OECD APPROVAL # 1237
Date of approval: February 15, 1990

CENTER FOR AGRICULTURAL EQUIPMENT
DEPARTMENT OF AGRICULTURAL 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 FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTOR PERFORMANCE

RESTRICTED TEST-CODE II

JOHN DEERE 4955 POWERSHIFT WITH MECHANICAL FRONT WHEEL DRIVE (4 WD)



MANUFACTURED BY: John Deere Waterloo Works
P.O.Box 3500
Waterloo, Iowa 50706, USA

NEBRASKA TEST NO.1622

Test date: April-June 1989

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 February 15, 1990

John Deere 4955 Powershift with MFWD OECD # 1237

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SPECIFICATIONS OF TRACTOR.

Manufacturers name/address	:	John Deere Tractor Works P.O. Box 3500 Waterloo, Iowa
Submitted for test by	:	The manufacturer
Selected for test by	:	The manufacturer in agreement with the test station.
Place of running in	:	John Deere P.E.C. Waterloo , Iowa
Duration of running in	:	57.0 hours
Location of test	:	Center for Agricultural Equipment, Lincoln, Nebraska,USA.

TRACTOR.

Make	John Deere
Model	4955
Type	Unit construction, mechanical front wheel drive (4 WD)
Number of driving wheels	4
Serial Number	*RW4955P001024*
1st Serial number	*RW4955P001001*

ENGINE.

Make	John Deere
Model	6076ARW03
Type	Diesel, turbocharged and intercooled
Serial Number	*RG6076A103190*

Cylinders

Number & Disposition	6, in-line, vertical
Bore x stroke	115.8 mm x 120.7 mm (4.56 in x 4.75 in)
Cubic capacity	7634 cu ml (466 cu in)
Compression Ratio	16.0:1
Arrangement of valves	Overhead
Cylinder liners	Wet, replacable

Super charging

Make/Model/Type	Air Research/RE29309/ exhaust gas driven
Pressure	110-131 kPa (16-19 psi) at rated speed and load.

Fuel System

Feed system	transfer pump integral with injection pump
Make/Type/Model of filters	Stanadyne/RE27091/ paper element
Fuel Tank capacity	386 liter (102 US gallons)

Make/Model/Type Injection Pump	Nippondenso/RE29304/in line
Pump Serial number	10H0071
Production setting of pump Flow Rate (Rated Eng.Spd & Full Load)	35.7 +/- 1.6 kg/hr 78.7 +/- 3.5 lb/hr
Make/Model/Type of injectors	Nippondenso/RE30083/21 mm
Injection pressure	29.0 MPa (4200 psi)
Timing	21 degrees before TDC

Governor

Make/Model/Type	Nippondenso/RSV200/mechanical
Governed engine speed range	From 800 to 2400 rev/min
Rated engine speed	2200 rev/min
High-idle speed range	2375 +/- 25 rev/min

Air Cleaner.

Pre-cleaner	
Make/Model/Type	Donaldson/plastic mesh chaff screen
Air intake location	top of air stack
Main Cleaner	
Make/Model/Type	Donaldson/AR80652/ pleated paper
Secondary element	Donaldson/AR80653/ pleated paper
Maintenance indicator	Dash mounted light and horn

Lubrication system.

Type of feed pump	Full pressure, positive displacement.
Type of filters	Full flow with bypass
Number	one
Oil cooler	Heat exchanger with engine coolant

Cooling system.

Type of coolant	Liquid
Type of pump	Centrifugal
Fan specification	Belt driven, variable speed
Number of fan blades	8
Fan diameter	660 mm (26.0 in)
Coolant system capacity	30.3 l (32 qt)
Type of temperature control	2 thermostats and variable speed fan
Superpressure system	69 kPa (10 psi)

Starting system.

Make/Model/Type of starter	Nippondenso/RE38336/electric
Power Rating	4.75 kW (6.4 hp)
Cold starting aid	Ether spray in intake manifold.
Safety device	Electrical lockout gear shift

Electrical system.	
Voltage & grounding.	12 Volt DC;negative ground
Alternator	
Make/Model/Type	Nippondenso/RE37201/belt driven
Power rating	120 Ampere at 2200 engine rpm.
Batteries	
Number & connection	2-12 V batteries in parallel
Rating	175 Ampere-hours per battery at 20 hour rating 925 cold crank amp per battery
Exhaust system.	
Make/Model/Type	Donaldson/RE35449/ expansion chamber
Location	vertical above hood, left of centerline

TRANSMISSION.

Clutch. (travel)	
Make/Type	John Deere/multiple plate/ oil cooled
Number of plates	3, 4, or 7(depending on gear)
Plate diameter	279.4 mm (11.0 in)
Method of operation	Hydraulically actuated by foot pedal.
Gear Box.	
Make/Type	John Deere/full powershift
Arrangement	planetary design consisting of: one input planetary gearset, one 2 speed planetary gearset, two compound planetary gearsets, all with multiple wet disc clutches and brakes
Number of gears	15 forward, 4 reverse controlled by a single hand lever
Oil cooler	Heat exchanger with air
Available options	none
Rear axle and final drives.	
Make/Type	John Deere/crown wheel and pinion, differential and inboard planetary reduction
Differential Lock	
Type	Hydraulic
Method of engagement	Foot Pedal
Method of disengagement	self disengaging with foot pedal

Front Axle and final drives.

Make/Model/Type	John Deere/crown wheel and pinion, differential and outboard planetary reduction
Differential lock	
Type	limited slip
Method of engagement	self engaging
Method of disengagement	self disengaging

Gear ratios and travel speeds.

(Tire dynamic radius of 918 mm (36.1 in) ISO 4251/1-1984)

Gear Number	Number of engine revolutions for one revolution of the driving wheels	Nominal travel speed at rated engine speed of 2200 rev/min [km/h]	[mph]
1 fwd	332.83	2.29	1.42
2 fwd	232.56	3.27	2.03
3 fwd	192.48	3.96	2.46
4 fwd	153.20	4.97	3.09
5 fwd	133.01	5.72	3.56
6 fwd	117.21	6.50	4.04
7 fwd	101.71	7.49	4.65
8 fwd	88.53	8.60	5.34
9 fwd	76.84	9.91	6.16
10 fwd	67.71	11.24	6.99
11 fwd	58.78	12.95	8.05
12 fwd	52.54	14.49	9.00
13 fwd	42.46	17.93	11.14
14 fwd	30.36	25.08	15.58
15 fwd	24.53	31.04	19.29
1 rev	240.44	3.17	1.97
2 rev	168.07	4.53	2.81
3 rev	110.66	6.88	4.27
4 rev	73.48	10.36	6.44

Number of front wheel revolutions
for one rear wheel revolution. 1.3299

POWER - TAKE - OFF.

Main Power-Take-Off.

Type	Independent
Method of engagement	Hydraulically actuated multi-plate wet clutch operated by hand lever, independent of main drive clutch.
Number of shafts	one

Standard PTO. 1000 rev/min.

Location	Rear of tractor, vertical center plane.
Diameter of shaft	44.5 mm (1.75 in)
Number of splines	20; conforms to ISO 500/1979.
Height above ground	739 mm (29.1 in)
Distance from median plane of tractor	0 mm
Distance behind rear axle	559 mm (22.0 in.)
PTO Speed @ rated engine speed	998 rev/min
Engine speed @ Std. PTO Speed	2205 rev/min
Ratio of Engine rpm to PTO rpm	2.2045
Direction of rotation when facing shaft end	Clockwise.

POWER LIFT.

Make	John Deere
Type of hydraulic system	Hydraulic lift with variable mix of draft and position control; lower link sensing with adjustable speed of drop Closed center
Number/Type of cylinders	One internal and one external (a second external cylinder is optional), all single acting
Type of linkage lock for transport	Hydraulic
Relief valve setting	17.5 +/- 0.3 MPa (2535 +/- 45 psi)
Opening pressure of cylinder safety valve	20.7 MPa (3000 psi)
Lift pump type	Radial piston, variable delivery, constant pressure
Power transmission to pump	Direct drive
Type/Number of filters	paper element/one
Location of oil reservoir	Transmission housing
Number/Type/Location of tapping points.	3 pairs of ISO standard couplings at rear of tractor. (a 4th set is optional)
Max. oil volume available for external cylinders.	6.0 l (6.3 qt) 13.0 l (13.7 qt) with 7.0 l (7.4 qt) allowable overfill

THREE POINT LINKAGE.

- Category 3 in conformity with ISO 730/1-1977
- Category adaptor - Quick coupler

THREE POINT LINKAGE.

Figure 1.1

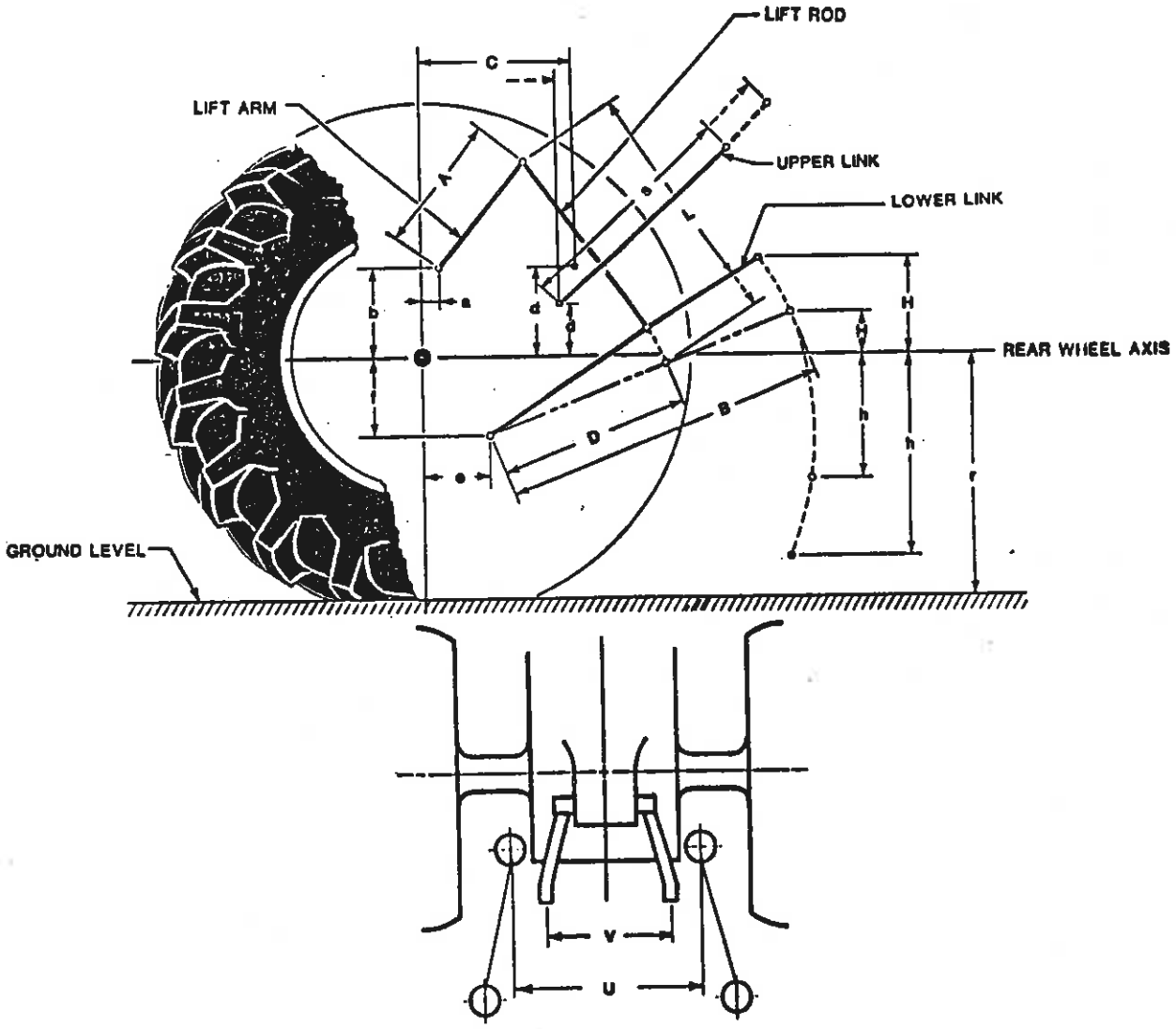


Figure 1.2

Table 1.1 -*Linkage geometry dimensions.

		Dimension or range [mm]	Dimension or range [in]	Settings used on test [mm]	Settings used on test [in]
Lift category		III			
Rear Tire - Radius Index	(r)	918	36.1		
Front Tire - Radius Index	(r')	716	28.2		
Length of lift arms	(A)	468	18.4	same	
Length of lower links	(B)	968	38.1	same	
Distance of lift arm pivot from: horizontal	(a)	0	0	same	
rear wheel axis: vertical	(b)	327	12.9	same	
Horizontal distance between the 2 lower link points	(u)	582	22.9	same	
Horizontal distance between the 2 lift arm end points	(v)	746	29.4	same	
Length of upper link	(S)	705	27.8		
	to	825	32.5	714	28.1
Distance of upper link pivot from: horizontal	(c)	384	15.1	same	
rear wheel axis: vertical	(d)	172	6.8	same	
Distance of lower link pivot from: horizontal	(e)	156	6.1	same	
rear wheel axis: vertical	(f)	330	13.0	same	
Distance of lower link pivot points to lift rod pivot pts on lower links.	(D)	716	28.2	same	
Length of lift rods	(L)	860	33.8		
	to	947	37.3	947	37.3
Height of lower hitch points relative to rear wheel axis In low position	(h)	554	21.8		
	to	678	26.7	660	26.0
In high position	(H)	147	5.8		
	to	249	9.8	162	6.4
Height above ground of lower hitch points when locked in transport position.		1064	41.9		
	to	1166	45.9	1079	42.5

*Assuming (r) with a dynamic tire index of 918 mm (36.1 in)
ISO 4251/1-1984

SWINGING DRAWBAR.

Type	Oscillating
Height above ground	Minimum: 478 mm (18.8 in) Maximum: 625 mm (24.6 in)
Adjustments	Inverting drawbar and repositioning clevis.
Distance of hitch point from rear wheel axis,horizontal	1003 mm(39.5 in),1067 mm(42.0 in)
Distance of hitch point from PTO shaft end.	
Vertical	127 mm (5.0 in),222 mm (8.7 in)
Horizontal	444 mm (17.5 in),508 mm (20.0 in)
Lateral adjustment;Right side	229 mm (9.0 in)
Left side	229 mm (9.0 in)
Distance of pivot point from rear wheel axis; horizontal	511 mm (20.1 in) forward.
Diamater of drawbar pin hole	37 mm (1.5 in)
Maximum vertical static permissible load	16.4 kN (3650 lb)

STEERING

Make/Model/Type	John Deere/Hydrostatic
Method of operation	Steering wheel
Pump(s)	Same as main hydraulic pump
Ram(s)	Two internal
Working pressure	Same as main hydraulic pressure

BRAKE SYSTEM.

Service brake.

Make/Model/Type	John Deere oil immersed disc
Method of operation	Hydraulically actuated from main system; operated by two pedals which can be locked together.

Parking brake.

Type	Transmission lock
Method of operation	Gear selector lever.

Trailer Brake (optional)

Type	Hydraulic

WHEELS.

Number.	
Front	Two; Driving and steering
Rear	Two or four; Driving
Wheelbase	2974 mm (117.1 in)

Track width adjustment

	Minimum		Maximum		Adjustment method
	[mm]	[in]	[mm]	[in]	
Front	1691	66.6	2230	87.8	Reversing wheels and offset lug rims
Rear	1642	64.6	2938	115.7	Rack and pinion axle, reversing wheels and offset lug rims

PROTECTIVE STRUCTURE.

Make/Model/Type	John Deere/SG0025/ Sound-Gard Body
Manufacturer's name/address	John Deere Tractor Works Waterloo, Iowa
Protective device	Cab, not tiltable.
OECD approval number	CSS 001/6

DRIVER'S SEAT.

Make/Model/Type	John Deere/Hydracushioned
Type of damping and suspension	Gas charged accumulator and spring loaded attenuator
Range of adjustment	
Longitudinal	150 mm (5.9 in)
Vertical	64 mm (2.5 in)
Rotation	25 degrees each way

LIGHTING.

	Height above ground of center		Size	Distance from out - side edge to median plane of tractor.	
	[mm]	[in]	[mm]	[mm]	[in]
Headlights	1847	72.7	50 x 125	317	12.5
	1961	77.2	100 dia.	978	38.5
Rearlights	2840	111.8	100 dia.	813	32.0
	2121	83.5	100 dia	813	32.0
Reflectors	2977	117.2	50 x 197	554	21.8
	1974	77.7	50 x 190	870	34.3

TEST CONDITIONS.

Overall dimensions.

Length		5461 mm (215.0 in)
Width	Minimum	2758 mm (109.0 in)
	Maximum	2997 mm (118.0 in)
Height -	Top of cab	3122 mm (122.9 in)
-	Top of exhaust	3259 mm (128.3 in)
Ground clearance (unballasted)		422 mm (16.6 in)
Clearance-limiting part		Hitch sway blocks

Tractor Mass (with Cab, full fuel tank)

		Without driver [kg]	Without driver [lb]	With driver [kg]	With driver [lb]
Unballasted	Front	2966	6540	2966	6540
	Rear	5366	11830	5441	11995
	Total	8332	18370	8407	18535
Ballasted	Front	4232	9330	4232	9330
	Rear	6956	15335	7031	15500
	Total	11188	24665	11263	24830

Ballast.

	Number of weights	Mass(total) [kg]	Mass(total) [lb]	Water [kg]	Water [lb]
Front	none	none	none	none	
Rear	4	908	2000	none	
Duals (rear)	2	884	1950	none	
Additional front frame	1	45	100		
+ weights	20	908	2000		
test equipment		111	245		

Tire Specifications.

	Front wheels	Rear wheels
Make	Goodyear	Goodyear
Dimensions	16.9R30	20.8R42
Ply rating	3 star (10 ply)	2 star (10 ply)
Type	Radial	Radial
Max.load (tire manufacturer)	2470 kg/tire (5440 lb/tire)	4130 kg/tire (9100 lb/tire)
Max.load(tractor manufacturer)	same	same
Inflation pressure (tire mfr)	165 kPa(24 psi)	165 kPa(24 psi)
Dynamic Radius Index	716 mm (28.2 in)	918 mm (36.1 in)
Chosen track width - singles	1692 mm (66.6 in)	1684 mm (66.3 in)
- duals		3404 mm(134.0 in)

Oils and Lubrication.

Capacity and change interval:

	Capacity liter	Capacity quart	Oil change hrs	Filter change hrs
Engine (w/o filter)	21	22	250	250
Gear Box (includes rear axle and rear final drive)	75	80	1500	Annually
Front axle housing	9.0	9.5	1500	na
Final drive, front	4.5	4.8	1500	na
Hydraulic system	commom with gear box			

Oil and Lubricant specifications:

	Recommended	Used during test
Engine oil		
Type	John Deere Torq-Gard Supreme	same
Viscosity	102 cSt	
Classification	API - CD MIL-L-2104D	
Transmission		
Type	John Deere Hy-Gard	same
Viscosity	58 cSt	
Classification	NA	
Hydraulic fluid	same as transmission	same
Steering oil	same as transmission	same
Front axle and hubs		
Type	Gear Lubricant	same
Viscosity	85W-140	
Classification	GL-5	
Grease		
Number of lubrication points	23	

Fuel

Type/grade	Diesel Fuel "Premier";grade 2-D
Density (Pto test)	0.828 g/cubic-cm (6.912 lb/gallon) at 15 'C (59 'F)
(Drawbar test)	same as Pto test.
Cetane number	51.1
Viscosity	2.33 cSt at 38 'C (100 'F)

Remarks: This tractor is equipped with a variable speed cooling fan. Since engine power is influenced by fan speed , all power tests were conducted at approximately the same ambient air temperatures.

COMPULSORY TESTS.

(1) MAIN POWER TAKE-OFF PERFORMANCE (1000 rev/min).

Date of tests : April 25, 1989
Location of tests : Center for Agricultural Equipment, University of Nebraska, Lincoln, Nebraska.
Type of Dynamometer: Eaton Dynamatic 2025 D.G.

Power kW (hp)	Speeds engine rev/min	Speeds PTO rev/min	Fuel Consumption hourly l/h (gal/h)	Fuel Consumption hourly kg/h (lb/h)	Fuel Consumption specific kg/kW.h (lb/hp.h)	Specific energy kW.h/l (hp.h/gal)
1.1 Maximum Power- 2 hour test.						
156.60 (210.00)	1951	885	41.44 (10.95)	34.32 (75.67)	0.219 (0.360)	3.78 (19.18)
1.2 Power at rated engine speed(1 hour).						
151.18 (202.73)	2200	998	41.72 (11.02)	34.55 (76.18)	0.229 (0.376)	3.62 (18.39)
1.3 Maximum power at standard PTO speed(1000 rev/min).						
151.18 (202.73)	2200	998	41.72 (11.02)	34.55 (76.18)	0.229 (0.376)	3.62 (18.39)

1.4 Part Loads - governor hand lever set for maximum power at rated engine speed

Power kW (hp)	Speeds engine rev/min	Speeds PTO rev/min	Fuel Consumption hourly l/h (gal/h)	Fuel Consumption hourly kg/h (lb/h)	Fuel Consumption specific kg/kW.h (lb/hp.h)	Specific energy kW.h/l (hp.h/gal)
(i) Torque obtained at maximum power at rated engine speed.						
151.18 (202.73)	2200	998	41.72 (11.02)	34.55 (76.18)	0.229 (0.376)	3.62 (18.39)
(ii) 85% of the torque obtained in (i)						
132.16 (177.23)	2266	1028	37.95 (10.03)	31.43 (69.30)	0.238 (0.391)	3.48 (17.68)
(iii) 75% of the torque defined in (ii)						
100.60 (134.91)	2297	1042	30.23 (7.99)	25.04 (55.20)	0.249 (0.409)	3.33 (16.89)
(iv) 50% of the torque defined in (ii)						
68.20 (91.46)	2330	1057	23.17 (6.12)	19.19 (42.30)	0.281 (0.462)	2.94 (14.95)
(v) 25% of the torque defined in (ii)						
34.34 (46.05)	2356	1069	16.27 (4.30)	13.47 (29.70)	0.392 (0.645)	2.11 (10.72)
(vi) Unloaded						
0.57 (0.77)	2368	1074	9.04 (2.39)	7.48 (16.50)	13.088 (21.517)	0.06 (0.32)

1.5 Part Loads - governor hand lever set for maximum power at standard pto speed.

Power kW (hp)	Speeds engine rev/min	Speeds PTO rev/min	Fuel Consumption hourly l/h (gal/h)	Fuel Consumption hourly kg/h (lb/h)	Fuel Consumption specific kg/kW.h (lb/hp.h)	Specific energy kW.h/l (hp.h/gal)
(i) Torque obtained at standard PTO speed.						
151.18 (202.73)	2200	998	41.72 (11.02)	34.55 (76.18)	0.229 (0.376)	3.62 (18.39)
(ii) 85% of the torque obtained in (i)						
132.16 (177.23)	2266	1028	37.95 (10.03)	31.43 (69.30)	0.238 (0.391)	3.48 (17.68)
(iii) 75% of the torque defined in (ii)						
100.60 (134.91)	2297	1042	30.23 (7.99)	25.04 (55.20)	0.249 (0.409)	3.33 (16.89)
(iv) 50% of the torque defined in (ii)						
68.20 (91.46)	2330	1057	23.17 (6.12)	19.19 (42.30)	0.281 (0.462)	2.94 (14.95)
(v) 25% of the torque defined in (ii)						
34.34 (46.05)	2356	1069	16.27 (4.30)	13.47 (29.70)	0.392 (0.645)	2.11 (10.72)
(vi) Unloaded						
0.57 (0.77)	2368	1074	9.04 (2.39)	7.48 (16.50)	13.088 (21.517)	0.06 (0.32)

No-load maximum engine speed	2368 rev/min
Equivalent engine torque:	
at rated engine speed	656 Nm(2200 rev/min)
at maximum power	767 Nm(1951 rev/min)
at maximum torque	908 Nm(1350 rev/min)
Mean atmospheric conditions:	
Temperature-dry bulb	23 °C (74 °F)
Relative humidity	48 %
Barometer	97.14 kPa (28.69 in Hg)

Maximum Temperatures :

Thermostat housing	93 °C (199 °F)
Engine oil pan	111 °C (232 °F)
Fuel at injection pump	49 °C (120 °F)
Engine air intake	28 °C (83 °F)
Trans./Hydr. Oil	51 °C (123 °F)

Turbocharger boost pressure

at rated engine speed	115 kPa (16.7 psi)
at maximum power	121 kPa (17.5 psi)

2. HYDRAULIC POWER AND LIFTING FORCE.

Date of test: 16 May 1989
Location: CAE/UNL, Lincoln, Nebr.

2.1 HYDRAULIC POWER TEST - Hydraulic pump performance

i. Sustained pressure with pump stalled	17.58 MPa (2550 psi)
ii. Pump delivery rate @ minimum pressure & rated engine speed	115.8 l/m (30.6 gpm)

iii.

	Flow Rate l/min (gal/min)	Pressure MPa (psi)	Power kW (hp)
At 90% of relief valve setting.	19.7 (5.2)	15.86 (2300)	5.2 (7.0)
At maximum hydraulic power.	112.0 (29.6)	12.07 (1750)	22.5 (30.2)

Tapping point(s)	Two hydraulic outlets combined
Hydraulic fluid temperature	
in oil reservoir	69 °C (156 °F)
at flow meter	66 °C (150 °F)

2.2 POWER LIFT TEST (With one 44 mm.lift assist cylinder)

		Hitch Points	Frame
Lower hitch points above ground - down position.	[mm/in]	283/11.1	270/10.6
Vertical movement without load	[mm/in]	822/32.4	940/37.0
Vertical movement with load	[mm/in]	787/31.0	899/35.4
Maximum corrected force through full range	[kN/lbf]	30.9/6957	29.4/6614
Corresponding pressure	[kPa/psi]	12066/1750	
Moment about rear axle	[kN.m/ft.lb]	38.7/28524	54.7/40347
Maximum mast tilt angle	[degrees]	--	9.4

Lifting height relative to the horizontal position of lower links

[mm]		-318	-305	-229	-127	0	102
[in]		-12.5	-12.0	-9.0	-5.0	0	4.0
Corrected lift forces.							
hitch points	[kN]	--	30.9	32.8	35.4	37.8	39.1
hitch points	[lb]	--	6957	7379	7950	8500	8800
at frame	[kN]	30.8	--	32.2	33.0	33.9	33.9
at frame	[lb]	6930	--	7236	7429	7629	7629

Lifting height relative to the horizontal position of lower links

[mm]	203	305	406	483	582	
[in]	8.0	12.0	16.0	19.0	22.9	
Corrected lift forces.						
hitch points	[kN]	39.9	40.4	41.3	42.5	--
hitch points	[lb]	8971	9079	9293	9559	--
at frame	[kN]	33.3	32.0	--	30.8	29.4
at frame	[lb]	7486	7186	--	6914	6614

THREE POINT LIFT PERFORMANCE
(With one 55 mm.lift assist cylinder)
(for settings used see p.8)

		Hitch Points	Frame
Lower hitch points above ground - down position.	[mm/in]	283/11.1	276/10.9
Vertical movement without load	[mm/in]	822/32.4	940/37.0
Vertical movement with load	[mm/in]	787/31.0	894/35.2
Maximum corrected force through full range	[kN/lbf]	33.3/7479	31.4/7057
Corresponding pressure	[kPa/psi]	12066/1750	
Moment about rear axle	[kN.m/ft.lb]	41.6/30662	58.4/43049
Maximum mast tilt angle	[degrees]	--	9.4

Lifting height relative to the horizontal position of lower links

[mm]		-312	-305	-229	-127	0	102
[in]		-12.3	-12.0	-9.0	-5.0	0	4.0
Corrected lift forces.							
hitch points	[kN]	--	33.3	35.5	38.2	40.7	41.7
hitch points	[lb]	--	7479	7979	8586	9150	9386
at frame	[kN]	32.9	--	33.8	35.7	36.2	36.2
at frame	[lb]	7392	--	7602	8036	8129	8136

Lifting height relative to the horizontal position of lower links

[mm]		203	305	406	478	582
[in]		8.0	12.0	16.0	18.8	22.9
Corrected lift forces.						
hitch points	[kN]	42.9	43.4	44.1	45.7	--
hitch points	[lb]	9636	9764	9921	10274	--
at frame	[kN]	34.8	33.6	--	32.2	31.4
at frame	[lb]	7826	7546	--	7231	7057

THREE POINT LIFT PERFORMANCE
(with two 44 mm.lift assist cylinders)
(for settings used see p.8)

		Hitch Points	Frame
Lower hitch points above ground - down position.	[mm/in]	283/11.1	276/10.9
Vertical movement without load	[mm/in]	822/32.4	940/37.0
Vertical movement with load	[mm/in]	787/31.0	894/35.2
Maximum corrected force through full range	[kN/lbf]	35.1/7900	33.3/7486
Corresponding pressure	[kPa/psi]	12066/1750	
Moment about rear axle	[kN.m/ft.lb]	43.9/32391	61.9/45663
Maximum mast tilt angle	[degrees]	--	9.4

Lifting height relative to the horizontal position of lower links

[mm]		-312	-305	-229	-127	0	102
[in]		-12.3	-12.0	-9.0	-5.0	0	4.0
Corrected lift forces.							
hitch points	[kN]	--	35.1	37.4	40.3	42.7	44.0
hitch points	[lb]	--	7900	8410	9057	9595	9882
at frame	[kN]	35.6	--	36.2	37.4	37.9	38.2
at frame	[lb]	7993	--	8143	8414	8521	8586

Lifting height relative to the horizontal position of lower links

[mm]		203	305	406	483	582
[in]		8.0	12.0	16.0	19.0	22.9
Corrected lift forces.						
hitch points	[kN]	45.0	45.8	46.7	47.1	--
hitch points	[lb]	10119	10306	10500	10594	--
at frame	[kN]	37.5	36.3	--	34.7	33.3
at frame	[lb]	8429	8164	--	7793	7486

THREE POINT LIFT PERFORMANCE
(with two 55 mm.lift assist cylinders)
(for settings used see p.8)

		Hitch Points	Frame
Lower hitch points above ground - down position.	[mm/in]	286/11.3	278/10.9
Vertical movement without load	[mm/in]	822/32.4	940/37.0
Vertical movement with load	[mm/in]	785/30.9	894/35.2
Maximum corrected force through full range	[kN/lbf]	40.9/9193	36.8/8274
Corresponding pressure	[kPa/psi]	12066/1750	
Moment about rear axle	[kN.m/ft.lb]	51.1/37691	68.4/50471
Maximum mast tilt angle	[degrees]	--	9.6

Lifting height relative to the horizontal position of lower links

[mm]		-310	-302	-229	-127	0	102
[in]		-12.2	-11.9	-9.0	-5.0	0	4.0
Corrected lift forces.							
hitch points	[kN]	--	40.9	42.6	44.8	47.5	49.1
hitch points	[lb]	--	9193	9579	10079	10679	11036
at frame	[kN]	39.2	--	40.4	42.0	42.8	42.9
at frame	[lb]	8809	--	9072	9436	9629	9643

Lifting height relative to the horizontal position of lower links

[mm]		203	305	406	483	584
[in]		8.0	12.0	16.0	19.0	23.0
Corrected lift forces.						
hitch points	[kN]	50.4	51.1	52.1	53.6	--
hitch points	[lb]	11321	11486	11707	12055	--
at frame	[kN]	41.7	39.8	--	38.4	36.8
at frame	[lb]	9366	8964	--	8638	8274

3. DRAWBAR POWER AND FUEL CONSUMPTION (UNBALLASTED TRACTOR)

OECD Drawbar Data (SI)

Date of tests: 28-Apr-89 28-Apr-89 Fuel density: 0.828 kg/l
Type of track: Concrete Test # 1622

Gear	Power	Pull	Speed	Engine Speed	Slip	SFC		Temperature, deg C					Rel hum	Pressure
	kW	kN	km/h	rev/min	%	kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet	%	kPa
I. Maximum Power (unballasted, fwa @ 1950 rev/min) Tire pressure: 110 kPa, rear 165 kPa, front Drawbar height: 483 mm														
5th	105.61	74.59	5.10	2264	14.43%	0.305	2.71	49	84	104	12	9	68%	97.46
6th	117.92	75.71	5.61	2201	14.57%	0.292	2.83	50	85	103	11	9	78%	97.46
7th	127.86	67.13	6.86	2165	7.80%	0.264	3.14	48	86	105	14	10	60%	97.46
8th	128.87	64.05	7.24	1952	6.06%	0.268	3.09	47	85	105	10	8	77%	97.43
9th	130.12	55.44	8.45	1950	4.87%	0.264	3.14	47	87	106	10	8	77%	97.43
10th	132.00	49.13	9.67	1952	4.17%	0.262	3.16	48	86	105	10	8	77%	97.43
11th	131.40	42.26	11.19	1949	3.38%	0.260	3.19	48	87	105	10	8	77%	97.43
12th	136.33	38.96	12.60	1954	3.02%	0.250	3.31	47	86	105	10	8	77%	97.43
13th	132.44	30.50	15.63	1947	2.48%	0.260	3.19	47	87	105	11	8	67%	97.46

OECD Drawbar Data (US)

Date of tests: 28-Apr-89 28-Apr-89 Fuel density: 6.912 lb/gal
Type of track: Concrete Test # 1622

Gear	Power	Pull	Speed	Engine Speed	Slip	SFC		Temperature, deg F					Rel hum	Pressure
	hp	lb	mph	rpm	%	lb/hp-hr	hp-hr/gal	Fuel	Coolant	Oil	Dry	Wet	%	in Hg
I. Maximum Power (unballasted, fwa @ 1950 rev/min) Tire pressure: 16 psi, rear 24 psi, front Drawbar height: 19 in														
5th	141.63	16768	3.17	2264	14.43%	0.502	13.77	121	184	219	53	48	68%	28.78
6th	158.13	17021	3.48	2201	14.57%	0.480	14.39	121	186	217	52	48	78%	28.78
7th	171.46	15092	4.26	2165	7.80%	0.434	15.92	119	187	221	57	50	60%	28.78
8th	172.81	14398	4.50	1952	6.06%	0.440	15.71	117	186	222	50	46	77%	28.77
9th	174.49	12463	5.25	1950	4.87%	0.434	15.94	116	188	223	50	46	77%	28.77
10th	177.01	11045	6.01	1952	4.17%	0.430	16.06	118	187	222	50	46	77%	28.77
11th	176.21	9500	6.96	1949	3.38%	0.427	16.18	118	188	222	50	46	77%	28.77
12th	182.82	8760	7.83	1954	3.02%	0.411	16.80	117	188	222	50	46	77%	28.77
13th	177.61	6858	9.71	1947	2.48%	0.427	16.17	117	188	222	51	47	67%	28.78

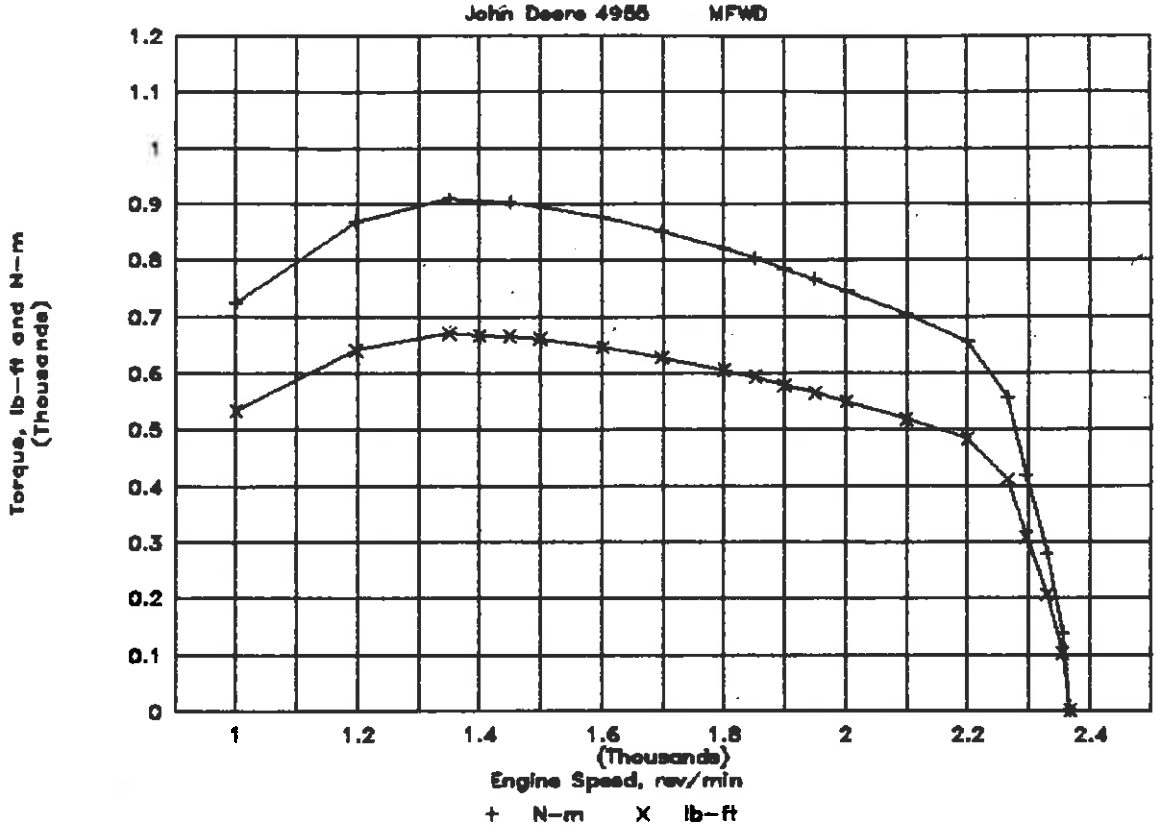
Date of tests: 28-Apr-89 28-Apr-89 Fuel density: 0.828 kg/l
Type of track: Concrete Test # 1622

Gear	Power	Pull	Speed	Engine Speed	Slip	SFC		Temperature, deg C					Rel hum	Pressure
	kW	kN	km/h	rev/min	%	kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet	%	kPa
II. Part Loads (unballasted, fwa) Tire pressure: 110 kPa, rear 165 kPa, front Drawbar height: 483 mm														
II.1 in selected gear at maximum power														
12th	136.33	38.96	12.60	1954	3.02%	0.250	3.31	47	86	105	10	8	77%	97.43
II.1.1 75% of pull at maximum power at rated speed														
12th 75%	102.73	24.97	14.81	2277	2.30%	0.287	2.88	51	84	103	18	12	49%	97.36
II.1.2 50% of pull at maximum power at rated speed														
12th 50%	70.08	16.67	15.13	2312	1.65%	0.325	2.55	50	83	102	18	12	49%	97.32
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
13th 75%	102.78	25.00	14.80	1839	2.20%	0.274	3.02	48	86	104	18	12	49%	97.36
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
13th 50%	69.94	16.65	15.13	1868	1.56%	0.303	2.74	47	82	102	20	13	44%	97.32
II.2 in selected gear nearest to 7.5 km/h														
7th	127.86	67.13	6.86	2165	7.80%	0.264	3.14	48	86	105	14	10	60%	97.46
II.2.1 75% of pull at maximum power at rated speed														
7th 75%	102.48	49.10	7.51	2283	4.43%	0.283	2.93	44	84	100	17	12	55%	97.39
II.2.2 50% of pull at maximum power at rated speed														
7th 50%	70.38	32.73	7.74	2318	2.84%	0.314	2.64	43	83	102	17	12	55%	97.39
II.2.3 next higher gear at reduced engine speed, same pull and travel speed as II.2.1														
9th 75% @	102.33	49.08	7.51	1724	4.43%	0.270	3.07	41	85	103	17	12	55%	97.39
II.2.4 next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
9th 50% @	70.32	32.72	7.74	1750	2.93%	0.285	2.91	41	83	102	17	12	55%	97.36

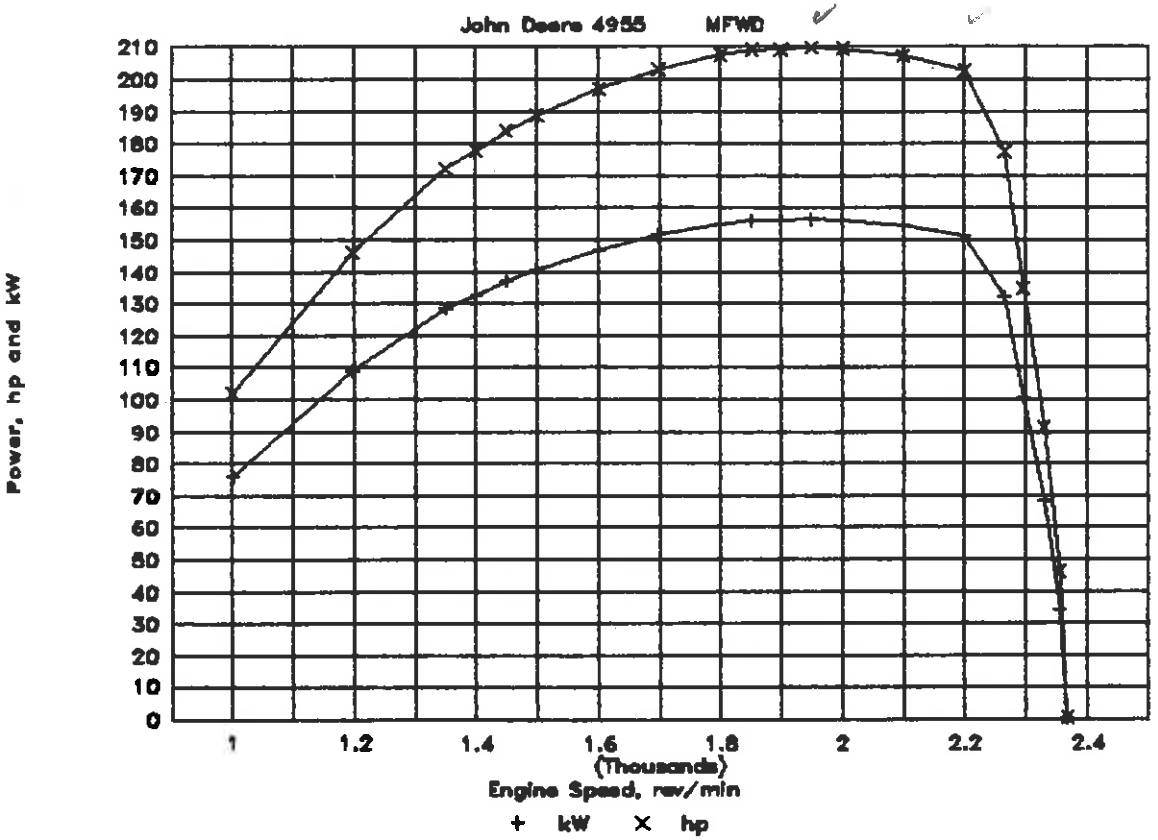
Date of tests: 28-Apr-89 28-Apr-89 Fuel density: 6.912 lb/gal
Type of track: Concrete Test # 1622

Gear	Power	Pull	Speed	Engine Speed	Slip	SFC		Temperature, deg F					Rel hum	Pressure
	hp	lb	mph	rpm	%	lb/hp-hr	hp-hr/gal	Fuel	Coolant	Oil	Dry	Wet	%	in Hg
II. Part Loads (unballasted, fwa) Drawbar height: 19 in							Tire pressure:	16 psi, rear			24 psi, front			
II.1 in selected gear at maximum power														
12th	182.82	8760	7.83	1954	3.02%	0.411	16.80	117	188	222	50	46	77%	28.77
II.1.1 75% of pull at maximum power at rated speed														
12th 75%	137.77	5614	9.20	2277	2.30%	0.473	14.63	124	184	218	64	54	49%	28.75
II.1.2 50% of pull at maximum power at rated speed														
12th 50%	93.98	3748	9.40	2312	1.65%	0.534	12.95	122	182	215	65	54	49%	28.74
II.1.3 next higher gear at reduced engine speed, same pull and travel speed as II.1.1														
13th 75%	137.83	5620	9.20	1839	2.20%	0.451	15.33	118	187	219	64	54	49%	28.75
II.1.4 next higher gear at reduced engine speed, same pull and travel speed as II.1.2														
13th 50%	93.79	3742	9.40	1868	1.56%	0.497	13.90	117	180	215	68	55	44%	28.74
II.2 in selected gear nearest to 4.6 mph														
7th	171.46	15092	4.26	2165	7.80%	0.434	15.92	119	187	221	57	50	60%	28.78
II.2.1 75% of pull at maximum power at rated speed														
7th 75%	137.42	11038	4.67	2283	4.43%	0.465	14.88	112	183	212	63	53	55%	28.76
II.2.2 50% of pull at maximum power at rated speed														
7th 50%	94.38	7358	4.81	2318	2.84%	0.517	13.38	109	182	216	63	53	55%	28.76
II.2.3 next higher gear at reduced engine speed, same pull and travel speed as II.2.1 .														
9th 75% @	137.23	11034	4.66	1724	4.43%	0.443	15.59	106	186	218	63	53	55%	28.76
II.2.4 next higher gear at reduced engine speed, same pull and travel speed as II.2.2														
9th 50% @	94.29	7356	4.81	1750	2.93%	0.468	14.76	106	181	216	63	53	55%	28.75

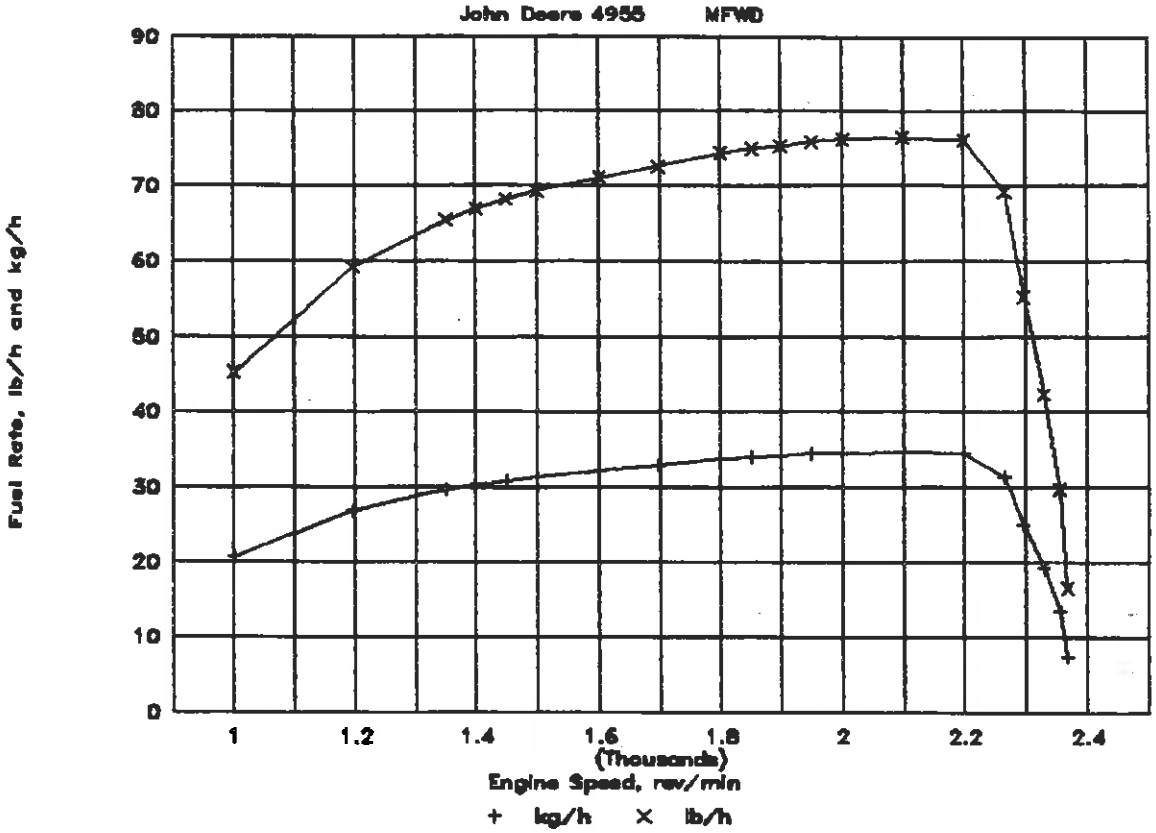
Equivalent Crankshaft Torque



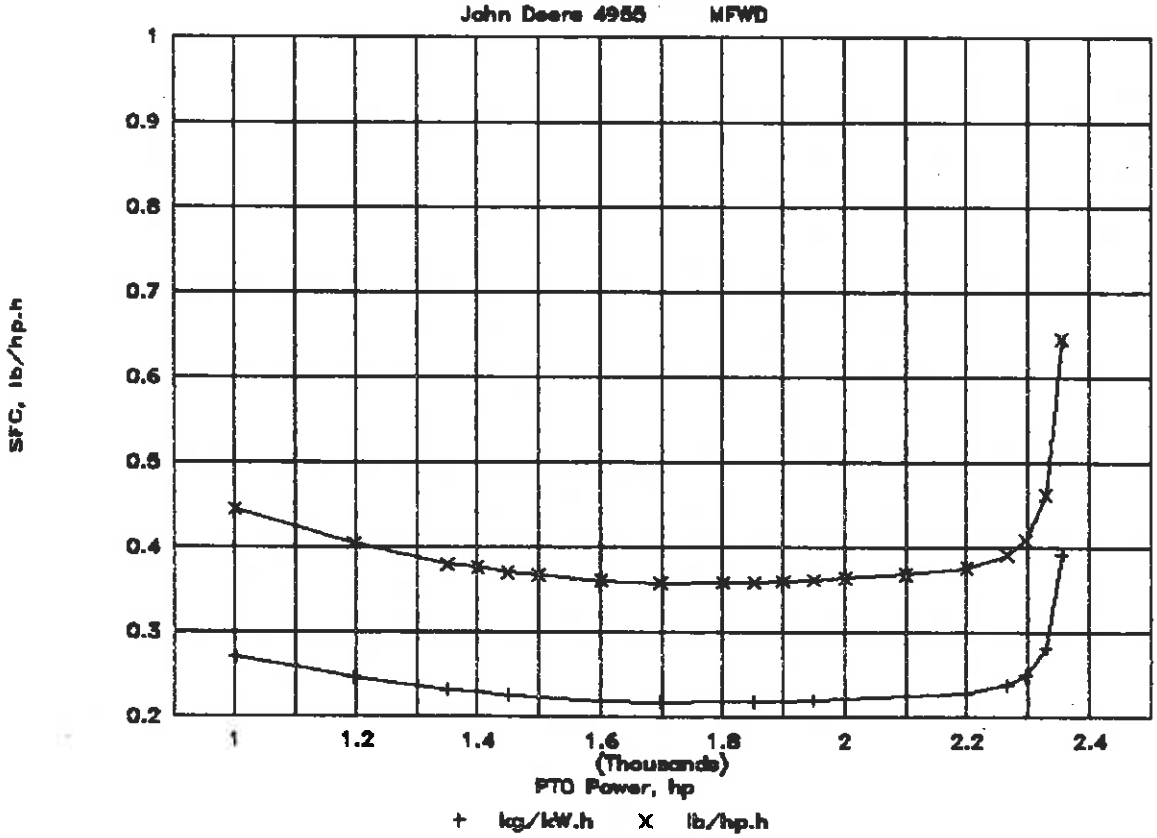
PTO Power

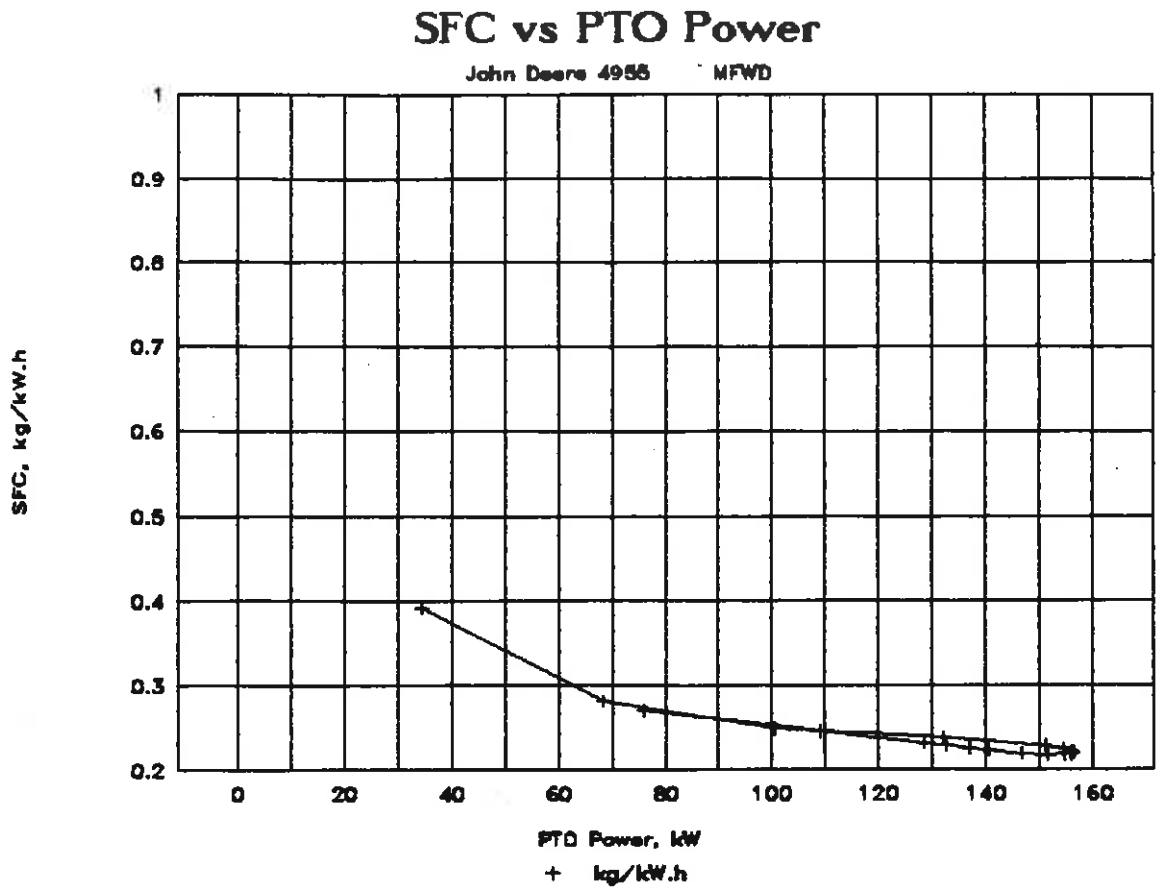


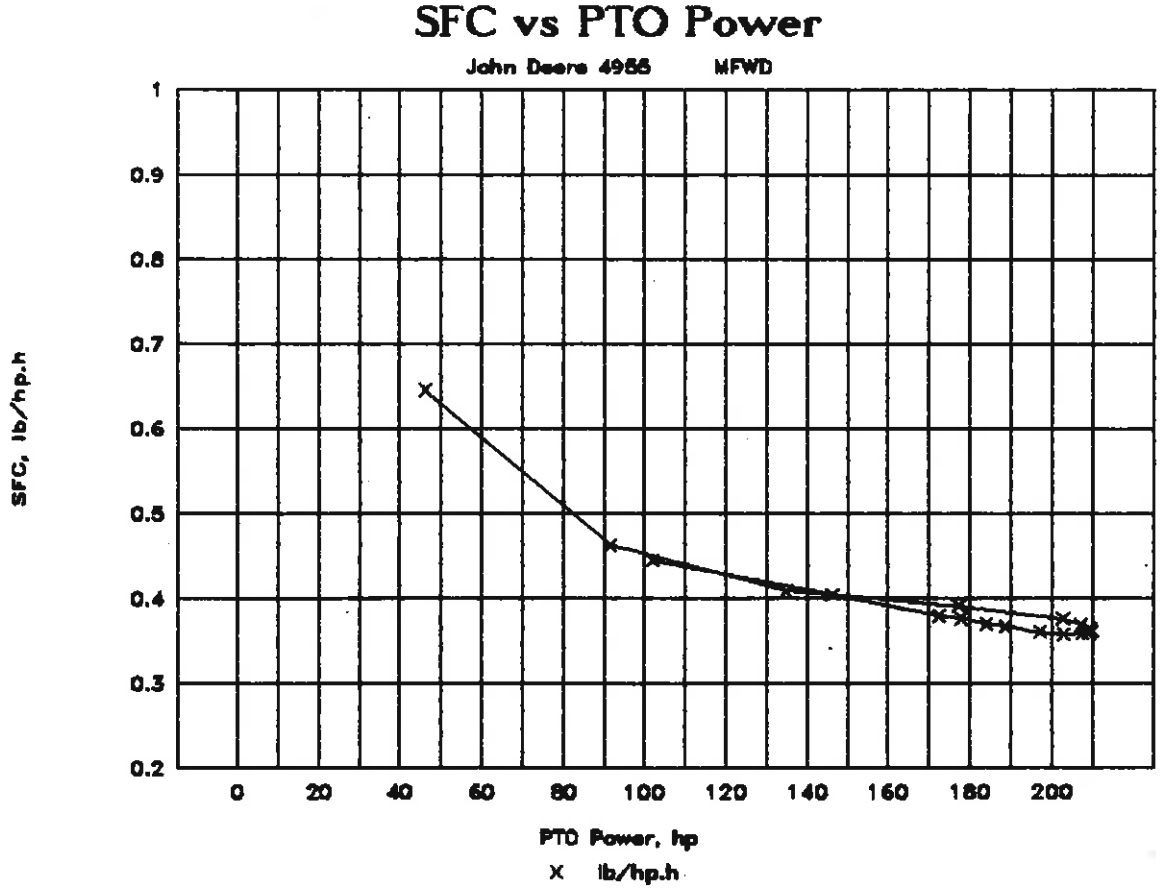
PTO Fuel Consumption



SFC vs PTO Power




SFC vs PTO Power
John Deere 4955 MFWD
SFC, kg/kW.h
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0
20
40
60
80
100
120
140
160
PTO Power, kW
+ kg/kW.h


SFC vs PTO Power
John Deere 4955 MFWD
SFC, lb/hp.h
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0
20
40
60
80
100
120
140
160
180
200
PTO Power, hp
X lb/hp.h

5. OPTIONAL TESTS.

5.1 MEASUREMENT OF EXTERNAL NOISE LEVEL.

Date of test	:	April 28, 1989
Location of test	:	CAE/UNL, Lincoln, Nebr.
Sound level meter	:	B & K 2203
Type of track	:	Concrete oval
Gear number	:	15th
Speed prior to acceleration	:	24.8 km/h (15.4 mph)
Sound level	:	87.0 dB(A)

5.2 MAXIMUM POWER AT 1950 REV/MIN (BALLASTED TRACTOR)

OECD Drawbar Data (SI)

Date of tests: 05-May-89 09-May-89 Fuel density: 0.828 kg/l
Type of track: Concrete Test # 1622

Gear	Power	Pull	Speed	Engine Speed	Slip	SFC		Temperature, deg C					Rel hum	Pressure
	kW	kN	km/h	rev/min	%	kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet	%	kPa
Ib. Maximum Power (ballasted, fwa @ 1950 rev/min) Drawbar height: 508 mm								Tire pressure:			83 kPa, rear (inner) 83 kPa, rear (outer)		165 kPa, front	
2nd*	89.76	105.13	3.07	2288	10.37%	0.303	2.73	46	83	103	12	8	58%	97.70
3rd*	108.64	105.49	3.71	2264	9.68%	0.295	2.81	48	85	103	10	7	66%	97.63
4th	125.05	99.89	4.51	2146	7.69%	0.279	2.97	48	86	104	10	7	66%	97.66
5th	127.89	90.52	5.09	2058	5.62%	0.273	3.04	48	86	106	12	9	68%	97.73
6th	130.23	82.69	5.67	2001	4.68%	0.264	3.14	49	86	106	18	13	57%	97.05
7th	131.66	73.85	6.42	1952	4.07%	0.260	3.18	48	87	107	18	14	65%	97.09
8th	128.83	62.28	7.45	1953	3.10%	0.267	3.11	48	86	106	16	12	63%	97.05
9th	129.68	54.19	8.62	1951	2.74%	0.265	3.13	48	87	106	11	9	78%	98.21
10th	130.37	47.97	9.78	1947	2.29%	0.264	3.14	48	87	106	11	9	78%	98.24
11th	128.88	41.01	11.31	1949	2.29%	0.267	3.11	48	87	106	12	9	68%	98.27
12th	133.56	37.85	12.70	1953	1.83%	0.258	3.22	48	87	105	12	9	68%	98.34
13th	129.10	29.45	15.78	1956	1.74%	0.266	3.12	48	87	105	14	10	60%	98.41

Note: *Pull limited due to tractor bouncing.

OECD Drawbar Data (US)

Date of tests: 05-May-89 09-May-89 Fuel density: 6.912 lb/gal
Type of track: Concrete Test # 1622

Gear	Power	Pull	Speed	Engine Speed	Slip	SFC		Temperature, deg F					Rel hum	Pressure
	hp	lb	mph	rpm	%	lb/hp-hr	hp-hr/gal	Fuel	Coolant	Oil	Dry	Wet	%	in Hg
Ib. Maximum Power (ballasted, fwa @ 1950 rev/min) Drawbar height: 20 in								Tire pressure:			12 psi, rear (inner) 12 psi, rear (outer)		24 psi, front	
2nd*	120.37	23634	1.91	2288	10.37%	0.498	13.87	115	182	217	53	47	58%	28.85
3rd*	145.69	23715	2.30	2264	9.68%	0.484	14.27	118	185	218	50	45	66%	28.83
4th	167.70	22457	2.80	2146	7.69%	0.458	15.08	119	188	219	50	45	66%	28.84
5th	171.50	20351	3.16	2058	5.62%	0.449	15.41	119	187	222	53	48	68%	28.86
6th	174.65	18589	3.52	2001	4.68%	0.434	15.94	120	187	223	64	56	57%	28.66
7th	176.56	16602	3.99	1952	4.07%	0.428	16.14	119	189	225	65	57	65%	28.67
8th	172.76	14000	4.63	1953	3.10%	0.438	15.77	119	188	223	60	53	63%	28.66
9th	173.90	12182	5.35	1951	2.74%	0.436	15.87	118	189	222	52	48	78%	29.00
10th	174.83	10785	6.08	1947	2.29%	0.433	15.95	119	188	222	52	48	78%	29.01
11th	172.83	9219	7.03	1949	2.29%	0.438	15.78	118	189	222	53	48	68%	29.02
12th	179.11	8509	7.89	1953	1.83%	0.424	16.32	118	188	221	54	48	68%	29.04
13th	173.13	6622	9.80	1956	1.74%	0.437	15.83	119	188	222	57	50	60%	29.06

Note: *Pull limited due to tractor bouncing.

MAXIMUM POWER AT 2200 REV/MIN (BALLASTED TRACTOR)

OECD Drawbar Data (SI)

Date of tests: 05-May-89 09-May-89 Fuel density: 0.828 kg/l
Type of track: Concrete Test # 1622

Gear	Power	Pull	Speed	Engine Speed	Slip	SFC		Temperature, deg C				Rel hum	Pressure
	kW	kN	km/h	rev/min	%	kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet	%	kPa
Ic. Maximum Power (ballasted, fwa @ 2200 rev/min) Drawbar height: 508 mm								Tire pressure:	83 kPa, rear (inner) 83 kPa, rear (outer)		165 kPa, front			
3rd*	109.62	105.61	3.74	2268	8.97%	0.291	2.84	48	84	102	10	7	66%	97.63
4th	124.72	96.20	4.67	2200	6.79%	0.280	2.96	49	86	105	12	8	58%	97.66
5th	127.49	83.49	5.50	2203	4.68%	0.271	3.05	48	86	104	12	8	58%	97.70
6th	129.38	74.01	6.29	2202	3.99%	0.268	3.09	50	85	105	17	13	64%	97.05
7th	128.15	63.40	7.28	2197	3.37%	0.270	3.06	50	86	106	18	14	65%	97.09
8th	124.72	53.24	8.43	2201	2.74%	0.278	2.98	50	86	106	16	12	63%	97.05
9th	124.50	46.02	9.74	2199	2.29%	0.277	2.99	51	86	105	11	9	78%	98.21
10th	125.13	40.61	11.09	2201	2.02%	0.277	2.99	51	86	105	11	9	78%	98.24
11th	124.42	34.98	12.81	2200	1.93%	0.279	2.97	48	86	106	12	9	68%	98.31
12th	127.27	31.94	14.34	2200	1.93%	0.272	3.05	50	86	105	13	9	59%	98.37

Note: *Pull limited due to tractor bouncing.

OECD Drawbar Data (US)

Date of tests: 05-May-89 09-May-89 Fuel density: 6.912 lb/gal
Type of track: Concrete Test # 1622

Gear	Power	Pull	Speed	Engine Speed	Slip	SFC		Temperature, deg F				Rel hum	Pressure
	hp	lb	mph	rpm	%	lb/hp-hr	hp-hr/gal	Fuel	Coolant	Oil	Dry	Wet	%	in Hg
Ic. Maximum Power (ballasted, fwa @ 2200 rev/min) Drawbar height: 20 in								Tire pressure:	12 psi, rear (inner) 12 psi, rear (outer)		24 psi, front			
3rd*	147.00	23742	2.32	2268	8.97%	0.479	14.44	118	184	215	50	45	66%	28.83
4th	167.25	21627	2.90	2200	6.79%	0.460	15.04	121	186	221	53	47	58%	28.84
5th	170.97	18770	3.42	2203	4.68%	0.446	15.49	119	187	219	53	47	58%	28.85
6th	173.51	16639	3.91	2202	3.99%	0.440	15.70	122	186	221	63	55	64%	28.66
7th	171.86	14254	4.52	2197	3.37%	0.445	15.55	122	186	223	65	57	65%	28.67
8th	167.25	11969	5.24	2201	2.74%	0.457	15.14	122	186	222	60	53	63%	28.66
9th	166.96	10347	6.05	2199	2.29%	0.455	15.18	124	187	221	52	48	78%	29.00
10th	167.80	9131	6.89	2201	2.02%	0.455	15.18	123	187	221	52	48	78%	29.01
11th	166.86	7864	7.96	2200	1.93%	0.458	15.08	119	188	223	54	48	68%	29.03
12th	170.68	7181	8.91	2200	1.93%	0.447	15.47	121	186	221	56	49	59%	29.05

Note: *Pull limited due to tractor bouncing.

5.3 POWER LIFT TEST

*Linkage geometry dimensions.
(with Walterscheid lower link arms)

		Dimension or range		Settings used on test	
		[mm]	[in]	[mm]	[in]
Lift category		III			
Rear Tire - Radius Index	(r)	918	36.1		
Front Tire - Radius Index	(r')	716	28.2		
Length of lift arms	(A)	468	18.4	same	
Length of lower links	(B)	1060	41.7	same	
Distance of lift arm pivot from: horizontal	(a)	0	0	same	
rear wheel axis: vertical	(b)	327	12.9	same	
Horizontal distance between the 2 lower link points	(u)	582	22.9	same	
Horizontal distance between the 2 lift arm end points	(v)	746	29.4	same	
Length of upper link	(S)	635	25.0		
	to	790	31.0	673	26.5
Distance of upper link pivot from: horizontal	(c)	516	20.3	same	
rear wheel axis: vertical upper	(d)	326	12.8		
lower		201	7.9		
Distance of lower link pivot from: horizontal	(e)	156	6.1	same	
rear wheel axis: vertical	(f)	330	13.0	same	
Distance of lower link pivot points to lift rod pivot pts on lower links.	(D)	716	28.2	same	
Length of lift rods	(L)	860	33.8		
	to	947	37.3	947	37.3
Height of lower hitch points relative to rear wheel axis In low position	(h)	533	21.0		
	to	686	27.0	660	26.0
In high position	(H)	140	5.5		
	to	312	12.3	211	8.3
Height above ground of lower hitch points when locked in transport position.		1054	41.5		
	to	1242	48.9	1130	44.5

*Assuming (r) with a dynamic tire index of 918 mm (36.1 in)
ISO 4251/1-1984

THREE POINT LIFT PERFORMANCE
(Upper link in bottom hole on tractor)
(With 2-44 mm. lift assist cylinders)

		Hitch point	Frame
Lower hitch points above ground - down position.	[mm/in]	284/11.2	294/11.6
Vertical movement without load	[mm/in]	871/34.3	1019/40.1
Vertical movement with load	[mm/in]	787/31.0	904/35.6
Maximum corrected force through full range	[kN/lbf]	31.5/7077	29.5/6636
Corresponding pressure	[kPa/psi]	12066/1750	
Moment about rear axle	[kN.m/ft.lb]	38.2/28190	53.8/39705
Maximum mast tilt angle	[degrees]	--	12.0

Lifting height relative to the horizontal position of lower links

[mm]		-304	-294	-228	-126	1	102
[in]		-12.0	-11.6	-9.0	-5.0	0	4.0
Corrected lift forces.							
hitch points	[kN]	31.5	--	33.5	36.2	38.5	40.2
	[lb]	7077	--	7532	8141	8652	9037
at frame	[kN]	--	36.5	36.2	36.7	36.6	35.8
	[lb]	--	8197	8141	8246	8232	8050

Lifting height relative to the horizontal position of lower links

[mm]		204	305	407	483	610
[in]		8.0	12.0	16.0	19.0	24.0
Corrected lift forces.						
hitch points	[kN]	41.7	42.8	44.1	45.3	--
	[lb]	9366	9618	9919	10192	--
at frame	[kN]	35.0	33.4	--	31.3	29.5
	[lb]	7861	7504	--	7028	6636

THREE POINT LIFT PERFORMANCE
(Upper link in bottom hole on tractor)
(With 2-55 mm. lift assist cylinders)
(for settings used see p.30)

		Hitch point	Frame
Lower hitch points above ground - down position.	[mm/in]	289/11.4	294/11.6
Vertical movement without load	[mm/in]	871/34.3	1019/40.1
Vertical movement with load	[mm/in]	782/30.8	904/35.6
Maximum corrected force through full range	[kN/lbf]	36.0/8099	32.6/7336
Corresponding pressure	[kPa/psi]	12066/1750	
Moment about rear axle	[kN.m/ft.lb]	43.7/32261	59.5/43894
Maximum mast tilt angle	[degrees]	--	12.0

Lifting height relative to the horizontal position of lower links

[mm]		-299	-294	-228	-126	1	102
[in]		-12.0	-11.6	-9.0	-5.0	0	4.0
Corrected lift forces.							
hitch points	[kN]	36.0	--	37.6	40.2	43.2	45.0
	[lb]	8099	--	8463	9037	9702	10122
at frame	[kN]	--	41.0	40.7	40.5	40.4	40.1
	[lb]	--	9226	9156	9107	9093	9016

Lifting height relative to the horizontal position of lower links

[mm]		204	305	407	483	610
[in]		8.0	12.0	16.0	19.0	24.0
Corrected lift forces.						
hitch points	[kN]	46.7	48.0	49.4	50.5	--
	[lb]	10507	10787	11102	11347	--
at frame	[kN]	39.0	37.1	--	34.7	32.6
	[lb]	8771	8330	--	7791	7336

THREE POINT LIFT PERFORMANCE
(Upper link in top hole on tractor)
(With 2-44 mm. lift assist cylinders)
(for settings used see p.30)

		Hitch point	Frame
Lower hitch points above ground - down position.	[mm/in]	284/11.2	378/14.9
Vertical movement			
without load	[mm/in]	871/34.3	889/35.0
with load	[mm/in]	787/31.0	701/27.6
Maximum corrected force through full range	[kN/lbf]	31.5/7077	37.3/8386
Corresponding pressure	[kPa/psi]	12066/1750	
Moment about rear axle	[kN.m/ft.lb]	38.2/28190	68.0/50176
Maximum mast tilt angle	[degrees]	--	5.7*

*Tilt angle of mast from vertical position to uppermost position - 0.7°

Lifting height relative to the horizontal position of lower links

[mm]		-304	-210	-126	1	102
[in]		-12.0	-8.3	-5.0	0	4.0
Corrected lift forces.						
hitch points	[kN]	31.5	33.5	36.2	38.5	40.2
	[lb]	7077	7532	8141	8652	9037
at frame	[kN]	--	54.2	46.3	44.5	43.3
	[lb]	--	12194	10416	9996	9723

Lifting height relative to the horizontal position of lower links

[mm]		204	305	407	483	491
[in]		8.0	12.0	16.0	19.0	19.3
Corrected lift forces.						
hitch points	[kN]	41.7	42.8	44.1	45.3	--
	[lb]	9366	9618	9919	10192	--
at frame	[kN]	42.4	41.0	39.2	--	37.3
	[lb]	9541	9226	8806	--	8386

THREE POINT LIFT PERFORMANCE
(Upper link in top hole on tractor)
(With 2-55 mm. lift assist cylinders)
(for settings used see p.30)

		Hitch point	Frame
Lower hitch points above ground - down position.	[mm/in]	289/11.4	380/15.0
Vertical movement without load	[mm/in]	871/34.3	889/35.0
Vertical movement with load	[mm/in]	782/30.8	701/27.6
Maximum corrected force through full range	[kN/lbf]	36.0/8099	41.7/9366
Corresponding pressure	[kPa/psi]	12066/1750	
Moment about rear axle	[kN.m/ft.lb]	43.7/32261	76.0/56040
Maximum mast tilt angle	[degrees]	--	6.5*

*Tilt angle of mast from vertical position to uppermost position - 1.0°

Lifting height relative to the horizontal position of lower links

[mm]		-299	-208	-126	1	102
[in]		-11.8	-8.2	-5.0	0	4.0
Corrected lift forces.						
hitch points	[kN]	36.0	37.6	40.2	43.2	45.0
hitch points	[lb]	8099	8463	9037	9702	10122
at frame	[kN]	--	60.4	51.5	49.5	48.8
at frame	[lb]	--	13573	11517	11130	10969

Lifting height relative to the horizontal position of lower links

[mm]		204	305	407	483	493
[in]		8.0	12.0	16.0	19.0	19.4
Corrected lift forces.						
hitch points	[kN]	46.7	48.0	49.4	50.5	--
hitch points	[lb]	10507	10787	11102	11347	--
at frame	[kN]	47.4	45.6	43.8	--	41.7
at frame	[lb]	10661	10241	9856	--	9366

Repairs: None
Remarks: None