



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. : 1/1 956

Date of approval : 29th May 2001



Agricultural Tractor
KUKJE 2810(4WD)

Manufactured by : KUKJE Machinery Co., Ltd.
11-1, Yangsu-ri, Okcheon-eup, Okcheon-gun,
Chungcheongbuk-do, KOREA

NATIONAL AGRICULTURAL MECHANIZATION RESEARCH INSTITUTE

249, Seodun-dong, Gwonseon-gu, Suwon-si, Gyunggi-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-5-3

Duration of test : October 2000 till March 2001

Date of approval : 29th 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/cm ²	=	98.0665 kPa

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Printed in the Republic Of KOREA, July 2001 ; NAMRI

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- Tractor manufacturer's name and address : KUKJE Machinery Co., Ltd
11-1 Yangsu-ri, Okcheon-eup, Okcheon-gun
Chungcheongbuk-do, KOREA
- Location of tractor assembly : 11-1 Yangsu-ri, Okcheon-eup, Okcheon-gun
Chungcheongbuk-do, KOREA
- Submitted for test by : The manufacturer
- Selected for test by : The manufacturer in agreement with the testing station
- Place of running-in : KUKJE Machinery Co., Ltd
- Duration of running-in : Engine and tractor 30 hours
- Location of test : NAMRI

1. SPECIFICATIONS OF TRACTOR

1.1 IDENTIFICATION

- 1.1.1 - Make : KUKJE
 - Model : 2810
 - Type : 4 wheel drive, unit construction
- 1.1.2 Numbers
 - 1st Serial No. : CA3K00001
 - Serial No. : CA3K00001
- 1.1.3 Other specification(if applicable)
 - Model(s) for other countries : BRANSON 2810(4WD),
CENTURY 2810(4WD)

1.2 ENGINE

- Make : KUKJE
- Model : 3T84L-ATC
- Type : 4 stroke, water cooled, indirect diesel
naturally aspirated
- Serial No. : TA1K00001
- 1.2.1 Cylinders
 - Number/disposition : 3/vertical, in-line
 - Bore/stroke : 84 mm/ 94 mm
 - Capacity : 1562 cm³
 - Compression ratio : 21 : 1
 - Arrangement of valves : Overhead valve
 - Cylinder liners(wet or dry) : Wet type
- 1.2.2 Supercharging : None
- 1.2.3 Fuel system
 - Fuel feed system : Forced-feed type
 - Fuel filters
 - Make : Samo
 - Model : HA13010000A3
 - Type : Replaceable paper element
 - Capacity of fuel tank : 40 dm³

- Injection pump
 - Make : Doowon
 - Model : HK11010000A2
 - Type : Bosch, in-line
 - Serial No. : 00604
 - Manufacturer's production setting of injection pump
 - Flow rate : 6.733±5% dm³/h at rated engine speed and full load
 - Timing : 21 degrees before T.D.C
 - Injectors
 - Make : Doowon
 - Model : HK12020000A3
 - Type : Pintle
 - Injection pressure : 14.7 MPa (150 kg/cm²)
- 1.2.4 Governor
- Make : Daesong
 - Model : HK14170000E3
 - Type : Centrifugal ball, mechanical
 - Governed range of engine speed : From 900 to 2800 rev/min
 - Rated engine speed : 2600 rev/min
- 1.2.5 Air cleaner
- Pre-cleaner : None
 - Make :
 - Model :
 - Type :
 - Main-cleaner
 - Make : Donaldson
 - Model : HRA0500700A1
 - 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, replaceable canister
 - 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
 - Number of fan blades : 7
 - Fan diameter : 360 mm
 - Coolant capacity : 9.25 dm³
 - Type of temperature control : Wax pellet type thermostat
 - Superpressure system : 88.3 kPa, at radiator cap

1.2.8 Starting system

- Make : Poongsung
- Model : HA15010000A1
- Type : Electrical, pre-engaged, solenoid operated
- Starter motor power rating : 2.0 kW
- Cold starting aid : Electric glow plug, 12V
- Safety device : Starting operable only when main clutch pedal fully depressed

1.2.9 Electrical system

- Voltage : 12 V
- Generator
 - Make : Valeo Electrical System Korea
 - Model : HM,24120000A2
 - Type : 3 phase generator
 - Power : 0.54 kW
- Battery of accumulators
 - Number : 1
 - Rating : 100 Ah at 20 hours rating

1.2.10 Exhaust system

- Make : Taejin
- Model : HM50050000B0
- Type : Silencer
- Location : Under the bonnet, right hand side of tractor

1.3 TRANSMISSION

1.3.1 Clutch(travel and power take-off)

- Make : Valeo Pyeong-Hwa
- Model : NT38010000A1
- Type : Dry, dual clutch for transmission & PTO
- Number of plates : 2
- Diameter of plates : 225 mm
- Method of operation : Mechanically actuated by pedal (1st for transmission, 2nd for PTO)

1.3.2 Gear box

- Make : KUKJE
- Model : NT41990028A9
- Type : Mechanical
- Description : 4 main gears with synchromesh, 3 range gears with sliding-mesh, 12 forward and 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 : KUKJE
- Model : NT49990028A9
- Type : Bevel gear type differential and spur gear type final drives
- Differential lock
 - Type : Mechanical
 - Method of engagement : Mechanically actuated by pedal
 - Method of disengagement : Self-disengagement by spring

1.3.4 Front axle and final drives

- Make : KUKJE
- Model : NT09009999A9
- Type : Bevel gear type differential and bevel gear type final drives
- Differential lock : 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	314.63	329.00	1.68	1.61
2	L-2	268.42	280.68	1.97	1.89
3	L-3	200.10	209.24	2.65	2.53
4	L-4	142.16	148.65	3.72	3.56
5	M-1	128.42	134.29	4.12	3.94
6	M-2	109.56	114.56	4.83	4.62
7	M-3	81.68	85.41	6.48	6.20
8	M-4	58.02	60.67	9.12	8.72
9	H-1	53.38	55.81	9.91	9.48
10	H-2	45.54	47.62	11.62	11.12
11	H-3	33.95	35.50	15.59	14.91
12	H-4	24.12	25.22	21.94	20.99

(*)Calculated with a tyre dynamic radius index of 540 mm(ISO 4251-1:1998)

Number of revolutions of front wheels for one revolution of rear-wheels : 1.49

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

1.4 POWER TAKE-OFF

1.4.1 Main power take-off

- Type : Semi-independent
- Method of engagement : Mechanically engaged by pedal(Dual clutch)
- Number of shafts : 1(for 540 and 1000 rev/min)
- 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 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 : 540 mm
- Distance from the median plane of the tractor : 0 mm
- Distance behind rear-wheel axis : 270 mm
- PTO speed at rated engine speed and engine speed at standard power take-off speed :

PTO speed (rev/min)	Engine speed (rev/min)	Engine/PTO transmission ratio
583	2600	4.4545
540	2405	

- Power restriction : 34.57 kW
- Maximum torque transmissible : 797.77 Nm
- Direction of rotation(viewed from behind tractor) : Clockwise

Power take-off at 1000 min⁻¹(rev/min)

- Location: Rear of the tractor
- Diameter of power take-off shaft: 35 mm
- Number of splines: 6, not in conformity with ISO 500/1991
- Height above the ground: 540 mm
- Distance from the median plane of the tractor: 0 mm
- Distance behind rear-wheel axis: 270 mm
- PTO speed at rated engine speed, and engine speed at standard power take-off speed:

PTO speed (rev/min)	Engine speed (rev/min)	Engine/PTO transmission ratio
1088	2600	2.389
1000	2389	

- Power restriction : 34.57 kW
- Maximum torque transmissible : 797.77 Nm
- 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 : KUKJE
- Model : NTA1010000A9
- 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 :	15.7 MPa
- Opening pressure of cylinder safety valve :	20.6 MPa
- Lift pump type :	Gear pump
- Transmission between pump and engine :	Driven by cam shaft
- Type and number of filters :	1, Cartridge type
- Site of oil reservoir :	Transmission housing
- Type, number and location of tapping points :	SAE 1/2" 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+Cor.1:1995

Category adapter :

None

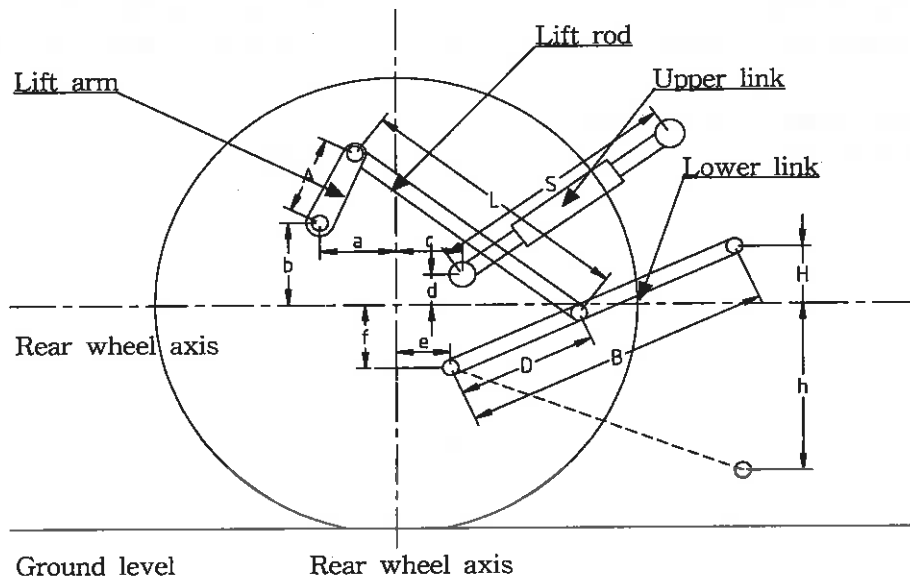


Figure 1.1

Lift test-Linkage geometry

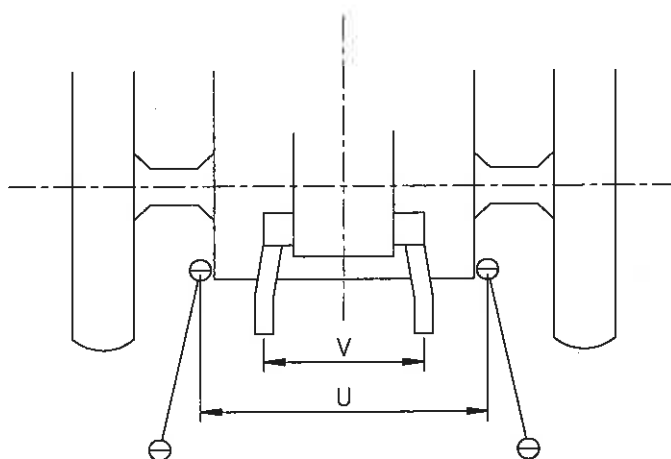


Figure 1.2

Lift test-Linkage geometry

		Dimension or range (mm)	Settings used in test (mm)
Length of lift arms :	(A)	250	250
Length of lower links :	(B)	740	740
Distance of lift arm pivot point from rear-wheel axis :			
- horizontally	(a)	65	65
- vertically	(b)	315	315
Horizontal distance between the 2 lower link points:	(u)	489	489
Horizontal distance between the 2 lift arm end points:	(v)	454	454
Length of upper link:	(S)	from 480 to 720	620
Distance of upper link pivot point from rear wheel axis:			
- horizontally	(c)	from 225 to 243	225
- vertically	(d)	from 260 to 328	328
Distance of lower link pivot point from rear wheel axis:			
- horizontally	(e)	103	103
- vertically	(f)	128	128
Distance of lower link pivot point to lift rod pivot points on lower links:	(D)	377	377
Length of lift rods:	(L)	516	516
Height of lower hitch points relative to the rear-wheel axis:			
- in low position	(h)	from 283 to 458	384
- in high position	(H)	from 237 to 332	255
Height above ground of lower hitch points when locked in transport position(*)	Any height within lifting range		

(*)Assuming r = 540mm 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 :
 - Maximum : 305 mm
 - Minimum : 274 mm
- Type of adjustment : Changing pivot point
- Distance of hitch point from rear-wheel axis, horizontally : 550 mm
- Distance of hitch point from power take-off end
 - Vertically : 235 mm
 - Horizontally : 270 mm
- Lateral adjustment(center of clevis) Fixed
 - Right hand :
 - Left hand :
- Distance of pivot point from rear-wheel axis, horizontally : 238 mm
- Diameter of drawbar pinhole : 29 mm
- Maximum vertical permissible load : 6.5 kN

1.8 TRAILER HITCH : None

1.9 HOLED DRAWBAR : None

1.10 STEERING

- Make : Wolsung
- Model : NT3236000A3
- Type : Hydrostatic power steering
- Method of operation
 - Pump(s) : Gear pump
 - Ram(s) : 1, double acting ram, 55mm bore, 92.5mm stroke
- Working pressure : 12.7 MPa

1.11 BRAKES

1.11.1 Service brake

- Make : Jin-Myoung
- Model : NT50130000A9
- Type : Oil-immersed multiplate discs, 3 per side
- Method of operation : Operated by two 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 : 1650 mm
- Track width adjustment :

	Minimum	Maximum	Adjustment method
	mm	mm	
Front	1235	-	None
Rear	1190	1355	By reversing wheels and offset lug rims

1.13 PROTECTIVE STRUCTURE :

- Make : KUKJE
- Model : TCJ5310000A3
- Type : Two-post rear frame
- Manufacturer's name and address : KUKJE Machinery Co., Ltd.

11-1, Yangsu-ri, Okcheon-eup, Okcheon-gun,
Chungcheongbuk-do, KOREA

- Protective device : Rollguard, tiltable
- OECD approval
 - Approval number : None
 - Date of approval : None

1.14 SEAT

1.14.1 Driver's seat

- Make : Daehan
- Model : NTE0400000A3
- Seat and steering wheel reversible : None
- Type of suspension : Rubber
- Type of damping : None
- Range of adjustment
 - Longitudinally : 60 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	743	183×74	226
Sidelights	1290	Ø110	600
Rearlights	1340	90	500
Reflectors	1205	246×86	500

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	1675	2210	525
Unballasted	3150	1480	1675	2210	525

2.2 GROUND CLEARANCE(unballasted tractor) : 285 mm

- Clearance-limiting part :

Front axle housing

2.3 TRACTOR MASS

	Ballasted		Unballasted	
	Without driver	With driver	Without driver	With driver
	kg	kg	kg	kg
Front	842	850	676	679
Rear	844	911	890	962
Total	1686	1761	1566	1641

2.4 BALLAST

	Weights		Water
	Number	Total mass	
		kg	kg
Front	6	120	-
Rear	-	-	-
Optional	-	-	-

2.5 TRACK SPECIFICATIONS :

None

2.6 TYRES AND TRACK WIDTH SPECIFICATIONS

	Front	Rear
Tyres :		
dimensions	7-16	12.4-24
ply rating	6	8
type	Diagonal	Diagonal
maximum load(tyre manufacturer's)	4.9 kN	14.17 kN
maximum load(tractor manufacturer's)	4.9 kN	14.17 kN
inflation pressure(tyre manufacturer's)	196 kPa	137 kPa
dynamic radius index	350 mm	540 mm
Chosen track width	1235 mm	1190 mm

2.7 FUEL

- Type :

Diesel fuel No. 2 in conformity with Korean Standard(KS M 2620)

- Density at 15°C :

0.824 g/cm³

2.8 OILS AND LUBRICANTS

2.8.1 Capacity and change interval

	Capacity	Oil change	Filter change
	dm ³	h	h
Engine	6	100	100
Gear box, rear axle and final drives in common with hydraulic system	35	300	300
Front axle and final drives	7	300	-
Steering	2	300	-

2.8.2 Specifications

	Recommended	Used during test
Engine oil • Type : • Viscosity : • Classification :	SUPREME 10W-30 72.8 cSt at 40°C 11.2 cSt at 100°C API CC or CD	Same
Transmission oils, Hydraulic fluid Steering oil • Type : • Viscosity : • Classification :	Transmission oil(KUKJE TF500) 51.8 cSt at 40°C 9.3 cSt at 100°C API GL-4	Same

2.8.3 Grease :

Multi-purpose grease

Number of lubrication points :

7

3. COMPULSORY TESTS RESULTS

3.1 MAIN POWER TAKE-OFF

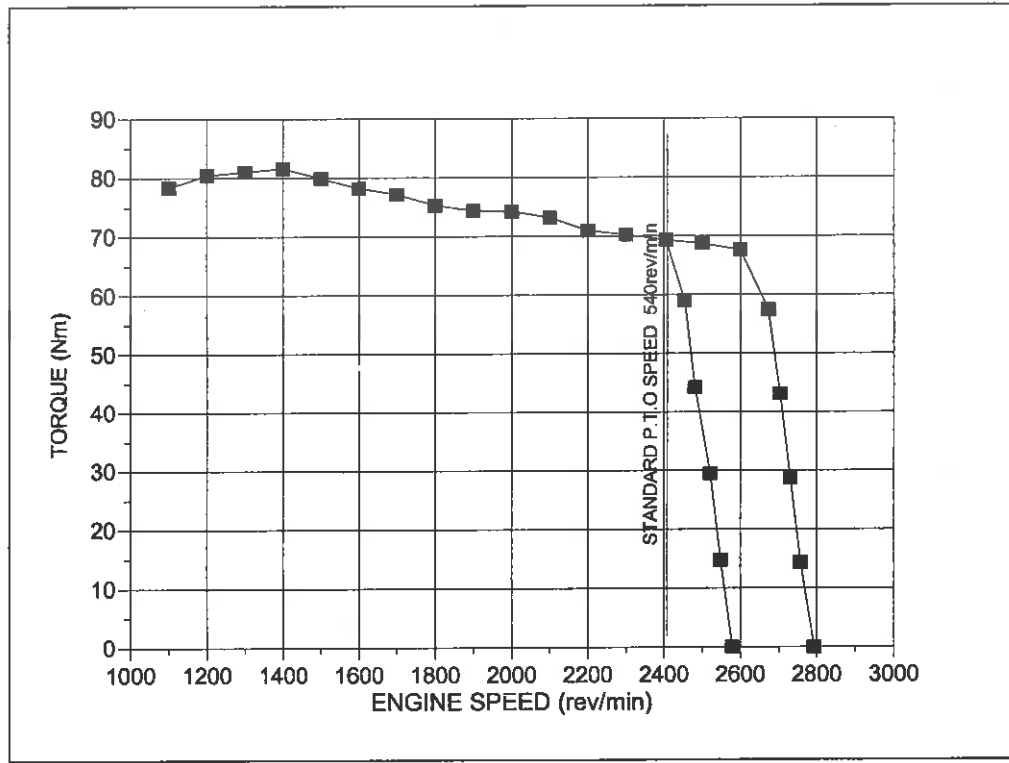
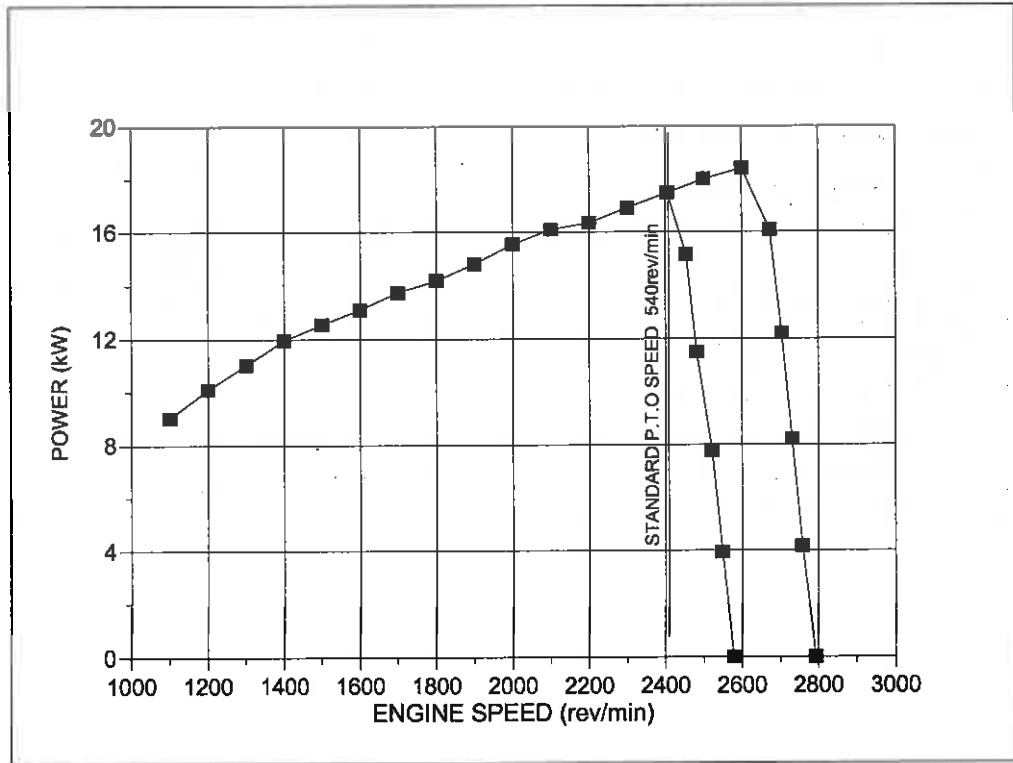
- Date and location of tests : 22nd to 23rd November 2000, NAMRI, Konjiam
- Type of dynamometer bench : Eddy Current, FROUD AG 250

Power kW	Speed		Fuel consumption			Specific energy kWh/ℓ
	Engine rev/min	P.T.O rev/min	Hourly		Specific g/kWh	
			kg/h	ℓ/h		
3.1.1 MAXIMUM POWER - TWO-HOURS TEST						
18.40	2600	584	5.76	6.99	313	2.632
3.1.2 POWER AT RATED ENGINE SPEED						
18.40	2600	584	5.76	6.99	313	2.632
3.1.3 STANDARD POWER TAKE-OFF SPEED (540±10 rev/min)						
17.47	2405	540	5.25	6.37	301	2.741
3.1.4 PART LOADS						
3.1.4.1 The torque corresponding to maximum power at rated engine speed						
18.40	2600	584	5.76	6.99	313	2.632
3.1.4.2 85% of torque obtained in 3.1.4.1						
16.08	2673	600	5.32	6.45	331	2.492
3.1.4.3 75% of torque defined in 3.1.4.2						
12.20	2704	607	4.45	5.40	365	2.260
3.1.4.4 50% of torque defined in 3.1.4.2						
8.21	2731	613	3.60	4.37	438	1.880
3.1.4.5 25% of torque defined in 3.1.4.2						
4.15	2757	619	2.88	3.49	694	1.188
3.1.4.6 Unloaded						
0	2793	627	2.16	2.62	-	-
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						
17.47	2405	540	5.25	6.37	301	2.741
3.1.5.2 85% of torque obtained in 3.1.5.1						
15.15	2454	551	4.68	5.68	309	2.668
3.1.5.3 75% of torque defined in 3.1.5.2						
11.49	2481	557	3.93	4.77	343	2.406
3.1.5.4 50% of torque defined in 3.1.5.2						
7.78	2521	566	3.22	3.91	414	1.991
3.1.5.5 25% of torque defined in 3.1.5.2						
3.93	2548	572	2.53	3.07	643	1.282
3.1.5.6 Unloaded						
-	2579	579	1.89	2.30	-	-

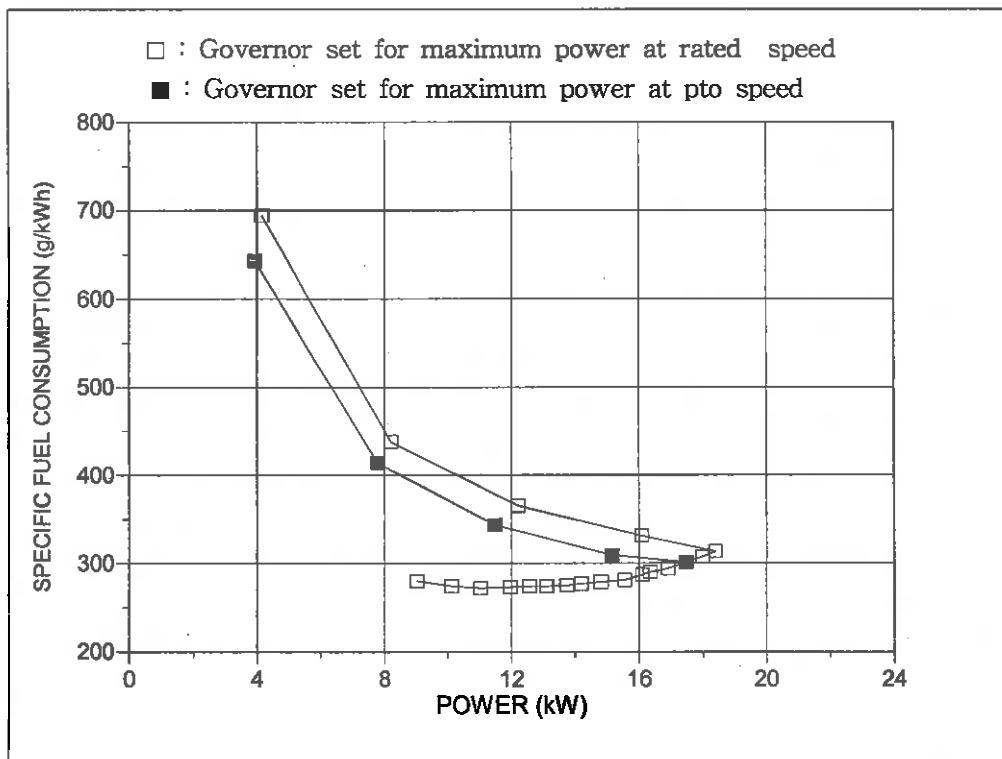
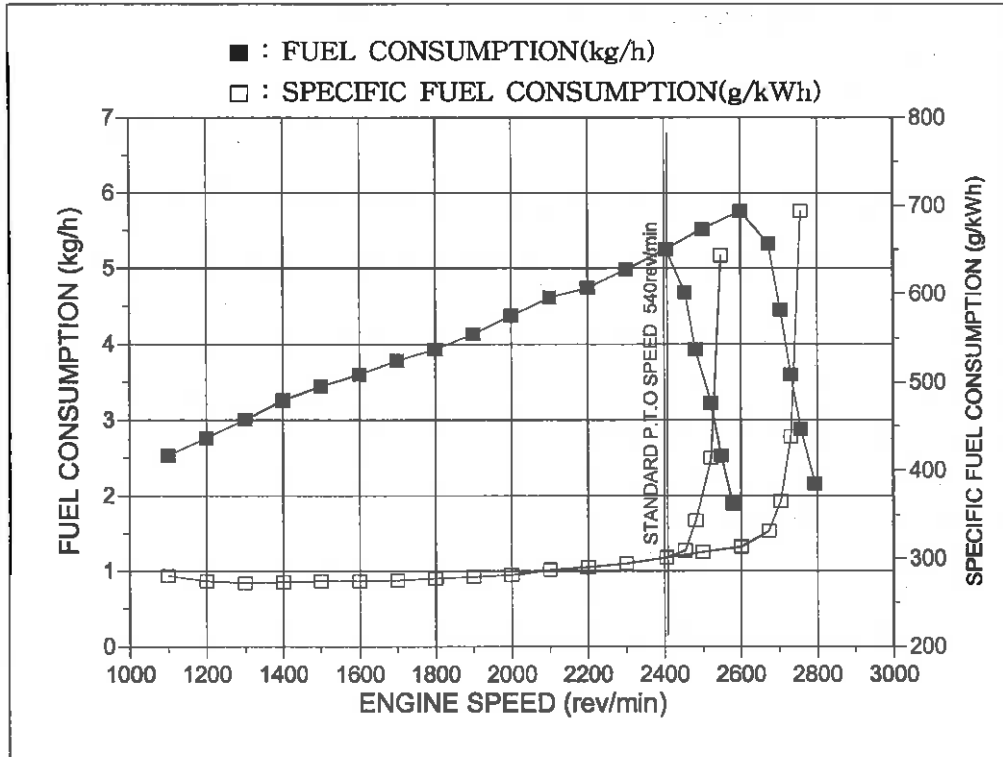
- No load maximum engine speed : 2793 rev/min
- Torque (equivalent crankshaft) at maximum power
 - At rated engine speed : 67.6 Nm
 - At 2-hour test : 67.6 Nm
- Maximum torque(equivalent crankshaft) : 81.6 Nm
(engine speed : 1400 rev/min)

Mean atmospheric conditions	
Temperature	17 °C
Pressure	102 kPa
Relative humidity	21 %
Maximum temperatures	
Coolant	87 °C
Engine oil	108 °C
Fuel	31 °C
Engine air intake	23 °C

POWER TAKE - OFF PERFORMANCE CURVES



POWER TAKE - OFF PERFORMANCE CURVES



3.2 HYDRAULIC POWER AND LIFTING FORCE

- Date of tests : 6th to 7th December 2000

3.2.1 Hydraulic power test

- Sustained pressure with relief valve open : 15.36 MPa
- Pump stalled : Not applicable, open center system
- Pump delivery rate at minimum pressure : 32.32 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	30.46	13.82	7.02
Flow rate and hydraulic pressure corresponding to maximum hydraulic power	30.32	14.61	7.38

- Tapping point used for test : Rear of tractor
- Temperature of hydraulic fluid if different from $65 \pm 5^\circ\text{C}$: 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	156 mm	156 mm
Vertical movement without lifting forces	639 mm	674 mm
with lifting forces	616 mm	653 mm
Maximum corrected force exerted through full range	12.97 kN	10.93 kN
Corresponding pressure of hydraulic fluid	13.82 MPa	13.82 MPa
Moment about rear-wheel axis	10.93 kNm	15.89 kNm
Maximum tilt angle of mast from vertical	-	3 °

Lifting heights relative to the horizontal plane including the lower link pivot point										
mm	-263	-256	-200	-100	0	100	200	300	360	390
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 13.82 MPa										
kN	-	12.97	13.18	13.53	13.74	13.94	14.05	14.10	13.91	-
At the frame, corrected to 13.82 MPa										
kN	13.85	-	13.88	13.90	13.51	12.92	12.30	11.59	-	10.93

3.3 DRAWBAR POWER TEST(ballasted and unballasted tractor)

- Date of tests : 1st to 10th March 2001

- Type of track : Asphalt

	Height of drawbar above ground mm	Tyre inflation pressure	
		Front	Rear
		kPa	kPa
Unballasted	350	196	137
Ballasted	350	196	137

Gear number and range	Power kW	Drawbar pull kN	Speed km/h	Engine speed rev/min	Slip of wheels %	Specific fuel consum- ption g/kWh	Specific energy kWh/ℓ	Temperatures			Atmospheric conditions		
								Fuel °C	Coolant °C	Engine oil °C	Tempe- rature °C	Relative humidity %	Pressure kPa
3.3.1 MAXIMUM POWER IN TESTED GEARS (unballasted tractor)													
L-1	5.58	12.75	1.58	2751	15.1	665	1.240	18	79	99	9	60	101.0
L-2	6.50	12.66	1.85	2739	15.1	593	1.390	19	80	101	10	61	101.0
L-3	8.65	12.63	2.47	2717	15.1	503	1.639	19	81	102	10	60	100.9
L-4	11.89	12.50	3.43	2681	15.0	436	1.892	20	82	102	9	61	100.9
M-1	13.10	12.44	3.79	2671	15.0	419	1.966	19	81	101	9	61	101.0
M-2	15.08	12.32	4.41	2650	15.0	400	2.060	18	80	100	10	63	100.9
M-3	17.26	9.98	6.23	2603	8.5	370	2.227	20	81	102	11	60	100.9
M-4	17.49	6.88	9.15	2602	4.2	366	2.249	19	82	101	10	62	101.0
H-1	16.93	6.06	10.07	2600	3.3	380	2.171	21	83	102	9	63	101.0
H-2	16.67	5.01	11.99	2598	2.2	384	2.143	22	83	103	11	60	101.0
H-3	15.96	3.54	16.22	2600	1.1	402	2.049	21	82	101	10	62	101.0
3.3.2 MAXIMUM POWER IN TESTED GEARS (ballasted tractor)													
L-1	6.16	13.95	1.59	2768	15.1	587	1.403	19	80	100	8	63	100.9
L-2	7.03	13.74	1.84	2743	15.1	542	1.520	18	79	99	8	64	101.0
L-3	9.34	13.64	2.47	2716	15.1	470	1.754	18	78	98	9	63	100.9
L-4	12.69	13.37	3.42	2675	15.0	422	1.954	19	79	100	9	62	100.8
M-1	13.94	13.25	3.79	2662	15.0	411	2.003	19	80	101	10	62	100.8
M-2	15.82	13.15	4.33	2621	15.0	374	2.205	18	78	99	9	64	100.9
M-3	17.45	10.03	6.26	2602	8.0	363	2.271	19	79	101	10	62	100.9
M-4	17.84	7.03	9.14	2601	4.5	356	2.316	19	80	102	10	63	100.8
H-1	17.57	6.32	10.01	2600	3.7	363	2.271	20	82	102	11	61	100.9
H-2	17.40	5.27	11.90	2599	2.9	365	2.255	19	81	101	11	62	100.9
H-3	17.06	3.84	16.00	2598	1.8	372	2.214	18	80	100	10	63	100.9
3.3.3 FIVE-HOUR TEST													
3.3.3.1 FIVE-HOUR TEST at 75% of pull at maximum power at rated engine speed													
M-3	13.92	7.51	6.67	2683	5.2	374	2.200	20	83	104	9	62	100.9
3.3.3.2 FIVE-HOUR TEST at pull corresponding to 15% wheelslip with additional ballast^(†) : - kg													
M-2	15.87	13.25	4.31	2623	15.0	372	2.216	21	84	105	10	61	100.9

(†) 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 : 3.52 g/h

3.4 TURNING AREA AND TURNING CIRCLE

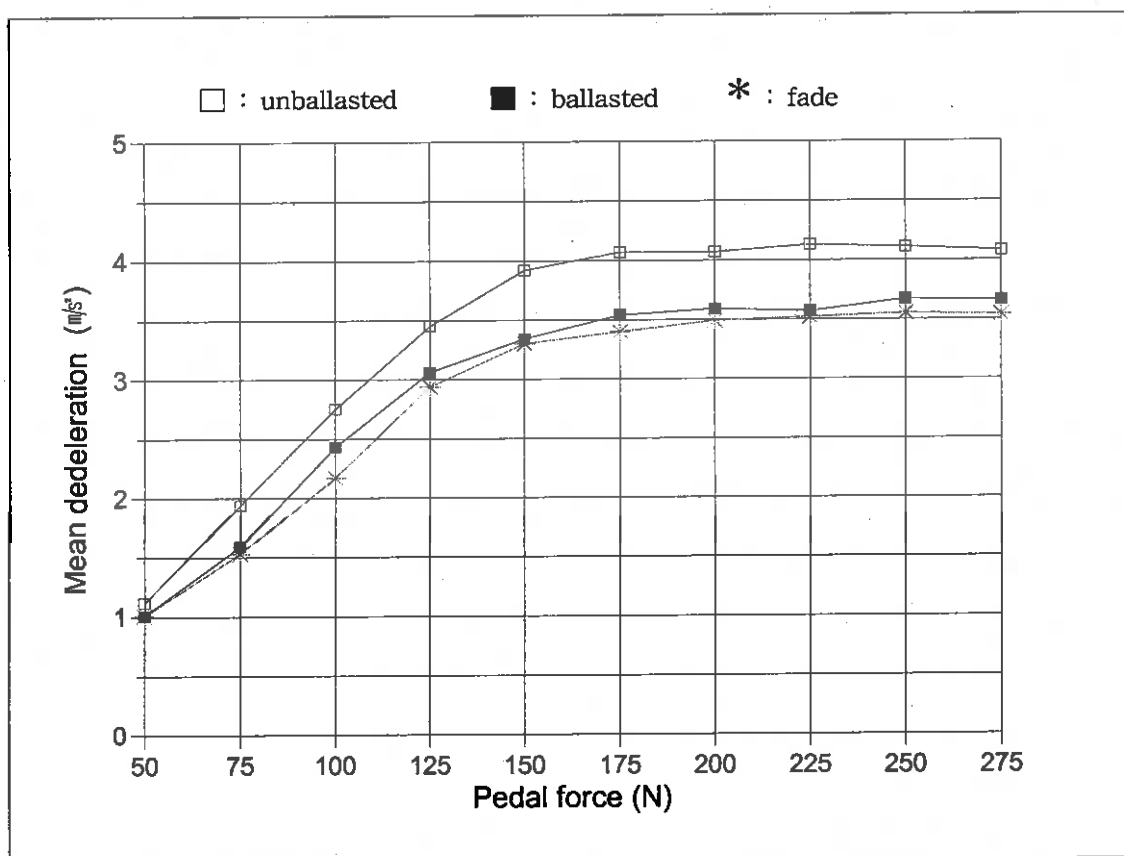
	Without brakes	
	Right-hand	Left-hand
	mm	mm
Radius of turning area	3.79	3.75
Radius of turning circle	3.70	3.66

3.5 LOCATION OF CENTER OF GRAVITY

- Height above ground : 738 mm
- Distance from the vertical plane containing the axis of the rear-wheels : 683 mm
- Distance from the median longitudinal plane of the tractor, to the right : 6 mm
- If the angle of suspension of the tractor is less than 20° indicate its value : None

3.6 BRAKING

- Date of tests : 20th to 21st 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/s ²	m
Ballasted tractor	25.23	0.050	1.01	6.69
		0.075	1.59	
		0.100	2.43	
		0.125	3.06	
		0.150	3.34	
		0.175	3.54	
		0.200	3.59	
		0.225	3.57	
		0.250	3.67	
Unballasted tractor	25.04	0.050	1.12	5.86
		0.075	1.94	
		0.100	2.75	
		0.125	3.45	
		0.150	3.92	
		0.175	4.07	
		0.200	4.07	
		0.225	4.13	
		0.250	4.11	
		0.275	4.08	

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 20.22km/h of maximum speed with a pedal force corresponding to a deceleration of 1m/s².

Speed before application of brakes	Braking device control force	Mean deceleration	Minimum stopping distance without locking wheels
km/h	kN	m/s ²	m
25.28	0.050	1.01	6.94
	0.075	1.53	
	0.100	2.17	
	0.125	2.94	
	0.150	3.30	
	0.175	3.40	
	0.200	3.49	
	0.225	3.52	
	0.250	3.55	
	0.275	3.54	

3.6.3 Parking braking device test

	Uphill	Downhill
Braking device control force	0.31 kN	0.27 kN

3.7 MEASUREMENT OF EXTERNAL NOISE

- Date of tests : 16th October 2000
- Sound level meter, make/model/type : Bruel and kjaer, 2236
- Type of track : Asphalt
- Gear number : 12 (H-4) gear
- Travelling speed before acceleration : 18.4 km/h
- Sound level : 77.7 dB(A)

4. OPTIONAL TESTS RESULTS None

5. REPAIRS None

6. REMARKS None

7. ANNEX None

