OECD APPROVAL # 1537
(Restricted code)
Date of approval: 16 November, 1994

NEBRASKA TRACTOR TESTING LABORATORY
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INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
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LINCOLN, NEBRASKA 68583-0832, USA

REPORT ON TEST IN ACCORDANCE WITH OECD RESTRICTED CODE (CODE II)

FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS

JOHN DEERE 7200 SYNCROPLUS MFWD



MANUFACTURED BY: John Deere Waterloo Tractor Works Tractor Division
P.O. Box 270
Waterloo, Iowa 50704-0270

NEBRASKA TEST NO. 1678

Test Dates: 23 May through 2 June, 1994

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

This report has been approved by the OECD Coordinating Centre in Paris (CEMAGREF) on 16 November, 1994

John Deere 7200 SYNCROPLUS MFWD OECD # 1537

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SPECIFICATIONS OF TRACTOR.

Manufacturers name/address	John Deere Tractor Works P.O. Box 270 Waterloo, Iowa, USA
Location of tractor assembly	Same
Submitted for test by	The manufacturer
Selected for test by	The manufacturer in agreement with the test station.
Place of running in	John Deere Product Eng. Ctr Waterloo, Iowa, USA
Duration of running in	200 hours
Location of Test	Nebraska Power laboratory Tractor Testing Laboratory Lincoln, Nebraska,USA.

TRACTOR SPECIFICATIONS.

Make	John Deere
Model	7200 SyncroPlus MFWD
Type	Unit construction, mechanical front wheel drive (MFWD)
Number of driving wheels	2 or 4
Serial Number	*RW7200S001437*
1st Serial number	*RW7200S001000*

ENGINE.

Make	John Deere
Model	6068TRW01
Type	Diesel; 4-stroke; turbocharged direct injection
Serial Number	*TO6059T431712*

Cylinders

Number/Disposition	6, in-line, vertical
Bore/stroke	106.5 mm x 110.0 mm
Capacity	5880 cm^3
Compression Ratio	17.8 - 1
Arrangement of valves	Overhead
Cylinder liners	Wet; replaceable

Super charging

Make/Model/Type	Garret/T350(RE53398)/ Exhaust gas driven
Pressure	70 kPa at rated speed and load

Fuel System

Feed system	Mechanical transfer pump
Make/Type/Model of filters	Fuel-Gard/RE52987/paper element
Fuel tank capacity	204 l.

Fuel Cooler	Heat exchanger with air
Make/Model/Type Injection Pump	Lucas/(RE57893)/rotary; electric shutoff
Pump Serial number	07682JLG
Production setting of pump Flow Rate (Rated Eng.Spd & Full Load)	17.6 +/- 0.7 kg/hour
Make/Model/Type Injectors	Stanadyne/RE36939/9.5 mm Pencil
Injection pressure	25.86 MPa
Timing	26.2 degrees BTDC
Governor	
Make/Model/Type	Lucas/RE57893/mechanical
Governed engine speed range	From 850 to 2275 rev/min nominal
Rated engine speed	2100 rev/min
High-idle speed range	2275 +/- 50 rpm
Air Cleaner.	
Pre-cleaner	
Make/Model/type	Mann & Hummel/Centrifugal, integral with AL78030 air cleaner assembly
Air intake location	Under hood, front of tractor
Main Cleaner	
Make/Model/Type	Mann & Hummel/AL78223/ integrated; pleated paper
Location	Under hood, front of tractor
Secondary element	Mann & Hummel/AL78224/pleated paper
Maintenance indicator	Dash mounted warning light and audio signal
Lubrication system.	
Type of feed pump	Full pressure; positive displ.
Type of filters	Full flow
Number	One spin-on.
Oil cooler	Heat exchanger with engine coolant
Cooling system.	
Type of coolant	Liquid
Type of pump	Centrifugal, belt driven
Fan specification	Belt driven; Suction type; Variable speed
Number of fan blades	7
Fan diameter	531 mm
Coolant system capacity	19 l.
Type of temperature control	Two thermostats and variable speed fan
System pressure	69 kPa

Starting system.	
Make/Model/Type of starter	Nippondenso/RE42670/Solenoid Engaged
Power Rating	4.0 kW
Cold starting aid	Electrical resistance preheater in air intake
Safety device	Electrical lockout on gearshift
Electrical system.	
Voltage & grounding.	12 Volt DC;negative ground
Alternator	
Make/Model/Type	Nippondenso/RE34890/Belt driven
Power rating	120 Amp at rated engine speed and 25°C ambient
Batteries	
Number & connection	Two; 12 Volt batteries in parallel; SAE tapered post
Rating	925 cold cranking amps/battery 175 Ah/battery at 20 h rating
Exhaust system.	
Muffler Make/Model/Type	Nelson/RE49158/Expansion chamber
Location	Horizontal muffler; under hood
Exhaust stack location	Vertical; right front of cab

TRANSMISSION.

Clutch. (travel)	
Make/Model/Type	John Deere/Multiple plate/oil cooled
Number of plates	4
Plate diameter	225 mm
Method of operation	Hydraulic; pedal actuated
Gear Box.	
Make/Model/Type	John Deere/Syncroplus/Mechanical
Arrangement (tested version)	Countershaft design consisting of one 4-range gearbox with 4 synchronized ranges. One 3-speed gearbox with 3 synchronized gears and a synchronized reverse
Number of gears	12 forward and 4 reverse operated by two levers
Oil cooler	Heat exchanger with air
Other Available options	Creeper gear
Rear axle and final drives.	
Make/Model/Type	John Deere/Crown wheel and pinion, differential and inboard planetary reduction

Differential Lock	
Type	Hydraulic
Method of engagement	Pedal operated switch
Method of disengagement	Self-disengaging with brake pedal operation

Front Axle and final drives.

Make/Model/Type	John Deere/900/Crown wheel and pinion, differential and inboard planetary reduction
Differential Lock	
Type	Limited slip
Method of engagement	Self-engaging
Method of disengagement	Self-disengaging

Gear ratios and travel speeds. (US version)
(Tire dynamic radius of 820 mm. ISO 4251/1-1992)

Gear Number	Number of engine revolutions for one revolution of the driving wheels	Nominal travel speed at rated engine speed of 2100 rev/min [km/h]
Forward		
A1	282.39	2.30
A2	201.77	3.22
A3	152.84	4.25
B1	133.24	4.87
B2	95.20	6.82
C1	83.72	7.75
B3	72.11	9.00
C2	59.82	10.85
C3	45.31	14.33
D1	40.37	16.08
D2	28.85	22.50
D3	21.85	29.71
Reverse		
AR	231.05	2.81
BR	109.01	5.96
CR	68.50	9.48
DR	33.03	19.65

Number of front wheel revolutions
for one rear wheel revolution: 1.345

CREEPER GEAR

(Tire dynamic radius of 820 mm. ISO 4251/1-1992)

Gear Number	Number of engine revolutions for one revolution of the driving wheels	Nominal travel speed at rated engine speed of 2100 rev/min [km/h]
Forward		
A1	4766.62	0.16
A2	3406.53	0.19
A3	2578.74	0.25
B1	1618.93	0.40
B2	1156.99	0.56
B3	875.84	0.74
C1	805.35	0.80
C2	575.55	1.12
C3	435.69	1.48
Reverse		
AR	3901.28	0.17
BR	1325.03	0.49
CR	659.14	0.98

Number of front wheel revolutions
for one rear wheel revolution: 1.345

POWER - TAKE - OFF.

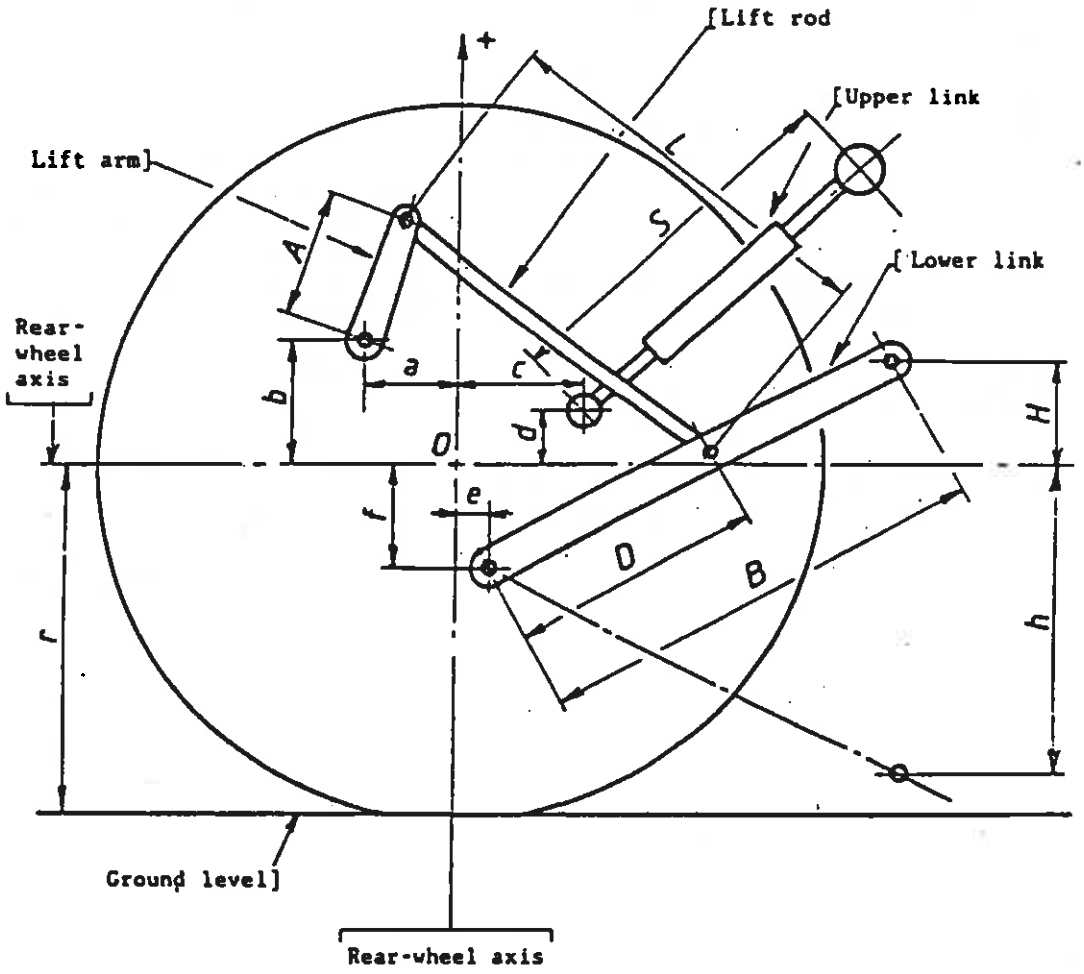
Main Power-Take-Off.	
Type	Independent
Method of engagement	Electro-hydraulically actuated multi-plate wet clutch operated by hand control knob
Number of shafts	One
Method of changing speeds	Reversible shaft
Standard PTO - 540 rev/min.	
Location	Rear of tractor; center plane
Diameter of shaft	35 mm
Number of splines	6; conforms to ISO 500/1991.
Height above ground	740 mm
Distance from median plane of tractor	0 mm
Distance behind rear axle	620 mm
PTO Speed at rated engine spd	545 rev/min
Engine speed at Std. PTO spd	2080 rev/min
Engine speed/PTO speed ratio	3.851:1
Power restriction	56 kW
Direction of rotation when viewed from shaft end	Clockwise.
Standard PTO-1000 rev/min.	
Location	Rear of tractor; center plane
Diameter of shaft	35 mm
Number of splines	21; conforms to ISO 500/1991.
Height above ground	740 mm
Distance from median plane of tractor	0 mm
Distance behind rear axle	620 mm
PTO Speed at rated engine spd	1003 rev/min
Engine speed at Std. PTO spd	2093 rev/min
Engine speed/PTO speed ratio	2.093:1
Power restriction	None
Direction of rotation when viewed from shaft end	Clockwise.

POWER LIFT.

Make/Model/Type	John Deere/Electronic 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	
Relief valve pressure setting	197-207 bar
Opening pressure of cylinder safety valve	240 +/- 10 bar
Lift pump type	Axial piston, variable delivery and flow, pressure and flow compensated
Power transmission to pump	Spiral bevel gear drive
Type/Number of filters	Synthetic media ,screw-on canister/one
Location of oil reservoir	Differential case housing
Number/Type/Location of tapping points.	Up to 4 pairs of ISO standard couplings at rear of tractor.
Max. oil volume available for external cylinders.	19.7 liters additional 10 liters allowable overfill for total of 29.7 liters

THREE POINT LINKAGE.

- Category 2 in conformity with ISO 730/1-1990
- Category adaptor - None



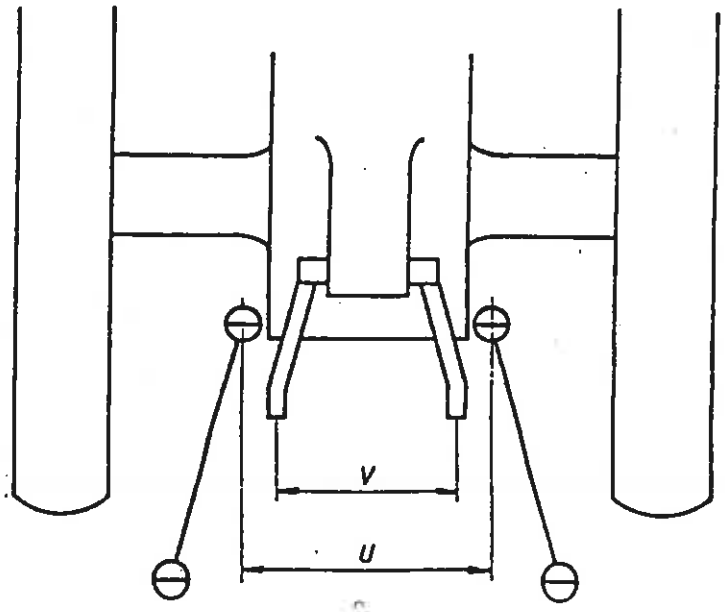


Table 1.1 - Linkage geometry dimensions.

		Dimension or range [mm]	Settings used on test [mm]
Lift category		II	II
Rear Tire - Radius Index	(r)	820	same
Front Tire - Radius Index	(r')	610	same
Length of lift arms	(A)	400	same
Length of lower links	(B)	962	same
Distance of lift arm pivot from: horizontal	(a)	184	same
rear wheel axis: vertical	(b)	523	same
Horizontal distance between the 2 lower link points	(U)	495	same
Horizontal distance between the 2 lift arm end points	(V)	647	same
Length of upper link	(S)	596 to 743	705
Distance of upper link pivot point from rear wheel axis - horizontal	(c)	456	same
- vertical	(d)	125	same
Distance of lower link pivot from: horizontal	(e)	160	same
rear wheel axis: vertical	(f)	250	same
Distance of lower link pivot points to lift rod pivot pts on lower links.	(D)	537	same
Length of lift rods	(L)	778 to 940	889
Height of lower hitch points below rear wheel axis In low position	(h)	0 to 693	632
In high position	(H)	-275 to 405	76
Height above ground of lower hitch points when locked in transport position. *778 mm lift rod		1093	911
*940 mm lift rod		to 818	

* Tire dynamic index of 820 mm ISO 4251/1-1992

SWINGING DRAWBAR.

Type	Oscillating
Height above ground - maximum	473 mm
- minimum	352 mm
Adjustments	Invert drawbar; reposition clevis
Distance of hitch point from rear wheel axis-horizontal	836, 936, 986 mm
Distance of hitch point from PTO shaft end: Vertical	285 mm
Horizontal	251-351-401 mm
Lateral adjustment-Right side	190 mm
Left side	190 mm
Distance of pivot point from rear wheel axis-horizontal	27 mm
Diameter of drawbar pin hole	33 mm
Maximum vertical static permissible load	28 kN -short position 21 kN -intermediate 14 kN -extended

STEERING.

Make/Model/Type	Eaton/RE34138/Hydrostatic
Method of operation	Steering wheel
Pump(s)	Same as main pump
Ram(s)	Two external; double acting
Working pressure	170 +/- 5 bar

BRAKE SYSTEM.

Service brake.

Make/Model/Type	Vickers/RE29826/John Deere oil immersed disc
Method of operation	Hydraulic; operated by two pedals which can be locked together.

Parking brake.

Type	Transmission lock.
Method of operation	Gear selector lever

Trailer Brake — None

WHEELS.

Number -	Front	Two; Driving and steering
	Rear	Two; Driving
Wheel base		2625 mm

Track width adjustment

	Minimum [mm]	Maximum [mm]	Adjustment method
Front	1524	2253	Reversing wheels and offset lug rims
Rear	1524	2178	Rack and Pinion axle Reversing wheels and offset lug rims

PROTECTIVE STRUCTURE.

Make/Model/Type	John Deere/SG-050/ComfortGard
Manufacturer's name/address	John Deere Tractor Works Waterloo, Iowa, USA
Protective device	Cab; not tiltable
OECD approval number	CSS 0217/59

DRIVER'S SEAT.

Make/Model/Type	Sears/FS92-01/Air suspension; Personal posture cushioning
Type of suspension	Air
Type of damping	Air
Range of adjustment	
Longitudinal	150 mm
Vertical	80 mm
Rotation	20 degrees left & right

LIGHTING.

	Height above ground of center [mm]	Size [mmxmm]	Distance from outside edge to median plane of tractor. [mm]
Head lights	1305	160x102	225
Side lights	1305	110x102	275
Rear lights	1820	225x90	930
Reflectors-rear: Integral with rear light lenses			

TEST CONDITIONS.

Overall dimensions.

Length-Overall	4435 mm
Width -Minimum	2438 mm
-Maximum	2686 mm
Height - Top protective structure	2880 mm
- Top of exhaust	2880 mm
Ground clearance	360 mm
Clearance-limiting part	Sway Blocks

Tractor Mass (with cab,full fuel tank).

		without driver [kg]	with driver [kg]
Unballasted	Front	1960	1974
	Rear	3720	3781
	Total	5680	5755
Max. permissible load-front		3300 kg	
-rear		6580 kg	

Tire Specifications.	Front Wheels	Rear Wheels
Make	Goodyear	Goodyear
Dimensions	13.6R28	18.4R38
Number/Ply rating	3 star	1 star
Type	Radial	Radial
Max.load	1700 kg/tire	2760 kg/tire
Inflation pressure(tire mfr)-max	210 kPa	120 kPa
-min	40 kPa	60 kPa
as tested	165 kPa	110 kPa
Dynamic Radius Index	610 mm	820 mm
Chosen track width	1626 mm	1670 mm

Oils and Lubrication.

Capacity and change interval:

	Capacity liter	Oil change hours	Filter change hours
Engine (with filter)	18.0	250	250
Front axle	8.5	1500	750
Transmission, final drive, rear axle and hydraulics	64	1500	As required or 750
Final drive, front	1.9	1500	

Oil and Lubricant specifications:

	Recommended	Used during test
Engine oil		
Type	John Deere, Torq-Gard Supreme SAE 15W40	same
Viscosity	12.8 cSt at 100°C	
Classification	API CE or CD; CCMC specification D5 or D4	
Transmission		
Type	John Deere Hy-Gard (J20C) SAE 10W-30	same
Viscosity	58 cSt at 40°C	
Classification	NA	
Hydraulic fluid	Same as transmission	same
Front axle and hubs		
Type	John Deere EXTREME-GARD SAE 80W-90	same
Viscosity	13.5 cSt at 100°C	
Classification	API GL-5	
Steering system	Same as transmission	same
Grease	John Deere MOLY HIGH TEMPERATURE EP GREASE	same
Number of lube points	25	

Fuel

Type/grade	Premier; Grade 2-D, in conformity with the national standard
Density (Pto test)	0.838 kg/l at 15° C
(Drawbar test)	same as Pto test.
Cetane number	53.9
Viscosity	2.31 cSt at 38° C

COMPULSORY TESTS

1. MAIN POWER TAKE-OFF

Date: 11-May-94 Location: UNL Tractor Test Lab, Lincoln, NE, U.S.A.

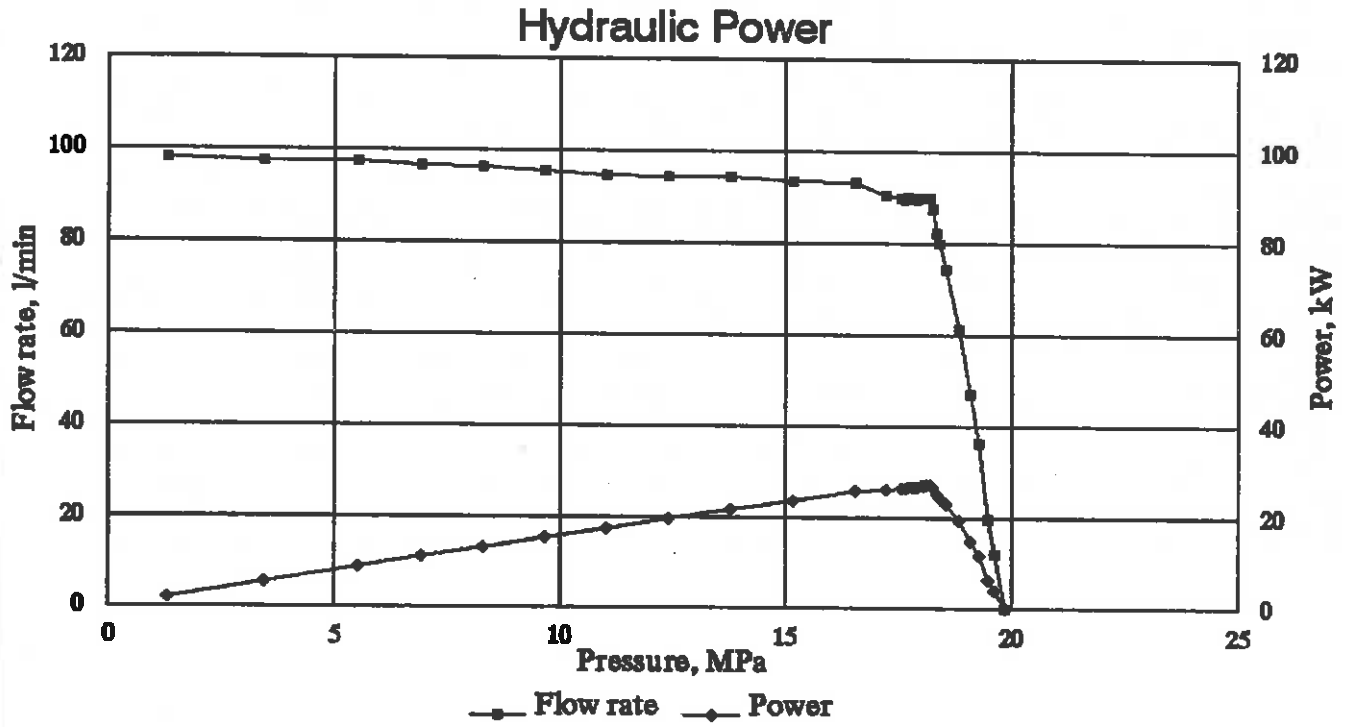
Type of dynamometer: Eddy current, Eaton Fuel density: 0.838 kg/l *6.994 lb/gal*

Power kW *hp*	Eng rev/min	PTO rev/min	l/h *gal/h*	kg/h *lb/h*	kg/kW.h *lb/hp.h*	kW.h/l *hp.h/gal*
1.1 Maximum Power – 2 hours						
70.88	1900	908	19.71	16.52	0.233	3.60
95.06			*5.21*	*36.41*	*0.383*	*18.26*
1.2 Power at Rated Engine Speed – 1 hour						
70.11	2099	1003	20.44	17.13	0.244	3.43
94.02			*5.40*	*37.76*	*0.402*	*17.42*
1.3 Power at Standard Power Take-Off Speed – 1 hour						
70.11	2099	1003	20.44	17.13	0.244	3.43
94.02			*5.40*	*37.76*	*0.402*	*17.42*
1.4 Part Loads						
1.4.1 Torque at maximum power at rated engine speed						
70.11	2099	1003	20.44	17.13	0.244	3.43
94.02			5.40	37.76	0.402	17.42
1.4.2 85% of torque obtained in 1.4.1						
61.84	2184	1044	19.00	15.92	0.257	3.26
82.93			*5.02*	*35.10*	*0.423*	*16.52*
1.4.3 75% of torque defined in 1.4.2						
47.06	2209	1056	16.24	13.61	0.289	2.90
63.10			*4.29*	*30.00*	*0.475*	*14.71*
1.4.4 50% of torque defined in 1.4.2						
31.37	2227	1064	12.83	10.75	0.343	2.45
42.07			*3.39*	*23.70*	*0.563*	*12.41*
1.4.5 25% of torque defined in 1.4.2						
15.78	2245	1073	9.58	8.03	0.509	1.65
21.16			*2.53*	*17.70*	*0.836*	*8.36*
1.4.6 unloaded						
0.67	2260	1080	6.49	5.44	8.070	0.10
0.90			*1.72*	*12.00*	*13.266*	*0.53*
1.5 Part Loads at Standard Power Take-off Speed						
1.5.1 Torque at maximum power						
70.11	2099	1003	20.44	17.13	0.244	3.43
94.02			*5.40*	*37.76*	*0.402*	*17.42*
1.5.2 85% of torque obtained in 1.5.1						
61.84	2184	1044	19.00	15.92	0.257	3.26
82.93			*5.02*	*35.10*	*0.423*	*16.52*
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31.37	2227	1064	12.83	10.75	0.343	2.45
42.07			*3.39*	*23.70*	*0.563*	*12.41*
1.5.5 25% of torque defined in 1.5.2						
15.78	2245	1073	9.58	8.03	0.509	1.65
21.16			*2.53*	*17.70*	*0.836*	*8.36*
1.5.6 unloaded						
0.67	2260	1080	6.49	5.44	8.070	0.10
0.90			*1.72*	*12.00*	*13.266*	*0.53*

No load maximum engine speed:	2260 rev/min	
Equivalent torque at rated speed:	319 N·m	*235 lb-ft*
Equivalent torque at maximum power:	356 N·m	*263 lb-ft*
(engine speed:	1900 rev/min)	
Maximum equivalent crankshaft torque:	422 N·m	*311 lb-ft*
(engine speed:	1400 rev/min)	
Mean Dry bulb:	27 deg C	*80 deg F*
Wet bulb:	22 deg C	*72 deg F*
Relative humidity:	65 %	
Pressure:	98.41 kPa	*29.06 in Hg*
Maximum Coolant:	98 deg C	*208 deg F*
Engine oil:	113 deg C	*235 deg F*
Fuel:	61 deg C	*143 deg F*
Air intake:	28 deg C	*83 deg F*
Transmission/hydraulic oil:	53 deg C	*128 deg F*
Intake manifold pressure at rated speed:	48 kPa	*7.0 psig*
Intake manifold pressure at maximum power:	41 kPa	*6.0 psig*

Hydraulic Power Test

Date of test: 16–May–94					
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:					
19.86 MPa					
2880 psi					
II. Pump delivery rate at minimum pressure and rated engine speed:					
98.0 l/min					
25.9 gpm					
III. Flow rate, pressure, power:					
90% of relief valve setting:					
	89.7 l/min	17.86 MPa		26.71 kW	
	23.7 gpm	*2590 psi*		*35.81 hp*	
Maximum hydraulic power:					
	89.7 l/min	18.2 MPa		27.22 kW	
	23.7 gpm	*2640 psi*		*36.5 hp*	
IV. Hydraulic fluid temperature at flow meter:					
66 C					
151 F					



2.2 POWER LIFT TEST. Cat II,with lift cylinders 1x70 mm & 1x80 mm
(for settings see p.10)
Date of test: 1 June 1994

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm]	188	81
Vertical movement: without load:	[mm]	708	956
with load:	[mm]	696	945
Maximum corrected force through full range:	[kN]	46.5	30.5
Corresponding pressure:	[kPa]	18306	
Moment about rear axle:	[kN.m]	52.2	52.8
Maximum mast tilt angle:	[deg]	--	13.5

Lifting height relative to horizontal position of lower links.

[mm]	470	-363	-300	-201	-99	0
Corrected lift forces						
Hitch point [kN]	--	48.5	46.5	46.7	47.2	47.4
at frame [kN]	40.4	37.2	36.5	35.9	--	35.0

Lifting height relative to horizontal position of lower links.

[mm]	99	201	300	333	419	475
Corrected lift forces						
Hitch point [kN]	48.2	49.1	50.1	50.2	--	--
at frame [kN]	33.8	--	32.5	31.9	31.1	30.5

OECD Drawbar Data (SI)

of tests:	13-May-94	Fuel density:	0.838 kg/l
of track:	Concrete	Test number:	1678

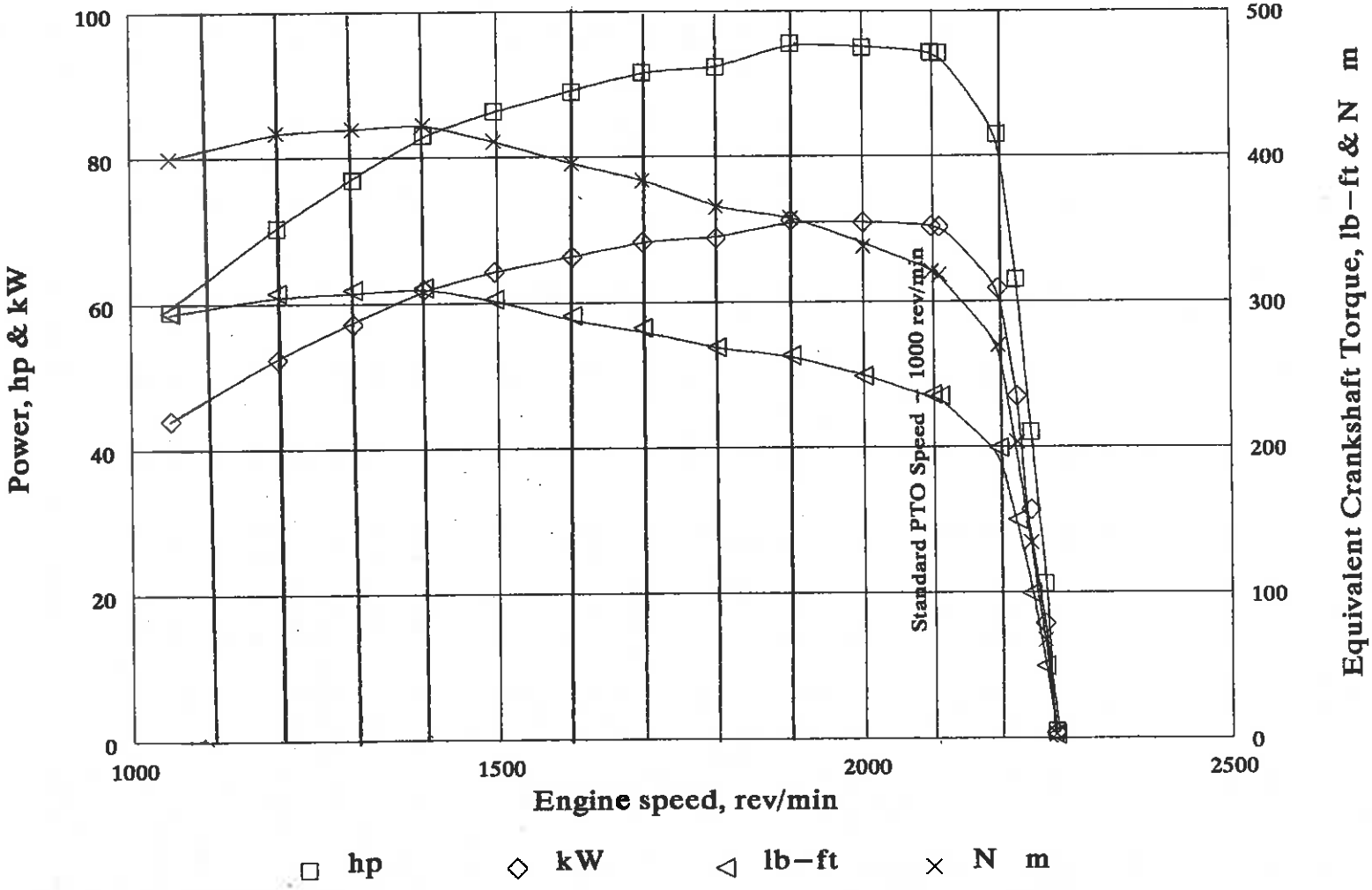
ar	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel humidity	Baro. Pres
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
aximum Power (unballasted, 4wd at 2100 rev/min)						Tire pressure:		110 kPa, rear		165 kPa, front		Drawbar height:	546 mm	
3	56.81	53.55	3.82	2130	14.34%	0.304	2.76	57	88	108	18	14	63%	97.43
1	61.42	47.50	4.66	2103	7.84%	0.280	2.99	59	89	110	18	14	63%	97.43
2	61.92	33.00	6.75	2101	4.45%	0.278	3.02	60	91	112	21	17	69%	97.29
1	61.67	28.72	7.73	2101	3.97%	0.278	3.02	60	91	112	22	18	73%	97.29
3	61.63	24.59	9.02	2100	3.49%	0.280	3.00	61	91	112	23	21	82%	97.22
2	59.39	19.54	10.94	2099	2.83%	0.287	2.92	60	91	111	23	21	82%	97.32
3	58.87	14.65	14.47	2096	2.41%	0.290	2.89	57	90	107	22	19	82%	97.32
rt loads (unballasted, 4wd)														
selected gear at maximum power														
1	61.67	28.72	7.73	2101	3.97%	0.278	3.02	60	91	112	22	18	73%	97.29
75% of pull at maximum power at rated speed														
1	48.59	21.52	8.13	2198	3.49%	0.307	2.73	58	88	108	21	19	86%	97.32
50% of pull at maximum power at rated speed														
1	33.10	14.36	8.30	2221	2.33%	0.367	2.29	57	86	104	21	19	86%	97.32
next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
2	48.67	21.54	8.13	1572	3.49%	0.268	3.13	58	89	105	21	19	86%	97.32
next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
	33.06	14.34	8.30	1589	2.41%	0.299	2.80	56	84	100	21	19	86%	97.32
selected gear nearest to 7.5 km/h														
1	61.67	28.72	7.73	2101	3.97%	0.278	3.02	60	91	112	22	18	73%	97.29
75% of pull at maximum power at rated speed														
1	48.59	21.52	8.13	2198	3.49%	0.307	2.73	58	88	108	21	19	86%	97.32
50% of pull at maximum power at rated speed														
1	33.10	14.36	8.30	2221	2.33%	0.367	2.29	57	86	104	21	19	86%	97.32
next higher gear at reduced engine speed, same pull and travel speed as II.2.1														
2	48.67	21.54	8.13	1572	3.49%	0.268	3.13	58	89	105	21	19	86%	97.32
next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
2	33.06	14.34	8.30	1589	2.41%	0.299	2.80	56	84	100	21	19	86%	97.32

OECD Drawbar Data (US)

of tests:	13-May-94	Fuel density:	6.994 lb/gal
of track:	Concrete	Test number:	1678

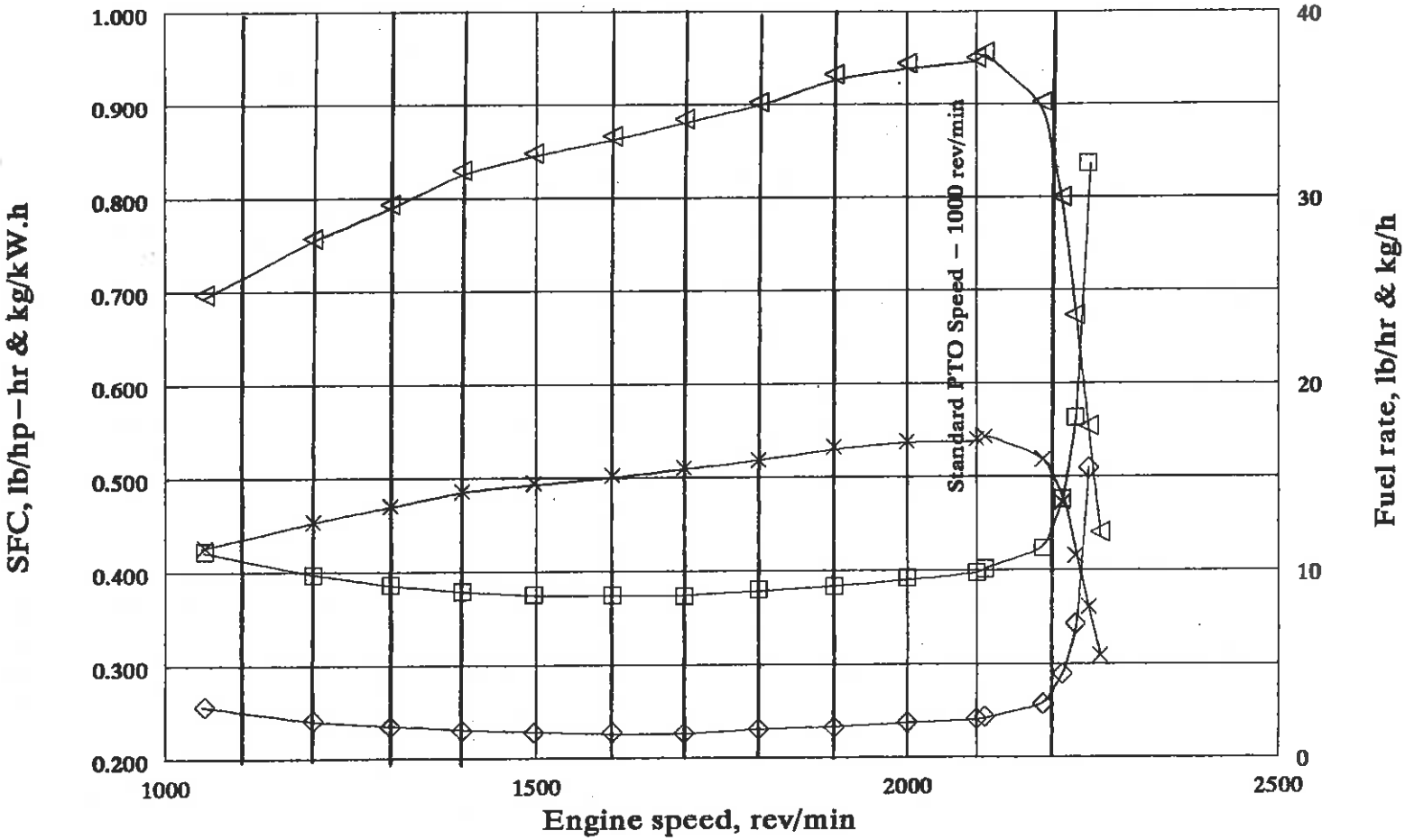
ar	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel humidity	Baro. Pres
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		in Hg
ximum Power (unballasted, 4wd at 2100 rev/min)						Tire pressure:		16 psig, rear		24 psig, front		Drawbar height:	21.5 in	
3	76.19	12039	2.37	2130	14.34%	0.499	14.01	135	190	226	65	57	63%	28.77
1	82.36	10678	2.89	2103	7.84%	0.461	15.18	138	192	231	65	57	63%	28.77
2	83.04	7419	4.20	2101	4.45%	0.457	15.32	140	196	233	70	63	69%	28.73
1	82.70	6456	4.80	2101	3.97%	0.457	15.31	140	196	234	71	65	73%	28.73
3	82.65	5529	5.61	2100	3.49%	0.460	15.21	142	196	234	74	70	82%	28.71
2	79.64	4392	6.80	2099	2.83%	0.472	14.82	141	196	233	74	70	82%	28.74
3	78.94	3293	8.99	2096	2.41%	0.476	14.69	135	194	225	71	67	82%	28.74
t loads (unballasted, 4wd)														
selected gear at maximum power														
	82.70	6456	4.80	2101	3.97%	0.457	15.31	140	196	234	71	65	73%	28.73
75% of pull at maximum power at rated speed														
	65.16	4838	5.05	2198	3.49%	0.505	13.86	136	190	227	70	67	86%	28.74
50% of pull at maximum power at rated speed														
	44.39	3229	5.16	2221	2.33%	0.603	11.60	135	186	220	70	67	86%	28.74
next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
	65.26	4843	5.05	1572	3.49%	0.440	15.90	137	192	221	70	67	86%	28.74
next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
	44.34	3223	5.16	1589	2.41%	0.491	14.23	133	184	212	70	67	86%	28.74
selected gear nearest to 4.6 mph														
	82.70	6456	4.80	2101	3.97%	0.457	15.31	140	196	234	71	65	73%	28.73
75% of pull at maximum power at rated speed														
	65.16	4838	5.05	2198	3.49%	0.505	13.86	136	190	227	70	67	86%	28.74
50% of pull at maximum power at rated speed														
	44.39	3229	5.16	2221	2.33%	0.603	11.60	135	186	220	70	67	86%	28.74
next higher gear at reduced engine speed, same pull and travel speed as II.2.1														
	65.26	4843	5.05	1572	3.49%	0.440	15.90	137	192	221	70	67	86%	28.74
next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
	44.34	3223	5.16	1589	2.41%	0.491	14.23	133	184	212	70	67	86%	28.74

Power and Equivalent Crankshaft Torque
John Deere 7200 Syncro Plus



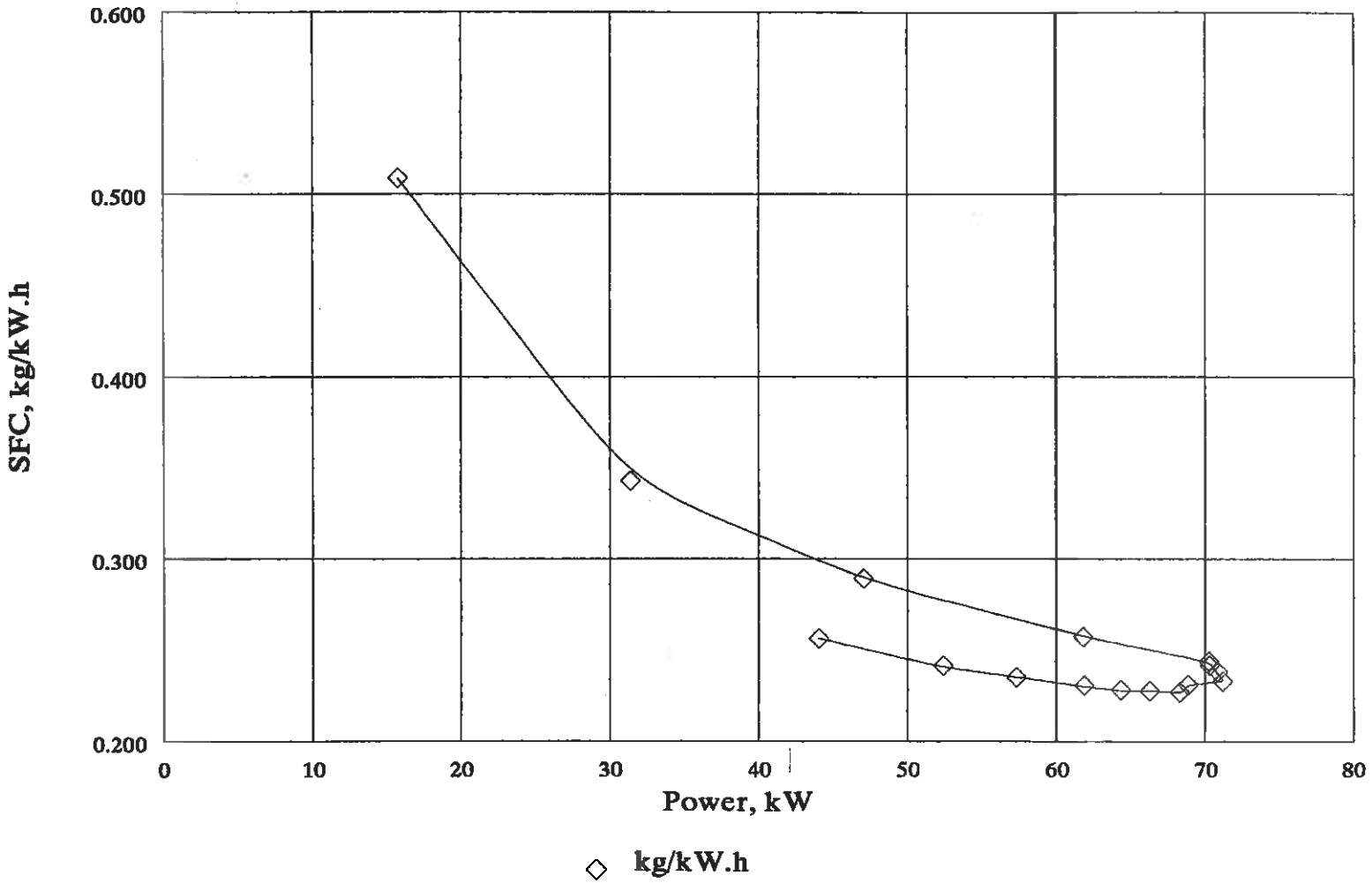
Nebraska Tractor Test #1678

Specific Fuel Consumption and Fuel Rate
John Deere 7200 Syncro Plus



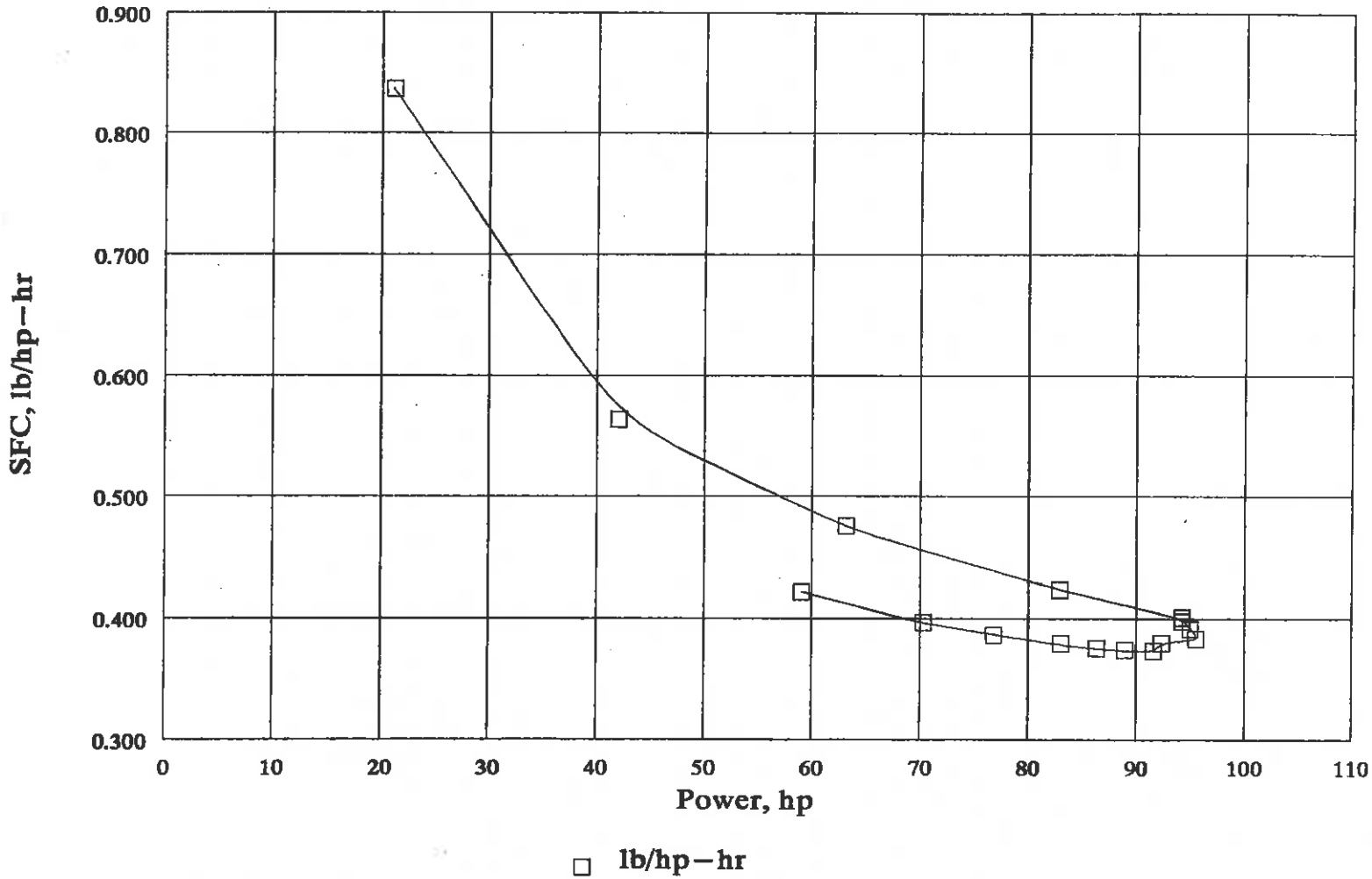
Nebraska Tractor Test #1678

Power and Specific Fuel Consumption
John Deere 7200 Syncro Plus



Nebraska Tractor Test #1678

Power and Specific Fuel Consumption
John Deere 7200 Syncro Plus



Nebraska Tractor Test #1678

2.2 POWER LIFT TEST. Cat II,with lift cylinders 2 x 80 mm
(for settings see p. 10)
Date of test: 1 June 1994

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm]	188	79
Vertical movement: without load:	[mm]	708	956
Vertical movement: with load:	[mm]	696	947
Maximum corrected force through full range:	[kN]	53.4	34.6
Corresponding pressure:	[kPa]	18306	
Moment about rear axle:	[kN.m]	59.9	60.0
Maximum mast tilt angle:	[deg]	--	13.5

Lifting height relative to horizontal position of lower links.

	[mm]	472	-363	-300	-201	-99	0
Corrected lift forces							
Hitch point	[kN]	--	54.0	53.4	53.5	54.2	54.7
at frame	[kN]	45.2	42.4	41.6	--	40.9	39.8

Lifting height relative to horizontal position of lower links.

	[mm]	99	201	300	333	427	475
Corrected lift forces							
Hitch point	[kN]	55.5	56.6	57.8	57.8	--	--
at frame	[kN]	38.6	--	37.1	36.3	35.4	34.6

OPTIONAL TEST - Unballasted, Front Drive Disengaged

OECD Drawbar Data (SI)

of tests:	13-May-94	Fuel density:	0.838 kg/l
of track:	Concrete	Test number:	1678

ar	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel hum-	Baro. Pres
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet	idity	kPa
ximum Power (unballasted, 2wd at 2100 rev/min)						Tire pressure:		110 kPa, rear		165 kPa, front		Drawbar height:		546 mm
1	52.48	42.75	4.42	2181	14.20%	0.316	2.65	58	88	108	18	14	63%	97.43
2	62.05	33.82	6.60	2103	5.38%	0.277	3.02	58	91	108	21	17	69%	97.29
1	62.12	29.48	7.59	2102	4.37%	0.276	3.04	60	92	111	22	18	73%	97.29
3	62.50	25.39	8.86	2099	3.57%	0.276	3.03	60	91	109	23	21	82%	97.22
2	60.71	20.27	10.78	2101	2.76%	0.282	2.97	60	91	110	22	19	82%	97.32
3	59.71	15.01	14.32	2099	2.11%	0.285	2.94	60	92	111	22	19	82%	97.32
rt loads (unballasted, 2wd)														
selected gear at maximum power														
3	62.50	25.39	8.86	2099	3.57%	0.276	3.03	60	91	109	23	21	82%	97.22
75% of pull at maximum power at rated speed														
3	49.48	19.01	9.37	2198	2.68%	0.307	2.73	58	89	107	24	21	75%	97.16
50% of pull at maximum power at rated speed														
3	33.57	12.70	9.52	2220	2.11%	0.360	2.33	56	86	103	24	21	75%	97.16
next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
2	49.30	19.00	9.34	1825	3.09%	0.277	3.02	57	88	105	24	21	75%	97.16
next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
2	33.46	12.66	9.51	1840	2.02%	0.311	2.69	57	85	101	24	21	75%	97.16
selected gear nearest to 7.5 km/h														
3	62.50	25.39	8.86	2099	3.57%	0.276	3.03	60	91	109	23	21	82%	97.22
75% of pull at maximum power at rated speed														
3	49.48	19.01	9.37	2198	2.68%	0.307	2.73	58	89	107	24	21	75%	97.16
50% of pull at maximum power at rated speed														
3	33.57	12.70	9.52	2220	2.11%	0.360	2.33	56	86	103	24	21	75%	97.16
next higher gear at reduced engine speed, same pull and travel speed as II.2.1														
2	49.30	19.00	9.34	1825	3.09%	0.277	3.02	57	88	105	24	21	75%	97.16
next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
2	33.46	12.66	9.51	1840	2.02%	0.311	2.69	57	85	101	24	21	75%	97.16

OECD Drawbar Data (US)

f tests:	13-May-94	Fuel density:	6.994 lb/gal
if track:	Concrete	Test number:	1678

ar	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel hum-	Baro. Pres
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet	idity	in Hg
ximum Power (unballasted, 2wd at 2100 rev/min)						Tire pressure:		16 psig, rear		24 psig, front		Drawbar height:		21.5 in
	70.38	9612	2.75	2181	14.20%	0.519	13.47	136	190	227	65	57	63%	28.77
	83.21	7603	4.10	2103	5.38%	0.455	15.36	136	195	226	70	63	69%	28.73
	83.31	6628	4.71	2102	4.37%	0.454	15.41	140	197	233	71	65	73%	28.73
	83.81	5708	5.51	2099	3.57%	0.454	15.40	139	197	229	74	70	82%	28.71
	81.41	4557	6.70	2101	2.76%	0.463	15.10	140	196	230	71	67	82%	28.74
	80.07	3374	8.90	2099	2.11%	0.469	14.92	140	197	232	71	67	82%	28.74
loads (unballasted, 2wd)														
selected gear at maximum power														
	83.81	5708	5.51	2099	3.57%	0.454	15.40	139	197	229	74	70	82%	28.71
75% of pull at maximum power at rated speed														
	66.36	4274	5.82	2198	2.68%	0.505	13.85	136	192	225	75	69	75%	28.69
50% of pull at maximum power at rated speed														
	45.01	2854	5.91	2220	2.11%	0.592	11.82	133	186	218	75	69	75%	28.69
next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
	66.11	4272	5.80	1825	3.09%	0.456	15.35	135	190	221	75	69	75%	28.69
next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
	44.87	2847	5.91	1840	2.02%	0.512	13.66	134	185	215	75	69	75%	28.69
selected gear nearest to 4.6 mph														
	83.81	5708	5.51	2099	3.57%	0.454	15.40	139	197	229	74	70	82%	28.71
75% of pull at maximum power at rated speed														
	66.36	4274	5.82	2198	2.68%	0.505	13.85	136	192	225	75	69	75%	28.69
50% of pull at maximum power at rated speed														
	45.01	2854	5.91	2220	2.11%	0.592	11.82	133	186	218	75	69	75%	28.69
next higher gear at reduced engine speed, same pull and travel speed as II.2.1														
	66.11	4272	5.80	1825	3.09%	0.456	15.35	135	190	221	75	69	75%	28.69
next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
	44.87	2847	5.91	1840	2.02%	0.512	13.66	134	185	215	75	69	75%	28.69

OECD Drawbar Data (SI)

Date of tests:		13-May-94		Fuel density:		0.838 kg/l								
Type of track:		Concrete		Test number:		1678								
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel humidity	Baro Pres
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
I. Maximum Power (unballasted, fwa at 1900 rev/min)						Tire pressure:		110 kPa, rear		165 kPa, front		Drawbar height:		546 mm
A1	31.49	52.46	2.16	2221	14.27%	0.385	2.18	58	85	104	21	17	69%	97.29
A2	45.13	54.51	2.98	2201	14.66%	0.336	2.49	56	85	105	18	14	63%	97.43
A3	58.35	51.59	4.07	2156	9.67%	0.292	2.87	58	88	110	18	14	63%	97.43
B1	61.03	48.29	4.55	2060	8.14%	0.280	3.00	60	89	111	21	17	69%	97.32
B2	62.01	36.74	6.08	1903	5.25%	0.267	3.14	60	92	112	21	17	69%	97.29
C1	62.06	32.07	6.97	1903	4.45%	0.267	3.14	61	91	112	22	18	73%	97.29
B3	62.00	27.45	8.13	1901	3.81%	0.268	3.13	61	92	112	23	21	82%	97.22
C2	59.62	21.69	9.90	1905	2.99%	0.275	3.05	61	91	112	23	21	82%	97.22
C3	59.02	16.20	13.11	1903	2.50%	0.275	3.05	60	91	109	22	19	82%	97.32
Note:	NA													

OECD Drawbar Data (US)

Date of tests:		13-May-94		Fuel density:		6.994 lb/gal								
Type of track:		Concrete		Test number:		1678								
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel humidity	Baro Pres
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		in Hg
I. Maximum Power (unballasted, fwa at 1900 rev/min)						Tire pressure:		16 psig, rear		24 psig, front		Drawbar height:		21.5 in
A1	42.23	11794	1.34	2221	14.27%	0.632	11.06	137	185	220	70	63	69%	28.73
A2	60.51	12254	1.85	2201	14.66%	0.553	12.65	133	186	221	65	57	63%	28.7
A3	78.25	11598	2.53	2156	9.67%	0.480	14.58	137	190	230	65	57	63%	28.77
B1	81.84	10856	2.83	2060	8.14%	0.460	15.22	140	193	233	70	63	69%	28.74
B2	83.16	8260	3.78	1903	5.25%	0.438	15.95	141	197	233	70	63	69%	28.73
C1	83.22	7209	4.33	1903	4.45%	0.439	15.93	141	197	233	71	65	73%	28.73
B3	83.14	6171	5.05	1901	3.81%	0.440	15.90	142	198	234	74	70	82%	28.71
C2	79.95	4876	6.15	1905	2.99%	0.452	15.46	142	197	233	74	70	82%	28.71
C3	79.14	3642	8.15	1903	2.50%	0.452	15.46	140	196	229	71	67	82%	28.74
Note:	NA													

Remarks : None
Repairs : None