	13.61	16.10	509	1.66
3.1.5.6 unloaded						
0.75	2295	1051	8.85	10.47	11854	0.07

- No load maximum engine speed 2295 rev/min
- Torque (equivalent crankshaft) at maximum power
  - At rated engine speed 525 Nm
  - At 2-hour test 636 Nm
- Maximum torque (equivalent crankshaft): 770 Nm
(engine speed: 1051 rev/min

Mean atmospheric conditions:		
Temperature	22	°C
Pressure	97.0	kPa
Relative humidity	54	%
Maximum temperatures:		
Coolant	92	°C
Engine oil	107	°C
Fuel	60	°C
Engine air intake	31	°C

3.2 Hydraulic power and lifting forces

Date of Test: 17-Apr-98		
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:		
19.99 MPa		
2900 psig		
II. Pump delivery rate at minimum pressure and rated engine speed:		
117.7 l/min		
31.1 gpm		
III. Flow rate, pressure, power:		
90% of relief valve setting		
103.0 l/min	18.00 MPa	30.9 kW
27.2 gpm	*2610 psig*	*41.4 hp*
Maximum hydraulic power:		
111.3 l/min	17.72 MPa	32.9 kW
29.4 gpm	*2570 psig*	*44.1 hp*
IV. Hydraulic fluid temperature at flow meter:		
67.0 °C		
153 °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. Cat III, ISO hook type lower link arms
Date of test: 17 March 1998

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm/in]	199/7.8	185/7.3
Vertical movement:			
without load:	[mm/in]	856/33.7	953/37.5
with load:	[mm/in]	841/33.1	917/36.1
Maximum corrected force through full range:	[kN/lb]	56.7/12757	55.8/12535
Corresponding pressure:	[kPa/psi]	18000/2610	
Moment about rear axle:	[kN.m/lb.ft]	70.5/51983	103.2/76148
Maximum mast tilt angle:	[deg]	--	6.1

Lifting height relative to horizontal position of lower links.

	[mm]	-385	-373	-296	-198	-98	1
	[in]	-15.2	-14.7	-11.7	-7.8	-3.9	0.1
Corrected lift forces							
Hitch point.	[kN]	--	56.7	59.7	64.0	67.7	71.2
	[lb]	--	12757	13415	14378	15228	16017
at frame	[kN]	55.8	57.7	--	60.3	62.6	64.1
	[lb]	12535	12977	--	13564	14068	14412

Lifting height relative to horizontal position of lower links.

	[mm]	100	201	301	402	469	532
	[in]	4.0	7.9	11.9	15.8	18.5	21.0
Corrected lift forces							
Hitch point	[kN]	74.3	77.1	80.5	84.0	86.3	--
	[lb]	16694	17333	18105	18877	19411	--
at frame	[kN]	65.2	65.8	66.1	--	65.5	64.6
	[lb]	14656	14785	14865	--	14719	14532

3.3 Drawbar power test(unballasted tractor)

OECD Drawbar Data (SI)

Date of tests: 22-Apr-98				Fuel density:	0.845 kg/l									
Type of track: Concrete				Test number	1744									
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, °C					Rel hum-idity	Baro. Pres
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
I. Maximum Power (unballasted, Track at 2000 rev/min)						Tire pressure:	track					Drawbar height:	457 mm	
2	58.83	101.56	2.09	2266	15%	0.396	2.14	55	84	103	16	13	70%	98.65
3	78.74	106.93	2.65	2257	15%	0.359	2.35	57	85	103	11	9	76%	98.65
4	94.52	100.14	3.40	2191	12%	0.330	2.56	59	87	106	16	12	69%	98.65
5	104.25	92.35	4.06	2091	9%	0.302	2.80	57	87	106	18	13	62%	98.58
6	109.17	88.41	4.45	2003	8%	0.290	2.91	57	88	108	19	14	59%	98.51
7	112.26	78.28	5.16	1999	5%	0.283	2.98	57	87	106	19	14	59%	98.51
8	113.37	69.04	5.91	2000	4%	0.280	3.02	57	88	107	21	15	56%	98.51
9	112.87	60.30	6.74	2000	3%	0.280	3.02	56	89	108	21	15	56%	98.51
10	112.72	53.02	7.65	1999	2%	0.280	3.02	55	89	108	21	15	56%	98.51
11	110.25	45.52	8.72	2001	2%	0.287	2.94	56	89	108	22	16	54%	98.48
12	108.52	39.61	9.86	2002	1%	0.291	2.91	55	90	108	23	17	55%	98.44
13	104.31	29.73	12.63	2005	1%	0.303	2.79	55	91	107	23	17	55%	98.44
II. Part loads (unballasted, Track)														
II.1 in selected gear at maximum power at rated engine speed.														
8	103.25	56.43	6.59	2199	2%	0.301	2.81	58	87	106	20	14	56%	98.51
II.1.1 75% of pull at maximum power at rated engine speed														
8	80.02	42.06	6.85	2261	1%	0.334	2.53	55	87	103	23	17	55%	98.37
II.1.2 50% of pull at maximum power at rated engine speed														
8	53.83	28.03	6.91	2268	1%	0.396	2.14	53	86	103	23	17	55%	98.34
II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1														
9	80.06	42.03	6.86	2005	1%	0.307	2.75	52	86	104	23	17	55%	98.37
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
9	53.87	28.03	6.92	2012	1%	0.359	2.35	50	85	102	23	17	55%	98.34
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3														
10	79.97	41.94	6.86	1780	1%	0.286	2.95	50	88	104	23	17	55%	98.37
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4														
10	53.83	28.02	6.91	1782	1%	0.331	2.56	48	86	101	23	17	55%	98.34
II.2 in selected gear nearest to 7.5 km/h at rated engine speed.														
9	101.22	48.72	7.48	2197	2%	0.307	2.75	46	88	107	21	15	56%	98.51
II.2.1 75% of pull at maximum power at rated engine speed														
9	78.84	36.65	7.74	2258	1%	0.342	2.47	56	85	105	22	16	54%	98.41
II.2.2 50% of pull at maximum power at rated engine speed														
9	52.93	24.41	7.80	2267	1%	0.413	2.05	54	84	103	23	17	55%	98.37
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
10	78.98	36.66	7.76	2005	1%	0.311	2.72	53	87	104	22	16	54%	98.41
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
10	52.80	24.41	7.79	2005	1%	0.364	2.32	49	86	100	23	17	55%	98.37
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3														
11	78.81	36.62	7.75	1769	1%	0.291	2.90	50	88	102	22	16	54%	98.41
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4														
11	52.85	24.28	7.84	1782	1%	0.342	2.47	48	86	101	23	17	55%	98.37

3.3.1 Drawbar power test(unballasted tractor)

OECD Drawbar Data (US)														
Date of tests: 22-Apr-98				Fuel density:	7.053 lb/gal									
Type of track Concrete				Test number	1744									
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, ˚F					Rel hum-	Baro. Pres
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet	idity	in Hg
I. Maximum Power (unballasted, Track at 2000 rev/min)						Tire pressure:		track				Drawbar height:	18.0 in	
2	78.90	22831	1.30	2266	15%	0.650	10.84	131	184	217	61	55	70%	29.13
3	105.59	24040	1.65	2257	15%	0.591	11.94	135	185	218	52	48	76%	29.13
4	126.76	22512	2.11	2191	12%	0.542	13.02	138	188	222	60	54	69%	29.13
5	139.79	20762	2.53	2091	9%	0.496	14.22	135	189	223	64	56	62%	29.11
6	146.39	19875	2.76	2003	8%	0.477	14.78	135	191	226	67	58	59%	29.09
7	150.54	17599	3.21	1999	5%	0.466	15.14	135	188	223	67	58	59%	29.09
8	152.03	15521	3.67	2000	4%	0.461	15.32	135	191	225	69	59	56%	29.09
9	151.36	13557	4.19	2000	3%	0.460	15.33	133	192	226	69	59	56%	29.09
10	151.16	11920	4.76	1999	2%	0.460	15.33	132	193	227	69	59	56%	29.09
11	147.85	10234	5.42	2001	2%	0.472	14.94	132	192	226	71	60	54%	29.08
12	145.52	8905	6.13	2002	1%	0.478	14.75	132	194	227	73	62	55%	29.07
13	139.88	6684	7.85	2005	1%	0.498	14.17	131	196	225	73	62	55%	29.07
II. Part loads (unballasted, Track)														
II.1 in selected gear at maximum power at rated engine speed.														
8	138.47	12686	4.09	2199	2%	0.495	14.25	137	188	223	68	58	56%	29.09
II.1.1 75% of pull at maximum power at rated engine speed														
8	107.30	9455	4.26	2261	1%	0.549	12.85	131	189	218	73	62	55%	29.05
II.1.2 50% of pull at maximum power at rated engine speed														
8	72.19	6301	4.30	2268	1%	0.651	10.84	128	188	218	73	62	55%	29.04
II.1.3higher gear at reduced engine speed, same pull and travel speed as II.1.1														
9	107.36	9448	4.26	2005	1%	0.505	13.96	126	187	219	73	62	55%	29.05
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
9	72.23	6302	4.30	2012	1%	0.591	11.94	122	185	215	73	62	55%	29.04
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3														
10	107.25	9429	4.27	1780	1%	0.470	14.99	123	190	220	73	62	55%	29.05
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4														
10	72.18	6300	4.30	1782	1%	0.544	12.97	119	187	215	73	62	55%	29.04
II.2 in selected gear nearest to 4.6 mph at rated engine speed.														
9	135.74	10954	4.65	2197	2%	0.504	13.98	115	190	225	69	59	56%	29.09
II.2.1 75% of pull at maximum power at rated engine speed														
9	105.73	8239	4.81	2258	1%	0.562	12.54	133	186	221	72	61	54%	29.06
II.2.2 50% of pull at maximum power at rated engine speed														
9	70.97	5488	4.85	2267	1%	0.678	10.40	129	184	218	73	62	55%	29.05
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
10	105.92	8242	4.82	2005	1%	0.512	13.78	127	189	220	72	61	54%	29.06
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
10	70.80	5488	4.84	2005	1%	0.599	11.78	121	186	212	73	62	55%	29.05
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3														
11	105.68	8234	4.81	1769	1%	0.479	14.74	122	191	216	72	61	54%	29.06
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4														
11	70.87	5489	4.87	1782	1%	0.362	12.33	119	187	218	73	62	55%	29.05

4.1 Drawbar power (unballasted tractor,2200 rev/min)

OECD Drawbar Data (SI)

Date of tests: 22-Apr-98 | Fuel density 0.845 kg/l
Type of track: Concrete | Test number 1744

Gear	Power kW	Pull kN	Speed km/h	Engine speed rev/min	Slip	SFC kg/kW.h	SFE kW.h/l	Temperature, °C Fuel	Coolant	Oil	Dry	Wet	Rel hum-idity	Baro. Pres kPa
I. Maximum Power (unballasted, Track at 2200 rev/min)						Tire pressure:	track					Drawbar height:	457 mm	
3	78.25	105.73	2.66	2258	14%	0.358	2.36	57	85	103	12	9	72%	98.65
4	95.28	99.04	3.46	2201	11%	0.326	2.59	58	86	105	14	11	73%	98.65
5	101.57	82.81	4.42	2202	6%	0.306	2.76	58	86	106	17	13	70%	98.61
6	103.09	73.35	5.06	2200	4%	0.302	2.79	59	86	106	18	14	63%	98.54
7	103.51	64.25	5.80	2200	3%	0.299	2.82	58	87	106	19	14	59%	98.51
8	103.25	56.43	6.59	2199	2%	0.301	2.81	58	87	106	20	14	56%	98.51
9	101.22	48.72	7.48	2197	2%	0.307	2.75	46	88	107	21	15	56%	98.51
10	99.74	42.33	8.48	2200	1%	0.310	2.73	57	87	107	21	15	56%	98.51
11	96.22	35.93	9.64	2200	1%	0.322	2.62	57	88	107	21	15	53%	98.51
12	94.33	31.21	10.88	2198	1%	0.328	2.58	57	88	107	23	17	55%	98.44
13	89.56	23.18	13.91	2202	1%	0.344	2.45	57	89	108	23	17	55%	98.44

OECD Drawbar Data (US)

Date of tests: 22-Apr-98 | Fuel density 7.053 lb/gal
Type of track: Concrete | Test number 1744

Gear	Power hp	Pull lb	Speed mph	Engine speed rev/min	Slip	SFC lb/hp.h	SFE hp.h/gal	Temperature, °F Fuel	Coolant	Oil	Dry	Wet	Rel hum-idity	Baro. Pres in Hg
I. Maximum Power (unballasted, Track at 2200 rev/min)						Tire pressure:	track					Drawbar height:	18.0 in	
3	104.94	23768	1.66	2258	14%	0.589	11.98	135	186	218	54	49	72%	29.13
4	127.78	22265	2.15	2201	11%	0.536	13.15	137	187	222	57	52	73%	29.13
5	136.21	18616	2.74	2202	6%	0.503	14.02	137	188	222	62	56	70%	29.12
6	138.24	16489	3.14	2200	4%	0.497	14.19	138	188	224	65	57	63%	29.10
7	138.81	14444	3.60	2200	3%	0.492	14.33	137	188	224	67	58	59%	29.09
8	138.47	12686	4.09	2199	2%	0.495	14.25	137	188	223	68	58	56%	29.09
9	135.74	10954	4.65	2197	2%	0.504	13.98	115	190	225	69	59	56%	29.09
10	133.75	9516	5.27	2200	1%	0.510	13.84	135	189	225	69	59	56%	29.09
11	129.03	8078	5.99	2200	1%	0.529	13.32	135	190	225	70	59	53%	29.09
12	126.50	7016	6.76	2198	1%	0.539	13.08	135	190	225	73	62	55%	29.07
13	120.10	5211	8.64	2202	1%	0.566	12.46	135	192	226	73	62	55%	29.07

4.2 MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of test	April 23, 1998
Location of test	Nebraska Tractor Test Laboratory
Sound level meter	Bruel and Kjaer 2236
Type of track	Concrete oval
Gear number	16th
Speed prior to acceleration	22.8 km/h
Noise Level	89.5 dB(A)

4.3 POWER LIFT TEST. Cat III,N.A. Quick attach linkage
Date of test: 18 March 1998

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm/in]	203/8.0	220/8.7
Vertical movement:			
without load:	[mm/in]	826/32.5	820/32.3
with load:	[mm/in]	813/32.0	801/31.5
Maximum corrected force through full range:	[kN/lb]	61.9/13909	70.1/15749
Corresponding pressure:	[kPa/psi]	17850/2590	
Moment about rear axle:	[kN.m/lb.ft]	76.2/56214	129.0/95151
Maximum mast tilt angle:	[deg]	--	4.0

Lifting height relative to horizontal position of lower links.

	[mm]	-369	-352	-299	-201	-98	1
	[in]	-14.5	-13.8	-11.8	-7.9	-3.9	0.0
Corrected lift forces							
Hitch point.	[kN]	61.9	--	64.6	68.9	72.7	76.1
	[lb]	13909	--	14528	15484	16355	17115
at frame	[kN]	--	71.0	70.0	70.9	71.7	72.4
	[lb]	--	15964	15744	15936	16111	16279

Lifting height relative to horizontal position of lower links.

	[mm]	99	201	300	382	407	449
	[in]	3.9	7.9	11.8	15.0	16.0	17.7
Corrected lift forces							
Hitch point	[kN]	78.8	81.6	84.5	86.9	87.5	--
	[lb]	17717	18338	19002	19536	19674	--
at frame	[kN]	72.7	72.7	--	72.1	70.8	70.1
	[lb]	16352	16349	--	16206	15925	15749

Tabulated Drawbar Performance as per Code 2, Paragraph 3.3.3

	Unballasted
Maximum drawbar pull	106.93 kN
Slip	15 %
Corresponding to 7%	88.41 kN

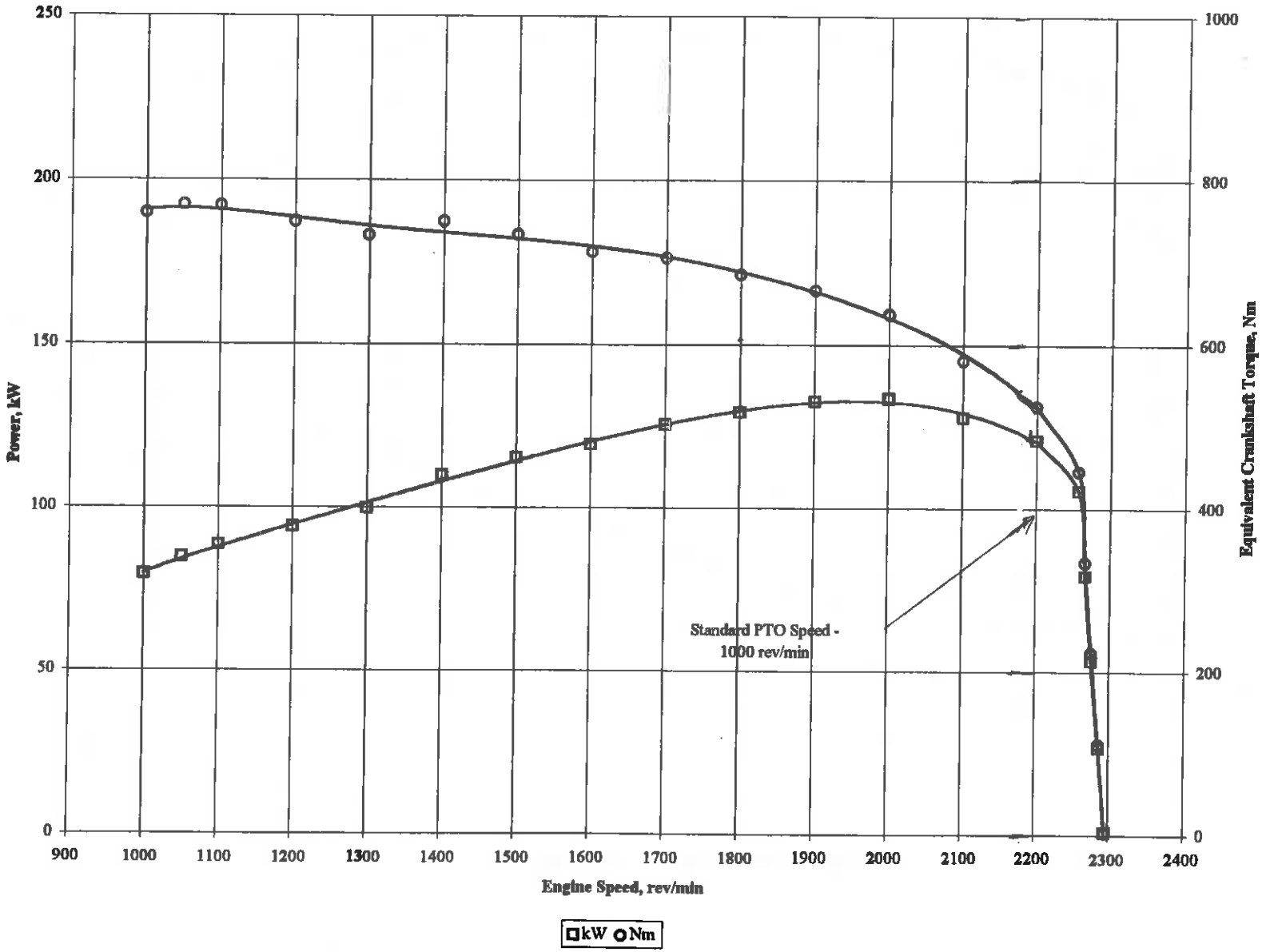
5. REPAIRS

None

6. REMARKS

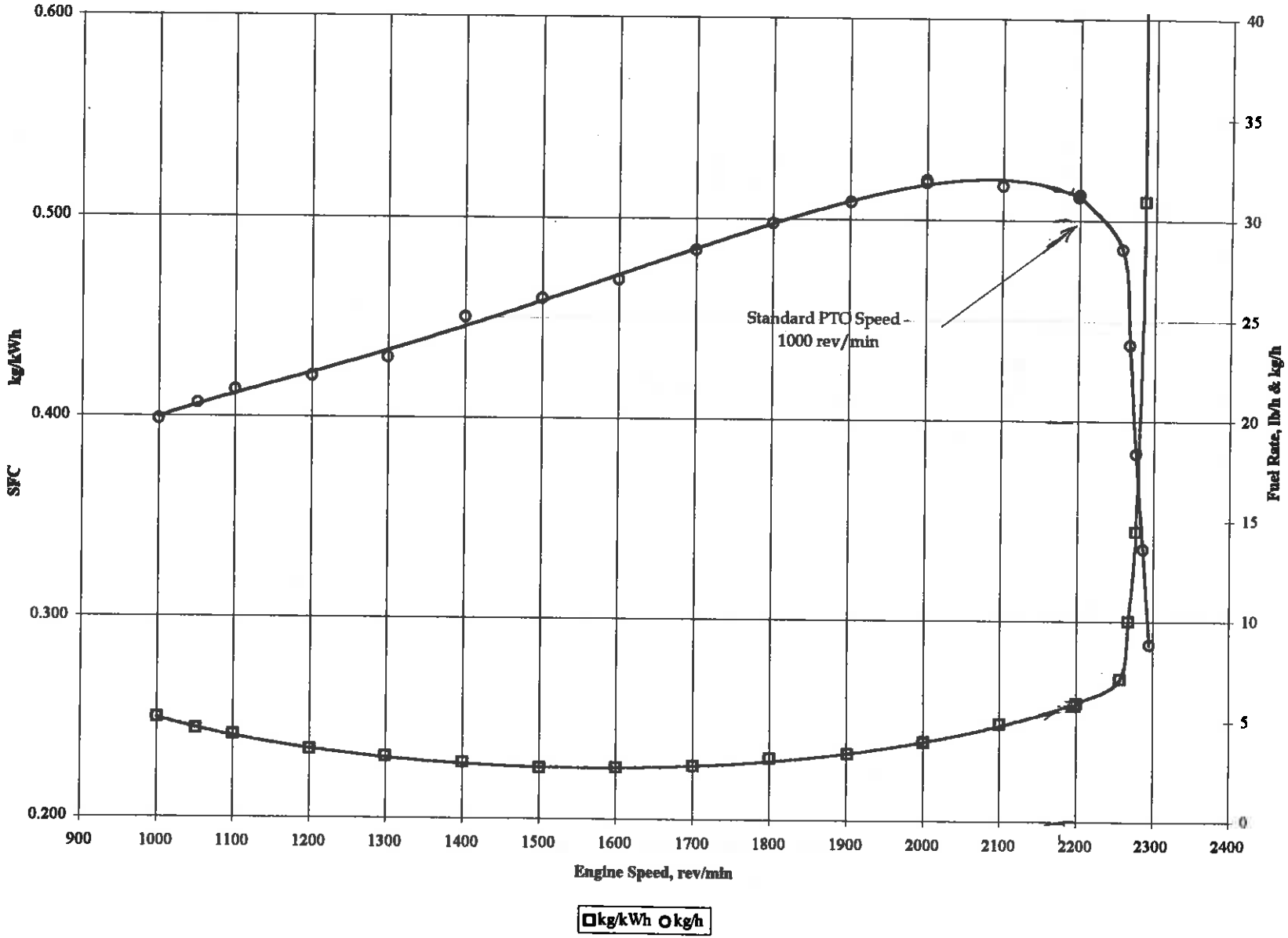
None

Power and Equivalent Crankshaft Torque



John Deere 8100T

Specific Fuel Consumption and Fuel Rate



Power and Specific Fuel Consumption

