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

FULL CODE

O.E.C.D. Approval No. : 1/1875
Date of approval : 11th January, 2000



Agricultural Tractor

LG LT300D(4WD)

Manufactured by : LG Cable & Machinery Ltd.
200, Dangjung-dong, Gunpo-si, Kyunggi-do, KOREA

NATIONAL AGRICULTURAL MECHANIZATION RESEARCH INSTITUTE
249, Seodun-dong, Kwonson-gu, Suwon-si, Kyunggi-do, Republic of Korea

This is a report on a tractor test in accordance with the OECD STANDARD CODE for the Official Testing of Agricultural Tractor Performance(C(87)53(Final), Code 1) and amendments (C(90)79, C(92)52, C(93)52, C(93)133, C(95)17) and C(99)23).

It does not contain an evaluation of the tractor on practical work

Report No. : 99-M-5-3
Duration of test : March 1999 till July 1999
Date of approval : 11th January, 2000

This report has been approved by the OECD Co-Ordinating Centre (CEMAGREF, France) as being in accordance with the OECD STANDARD CODE I.

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
Pressures	1 kgf/㎠	=	98.0665 kPa

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Printed in the Republic Of KOREA, March 2000 ; NAMRI

TABLE OF CONTENTS

	page
SPECIFICATIONS OF TRACTOR	4 to 13
TEST CONDITIONS	14 to 15
COMPULSORY TESTS RESULTS	
Main power take-off performance	16 to 19
Hydraulic power and lifting force	20
Drawbar performance	21
Turning area and turning circle	22
Location of center of gravity	22
Brake	22 to 23
Measurement of external noise level	23
REPAIRS	23
REMARKS	23

- Tractor manufacturer's name and address : LG Cable & Machinery Ltd.
  200, Dangjung-dong, Gunpo-si, Kyunggi-do, R.O.K
- Location of tractor assembly : 200, Dangjung-dong, Gunpo-si, Kyunggi-do, R.O.K
- Submitted for test by : The manufacturer
- Selected for test by : The manufacturer with agreement by NAMRI
- Place of running-in : LG Cable & Machinery Ltd.
- Duration of running-in : Engine and tractor 46.7 hours
- Location of test : NAMRI

1. SPECIFICATIONS OF TRACTOR

1.1 Identification

- Make : LG Cable & Machinery Ltd.
- Model : LT300D
- Type : Wheeled Tractor, unit construction
- Number of driving wheels : 4
- Serial No. : LT30-H00001
- 1st Serial No. : LT30-I00095

1.2 ENGINE

- Make : Mitsubishi Heavy Industries
- Model : S4L
- Type : 4 stroke, water cooled, indirect diesel, naturally aspirated
- Serial No. : 30993

1.2.1 Cylinders

- Number/disposition : 4 , Vertical in-line
- Bore/stroke : 78 / 78.5 mm
- Capacity : 1500 ㎤
- Compression ratio : 22.0 : 1
- Arrangement of valves : Overhead valves
- Cylinder liners(wet or dry) : None

1.2.2 Supercharging : None

1.2.3 Fuel system

- Fuel feed system : Forced-feed type

- Fuel filters
  - · Make : Mitsubishi Heavy Industries
  - · Model : MM 438739
  - · Type : Cartridge type
- Capacity of fuel tank : 40 dm^3
- Injection pump
  - · Make : Nihon Denso
  - · Model : ND-PFR
  - · Type : Bosch M, in line
- Serial No. : None
- Manufacturer's production setting of injection pump
  - · Flow rate : 6.9±0.5 dm'/h at rated engine speed and full load
  - · Timing : 17 degrees before T.D.C
- Injectors
  - · Make : Nihon Denso
  - · Model : DN15PD6
  - · Type : Single hole
- Injection pressure : 13.73 MPa

1.2.4 Governor

- Make : Nihon Denso
- Model : 31A63-05060
- Type : Mechanical
- Governed range of engine speed : From 970 to 2850 rev/min
- Rated engine speed : 2700 rev/min

1.2.5 Air cleaner

- Pre-cleaner
  - · Make : Daeyang Industry
  - · Model : A1190054
  - · Type : Cyclone type
  - · Location of air intake : Under the bonnet, in front of the radiator
- Main cleaner
  - · Make : Taekwang Industry.
  - · Model : A1190079
  - · Type : Oil bath
  - · Location of air intake(in case of no pre-cleaner) : -
- Maintenance indicator : None

1.2.6 Lubrication system

- Type of feed pump : Rotor type
- Type of filter : Full flow, cartridge type
- Number of filters : 1

1.2.7 Cooling system

- Type of coolant : Water or water and antifreeze solution
- Type of pump : Centrifugal
- Specification of fan : Axle driven, puller
  - Number of fan blades : 7
  - Fan diameter : 380 mm
- Coolant capacity : 5.5 dm³ (Radiator 3.0 dm³ + Engine 2.5 dm³)
- Type of temperature control : Wax type thermostat
- Superpressure system : 88.3 kPa at radiator cap

1.2.8 Starting system

- Make : Mitsubishi Electric Co., Ltd.
- Model : MM409413
- Type : Electrical, pre-engaged, solenoid operated
- Starter motor power rating : 2.0 kW
- Cold starting aid : Electrical glow plug
- Safety device : Starting operable only when main clutch pedal fully depressed

1.2.9 Electrical system

- Voltage : 12 V
- Generator
  - Make : Mitsubishi Electric Co., Ltd.
  - Model : 31A68-00401
  - Type : 3 phase generator
  - Power : 0.6 kW
- Battery of accumulators
  - Number : 1
  - Rating : 80Ah at 5 hours rating

1.2.10 Exhaust system

- Make : Sesin Engineering Co.
- Model : A1151098
- Type : Horizontal silencer
- Location : Under the bonnet, left hand side of tractor

1.3 TRANSMISSION

1.3.1 Clutch (travel and power take-off)

- Make : Seojin Clutch Co.
- Model : A1250091
- Type : Dry
- Number of plates : 1
- Diameter of plates : 240 mm
- Method of operation : Mechanically actuated by pedal

1.3.2 Gear box

- Make : Own make
- Model : A1001048
- Type : Mechanical
- Description : 4 main gears with syncro-mesh, 3 range gears with constant-mesh(L, M, H), syncromesh type forward/reverse gear with shuttle lever, 12 forward and 12 reverse gears

	Forward	Reverse
Number of gears	4	4
Number of ranges	3	3
Total of arrangements	12	12

- Available options : None

1.3.3 Rear axle and final drives

- Make : Own make
- Model : A1480068/69(LH/RH)
- Type : Bevel gear type differential and helical gear type final drives
- Differential lock
  - Type : Mechanical, dog clutch on differential gears
  - Method of engagement : Mechanically actuated by pedal
  - Method of disengagement : Self-disengagement by spring

1.3.4 Front axle and final drives

- Make : Youngjin Precision Industries Co.
- Model : A1400110
- Type : Bevel gear type differential and bevel gear type final drives
- Differential lock : Not available

1.3.5 Total ratios and travelling speeds

Gear No	Group or range	Number of engine revolutions for one revolution of driving wheels		Nominal travelling speed(*) at rated engine speed to 2700 rev/min (km/h)	
		Forward	Reverse	Forward	Reverse
1	L-1	756.25	539.98	0.69	0.97
2	L-2	539.98	386.27	0.97	1.36
3	L-3	386.27	539.98	1.36	(0.97)
4	L-4	275.51	386.27	1.90	(1.36)
5	M-1	235.00	167.81	2.23	3.12
6	M-2	167.81	119.89	3.12	4.37
7	M-3	119.89	167.81	4.37	(3.12)
8	M-4	85.63	119.89	6.12	(4.37)
9	H-1	71.50	51.08	7.33	10.26
10	H-2	51.08	36.49	10.26	14.37
11	H-3	36.49	51.08	14.37	(10.26)
12	H-4	26.06	36.49	20.11	(14.37)

(*) Calculated with the dynamic radius index of 515 mm(ISO 4251/1-1992).

※ ( ) : In reverse operation, the ratio of 1 and 2 gear is equal to one of 3 and 4 gear separatedly.

Number of revolutions of front wheels for one revolution of rear-wheels : 1.61

Range selection : L = Low, M = Medium, H = High

1.4 POWER TAKE-OFF

1.4.1 Main power take-off

- Type : Semi-independent(Transmission-driven)
- Method of engagement : Mechanically engaged by pedal
- Number of shafts : 1
- Method of changing power take-off shaft speeds : Manually by hand lever

1.4.1.1 Power take-off proportional to engine speed

Power take-off at 540 rev/min

- Location : Rear of tractor
- Diameter of power take-off shaft end : 35 mm
- Number of splines : 6 in conformity with ISO 500/1991
- Height above ground : 522 mm
- Distance from the median plane of the tractor : 0 mm
- Distance behind rear-wheel axis : 296 mm
- PTO speed at rated engine speed(2700rev/min) : 579 rev/min
- Engine speed at standard power take-off speed : 2520 rev/min
- Ratio of rotation speeds (engine speed / p.t.o speed) : 4.6667 : 1

- Power restriction : None
- Maximum torque transmissible : None
- Direction of rotation(viewed from behind tractor) : Clockwise

1.4.1.2 Power take-off proportional to ground speed : None

1.4.2 Optional power take-off : None

1.5 Hydraulic power lift

- Make : Daerim industrial Co.
- Model : A1820034
- Type : Hydraulic, position, draft and mixed control
- Type of hydraulic system : Open center system
- Type and number of cylinders : 1, Single acting
- Type of linkage lock for transport : Hydraulic
- Relief valve pressure setting : 15.2 ~ 16.2 MPa
- Opening pressure of cylinder safety valve : 19.6 MPa
- Lift pump type : Gear pump
- Transmission between pump and engine : Driven by engine cam shaft
- Type and number of filters : 1, Cartridge type
- Site of oil reservoir : Transmission housing
- Type, number and location of tapping points : SAE 3/8" hydraulic female coupler, 2 sets, rear of tractor
- Maximum volume of oil available to external cylinders : None

1.6 Three-point linkage

- Category : 1, in conformity with ISO730/1-1994
- Category adapter : None

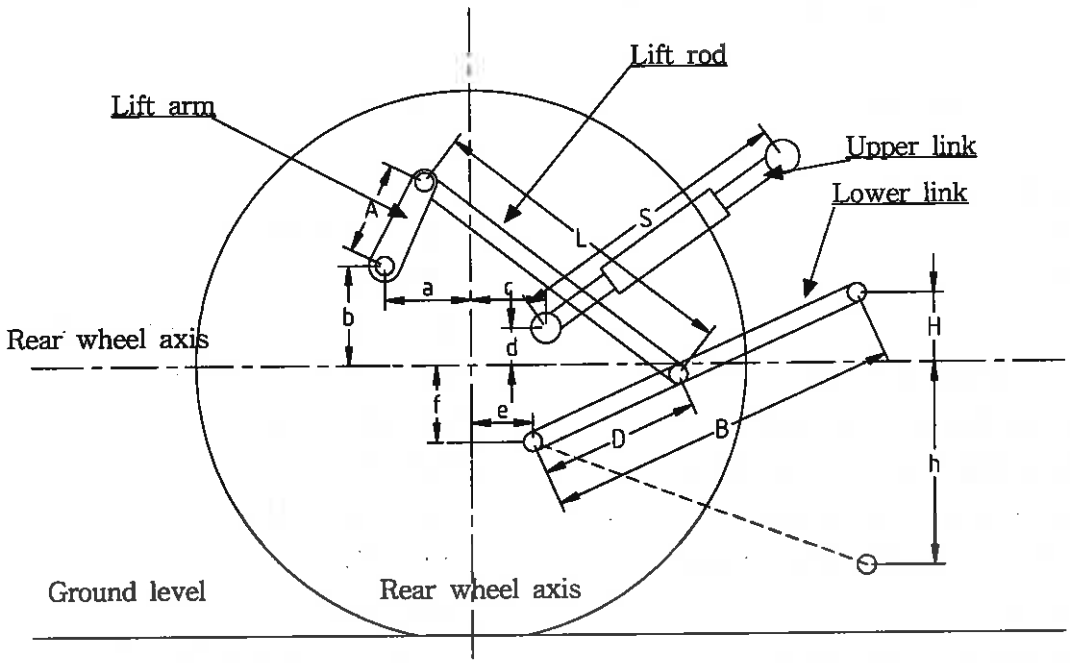


Figure 1.1
Link test - Linkage geometry

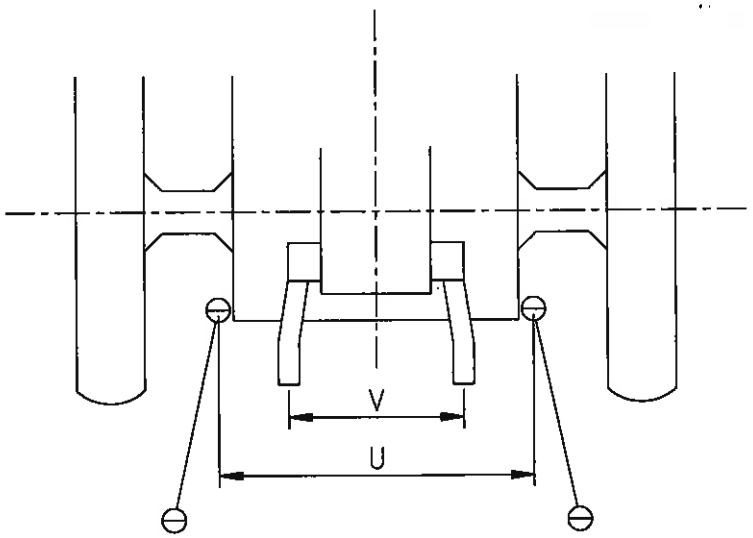


Figure 1.2
Link test - Linkage geometry

			Dimension or range (mm)	Settings used in test (mm)
Length of lift arms		(A)	265	265
Length of lower links		(B)	725	725
Distance of lift arm pivot point from rear-wheel axis	horizontally	(a)	220	220
	vertically	(b)	265	265
Horizontal distance between the 2 lower link points		(u)	360	360
Horizontal distance between the 2 lift arm end points		(v)	440	440
Length of upper link		(S)	from 460 to 750	460
Distance of upper link pivot point from rear wheel axis	horizontally	(c)	420	420
	vertically	(d)	220, 265	265
Distance of lower link pivot point from rear wheel axis	horizontally	(e)	240	240
	vertically	(f)	125	125
Distance of lower link pivot point to lift rod pivot points on lower links		(D)	400	400
Length of lift rods		(L)	from 430 to 540	485
Height of lower hitch points relative to the rear-wheel axis				
- in low position		(h)	from 265 to 495	392
- in high position		(H)	from 141 to 311	173
Height above ground of lower hitch points when locked in transport position(*)			Any height within lifting range	

(*)Assuming r = 515mm rear tyre dynamic radius index of ISO 4251/1-1992

Table 1.1

Dimensions of linkage geometry

when connected to the standard frame

1.7 Swinging drawbar : None

1.8 Trailer Hitch

- Type	Fixed clevis on the rear of transmission housing
- Hole diameter :	30 mm
- Height above ground :	332 mm
- Distance of hitch point from rear-wheel axis, horizontally :	520 mm
- Distance of hitch point from power take-off shaft end	
· Vertically :	187 mm
· Horizontally :	85 mm
- Maximum vertical permissible load :	5.5 kN

1.9 Holed drawbar : None

1.10 Steering

- Make :	Shinjin Precision Co.
- Model :	A1630222
- Type :	Hydrostatic
- Method of operation :	
· Pump :	Gear pump
· Ram :	1, double acting ram actuating directly on front axle
- Working pressure :	9.8 MPa

1.11 Brakes

1.11.1 Service brake

- Make :	Jin-Myoung Metal Co.
- Model :	A1650071/72(LH/RH)
- Type :	Oil-immersed multiplate discs, 2 per side
- Method of operation :	Operated by 2 foot pedals which can be locked together
- Trailer braking take-off :	None

1.11.2 Parking brake

- Type :	Mechanical in common with service brake
- Method of operation :	Depressed by brake pedals and ratched by hand lever

1.12 Wheels

- Number	
· Front :	2, steering and driving
· Rear :	2, driving

- Wheelbase : 1600 mm
- Track width adjustment :

	Minimum mm	Maximum mm	Adjustment method
Font	1140	1140	None
Rear	984	1356	By reversing wheels and offset lug rims

1.13 Protective structure

- Make : Shinwoo Industrial Co.
- Model : A1880009
- Type : 2 posts configuration attached to the rear of tractor
- Manufacture's name and address : Shinwoo Industal Co.
  900-11, Hogae-dong, Anyang-si, Kyunggi-do, KOREA
- Protective device : Rollguard, not tiltable
- OECD approval
  - Approval number : None
  - Date of approval : None
  - Nos. of minor modification certificates, if any : None

1.14 Seat

1.14.1 Driver's seat

- Make : Saeshin Industrial Co.
- Model : A3370065
- Type : Rubber
- Seat and steering wheel reversible : No
- Type of suspension : None
- Type of damping : None
- Range of adjustment
  - Longitudinal : 80 mm
  - Vertical : Fixed
- Safety belt : None

1.14.2 Optional driver's seat(s) None

1.14.3 Passenger seat None

1.15 Lighting

	Height above ground of center	Size	Distance from outside edge of lights to median plane of tractor
	mm	mm	mm
Head lights	1018	455×128	165
Side lights	-	-	-
Rear lights	1220	150× 50	475
Reflectors	1190	150×130	515

2. TEST CONDITIONS

2.1 Overall dimensions

	Length	Width		Height at top of	
		minimum	maximum	protective structure	exhaust silencer(*)
	mm	mm	mm	mm	mm
Ballasted	3025	1269	1631	2030	832
Unballasted	3012	1269	1631	2030	832

(*) The exhaust silencer is on the left hand side under bonnet.

2.2 Ground clearance (unballasted tractor) : 332 mm

- Clearance-limiting part : Front axle housing

2.3 Tractor mass

- Mass(with frame)

	Ballasted		Unballasted	
	Without driver	With driver	Without driver	With driver
	kg	kg	kg	kg
Front	706	760	583	594
Rear	830	851	796	860
Total	1536	1611	1379	1454

2.4 Ballast

	Weights		Water
	Number	Total mass	
		kg	kg
Front	7	157	-
Rear	-	-	-
Optional	-	-	-

2.5 Track specifications : None

2.6 Tyres and track width specifications

	Front	Rear
Tyres		
· dimensions	7-16	11.2-24
· ply rating	4	6
· type	Diagonal	Diagonal
· maximum load (tyre manufacturer's)	3.87 kN	10.25 kN
· maximum load (tractor manufacturer's)	3.87 kN	10.25 kN
· inflation pressure (tyre manufacturer's)	176.5 kPa	176.5 kPa
· dynamic radius index	355 mm	515 mm
Chosen track width	1140 mm	984 mm

2.7 Fuel

- Type : Diesel fuel No2, in conformity with Korean Standards (KS M 2620)
- Density at 15℃ : 0.824 g/㎤

2.8 Oils and lubricants

2.8.1 Capacity and change interval

	Capacity	Oil change	Filter change
	dm³	h	h
Engine	4.5	100	100
Gear box, rear axle, steering and final drives in common with hydraulic system	23	200	200
Front axle and final drives	10	200	-
Rear axle and final drives	6.5	200	-

2.8.2 Specifications

	Recommended	Used during test
Engine oil · Type : · Viscosity : · Classification :	 Below 0 ℃ : SAE 10W or 10W-30 From 10 ℃ to 25 ℃ : SAE 20 or 10W-30 Above 25 ℃ : SAE 30 or 10W-30 68.2 cSt at 40 ℃ 11.4 cST at 100 ℃ API-CC or CD	Same
Transmission oil, Hydraulic fluid, Steering oil · Type : · Viscosity : · Classification :	 Transmission oil 10 cSt API GL-4	Same

2.8.3 Grease

- Number of lubrication points : 7

3. COMPULSORY TESTS RESULTS

3.1 Main power take-off

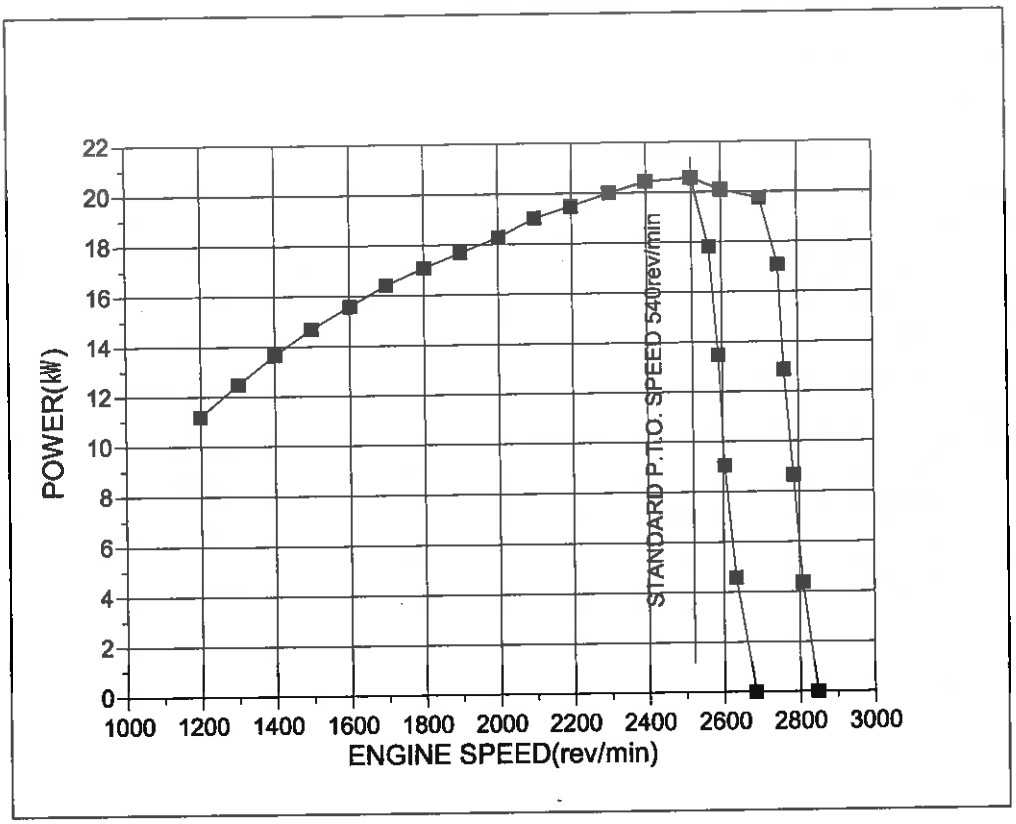
- Date and location of tests : 8th April to 13th April, 1999, NAMRI, Konjiam
- Type of dynamometer : Eddy current, FROUND AG 250

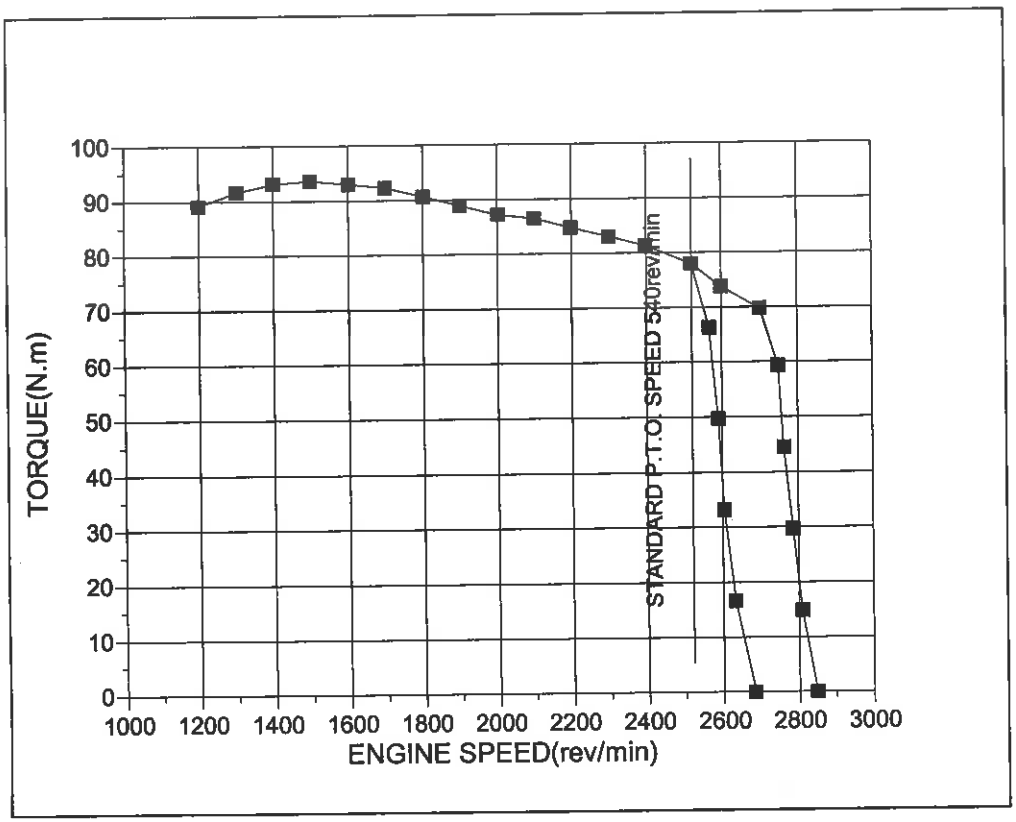
Power	Speed		Fuel consumption			Specific energy
	Engine	P.T.O	Hourly		Specific	
kW	rev/min		kg/h	ℓ/h	g/kWh	kWh/ℓ
3.1.1 MAXIMUM POWER - 2 HOURS TEST						
20.6	2520	540	6.05	7.35	294	2.801
3.1.2 POWER AT RATED ENGINE SPEED						
19.7	2702	579	6.04	7.32	306	2.695
3.1.3 STANDARD POWER TAKE-OFF SPEED (540±10 rev/min)						
20.6	2520	540	6.05	7.35	294	2.801
3.1.4 PART LOADS						
3.1.4.1 The torque corresponding to maximum power at rated engine speed						
19.7	2702	579	6.04	7.32	306	2.695
3.1.4.2 85% of torque obtained in 3.1.4.1						
17.1	2749	589	5.34	6.47	313	2.636
3.1.4.3 75% of torque defined in 3.1.4.2						
12.9	2763	592	4.31	5.23	335	2.461
3.1.4.4 50% of torque defined in 3.1.4.2						
8.7	2786	597	3.44	4.17	397	2.075
3.1.4.5 25% of torque defined in 3.1.4.2						
4.4	2809	602	2.67	3.24	612	1.347
3.1.4.6 Unloaded						
0	2847	610	1.98	2.41	-	-
3.1.5 PART LOADS AT STANDARD POWER TAKE-OFF SPEED(540±10 rev/min)						
3.1.5.1 The torque corresponding to maximum power available						
20.6	2520	540	6.05	7.35	294	2.801
3.1.5.2 85% of torque obtained in 3.1.5.1						
17.8	2567	550	5.27	6.39	296	2.786
3.1.5.3 75% of torque defined in 3.1.5.2						
13.5	2590	555	4.22	5.12	313	2.634
3.1.5.4 50% of torque defined in 3.1.5.2						
9.0	2604	558	3.25	3.95	360	2.289
3.1.5.5 25% of torque defined in 3.1.5.2						
4.6	2632	564	2.49	3.02	545	1.513
3.1.5.6 Unloaded						
0	2683	575	1.78	2.15	-	-

- No load maximum engine speed : 2847 rev/min
- Torque (equivalent crankshaft) at maximum power
  - At rated engine speed : 69.8 Nm
  - At 2-hour test : 78.0 Nm
- Maximum torque(equivalent crankshaft) : 93.6 Nm
  (engine speed : 1498 rev/min)

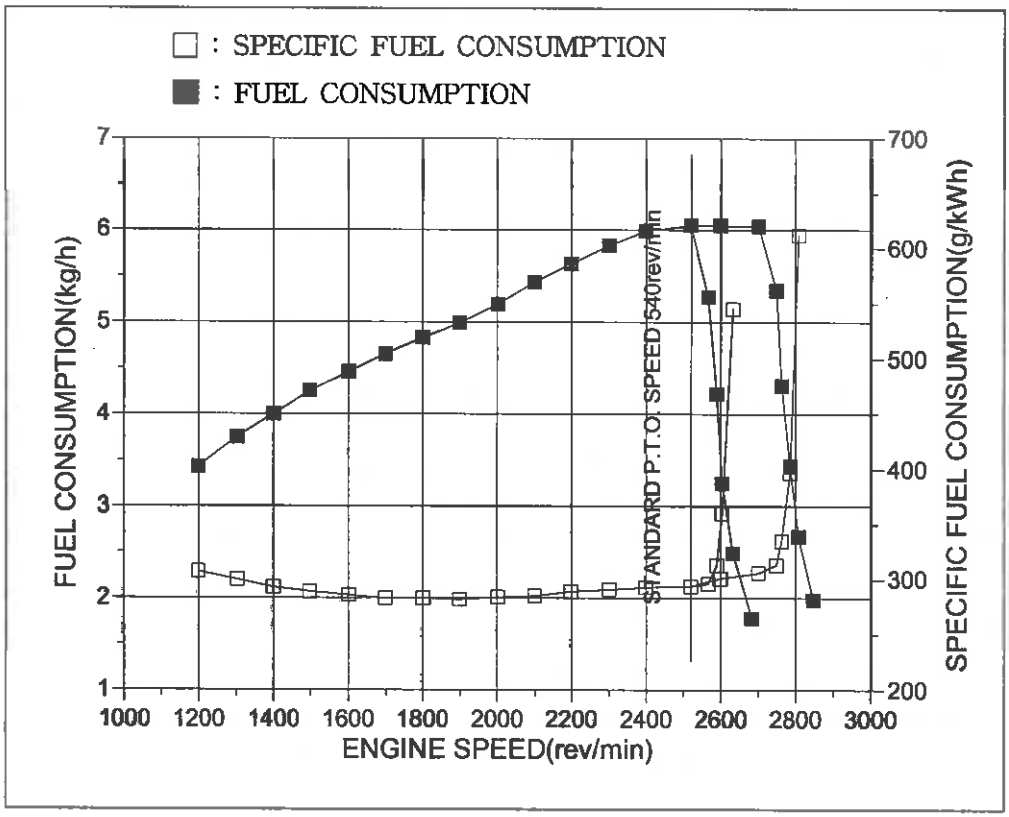
Mean atmospheric conditions	
Temperature	20 ℃
Pressure	98.5 kPa
Relative humidity	59 %
Maximum temperatures :	
Coolant	91 ℃
Engine oil	102 ℃
Fuel	42 ℃
Engine air intake	23 ℃

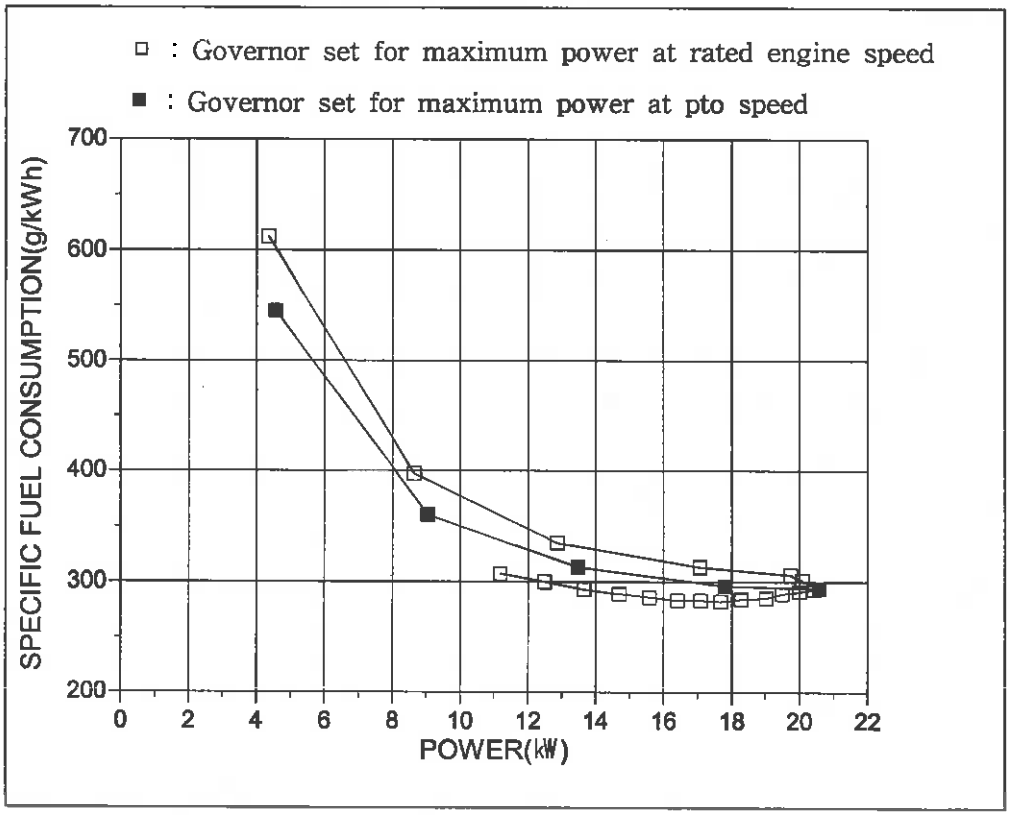
POWER TAKE - OFF PERFORMANCE CURVES





POWER TAKE - OFF PERFORMANCE CURVES





3.2 HYDRAULIC POWER AND LIFTING FORCE

- Date of tests : 22nd April to 23rd April, 1999

3.2.1 Hydraulic power test

- Sustained pressure with relief valve open : 15.40 MPa
- Pump delivery rate at minimum pressure : 27.43 ℓ/min

	Flow rate	Pressure	Power
	ℓ/min	MPa	kW
Flow rate corresponding to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting and corresponding hydraulic power	7.98	13.9	1.85
Flow rate and hydraulic pressure corresponding to maximum hydraulic power	23.82	11.8	4.68

- Tapping point used for test : Rear of tractor
- Temperature of hydraulic fluid if different from 65±5℃ : None
- Opening pressure of the unloading valve : Not available
- Closing pressure of the unloading valve : Not available

3.2.2 Power lift test

- Linkage settings for test - Table 1.1 and Figures 1.1 and 1.2

	At the hitch point	On the frame
Height of lower hitch point above ground in down position	123 mm	123 mm
Vertical movement without lifting forces with lifting forces	 565 mm 537 mm	 690 mm 657 mm
Maximum corrected force exerted through full range	10.68 kN	8.87 kN
Corresponding pressure of hydraulic fluid	13.9 MPa	13.9 MPa
Moment about rear-wheel axis	10.31 kNm	13.97 kNm
Maximum tilt angle of mast from vertical	-	12 °

Lifting heights relative to the horizontal plane including the lower link pivot points											
mm	-307	-300	-237	-200	-100	0	100	200	264	300	350
Lifting forces(the values of force measured shall be corrected to corresponding to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting of the hydraulic lifting system)											
At the hitch points, Corresponding pressure 13.9 MPa											
kN	-	-	12.66	13.94	14.92	15.34	15.67	14.96	10.68	-	-
At the frame, Corresponding pressure 13.9 MPa											
kN	11.93	12.04	-	12.08	11.84	11.43	10.81	10.19	-	9.36	8.87

3.3 DRAWBAR PERFORMANCE

- Date of tests : 28th June to 1st July, 1999
- Type of track : Asphalt

	Height of drawbar above ground	Tyre inflation pressure	
		Front	Rear
	mm	kPa	kPa
Unballasted	360	176.5	176.5
Ballasted	360	176.5	176.5

Gear number and range	Power	Drawbar pull	Speed	Engine speed	Slip of wheels	Specific fuel consum-ption	Specific energy	Temperatures			Atmospheric conditions		
								Fuel	Coolant	Engine oil	Tempe-rature	Relative humidity	Pressure
	kW	kN	km/h	rev/min	%	g/kWh	kWh/ℓ	°C	°C	°C	°C	%	kPa
3.3.1 MAXIMUM POWER IN TESTED GEARS (unballasted tractor)													
M-1	5.5	9.54	2.09	2777	15.0	587	1.403	45	91	102	27	54	99.8
M-2	8.0	9.94	2.90	2757	15.1	483	1.706	45	91	103	26	53	99.8
M-3	11.1	9.82	4.06	2749	15.0	429	1.921	46	90	102	28	52	100.0
M-4	14.8	9.74	5.47	2649	15.0	406	2.028	46	91	103	28	53	99.8
H-1	16.1	9.05	6.41	2521	12.7	377	2.184	47	92	104	29	53	99.8
H-2	16.7	6.25	9.62	2520	6.5	364	2.261	47	90	102	28	52	99.8
H-3	15.7	4.05	13.98	2519	3.1	387	2.129	45	89	101	27	54	100.0
3.3.2 MAXIMUM POWER IN TESTED GEARS (ballasted tractor)													
L-1	2.0	10.89	0.66	2822	15.1	1240	0.664	45	90	100	30	48	99.8
L-2	2.7	10.85	0.91	2800	15.1	951	0.866	46	89	101	31	47	99.8
L-3	3.9	10.95	1.28	2785	15.0	735	1.122	48	90	103	31	46	100.0
L-4	5.4	10.93	1.78	2775	15.1	595	1.386	48	91	104	32	46	99.8
M-1	6.4	11.14	2.08	2767	15.0	530	1.556	49	91	104	31	47	99.8
M-2	8.8	10.96	2.90	2752	15.1	466	1.767	49	90	104	31	48	100.0
M-3	12.2	10.87	4.04	2735	15.0	428	1.923	50	91	103	30	47	100.0
M-4	15.2	10.25	5.35	2523	12.9	392	2.104	50	91	105	29	48	100.0
H-1	16.2	8.77	6.66	2522	9.5	370	2.225	49	90	104	30	48	99.8
H-2	16.2	5.98	9.73	2520	5.6	372	2.214	49	89	103	29	48	99.8
H-3	15.4	3.96	13.94	2518	3.0	396	2.080	48	88	102	28	47	99.8
3.3.3 FIVE-HOUR TESTS													
3.3.3.1 FIVE-HOUR TEST at 75% of pull at maximum power (at rated engine speed)													
H-1	13.6	6.58	7.45	2733	6.5	394	2.091	49	90	103	28	46	99.8
3.3.3.2 FIVE-HOUR TEST at pull corresponding to 15% wheelslip with additional ballast : 40 kg													
M-3	12.4	11.02	4.04	2734	15.0	426	1.936	50	89	102	29	48	100.0

Oil consumption during ten hours duration of tests 3.3.3.1 and 3.3.3.2 : 2.6 g/h

3.4 TURNING AREA AND TURNING CIRCLE

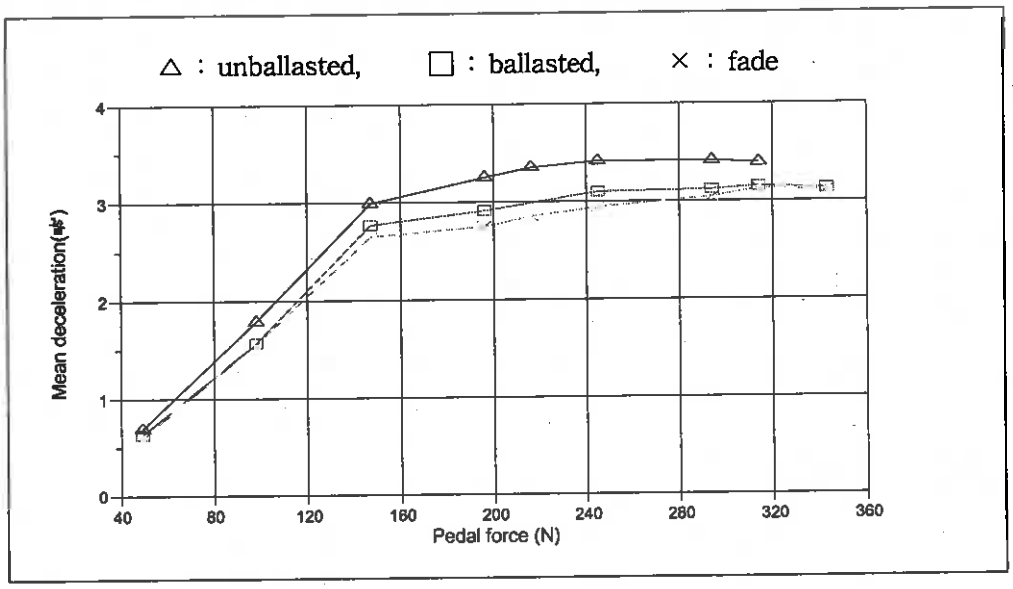
	With brakes		Without brakes	
	Right-hand	Left-hand	Right-hand	Left-hand
	mm	mm	mm	mm
Radius of turning area	2930	2730	3270	3015
Radius of turning circle	2750	2550	3090	2835

3.5 LOCATION OF CENTER OF GRAVITY

- Height above ground : 704 mm
- Distance from the vertical plane containing the axis of the rear wheels : 654 mm
- Distance from the median longitudinal plane of the tractor, to the right side : 1 mm

3.6 BRAKING

- Date of tests : 21st June to 23rd June, 1999
- Type of track : Asphalt



COLD SERVICE BRAKING DEVICE TEST AND FADE TEST

3.6.1 Cold service braking device test

	Ballasted tractor	Unballasted tractor
Speed before application of brakes(km/h)	22.46	22.54

- Maximum deviation of tractor from its original course : None
- Abnormal vibration : None
- Brake heating method : None

3.6.2 Fade Test

- Speed before application of brakes : 22.46 km/h
- Maximum deviation of tractor from its original course : None
- Abnormal vibration : None
- Brake heating method : Driven with brake applied for 1km at 80% of maximum speed with a pedal force corresponding to a deceleration of 1㎨

3.6.3 Parking braking device test

	Uphill	Downhill
Braking device control force	275 N	265 N

3.7 Measurement of external noise level

- Date of tests : 29th April to 30th April, 1999
- Sound level meter, make/model : Brüel & kjær, 2236
- Type of track : Asphalt
- Gear number : H-4
- Travelling speed before acceleration : 15.6 km/h
- Sound level : 78.6 dB(A)

4. REPAIRS None

5. REMARKS None