CAMTC

Report on test in accordance with the **OECD STANDARD CODE** I for the Official Testing of Agricultural and Forestry Tractor Performance

OECD Approval No.: 1/2 168
Approval Date: 03 September,2004

Shanghai New Holland SNH704(4WD) Tractor
Manufactured by: Shanghai New Holland Agricultural Machinery Corp. Ltd.
Test No.:2004OS2001
Date of test: March 26 through April 8,2004

China Agricultural Machinery Testing Center
No.2 Xiaobalizhuang Dongsanhuan Nanlu,Chaoyang district,Beijing,China,100021

Shanghai New Holland SNH704(4WD) OECD No.:1/2 168 CAMTC

This test report provides the results of the tests conducted in accordance with the OECD standard CODE for the Official Testing of Agricultural Tractor performance "Red codes", Feb. 2002+Amendment Feb. 2003+Jan. 2004, Code Ⅰ.

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

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This report has been approved by the OECD Co-ordinating centre (CEMAGREF) as being in accordance with the OECD Standard Code Ⅰ.

Date of approval:03 September, 2004

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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 the following relations:

Forces:	1 kN=1000 N=102 kgf
Powers:	1 kW=1.36 HP
Pressures:	1 MPa=10 bar=10.2 kg/cm^2
	100 kPa=1000 mbar=750.10 mmHg

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China Agricultural Machinery Testing Centre

CONTENTS

C	- Tractor manufacturer's name and address:	Shanghai New Holland AgriculturalMachinery Corp. Ltd., No. 40, Lane2012, Huangxing Road, Shanghai China
D	- Location of tractor assembly:	The manufacturer
D	- Submitted for test by:	The manufacturer
C	- Selected for test by:	The manufacturer with the agreement of the CAMTC
D	- Place of running-in:	Shanghai New Holland Agricultural Machinery Corp. Ltd.
D	- Duration of running-in:	38 hours
C	- Location of test:	CAMTC, Beijing, China

1. SPECIFICATIONS OF TRACTOR

1.1 Identification

C	1.1.1	- Make of the tractor:	Shanghai New Holland
C		- Model(trade name):	SNH704
C		- Type:	4WD
	1.1.2	Numbers	
D		- 1st serial No.:	000218
C		- Serial No.:	000218
	1.1.3	Other Specifications:	None

1.2 Engine

C		- Make/Model/Type:	Shanghai New Holland/ SNH4100/4 stroke diesel engine, Water cooled, direct injection, swirl combustion chamber, naturally aspirated
C		- Serial No.:	004575
	1.2.1	Cylinders	
C		- Number/disposition:	4/vertical in line
D		- Bore/stroke:	100 mm /115 mm
D		- Capacity:	3610 cm^3
D		- Compression ratio:	17.5:1
D		- Arrangement of valves:	Overhead in line
D		- Cylinder liners:	Dry, replaceable
	1.2.2	Supercharging:	None
	1.2.3	Fuel system	
C		- Fuel feed system:	Forced feed by pump
C		- Make/Model/Type of fuel filter(s):	Shanghai Filter Works/SNH4100-10000/paper Cartridge, replaceable
D		- Capacity of fuel tank:	63 dm^3
C		- Make/Model/Type of injection pump:	Wuxi Weifu Group joint stock Co. Ltd/4IW297/lift pump piston-type, 4-cylinder plunger
C		- Serial No.:	SNH4100-10000
		- Manufacturer's production setting of injection pump	

C	·Flow rate (rated engine speed and full load): 15.15 dm^3/h	
D	·Timing:	14°±1° before T.D.C.
D	- Make/Model/Type of injectors:	Wuxi Weifu Group joint stock Co. Ltd./4IW297
D	- Injection pressure:	21.5±0.5 MPa
C	- Make/Model/Type of carburettor:	No

1.2.4 Governor

C	- Make/Model/Type:	Wuxi Weifu Group joint stock Co. ltd. /SNH704/Variable speed governor, Mechanically acting, Incorporated in injection pump, centrifugal
C	- Governed range of engine speed from 650 to 2590 rev/min	
C	- Rated engine speed:	2400 rev/min

1.2.5 Air cleaner

	- Pre-cleaner	
C	·Make/Model/Type:	Shanghai Meiqiao auto accessory Co. Ltd./650.11.011-6/dipping in oil, replaceable
C	·Location of air intake:	Right-hand side of engine, upper the bonnet
	- Main cleaner	
C	·Make/Model/Type:	Shanghai Meiqiao auto accessory Co. Ltd./650.11.011-6/metal screen, washable
C	- Maintenance indicator:	Indicator on the cover of air cleaner

1.2.6 Lubrication system

D	- Type of feed pump:	Rotor
C	- Type of filter(s):	J0812, full flow with replaceable paper element
C	- Number of filters:	1

1.2.7 Cooling system

C	- Type of coolant:	Water or anti-frozen liquid
D	- Type of pump:	Centrifugal, belt driven
	- Specification of fan or blower	
C	.Number of fan blades:	7
C	.Fan diameter:	420 mm
D	- Coolant capacity:	13 dm^3
C	- Type of temperature control:	Thermostat
D	- Superpressure system:	120 kPa

1.2.8 Starting system

C	- Make/Model/Type:	Shanghai Huaxing motor electrical machinery Works/QD1328C/Electrical solenoid engaged
D	- Starter motor power rating:	2.2 kW
C	- Cold starting aid:	Electrothermal plug
C	- Safety device:	The clutch in disengaged position

1.2.9 Electrical system

C	- Voltage:	12 V
	- Generator	

C	·Make/Model/Type:	Ningbo Huatai motor electrical machinery Works/JFZ1317Y/ direct current dynamo , belt driven
D	·Power:	0.35 kW
	- Battery of accumulators	
C	.Number:	1
D	·Rating:	90 A at 1 hour

1.2.10 Exhaust system

C	- Make/Model/Type:	Own make/SNH704/expansion chamber
C	- Location:	Vertical, Left-hand side of engine

1.3 Transmission

1.3.1 Clutch (travel and power take-off)

D	- Make/Model/Type:	Own make/SNH704/dual acting, dry, constant engaged
D	- Number of plates:	2
D	- Diameter of plates(main/subsidiary):295/246 mm	
C	- Method of operation:	By foot pedal, mechanical linkage

1.3.2 Gear box

D	- Make/Model/Type:	Shanghai No. 1 auto gear works/SNH704/spur gear, mechanical unit construction
	- Description:	

		Forward	Reverse
C	Number of ranges/groups	2	2
C	Number of gears	4	1
C	Total of arrangements	8	2

D	- Available options:	None

1.3.3 Rear axle and final drives

D	- Make/Model/Type:	Own make/ SNH704/helical subulate gear and pinion bevel gear differential, spur gear engaged outside and inboard installation final drives
	- Differential lock:	
D	·Type:	Mechanical, dog-clutch
C	·Method of engagement:	By foot pedal
C	·Method of disengagement:	Self disengaged by spring

1.3.4 Front axle and final drives

D	- Make/Model/Type:	Changshu Machinery Works/SNH704/ helical subulate gear and pinion bevel gear differential, planetary gear final drives
	- Differential lock:	None

1.3.5 Total ratios and travelling speeds

	Gear No.	Group	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed (*)at rated engine speed of 2400 rev/min, km/h
C	1(L1)	L	244.80	2.46
C	2(L2)	L	148.33	4.06
C	3(L3)	L	101.95	5.90
C	4(L4)	L	78.27	7.69
C	5(H1)	H	62.13	9.68
C	6(H2)	H	36.98	16.27
C	7(H3)	H	25.50	23.60
C	8(H4)	H	19.57	30.75
C	R1(L)	L	185.50	3.24
C	R2(H)	H	46.38	12.97
	(*) Calculated with a tyre dynamic radius index of 665 mm (ISO 4251-1:1998).			

C - Number of revolutions of front wheels for one revolution of rear wheels: 1.42

1.4 Power take-off

1.4.1 Main power take-off

C - Type: Semi-independent
C - Method of engagement: By hand level
C - Number of shafts: 1
C - Method of changing power take-off shaft ends and speeds: Changing power take off shaft

1.4.1.1 Power take-off proportional to engine speed

Power take-off at 540 rev/min

C - Location: At rear of the tractor
C - Diameter of power take-off shaft end:35 mm
C - Number of splines: 6, in conformity with ISO 500/1991
C - Height above ground: 635 mm
C - Distance from the median plane of the tractor: 0 mm
C - Distance behind rear wheel axis: 322 mm
C - PTO speed at rated engine speed (2400 rev/min): 557 rev/min
C - Engine speed at standard power take-off speed: 2326 rev/min
C - Ratio of rotation speeds (engine speed/p.t.o speed): 4.3074
D - Power restriction: 43.28 kW

D - Maximum torque transmissible:896 N·m
C - Direction of rotation (viewed from behind tractor): Clockwise

Power take-off at 1000 rev/min

C - Location: At rear of the tractor
C - Diameter of power take-off shaft end:35 mm
C - Number of splines: 21, in conformity with ISO 500/1991
C - Height above ground: 635 mm
C - Distance from the median plane of the tractor: 0 mm
C - Distance behind rear wheel axis: 319 mm
C - PTO speed at rated engine speed (2400 rev/min): 1013 rev/min
C - Engine speed at standard power take-off speed: 2369 rev/min
C - Ratio of rotation speeds (engine speed/p.t.o speed): 2.3692
D - Power restriction: 43.28 kW
D - Maximum torque transmissible:493 N·m
C - Direction of rotation (viewed from behind tractor): Clockwise

1.4.1.2 Power take-off proportional to ground speed

C - Indicate PTO speed: 540 rev/min:
C - Traveling distance for one revolution of power take-off shaft (L_3/L_4):176/230 mm
C - Number of power take-off shaft revolutions for one revolution of (rear) driving wheels (L_3/L_4): 23.7/18.2
C - Direction of rotation with forward gear engaged (viewed from behind tractor):Clockwise

1.4.2 Optional power take-off: None

1.5 Hydraulic power lift

C - Make/Model/Type: Own make/SNH-704/position control, force control, floating control and mixed control
C - Type of hydraulic system: Partial separated units, open center system
C - Type and number of cylinders:Single acting, 1
C - Type of linkage lock for transport: Mechanical lock
D - Relief valve pressure setting (tolerance):15.68 MPa
D - Opening pressure of cylinder safety valve (if fitted): 19.10 MPa
D - Lift pump type: CBT-E316FR gear pump
D - Transmission between pump and engine: Gear driven from the oil pump gear
C - Type and number of filters: Metal screen, 1
C - Site of oil reservoir: Under the driver's seat, share the same oil with rear axle
C - Type, number and location of tapping points: Thread, 1 in and 1 out, At rear and upside of the tractor
D - Maximum volume of oil available to external cylinders:14 dm^3

1.6 Three-point linkage

C - Category: In conformity with category 2 of ISO 730-1:1994+Cor.1:1995 and ISO 730-2:1979
C - Category adapter: None

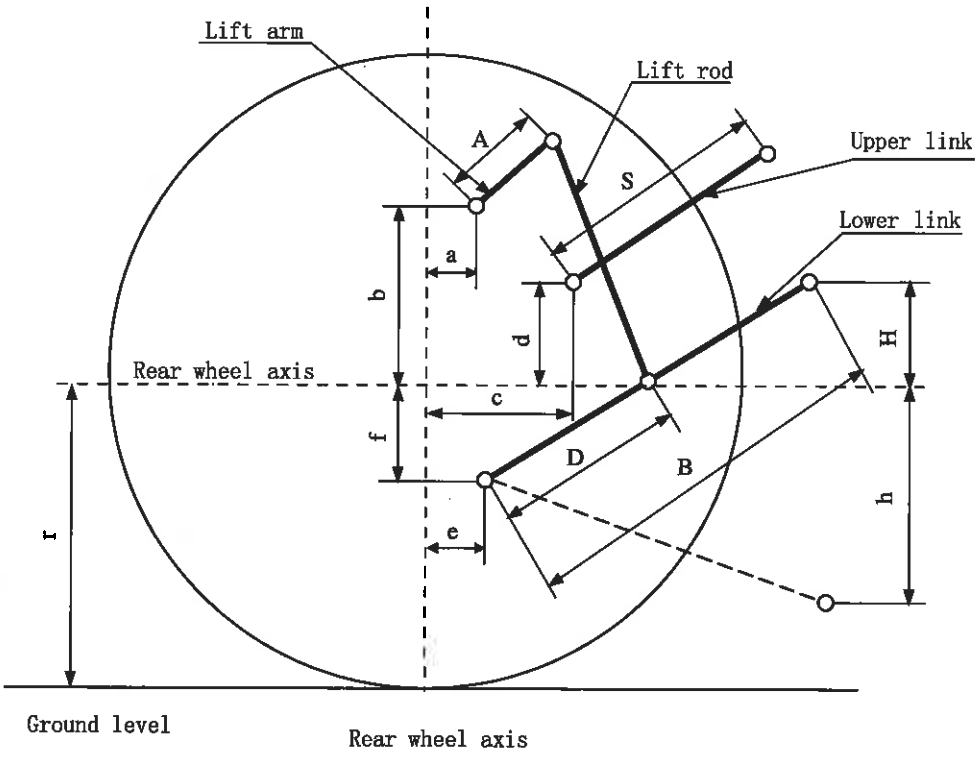


Figure 1.1

Lift test-Linkage geometry

Give detailed figures of power lift and complete table 1.1
with value corresponding to the dimensions of the figure above

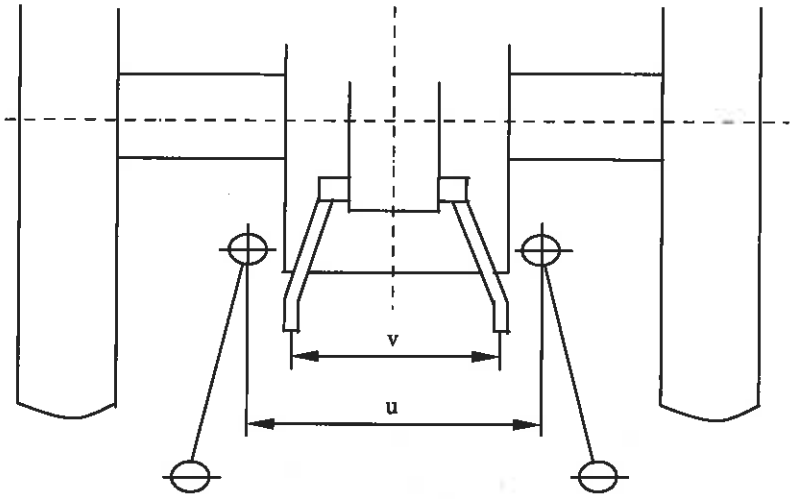


Figure 1.2

Lift test-Linkage geometry

Give detailed figures of power lift and complete table 1.1
with value corresponding to the dimensions of the figure above

		Dimension or range	Settings used in test
		mm	mm
C Length of lift arms	(A)	255	255
C Length of lower links	(B)	920	920
Distance of lift arm pivot point from rear-wheel axis:			
C - horizontally	(a)	95	95
C - vertically	(b)	406	406
C Horizontal distance between the 2 lower link points:	(u)	526	526
C Horizontal distance between the 2 lift arm end points:	(v)	543	543
C Length of upper link:	(S)	from 350 to 560	455
Distance of upper link pivot point from rear wheel axis:			
C - horizontally	(c)	398	398
C - vertically	(d)	271, 306, 341	341
Distance of lower link pivot point from rear wheel axis:			
C - horizontally	(e)	22	22
C - vertically	(f)	136	136
C Distance of lower link pivot points to lift rod pivot points on lower links:	(D)	480	480
C Length of lift rods:	(L)	from 610 to 737	615
Height of lower hitch points relative to the rear wheel axis:			
C - in low position	(h)	from 363 to 630	465
C - in high position	(H)	from 74 to 302	190
C Height above ground of lower hitch points when locked in transport position (*)		Any height at lift range	Any height at lift range
(*) Assuming (r)=665mm 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

C - Type: Swinging drawbar

- Height above ground

C .Maximum: 455 mm

C .Minimum: 395 mm

C - Type of adjustment: Changing the assembly position of the swinging pole

C - Distance of hitch point from rear-wheel axis(horizontally):722 mm

- Distance of hitch point from power take-off shaft end

C .Vertically: 240 mm

C .Horizontally: 400 mm

- Lateral adjustment(center of clevis):No

C - Distance of pivot point from rear-wheel axis(Horizontally): 925

C - Diameter of drawbar pinhole: 35 mm

D - Maximum vertical permissible load: 14.0 kN

1.8 Trailer hitch

C - Type: Fixed
C - Hole diameter: 34 mm
C - Height above ground: 575 mm
C - Distance of hitch point from rear-wheel axis, horizontally: 590 mm
- Distance of hitch point from power take-off shaft end
C .Vertically: 65 mm
C .Horizontally: 270 mm
D - Maximum vertical permissible load: 14.0 kN

1.9 Holed drawbar: None

1.10 Steering

D - Make/Model/Type: Shanghai auto gear works/SNH704/hydrostatic steering
- Method of operation
D .Pump(s): HLCB-D10/12 FA stable flow with over-fall valve gear pump
D .Ram(s): 1, double acting
D - Working pressure: 5~6.5 Mpa

1.11 Brakes

1.11.1 Service brake
D - Make/Model/Type: Own make/SNH704/2 discs on each side, dry type
C - Method of operation: Operated by foot pedal, coupled or independent
C - Trailer braking take-off (hydraulic or air brake): Air brake

1.11.2 Parking brake
C - Type: Mechanical, locked by ratchet
C - Method of operation: By hand

1.12 Wheels

- Number
C .Front: 2, driving and steering
C .Rear: 2, driving
C - Wheelbase: 2070 mm
- Track width adjustment:

		Minimum mm	Maximum mm	Adjustment method
D	Front	1438	1736	Reversing wheels and off-set lug rims
D	Rear	1338	1800	Reversing wheels and off-set lug rims

1.13 Protective structure: None

1.14 Seat

1.14.1 Driver's seat
C - Make/Model/Type: Shanghai Wanbo mechanical accessory Co. Ltd/650-44006/suspension seat
C - Seat and steering wheel reversible: None
C - Type of suspension: suspension linkage with damp
C - Type of damping: damping device with spring

- Range of adjustment

C .Longitudinally: 28 mm

C .Vertically: 0 mm

C - 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 to median plane of tractor
		mm		mm	mm
C	Headlights	1295		140×90	210
C	Sidelights	front	1298	130×95	282
		rear	1437	90×70	725
C	Rearlights	1595		160×125	630
C	Reflectors	1437		90×70	632

2.TEST CONDITIONS

2.1 Overall dimensions

	Length	Width	height at top of	
		Setting used in test	Protective structure	exhaust silencer
	mm	mm	mm	mm
Ballasted	3960	1925	/	2380
Unballasted	3665	1865	/	2403

2.2 Ground clearance (unballasted tractor):360 mm

- Clearance-limiting part: Under the front axle

2.3 Tractor mass

Mass without frame:

	Ballasted		Unballasted	
	Without driver	With driver	Without driver	With driver
	kg	kg	kg	kg
Front	1545	1559	1238	1256
Rear	1777	1838	1364	1421
Total	3322	3397	2602	2677

2.4 Ballast

	Weights		Water
	Number	Total mass	
		kg	kg
Front	6	240	/
Rear	12	480	/
Optional	/	/	/

2.5 Track specifications None

2.6 Tyres and track width specifications

	Front	Rear
Tyres:		
-dimensions	995 mm	1415 mm
-ply rating	8.30-24	14.9-30
-type	Cross ply	Cross ply
-maximum load (tyre manufacturer's)	6.15 kN	16.7 kN
-maximum load (tractor manufacturer's)	6.00 kN	13.9 kN
-inflation pressure (tyre manufacturer's)	147 kPa	137 kPa
-dynamic radius index	468 mm	665 mm
Chosen track width:	1440 mm	1500 mm

2.7 Fuel

- Type: Standard diesel fuel in conformity with national standard GB10327-89
- Density at 15℃: 0.8543 g/cm³ (GB 1885-83, during PTO test)
  0.8593 g/cm³ (GB 1885-83, during drawbar power test)

2.8 Oils and lubricants

2.8.1 Capacity and change interval

	Capacity	Oil change	Filter change
	dm³	h	h
Engine	10	125	125
Gear box	35	1000	-
Front axle	8	1000	-
Rear axle	Common with gear box	1000	-
Final drive (front)	3.5	1000	-
Final drive (rear)	Common with gear box	1000	-
Hydraulic system	Common with gear box	1000	-
steering	2.5	1000	-

2.8.2 Specifications (SAE, API, Mil.L, ISO)

	Recommended	Used during test
Engine oil		
.Type:	30 cc	CA-30
.Viscosity:	9.3-12.5 cst at 100℃	10-12.5 cst at 100℃
.Classification:	API CC	GB 5323—85
Transmission oils		
.Type:	L-HM 46	L-HM 46
.Viscosity:	6.5-8 cst at 100℃	6.5-8 cst at 100℃
.Classification:	GB 11119-89	GB 11119-89
Hydraulic fluid		
.Type:		
.Viscosity:	Same as trans.oil	Same as trans.oil
.Classification:		
Steering oil		
.Type:	L-HM 32	L-HM 32
.Viscosity:	6.1-7.8 cst at 100℃	6.1-7.8 cst at 100℃
.Classification:	GB 11119-89	GB 11119-89

2.8.3 Grease

• Number of lubrication points:28

3. COMPULSORY TESTS RESULTS

3.1 Main power take-off

- Date and location of tests: April 1st, 2004, CAMTC
- Type of dynamometer bench: SCHENCK eddy-current brake W400

Power	Speed			Fuel consumption			Specific Energy
	Engine	P.T.O	Fan	Hourly		Specific	
kW	rev/min			kg/h	l/h	g/(kW·h)	(kW·h)/l
3.1.1 MAXIMUM POWER - TWO-HOUR TEST							
43.16	2399	557	3053	12.8963	15.0958	298.8	2.8591
3.1.2 POWER AT RATED ENGINE SPEED							
43.28	2399	557	3053	12.8745	15.0702	297.5	2.8719
3.1.3 STANDARD POWER TAKE-OFF SPEED [540 rev/min]							
43.03	2326	540	2960	12.6503	14.8078	294.0	2.9059
3.1.4 PART LOADS 3.1.4.1 the torque corresponding to maximum power at rated engine speed							
43.28	2399	557	3053	12.8745	15.0702	297.5	2.8719
3.1.4.2 85% of torque obtained in 3.1.4.1							
38.46	2507	582	3190	11.2509	13.1697	292.5	2.9203
3.1.4.3 75% of torque defined in 3.1.4.2							
28.90	2524	586	3212	8.9851	10.5175	310.9	2.7478
3.1.4.4 50% of torque defined in 3.1.4.2							
19.59	2550	592	3245	7.0067	8.2017	357.7	2.3885
3.1.4.5 25% of torque defined in 3.1.4.2							
9.96	2576	598	3278	5.3595	6.2736	538.1	1.5876
3.1.4.6 unloaded							
0	2593	602	3300	4.3149	5.0508	/	0
3.1.5 PART LOADS AT STANDARD POWER TAKE-OFF SPEED [540 rev/min] 3.1.5.1 the torque corresponding to maximum power							
43.03	2326	540	2960	12.6503	14.8078	294.0	2.9059
3.1.5.2 85% of torque obtained in 3.1.5.1							
37.98	2429	564	3092	10.8818	12.7377	286.5	2.9817
3.1.5.3 75% of torque defined in 3.1.5.2							
28.67	2447	568	3114	8.6683	10.1467	302.3	2.8255
3.1.5.4 50% of torque defined in 3.1.5.2							
19.39	2477	575	3152	6.6994	7.8420	345.5	2.4726
3.1.5.5 25% of torque defined in 3.1.5.2							
9.80	2503	581	3185	5.0578	5.9204	516.1	1.6553
3.1.5.6 unloaded							
0	2524	586	3212	3.6895	4.3187	/	0

- No load maximum engine speed: 2593 rev/min
- Torque (equivalent crankshaft) at maximum power

  .at rated engine speed: 172.3 N·m

  .at 2 hour test: 171.8 N·m
- Maximum torque (equivalent crankshaft):208.0 N·m

(engine speed : 1637 rev/min)

Mean atmospheric conditions:	
Temperature	19.5 ℃
Pressure	100.9 kPa
Relative humidity	10.9 %
Maximum temperatures:	
Coolant	87 ℃
Engine oil	95 ℃
Fuel	22 ℃
Engine air intake	21 ℃

3.2 Hydraulic power and lifting force

- Date of tests: April 1st, 2004

3.2.1 Hydraulic power test

3.2.1.1 Hydraulic fluid data

- Hydraulic fluid type: L-HM 46
- Viscosity index(ISO 3448+Corr 1:1993): 6.5-8 cst at 100℃
- Viscosity at 40 ℃: 41.4~50.6

3.2.1.2 Compulsory Reporting (Test Results):

	Pressure (4)	Reservoir oil Temperature ℃ (65℃ target)		Engine Speed	Flow rate	Power
	MPa	Min.	Max.	Rev/min^{-1}	L/min	kW
Rated Engine Speed (Manufacturers Specification)				2400		
3.2.1.2.1 Maximum (sustained) pressure with relief valve open as measured at the coupler Pump stalled: No	(2) 15.5	61	66	2590		
3.2.1.2.2 Flow rate corresponding to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting and corresponding hydraulic power	(2) 13.95	(3) 64		2590	16.46	3.84
3.2.1.2.3 Maximum available flow and Maximum power from one Coupler pair: (1)	(2) 13.0	(3) 65		2590	37.27	8.08
3.2.1.2.4 Maximum available flow and maximum power from coupler pairs operating simultaneously (flow through two or more coupler pairs if required): (1)	(2) /	(3) /		/	/	/

NOTE (1) - Calculated maximum power is based on only the coupler outlet pressure (pressure near coupler where oil is exiting from tractor) and does not take into account the return coupler pressure.

NOTE (2) - Record pressure as measured at the outlet coupler (pressure near coupler where oil is exiting from tractor).

NOTE (3) - Average test temperature.

NOTE (4) - See ISO 789-10:1996 for the specific location of the pressure measurements and other referenced terms.

3.2.2 Power lift test

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

	at the hitch point	on the frame
Height of lower hitch points above ground in down position	200 mm	200 mm
Vertical movement	655 mm	715 mm
Maximum corrected force exerted through full range	17.86 kN	12.13 kN
Corresponding pressure of hydraulic fluid	13.95 MPa	13.95 MPa
Moment about rear wheel axis	16.61 kN·m	18.68 kN·m
Maximum tilt angle of mast from vertical	/	8 degrees

Lifting heights relative to the horizontal plane including the lower link pivot points											
mm	-265	-200	-150	-60	0	+100	+200	+300	+345	+390	+450
Lifting forces (the values of force measured shall be correspond to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting of the hydraulic lift system):											
at the hitch points in kN	19.30	19.94	20.34	20.16	19.93	19.62	19.21	18.63	18.22	17.86	-
Corresponding pressure:13.95 MPa											
at the frame in kN	25.33	21.06	20.34	19.93	19.30	17.28	17.14	15.84	13.99	12.78	12.13
Corresponding pressure:13.95 MPa											

3.3 Drawbar power test(ballasted and unballasted tractor)

- Date of tests: Through April 2nd to 4th, 2004
- Type of track: Concrete

		Tyre inflation pressure	
	Height of drawbar above ground	Front	Rear
	mm	kPa	kPa
Unballasted	600	147	137
Ballasted	590	147	137

Gear number and range	Power	Drawbar pull	Speed	Engine speed	Fan speed	Slip of wheels	Specific fuel consumption	Specific energy	Temperature			Atmospheric conditions		
									Fuel	Coolant	Engine oil	Temperature	Relative humidity	Pressure
	kW	kN	km/h	rev/min	rev/min	%	g/(kW·h)	(kW·h)/l	℃	℃	℃	℃	%	kPa
3.3.1 MAXIMUM POWER IN TESTED GEARS(unballasted tractor)														
1(L1)	12.88	20.164	2.30	2545	3239	15	556.4	1.5444	14.5	56	62	13.9	18.8	101.7
2(L2)	20.03	19.599	3.68	2525	3213	15	425.8	2.0181	17.3	56	67	16.7	18.5	101.7
3(L3)	29.34	18.893	5.59	2430	3092	11	381.9	2.2501	15.8	59	63	14.9	16.3	101.7
4(L4)	36.28	17.940	7.28	2425	3086	9	366.0	2.3478	15.7	60	68	15.1	18.9	101.7
5(H1)	38.36	14.897	9.27	2410	3067	8	346.6	2.4792	14.6	63	72	13.8	15.4	101.7
6(H2)	36.34	8.387	15.60	2380	3029	4	357.1	2.4063	14.2	61	67	13.4	16.2	101.7
3.3.2 MAXIMUM POWER IN TESTED GEARS(ballasted tractor)														
1(L1)	16.89	26.203	2.32	2540	3232	15	469.3	1.8310	14.3	59	67	13.5	23.1	101.7
2(L2)	25.89	25.462	3.66	2520	3207	15	403.0	2.1323	14.0	62	70	13.2	20.1	101.7
3(L3)	36.48	24.685	5.32	2420	3080	10	361.0	2.3803	15.3	66	75	14.6	16.5	101.7
4(L4)	38.97	19.706	7.12	2400	3054	6	338.5	2.5386	16.2	66	74	15.4	14.4	101.7
5(H1)	39.53	15.468	9.20	2380	3029	4	332.4	2.5851	17.2	65	73	16.4	12.8	101.7
6(H2)	38.22	8.405	16.37	2370	3016	2	348.9	2.4629	15.9	64	72	15.1	12.0	101.7
3.3.3 FIVE HOUR TESTS 3.3.3.1 FIVE-HOUR TEST at 75 percent of the pull corresponding to maximum power at rated speed														
4(L4)	32.14	15.044	7.69	2490	3169	4	356.0	2.4138	12.9	61	67	12.3	22.3	102.4
3.3.3.2 FIVE-HOUR TEST at pull corresponding to 15 percent wheelslip, with additional ballast(front/rear):42/340 kg														
2(L2)	25.53	25.533	3.60	2510	3194	10(*)	378.0(*)	(*)	15.5	63	70	14.9	31.3	101.6

Oil consumption during ten hours duration of tests 3.3.3.1 and 3.3.3.2:22 g/h

(*)Those figures not quoted are irrelevant due to the additional ballast.

3.4 Turning area and turning circle

Wheel equipment if several sets of tyres are tested.

	Without brakes	
	Right-hand	Left-hand
	m	m
Radius of turning area	5.20	4.98
Radius of turning circle	5.05	4.83

3.5 Location of centre of gravity

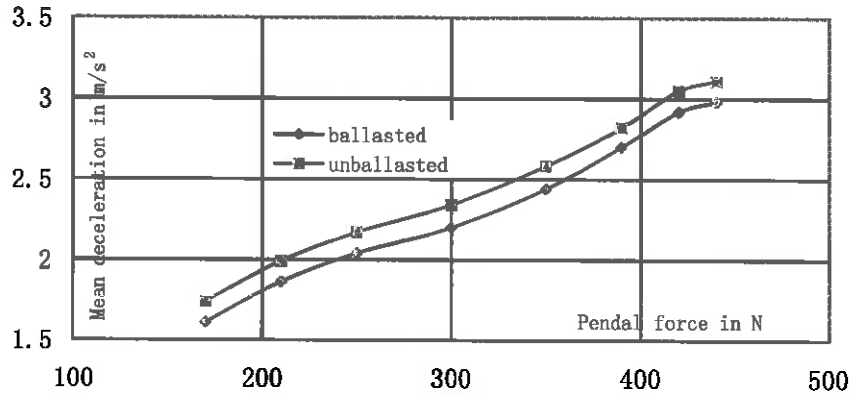
- Height above ground: 771 mm
- Distance from the vertical plane containing the axis of the rear-wheels:969 mm
- Distance from the median longitudinal plane of the tractor: -4 mm

3.6 Braking

- Date of tests: April 2nd and 4th, 2004

3.6.1 Cold service braking device test

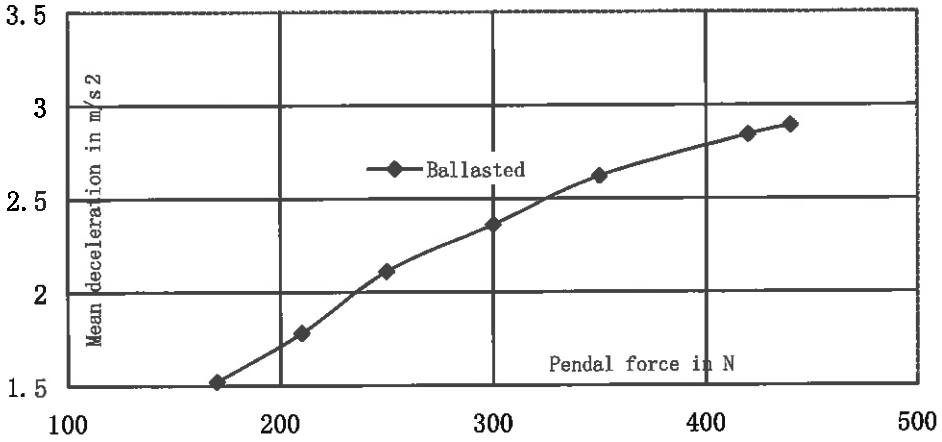
	Speed before application of brakes	Braking device control force	Mean deceleration	Minimum stopping distance without locking the wheels
	Km/h	kN	m/s^2	m
Unballasted tractor	33.57	0.17	1.74	24.98
	33.57	0.21	1.99	21.85
	33.57	0.25	2.17	20.04
	33.57	0.30	2.34	18.58
	33.57	0.35	2.58	16.85
	33.57	0.39	2.82	15.42
	33.57	0.42	3.05	14.26
	33.57	0.44	3.11	13.98
Ballasted tractor	32.88	0.17	1.61	25.91
	32.88	0.21	1.86	22.42
	32.88	0.25	2.04	20.45
	32.88	0.30	2.20	18.96
	32.88	0.35	2.44	17.09
	32.88	0.39	2.70	15.45
	32.88	0.42	2.92	14.28
	32.88	0.44	2.98	13.99



- Maximum deviation of tractor from its original course:120 mm
- Abnormal vibration: None

3.6.2 Fade test

	Speed before application of brakes	Braking device control force	Mean deceleration	Minimum stopping distance without locking the wheels
	km/h	kN	m/s^2	m
Ballasted tractor	32.88	0.17	1.52	27.44
	32.88	0.21	1.78	23.43
	32.88	0.25	2.11	19.77
	32.88	0.30	2.36	17.67
	32.88	0.35	2.62	15.92
	32.88	0.39	2.84	14.69
	32.88	0.42	2.89	14.43



- Maximum deviation of tractor from its original course:120 mm
- Abnormal vibration: None
- Brakes heating method: Driving

3.6.3 Parking braking device test

	Uphill	Downhill
Braking device control force	0.19 kN	0.23 kN

3.7 Measurement of external noise

- Date of test: April 2nd, 2004
- Sound level meter, make/model/type: B&k 2235
- Type of track: Concrete
- Gear number: 8(H4)
- Traveling speed before acceleration:25.18 km/h
- Sound level: 88.5 dB(A)

4. OPTIONAL TESTS RESULTS: None

5. REPAIRS: None

6. REMARKS: None

7. ANNEX(curves)

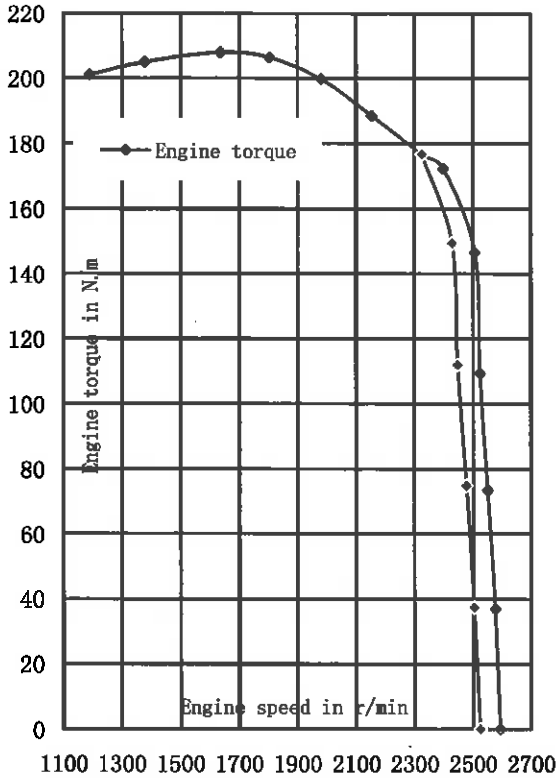
Test carried out by: Li Xijiang, Xu Zhijian, Zhang Menghua, Geng Zhanbin, Liu Qin, Yu Guiying
Li Qingdong

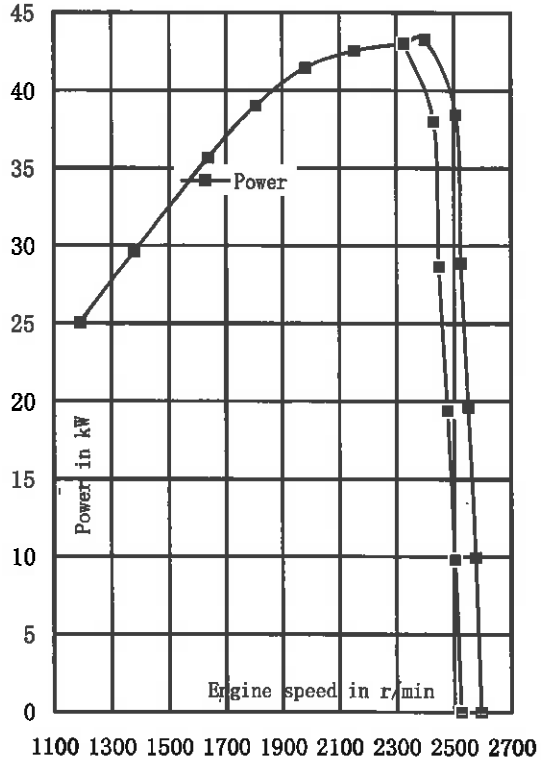
Officer in Charge:Chang Xiongbo

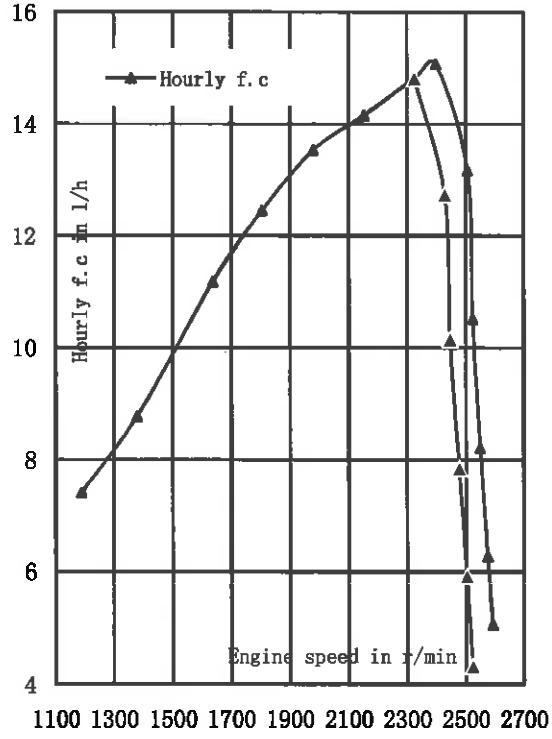
Chief of Tractor Testing Division:Xu Zhijian

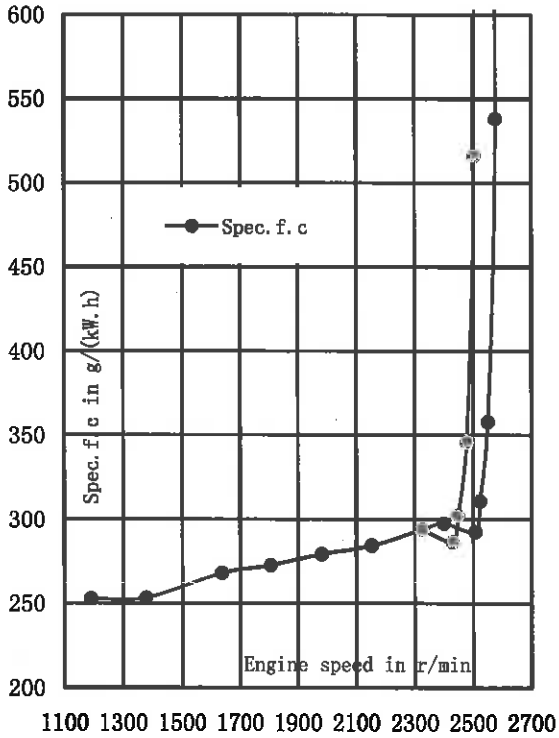
For the director:Zhu Liang

ANNEX
MAIN POWER TAKE-OFF TEST CURVES

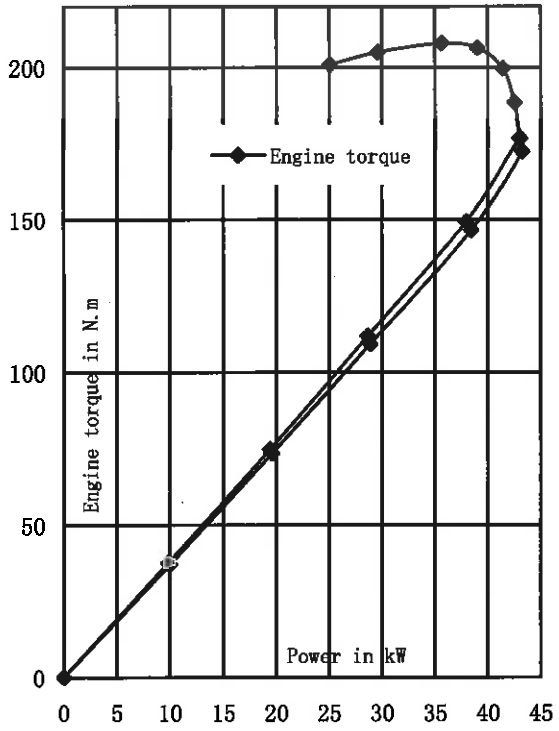


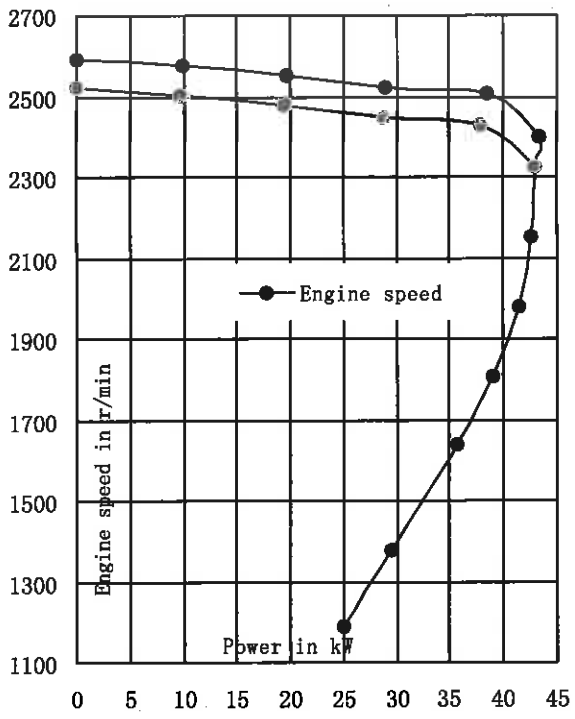


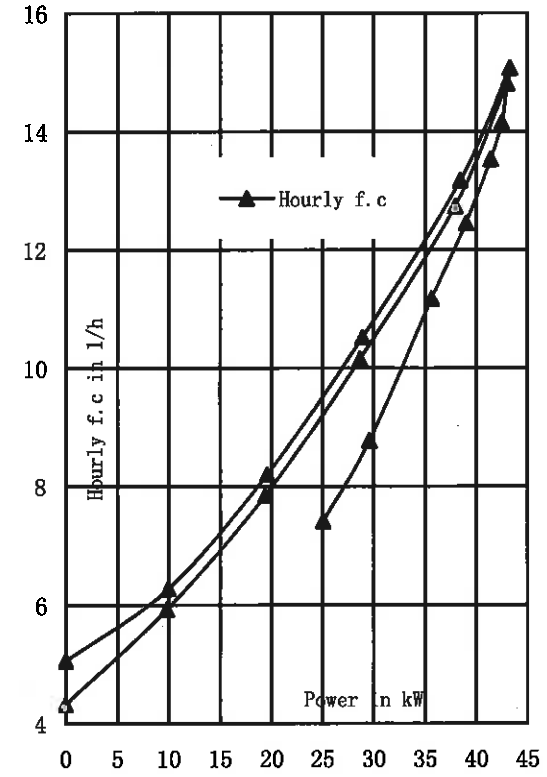


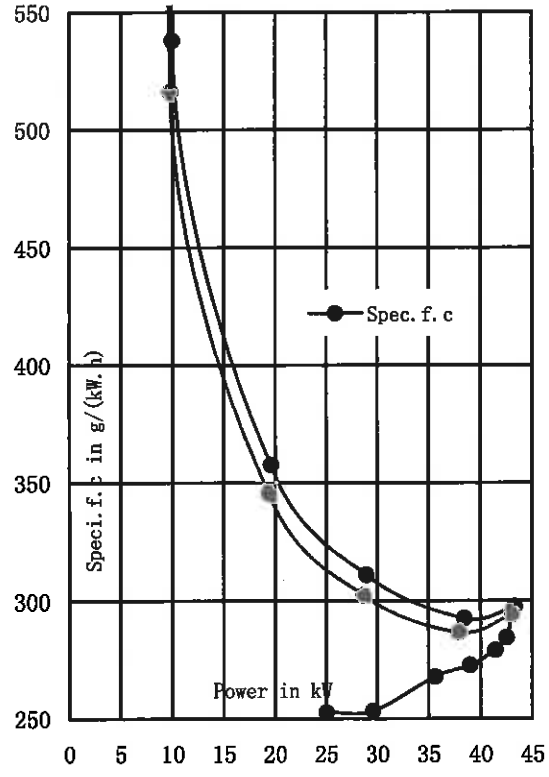


ANNEX
MAIN POWER TAKE-OFF TEST CURVES









内部资料
注意保存