OECD APPROVAL # 1695 (Restricted Code)
Date of approval: 23 October, 1997

NEBRASKA TRACTOR TESTING LABORATORY
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LINCOLN, NEBRASKA 68583-0832, USA

REPORT ON TEST IN ACCORDANCE WITH OECD STANDARD CODE FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTOR PERFORMANCE

CATERPILLAR CHALLENGER 75D, RUBBER TRACKED TRACTOR.



MANUFACTURED BY	: Caterpillar Agricultural Products Inc. 12101 Barber Greene Road, Dekalb, IL 60115 USA
NEBRASKA TEST NUMBER	: 1722
TEST DATES	: April 1 through 14, 1997

This test report provides the results of the tests conducted in accordance with the OECD STANDARD CODE II (Restricted Code) for the Official Testing of Agricultural Tractor Performance - C(87)53 Final - Annex II.
This report has been approved by the OECD Coordinating Centre in Paris (CEMAGREF) on 23 October, 1997 for the

Caterpillar Challenger 75D, Rubber-Tracked Tractor OECD # 1695
Restricted Code

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SPECIFICATIONS

Manufacturers name/address	Caterpillar Agricultural Products Inc. 12101 Barber Greene Road, Dekalb, IL 60115 USA
Location of tractor assembly	As above
Submitted for test by	The manufacturer.
Selected for test by	The manufacturer in agreement with the test station.
Place of running in	Caterpillar Proving Grounds ,Peoria, Illinois
Duration of running in	79 hours
Location of test	Tractor Testing laboratory University of Nebraska Lincoln, Nebraska, USA

SPECIFICATIONS OF TRACTOR.

Make/Model/Type	Caterpillar Challenger 75D,Unit construction, Track laying
Number of driving members	Two rubber tracks.
Serial number	5AR00320
1st Serial number	This model is the 1st of the 5AR series

ENGINE.

Make	Caterpillar
Model	3176C
Type	Diesel, direct injection, turbocharged and air to air aftercooled.
Serial Number	7ZR00192

Cylinders

Number/Disposition	6, in-line, vertical
Bore/Stroke	125 mm x 140 mm
Cubic capacity	10308 cm^3
Compression Ratio	16.0 to 1
Arrangement of valves	Overhead
Cylinder liners	Wet, replaceable

Turbocharging

Make/Model/Type	Schwitzer/S3BSL128/radial flow/exhaust gas driven.
Pressure	88-127 kPa at rated engine speed and load

Fuel System

Fuel Feed system	Engine driven transfer pump
Make/Model/Type of filters	Caterpillar/133-5673/Primary - washable screen; 1R0749/Secondary - paper element,
Fuel tank capacity	768 liters

Make/Model/Type of Injection Pump	Caterpillar electronically controlled unit injector system
Pump Serial number	None - Pump is integral part of engine
Production setting of pump flow Rate (at 2100 engine rpm)	51.4 ± 2.4 kg/h
Fuel density	0.841 kg/liter
Make/Model/Type of injectors	Caterpillar part # 116-5426
Injection pressure	150 MPa
Timing	Variable, Electronically controlled

Governor

Make/Model/Type	Caterpillar/ADEM II Engine Management System/Electronic
Governed engine speed range	From 880 to 2300 rev/min
Rated engine speed	2100 rev/min
high-idle speed range	2300 ± 40 rev/min

Air Cleaner.

Pre-cleaner	
Make/Model/Type	Donaldson/PSH00-0680/Dust ejector
Air intake location	Above right front fender
Main Cleaner	
Make/Model/Type	Donaldson/ERB120361/Dry, paper dual element
Maintenance indicator	Restriction gage on air intake near air cleaner

Lubrication system.

Type of feed pump	Gear pump
Type of filters	Spin-on, Caterpillar 1RO716
Number	One
Oil cooler	Heat exchanger with engine coolant

Cooling System.

Type of coolant	Liquid
Type of pump	Centrifugal, gear driven
Fan specification	Schwitzer, direct drive
Number of fan blades	8
Fan diameter	914 mm
Coolant capacity	57 liter
Type of temperature control	Thermostat
Superpressure system	48 kPa

Starting system.

Make/Model/Type of starter	Delco/42MT/Solenoid engaged
Power Rating	5.6 kW
Cold starting aid	Ether spray in intake manifold.

Safety device	Transmission neutral switch.
Electrical System.	
Voltage & grounding.	12 Volt DC; negative ground
Alternator	
Make/Model/Type	Delco Remy/21SI type 200/9X9096
Power rating	145 A at 2100 engine rev/min
Batteries	
Number & connection	2-12 V batteries in parallel
Rating	100 Ampere-hours per battery at 20 hour rating. 950 Cold Cranking Amps per battery
Exhaust system.	
Make/Model/Type	Donaldson/ 118-7530/expansion chamber
Location	Muffler and exhaust pipe vertical on right front fender
TRANSMISSION	
Clutch. (travel alone)	
Make/Model/Type	Caterpillar, wet disc, integral with transmission, oil cooled
Number of plates	6
Diameter of plates	190 mm
Method of operation	Hydraulic, pedal actuated.
Gear Box.	
Make/Model/Type	Caterpillar, direct drive, full powershift,mechanical
Arrangement	Four rotating countershaft clutches and four stationary planetary clutchpacks
Number of gears	10 forward and 2 reverse, controlled by a single and lever
Oil cooler	Heat exchanger with engine coolant
Rear axle and final drives.	
Make/Model/Type	Caterpillar/outboard single reduction pinion and bull gear
Differential lock	Not applicable

GEAR RATIOS AND TRAVEL SPEEDS.

Gear Number	Number of Engine revolutions for one revolution of the driving wheels	Nominal travel speed at rated engine speed of 2100 rev/min [km/h]
1 fwd	97.975	4.28
2 fwd	64.890	6.47
3 fwd	55.491	7.56
4 fwd	48.529	8.65
5 fwd	42.310	9.92
6 fwd	36.753	11.42
7 fwd	32.141	13.06
8 fwd	28.023	14.98
9 fwd	21.738	19.31
10 fwd	14.420	29.11
1 rev	133.603	3.14
2 rev	57.696	7.27

Calculated with a rear axle rolling radius of 526 mm - Conforms to ISO 4251/1-1992

POWER - TAKE - OFF.

Main Power-Take-Off.

Type	Independent
Method of engagement	Multiplate wet clutch hydraulically actuated by lever, independent of main drive clutch
Number of shafts	One

Power take-off proportional to engine speed.

1000 rev/min

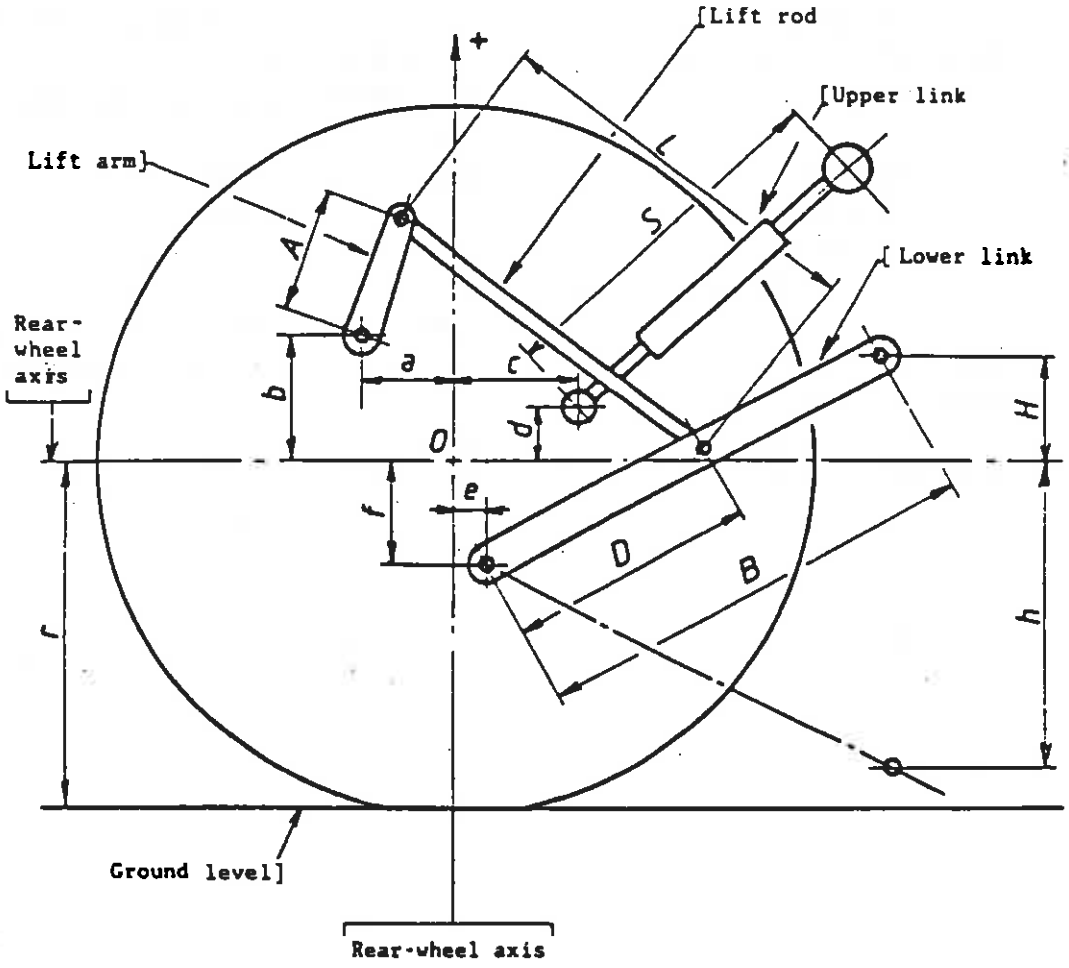
Location	Rear of tractor in vertical center plane.
Diameter of shaft	45 mm
Number of splines	20; conforms to ISO 500/1991.
Height above ground	746 mm
Distance from median plane of tractor	0 mm
Distance behind rear axle	382 mm
PTO Speed at rated engine spd	1024 rev/min
Engine speed at std PTO spd	2050
Ratio of Engine rpm to PTO rpm	2.05 to 1
Direction of Rotation (viewed facing driving end)	Clockwise.

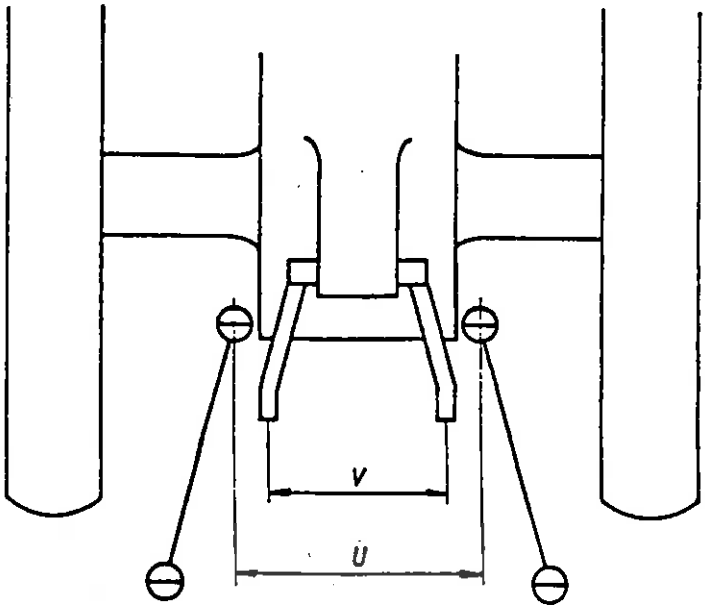
POWER LIFT.

Make	Caterpillar
Type of system	Closed Center; Load sensing
Type/Number of Lift Cylinders	External; Single Acting/Two
Type of linkage lock for transport	Electrohydraulic position control
Compensator pressure setting	19.0 ± 0.35 MPa; margin pressure 2.8 ± 0.1 MPa
Opening pressure of relief valve	20.7 ± 0.30 MPa
Make/Model/Type of pump	Vickers/PVE21L/axial piston; pressure and flow compensated
Type of pump drive	Gear driven from transmission
Type/Number of filters	Spin-on cartridge and screen/One
Location of Oil reservoir	Behind Cab; left side of tractor
Make/Model/Type of implement valves	Rexroth/1602-552-360/stack type; cable actuated with individual flow control valves
Number/Type/Location of tapping points	Four pairs/ISO-5675 standard/Rear of tractor
Maximum oil volume available for external cylinders	40 liters
Make/model/type of oil cooler	Karmazin Products Corp/91-001/Air-to-Oil

THREE POINT LINKAGE.

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





THREE-POINT LINKAGE.

Table 1. - *Linkage geometry dimensions.

		Dimensions or range [mm]	Settings used on test [mm]
Category		III	same
Length of lift arms	(A)	545	same
Length of lower links	(B)	765	same
Distance of lift arm pivot from rear wheel axis			
horizontal	(a)	225	same
vertical	(b)	415	same
Horizontal distance between the 2 lower link points	(u)	860	same
Horizontal distance between the 2 lift arm end points	(v)	1040	same
Length of upper link	(s)	640	
	to	740	678
Distance of upper link pivot from rear axle centerline			
horizontal	(c)	370	same
vertical	(d)	422	same
Distance of lower link pivot from rear wheel axis			
horizontal	(e)	265	same
vertical	(f)	98	same
Distance of lower link pivot points to lift rod pivot points on lower links.	(D)	535	same
Length of lift rods	(L)	560	
	to	665	663
Height of lower hitch points relative to rear axle:			
In low position	(h)	230	
	to	375	371
In high position	(H)	470	
	to	350	384
Height above ground of lower hitch points when locked in transport position.	to	950 1070	962

*Calculated with a rear axle radius of 600 mm - Conforms to ISO 4251/1-1992

HYDRAULIC SYSTEM

Make/Model/Type of implement valves	Rexroth/1602-552-360/stack type; cable actuated with individual flow control valves
Make/Model/Type of pump	Vickers/PVE21L/axial piston; pressure and flow compensated
Compensator peessure setting	19.0 ± 0.35 MPa; margin pressure 2.8 ± 0.1 MPa
Type of pump drive	Gear driven from transmission
Type/Number of filters	Spin-on cartridge/One
Location of Oil reservoir	Behind Cab; left side of tractor
Number/Type/Location of tapping points	Four pairs/ISO standard/Rear of tractor
Maximum oil volume available for external cylinders	40 liters

SWINGING DRAWBAR.

Type	Oscillating
Height above ground	440 mm
Adjustments	None
Distance of hitch point from rear axle:	
Horizontal	882 mm
Vertical	177 mm below
Distance of hitch point from PTO shaft end	
Vertical	307 mm
Horizontal	500 mm
Lateral adjustment Right side	148 mm
Left side	148 mm
Distance of pivot point from rear axle	
Horizontal	730 mm
Diameter of drawbar pin hole	50 mm
Maximum vertical static permissible load	22.2 kN

STEERING.

Make/Model/Type	Caterpillar/differential steer
Method of operation	Sauer-Sundstrand piston pump and Rexroth motor; pilot activated valves, controlled by steering wheel.
Working pressure	42.0 MPa
Oil cooler	Radiator ahead of main radiator

BRAKES

Service brake.

Make/Model/Type	Caterpillar, Multiple wet disc in steering differential
Method of operation	Manual/Hydraulically boosted master cylinder; pedal operated.

Trailer braking take-off	None

Parking brake.

Type	Caliper, dry disc.
Method of operation	Manual/mechanical, lever operated

ROPS CAB STRUCTURE

Make/Model/Type	Caterpillar/124-4646/Cab
Manufacturers name/address	Caterpillar Inc. 100 N.E. Adams street, Peoria, IL. 61629, USA
Protective device	Cab, not tiltable.
OECD approval number	None
ISO approval tested	ISO 3449: 1992 and ISO 3471: 1986

DRIVER'S SEAT.

Make/Model/Type	SEARS/144-4542/Low Profile
Optional seat	None
Type of suspension	Air suspension
Type of damping	Air spring and adjustable oil shocks; 3 position
Range of adjustment	
Longitudinal	178 mm
Vertical	76 mm (in addition to 80 mm suspension)

LIGHTING.

	Height above ground of center [mm]	Size [mmxmm]	Distance from outside edge to median plane of tractor [mm]
Headlights	2000	102 x 156	256
Tail lights	1439	110 x 110	1147
Rear reflectors	1439	110 x 110	1035
Stop lights	1439	110 x 110	1261
Rear Work Lights	3184	139 x 139	676
Front work lights	1439	139 x 139	1295

TEST CONDITIONS.

Overall dimensions.

Length		6224 mm with Quick Coupler, 6040 mm without Quick Coupler
Width		3048 mm
Height	- Top of Cab	3240 mm
	- Top of exhaust	3668 mm
Ground clearance		378 mm
Clearance-limiting part		Drawbar anchor point

Tractor Mass (with Cab) - Unballasted

	Without driver [kg]	With driver [kg]
Total	16202	16277

TRACK SPECIFICATIONS.

Track materials	Rubber covered steel cables
Track width and base	762 mm, 2721 mm
Dynamic radius - under drive wheel	526 mm
Track support system	4 bogey axles with pneumatic suspension; oscillating front support
Tread bars	
Number per metre	8.2/ meter of belt OD
Bar length at top	380 mm
Bar width at top	50 mm
Bar width at center	76 mm
Bar height	50 mm
Track weight	564 kg each
Track length	8529 mm

OILS AND LUBRICATION.

Capacity and change interval

	Capacity liter	Oilchange hours	Filter change hours
Engine (w/o filter)	26	250	250
Transmission	57	1000	500
Differential/final drive	208	1000	--
Hydraulic system +steering system	110	1000	1000

Oil and Lubricant specifications

	Recommended	Used during test
Engine oil		
Type	Caterpillar Fluids	
Viscosity	SAE 15W40	same
Classification	API-CF-4	
Transmission		
Type	Caterpillar Fluids	same
Viscosity	SAE 30W	
Classification	TO-4	
Hydraulic fluid		
Type	Caterpillar Fluids	same
Viscosity	SAE 10W	
Classification	HYDO	
Grease	MPGM NLGI No.2	
Number of lubrication points	3	

Fuel.

Type/grade	Grade 2-D,in conformity with the national standard
Density (Pto test)	0.841 g/cubic-cm at 15^{0}C
(Drawbar test)	Same as Pto test.
Cetane number	50.6
Viscosity	2.51 cSt at 38^{0}C

COMPULSORY TESTS

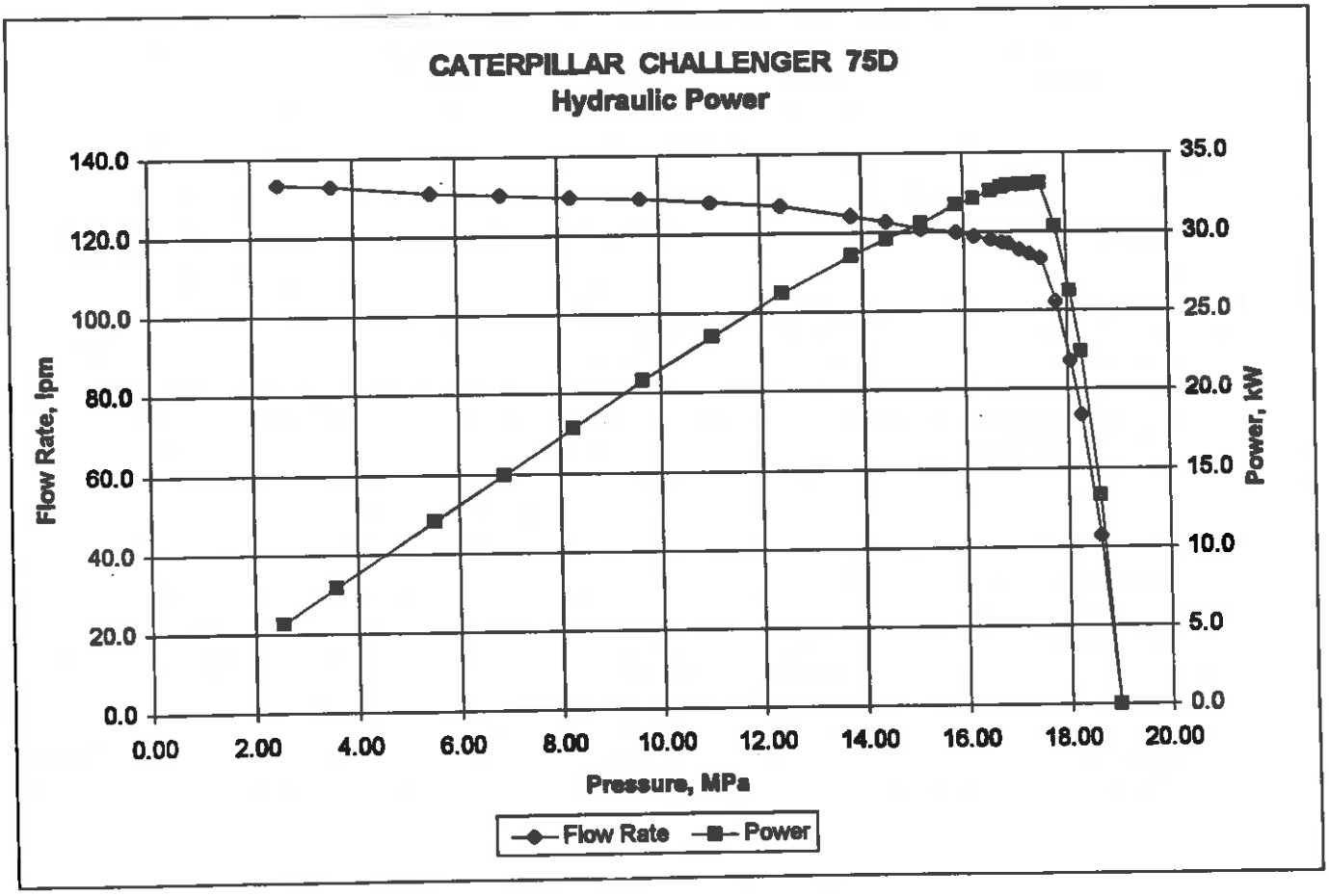
1. MAIN POWER TAKE OFF

Date: 2-Apr-97 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/h	kg/kW-h / lb/hp-h	kW-h/l / hp-h/gal
1.1 Maximum Power - 2 Hours						
224.15 / 300.58	1950	950	61.11 / 16.14	51.37 / 113.26	0.229 / 0.377	3.67 / 18.62
1.2 Power at Rated Engine Speed - 1 hour						
212.01 / 284.30	2100	1023	59.47 / 15.71	50.00 / 110.23	0.236 / 0.388	3.56 / 18.10
1.3 Power at Standard Power Take Off Speed - 1 hour						
218.17 / 292.57	2052	1000	60.37 / 15.95	50.76 / 111.90	0.233 / 0.382	3.61 / 18.34
1.4 Part Loads						
1.4.1 Torque at maximum power at rated engine speed						
212.01 / 284.30	2100	1023	59.47 / 15.71	50.00 / 110.23	0.236 / 0.388	3.56 / 18.10
1.4.2 85% of torque obtained in 1.4.1						
184.57 / 247.51	2153	1049	53.09 / 14.03	44.63 / 98.40	0.242 / 0.398	3.48 / 17.65
1.4.3 75% of torque defined in 1.4.2						
142.32 / 190.85	2215	1079	44.19 / 11.67	37.15 / 81.90	0.261 / 0.429	3.22 / 16.35
1.4.4 50% of torque defined in 1.4.2						
97.89 / 131.27	2283	1112	35.12 / 9.28	29.53 / 65.10	0.302 / 0.496	2.79 / 14.15
1.4.5 25% of torque defined in 1.4.2						
49.34 / 66.17	2301	1121	24.60 / 6.50	20.68 / 45.60	0.419 / 0.689	2.01 / 10.18
1.4.6 unloaded						
0.80 / 1.07	2301	1121	14.57 / 3.85	12.25 / 27.00	15.389 / 25.300	0.05 / 0.28
1.5 Part Loads at Standard Power Take Off Speed						
1.5.1 Torque at maximum power						
218.17 / 292.57	2052	1000	60.37 / 15.95	50.76 / 111.90	0.233 / 0.382	3.61 / 18.34
1.5.2 85% of torque obtained in 1.5.1						
193.33 / 259.25	2141	1043	54.87 / 14.50	46.13 / 101.70	0.239 / 0.392	3.52 / 17.89
1.5.3 75% of torque defined in 1.5.2						
149.44 / 200.40	2203	1074	46.29 / 12.23	38.92 / 85.80	0.260 / 0.428	3.23 / 16.39
1.5.4 50% of torque defined in 1.5.2						
101.63 / 136.29	2251	1097	36.90 / 9.75	31.03 / 68.40	0.305 / 0.502	2.75 / 13.98
1.5.5 25% of torque defined in 1.5.2						
50.62 / 67.88	2251	1097	26.55 / 7.01	22.32 / 49.20	0.441 / 0.725	1.91 / 9.68
1.5.6 unloaded						
0.78 / 1.04	2251	1097	16.19 / 4.28	13.61 / 30.00	17.474 / 28.726	0.05 / 0.24

No load maximum engine speed:	2301	rev/min		
Equivalent torque at rated speed:	964	N.m	711	lb-ft
Equivalent torque at maximum power:	1098	N.m	810	lb-ft
(engine speed:	1950	rev/min)		
Maximum equivalent crankshaft torque:	1294	N.m	954	lb-ft
(engine speed:	1199	rev/min)		
Mean Dry bulb:	24	deg C	75	deg F
Wet bulb:	17	deg C	62	deg F
Relative Humidity	49	%		
Pressure:	98.6	kPa	29.10	in Hg
Maximum Coolant:	92	deg C	197	deg F
Engine Oil:	107	deg C	224	deg F
Fuel:	56	deg C	134	deg F
Air Intake:	46	deg C	114	deg F
Transmission/hydraulic oil:	52	deg C	126	deg F
Intake manifold pressure at rated speed:	109	kPa	15.8	psig
Intake manifold pressure at maximum power:	119	kPa	17.3	psig

Date of Test: 14-Apr-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:		
	18.96 MPa		
	2750 psig		
II.	Pump delivery rate at minumum pressure and rated engine speed:		
	133.2 l/min		
	35.2 gpm		
III.	Flow rate, pressure, power:		
	90% of relief valve setting		
	115.5 l/min	17.10 MPa	32.9 kW
	30.5 gpm	*2480 psig*	*44.1 hp*
	Maximum hydraulic power:		
	113.2 l/min	17.51 MPa	33.0 kW
	29.9 gpm	*2540 psig*	*44.3 hp*
IV.	Hydraulic fluid temperature at flow meter:		
	63.7 °C		
	147 °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.

Date of test: 14 March 1996 (Results from tests done on Caterpillar Challenger 65D (OECD test 1614) which has the same lift system both mechanically and operating pressure.

		Hitch points	Frame
Lower hitch points above ground - down position:	[mm/in]	229/9.0	157/6.2
Vertical movement: without load:	[mm/in]	730/28.8	946/37.3
Vertical movement: with load:	[mm/in]	706/27.8	904/35.6
Maximum corrected force through full range:	[kN/lb]	88.3/19858	58.2/13086
Corresponding pressure:	[MPa/psi]	17.0/2470	
Moment about rear axle:	[kN.m/lb.ft]	91.1/67185	95.5/70446
Maximum mast tilt angle:	[deg]	--	12.0

Lifting height relative to horizontal position of lower links.

	[mm]	-351	-279	-203	-99	0
	[in]	-13.8	-11.0	-8.0	-3.9	0
Corrected lift forces						
Hitch point.	[kN]	--	140.8	131.2	123.3	114.9
	[lb]	--	31662	29502	27702	25830
at frame	[kN]	116.8	107.2	--	101.2	93.8
	[lb]	26262	24102	--	22752	21078

Lifting height relative to horizontal position of lower links.

	[mm]	99	201	300	401	427	554
	[in]	3.9	7.9	11.8	15.8	16.8	21.8
Corrected lift forces							
Hitch point	[kN]	108.2	101.4	98.6	90.9	88.3	--
	[lb]	24318	22806	22158	20430	19858	--
at frame	[kN]	87.3	79.8	--	70.7	--	58.2
	[lb]	19620	17946	--	15894	--	13086

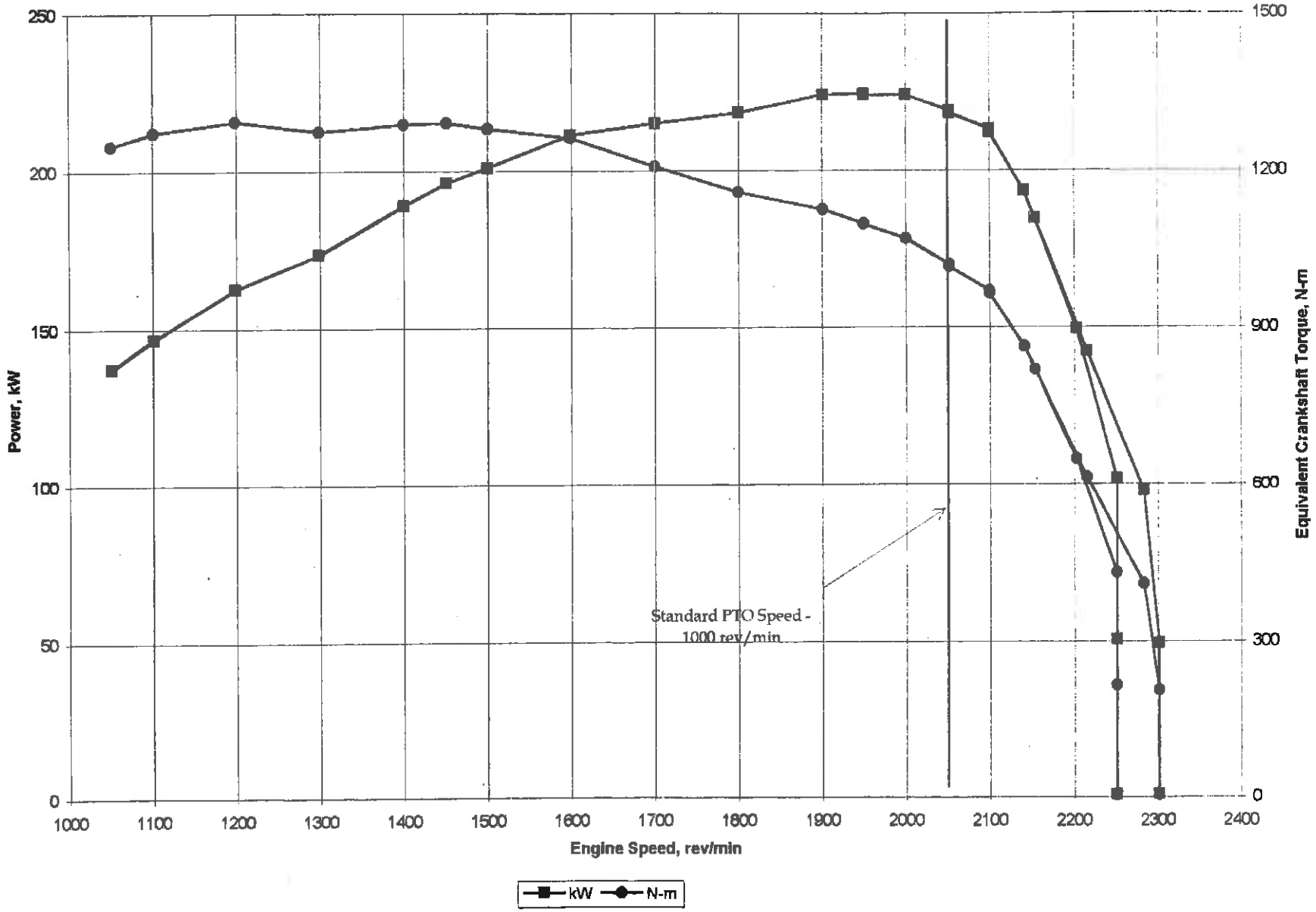
OECD Drawbar Data (SI)

Date of test	7-Apr-97			Fuel density:	0.841	kg/l								
Type of trac	Concrete			Test number	1722									
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel hum-idity	Barom. Press
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
I. Maximum Power (at 2100 rev/min)						Tire pressure: Rubber Track						Drawbar height:		445 mm
* 1	157.89	154.04	3.69	2119	14%	0.304	2.76	56	88	107	14	9	53%	97.73
2	184.89	107.14	6.21	2100	2	0.269	3.13	54	88	107	8	2	33%	98.51
3	189.80	93.16	7.33	2095	2%	0.265	3.18	56	88	109	12	11	88%	97.66
4	189.00	80.79	8.42	2095	2%	0.265	3.18	55	88	107	12	11	88%	97.73
5	184.49	68.42	9.71	2099	1%	0.271	3.10	56	89	109	12	10	82%	97.87
6	183.50	59.00	11.20	2097	1%	0.273	3.08	55	89	109	13	11	83%	97.73
7	180.03	50.61	12.81	2097	1%	0.278	3.02	56	89	109	13	12	83%	97.66
8	176.37	43.17	14.71	2098	1%	0.285	2.95	56	88	109	14	12	79%	97.60
* Note: Slip within operating procedures of testing station.														
II. Part loads (unballasted, Rubber Track)														
II.1 in selected gear at maximum power at rated engine speed.														
4	189.00	80.79	8.42	2095	2%	0.265	3.18	55	88	107	12	11	88%	97.73
II.1.1 75% of pull at maximum power at rated engine speed														
4	147.86	60.76	8.76	2170	1%	0.286	2.94	56	88	108	11	4	31%	98.51
II.1.2 50% of pull at maximum power at rated engine speed														
4	101.81	40.45	9.06	2237	1%	0.334	2.52	55	88	106	11	4	31%	98.51
II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1														
5	147.76	60.58	8.78	1897	1%	0.265	3.17	55	88	108	11	4	31%	98.51
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
5	101.79	40.46	9.06	1950	1%	0.305	2.76	55	88	106	11	4	32%	98.51
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3														
6	147.72	60.64	8.77	1645	1%	0.258	3.26	55	89	108	11	4	31%	98.51
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4														
6	102.04	40.39	9.10	1700	1%	0.289	2.91	54	88	106	11	4	32%	98.51
II.2 in selected gear nearest to 7.5 km/h at rated engine speed.														
3	189.80	93.16	7.33	2095	2%	0.265	3.18	56	88	109	12	11	88%	97.66
II.2.1 75% of pull at maximum power at rated engine speed														
3	148.53	69.88	7.65	2172	1%	0.284	2.96	55	88	107	9	3	33%	98.51
II.2.2 50% of pull at maximum power at rated engine speed														
3	102.62	46.61	7.93	2240	1%	0.328	2.57	55	88	104	10	3	29%	98.51
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
4	148.55	70.29	7.61	1889	1%	0.265	3.17	55	88	108	9	3	27%	98.48
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
4	102.38	46.60	7.91	1955	1%	0.299	2.81	55	88	106	10	3	29%	98.51
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3														
5	148.94	69.80	7.68	1663	1%	0.256	3.28	55	88	107	9	3	27%	98.48
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4														
5	102.40	46.69	7.90	1702	1%	0.281	2.99	55	88	106	10	3	29%	98.51

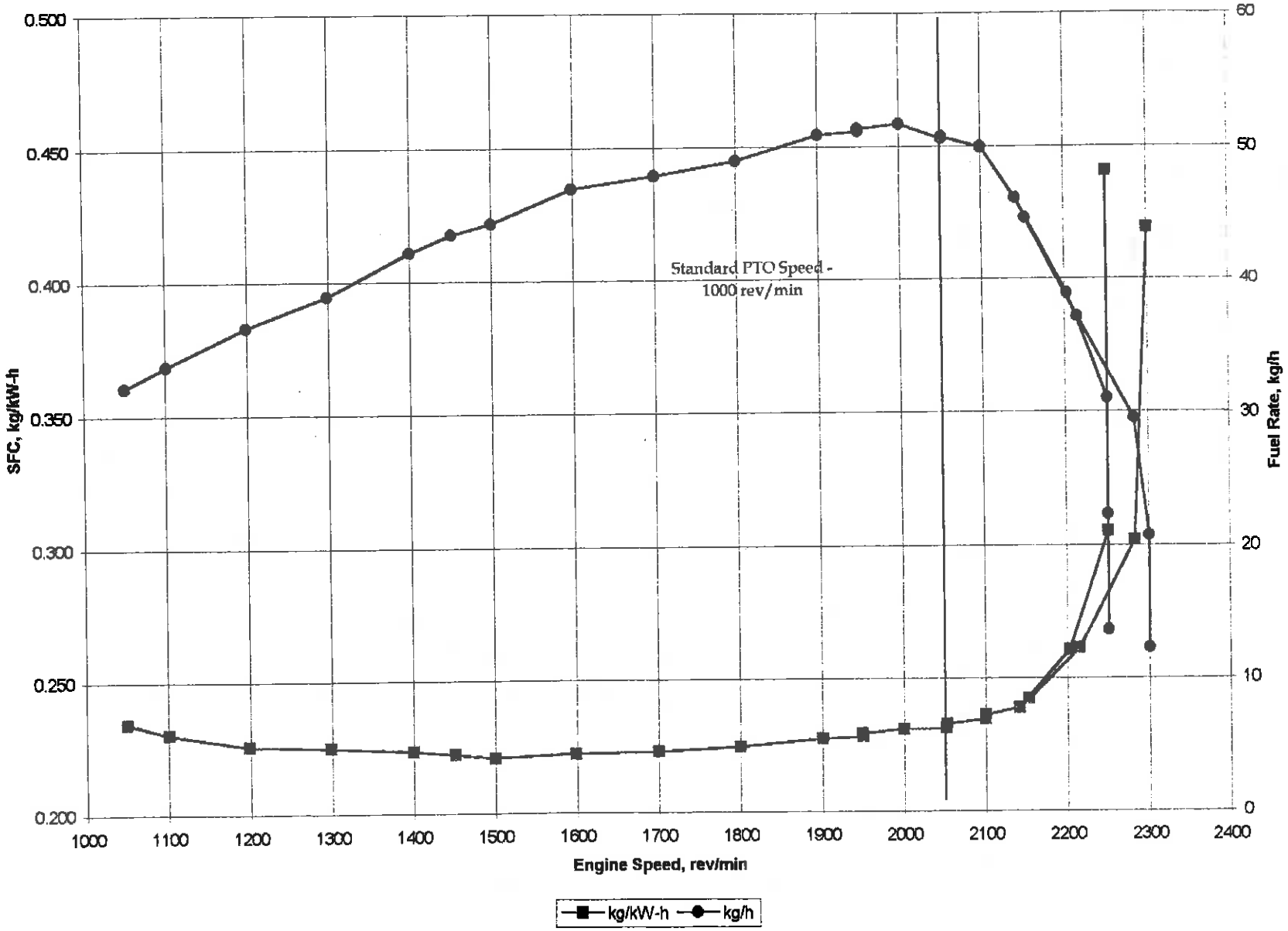
OECD Drawbar Data (US)

Date of test	7-Apr-97			Fuel density:	7.016	lb/gal								
Type of trac	Concrete			Test number	1722									
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel humidity	Bara. Pres
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		in Hg
I. Maximum Power (at 2100 rev/min)						Tire pressure: Rubber Track						Drawbar height:	17.5 in	
*1	211.73	34631	2.29	2119	14%	0.500	14.02	133	191	224	57	48	53%	28.86
2	247.94	24086	3.86	2100	3%	0.442	15.86	130	191	225	46	36	33%	29.09
3	254.52	20943	4.56	2095	2%	0.435	16.13	132	191	228	54	52	88%	28.84
4	253.46	18163	5.23	2095	2%	0.435	16.13	132	191	225	53	51	88%	28.86
5	247.41	15381	6.03	2099	1%	0.445	15.75	133	192	229	53	50	82%	28.90
6	246.08	13264	6.96	2097	1%	0.449	15.61	131	192	228	55	52	83%	28.86
7	241.42	11378	7.96	2097	1%	0.458	15.33	133	192	229	56	53	83%	28.84
8	236.52	9704	9.14	2098	1%	0.469	14.95	132	191	228	58	54	79%	28.82
* Note: Slip within operating procedures of testing station.														
II. Part loads (unballasted, Rubber Track)														
II.1 in selected gear at maximum power at rated engine speed.														
4	253.46	18163	5.23	2095	2%	0.435	16.13	132	191	225	53	51	88%	28.86
II.1.1 75% of pull at maximum power at rated engine speed														
4	198.29	13660	5.44	2170	1%	0.470	14.94	132	191	226	51	39	31%	29.09
II.1.2 50% of pull at maximum power at rated engine speed														
4	136.53	9094	5.63	2237	1%	0.549	12.79	132	190	222	51	39	31%	29.09
II.1.3higher gear at reduced engine speed, same pull and travel speed as II.1.1														
5	198.15	13619	5.46	1897	1%	0.436	16.09	132	191	227	51	39	31%	29.09
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
5	136.51	9096	5.63	1950	1%	0.501	14.01	131	190	222	52	40	32%	29.09
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3														
6	198.09	13632	5.45	1645	1%	0.424	16.54	131	192	226	51	39	31%	29.09
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4														
6	136.83	9079	5.65	1700	1%	0.475	14.76	130	191	222	52	40	32%	29.09
II.2 in selected gear nearest to 4.6 mph at rated engine speed.														
3	254.52	20943	4.56	2095	2%	0.435	16.13	132	191	228	54	52	88%	28.84
II.2.1 75% of pull at maximum power at rated engine speed														
3	199.19	15710	4.75	2172	1%	0.468	15.00	132	191	225	49	38	33%	29.09
II.2.2 50% of pull at maximum power at rated engine speed														
3	137.62	10478	4.93	2240	1%	0.539	13.03	132	190	220	50	38	29%	29.09
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
4	199.21	15801	4.73	1889	1%	0.436	16.09	131	191	226	49	37	27%	29.08
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
4	137.30	10476	4.91	1955	1%	0.491	14.28	131	191	223	50	38	29%	29.09
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3														
5	199.74	15692	4.77	1663	1%	0.421	16.65	130	191	225	49	37	27%	29.08
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4														
5	137.33	10496	4.91	1702	1%	0.462	15.18	131	191	223	50	38	29%	29.09

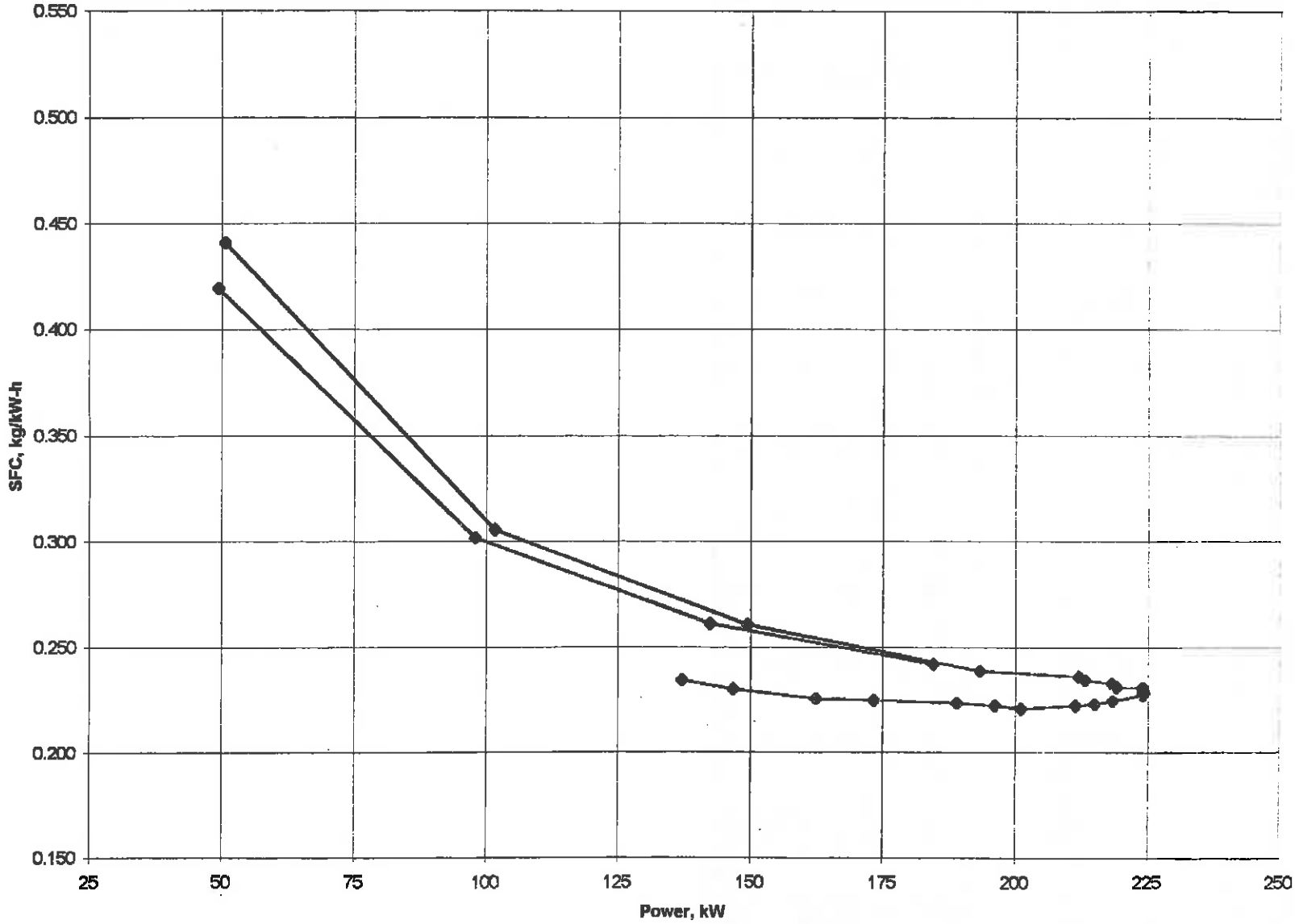
Power and Equivalent Crankshaft Torque



Specific Fuel Consumption and Fuel Rate



Power and Specific Fuel Consumption



OPTIONAL TESTS - DRAWBAR PERFORMANCE AT 1950 RPM

Tests conducted under the responsibility of
the Nebraska Tractor Testing Laboratory

OECD Drawbar Data (SI)

Date of tests: 7-Apr-97 | Fuel density: 0.841 kg/l
Type of track: Concrete | Test number: 1722

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 (at 1950 rev/min)						Tire pressure: Rubber Track						Drawbar height:		445 mm
*1	158.20	154.62	3.68	2117	14%	0.306	2.75	57	88	108	8	2	31%	98.54
2	194.00	123.28	5.67	1946	5%	0.264	3.18	55	89	108	8	2	29%	98.48
3	197.84	105.21	6.77	1946	2%	0.259	3.24	56	89	109	13	11	89%	97.73
4	200.06	92.28	7.80	1948	2%	0.258	3.26	55	89	109	12	11	88%	97.80
5	197.08	78.92	8.99	1949	1%	0.260	3.23	56	89	109	12	10	82%	97.83
6	195.36	67.68	10.39	1951	1%	0.264	3.19	56	89	109	13	12	83%	97.70
7	194.09	58.88	11.87	1946	1%	0.264	3.19	56	89	109	14	12	78%	97.63
8	190.72	50.26	13.66	1950	1%	0.270	3.12	55	89	109	14	12	78%	97.63

* Note: Slip within operating procedures of testing station.

OECD (U.S.) TRACK

OECD Drawbar Data (US)

Date of tests: 7-Apr-97 | Fuel density: 7.016 lb/gal
Type of track: Concrete | Test number: 1722

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 (at 1950 rev/min)						Tire pressure: Rubber Track						Drawbar height:		17.5 in
*1	212.15	34760	2.29	2117	14%	0.503	13.95	134	191	226	46	36	31%	29.10
2	260.15	27714	3.52	1946	5%	0.434	16.15	131	192	227	47	36	29%	29.08
3	265.30	23652	4.21	1946	2%	0.426	16.47	132	192	229	55	52	89%	28.86
4	268.28	20745	4.85	1948	2%	0.424	16.56	132	192	228	53	51	88%	28.88
5	264.29	17743	5.59	1949	1%	0.427	16.41	132	192	229	53	50	82%	28.89
6	261.98	15215	6.46	1951	1%	0.433	16.19	133	193	229	56	53	83%	28.85
7	260.28	13237	7.37	1946	1%	0.434	16.17	132	192	229	57	53	78%	28.83
8	255.76	11298	8.49	1950	1%	0.443	15.82	132	192	229	57	53	78%	28.83

* Note: Slip within operating procedures of testing station.

Repairs: None
Remarks: None