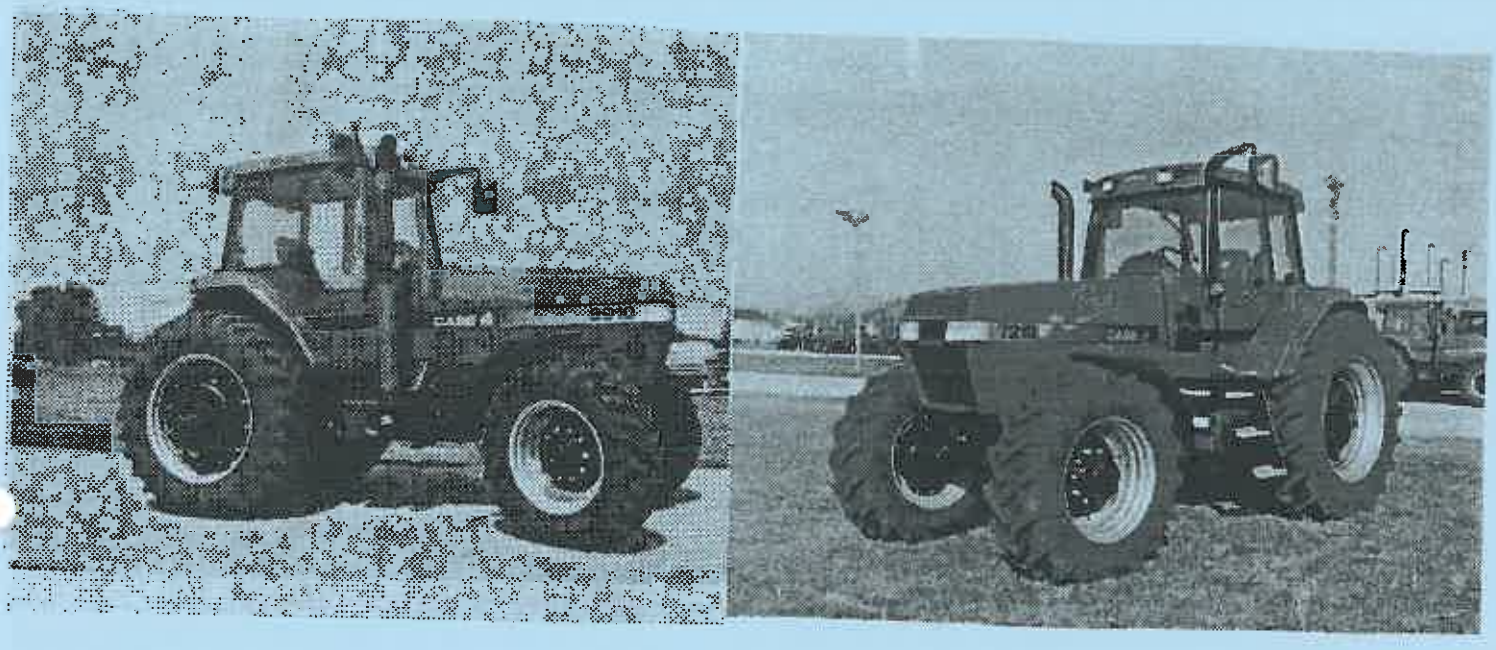
OECD APPROVAL No. 2/1758
CODE 2
Date of Approval: 26 May 1998

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 CODE 2 FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS



CASE IH 8910 - MFWD (4WD)
CASE IH 7210 PRO - MFWD (4WD)
STEYR 9175 - MFWD (4WD)
30 km/h version - 18 speed transmission

MANUFACTURED BY	Case Corporation, 700 State Street, Racine, Wisconsin 53404 USA
NEBRASKA TEST NO.	1734
TEST DATES	September 10 - October 1, 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, Code 2.

This report has been approved by the OECD Coordinating Centre in Paris (CEMAGREF) on 26 May 1998 for the Case IH 8910 MFWD, Case IH 7210 Pro MFWD and Steyr 9175 models, 30 km/h, 18-speed transmission with OECD No. 2/1758.

(The above mentioned models are identical except for the commercial designation.)

All tests were done on the Case IH 8910 MFWD.

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

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Date:

JUN 2 6 1998

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	J.I. Case Racine Tractor Engineering, Racine, Wisconsin, USA
Duration of running in	92 hours
Location of Test	Nebraska Tractor Test Lab. Lincoln, Nebraska USA

TRACTORS:

Make:	**CASE INTERNATIONAL**	**CASE INTERNATIONAL**	**STEYR**
Model:	**8910 - MFWD**	**7210 - MFWD**	**9175 - 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 18 speed transmission**

SPECIFICATIONS OF TRACTOR

Make/Model/Type	Case IH 8910/4WD; Unit construction
Number of driving wheels	2 or 4
Serial number	*JJA0074757*
1st Serial number	*JJA0072000*

ENGINE

Make	Consolidated Diesel Co
Model	6T-830
Type	Diesel, direct injection, turbocharged
Serial Number	*45470171*

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	130 ± 20 kPa at 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
Pump Serial number	67202 00071 54309
Production setting of pump	
Flow Rate (Rated Engine Speed and full load)	30.90+/-1.55 kg/h
Fuel density	0.845 kg/l
Make/Model/Type of injectors	Robert Bosch/J928228/17 mm
Injection timing	16^0 +\-2^0 BTDC; Lock timed at TDC +/- 2^0
Injection pressure	26.0-27.0 MPa
Fuel cooler	Air-to-liquid; ahead of main radiator
Governor	
Make/Model/Type	Robert Bosch/RSV/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 main cleaner)
Make/Model/Type	Nelson/71198A/Aspirated
Air intake location	Underhood; ahead of radiator
Main Cleaner	
Make/Model/Type	Donaldson/EGB11-0077/Dry, dual element pleated paper or Nelson/71198A/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 heat exchanger

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	27.0 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 control lever
Electrical System	
Voltage	12 Volt
Alternator	
Make/Model/Type	Bosch/N1/Alternator; belt drive
Power rating	110 A/14.2 V at 2200 engine 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 (SAEJ537)
Exhaust System	
Make/Model/Type	Nelson (muffler)/26413A/Vertical
Location	External muffler integral with vertical exhaust stack; right front corner of cab

TRANSMISSION TO WHEELS

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/oil in front of radiator

Rear Axle and Final Drives	
Make/model/Type	Case IH; 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	
Make/Model/Type-MFWD	Dana/070BP180-1/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

(Standard 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	244.659	2.78
2nd	213.292	3.19
3rd	184.966	3.68
4th	161.252	4.22
5th	140.579	4.84
6th	122.556	5.55
7th	105.064	6.47
8th	91.594	7.43
9th	79.430	8.56
10th	69.246	9.82
11th	60.369	11.27
12th	52.629	12.92
13th	46.004	14.78
14th	40.106	16.96
15th	34.780	19.55
16th	30.321	22.43
17th	26.434	25.73
18th	23.045	29.51
Reverse		
R1	169.968	4.00
R2	148.178	4.59
R3	72.989	9.31
R4	63.632	10.68

Calculated with a tire dynamic radius index of 820 mm - ISO 4251/1-1992
Number of revolutions of front wheels for one revolution of rear wheels 1.3228

Total transmission ratios and traveling 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	840.621	0.81
2nd Creeper	635.522	1.07
3rd Creeper	483.015	1.41
4th Creeper	360.988	1.88
5th Creeper	272.911	2.49
6th Standard	244.659	2.78
7th Standard	213.292	3.19
8th Creeper	207.420	3.28
9th Standard	184.966	3.68
10th "	161.252	4.22
11th "	140.579	4.84
12th "	122.556	5.55
13th "	105.064	6.47
14th "	91.549	7.43
15th "	79.430	8.56
16th "	69.246	9.82
17th "	60.369	11.27
18th "	52.629	12.92
19th "	46.004	14.78
20th "	40.106	16.96
21th "	34.780	19.55
22th "	30.321	22.43
23th "	26.434	25.73
24th "	23.045	29.51
Reverse		
R1 Creeper	583.994	1.16
R2 Creeper	250.784	2.71
R3 Standard	169.968	4.00
R4 "	148.178	4.59
R5 "	72.989	9.31
R6 "	63.632	10.68

Calculated with a tire dynamic radius index of 820 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 a switch, independent of main drive clutch
Number of shafts	Two
Method of changing shafts	Separate shafts at fixed ratios

Power-Take-Off Proportional to Engine Speed - 540 rev/min.

Location	Rear of tractor, vertical center plane.
Diameter of shaft	35 mm (ISO 500/1991)
Number of splines	6; (ISO 500/1991)
Height above ground	607 mm
Distance from median plane of tractor	0 mm
Distance behind rear axle	796 mm
PTO Speed at rated engine speed	547 rev/min
Engine speed at Std. PTO speed	2171 rev/min
Ratio of Engine rpm to PTO rpm	4.020:1
Power Restriction	63 kW
Direction of rotation (viewed facing driving end)	Clockwise

Power-Take-Off Proportional to Engine Speed -1000 rev/min.

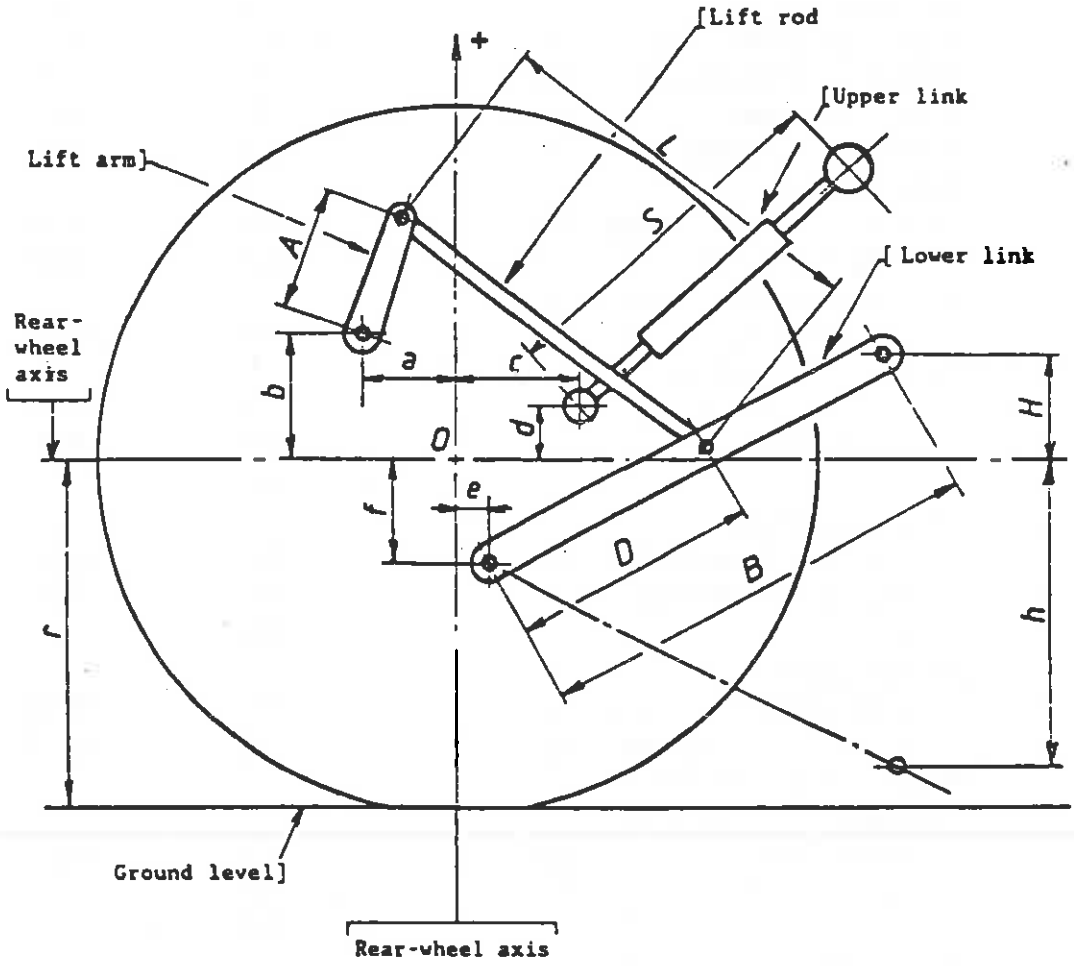
Location	Rear of tractor, vertical center plane.
Diameter of shaft	35 mm (ISO 500/1991)
Number of splines	21; (ISO 500/1991)
Height above ground	730 mm
Distance from median plane of tractor	0 mm
Distance behind rear axle	745 mm
PTO Speed at rated engine speed	1003 rev/min
Engine speed at Std. PTO speed	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 hitch
Type of hydraulic system	Closed center, load sensing
Number/Type of cylinders	One internal, 120.7 mm x 171.5 mm, one external, 38.1 mm x 205 mm; 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
Max. oil volume available for external cylinders	8.5 l.

THREE POINT LINKAGE.

- Category 3 in conformity with ISO 730/1-1990
- Category adaptor - None



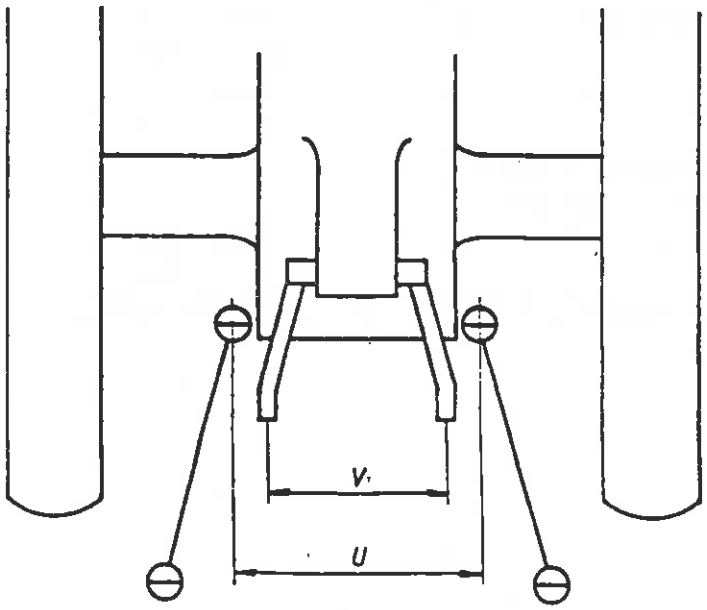


TABLE 1.1 - *LINKAGE GEOMETRY DIMENSIONS

			Dimension or range [mm]	Settings used on test [mm]
Lift category			III	same
Rear Tire - Radius Index	(r)		820	same
Front Tire - Radius Index	(r')		640	610
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)	from	600	655
		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)		579	same
Length of lift rods	(L)	from	660	768
		to	866	
Height of lower hitch points relative to rear wheel axis				
In low position	(h)	from	378	589
		to	699	
In high position	(H)	from	3	106
		to	269	
Height above ground of lower hitch points when locked in transport position		from	833	942
		to	999	

*Assuming (r) with a dynamic tire index of 820 mm; ISO 4251/1-1992

SWINGING DRAWBAR

Type	Swinging
Height above ground	Maximum 594 mm; Minimum 477 mm
Adjustments	Laterally adjustable with 3 fore-aft positions
Distance of hitch point from rear wheel axis, horizontal	
Position 1	1152 mm
Position 2	1254 mm
Position 3	1356 mm
Distance of hitch point from PTO shaft end	
1000 rpm PTO	
Vertically	253 mm
Horizontally	
Position 1	406 mm
Position 2	508 mm
Position 3	610 mm
540 rpm PTO	
Vertically	131 mm
Horizontally	
Position 1	356 mm
Position 2	458 mm
Position 3	559 mm
Lateral adjustment (center of clevis) Right hand & Left hand	
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	14.2 kN
Position 3	12.0 kN

STEERING

Make/Model/Type	Eaton/266-4070-002/ hydrostatic steering control unit
Method of operation	
Pump(s)	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	1524	2235	Reversing wheel rims and offset lug rims
Rear - Inner	1524	3175	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 7210 PRO (4 WD) CSS096/113 30 km/h version
Date of Approval	26 May 1994
OECD Approval Number	STEYR 9175 MFWD (4WD) CSS 096/187 30 km/h version
Date of Approval	18 June 1997

Modification certificate

Certificate for minor modifications numbered:

CSS 096/1 to 8/MOD 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 modifications numbered:

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

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	76.0 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	1617	260.5 x 130.8	390
Rearlights	2019	100.0 x 45.2	654
Reflectors-rear	2019	50.0 x 45.2	554 and 704

TEST CONDITIONS

Overall dimensions (unballasted) (single tires)

Length	Width		Height at top of	
	minimum	maximum	protective structure	exhaust stack
[mm]	[mm]	[mm]	[mm]	[mm]
5020	2845	3175	2992	2954

Overall dimensions (ballasted) (dual tires)

Length	Width		Height at top of	
	minimum	maximum	protective structure	exhaust stack
[mm]	[mm]	[mm]	[mm]	[mm]
5020	3315	3720	2992	2954

Ground clearance (unballasted)	404 mm
Clearance-limiting part	Drawbar anchor point

TRACTOR MASS (with Cab, full fuel tank)

		Without driver [kg]	With driver [kg]
Unballasted	**Front**	2503	2513
	Rear	5315	5380
	Total	7818	7893
Ballasted	**Front**	2503	2513
	Rear	6020	6085
	Total	8523	8598

BALLAST

	Number of weights/duals	Total Mass [kg]	Water [kg]
Test Equipment	None	37	-----
Rear -duals	1	668	-----

TIRE AND TRACK WIDTH SPECIFICATIONS

	Front	Rear
Make	Goodyear	Goodyear
Dimensions	14.9R28	18.4R38
Ply rating	3 star-133A8	1 star-141A8
Type	Radial	Radial
Max. load (tire manufacturer)	2205 kg/tire	2755 kg/tire
Max. load(tractor manufacturer)	2205 kg/tire	2755 kg/tire
Inflation pressure(tire mfr)	210 kPa	120 kPa
Dynamic Radius Index	640 mm	820 mm
Chosen track width - inner	1829 mm	1760 mm
- outer		3205 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^{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	30	

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

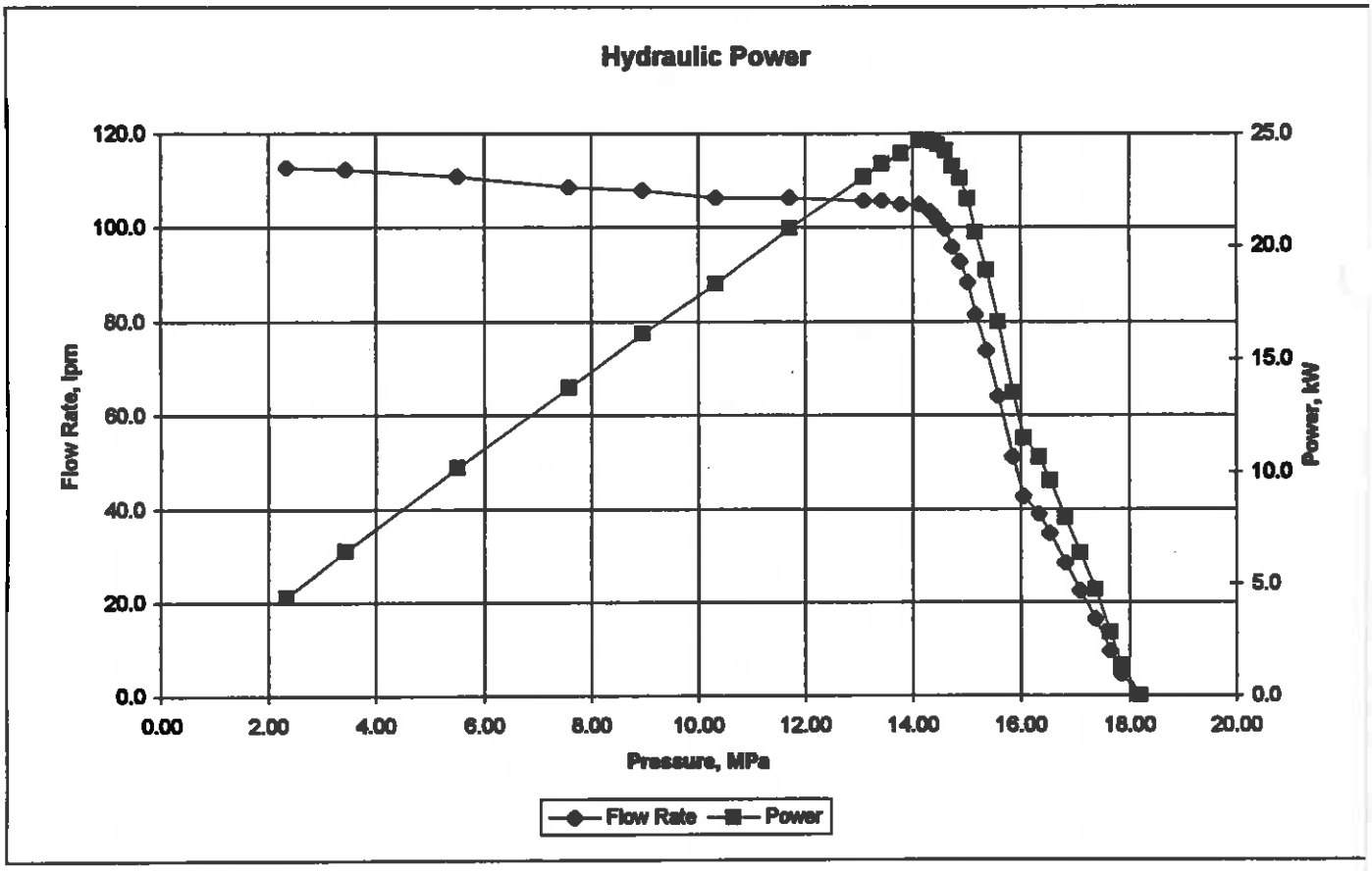
1. MAIN POWER TAKE OFF

Date: 11-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						
110.30	2000	910	32.82	27.72	0.251	3.36
147.91			*8.67*	*61.11*	*0.413*	*17.06*
1.2 Power at Rated Engine Speed - 1 hour						
102.49	2200	1002	33.06	27.92	0.272	3.10
137.44			*8.73*	*61.56*	*0.448*	*15.74*
1.3 Power at Standard Power Take Off Speed - 1 hour						
102.49	2200	1002	33.06	27.92	0.272	3.10
137.44			*8.73*	*61.56*	*0.448*	*15.74*
1.4 Part Loads						
1.4.1 Torque at maximum power at rated engine speed						
102.49	2200	1002	33.06	27.92	0.272	3.10
137.44			*8.73*	*61.56*	*0.448*	*15.74*
1.4.2 85% of torque obtained in 1.4.1						
90.40	2285	1040	30.78	25.99	0.287	2.94
121.24			*8.13*	*57.30*	*0.473*	*14.91*
1.4.3 75% of torque defined in 1.4.2						
68.97	2318	1056	26.10	22.04	0.320	2.64
92.49			*6.90*	*48.60*	*0.525*	*13.41*
1.4.4 50% of torque defined in 1.4.2						
46.51	2358	1074	21.43	18.10	0.389	2.17
62.37			*5.66*	*39.90*	*0.640*	*11.02*
1.4.5 25% of torque defined in 1.4.2						
23.58	2392	1089	16.60	14.02	0.594	1.42
31.62			*4.38*	*30.90*	*0.977*	*7.21*
1.4.6 unloaded						
0.78	2427	1105	11.92	10.07	12.837	0.07
1.05			*3.15*	*22.20*	*21.104*	*0.33*
1.5 Part Loads at Standard Power Take Off Speed						
1.5.1 Torque at maximum power						
102.49	2200	1002	33.06	27.92	0.272	3.10
137.44			*8.73*	*61.56*	*0.448*	*15.74*
1.5.2 85% of torque obtained in 1.5.1						
90.40	2285	1040	30.78	25.99	0.287	2.94
121.24			*8.13*	*57.30*	*0.473*	*14.91*
1.5.3 75% of torque defined in 1.5.2						
68.97	2318	1056	26.10	22.04	0.320	2.64
92.49			*6.90*	*48.60*	*0.525*	*13.41*
1.5.4 50% of torque defined in 1.5.2						
46.51	2358	1074	21.43	18.10	0.389	2.17
62.37			*5.66*	*39.90*	*0.640*	*11.02*
1.5.5 25% of torque defined in 1.5.2						
23.58	2392	1089	16.60	14.02	0.594	1.42
31.62			*4.38*	*30.90*	*0.977*	*7.21*
1.5.6 unloaded						
0.78	2427	1105	11.92	10.07	12.837	0.07
1.05			*3.15*	*22.20*	*21.104*	*0.33*

No load maximum engine speed:	2427	rev/min		
Equivalent torque at rated speed:	445	N.m	*328*	*lb-ft*
Equivalent torque at maximum power:	527	N.m	*388*	*lb-ft*
(engine speed:	2000	rev/min)		
Maximum equivalent crankshaft torque:	614	N.m	*453*	*lb-ft*
(engine speed:	1199	rev/min)		
Mean Dry bulb:	26	deg C	*79*	*deg F*
Wet bulb:	18	deg C	*64*	*deg F*
Relative Humidity	46	%		
Pressure:	97.8	kPa	*28.89*	*in Hg*
Maximum Coolant:	88	deg C	*191*	*deg F*
Engine Oil:	109	deg C	*229*	*deg F*
Fuel:	49	deg C	*121*	*deg F*
Air Intake:	31	deg C	*88*	*deg F*
Transmission/hydraulic oil:	53	deg C	*127*	*deg F*
Intake manifold pressure at rated speed:	125	kPa	*18.2*	*psig*
Intake manifold pressure at maximum power:	126	kPa	*18.3*	*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:			
18.20 MPa			
2640 psig			
II. Pump delivery rate at minumum pressure and rated engine speed:			
112.8 l/min			
29.8 gpm			
III. Flow rate, pressure, power:			
90% of relief valve setting			
39.0 l/min	16.34 MPa	10.6 kW	
10.3 gpm	*2370 psig*	*14.2 hp*	
Maximum hydraulic power:			
104.9 l/min	14.13 MPa	24.7 kW	
27.7 gpm	*2050 psig*	*33.1 hp*	
IV. Hydraulic fluid temperature at flow meter:			
69.1 °C			
156 °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,
Upper link in bottom hole on tractor
Date of test: 21 July 1988
Data taken from OECD test 1195 on the Case International 7110 which has the mechanically identical lifting system.

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm/in]	231/9.1	218/8.6
Vertical movement:			
without load:	[mm/in]	695/27.4	822/32.4
with load:	[mm/in]	658/25.9	772/30.4
Maximum corrected force through full range:	[kN/lb]	36.3/8168	34.6/7772
Corresponding pressure:	[kPa/psi]	16900/2450	
Moment about rear axle:	[kN.m/lb.ft]	47.4/34984	66.2/48835
Maximum mast tilt angle:	[deg]	--	9.4

Lifting height relative to horizontal position of lower links.

[mm]	-251	-239	-201	-99	0
[in]	-9.9	-9.4	-7.9	-3.9	0
Corrected lift forces					
Hitch [kN]	--	36.3	37.5	42.6	46.0
point.[lb]	--	8168	8438	9572	10341
at [kN]	34.6	--	36.1	39.4	41.0
frame [lb]	7772	--	8118	8865	9212

Lifting height relative to horizontal position of lower links.

[mm]	99	201	302	401	419	521
[in]	3.9	7.9	11.9	15.8	16.5	20.5
Corrected lift forces						
Hitch [kN]	48.2	50.1	51.0	52.2	52.4	--
point [lb]	10836	11255	11475	11745	11786	--
at [kN]	41.4	40.8	38.6	36.9	--	36.5
frame [lb]	9297	9180	8676	8298	--	8204

OECD Drawbar Data (SI)

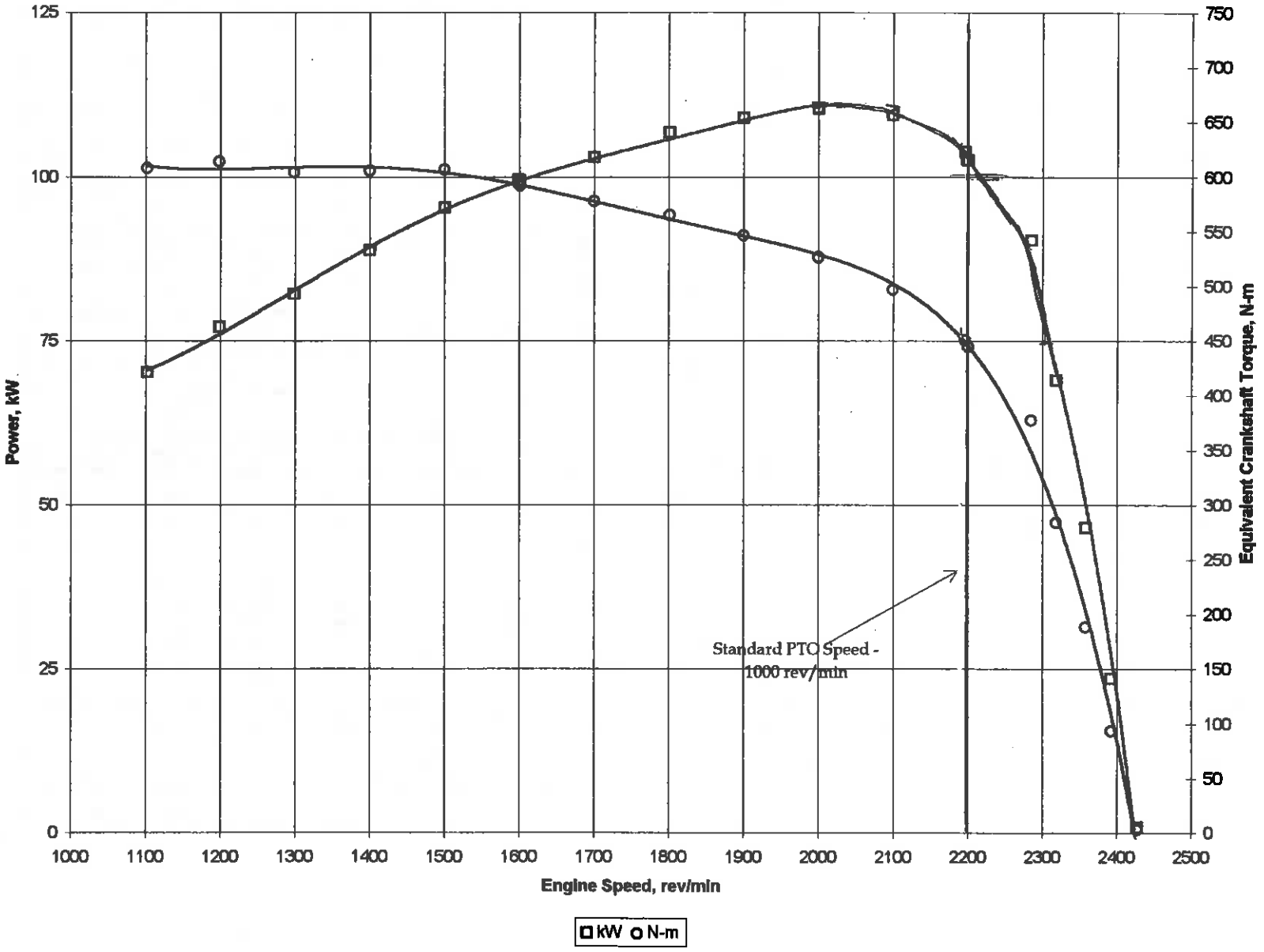
Date of tests: 17,18-Sep-97				Fuel density	0.845 kg/l									
Type of trac Concrete				Test number	1734									
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel hum-idity	Baro. Pres
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
I. Maximum Power (unballasted, 4wd at 2000 rev/min)						Tire pressure:		124 kPa, rear		97 kPa, front		Drawbar height:		406 mm
3	67.82	72.62	3.36	2282	15%	0.387	2.18	49	86	111	19	16	68%	97.90
4	76.02	73.52	3.72	2212	15%	0.364	2.32	48	86	110	18	15	71%	97.87
5	84.75	69.55	4.39	2112	8%	0.330	2.56	49	87	111	21	16	64%	97.93
6	87.32	64.22	4.90	2005	6%	0.313	2.70	48	87	113	24	21	79%	97.29
7	91.40	57.12	5.76	1998	5%	0.299	2.82	48	88	113	23	21	82%	97.29
8	92.33	49.65	6.69	2001	4%	0.297	2.85	48	88	113	23	21	82%	97.29
9	91.69	42.53	7.76	1999	3%	0.297	2.84	47	87	112	23	21	82%	97.29
10	91.73	36.85	8.96	2002	3%	0.301	2.81	46	86	111	22	21	91%	97.29
11	90.20	31.47	10.32	2003	3%	0.301	2.80	46	87	111	24	21	79%	97.29
12	87.68	26.53	11.90	2006	2%	0.311	2.72	47	86	112	24	21	79%	97.29
13	87.68	23.19	13.61	2002	2%	0.312	2.71	47	86	111	24	21	79%	97.29
II. Part loads (unballasted, 4wd)														
II.1 in selected gear at maximum power at rated engine speed.														
8	86.79	42.09	7.42	2203	3%	0.318	2.65	47	88	112	23	21	87%	97.29
II.1.1 75% of pull at maximum power at rated engine speed														
8	68.28	31.49	7.81	2299	3%	0.354	2.39	50	87	112	24	22	79%	97.29
II.1.2 50% of pull at maximum power at rated engine speed														
8	46.61	20.98	8.00	2339	2%	0.424	1.99	49	86	111	26	22	72%	97.29
II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1														
9	68.32	31.39	7.84	2002	3%	0.317	2.66	47	84	109	25	22	75%	97.29
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
9	46.61	20.92	8.02	2035	2%	0.379	2.23	48	84	108	28	22	62%	97.29
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3														
10	68.25	31.52	7.80	1736	3%	0.292	2.89	46	84	108	26	22	72%	97.29
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4														
10	46.62	20.90	8.03	1775	2%	0.343	2.46	46	83	106	29	23	60%	97.29
II.2 in selected gear nearest to 7.5 km/h at rated engine speed.														
8	86.79	42.09	7.42	2203	3%	0.318	2.65	47	88	112	23	21	87%	97.29
II.2.1 75% of pull at maximum power at rated engine speed														
8	68.28	31.49	7.81	2299	3%	0.354	2.39	50	87	112	24	22	79%	97.29
II.2.2 50% of pull at maximum power at rated engine speed														
8	46.61	20.98	8.00	2339	2%	0.424	1.99	49	86	111	26	22	72%	97.29
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
9	68.32	31.39	7.84	2002	3%	0.317	2.66	47	84	109	25	22	75%	97.29
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
9	46.61	20.92	8.02	2035	2%	0.379	2.23	48	84	108	28	22	62%	97.29
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3														
10	68.25	31.52	7.80	1736	3%	0.292	2.89	46	84	108	26	22	72%	97.29
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4														
10	46.62	20.90	8.03	1775	2%	0.343	2.46	46	83	106	29	23	60%	97.29

OECD Drawbar Data (US)

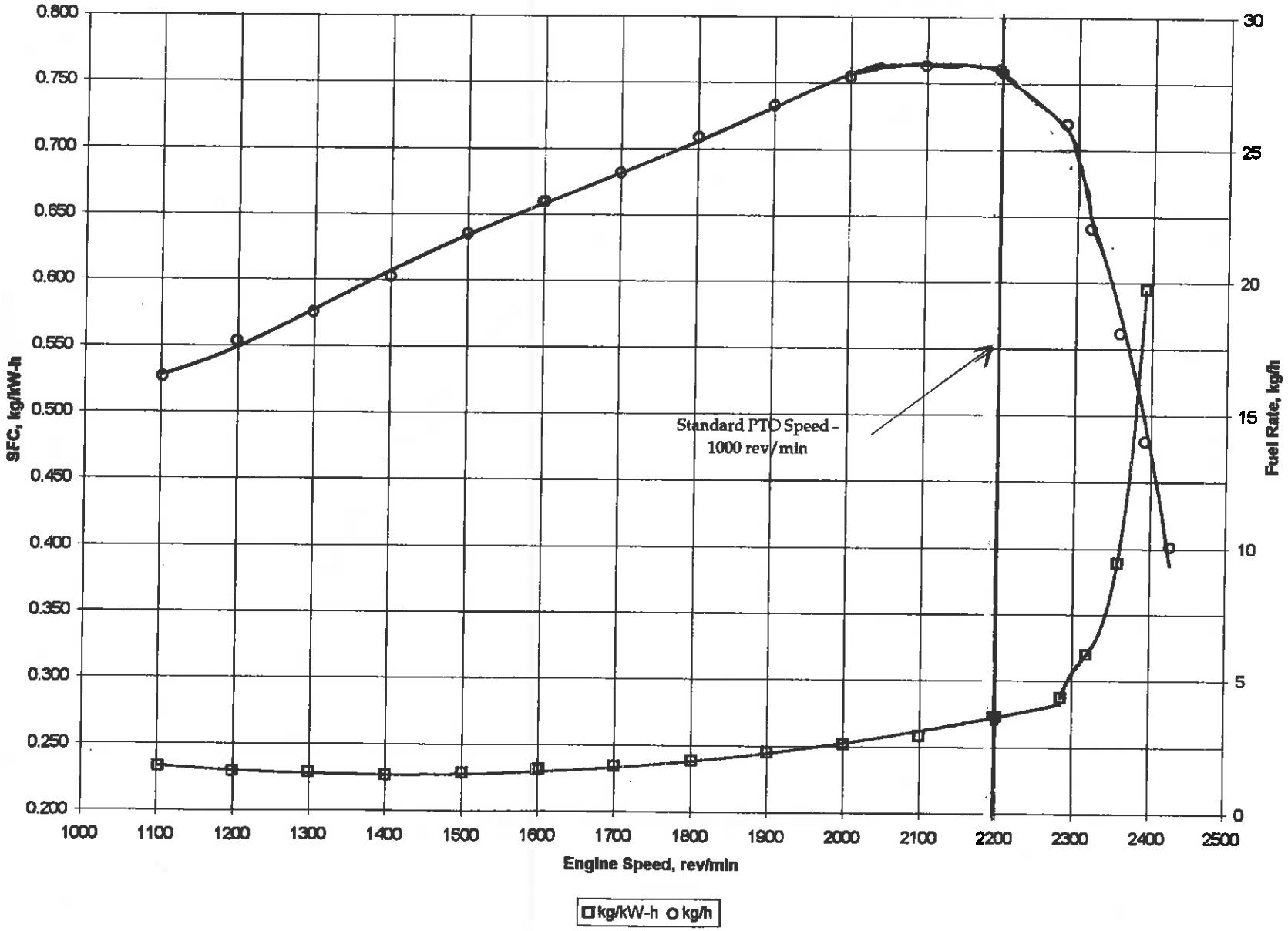
Date of tests: 17,18-Sep-97 Fuel density 7.048 lb/gal
Type of trac Concrete Test number 1734

Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel humidity	Baro. Pres
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		in Hg
I. Maximum Power (unballasted, 4wd at 2000 rev/min)						Tire pressure:		18 psig, rear		14 psig, front		Drawbar height:	16.0 in	
3	90.95	16326	2.09	2282	15%	0.637	11.07	120	187	231	67	60	68%	28.91
4	101.94	16529	2.31	2212	15%	0.599	11.77	118	187	231	65	59	71%	28.90
5	113.65	15636	2.73	2112	8%	0.542	13.00	120	189	233	69	61	64%	28.92
6	117.10	14437	3.04	2005	6%	0.514	13.70	119	189	236	75	70	79%	28.73
7	122.57	12842	3.58	1998	5%	0.492	14.33	118	190	236	74	70	82%	28.73
8	123.81	11162	4.16	2001	4%	0.488	14.45	118	190	235	74	70	82%	28.73
9	122.95	9561	4.82	1999	3%	0.489	14.42	117	188	234	74	70	82%	28.73
10	123.01	8284	5.57	2002	3%	0.495	14.25	115	187	232	72	70	91%	28.73
11	120.97	7076	6.41	2003	3%	0.495	14.23	115	189	232	75	70	79%	28.73
12	117.58	5965	7.39	2006	2%	0.511	13.79	117	188	234	75	70	79%	28.73
13	117.59	5213	8.46	2002	2%	0.513	13.74	116	188	232	75	70	79%	28.73
II. Part loads (unballasted, 4wd)														
II.1 in selected gear at maximum power at rated engine speed.														
8	116.38	9463	4.61	2203	3%	0.523	13.47	117	191	234	73	70	87%	28.73
II.1.1 75% of pull at maximum power at rated engine speed														
8	91.57	7079	4.85	2299	3%	0.582	12.11	121	188	233	76	71	79%	28.73
II.1.2 50% of pull at maximum power at rated engine speed														
8	62.50	4716	4.97	2339	2%	0.697	10.11	120	187	231	79	72	72%	28.73
II.1.3higher gear at reduced engine speed, same pull and travel speed as II.1.1														
9	91.62	7057	4.87	2002	3%	0.522	13.51	116	184	229	77	71	75%	28.73
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
9	62.50	4702	4.98	2035	2%	0.623	11.31	118	183	227	82	72	62%	28.73
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3														
10	91.53	7086	4.84	1736	3%	0.481	14.66	114	183	227	78	71	72%	28.73
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4														
10	62.52	4699	4.99	1775	2%	0.565	12.48	115	182	223	84	73	60%	28.73
II.2 in selected gear nearest to 4.6 mph at rated engine speed.														
8	116.38	9463	4.61	2203	3%	0.523	13.47	117	191	234	73	70	87%	28.73
II.2.1 75% of pull at maximum power at rated engine speed														
8	91.57	7079	4.85	2299	3%	0.582	12.11	121	188	233	76	71	79%	28.73
II.2.2 50% of pull at maximum power at rated engine speed														
8	62.50	4716	4.97	2339	2%	0.697	10.11	120	187	231	79	72	72%	28.73
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
9	91.62	7057	4.87	2002	3%	0.522	13.51	116	184	229	77	71	75%	28.73
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
9	62.50	4702	4.98	2035	2%	0.623	11.31	118	183	227	82	72	62%	28.73
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3														
10	91.53	7086	4.84	1736	3%	0.481	14.66	114	183	227	78	71	72%	28.73
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4														
10	62.52	4699	4.99	1775	2%	0.565	12.48	115	182	223	84	73	60%	28.73

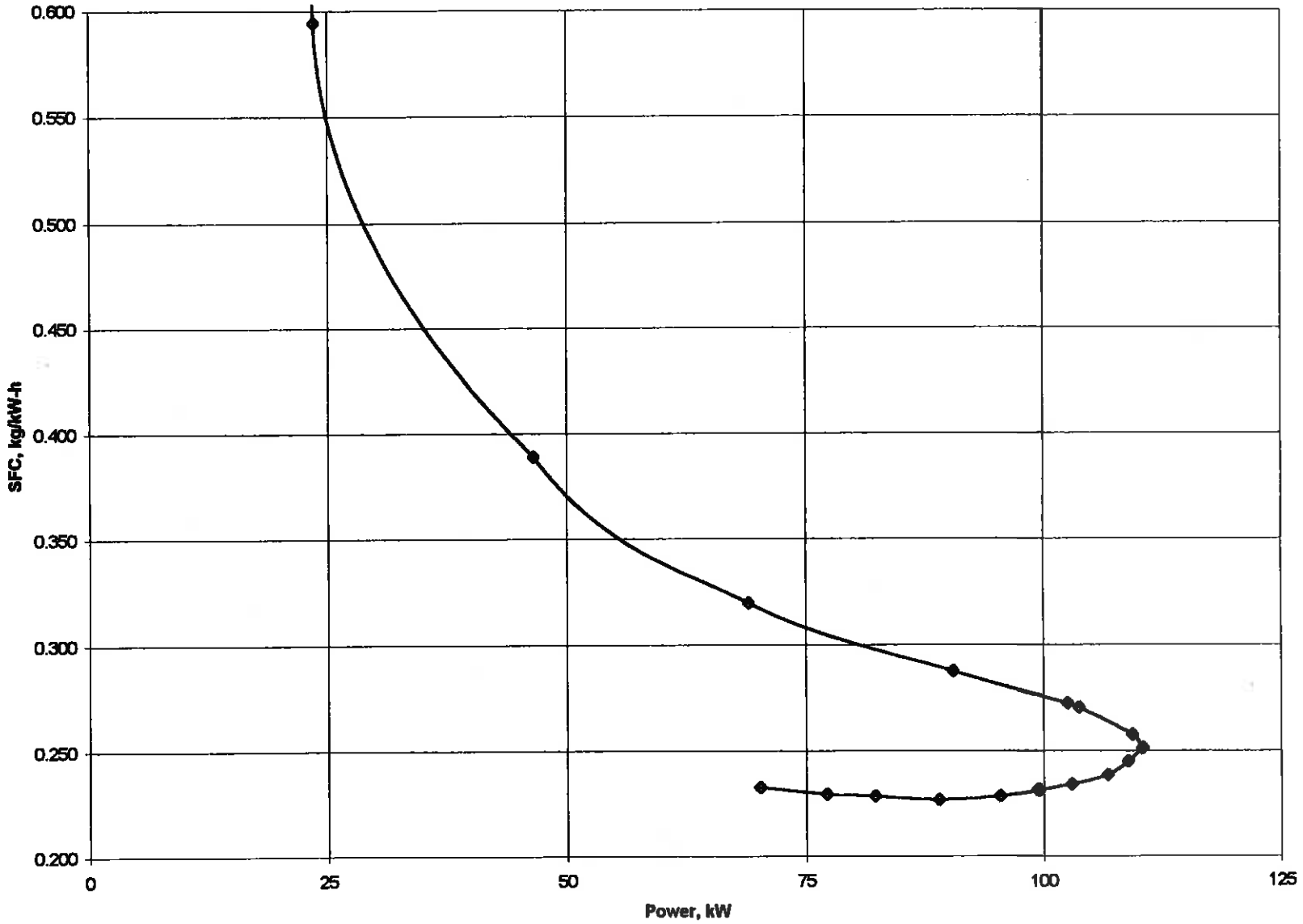
Power and Equivalent Crankshaft Torque



Specific Fuel Consumption and Fuel Rate



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: 30-Sep-97 | Fuel density: 0.845 kg/l
Type of track: Concrete | Test number: 1734

Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel humidity	Barom. Press
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
I. Maximum Power (ballasted, 4wd at 2000 rev/min)						Tire pressure:		83 kPa, rear		97 kPa, front		Drawbar height:		406 mm
*3	81.16	88.05	3.32	2195	11%	0.343	2.47	47	86	112	11	9	82%	98.00
4	89.50	83.26	3.87	2116	7%	0.312	2.71	47	87	112	13	10	72%	98.04
5	91.80	77.20	4.28	2003	5%	0.299	2.82	47	87	113	14	11	68%	98.07
6	92.01	66.61	4.97	2000	4%	0.298	2.84	47	87	112	16	12	60%	98.14
7	96.14	59.30	5.84	2001	3%	0.285	2.97	46	87	113	17	12	61%	98.10
8	95.08	50.91	6.72	2000	3%	0.289	2.92	47	87	113	18	13	54%	98.14
9	94.45	43.67	7.79	2001	2%	0.290	2.92	46	87	112	20	13	48%	98.14
10	91.94	36.94	8.96	2001	2%	0.294	2.87	46	87	112	22	14	43%	98.14
11	89.58	31.28	10.31	2001	2%	0.301	2.80	46	87	112	22	14	40%	98.17
12	88.83	26.95	11.87	2003	1%	0.308	2.74	47	87	112	22	14	44%	98.17
13	88.55	23.46	13.59	2002	1%	0.306	2.76	47	87	112	23	14	41%	98.17

* Note: Pull limited to prevent excessive bouncing

OECD Drawbar Data (US)

Date of tests: 30-Sep-97 | Fuel density: 7.048 lb/gal
Type of track: Concrete | Test number: 1734

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 (ballasted, 4wd at 2000 rev/min)						Tire pressure:		12 psig, rear		14 psig, front		Drawbar height:		16.0 in
*3	108.84	19795	2.06	2195	11%	0.563	12.52	116	188	233	51	48	82%	28.94
4	120.02	18718	2.40	2116	7%	0.513	13.74	117	188	234	55	50	72%	28.95
5	123.11	17355	2.66	2003	5%	0.492	14.33	116	188	235	58	52	68%	28.96
6	123.39	14975	3.09	2000	4%	0.489	14.41	116	189	234	61	53	60%	28.98
7	128.92	13332	3.63	2001	3%	0.468	15.07	116	189	235	62	54	61%	28.97
8	127.50	11446	4.18	2000	3%	0.476	14.81	116	189	235	65	55	54%	28.98
9	126.67	9818	4.84	2001	2%	0.476	14.81	115	189	234	68	56	48%	28.98
10	123.30	8305	5.57	2001	2%	0.484	14.56	115	188	233	71	57	43%	28.98
11	120.13	7032	6.41	2001	2%	0.496	14.22	115	189	234	72	57	40%	28.99
12	119.13	6059	7.37	2003	1%	0.507	13.91	116	188	234	72	58	44%	28.99
13	118.75	5274	8.44	2002	1%	0.503	14.01	117	188	234	73	58	41%	28.99

* Note: Pull limited to prevent excessive bouncing

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

- Category adaptor - none

TABLE 1.2 - *LINKAGE GEOMETRY DIMENSIONS

		Dimension or range [mm]	Settings used on test [mm]
Lift category		III	III
Rear Tire - Radius Index	(r)	820	820
Front Tire - Radius Index	(r')	640	610
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	660
	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	768
	to	866	
Height of lower hitch points relative to rear wheel axis In low position	(h)	378	589
	to	699	
In high position	(H)	3	106
	to	269	
Height above ground of lower hitch points when locked in transport position.	from	823	942
	to	1089	

*Assuming (r) with a dynamic tire index of 820 mm; ISO 4251/1-1992

2.2 POWER LIFT TEST. Cat III.
Upper link in top hole on tractor - for dimensions see p. 26
Date of test: 21 July 1988
Data taken from OECD test 1541 on the Case International 7110 which has a mechanically identical lifting system.

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm/in]	231/9.3	239/9.4
Vertical movement: without load:	[mm/in]	695/27.4	714/28.1
Vertical movement: with load:	[mm/in]	658/25.9	668/26.3
Maximum corrected force through full range:	[kN/lb]	36.3/8168	40.0/8991
Corresponding pressure:	[kPa/psi]	16900/2450	
Moment about rear axle:	[kN.m/lb.ft]	47.4/34984	76.6/56493
Maximum mast tilt angle:	[deg]	--	1.7

Lifting height relative to horizontal position of lower links.

	[mm]	-239	-231	-201	-99	0
	[in]	-9.4	-9.1	-7.9	-3.9	0
Corrected lift forces						
Hitch point.	[kN]	36.3	--	37.5	42.6	46.0
	[lb]	8168	--	8438	9572	10341
at frame	[kN]	--	40.0	41.2	44.2	45.8
	[lb]	--	8991	9270	9927	10287

Lifting height relative to horizontal position of lower links.

	[mm]	99	201	302	401	419	437
	[in]	3.9	7.9	11.9	15.8	16.5	17.2
Corrected lift forces							
Hitch point	[kN]	48.2	50.1	51.0	52.2	52.4	--
	[lb]	10836	11255	11475	11745	11786	--
at frame	[kN]	46.5	46.0	43.6	42.9	43.4	42.5
	[lb]	10458	10350	9801	9648	9747	9554

MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of test	September 30, 1997
Location of test	Nebraska Tractor Test Laboratory, Lincoln, NE, USA
Sound level meter	Bruel and Kjar 2236
Type of track	Concrete oval
Gear number	18th
Speed prior to acceleration	24.4 km/h
Noise level	83.9 dB(A)

Repairs: None
Remarks: None