Report on test in accordance with
O.E.C.D. STANDARD CODE 1 for the Official
Testing of Agricultural Tractor Performance

FULL CODE

O.E.C.D. Approval No. : 1/1 952
Date of approval : 4th May, 2001



Agricultural Tractor

DAEDONG DK45(4WD)

Manufactured by : DAEDONG INDUSTRY Co., Ltd.
1-12, Buk-ri, Nongong-eub, Dalsung-kun,
Daegu-si, 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. : 00-M-5-1

Duration of test : October 2000 till March 2001

Date of approval : 4th May 2001

This report has been approved by the OECD Co-Ordinating Centre (CEMAGREF, France) as being in accordance with the OECD STANDARD CODE 1.

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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- Tractor manufacturer's name and address : DAEDONG INS. Co., Ltd 1-12, Buk-ri, Nongong-eub, Dalsung-kun, Daegu-si, Korea
- Location of tractor assembly : 1-12, Buk-ri, Nongong-eub, Dalsung-kun, Daegu-si, Korea
- Submitted for test by : The manufacturer
- Selected for test by : The manufacturer in agreement with the testing station
- Place of running-in : Daedong Industry Co., Ltd
- Duration of running-in : Engine and tractor 58 hours
- Location of test : NAMRI

1. SPECIFICATIONS OF TRACTOR

1.1 IDENTIFICATION

- Make : Daedong
- Model : DK45
- Type : 4 wheel drive, unit construction
- Number of driving wheels : 4
- Serial No. : 056700348
- 1st Serial No. : 056700001

1.2 ENGINE

- Make : Own make
- Model : 4A220
- Type : 4-stroke, water cooled, indirect diesel, naturally aspirated
- Serial No. : 037001024

1.2.1 Cylinders

- Number/disposition : 4/vertical, in-line
- Bore/stroke : 87/92.4 mm
- Capacity : 2197 ㎤
- 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 : Buil
  - Model : None
  - Type : Replaceable element
- Capacity of fuel tank : 40 dm³

- Injection pump
  - Make : Doowon
  - Model : PFR-4KD
  - Type : Bosch, type k
  - Serial No. : None
- Manufacturer's production setting of injection pump
  - Flow rate : 9.7±5% dm³/h at rated engine speed and full load
  - Timing : 18 degrees before T.D.C
- Injectors
  - Make : Doowon
  - Model : None
  - Type : Throttle type
- Injection pressure : 13.7~14.7 MPa

1.2.4 Governor
- Make : Hanil
- Model : None
- Type : Centrifugal ball mechanical
- Governed range of engine speed : From 800±50 to 2850±50 rev/min
- Rated engine speed : 2600 rev/min

1.2.5 Air cleaner
- Pre-cleaner None
  - Make :
  - Model :
  - Type :
- Main-cleaner
  - Make : Namsin
  - Model : None
  - Type : Dry
- Location of air intake : Under the bonnet, in front of radiator
- Maintenance indicator : None

1.2.6 Lubrication system
- Type of feed pump : Rotor
- Type of filter(s) : 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
  - Type : Belt driven, puller
  - Number of fan blades : 6
  - Fan diameter : 400 mm
- Coolant capacity : 8.9 dm³

- Type of temperature control : Wax pellet type thermostat
- Superpressure system : 88.2 kPa, at radiator cap

1.2.8 Starting system
- Make : Valleo-Mando
- Model : MG117559
- Type : Electrical, pre-engaged, solenoid operated
- Starter motor power rating : 1.7 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 : Valleo-Mando
  - Model : AB 150539
  - Type : 3 phase generator
  - Power : 0.6 kW
- Battery of accumulators
  - Number : 1
  - Rating : 80 Ah at 20 hours rating

1.2.10 Exhaust system
- Make : Sindong
- Model : None
- Type : Silence
- Location : Under the bonnet, left hand side of tractor

1.3 TRANSMISSION

1.3.1 Clutch(travel alone)
- Make : Valeo Pyeong-Hwa
- Model : 260NY22AX/202
- Type : Dry single plate
- Number of plates : 1
- Diameter of plates : 260 mm
- Method of operation : Mechanically actuated by pedal

1.3.2 Gear box
- Make : Daedong-Gear
- Model : None
- Type : Mechanical
- Description : 4 main gear with synchro-mesh, 2 range gear with constant-mesh, and synchro-mesh type forward/reverse gear with shuttle lever, 8 forward and 8 reverse gear

	Forward	Reverse
Number of gears	4	4
Number of ranges	2	2
Total of arrangements	8	8

- Available options : None

1.3.3 Rear axle and final drives

- Make : Daedong-Gear
- Model : None
- Type : Bevel gear type differential
  Planetary gear type final drives
- Differential lock
  - Type : Mechanical
  - Method of engagement : Mechanical, actuated by pedal
  - Method of disengagement : Self-disengagement by spring

1.3.4 Front axle and final drives

- Make : Daedong-Gear
- Model : None
- Type : Bevel gear type final drives
- Differential lock : Not available
  - Type : None
  - Method of engagement : None
  - Method of disengagement : None

1.3.5 Total ratios and travelling speeds

Gear No	Group or range	Number of engine revolutions for one revolution of the driving wheels		Nominal travelling speed(*) at rated engine speed of 2600 min^{-1}(rev/min) km/h	
		Forward	Reverse	Forward	Reverse
1	L-1	345.10	416.99	1.73	1.43
2	L-2	242.85	293.44	2.46	2.04
3	L-3	165.05	199.43	3.62	3.00
4	L-4	103.13	124.62	5.79	4.80
5	H-1	81.00	97.36	7.38	6.11
6	H-2	57.00	68.88	10.48	8.68
7	H-3	38.74	46.81	15.43	12.77
8	H-4	24.20	29.25	24.69	20.43

(*)Calculated with a tyre dynamic radius index of 610 mm(ISO 4251-1:1998)

Number of revolutions of front wheels for one revolution of rear-wheels : 1.576
Range selection : L = Low, H = High

1.4 POWER TAKE-OFF

1.4.1 Main power take-off

- Type : Independent
- Method of engagement : Engaged or disengaged by switch, driven by multiplate wet clutch independent of travel clutch
- Number of shafts : 1
- Method of changing power take-off shaft speeds : Not changeable

1.4.1.1 Power take-off proportional to engine speed

Power take-off at 540min^{-1}(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 : 600 mm
- Distance from the median plane of the tractor : 0 mm
- Distance behind rear-wheel axis : 369 mm
- PTO speed at rated engine speed(2600rev/min) : 561 rev/min
- Engine speed at standard power take-off speed : 2503 rev/min
- Ratio of rotation speeds(engine speed/p.t.o speed) : 4.634 : 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 : Mita
- Model : M35D
- Type : Hydraulic 3-point hitch
- 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 : 19.2±0.5 MPa
- Opening pressure of cylinder safety valve : None
- Lift pump type : Gear type
- Transmission between pump and engine : Driven by cam shaft
- Type and number of filters : Cartridge type, 1
- Site of oil reservoir : Transmission housing
- Type, number and location of tapping points : SAE 3/8" hydraulic female coupler, 2, 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 + Cor.1:1995
- Category adapter : None

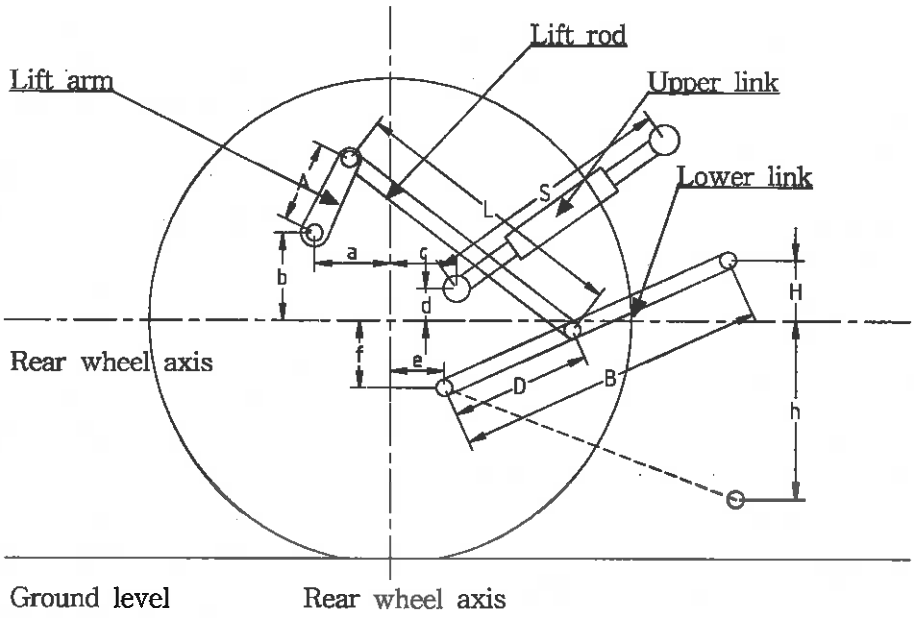


Figure 1.1

Lift test-Linkage geometry

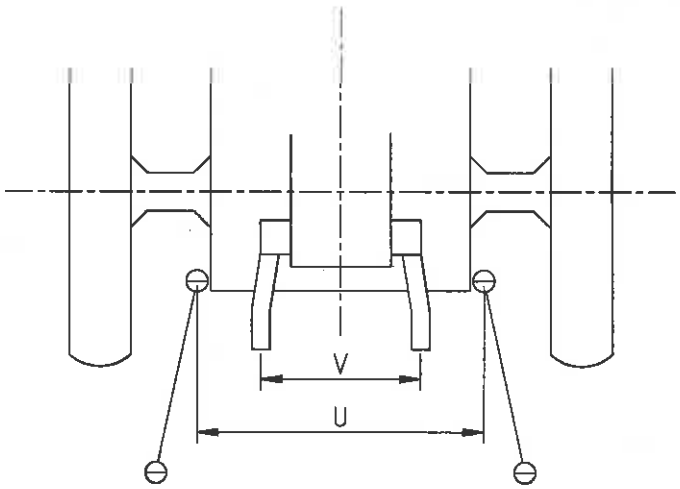


Figure 1.2

Lift test-Linkage geometry

		Dimension or range (mm)	Settings used in test (mm)
Length of lift arms :	(A)	245	245
Length of lower links :	(B)	830	830
Distance of lift arm pivot point from rear-wheel axis :			
- horizontally	(a)	35	35
- vertically	(b)	264	264
Horizontal distance between the 2 lower link points:	(u)	331	331
Horizontal distance between the 2 lift arm end points:	(v)	495	495
Length of upper link:	(S)	from 534 to 842	715
Distance of upper link pivot point from rear wheel axis:			
- horizontally	(c)	from 172 to 199	199
- vertically	(d)	from 252 to 339	339
Distance of lower link pivot point from rear wheel axis:			
- horizontally	(e)	125	125
- vertically	(f)	173	173
Distance of lower link pivot point to lift rod pivot points on lower links:	(D)	335	335
Length of lift rods:	(L)	from 425 to 500	475
Height of lower hitch points relative to the rear-wheel axis:			
- in low position	(h)	from 309 to 532	460
- in high position	(H)	from 171 to 333	209
Height above ground of lower hitch points when locked in transport position(*)		Any height within lifting range	
(*)Assuming r = 610 mm tyre dynamic radius index of ISO 4251/1-1998			

Table 1.1
Dimensions of linkage geometry
when connected to the standard frame

1.7 SWINGING DRAWBAR

- Type : Clevis
- Height above ground : 423 mm
- Type of adjustment : None
- Distance of hitch point from rear wheel axis, horizontally : 719 mm
- Distance of hitch point from power take-off shaft end :
  - Vertically : 177 mm
  - Horizontally : 350 mm
- Lateral adjustment(center of clevis)
  - Right hand : 133 mm
  - Left hand : 133 mm
- Distance of pivot point from rear wheel axis, horizontally : 276 mm
- Diameter drawer pin hole : 25 mm
- Maximum vertical permissible load : 6.3 kN

1.8 TRAILER HITCH : None

1.9 HOLED DRAWBAR : None

1.10 STEERING

- Make : Sumitomo Eaton
- Model : RWO74B12OR3A
- Type : Hydrostatic power steering
- Method of operation
  - Pump(s) : Gear pump
  - Ram(s) : 2, single acting ram
- Working pressure : 11.8 MPa

1.11 BRAKES

1.11.1 Service brake

- Make : Jin-Myoung
- Model : None
- Type : Oil-immersed multiplate discs
- 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 pedals and ratched by hand lever

1.12 WHEELS

- Number
  - Front : 2, steering and driving
  - Rear : 2, driving
- Wheelbase : 1820 mm
- Track width adjustment :

	Minimum	Maximum	Adjustment method
	mm	mm	
Front	1294	1515	By reversing wheels and offset lug rims
Rear	1254	1538	By reversing wheels and offset lug rims

1.13 PROTECTIVE STRUCTURE : None

1.14 SEAT

1.14.1 Driver's seat

- Make : Woochang

- Model : HC110-2000
- Type : Upholstered seat with back rest
- Seat and steering wheel reversible : No
- Type of suspension : Spring
- Type of damping : None
- Range of adjustment
  - Longitudinally : 84 mm
  - Vertically : Fixed
- Safety belt : Yes

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
Headlights	1148	139×88	135
Sidelights	1332	75×82	506
Rearlights	1332	115×82	601
Reflectors	1332	37×37	536

2. TEST CONDITIONS

2.1 OVERALL DIMENSIONS

	Length	Width		Height at top of	
		minimum	maximum	protective structure	exhaust pipe
	mm	mm	mm	mm	mm
Ballasted	3550	1480	1880	-	900
Unballasted	3322	1480	1880	-	900

2.2 GROUND CLEARANCE(unballasted tractor) :

- Clearance-limiting part : 370 mm (Drawbar frame)

2.3 TRACTOR MASS

	Ballasted		Unballasted	
	Without driver	With driver	Without driver	With driver
	kg	kg	kg	kg
Front	903	911	759	762
Rear	971	1038	1007	1079
Total	1874	1949	1766	1841

2.4 BALLAST

	Weights		Water
	Number	Total mass	
		kg	kg
Front	4	108	-
Rear	-	-	-
Optional	-	-	-

2.5 TRACK SPECIFICATIONS : None

2.6 TYRES AND TRACK WIDTH SPECIFICATIONS

	Front	Rear
Tyres :		
- dimensions	9.5-18	13.6-28
- ply rating	6	8
- type	Diagonal	Diagonal
- maximum load(tyre manufacturer's)	8.8 kN	15.7 kN
- maximum load(tractor manufacturer's)	8.8 kN	15.7 kN
- inflation pressure(tyre manufacturer's)	215 kPa	196 kPa
- dynamic radius index	414 mm	610 mm
Chosen track width	1294 mm	1254 mm

2.7 FUEL

- Type : Diesel fuel No. 2 in conformity with Korean Standard(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	7.0	75	200
Gear box, rear axle and final drives in common with hydraulic system	34	300	200
Front axle and final drives	8.2	300	-

2.8.2 Specifications

	Recommended	Used during test
Engine oil · Type : · Viscosity : · Classification :	 SAE 10W-30 105-110 cSt at 40℃ API CD-4	 Same
Transmission oils, Hydraulic fluid and steering oil · Type : · Viscosity : · Classification :	 Gear oil, Daedong TF65 60-68 cSt at 40℃ API GL-4	 Same

2.8.3 Grease :

- Number of lubrication points : 11

3. COMPULSORY TESTS RESULTS

3.1 MAIN POWER TAKE-OFF

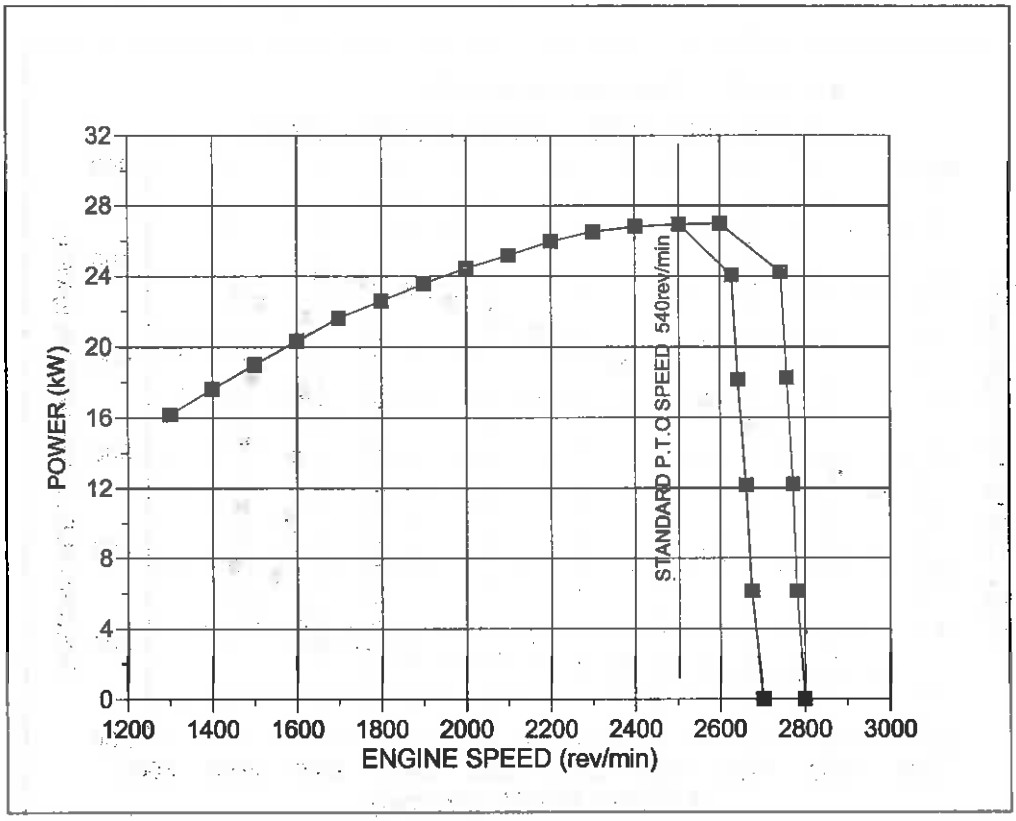
- Date and location of tests : 1st to 2nd November 2000, NAMRI, Konjiam
- Type of dynamometer bench : Eddy Current, FROUD AG 250

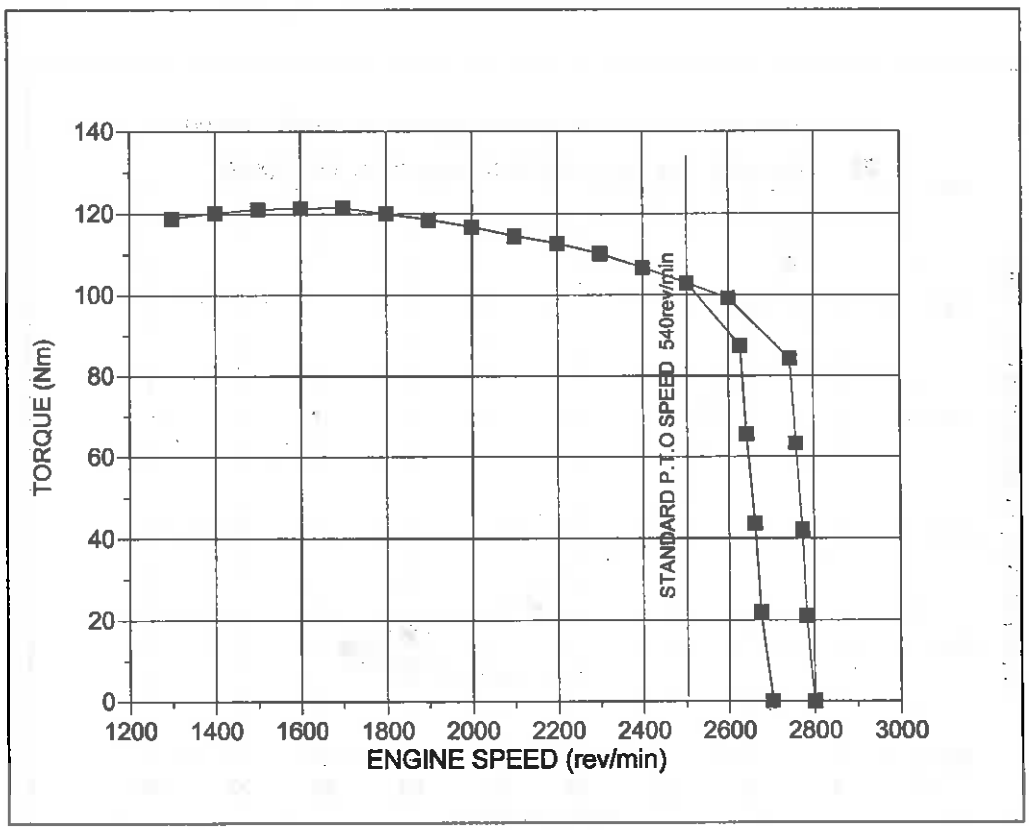
Power	Speed		Fuel consumption			Specific energy
	Engine	P.T.O	Hourly		Specific	
kW	rev/min	rev/min	kg/h	ℓ/h	g/kWh	kWh/ℓ
3.1.1 MAXIMUM POWER - TWO-HOURS TEST						
26.99	2600	561	8.15	9.89	302	2.729
3.1.2 POWER AT RATED ENGINE SPEED						
26.99	2600	561	8.15	9.89	302	2.729
3.1.3 STANDARD POWER TAKE-OFF SPEED (540±10 rev/min)						
26.95	2503	540	8.02	9.73	297	2.770
3.1.4 PART LOADS 3.1.4.1 The torque corresponding to maximum power at rated engine speed						
26.99	2600	561	8.15	9.89	302	2.729
3.1.4.2 85% of torque obtained in 3.1.4.1						
24.21	2744	592	7.65	9.28	316	2.609
3.1.4.3 75% of torque defined in 3.1.4.2						
18.25	2758	595	6.30	7.64	345	2.388
3.1.4.4 50% of torque defined in 3.1.4.2						
12.23	2772	598	5.20	6.30	425	1.939
3.1.4.5 25% of torque defined in 3.1.4.2						
6.13	2781	600	4.10	4.98	669	1.232
3.1.4.6 Unloaded						
0	2800	604	3.04	3.69	-	-
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						
26.95	2503	540	8.02	9.73	297	2.770
3.1.5.2 85% of torque obtained in 3.1.5.1						
24.05	2628	567	7.40	8.98	308	2.679
3.1.5.3 75% of torque defined in 3.1.5.2						
18.14	2642	570	6.07	7.36	334	2.463
3.1.5.4 50% of torque defined in 3.1.5.2						
12.18	2661	574	4.97	6.03	408	2.019
3.1.5.5 25% of torque defined in 3.1.5.2						
6.12	2675	577	3.90	4.73	637	1.294
3.1.5.6 Unloaded						
-	2702	583	2.87	3.48	-	-

- No load maximum engine speed : 2800 rev/min
- Torque (equivalent crankshaft) at maximum power
  - At rated engine speed : 99.1 Nm
  - At 2 hours test : 99.1 Nm
- Maximum torque (equivalent crankshaft) : 121.4 Nm
  (engine speed : 1700 rev/min)

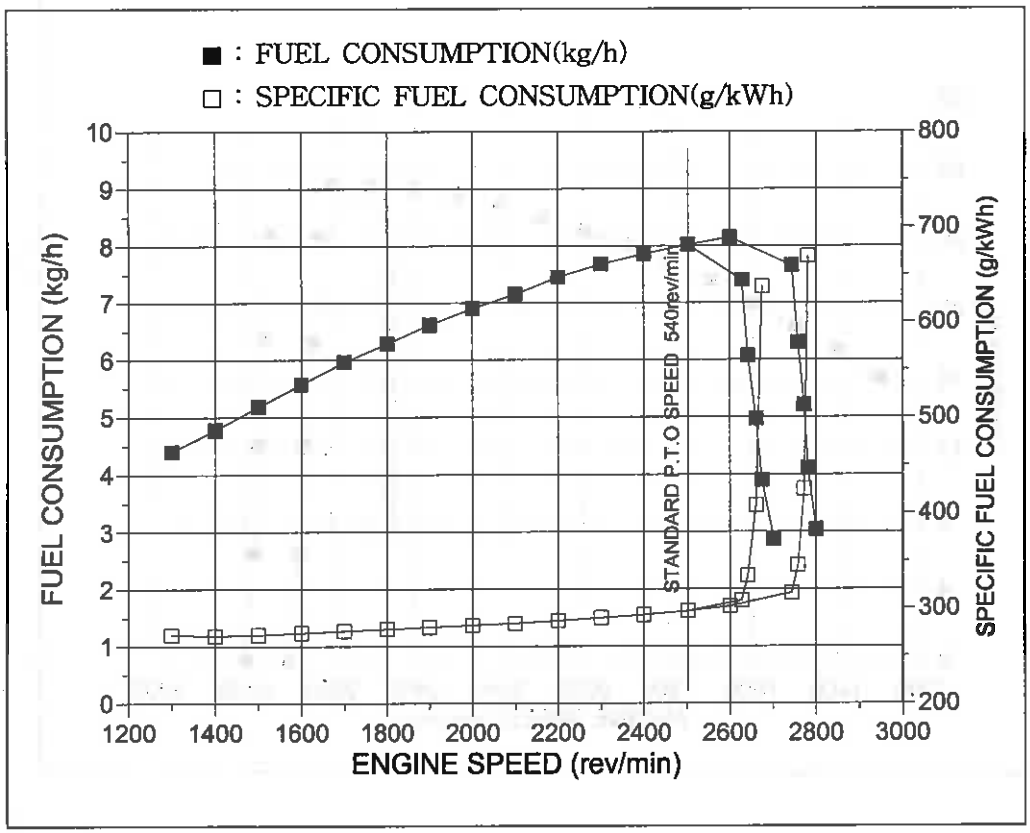
Mean atmospheric conditions	
Temperature	25 ℃
Pressure	101 kPa
Relative humidity	23 %
Maximum temperatures	
Coolant	86 ℃
Engine oil	117 ℃
Fuel	30 ℃
Engine air intake	28 ℃

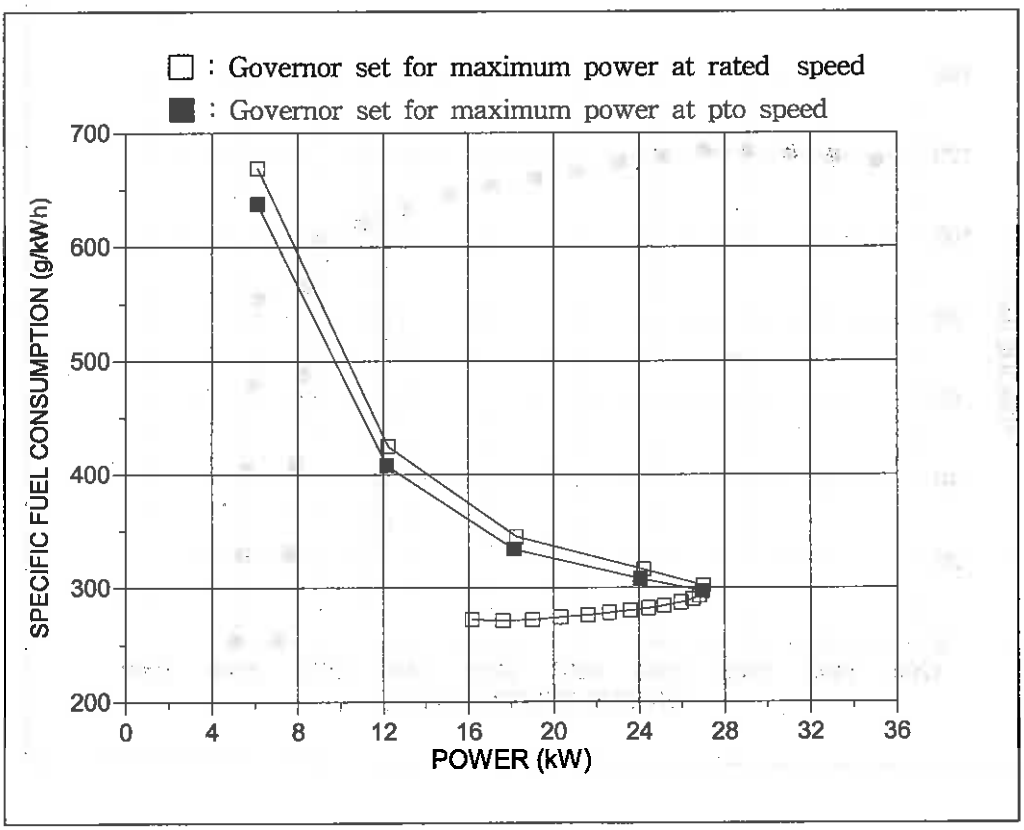
POWER TAKE - OFF PERFORMANCE CURVES





POWER TAKE - OFF PERFORMANCE CURVES





3.2 HYDRAULIC POWER AND LIFTING FORCE

- Date of tests : 10th to 29th November 2000

3.2.1 Hydraulic power test

- Sustained pressure with relief valve open : 19.12 MPa
- Pump stalled : Not applicable, open center system
- Pump delivery rate at minimum pressure : 33.19 ℓ/min

	Flow rate ℓ/min	Pressure MPa	Power kW
Flow rate corresponding to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting and corresponding hydraulic power	14.85	17.21	4.26
Flow rate and hydraulic pressure corresponding to maximum hydraulic power	30.32	15.82	7.99

- Tapping point used for test : Rear of tractor
- Temperature of hydraulic fluid if different from 65±5℃ : None
- Opening pressure of the unloading valve : None
- Closing pressure of the unloading valve : None

3.2.2 Power lift test

- Linkage settings for tests - see Table 1.1 and Figure 1.1 and 1.2

	At the hitch point	On the frame
Height of lower hitch point above ground in down position	150 mm	150 mm
Vertical movement without lifting forces with lifting forces	 669 mm 637 mm	 598 mm 559 mm
Maximum corrected force exerted through full range	12.05 kN	11.66 kN
Corresponding pressure of hydraulic fluid	17.21 MPa	17.21 MPa
Moment about rear-wheel axis	11.51 kNm	18.25 kNm
Maximum tilt angle of mast from vertical	-	4 °

Lifting heights relative to the horizontal plane including the lower link pivot point										
mm	-287	-249	-200	-100	0	100	200	300	310	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 point, corrected to 17.21 MPa										
kN	12.05	-	12.23	12.39	12.41	12.41	12.35	12.32	-	12.23
At the frame, corrected to 17.21 MPa										
kN	-	13.46	13.41	13.31	13.10	12.82	12.45	11.85	11.66	-

3.3 DRAWBAR POWER TEST(ballasted and unballasted tractor)

- Date of tests : 28th February to 8th March 2001
- Type of track : Asphalt

	Height of drawbar above ground	Tyre inflation pressure	
		Front	Rear
	mm	kPa	kPa
Unballasted	425	216	196
Ballasted	425	216	196

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)													
L-1	6.09	13.06	1.68	2793	15.1	776	1.062	21	80	102	10	56	101.6
L-2	8.50	12.87	2.38	2783	15.1	615	1.339	20	82	104	9	55	101.4
L-3	12.32	12.71	3.49	2770	15.1	493	1.670	21	83	105	10	53	101.7
L-4	19.02	12.27	5.58	2751	15.0	409	2.014	22	82	103	11	54	101.6
H-1	22.62	11.87	6.86	2604	13.3	377	2.188	22	83	104	12	55	100.6
H-2	24.20	8.28	10.53	2601	6.3	354	2.330	21	82	105	11	53	101.4
H-3	23.21	5.19	16.11	2599	2.6	367	2.243	20	81	102	10	55	101.6
3.3.2 MAXIMUM POWER IN TESTED GEARS (ballasted tractor)													
L-1	6.30	13.54	1.67	2788	15.1	749	1.101	22	81	103	11	58	101.6
L-2	8.76	13.27	2.38	2782	15.1	595	1.386	21	80	102	10	60	101.7
L-3	12.73	13.06	3.51	2766	15.1	477	1.729	22	82	104	11	62	101.6
L-4	19.84	12.78	5.59	2744	15.0	397	2.077	23	82	105	12	59	101.6
H-1	23.07	11.96	6.94	2604	12.4	369	2.236	23	83	106	12	60	101.6
H-2	24.83	8.43	10.60	2600	6.2	344	2.392	22	83	105	11	61	101.4
H-3	24.20	5.41	16.11	2598	2.6	352	2.341	21	82	103	10	59	101.6
3.3.3 FIVE-HOUR TEST													
3.3.3.1 FIVE-HOUR TEST at 75% of pull at maximum power at rated engine speed													
H-1	19.48	8.99	7.80	2755	6.9	374	2.201	24	84	106	12	57	101.6
3.3.3.2 FIVE-HOUR TEST at pull corresponding to 15% wheelslip with additional ballast(†) : - kg													
L-4	19.83	12.75	5.60	2745	15.0	397	2.078	23	85	105	11	59	101.7

(†) Test 3.3.3.2 was carried out without additional ballast.

Oil consumption during ten hours duration of tests 3.3.3.1 and 3.3.3.2 : 21.8 g/h

3.4 TURNING AREA AND TURNING CIRCLE

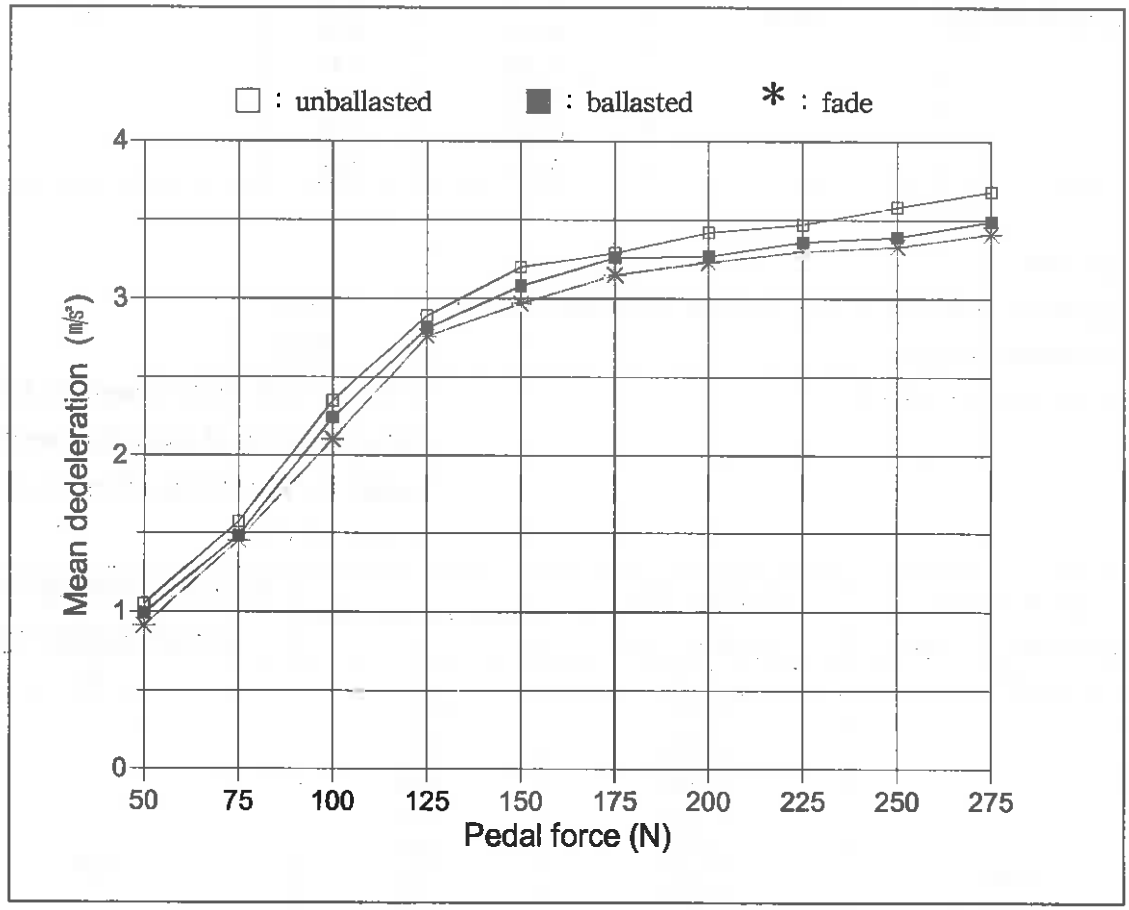
	Without brakes	
	Right-hand	Left-hand
	m	m
Radius of turning area	3.46	3.47
Radius of turning circle	3.33	3.34

3.5 LOCATION OF CENTER OF GRAVITY

- Height above ground : 821 mm
- Distance from the vertical plane containing the axis of the rear-wheels : 753 mm
- Distance from the median longitudinal plane of the tractor, to the right : 4 mm
- If the angle of suspension of the tractor is less than 20° indicate its value : None

3.6 BRAKING

- Date of tests : 12th to 13th December 2000



3.6.1 Cold service braking device test

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

	Speed before application of brakes	Braking device control force	Mean deceleration	Minimum stopping distance without locking wheels
	km/h	kN	m/s²	m
Ballasted tractor	28.97	0.050	0.99	9.28
		0.075	1.48	
		0.100	2.24	
		0.125	2.81	
		0.150	3.08	
		0.175	3.26	
		0.200	3.27	
		0.225	3.36	
		0.250	3.39	
		0.275	3.49	
Unballasted tractor	28.95	0.050	1.05	8.77
		0.075	1.57	
		0.100	2.35	
		0.125	2.89	
		0.150	3.20	
		0.175	3.29	
		0.200	3.42	
		0.225	3.47	
		0.250	3.58	
		0.275	3.68	

3.6.2 Fade Test

- Maximum deviation of tractor from its original course : None
- Abnormal vibration : None
- Brake heating method : Driven with brakes applied for 1km at 80%(23.2 km/h) of maximum speed with a pedal force corresponding to a decelera -tion of 1m/s².

Speed before application of brakes	Braking device control force	Mean deceleration	Minimum stopping distance without locking wheels
km/h	kN	m/s²	m
29.00	0.050	0.91	9.53
	0.075	1.45	
	0.100	2.10	
	0.125	2.76	
	0.150	2.97	
	0.175	3.15	
	0.200	3.23	
	0.225	3.30	
	0.250	3.33	
	0.275	3.41	

3.6.3 Parking braking device test

	Uphill	Downhill
Braking device control force	0.29 kN	0.24 kN

3.7 MEASUREMENT OF EXTERNAL NOISE

- Date of tests : 15th December 2000
- Sound level meter, make/model/type : Bruel and kjaer, 2236
- Type of track : Asphalt
- Gear number : 8 (H-4) gear
- Travelling speed before acceleration : 21.1 ㎞/h
- Sound level : 81.6 dB(A)

4. OPTIONAL TESTS RESULTS

None

5. REPAIRS

None

6. REMARKS

None

7. ANNEX

None