OECD APPROVAL # 1658
(Restricted code)
Date of approval: 17 April, 1997

NEBRASKA TRACTOR TESTING 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 RESTRICTED CODE (CODE II) FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS



JOHN DEERE 5500 MFWD (4WD)
30 km/h version

MANUFACTURED BY	John Deere Waterloo Tractor Works Tractor Division P.O. Box 270 Waterloo, Iowa 50704-0270
NEBRASKA TEST NO	1717
TEST DATES	September 18 through 27, 1996

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 17 April, 1997, for the **John Deere 5500 MFWD (4WD) with OECD Number 1658**
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SPECIFICATIONS OF TRACTOR.

Manufacturers name/address	John Deere Commercial Products Inc., P.O. Box 15458, Augusta, GA 30919 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,
Duration of running in	109 hours
Location of Test	Nebraska Power Laboratory and Tractor Testing Laboratory, Lincoln, Nebraska,USA.

TRACTOR CHASSIS SPECIFICATIONS.

Make	John Deere
Model	5500
Type	Unit construction, mechanical front wheel drive (MFWD) - 4WD
Number of driving wheels	2 or 4
Serial Number	LV5500E551974
1st Serial number	LV5500E550003

ENGINE.

Make	John Deere
Model	4039T
Type	4-stroke diesel; direct injection; turbocharged;
Serial Number	CD4039T270198

Cylinders

Number/Disposition	4, in-line, vertical
Bore/stroke	106.4 mm x 110.0 mm
Capacity	3912 cm^3
Compression Ratio	17.8 - 1
Arrangement of valves	Overhead
Cylinder liners	Wet; replaceable

Super charging

Make/Model/Type	Garrett/T300-02/Exhaust gas driven
Pressure	41 to 51 kPa at rated speed and load

Fuel System	
Feed system	Gravity
Make/Type/Model of filters	Stanadyne/RE27091/paper element
Fuel tank capacity	87 Liter
Fuel Cooler	None
Make/Model/Type Injection Pump	Lucas/DP200-8920A70V/(RE60818)/ Rotary, Electric shutoff
Pump Serial number	04226DOG
Production setting of pump	
Flow Rate (Rated Eng.Spd & Full Load)	14.5 ± 0.75 kg/hr
Fuel Density	0.840 kg/l at 15^0 C.
Make/Model/Type Injectors	Stanadyne/RE36936/ Pencil type
Injection pressure	22890 kPa
Timing	17 degrees BTDC
Governor	
Make/Model/Type	John Deere/All speed/Mechanical
Governed engine speed range	From 800 to 2575 rev/min
Rated engine speed	2400 rev/min
High-idle speed range	2575 ± 50 rpm
Air Cleaner.	
Pre-cleaner	None
Make/Model/type	DNA
Air intake location	Under hood
Main Cleaner	
Make/Model/Type	Nelson/RE42450/Dry type with safety element; pleated paper
Location	Under hood; front of tractor
Secondary element	Nelson/RE45828/polyester felt, oiled, single wrap
Maintenance indicator	Air restriction sensor; Dash mounted warning light
Lubrication system.	
Type of feed pump	Gear Pump
Type of filters	Full flow
Number	One spin-on.
Oil cooler	Heat exchanger with engine coolant
Cooling system.	
Type of coolant	Liquid; water and anti-freeze mix
Type of pump	Centrifugal
Fan specification	Belt driven; Suction type; Steel fan
Number of fan blades	7
Fan diameter	488 mm

Coolant system capacity	One thermostat
System pressure	69 kPa
Capacity	10.8 liters
Starting system.	
Make/Model/Type of starter	Delco Remy/111327-128MT/Solenoid engaged
Power Rating	2.5 kW; 12 Volt DC
Cold starting aid	Electrical resistance heater in air intake
Safety device	Electrical lockout on gearshift
Electrical system.	
Voltage & grounding.	12 Volt DC; negative ground
Alternator	
Make/Model/Type	Nippondenso/RE427788/Belt driven
Power rating	40 Amp and 13.5 V at 1500 rpm engine speed and 25°C ambient temperature
Batteries	
Number & connection	One 12 Volt battery;
Rating	700 cold cranking amps at -18° C 100 Ampere-hour at 20 hour rating
Exhaust system.	
Muffler Make/Model/Type	Nelson/RE8884/Expansion chamber
Muffler location	Horizontal, under hood
Exhaust stack location	Center of hood; left side

TRANSMISSION.

Clutch. (travel)	
Make/Model/Type	Carraro/dry plate
Number of plates	1
Plate diameter	280 mm
Method of operation	Mechanical; spring loaded; pedal actuated
Gear Box.	
Make/Model/Type	Kanzaki/with synchronized top shaft
Arrangement	3 forward speed main gearbox ahead of 3 speed range shift
Number of gears	9 forward and 3 reverse operated by two levers
Oil cooler	Modine Co./RE58995/Serpentine fin and one-row continuous tube
Available options	2WD or MFWD; with or without Creeper range

Rear axle and final drives.	
Make/Model/Type	John Deere/Transaxle with inboard planetaries and flanged axle shafts
Differential Lock	
Type	Mechanical, collar type
Method of engagement	Pedal operated
Method of disengagement	Self-disengaging with brake pedal operation
Front Axle and final drives.	
Make/Model/Type	Carraro/Outboard planetary
Differential Lock	None

GEAR RATIOS AND TRAVEL SPEEDS.

30 km/h version

Gear Number		Number of engine revolutions for one revolution of the driving wheels	Nominal travel speed at rated engine speed of 2400 rev/min [km/h]
STANDARD GEARS			
Forward			
1	A1	289.78	2.25
2	A2	200.71	3.25
3	A3	147.18	4.43
4	B1	125.32	5.20
5	B2	86.80	7.51
6	B3	63.65	10.23
7	C1	45.64	14.27
8	C2	31.61	20.61
9	C3	23.18	28.10
Reverse			
1	R1	172.42	3.78
2	R2	74.57	8.74
3	R3	27.16	23.99
CREEPER GEARS(Not on tested version)			
Forward			
C1		1770.28	0.37
C2		1226.15	0.53
C3		899.14	0.72
Reverse			
CR1		1053.32	0.62

Tire dynamic radius of 720 mm - ISO 4251/1-1992

Number of front wheel revolutions (MFWD) for one rear wheel revolution: 1.35

POWER - TAKE - OFF.

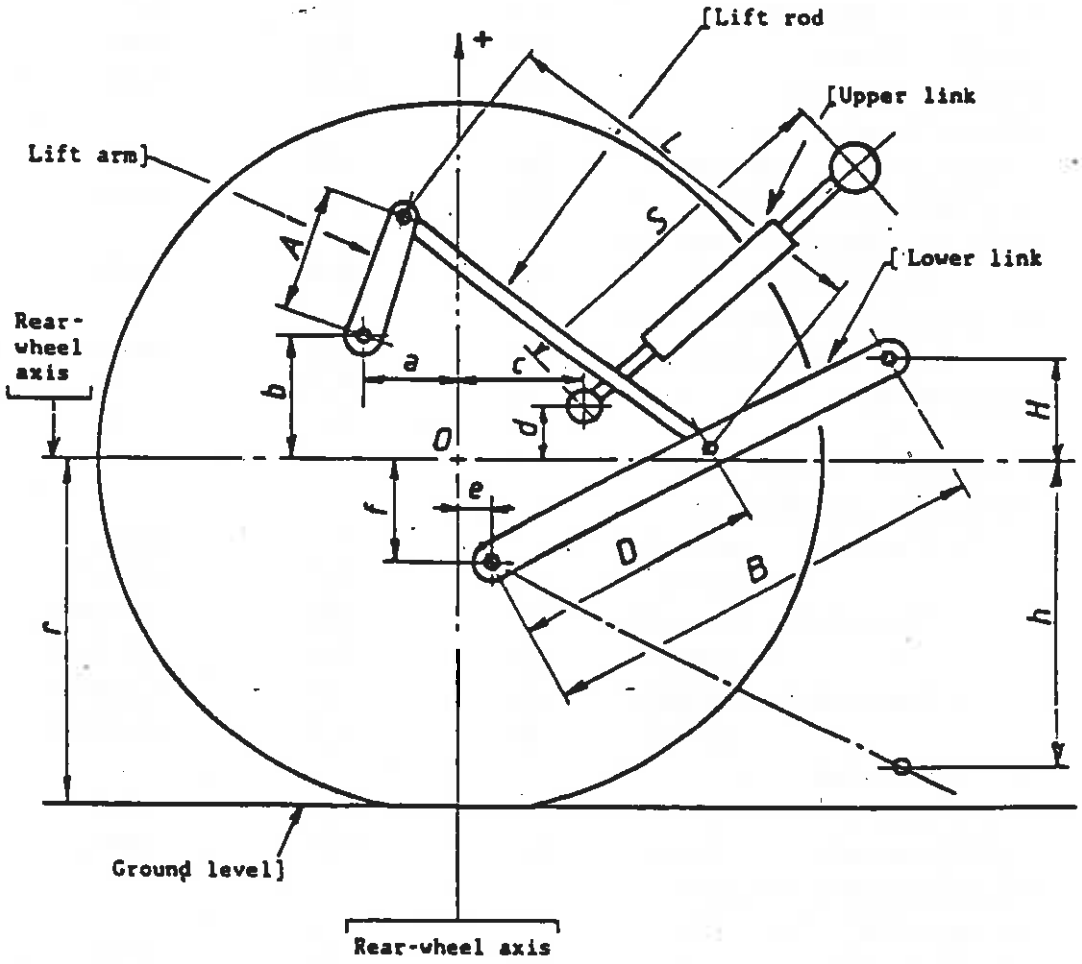
Main Power-Take-Off.	
Type	Independent
Method of engagement	Mechanically actuated dry clutch; lever operated
Number of shafts	One - single speed (tested)
Standard single speed PTO-540 rev/min.	
Location	Rear of tractor; center plane
Diameter of shaft	34.9 mm
Number of splines	6 ; conforms to ISO 500/1991.
Height above ground	716 mm
Distance from median plane of tractor	0 mm
Distance behind rear axle	426 mm
PTO Speed at rated engine spd	545 rev/min
Engine speed at Std. PTO spd	2376 rev/min
Engine speed/PTO speed ratio	4.4 to 1
Power restriction	None
Direction of rotation when viewed from shaft end	Clockwise

POWER LIFT.

Make/Model/Type	John Deere/Top link sensing; draft and position control; adjustable drop-rate valve
Type of hydraulic system	Open Center
Number/Type of cylinders	One / internal, single acting
Type of linkage lock for transport	Fully close drop-rate valve
Relief valve pressure setting	19.35 ± 0.35 MPa
Opening pressure of cylinder safety valve	23.50 ± 0.50 MPa
Lift pump type	Engine mounted gear pump
Power transmission to pump	Gear drive from engine
Type/Number of filters	Pleated polyester felt/One
Location of oil reservoir	Transmission housing
Number/Type/Location of tapping points.	Up to 3 pairs of ISO standard couplings at rear of tractor.
Max. oil volume available for external cylinders.	10 liter

THREE POINT LINKAGE.

- Category II in conformity with ISO 730/1-1990
- Category adaptor - Convertable to Category I with interchangeable hitch balls



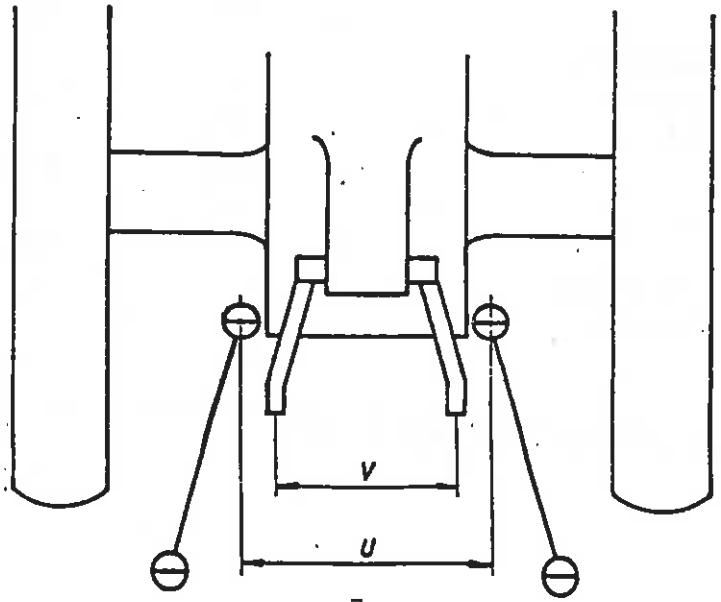


Table 1.1 LINKAGE GEOMETRY DIMENSIONS

			Dimension or range [mm]	Settings used on test [mm]
Lift category			II	II
Rear Tire - Radius Index		(r)	720	695
Front Tire - Radius Index		(r')	540	515
Length of lift arms		(A)	280	same
Length of lower links		(B)	836	same
Distance of lift arm pivot from: rear wheel axis:	horizontal	(a)	173	same
	vertical	(b)	311	same
Horizontal distance between the 2 lower link points		(U)	405	same
Horizontal distance between the 2 lift arm end points		(V)	530	same
Length of upper link		(S)	500 to 700	613
Distance of upper link pivot point from rear wheel axis				
Top hole	horizontal	(c)	384	same
	vertical	(d)	284	same
Center hole	horizontal	(c)	400	not used
	vertical	(d)	250	not used
Bottom hole	horizontal	(c)	400	not used
	vertical	(d)	213	not used
Distance of lower link pivot from: rear wheel axis:	horizontal	(e)	160	same
	vertical	(f)	-166	same
Distance of lower link pivot points to lift rod pivot pts on lower links.		(D)	425	same
Length of lift rods		(L)	475 to 575	527
Height of lower hitch points relative to rear wheel axis				
In low position		(h)	363 to 573	492
In high position		(H)	97 to 272	168
Height above ground of lower hitch points when locked in transport position			815 to 995	863

Tire dynamic index of 720 mm / ISO 4251/1-1992

SWINGING DRAWBAR.

Type	Oscillating ,Catergory II	
Height above ground	500 mm	
Adjustments	Longitudinal (3 positions) and lateral	
Distance of hitch point from rear wheel axis-horizontal	615, 782, 823	mm
Distance of hitch point from PTO shaft end: Vertical	220	mm
Horizontal	189, 356, 397	mm
Lateral adjustment-Right side	239	mm
Left side	239	mm
Distance of pivot point from rear wheel axis-horizontal	358	mm
Diameter of drawbar pin hole	33	mm
Maximum vertical static permissible load		
-short position	11.0	kN
-intermediate position	7.5	kN
-extended position	6.4	kN

STEERING.

Make/Model/Type	Danfoss/Hydrostatic
Method of operation	Steering wheel
Pump(s)	Engine mounted gear pump
Ram(s)	One; double acting
Working pressure	13.25 ± 0.25 MPa

BRAKE SYSTEM.

Service brake.

Make/Model/Type	John Deere/Wet disk/Hydraulic
Method of operation	Operated by two pedals which can be locked together.

Parking brake.

Type	Transmission lock with park pawl
Method of operation	Gear selector lever engages park pawl

Trailer Brake — None

WHEELS.

Number - Front	Two; Driving and steering
Rear	Two; Driving
Wheel base	2177 mm

Track width adjustment

	Minimum [mm]	Maximum [mm]	Adjustment method
Front	1292	2007	Reversing wheels and offset lug rims
Rear	1535	1838	Multi position cast rim clamp

ROPS STRUCTURE.

Make/Model/Type	John Deere/2-post/Foldable
Manufacturer's name/address	Crenlo Inc. 1600 4th Avenue NW, Rochester Minnesota 55901, USA
Protective device	Foldable Roll-Gard
OECD approval number	None
USA (OSHA) approval	USA-OSHA 29CFR, Part 1928, Subpart C and SAE J1194, May 1989

DRIVER'S SEAT.

Make/Model/Type	Milsco/Deluxe CA100 Assembly
Type of suspension	Two spring vertical, rear mounted
Type of damping	Air damper
Range of adjustment	
Longitudinal	152 mm
Vertical	100 mm
Rotation	None

LIGHTING.

	Height above ground of center [mm]	Size [mm x mm]	Distance from outside edge to median plane of tractor. [mm]
Head lights	1206	106.1x165.1	221
Side lights	1499	91.7x137.4	697
Rear lights	1798	111.0x111.0	603
Reflectors-rear	1726	40.0x111.0	603

TEST CONDITIONS.

OVERALL DIMENSIONS.

Length-without front weights	3790	mm
-with front weights	4080	mm
Width - Minimum	2002	mm
- Maximum	2510	mm
- As tested	2035	mm (2415 mm with weights)
Height - Top protective structure	2482	mm
- Top of exhaust	2379	mm
Ground clearance	438	mm
Clearance-limiting part	Drawbar support bracket	

TRACTOR MASS (with 2-post Rops, full fuel tank).

		Without driver [kg]	With driver [kg]
Unballasted	Front	1074	1089
	Rear	1548	1608
	Total	2622	2697
Ballasted	Front	1323	1338
	Rear	3005	3065
	Total	4328	4403

BALLAST ADDED

	Number of weights	Total mass [kg]	Liquid [kg]
Front	2 + bracket	215	____
Rear (duals)	None		
Rear (weights)	10	572	919
Additional test equipment	None		

TIRE SPECIFICATIONS.	Front Wheels	Rear Wheels
Make	Armstrong/Titan	Armstrong/Titan
Dimensions	12.4 - 24	18.4 - 30
Number/Ply rating	6	6
Type	Bias ply	Bias ply
Max.load	1090 kg/tire	1895 kg/tire
Inflation pressure(tire mfr)		
-max	165 kPa	110 kPa
-min	82.8 kPa	82.8 kPa
as tested	82.8 kPa	82.8 kPa
Dynamic Radius Index	540 mm	720 mm
Chosen track width	1495 mm	1535 mm

OILS AND LUBRICATION. - Capacities and change interval

	Capacity liter	Oil change hours	Filter change hours
Engine (with filter)	8.5	250	250
Front axle	5.0	600	
Transmission, final drive			
Rear axle and hydraulics	38.0	1200	250
Final drive, front	0.6	1200	

Oil and Lubricant specifications

	Recommended	Used during test
Engine oil		
Type	John Deere, Torq-Gard Supreme ; SAE 15W-40	same
Viscosity	102 cSt at 100°C	
Classification	API CE or CD; MIL-L-2104D	same
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 GL-5 Gear Lube SAE 80W-90	same
Viscosity	13.5 cSt at 100°C	
Classification	API GL-5	
Steering system	Same as transmission	same
Grease	John Deere high temperature Extreme pressure; non-clay	same
Number of lube points	8	

FUEL

Type/grade	Premier; Grade 2-D, in conformity with the US National Standard
Density (Pto test)	0.840 kg/l at 15^0 C
(Drawbar test)	Same as Pto test.
Cetane number	50.6
Viscosity	2.51 cSt at 38^0 C

COMPULSORY TESTS

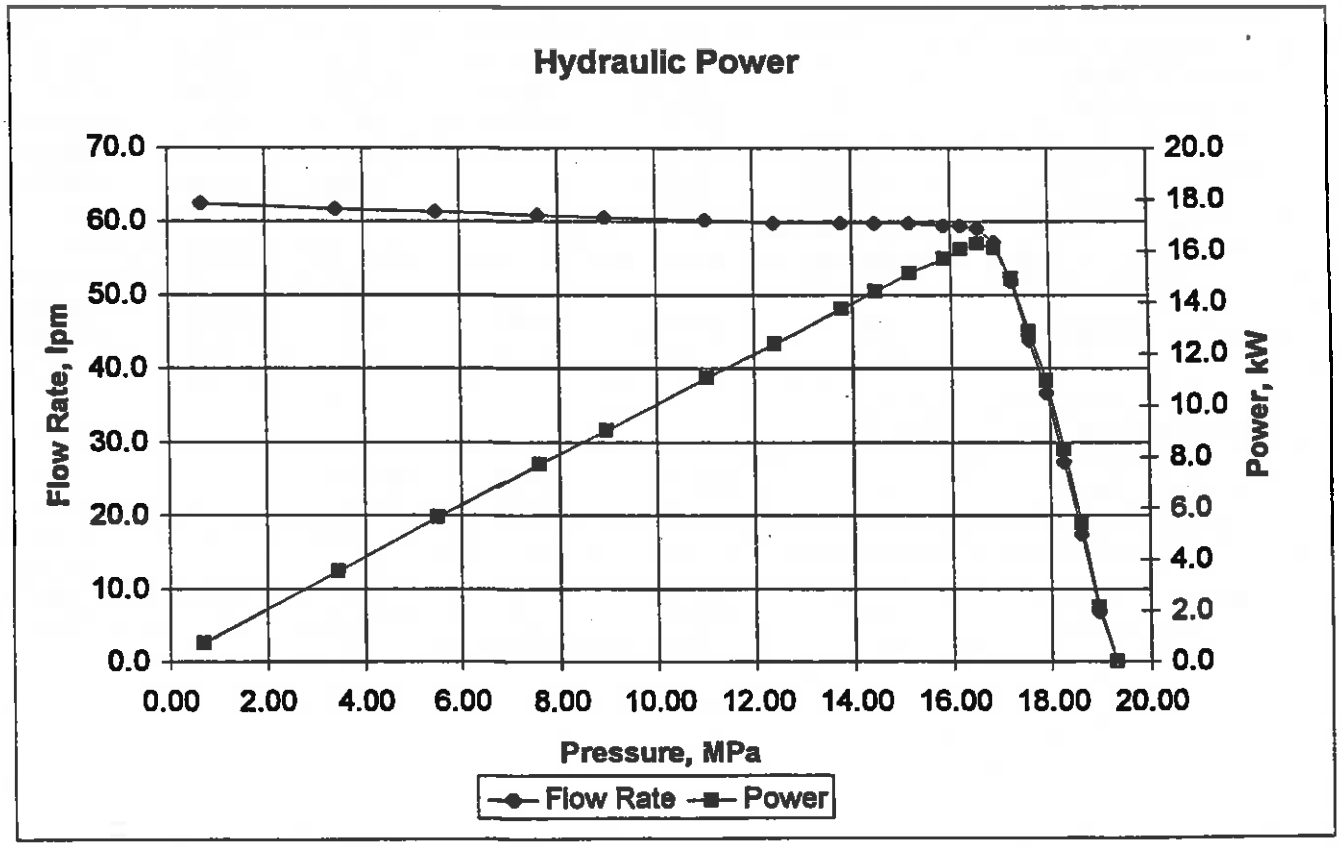
1. MAIN POWER TAKE OFF

Date: 18-Sep-96 Location: UNL Tractor Test Lab, Lincoln, NE, USA
Type of dynamometer: Eddy current, Eaton
Fuel Density 0.840 kg/l

Power kW *hp*	Engine rev/min	PTO rev/min	l/h *gal/h*	kg/h *lb/hr*	kg/kW-h *lb/hp-h*	kW-h/l *hp-h/gal*
1.1 Maximum Power - 2 Hours						
55.21 *74.04*	2400	544	16.94 *4.48*	14.23 *31.38*	0.258 *0.424*	3.26 *16.54*
1.2 Power at Rated Engine Speed - 1 hour						
55.21 *74.04*	2400	544	16.94 *4.48*	14.23 *31.38*	0.258 *0.424*	3.26 *16.54*
1.3 Power at Standard Power Take Off Speed - 1 hour						
55.21 *74.04*	2400	544	16.94 *4.48*	14.23 *31.38*	0.258 *0.424*	3.26 *16.54*
1.4 Part Loads						
1.4.1 Torque at maximum power at rated engine speed						
55.21 *74.04*	2400	544	16.94 *4.48*	14.23 *31.38*	0.258 *0.424*	3.26 *16.54*
1.4.2 85% of torque obtained in 1.4.1						
48.60 *65.18*	2482	563	15.71 *4.15*	13.20 *29.10*	0.272 *0.446*	3.09 *15.70*
1.4.3 75% of torque defined in 1.4.2						
36.77 *49.32*	2505	568	12.96 *3.42*	10.89 *24.00*	0.296 *0.487*	2.84 *14.41*
1.4.4 50% of torque defined in 1.4.2						
24.65 *33.05*	2519	571	10.37 *2.74*	8.71 *19.20*	0.353 *0.581*	2.38 *12.07*
1.4.5 25% of torque defined in 1.4.2						
12.43 *16.67*	2541	576	7.94 *2.10*	6.67 *14.70*	0.536 *0.882*	1.57 *7.95*
1.4.6 unloaded						
0.33 *0.44*	2561	581	5.51 *1.45*	4.63 *10.20*	14.021 *23.051*	0.06 *0.30*
1.5 Part Loads at Standard Power Take Off Speed						
1.5.1 Torque at maximum power						
55.21 *74.04*	2400	544	16.94 *4.48*	14.23 *31.38*	0.258 *0.424*	3.26 *16.54*
1.5.2 85% of torque obtained in 1.5.1						
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1.5.6 unloaded						
0.33 *0.44*	2561	581	5.51 *1.45*	4.63 *10.20*	14.021 *23.051*	0.06 *0.30*

No load maximum engine speed:	2561	rev/min		
Equivalent torque at rated speed:	220	N.m	*162*	*lb-ft*
Equivalent torque at maximum power:	220	N.m	*162*	*lb-ft*
(engine speed:	2400	**rev/min)**		
Maximum equivalent crankshaft torque:	270	**N.m**	*199*	*lb-ft*
(engine speed:	1702	rev/min)		
Mean Dry bulb:	24	deg C	*75*	*deg F*
Wet bulb:	18	deg C	*64*	*deg F*
Relative Humidity	56	%		
Pressure:	98.3	kPa	*29.04*	*in Hg*
Maximum Coolant:	92	deg C	*197*	*deg F*
Engine Oil:	109	deg C	*228*	*deg F*
Fuel:	55	deg C	*132*	*deg F*
Air Intake:	27	deg C	*81*	*deg F*
Transmission/hydraulic oil:	71	deg C	*159*	*deg F*
Intake manifold pressure at rated speed:	44	kPa	*6.5*	*psig*
Intake manifold pressure at maximum power:	44	kPa	*6.5*	*psig*

Date of Test: 26-Sep-96		
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:		
19.31 MPa		
2800 psig		
II. Pump delivery rate at minumum pressure and rated engine speed:		
62.5 l/min		
16.5 gpm		
III. Flow rate, pressure, power:		
90% of relief valve setting		
43.9 l/min	17.58 MPa	12.9 kW
11.6 gpm	*2550 psig*	*17.3 hp*
Maximum hydraulic power:		
59.1 l/min	16.55 MPa	16.3 kW
15.6 gpm	*2400 psig*	*21.8 hp*
IV Hydraulic fluid temperature at flow meter:		
60.7 °C		
141 °F		
This hydraulic system does not use an accumulator. Opening and closing pressures of the unloading valve could not be measured.		



2.2 POWER LIFT TEST. Cat II

Date of test: 5 October 1992

The data presented here is from OECD test 1423 done on the John Deere 5400 which has the mechanically identical hitch system.

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm/in]	203/8.0	145/5.7
Vertical movement: without load:	[mm/in]	660/26.0	873/34.4
with load:	[mm/in]	656/25.8	868/34.2
Maximum corrected force through full range:	[kN/lb]	16.9/3807	12.9/2905
Corresponding pressure:	[kPa/psi]	17561/2547	
Moment about rear axle:	[kN.m/lb.ft]	16.9/12436	20.7/15301
Maximum mast tilt angle:	[deg]	--	14.7

Lifting height relative to horizontal position of lower links.

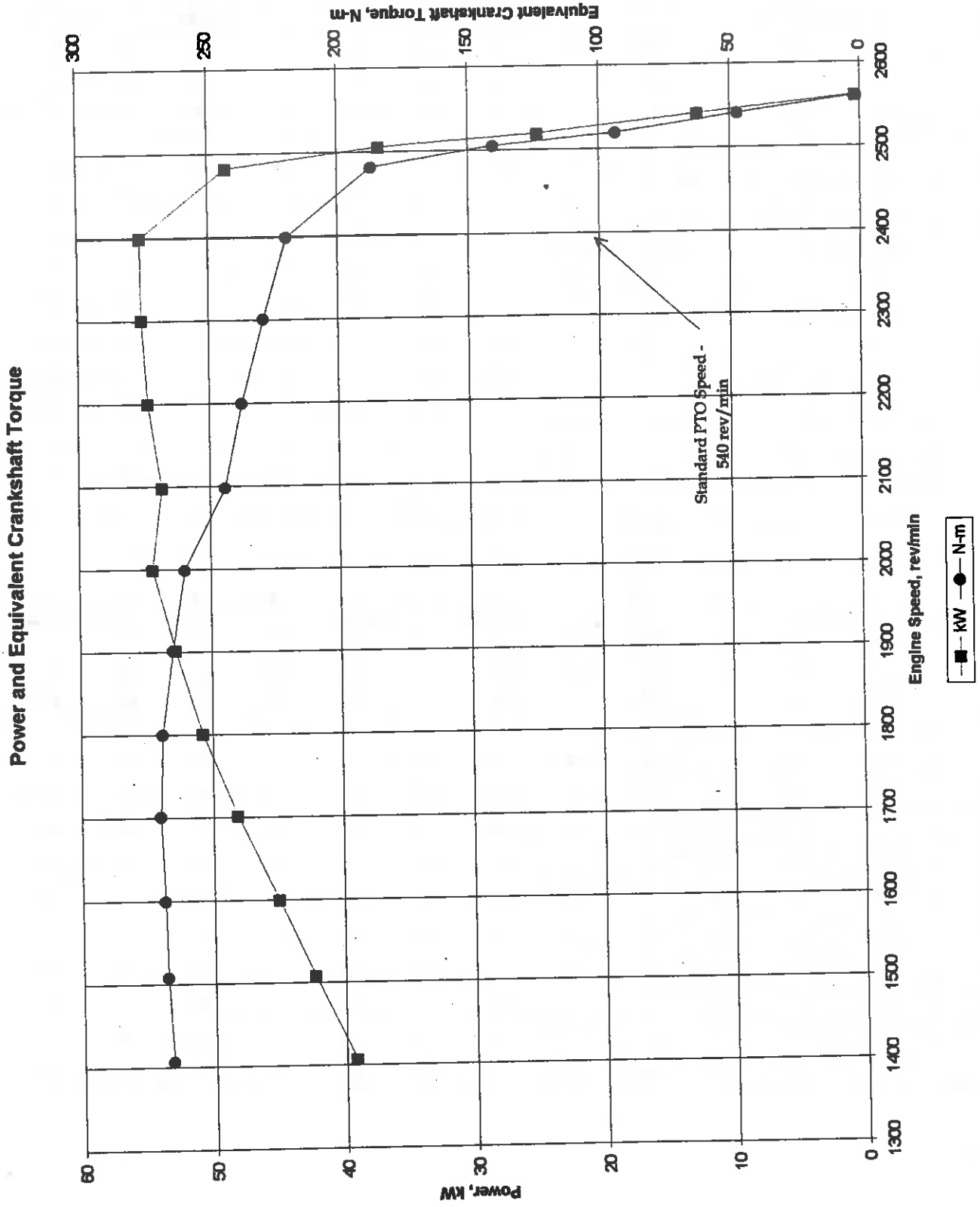
	[mm]	-363	-305	-251	-152	-53	48
	[in]	-14.3	-12.0	-9.9	-6.0	-2.1	1.9
Corrected lift forces							
Hitch point.	[kN]	--	17.1	16.9	19.1	20.4	21.4
	[lb]	--	3847	3807	4293	4595	4811
at frame	[kN]	15.0	15.5	--	16.3	16.5	16.4
	[lb]	3371	3474	--	3665	3706	3695
Lifting height relative to horizontal position of lower links.							
	[mm]	147	249	315	351	447	505
	[in]	5.8	9.8	12.4	13.8	17.6	19.9
Corrected lift forces							
Hitch point	[kN]	21.9	22.1	22.3	20.8	--	--
	[lb]	4912	4959	5022	4684	--	--
at frame	[kN]	--	15.7	--	14.9	14.1	12.9
	[lb]	--	3535	--	3343	3164	2905

OECD Drawbar Data (SI)

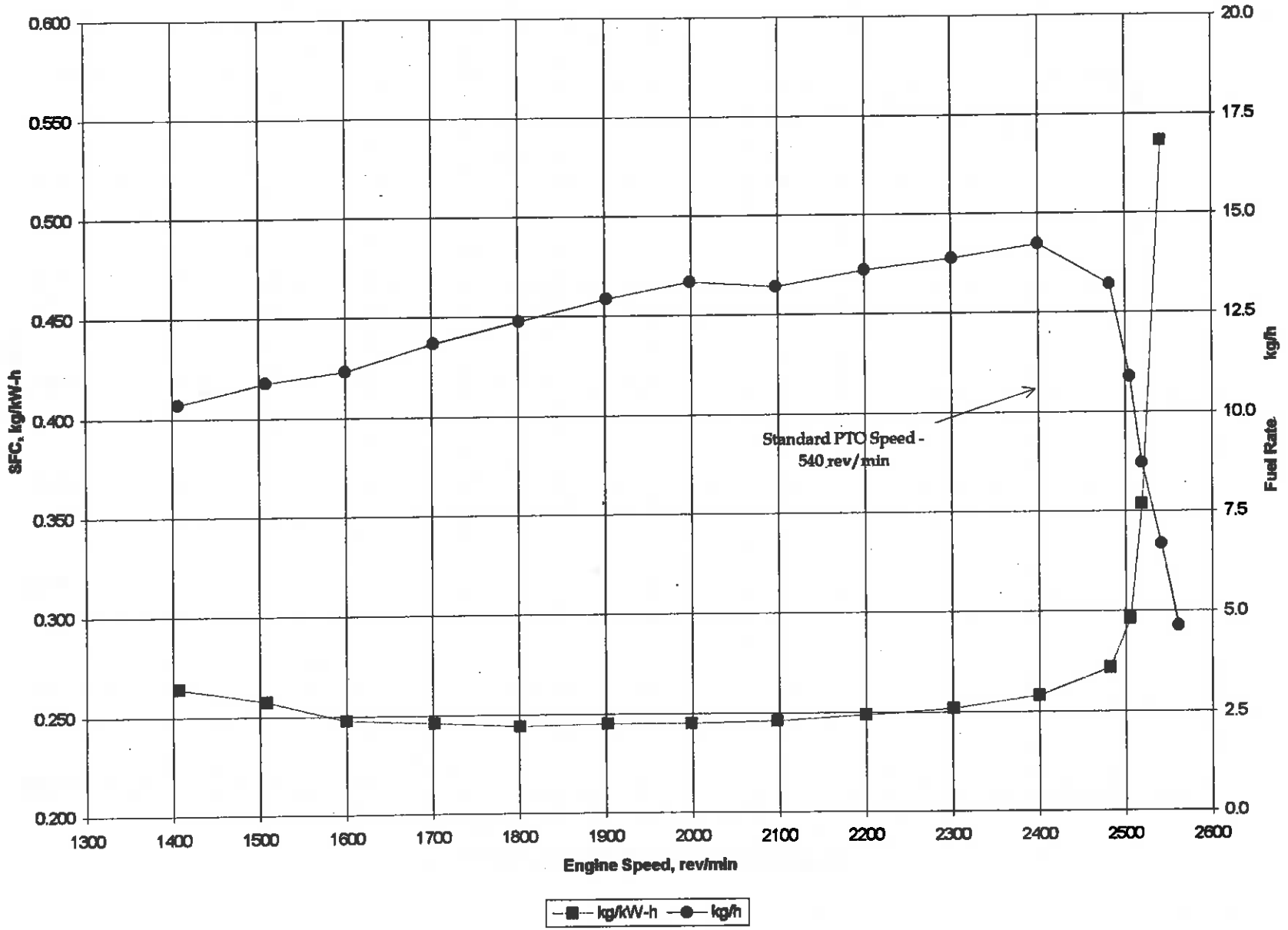
Date of tests:		24-Sep-96		Fuel density:		0.840 kg/l							
Type of track:		Concrete		Test number:		1717							
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel hum-idity
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet	
I. Maximum Power (unballasted, 4wd)						Tire pressure:		83 kPa, rear		83 kPa, front		Drawbar height:	483 mm
3 A3	26.04	23.08	4.06	2540	15%	0.399	2.11	53	82	102	19	15	64%
4 B1	31.38	23.32	4.84	2526	15%	0.368	2.28	55	84	103	20	14	56%
5 B2	43.42	22.75	6.87	2466	14%	0.329	2.55	57	86	106	20	14	56%
6 B3	47.06	17.16	9.87	2402	7%	0.302	2.78	60	86	108	19	14	55%
7 C1	48.33	12.23	14.23	2402	4%	0.294	2.86	59	86	108	19	12	47%
II. Part loads (unballasted, 4wd)													
II.1 in selected gear at maximum power at rated engine speed.													
6 B3	47.06	17.16	9.87	2402	7%	0.302	2.78	60	86	108	19	14	55%
II.1.1 75% of pull at maximum power at rated engine speed													
6 B3	38.04	12.90	10.61	2512	5%	0.326	2.57	55	86	102	18	12	49%
II.1.2 50% of pull at maximum power at rated engine speed													
6 B3	25.91	8.56	10.90	2535	3%	0.381	2.20	54	85	103	18	12	49%
II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1													
7 C1	38.03	12.93	10.58	1796	4%	0.272	3.09	56	84	99	18	12	54%
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2													
7 C1	25.91	8.55	10.91	1820	3%	0.296	2.84	55	83	98	18	12	54%
II.2 in selected gear nearest to 7.5 km/h at rated engine speed.													
5 B2	43.42	22.75	6.87	2466	14%	0.329	2.55	57	86	106	20	14	56%
II.2.1 75% of pull at maximum power at rated engine speed													
5 B2	35.85	17.02	7.58	2511	7%	0.332	2.53	56	85	103	19	12	47%
II.2.2 50% of pull at maximum power at rated engine speed													
5 B2	24.84	11.35	7.88	2532	4%	0.383	2.19	53	84	103	19	12	47%
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1													
6 B3	35.86	17.05	7.57	1842	7%	0.283	2.97	57	84	100	19	12	47%
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2													
6 B3	24.90	11.22	7.99	1882	4%	0.304	2.76	54	83	98	18	12	49%

OECD Drawbar Data (US)

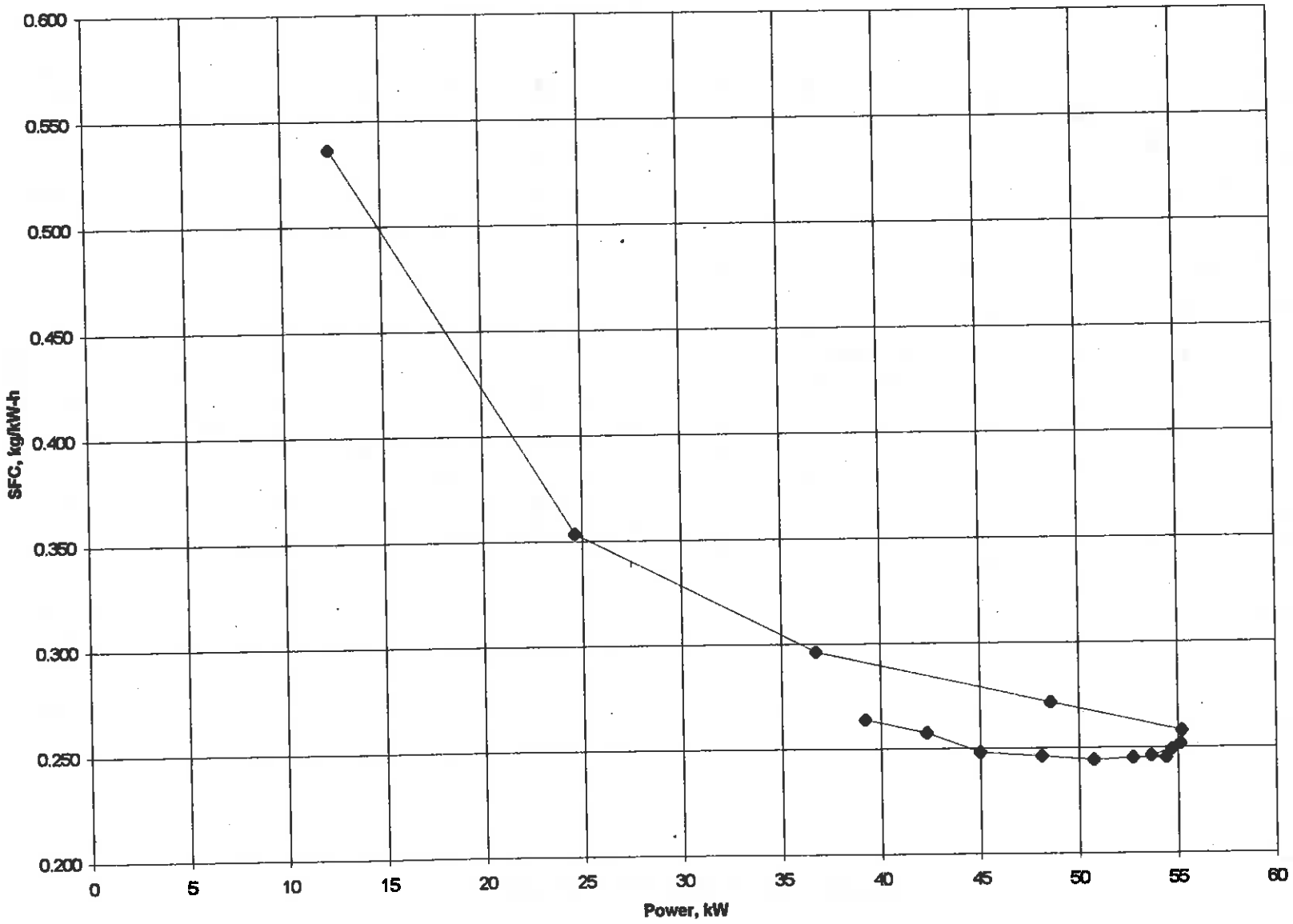
Date of tests:		24-Sep-96		Fuel density:		7.012 lb/gal							
Type of track:		Concrete		Test number:		1717							
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel hum-idity
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet	
I. Maximum Power (unballasted, 4wd)						Tire pressure:		12 psig, rear		12 psig, front		Drawbar height:	19.0 in
3 A3	34.92	5189	2.52	2540	15%	0.656	10.69	128	180	216	67	59	64%
4 B1	42.08	5243	3.01	2526	15%	0.605	11.58	131	184	218	68	58	56%
5 B2	58.23	5114	4.27	2466	14%	0.541	12.96	135	186	223	68	58	56%
6 B3	63.11	3858	6.14	2402	7%	0.496	14.13	140	187	227	67	57	55%
7 C1	64.81	2750	8.84	2402	4%	0.483	14.51	138	186	227	66	54	47%
II. Part loads (unballasted, 4wd)													
II.1 in selected gear at maximum power at rated engine speed.													
6 B3	63.11	3858	6.14	2402	7%	0.496	14.13	140	187	227	67	57	55%
II.1.1 75% of pull at maximum power at rated engine speed													
6 B3	51.01	2901	6.59	2512	5%	0.536	13.07	131	186	215	64	53	49%
II.1.2 50% of pull at maximum power at rated engine speed													
6 B3	34.75	1925	6.77	2535	3%	0.627	11.19	129	185	217	64	53	49%
II.1.3higher gear at reduced engine speed, same pull and travel speed as II.1.1													
7 C1	50.99	2908	6.58	1796	4%	0.447	15.70	133	184	211	64	54	54%
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2													
7 C1	34.75	1923	6.78	1820	3%	0.487	14.39	132	182	208	64	54	54%
II.2 in selected gear nearcst to 4.6 mph at rated engine speed.													
5 B2	58.23	5114	4.27	2466	14%	0.541	12.96	135	186	223	68	58	56%
II.2.1 75% of pull at maximum power at rated engine speed													
5 B2	48.08	3826	4.71	2511	7%	0.545	12.86	133	185	218	66	54	47%
II.2.2 50% of pull at maximum power at rated engine speed													
5 B2	33.31	2551	4.90	2532	4%	0.629	11.14	127	184	217	66	54	47%
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1													
6 B3	48.08	3832	4.71	1842	7%	0.465	15.10	134	184	212	66	54	47%
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2													
6 B3	33.40	2522	4.97	1882	4%	0.500	14.02	129	182	209	64	53	49%


Power and Equivalent Crankshaft Torque
Power, kW
Equivalent Crankshaft Torque, N-m
Engine Speed, rev/min
kW
N-m
Standard PTO Speed - 540 rev/min
60
50
40
30
20
10
0
300
250
200
150
100
50
0
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600

Specific Fuel Consumption and Fuel Rate



Power and Specific Fuel Consumption



Drawbar Performance - Ballasted, Front Drive Engaged

Tests conducted under the supervision of the Nebraska Tractor Testing Laboratory

OECD Drawbar Data (SI)

Date of tests:	26-Sep-96	Fuel density:	0.840 kg/l
Type of track:	Concrete	Test number:	1717

Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel humidity	
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		
I. Maximum Power (ballasted,4wd)						Tire pressure:		110 kPa, rear		110 kPa, front		Drawbar height:		470 mm
3 A3	38.43	34.68	3.99	2509	15%	0.345	2.44	52	82	103	11	8	70%	9
4 B1	43.82	34.23	4.61	2418	15%	0.323	2.60	57	85	106	11	8	65%	9
5 B2	47.36	23.81	7.16	2401	8%	0.300	2.80	54	86	106	11	8	71%	9
6 B3	47.27	16.86	10.09	2407	5%	0.300	2.80	53	86	106	12	8	66%	9
7 C1	46.36	11.67	14.31	2403	3%	0.303	2.77	52	85	102	12	9	66%	9

OECD Drawbar Data (US)

Date of tests:	26-Sep-96	Fuel density:	7.012 lb/gal
Type of track:	Concrete	Test number:	1717

Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel humidity	
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		
I. Maximum Power (ballasted,4wd)						Tire pressure:		16 psig, rear		16 psig, front		Drawbar height:		18.5 in
3 A3	51.53	7797	2.48	2509	15%	0.567	12.38	126	180	217	51	46	70%	2
4 B1	58.76	7696	2.86	2418	15%	0.531	13.20	134	186	223	52	46	65%	2
5 B2	63.51	5353	4.45	2401	8%	0.493	14.23	130	186	223	52	47	71%	2
6 B3	63.39	3790	6.27	2407	5%	0.494	14.20	128	187	223	53	47	66%	2
7 C1	62.17	2623	8.89	2403	3%	0.498	14.07	126	185	215	54	48	66%	2

Drawbar Performance - Ballasted, Front Drive Disengaged

Tests conducted under the supervision of the
Nebraska Tractor Testing Laboratory.

OECD Drawbar Data (SI)

Date of tests:	26-Sep-96	Fuel density:	0.840 kg/l
Type of track:	Concrete	Test number:	1717

Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel hum-idity	E
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		
I. Maximum Power (ballasted, 2wd)						Tire pressure:		110 kPa, rear		110 kPa, front		Drawbar height:		470 mm
4 B1	38.19	28.84	4.77	2506	15%	0.342	2.45	53	87	104	10	8	75%	9
5 B2	45.15	23.51	6.92	2403	11%	0.312	2.70	53	85	106	11	8	71%	9
6 B3	46.20	16.95	9.81	2401	7%	0.306	2.75	53	86	104	11	8	71%	9
7 C1	46.24	11.88	14.01	2401	5%	0.306	2.75	53	85	105	12	8	66%	9
II. Part loads (ballasted, 2wd)														
II.1 in selected gear at maximum power at rated engine speed.														
6 B3	46.20	16.95	9.81	2401	7%	0.306	2.75	53	86	104	11	8	71%	9
II.1.1 75% of pull at maximum power at rated engine speed														
6 B3	36.60	12.69	10.39	2488	5%	0.334	2.52	51	85	103	12	9	66%	9
II.1.2 50% of pull at maximum power at rated engine speed														
6 B3	25.11	8.46	10.68	2516	3%	0.394	2.13	50	82	103	12	9	66%	9
II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1														
7 C1	36.54	12.73	10.33	1774	5%	0.279	3.01	51	84	96	12	9	66%	9
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
7 C1	25.09	8.40	10.76	1817	3%	0.307	2.74	50	83	95	12	9	66%	9

OECD Drawbar Data (US)

Date of tests:	26-Sep-96	Fuel density:	7.012 lb/gal
Type of track:	Concrete	Test number:	1717

Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel hum-idity
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet	
I. Maximum Power (ballasted, 2wd)						Tire pressure:		16 psig, rear		16 psig, front		Drawbar height:		18.5 in
4 B1	51.22	6483	2.96	2506	15%	0.563	12.46	128	189	219	50	46	75%	
5 B2	60.55	5285	4.30	2403	11%	0.512	13.69	128	185	222	52	47	71%	
6 B3	61.96	3811	6.10	2401	7%	0.502	13.96	128	187	220	52	47	71%	
7 C1	62.00	2670	8.71	2401	5%	0.503	13.95	127	185	222	53	47	66%	
II. Part loads (ballasted, 2wd)														
II.1 in selected gear at maximum power at rated engine speed.														
6 B3	61.96	3811	6.10	2401	7%	0.502	13.96	128	187	220	52	47	71%	
II.1.1 75% of pull at maximum power at rated engine speed														
6 B3	49.08	2852	6.45	2488	5%	0.549	12.77	123	185	218	54	48	66%	
II.1.2 50% of pull at maximum power at rated engine speed														
6 B3	33.67	1903	6.63	2516	3%	0.647	10.84	122	180	217	54	48	66%	
II.1.3higher gear at reduced engine speed, same pull and travel speed as II.1.1														
7 C1	49.00	2863	6.42	1774	5%	0.459	15.29	124	184	206	54	48	66%	
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
7 C1	33.65	1888	6.68	1817	3%	0.504	13.90	122	182	204	54	48	66%	

MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of test	24 September 1996
Location of test	Nebraska Power LabLincoln, NE. USA
Sound level meter	Bruel and Kjär 2203
Type of track	Concrete oval
Gear number	9th
Speed prior to acceleration	22.5 km/h
Noise level	86.5 dB(A)

Remarks : None
Repairs : None