OECD APPROVAL No. 2/1760
Code 2
Date of approval: 19 May 1998

NEBRASKA TRACTOR TEST LABORATORY
DEPARTMENT OF BIOLOGICAL SYSTEMS ENGINEERING
INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA - EAST CAMPUS
LINCOLN, NEBRASKA 68583-0832, USA

REPORT ON TEST IN ACCORDANCE WITH OECD STANDARD CODE 2 FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS





CASE IH 8940 - MFWD (4WD)
CASE IH 7240 PRO - MFWD (4WD)
STEYR 9250 - MFWD (4WD)
30 km/h version - 18-Speed Transmission

MANUFACTURED BY	**Case Corporation, 700 State Street Racine, Wisconsin 53404 USA**
NEBRASKA TEST NO.	**1736**
TEST DATE	**September 16-29, 1997**

This test report provides the results of the tests conducted in accordance with the OECD Standard Test Code for the Official Testing of Agricultural Tractor Performance - C(87)53 (Final), Code 2.

This report has been approved by the OECD Coordinating Centre in Paris (CEMAGREF) on 19 May 1998 for the **Case IH 8940 MFWD (4WD), Case IH 7240 Pro MFWD (4WD) and Steyr 9250, 30 km/h Version, 18-Speed Transmission with OECD number 2/1760.**

No reproduction of this report or any part of it can be made without prior approval by the Nebraska Tractor Test Laboratory, Lincoln, Nebraska USA.

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LINCOLN, NEBRASKA 68583-0832, USA

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GENERAL SPECIFICATIONS

Manufacturers name/address	Case Corporation, 700 State Street Racine, Wisconsin 53404, USA
Location of tractor assembly	Case Corporation 24th and Mead Streets Racine, Wisconsin 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	128 hours
Location of Test	Nebraska Tractor Test Laboratory, Lincoln, Nebraska, U.S.A.

TRACTORS

Make:	CASE INTERNATIONAL	CASE INTERNATIONAL	STEYR
Model:	8940 - MFWD	7240 - MFWD	9250 - MFWD
Type:	4 WD 30 km/h version with 18 speed transmission	4 WD 30 km/h version with 18 speed transmission	4 WD 30 km/h version with 18speed transmission

SPECIFICATIONS OF TRACTOR

Make/Model/Type	Case IH Magnum/8940-MFWD/4WD Unit construction; 30 km/h version; 18-speed
Number of driving wheels	2 or 4
Serial number	*JJA0075231*
1st Serial number	*JJA0072000*

ENGINE

Make	Consolidated Diesel Co
Model	6TA-830
Type	Diesel, direct injection, turbocharged, intercooled
Serial Number	*45481220*

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	162 +/- 20 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/RSV/In-line
Pump Serial number	0 403 466 169
Production setting of pump	
Flow Rate (Rated engine speed and full load)	40.1 ± 2.1 kg/h
Fuel density	0.845 kg/l
Make/Model/Type of injectors	Robert Bosch/J930525/17 mm
Injection timing	$17^0 \pm 2^0$ BTDC; Lock timed at TDC ± 2^0
Injection pressure	26.0-27.0 MPa
Governor	
Make/Model/Type	Robert Bosch/J928228/Variable speed/Mechanical
Governed engine speed range	From 925 to 2457 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	Nelson/71198A/Exhaust aspirated
Air intake location	Under hood; ahead of radiator
Main Cleaner	
Make/Model/Type	Donaldson/EGB11-0077/or Nelson/71198A; both dry, dual element pleated paper
Location of main cleaner	Under hood
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	8
Fan diameter	600 mm
Coolant system capacity	31.0 l.
Type of temperature control	Two thermostats
Superpressure	69 kPa
Starting System	
Make/Model/Type	Nippondenso/R4.0 or FII4.0/Solenoid engaged
Power Rating	4.0 kW
Cold starting aid	Ether spray in intake manifold
Safety device	Electrical lockout on transmission
Electrical System	
Voltage	12 Volt
Alternator	
Make/Model/Type	Bosch/N1/Alternator; belt drive
Power rating	110 Amp./14.2 V.
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

Clutch (Travel)	
Make/Model/Type	Case IH/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 IH/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 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 activation of brakes
Front Axle and Final drives.	
Make/Model/Type	Dana/070BP196/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 - tested version)

Gear Number	Number of engine revolutions for one revolution of the driving wheels	Nominal traveling speed at rated engine speed of 2200 rev/min [km/h]
Forward		
1st	243.260	3.09
2nd	212.073	3.54
3rd	183.909	4.08
4th	160.331	4.68
5th	139.776	5.37
6th	121.856	6.16
7th	104.463	7.19
8th	91.070	8.24
9th	78.976	9.50
10th	68.851	10.90
11th	60.024	12.50
12th	52.328	14.34
13th	45.741	16.41
14th	39.877	18.82
15th	34.581	21.71
16th	30.148	24.90
17th	26.283	28.56
18th	22.913	32.76
Reverse		
R1	168.997	4.44
R2	147.331	5.09
R3	72.572	10.34
R4	63.268	11.86

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 1.3228

TOTAL TRANSMISSION RATIOS AND TRAVEL SPEEDS

(18 speed transmission plus optional 6 forward/2 reverse Creeper gears)

Gear Number	Number of engine revolutions for one revolution of the driving wheels	Nominal traveling speed at rated engine speed of 2200 rev/min [km/h]
Forward		
1st Creeper	835.817	0.90
2nd Creeper	631.893	1.19
3rd Creeper	480.256	1.56
4th Creeper	358.923	2.09
5th Creeper	271.354	2.77
6th Standard	243.260	3.09
7th Standard	212.073	3.54
8th Creeper	206.234	3.64
9th Standard	183.909	4.08
10th "	160.331	4.68
11th "	139.776	5.37
12th "	121.856	6.16
13th "	104.463	7.19
14th "	91.070	8.24
15th "	76.976	9.50
16th "	68.851	10.90
17th "	60.024	12.50
18th "	52.328	14.34
19th "	45.741	16.41
20th "	39.877	18.82
21th "	34.581	21.71
22th "	30.148	24.90
23th "	26.283	28.56
24th "	22.913	32.76
Reverse		
R1 Creeper	580.657	1.29
R2 Creeper	249.351	3.01
R3 Standard	168.997	4.44
R4 "	147.331	5.09
R5 "	72.572	10.34
R6 "	63.268	11.86

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 1.3228

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

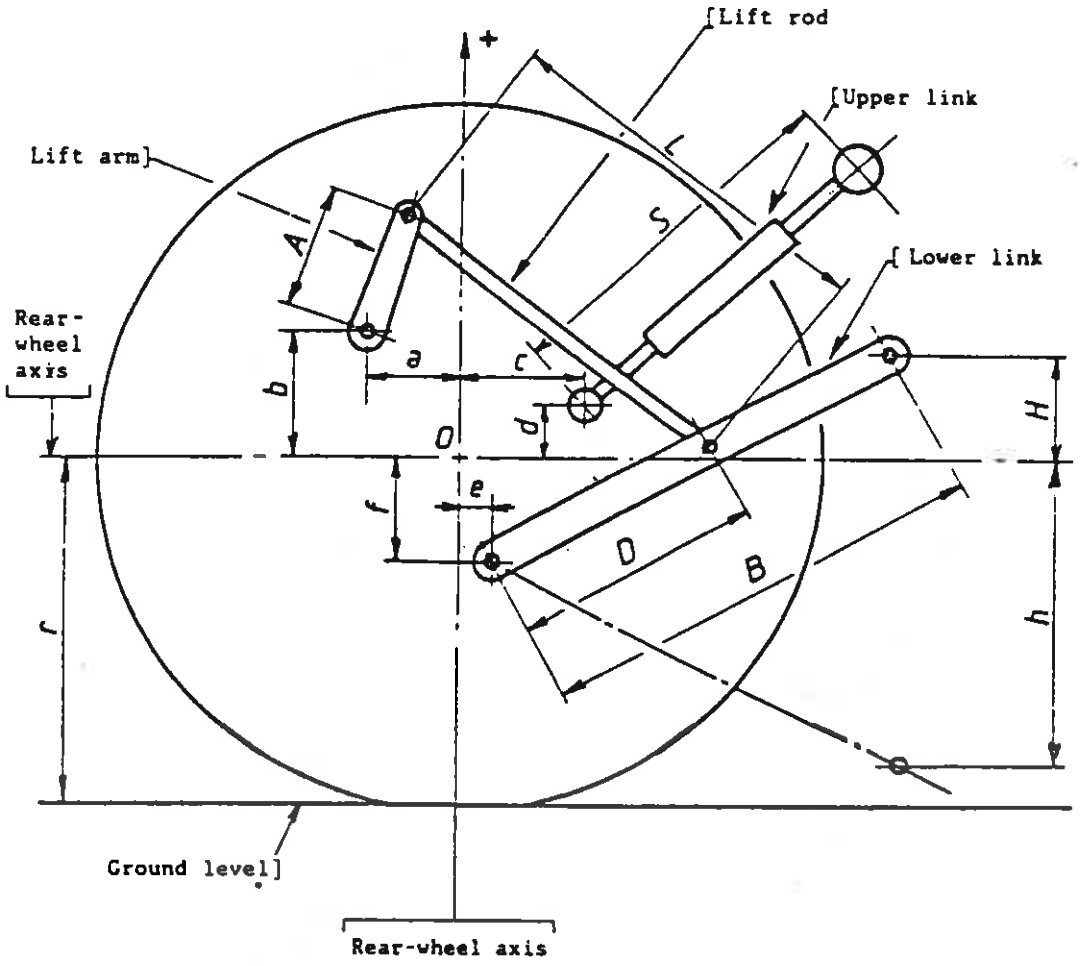
Location	Rear of tractor, vertical center plane.
Diameter of shaft (Standard)	45 mm (ISO 500/1991)
Number of splines	20; (ISO 500/1991)
Height above ground	815 mm
Distance from median plane of tractor	0 mm
Distance behind rear axle	796 mm
PTO Speed at rated engine speed	1003 rev/min
Engine speed at Std. PTO speed	2193 rev/min
Ratio of Engine rpm to PTO rpm	2.193:1
Power Restriction	None
Direction of rotation (viewed facing driving end)	Clockwise

POWER LIFT

Make/Type	Case IH/3-point
Type of hydraulic system	Closed center, load sensing
Number/Type of cylinders	One internal 120.7 mm x 171.5 mm, two external, 44.5 x 203 and 57.2 x 203; all single acting
Type of linkage lock for transport	Hydraulic, with locking notch on hand lever on console
Relief valve setting (High pressure standby)	19.13 ± 0.17 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
Maximum oil volume available for external cylinders	8.5 l.

THREE POINT LINKAGE.

- Category 3 in conformity with ISO 730/1-1990
- Category adaptor - Quick Attaching Coupler



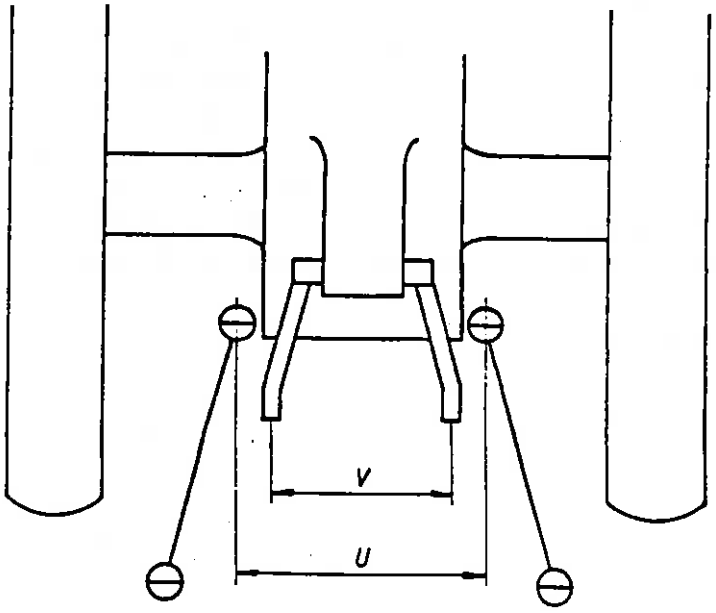


TABLE I.1 - LINKAGE GEOMETRY DIMENSIONS

			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	
		to	831	635
Distance of upper				
link pivot from: horizontal	(c)		627	same
rear wheel axis: vertical	(d)		169	
		and	250	169
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 points 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	406	
		to	739	664
In high position	(H)	from	7	
		to	338	54
Height above ground of lower hitch points when locked in transport position.		from	947	
		to	1270	959

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

SWINGING DRAWBAR

Type	Swinging
Height above ground - Maximum	594 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 of 1000 rpm PTO	
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)	
Positions 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 IH/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	2235	Reversing wheel rims and offset lug rims
Rear	1626	3353	Adjustable clamping edges on bar axle and offset lug rims

PROTECTIVE STRUCTURE

Make/Model/Type	Case IH/CX-96/Cab
Manufacturer's name/address	Case Corporation, 700 State Street, Racine, Wisconsin 53404, USA
Protective device	Cab, 4-post with charpy v-notch certified material
Tiltable	No
OECD Approval Number	CASE INTERNATIONAL 7240 PRO 4WD CSS 096/107 30 km/h version
Date of Approval	26 May 1994
OECD Approval Number	STEYR 9250 MFWD 4WD CSS 096/163 30 km/h version
Date of Approval	18 June 1997

Modification certificate:

Certificate for minor modification numbered:

CSS 096/1 to 8MOD 1/USA dated 13th June 1990.

Established by and under the responsibility of the National Authority:

University of Nebraska
Nebraska Tractor Test Laboratory
Lincoln, Nebraska 68583-0832 - United States of America

Certificate for minor modification numbered:

CSS 096/1 to 8MOD 2/USA dated 18th October 1990.

Established by and under the responsibility of the National Authority:

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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
Safety belt	No

LIGHTING

	Height above ground of center [mm]	Size [mm x mm]	Distance from outside edge of lights to median plane of tractor [mm]
Headlights	1667	260.5 x 130.8	390
Rearlights	2104	100.0 x 45.2	654
Reflectors-rear	2104	50.0 x 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	3890	3077	3039
(ballasted)				
5550	3048	3890	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**	2521	2531
	Rear	5721	5786
	Total	8242	8317
Ballasted	**Front**	3816	3826
	Rear	6870	6935
	Total	10686	10761

Ballast

		Number of Weights	Mass (Total) [kg]	Water [kg]
Front	**- weights**	18	816	-----
	- bracket	1	164	-----
Rear	**- weights**	10	700	-----
	- duals		764	-----

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
Maximum load (tire manufacturer)	2460 kg/tire	4150 kg/tire
Maximum load(tractor manufacturer)	2474 kg/tire	4150 kg/tire
Inflation pressure(tire manufacturer)	160 kPa	160 kPa
Dynamic Radius Index	695 mm	905 mm
Chosen track width - Inner	1930 mm	1900 mm
- Outer		3405 mm

OILS AND LUBRICATION

Capacity and change interval

	Capacity	Oil change	Filter change
	liter	hours	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^{0}C	
Classification	API CG-4, CF, CF-4	
Transmission oil		
Type	Case IH Hy-tran Plus	same
Viscosity	6.3 cSt at 100^{0}C	
Classification	NA	
Hydraulic fluid		
Type	Case IH Hytran Plus	same
Viscosity	6.3 cSt at 100^{0}C	
Classification	NA	
Front differential and final drive		
Type	Case IH 135H EP Gear Lube; SAE 85W-140	same
Viscosity	27 cSt at 100^{0}C	
Classification	API GL-5 or MIL-L-2105D	
Grease		
Type	Case IH Hi-Temp EP	same
Number of lube points	26	

FUEL

Type	Premier; Grade 2-D, in conformity with the national standard
Density (PTO test)	0.845 kg/l at 15^{0}C
(Drawbar test)	Same as PTO test

COMPULSORY TESTS

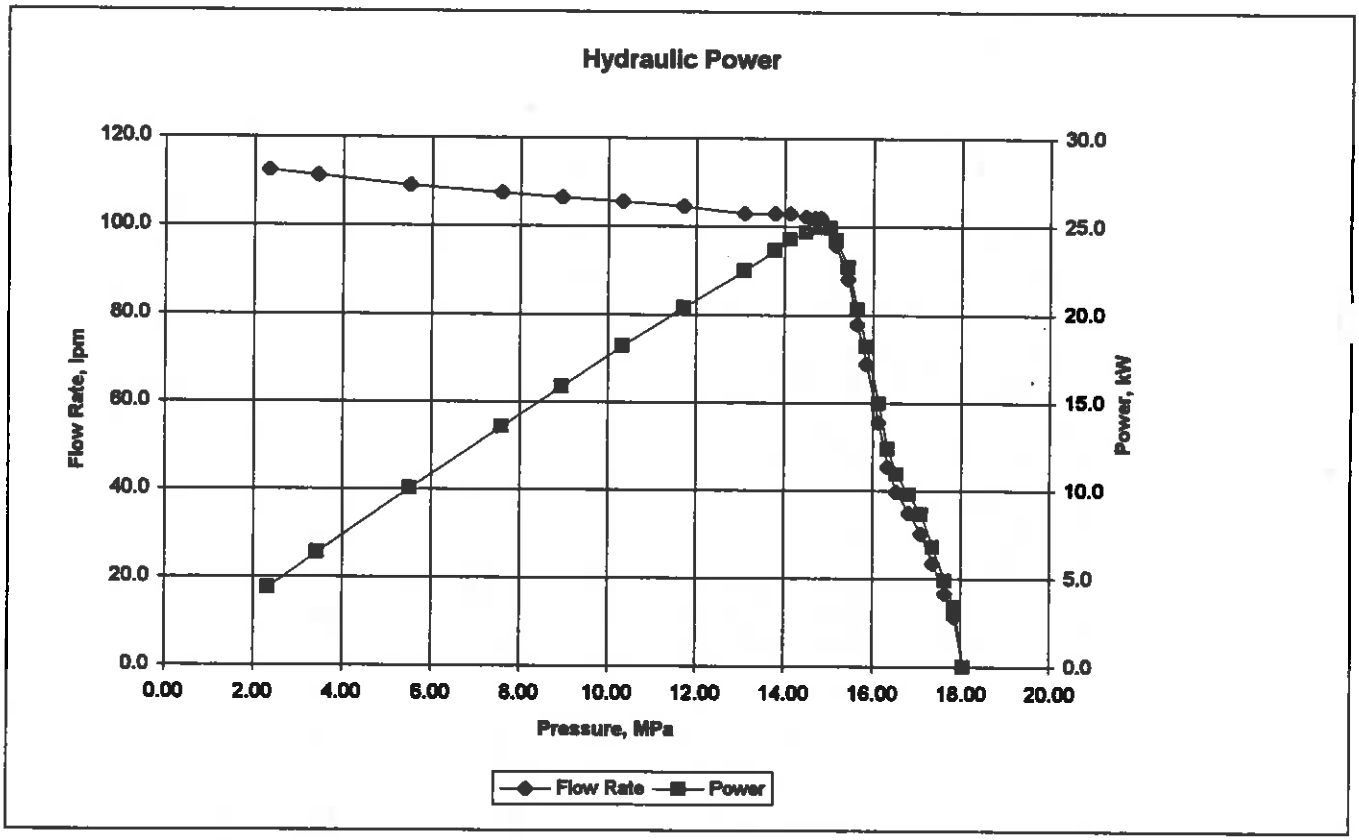
1. MAIN POWER TAKE OFF

Date: 17-Sep-97 Location: UNL Tractor Test Lab, Lincoln, NE, USA
Type of dynamometer: Eddy current, Eaton
Fuel Density 0.845 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						
172.13	1850	842	47.16	39.83	0.231	3.65
230.83			*12.46*	*87.80*	*0.380*	*18.53*
1.2 Power at Rated Engine Speed - 1 hour						
154.22	2200	1002	47.05	39.74	0.258	3.28
206.81			*12.43*	*87.61*	*0.424*	*16.64*
1.3 Power at Standard Power Take Off Speed - 1 hour						
154.22	2200	1002	47.05	39.74	0.258	3.28
206.81			*12.43*	*87.61*	*0.424*	*16.64*
1.4 Part Loads						
1.4.1 Torque at maximum power at rated engine speed						
154.22	2200	1002	47.05	39.74	0.258	3.28
206.81			*12.43*	*87.61*	*0.424*	*16.64*
1.4.2 85% of torque obtained in 1.4.1						
137.56	2307	1050	44.15	37.29	0.271	3.12
184.48			*11.66*	*82.20*	*0.446*	*15.82*
1.4.3 75% of torque defined in 1.4.2						
104.32	2329	1061	35.93	30.35	0.291	2.90
139.89			*9.49*	*66.90*	*0.478*	*14.74*
1.4.4 50% of torque defined in 1.4.2						
69.82	2348	1069	27.71	23.41	0.335	2.52
93.63			*7.32*	*51.60*	*0.551*	*12.79*
1.4.5 25% of torque defined in 1.4.2						
35.46	2385	1086	19.82	16.74	0.472	1.79
47.56			*5.24*	*36.90*	*0.776*	*9.08*
1.4.6 unloaded						
0.78	2426	1105	12.57	10.61	13.531	0.06
1.05			*3.32*	*23.40*	*22.244*	*0.32*
1.5 Part Loads at Standard Power Take Off Speed						
1.5.1 Torque at maximum power						
154.22	2200	1002	47.05	39.74	0.258	3.28
206.81			*12.43*	*87.61*	*0.424*	*16.64*
1.5.2 85% of torque obtained in 1.5.1						
137.56	2307	1050	44.15	37.29	0.271	3.12
184.48			*11.66*	*82.20*	*0.446*	*15.82*
1.5.3 75% of torque defined in 1.5.2						
104.32	2329	1061	35.93	30.35	0.291	2.90
139.89			*9.49*	*66.90*	*0.478*	*14.74*
1.5.4 50% of torque defined in 1.5.2						
69.82	2348	1069	27.71	23.41	0.335	2.52
93.63			*7.32*	*51.60*	*0.551*	*12.79*
1.5.5 25% of torque defined in 1.5.2						
35.46	2385	1086	19.82	16.74	0.472	1.79
47.56			*5.24*	*36.90*	*0.776*	*9.08*
1.5.6 unloaded						
0.78	2426	1105	12.57	10.61	13.531	0.06
1.05			*3.32*	*23.40*	*22.244*	*0.32*

No load maximum engine speed:	2426	rev/min		
Equivalent torque at rated speed:	669	N.m	*494*	*lb-ft*
Equivalent torque at maximum power:	889	N.m	*655*	*lb-ft*
(engine speed:	1850	rev/min)		
Maximum equivalent crankshaft torque:	983	N.m	*725*	*lb-ft*
(engine speed:	1299	rev/min)		
Mean Dry bulb:	25	deg C	*76*	*deg F*
Wet bulb:	18	deg C	*65*	*deg F*
Relative Humidity	44	%		
Pressure:	97.9	kPa	*28.92*	*in Hg*
Maximum Coolant:	92	deg C	*198*	*deg F*
Engine Oil:	113	deg C	*235*	*deg F*
Fuel:	52	deg C	*126*	*deg F*
Air Intake:	31	deg C	*87*	*deg F*
Transmission/hydraulic oil:	58	deg C	*136*	*deg F*
Intake manifold pressure at rated speed:	154	kPa	*22.4*	*psig*
Intake manifold pressure at maximum power:	157	kPa	*22.8*	*psig*

Date of Test: 22-Sep-97			
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:			
18.1 MPa			
2620 psig			
II. Pump delivery rate at minimum pressure and rated engine speed:			
112.4 l/min			
29.7 gpm			
III. Flow rate, pressure, power:			
90% of relief valve setting			
45.4 l/min	16.3 MPa	12.4 kW	
12.0 gpm	*2370 psig*	*16.6 hp*	
Maximum hydraulic power:			
101.8 l/min	14.8 MPa	25.2 kW	
26.9 gpm	*2150 psig*	*33.7 hp*	
IV. Hydraulic fluid temperature at flow meter			
68 °C			
155 °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
The data presented here is from OECD test 1628 done on the Case IH 7240 which has the mechanically identical hitch system.

		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
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.

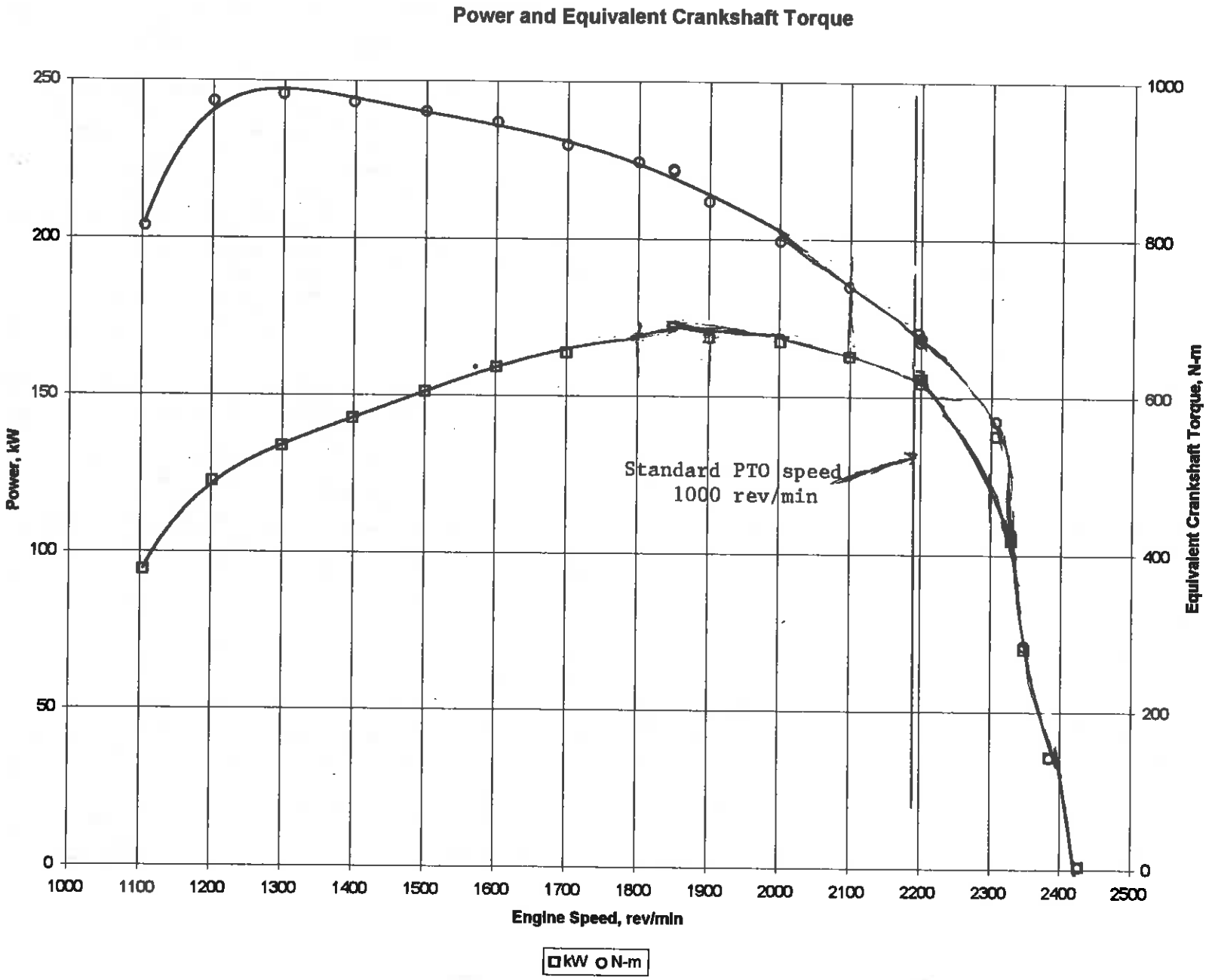
	[mm]	19	118	220	319	372	420
	[in]	0.8	4.7	8.7	12.6	14.7	16.6
Corrected lift forces							
Hitch point	[kN]	57.5	58.9	58.8	59.8	60.6	--
	[lb]	12920	13244	13226	13451	13622	--
at frame	[kN]	53.2	52.3	49.9	48.2	48.1	47.1
	[lb]	11970	11754	11214	10827	10809	10598

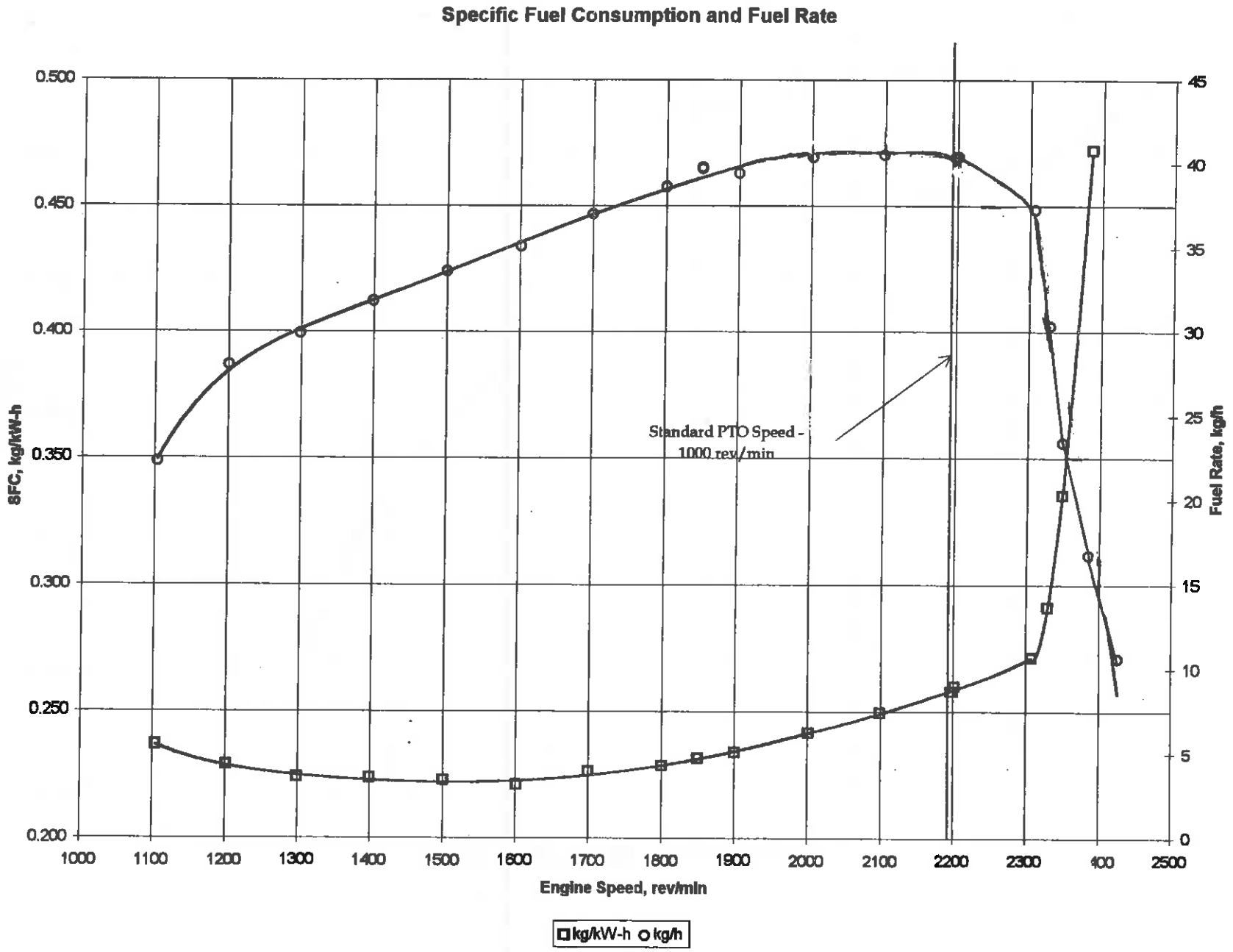
OECD Drawbar Data (SI)

Date of tests: 26-Sep-97				Fuel density: 0.845 kg/l										
Type of track Concrete				Test number 1736										
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel hum-idity	Baro. Pres
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
I. Maximum Power (unballasted, 4wd at 1850 rev/min)						Tire pressure:		97 kPa, rear		83 kPa, front		Drawbar height:	406 mm	
4	93.24	78.44	4.28	2307	15%	0.361	2.34	49	86	111	15	13	84%	97.70
5	110.23	80.34	4.94	2295	14%	0.347	2.43	49	86	112	13	13	94%	97.70
6	119.02	75.28	5.69	2246	12%	0.334	2.53	49	87	112	17	14	75%	97.70
7	132.38	72.66	6.56	2137	8%	0.302	2.79	49	88	114	24	18	53%	97.73
8	137.62	69.44	7.13	2000	7%	0.289	2.93	49	90	115	25	18	53%	97.70
9	143.88	66.96	7.74	1858	6%	0.274	3.08	49	88	114	21	17	69%	97.77
10	146.13	58.32	9.02	1853	4%	0.269	3.14	48	89	113	22	17	65%	97.73
11	145.42	50.13	10.44	1854	3%	0.271	3.11	49	88	114	19	16	72%	97.77
12	144.19	43.20	12.02	1849	3%	0.274	3.08	49	88	114	20	16	68%	97.77
13	142.73	37.25	13.80	1848	2%	0.278	3.04	49	87	113	21	17	69%	97.77
II. Part loads (unballasted, 4wd)														
II.1 in selected gear at maximum power at rated engine speed.														
7	131.51	68.55	6.91	2202	6%	0.302	2.79	49	87	113	23	18	59%	97.73
II.1.1 75% of pull at maximum power at rated engine speed														
7	106.14	51.37	7.44	2305	3%	0.319	2.65	49	87	112	26	19	51%	97.70
II.1.2 50% of pull at maximum power at rated engine speed														
7	72.94	34.30	7.66	2340	2%	0.362	2.33	48	86	111	28	18	40%	97.73
II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1														
8	106.07	51.43	7.42	2007	4%	0.289	2.93	46	86	111	26	19	51%	97.70
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
8	72.76	34.28	7.64	2036	2%	0.319	2.65	47	84	109	29	19	37%	97.73
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3														
9	106.39	51.32	7.46	1749	3%	0.268	3.15	47	86	111	27	19	48%	97.70
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4														
9	73.04	34.28	7.67	1772	2%	0.289	2.92	46	84	108	28	19	41%	97.70
II.2 in selected gear nearest to 7.5 km/h at rated engine speed.														
10	133.62	44.31	10.86	2199	3%	0.296	2.85	49	88	113	22	18	66%	97.73
II.2.1 75% of pull at maximum power at rated engine speed														
10	104.85	33.04	11.42	2301	2%	0.326	2.59	50	87	113	29	19	42%	97.66
II.2.2 50% of pull at maximum power at rated engine speed														
10	71.52	22.03	11.69	2335	1%	0.375	2.25	49	86	111	29	19	42%	97.66
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
11	104.90	32.93	11.47	2011	2%	0.294	2.87	49	87	112	29	19	42%	97.66
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
11	71.58	22.01	11.71	2041	2%	0.333	2.53	48	84	109	29	19	42%	97.66
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3														
12	104.82	33.08	11.41	1744	2%	0.275	3.07	48	86	111	29	19	42%	97.66
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4														
12	71.29	22.01	11.66	1772	1%	0.307	2.75	46	84	108	29	19	42%	97.66

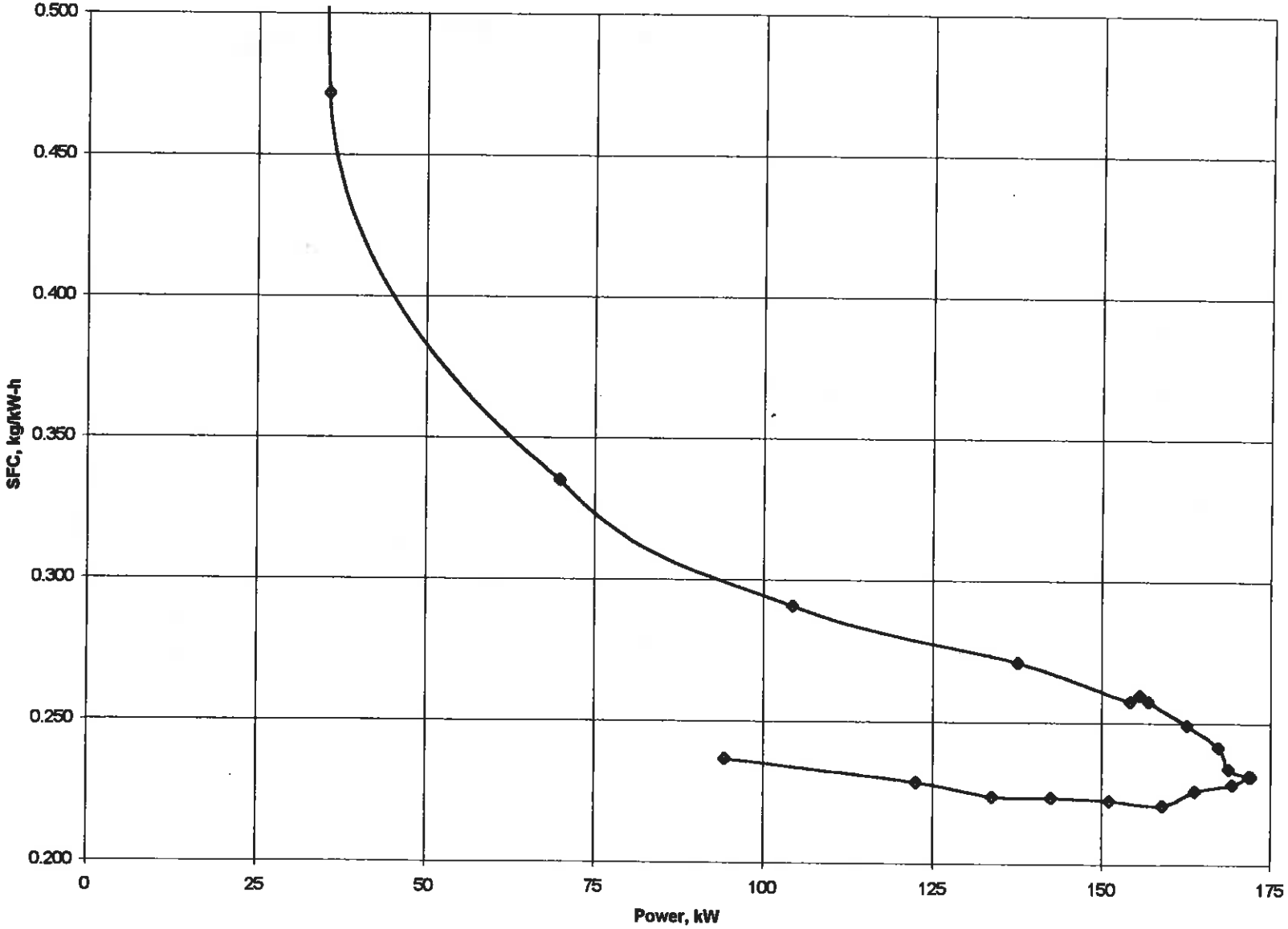
OECD Drawbar Data (US)

Date of tests: 26-Sep-97				Fuel density:	7.048 lb/gal									
Type of track: Concrete				Test number:	1736									
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel humidity	Barom. Press
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		in Hg
I. Maximum Power (unballasted, 4wd at 1850 rev/min)						Tire pressure:		14 psig, rear		12 psig, front		Drawbar height:	16.0 in	
4	125.03	17635	2.66	2307	15%	0.594	11.87	121	187	232	59	56	84%	28.85
5	147.82	18061	3.07	2295	14%	0.571	12.34	120	188	234	56	55	94%	28.85
6	159.61	16924	3.54	2246	12%	0.549	12.84	121	188	234	62	57	75%	28.85
7	177.52	16336	4.08	2137	8%	0.497	14.18	120	190	237	76	64	53%	28.86
8	184.55	15612	4.43	2000	7%	0.474	14.86	121	194	240	77	65	53%	28.85
9	192.94	15053	4.81	1858	6%	0.451	15.62	121	191	238	69	62	69%	28.87
10	195.97	13111	5.61	1853	4%	0.442	15.93	119	193	236	71	63	65%	28.86
11	195.01	11270	6.49	1854	3%	0.446	15.79	121	191	237	67	61	72%	28.87
12	193.36	9711	7.47	1849	3%	0.451	15.64	120	191	238	68	61	68%	28.87
13	191.40	8374	8.57	1848	2%	0.456	15.44	120	189	236	69	62	69%	28.87
II. Part loads (unballasted, 4wd)														
II.1 in selected gear at maximum power at rated engine speed.														
7	176.35	15411	4.29	2202	6%	0.497	14.17	120	189	235	74	64	59%	28.86
II.1.1 75% of pull at maximum power at rated engine speed														
7	142.34	11549	4.62	2305	3%	0.525	13.43	121	189	234	79	66	51%	28.85
II.1.2 50% of pull at maximum power at rated engine speed														
7	97.82	7711	4.76	2340	2%	0.596	11.83	119	186	232	82	65	40%	28.86
II.1.3higher gear at reduced engine speed, same pull and travel speed as II.1.1														
8	142.25	11562	4.61	2007	4%	0.474	14.86	116	188	233	79	66	51%	28.85
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
8	97.57	7706	4.75	2036	2%	0.524	13.45	117	184	228	85	66	37%	28.86
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3														
9	142.67	11538	4.64	1749	3%	0.441	15.98	117	186	231	80	66	48%	28.85
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4														
9	97.95	7708	4.77	1772	2%	0.475	14.83	115	183	227	83	66	41%	28.85
II.2 in selected gear nearest to 4.6 mph at rated engine speed.														
10	179.19	9962	6.75	2199	3%	0.487	14.47	120	191	235	72	64	66%	28.86
II.2.1 75% of pull at maximum power at rated engine speed														
10	140.61	7428	7.10	2301	2%	0.536	13.15	122	189	235	84	67	42%	28.84
II.2.2 50% of pull at maximum power at rated engine speed														
10	95.92	4952	7.26	2335	1%	0.616	11.45	121	186	231	84	67	42%	28.84
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
11	140.67	7404	7.12	2011	2%	0.484	14.56	121	188	233	84	67	42%	28.84
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
11	95.99	4949	7.27	2041	2%	0.548	12.86	119	184	228	84	67	42%	28.84
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3														
12	140.57	7438	7.09	1744	2%	0.453	15.57	119	187	231	84	67	42%	28.84
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4														
12	95.61	4949	7.25	1772	1%	0.504	13.98	115	184	227	84	67	42%	28.84


Power and Equivalent Crankshaft Torque
Power, kW
Equivalent Crankshaft Torque, N-m
Engine Speed, rev/min
Standard PTO speed
1000 rev/min
kW
N-m
250
200
150
100
50
0
1000
800
600
400
200
0
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500


Specific Fuel Consumption and Fuel Rate
SFC, kg/kW-h
Fuel Rate, kg/h
Engine Speed, rev/min
Standard PTO Speed - 1000 rev/min
kg/kW-h
kg/h
0.500
0.450
0.400
0.350
0.300
0.250
0.200
45
40
35
30
25
20
15
10
5
0
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
400
2500

Power and Specific Fuel Consumption



Optional Tests - Ballasted Tractor, Front Drive Engaged

Tests conducted under the responsibility of the Nebraska Tractor Test Laboratory

OECD Drawbar Data (SI)

Date of tests: 22,24-Sep-97				Fuel density:	0.845 kg/l									
Type of track Concrete				Test number	1736									
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel humidity	Baro. Pres
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
I. Maximum Power (ballasted, 4wd at 1850 rev/min)						Tire pressure:		83 kPa, rear		124 kPa, front		Drawbar height:		432 mm
*4	127.16	106.82	4.29	2166	10%	0.314	2.69	50	87	111	19	16	72%	98.21
5	134.99	102.93	4.72	2040	8%	0.297	2.84	50	86	112	19	16	72%	98.21
6	138.11	99.95	4.97	1865	7%	0.286	2.96	51	88	114	19	15	64%	98.17
7	145.10	88.49	5.90	1849	5%	0.273	3.09	51	89	114	21	15	56%	98.14
8	147.92	77.28	6.89	1850	3%	0.268	3.15	49	92	116	16	14	89%	98.10
9	148.50	66.98	7.98	1849	3%	0.269	3.14	49	88	114	16	14	89%	98.14
10	148.05	58.01	9.19	1849	2%	0.270	3.13	50	87	113	16	14	89%	98.14
11	146.51	49.75	10.60	1853	2%	0.271	3.11	49	88	108	16	14	89%	98.07
12	143.51	42.56	12.14	1846	2%	0.273	3.09	47	86	108	16	14	89%	98.10
13	140.50	36.34	13.92	1845	2%	0.279	3.03	49	89	115	16	14	89%	98.10
* Note: Slip limited to avoid excessive tractor bouncing.														

OECD Drawbar Data (US)

Date of tests: 22,24-Sep-97				Fuel density:	7.048 lb/gal									
Type of track Concrete				Test number	1736									
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel humidity	Baro. Pres
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		in Hg
I. Maximum Power (ballasted, 4wd at 1850 rev/min)						Tire pressure:		12 psig, rear		18 psig, front		Drawbar height:		17.0 in
*4	170.53	24013	2.66	2166	10%	0.517	13.63	122	188	232	66	60	72%	29.00
5	181.03	23139	2.93	2040	8%	0.489	14.42	122	187	234	66	60	72%	29.00
6	185.21	22470	3.09	1865	7%	0.470	15.01	124	191	238	67	59	64%	28.99
7	194.58	19894	3.67	1849	5%	0.449	15.70	123	193	238	69	59	56%	28.98
8	198.37	17374	4.28	1850	3%	0.441	15.98	121	198	240	60	58	89%	28.97
9	199.15	15058	4.96	1849	3%	0.442	15.95	120	190	237	60	58	89%	28.98
10	198.54	13041	5.71	1849	2%	0.443	15.90	123	188	235	60	58	89%	28.98
11	196.47	11184	6.59	1853	2%	0.446	15.80	120	190	227	60	58	89%	28.96
12	192.45	9568	7.54	1846	2%	0.449	15.69	116	187	226	60	58	89%	28.97
13	188.41	8170	8.65	1845	2%	0.458	15.39	121	193	239	60	58	89%	28.97
* Note: Slip limited to avoid excessive tractor bouncing.														

Table 1.2 - *Linkage geometry dimensions.

			Dimension or range [mm]	Settings used on test [mm]
Lift category			III	III
Rear Tire - Radius Index	(r)		905	905
Front Tire - Radius Index	(r')		695	695
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 points 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. 24
Date of test: 14 May 1996
The data presented here is from OECD test 1628 done on the Case IH 7240 which has the mechanically identical hitch system.

		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 [kN]	53.5	52.1	56.1	58.6	59.3
point [lb]	12033	11723	12614	13172	13334
at [kN]	--	74.9	65.6	64.1	62.6
frame [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 [kN]	60.1	60.9	62.3	63.1	--
point [lb]	13500	13680	14009	14193	--
at [kN]	61.9	59.2	57.7	57.4	56.7
frame [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
The data presented here is from OECD test 1628 done on the Case IH 7240 which has the mechanically identical hitch system.

		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	13977	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. 24
Date of test: 13 May 1996
The data presented here is from OECD test 1628 done on the Case IH 7240 which has the mechanically identical hitch system.

		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	September 25, 1997
Location of test	Nebraska Tractor Test Laboratory, Lincoln, NE, USA
Sound Level meter	Bruel and Kjaer 2236
Type of track	Concrete oval
Gear Number	18th
Speed prior to acceleration	27.0 km/h
Noise Level	87.2 dB(A)

Repairs: None
Remarks: None