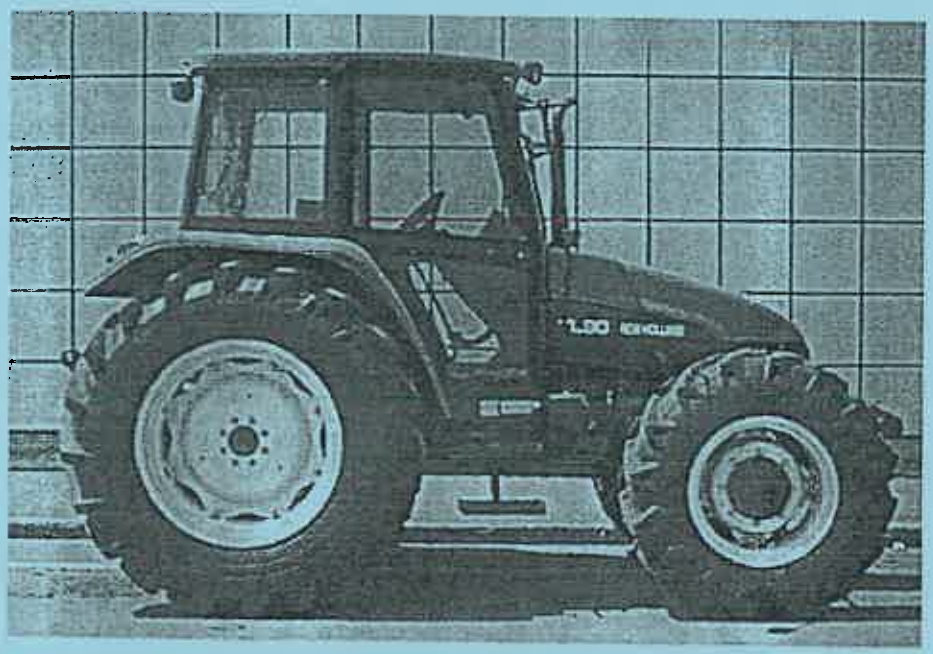
Consiglio Nazionale delle Ricerche
ISTITUTO PER LA MECCANIZZAZIONE AGRICOLA
Strada delle Cacce, 73 - 10135 TORINO (Italy)

OECD Approval No.: 1/1 915
Date of Approval: 4th September 2000

Report No. 2648/T/2000

TEST IN ACCORDANCE WITH THE OECD CODE 1 FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS

Make:	**New Holland**
Trade Name:	**TL 90**
Type:	**4 WD, 30 km/h, 24+12 speeds with Hi-Lo transmission**
Manufacturer denomination:	L3C7AE



Manufactured by: NEW HOLLAND ITALIA S.p.A.
Viale delle Nazioni, 55
41100 MODENA (Italy)

Date and location of the tests: 1999 TORINO (Italy)

This report has been approved by the O.E.C.D. Co-ordinating Centre (CEMAGREF, France) as being in accordance with the O.E.C.D. Tractor Test Code.

PRELIMINARY REMARKS

This report is based on engineering tests in accordance with O.E.C.D. Code 1.
It does not contain an evaluation of performance of the tractor on practical farm work.

The NEW HOLLAND tractor L3X7XX type are manufactured in following variants:

- For the transmission

1. With 12 x 12 Mechanical Transmission (30 km/h version) – (4 x 3 gear units and one reverse group);
2. With 12 x 12 Mechanical Transmission (40 km/h version) – (4 x 3 gear units and one reverse group);
3. With 20 x 12 Mechanical Transmission (30 km/h version) – (4 x 3 gear units and one reverse group plus 4 x 2 gear units responsible of the 8 forward creeper gears); when the reverse group is engaged the 8 creeper gears are automatically forbidden reducing to 12 the number of reverse speeds;
4. With 20 x 12 Mechanical Transmission (40 km/h version) – (4 x 3 gear units and one reverse group plus 4 x 2 gear units responsible of the 8 forward creeper gears) when the reverse group is engaged the 8 creeper gears are automatically forbidden reducing to 12 the number of reverse speeds;
5. With 24 x 12 HI-LO Transmission (30 km/h version) – (4 x 3 gear units plus one reverse group) when the reverse group is engaged the 8 creeper gear are automatically forbidden reducing to 12 the number of reverse speeds;
6. With 24 x 12 HI-LO Transmission (40 km/h version) – (4 x 3 gear units plus one reverse group) when the reverse group is engaged the position HI is automatically forbidden reducing to 12 the number of reverse speeds;
7. With 24 x 24 POWER SHUTTLE Transmission (30 km/h version) – (4 x 3 gear units, HI-LO reduction group, plus one reverse group);
8. With 24 x 24 POWER SHUTTLE Transmission (40 km/h version) – (4 x 3 gear units, HI-LO reduction group, plus one reverse group);

- For the protective structure fitted on the tractor

1. cab
2. 2 post rear non folding roll bar
3. 2 post rear folding roll bar
4. 2 post rear fixed roll bar

Tests have been carried out on tractor with 24 forward and 12 reverse speed, 30 km/h, with HI-LO reduction group and fitted with cab.

In this report all performance characteristics are given corresponding to the International System of Units.

MANUFACTURE TRACTOR'S DENOMINATION

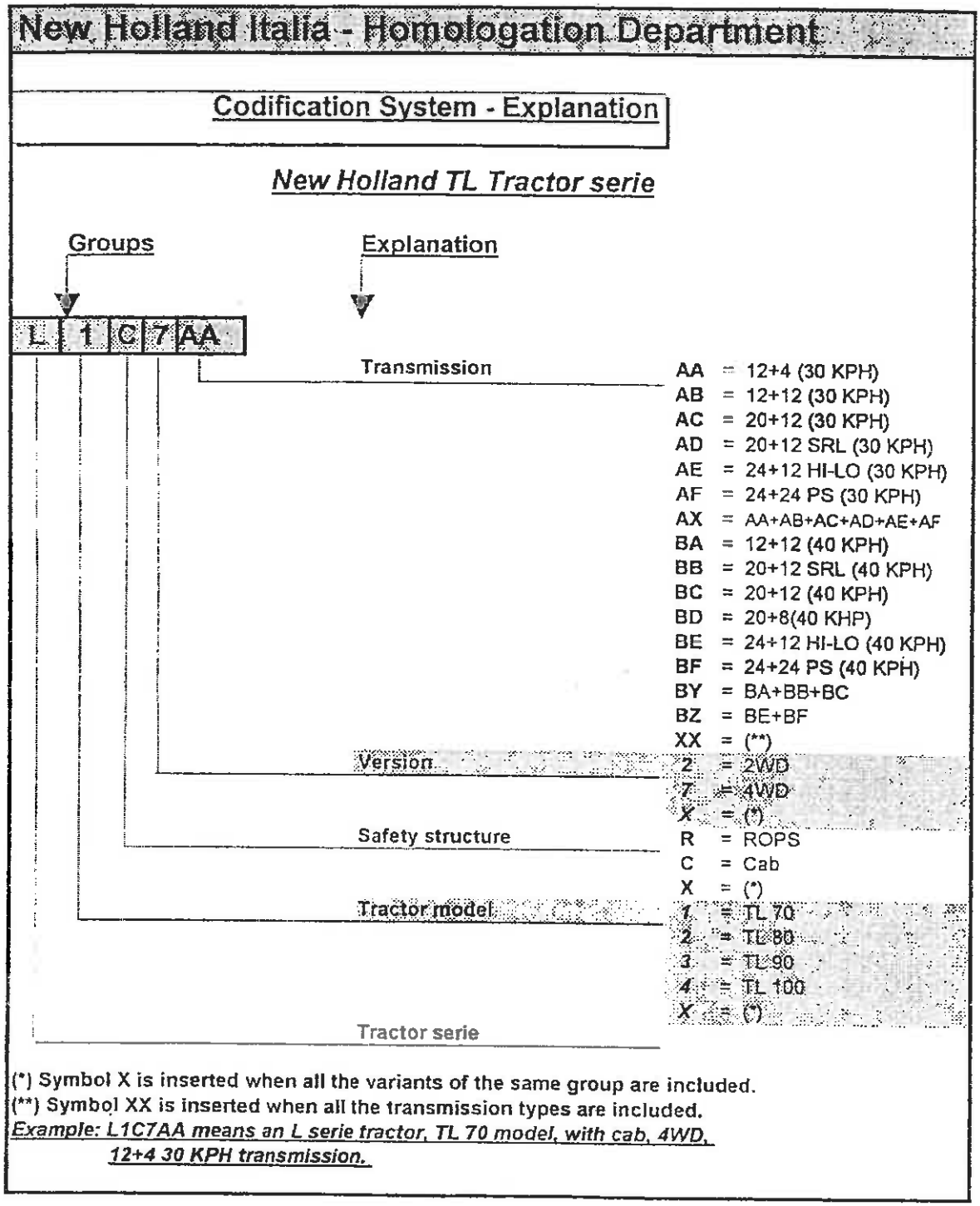


TABLE OF CONTENTS

0	FOREWORDS	5
1	SPECIFICATIONS OF TRACTOR	5
2	TEST CONDITIONS	24
3	COMPULSORY TESTS	27
3.1	MAIN POWER TAKE-OFF	27
3.2	HYDRAULIC POWER AND LIFTING FORCE	31
3.3	DRAWBAR POWER TEST (ballasted and unballasted tractor)	32
3.4	TURNING AREA AND TURNING CIRCLE	33
3.5	LOCATION OF CENTRE OF GRAVITY	33
3.6	BRAKING	34
3.7	MEASUREMENT OF EXTERNAL NOISE LEVEL	34
4	OPTIONAL TESTS RESULTS	35
5	REPAIRS	35
6	REMARKS	35
7	ANNEX	35

0 FOREWORDS

Tractor manufacturer's name and address	NEW HOLLAND ITALIA S.p.A. Viale delle Nazioni, 55 41100 MODENA (Italy)
Location of tractor assembly	Jesi (AN) - ITALY
Submitted for test by:	The Manufacturer
Selected for test by:	Manufacturer with the agreement of IMA
Place of running-in:	MODENA (MO) - ITALY
Duration of running-in:	Appr. 50 hours
Location of tests :	IMA - Torino - Italy

1 SPECIFICATIONS OF TRACTOR

1.1 IDENTIFICATION

Make:	NEW HOLLAND
Trade name:	TL 90
Type:	4 WD, 30 km/h, 24 forward+12 reverse speeds, with Hi-Lo transmission
Manufacturer denomination	L3C7AE
Serial N°:	001170164
1st serial N°:	001131844 (production NEW HOLLAND ITALIA) 083963B (production NEW HOLLAND UK)

1.2 ENGINE

Make:	NEW HOLLAND ITALIA S.p.A.
Model:	IVECO 8045.25
Type:	direct injection, compression ignition, 4 cycles
Serial N°:	503-542221

1.2.1 Cylinders

Number and disposition:	4, vertical, in line
Bore x stroke:	104 x 115 mm
Capacity:	3908 cm^3
Compression ratio:	16.5:1
Arrangement of valves:	overhead
Cylinder liners:	dry

1.2.2 Supercharging

Supercharger	none

1.2.3 Fuel system

Fuel feed system:	AC CORONA fuel feed pump
Make, model and type of fuel filter(s):	N° 1 NEW HOLLAND ITALIA S.p.A. make, with replaceable cartridge and n°1 mesh filter inside the fuel feed pump
Capacity of fuel tank:	115 dm^3, placed under the tractor platform, on the left side. As option one fuel tank, capacity 127 dm^3 placed under the tractor platform, on the left side.
Make/Model/Type of injection pump:	BOSCH make, L793-1 type, rotary injection pump As option BOSCH make, VE4/11F type, or BOSCH make, VE4/11F1250LV13601 type or BOSCH make, L775 type rotary injection pump
Serial N°:	0-460-414-181

Manufacturer's production setting of injection pump:	
-flow rate:	60.37 mm^3/stroke at rated speed and full load corresponding 18.11 dm^3/h
-timing:	7.0°±0.5° before TDC
Make/Model/Type of injectors:	BOSCH make, DLLA 137S type, multihole injection nozzles. As option: injectors STANADYNE make, SDLLA 137S type; are used with BOSCH make, VE4/11F type fuel pump. Injectors BOSCH make, DLLA 132S type are used with BOSCH make, VE4/11F1250LV13601 or L775 type fuel pump
Injection pressure:	24±1 MPa for BOSCH DLLA 137S and STANADYNE SDLLA 137S multihole injection nozzles and 26±1 MPa for BOSCH DLLA 132S multihole injection nozzles
Make/Model/Type of carburettor:	none

1.2.4 Governor

Make, model and type	BOSCH make, centrifugal variable speed governor, mechanical type, incorporated in the fuel pump
Governed range of engine speed:	710-2733 rev/min
Rated engine speed:	2500 rev/min

1.2.5 Air cleaner

Pre-cleaner	none
Main filter	
- Make:	NEW HOLLAND ITALIA S.p.A.
- Model:	own drawn 5157064
- Type:	dry air filter, with double cartridge
Location of air intake:	on front of the radiator under the bonnet cowling
Maintenance indicator:	with the warning lamp on the dashboard

1.2.6 Lubrication system

Type of feed pump:	forced feed by means of gear pump. Engine oil cooling is provided by a heat exchanger using engine coolant
Type of filter(s):	replaceable cartridge type, installed on the pressure line of the engine and wire mesh type, installed on the pump suction line.
Number of filters:	2

1.2.7 Cooling System

Type of coolant:	water
Type of pump:	centrifugal blade pump
Specification of fan:	propeller fan driven by engine shaft
Number of fan blades:	4
Fan diameter:	450 mm
Coolant capacity:	16 l
Type of temperature control:	a temperature gauge, with display on the dashboard, alerts the operator to potential problems
Superpressure system:	71 kPa

1.2.8 Starting system

Make, model and type:	BOSCH make, 4807375 type, electromagnetic engagement. As option MARELLI make, 4755109 type, electromagnetic engagement.
Type:	electromagnetic engagement
Starter motor power rating:	3,5 kW
Cold starting aid:	LUCAS make, thermostart type
Safety device:	clutch engagement

1.2.9 Electrical system

Voltage:	12 V, negative earth
Generator	
- Make:	MARELLI
- Model:	Alternator
- Type:	AA 125R
- Power:	1 kW
Battery:	1, lead acid type
Rating:	100 Ah at 20 h

1.2.10 Exhaust system

Make, model and type	NEW HOLLAND ITALIA S.p.A. made, 5182593, interference type with internal perforated pipe
Location:	on the left hand side of engine, under the bonnet cowling, with the vertical exhaust pipe above the bonnet cowling
Height of outlet above ground:	2570 mm

1.3 TRANSMISSION

1.3.1 Clutch

Make:	LUK
Model:	none
Type:	dry single plate for travel and wet multiple plate for pto
Number of plates:	1 for clutch used for travelling and 5 for clutch used for pto engagement
Diameter of plates:	305 mm for travelling and 127 mm for p.t.o.
Method of operation:	mechanically operated by pedal, and hydraulically operated by button, for PTO engagement
As option	
Make:	LUK
Model:	own drawing
Type:	dry double plate
Number of plates:	1 for used for travelling and 1 used for pto engagement
Diameter of plates:	305 mm
Method of operation:	mechanically operated by pedal

1.3.2 Gearbox

Make: NEW HOLLAND ITALIA S.p.A.
Model: own drawing
Type: mechanical, synchronized constant mesh gears, direct engagement by hand levers, with HI-LO reduction group; when the reverse group is engaged the position HI is automatically excluded.

	Forward	Reverse
Number of gears	4	4
Number of ranges	3 (slow, medium and fast)	3 (slow medium and fast)
Number of groups	2 (HI-LO)	none
Total of arrangements	24	12

Available options

	Forward	Reverse
Number of gears	4	4
Number of ranges	3 (slow, medium and fast)	3 (slow, medium and fast)
Number of groups	none	none
Total of arrangements	12	12

1st option[1]	Forward	Reverse
Number of gears	4	4
Number of ranges	5 (slow, medium low, medium, medium fast and fast)	3 (slow, medium and fast)
Number of groups	none	none
Total of arrangements	20	12

2nd option[1]	Forward	Reverse
Number of gears	4	4
Number of ranges	5 (slow, medium low, medium, medium fast and fast)	3 (slow, medium and fast)
Number of groups	none	none
Total of arrangements	20	12

	Forward	Reverse
Number of gears	4	4
Number of ranges	3 (slow, medium and fast)	3 (slow, medium and fast)
Number of groups	2 (Power shuttle)	2 (Power shuttle)
Total of arrangements	24	24

1.3.3 Rear axle and final drives

Make: NEW HOLLAND ITALIA S.p.A.
Model: own drawing
Type: bevel gear differential and epyciclic final drivers
Rear differential lock
- Make: NEW HOLLAND ITALIA S.p.A.
- Model: own drawing
- Type: electrohydraulic engagement
- Method of engagement/ disengagement: button placed on the dashboard

1.3.4 Front axle and final drives

Make: NEW HOLLAND ITALIA S.p.A.
Model: own drawing
Type: centrally pivoted
Front differential lock

[1] 1st and 2nd options differs for travelling speed, see at point 1.3.5 for more information.

- Make:	NEW HOLLAND ITALIA S.p.A.
- Model:	own drawing
- Type:	electrohydraulic engagement
- Method of engagement/ disengagement:	button placed on the dashboard

1.3.5 Total ratios and travelling speeds[2]

NEW HOLLAND TL 90 with 24 forward speeds and 12 reverse speeds, HI-LO transmission (fitted on tested tractor)

Gear no.	Group and range	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2500 rev/min (km/h)
FORWARD			
1	Slow LO	444.533	1.579
1	Slow HI	390.322	1.798
2	Slow LO	305.854	2.295
2	Slow HI	268.555	2.613
3	Slow LO	212.164	3.308
1	Medium LO	190.326	3.687
3	Slow HI	186.290	3.767
1	Medium HI	167.116	4.199
4	Slow LO	148.107	4.738
2	Medium LO	130.951	5.359
4	Slow HI	130.045	5.397
2	Medium HI	114.981	6.104
3	Medium LO	90.838	7.726
1	Fast LO	80.843	8.681
3	Medium HI	79.760	8.799
1	Fast HI	70.984	9.887
4	Medium LO	63.412	11.067
4	Medium HI	55.678	12.604
2	Fast LO	55.623	12.617
2	Fast HI	48.840	14.369
3	Fast LO	38.584	18.189
3	Fast HI	33.879	20.715
4	Fast LO	26.935	26.055
4	Fast HI	23.650	29.674

Gear no.	Group and range	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2500 rev/min (km/h)
REVERSE			
1	Slow LO	396.994	1.768
2	Slow LO	273.146	2.569
3	Slow LO	189.474	3.704
1	Medium LO	169.972	4.129
4	Slow LO	132.268	5.306
2	Medium LO	116.947	6.001
3	Medium LO	81.123	8.651
1	Fast LO	72.198	9.720
4	Medium LO	56.630	12.393
2	Fast LO	49.674	14.128
3	Fast LO	34.458	20.367
4	Fast LO	24.054	29.176

Number of revolutions of front wheels for one revolution of rear wheels: 1.242

[2] Calculated with rear tyres 480/70 R 34 with dynamic radius index 745 mm (ISO 4251/1-1992)

NEW HOLLAND TL 90 with 12 forward speeds, and 12 reverse speeds[3]

Gear no.	Group and range	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2500 rev/min (km/h)
FORWARD			
1	Slow	390.322	1.798
2	Slow	268.555	2.613
3	Slow	186.290	3.767
1	Medium	167.116	4.199
4	Slow	130.045	5.397
2	Medium	114.981	6.104
3	Medium	79.760	8.799
1	Fast	70.984	9.887
4	Medium	55.878	12.559
2	Fast	48.840	14.369
3	Fast	33.879	20.715
4	Fast	23.650	29.674

Gear no.	Group and range	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2500 rev/min (km/h)
REVERSE			
1	Slow	398.223	1.762
2	Slow	273.991	2.561
3	Slow	190.061	3.692
1	Medium	170.499	4.116
4	Slow	132.677	5.289
2	Medium	117.309	5.982
3	Medium	81.374	8.624
1	Fast	72.421	9.690
4	Medium	56.806	12.354
2	Fast	49.828	14.084
3	Fast	34.565	20.303
4	Fast	24.129	29.085

Number of revolutions of front wheels for one revolution of rear wheels: 1.242

[3] Calculated with rear tyres 18.4-34 with dynamic radius index 770 mm (ISO 4251/1-1992)

NEW HOLLAND TL 90 with 20 forward speeds, and 12 reverse speeds, 1st option

Gear no.	Group and range	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2500 rev/min (km/h)
FORWARD			
1	Slow	2838.980	0.247
2	Slow	1953.320	0.359
3	Slow	1354.970	0.518
1	Medium Slow	1215.500	0.577
4	Slow	945.872	0.742
2	Medium Slow	836.309	0.839
3	Medium Slow	580.127	1.210
4	Medium Slow	404.973	1.733
1	Medium	390.322	1.798
2	Medium	268.555	2.613
3	Medium	186.290	3.767
1	Medium Fast	167.116	4.199
4	Medium	130.045	5.397
2	Medium Fast	114.981	6.104
3	Medium Fast	79.760	8.799
1	Fast	70.984	9.887
4	Medium Fast	55.678	12.604
2	Fast	48.840	14.369
3	Fast	33.879	20.715
4	Fast	23.650	29.674

Gear no.	Group and range	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2500 rev/min (km/h)
REVERSE			
1	Slow	416.001	1.687
2	Slow	286.223	2.452
3	Slow	198.546	3.535
1	Medium	178.110	3.940
4	Slow	138.600	5.063
2	Medium	122.546	5.727
3	Medium	85.007	8.256
1	Fast	75.654	9.276
4	Medium	59.342	11.826
2	Fast	52.053	13.482
3	Fast	36.108	19.436
4	Fast	25.206	27.842

Number of revolutions of front wheels for one revolution of rear wheels: 1.242

NEW HOLLAND TL 90 with 20 forward speeds, and 12 reverse speeds, 2nd option

Gear no.	Group and range	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2500 rev/min (km/h)
		FORWARD	
1	Slow	2155.940	0.326
2	Slow	1483.360	0.473
3	Slow	1028.970	0.682
1	Medium Slow	923.064	0.760
4	Slow	718.303	0.977
2	Medium Slow	635.099	1.105
3	Medium Slow	440.553	1.593
1	Medium	390.322	1.798
4	Medium Slow	307.540	2.282
2	Medium	268.555	2.613
3	Medium	186.290	3.767
1	Medium Fast	167.116	4.199
4	Medium	130.045	5.397
2	Medium Fast	114.981	6.104
3	Medium Fast	79.760	8.799
1	Fast	70.984	9.887
4	Medium Fast	55.678	12.604
2	Fast	48.840	14.369
3	Fast	33.879	20.715
4	Fast	23.650	29.674

Gear no.	Group and range	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2500 rev/min (km/h)
		REVERSE	
1	Slow	410.865	1.708
2	Slow	282.689	2.483
3	Slow	196.095	3.579
1	Medium	175.911	3.989
4	Slow	136.889	5.127
2	Medium	121.033	5.798
3	Medium	83.958	8.359
1	Fast	74.720	9.392
4	Medium	58.609	11.974
2	Fast	51.410	13.651
3	Fast	35.662	19.679
4	Fast	24.895	28.190

Number of revolutions of front wheels for one revolution of rear wheels: 1.242

NEW HOLLAND TL 90 with 24 forward speeds, and 24 reverse speeds, power shuttle transmission

Gear no.	Group and range	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2500 rev/min (km/h)
		FORWARD	
1	Slow LO	444.533	1.579
1	Slow HI	390.322	1.798
2	Slow LO	305.854	2.295
2	Slow HI	268.555	2.613
3	Slow LO	212.164	3.308
1	Medium LO	190.326	3.687
3	Slow HI	186.290	3.767
1	Medium HI	167.116	4.199
4	Slow LO	148.107	4.738
2	Medium LO	130.951	5.359
4	Slow HI	130.045	5.397
2	Medium HI	114.981	6.104
3	Medium LO	90.838	7.726
1	Fast LO	80.843	8.681
3	Medium HI	79.760	8.799
1	Fast HI	70.984	9.887
4	Medium LO	63.412	11.067
4	Medium HI	55.878	12.559
2	Fast LO	55.623	12.617
2	Fast HI	48.840	14.369
3	Fast LO	38.584	18.189
3	Fast HI	33.879	20.715
4	Fast LO	26.935	26.055
4	Fast HI	23.650	29.674

Gear no.	Group and range	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2500 rev/min (km/h)
		REVERSE	
1	Slow LO	452.132	1.552
1	Slow HI	396.994	1.768
2	Slow LO	311.082	2.256
2	Slow HI	273.146	2.569
3	Slow LO	215.790	3.252
1	Medium LO	193.580	3.625
3	Slow HI	189.474	3.704
1	Medium HI	169.972	4.129
4	Slow LO	150.638	4.659
2	Medium LO	133.189	5.269
4	Slow HI	132.268	5.306
2	Medium HI	116.947	6.001
3	Medium LO	92.390	7.596
1	Fast LO	82.225	8.535
3	Medium HI	81.123	8.651
1	Fast HI	72.196	9.721
4	Medium LO	64.495	10.881
4	Medium HI	56.630	12.393
2	Fast LO	56.574	12.405
2	Fast HI	49.674	14.128
3	Fast LO	39.244	17.883
3	Fast HI	34.458	20.367
4	Fast LO	27.395	25.617
4	Fast HI	24.054	29.176

Number of revolutions of front wheels for one revolution of rear wheels: 1.242

1.4 POWER TAKE OFF

1.4.1 Main power take-off

Type:	independent
Method of engagement:	engaged or disengaged by hand lever, driven by multiplate wet clutch independent of travel clutch; ISO Standard 500-1991
Number of shafts:	1
Method of changing power take-off shaft ends:	removing 3 bolts, swopping shaft and replacing bolts
Method of changing speed:	by means of button at the right hand side of the seat

1.4.1.1 Power take-off proportional to engine speed

540 rev/min

Location:	at the rear of the tractor, in the median plane
Diameter of power take-off shaft end:	35 mm
Number of splines:	6, in conformity with ISO 500-1991 Type 1
Height above ground:	730 mm
Distance from the median plane of the tractor:	0 mm
Distance behind rear-wheel axis:	550 mm
PTO speed at rated engine speed (2500 rev/min):	614 rev/min
Engine speed at standard power take-off speed:	2198 rev/min
Ratio of rotation speeds (engine speed/p.t.o. speed):	4.0714
Power restriction and maximum torque transmissible:	torsional dumper, engine torque
Direction of rotation (viewed from behind tractor):	clockwise

750 rev/min

Location:	at the rear of the tractor, in the median plane
Diameter of power take-off shaft end:	35 mm
Number of splines:	6 or 21, not in conformity with ISO 500-1991
Height above ground:	730 mm
Distance from the median plane of the tractor:	0 mm
Distance behind rear-wheel axis:	550 mm
PTO speed at rated engine speed (2500 rev/min):	787 rev/min
Engine speed at standard power take-off speed:	2382 rev/min
Ratio of rotation speeds (engine speed/p.t.o. speed):	3.176
Power restriction and maximum torque transmissible:	torsional dumper, engine torque
Direction of rotation (viewed from behind tractor):	clockwise

1000 rev/min

Location:	at the rear of the tractor, in the median plane
Diameter of power take-off shaft end:	35 mm
Number of splines:	21, in conformity with ISO 500-1991 Type 3
Height above ground:	730 mm
Distance from the median plane of the tractor:	0 mm
Distance behind rear-wheel axis:	550 mm
PTO speed at rated engine speed (2500 rev/min):	1050 rev/min
Engine speed at standard power take-off speed:	2381 rev/min
Ratio of rotation speeds (engine speed/p.t.o. speed):	2.381
Power restriction and maximum torque transmissible:	torsional dumper, engine torque
Direction of rotation (viewed from behind tractor):	clockwise

Not fitted

1.4.1.2 Power take-off proportional to ground speed

540 rev/min

Location:	at the rear of the tractor, in the median plane
Travelling distance for one revolution of power take-off shaft:	0.53 m
Number of pto shaft revolution for 1 revolution of rear wheels:	8.9
Direction of rotation (viewed from behind tractor) :	clockwise

750 rev/min

Location:	at the rear of the tractor, in the median plane
Travelling distance for one revolution of power take-off shaft:	0.41 m
Number of pto shaft revolution for 1 revolution of rear wheels:	11.5
Direction of rotation (viewed from behind tractor) :	clockwise

1000 rev/min

Location:	at the rear of the tractor, in the median plane
Travelling distance for one revolution of power take-off shaft:	0.31 m
Number of pto shaft revolution for 1 revolution of rear wheels:	15.2
Direction of rotation (viewed from behind tractor) :	clockwise

1.4.2 Optional front power take-off

Not fitted on tested tractor

1.5 HYDRAULIC POWER LIFT

1.5.1 Rear power lift

Make, model and type	own make, draft, position, mixed draft and position control operated by two independent levers; there is a lift-o-matic device to raise and to low in a fast way the lower links
Type of hydraulic system:	open centre system
Type and number of cylinders:	1, single acting, internal (on tested tractor) As option 1 single acting internal and 1 single acting external
Type of linkage lock for transport:	lift-o-matic device
Relief valve pressure setting:	19±1 MPa
Opening pressure of anti-shock valve:	21±0.5 MPa
Lift pump make and type:	Rotative pump driven by the engine shaft. BOSCH make, 0 510 725 085 type, with pump delivery rate stated by the manufacturer of 60 l/min (fitted on tested tractor) As option NEW HOLLAND ITALIA S.p.A. make, C31 type with a pump delivery rate stated by the manufacturer of 34.5 l/min; NEW HOLLAND ITALIA S.p.A. make, C 42 type, with a pump delivery rate stated by the manufacturer of 44.5 l/min; SAUER make, 550/1/34385 model with a pump delivery rate stated by the manufacturer of 60 l/min
Transmission between pump and engine:	mechanical
Number and type of filters:	1, replaceable paper cartridge
Site of oil reservoir:	in common with transmission and rear axle
Number, type and location of tapping points:	up to 3 ways distributor at rear of tractor
Maximum volume of oil available to external cylinders:	10 dm^3

1.5.2 Front power lift

Not fitted on tested tractor

1.6 THREE POINT LINKAGE

1.6.1 Rear three point linkage

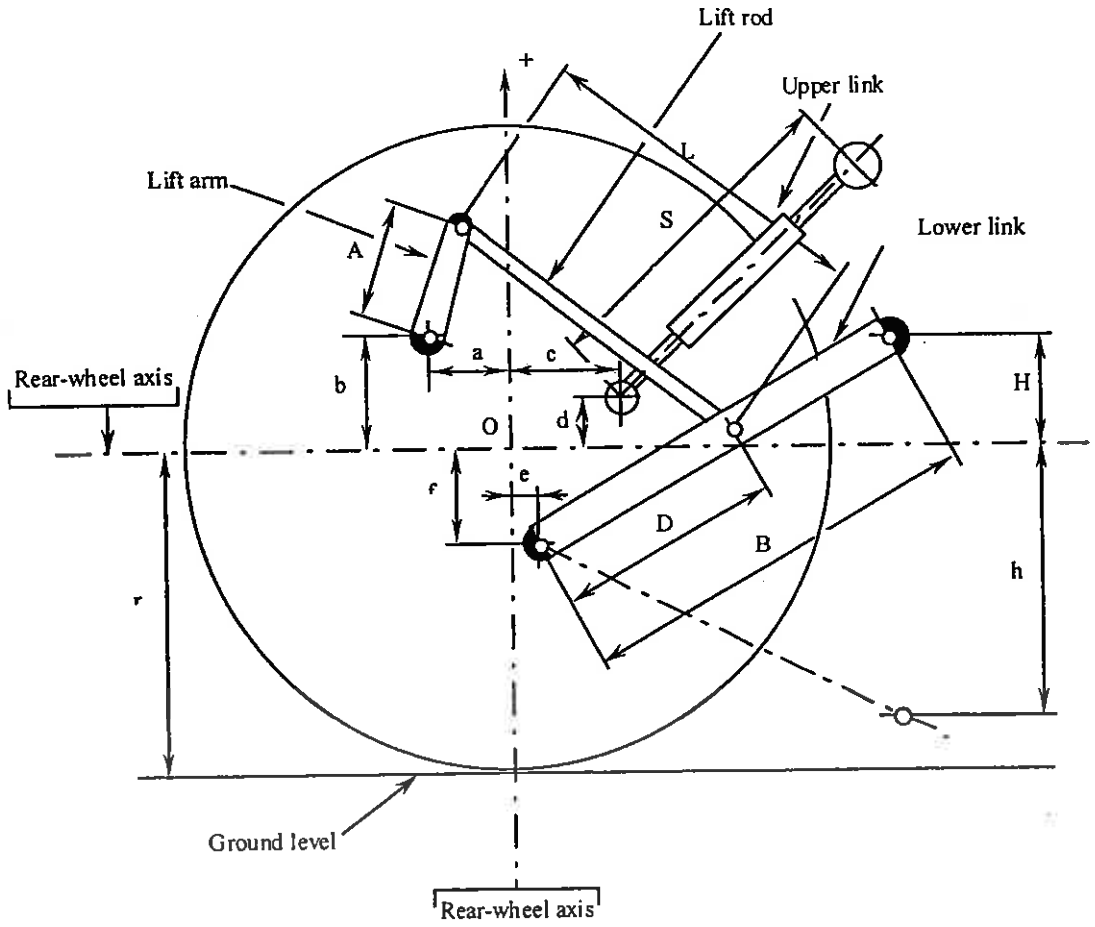
Category: 2nd, implement attachment with three point linkage and lower links with quick connection, in conformity with I.S.O.730-1:1994+Cor.1:1995

Category adapter: None

Table 1. Dimension of rear linkage geometry (when connected to the standard frame)

		Dimension or range	Settings used in test
		mm	mm
Length of lift arms	(A)	255	255
Length of lower links	(B)	965	965
Distance of lift arm pivot point from rear wheel axis			
- horizontally (rearward)	(a)	135 rearward	135 rearward
- vertically	(b)	300	300
Horizontal distance between the 2 lower link points	(u)	450-475	450
Horizontal distance between the 2 lift arm end points	(v)	510	510
Length of upper link	(S)	from 585 to 875	715
Distance of upper link pivot point from rear wheel axis			
- horizontally (rearward)	(c)	400	400
- vertically	(d)	255-335	255
Distance of lower link pivot point from rear wheel axis			
- horizontally	(e)	135	135
- vertically	(f)	205	205
Distance of lower link pivot points to lift rod pivot points on lower links	(D)	465-540	465
Length of lift rods	(L)	from 510 to 640	590
Height of lower hitch points relative to the rear wheel axis:			
- in low position	(h)	545	545
- in high position	(H)	175	175
Height above ground of lower hitch points when locked in transport position[4]		920	920

[4] Assuming the dynamic radius index of 480/70 R 34 rear tyres: 745 mm (ISO 4251/1-1992)



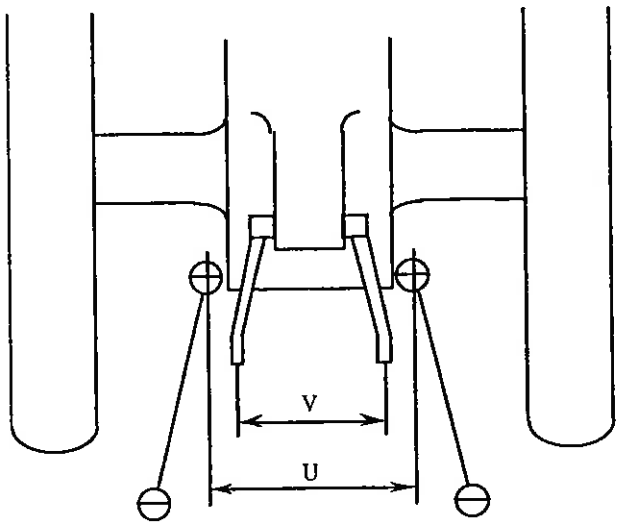


Figure 1. Lift test- Rear linkage geometry

1.7 SWINGING DRAWBAR

- Type	NEW HOLLAND ITALIA S.p.A. make, DGM-GA 1086 A 6t V0 type.
- Height above ground	
• minimum:	440 mm
• maximum:	510 mm
- Type of adjustment:	overturning the drawbar to position the fork uppermost or downmost
- Distance of hitch point from rear-wheel axis, horizontally:	860 to 930 mm
- Distance of hitch point from PTO shaft end:	
• vertically:	220 to 330 mm
• horizontally:	260 - 330 - 400 mm
- Lateral adjustment (centre of clevis):	
• right hand:	210 mm
• left hand:	210 mm
- Distance of pivot point from rear-wheel axis, horizontally:	210 mm
- Diameter drawbar pin hole:	33 mm
- Maximum vertical permissible load:	8.9 kN – 15.99 kN depending on longitudinal adjustment
- Maximum towable load:	59.22 kN

1.8 TRAILER HITCH

Type:	NEW HOLLAND ITALIA S.p.A. make, DGM-GA 1087 C 6tV1.5 type
Hole diameter:	28 mm
Height above ground:	
- minimum:	455 mm
- maximum:	940 mm
Distance of hitch point from rear wheel axis horizontally:	700 mm
Distance of hitch point from power take-off shaft end:	
- vertically:	275 mm below , 210 mm above
- horizontally:	170 mm
- Maximum vertical permissible load:	14.7 kN
- Maximum towable load:	59.22 kN

1.9 HOLED DRAWBAR

Optional, not fitted on tested tractor

1.10 STEERING

Make, model and type:	DANFOSS make, ORBITROL OSPC 125 OR model, hydrostatic type
Method of operation:	
- pump:	hydrostatic steering with NEW HOLLAND A31 XRP hydraulic gear pump
- rams:	two single acting rams acting directly on front axle
Working pressure:	17.0 MPa

1.11 BRAKES

1.11.1 Service brake

Make/Model: NEW HOLLAND ITALIA S.p.A. make
Type: oil bath disc, total 2 discs, 1 for axle at rear, independently acting on the rear axle. Pedals can be locked together to assure combined acting on the rear axle. Further, there is the automatic engagement of four-wheel drive providing the four-wheel braking. Rear discs 259 mm Ø, FRENDO ABEX 40A lining material
Method of operation: hydraulically actuated with 2 pedals
Trailer braking take-off: hydraulic brake system

As option
Make/Model: NEW HOLLAND ITALIA S.p.A. make
Type: oil bath disc, total 4 discs, 1 for axle at front as at rear, acting on the front and, independently, the rear axle. Pedals can be locked together to assure combined acting on the rear axle. Further, there is the automatic engagement of four-wheel drive providing the four-wheel braking. Rear discs 259 mm Ø and front discs 196 mm Ø, FRENDO ABEX 40A lining material
Method of operation: hydraulically actuated with 2 pedals
Trailer braking take-off: hydraulic brake system

Make/Model: NEW HOLLAND ITALIA S.p.A. make
Type: oil bath disc, total 2 discs, 1 for wheel at rear, mounted on differential shaft. Rear disc 259 mm Ø, FRENDO ABEX 40A lining material
Method of operation: hydraulically actuated with 2 pedals
Trailer braking take-off: hydraulic brake system

1.11.2 Parking brake:

Type: fully independent of service brake, 4 oil bath disc mounted on the pinion shaft in the gear box
Method of operation: mechanical by hand lever

1.11.3 Steering brake :

Divided pedal of service brake, for normal unlocked together

1.12 WHEELS

Number:
- front: 2, driving and steering
- rear: 2 driving

Wheelbase: 2314 mm
Track width adjustment:

	Minimum	Maximum	Adjustment method
	mm	mm	
Front	1305	2014	Changing the position of the rims with respect to the disc
Rear	1350	2130	Changing the position of the rims in respect to the disc

1.13 PROTECTIVE STRUCTURE

Make, model and type:	NEW HOLLAND ITALIA S.p.A. make, SLTV 3 model
Manufacture's name and address:	NEW HOLLAND ITALIA S.p.A. Viale delle Nazioni, 55 41100 MODENA (Italy)
Protective device:	cab, not tiltable
OECD Approval	
- number:	Not yet tested
Approval directive and n°:	SLTV3 77/536EEC – e18D937

1.14 SEAT

1.14.1 Driver's seat

Make, model and type:	GRAMMER make, LS95H1/90AR model; upholstered seat with back rest
Seat and steering wheel reversible	No
Type of suspension:	adjustable spring
Type of damping:	shock absorber
Range of adjustment:	
- longitudinal:	170 mm
- vertical:	60 mm
Safety belt	Yes

1.14.2 Optional driver's seat

Make, model and type:	GRAMMER make, DS85H/3A; upholstered seat with back rest
Seat and steering wheel reversible	No
Type of suspension:	adjustable spring
Type of damping:	shock absorber
Range of adjustment:	
- longitudinal:	210 mm
- vertical:	60 mm
Safety belt	Yes

Make, model and type:	GRAMMER make, MSG95A/20 model; upholstered seat with back rest
Seat and steering wheel reversible	No
Type of suspension:	adjustable spring
Type of damping:	shock absorber
Range of adjustment:	
- longitudinal:	170 mm
- vertical:	60 mm
Safety belt	Yes

1.14.3 Passenger seat (not fitted on tested tractor)

Location:	on the left hand side of the driver's seat
Number of places:	1

1.15 LIGHTING

	Height above ground of centre[5]	Size	Distance from outside edge of lights to median plane of tractor
	mm	mm	mm
Headlights	1175	160x100	210
Front parking lights	1710	110x35	870
Front direction indicators	1745	110x35	870
Rear parking lights	1620	80x65	785
Rear direction indicators	1620	75x65	945
Brakes lights	1620	80x65	785
Reflectors	1620	85x65	870

2 TEST CONDITIONS

2.1 OVERALL DIMENSIONS[6]

	Length	Width		Height at top of	
		minimum	maximum	cab	exhaust silencer
	mm	mm	mm	mm	mm
Ballasted	4430	2009	2684	2550	2570
Unballasted	4005	2009	2684	2550	2570

2.2 GROUND CLEARANCE

Unballasted tractor: 440 mm
Clearance-limiting part: swinging drawbar

2.3 TRACTOR MASS

Mass with cab and full fuel tank

	Ballasted		Unballasted	
	without driver	with driver	without driver	with driver
	kg	kg	kg	kg
Front	2065	2090	1590	1615
Rear	2430	2480	2230	2280
Total	4495	4570	3820	3895

[5] with front tyres 14.9-24 and rear tyres 18.4-34
[6] with front tyres 14.9-24 and rear tyres 18.4-34

2.4 BALLAST

	Weights		Water
	Number	Total mass	
		kg	kg
Front weight	10	400	none
Rear wheels[7]	4	200	none
Optional	none	none	none
Front support	1	75	none

2.5 TRACK SPECIFICATIONS

none

2.6 TYRES AND TRACK WIDTH SPECIFICATIONS

	Front	Rear
Tyres:		
- make	PIRELLI	PIRELLI
- model	TM 700	TM 700
- dimensions	380/70R24	480/70R34
- ply rating	------	------
- load index/speed	125A8	143A8
- type	radial	radial
- maximum load (tyre manufacturer's)	33.35 kN	56.03 kN
- inflation pressure (tyre manufacturer's)	160 kPa	160 kPa
- dynamic radius index	560 mm	745 mm
Chosen track width:	1730 mm	1625 mm
Technically permissible axle load	23.54 kN	45.12 kN
Others tyres available	14.9R24 (126A8)	18.4R34 (137A8)
	12.4R24 (119A8)	18.4R30 (142A8)
	11.2R28 (116A8)	13.6R38 (128A8)
	13.6R24 (121A8)	16.9R34 (139A8)
	360/70R24 (122A8)	520/70R30 (145A8)
	440/65R24 (122A8)	540/65R34 (140A8)
	420/70R24 (127A8)	520/70R34 (148A8)
	480/65R24 (127A8)	600/65R34 (145A8)

2.7 FUEL

Type: ERG DIESEL oil, in conformity with national standard.
Density at 15 °C: 0.840 g/cm^3

[7] As option 6 weights of 300 kg

2.8 OILS AND LUBRICANT

2.8.1 Capacity and change interval

	Capacity	Oil change	Filter change
	dm^3	h	h
Engine with filter	9.5	300	300
Gear box with rear axle, final drive, hydraulic system and steering	55.0	1200	300
Front axle	7.0	1200	not applicable
Front final drive, each (with/without brakes)	1.25	1200 or 2 years	not applicable
Brakes	0.4	max. level	not applicable

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

	Recommended	Used during test
Engine oil -Type: - Viscosity: - Classification:	AMBRA SUPER GOLD 15W-40 12.50 cSt API CF-4	As recommended
Hydraulic fluid - Type: - Viscosity: - Classification	AMBRA MULTI G 11.50 cSt API GL 4	As recommended
Front and rear axle, final drives and gear box - Type: - Viscosity: - Classification:	AMBRA MULTI G 11.50 cSt API GL 4	As recommended
Steering oil - Type: - Viscosity: - Classification:	AMBRA MULTI G 11.50 cSt API GL 4	As recommended
Braking oil - Type: - Viscosity: - Classification:	AMBRA BRAKE LHM --- ISO 7308	As recommended

2.8.3 Grease:

Type: AMBRA MULTI G (NLGI 2)
Number of lubrication points: 15

3 COMPULSORY TESTS

3.1 MAIN POWER TAKE-OFF

Date and location of tests: 4th September 1999, I.M.A., TORINO, ITALY
Type of dynamometer: Parasitic currents, BORGHI&SAVERI FA300-30SP

Power	Speed		Fuel consumption			Specific energy
	Engine	P.t.o.	Hourly		Specific	
kW	rev/min		kg/h	l/h	g/kWh	kWh/l
3.1.1 MAXIMUM POWER - TWO HOUR TEST						
60.80	2198	923	14.69	17.49	242	3.48
3.1.2 POWER AT RATED ENGINE SPEED						
58.28	2500	1050	15.21	18.11	261	3.22
3.1.3 STANDARD POWER TAKE OFF SPEED (1000±25 rev/min)						
60.58	2395	1006	15.18	18.07	251	3.35
3.1.4 PART LOADS						
3.1.4.1 the torque corresponding to maximum power at rated engine speed						
58.28	2500	1050	15.21	18.11	261	3.22
3.1.4.2 85% of torque obtained in 3.1.4.1						
51.95	2619	1100	14.67	17.46	282	2.97
3.1.4.3 75% of torque defined in 3.1.4.2						
39.69	2662	1118	12.11	14.42	305	2.75
3.1.4.4 50% of torque defined in 3.1.4.2						
26.67	2671	1122	9.29	11.06	348	2.41
3.1.4.5 25% of torque defined in 3.1.4.2						
13.59	2710	1138	7.06	8.40	520	1.62
3.1.4.6 unloaded						
-	2733	1148	4.93	5.87	-	-

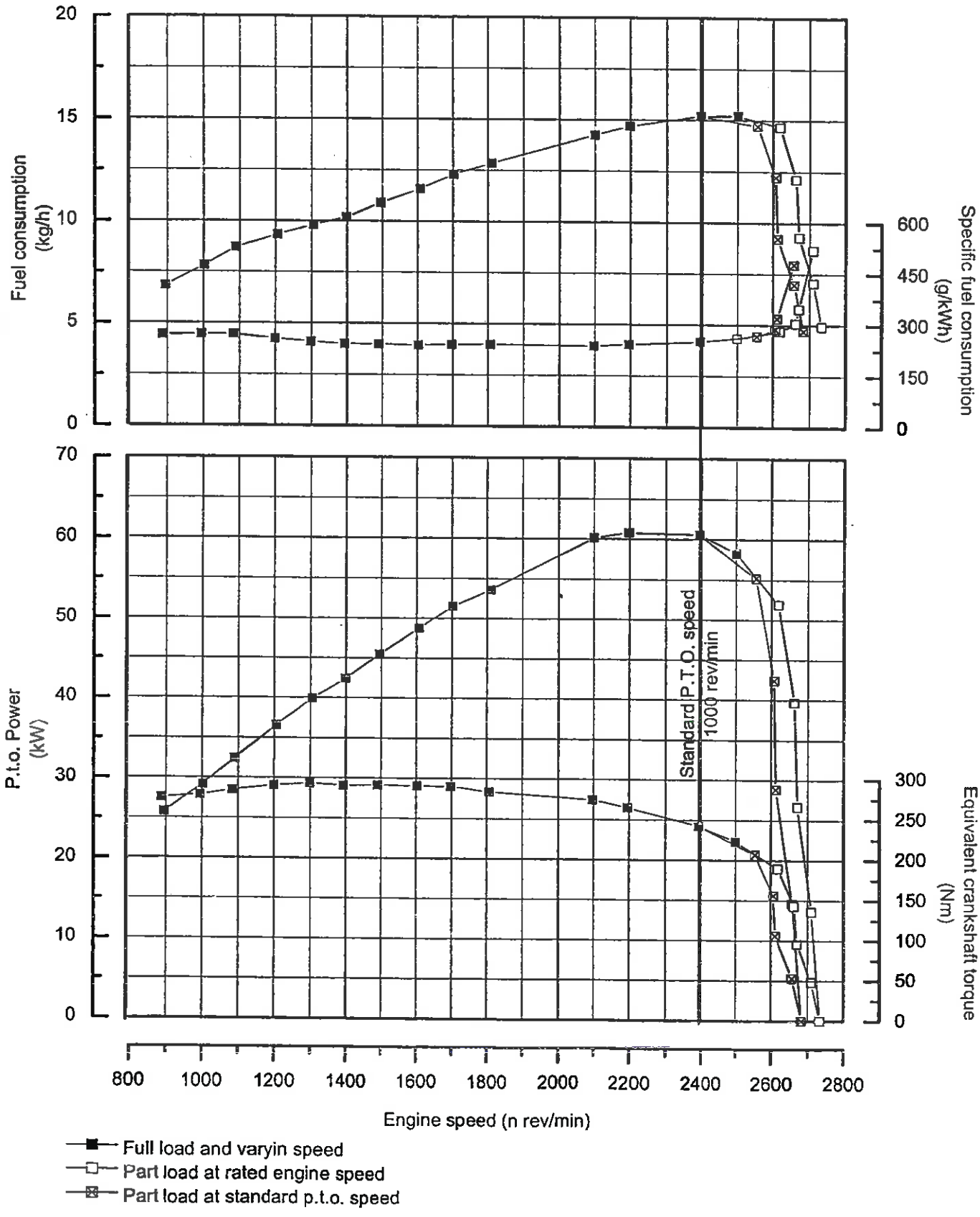
Power	Speed		Fuel consumption			Specific energy
	Engine	P.t.o.	Hourly		Specific	
kW	rev/min		kg/h	l/h	g/kWh	kWh/l
3.1.5 PART LOADS AT STANDARD POWER TAKE OFF SPEED (1000±25 rev/min)						
3.1.5.1 the torque corresponding to maximum power						
60.58	2395	1006	15.18	18.07	251	3.35
3.1.5.2 85% of torque obtained in 3.1.5.1						
55.17	2555	1073	14.72	17.52	267	3.15
3.1.5.3 75% of torque defined in 3.1.5.2						
42.43	2607	1095	12.22	14.55	288	2.92
3.1.5.4 50% of torque defined in 3.1.5.2						
28.83	2612	1097	9.22	10.98	320	2.63
3.1.5.5 25% of torque defined in 3.1.5.2						
14.61	2657	1116	6.98	8.31	478	1.76
3.1.5.6 unloaded						
-	2683	1127	4.70	5.60	-	-

No load maximum engine speed: 2733 rev/min
Torque (equivalent crankshaft) at maximum power:
- at rated engine: 222.6 Nm
- at standard power take-off speed: 241.5 Nm

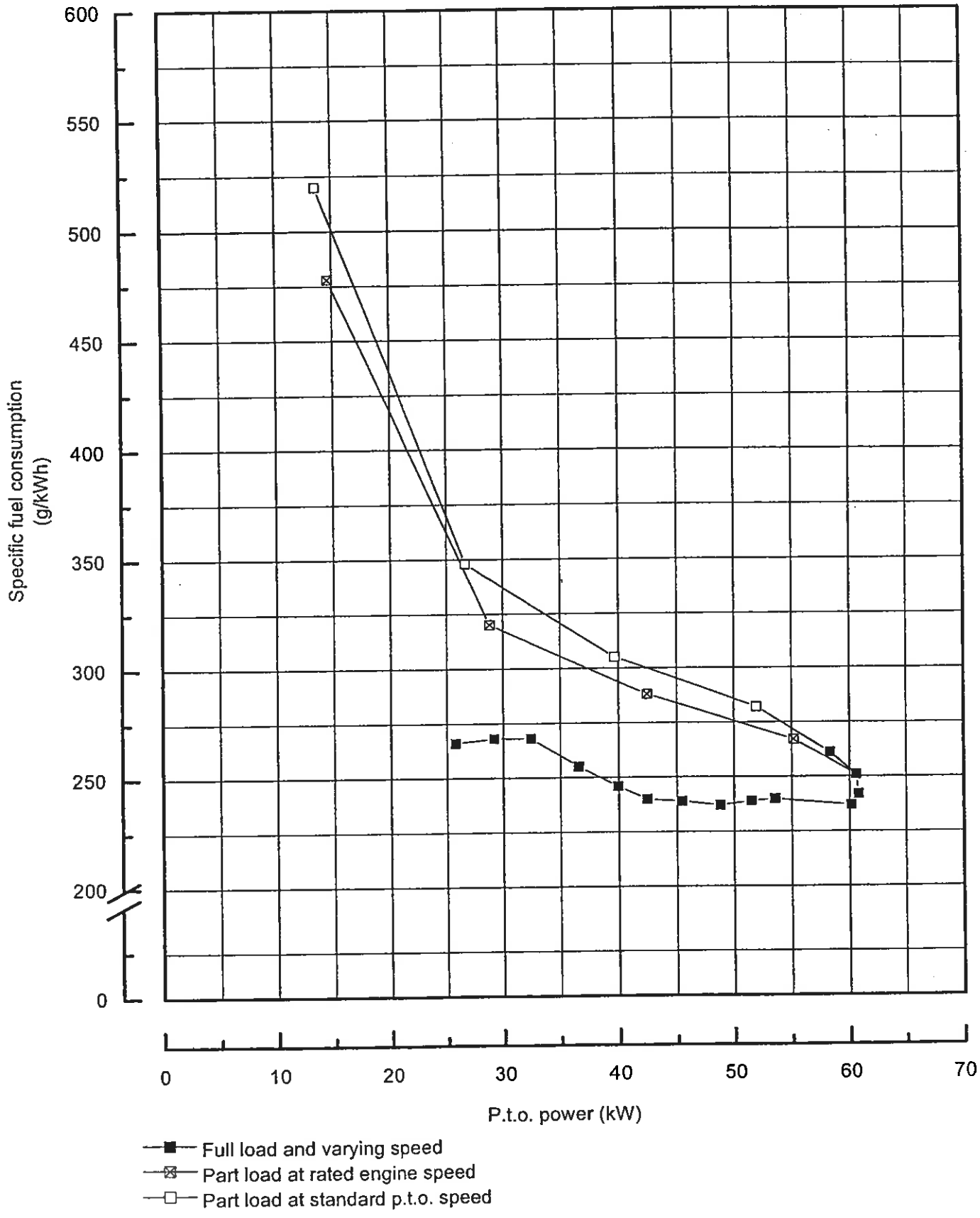
Maximum torque (equivalent crankshaft): 292.3 Nm at 1305 rev/min of the engine

Mean atmospheric conditions	
Temperature	20.0 °C
Pressure	99.0 kPa
Relative humidity	45 %
Maximum temperature	
Coolant	95.8 ° C
Engine oil	116.3 ° C
Fuel	36.7 ° C
Engine air intake	20.3 ° C

Graph 1. Power take-off test



Graph 2. Power take-off test



3.2 HYDRAULIC POWER AND LIFTING FORCE

Date of tests: 9th –10th December 1999

3.2.1 Hydraulic Power Test

Sustained pressure with relief valve open: 20.0 MPa
Pump stalled: no
Pump delivery rate at minimum pressure: 56.0 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	30.0	18.0	9.0
Flow rate and hydraulic pressure corresponding to maximum hydraulic power	40.2	17.4	11.6

Tapping point used for test: at rear of tractor
Temperature of hydraulic fluid: 65±5 °C
Opening pressure of the unloading valve: none
Closing pressure of the unloading valve: none

3.2.2 Power lift test

3.2.2.1 Rear power lift

Rear power lift linkage settings for test - see Table 1 and Figure 1

	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	680 mm	650 mm
- without lifting force	720 mm	720 mm
Maximum corrected force exerted through full range	21.10 kN	18.10 kN
Corresponding pressure of hydraulic fluid	18.0 MPa	18.0 MPa
Moment about rear-wheel axis	23.21 kNm	30.95 kNm
Maximum tilt angle of mast from the vertical	none	8 degrees

Lifting heights relative to the horizontal plane including the lower pivot points									
mm	-340	-200	-100	0	100	200	300	310	340
Lifting forces (at 90% of the actual relief valve pressure setting)									
at the hitch points kN	21.72	22.92	24.31	25.10	25.69	25.90	26.87	-	21.10
Corresponding pressure: 18.0 MPa									
at the frame kN	24.01	22.67	22.96	22.70	22.10	20.89	20.23	18.10	-
Corresponding pressure: 18.0 MPa									

3.3 DRAWBAR POWER TEST (ballasted and unballasted tractor)[8]

Date of tests: 6th –10th December 1999
Type of track:. Asphalt

	Height of hitch above ground	Tyre inflation pressure	
		Front	Rear
Unballasted	480 mm	90 kPa	90 kPa
Ballasted	480 mm	90 kPa	90 kPa

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	min^{-1}	%	g/kWh	kWh/l	°C	°C	°C	°C	%	kPa
3.3.1 MAXIMUN POWER IN TESTED GEARS (unballasted tractor)													
3 Slow Hi	36.8	39.24	3.38	2633	15.28	383	2.19	40.1	94.3	145.5	11	80	100.4
1 Medium Hi	40.9	39.24	3.75	2619	15.00	368	2.28	34.1	95.1	145.7	11	80	100.4
4 Slow LO	45.0	37.96	4.30	2500	10.53	333	2.52	33.9	95.7	145.3	11	80	100.4
2 Medium LO	47.2	33.94	5.00	2500	6.87	317	2.65	36.8	96.3	141.7	11	80	100.4
4 Slow Hi	46.8	33.16	5.09	2500	6.44	320	2.63	36.2	96.6	144.6	11	80	100.4
2 Medium Hi	47.3	29.33	5.81	2500	5.49	319	2.63	33.6	96.6	146.1	11	80	100.4
3 Medium LO	47.7	23.05	7.45	2500	4.31	318	2.64	33.1	92.9	143.8	11	80	100.4
1 Fast LO	49.2	21.19	8.37	2500	3.93	308	2.72	31.8	91.6	138.5	11	80	100.4
3 Medium Hi	47.5	20.11	8.50	2500	3.89	318	2.64	33.3	91.6	142.1	11	80	100.4
1 Fast Hi	48.2	18.15	9.57	2500	3.50	312	2.69	34.7	91.0	143.6	11	80	100.4
4 Medium LO	47.4	15.89	10.74	2500	3.40	315	2.66	34.3	90.5	143.4	11	80	100.4
3.3.2 MAXIMUN POWER IN TESTED GEARS (ballasted tractor)90.5													
1 Slow LO	16.9	41.20	1.48	2686	15.15	----	----	38.0	90.3	131.0	14	83	100.2
1 Slow Hi	18.7	41.20	1.64	2671	14.94	----	----	42.0	90.2	133.0	14	83	100.2
2 Slow LO	24.3	41.30	2.10	2667	15.18	----	----	42.0	90.1	137.0	14	83	100.2
2 Slow Hi	27.1	41.30	2.36	2662	15.11	----	----	38.0	90.1	137.0	14	83	100.2
3 Slow LO	34.3	41.40	2.98	2631	15.07	412	2.04	39.0	90.2	144.0	14	83	100.2
1 Medium LO	37.9	41.40	3.30	2619	15.15	392	2.14	37.0	90.2	145.0	14	83	100.2
3 Slow Hi	38.4	41.30	3.35	2607	15.09	388	2.17	34.0	90.5	139.0	14	83	100.2
1 Medium Hi	43.6	41.20	3.81	2500	9.84	338	2.48	34.2	90.8	146.2	14	83	100.2
4 Slow LO	45.0	36.49	4.40	2500	6.91	334	2.51	33.8	91.2	144.5	14	83	100.2
2 Medium LO	44.9	31.69	5.10	2500	5.36	337	2.49	29.4	91.6	142.5	14	83	100.2
4 Slow Hi	45.6	32.08	5.12	2500	5.63	330	2.54	33.5	92.2	139.7	14	83	100.2
2 Medium Hi	45.5	28.01	5.85	2500	4.51	325	2.59	42.4	92.6	143.4	14	83	100.2
3 Medium LO	45.5	21.97	7.45	2500	3.65	333	2.52	37.5	92.9	144.4	14	83	100.2
1 Fast LO	46.6	19.91	8.43	2500	3.37	325	2.58	37.5	90.2	144.7	14	83	100.2
3 Medium Hi	45.1	18.98	8.55	2500	3.28	332	2.53	36.3	90.2	145.0	14	83	100.2
1 Fast Hi	45.8	17.17	9.61	2500	3.15	328	2.56	33.3	90.5	145.2	14	83	100.2
4 Medium LO	45.3	15.06	10.82	2500	2.75	334	2.52	32.3	90.8	139.6	14	83	100.2
2 Fast LO	45.3	13.19	12.36	2500	2.73	332	2.53	30.4	91.2	139.2	14	83	100.2
4 Medium Hi	43.6	12.75	12.31	2500	2.56	349	2.41	33.0	91.6	143.0	14	83	100.2
2 Fast Hi	44.2	11.28	14.11	2500	2.41	343	2.45	34.5	92.2	144.3	14	83	100.2

[8] with front tyres 380/70R24 and rear tyres 480/70R34

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	min^{-1}	%	g/kWh	kWh/l	°C	°C	°C	°C	%	kPa
3.3.3 FIVE HOURS TESTS													
3.3.3.1 FIVE HOURS TEST at 75% of pull at maximum power													
3 Medium LO	36.3	16.43	7.94	2638	3.12	360	2.33	27.0	92.6	142.2	19	50	100.2
3.3.3.2 FIVE HOURS TEST at pull corresponding to 15% wheelslip – with 270 kg as additional ballast													
3 Slow Hi	41.9	41.79	3.61	2607	7.99	⌘	⌘	29.4	92.9	143.5	11	40	99.8

⌘ The test was carried out with additional ballast; the not quoted figures are irrelevant

Oil consumption during ten hours duration of test 3.3.3.1and 3.3.3.2: 11 g/h

3.4 TURNING AREA AND TURNING CIRCLE

Wheels equipment:
- front: 14.9-24
- rear: 18.4-34

Track width:
- front: 1730mm
- rear: 1625mm

	With brakes		Without brakes	
	Right-hand	Left-hand	Right-hand	Left-hand
	m	m	m	m
Radius of turning area	4.80	4.90	5.65	5.80
Radius of turning circle	4.55	4.75	5.45	5.60

3.5 LOCATION OF CENTRE OF GRAVITY

Height above ground	850 mm
Distance forward from the vertical plane, containing the axis of the rear wheels	965 mm
Distance from the median plane of the tractor: to the left	8 mm

3.6 BRAKING

Date of tests: 26th July 1999
Type of track: asphalt
Type of decelerometer: DATRON

3.6.1 Cold service braking device test

Unballasted tractor		
Speed before application of brake	Braking device control force	Mean deceleration
km/h	kN	m/s²
33.3	0.13	1.33
33.8	0.27	2.76
33.5	0.32	3.10
33.9	0.48	4.74
33.6	0.52	4.43

Ballasted tractor		
Speed before application of brake	Braking device control force	Mean deceleration
km/h	kN	m/s²
32.7	0.14	1.75
32.7	0.21	1.94
32.9	0.37	3.13
31.9	0.47	4.01
31.5	0.53	4.20

Maximum deviation of the tractor from its original course: none
Abnormal vibration: none

3.6.2 Fade test

Speed before application of brake	Braking device control force	Mean deceleration
km/h	kN	m/s²
31.9	0.12	1.47
32.1	0.21	1.97
32.1	0.37	3.40
33.0	0.54	5.10
31.0	0.60	4.38

Maximum deviation of the tractor from its original course: none
Abnormal vibration: none
Brake heating method: by means of towing the tractor for 1 km at 25 km/h with a towing force of 3.3 kN

3.6.3 Parking braking device test

	Uphill	Downhill
Braking device control force	0.19 KN	0.20 kN

3.7 MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of tests: 14th December 1999- I.M.A. - TORINO

Sound level meter make, model and type:	RION make, NA 29 E model, impulse precision type
Type of track:	asphalt
Gear number:	4 Fast HI
Travelling speed before acceleration:	22.5 km/h
Sound level:	87.5 dB(A) (on the left side) 87.3 dB(A) (on the right side)

4 OPTIONAL TESTS RESULTS

none

5 REPAIRS

none

6 REMARKS

none

7 ANNEX

none

The Head of the Section

E. CAVALLO

The Director

P. PICCAROLO

Torino, 5th June 2000