CAMTC

Report on test in accordance with the
OECD STANDARD CODE 1 for the Official
Testing of Agricultural and Forestry Tractor Performance

OECD Approval No. 1/2 057

Date of approval : 18th APR. 2003



HUANGHAI JIN MA-354 (4WD) Tractor

Manufactured by: Yangcheng Tractor Works
Jiangsu Yueda investing share Co. Ltd

Date of test: Apr. and May,2001

Test No. 2001OS202

China Agricultural Machinery Testing Centre
40 Shilihe Dongsanhuan Nanlu, 100021, Beijing, China

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 "Blue codes", March 2000,Code 1.

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

No reproduction of this report or any part of it can be made without prior approval by the China Agricultural Machinery Testing Centre.

This report has been approved by the OECD co-ordinating centre (CEMAGREF)as being in accordance with the OECD Standard Code 1.

Date of approval: 18 Apr. 2003

OECD No.: 1/2 057 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 the following relations:

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

All rights including the right of translation, reprint and photomechanical copying are reserved by China Agricultural Machinery Testing Centre.

Printed in China, Beijing 4.28,2003
China Agricultural Machinery Testing Centre

CONTENTS

	Page No.
1. SPECIFICATIONS OF TRACTOR	3
1.1 Identification	3
1.2 Engine	3
1.3 Transmission	5
1.4 Power take-off	6
1.5 Hydraulic power lift	7
1.6 Three-point linkage	7
1.7 Swinging drawbar	9
1.8 Trailer hitch	9
1.9 Holed drawbar	10
1.10 Steering	10
1.11 Brakes	10
1.12 Wheels	10
1.13 Protective structure	10
1.14 Seat	11
1.15 Lighting	11
2. TEST CONDITIONS	11
2.1 Overall dimensions	11
2.2 Ground clearance	11
2.3 Tractor mass	12
2.4 Ballast weights	12
2.5 Track specification	12
2.6 Tyres and track width specification	12
2.7 Fuel	12
2.8 Oils and lubrication	13
3. COMPULSORY TEST RESULTS	13
3.1 Main power take-off performance	13
3.2 Hydraulic power and lifting force	15
3.3 Drawbar performance	16
3.4 Turning area and turning circle	18
3.5 Location of centre of gravity	18
3.6 Braking	18
3.7 Measurement of external noise level	19
4. OPTIONAL TESTS RESULTS	20
5. REPAIRS	20
6. REMARKS	20
7. ANNEX(curves)	20

- Tractor manufacturer's name and address: Yancheng Tractor Works, Jiangsu Yueda investing share Co. Ltd, Jiangsu, China
- Location of tractor assembly: The manufacturer
- Submitted for test by: The manufacturer
- Selected for test by: The manufacturer with the agreement of the CAMTC
- Place of running_in: CAMTC, Beijing, China
- Duration of running_in: 40 hours
- Location of test: CAMTC, Beijing, China

1. SPECIFICATIONS OF TRACTOR

1.1 Identification

1.1.1
- Make of the tractor: HUANGHAI
- Model: JIN MA 354
- Type: 4WD

1.1.2 - *Numbers*
- 1st serial No: 0103003
- Serial No: 0103003

1.1.3 *Other Specifications*: None

1.2 Engine

- Make/Model/Type: Jianghuai/TY395IT/4 stroke, Water cooling ,indirect injection, Swirl combustion chamber, naturally aspirated
- Serial No.: 01C0677

1.2.1 *Cylinders*
- Number/disposition: 3,vertical in line
- Bore/stroke: 95 mm /105 mm
- Capacity: 2230 cm^3
- Compression ratio: 18:1
- Arrangement of valves: Overhead
- Cylinder liners: Wet in line

1.2.2 *Supercharging*: None

1.2.3 *Fuel system*

- Fuel feed system: Forced feed by pump
- Make/Model/Type of fuel filter(s): Yanjing motor Accessory Works,C0708, paper cartridge, replaceable
- Serial No: 00508670
- Capacity of fuel tank: 30 dm^3
- Make/Model/Type of injection pump: Wuxi Pump and Injector Works, Series I

3_cylinder plunger

- Serial No: 5980
- Manufacturer's production setting of injection pump:
  ·Flow rate (rated engine speed and full load): 7.45 dm^3/h
  ·Timing: 21°～23° before T.D.C.
- Make/Model/Type of injectors: Wuxi Pump and Injector Works, S system, 4 hole nozzle
- Injection pressure: 19.5±0.5 MPa
- Make/Model/Type of carburettor: None

1.2.4 *Governor*

- Make/Model/Type: Wuxi Pump and Injector Works, T7B, Variable speed governor, Mechanically acting ,Incorporated in injection pump, centrifugal
- Governed range of engine speed from 600 to 2500 rev/min
- Rated engine speed: 2300 rev/min

1.2.5 *Air cleaner*

- Pre-cleaner
  ·Make/Model/Type: Yangzhou Diesel Engine Accessory Works/K1317/ centrifugal
  ·Location of air intake: Left-hand side of engine
- Main cleaner
  ·Make/Model/Type: Yangzhou Diesel Engine Accessory Works/K1317/paper cartridge
- Maintenance indicator: None

1.2.6 *Lubrication system*

- Type of feed pump: Rotor
- Type of filter(s): JX0811, Paper element, replaceable
- Number: 1

1.2.7 *Cooling system*

- Type of coolant: Water
- Type of pump: Centrifugal, belt driven
- Specification of fan or blower: Axial flow type, belt driven
- Number of fan blades: 7
- Fan diameter: 300 mm
- Coolant capacity: 7.2 dm^3
- Type of temperature control: Thermostat
- Superpressure system: None

1.2.8 *Starting system*

- Make/Model/Type: Yancheng Motor Works/QD1315/Electrical solenoid engaged

- Starter motor power rating: 2.5 kW
- Cold starting aid: Electrothermal plug
- Safety device: Main shift lever in neutral position

1.2.9 *Electrical system*

- Voltage: 12 V
- Generator
  ·Make/Model/Type: Yancheng Motor Works/JF11/Alternator, belt driven
  ·Power: 0.35 kW
- Battery (number of accumulators): 3-QA-120,2
  ·Rating: 120 A at 1 hours

1.2.10 *Exhaust system*

- Make/Model/Type: Daxie Engine Works/JM-354
- Location: Right-hand side of engine

1.3 Transmission

1.3.1 *Clutch (travel and power take-off)*

- Make/Model/Type: Own make/JM-354/singal function ,dry, constant engaged
- Number of plates: 1
- Diameter of plates: 228 mm
- Method of operation: By foot pedal

1.3.2 *Gear box*

- Make/Model/Type: Own make/JM-354/spur gear, mechanical unit construction
- Description:

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

- Available options: Super Lower Speed Device

1.3.3 *Rear axle and final drives*

- Make/Model/Type: Own make/ helical subulate gear and pinion bevel gear differential, spur gear final drives installed outside
- Differential lock:
  ·Type: Mechanical, dog-clutch

·Method of engagement: By hand level
·Method of disengagement: Constant disengaged

1.3.4 *Front axle and final drives*

- Make/Model/Type: Own make/helical subulate gear and spur gear differential ,spur gear final drives installed outside
- 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 2300 rev/min, km/h
1	L	241.86	1.85
2	L	191.13	2.33
3	L	117.40	3.81
4	L	74.04	6.03
5	H	56.72	7.87
6	H	44.92	9.94
7	H	27.60	16.18
8	H	17.40	25.67
R1	L	258.58	1.72
R2	H	60.78	7.35
(*) Calculated with a tyre dynamic radius index of 515 mm (ISO 4251-1:1998).			

- Number of revolutions of front wheels for one revolution of rear wheels : 1.46

1.4 Power take-off

1.4.1 *Main power take-off*

- Type: Not independent
- Method of engagement: By hand level, Driven by sleeve with splines
- Number of shafts: 1
- Method of changing power take-off shaft ends and speeds: Changing speed by lever

1.4.1.1 Power take-off proportional to engine speed

Power take-off at 540 rev/min

- Location: At rear of the tractor

- Diameter of power take-off shaft end: 35 mm
- Number of splines: 6, in conformity with ISO 500/1991
- Height above ground: 515 mm
- Distance from the median plane of the tractor: 0 mm
- Distance behind rear wheel axis: 277 mm
- PTO speed at rated engine speed (2300 rev/min): 623 rev/min
- Engine speed at standard power take-off speed: 1994 rev/min
- Ratio of rotation speeds (engine speed/p.t.o speed): 3.6923
- Power restriction and maximum torque: 24.9 kW 426 N·m
- Direction of rotation (viewed from behind tractor): Clockwise

Power take-off at 1000 rev/min None

1.4.1.2 Power take-off proportional to ground speed

- PTO speed: 540 rev/min:
- Travelling distance for one revolution of power take-off shaft: 688 mm
- Number of power take-off shaft revolutions for one revolution of (rear) driving wheels: 4.7
- Direction of rotation with forward gear engaged (viewed from behind tractor): Clockwise

1.4.2 *Optional power take-off:* None

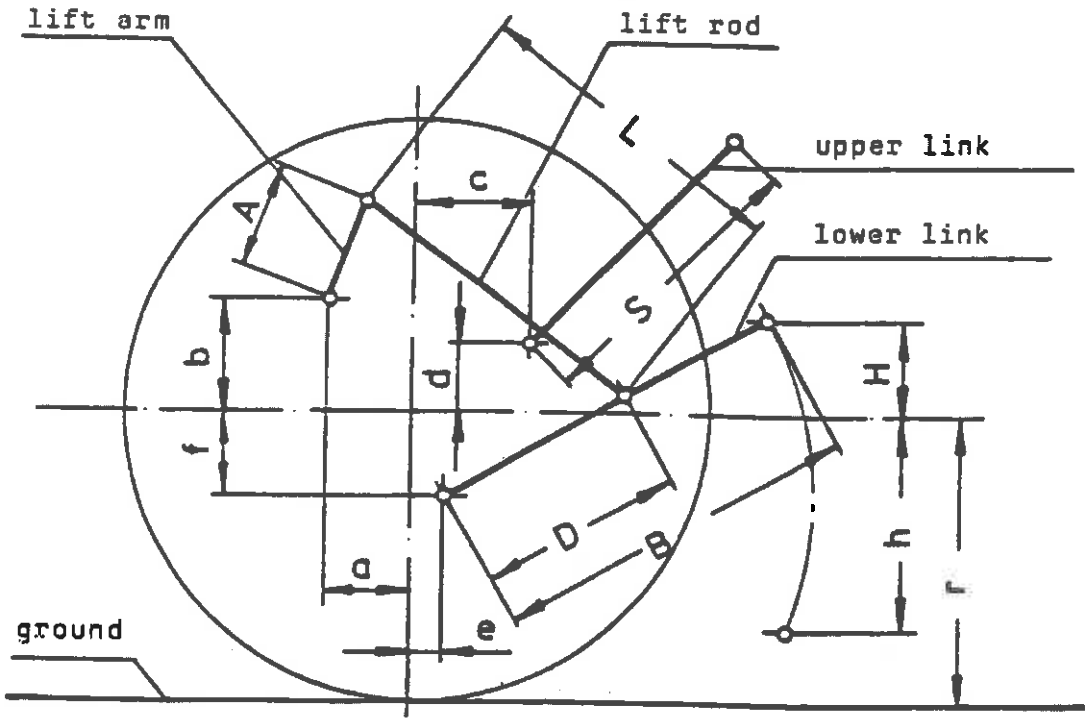
1.5 Hydraulic power lift

- Make/Model/Type: Shangdong Mingyuan mechanical Co. Ltd, JM-354 ,adjustable mix of force and position
- Type of hydraulic system: Partial separated units, open center system
- Type and number of cylinders: Single acting,1
- Type of linkage lock for transport: Hydraulic lock
- Relief valve pressure setting (tolerance): 12.0+0.5 MPa
- Opening pressure of cylinder safety valve (if fitted): None
- Lift pump type: CBN-E310 gear pump
- Transmission between pump and engine: Gear driven from gear box
- Type and number of filters: Metal screen,2
- Site of oil reservoir: Under the driver's seat
- Type, number and location of tapping points: Thread,M18×1.5,1,At front side of hydraulic power lift housing

Maximum volume of oil available to external cylinders: 10 dm^3

1.6 Three-point linkage

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



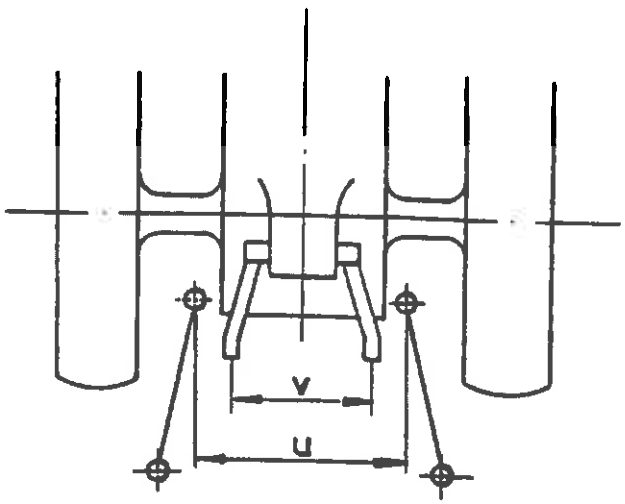


Table 1.1-Dimensions of linkage geometry when connected to the standard frame

		Dimension or range, mm	Settings used in test, mm
Length of lift arms	(A)	255	255
Length of lower links	(B)	810	810
Distance of lift arm pivot from: horizontally	(a)	68	68
point from rear wheel axis: vertically	(b)	310	310
Horizontal distance between the 2 lower link points	(u)	487	487
Horizontal distance between the 2 lift arm end points	(v)	495	495
Length of upper link	(S)	from 425 to 620	480
Distance of upper link pivot point from rear wheel axis:			
- horizontally	(c)	286	286
- vertically	(d)	287	287
Distance of lower link pivot point from rear wheel axis:			
- horizontally	(e)	28	28
- vertically	(f)	96	96
Distance of lower link pivot points to lift rod pivot points on lower links:	(D)	430	430
Length of lift rods:	(L)	from 380 to 560	445
Height of lower hitch points relative to the rear wheel axis: - in low position:	(h)	from 153 to 413	322
- in high position:	(H)	from 423 to 63	288
Height above ground of lower hitch points when locked in transport position (*)		Any height at lift range	Any height at lift range
(*) Assuming (r)=tyre dynamic radius index of 515mm (ISO 4251-1:1998).			

1.7 Swinging drawbar: **None**

1.8 Trailer hitch

- Type: Fixed
- Hole diameter: 35 mm
- Height above ground: 405 mm
- Distance of hitch point from rear wheel axis, horizontally: 310 mm
- Distance of hitch point from power take-off shaft end
  - Vertically: 140 mm
  - Horizontally: 33 mm
- Maximum vertical permissible load: 20.0 kN

1.9 Holed drawbar: **None**

1.10 Steering

- Make/Model/Type: Own make, hydrostatic steering
- Method of operation:
  - Pump(s): CBN-E310 gear pump
  - Ram(s): 1,double acting
- Working pressure: 12.0 Mpa

1.11 Brakes

1.11.1 *Service brake*

- Make/Model/Type: Own make, disc-type
- Method of operation: Operated by pedals, coupled or independent
- Trailer braking take-off (hydraulic or air brake): Air brake

1.11.2 *Parking brake*

- Type: Mechanical, locked by ratchet
- Method of operation: By hand

1.12 Wheels

- Number
  - Front: 2, driving and steering
  - Rear: 2, driving
- Wheelbase: 1840 mm
- Track width adjustment:

	Minimum	Maximum	Adjustment method
	mm	mm	
Front	1200	1200	None
Rear	1150	1450	Reversing wheels and off-set lug rims

1.13 Protective structure

- Make/Model/Type: Yancheng/400.45.001/Rear roll-bar Frame
- Manufacturer's name and address: Yancheng Tractor Works, Jiangsu Yueda investing share Co. Ltd, Jiangsu, China
- Protective device
  - Cab/frame/rollguard/other: Rear roll-bar Frame
  - Tiltable/not tiltable: Tiltable with tools
- OECD approval number: 4/0 756
- Date of approval: 01/20/2003

1.14 Seat

1.14.1 *Driver's seat*

-Make/Model/Type:	GRAMMER/fixed/S44
- Type of suspension:	None
- Type of damping:	None
- Range of adjustment	
• Longitudinal:	150 mm
• Vertical:	0 mm

1.14.2 *Optional driver's seat(s)*: None

1.14.3 Passenger seat: None

1.15 Lighting

	Height above ground of centre	Size	Distance from outside side edge to median plane of tractor
	mm	mm	mm
Headlights	1100	150×80	210
Sidelights	1105	100×40	315
Rearlights	1230	120×80	595
Brakelights	1125	130×60	605

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	3230	-	1440	2334	1985
Unballasted	3230	-	1440	2338	1989

2.2 Ground clearance (unballasted tractor): 258 mm
- Clearance-limiting part: Under the front axle

2.3 Tractor mass

with frame:

	Ballasted		Unballasted	
	Without driver	With driver	Without driver	With driver
	kg	kg	kg	kg
Front	910	913	815	845
Rear	1034	1106	935	980
Total	1944	2019	1750	1825

2.4 Ballast weights

	Number	Total mass	Water
		kg	kg
Front	6	54	-
Rear	4	140	-
Optinal	-	-	-

2.5 Track specifications **None**

2.6 Tyres and track width specifications

	Front	Rear
Tyres:		
• dimensions	6.00-16	11.2-24
• ply rating	4	4
• type	Cross ply	Cross ply
• maximum load (tyre anufacturer's)	4.85 kN	10.34 kN
• maximum load (tractor anufacturer's)	4.85 kN	10.34 kN
• inflation pressure (tyre manufacturer's)	250 kPa	180 kPa
• dynamic radius index	352 mm	515 mm
Chosen track width:	1200 mm	1150 mm

2.7 Fuel

- Type: Standard diesel fuel in conformity with national standard GB10327-89
- Density at 15℃: 0.838 g/cm^3

2.8 Oils and lubrication

2.8.1 *Capacity and change interval*

	Capacity	Oil change	Filter change
	dm^3	h	h
Engine	6.0	100	100
Gear box	20.2	500	-
Front axle	6.6	500	-
Rear axle	Common with gear box	Common with gear box	-
Final drive (front)	Common with gear box	Common with gear box	-
Final drive (rear)	Common with gear box	Common with gear box	-
Hydraulic system	10	1000	-
steering	0.9	1000	-

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

	Recommended	Used during test
Engine oil • Type: • Viscosity: • Classification:	SAE 10 W/30 11.4 cst at 100℃ API CC	CA-30 11 cst at 100℃ GB5323—85
Transmission oils • Type: • Viscosity: • Classification:	SAE 80 9.3 cst at 100℃ API GL-4	HQB-10 11 cst at 100 ℃ GB 485-84
Hydraulic fluid • Type: • Viscosity: • Classification:	Same as trans.oil	Same as trans.oil
Steering oil • Type: • Viscosity: • Classification:	Same as trans.oil	Same as trans.oil

2.8.3 *Grease*

• Number of lubrication points: 15

3. COMPULSORY TESTS RESULTS

3.1 Main power take-off

- Date and location of tests: April 28th,2001, CAMTC
- Type of dynamometer: SCHENCK eddy-current brake W700

Power	Speed		Fuel consumption			Specific energy
	Engine	P.T.O	Hourly		Specific	
kW	rev/min		kg/h	l/h	g/(kW·h)	(kW·h)/l
3.1.1 MAXIMUM POWER-TWO-HOUR TEST						
24.90	2234	605	6.5984	7.8459	265.0	3.1736
3.1.2 POWER AT RATED ENGINE SPEED						
23.58	2297	622	6.2562	7.4390	265.3	3.1698
3.1.3 STANDARD POWER TAKE-OFF SPEED (540±10 rev/min)						
22.00	1994	540	5.6896	6.7653	258.6	3.2519
3.1.4 PART LOADS 3.1.4.1 the torque corresponding to maximum power at rated engine speed						
23.58	2297	622	6.2562	7.4390	265.3	3.1698
3.1.4.2 85% of torque obtained in 1.4.1						
20.38	2334	632	5.5027	6.5430	270.0	3.1148
3.1.4.3 75% of torque defined in 1.4.2						
15.55	2363	640	4.4740	5.3199	287.7	2.9230
3.1.4.4 50% of torque defined in 1.4.2						
10.45	2393	648	3.5476	4.2183	339.5	2.4773
3.1.4.5 25% of torque defined in 1.4.2						
5.27	2415	654	2.6924	3.2014	510.9	1.6462
3.1.4.6 unloaded						
0.14	2430	658	1.9085	2.2693	-	-
3.1.5 PART LOADS AT STANDARD POWER TAKE-OFF SPEED (540 rev/min) 3.1.5.1 the torque corresponding to maximum power						
22.00	1994	540	5.6896	6.7653	258.6	3.2519
3.1.5.2 85% of torque obtained in 1.5.1						
19.20	2046	554	4.9597	5.8974	258.3	3.2557
3.1.5.3 75% of torque defined in 1.5.2						
14.70	2090	566	4.0046	4.7617	272.4	3.0871
3.1.5.4 50% of torque defined in 1.5.2						
10.02	2116	573	3.1477	3.7428	314.1	2.6771
3.1.5.5 25% of torque defined in 1.5.2						
5.02	2134	578	2.2949	2.7288	457.2	1.8396
3.1.5.6 unloaded						
0.31	2156	584	1.5592	1.8540	-	-

- No load maximum engine speed: 2430 rev/min

- Torque (equivalent crankshaft) at maximum power
  .at rated engine speed: 98.0 N·m
  .at 2 hour test: 106.4 N·m
- Maximum torque (equivalent crankshaft): 115.4 N·m
  (engine speed : 1713 rev/min)
- Mean atmospheric conditions
  • Temperature: 24℃
  • Pressure: 101.3 kPa
  • Relative humidity: 70%
- Maximum temperatures
  • Coolant: 89℃
  • Engine oil: 114℃
  • Fuel: 25℃
  • Engine air intake: 27℃

3.2 Hydraulic power and lifting force

- Date of tests: May 17th,2001

3.2.1 *Hydraulic power test*

- Sustained pressure with relief valve open: 12.6 MPa
- Pump delivery rate at minimum pressure: 19.69 l/min

	Flow rate	Pressure	Power
	l/min	MPa	kW
Flow rate corresponding to a hydraulic pressure equivalent to 90 percent of the actual relief valve pressure setting and corresponding hydraulic power	16.75	11.34	3.17
Flow rate and hydraulic pressure corresponding to maximum hydraulic power	18.92	11.00	3.47

- Tapping point used for test: Front side of hydraulic power lift housing
- Temperature of hydraulic fluid: 60℃~65℃
- Opening pressure of the unloading valve: None
- Closing pressure of the unloading valve: None

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	610 mm	610 mm
Maximum corrected force exerted through full range	6.516 kN	4.554 kN
Corresponding pressure of hydraulic fluid	11.30 MPa	11.30 MPa
Moment about rear wheel axis	5.460 kN·m	6.594 kN·m
Maximum tilt angle of mast from vertical	-	12.5 degrees

Lifting heights relative to the horizontal plane including the lower link pivot points											
mm	-285	-230	-110	-70	0	+110	+230	+330	+380	+450	+480
Lifting forces (the values measured are corrected to correspond to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting of the hydraulic lift system):											
at the hitch point kN	-	11.06	10.13	10.01	8.892	8.226	7.983	7.29	6.516	-	-
Corresponding pressure:11.30 MPa											
at the frame kN	9.531	9.108	8.829	8.28	7.83	6.849	6.462	5.868	5.22	4.878	4.554
Corresponding pressure:11.30 MPa											

3.3 Drawbar power test(ballasted and unballasted tractor)

- Date of tests: Through May 23rd to 24th,2001
- Type of track: Concrete

	Height of drawbar above ground	Tyre inflation pressure	
		Front	Rear
	mm	kPa	kPa
Unballasted	405	200	100
Ballasted	400	200	100

Gear and range	Power	Drawbar pull	Speed	Engine 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	%	g/(kW·h)	(kW·h)/l	℃	℃	℃	℃	%	kPa
3.3.1 MAXIMUM POWER IN TESTED GEARS(unballasted tractor)													
1L(1)	6.46	13.44	1.73	2374	15	516	1.61	30	76	84	29	60	100.2
2(L2)	8.25	13.87	2.14	2364	15	459	1.81	29	70	84	29	60	100.2
3(L3)	13.10	13.55	3.48	2333	15	399	2.09	30	75	85	29	60	100.2
4(L4)	17.08	10.60	5.80	2300	9	364	2.29	30	75	86	29	60	100.2
5(H1)	19.75	9.53	7.46	2243	7	339	2.45	30	77	87	29	60	100.2
6(H2)	19.72	7.47	9.50	2214	4	331	2.51	30	78	88	29	60	100.2
3.3.2 MAXIMUM POWER IN TESTED GEARS(ballasted tractor)													
1(L1)	7.34	15.83	1.67	2366	15	488	1.70	30	70	82	29	61	100.2
2(L2)	9.46	16.38	2.08	2354	15	433	1.92	30	72	90	29	61	100.2
3(L3)	14.78	15.70	3.39	2306	15	374	2.22	30	78	94	29	61	100.2
4(L4)	18.95	12.03	5.67	2250	6	342	2.43	30	78	95	29	61	100.2
5(H1)	19.95	9.69	7.41	2212	5	332	2.51	30	79	96	29	61	100.2
6(H2)	19.79	7.53	9.46	2200	3	346	2.40	30	81	96	29	61	100.2
3.3.3 FIVE HOUR TESTS 3.3.3.1FIVE-HOUR TEST at 75 percent of the pull corresponding to maximum power at rated speed													
5(H1)	15.79	7.25	7.84	2234	3	321	2.59	**30**	76	92	29	**63**	100.2
3.3.3.2 FIVE-HOUR TEST at pull corresponding to 15 percent wheelslip,with additional ballast:304 kg													
3(L3)	14.73	15.69	3.38	2304	(*)	(*)	(*)	**30**	82	96	29	**63**	100.2

Oil consumption during ten hours duration of tests 3.3.1 and 3.3.2:52 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:

	Tyre size	Track width
front:	6.00-16	1200
rear:	11.2-24	1150

	Without brakes	
	Right-hand	Left-hand
	m	m
Radius of turning area	4.09	3.77
Radius of turning circle	3.91	3.59

3.5. Location of centre of gravity

- Height above ground: 708 mm
- Distance forward from the vertical plane containing the axis of the rear wheels: 857 mm
- Distance from the median plane of the tractor to the right: 6 mm

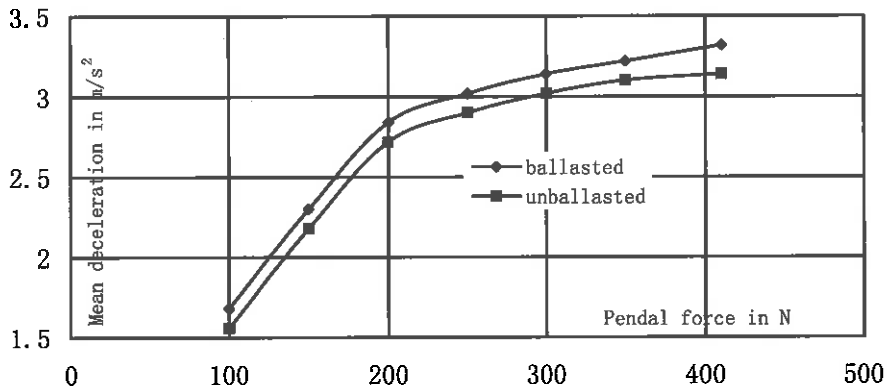
3.6. Braking

- Date of tests: April 26th,2001

3.6.1 *Cold service braking device test*

Speed before application of brakes (Ballasted tractor/ Unballasted tractor): 28.10 km/h /28.40 km/h

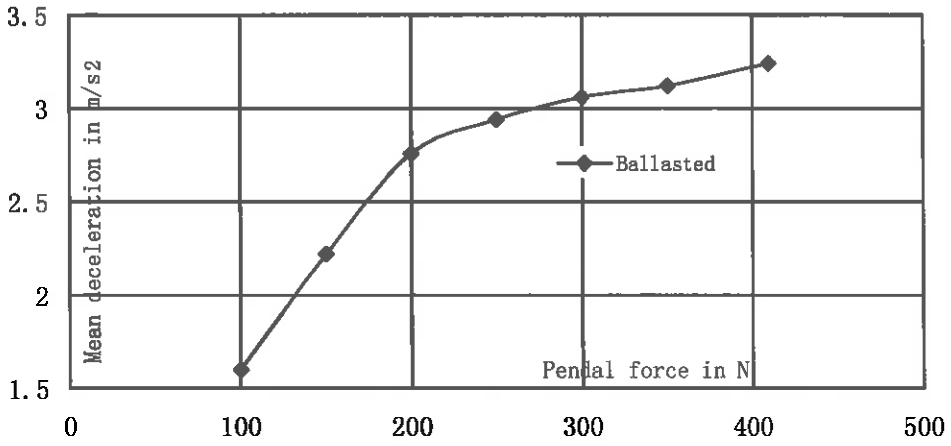
Ballasted tractor	Braking device control force,N	100	150	200	250	300	350	410
	Mean deceleration m/s^2	1.68	2.30	2.84	3.02	3.14	3.22	3.32
Unballasted tractor	Braking device control force,N	100	150	200	250	300	350	410
	Mean deceleration m/s^2	1.56	2.18	2.72	2.90	3.02	3.10	3.14



- Maximum deviation of tractor from its original course:100 mm
- Abnormal vibration: None

	Speed before application of brakes	Braking device control force	Minimum stopping distance without locking the wheels
	km/h	kN	m
Ballasted tractor	28.10	0.2	9.68
Unballasted tractor	28.40	0.2	10.27

Note:The wheels are locking if the braking device control force is higher than 0.2kN.



3.6.2 Fade test

Speed before application of brakes:28.10 km/h

Ballasted tractor	Braking device control force,N	100	150	200	250	300	350	410
	Mean deceleration m/s^2	1.60	2.22	2.76	2.94	3.06	3.14	3.24

- Maximum deviation of tractor from its original course: 120 mm
- Abnormal vibration: None
- Brakes were heated by: Driving

	Speed before application of brakes	Braking device control force	Minimum stopping distance without locking the wheels
	km/h	kN	m
Ballasted tractor	28.10	0.2	9.98

3.6.3 *Parking braking device test*

	Uphill	Downhill
Braking device control force	260 N	310 N

3.7. Measurement of external noise

- Date of test: May 24th,2001
- Type of sound level meter: B&k 2235

- Type of track:	Concrete
- Cear number:	8(H4)
- Travelling speed before acceleration:	21.30 km/h
- Sound level:	86.4 dB(A)

4. OPTIONAL TESTS RESULTS: **None**

5. REPAIRS: **None**

6. REMARKS: The PTO can't be used at full load as recommended by the manufacturer.

7. ANNEX

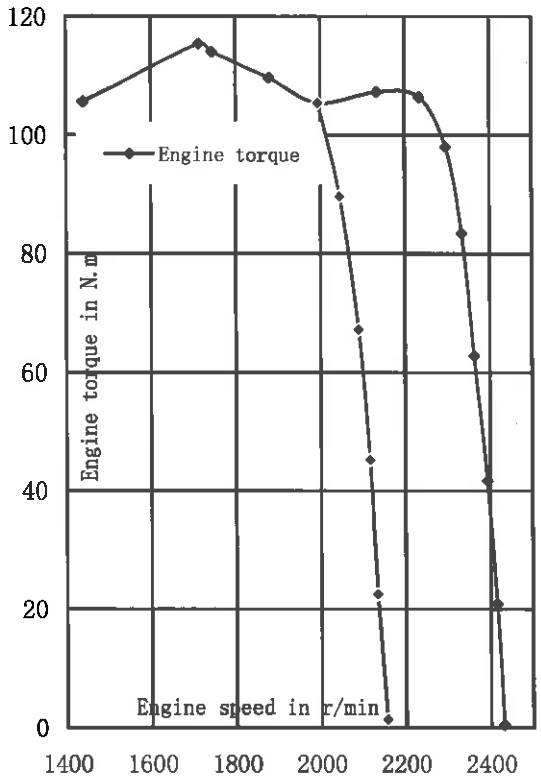
Test carried out by: Li Xijiang,Zhang Menghua,Geng Zhanbin,Li Qingdong,Liu Qin,Chang Xiongbo

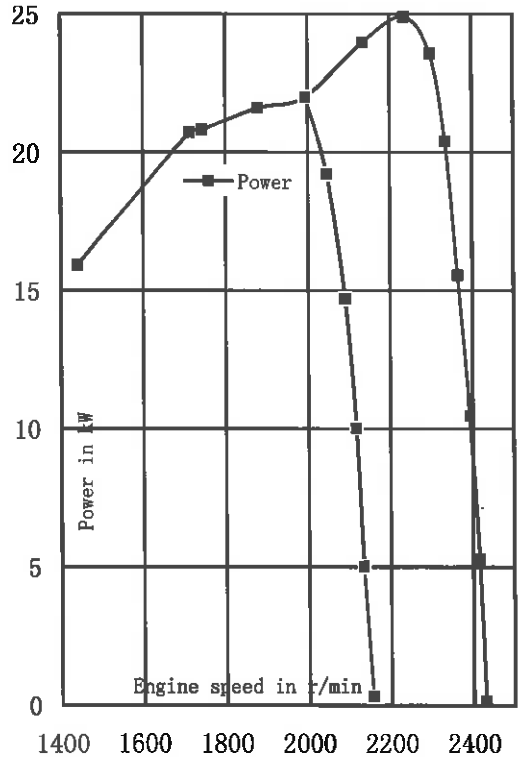
Officer in Charge:Chang Xiongbo

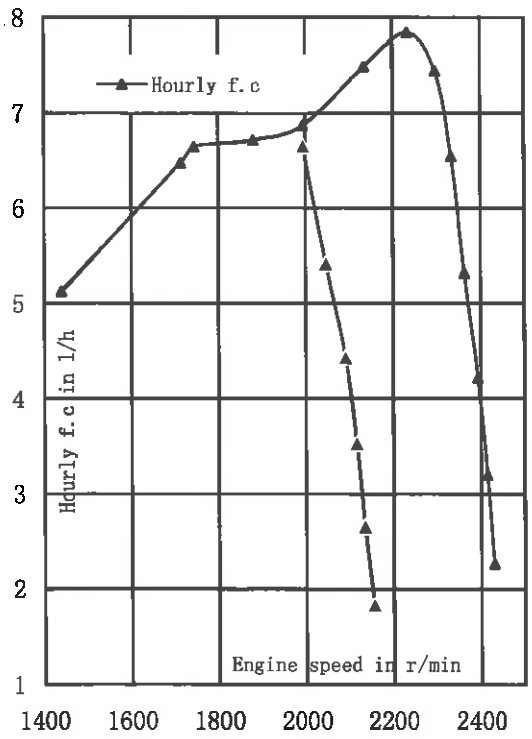
Chief of Tractor Testing Division:Xu Zhijian

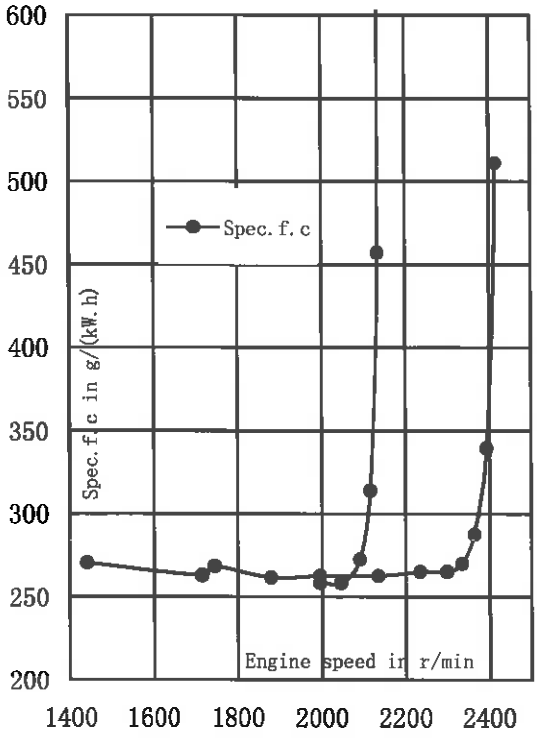
For the director:Zhu Liang

ANNEX
MAIN POWER TAKE-OFF TEST CURVES









ANNEX
MAIN POWER TAKE-OFF TEST CURVES

