Report on test in accordance with
O.E.C.D. STANDARD CODE I for the Official
Testing of Agricultural Tractor Performance

O.E.C.D. Approval No. 1362



Agricultural Tractor

KUBOTA M8580DT (4WD)

Manufactured by:
KUBOTA Corporation, SAKAI Plant
64 Ishizukitamachi, Sakai-city, OSAKA, Japan

BIO-ORIENTED TECHNOLOGY RESEARCH ADVANCEMENT INSTITUTION
(B R A I N)
OMIYA, Japan

This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractor Performance. It does not contain the evaluation of the tractor performance on practical work. This report has been approved by the O.E.C.D. Coordinating Center (C.E.M.A.G.R.E.F., France) as being in accordance with the O.E.C.D. STANDARD CODE.

Test No.:	91001/O.E.C.D.
Date of Test:	Dec., 1991
Date of Approval:	Mar., 27 1992

In this report all performance characteristics are given corresponding to the International System of Units.
The reference to the former used Technical System of Units is given by the following relations:

Forces	1 kgf	=	9.80665 N
Powers	1 PS	=	0.7355 kW
	1 HP	=	0.7453 kW
Pressures	1 kgf/cm^2	=	98.0665 kPa

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TABLE OF CONTENTS

	Page
GENERALITIES	4
SPECIFICATIONS OF TRACTOR	4 to 12
TEST CONDITIONS	12 to 13
COMPULSORY TESTS RESULTS	
Main power take-off performance	14 to 17
Hydraulic power and lifting force	18 and 19
Drawbar performance	20
Turning area and turning circle	21
Location of center of gravity	21
Braking	21 and 22
External noise level	22
REPAIRS AND ADJUSTMENTS DURING TESTS	22
REMARKS	22

GENERALITIES

Tractor manufacturer's name and address:	KUBOTA Corporation 2-47, Shikitsuhigashi 1-chome, Naniwa-ku OSAKA, 556-91 JAPAN
Location of tractor assembly:	64 Ishizukitamachi, Sakai City
Submitted for test by:	The manufacturer
Selected for test by:	The manufacturer with agreement by BRAIN
Place of running-in:	KUBOTA Corporation, Sakai Plant
Duration of running-in:	Engine and tractor 98.4 h
Location of test:	BRAIN

SPECIFICATIONS OF TRACTOR

TRACTOR

Make:	KUBOTA
Model:	M8580Q1DT
Type:	Agricultural Tractor
Number of driving wheels:	Four
Serial Number:	M858-50230
1st Serial Number:	M858-50001

ENGINE

Identification

Make:	Own make
Model:	V4702
Type:	4-cycle diesel engine with direct injection, water cooled
Serial Number:	V4702-79671

Cylinders

Number:	Four
Disposition:	Vertical, in-line
Bore/stroke:	109 / 125mm
Capacity:	4665 cm^3
Compression ratio:	17.5 : 1
Arrangement of valves:	Overhead
Cylinder liners	Replaceable, dry

Supercharging: NA

Fuel system

Fuel feed system:	Forced feed type(Diaphragm pump)
Filters	
Make:	TSUCHIYA MFG. Co.,LTD.
Model:	1663143011
Type:	Replaceable paper element, cartridge type
Capacity of fuel tank:	105 liters

Injection pump	
Make:	Mikuni Precision Co.,LTD.
Model:	DPK J3943F010N
Type:	Distributor type
Serial Number:	0736FJ
Manufacturer's production setting of injection pump	
Flow rate	19.5±0.8 dm^3/h at rated engine speed and full load
Timing:	12 degrees before T.D.C.
Injectors	
Make:	Mikuni Precision Co.,LTD.
Model:	BDLL140S6655
Type:	Hole type
Injection pressure:	22.6 MPa

Governor

Make:	Mikuni Precision Co.,LTD.
Type:	All speed mechanical governor
Governed range of engine speed:	From 600 to 2590 rev/min
Rated engine speed:	2400 rev/min

Air cleaner

Pre-cleaner:	Optional, not fitted in tested tractor
Make:	TSUCHIYA Manufacturing Co.,LTD.
Model:	98312-031
Type:	Cyclone type
Location of air intake:	Above the bonnet
Main cleaner	
Make:	TSUCHIYA Manufacturing Co.,LTD.
Model:	A1052-036
Type:	Dry paper double element
Location of air intake:	Under the bonnet, in front of the radiator
Maintenance indicator:	Electrical vacuum sensor at easy checker

Lubrication system

Type of feed pump:	Forced feed (gear pump)
Type of filter:	Full flow replaceable cartridge paper element type
Number:	One

Cooling system

Type of coolant:	50/50 solution of permanent antifreeze and clear water
Type of pump:	Centrifugal
Specification of fan:	Axial
Number of fan blades:	Six
Fan diameter:	440 mm
Coolant capacity:	14.5 dm^3
Type of temperature control:	Wax type thermostat
System pressure:	88.3 kPa

Starting system

Make:	NIPPON DENSO

Model:	ND128000-6860
Type:	Solenoid engaged type
Starter motor power rating:	2.5 kW
Cold starting aid:	Electrical glow plug
Safety device:	Operable only with main clutch pedal operated and P.T.O. clutch disengaged

Electrical system

Voltage:	12 Volts
Generator	
Make:	NIPPON DENSO
Model:	ND100211-7260
Type:	Three phase Generator
Power:	0.72 kW
Battery	
Number:	One
Rating:	925 Cold Cranking Amps. (75 Ah at 5 hours)

Exhaust system

Make:	Own make
Type:	Multi chamber absorption-expansion
Location:	Vertical on the left side of tractor

TRANSMISSION TO WHEELS

Clutch(travel)

Make:	DAIKIN SEISAKUSHO
Model:	C287B00F
Type:	Dry single
Number of plates:	One
Diameter of plates:	325 mm
Method of disengagement:	Operated by foot pedal

Gear box

Make:	Own make
Type:	Mechanical
Arrangement:	Synchromesh 6 speed gears with main lever, constant mesh 2 speeds (H / L)gears with sub lever Synchromesh type forward / reverse shuttle with shuttle lever.
Number of gears:	Total 12 forward and 12 reverse speeds
Available options:	Additional one constant mesh creeper gear, total 18 forward / 18 reverse

Rear axle and final drives

Make:	Own make
Type:	Bevel gear type differential and planetary gear type final drives
Differential lock	
Type:	Mechanical, dog clutch
Method of engagement:	Operated by foot pedal

Method of disengagement: Self disengagement

Front axle and final drives

Make: Own make
Type: Bevel gear type differential and planetary gear type final drives
Differential lock
Type: Mechanical, dog clutch
Method of engagement: Operated by foot pedal
Method of disengagement: Self disengagement

Total ratios and traveling speeds

Gear number	Range	Number of engine revolutions for one revolution of the driving wheels		Nominal travelling speed(*) at rated engine speed of 2400 rev/min (km/h)	
		Forward	Reverse	Forward	Reverse
1	L-1	469.745	463.034	1.43	1.45
2	L-2	357.006	351.906	1.86	1.91
3	L-3	251.920	248.321	2.67	2.71
4	L-4	211.889	208.862	3.17	3.22
5	L-5	161.035	158.735	4.17	4.24
6	L-6	113.634	112.010	5.92	6.00
7	H-1	91.658	90.348	7.33	7.44
8	H-2	69.660	68.665	9.65	9.79
9	H-3	49.155	48.453	13.68	13.87
10	H-4	41.344	40.753	16.26	16.50
11	H-5	31.422	30.973	21.39	21.70
12	H-6	22.172	21.856	30.32	30.76

(*)Calculated with a tyre dynamic radius index of 743 mm (ISO 4251/1-1984)

Number of revolutions of front wheels
for one revolution of rear wheels: 1.435118

POWER TAKE-OFF

Main power take-off

Type: Independent P.T.O.
Method of engagement: By means of wet multi-plate clutch with hand lever
Number of shafts: Two, replaceable
Method of changing power take-off shafts ends and speeds: Speed change by replacing power take-off shaft

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

Location: At rear of tractor
Diameter of power take-off shaft end: 35 mm
Number of splines: Six, In conformity with ISO 500/1979, SAE J1170
Height above ground: 716 mm
Distance from the median plane of the tractor: 0 mm
Distance behind rear wheel axle: 421 mm

Power take-off speed at rated engine speed (2400 rev/min):	637 rev/min
Engine speed at standard power take-off speed:	2035 rev/min
Ratio of rotation speeds (engine speed / p.t.o. speed):	3.769
Power restriction and maximum torque:	59.7 kW, 725.7 N·m
Direction of rotation (viewed facing driving end):	Clockwise

1000 rev/min

Location:	At rear of tractor
Diameter of power take-off shaft end:	35 mm
Number of splines:	21, In conformity with ISO 500/1979, SAE J1170
Height above ground:	716 mm
Distance from the median plane of the tractor:	0 mm
Distance behind rear wheel axle:	421 mm
Power take-off speed at rated engine speed (2400 rev/min):	1005 rev/min
Engine speed at standard power take-off speed:	2389 rev/min
Ratio of rotation speeds (engine speed / p.t.o. speed):	2.389
Power restriction and maximum torque:	-
Direction of rotation (viewed facing driving end):	Clockwise

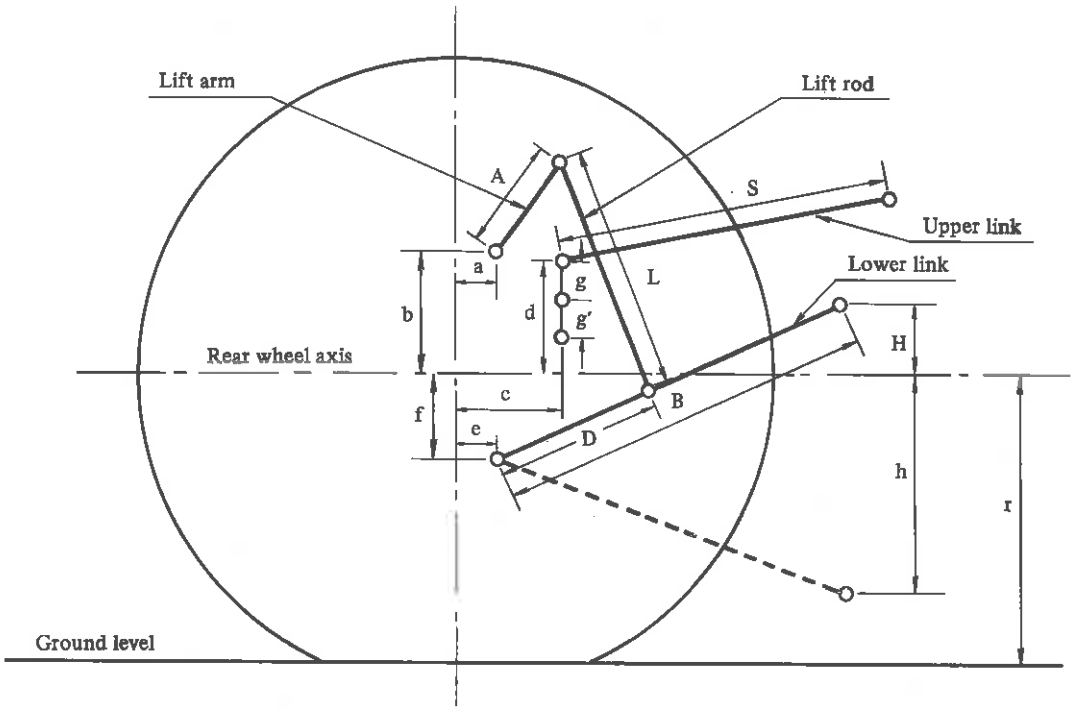
POWER LIFT

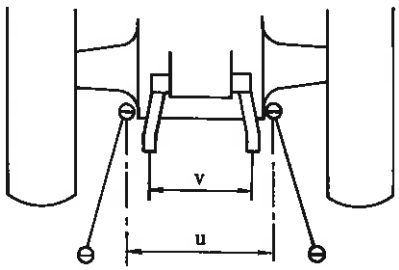
Make:	Own make
Type:	Hydraulic three point hitch (position, draft and mix control)
Type of hydraulic system:	Open center system
Type and number of cylinders:	Single acting, One
Type of linkage lock for transport:	Hydraulically closed by throttle valve
Lift pump type:	Gear pump
Relief valve pressure setting for lifting:	From 19.12 to 19.61 MPa
Opening pressure of cylinder safety valve:	From 23.0 to 24.5 MPa
Another pump for auxiliary service:	Gear pump, it is possible to use together with the pump for lift, in this case, twice flow rate is capable to obtain
Relief valve pressure setting for auxiliary service:	From 17.7 to 18.1 MPa
Transmission between pump and engine:	Drive shaft
Type and number of filters:	Paper cartridge type, two
Site of oil reservoir:	In rear transmission case
Type, number and location of tapping points:	SAE 1/2" Hydraulic female coupler, two sets, at rear of tractor
Maximum volume of oil available to external cylinders:	Hydraulic oil should be added for external hydraulic circuit

Three-point linkage

Category: II (in accordance with ISO 730/1-1977 / SAE J715)

Linkage geometry





Dimensions of linkage geometry(when connected to the standard frame)

Linkage dimensions (mm)				Settings used for test (mm)
Length of lift arms		(A)	250	
Length of lower links		(B)	900	
Distance of lift arm pivot point from rear wheel axis	horizontally vertically	(a) (b)	−70 303	
Horizontal distance between the two lower link points		(u)	512	
Horizontal distance between the two lift arm end points		(v)	535	
Length of upper link		(S)	from 660 to 895	728
Distance of upper link pivot point from rear wheel axis	horizontally vertically	(c) (d)	[273, [290 [286, [221	290 221
Distance of lower link pivot point from rear wheel axis	horizontally vertically	(e) (f)	115 176	
Distance of lower link pivot points to lift rod pivot points on lower links		(D)	402, 457, 512	512
Length of lift rods		(L)	from 545 to 685	650
Height of lower hitch points relative to the rear wheel axis – in low position – in high position		 (h) (H)	 from 4 to 816 from −3 to 297	 530 112
Height above ground of lower hitch points when locked transport position (*)			from 730 to 1030	

(*) Assuming the dynamic radius index = 743 mm (ISO 4251/1-1984)

SWINGING DRAWBAR

Type:	Bar type, clevis type: option
Height above ground(tyre size 18.4-30)	Maximum 577 mm at top surface of bar Minimum 429 mm at top surface of bar
Type of adjustment:	Changing by turning the bar
Distance of hitch point from rear wheel axis, horizontally:	772 mm and 822 mm
Distance of hitch point from power take-off shaft end	
Vertically:	289 mm and 139 mm at top surface of bar
Horizontally:	350 mm and 400 mm
Lateral adjustment (center of clevis)	
Right hand:	145 mm
Left hand:	145 mm

Distance of pivot point from rear wheel axis, horizontally:	215 mm
Diameter drawbar pin hole:	28 mm
Maximum vertical permissible load:	14.7 kN

TRAILER HITCH Not fitted

HOLED DRAWBAR Not fitted

STEERING

Make:	SUMITOMO·EATON HYDRAULICS Co.,LTD
Model:	WDE120Y14KB4B
Type:	Hydrostatic, load reaction type
Method of operation:	Hydraulic steering system
Pump:	Gear type
Ram:	Balanced type cylinder
Working pressure:	From 11.8 to 12.5 MPa

BRAKES

Service brake

Make:	Own make
Type:	Hydraulic (master cylinder) acting, oil-immersed disk type three disks on each differential half shaft
Method of operation:	Independent or combined pedal
Trailer braking take-off:	Not fitted

Parking brake

Type:	Mechanical acting oil-immersed cam-disk type
Method of operation:	Pull type brake handle

WHEELS

Number	
Front:	Two, steering and driving
Rear:	Two, driving
Wheelbase:	2300 mm

Track width adjustment

	Minimum (mm)	Maximum (mm)	Adjustment method
Front	1540	1740	Changing by turning wheels and offset of rims
Rear	1520	2020	Changing by turning wheels and offset of rims

PROTECTIVE STRUCTURE

Manufacturer's name: KUBOTA Corporation

Model:	IC 85
Type:	Safety cab
Protective device:	Cab, no tiltable
O.E.C.D. approval number:	CSD 1340 / 5

DRIVER'S SEAT

Make:	TACHI-S Co.,LTD
Model:	M1-5
Type of suspension:	Coil spring
Type of damping:	Oil dumping
Range of adjustment	
Longitudinal:	120 mm
Vertical:	38 mm

LIGHTING

	Height above ground of center (mm)	Size (mm)	Distance from outside edge of lights to median plane of tractor (mm)
Headlights	1097	120×120	258
Taillights	1518	104×79	702
Reflectors	1518	40×40	697
Flashers	2542	¢120×70	733

TEST CONDITIONS

Overall dimensions

	Length (mm)	Width		Heightt	
		min (mm)	max (mm)	at top of protective structure (mm)	exhaust silencer (mm)
Ballasted	4297	2033	2533	2610	2460
Unballasted	3910	2011	2511	2622	2472

Ground clearance:	450 mm
Clearance-limiting part:	Drawbar frame

Tractor mass(with cab)

	Ballasted		Unballasted	
	Without driver (kg)	With driver (kg)	Without driver (kg)	With driver (kg)
Front	1996	2005	1360	1369
Rear	3020	3086	2000	2066
Total	5016	5091	3360	3435

Ballast

Front:	1 bracket	53 kg
	10 weights, total	450 kg
Rear:	3 weights per wheel, total	420 kg
	water in the tyres	713 kg

Tyres and track width specifications

	Front	Rear
Tyres:		
-dimension	11. 2-24	18. 4-30
-ply rating	6	6
-type	cross-ply	cross-ply
-maximum load (kN)	10. 28	20. 77
-inflation pressure (kPa)	179	110
-dynamic radius index (mm)	529	743
Chosen track width (mm) :	1620	1620

Oils and lubrication

-Capacity and change interval

	Capacity dm^3	Oil change h	Filter change h
Engine	16. 3	200	400
Gear box including rear axle, final drive (front and rear), hydraulic system and power steering	50	600	200
Front axle	21. 2	600	-
Service brake	0. 3	600	-

-Specifications

	Recommended	Using During test
Engine oil:		
Viscosity	Below 0℃ : SAE 10W or 10W-30 From 10℃ to 25℃ : SAE 20 or 10W-30 Above 25℃ : SAE 30 or 10W-30	SAE 10W-30
Classification	API - CC or CD	API - CC
Transmission oils, Hydraulic fluid and Steering oil		As recommended
Viscosity	SAE 75W/80	
Classification	API - GL 3	

Grease:

Number of lubrication points: Eleven

Fuel

Type: Diesel fuel No. 2 in conformity with JIS

Density at 15℃: 0.8396 g/cm^3

COMPULSORY TESTS RESULTS

1. MAIN POWER TAKE-OFF

Date and location of tests: 3rd December, 1991, BRAIN, Omiya

Type of dynamometer: Eddy current, SCHENCK W400

Power	Speed		Fuel consumption			Specific Energy
	engine	power take-off	hourly		specific	
(kW)	(rev/min)		(kg/h)	(l/h)	(g/kW•h)	(kW•h/l)
1.1 Maximum power – 2-hours test						
60.9	2370	992	16.02	19.08	263	3.192
1.2 Power at rated engine speed						
60.2	2400	1005	15.95	19.00	265	3.168
1.3 Standard power take-off speed(1000 rev/min)						
60.4	2389	1000	15.95	18.99	264	3.181
1.4 Part loads (governor control being set for maximum power at rated engine speed) 1.4.1 The torque corresponding to maximum power at rated engine speed						
60.2	2400	1005	15.95	19.00	265	3.168
1.4.2 85 % of torque obtained in 1.4.1						
52.5	2462	1031	14.28	17.00	272	3.088
1.4.3 75 % of torque defined in 1.4.2						
39.9	2498	1045	11.85	14.11	297	2.828
1.4.4 50 % of torque defined in 1.4.2						
26.8	2518	1054	9.62	11.46	359	2.339
1.4.5 25 % of torque defined in 1.4.2						
13.6	2538	1062	7.43	8.84	546	1.538
1.4.6 Unloaded						
0	2557	1070	5.19	6.18	–	–
1.5 Part loads (governor control being set for maximum power at standard power take off speed) 1.5.1 The torque corresponding to maximum power at standard power take-off speed						
60.4	2389	1000	15.95	18.99	264	3.181
1.5.2 85 % of torque obtained in 1.5.1						
52.6	2449	1025	14.25	16.98	271	3.098
1.5.3 75 % of torque defined in 1.5.2						
40.0	2483	1039	11.88	14.15	297	2.827
1.5.4 50 % of torque defined in 1.5.2						
26.9	2506	1049	9.58	11.41	356	2.358
1.5.5 25 % of torque defined in 1.5.2						
13.6	2525	1057	7 .37	8.78	542	1.549
1.5.6 unloaded						
0	2544	1065	5.08	6.05	–	–

Other results

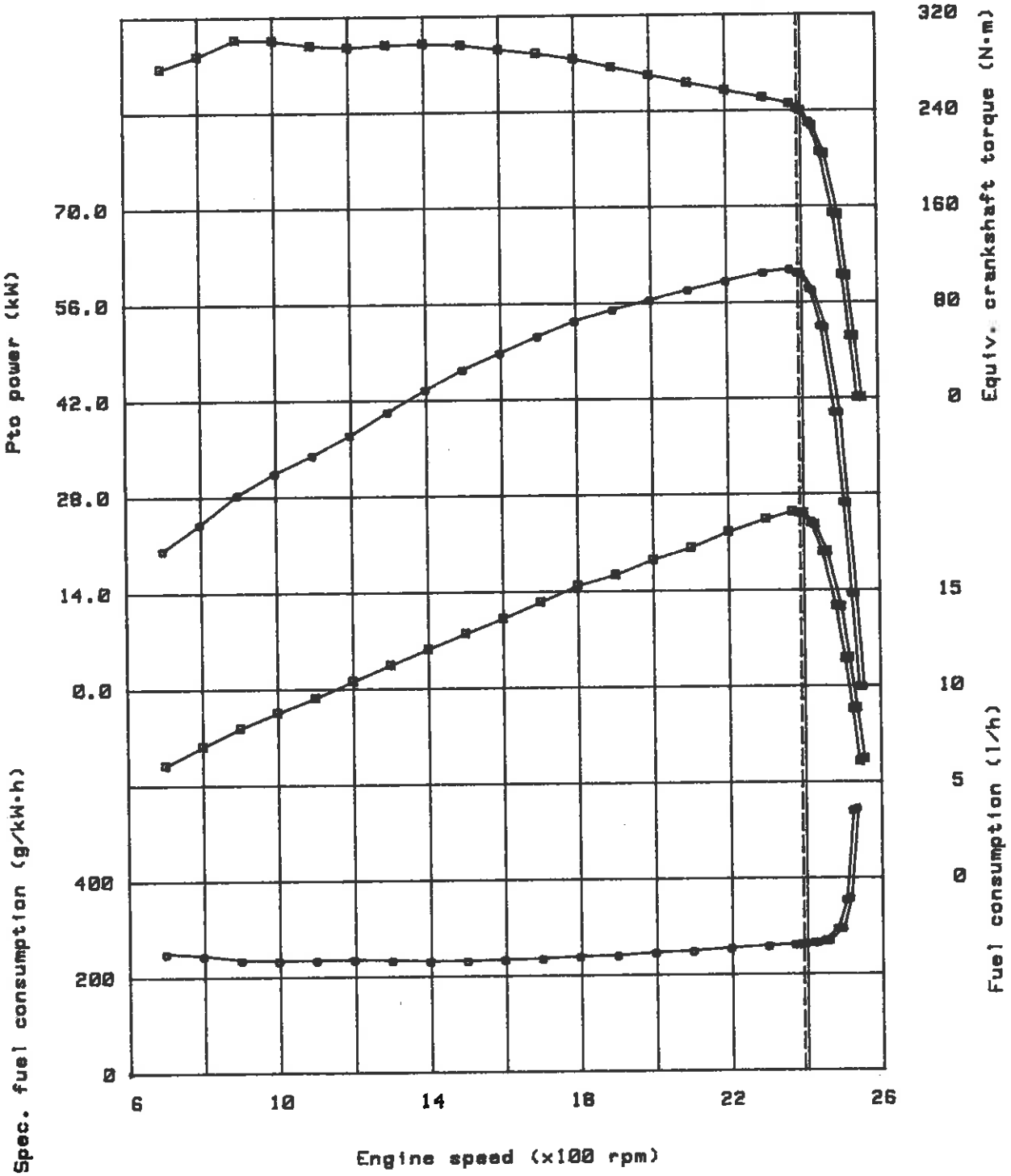
No load maximum engine speed:	2557 rev/min
Torque (equivalent crankshaft) at maximum power:	245.3 N•m
Torque (equivalent crankshaft) at rated engine speed:	239.4 N•m
Maximum torque (equivalent crankshaft): (engine speed: 900 rev/min)	301.4 N•m

Mean atmospheric conditions

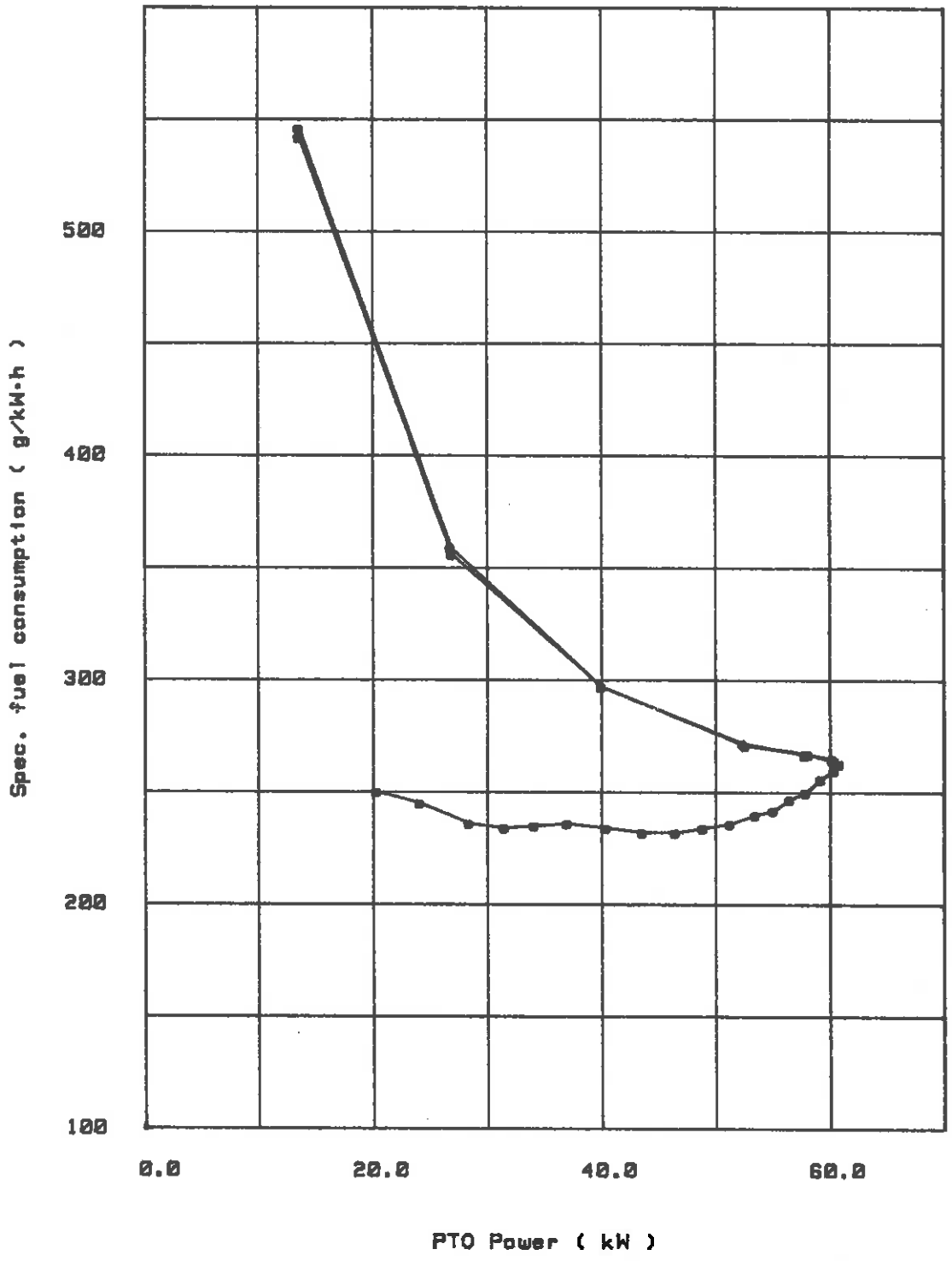
Temperature:	21 ℃
Pressure:	102.0 kPa
Relative humidity:	35 %

Maximum temperatures

Coolant:	93 ℃
Engine oil:	111 ℃
Fuel:	38 ℃
Engine air intake:	27 ℃



POWER TAKE-OFF PERFORMANCE



POWER TAKE-OFF PERFORMANCE

2. HYDRAULIC POWER AND LIFTING FORCE

Date of tests: 4th December, 1991

2.1 HYDRAULIC POWER TEST

2.1.1 Auxiliary service coupling (standard flow rate)

Tapping point used for test: auxiliary service connection
Sustained pressure with relief valve open: 18.04 MPa
Pump delivery rate at minimum pressure: 44.0 l/min

	Flow rate (l/min)	Pressure (MPa)	Power (kW)
Flow rate corresponding to a hydraulic pressure equivalent to 90 percent of the actual relief valve pressure setting and corresponding hydraulic power	40.8	16.28	11.11
Flow rate and hydraulic pressure corresponding to maximum hydraulic power	40.3	17.06	11.47

2.1.2 Auxiliary service coupling (twice flow rate)

Tapping point used for test: auxiliary service connection
Sustained pressure with relief valve open: 18.04 MPa
Pump delivery rate at minimum pressure: 82.9 l/min

	Flow rate (l/min)	Pressure (MPa)	Power (kW)
Flow rate corresponding to a hydraulic pressure equivalent to 90 percent of the actual relief valve pressure setting and corresponding hydraulic power	57.4	16.28	15.59
Flow rate and hydraulic pressure corresponding to maximum hydraulic power	78.7	14.91	19.56

2.1.3 Lift pump

Tapping point used for test: auxiliary service connection
(can be measured by transferring circuit)
Sustained pressure with relief valve open: 19.61 MPa
Pump delivery rate at minimum pressure: 40.3 l/min

	Flow rate (l/min)	Pressure (MPa)	Power (kW)
Flow rate corresponding to a hydraulic pressure equivalent to 90 percent of the actual relief valve pressure setting and corresponding hydraulic power	38.3	17.65	11.25
Flow rate and hydraulic pressure corresponding to maximum hydraulic power	37.3	18.63	11.55

2.2 POWER LIFT TEST

		at hitch point	on the frame
Height of lower hitch points above ground in down position	(mm)	200	157
Vertical movement without lifting forces with lifting forces	(mm) (mm)	640 617	758 722
Maximum corrected force exerted through full range (2)	(kN)	23.2	18.3
Corresponding pressure of hydraulic fluid	(MPa)	17.7	17.7
Moment about rear wheel axle	(kN·m)	-	29.7
Maximum tilt angle of mast from vertical	(Degrees)	-	6

Linkage setting for test - see page 9 and 10

Lifting height (1)		(mm)	-384	-341	-300	-200	-100	0	100	200	276	300	338
Lifting force (2)	at the hitch point	(kN)	-	23.2	23.8	24.6	24.8	24.8	24.6	24.2	24.2	-	-
	at the frame	(kN)	21.4	-	21.5	21.5	21.3	20.9	20.2	20.2	-	18.5	18.3

corresponding pressure: 17.65 MPa

(1) Lifting heights relative to the horizontal plane including the lower link pivot points.
(2) The values of force measured are corrected to correspond to a hydraulic pressure equivalent to 90 % of the actual relief valve pressure setting.

3 DRAWBAR PERFORMANCE

Date of tests: 5th till 13th December, 1991
Type of track: concrete
Tyre size: front: 11.2-24
rear 18.4-30

		Tyre inflation pressure	
	Height of drawbar above ground	Front	Rear
Unballasted	458 mm	177 kPa	108 kPa
Ballasted	442 mm	177 kPa	108 kPa

Gear no. and range	Power (kW)	Drawbar pull (kN)	Travelling speed (km/h)	Engine speed (rev/min)	Slip of wheels (%)	Specific fuel consumption (g/kW•h)	Specific energy (kW•h/l)	Temperature			Atmospheric condition		
								Fuel (°C)	Coolant (°C)	Engine oil (°C)	Temperature (°C)	Relative humidity (%)	Pressure (kPa)
3.1 MAXIMUM POWER IN TESTED GEARS (unballasted tractor)													
L-1	10.6	29.49	1.29	2536	14.8	723	1.16	20	76	94	15	68	103.2
L-2	13.9	29.56	1.69	2532	15.3	593	1.42	20	74	90	14	67	103.2
L-3	19.5	29.47	2.38	2520	15.4	490	1.71	22	80	94	14	67	103.2
L-4	23.2	29.50	2.83	2514	15.2	465	1.81	18	72	86	14	67	103.2
L-5	30.0	29.39	3.68	2500	15.5	401	2.09	22	78	92	14	67	103.2
L-6	42.3	29.43	5.17	2462	15.1	353	2.38	23	82	98	14	67	103.2
H-1	49.9	27.92	6.44	2388	12.1	338	2.48	15	81	96	15	68	103.2
H-2	53.0	21.53	8.86	2356	6.8	314	2.68	18	82	92	15	68	103.2
H-3	52.1	14.47	12.96	2350	3.6	327	2.57	19	82	100	15	68	103.2
3.2 MAXIMUM POWER IN TESTED GEARS (ballasted tractor)													
L-1	14.6	41.43	1.27	2528	15.1	584	1.44	18	80	94	9	60	102.5
L-2	19.0	41.27	1.66	2520	15.1	501	1.67	18	78	92	9	60	102.5
L-3	27.0	41.56	2.34	2502	15.1	412	2.04	18	82	94	10	40	102.4
L-4	32.1	41.51	2.78	2496	14.9	380	2.21	18	76	92	10	40	102.4
L-5	41.5	41.43	3.61	2462	14.8	357	2.35	21	81	98	10	40	102.4
L-6	51.1	34.84	5.28	2412	10.3	336	2.50	22	80	100	10	40	102.4
H-1	52.8	28.22	6.73	2394	7.2	318	2.64	16	80	98	9	60	102.5
H-2	53.7	21.40	9.03	2380	4.7	314	2.67	18	81	97	9	60	102.5
H-3	51.4	14.14	13.09	2382	2.7	333	2.52	18	81	98	9	60	102.5
3.3.1 FIVE HOURS TEST at 75 % of pull at maximum power													
H-1	41.5	21.17	7.06	2476	4.4	336	2.50	18	82	100	7	43	102.0
3.3.2 FIVE HOURS TEST at pull corresponding to 15 % wheelslip													
L-5	41.4	41.47	3.59	2458	15.0	354	2.37	24	81	102	12	44	103.0

Oil consumption during ten hours duration of tests 3.3.1 and 3.3.2: 19.8 g / h

4 TURNING AREA AND TURNING CIRCLE

Front wheel drive disengaged

	With brakes		Without brakes	
	left-hand (m)	right-hand (m)	left-hand (m)	right-hand (m)
Radius of turning area	3.72	3.67	4.15	4.11
Radius of turning circle	3.46	3.41	3.87	3.83

Front wheel drive engaged

	With brakes		Without brakes	
	left-hand (m)	right-hand (m)	left-hand (m)	right-hand (m)
Radius of turning area	3.61	3.61	4.74	4.71
Radius of turning circle	3.29	3.29	4.39	4.37

5 LOCATION OF CENTER OF GRAVITY

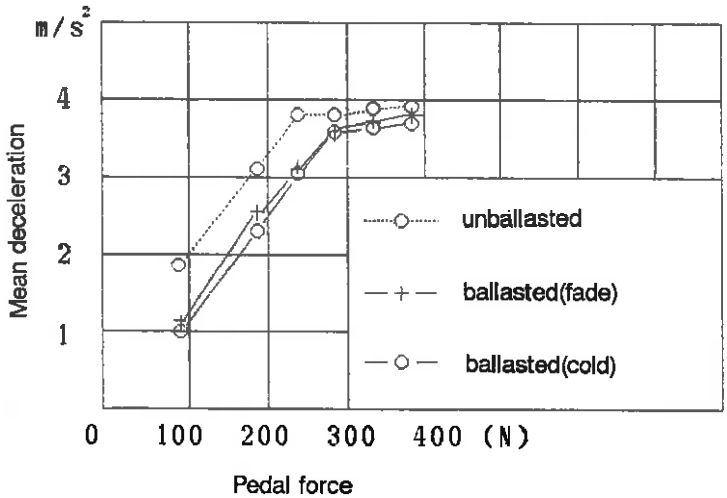
Height above ground: 981 mm
Distance forward from the vertical plane containing the axis of the rear-wheels: 911 mm
Distance from the median plane of the tractor (to the left): 1 mm

6 BRAKING (front wheel drive disengaged)

Date of tests: 6th December, 1991

Tractor mass during brake test(with driver)

	Front (kg)	Rear (kg)	Total (kg)
Ballasted	1987	3124	5111
Unballasted	1351	2104	3455



COLD SERVICE BRAKING DEVICE TEST AND FADE TEST

6.1 COLD SERVICE BRAKING DEVICE TEST

	Ballasted tractor	Unballasted tractor
Speed before application of brakes (km/h)	31.1	32.2

6.2 FADE TEST

Speed before application of brakes: 31.1 km/h
Maximum deviation of tractor from its original course: none
Abnormal vibration: none
Brake heating method: by means of towing the tractor for 1 km at 25 km/h with a towing force of 50 kN

6.3 PARKING BRAKING DEVICE TEST

	Ballasted tractor on 18 % slope	
	uphill	downhill
Braking device control force (N)	147	147

7 MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of tests: 2nd December, 1991
Sound level meter
- Make: RION
- Model: NL-10A
- Type: Precision sound level meter
- Type of track: Concrete
- Gear number: H-6
- Travelling speed before acceleration: 25.0 km/h
- Sound level: 88 dB(A)

REPAIRS AND ADJUSTMENTS DURING TESTS

None

REMARKS

None