OECD APPROVAL # 1628 (Restricted code)
Date of approval - 26 August, 1996

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REPORT ON TEST IN ACCORDANCE WITH OECD RESTRICTED CODE (CODE II) OR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS



CASE IH MAGNUM 7240 - MFWD (4WD)

30 km/h version, 18-speed transmission

MANUFACTURED BY	Case Corporation 700 State Street Racine, Wisconsin 53404 USA
NEBRASKA TEST NO.	1711
TEST DATES	3 May through 15th May, 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 26 August, 1996 for the Case IH Magnum 7240 MFWD (4WD) 30km/h version - 18-speed with OECD number 1628

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GENERAL SPECIFICATIONS.

Manufacturers name/address	Case Corporation 700 State Street Racine, WI 53404, USA
Location of tractor assembly	Case Corporation 24th and Mead Streets Racine, WI 53404, USA
Submitted for test by	The manufacturer
Selected for test by	The manufacturer in agreement with the test station.
Place of running in	Case Corporation Racine Tractor Engineering, Racine, Wisconsin
Duration of running in	94 hours
Location of Test	Nebraska Tractor Test Lab.Lincoln, Nebraska, U.S.A.

SPECIFICATIONS OF TRACTOR

Make/Model/Type	Case International Magnum/ 7240/MFWD/Unit construction; 30 km/h version; 18-speed
Number of driving wheels	2 or 4
Serial number	*JJA0065008*
1st Serial number	*JJA0065000*

ENGINE.

Make	Consolidated Diesel Co
Model	6TA-830
Type	Diesel, direct injection, turbocharged and aftercooled
Serial Number	*45259892*

Cylinders

Number/disposition	6, in-line, vertical
Bore x stroke	114.0 mm x 135.0 mm
Capacity	8268 cm^3
Compression Ratio	16.5:1
Arrangement of valves	Overhead
Cylinder liners	Wet, replaceable

Turbo-charging

Make/Model/Type	Holset/HX40W/exhaust gas driven with wastegate control
Pressure	128-168 kPa-rated speed and load

Fuel System	
Feed system	Engine driven transfer pump
Make/Type/Model of filters	Fleetguard/FF5038, FF5052/Spin-on cartridges
Number of filters	Two
Fuel tank capacity	359 l
Make/Model/Type Injection Pump	Robert Bosch/MW/in line
Pump Serial number	56828 00748 53809
Production setting of pump	
Flow Rate (Rated Eng.Spd and full load)	39.6 ± 2.0 kg/h
Fuel density	0.841 kg/l
Make/Model/Type of injectors	Robert Bosch/J928228/17 mm
Injection timing	$17^0 \pm 2^0$ BTDC; Lock timed at TDC $\pm 2^0$
Injection pressure	26.0-27.0 MPa
Governor	
Make/Model/Type	Robert Bosch/RSV/Variable speed/Mechanical
Governed engine speed range	From 925 to 2475 rev/min
Rated engine speed	2200 rev/min
High-idle speed range	2450 +/- 80 rpm
Air Cleaner.	
Pre-cleaner	(Integral with air cleaner)
Make/Model/Type	Donalson/PSH00-1790/ Exhaust aspirated
Air intake location	Underhood; ahead of radiator
Main Cleaner	
Make/Model/Type	Donaldson/EGB11-0077/ or Nelson/71198A both dry, dual element pleated paper
Location of main cleaner	Underhood
Maintenance indicator	Service indicator on digital instrument cluster
Lubrication system.	
Type of feed pump	Full pressure, positive displacement.
Type of filters	Full flow/spin-on/dual filter
Number	One
Oil cooler	Water to oil intercooler
Cooling system.	
Type of coolant	Liquid
Type of pump	Centrifugal,belt driven
Fan specification	Viscous drive fan
Number of fan blades	6
Fan diameter	600 mm
Coolant system capacity	24.6 liter
Type of temperature control	Two thermostats
Superpressure	103 kPa

Starting system.	
Make/Model/Type	Nippondenso/F114.0/Solenoid engaged
Power Rating	4.0 kW
Cold starting aid	Ether spray in intake manifold
Safety device	Electrical lockout on gearshift and PTO controls
Electrical system.	
Voltage	12 Volt
Alternator	
Make/Model/Type	Bosch/N1/Alternator; belt drive
Power rating	110 Amp. at 1000-2200 rpm
Batteries	
Number & connection	2-12 V batteries in parallel
Rating	180 amp-hours per battery at 20 hour rating 950 Cold crank amps per battery 185 min. reserve cap/battery (SAE J537)
Exhaust system.	
Make/Model/Type	Nelson(muffler)/23839A/Vertical
Location	External muffler integral with vertical exhaust stack; right front corner of cab

TRANSMISSION TO WHEELS

Clutch. (travel)	
Make/Model/Type	Case International/multi-plate/oil cooled
Number of plates	9 friction plates
Plate diameter	228.5 mm
Method of operation	Hydraulic, pedal actuated.
Gear Box.	
Make/Type	Case International/18 speed/full powershift; mechanical
Arrangement	Countershaft type with one 2-speed and two 3-speed constant mesh powershift modules
Number of gears	18 forward, 4 reverse controlled by single hand lever
Available options	Creeper gear with 6 forward and 2 reverse speeds
Oil cooler	Air to oil in front of radiator
Rear axle and final drives.	
Make/model/Type	Case International; Crown wheel & pinion; differential and planetary reduction
Differential Lock /Type	Hydraulic
Method of engagement	Electrical; switch on console
Method of disengagement	Electrical; switch on console or activating brake pedals.
Front Axle and final drives.	

Front Axle and final drives.

Make/Model/Type	Dana/070BP179-1/Crown wheel & pinion, differential & planetary reduction
Differential lock	
Type	Limited slip
Method of engagement	Self locking
Method of disengagement	Self unlocking

TOTAL TRANSMISSION RATIOS AND TRAVEL SPEEDS
(18 speed transmission)

Gear Number	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2200 rev/min [km/h]
Forward		
1st	243.260	2.97
2nd	212.073	3.40
3rd	183.909	3.92
4th	160.331	4.50
5th	139.776	5.16
6th	121.856	5.92
7th	104.463	6.91
8th	91.070	7.92
9th	78.976	9.14
10th	68.851	10.48
11th	60.024	12.02
12th	52.328	13.79
13th	45.741	15.77
14th	39.877	18.09
15th	34.581	20.87
16th	30.148	23.93
17th	26.283	27.45
18th	22.913	31.49
Reverse		
R1	168.997	4.27
R2	147.331	4.90
R3	72.572	9.94
R4	63.268	11.40

Calculated with a tire dynamic radius index of 905 mm (ISO 4251/1-1992
Number of revolutions of front wheels for one revolution of rear wheels 1.3304

Total transmission ratios and travelling speeds

(18 speed transmission plus optional 6 forward/2 reverse Creeper gears)
Not fitted on tested tractor.

Gear Number	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2200 rev/min [km/h]
Forward		
1st Creeper	835.817	0.86
2nd Creeper	631.893	1.14
3rd Creeper	480.256	1.50
4th Creeper	358.923	2.01
5th Creeper	271.354	2.66
6th Standard	243.260	2.97
7th Standard	212.073	3.40
8th Creeper	206.234	3.50
9th Standard	183.909	3.92
10th "	160.331	4.50
11th "	139.776	5.16
12th "	121.856	5.92
13th "	104.463	6.91
14th "	91.070	7.92
15th "	76.976	9.14
16th "	68.851	10.48
17th "	60.024	12.02
18th "	52.328	13.79
19th "	45.741	15.77
20th "	49.877	18.09
21th "	34.581	20.87
22th "	30.148	23.93
23th "	26.283	27.45
24th "	22.913	31.49
Reverse		
R1 Creeper	580.657	1.24
R2 Creeper	249.351	2.89
R3 Standard	168.997	4.27
R4 "	147.331	4.90
R5 "	72.572	9.94
R6 "	63.268	11.40

Calculated with a tire dynamic radius index of 905 mm (ISO 4251/1-1992)
Number of revolutions of front wheels for one revolution of rear wheels 1.3304

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 Power-take-off proportional to engine speed-1000 rev/min

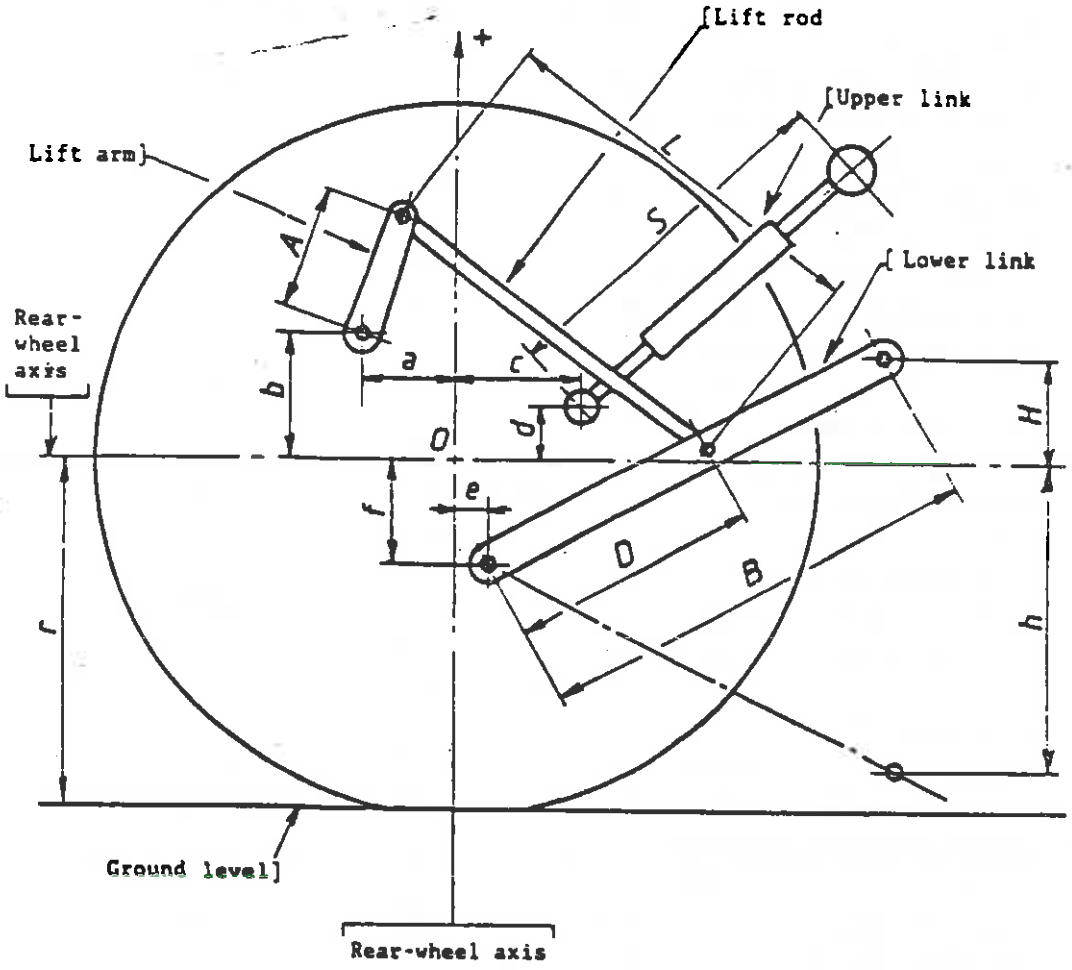
Location	Rear of tractor, vertical center plane.
Diameter of shaft (Standard)	45 mm (ISO 500/1991)
Number of splines	20; (ISO 500/1991)
Height above ground	815 mm
Distance from median planeof tractor	0 mm
Distance behind rear axle	796 mm
PTO Speed at rated engine spd	1003 rev/min
Engine speed at Std. PTO spd	2193 rev/min
Ratio of Engine rpm to PTO rpm	2.193:1
Direction of rotation (viewed facing driving end)	Clockwise.

POWER LIFT.

Make/Type	Case International/3-point
Type of hydraulic system	Closed center, load sensing
Number/Type of cylinders	One internal, two external - standard 45 mm diameter; optional 57 mm diameter; single acting
Type of linkage lock for transport	Hydraulic, with locking notch on hand lever on console
Relief valve setting (High pressure standby)	18.27 ± 0.35 MPa
Opening pressure of cylinder safety valve	19.65-20.34 MPa
Lift pump type	Axial piston, pressure and flow compensated
Power transmission to pump	Direct drive from transmission
Type/Number of filters	Two Spin-on cartridges; Cleanable suction screen inside reservoir
Location of oil reservoir	Transmission housing
Number/Type/Location of tapping points	3 pairs of ISO standard couplings at rear of tractor
Max. oil volume available for external cylinders	8.5 liter

THREE POINT LINKAGE.

- Category 3 in conformity with ISO 730/1-1990
- Category adaptor Quick attaching coupler



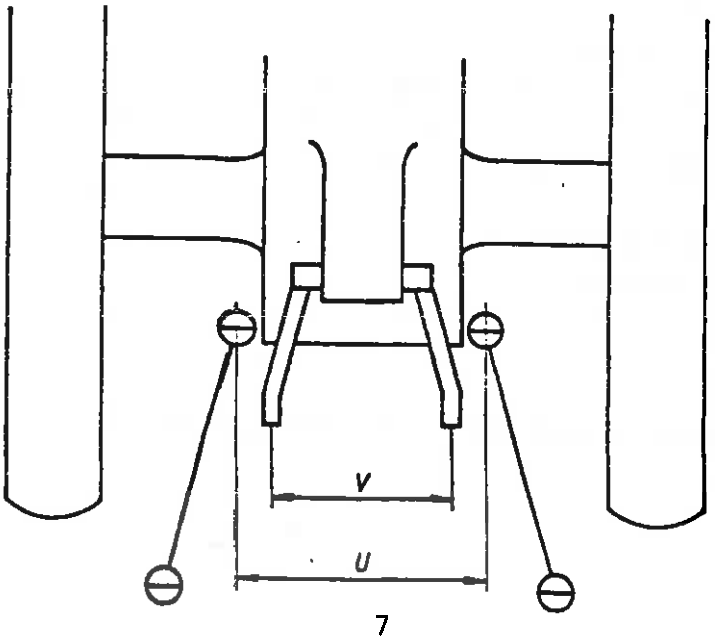


Table 1.1 - *LINKAGE GEOMETRY DIMENSIONS.

			Dimension or range [mm]	Settings used on test [mm]
Lift category			III	III
Rear Tire - Radius Index	(r)		905	same
Front Tire - Radius Index	(r')		695	same
Length of lift arms	(A)		381	same
Length of lower links	(B)		837	same
Distance of lift arm pivot from: horizontal	(a)		364	same
rear wheel axis: vertical	(b)		422	same
Horizontal distance between the 2 lower link points	(u)		604	same
Horizontal distance between the 2 lift arm end points	(v)		737	same
Length of upper link	(S)	from	600	635
		to	831	
Distance of upper link pivot from horizontal	(c)		627	same
rear wheel axis: vertical	(d)		169	169
		and	250	
Distance of lower link pivot from: horizontal	(e)		445	same
rear wheel axis: vertical	(f)		332	same
Distance of lower link pivot points to lift rod pivot pts on lower links.	(D)		540	same
Length of lift rods	(L)	from	660	
		to	866	829
Height of lower hitch points relative to rear wheel axis In low position	(h)	from	739	
		to	406	664
In high position	(H)	from	7	
		to	338	54
Height above ground of lower hitch points when locked in transport position.		from	912	959
		to	1234	

* Calculated with a tire dynamic radius index of 905 mm (ISO 4251/1-1992)

SWINGING DRAWBAR.

Type	Swinging
Height above ground - Maximum	554 mm-strap on top
Minimum	479 mm-strap on bottom
Adjustments	Laterally adjustable with 3 fore-aft positions
Distance of hitch point from rear wheel axis, horizontal	
Position 1	1202 mm
Position 2	1304 mm
Position 3	1406 mm
Distance of hitch point from PTO shaft end	
Vertically	222 mm-strap on top
	336 mm-strap on bottom
Horizontally	
Position 1	406 mm
Position 2	508 mm
Position 3	610 mm
Lateral adjustment (center of clevis) Right side & Left side	
Position 1	210 mm
Position 2	228 mm
Position 3	246 mm
Distance of pivot point from rear wheel axle;horizontally	50 mm forward
Diameter of drawbar pin hole	42 mm
Maximum vertical permissible load (static)	
Position 1,2	20.9 kN
Position 3	16.5 kN

STEERING

Make/Model/Type	Eaton/266-4070-002/ hydrostatic steering control unit.
Method of operation	
Pump(s)	Cessna main axial piston pump through steering priority valve
Ram(s)	2 double-acting cylinders
Working pressure	16.203-16.892 MPa

BRAKES

Service brake.

Make/Model/Type	Case International/Oil immersed disc type
Method of operation	Hydraulic,operated by two pedals, separate or coupled.
Trailer brake	None

Parking brake.

Type	Transmission lock
Method of operation	Mechanical; Gear selector lever

WHEELS

Number.	
Front	Two; Driving and steering
Rear	Two or Four; Driving
Wheel base	3006 mm

TRACK WIDTH ADJUSTMENT

	Minimum [mm]	Maximum [mm]	Adjustment method
Front	1527	2408	Reversing wheel rims and offset lug rims
Rear	1626	3953	Adjustable clamping edges on bar axle and offset lug rims

PROTECTIVE STRUCTURE

Make/Model/Type	Case International/CX-96/Cab
Manufacturer's name/address	J.I.Case Company, 700 State Street Racine, Wisconsin 53404, USA
Protective device	Cab, 4-post with charpy v-notchcertified material
Tiltable	No
OECD approval number	CSS 096/25 for seat Sears SA 11035/Air suspension CSS 096/33 for seat Sears SA 12105/Air suspension
Date of approval	16 March, 1994

DRIVER'S SEAT

Make/Model/Type	Sears/SA12105/Air suspension or Sears/SA11035/Air suspension
Type of suspension	Air ride; fore-aft isolator; adjustable for weight. SA11035 has also a lateral isolator
Type of damping	Air damping
Range of adjustment	
Longitudinal	152.4 mm
Vertical	76.2 mm

LIGHTING.

	Height above ground of center [mm]	Size [mm x mm]	Distance from outside edge of lights to median plane of tractor [mm]
Headlights	1637	260.5x130.8	390
Rearlights	2104	100.0x 45.2	654
Reflectors-rear	2104	50.0x 45.2	554 and 704

TEST CONDITIONS.

Overall dimensions (unballasted).

Length	Width minimum	Width maximum	Height at top of protective structure	Height at top of exhaust stack
[mm]	[mm]	[mm]	[mm]	[mm]
5090	3048	4623	3077	3039

Ground clearance (unballasted)	489 mm
Clearance-limiting part	Drawbar anchor point

TRACTOR MASS (with Cab, full fuel tank)

		Without driver [kg]	With driver [kg]
Unballasted	Front	2516	2531
	Rear	5581	5641
	Total	8097	8172

No ballasted test was performed

TIRE AND TRACK WIDTH SPECIFICATIONS

	Front	Rear
Make	Goodyear	Goodyear
Dimensions	16.9R30	20.8R42
Ply rating	2 star-137A8	2 star-155A8
Type	Radial	Radial
Max.load (tire manufacturer)	2460 kg/tire	4150 kg/tire
Max.load(tractor manufacturer)	2474 kg/tire	4150 kg/tire
Inflation pressure(tire mfr)	160 kPa	160 kPa
Dynamic Radius Index	695 mm	905 mm
Chosen track width	1875 mm	1990 mm

OILS AND LUBRICATION.

Capacity and change interval:

	Capacity liter	Oil change hours	Filter change hours
Engine (without filter)	19	250	250
Gear Box	191	1000	1000
Front axle	11.4	1000	------
Rear axle	Common with Gear box		
Hydraulic system	Common with Gear box		
Final drive-front (each side)	0.9	1000	------
Final drive-rear	Common with Gear box		

Lubricant Specifications

	Recommended	Used during test
Engine oil		
Type	Case IH N0. 1 SAE 15W-40	same
Viscosity	14.9 cSt at 100°C	
Classification	API SG/CD/CE	
Transmission oil		
Type	Case IH Hy-tran Plus	same
Viscosity	6.3 cSt at 100°C	
Classification	NA	
Hydraulic fluid		
Type	Case IH Hytran Plus	same
Viscosity	6.3 cSt at 100°C	
Classification	NA	
Front differential and final drive		
Type	Case IH 135HEP Gear Lube SAE 85W-140	same
Viscosity	27 cSt at 100°C	
Classification	API GL-5 or MIL-L-2105D	
Grease		
Type	Case IH Hi-Temp EP	
Number of lube points	26	

FUEL

Type	Premier; Grade 2-D,in conformity with the national standard
Density (Pto test)	0.841 kg/l at 15°C
(Drawbar test)	Same as PTO test
Cetane number	50.6
Viscosity	2.51 cSt at 38°C

COMPULSORY TESTS

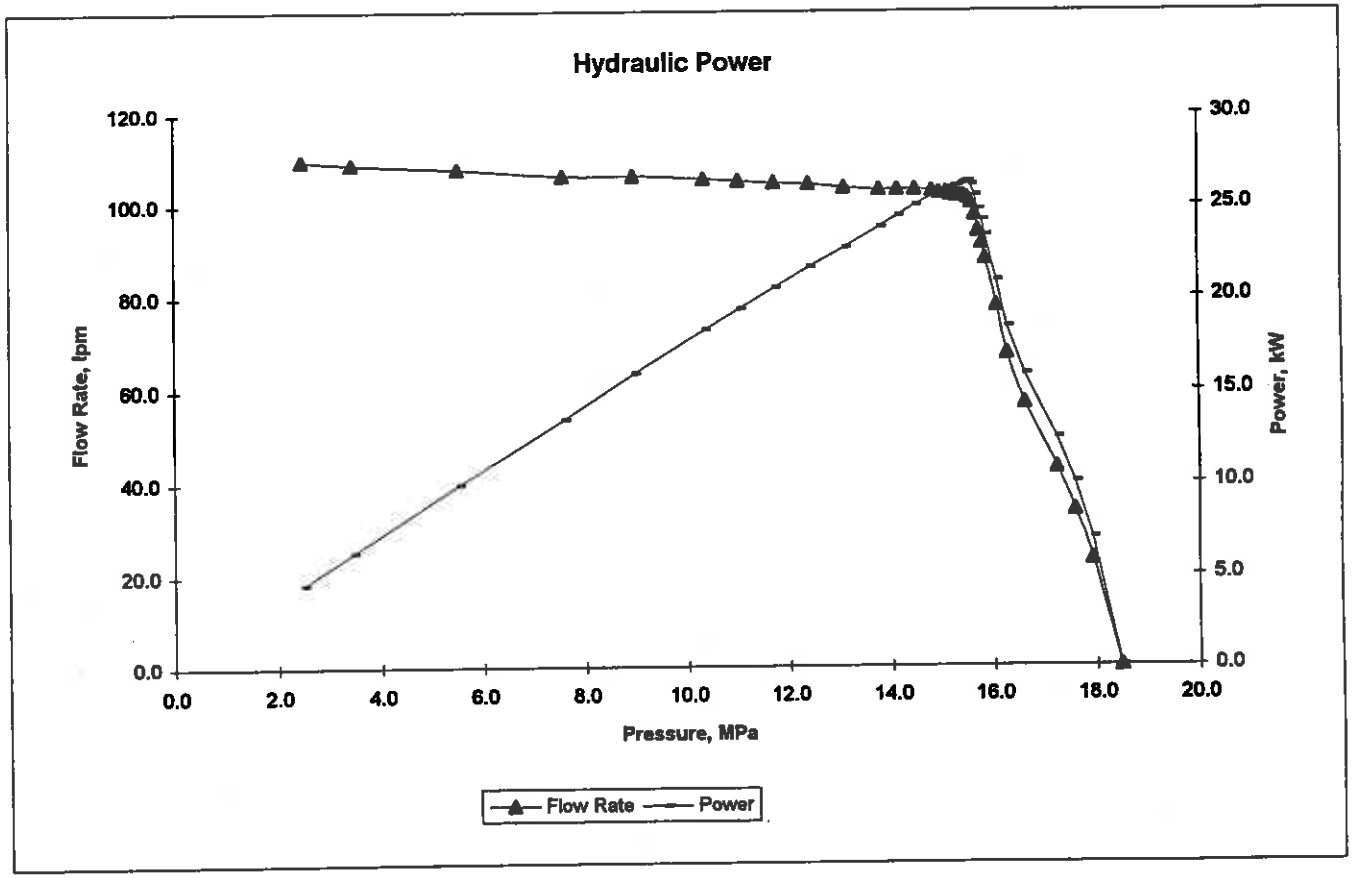
1. MAIN POWER TAKE OFF

Date: 6-May-96 Location: UNL Tractor Test Lab, Lincoln, NE, USA
Type of dynamometer: Eddy current, Eaton
Fuel Density 0.841 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						
163.35	1900	866	45.10	37.94	0.232	3.62
219.05			*11.91*	*83.65*	*0.382*	*18.39*
1.2 Power at Rated Engine Speed - 1 hour						
146.62	2200	1002	44.76	37.66	0.257	3.28
196.62			*11.82*	*83.02*	*0.422*	*16.63*
1.3 Power at Standard Power Take Off Speed - 1 hour						
146.62	2200	1002	44.76	37.66	0.257	3.28
196.62			*11.82*	*83.02*	*0.422*	*16.63*
1.4 Part Loads						
1.4.1 Torque at maximum power at rated engine speed						
146.62	2200	1002	44.76	37.66	0.257	3.28
196.62			*11.82*	*83.02*	*0.422*	*16.63*
1.4.2 85% of torque obtained in 1.4.1						
127.46	2252	1026	40.44	34.02	0.267	3.15
170.93			*10.68*	*75.00*	*0.439*	*16.00*
1.4.3 75% of torque defined in 1.4.2						
97.09	2282	1040	33.16	27.90	0.287	2.93
130.20			*8.76*	*61.50*	*0.472*	*14.86*
1.4.4 50% of torque defined in 1.4.2						
65.84	2325	1060	26.04	21.91	0.333	2.53
88.30			*6.88*	*48.30*	*0.547*	*12.84*
1.4.5 25% of torque defined in 1.4.2						
33.80	2374	1082	18.60	15.65	0.463	1.82
45.32			*4.91*	*34.50*	*0.761*	*9.22*
1.4.6 unloaded						
1.17	2416	1101	11.97	10.07	8.589	0.10
1.57			*3.16*	*22.20*	*14.120*	*0.50*
1.5 Part Loads at Standard Power Take Off Speed						
1.5.1 Torque at maximum power						
146.62	2200	1002	44.76	37.66	0.257	3.28
196.62			*11.82*	*83.02*	*0.422*	*16.63*
1.5.2 85% of torque obtained in 1.5.1						
127.46	2252	1026	40.44	34.02	0.267	3.15
170.93			*10.68*	*75.00*	*0.439*	*16.00*
1.5.3 75% of torque defined in 1.5.2						
97.09	2282	1040	33.16	27.90	0.287	2.93
130.20			*8.76*	*61.50*	*0.472*	*14.86*
1.5.4 50% of torque defined in 1.5.2						
65.84	2325	1060	26.04	21.91	0.333	2.53
88.30			*6.88*	*48.30*	*0.547*	*12.84*
1.5.5 25% of torque defined in 1.5.2						
33.80	2374	1082	18.60	15.65	0.463	1.82
45.32			*4.91*	*34.50*	*0.761*	*9.22*
1.5.6 unloaded						
1.17	2416	1101	11.97	10.07	8.589	0.10
1.57			*3.16*	*22.20*	*14.120*	*0.50*

No load maximum engine speed:	2416	rev/min		
Equivalent torque at rated speed:	636	N.m	*469*	lb-ft
Equivalent torque at maximum power:	821	N.m	*606*	lb-ft
(engine speed:	1900	rev/min)		
Maximum equivalent crankshaft torque:	932	N.m	*688*	lb-ft
(engine speed:	1300	rev/min)		
Mean Dry bulb:	24	deg C	*75*	deg F
Wet bulb:	15	deg C	*59*	deg F
Relative Humidity	37	%		
Pressure:	98.4	kPa	*29.06*	in Hg
Maximum Coolant:	91	deg C	*195*	deg F
Engine Oil:	112	deg C	*234*	deg F
Fuel:	55	deg C	*131*	deg F
Air Intake:	31	deg C	*87*	deg F
Transmission/hydraulic oil:	54	deg C	*130*	deg F
Intake manifold pressure at rated speed:	148	kPa	*21.5*	psig
Intake manifold pressure at maximum power:	153	kPa	*22.2*	psig

Date of Test	9-May-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:			
18.5 MPa			
2680 psig			
II. Pump delivery rate at minumum pressure and rated engine speed:			
109.8 l/min			
29.0 gpm			
III. Flow rate, pressure, power:			
90% of relief valve setting			
57.2 l/min	16.6 MPa	15.8 kW	
15.1 gpm	*2410 psig*	*21.2 hp*	
Maximum hydraulic power:			
101.4 l/min	15.5 MPa	26.2 kW	
26.8 gpm	*2250 psig*	*35.2 hp*	
IV. Hydraulic fluid temperature at flow meter			
61.5 °C			
143 °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 III, with Quick Attaching Coupler
Upper link in bottom hole on tractor
Date of test: 14 May 1996

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm/in]	241/9.5	216/8.5
Vertical movement: without load:	[mm/in]	718/28.3	813/32.0
Vertical movement: with load:	[mm/in]	696/27.4	769/30.3
Maximum corrected force through full range:	[kN/lb]	49.5/11120	47.1/10598
Corresponding pressure:	[kPa/psi]	16400/2385	
Moment about rear axle:	[kN.m/lb.ft]	70.1/51706	95.5/70473
Maximum mast tilt angle:	[deg]	--	4.5

Lifting height relative to horizontal position of lower links.

	[mm]	-349	-324	-281	-182	-80
	[in]	-13.8	-12.8	-11.1	-7.2	-3.2
Corrected lift forces						
Hitch point.	[kN]	--	49.5	49.7	53.6	57.0
	[lb]	--	11120	11178	12047	12821
at frame	[kN]	51.4	50.8	--	53.0	53.8
	[lb]	11547	11430	--	11925	12087

Lifting height relative to horizontal position of lower links.

	[mm]	19	118	220	319	372	420
	[in]	0.8	4.7	8.7	12.6	14.7	16.6
Corrected lift forces							
Hitch point	[kN]	57.5	58.9	58.8	59.8	60.6	--
	[lb]	12920	13244	13226	13451	13622	--
at frame	[kN]	53.2	49.9	49.9	48.2	48.1	47.1
	[lb]	11970	11214	11214	10827	10809	10598

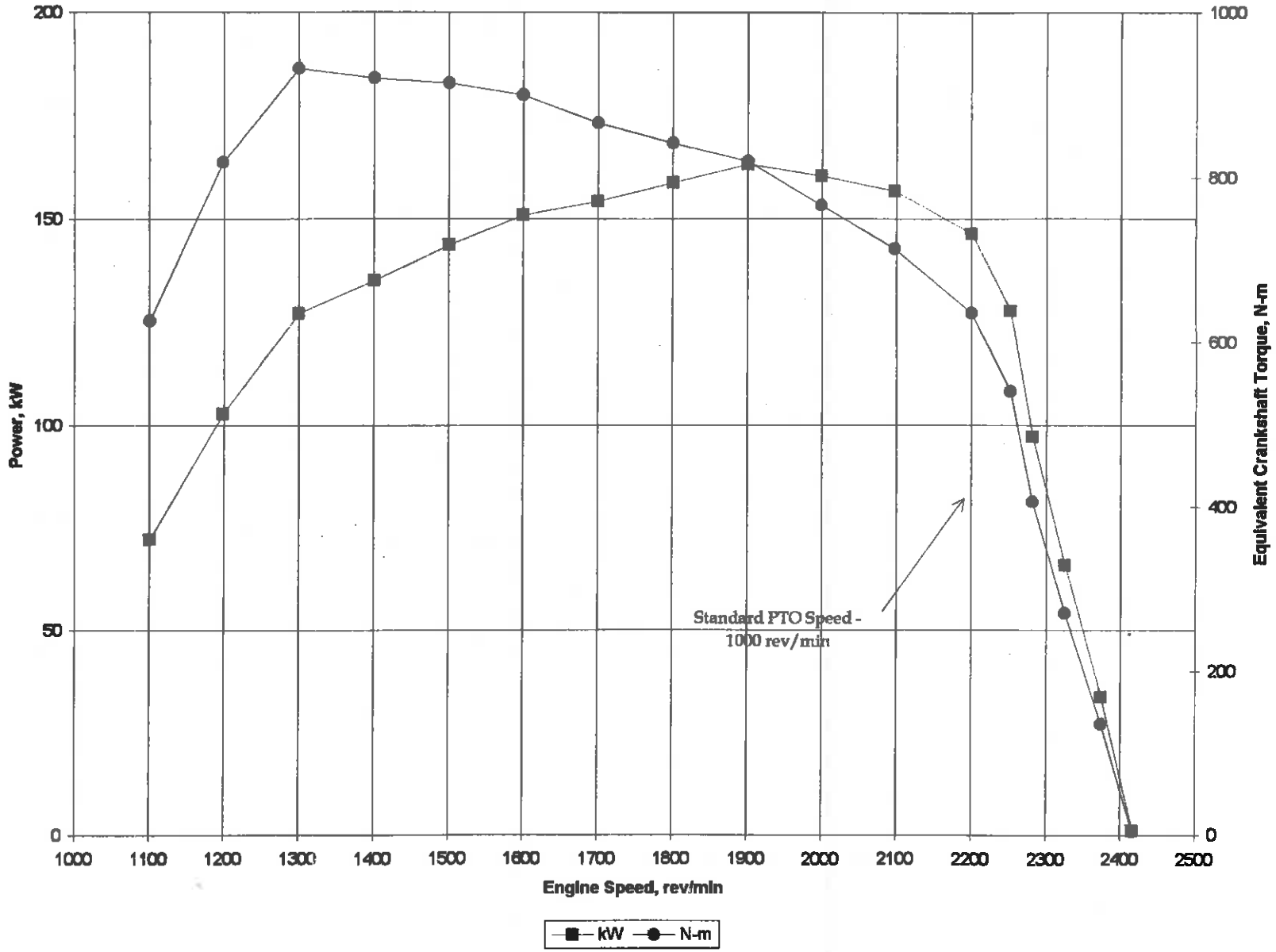
OECD Drawbar Data (SI)

Date of tests:		07-May-96		Fuel density:		0.841 kg/l							Rel	Baro.
Type of track:		Concrete		Test number:		1711							hum-	Pres
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					idity	kPa
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		
I. Maximum Power (unballasted, 4wd at 1900 rev/min)						Tire pressure:	124 kPa, rear		83 kPa, front		Drawbar height:	445 mm		
* 4	94.17	77.18	4.39	2262	11%	0.344	2.45	53	84	110	14	12	73%	98.04
* 5	109.37	77.65	5.07	2244	10%	0.330	2.55	53	85	111	14	12	78%	98.04
6	118.91	73.80	5.80	2193	8%	0.316	2.66	54	86	112	15	12	69%	98.04
7	129.50	73.10	6.38	2073	8%	0.297	2.83	55	85	112	16	12	61%	98.04
8	134.12	69.25	6.97	1954	7%	0.283	2.97	53	86	113	17	11	48%	98.00
9	136.92	61.84	7.97	1903	6%	0.275	3.05	53	87	113	18	11	67%	98.00
10	138.14	53.70	9.26	1901	4%	0.273	3.08	54	88	113	19	15	67%	98.00
11	137.05	45.94	10.74	1903	4%	0.275	3.06	54	87	113	19	15	67%	97.97
12	137.96	40.10	12.39	1902	3%	0.275	3.06	54	86	111	19	15	67%	97.97
13	136.54	34.52	14.24	1902	2%	0.275	3.06	54	88	113	19	15	67%	97.93
* Note: Pull limited to avoid excessive tractor bounce														
II. Part loads (unballasted, 4wd)														
II.1 in selected gear at maximum power at rated engine speed														
10	124.86	41.39	10.86	2197	3%	0.300	2.80	54	87	113	18	11	42%	98.00
II.1.1 75% of pull at maximum power at rated engine speed														
10	97.60	30.95	11.35	2275	2%	0.322	2.61	53	86	108	19	16	68%	97.90
II.1.2 50% of pull at maximum power at rated engine speed														
10	66.49	20.64	11.60	2307	1%	0.371	2.27	53	85	111	20	16	64%	97.83
II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1														
12	97.72	30.89	11.39	1736	2%	0.272	3.09	52	84	109	19	16	68%	97.87
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
12	66.56	20.68	11.59	1752	1%	0.303	2.78	52	83	108	21	16	60%	97.83
II.2 in selected gear nearest to 7.5 km/h at rated engine speed														
8	124.53	55.27	8.11	2202	4%	0.301	2.80	53	86	112	17	12	57%	98.00
II.2.1 75% of pull at maximum power at rated engine speed														
8	97.29	41.26	8.49	2271	3%	0.317	2.66	53	86	112	21	16	61%	97.83
II.2.2 50% of pull at maximum power at rated engine speed														
8	66.70	27.52	8.73	2308	2%	0.362	2.32	53	85	110	21	16	61%	97.83
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
10	97.29	41.29	8.48	1717	3%	0.270	3.12	53	84	110	21	16	61%	97.83
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
10	66.78	27.54	8.73	1747	2%	0.296	2.85	52	83	106	21	17	65%	97.83

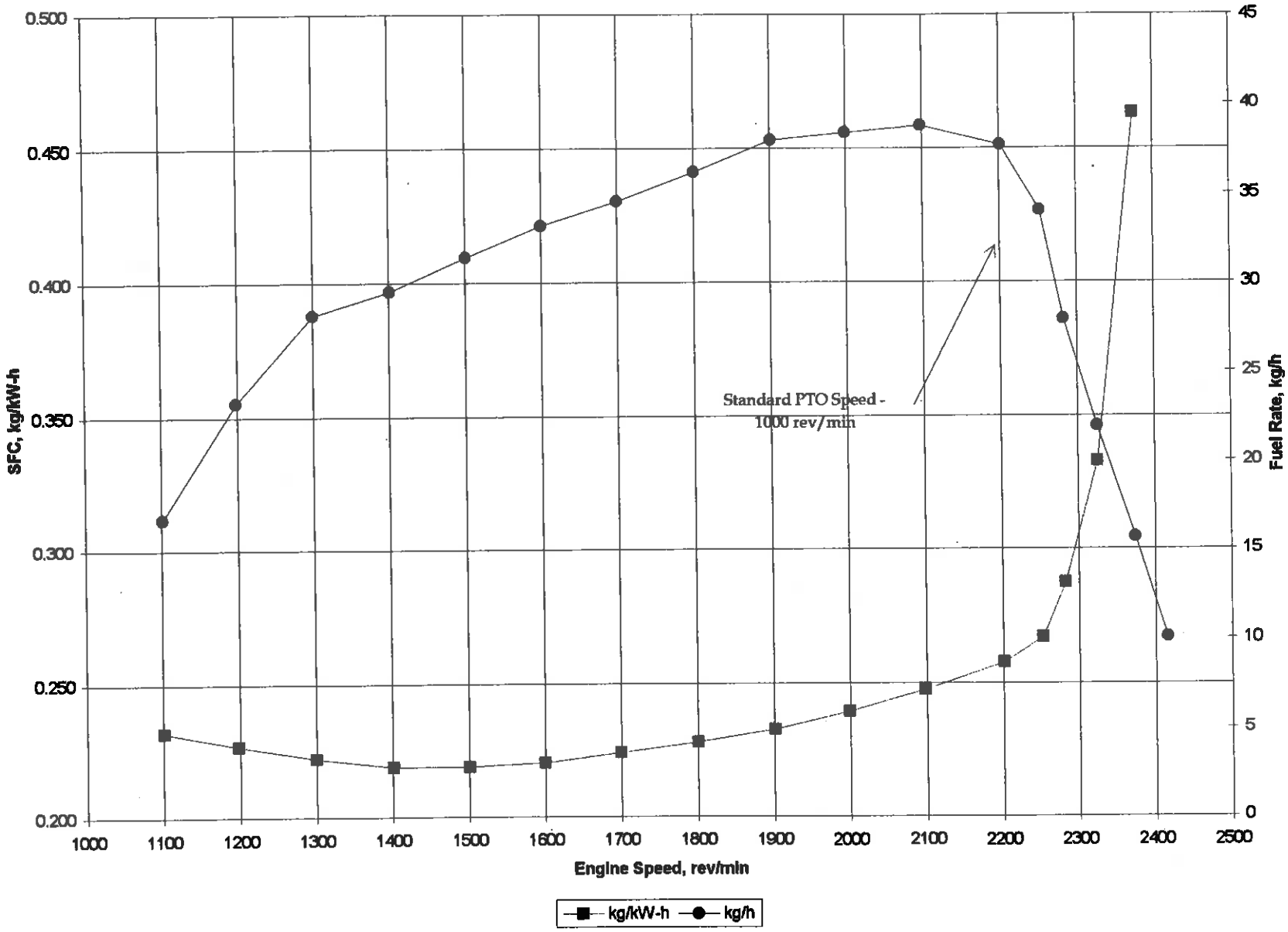
OECD Drawbar Data (US)

Date of tests:		07-May-96		Fuel density:		7.021 lb/gal							Rel	Baro.
Type of track:		Concrete		Test number:		1711							hum-	Pres
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					idity	in Hg
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		
I. Maximum Power (unballasted, 4wd at 1900 rev/min)						Tire pressure:	18 psig, rear		12 psig, front		Drawbar height:	17.5 in		
* 4	126.28	17351	2.73	2262	11%	0.565	12.43	128	184	231	58	53	73%	28.95
* 5	146.67	17456	3.15	2244	10%	0.542	12.95	128	186	232	57	53	78%	28.95
6	159.47	16591	3.60	2193	8%	0.520	13.50	129	186	234	59	53	69%	28.95
7	173.66	16433	3.96	2073	8%	0.488	14.39	130	185	234	61	53	61%	28.95
8	179.86	15569	4.33	1954	7%	0.465	15.08	128	187	235	63	52	48%	28.94
9	183.62	13903	4.95	1903	6%	0.453	15.50	128	189	236	64	52	67%	28.94
10	185.25	12073	5.75	1901	4%	0.449	15.62	129	190	236	66	59	67%	28.94
11	183.78	10328	6.67	1903	4%	0.452	15.52	130	188	235	66	59	67%	28.93
12	185.01	9015	7.70	1902	3%	0.452	15.52	129	187	233	66	59	67%	28.93
13	183.10	7760	8.85	1902	2%	0.452	15.55	129	190	236	66	59	67%	28.92
* Note: Pull limited to avoid excessive tractor bounce														
II. Part loads (unballasted, 4wd)														
II.1 in selected gear at maximum power at rated engine speed														
10	167.44	9305	6.75	2197	3%	0.494	14.22	129	189	236	65	52	42%	28.94
II.1.1 75% of pull at maximum power at rated engine speed														
10	130.88	6958	7.05	2275	2%	0.529	13.26	127	186	227	67	60	68%	28.91
II.1.2 50% of pull at maximum power at rated engine speed														
10	89.16	4641	7.21	2307	1%	0.610	11.51	128	185	231	68	60	64%	28.89
II.1.3higher gear at reduced engine speed, same pull and travel speed as II.1.1														
12	131.04	6945	7.08	1736	2%	0.448	15.69	126	183	229	67	60	68%	28.90
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
12	89.26	4650	7.20	1752	1%	0.498	14.09	125	181	226	69	60	60%	28.89
II.2 in selected gear nearest to 4.6 mph at rated engine speed														
8	167.00	12425	5.04	2202	4%	0.494	14.21	128	187	234	62	53	57%	28.94
II.2.1 75% of pull at maximum power at rated engine speed														
8	130.47	9277	5.27	2271	3%	0.521	13.48	128	187	234	70	61	61%	28.89
II.2.2 50% of pull at maximum power at rated engine speed														
8	89.45	6187	5.42	2308	2%	0.595	11.80	128	185	231	70	61	61%	28.89
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
10	130.46	9283	5.27	1717	3%	0.444	15.83	127	183	230	70	61	61%	28.89
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
10	89.56	6191	5.42	1747	2%	0.486	14.45	125	181	224	70	62	65%	28.89

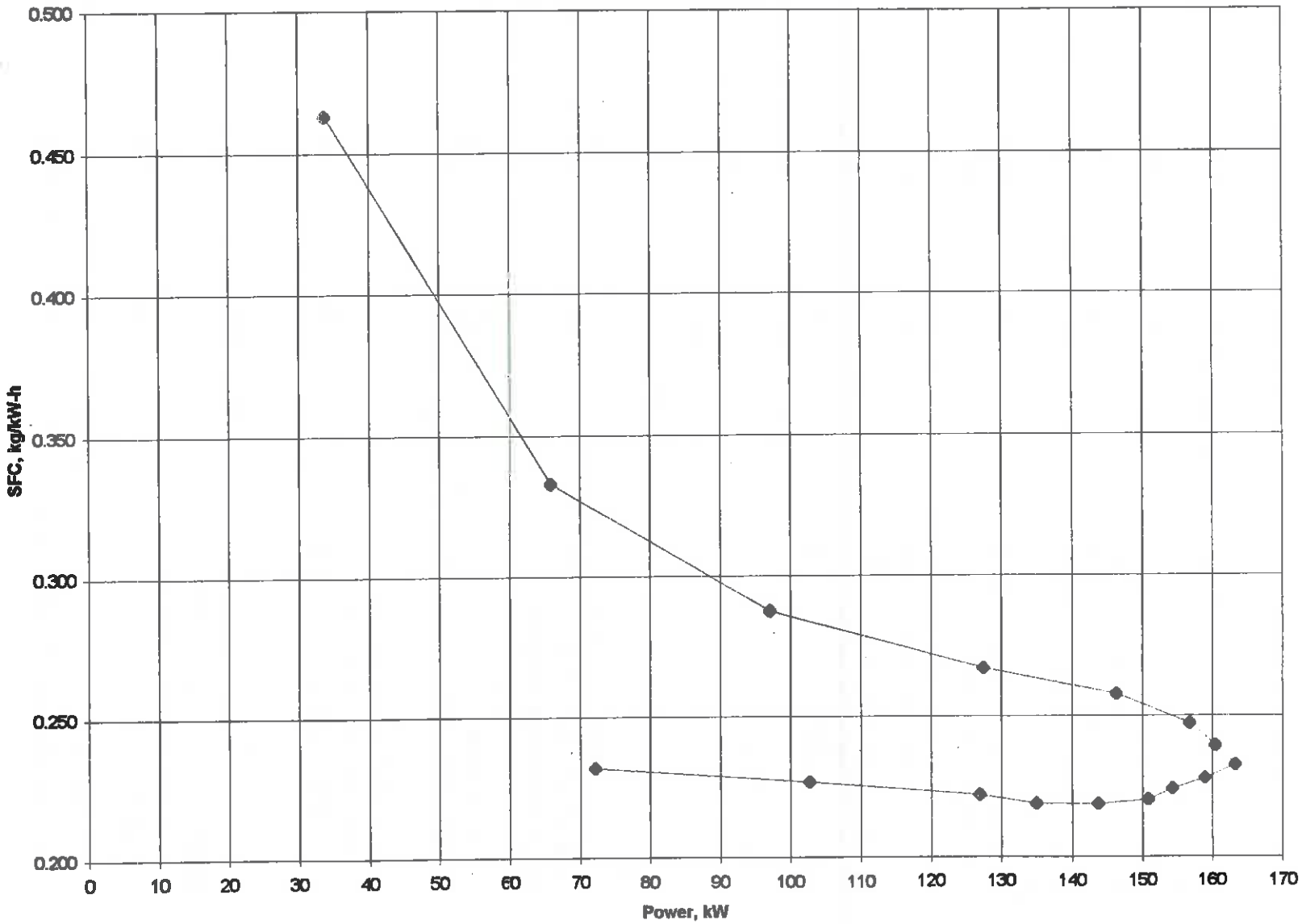
Power and Equivalent Crankshaft Torque



Specific Fuel Consumption and Fuel Rate



Power and Specific Fuel Consumption



THREE POINT LINKAGE. (Upper link in top hole on tractor)

Table 1.1 - *Linkage geometry dimensions.

		Dimension or range [mm]	Settings used on test [mm]
Lift category		III	III
Rear Tire - Radius Index	(r)	905	same
Front Tire - Radius Index	(r')	695	same
Length of lift arms	(A)	381	same
Length of lower links	(B)	861	same
Distance of lift arm pivot from: horizontal	(a)	364	same
rear wheel axis: vertical	(b)	422	same
Horizontal distance between the 2 lower link points	(u)	604	same
Horizontal distance between the 2 lift arm end points	(v)	737	same
Length of upper link	(S)	600	657
		to 831	
Distance of upper link pivot from horizontal	(c)	627	same
rear wheel axis: vertical	(d)	169	250
		and 250	
Distance of lower link pivot from: horizontal	(e)	445	same
rear wheel axis: vertical	(f)	332	same
Distance of lower link pivot points to lift rod pivot pts on lower links.	(D)	579	same
Length of lift rods	(L)	660	829
		to 866	
Height of lower hitch points relative to rear wheel axis In low position	(h)	378	671
		to 699	
In high position	(H)	3	43
		to 269	
Height above ground of lower hitch points when locked in transport position.		from 858	948
		to 1174	

*Assuming (r) with a dynamic tire index of 905 mm (ISO 4251/1-1992)

OPTIONAL TEST - alternate setting

2.2 POWER LIFT TEST. Cat III, with Quick Attaching Coupler
Upper link in top hole on tractor, for dimensions see p.20
Date of test: 14 May 1996

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm/in]	234/9.2	277/10.9
Vertical movement: without load:	[mm/in]	714/28.1	673/26.5
with load:	[mm/in]	685/27.0	650/25.6
Maximum corrected force through full range:	[kN/lb]	52.1/11723	56.7/12758
Corresponding pressure:	[kPa/psi]	16600/2408	
Moment about rear axle:	[kN.m/lb.ft]	73.9/54510	115.0/84837
Maximum mast tilt angle:	[deg]	--	0.2

Lifting height relative to horizontal position of lower links.

[mm]	-331	-288	-194	-93	6
[in]	-13.1	-11.4	-7.7	-3.7	0.3
Corrected lift forces					
Hitch point. [kN]	53.5	52.1	56.1	58.6	59.3
[lb]	12033	11723	12614	13172	13334
at frame [kN]	--	74.9	65.6	64.1	62.6
[lb]	--	16848	14751	14418	14076

Lifting height relative to horizontal position of lower links.

[mm]	105	207	306	354	362
[in]	4.2	8.2	12.1	14.0	14.3
Corrected lift forces					
Hitch point [kN]	60.1	60.9	62.3	63.1	--
[lb]	13500	13680	14009	14193	--
at frame [kN]	61.9	59.2	57.7	57.4	56.7
[lb]	13905	13316	12978	12902	12758

OPTIONAL TEST – larger (57 mm) external cylinders

2.2 POWER LIFT TEST. Cat III, with Quick Attaching Coupler
Upper link in bottom hole on tractor, for dimensions see p.8.
Date of test: 13 May 1996

		Hitch points	Frame
Lower hitch points above ground – down position:	[mm/in]	231/9.1	211/8.3
Vertical movement: without load:	[mm/in]	718/28.3	813/32.0
with load:	[mm/in]	698/27.5	785/30.9
Maximum corrected force through full range:	[kN/lb]	64.8/14558	54.6/12267
Corresponding pressure:	[kPa/psi]	16600/2408	
Moment about rear axle:	[kN.m/lb.ft]	91.8/67692	110.6/81576
Maximum mast tilt angle:	[deg]	--	5.3

Lifting height relative to horizontal position of lower links.

	[mm]	-354	-334	-288	-189	-88
	[in]	-14.0	-13.2	-11.4	-7.5	-3.5
Corrected lift forces						
Hitch point.	[kN]	--	64.8	65.1	68.5	70.8
	[lb]	--	14558	14639	15390	15917
at frame	[kN]	68.1	67.5	--	66.7	66.0
	[lb]	15309	15165	--	15003	14832

Lifting height relative to horizontal position of lower links.

	[mm]	11	110	212	311	364	431
	[in]	0.5	4.4	8.4	12.3	14.4	17.0
Corrected lift forces							
Hitch point	[kN]	71.1	72.2	71.6	72.3	72.6	--
	[lb]	15989	16232	16106	16250	16313	--
at frame	[kN]	64.6	62.2	59.5	--	56.4	54.6
	[lb]	14517	14517	13365	--	12681	12267

OPTIONAL TEST - Alternate setting with larger (57 mm) external cylinders

2.2 POWER LIFT TEST. Cat III, with Quick Attaching Coupler
Upper link in top hole on tractor, for dimensions see p. 20
Date of test: 13 May 1996

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm/in]	246/9.7	272/10.7
Vertical movement:			
without load:	[mm/in]	714/28.1	673/26.5
with load:	[mm/in]	673/26.5	650/25.6
Maximum corrected force through full range:	[kN/lb]	67.9/15269	64.1/14400
Corresponding pressure:	[kPa/psi]	16600/2408	
Moment about rear axle:	[kN.m/lb.ft]	96.3/70999	129.8/95760
Maximum mast tilt angle:	[deg]	—	0.0

Lifting height relative to horizontal position of lower links.

[mm]	-319	-293	-194	-93	6
[in]	-12.6	-11.6	-7.7	-3.7	0.3
Corrected lift forces					
Hitch point. [kN]	67.9	68.1	70.8	72.5	73.4
[lb]	15269	15314	15908	16290	16493
at frame [kN]	—	91.6	81.1	77.5	74.9
[lb]	—	20592	18234	17433	16839

Lifting height relative to horizontal position of lower links.

[mm]	105	207	306	354	357
[in]	4.2	8.2	12.1	14.0	14.1
Corrected lift forces					
Hitch point [kN]	74.6	74.3	75.2	75.7	—
[lb]	16772	16700	16898	17015	—
at frame [kN]	72.6	70.7	67.8	66.2	64.1
[lb]	16317	15894	15237	14877	14400

MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of test	10 May, 1996
Location of test	Nebraska power Lab, Lincoln, NE, USA
Sound Level meter	Bruel and Kjaer 2209
Type of track	Concrete oval
Gear Number	18th
Speed prior to acceleration	27.5 km/h
Noise Level	87.0 dB(A)

Repairs: None

Remarks: **The gears which were used for the reduced drawbar load tests were selected because the gears immediately above the full drawbar loads did not provide significant fuel consumption savings as required in sections 2.2.3.3.4 and 2.2.3.3.5**