Consiglio Nazionale delle Ricerche

IMAMOTER

Istituto per le Macchine Agricole e Movimento Terra

Report No. 3088*2*CASE*MAXXUM125X*1*2009

OECD Approval No. 2/2 487 on 25th June 2009

TEST IN ACCORDANCE WITH THE OECD STANDARD CODE FOR THE OFFICIAL TESTING OF AGRICULTURAL AND FORESTRY TRACTOR PERFORMANCE

Make:	**CASE IH**
Trade Name:	**MAXXUM 125X**
Type:	**4 WD, 40 km/h, 16+16 speeds, semi-powershift transmission**



Manufactured by:	CNH Europe Holding S.A.. 13, Rue Aldringen L-1118 Luxembourg
Date and location of the tests:	2008 TORINO (Italy)

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NOTE

The information opposite each item has been validated by the testing station as follows

C data declared and checked by the testing station

D data declared by the manufacturer

C	Tractor manufacturer's name and address:	CNH Europe Holding S.A. 13, Rue Aldringen L-1118 Luxembourg
D	Location of tractor assembly:	Basildon – United Kingdom St. Valentin - Austria
D	Submitted for test by:	the Manufacturer
C	Selected for test by:	manufacturer with the agreement of IMAMOTER
D	Place of running-in:	Modena - Italy
D	Duration of running-in:	appr. 50 hours
C	Location of test:	IMAMOTER – Torino, Italy

1 SPECIFICATIONS OF TRACTOR

1.1 Identification

1.1.1 Denomination

C	Make of the tractor:	CASE IH
C	Model (trade name):	MAXXUM 125X
C	Type:	4WD

1.1.2 Numbers

D	1st serial N° or prototype:	Z7BE01001
C	Serial N°:	Z7BB02860

1.1.3 Other specification (if applicable)

D	Model(s) for other countries:	MAXXUM 125
C	Transmission type or gears x ranges:	16+16 speeds, semi-powershift
C	Speed version:	40 km/h
D	- Manufacturer identification or technical type number :	BEEC7B

1.2 Engine

C	Make:	CNH
C	Model:	667TA/MEK
C	Type:	4 stroke supercharged, intercooler Diesel direct injection type
C	Serial N°:	430011

1.2.1 Cylinders

C	Number and disposition:	6, vertical, in line
D	Bore and stroke:	104x132 mm
D	Capacity:	6728 cm^3
D	Compression ratio:	17.5:1
D	Arrangement of valves:	overhead, 2 valves for cylinder
D	Cylinder liners (wet or dry):	none, monobloc construction

1.2.2 Supercharging

C	Make, model and type:	HOLSET, HX35, Exhaust driven
D	Pressure:	0.90 MPa

1.2.3 Fuel system

C	Fuel feed system:	mechanical rotary injection pump
C	Make model and type of fuel filter(s):	plastic strainer in tank, 1 glass glow sediment and water separation pre-filter, and 1 disposable canister filter (FLEETGUARD, 2830997 drawing, spin on cartridge)
D	Capacity of fuel tank:	250 dm^3, placed under the tractor platform, on the left side
C	Make model and type of injection pump:	BOSCH, VE6/12F, rotary injection pump.
C	Serial N°:	not available
	Manufacturer's production setting of injection pump	
C	Flow rate (rated engine speed and full load):	67.85 mm^3/stroke at rated speed and full load corresponding 26.87 dm^3/h
D	Timing:	dynamic timing, 0° before TDC
D	Make, model and type of injectors:	BOSCH, DSLA 145, mechanical injection nozzles.
D	Injection pressure:	26±1 MPa
C	Make, model and type of carburettor:	not applicable

1.2.4 Governor

C	Make model and type:	BOSCH , VE, mechanical type, incorporated in the fuel pump
C	Governed range of engine speed from-to:	900 - 2452 rev/min
C	Rated engine speed:	2200 rev/min

1.2.5 Air cleaner

	Pre-cleaner	
C	Make model and type:	none
C	Location of air intake:	none
	Main cleaner	
C	Make, model and type:	CNH, 3 stage dry paper element with 2 replaceable cartridge, inner (82028151 drawing) and outer (82028150 drawing)
C	Location of air intake:	on front of the radiator under the bonnet cowling inside the pre-cleaner, on front of the radiator under the bonnet cowling

C	Maintenance indicator:	warning lamp on the dashboard
1.2.6	Lubrication system	
D	Type of feed pump:	forced feed from concentric rotor pump
C	Type of filter(s):	mesh strainer in sump on suction line and full flow disposable canister on pressure line
C	Number of filters:	1
1.2.7	Cooling system	
C	Type of coolant:	50% water and 50% antifreeze
D	Type of pump:	centrifugal blade pump with viscous fan belt driven by engine shaft
	Specification of fan or blower	
C	Number of fan blades:	5
C	Fan diameter:	510 mm
D	Coolant capacity:	25 dm^3
C	Type of temperature control:	thermostat with full flow bypass
D	Over-pressure system:	100 kPa
1.2.8	Starting system	
C	Make model and type:	ISKRA, 11131464, positive engagement, solenoid operated
D	Starter motor power rating:	4.2 kW
C	Cold starting aid:	PHILIPS & TEMRO grid heater
C	Safety device:	starting inoperable unless shuttle lever in neutral, clutch pedal depressed and operator seat presence switch is activated
1.2.9	Electrical system	
C	Voltage:	12 V, negative earth
	Generator:	alternator
C	Make model and type:	ISKRA, AAK 5592, belt driven
D	Power:	1.6 kW
	Battery of accumulators	
C	Number:	1, lead acid type
D	Rating:	12 V, capacity 132 Ah, cranking 960 A
1.2.10	Exhaust system	
C	Make model and type:	COR.TUBI, 1.15.1 02AH, vertical stack pipe with integrated silencer
C	Location:	on the right hand side of engine, with the vertical exhaust pipe on right of the bonnet cowling

1.3 Transmission

1.3.1 Clutch (travel alone)

D	Make model and type:	CNH, own drawing model, wet multi-plate disc
D	Number of plates:	9
D	Diameter of plates:	160 mm
C	Method of operation:	electro hydraulic operated by pedal

1.3.2 Gear box

D	Make model and type:	CNH make, own drawing model, mechanical
	Description:	16+16 speeds (40 km/h) mechanical transmission with semi powershift. 16 forward and reverse speeds in 2 ranges (Low and High) shiftable with 1 lever. 8 gears for range with switch for up/down power-shifting. Forward/reverse shuttle lever on steering column. Optional creeper switch acted, 33+32 speeds, not fitted on tested tractor

		Forward	Reverse
C	Number of gears	8	8
C	Number of ranges	2	2
C	Total of arrangements	16	16

D	Available options:	24+24 speeds (40 km/h) mechanical transmission: 3 ranges (I, II and III) and 4 gears per range shiftable with 2 levers, 1 switch for up/down power-shifting (Hi and Lo steps), and forward/reverse shuttle lever on steering column. Optional creeper switch acted, 48+48 speeds. 17+16 speeds (50 km/h) mechanical transmission with semi powershift. 17 forward gears and 16 reverse gears in 2 ranges (Low and High) shiftable with 1 lever. 8 gears for range (+1 for range High) with switch for up/down power-shifting. Forward/reverse shuttle lever on steering column. Optional creeper switch acted, 33+32 speeds.

1.3.3 Rear axle and final drives

D	Make model and type:	CNH, own drawing, crown wheel and pinion with differential and inboard epicyclical reduction gear final drive
	Differential lock:	
D	Type:	multi-plate wet discs
C	Method of engagement:	electro-hydraulic actuation in response to signal from switch on right-hand control panel or auto differential lock actuation
C	Method of disengagement:	via panel switch or in response to signal from brakes on application, or auto differential lock disengagement

1.3.4 Front axle and final drives

D	Make model and type:	CNH, own drawing, crown wheel and pinion with differential and outboard epicyclical reduction gear final drive
	Drive engagement	
D	Type:	dog clutch
C	Method of operation:	electro-hydraulic actuation in response to signal from switch on right-hand control panel or auto 4WD engagement
	Differential lock	
D	Type:	multi-plate wet discs
C	Method of engagement:	electro-hydraulic actuation in response to signal from switch on right-hand control panel or auto differential lock actuation
C	Method of disengagement:	via panel switch or in response to signal from brakes on application, or auto differential lock disengagement

1.3.5 Total ratios and travelling speeds

	Speed No.[1]	Gear	Range	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2200 min^{-1} (rev/min)[2] km/h
	Forward				
C	1A	1	Low	300.124	2.266
C	2A	2	Low	244.663	2.780
C	3A	3	Low	200.928	3.385
C	4A	4	Low	163.797	4.152
C	5B	5	Low	127.757	5.323
C	6B	6	Low	104.148	6.530
C	7B	7	Low	85.531	7.951
C	9C	9	High	76.750	8.861
C	8B	8	Low	69.725	9.754
C	10C	10	High	62.567	10.870
C	11C	11	High	51.383	13.236
C	12C	12	High	41.887	16.236
C	13D	13	High	32.671	20.816
C	14D	14	High	26.633	25.536
C	15D	15	High	21.872	31.094
C	16D	16	High	17.831	38.141
	Reverse				
C	1A	1	Low	303.673	2.240
C	2A	2	Low	247.556	2.747
C	3A	3	Low	203.304	3.345
C	4A	4	Low	165.734	4.104
C	5B	5	Low	129.267	5.261
C	6B	6	Low	105.379	6.454
C	7B	7	Low	86.542	7.859
C	9C	9	High	77.657	8.758
C	8B	8	Low	70.550	9.640
C	10C	10	High	63.307	10.743
C	11C	11	High	51.990	13.081
C	12C	12	High	42.383	16.046
C	13D	13	High	33.057	20.573
C	14D	14	High	26.948	25.237
C	15D	15	High	22.131	30.730
C	16D	16	High	18.041	37.697

[1] *As displayed on dashboard*

[2] *Calculated with a tyre dynamic radius index of 820 mm (ISO 4251-1:2005)*

C Number of revolution of front wheels for one revolution of rear-wheels: 1.353

I.4 Power take-off

I.4.1 Main power take-off

C	Type:	fully independent
C	Method of engagement:	engaged/disengaged by pulling/pushing a switch on the right-hand control panel, driven by electro-hydraulic operated multi-plate clutch
C	Number of shafts:	1
C	Method of changing power take-off shaft ends and speeds:	removing circlip, swapping shaft and replace circlip

I.4.1.1 Power take-off proportional to engine speed

Power take-off at 540 min^{-1} rev/min

C	Location:	at the rear of the tractor, in the median plane
C	Diameter of power take-off shaft end:	35 mm
C	Number of splines:	6, in conformity with ISO 500-1:2005, ISO 500-2:2004 and ISO 500-3:2004
C	Height above ground:	795 mm
C	Distance from the median plane of the tractor:	0 mm
C	Distance behind rear-wheel axis:	555 mm
C	PTO speed at rated engine speed:	603 rev/min
C	Engine speed at standard power take-off speed:	1970 rev/min
C	Ratio of rotation speeds (engine speed/p.t.o. speed):	3.648
D	Power restriction:	none
D	Maximum torque transmissible:	engine torque
C	Direction of rotation (viewed from behind tractor):	clockwise

Power take-off at 1000 min^{-1} rev/min

C	Location:	at the rear of the tractor, in the median plane
C	Diameter of power take-off shaft end:	35 mm
C	Number of splines:	21, in conformity with ISO 500-1:2005, ISO 500-2:2004 and ISO 500-3:2004
C	Height above ground:	795 mm
C	Distance from the median plane of the tractor:	0 mm
C	Distance behind rear-wheel axis:	555 mm
C	PTO speed at rated engine speed:	1038 rev/min
C	Engine speed at standard power take-off speed:	2120 rev/min
C	Ratio of rotation speeds (engine speed/p.t.o. speed):	2.119
D	Power restriction:	none
D	Maximum torque transmissible:	engine torque
C	Direction of rotation (viewed from behind tractor):	clockwise

I.4.1.2 Power take-off proportional to ground speed

Optional, not fitted on tested tractor

1.4.2 Optional power take-off

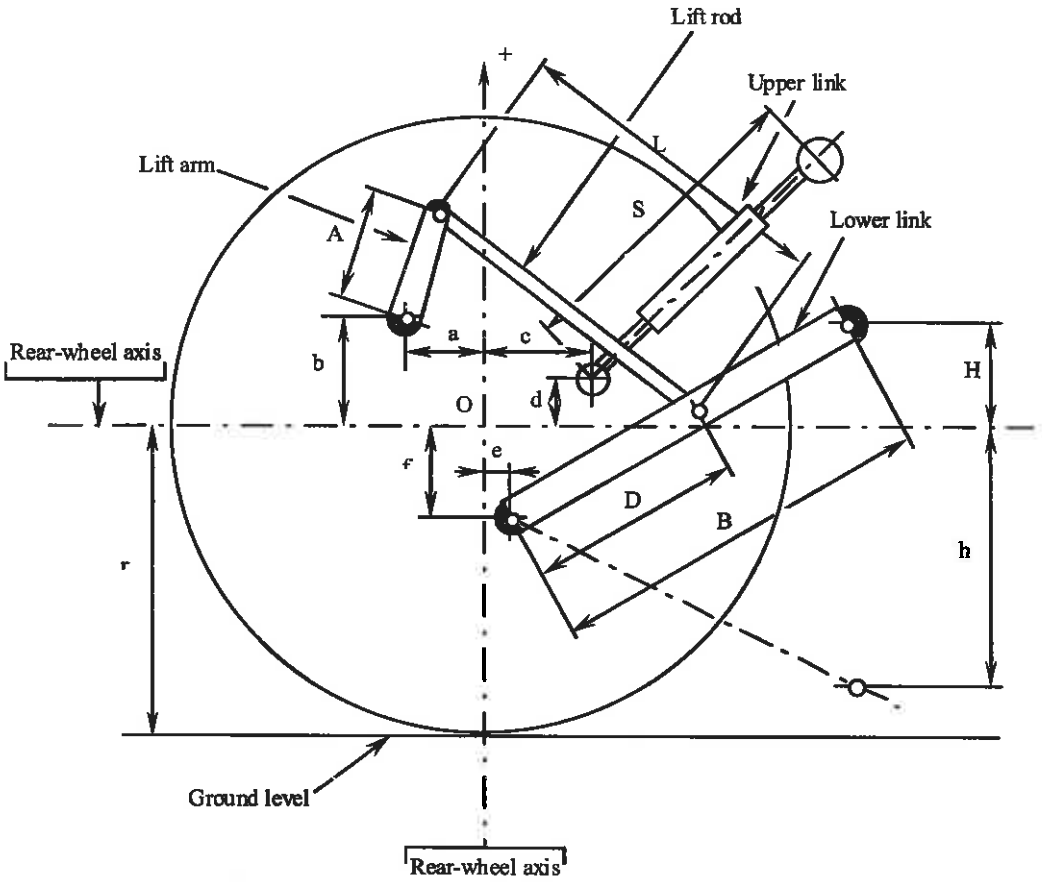
Optional, not fitted on tested tractor

1.5 Hydraulic power lift

C	Make, model and type:	CNH, own drawing, draft and position control and float function; mechanically controlled
C	Type of hydraulic system:	closed centre system
C	Type and number of cylinders:	1 single acting internal + 2 single acting Ø 50 mm external
C	Type of linkage lock for transport:	hydraulic
D	Relief valve pressure setting (tolerance):	21±1 MPa
D	Opening pressure of cylinder safety valve (if fitted):	22±0.5 MPa
D	Lift pump type:	load sensing variable displacement gear pump driven by the engine shaft
D	Transmission between pump and engine:	mechanical
C	Type and number of filters:	2, replaceable canister filters
C	Site of oil reservoir:	in common with transmission and rear axle
C	Type, number and location of tapping points:	2 control valves, double acting, 2 couple of couplers at rear of tractor
D	Maximum volume of oil available to external cylinders:	38 dm^3

1.6 Three point linkage

C	Category:	2nd, in conformity with categories 2 ISO 730-1:1994+Cor.1:1995
C	Category adapter:	3rd



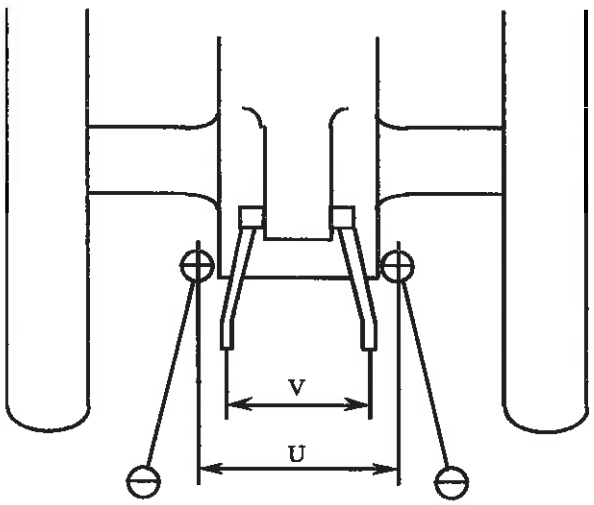


Figure 1. Lift test- Rear linkage geometry

Table 1.1. Dimension of rear linkage geometry when connected to the standard frame

			Dimension or range	Settings used in test	
				OECD	SAE[1]
			mm	mm	
C	Length of lift arms:	(A)	255	255	255
C	Length of lower links:	(B)	950	950	950
	Distance of lift arm pivot point from rear wheel axis:				
C	- horizontally (rearward)	(a)	188	188	188
C	- vertically	(b)	357	357	357
C	Horizontal distance between the 2 lower link points:	(u)	460	460	460
C	Horizontal distance between the 2 lift arm end points:	(v)	550	550	550
C	Length of upper link:	(S)	594→845	708	720
	Distance of upper link pivot point from rear wheel axis:				
C	- horizontally (rearward)	(c)	395-430	430	395
C	- vertically	(d)	200-250	200	250
	Distance of lower link pivot point from rear wheel axis:				
C	- horizontally	(e)	168	168	168
C	- vertically	(f)	235	235	235
C	Distance of lower link pivot points to lift rod pivot points on lower links:	(D)	505-585	505	585
C	Length of lift rods:	(L)	676→860	785	840-687
	Height of lower hitch points (corresponding to travel of the lift without power) relative to the rear wheel axis[2]:				
C	- in low position	(h)	-285→-770	-620	-620/-310
C	- in high position	(H)	222→-123	33	-50/205
C	Height above ground of lower hitch points when locked in transport position		Any height within lift range		

[1] *SAE setting is in accordance with SAE Standard and manufacturer specifications*
SAE setting tests' results are not covered by OECD approval

[2] *Assuming r=820 mm tyre dynamic radius index of 600/65R38 (equivalent to 18.4R38) tyres on rear axle (ISO 4251-1:2005)*

I.7 Swinging drawbar

C	Type:	clevis
	Height above ground	
C	Maximum:	560 mm
C	Minimum:	485 mm
C	Type of adjustment:	overturning the drawbar to position the fork uppermost or underneath
C	Distance of hitch point from rear-wheel axis, horizontally:	805-905-955 mm
	Distance of hitch point from power take-off shaft end:	
C	Vertically:	172-272
C	Horizontally:	250- 350-400 mm
	Lateral adjustment (centre of clevis):	
C	Right hand:	150 mm
C	Left hand:	150 mm
C	Distance of pivot point from rear-wheel axis, horizontally:	243 mm
C	Diameter drawbar pinhole:	29 mm
D	Maximum vertical permissible load:	20.4 kN – 13.3 kN – 11.4 kN on uppermost position depending on longitudinal adjustment 13.1 kN – 12.3 kN – 10.5 kN on underneath position depending on longitudinal adjustment

I.8 Trailer hitch

Optional, not fitted

I.9 Holed drawbar

Optional, not fitted

I.10 Steering

D	Make model and type:	DANFOSS make, OSPC 160 OR model, hydrostatic type with independent circuit
	Method of operation	
D	Pump(s):	BOSCH, hydraulic gear pump
D	Ram(s):	2 steering cylinders, one for each steering stub, acting directly on front axle
D	Working pressure:	17.0±0.5 MPa

1.11 Brakes

1.11.1 Service brake

D	Make model and type:	CNH make, oil bath disc, total 2 discs, 1 per side at rear axle, independently acting on the rear axle, additionally automatic 4WD engagement.
C	Method of operation:	hydraulically actuated with 2 pedals
C	Trailer braking take-off (hydraulic or air brake):	hydraulic brake system and air brake system

1.11.2 Parking brake

C	Type:	4 oil immersed discs acting on bevel pinion shaft
C	Method of operation:	mechanical cable linked by means of hand lever

1.12 Wheels

Number

C	Front:	2, driving and steering
C	Rear:	2, driving
C	Wheelbase:	2652 mm

Track width adjustment:

		Minimum mm	Maximum mm	Adjustment method
D	Front	1325	2285	Changing the position of the rims with respect to the disc
D	Rear	1430	2130	Changing the position of the rims in respect to the disc

1.13 Protective structure

C	Make model and type:	CNH, SLTV 11, cab
C	Manufacture's name and address:	CNH Europe Holding S.A. 13, Rue Aldringen L-1118 Luxemburg

Protective device

C	Cab, frame, rollguard or other:	four posts
C	Tiltable or not tiltable:	not tiltable

OECD Approval

C	Approval number:	4/0 740/2
C	Date of approval:	16th January 2008
C	Nos. of minor modification certificates, if any:	4

.14 Seat

.14.1 Driver's seat

C	Make model and type:	GRAMMER, MSG 93/731, air suspended type
C	Seat and steering wheel reversible:	No
C	Type of suspension:	parallelogram linkage
C	Type of damping:	hydraulic
	Range of adjustment:	
C	Longitudinally:	210 mm
C	Vertically:	60 mm
C	Safety belt:	yes
	Type:	pelvic

.14.2 Optional driver's seat(s)

Make	Model	Type of suspension	Type of damping	Range of adjustment	
				Longitudinal	Vertical
				mm	mm
GRAMMER	MSG 85/731	Mechanical	Hydraulic	210	80
GRAMMER	MSG 44/520	Mechanical	Hydraulic	210	80
GRAMMER	MSG 95G/741[1]	Air	Hydraulic	210	80
GRAMMER	MSG 95GL/741[1]	Air	Hydraulic	210	80
[1] *Included in EC Type Approval and previously named MSG95A/741*					

.14.3 Passenger seat

C	Location:	on the left side of the driver's seat
C	Capacity (number):	1

.15 Lighting

		Height above ground of centre	Size (lxh)	Distance from outside edge of lights to median plane of tractor
		mm	mm	mm
C	Headlights	1355	175x110	195
C	Front direction light	1850	80x90	1880
C	Front lower working light	1355	95x110	290
C	Front middle working light	2350	135x85	1025
C	Front higher working light	2635	135x85	653
C	Rear direction lights	1855	265x55	1115
C	Stop/rear position	1800	265x55	1115
C	Reflectors	800	105x45	645
C	Rear middle working light	2280	135x85	920
C	Rear higher working light	2595	135x85	805

2 TEST CONDITIONS

2.1 Overall dimensions

	Length	Width		Height at top of	
		minimum	maximum	protective structure	exhaust pipe
	mm	mm	mm	mm	mm
Unballasted	4522	2450	2810	2920	2740

2.2 Ground clearance (unballasted tractor): 480 mm

Clearance-limiting part: drawbar clevis in underneath position

2.3 Tractor mass

	Unballasted	
	without driver	with driver
	kg	kg
Front	2000	2020
Rear	3215	3270
Total	5215	5290

2.4 Ballast

Not applicable

2.5 Track specifications

Not applicable

2.6 Tyres and track width specifications

	Front	Rear
Tyres:		
- dimensions (equivalent)	480/65R28 (14.9R28)	600/65R38 (18.4R38)
- ply rate	none	none
- load index	136	153
- type	radial	radial
- maximum load (tyre manufacturer's)	15.7 kN	25.8 kN
- maximum load (tractor manufacturer's)	15.7 kN	25.8 kN
- inflation pressure (tyre manufacturer's)	80 kPa	80 kPa
- dynamic radius index*	640 mm	820 mm
Chosen track width:	1765 mm	1735 mm
** (ISO 4251-1:2005)*		

2.7 **Fuel**

Type: Diesel oil, in conformity with UNI EN 590 July 2004.

Density at 15 °C: 840 kg/m^3

2.8 **Oils and lubricants**

2.8.1 Capacity and change interval

	Capacity	Oil change	Filter change
	dm^3	h	h
Engine	15.0	600	600
Gear box, rear axle, final drive, hydraulic system and steering	62.0	1200 or annually	1200 or annually
Front axle	9.0	1200 or annually	None
Final drive (front)	1.5	1200 or annually	None
Brakes	0.5	Max. level	None

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

	Recommended	Used during test
Engine oil - Type: - Viscosity: - Classification:	15W-40 14.4 cSt at 100 °C (ASTM D 445) API CI-4/CH-4 ACEA E7/E5	As recommended
Transmission oils - Type: - Viscosity: - Classification	SAE 10W-30 10 cSt at 100 °C (ASTM D 445) API GL 4	As recommended
Hydraulic fluid - Type: - Viscosity: - Classification	SAE 10W-30 10 cSt at 100 °C (ASTM D 445) API GL 40	As recommended
Steering oil - Type: - Viscosity: - Classification:	SAE 10W-30 10 cSt at 100 °C (ASTM D 445) API GL 40	As recommended
Grease - Type: - Viscosity: - Classification:	Lithium based Not applicable NLGI 2	As recommended
Brake fluid - Type: - Viscosity: - Classification:	No correspondent 6.5 cSt at 100 °C (ASTM D 445) ISO 7308	As recommended

2.8.3 Grease

Number of lubrication points: 16

3 TEST RESULTS

3.1 Main power take-off

Date and location of tests: 19th October 2007, I.M.A.MO.TER, TORINO, ITALY
Type of dynamometer: parasitic currents, BORGHI&SAVERI FA300-30SP

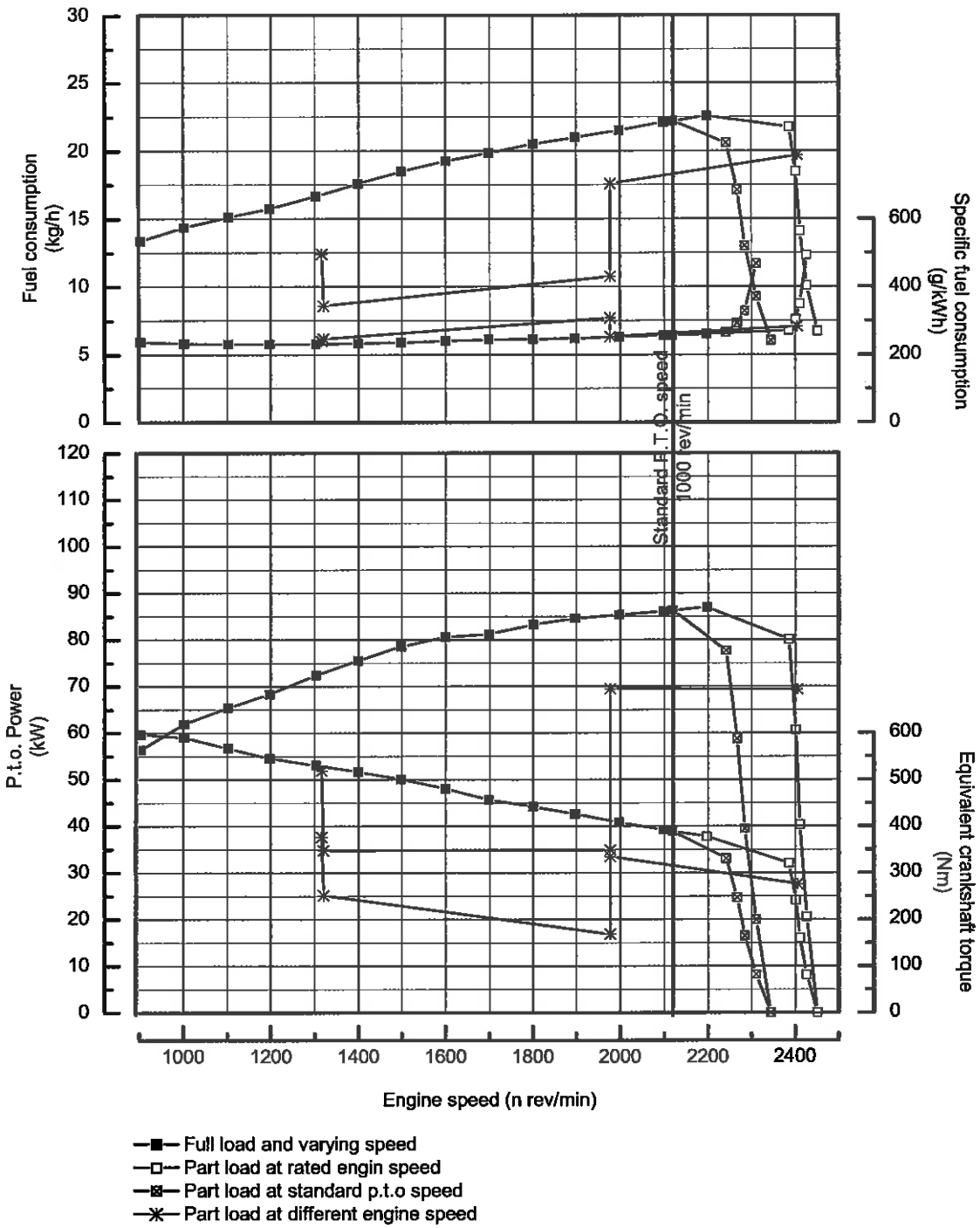
Power	Speed			Fuel consumption			Specific energy
	Engine	P.T.O.	Fan	Hourly		Specific	
kW	min^{-1} (rev/min)			kg/h	l/h	g/kWh	kWh/l
3.1.1 MAXIMUM POWER-ONE-HOUR TEST							
86.9	2197	1037	1620	22.57	26.87	260	3.23
3.1.2 POWER AT RATED ENGINE SPEED							
86.9	2197	1037	1620	22.57	26.87	260	3.23
3.1.3 POWER AT STANDARD PTO SPEED [1000 ± 25 min^{-1}]							
86.3	2119	1000	1500	22.19	26.42	257	3.27
3.1.4 PART LOADS 3.1.4.1 The torque corresponding to maximum power at rated engine speed							
86.9	2197	1037	1620	22.57	26.87	260	3.23
3.1.4.2 85% of torque obtained in 3.1.4.1							
80.1	2386	1126	1980	21.75	25.89	272	3.09
3.1.4.3 75% of torque defined in 3.1.4.2							
60.6	2401	1133	1800	18.46	21.98	304	2.76
3.1.4.4 50% of torque defined in 3.1.4.2							
40.4	2411	1138	1500	14.10	16.79	349	2.41
3.1.4.5 25% of torque defined in 3.1.4.2							
20.5	2426	1145	1320	10.10	12.02	493	1.71
3.1.4.6 Unloaded							
-	2452	1157	1260	6.73	8.01	-	-
3.1.5 PART LOADS AT STANDARD PTO SPEED [1000 ± 25 min^{-1})] 3.1.5.1 the torque corresponding to maximum power							
86.3	2119	1000	1500	22.19	26.42	257	3.27
3.1.5.2 85% of torque obtained in 3.1.5.1							
77.7	2242	1058	1800	20.57	24.49	265	3.17
3.1.5.3 75% of torque defined in 3.1.5.2							
58.7	2267	1070	1800	17.12	20.38	292	2.88
3.1.5.4 50% of torque defined in 3.1.5.2							
39.5	2284	1078	1440	13.01	15.49	329	2.55
3.1.5.5 25% of torque defined in 3.1.5.2							
19.9	2310	1090	1320	9.27	11.04	467	1.80
3.1.5.6 Unloaded							
-	2344	1106	1260	6.03	7.18	-	-

Power	Speed			Fuel consumption			Specific energy
	Engine	P.T.O.	Fan	Hourly		Specific	
kW	min^{-1} (rev/min)			kg/h	l/h	g/kWh	kWh/l
3.1.6 PART LOADS AT DIFFERENT ENGINE SPEEDS 3.1.6.1 Maximum power at rated engine speed							
86.9	2197	1037	1620	22.57	26.87	260	3.23
3.1.6.2 80% of power obtained in 3.1.6.1 at max speed setting							
69.2	2399	1132	2040	19.67	23.42	284	2.96
3.1.6.3 80% of power obtained in 3.1.6.1 with governor control set to 90% of rated engine speed							
69.5	1977	933	1500	17.57	20.92	253	3.32
3.1.6.4 40% of power obtained in 3.1.6.1 with governor control set to 90% of rated engine speed							
34.9	1977	933	1200	10.75	12.80	308	2.73
3.1.6.5 60% of power obtained in 3.1.6.1 with governor control set to 60% of rated engine speed							
51.9	1316	621	1200	12.40	14.76	239	3.52
3.1.6.6 40% of power obtained in 3.1.6.1 with governor control set to 60% of rated engine speed							
34.8	1320	623	780	8.58	10.21	247	3.40

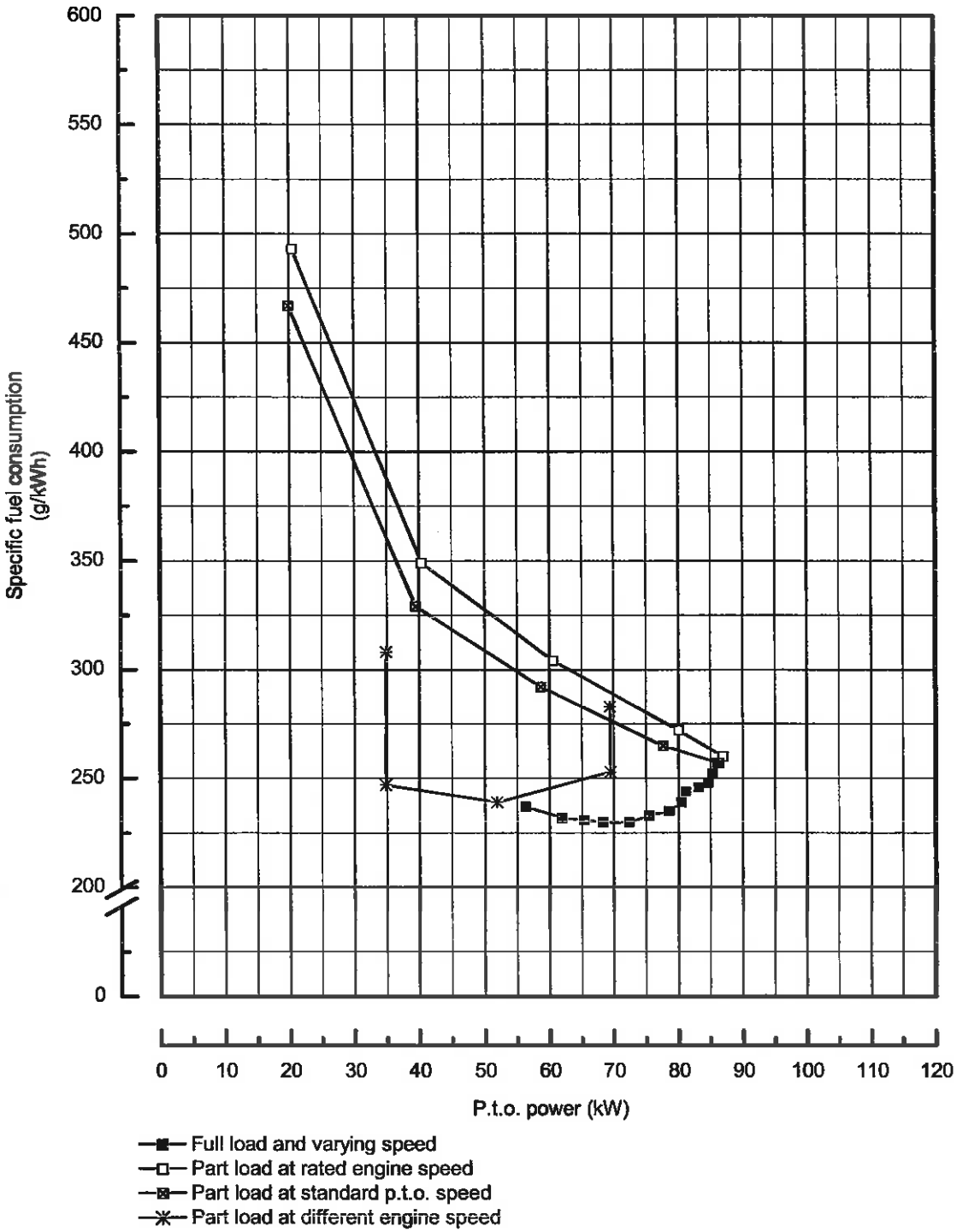
- No load maximum engine speed: 2452 min^{-1} (rev/min)
- Torque (equivalent crankshaft) at maximum power
  - At rated engine speed 377.5 Nm
  - At 1-hour test 377.5 Nm
- Maximum torque (equivalent crankshaft): 596.0 Nm at 903 min^{-1} (rev/min)

Mean atmospheric conditions:	
Temperature	19.5 °C
Pressure	99.0 kPa
Relative humidity	41 %
Maximum temperatures:	
Coolant	87.0 °C
Engine oil	110.0 °C
Fuel	46.9°C
Engine air intake	25.9 °C

Graph 1. Power take-off test



raph 2. Power take-off test



3.2 Hydraulic power and lifting force

Date of tests: 30th October 2007

3.2.1 Hydraulic Power Test

3.2.1.1 Hydraulic fluid data

Hydraulic fluid data:
Viscosity index (ASTM D 2270): 147
Viscosity at 65°C (ASTM D 341): 25 mm^2/s

3.2.1.2 Compulsory reporting

	Pressure[1]	Reservoir oil Temperature °C (65°C target)		Engine speed	Flow rate	Power
	MPa	Min.	Max.	min^{-1}	l/min	kW
Rated Engine Speed				2200		
3.2.1.2.1.A Pump delivery rate at minimum pressure through one coupler		60	70	2450	101.5	
3.2.1.2.1.B Pump delivery rate at minimum pressure through two couplers		60	70	2450	110.0	
3.2.1.2.2 Maximum (sustained) pressure with relief valve open as measured at the coupler Pump stalled: Yes	21.0	60	70	2430		
3.2.1.2.3 A Flow rate corresponding to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting and corresponding hydraulic power measured at one coupler	19.0	60	70	2430	73.3	23.2
3.2.1.2.3 B Flow rate corresponding to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting and corresponding hydraulic power measured at two coupler	19.0	60	70	2430	85.0	26.9
3.2.1.2.4 Maximum available hydraulic power with flow through a single coupler pair, and corresponding flow and available coupler outlet pressure	17.0	60	70	2430	98.7	28.0
3.2.1.2.5 Maximum available hydraulic power with coupler pairs operating simultaneously (flow through two couplers), and corresponding flow and available coupler outlet pressure	18.0	60	70	2430	103.0	30.9

[1] *Pressure as measured at the outlet coupler (pressure near coupler where oil is exiting from tractor)*

3.2.1.3 Supplementary reporting:

	Pressure[2]	Reservoir oil Temperature °C		Engine speed	Flow rate	Power
	MPa	min.	max.	min^{-1}	l/min	kW
3.2.1.3.1 Pump delivery rate at minimum pressure from one couple pair		60	70	2200	99.6	
3.2.1.3.2 Maximum available flow and maximum useable (*continuous*) power from one coupler	16.6	60	70	2200	92.1	25.4
3.2.1.3.3 Maximum available flow and maximum useable (*continuous*) power from two coupler pairs operating simultaneously	16.8	60	70	2200	92.5	25.9
3.2.1.3.4 Maximum differential pressure Category 1 Tractor						
3.2.1.3.5 Maximum differential pressure Category 2 or 3 Tractor	19.5	60	70	2200	50	
3.2.1.3.6 Peak Pressure						
3.2.1.3.7 Maximum sump return pressure with coupler	1.7	60	70	2200		
3.2.1.3.8 Maximum return pressure without coupler						

[2] *Differential pressure (pressure near coupler where oil is exiting from tractor – pressure near coupler where oil is re-entering the tractor)*

3.2.2 Compulsory Power lift test

Linkage settings for test - see Table 1.1 and Figure 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 - With lifting force - Without lifting force	 575 mm 653 mm	 600 mm 749 mm
Maximum corrected force exerted through full range	34.3 kN	30.3 kN
Corresponding pressure of hydraulic fluid	19.0 MPa	19.0 MPa
Moment about rear-wheel axis	38.3 kNm	52.4 kNm
Maximum tilt angle of mast from the vertical[1]	none	6.9 degrees
[1] *Upper link adjustment to the length necessary to bring the mast of the frame vertical when the lower links are horizontal does not cause the mast to turn through a minimum of 10° from the vertical to the angle at which the frame is in the uppermost position*		

Lifting heights relative to the horizontal plane including the lower link pivot points									
mm	-441	-385	-235	-135	0	65	110	159	190
Lifting forces (the values of force measured shall be corrected to correspond to a hydraulic pressure equivalent to a 90% of the actual relief valve pressure setting of the hydraulic lift system):									
at the hitch points kN	-	46.8	45.3	45.0	44.3	44.0	42.8	-	34.3
Corresponding pressure: 19.0 MPa									
at the frame kN	39.6	-	36.5	35.4	32.8	31.8	31.1	30.3	-
Corresponding pressure: 19.0 MPa									

.3 Compulsory drawbar power and fuel consumption test (unballasted tractor)

Date of tests: 15th and 16th November 2007
Type of track: asphalt

Height of drawbar above ground	Tyre inflation pressure	
	Front	Rear
570 mm	80 kPa	80 kPa

Speed No.[1]	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	min^{-1}	min^{-1}	%	g/kWh	kWh/l	°C	°C	°C	°C	%	kPa
.3.1 MAXIMUM POWER IN TESTED GEARS/SPEED SETTINGS														
1A	30.0	50.06	2.16	2415	1783	15.15	489	1.72	2.6	87.5	101.1	6.1	38.7	97.9
2A	36.3	49.36	2.65	2413	1505	15.02	424	1.98	3.1	87.3	101.7	7.4	36.3	97.9
3A	43.6	48.89	3.21	2408	1693	15.43	420	2.00	3.2	87.4	102.7	8.8	33.9	97.9
4A	54.4	46.12	4.25	2404	1783	8.72	365	2.30	3.7	87.3	103.6	7.3	35.6	97.9
5B	66.4	44.85	5.33	2338	1766	7.65	331	2.54	5.4	87.6	103.7	7.6	33.3	97.9
6B	78.1	44.00	6.39	2215	1760	4.82	289	2.91	10.9	87.7	103.5	7.2	33.8	97.9
7B	75.5	33.98	8.00	2195	1710	2.99	298	2.81	10.3	86.3	103.1	7.6	34.2	97.9
9C	78.5	31.54	8.96	2210	1630	2.72	287	2.93	10.5	86.4	102.3	10.2	30.7	97.9
8B	75.8	27.80	9.82	2190	1690	2.41	297	2.83	13.4	87.3	102.3	9.8	32.6	97.9
10C	77.9	25.49	11.00	2195	1625	2.13	290	2.90	13.8	86.5	102.2	9.6	31.3	97.9
11C	74.1	19.82	13.46	2193	1763	1.52	304	2.76	14.1	86.7	102.3	9.3	31.0	97.9
12C	73.0	15.76	16.67	2209	1632	1.19	309	2.72	14.4	86.6	103.1	9.2	31.6	97.9

As displayed on dashboard

Speed No.[1]	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	min^{-1}	min^{-1}	%	g/kWh	kWh/l	°C	°C	°C	°C	%	kPa
3.3.2 FUEL CONSUMPTION														
3.3.2.1 In selected gear/speed setting nearest 7.5 km/h, at maximum power at rated engine speed														
7B	74.5	33.53	8.00	2202	1742	2.36	303	2.78	10.9	86.3	102.7	7.6	34.8	97.9
3.3.2.1.1 75% of pull corresponding to maximum power at rated engine speed														
7B	61.3	25.20	8.75	2391	1694	1.63	341	2.47	16.2	86.7	100.7	10.5	24.6	97.9
3.3.2.1.2 50% of pull corresponding to maximum power at rated engine speed														
7B	41.2	16.77	8.85	2405	1405	0.93	410	2.05	18.5	87.7	100.9	9.8	23.2	97.9
3.3.2.1.3 Highest gear/speed setting at reduced engine speed able to achieve both 3.3.2.1.1 and 3.3.2.1.2; same pull and travelling speed as in 3.3.2.1.1														
9C	61.0	25.11	8.75	2158	1202	1.64	308	2.73	19.6	86.7	98.3	10.6	23.4	97.9
3.3.2.1.4 Same gear/speed selection as 3.3.2.1.3 at reduced speed; same pull and travelling speed as in 3.3.2.1.2														
9C	41.1	16.70	8.85	2161	1137	0.85	349	2.41	19.8	86.8	99.5	9.8	28.2	97.9
3.3.2.2 In selected gear/speed setting nearest between 7 and 10 km/h at rated engine speed														
8B	73.6	26.98	9.82	2196	1780	1.84	307	2.74	10.3	86.7	102.7	10.4	32.5	97.9
3.3.2.2.1 75% of pull corresponding to maximum power at rated engine speed														
8B	61.8	20.42	10.89	2390	1719	1.18	341	2.46	21.7	87.5	101.3	9.8	31.7	97.9
3.3.2.2.2 50% of pull corresponding to maximum power at rated engine speed														
8B	41.5	13.59	11.00	2404	1516	0.57	411	2.04	22.3	87.8	101.5	9.1	31.3	97.9
3.3.2.2.3 Highest gear/speed setting at reduced engine speed able to achieve both 3.3.2.2.1 and 3.3.2.2.2; same pull and travelling speed as in 3.3.2.2.1														
10C	61.1	20.40	10.78	2152	1256	1.17	310	2.71	22.5	87.1	96.9	8.9	32.1	97.9
3.3.2.2.4 Same gear/speed setting as 3.3.2.2.3 at reduced speed; same pull and travelling speed as in 3.3.2.2.2														
10C	41.4	13.54	11.00	2167	1129	0.60	358	2.35	22.4	86.6	97.9	8.3	31.8	97.9

[1] *As displayed on dashboard*

4 REPAIRS

None

5 REMARKS

Tests results of this report have been obtained from tests carried out on a prototype identical to the tractor CASE IH MAXXUM 125X in all practical aspects relating to the tests.

It has been checked that the series production conforms to the tested tractor.

ANNEX

Other tests results not covered by OECD approval

.1 Test in accordance with SAE J 283, Nov. 1999: Test procedure for measuring hydraulic lift capacity on agricultural tractors equipped with three-point hitch

.1.1 Test conditions

Tests have been performed in accordance with Section 4 of SAE J283: Static lift force test. Setting of the three-point hitch is specified in *"SAE"* column the table 1.1 and more details on linkage geometry are in figure 1.1 and 1.2.

Lifting heights relative to the horizontal plane including the lower link pivot points											
Lift rods length 840 mm	-385	335	-235	-135	-75	0	75	133	-	-	-
Lift rods length 687 mm	-	-	-	-	-75	0	75		175	275	390
Lifting forces corrected to correspond to a hydraulic pressure equivalent to a 90% of the minimum relief valve setting of the hydraulic lift system											
kN	61.8	58.1	53.1	49.4	47.0	44.2	41.5	34.4	-	-	-
kN	-	-	-	-	56.0	53.6	51.1	-	47.6	43.1	34.3
Corresponding pressure: 21.0 MPa											

his report has been approved by the O.E.C.D. Co-ordinating Centre (CEMAGREF, France) as being in ccordance with the O.E.C.D. Standard Code for the official testing of agricultural and forestry tractor erformance.

The Head of the Section

E. CAVALLO

The Director

G.L. ZAROTTI

orino, 24th March 2009