OECD APPROVAL # 1694 (Restricted code)
Date of approval: 23 October, 1997

NEBRASKA TRACTOR TESTING 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 FOR THE OFFICIAL TESTING OF AGRICULTURAL AND FORESTRY TRACTORS

CATERPILLAR CHALLENGER 85D, RUBBER TRACKED TRACTOR.

MANUFACTURED BY	: Caterpillar Agricultural Products Inc. 12101 Barber Greene Road, Dekalb, IL 60115 USA
NEBRASKA TEST NUMBER	: 1723
TEST DATES	: April 9 through 15, 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 85D, Rubber-Tracked Tractor OECD Number 1694 - Restricted code

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Date: NOV 17 1997 **LINCOLN, NEBRASKA 68583-0832,USA**

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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	103 hours
Location of test	Tractor Testing laboratory University of Nebraska Lincoln, Nebraska, USA

SPECIFICATIONS OF TRACTOR.

Make/Model/Type	Caterpillar Challenger 85D,Unit construction, Track laying
Number of driving members	Two rubber tracks.
Serial number	4GR00446
1st Serial number	This model is the 1st of the 4GR series

ENGINE. (1)

Make	Caterpillar
Model	3196
Type	Diesel, direct injection, turbocharged and air to air aftercooled.
Serial Number	6AR00417

Cylinders

Number/Disposition	6, in-line, vertical
Bore/Stroke	130 mm x 150 mm
Cubic capacity	11946 cm^3
Compression Ratio	16.0 to 1
Arrangement of valves	Overhead
Cylinder liners	Wet, replaceable

Turbocharging

Make/Model/Type	Garrett/471174-1/radial flow/exhaust gas driven.
Pressure	88-127 kPa at rated engine speed and load

(1) **This tractor 's engine operates at three levels. The lowest level is operative only in gears 1 and 2. The second power level operates in gears 3,4,and 5. The PTO and gears 6 through 10 employ maximum power. This feature cannot be controlled by the operator.**

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 l
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)	
Gears 1 and 2	49.4 ± 2.3 kg/h
Gears 3,4 and 5	53.2 ± 2.4 kg/h
Gears 6 through 10 and PTO	55.1 ± 2.5 kg/h
Fuel density	0.841 kg/l
Make/Model/Type of injectors	Caterpillar part # 116-5426
Injection pressure	
Gears 1 and 2	144 MPa
Gears 3,4 and 5	148 MPa
Gears 6 through 10 and PTO	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/PSH00-764/Dust ejector
Air intake location	Above right front fender
Main Cleaner	
Make/Model/Type	Donaldson/ERB140213/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	75 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 and radiator
Optional oil cooler	Air to oil heat exchanger - installed on tested model

Rear axle and final drives.

Make/Model/Type	Caterpillar/outboardsingle 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	93.013	4.51
2 fwd	64.890	6.47
3 fwd	52.680	7.96
4 fwd	46.070	9.11
5 fwd	40.168	10.45
6 fwd	36.753	11.42
7 fwd	32.141	13.06
8 fwd	28.023	14.98
9 fwd	20.670	20.31
10 fwd	14.420	29.11
1 rev	127.339	3.29
2 rev	54.993	7.63

Calculated with a rear axle rolling radius of 529 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. **Not available for this model**

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; closed center system
Compensator pressure setting	19.0 ± 0.35 MPa; margin pressure 2.8 ± 0.1 MPa
Opening pressure of relief valve	20.7 +/- 0.3 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
Oil cooler	Air-to-oil heat exchanger

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	431 mm
	Left side	431 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		5893 mm
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	15528	15603

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

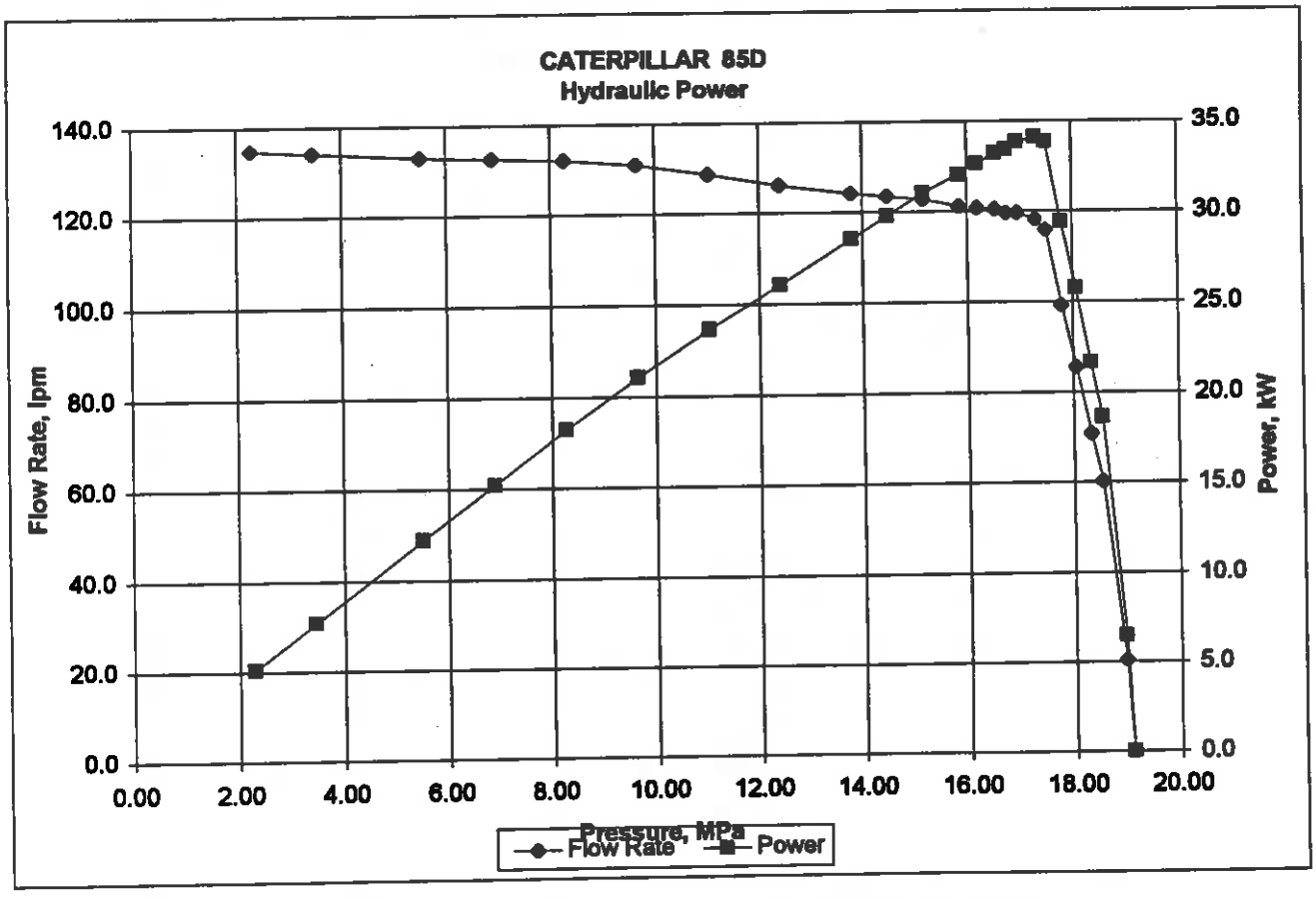
1. MAIN POWER TAKE OFF

Date: 10-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/hr	kg/kW-h / lb/hp-h	kW-h/l / hp-h/gal
1.1 Maximum Power - 2 Hours						
249.77	1950	949	64.83	54.50	0.218	3.85
334.95			*17.13*	*120.16*	*0.359*	*19.56*
1.2 Power at Rated Engine Speed - 1 hour						
233.00	2100	1023	62.37	52.43	0.225	3.74
312.46			*16.48*	*115.59*	*0.370*	*18.97*
1.3 Power at Standard Power Take Off Speed - 1 hour						
237.57	2054	1000	63.00	52.97	0.223	3.77
318.59			*16.64*	*116.77*	*0.367*	*19.14*
1.4 Part Loads						
1.4.1 Torque at maximum power at rated engine speed						
233.00	2100	1023	62.37	52.43	0.225	3.74
312.46			*16.48*	*115.59*	*0.370*	*18.97*
1.4.2 85% of torque obtained in 1.4.1						
203.46	2157	1050	57.14	48.04	0.236	3.56
272.84			*15.09*	*105.90*	*0.388*	*18.08*
1.4.3 75% of torque defined in 1.4.2						
156.43	2211	1077	47.26	39.73	0.254	3.31
209.78			*12.49*	*87.60*	*0.418*	*16.80*
1.4.4 50% of torque defined in 1.4.2						
106.98	2268	1104	37.71	31.71	0.296	2.84
143.46			*9.96*	*69.90*	*0.487*	*14.40*
1.4.5 25% of torque defined in 1.4.2						
54.03	2301	1120	27.03	22.72	0.421	2.00
72.45			*7.14*	*50.10*	*0.692*	*10.15*
1.4.6 unloaded						
0.80	2301	1120	16.35	13.74	17.286	0.05
1.07			*4.32*	*30.30*	*28.418*	*0.25*
1.5 Part Loads at Standard Power Take Off Speed						
1.5.1 Torque at maximum power						
237.57	2054	1000	63.00	52.97	0.223	3.77
318.59			*16.64*	*116.77*	*0.367*	*19.14*
1.5.2 85% of torque obtained in 1.5.1						
211.18	2148	1046	58.59	49.26	0.233	3.60
283.20			*15.48*	*108.60*	*0.383*	*18.30*
1.5.3 75% of torque defined in 1.5.2						
162.63	2203	1073	48.72	40.96	0.252	3.34
218.09			*12.87*	*90.30*	*0.414*	*16.94*
1.5.4 50% of torque defined in 1.5.2						
110.61	2255	1098	38.04	31.98	0.289	2.91
148.33			*10.05*	*70.50*	*0.475*	*14.76*
1.5.5 25% of torque defined in 1.5.2						
55.34	2255	1098	26.87	22.59	0.408	2.06
74.22			*7.10*	*49.80*	*0.671*	*10.46*
1.5.6 unloaded						
0.78	2255	1098	15.70	13.20	16.934	0.05
1.05			*4.15*	*29.10*	*27.839*	*0.25*

No load maximum engine speed:	2301	rev/min		
Equivalent torque at rated speed:	1060	N.m	*782*	*lb-ft*
Equivalent torque at maximum power:	1223	N.m	*902*	*lb-ft*
(engine speed:	1950	rev/min)		
Maximum equivalent crankshaft torque:	1430	N.m	*1055*	*lb-ft*
(engine speed:	1400	rev/min)		
Mean Dry bulb:	24	deg C	*75*	*deg F*
Wet bulb:	14	deg C	*58*	*deg F*
Relative Humidity	31	%		
Pressure:	98.4	kPa	*29.05*	*in Hg*
Maximum Coolant:	88	deg C	*190*	*deg F*
Engine Oil:	107	deg C	*224*	*deg F*
Fuel:	56	deg C	*134*	*deg F*
Air Intake:	49	deg C	*120*	*deg F*
Transmission/hydraulic oil:	51	deg C	*124*	*deg F*
Intake manifold pressure at rated speed:	110	kPa	*16.0*	*psig*
Intake manifold pressure at maximum power:	122	kPa	*17.7*	*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:			
19.10 MPa			
2770 psig			
II. Pump delivery rate at minumum pressure and rated engine speed:			
134.8 l/min			
35.6 gpm			
III. Flow rate, pressure, power:			
90% of relief valve setting			
118.1 l/min	17.31 MPa	34.1 kW	
31.2 gpm	*2510 psig*	*45.7 hp*	
Maximum hydraulic power:			
118.1 l/min	17.31 MPa	34.1 kW	
31.2 gpm	*2510 psig*	*45.7 hp*	
IV Hydraulic fluid temperature at flow meter:			
66.1 °C			
151 °F			
This hydraulic system does not use an accumulator. Opening and closing pressures of the unloading valve could not be measured.			



OECD Drawbar Data (SI)

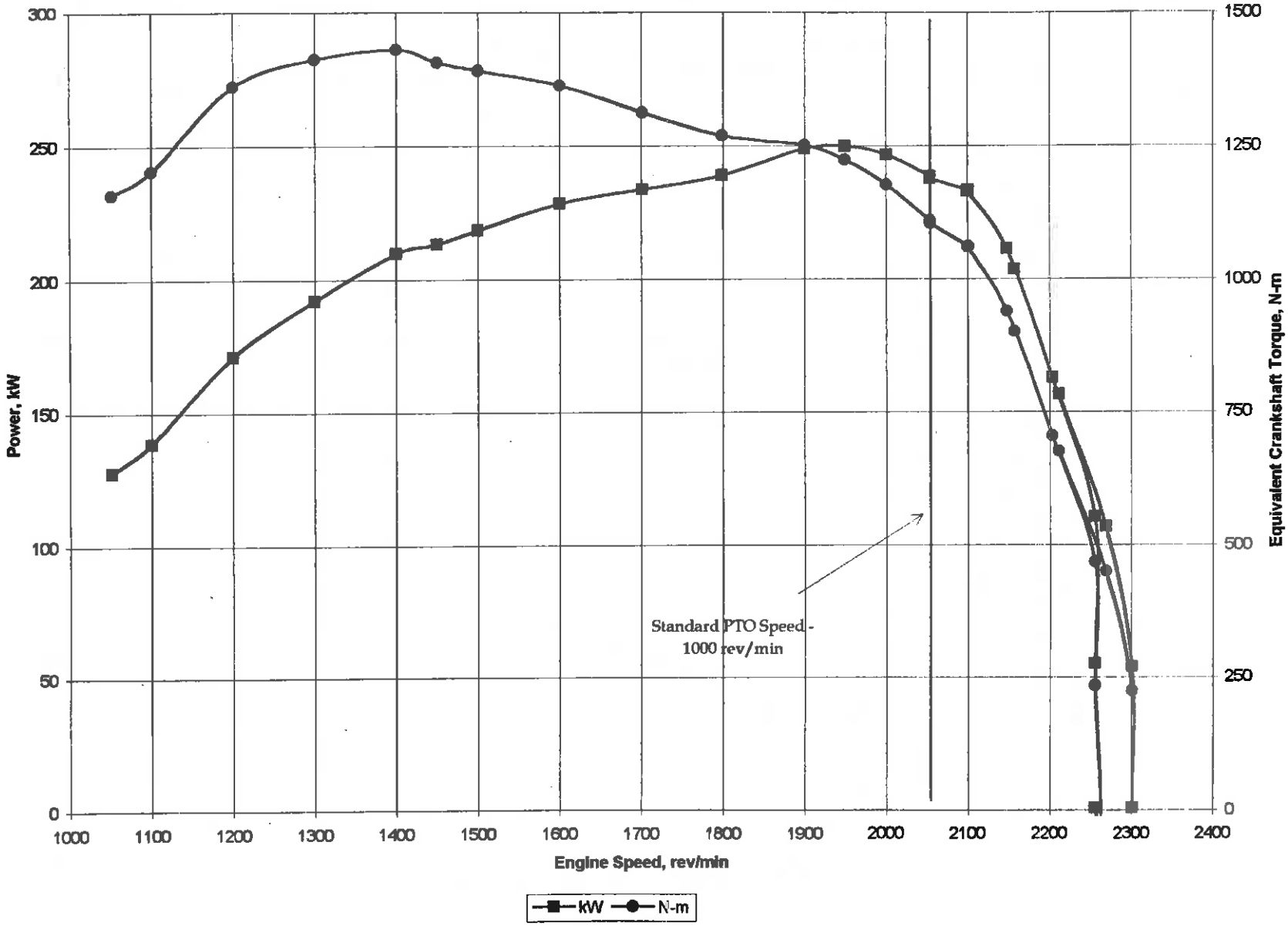
Date of test 15-Apr-97 Fuel density: 0.841 kg/l
Type of trac Concrete Test number 1723

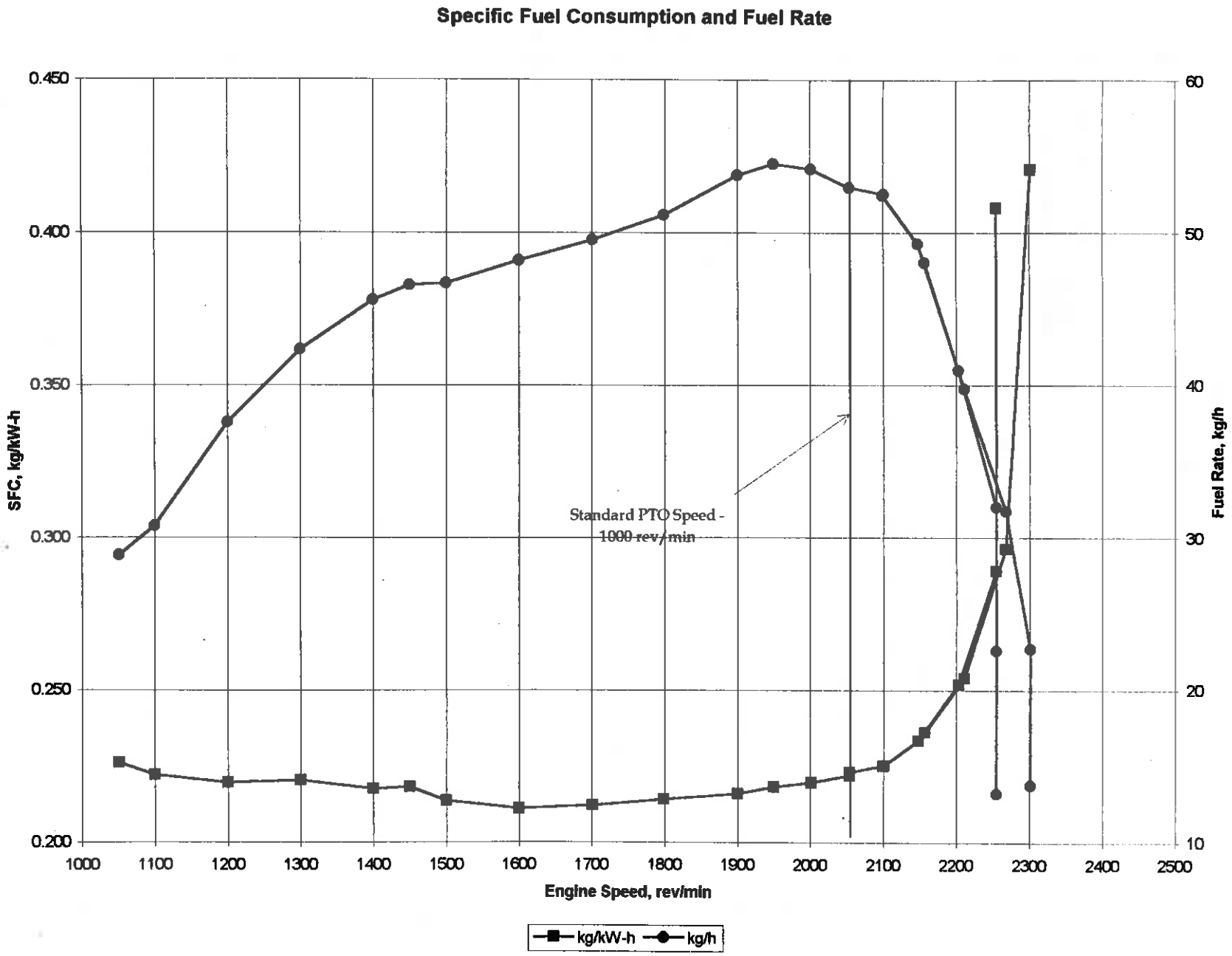
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg C					Rel humidity	Barom. Press
	kW	kN	km/h	rev/min		kg/kW.h	kW.h/l	Fuel	Coolant	Oil	Dry	Wet		kPa
I. Maximum Power (unballasted, Track at 1950 rev/min)						Tire pressure: Rubber Track						Drawbar height:		457 mm
1	162.25	157.02	3.72	2040	15%	0.304	2.77	55	85	108	9	7	69%	97.93
2	189.95	118.59	5.77	1954	4%	0.254	3.31	54	89	108	12	8	60%	98.07
3	208.20	104.91	7.14	1946	3%	0.249	3.37	56	86	109	13	9	57%	98.10
4	208.31	91.18	8.22	1945	2%	0.249	3.37	56	87	109	14	9	54%	98.10
5	209.85	79.79	9.47	1944	1%	0.248	3.39	56	86	108	16	9	46%	98.21
6	219.19	75.86	10.40	1952	1%	0.250	3.36	56	84	109	16	9	43%	98.24
7	217.00	65.56	11.91	1951	1%	0.251	3.35	56	86	109	17	10	44%	98.24
8	214.30	56.21	13.72	1956	1%	0.254	3.30	55	87	108	18	11	41%	98.24
II. Part loads (unballasted, Track)														
II.1 in selected gear at maximum power at rated engine speed.														
6	201.10	64.62	11.20	2097	1%	0.260	3.23	56	85	109	16	9	43%	98.24
II.1.1 75% of pull at maximum power at rated engine speed														
6	156.32	48.37	11.63	2172	1%	0.289	2.91	53	90	107	19	11	39%	98.24
II.1.2 50% of pull at maximum power at rated engine speed														
6	107.31	32.25	11.98	2231	1%	0.339	2.48	54	89	107	18	11	41%	98.21
II.1.3 higher gear at reduced engine speed, same pull and travel speed as II.1.1														
7	156.34	48.42	11.62	1898	1%	0.267	3.15	54	83	108	19	11	39%	98.24
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
7	107.14	32.16	11.99	1953	1%	0.310	2.71	54	89	107	18	11	41%	98.21
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3														
8	156.28	48.43	11.62	1654	1%	0.257	3.28	53	89	106	19	11	39%	98.24
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4														
8	107.33	32.19	12.00	1705	1%	0.293	2.87	53	84	105	18	11	41%	98.21
II.2 in selected gear nearest to 7.5 km/h at rated engine speed.														
3	202.56	94.13	7.75	2097	2%	0.257	3.28	53	91	106	12	8	61%	98.10
II.2.1 75% of pull at maximum power at rated engine speed														
3	158.34	70.44	8.09	2174	1%	0.284	2.96	54	89	108	8	4	48%	99.02
II.2.2 50% of pull at maximum power at rated engine speed														
3	109.00	46.92	8.36	2238	1%	0.327	2.57	54	89	106	10	4	34%	99.09
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
4	158.59	70.18	8.14	1911	1%	0.261	3.22	54	83	107	9	4	43%	99.02
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
4	109.42	46.87	8.40	1967	1%	0.297	2.83	53	88	106	10	4	34%	99.09
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3														
5	158.35	70.41	8.10	1658	1%	0.250	3.36	53	91	105	9	4	43%	99.02
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4														
5	109.00	46.99	8.35	1704	1%	0.277	3.03	53	87	104	10	4	34%	99.09

OECD Drawbar Data (US)

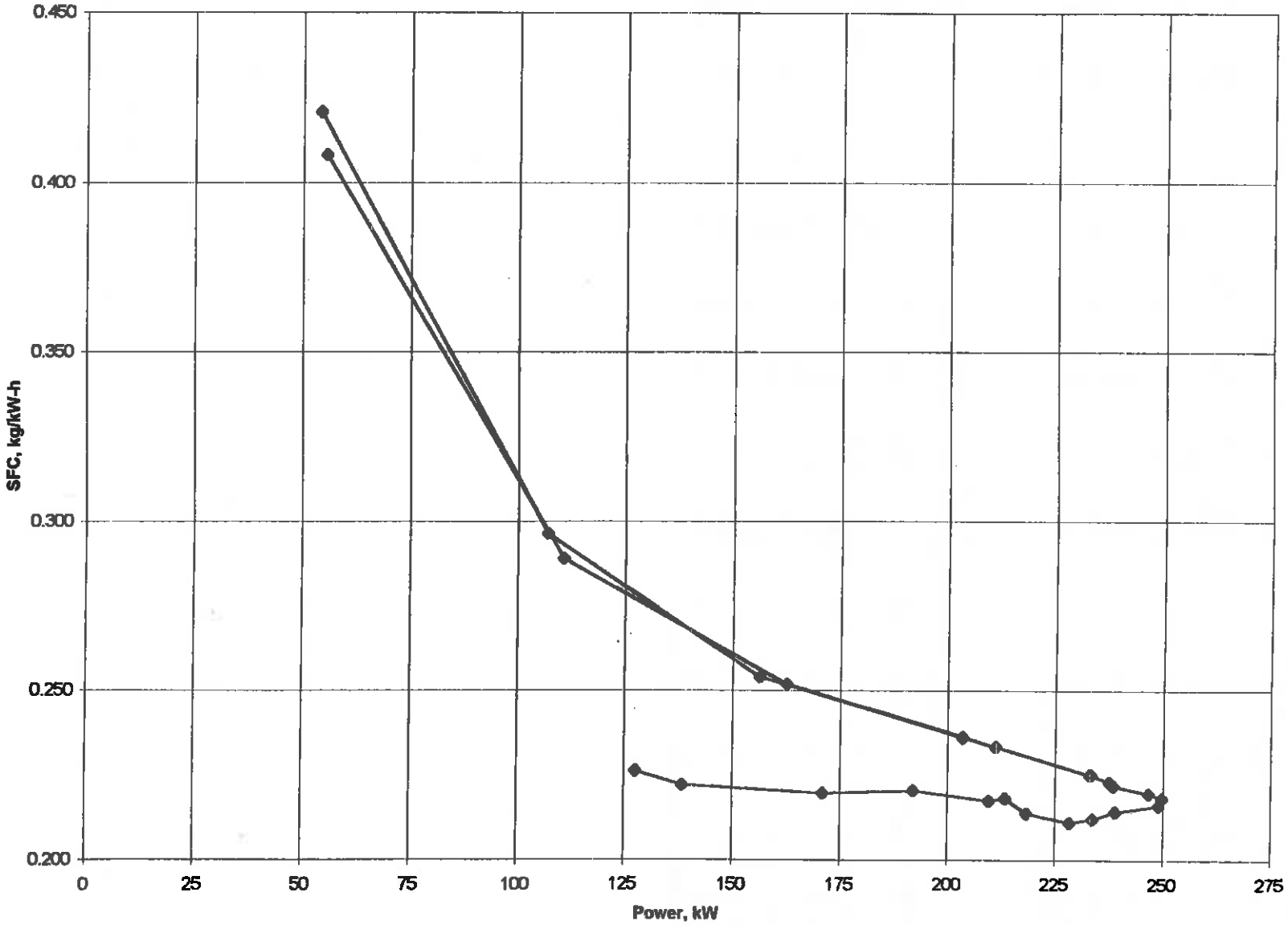
Date of test	15-Apr-97			Fuel density:	7.016 lb/gal									
Type of trac	Concrete			Test number	1723									
Gear	Power	Pull	Speed	Engine speed	Slip	SFC	SFE	Temperature, deg F					Rel humidity	Barom. Pres
	hp	lb	mph	rev/min		lb/hp.h	hp.h/gal	Fuel	Coolant	Oil	Dry	Wet		in Hg
I. Maximum Power (unballasted, Track at 1950 rev/min)						Tire pressure: Rubber Track						Drawbar height:	18.0 in	
1	217.59	35299	2.31	2040	15%	0.499	14.05	131	185	226	44	49	138%	28.90
2	254.73	26661	3.58	1954	4%	0.418	16.78	130	193	227	53	46	60%	28.86
3	279.21	23585	4.44	1946	3%	0.410	17.12	132	187	229	56	48	57%	28.97
4	279.35	20497	5.11	1945	2%	0.410	17.13	132	189	229	58	49	54%	28.97
5	281.41	17938	5.88	1944	1%	0.407	17.23	133	186	227	60	49	46%	29.00
6	293.94	17055	6.46	1952	1%	0.411	17.07	132	184	228	61	49	43%	29.01
7	291.00	14740	7.40	1951	1%	0.412	17.01	133	187	229	62	50	44%	29.01
8	287.38	12637	8.53	1956	1%	0.418	16.77	131	189	227	64	51	41%	29.01
II. Part loads (unballasted, Track)														
II.1 in selected gear at maximum power at rated engine speed.														
6	269.68	14528	6.96	2097	1%	0.428	16.39	132	186	229	61	49	43%	29.01
II.1.1 75% of pull at maximum power at rated engine speed														
6	209.63	10874	7.23	2172	1%	0.475	14.76	127	195	224	66	52	39%	29.01
II.1.2 50% of pull at maximum power at rated engine speed														
6	143.91	7251	7.44	2231	1%	0.557	12.59	130	193	224	64	51	41%	29.00
II.1.3higher gear at reduced engine speed, same pull and travel speed as II.1.1														
7	209.66	10886	7.22	1898	1%	0.438	16.01	129	182	227	66	52	39%	29.01
II.1.4 higher gear at reduced engine speed, same pull and travel speed as II.1.2														
7	143.68	7230	7.45	1953	1%	0.509	13.77	129	192	225	61	64	117%	29.00
II.1.5 higher gear at reduced engine speed, same pull and travel speed as II.1.3														
8	209.57	10887	7.22	1654	1%	0.422	16.63	128	192	223	66	52	39%	29.01
II.1.6 higher gear at reduced engine speed, same pull and travel speed as II.1.4														
8	143.93	7236	7.46	1705	1%	0.482	14.57	127	184	222	64	51	41%	29.00
II.2 in selected gear nearest to 4.6 mph at rated engine speed.														
3	271.64	21162	4.81	2097	2%	0.422	16.63	128	195	223	54	47	61%	28.97
II.2.1 75% of pull at maximum power at rated engine speed														
3	212.34	15835	5.03	2174	1%	0.468	15.00	129	193	226	47	39	48%	29.24
II.2.2 50% of pull at maximum power at rated engine speed														
3	146.17	10549	5.20	2238	1%	0.537	13.07	130	193	223	50	39	34%	29.26
II.2.3 higher gear at reduced engine speed, same pull and travel speed as II.2.1														
4	212.68	15777	5.06	1911	1%	0.429	16.35	129	182	225	48	39	43%	29.24
II.2.4 higher gear at reduced engine speed, same pull and travel speed as II.2.2														
4	146.73	10536	5.22	1967	1%	0.489	14.36	128	190	222	50	39	34%	29.26
II.2.5 higher gear at reduced engine speed, same pull and travel speed as II.2.3														
5	212.36	15829	5.03	1658	1%	0.412	17.05	128	196	222	48	39	43%	29.24
II.2.6 higher gear at reduced engine speed, same pull and travel speed as II.2.4														
5	146.18	10564	5.19	1704	1%	0.455	15.40	127	188	220	50	39	34%	29.26

Power and Equivalent Crankshaft Torque




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
0.450
0.400
0.350
0.300
0.250
0.200
60
50
40
30
20
10
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500

Power and Specific Fuel Consumption



OPTIONAL TESTS - DRAWBAR PERFORMANCE AT 2100 RPM

Tests conducted under the responsibility of
the Nebraska Tractor Testing Laboratory

OECD Drawbar Data (SI)

Date of test	15-Apr-97			Fuel density:	0.841 kg/l									
Type of trac	Concrete			Test number	1723									
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 (unballasted, Track at 2100 rev/min)						Tire pressure: Rubber Track						Drawbar height:		457 mm
*1	172.63	152.28	4.08	2100	9%	0.277	3.03	53	88	106	12	8	60%	98.04
2	181.93	104.77	6.25	2096	3%	0.264	3.19	55	92	108	12	8	60%	98.04
3	202.56	94.13	7.75	2097	2%	0.257	3.28	53	91	106	12	8	61%	98.10
4	200.28	80.87	8.92	2101	2%	0.260	3.24	56	87	108	14	9	53%	98.10
5	200.10	70.36	10.24	2097	1%	0.260	3.24	57	61	110	15	9	50%	98.14
6	201.10	64.62	11.20	2097	1%	0.260	3.23	56	85	109	16	9	43%	98.24
7	199.23	55.95	12.82	2095	1%	0.264	3.18	55	89	110	17	10	40%	98.24
8	196.19	47.93	14.74	2098	1%	0.267	3.15	55	90	110	18	11	38%	98.24

* Note: Slip within operating procedures of testing station.

OECD Drawbar Data (US)

Date of test	15-Apr-97			Fuel density:	7.016 lb/gal									
Type of trac	Concrete			Test number	1723									
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, Track at 2100 rev/min)						Tire pressure: Rubber Track						Drawbar height:		18.0 in
*1	231.50	34234	2.54	2100	9%	0.456	15.39	127	191	223	53	46	60%	28.95
2	243.97	23553	3.88	2096	3%	0.434	16.17	131	197	226	53	46	60%	28.95
3	271.64	21162	4.81	2097	2%	0.422	16.63	128	195	223	54	47	61%	28.97
4	268.58	18181	5.54	2101	2%	0.427	16.43	133	189	227	58	49	53%	28.97
5	268.34	15819	6.36	2097	1%	0.427	16.44	134	142	230	59	49	50%	28.98
6	269.68	14528	6.96	2097	1%	0.428	16.39	132	186	229	61	49	43%	29.01
7	267.17	12578	7.97	2095	1%	0.434	16.15	131	192	230	63	50	40%	29.01
8	263.09	10774	9.16	2098	1%	0.439	15.97	131	194	230	65	51	38%	29.01

* Note: Slip within operating procedures of testing station.

Repairs: None
Remarks: None