ISTITUTO SPERIMENTALE PER
LA MECCANIZZAZIONE AGRICOLA
SEZIONE DI TREVIGLIO

O.E.C.D. n. 1107

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

Report on test of: SAME SOLAR 60 DT "4WD"



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

Date of approval O.E.C.D.: 07.12.1987

Period of test: Apr.- Sept. 1987

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

TEST n.034

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SAME SOLAR - 60 DT "4WD" TEST 034

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All stated dimension and tests referred to tyre size 9.5/24 (4plr) at front and 14.9/30 (6plr) at rear, as well as to track whiths 1450 mm at front and 1460 mm at rear.

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- Tractor manufacturer's: SAME 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: SAME;
- Model : SOLAR 60 DT "4WD";
- Type: Wheeled tractor, unit constr.,all wheels drive tractor;
- Serial no: 1074;
- First serial no.:1001.

ENGINE

- Make: SAME;
- Model: 1053 P;
- Type : Air cooled 4 stroke Diesel engine direct injection;
- Serial n.: 34490.

Cylinders

- Number/disposition: 3 vertical in line;
- Bore/stroke: 105/120 mm;
- Capacity: 3117 cc;
- Compression ratio: 17/1;
- Arrangement of valves: Overhead;
- Cylinder liners: without liners.

Fuel system

- Fuel feed system: AC corone fuel feed pump;
- Make, type and model of fuel filter: FIAMM FNA 166/00;
- Capacity of fuel tank: 55 l;

- Make, type and model of injection pump: ALTECNA TYP PFR 3K80/7048, immersed pump whitout serial number;
- Manufacturer's production setting of injection pump:
  . flow rate 60 ± 2 mm3/stroke at rated speed and full load;
  . timing 24°± 30' before TDC;
- Make, type and model of injectors:BOSCH DLLA 160 S 255 multihole injection nozzles;
- Injection pressure: 200 ± 10 bar.

Governor

- Make: SAME;
- Type: mechanical variable speed;
- Model: 062.1616.0;
- Governor range of engine speed from 675 to 2283 rev/min;
- Rated engine speed : 2200 rev/min.

Air Cleaner

- Main filter
  . Make: DONALDSON;
  . Type: Dry paper element filter;
  . Model: FKG 06 - 5296;
  . 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: 6.7 l;
- Oil change period : 125 hrs;
- Type of filter : FIAMM FT 4803 IN;
- Number: 1;
- Filter change period: 300 hrs;
- Oil specifications (see pag.16)

Cooling system

- Type and detail: air cooling with axial blower;
- No. of fan blade : 6;
- Diameter : 229 mm;
- Type of temperature control: none.

Starting system

- Safety device: Preventing engine start on the clutch pedal;
- Make: MAGNETI MARELLI;
- Model: MT 68 PA 3.5/12 011;
- Type: electromagnetic engagement;
- Power: 3 kW for start motor rating;
- Starting system for low temperatures: thermostarter(opt.).

Electrical equipement

- Voltage: 12 V;
- Generator
  . Make: MAGNETI MARELLI;
  . Type: alternator AA 108 - 14V - 33A
  . Power: 460 W;
- Battery : 1 lead acid;
  . Capacity: 110 Ah at 20 hours rating.

Exhaust system

- Make: SAME;
- Type: 4 chambers reflection absorption;
- Model: 150.5610.2/20;
- Location: on the left hand side of engine cowling, vertical position;
- Height of outlet above ground: 2250 mm.

TRANSMISSION

Clutch: utilized only for travelling of tractor
- Make: SAME;
- Type : single disc dry clutch;
- Model: 465.22;
- Disc diameter: 250 mm;
- Control system: hydraulically operated by pedal self readjusting.

Gear box

- Make: SAME;
- Type: mechanical syncromesh speed change gear with 4 speeds forward, 1 reverse speed with 3 ranges speed;
- Model: 465.31;
- No. speeds: 12 forward and 3 reverse;
- Available options: 16 forward and 3 reverse.

Rear axle and final drives

- Make: SAME;
- Type: bevel gear differential and side final drive;
- Model: 465.44;
- Differential lock: yes;
- Type: mechanical;
- Model: SAME;
- Control system: engaged or disengaged with pedal.

Front axle and final drive

- Make: SAME;
- Type: 465.43;
- Model: original SAME system with central shaf bevel gear drive, differential and epicyclic final drive;
- Differential lock: yes;
  . Type: Mechanical;
  . Model: SAME;
  . 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 39.7 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.16.

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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 2200 rev/min
FORWARD			
1	S	582.10	0.94
2	S	342.90	1.60
3	S	256.80	2.14
4	S	165.03	3.33
1	N	194.03	2.84
2	N	114.29	4.85
3	N	85.59	6.44
4	N	55.22	9.98
1	F	64.68	8.52
2	F	38.10	14.47
3	F	28.54	19.32
4	F	18.40	29.97
REVERSE			
1	S	292.48	1.88
2	N	97.50	5.65
3	F	32.50	16.96

- Tyre size 14.9/30 inflaction pressure: 1.4 bar
- Tyre radius index: 665 mm (E.T.R.T.O. norm).

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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 14.9/30: 650 mm;
- Distance from the median plane of the tractor 0 mm;
- Distance behind rear axle: 260 mm;
- PTO speed: 613 rev/min at rated engine speed;
- Engine speed: 1937 rev/min at standard power take-off speed 540 rpm;
- Ratio of rotation speeds (engine speed/p.t.o. speed): 3.587;
- Max power and torque trasmissible: 79.4 kW and 128.7 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: 26 in conformity with "ISO Standard 500 - 1979";
- Height above ground with tyre size 14.9/30: 650 mm;
- Distance from the median plane of the tractor 0 mm;
- Distance behind rear axle: 260 mm;
- PTO speed at rated engine speed: 996 rev/min
- Engine speed 2208 rev/min at standard power take-off speed: 1000 rpm;
- Ratio of rotation speeds (engine speed/p.t.o. speed): 2.2083;
- Direction of rotation (viewed facing driving end): clockwise.

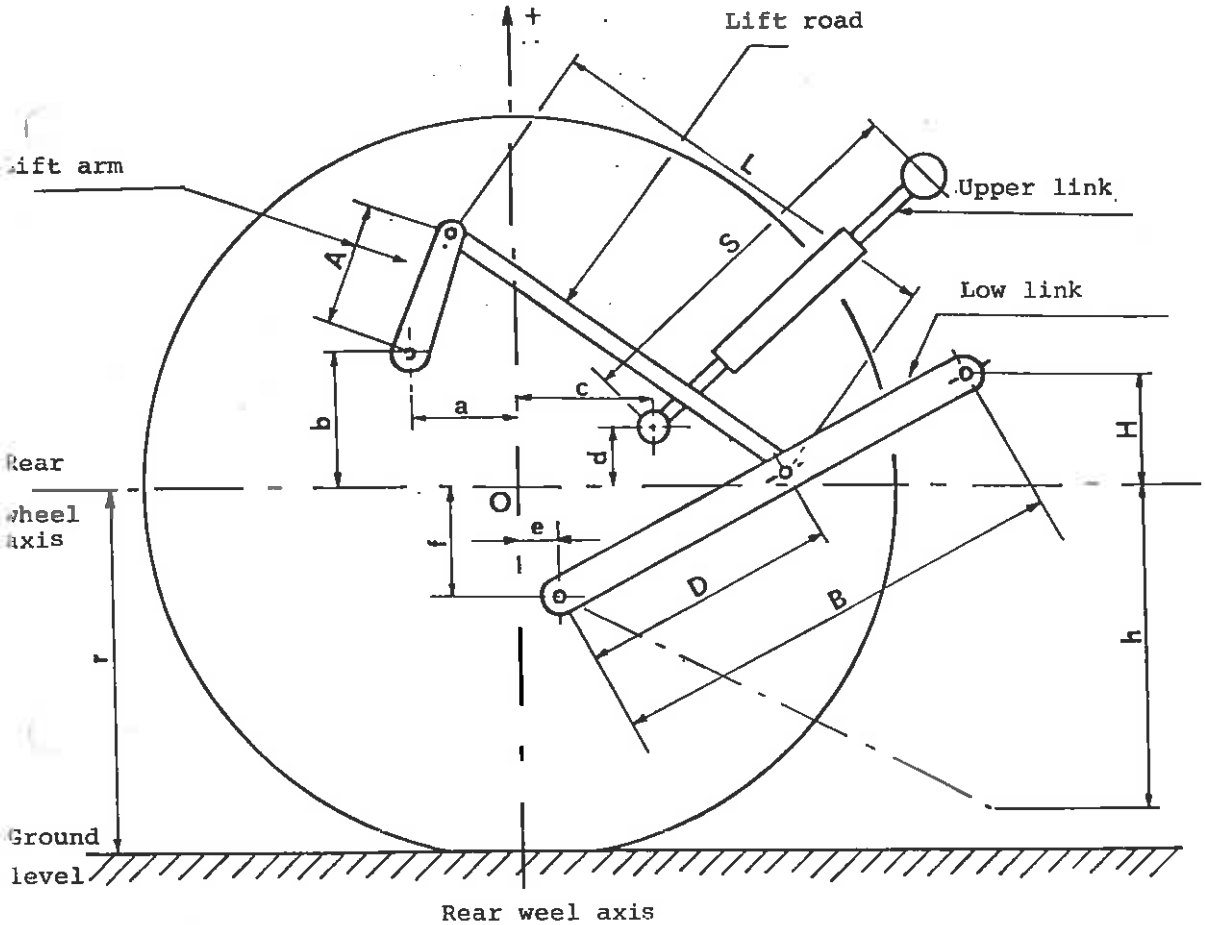
POWER LIFT

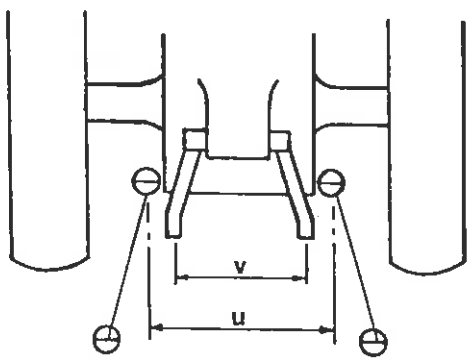
- Make: MITA;
- Type: M65 closed centre system;
- Type and number of cylinders: 1;
- Type of locking for the transport: mechanical, with screwed tie rods that lock the lower links;
- Exercise valve pressure: 180 bar;
- Opening pressure anti-shock valve: 200 bar;
- Lift pump type: hydraulic rotary pump,driven 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: 39.7 l in common with gear box;
- Site of oil reservoir: gear box;
- Position and No.of additional oil plugs: 2 ways distributor at rear of tractor;
- Maximum volume of oil available to external cylinders: 15 l;
- Recommended oil (see pag.16).

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 14.9/30)		(r)	665 mm
Front tyre (size 9.5/24)		(r')	495 mm
Length of lift arms		(A)	270 mm
Length of lower links		(B)	870 mm
Distance of lift arm	:horizontally	(a)	50 mm
pivot point from rear	:vertically	(b	355 mm
wheel centre line			
Horizontally distance between the 2 lower link points		(u)	430 mm
Horizontally distance between the 2 lift arm end points		(v)	530 mm
Length of upper link		(S)	from 470 to 760 mm
Distance of upper link horizontally		(c)	270 mm
pivot point from rear vertically		(d)	300 mm
wheel centre line			
Distance of lower link horizontally		(e)	10 mm
pivot point from rear vertically		(f)	115 mm
wheel centre			
Distance of lower link pivot points to lift rod pivot points on lower link		(D)	440 mm
Length of lift rods		(L)	610 mm
Height of lower hitch points:			
- in Low position		(h)	460 mm
- in High position relative to the rear wheel centre line, situated 665 mm above the ground level		(H)	190 mm

SWINGING DRAWBAR: none.

TRAILER HITCH

- Type: SAME;
- Height above ground: 505 - 555 - 770 mm;
- Distance of hitch point from rear axle axis, horizontally: 375 mm;
- Distance of hitch point from power take-off shaft end:
  . vertically: behind 145 - 95 mm above 120 mm;
  . horizontally: 150 mm;
- Maximun vertical permissible load: 1363 daN.
- Diameter of pinhole: 28.5 mm.

HOLED DRAWBAR

- Number of holes: 7;
- Distance between holes: 100 mm;
- Hole diameter: 28.5 mm;
- Thickeness/width of the drawbar: 30 - 80 mm;
- Height above ground , minimum 220 mm;
  maximum 860 mm;
- Horizontal distance to power take-off shaft end (rear) 660 mm.

STEERING

- Specifications: hydrostatic steering whit BOSCH hydraulic gear pump HY/ZFS 11/11 L 214.
  Two rams at simple effect acting directly on front axle;
- Make: DANFOS;
- Model: ORBITROLL;
- Type: OSPC 80 OR;
- Working pressure: 120 bar;
- Oil capacity: 39.7 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.16).

BRAKE

Service brake
- Make: SAME;
- Model: 254.54;
- Type: oil bath disc, total 8 discs, mounted before 2 rear differential half schafts.
  rear disc dia=178 mm
  FRENDO HDT 303 lining material;
- Method of operation: hydraulically acting with 2 pedals.
- TRAILER BRAKING TAKE-OFF: none.

Parking brake
- Type: fully indipendent by service brake, 8 oil bath discs mounted on the pinion shaft in the gear box
  FRENDO HOT 303 lining material;
- Method of operation: mechanically by hand lever.
- Trailer braking take-off: none

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

STEERING WHEELS

- Number: 2;
- Location: at front;
- Tyres: radial;
  . Size: 9.5/24;
  . Ply rating: 4;
  . Maximum permissible load on each tyre: 725.7 daN;
  . Corresponding inflation pressure: 1.4 bar;
- Track widths: 1350 - 1450 - 1550 mm;
- Regulation: changing the position of the rims in respect of the disc.

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DRIVING WHEELS

- Number: 4;
- Location: 2 at front and 2 at rear;
- Tyres:
  - Size: 14.9/30;
  - Ply rating: 6
  - Type of casing: radial;
  - Maximum permissible load on each tyre: 1632.8 daN;
  - Corresponding inflation pressure: 1.4 bar;
- Track widths: 1360-1460-1560-1660-1760-1860 mm;
- Regulation: changing the position of the rims in respect of the disc.

WHEELBASE: 2085 mm.

PROTECTIVE STRUCTURE

Specifications

- OECD approval number: CSD 01029/5;
- Trade name: T 48;
- Manifacturer's name: SAME TRATTORI S.p.A.;
- Protective device: frame.

Materials used in the construction and dimensions

See OECD Test Report on Protective Stuctures.

DRIVER'S SEAT

- Make: BOSTROM XL;
- Model: Baltic;
- Type of suspension: 84604 - AX;
- Type of damping: shock absorber;
- Range of adjustment, longitudinal 150 mm;
  vertical 60 mm.

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LIGHTING

Lighting system in accordance with CEE 78/933

	Height above ground of centre with tyre(1) mm	Size mm	Distance from out side edge of trac tor to centre at 1460 mm track width mm
Headligths	870	dia 120	820
Front park.lights	1420	110*35	335
Front finger post	1455	110*35	335
Rear park.lights	1430	50*60	330
Rear finger post	1430	50*60	280
Stop	1430	50*60	380
Reflectors	1080	dia 80	440

(1) Tyre size: 9.5/24 front - 14.9/30 rear.

TEST CONDITIONS

- Overall dimensions with tyres:
- Front 9.5/24 - Rear 14.9/30

	Length (mm)	Width (mm) min	Width (mm) max	Height (mm) at top of exaust sil.	Height (mm) at top of protec.struc.
Without ballast	3440	1760	2260	2250	2375
With ballast	3550	1760	2260	2248	2373

Ground clearance

- Clearance limiting part: 335 mm, below front traction gear.

Track setting

- Front: 1450 mm;
- Rear: 1460 mm;

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

	Units	Front	Rear	Total
Without ballast	kg	1020	1340	2360
With ballast	kg	1120	1340	2460

BALLAST: front axle, ballast of 50 Kg each.

	ballast(n)	total weight (Kg)	water (Kg)
front	2	100	-
rear	-	-	-
additional	-	-	-

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.

Recommended grease: AGIP GREASE 30;
- Number of lubrication points: 11.

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II - TEST RESULTS

A. COMPULSORY TESTS RESULTS

1) MAIN POWER TAKE-OFF PERFORMANCE

- Date and location of test: 07 th Sept. 1987 - I.S.M.A. TREVIGLIO (BG) ITALY
- Type of dynamometer: ZOELLNER 350 AC

Power	Speed		Fuel consumption			Specific
	Engine	P.T.O.	Hourly		Specific	Energy
KW	rev/min	rev/min	l/h	Kg/h	g/kWh	KWh/l
MAXIMUM POWER - 2 - HOUR TEST						
38.9	2194	612	11.89	9.99	257	3.27
POWER AT RATED ENGINE SPEED						
38.9	2194	612	11.89	9.99	257	3.27
STANDARD POWER TAKE-OFF SPEED (540+/-10 REV/MIN)						
37.2	1947	543	11.09	9.32	251	3.35
PART LOADS						
i) torque corresponding to maximum power at rated engine speed						
38.9	2194	612	11.89	9.99	257	3.27
ii) 85% of torque obtained in i)						
33.1	2201	614	10.20	8.57	258	3.25
iii) 75% of torque definited in ii)						
25.0	2217	618	8.12	6.82	273	3.08
iv) 50% of torque defined in ii)						
16.7	2230	622	6.28	5.27	315	2.66
v) 25% of torque defined in ii)						
8.4	2248	627	4.52	3.80	452	1.86
vi) unloaded						
0	2283	636	3.05	2.56	0	0

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PART LOADS AT STANDARD POWER TAKE-OFF SPEED

Power	Speed		Fuel consumption			Specific
	Engine	P.T.O.	Hourly	Specific		Energy
kW	rev/min	rev/min	l/h	kg/h	g/kWh	kWh/l
i) The torque corresponding to maximum power available						
37.2	1947	543	11.09	9.32	251	3.35
ii) 85% of torque obtained at maximum power						
31.6	1951	544	9.47	7.95	251	3.34
iii) 75% of torque defined in ii)						
23.9	1960	546	7.31	6.14	257	3.26
iv) 50% of torque defined in ii)						
16.0	1973	550	5.51	4.63	289	2.90
v) 25% of torque defined in ii)						
8.10	1991	555	3.78	3.18	394	2.13
vi) unload						
-	2027	565	2.30	1.93	-	-

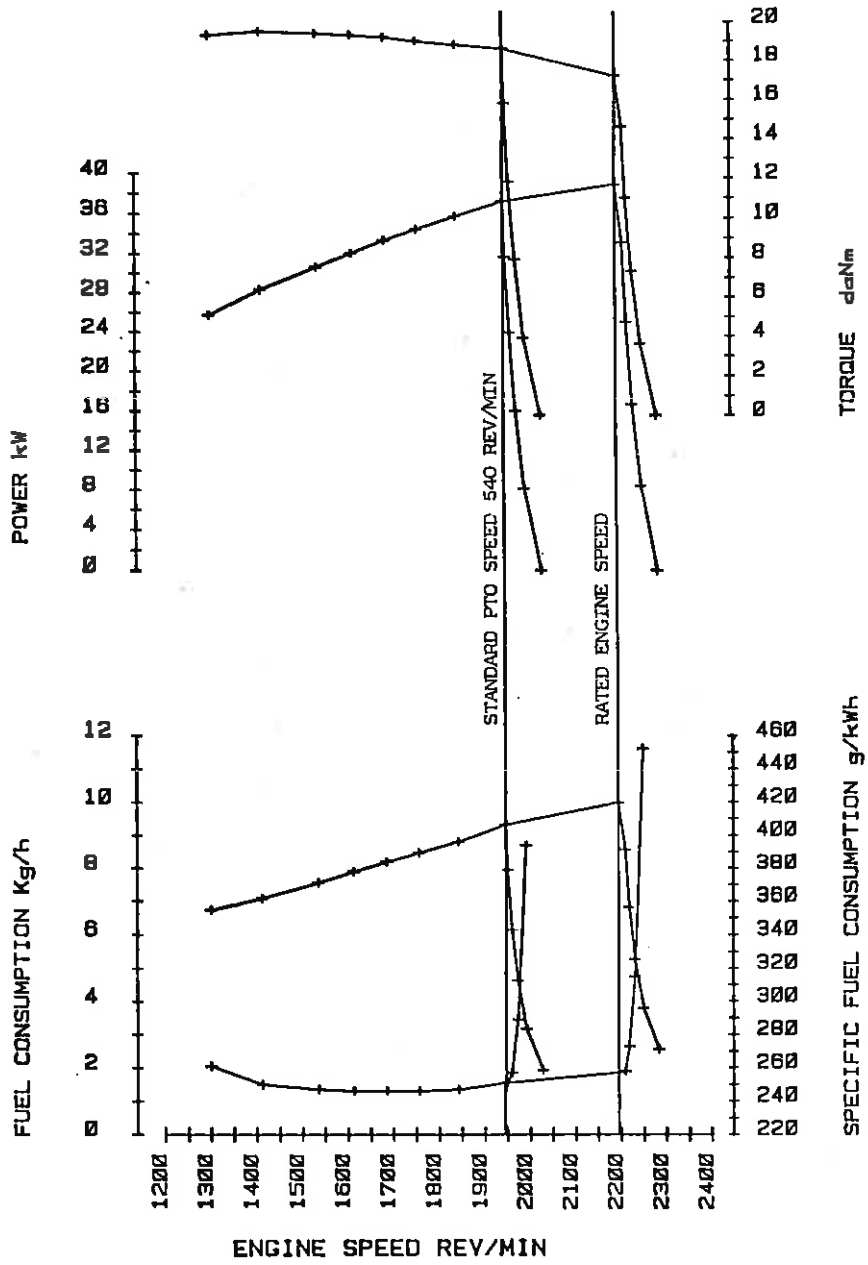
STANDARD SPECIFIC FUEL CONSUMPTION: 258/315/251/289 g/kWh

- No load maximum engine speed: 2283 rev/min
- Torque (1) at maximum power: 17.2 daNm
- Maximum torque (1) (engine speed: 1412 rev/min):19.5 dNm
- Mean atmospheric conditions : Temperature 22°C
  Pressure 997 mbar
  Relat.humidity 75%
- Maximum temperatures : Coolant 92°C
  Engine oil 118°C
  Fuel 32°C
  Engine air intake 30°C

(1) The torque is the equivalent crankshaft torque.

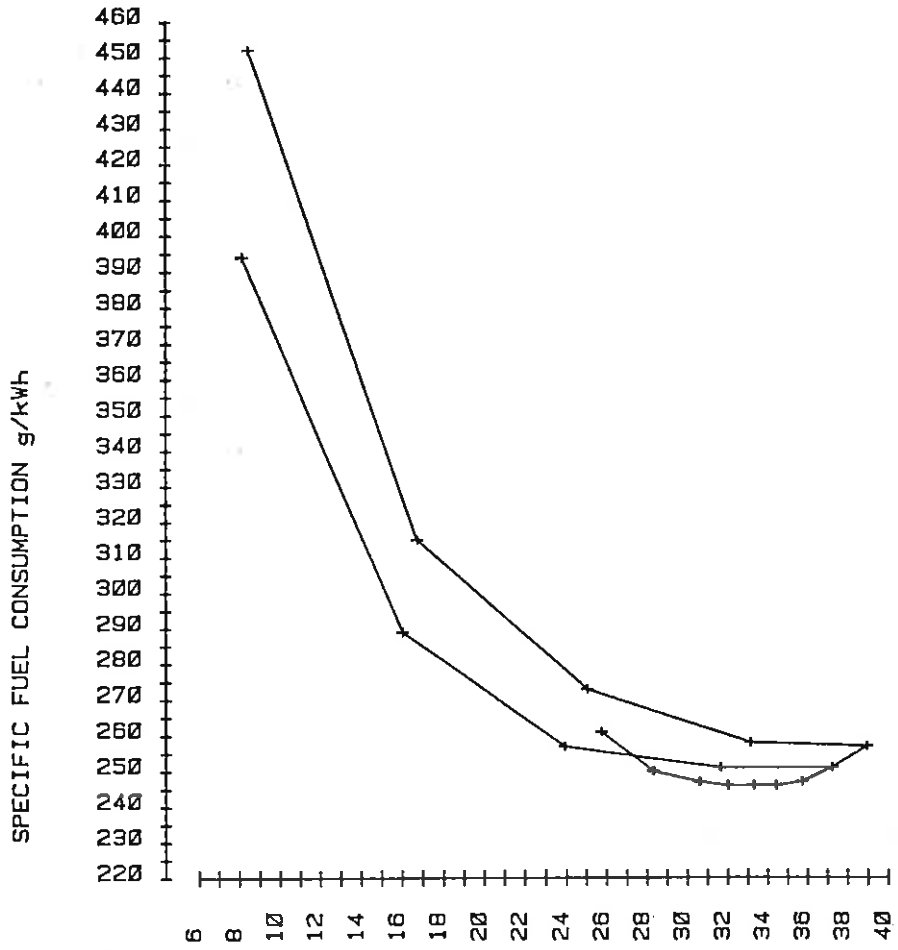
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p.t.o. PERFORMANCE



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p.t.o. PERFORMANCE



p.t.o. POWER kW

(2) POWER LIFT AND HYDRAULIC POWER TEST

- Date and location of tests: 15 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	650	770
Maximum corrected force exerted through full range	daN	2001	1938
Corresponding pressure of hydraulic fluid	bar	178	178
Moment about rear axle	daNm	1761	2887
Maximum tilt angle of mast over range of lift	Degrees	--	6

Lifting heights relative to the horizontal lower links

mm	-350	-300	-200	-100	0	100	200	300	400	440
Lifting forces at hitch points										
daN	2001	2109	2315	2428	2575	2701	2727	2693	---	---
Lifting forces at test frame										
daN	2138	2140	2140	2150	2130	2060	1960	1955	1944	1938

HYDRAULIC POWER TEST

Sustained pressure with relief valve open: 185 bar;
Pump delivery rate at min pressure: 32 l/min;

Hydraulic power	kW	flow rate l/min	pressure bar	oil temp. °C
At 90% of the actual reliev valve setting	6.40	23.0	167.0	63
Maximum	7.00	28.0	150.0	60

Tapping point used for test : at rear of tractor
Hydraulic fluid: see pag.16.

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(3) MAXIMUM POWER TRANSMISSION AND FUEL CONSUMTION AT THE DRAWBAR (Unballasted tractor)

- Date of tests: 16/9/1987
- Type of track: concrete
- Type and size of tyres front: 9.5/24 4 plr
  rear : 14.9/30 6 plr
- Heigth drawbar above ground: 473 mm;
- Tyre inflation pressure - front: 1.4 bar rear: 1.4 bar

i) MAXIMUM DRAWBAR IN TESTED GEARS

Gear	Pow.	Draw. pull	Speed	Engine speed	Slip of wheel	Specific ener.cons.	fuel cool.	Temperat. eng.		Atm. temp.	condit. hum.	pres.
n.	kW	daN	km/h	rev/min	%	kWh/l	g/kWh	°C	°C	°C	°C	%	mbar
2S	7.04	1824	1.39	2264	15.0	1.80	466	28	58	95	18	71	997
3S	9.36	1833	1.84	2251	15.0	2.08	403	28	58	96	18	71	997
1N	12.25	1824	2.42	2235	15.0	2.24	380	29	59	98	20	71	997
4S	14.29	1819	2.83	2230	15.0	2.27	370	29	60	102	20	71	997
2N	20.39	1804	4.07	2220	15.0	2.47	339	30	60	102	20	71	997
3N	26.31	1728	5.48	2210	14.0	2.69	312	30	61	102	21	70	997
1F	27.42	1292	7.64	2204	9.0	2.69	312	30	62	101	21	70	997
4N	30.02	1184	9.13	2204	7.0	2.80	299	31	62	98	21	70	996
2F	32.80	866	13.64	2199	4.0	2.95	284	31	63	101	21	70	998
3F	30 09	590	18.36	2198	3.0	2.64	318	32	64	101	21	70	998

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ii) MAXIMUM POWER (ballasted)
. height of drawbar above ground: 473 mm.
. tyres inflation pressure: 1.4 bar at rear
1.4 bar at front.

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
1S	4.32	1900	0.82	2278	15.0	1.13	738	27	56	95	17	66	995
2S	7.31	1910	1.38	2267	15.0	1.74	481	27	57	95	17	66	995
3S	9.70	1910	1.83	2253	15.0	1.97	423	28	57	96	17	67	995
1N	12.79	1912	2.41	2239	15.0	2.16	387	28	58	98	18	67	995
4S	14.86	1905	2.81	2231	15.0	2.21	378	29	59	102	18	67	995
2N	21.37	1886	4.08	2224	15.0	2.40	350	30	60	102	19	67	995
3N	26.75	1745	5.52	2213	13.0	2.62	320	30	60	103	19	67	995
1F	28.78	1364	7.60	2207	9.0	2.66	315	31	61	101	20	67	996
4N	30.73	1203	9.20	2206	6.0	2.76	303	31	62	103	20	66	996
2F	33.17	879	13.58	2201	4.0	2.78	301	32	63	102	20	66	996
3F	30.96	609	18.31	2199	3.0	2.58	326	32	63	103	21	66	996

ISTITUTO SPERIMENTALE PER
LA MECCANIZZAZIONE AGRICOLA
SEZIONE DI TREVIGLIO

Gear	Pow.	Draw. pull	Speed	Engine speed	Slip of wheel	Specific ener.cons.		Temperat. fuel	cool.eng.		Atm.condit. temp.	hum.	pre-
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	21.12	1347	5.65	2222	9	2.33	360	36	67	105	21	71	997
iv) FIVE HOUR TEST at pull corresponding to 15% wheel slip in test ii)													
2N	22.16	1857	4.30	2204	-	-	-	35	62	103	19	69	998

- Test (iv) was correst out with additional ballast, the figures not quoted are therefore irrilevant.
- Total oil consumption in the first five hours: 260 g
- Total oil consumption in the second five hours: 260 g
- Hourly consumption: 52 g/h.

ISTITUTO SPERIMENTALE PER
LA MECCANIZZAZIONE AGRICOLA
SEZIONE DI TREVIGLIO

4 - TURNING CIRCLE AND TURNING SPACE

Wheel equipment front: 9.5/24 4 ply
rear: 14.9/30 6 ply

Track of wheel front: 1450 mm
rear: 1460 mm

	with brakes on four wheels right (m)	left (m)	without brakes right (m)	left (m)
rad. turn space	3.24	3.28	4.45	4.52
rad. turn circle	3.18	3.22	4.39	4.46

5 - LOCATION OF CENTRE OF GRAVITY

Height above ground ..... 802 mm
Distance forward from rear axle centre .... 899 mm
Distance from tractor's median plane ..... 0 mm

ISTITUTO SPERIMENTALE PER
LA MECCANIZZAZIONE AGRICOLA
SEZIONE DI TREVIGLIO

6 - BRAKING PERFORMANCE
(tractor with brakes on rear wheels)
Date of test: 22.06.1987
Type of track: concrete
Type of accelerometer: PEISELER

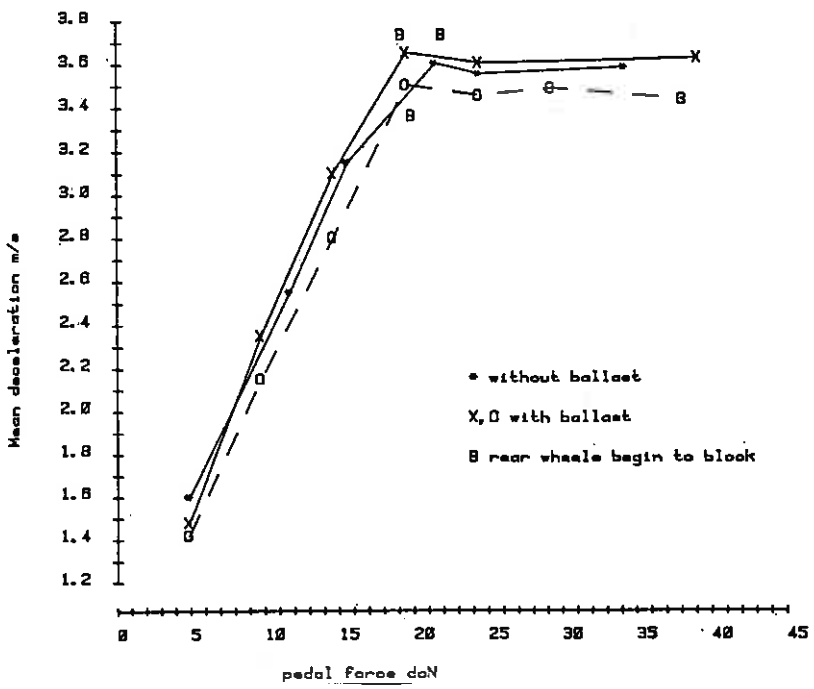
Maximum weight tecnically permissible of the tractor with ballast (*)

	front axle (kg)	rear axle (kg)	total (kg)
unballasted	1030	1420	2450
ballasted	1420	2770	4190

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

A1) SERVICE BRAKES (rear wheel braked - four wheels drive)

Type - 0 - test (cold brake) _____ type - I - (fade) test -----



Middle speed of beginning braking (unballasted tractor): 31.70 km/h
Middle speed of beginning braking (ballasted tractor) : 31.50 km/h
The heating of brakes has been make to drag the tractor braking for
ıe km.

Comment and vibration: none.

B) PARKING BRAKE

	ballasted tractor on 18% slope		unballasted tractor with trailer of 3000 kg on 12% slope	
	slope	descend	slope	descend
pull on handbrake daN	6.5	5.5	11.0	10.5

7 - MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of test: 17.04.1987
Type of sound level meter: 2209 Brüel & Kjaer
Type of track: concrete
Safety frame: SAME T 48

Result of test

N.gear used: 4F
Travelling speed: 23.60 km/h
Sound level: 88.3 dB(A)

ISTITUTO SPERIMENTALE PER
LA MECCANIZZAZIONE AGRICOLA
SEZIONE DI TREVIGLIO

8 - NOISE MEASUREMENT AT THE DRIVER'S EAR LEVEL

Date of test: 15.09.1987
Type of sound level meter: 2209 B&K
Type of track: concrete
Safety frame: SAME T 48

gear	drawbar pull at which the tractor develops the max sound level (daN)	travelling speed (km/h)	sound level dB(A)	
1S	1652	0.86	92.0	
2S	1854	1.42	92.5	
3S	1834	1.92	93.0	
4S	1628	3.00	94.5	
1N	1731	2.55	93.5	
2N	1570	4.30	94.5	
3N	0	6.70	91.5	
3N	1442	5.60	94.5	*
4N	0	10.20	92.0	
4N	1118	9.70	95.0	°
1F	1226	7.80	94.5	
2F	804	14.50	94.5	
3F	461	19.50	95.0	
4F	0	31.10	93.0	#
4F	255	30.50	94.0	

(°) - Noiset speed.
(*) - Gear whit nominal travelling speed nearest to 7.5 km/h
(#) - Max forward speed gear.

ISTITUTO SPERIMENTALE PER
LA MECCANIZZAZIONE AGRICOLA
SEZIONE DI TREVIGLIO

SAME SOLAR - 60 DT "4WD" TEST 034

REMARKS: none

TEST CARRIED OUT BY
(P.A.Giovanni LAMORATTA)

THE DIRECTOR OF TESTING STATION
(prof.Giuseppe COLZANI)

HEAD OF ISMA - ROMA
(prof.Alfio CAMMILLI)

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