ISTITUTO SPERIMENTALE PER
LA MECCANIZZAZIONE AGRICOLA

SEZIONE DI TREVIGLIO

O.E.C.D. n. 1112

Test in accordance with O.E.C.D. Standard Code for the official testing of agricultural tractors

Report on test of: LAMBORGHINI 774-80 VDT "4WD"



Submitted for test by: TRATTORI LAMBORGHINI S.p.A.
V.le Cassani 15
24047 TREVIGLIO (BG)

Date of approval O.E.C.D.: 22.12.1987

Period of test: sept.october 1987

I.S.M.A. - TREVIGLIO
Via Milano. 43

TEST n.037

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ISTITUTO SPERIMENTALE PER
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All stated dimension and tests referred to tyre size 14.9/24 (8plr) at front and 16.9/34 (6plr) at rear, as well as to track whiths 1620 mm at front and 1700 mm at rear.

- Tractor manufacturer's: LAMBORGHINI TRATTORI S.p.A. TREVIGLIO (BG)
- Submitted for test by: the manufacturer
- Selected by: the manufacturer with the agreement of ISMA
- Place of running in: TREVIGLIO
- Duration of running in: 50 hours

I - SPECIFICATIONS OF TRACTOR

TRACTOR

- Make: LAMBORGHINI;
- Model : 774-80 VDT "4WD";
- Type: Wheeled tractor, unit constr.,all wheel drive tractor;
- Serial no.: 10467;
- First serial no.:10001;

ENGINE

- Make: LAMBORGHINI;
- Model: 1000.4 W;
- Type : Watercooled 4 stroke Diesel engine direct injection;
- Serial n.: 3071;

Cylinders

- Number/disposition: 4 vertical in line;
- Bore/stroke: 105/115.5 mm;
- Capacity: 4000 cc;
- Compression ratio: 17.1/1;
- Arrangement of valves: Overhead;
- Cylinder liners: wet liners;

Supercharging: none.

Fuel system

- Fuel feed system: AC corone fuel feed pump;
- Make, type and model of fuel filter: FIAMM FNA 160/00;
- Capacity of fuel tank: 100 l;
- Make, type and model of injection pump: BOSCH PFR 1K 90 A 503, immersed pump one for cylinder,whitout serial number,in line injection pump.

- Manufacturer's production setting of injection pump:
  . flow rate 55 ±2 mm3/stroke at rated speed and full load;
  . timing 18 ± 0.5 before TDC;
- Make, type and model of injectors:BOSCH DLLA 150 S 925 multihole injection nozzles;
- Injection pressure: 180 ± 15 bar;

Governor

- Make: LAMBORGHINI;
- Type: mechanical variable speed;
- Model: 089.1652.4;
- Governor range of engine speed from 700 to 2646 rev/min;
- Rated engine speed : 2500 rev/min;

Air Cleaner

- Main filter
  . Make: DONALDSON;
  . Type: Dry paper element filter;
  . Model: 08-11242
  . Location : front of engine;
- Maintenance indicator : with the warning lamp on the dashboard;

Lubrication system

- Type : forced feed from gear pump;
- Total oil capacity including filter: 9.2 l;
- Oil change period : 125 hrs;
- Type of filter : FIAMM 4803 IN;
- Number: 1;
- Filter change period: 300 hrs;
- Oil specifications (see pag.17)

Cooling system

- Type and detail: water cooling with impeller pump over pressure valve set to 0.4 bar;
- No. of fan blade : 4;
- Diameter : 400 mm;
- Coolant capacity: 11 l;
- Type oil temperature control: electrical indicator.

Starting system

- Safety device: Preventing engine start in gear;
- Make: BOSCH;
- Model: JF 12 V;
- Type: electromagnetic engagement;
- Power: 3 kW for start motor rating;
- Starting system for low temperatures: thermostarter(opt.);

Electrical equipement

- Voltage: 12 V;
- Generator
  . Make: BOSCH;
  . Type: alternator K1 14V 55 A 20;
  . Power: 770 W - 45 A;
- Battery : 1 lead acid;
  . Capacity: 110 Ah at 20 hours rating;

Exhaust system

- Make: LAMBORGHINI;
- Type: 4 chambers reflection absorption;
- Model: 255.6610.3;
- Location: on the left hand side of engine cowling, vertical; position;
- Height of outlet above ground: 2630 mm.

TRANSMISSION

Clutch: utilized only for travelling of tractor
- Make: LAMBORGHINI;
- Type : single disc dry clutch;
- Model: 447.23;
- Disc diameter: 280 mm;
- Control system: hydraulically operated by pedal self readjusting;

Gear box

- Make: LAMBORGHINI;
- Type: mechanical syncromesh speed change gear with 5 speeds forward, with 4 ranges speed, and 1 reverse group;
- Model: 447.22;
- No. speeds: 20 forward and 20 reverse;
- Available options: 24 forward and 12 reverse or 16 forward and 16 reverse;

Rear axle and final drives

- Make: LAMBORGHINI;
- Type: bevel gear differential and epicyclic final drive;
- Model: 447.44;
- Differential lock: yes;
- Model: mechanical;
- Type: LAMBORGHINI;
- Control system: engaged or disengaged with pedal;

Front axle and final drive

- Make: LAMBORGHINI;
- Type: 447.43;
- Model: original LAMBORGHINI system with central shaft bevel gear drive, differential and epicyclic final drive;
- Differential lock: yes;
  - Model: mechanical;
  - Type: LAMBORGHINI;
  - Method of engagement: with pedal;
  - Metod of disengagement: with pedal;

Transmission lubrication

- Oil capacity
  - Gear box, rear axle, final drive,power lift and hydraulic system: in common, total capacity filter including 45 l;
  - Change period: 1200 hrs;
  - Filter change period: when the filter clogging warning lamp is lighted;
  - Front axle and final drive: total capacity 6 l;
  - Changing: 1200 hrs;
- Recommended oil: see pag.17

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Total ratios and speeds

Group		Number of engine revolutions for one revolution of the driving wheels	Nominal traveling speed at a rated engine speed of 2500 rev/min
FORWARD			
REDUCED	1	1749.45	0.40
	2	1180.88	0.59
	3	887.59	0.79
	4	672.99	1.04
	5	506.94	1.38
SLOW	1	622.02	1.12
	2	419.96	1.67
	3	315.58	2.22
	4	239.23	2.93
	5	180.24	3.89
NORMAL	1	195.30	3.59
	2	131.83	5.32
	3	99.08	7.08
	4	75.11	9.34
	5	56.59	12.40
FAST	1	64.50	10.88
	2	43.54	16.12
	3	32.72	21.45
	4	24.80	28.30
	5	18.68	37.58

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Group		Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed of 2500 rev/min
REVERSE			
	1	1679.84	0.41
	2	1133.89	0.61
REDUCED	3	852.26	0.82
	4	646.09	1.08
	5	486.77	1.44
	1	597.27	1.17
	2	403.15	1.74
SLOW	3	303.02	2.31
	4	229.71	3.05
	5	173.06	4.05
	1	187.52	3.74
	2	126.58	5.54
NORMAL	3	95.14	7.37
	4	72.12	9.73
	5	54.34	12.91
	1	61.93	11.33
	2	41.80	16.78
FAST	3	31.42	22.33
	4	23.81	29.47
	5	17.94	39.12

- Tyre size 16.9/34 inflaction pressure: 1.3 bar
- Tyre radius index: 745 mm (E.T.R.T.O. norm)

POWER TAKE-OFF

Main power take-off

- Type: independent at rear of tractor, in tractor's median plane, engaged or disengaged through hand lever. Driven by multiplate wet clutch independent of travel clutch; ISO standard 500-1979;

Power take-off proportional to engine speed

540 rev/min

It is possible,through 6 screws, to mount: one take-off shaft end at 6 or at 21 splines. Changing speeds through external hand lever;

- Location:at rear of tractor;
- Diameter of power take-off shaft end: 34.9 mm;
- Number of splines: 6 in conformity with "ISO Standard 500 - 1979";
- Height above ground with tyre size 16.9/34: 760 mm;
- Distance from the median plane of the tractor 0 mm;
- Distance behind rear axle: 380 mm;
- PTO speed: 614 rev/min at rated engine speed;
- Engine speed: 2198 rev/min at standard power take-off speed 540 rpm;
- Ratio of rotation speeds (engine speed/p.t.o. speed): 4.071;
- Max power and torque trasmissible: 95 kW and 144.5 daNm;
- Direction of rotation (viewed facing driving end): clockwise;

1000 rev/min

- Location: at rear of tractor;
- Diameter of power take-off shaft end: 34.9 mm;
- Number of splines: 21 in conformity with "ISO Standard 500 - 1979";
- Height above ground with tyre size 16.9/34: 760 mm;
- Distance from the median plane of the tractor 0 mm;
- Distance behind rear axle: 380 mm;
- PTO speed at rated engine speed: 1020 rev/min
- Engine speed 2450 rev/min at standard power take-off speed: 1000 rpm;
- Ratio of rotation speeds (engine speed/p.t.o. speed): 2.450;
- Direction of rotation (viewed facing driving end): clockwise;

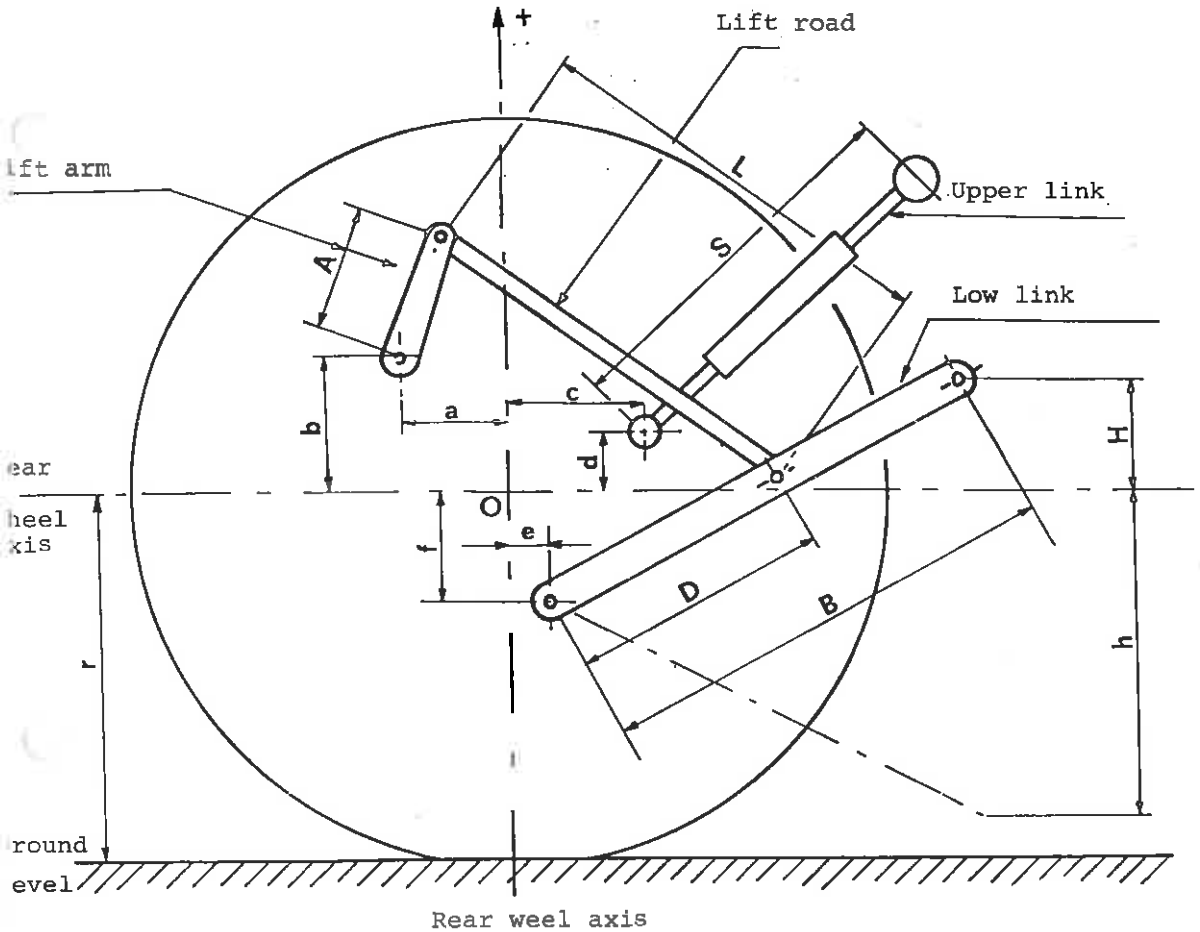
POWER LIFT

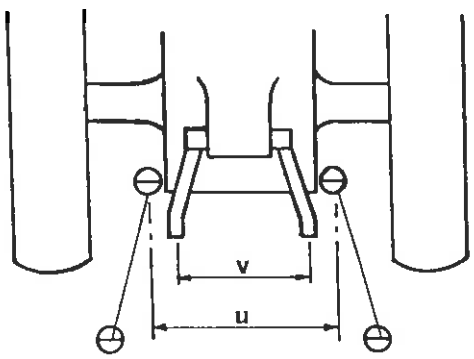
- Make: LAMBORGHINI;
- Type: LOAD SENSING open center system;
- Type and number of cylinders: 1 hydraulic jack at simple effect;
- Type of locking for the transport: mechanical, with screwed tie rods that lock the lower links;
- Exercise valve pressure: 190 ± 5 bar;
- Opening pressure anti-shock valve: 210 bar;
- Lift pump type: hydraulic rotary pump,driven from engine shaft;
- Transmission between pump and engine: mechanical
- Type and number of filters: 1, replaceable paper cartridge;
- Changing: when the filter clogging warning lamp is lighted;
- Oil capacity: 45 l;
- Site of oil reservoir: gear box;
- Position and No.of additional oil plugs: 3 ways distributor at rear of tractor;
- Maximum volume of oil available to external cylinders: 15 l;
- Recommended oil (see pag.17)

Three-point linkage

- Category: 2 in conformity with ISO 730/I;

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Specify the settings for the lifting test

Rear tyres (size 16.9/34)	(r)	745 mm
Front tyre (size 14.9/24)	(r')	590 mm
Length of lift arms	(A)	280 mm
Length of lower links	(B)	860 mm
Distance of lift arm :horizontally	(a)	95 mm
pivot point from rear :vertically	(b	400 mm
wheel centre line		
Horizontally distance between the 2 lower link points	(u)	510 mm
Horizontally distance between the 2 lift arm end points	(v)	580 mm
Length of upper link	(S)	from 500 to 770 mm
Distance of upper link horizontally	(c)	355 mm
pivot point from rear vertically	(d)	305 mm
wheel centre line		
Distance of lower link horizontally	(e)	150 mm
pivot point from rear vertically	(f)	220 mm
wheel centre		
Distance of lower link pivot points to lift rod pivot points on lower link	(D)	420 mm
Length of lift rods	(L)	810 mm
Height of lower hitch points:		
- in Low position	(h)	545 mm
- in High position relative to the rear wheel centre line, situated 745 mm above the ground level	(H)	195 mm

SWINGING DRAWBAR

- Type: LAMBORGHINI 97320;
- Height above ground (tyre size:16.9/34) max 500 mm
  min 425 mm
- Type of adjustment: reversible;
- Distance of hitch point from rear axle axis, horizontally: 815 mm;
- Distance of hitch point from power take-off shaft end
  . vertically: 283 - 358 mm below;
  . horizontally: 485 mm behind;
- Lateral adjustement (centre of clevis):
  (right hand) 270 mm;
  (left hand) 270 mm;
- Distance of pivot point from rear axle axis, horizontally: 485 mm forward;
- Diameter drawbar pin hole: 33 mm;

TRAILER HITCH

- Type: LAMBORGHINI;
- Height above ground: 500 - 630 - 760 mm;
- Distance of hitch point from rear axle axis, horizontally: 530 mm;
- Distance of hitch point from power take-off shaft end:
  . vertically: behind 240 - 110 mm above 20 mm;
  . horizontally: 150 mm;
- Maximun vertical permissible load: 1470 daN;
- Diameter of pinhole; 27.5 mm.

HOLED DRAWBAR

- Number of holes: 7;
- Distance between holes: 100 mm;
- Hole diameter: 28.5 mm;
- Thickness/width of the drawbar: 30 - 80 mm;
- Height above ground , minimum 270 mm;
  maximum 960 mm;
- Horizontal distance to power take-off shaft end (rear) 560 mm;
- Diameter of the pinhole: 28 mm.

STEERING

- Specifications: hydrostatic steering whit BOSCH hydraulic gear pump HY/ZFS 11/11 L 201.
  two rams at simple effect acting directly on front axle;

- Make: DANFOS;
- Model: ORBITROLL;
- Type: OSPC 80 OR;
- Working pressure: 120 bar;
- Oil capacity: 45 l in common with gear box;
- Oil change period: 1200 hrs;
- Filter change period: when the filter clogging warning lamp is lighted;
- Recommended oil (see pag.17)

BRAKE

Service brake

- Make: LAMBORGHINI;
- Model: 447.54;
- Type: oil bath disc, total 4 discs, mounted before 2 at front and 2 at rear differential half schafts.Front disc dia=224 mm ; rear disc dia=290 mm. FRENDO HDT 303 lining material;
- Method of operation: hydraulically acting with 2 pedals
- Trailer braking take-off: none.

Parking brake

- Type: fully independent by service brake, 3 oil bath discs mounted on the pinion shaft in the gear box ISOBOND SINTERIX lining material;
- Method of operation: mechanically by hand lever

Steering brake : divided pedal of service brake for normal use locked together;

STEERING WHEELS

- Number: 2;
- Location: at front;
- Tyres: radial;
  . Size: 14.9/24;
  . Ply rating: 8;
  . Maximum permissible load on each tyre: 1726 daN;
  . Corresponding inflation pressure: 1.8 bar;
- Track widths: 1620 - 1720 - 1820 mm;
- Regulation: changing the position of the rims in respect of the disc;

DRIVING WHEELS

- Number: 4;
- Location: 2 at front and 2 at rear;
- Tyres:
  - Size: 16.9/34;
  - Ply rating: 6
  - Type of casing: radial;
  - Maximum permissible load on each tyre: 1976 daN;
  - Corresponding inflation pressure: 1.3 bar;
- Track widths: 1500-1600-1700-1800-1900-2000-2100 mm;
- Regulation: changing the position of the rims in respect of the disc;

WHEELBASE: 2320 mm;

PROTECTIVE STRUCTURE

Specifications

- OECD approval number: CSD 0912/27;
- Trade name: SAME C 30;
- Manifacturer's name: SAME;
- Protective device: cab.

Materials used in the construction and dimensions

See OECD Test Report on Protective Stuctures.

DRIVER'S SEAT

- Make: BOSTROM;
- Model: U-Series;
- Type of suspension: 84422 upholstered seat with back rest;
- Type of damping: shock absorber;
- Range of adjustment, longitudinal 150 mm;
  vertical 60 mm;

PASSENGER'S SEAT

- Make: SAME
  The seat is situed on the left side of the cab.

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LIGHTING

Lighting system in accordance with CEE 78/933

	Height above ground of centre with tyre mm	Size mm	Distance from out side edge of trac tor to centre at 1700 mm track width mm
Headligths	1055	110*110	1020
Front park.lights	1852.5	110*35	515
Front finger post	1887.5	110*35	515
Rear park.lights	1657.5	180*35	640
Rear finger post	1697.5	90*45	595
Stop	1696.5	90*45	685
Reflectors	1465	90*60	645

Tyre size: 14.9/24 (8 ply) front - 16.9/34 (6 ply) rear.

TEST CONDITIONS

- Overall dimensions with tyres:
- Front 14.9/24 (8 ply) - Rear 16.9/34 (6 ply).

	Length (mm)	Width (mm) min	Width (mm) max	Height (mm) at top of exaust sil.	Height (mm) at top of protec.struc.
Without ballast	3960	2090	2690	2630	2600
With ballast	4360	2090	2690	2628	2598

Ground clearance

-Clearance-limiting part: 470 mm, below front traction gear

Track setting

- Front: 1620 mm;
- Rear: 1700 mm;

Tractor mass (without driver but with thanks full with cab);

	Units	Front	Rear	Total
Without ballast	kg	1415	1980	3395
With ballast	kg	1635	2180	3815

Ballast: front axle, ballast of 40 Kg each with svitable support; weight support 20 Kg;
rear axle, rings of 50 kg,each, with 6 bolts

	ballast (n)	total weight (Kg)	water (Kg)
front	5+1°	220	--
rear	2+2	200	--
additional	---	---	--

° = front ballasted support.

Fuel and lubricants recommended and used in tests all in accordance with API NORM

Fuel

- Type: AGIP Diesel, DIN 51601;
- Specific gravity at 15 °C: 0.840 kg/l;

Engine oil

- Type: AGIP DIESEL SIGMA S SAE 30;
- Viscosity: 12.5 cSt;
- API: SE-CD;

Transmission oils and rear, front axle and final drive oils;

- Type: AGIP ROTRA THT;
- Viscosity: 11.5 cSt;
- Viscosity index: 95;
- API: GL-3;

Power lift oil

- Type: AGIP ROTRA THT;
- Viscosity: 11.5 cSt;
- API: GL-3;

Steering oil

- Type: AGIP ROTRA THT;
- Viscosity: 11.5 cSt;
- API: GL-3

GREASE

- Type: AGIP GREASE 30;
- Number of lubrication points: 11;

II - TEST RESULTS

A. COMPULSORY TESTS RESULTS

1) MAIN POWER TAKE-OFF PERFORMANCE

- Date and location of test: 24 th sept. 1987 - I.S.M.A. TREVIGLIO (BG) ITALY
- Type of dynamometer: ZOELLNER 350 AC

Power	Speed		Fuel consumption			Specific Energy
	Engine	P.T.O.	Hourly	Specific		
kW	rev/min	rev/min	l/h	kg/h	g/kWh	kWh/l
MAXIMUM POWER - 2 - HOUR TEST						
54.90	2510	1025	17.02	14.29	260	3.23
POWER AT RATED ENGINE SPEED						
54.90	2510	1025	17.02	14.29	260	3.23
STANDARD POWER TAKE-OFF SPEED (1000+/-10 REV/MIN)						
54.30	2458	1003	16.67	14.00	258	3.26
PART LOADS						
i) torque corresponding to maximum power at rated engine speed						
54.90	2510	1025	17.02	14.29	260	3.23
ii) 85% of torque obtained in i)						
47.20	2550	1041	14.88	12.50	265	3.17
iii) 75% of torque definited in ii)						
35.70	2582	1054	11.55	9.70	272	3.09
iv) 50% of torque defined in ii)						
24.00	2603	1063	9.21	7.74	323	2.61
v) 25% of torque defined in ii)						
12.10	2625	1071	6.84	5.74	475	1.77
vi) unloaded						
0	2646	1080	4.35	3.66	-	-

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PART LOADS AT STANDARD POWER TAKE-OFF SPEED

Power	Speed		Fuel consumption			Specific Energy
	Engine	P.T.O.	Hourly	Specific		
kW	rev/min	rev/min	l/h	kg/h	g/kWh	kW h/l
i) The torque corresponding to maximum power available						
54.30	2458	1003	16.67	14.00	258	3.26
ii) 85% of torque obtained at maximum power						
46.90	2502	1021	14.40	12.10	258	3.27
iii) 75% of torque defined in ii)						
35.50	2529	1032	11.31	9.50	268	3.14
iv) 50% of torque defined in ii)						
23.80	2551	1041	8.92	7.49	315	2.67
v) 25% of torque defined in ii)						
11.80	2572	1050	6.42	5.39	455	1.84
vi) unload						
-	2594	1059	4.07	3.42	-	-

STANDARD SPECIFIC FUEL CONSUMPTION: 265/323/258/315 g/kWh

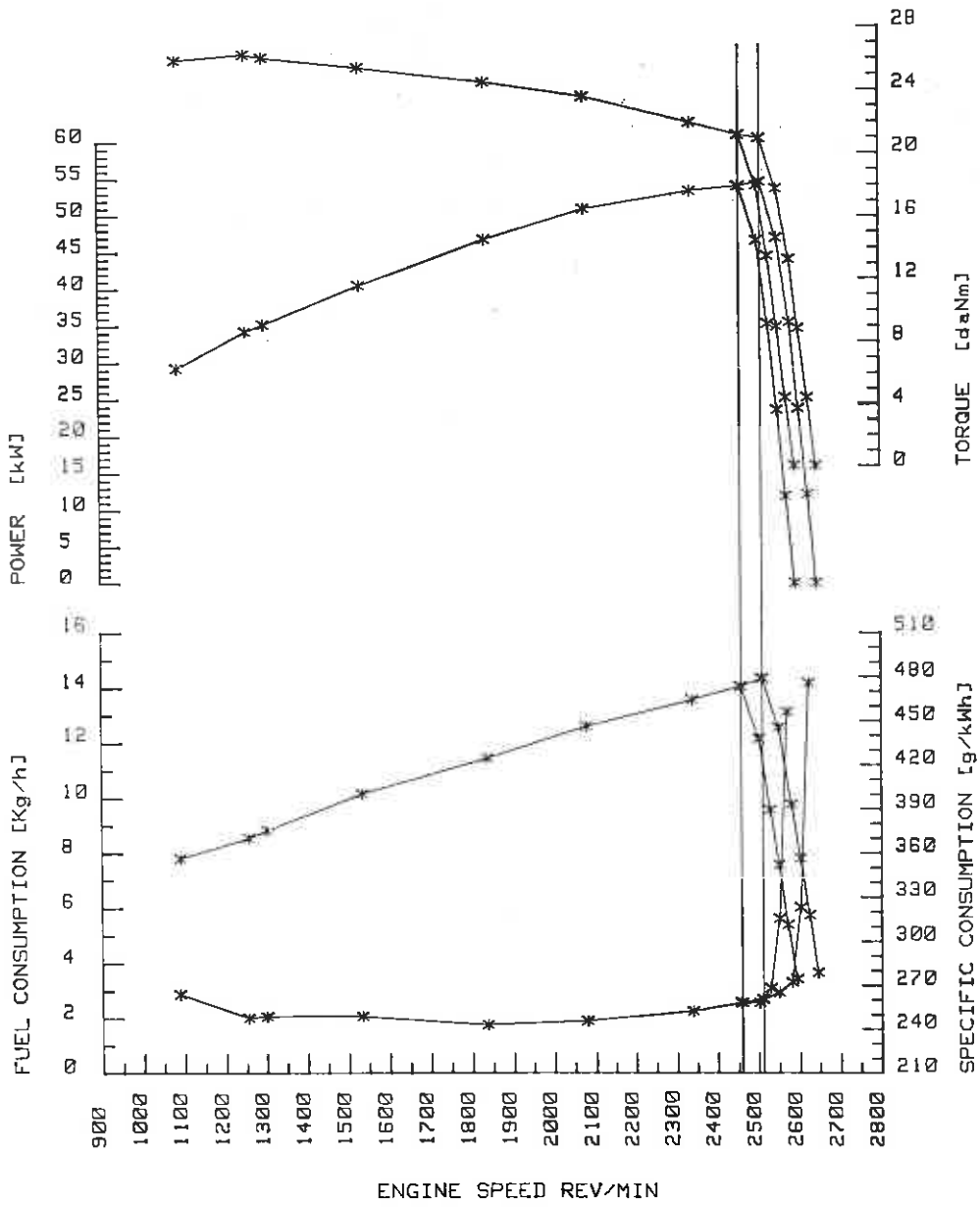
- No load maximum engine speed: 2646 rev/min
- Torque (1) at maximum power: 20.90 daNm
- Maximum torque (1) (engine speed: 1255 rev/min):26.10 daNm
- Mean atmospheric conditions : Temperature 24°C
  Pressure 981 mbar
  Relat.humidity 81%
- Maximum temperatures : Coolant 92°C
  Engine oil 115°C
  Fuel 48°C
  Engine air intake 25°C

(1) The torque is the equivalent crankshaft torque.

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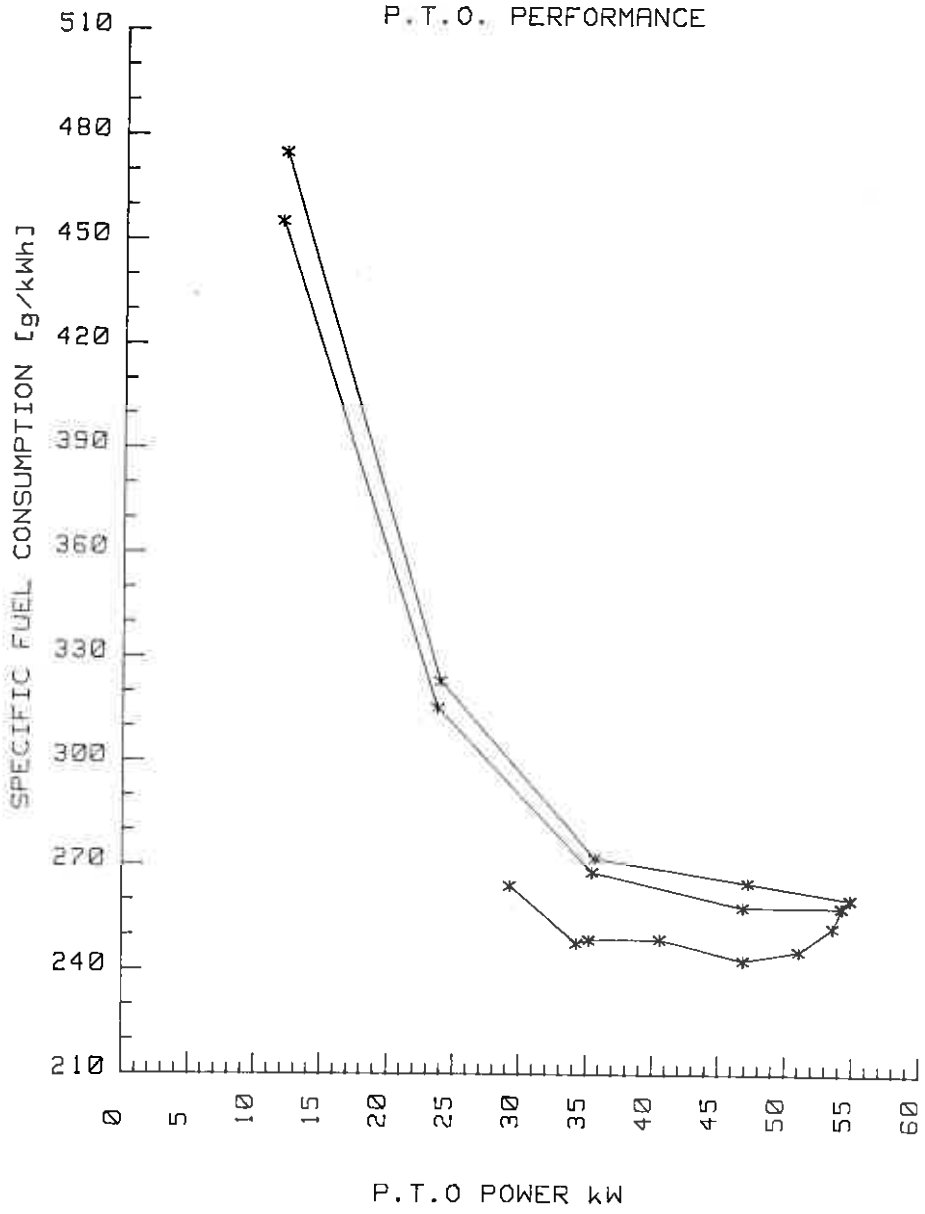
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P.T.O PERFORMANCE



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(2) POWER LIFT AND HYDRAULIC POWER TEST

- Hydraulic fluid: AGIP ROTRA THT 11.5 CST, viscosity index 95, temperature at beginning test: 65 C°.
- Date and location of tests: 28 th SEPT 1987 - ISMA Treviglio (BG)

		at hitch point	on the frame
Height of lower hitch point above ground in down position	mm	200	200
Vertical movement	mm	740	770
Maximum corrected force exerted through full range	daN	2111	1858
Corresponding pressure of hydraulic fluid	bar	171.5	171.5
Moment about rear axle	daNm	2132	3010
Maximum tilt angle of mast over range of lift	Degrees	--	-3

Lifting heights relative to the horizontal lower links

mm	-325	-300	-200	-100	0	100	200	300	415	445
Lifting forces at hitch points										
daN	2211	2248	2347	2561	2653	2728	2806	2289	2158	---
Lifting forces at test frame										
daN	1936	1943	2004	2106	2172	2172	2155	2144	----	1858

HYDRAULIC POWER TEST

Sustained pressure with relief valve open: 188.2 bar;
Pump delivery rate at min pressure: 35.8 l/min;

Hidraulic power	kW	flow rate l/min	pressure bar	oil temp. °C
At 90% of the actual reliev valve setting	11.58	40.5	171.5	65
Maximum	11.58	40.5	171.5	65

Tapping point used for test : at rear of tractor
Hydraulic fluid: see pag.17

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(3) DRAWBAR PERFORMANCE

- Date of tests: 19/10/1987 I.S.M.A. - TREVIGLIO
- Type of track: concrete
- Type and size of tyres front: 14.9/24 8 plr
  rear : 16.9/34 6 plr
- Heigth drawbar above ground: 580 mm
- Tyre inflation pressure: front 1.8 bar
  rear 1.3 bar

Gear	Pow.	Draw. pull	Speed	Engine speed	Slip of wheel	Specific ener.cons.	fuel cons.	Temperat. cool.	eng.	temp.	Atm. condit. hum.	pres.
n.	kW	daN	km/h	rev/min	%	kWh/l	g/kWh	°C	°C	°C	°C	%	mbar

1) MAXIMUM POWER TRANSMISSION AND FUEL CONSUMPTION AT THE DRAWBAR
(UNBALLASTED TRACTOR)

1R	2.68	2609	0.37	2631	15	0.45	1880	30	66	102	16	71	1001
2R	4.00	2619	0.55	2619	15	0.54	1555	30	66	102	16	71	1001
3R	5.23	2617	0.72	2602	15	0.57	1480	30	67	103	16	71	1001
4R	6.90	2618	0.95	2589	15	0.60	1390	31	67	103	17	71	1001
1S	7.40	2615	1.02	2573	15	0.62	1351	31	67	102	17	71	1001
5R	9.08	2616	1.25	2564	15	0.70	1202	31	68	103	17	71	1001
2S	10.89	2615	1.50	2551	15	0.75	1111	31	68	105	17	70	1001
3S	14.37	2614	1.98	2543	15	0.97	868	32	69	105	17	70	1001
4S	18.85	2612	2.60	2530	15	1.20	700	32	70	105	17	70	1001
1N	22.99	2613	3.17	2519	15	1.41	597	32	70	107	17	70	1002
5S	24.77	2609	3.42	2509	15	1.46	574	32	70	107	18	70	1002
2N	33.06	2550	4.67	2505	15	1.94	432	33	70	105	18	70	1002
3N	42.72	2396	6.42	2501	12	2.50	335	33	71	106	18	70	1002
4N	44.85	1827	8.84	2500	8	2.62	320	33	71	105	18	70	1002
1F	43.38	1471	10.62	2500	5	2.53	331	33	70	106	18	70	1002

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(ii) MAXIMUM POWER (ballasted)
. heigth of drawbar above ground 570 mm
. tyres inflation pressure : 1.9 bar at rear - 1.5 bar at front

Gear	Pow.	Draw. pull	Speed	Engine speed	Slip of wheel	Specific ener.cons.		Temperat. fuel	cool.eng.	Atm.condit. temp.	hum.	pres
n.	kW	daN	km/h	rev/min	%	kWh/l	g/kWh	°C	°C	°C	°C	%	mbar
1R	3.01	2935	0.37	2635	15	0.51	1634	28°	64	100	14	69	1004
2R	4.40	2940	0.54	2622	15	0.61	1382	28	64	100	14	69	1004
3R	5.84	2961	0.71	2615	15	0.73	1147	28	64	100	14	69	1004
4R	7.81	2992	0.94	2605	15	0.79	1058	29	65	100	14	69	1004
1S	8.37	2985	1.01	2590	15	0.83	1009	29	65	101	15	69	1004
5R	10.20	2989	1.23	2585	15	0.92	914	30	65	101	15	69	1004
2S	12.29	2993	1.48	2572	15	1.02	826	30	65	101	15	69	1004
3S	16.36	2991	1.97	2566	15	1.27	662	30	66	102	15	69	1004
4S	21.31	2987	2.57	2545	15	1.44	585	31	66	102	16	69	1004
1N	26.06	2986	3.14	2541	15	1.71	492	31	66	101	16	70	1004
5S	28.15	2989	3.39	2529	15	1.77	474	31	67	102	16	70	1005
2N	37.00	2891	4.61	2518	15	2.25	372	32	67	101	16	69	1005
3N	43.92	2404	6.58	2511	8.5	2.59	323	32	68	102	17	68	1005
4N	45.39	1839	8.89	2504	6	2.67	315	32	68	102	17	68	1005
1F	46.03	1571	10.55	2501	4	2.70	312	32	68	103	18	68	1006
5N	44.20	1313	12.13	2500	3	2.58	325	32	68	102	18	68	1006

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Gear	Pow.	Draw. pull	Speed	Engine speed	Slip of wheel	Specific ener.cons.	fuel	Temperat. cool.eng.		Atm.condit. temp.	hum.	pres
n.	kW	daN	km/h	rev/min	%	kWh/l	g/kWh	°C	°C	°C	°C	%	mbar
(iii) FIVE HOUR TEST at 75% of pull at maximum power: gear 3N													
3N	33.47	1805	6.68	2532	6	2.22	379	36	71	105	19	67	998
(iv) FIVE HOUR TEST at pull corresponding to 15% wheel slip in test (ii)													
2N	37.89	2904	4.70	2520	-	-	-	33	72	108	17	71	1002

- Test (iv) was carried out with additional ballast, the figures not quoted are therefore irrilevant.
- Total oil consumption in the first five hours: 390 g;
- Total oil consumption in the second five hours: 420 g;
- Hourly consumption: 81 g/h.

4 - TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 14.9/24 8 ply
rear: 16.9/34 6 ply
Track of wheel front: 1620 mm
rear: 1700 mm.

	with brakes on four wheels		without brakes	
	rigth (m)	left (m)	rigth (m)	left (m)
rad.turn space	5.05	4.95	5.70	5.48
rad.turn circle	4.88	4.78	5.54	5.32

5 - LOCATION OF CENTRE OF GRAVITY

Heigth above ground ..... mm 902
Distance forward from rear axle centre ..... mm 967
Distance from tractor median plane ..... mm 0

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6 - BRAKING PERFORMANCE
(tractor with brakes on all wheels)

Date of test: 2/10/1987
Type of track: concrete;
Type of decelerometer: Peiseler.

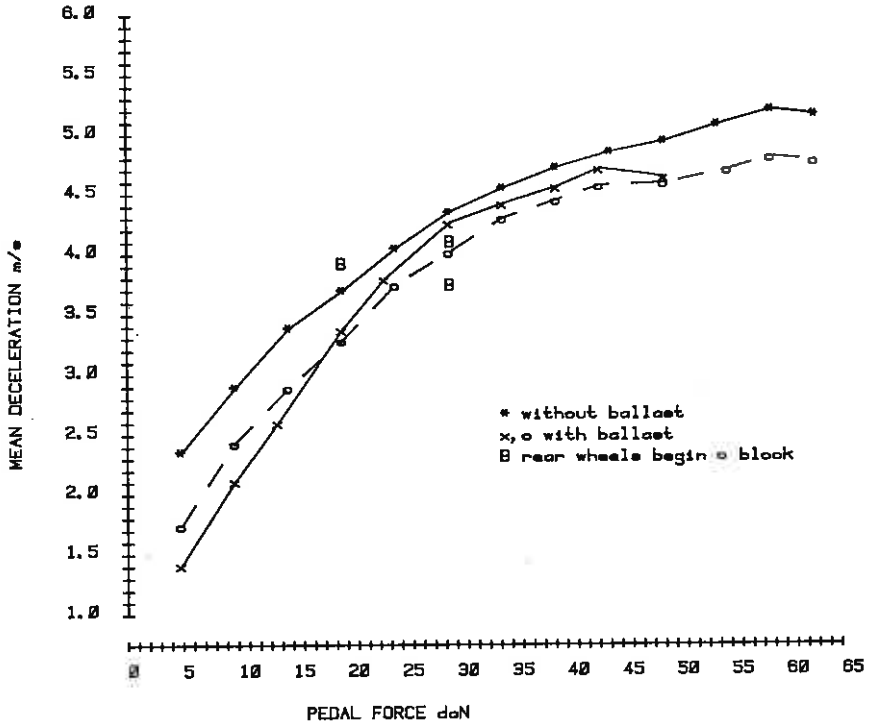
Maximum weigth tecnically permissible of the tractor with ballast(*)

	front axle kg	rear axle kg	total kg
unballasted	1425	2060	3485
ballasted	1900	3550	5450

(*) Tractor carrying a driver, a responsable for monitoring and the decelerometer.

A1) SERVICE BRAKES (all wheels braked)

Type - 0 - (cold brakes) _____ Type - I - (fade) --------



- Middle speed of beginning braking (unballasted tractor) = 40.7 km/h
- Middle speed of beginning braking (ballasted tractor) = 40.2 km/h
- The heating of brakes has been make to drag tractor braking for 1 km

Comment on deviation and vibration: none

B) Parking brake

	ballasted tractor on 18% slope		unballasted tractor with trailer of 3000 kg on 12% slope.	
	slope	desent	slope	descent
pull on handbrakes daN	7	8	11	12

7 - MEASUREMENT OF EXTERNAL NOISE LEVEL

- Date of test: 29/9/87
- Type of sound level meter: 2209 Brüel & Kjaer
- Type of track: concrete

Result of test

- Number gear used: 5F
- Travelling speed: 29.7 km/h
- Sound level: 83.5 dB(A)

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8 - NOISE MEASUREMENT AT THE DRIVER'S EAR LEVEL

- Date of test: 28/9/87
- Type of sound level meter: 2209 Brüel & Kjaer
- Type of track: concrete
- Safety frame: SAME C 30.

Gear	Drawbar pull at which the tractor develops the max sound level (daN)	travelling speed km/h	sound level db(A)
1R	2845	0.35	82.5
2R	2943	0.53	82.5
3R	3041	0.70	82.5
4R	2845	0.94	83.0
5R	2992	1.30	82.5
1S	3041	1.00	82.5
2S	3041	1.50	82.5
3S	2943	2.00	83.0
4S	3090	2.70	83.2
5S	3041	3.60	84.0
1N	2943	3.30	83.5
2N	2845	5.00	83.5
3N	0	7.60	82.5
3N	2256	6.80	84.5 * °
4N	1766	9.00	84.0
5N	1344	12.20	84.0
1F	1550	10.30	83.5
2F	952	16.00	83.0
3F	608	22.00	83.0
4F	432	29.50	83.0
5F	0	40.00	82.5
5F	304	39.20	82.7 #

(*) Gear with nominal speed nearest 7.5 km/h.
(°) Noisest gear.
(#) Max forward speed gear.

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REMARKS: none

TEST CARRIED OUT BY
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