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CODE 2
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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 9300T POWRSYNC
Unit Construction, Rubber Tracklaying Tractor

MANUFACTURED BY:	**John Deere Tractor Works** **3500 East Donald Street** **P.O. Box 270** **Waterloo, Iowa 50704-0270**
NEBRASKA TEST NO.	**1790**
TEST DATES:	**March 22 - April 20, 2001**

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 September 19, 2001 for the John Deere 9300T PowrSync, Unit Construction, Rubber Tracklaying Tractor with OECD Number 2/1 966.

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Date: OCT 0 8 2001

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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.

- Tractor manufacturer's name and 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 Nebraska Tractor Test Laboratory
- Place of running-in:	John Deere Product Engineering Center, Waterloo Iowa U.S.A.
- Duration of running-in:	104 H
- Location of test:	Nebraska Tractor Test Laboratory, Lincoln Nebraska U.S.A.

1. SPECIFICATIONS OF TRACTOR

1.1 Identification

1.1.1 Make of the tractor:	John Deere
- Model (trade name):	9300T
- Type:	Rubber tracklaying tractor

1.1.2 *Numbers*

- 1st Serial N_:	Confidential
- Serial N_:	*RW9300T902145*

1.1.3 *Other Specifications:*

- Transmission type:	PowerSync

1.2 Engine

- Make/Model/Type:	John Deere/6125HRW06/4-stroke diesel; turbocharged, air-to-air intercooled, direct injection
- Serial N°:	*RG6125H030011*

1.2.1 *Cylinders*

- Number/disposition:	6, in line, vertical
- Bore/stroke:	127 mm x 165 mm
- Capacity:	12535 cm^3
- Compression ratio:	17.0 : 1
- Arrangement of valves:	Overhead
- Cylinder liners (wet or dry):	Wet; replaceable

1.2.2 *Supercharging*

- Make/Model/Type:	Borg Warner/RE506332/Exhaust driven
- Pressure:	0.123 +/- 0.015 MPa

1.2.3 *Fuel system*

- Fuel feed system:	Engine driven transfer pump
- Make/Model/Type of fuel filter(s):	Parker Hannifin/ RE507284/Reinforced cellulose
- Capacity of fuel tank:	1143 dm^3
- Make/Model/Type of injection pump:	Delphi/EUI 200/Unit Injector (with John Deere Focus Controller)
- Serial N°:	100155 (ECU)
- Manufacturer's production setting of injection pump	
. Flow rate (rated engine speed and full load):	65.68+/- 2.0 dm^3/h
. Timing:	Variable
- Make/Model/Type of injectors:	Delphi / RE505430 / Unit Injector
- Injection pressure:	170 Mpa
- Make/Model/Type of carburetor:	Not Applicable

1.2.4 *Governor*

- Make/Model/Type:	John Deere Focus / Electronic
- Governed range of engine speed	From 900 to 2240 min^{-1}(rev/min)
- Rated engine speed:	2100 min^{-1}(rev/min)

1.2.5 *Air cleaner*

- Pre-cleaner
  - Make/Model/Type: Donaldson/ R128190/ Strato-tube
  - Location of air intake: Top of air stack, right front corner of cab
- Main cleaner
  - Make/Model/Type: Donaldson/ RE63931/ pleated paper
  - Location of air intake: Right front
- Maintenance indicator: Dash mounted warning light and audio signal

1.2.6 *Lubrication system*

- Type of feed pump: Full pressure; positive displacement
- Type of filter(s): Full flow, with bypass
- 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
- Specification of fan or blower Belt driven; suction type; variable speed
  - Number of fan blades: 8
  - Fan diameter: 787 mm
- Coolant capacity: 60 dm^3
- Type of temperature control: Two thermostats and variable speed fan
- Superpressure system: 69 +/- 5 kPa

1.2.8 *Starting system*

- Make/Model/Type: Delco-Remy/ RE61547/Solenoid operated
- Starter motor power rating: 6.9 kW
- Cold starting aid: Ether spray in intake manifold
- Safety device: Electrical lockout on gearshift

1.2.9 *Electrical system*

- Voltage:	12 Volt DC; negative ground
- Generator	
. Make/Model/type:	Nippondenso/RE46608/Belt driven
. Power:	1.9 kW
- Battery of accumulators	
. Number:	Three; 12 Volt batteries in parallel; SAE tapered post
. Rating	925 Cold Cranking Amps/battery 175 Ah/battery at 20 hours

1.2.10 *Exhaust system*

- Make/Model/Type:	Nelson/RE71295/Expansion Chamber
- Location:	Vertical, right front corner of cab

1.3 Transmission

1.3.1 *Clutch (travel alone)*

- Make/Model/Type:	John Deere/Multiple plate/Oil cooled
- Number of plates:	7
- Diameter of plates:	279 mm
- Method of operation:	Hydraulic; pedal actuated

1.3.2 *Gear box*

- Make/Model/Type: John Deere/PowrSync /Mechanical
- Description: Countershaft and planetary design consisting of one 3-speed gearbox with 4 synchronized ranges and one two-speed planetary gearset with multiple wet discs and brakes
- Oil cooler Heat exchanger with air

	Forward	Reverse
Number of gears	3	1
Number of ranges/groups	4 / 2 (Lo & Hi)	3 / 2 (Lo & Hi)
Total of arrangements	24	6

- Available options: None

1.3.3 *Rear axle and final drives*

- Make/Model/Type: John Deere / / Spiral Bevel gear, differential and outboard planetary reduction
- Differential lock Not applicable

1.3.4 *Front axle and final drives*

- Make/Model/Type: Not applicable

1.3.5 *Total ratios and traveling speeds*

Gear	Group or range	Number of engine revolutions for one revolution of the driving wheels	Nominal traveling speed (*) at rated engine speed of 2100 min^{-1} (rev/min) km/h
Forward			
A1	Lo	199.52	3.10
A1	Hi	166.40	3.72
A2	Lo	154.99	3.99
A2	Hi	129.26	4.79
A3	Lo	113.24	5.47
A3	Hi	94.45	6.56
B1	Lo	93.62	6.61
C1	Lo	84.92	7.29
B1	Hi	78.08	7.93
B2	Lo	72.73	8.51
C1	Hi	70.83	8.74
C2	Lo	65.97	9.38
B2	Hi	60.66	10.21
C2	Hi	55.02	11.25
B3	Lo	53.14	11.65
C3	Lo	48.20	12.84
B3	Hi	44.32	13.97
C3	Hi	40.20	15.40
D1	Lo	39.85	15.54
D1	Hi	33.23	18.63
D2	Lo	30.95	20.00
D2	Hi	25.82	23.98
D3	Lo	22.62	27.37
D3	Hi	18.86	32.82
Reverse			
A	Lo	-166.39	-3.72
A	Hi	-138.78	-4.46
B	Lo	-78.08	-7.93
C	Lo	-70.82	-8.74
B	Hi	-65.12	-9.51
C	Hi	-59.07	-10.48
(*) Calculated with a rear track dynamic radius index of 782 mm ~~(ISO) 4251:1992).~~			

1.4 Power take-off (Optional - fitted on the tested tractor)

1.4.1 *Main power take-off*

- Type:	Independent
- Method of engagement (if necessary describe the type of clutch):	Hydraulically actuated multi-plate wet clutch operated by hand control lever
- Number of shafts:	1
- Method of changing power take-off shaft ends and speeds:	None

1.4.1.1 Power take-off proportional to engine speed

Power take-off at 540 min^{-1} (rev/min) Not Available

Power take-off at 1000 min^{-1} (rev/min)

- Location:	Rear of tractor; center plane
- Diameter of power take-off shaft end:	44.5 mm
- Number of splines (In conformity with ISO 500:1991)	20
- Height above ground:	817 mm
- Distance from the median plane of the tractor:	0 mm
- Distance behind rear-wheel axis:	760 mm
- PTO speed at rated engine speed (2100 rev/min):	1108 min^{-1} (rev/min)
- Engine speed at standard power take-off speed:	1895 min^{-1} (rev/min)
- Ratio of rotation speeds (engine speed/p.t.o. speed):	1.895:1
- Power restriction:	None
- Maximum torque transmissible:	Maximum Available
- Direction of rotation (viewed from behind tractor):	Clockwise

1.4.1.2 Power take-off proportional to ground speed Not Available

1.4.2 *Optional power take-off* Not Available

1.5 Hydraulic power lift (Optional - not fitted on the tested tractor)

- 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/flow compensated
- Type and number of cylinders (single or double-acting):	Single acting / Two external CAT III-2 x 90 mm CAT IV-1 x 90 mm & 1 x 100 mm
- Type of linkage lock for transport:	Electro-hydraulic
- Relief valve pressure setting (tolerance):	20.2 +/- 0.5 MPa
- Opening pressure of cylinder safety valve (if fitted):	23.25 +/- 0.5 MPa
- Lift pump type:	Axial piston, variable pressure and flow, pressure and flow compensated
- Transmission between pump and engine:	Direct drive
- Type and number of filters:	Spin on/one
- Site of oil reservoir:	Engine compartment
- Type, number and location of tapping points:	ISO standard breakaway couplers/3 standard with 4th, 5th and hydraulic power beyond optional / rear of tractor
- Maximum volume of oil available to external cylinders:	51.9 dm^3
- Oil cooler	Heat exchanger with air

1.6.1 Three point linkage (Optional - not fitted on the tested tractor)

- Category: III, in conformity with ISO 730-1:1994+Cor.1:1995 and ISO 730-2:1979.
- Category adapter: Quick attaching coupler

		Dimension or range	Settings used in test
		mm	mm
Rear track radius:	(r)	837	837
Length of lift arms:	(A)	471	Same
Length of lower links:	(B)	1095 Projected	Same
Distance of lift arm pivot point from rear-wheel axis:			
- horizontally	(a)	244	Same
- vertically	(b)	772	Same
Horizontal distance between the 2 lower link points:	(u)	644 on Center	Same
Horizontal distance between the 2 lift arm end points:	(v)	750 on Center	Same
Length of upper link:	(S)	From 747 to 868	783
Distance of upper link pivot point from rear wheel axis:			
- horizontally	(c)	577	Same
- vertically	(d)	288	Same
Distance of lower link pivot point from rear wheel axis:			
- horizontally	(e)	288	Same
- vertically	(f)	350	Same
Distance of lower link pivot points to lift rod pivot points on lower links:	(D)	746	Same
Length of lift rods:	(L)	From 1110 to 1270	1238
Height of lower hitch points relative to the rear-wheel axis:			
- in low position	(h)	From 337 to 657	634
- in high position	(H)	From 110 to 340	166
Height above ground of lower hitch points when locked in transport position (*)		Any position within range	1003
Rear track static radius index of 837 mm.			

1.6.2 Three point linkage (Optional - not fitted on the tested tractor)

- Category: IV, in conformity with ISO 730-1:1994+Cor.1:1995 and ISO 730-2:1979.
- Category adapter: Quick attaching coupler

		Dimension or range	Settings used in test
		mm	mm
Rear track radius:	(r)	837	837
Length of lift arms:	(A)	471	Same
Length of lower links:	(B)	1095 Projected	Same
Distance of lift arm pivot point from rear-wheel axis:			
- horizontally	(a)	244	Same
- vertically	(b)	772	Same
Horizontal distance between the 2 lower link points:	(u)	644 on Center	Same
Horizontal distance between the 2 lift arm end points:	(v)	750 on Center	Same
Length of upper link:	(S)	From 747 to 868	762
Distance of upper link pivot point from rear wheel axis:			
- horizontally	(c)	577	Same
- vertically	(d)	288	Same
Distance of lower link pivot point from rear wheel axis:			
- horizontally	(e)	288	Same
- vertically	(f)	350	Same
Distance of lower link pivot points to lift rod pivot points on lower links:	(D)	746	Same
Length of lift rods:	(L)	From 1110 to 1270	1216
Height of lower hitch points relative to the rear-wheel axis:			
- in low position	(h)	From 337 to 657	613
- in high position	(H)	From 110 to 340	187
Height above ground of lower hitch points when locked in transport position (*)		Any position within range	1029
Rear track static radius index of 837 mm.			

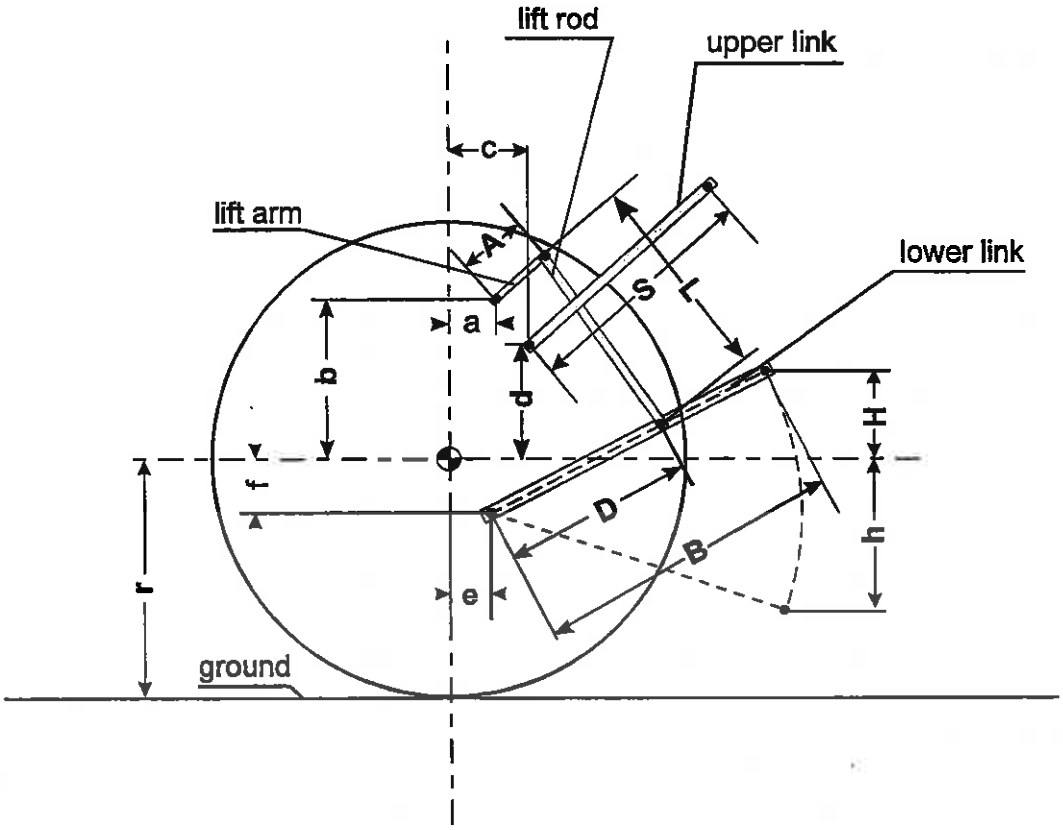


Figure 2.1
Lift test - Linkage Geometry

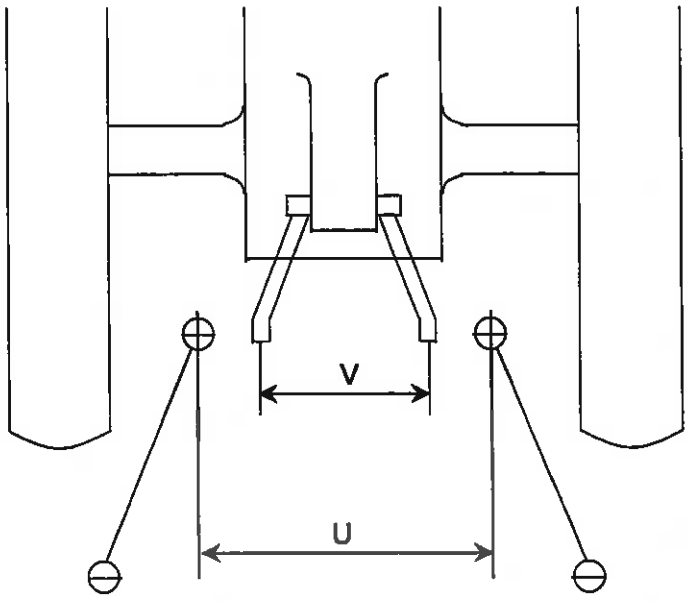


Figure 2.2
Lift test - Linkage Geometry

1.7 Swinging drawbar

- Type:	Oscillating
- Height above ground	
. Maximum:	483 mm
. Minimum:	483 mm
- Type of adjustment:	None
- Distance of hitch point from rear-wheel axis, horizontally:	1119 to 1269 mm
- Distance of hitch point from power take-off shaft end	
. Vertically:	335 mm
. Horizontally:	359 mm
- Lateral adjustment (centre of clevis)	
. Right hand	175 mm
. Left hand	175 mm
- Distance of pivot point from rear-wheel axis, horizontally:	1373 mm
- Diameter of drawbar pin hole:	53 mm
- Maximum vertical permissible load:	
Short position	20 kN
Extended position	20 kN

1.7.1 *Wide swing drawbar (Optional):* On tested model

- Type:	Oscillating
- Height above ground	
. Maximum:	483 mm
. Minimum:	483 mm
- Type of adjustment:	None
- Distance of hitch point from rear-wheel axis, horizontally:	1119 to 1269 mm
- Distance of hitch point from power take-off shaft end	
. Vertically:	335 mm
. Horizontally:	359 or 509 mm
- Lateral adjustment (centre of clevis)	
. Right hand	714 mm
. Left hand	714 mm
- Distance of pivot point from rear-wheel axis, horizontally:	1373 to 1523 mm
- Diameter of drawbar pin hole:	53 mm
- Maximum vertical permissible load:	
Short position	20 kN
Extended position	20 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 48.5 +/- 2.0 MPa

1.11 Brakes

1.11.1 *Service brake*

- Make/Model/Type: — Vickers-John Deere/Load sensing power with manual backup
- Method of operation: — Hydraulic actuated oil immersed disc operated by one pedal
- Trailer braking take-off (hydraulic or air brake): — Not Available

1.11.2 *Parking brake* .

- Type: — Transmission lock
- Method of operation: — Gear selector lever

1.12 Tracks

- Number
  - Left: One; Driving and Steering
  - Right: One; Driving and Steering
- Wheelbase: Not Applicable
- Track width adjustment:

Minimum	Maximum	Adjustment
mm	mm	method
2692	2692	None

1.13 Protective structure

- Make/Model/Type: John Deere / SG-063/ CommandView (SoundGard)
- Manufacturer's name and address: John Deere Waterloo Works Waterloo, Iowa, USA
- Protective device
  - Cab/frame/ rollguard/ other: Cab
  - Tiltable/not tiltable: Not Tiltable
- OECD approval
  - Approval number: None
  - Date of approval: NA
- USA (OSHA) approval: USA-OSHA: 29CFR1928, Subpart C and SAE J2194 Sep97
  - Date of approval: 24 April 1999
  - Nos. of minor modification certificates, if any: None

1.14 Seat

1.14.1 *Driver's seat*

- Make/Model/Type: Sears Mfg/RE152797 (SM:RE152546) / Air suspension; ComfortCommand™ Seat
- Seat and steering wheel reversible: Yes/No No
- Type of suspension: Air
- Type of damping: 5 position damper, viscous damping

- Range of adjustment
  - . Longitudinally: 178 mm
  - . Vertically 172 mm
- Safety belt: Yes/No Yes

1.14.2 *Optional driver's seat(s)* Not Available

1.14.3 *Passenger seat*

- Location: Optional Instructional Seat located left of drivers seat
- 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			
Outside	2147	93 x 153	463
Inside	2147	93 x 153	277
Center	2147	93 x 153	77
Sidelights			
Front	3435	100 dia	905
Rear	3435	100 dia	905
Rear lights			
Outside	1988	75 x 135	1338
Inside	1988	75 x 135	1120
Hazard lights			
Roof front	3350	82 x 240(*)	770
Roof rear	3330	82 x 240(*)	790
Extremity lights	1895	110 dia	1788
Tail lights	1850	95 x 210	895

(*) Wrap-around lights

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
Unballasted	6020	3646	3646	3454	3835

2.2 Ground clearance (unballasted tractor): 368 mm

- Clearance-limiting part: Intermediate safety chain support

2.3 Tractor mass

Mass (with cab, full fuel tank):

	Without driver	With driver
	kg	kg
Unballasted		
Total	19017	19092
Ballasted		
Total	20175	20250

Ballast Added	Number of Weights	Total Mass	Liquid
		kg	kg
Front	20	886	-
Front weight support	1	272	-
Sides	-	-	-

2.4 Track specifications

Track materials	Goodyear (Trackman™)
Track width and base	762 mm and 2819 mm
Dynamic radius rolling radius	782 mm
Track support system	Oscillating front idler & three midrollers supported by midframe and rear wheel attached to drive axle
Treadbars Total per track Bar length at top Bar width at top Bar width at center Bar height	 42 394 mm 52 mm 70 mm 61.0 mm
Number of treadbars per metre	4.37
Other specifications Track length Track ground contact length	 9601 mm 2819 mm

2.5 Tyres and track width specifications

Tread width setting: 3454 mm

2.6 Fuel

- Type/Grade: Premier: Grade 2-D, in conformity with national standard
- Density at 15°C: 0.842 g/cm^3

2.7 Oils and lubricants

2.7.1 *Capacity and change interval*

	Capacity	Oil change	Filter change
	dm^3	h	h
Engine (with filter)	42	250 (375 with John Deere PLUS-50 oil and filter)	250
Transmission, Steering, and Rear axle	246	1500	750
Hydraulics (*)	87	1500	750
(*) State if common with gearbox and rear axle.			

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

	Recommended	Used during test
Engine oil . Type: . Viscosity: . Classification:	John Deere; Torq-Gard Supreme, PLUS-50; SAE 15W-40 or 0W-40 12.5 – 16.3 cSt @ 100 °C API CH-4, CG-4, ACEA E2	John Deere PLUS-50; SAE 15W-40 12.5 – 16.3 cSt @ 100 °C API CH-4, ACEA E2
Transmission oils . Type: . Viscosity: . Classification:	John Deere HY-GARD; J20C SAE 10W-30 58 cSt at 43 °C NA	Same
Hydraulic fluid . Type: . Viscosity: . Classification:	Same as transmission	Same
Steering oil . Type: . Viscosity: . Classification:	Same as transmission	Same
Grease	John Deere Moly High Temperature EP Grease	Same

2.7.3 *Grease*

- Number of lubrication points: 6

3. COMPULSORY TESTS RESULTS

3.1 Main power take-off

- Date and location of tests: 22-Mar-01 Nebraska Tractor Test Laboratory, Lincoln, NE, US/
- Type of dynamometer bench: Eaton

	Speed		Fuel consumption			Specific
Power	Engine	PTO	Hourly		Specific	energy
kW	rev/min		kg/h	l/h	g/kWh	kW-h/l
3.1 MAXIMUM POWER - TWO HOUR TEST						
257.61	1700	897	60.85	72.27	236	3.56
3.1.2 POWER AT RATED ENGINE SPEED						
225.75	2101	1109	56.16	66.70	249	3.38
3.1.3 STANDARD POWER TAKE-OFF SPEED (1000 +/- 25 rev/min)						
251.32	1895	1000	58.09	68.99	231	3.64
3.1.4 PART LOADS						
3.1.4.1 the torque corresponding to maximum power at rated engine speed						
225.75	2101	1109	56.16	66.70	249	3.38
3.1.4.2 85% of torque obtained in 3.1.4.1						
197.17	2157	1139	51.57	61.25	262	3.22
3.1.4.3 75% of torque defined in 3.1.4.2						
149.02	2177	1149	42.59	50.58	286	2.95
3.1.4.4 50% of torque defined in 3.1.4.2						
100.29	2195	1158	35.38	42.02	353	2.39
3.1.4.5 25% of torque defined in 3.1.4.2						
50.23	2200	1161	25.04	29.74	498	1.69
3.1.4.6 unloaded						
1.24	2200	1161	16.33	19.39	13208	0.06
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						
251.32	1895	1000	58.09	68.99	231	3.64
3.1.5.2 85% of torque obtained in 3.1.5.1						
224.15	2001	1056	53.34	63.35	238	3.54
3.1.5.3 75% of torque defined in 3.1.5.2						
170.22	2025	1069	44.63	53.01	262	3.21
3.1.5.4 50% of torque defined in 3.1.5.2						
114.66	2047	1080	35.24	41.86	307	2.74
3.1.5.5 25% of torque defined in 3.1.5.2						
57.81	2072	1093	24.63	29.25	426	1.98
3.1.5.6 unloaded						
1.18	2093	1105	14.42	17.13	12259	0.07

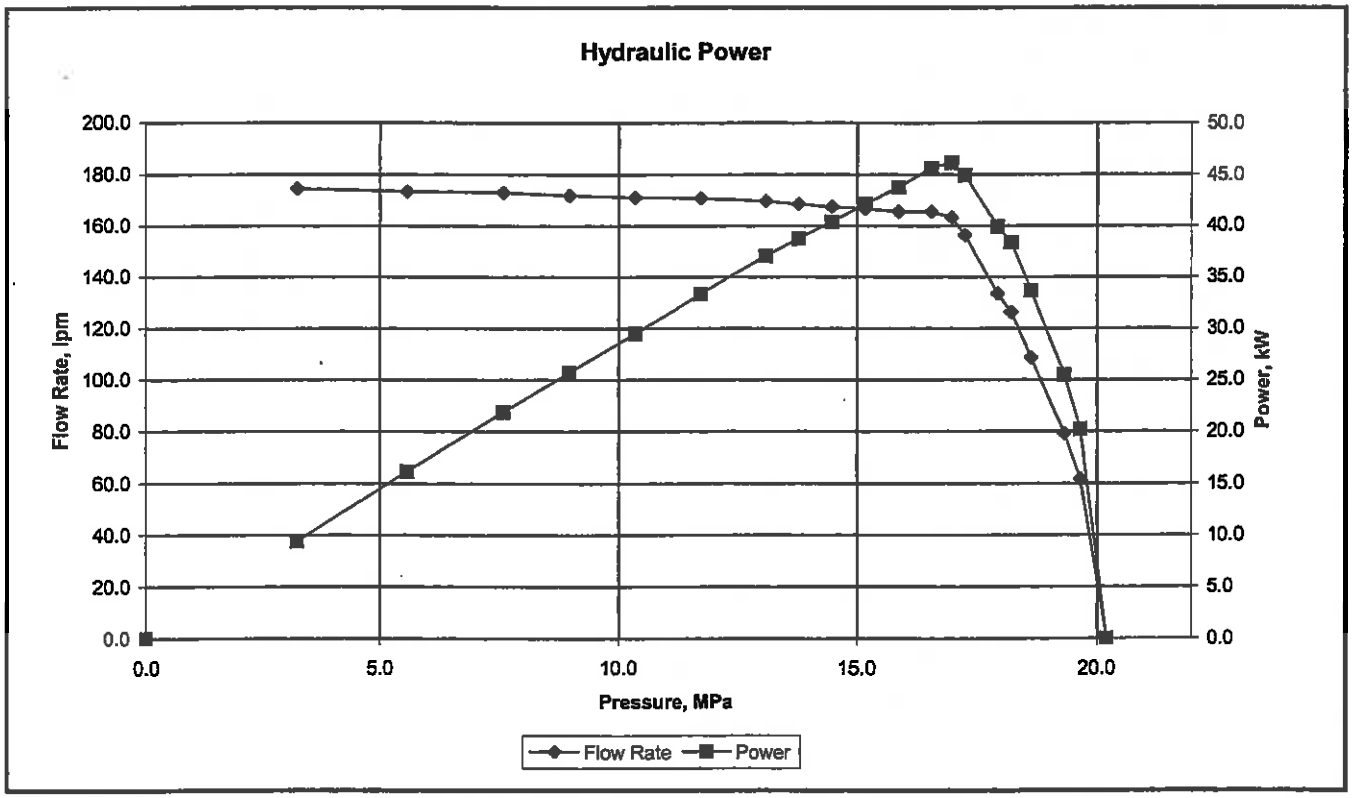
- No load maximum engine speed: 2200 rev/min
- Torque (equivalent crankshaft) at rated speed:
  - At rated engine speed 1026 Nm
  - At 2-hour test 1447 Nm
- Maximum torque (equivalent crankshaft 1553 Nm
  (engine speed: 1102 rev/min)

Mean atmospheric conditions:		
Temperature	24	°C
Pressure	98.2	kPa
Relative Humidity	44	%
Maximum temperatures:		
Coolant	89	°C
Engine oil	112	°C
Fuel	63	°C
Engine air intake	29	°C

3.2 Hydraulic Power and lifting Forces

3.2.1 Hydraulic Power Test

Date of Test:	6-Apr-01	John Deere 9300T	
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:		
	20.20 MPa		
	2930 psig		
II.	Pump delivery rate at minimum pressure at rated engine speed:		
	174.5 l/min		
	46.1 gpm		
III.	Flow rate, pressure, power:		
	90% of relief valve setting		
	126.4 l/min	18.20 MPa	38.4 kW
	33.4 gpm	*2640 psig*	*51.4 hp*
	Maximum hydraulic power:		
	163.2 l/min	16.96 MPa	46.1 kW
	43.1 gpm	*2460 psig*	*61.9 hp*
IV.	Hydraulic fluid temperature at flow meter:		
	75 °C		
	166 °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, N.A. Quick attach linkage.
Date of test: 19 Dec 2000.

	Hitch points	Frame
Lower hitch points above ground - down position:	203 mm	179 mm
Vertical movement - without load:	800 mm	889 mm
with load:	799 mm	879 mm
Maximum corrected force exerted through full range:	62.5 kN	60.5 kN
Corresponding pressure:	18.5 MPa	18.5 MPa
Moment about rear axle:	96.8 kNm	130.6 kNm
Maximum mast tilt angle	--	5.4 degrees

Lifting height relative to horizontal position of lower links.

mm		-306	-281	-200	-101	3	151	305	405	495	518	573
Corrected lift forces												
At the Hitch point	kN	--	62.5	65.1	68.0	70.3	73.0	75.6	77.4	79.1	79.6	--
at the frame	kN	63.8	65.4	–	65.8	65.9	65.1	64.1	62.7	62.5	61.1	60.5
Corresponding pressure	18.5 MPa											

3.3 DRAWBAR PERFORMANCE

OECD Drawbar Data (SI)

Date of tests: 02,10,11 APR 2001							**Fuel density:**	0.842 kg/l						
Type of track: Concrete							**Test number:**	1790						
3.3.1 Maximum power in tested gears (see pg. 23)							**Tire pressure:**	0 kPa, rear		0 kPa, front		**Drawbar Height:**	483 mm	
Gear	**Gear Designation**	**Power**	**Drawbar pull**	**Speed**	**Engine speed**	**Slip**	**Fuel**		**Temperature**			**Atmospheric conditions**		
							SFC	**SFE**	**Fuel**	**Coolant**	**Oil**	**Temperature**	**Relative humidity**	**Pressure**
		kW	**kN**	**km/h**	**rev/min**	**%**	**kg/kW.h**	**kW.h/l**	**°C**	**°C**	**°C**	**°C**	**%**	**kPa**
3.3.2 Fuel consumption														
3.3.2.1			**In selected gear at maximum power at rated engine speed.**											
12	C2 LO	195.87	75.75	9.31	2099	1	0.287	2.93	63	83	112	10	69	97.3
3.3.2.1.1			**75% of pull at maximum power at rated engine speed**											
12	C2 LO	151.93	56.81	9.63	2166	1	0.324	2.60	62	84	109	17	49	95.0
3.3.2.1.2			**50% of pull at maximum power at rated engine speed**											
12	C2 LO	102.44	37.87	9.74	2185	1	0.392	2.15	61	80	106	17	57	95.0
3.3.2.1.3			**Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.1**											
13	B2 HI	151.53	56.87	9.59	1984	1	0.309	2.73	60	83	108	17	49	95.0
3.3.2.1.4			**Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.2**											
13	B2 HI	102.38	37.90	9.72	2007	1	0.376	2.24	60	80	104	17	62	95.0
3.3.2.1.5			**Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.1**											
14	C2 HI	151.83	56.81	9.62	1805	1	0.302	2.79	60	83	106	17	49	95.0
3.3.2.1.6			**Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.1.2**											
14	C2 HI	102.55	37.91	9.74	1823	1	0.355	2.37	57	78	101	16	70	95.0
3.3.2.2			**In selected gear nearest to 7.5 km/h at rated engine speed.**											
8	C1 LO	200.64	101.04	7.15	2097	2	0.280	3.00	66	86	113	18	50	97.4
3.3.2.2.1			**75% of pull at maximum power at rated engine speed**											
8	C1 LO	157.00	75.86	7.45	2166	1	0.310	2.72	62	84	109	17	53	95.1
3.3.2.2.2			**50% of pull at maximum power at rated engine speed**											
8	C1 LO	105.88	50.44	7.56	2187	1	0.373	2.26	61	81	106	18	43	95.1
3.3.2.2.3			**Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.1**											
9	B1 HI	157.03	75.75	7.46	1996	1	0.297	2.83	62	83	108	18	50	95.1
3.3.2.2.4			**Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.2**											
9	B1 HI	105.98	50.44	7.56	2013	1	0.357	2.36	59	79	104	18	46	95.0
3.3.2.2.5			**Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.1**											
10	B2 LO	156.76	75.66	7.46	1857	1	0.285	2.95	60	82	106	18	44	95.1
3.3.2.2.6			**Higher gear at reduced engine speed, same pull and travel speed as 3.3.2.2.2**											
10	B2 LO	105.95	50.40	7.57	1875	1	0.338	2.49	58	79	101	17	47	95.0

3.3 Drawbar performance(unballasted - 1700 rev/min)

OECD Drawbar Data (SI)

Date of tests: 02,10,11 APR 2001						**Fuel density:** 0.842 kg/l								
Type of track: Concrete						**Test number:** 1790								
3.3.1 Maximum power in tested gears (unballasted, CRWL)						**Tire pressure:** 0 kPa, rear 0 kPa, front						**Drawbar Height:** 483 mm		
Gear	**Gear Designation**	**Power**	**Drawbar pull**	**Speed**	**Engine speed**	**Slip**	**Fuel**		**Temperature**			**Atmospheric conditions**		
							SFC	**SFE**	**Fuel**	**Coolant**	**Oil**	**Temperature**	**Relative humidity**	**Pressure**
		kW	**kN**	**km/h**	**rev/min**	**%**	**kg/kW.h**	**kW.h/l**	**°C**	**°C**	**°C**	**°C**	**%**	**kPa**
2	A1 HI	160.08	176.03	3.27	2156	15	0.331	2.55	63	80	108	12	94	97.4
3	A2 LO	175.58	178.50	3.54	2140	13	0.314	2.68	62	80	107	12	88	97.3
4	A2 HI	190.01	157.86	4.33	2081	9	0.297	2.84	63	84	111	18	43	95.1
5	A3 LO	203.22	152.70	4.79	1988	8	0.282	2.99	64	86	113	19	44	95.1
6	A3 HI	213.44	155.75	4.93	1706	8	0.284	2.96	65	85	112	18	50	97.3
7	B1 LO	215.71	156.29	4.97	1708	8	0.282	2.99	65	84	112	18	50	97.3
8	C1 LO	221.55	141.51	5.64	1708	5	0.275	3.06	66	86	114	18	50	97.4
9	B1 HI	222.31	129.05	6.20	1705	4	0.274	3.07	64	85	113	18	50	97.4
10	B2 LO	226.39	121.26	6.72	1707	3	0.270	3.12	65	87	113	18	50	97.4
11	C1 HI	224.97	116.63	6.94	1710	3	0.271	3.11	64	85	112	16	56	97.4
12	C2 LO	226.82	108.78	7.51	1711	2	0.267	3.15	62	84	111	11	64	97.3
13	B2 HI	225.80	98.98	8.21	1714	2	0.269	3.13	63	86	113	13	62	97.4
14	C2 HI	223.44	88.95	9.04	1707	2	0.272	3.09	63	86	113	14	53	97.4
15	B3 LO	223.49	85.72	9.39	1709	2	0.272	3.10	63	86	113	14	54	97.4
16	C3 LO	221.56	76.78	10.39	1712	1	0.274	3.08	63	87	113	14	54	97.4
17	B3 HI	216.82	69.02	11.31	1711	1	0.279	3.01	63	87	113	14	54	97.4
18	C3 HI	212.35	61.40	12.45	1708	1	0.286	2.94	62	87	111	18	50	97.3
19	D1 LO	215.34	61.51	12.60	1714	1	0.283	2.97	64	87	112	18	50	97.3
20	D1 HI	205.85	49.06	15.10	1710	1	0.297	2.83	63	88	112	18	50	97.3

4.1 Drawbar Power (unballasted - 2100 rev/min)

OECD Drawbar Data (SI)

Date of tests: 02,10,11 APR 2001							**Fuel density:**	0.842 kg/l						
Type of track: Concrete							**Test number:**	1790						
4.1.1 Maximum power in tested gears (unballasted, CRWL)							**Tire pressure:**	TRK kPa, rear		TRK kPa, front		**Drawbar Height:**	483 mm	
Gear	**Gear Designation**	**Power**	**Drawbar pull**	**Speed**	**Engine speed**	**Slip**	**Fuel**		**Temperature**			**Atmospheric conditions**		
							SFC	**SFE**	**Fuel**	**Coolant**	**Oil**	**Temperature**	**Relative humidity**	**Pressure**
		kW	kN	km/h	rev/min	%	kg/kW.h	kW.h/l	°C	°C	°C	°C	%	kPa
3	A2 LO	174.22	177.66	3.53	2143	14	0.317	2.66	63	80	108	12	88	97.3
4	A2 HI	191.74	155.15	4.45	2098	7	0.292	2.88	63	82	110	12	94	97.4
5	A3 LO	196.71	136.47	5.19	2096	5	0.286	2.95	64	85	112	18	43	95.1
6	A3 HI	196.71	110.74	6.39	2098	3	0.286	2.95	67	86	113	18	50	97.3
7	B1 LO	201.89	112.74	6.45	2098	3	0.279	3.02	67	86	113	18	50	97.3
8	C1 LO	200.64	101.04	7.15	2097	2	0.280	3.00	66	86	113	18	50	97.4
9	B1 HI	197.20	90.86	7.81	2097	2	0.286	2.94	65	85	112	18	50	97.4
10	B2 LO	199.24	85.19	8.42	2099	1	0.284	2.96	66	86	113	18	50	97.4
11	C1 HI	196.28	81.60	8.66	2099	1	0.287	2.93	65	86	113	15	59	97.4
12	C2 LO	195.87	75.75	9.31	2099	1	0.287	2.93	63	83	112	10	69	97.3
13	B2 HI	192.25	68.34	10.13	2098	1	0.294	2.86	63	85	112	12	66	97.4
14	C2 HI	189.29	60.92	11.19	2099	1	0.298	2.82	63	84	110	13	57	97.4
15	B3 LO	190.05	59.01	11.60	2100	1	0.298	2.83	64	85	113	14	53	97.4
16	C3 LO	186.81	52.67	12.77	2096	1	0.302	2.79	63	85	111	14	54	97.4
17	B3 HI	179.85	46.51	13.92	2100	1	0.314	2.68	64	86	113	14	54	97.4

4.2 Drawbar Power (ballasted - 1700 rev/min

OECD Drawbar Data (SI)

Date of tests: 18-Apr-01					**Fuel density:** 0.842 kg/l									
Type of track: Concrete					**Test number:** 1790									
4.2.1 Maximum power in tested gears (ballasted, CRWL)							**Tire pressure:** 0 kPa, rear 0 kPa, front				**Drawbar Height:** 483 mm			
Gear	**Gear Designation**	**Power**	**Drawbar pull**	**Speed**	**Engine speed**	**Slip**	**Fuel**		**Temperature**			**Atmospheric conditions**		
							SFC	**SFE**	**Fuel**	**Coolant**	**Oil**	**Temperature**	**Relative humidity**	**Pressure**
		kW	**kN**	**km/h**	**rev/min**	**%**	**kg/kW.h**	**kW.h/l**	**°C**	**°C**	**°C**	**°C**	**%**	**kPa**
2	A1 HI	177.48	199.89	3.20	2099	14	0.314	2.68	61	80	106	9	58	98.7
3	A2 LO	187.78	188.66	3.58	2101	11	0.297	2.83	61	80	107	10	55	98.7
4	A2 HI	204.76	178.76	4.12	1970	9	0.279	3.01	60	81	103	11	54	98.7
5	A3 LO	216.42	171.91	4.53	1875	8	0.270	3.12	62	83	109	13	49	98.6
6	A3 HI	222.53	157.77	5.08	1719	6	0.273	3.09	63	85	111	13	49	98.6
7	B1 LO	224.41	157.46	5.13	1723	6	0.270	3.12	62	85	111	14	48	98.5
8	C1 LO	226.19	142.00	5.73	1719	5	0.268	3.14	62	85	111	14	44	98.5
9	B1 HI	226.31	129.27	6.30	1721	4	0.268	3.14	63	86	112	15	45	98.5
10	B2 LO	227.41	119.86	6.83	1727	3	0.267	3.15	62	87	112	16	43	98.4
11	C1 HI	224.91	115.22	7.03	1726	3	0.270	3.12	62	86	112	17	40	98.3
12	C2 LO	226.20	107.74	7.56	1723	2	0.269	3.13	62	87	112	17	40	98.3
13	B2 HI	224.33	97.39	8.29	1730	2	0.271	3.10	62	88	111	17	40	98.3
14	C2 HI	222.79	87.66	9.15	1726	2	0.274	3.08	62	87	113	18	41	98.2
15	B3 LO	222.81	84.87	9.45	1721	2	0.274	3.07	62	88	113	18	41	98.2
16	C3 LO	220.47	75.70	10.48	1728	1	0.277	3.04	62	88	112	18	42	98.2
17	B3 HI	215.88	68.20	11.40	1724	1	0.281	2.99	61	88	111	19	39	98.1
18	C3 HI	212.80	60.97	12.56	1722	1	0.286	2.95	61	88	111	19	36	98.1
19	D1 LO	216.04	61.22	12.70	1726	1	0.282	2.99	61	88	113	20	37	98.1
20	D1 HI	206.26	48.73	15.24	1724	1	0.296	2.85	62	88	113	20	37	98.0

4.3 POWER LIFT TEST Category IV, N.A. Quick attach linkage.
Date of test: 20 Dec 2000.

	Hitch points	Frame
Lower hitch points above ground - down position:	224 mm	210 mm
Vertical movement - without load:	800 mm	900 mm
with load:	797 mm	885 mm
Maximum corrected force exerted through full range:	70.3 kN	66.4 kN
Corresponding pressure:	18.5 MPa	18.5 MPa
Moment about rear axle:	109.7 kNm	144.1 kNm
Maximum mast tilt angle	--	6.9 degrees

Lifting height relative to horizontal position of lower links.

mm		-275	-261	-202	-101	-2	102	197	305	398	497	536	610
Corrected lift forces													
At the Hitch point	kN	--	70.3	72.4	75.8	78.4	80.9	82.8	84.8	86.6	88.7	89.5	--
at the frame	kN	71.3	–	71.5	72.3	72.8	72.8	72.1	70.9	69.5	–	67.5	66.4
Corresponding pressure	18.5 MPa												

4.4 Measurement of External Noise Level - John Deere 9300T

-- Date of Test	April 9, 2001
-- Location of Test	Nebraska Tractor Test Laboratory
-- Sound Level Meter	Bruel and Kjaer 2236
-- Type of Track	Concrete Oval
-- Gear Number	24 (D3 Hi)
-- Speed Prior to Acceleration	26.5 km/h
-- Noise Level	90.5 dB(A)

4.5 Measurement of Noise Level at Operator's Ear *

-- Date of Test	April 9, 2001
-- Location of Test	Nebraska Tractor Test Laboratory
-- Sound Level Meter	Bruel and Kjaer 2236
-- Type of Track	Concrete Oval
-- Gear Number	8 (C1 Lo)
-- Drawbar Load	None
-- Noise at Operator Ear	75.6 dB(A)

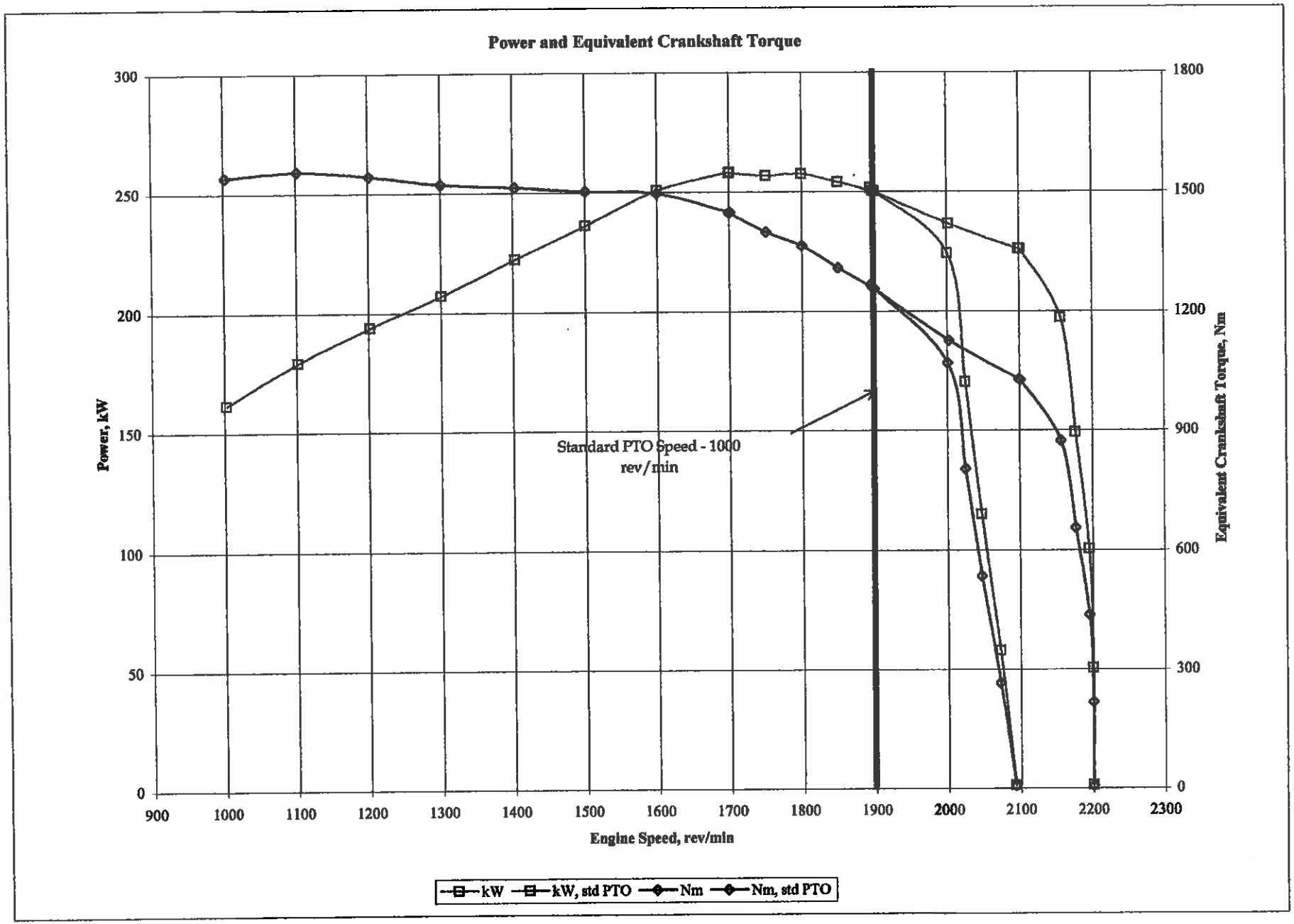
* Note: Nebraska tractor test station guidelines.

5. Repairs None

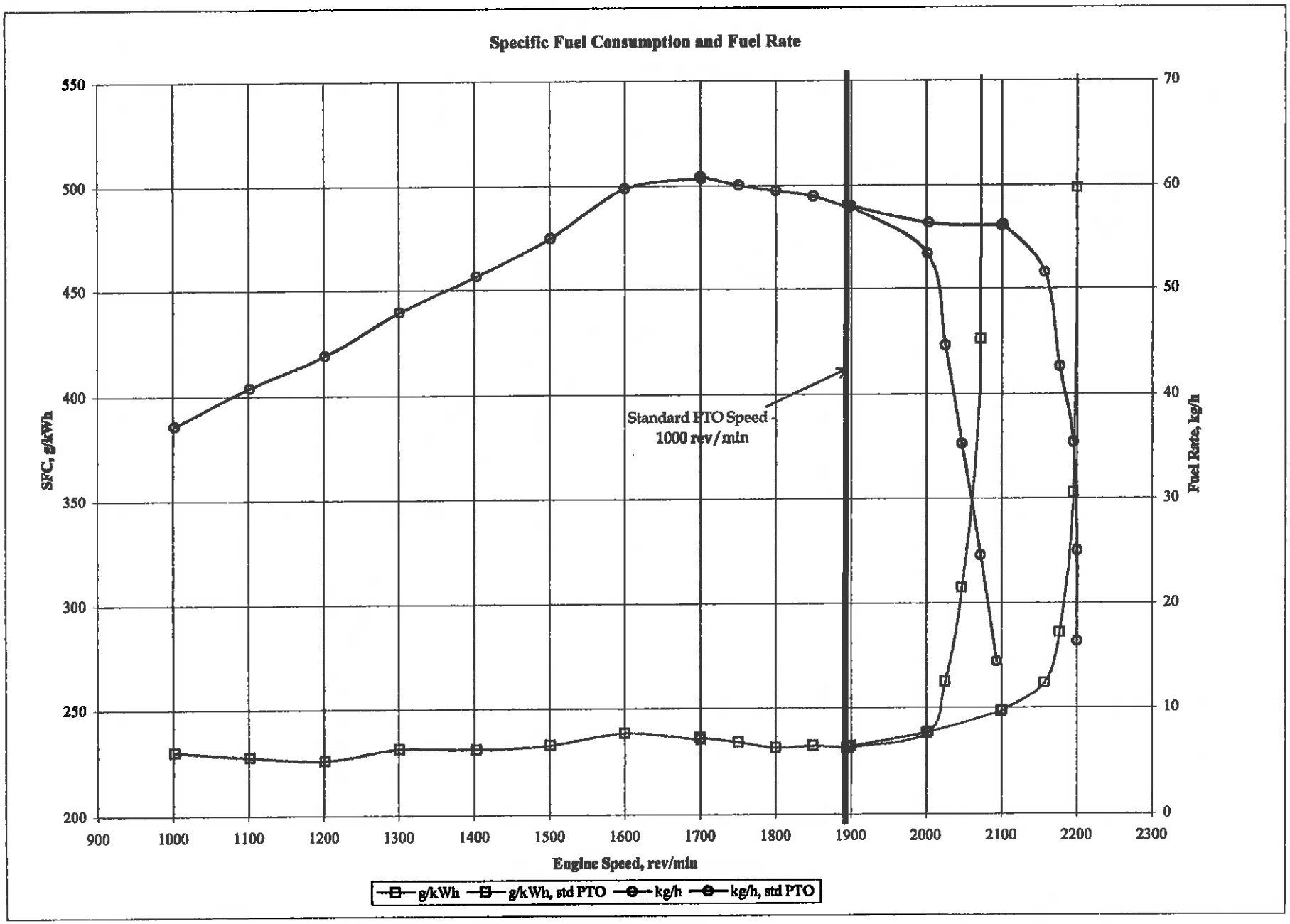
6. Remarks None

7.1 PTO PERFORMANCE CURVES

John Deere 9300T



7.2 PTO PERFORMANCE CURVES



7.3 PTO PERFORMANCE CURVES

John Deere 9300T

