ISTITUTO SPERIMENTALE PER
LA MECCANIZZAZIONE AGRICOLA
SEZIONE DI TREVIGLIO

O.E.C.D. no. 1152

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



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

Submitted for test by: S+L+H S.p.A
V.le Cassani, 15
24047 Treviglio (BG)

Date of O.E.C.D. approval: 07.07.1988

Period of test: June 1988

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

Test no.043

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TABLE OF CONTENTS

- Specification of tractor ..... page 3
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- Power lift and hydraulic power test ..... page 24
- Drawbar performance ..... page 25

All stated dimensions and tests referred to tyre size 8.25/16 (4 ply) at front and 13.6/24 (6 ply) at rear, as well as to track widths 1190 mm at front and 1095 mm at rear.

- Tractor manufacturer
  . Name : S + L + H S.p.A.
  . Address: V.le Cassani, 15 - 24047 TREVIGLIO (BG) - ITALY
- Location of tractor assembly: TREVIGLIO (BG) - ITALY;
- Submitted for test by: the manufacturer;
- Selected by: the manufacturer with the agreement of ISMA;
- Place of running in: TREVIGLIO (BG) - ITALY;
- Duration of running in: 50 hours.
- Location of test: I.S.M.A. - Via Milano, 43 - Treviglio (Bg) - ITALY

I - SPECIFICATION OF TRACTOR

TRACTOR

- Make: Same;
- Model: Frutteto 60 DT (4WD);
- Type: wheeled tractor, unit constr.,all wheels drive tractor
- Number of driving wheels: 4;
- Serial number: 1392;
- First serial number: 1001.

ENGINE

- Make: S + L + H;
- Model: 1000.3 A1;
- Type : Air cooled 4 stroke diesel engine direct injection;
- Serial number: 5201.

Cylinders

- Number/disposition: 3 vertical in line;
- Bore/stroke: 105*115.5 mm;
- Capacity: 3000 cm^3;
- Compression ratio: 17.1/1;
- Arrangement of valves: overhead;
- Cylinder liners: without liners.

Supercharging: None.

Fuel system

- Fuel feed system: AC corone fuel feed pump;
- Make, model and type of fuel filter: FIAMM Fna 160/00;
- Capacity of fuel tank: 55 dm³;
- Make, model and type of injection pump: BOSCH PFR 1K 90A 503, immersed pump, one per cylinder, without serial number, in line injection pump;
- Manufacturer's production setting of injection pump:
  . flow rate: 53 ± 2 mm³/stroke at rated speed and full load corresponding to 12.01 dm³/h;
  . timing: 18 ± 0.5° before TDC;
- Make, model and type of injectors: BOSCH DLLA 150 S 925 multihole injection nozzles;
- Injection pressure: 18 ± 1.5 MPa.

Governor

- Make: own make;
- Model: 9.06599.41;
- Type: mechanical variable speed;
- Governor range of engine speed: from 675 to 2620 rev/min;
- Rated engine speed: 2500 rev/min.

Air Cleaner

- Main filter
  . make: FIAMM;
  . model: FAR 345;
  . type: dry paper element filter;
  . location: behind of engine;
- Maintenance indicator: with the warning lamp on the dashboard.

Lubrication system

- Type of feed pump: forced feed from gear pump;
- Total oil capacity including filter: 6.7 dm³;
- Oil change period: 150 hrs;
- Type of filter: FIAMM FT 4803 IN;
- Number: 1;
- Filter change period: 300 hrs;
- Oil specifications: see page 19.

Cooling system

- Type and detail: air cooling with axial blower;
- Specification of fan: propeller fan driven by engine shaft;
- Number of fan blades: 13;
- Fan diameter: 220 mm;
- Type of temperature control: none.

Starting system

- Make: MARELLI;
- Model: MT 68 D 3.5/12 D 9;
- Type: electromagnetic engagement;
- Starter motor power rating: 3.5 kW;
- Safety device: preventing engine start on the clutch pedal;
- Starting system for low temperatures: thermostarter (optional).

Electrical equipement

- Voltage: 12 V;
- Generator
  . make: MARELLI;
  . model: AA 125 E 14 V - 45A;
  . type: alternator;
  . power: 630 W;
- Battery: 1 lead acid;
  . capacity: 110 Ah at 20 hours.

Exhaust system

- Make: S+L+H;
- Model: 467.5610.2;
- Type: 3 chambers reflection absorption;
- Location: on the left hand side of engine cowling, orizontal position;
- Height of outlet above ground: 345 mm.

TRANSMISSION

Clutch: utilized only for travelling of tractor

- Make: own make;
- Model: 467.22;
- Type: single disk dry clutch;
- Number of plates: 1;
- Plates diameter: 280 mm;
- Control system: hydraulically operated by pedal self readjusting.

Gear box

- Make: own make;
- Model: 467.31;
- Type: mechanical syncromesh speed change gear;
- Arrangement: four speeds forward, with three ranges of speed and one reverse group;
- Number of speeds.: 12 forward and 12 reverse;
- Available options: 16 forward and 16 reverse (Four speeds forward, with four ranges of speed and one reverse group).

Rear axle and final drives

- Make: own make;
- Model: 467.44;
- Type: bevel gear drive differential and epicyclic reduction gear final drives.

Differential lock

- Make: own make;
- Model: 467.68;
- Type: mechanical;
- Control system: engaged or disengaged by pedal.

Front axle and final drives

- Make: own make;
- Model: 467.43;
- Type: original S+L+H system with central shaft, bevel gear drive, differential and epicyclic final drives;

Differential lock

- Make: own make;
- Model: 467.68.53;
- Type: mechanical;
- Control system: in common with rear differential lock control system.

Transmission lubrication

- Gear box, rear axle, final drives, power lift and hydraulic system (in common)
  . total capacity including filter: 28 dm^3;
  . change period: 2400 hrs;
  . filter change period: 2400 hrs;

- Front axle and final drives
  . total capacity: 41 dm^3;
  . change period: 1200 hrs;
- Recommended oil: see page 19.

Total ratios and speeds

Gear	Group	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at a rated engine speed of 2500 rev/min (*) (km/h)
	FORWARD		
1	S	611.44	0.86
2	S	373.05	1.41
3	S	269.75	1.95
1	N	203.81	2.58
4	S	173.98	3.03
2	N	124.35	4.24
3	N	89.91	5.87
1	F	67.93	7.76
4	N	57.99	9.10
2	F	41.45	12.73
3	F	29.97	17.61
4	F	19.33	27.30

(*) Calculated with a tyre dynamic radius index of 560 mm.
(ISO 4251/1 - 1984).

Total ratios and speeds

Gear	Group		Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at a rated engine speed of 2500 rev/min (*) (km/h)
		REVERSE		
1	S	RM	661.99	0.79
2	S	RM	403.89	1.30
3	S	RM	292.05	1.80
1	N	RM	220.66	2.39
4	S	RM	188.37	2.80
2	N	RM	134.63	3.92
3	N	RM	97.35	5.42
1	F	RM	73.55	7.17
4	N	RM	62.79	8.40
2	F	RM	44.87	11.76
3	F	RM	32.45	16.26
4	F	RM	20.93	25.21

(*) Calculated with a tyre dynamic radius index of 560 mm.
(ISO 4251/1 - 1984).
- Number of revolutions of front wheels for one revolution of rear wheels: 1.460.

POWER TAKE-OFF

Power take-off proportional to engine speed

- Type: independent, at rear of tractor, in tractor's median plane, engaged or disengaged by hand lever. Driven by multiplate wet clutch independent of travel clutch; ISO Standard 500-1979.
- Number of shafts: 1;
- Method of changing power take-off shaft ends and speeds: it is possible, through 6 screws, to mount one PTO shaft end at 6 or 21 splines. Speed selection by external hand lever;
- Location:at rear of tractor;
- Height above ground (with tyre size 13.6/24) : 550 mm;
- Distance from the median plane of the tractor: 0 mm;
- Distance behind rear axle .....: 390 mm;
- Direction of rotation (viewed facing driving end): clockwise.

1) 540 rev/min

- Dimensions: ISO Standard 500-1979, type 1 (35 mm, 6 splines);
- PTO speed at rated engine speed .....: 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;
- Maximum power and torque transmissible: 89 kW and 1544.5 Nm.

2) 1000 rev/min

- Dimensions: ISO Standard 500-1979, type 2 (35 mm, 21 splines);
- PTO speed at rated engine speed .....: 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;
- Maximum power and torque transmissible: 89 kW and 809 Nm.

Power take-off proportional to ground speed (optional)

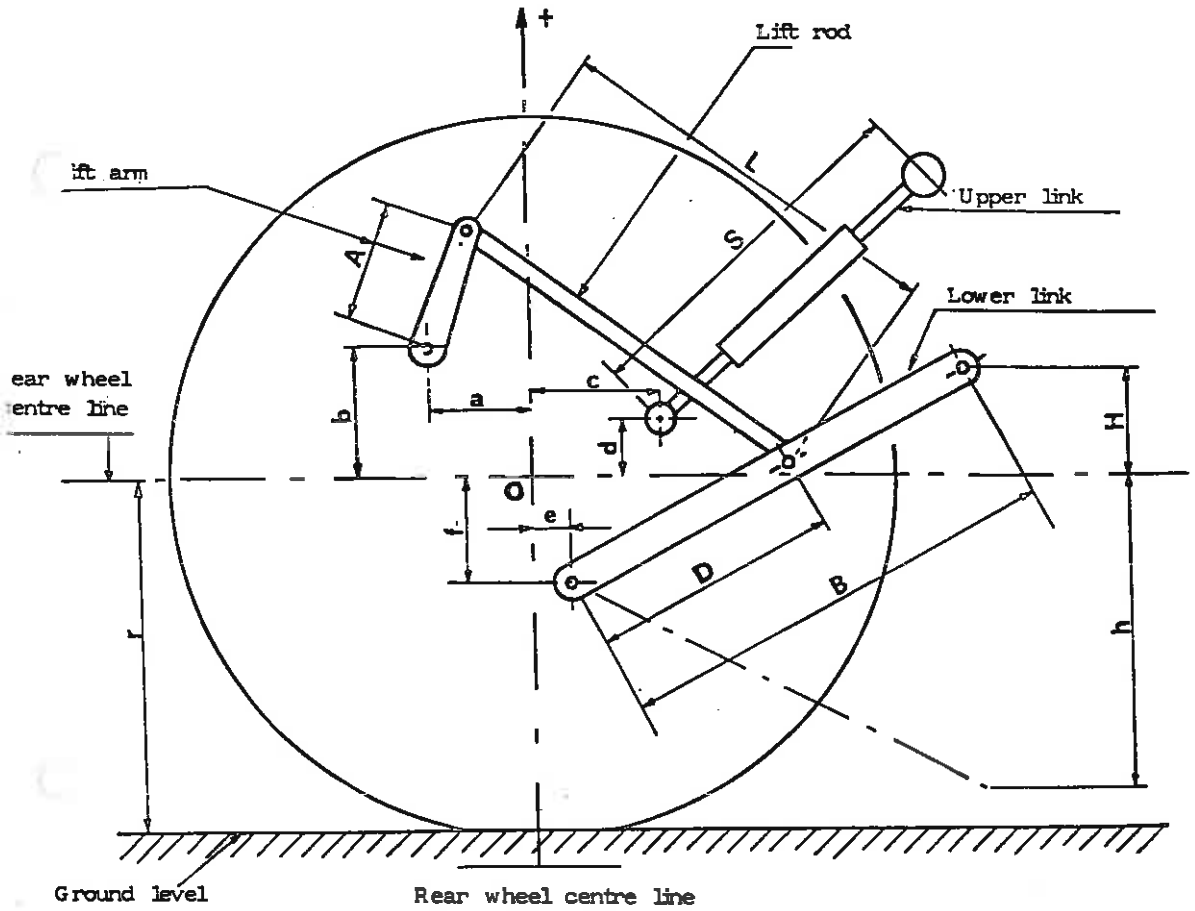
- 540 rev/min;
- Travelling distance for one revolution of power take-off shaft: 330 mm;
- Number of power take-off shaft revolutions for one revolution of rear driving wheels: 9.02;
- Direction of rotation with forward gear engaged (viewed facing driving end): clockwise.

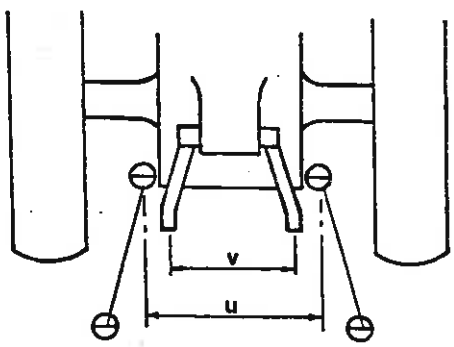
POWER LIFT

- Make: MITA;
- Model: M65;
- Type: load sensing;
- Type of hydraulic system: open centre system;
- Type and number of cylinders: 1 internal hydraulic jacks at single effect;
- Type of lock for transport: mechanical, with screwed tie rods that lock the lower links;
- Relief valve pressure setting: 18 ± 1 MPa;
- Opening pressure of anti-shock valve: 20 MPa;
- Lift pump type: hydraulic rotary pump, driven by 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: 28 dm^3 in common with gear box;
- Site of oil reservoir: gear box;
- Position, type and No.of additional oil plugs: 6 ways distributor at rear of tractor;
- Maximum volume of oil available to external cylinders: 10 dm^3;
- Recommended oil: see page 19.

Three-point linkage

- Category: 2 in conformity with ISO 730/1-1977;
- Category adapter: none.


+
Lift rod
L
S
Upper link
Lower link
ift arm
A
ear wheel
entre line
a
b
c
d
e
f
O
D
B
H
h
r
Ground level
Rear wheel centre line


v
u

Dimensions of linkage geometry (when connected to the standard frame)

		Dimension or range (mm)	Settings used in test (mm)
Length of lifth arms	(A)	250	250
Length of lower links	(B)	750	750
Distance of lift arm :horizontally pivot point from rear :vertically wheel axis (behind)	(a) (b)	225 375	225 375
Horizontal distance between the 2 lower link points	(u)	425	425
Horizontal distance between the 2 lift arm end points	(v)	415	415
Length of upper link	(S)	from 400 to 640	440
Distance of upper link :horizontally pivot point from rear :vertically wheel axis	(c) (d)	450 310	450 310
Distance of lower link :horizontally pivot point from rear :vertically wheel axis	(e) (f)	156 113	156 113
Distance of lower link pivot point to lift rod pivot points on lower links	(D)	340	340
Length of lift rods	(L)	from 420 to 560	475
Height of lower hitch points relative to the rear wheel axis			
- in Low position	(h)	from 225 to 530	360
- in High position	(H)	from 95 to 400	265
Heigth above ground of lower hitch points when locked in transport position (*).			825

(*) Assuming the dynamic radius index = 560 mm (ISO 4251/1-1984)

SWINGING DRAWBAR: not fitted.

HOLED DRAWBAR: not fitted.

TRAILER HITCH

- Type: S+L+H;
- Hole diameter: 28.5 mm;
- Height above ground: 355-405-455-610 mm;
- Distance of hitch point from rear wheel axis, horizontally: 555 mm;
- Distance of hitch point from power take-off shaft end
  . vertically .: below 195-145-95 mm, above 70 mm;
  . horizontally: 160 mm;
- Maximum vertical permissible load: 14.7 kN.

STEERING

- Specifications: hydrostatic steering with BOSCH hydraulic gear pump HY/ZFS 11/14 R214, one ram at simple effect acting directly on front axle.
- Make: DANFOSS;
- Model: DYNAMIC OSPC 80 LS;
- Type: hydrostatic;
- Working pressure: 9 MPa;
- Oil capacity: 28 dm^3 in common with gear box;
- Oil change period: 2400 hrs;
- Filter change period: 2400 hrs;
- Recommended oil: see page 19.

BRAKES

Service brake

- Make: S+L+H;
- Model: 467.54;
- Type: oil immersed, multiplate discs, 4 per side, total 8 discs, mounted before each epicyclic reduction gear.
- Disc diameter: 178 mm FRENDO HDT 303 lining material;
- Method of operation: mechanical activation with 2 pedals.
- Trailer braking take-off: none.

Parking brake

- Type: not independent, mechanical by tie rods, connected to both service brakes;
- 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:
  - type: radial;
  - size: 8.25/16;
  - ply rating: 4;
  - maximum permissible load on each tyre: 588 daN;
  - corresponding inflation pressure: 120 kPa;
- Track widths: from 1070 to 1320 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;
- Rear tyres:
  . type: radial;
  . size: 13.6/24;
  . ply rating: 6;
  . maximum permissible load on each tyre: 1314 daN;
  . corresponding inflation pressure: 160 kPa;
- Track widths: from 995 to 1320 mm;
- Regulation: changing the position of the rims in respect of the disc.

WHEELBASE: 1890 mm.

PROTECTIVE STRUCTURE

Specifications

- OECD approval number: not OECD tested;
- Make: S + L + H;
- Model: T 51;
- Type: frame tiltable;
- Manufacturer's name: S + L + H S.p.A;
  . address: V.le Cassani, 15 - Treviglio (Bg);
- Protective device: frame tiltable.

Materials used in the construction and dimensions

See N.F.U. 02047 (France) test report n°6134 on protective structure.

DRIVER'S SEAT

- Make: SABLE';
- Model: DS 83 H;
- Type: upholstered seat with back rest;
- Type of suspension: adjustable spring;
- Type of damping: shock absorber;
- Range of adjustment, longitudinal 150 mm;
  vertical .... 60 mm.

PASSENGER'S SEAT: none.

LIGHTING

Lighting system in accordance with E.E.C. 78/933

	Height above ground of centre with tyre(*) (mm)	Size (mm)	Distance from out side edge of trac tor to centre at 1095 mm track width (mm)
Headligths	725	110*110	705
Front park.lights	1330	110*35	345
Front finger post	1365	110*35	345
Rear park.lights	1270	50*60	400
Rear finger post	1270	50*60	350
Stop	1270	50*60	450
Reflectors	830	80 dia	400

(*). Tyre size: 8.25/16 front - 13.6/24 rear.

TEST CONDITIONS

Overall dimensions with tyres 8.25/16 front and 13.6/24 rear

	Length (mm)	Width (mm) min	max	(mm) at top of protec.struc.
Without ballast	3380	1340	1645	2050

Ground clearance (unballasted tractor): 230 mm;
Clearance-limiting part: front axle.

Tractor mass (with tanks full, with frame, water in tyres none)

	Units	Front	Rear	Total
Without driver				
Without ballast	kg	910	1210	2120
With ballast	kg	1050	1210	2260
With driver				
Without ballast	kg	920	1275	2195
With ballast	kg	1060	1275	2335

Ballast

	no. of weights	total weight (kg)	water (kg)
front	3+1 *	140	-
rear	-	-	-
additional	-	-	-

*= front ballast mounting (20 kg)

Tyres and track width specifications		front	rear
- Tyres			
. dimensions		8.25/16(1)	13.6/24(2)
. ply rating		4	6
. type		radial	radial
. maximum load (tyre manufacturer's)	daN	588	1314
. maximum load (tractor manufact.)	daN	588	1274
. inflation pressure (tyre manufact.)	kPa	120	160
. dynamic radius index	mm	390	560
- Chosen track width	mm	1190	1095

(1) In conformity with CUNA norm NC 053-05
(2) In conformity with ISO norm 4251/1-2-1984

Oils, lubrication, fuel
Capacity and change interval

	capacity dm³	oil change h	filter change h
Engine	6.7	150	300
Gear box	28	2400	2400
Front axle and final drives	4.1	1200	--
Rear axle and final drives	in common with gear box		
Hydraulic system	"	"	"
Other (steering, etc.)	"	"	"

Fuel and lubricants reccomended and used in tests
all in accordance with API NORM.

Fuel
- Type: AGIP DIESEL, DIN 51601
  (in accordance with the national standard);
- Specific gravity at 15 °C: 0.820 g/cm³.

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

Transmission oils
- Type: AGIP ROTRA THT;
- Viscosity: 11.5 cSt;
- Viscosity index: 95;
- Classification: API GL-3.

Hydraulic fluid
- Type: AGIP ROTRA THT;
- Viscosity: 11.5 cSt;
- Classification: API GL-3.

Steering oil
- Type: AGIP ROTRA THT;
- Viscosity: 11.5 cSt;
- Classification: API GL-3.

Grease
- Type: AGIP GREASE 30;
- Number of lubrication points: 14.

II - TEST RESULTS

A. COMPULSORY TESTS RESULTS

1) MAIN POWER TAKE-OFF PERFORMANCE

- Date and location of test: 8 June 1988 - 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						
38.3	2503	1051	12.01	9.85	257	3.19
POWER AT RATED ENGINE SPEED						
38.3	2503	1051	12.01	9.85	257	3.19
STANDARD POWER TAKE-OFF SPEED (1000 ± 25 rev/min)						
37.8	2387	1002	11.79	9.67	255	3.21
PART LOADS						
i) The torque corresponding to maximum power at rated engine speed						
38.3	2503	1051	12.01	9.85	257	3.19
ii) 85% of torque obtained in i)						
33.0	2537	1065	10.32	8.46	256	3.20
iii) 75% of torque defined in ii)						
25.0	2570	1079	8.55	7.01	281	2.92
iv) 50% of torque defined in ii)						
16.7	2594	1089	6.57	5.39	322	2.54
v) 25% of torque defined in ii)						
8.4	2612	1097	4.84	3.97	473	1.74
vi) unloaded						
0	2620	1100	3.32	2.72	-	-

ISTITUTO SPERIMENTALE PER
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PART LOADS AT STANDARD POWER TAKE-OFF SPEED (1000 rev/min)

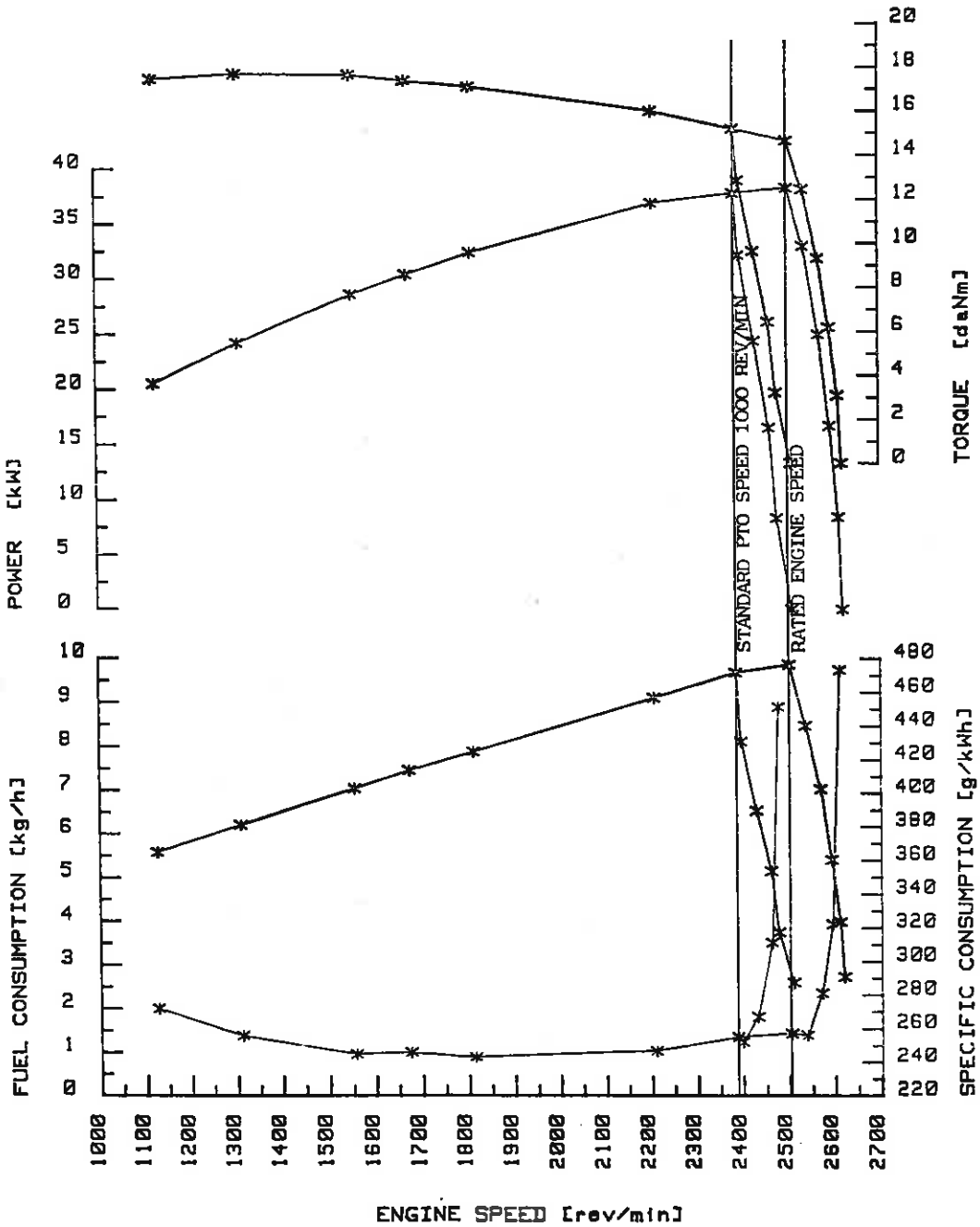
Power	Speed		Fuel consumption			Specific
	Engine	P.T.O.	Hourly		Specific	Energy
kW	rev/min	rev/min	l/h	kg/h	g/kWh	kWh/l
i) The torque corresponding to maximum power available						
37.8	2387	1002	11.79	9.67	255	3.21
ii) 85% of torque obtained at maximum power						
32.2	2398	1007	9.88	8.10	252	3.26
iii) 75% of torque defined in ii)						
24.4	2431	1021	7.95	6.52	267	3.07
iv) 50% of torque defined in ii)						
16.5	2462	1034	6.26	5.13	311	2.64
v) 25% of torque defined in ii)						
8.3	2478	1041	4.55	3.73	451	1.82
vi) unloaded						
0	2510	1054	3.15	2.58	-	-

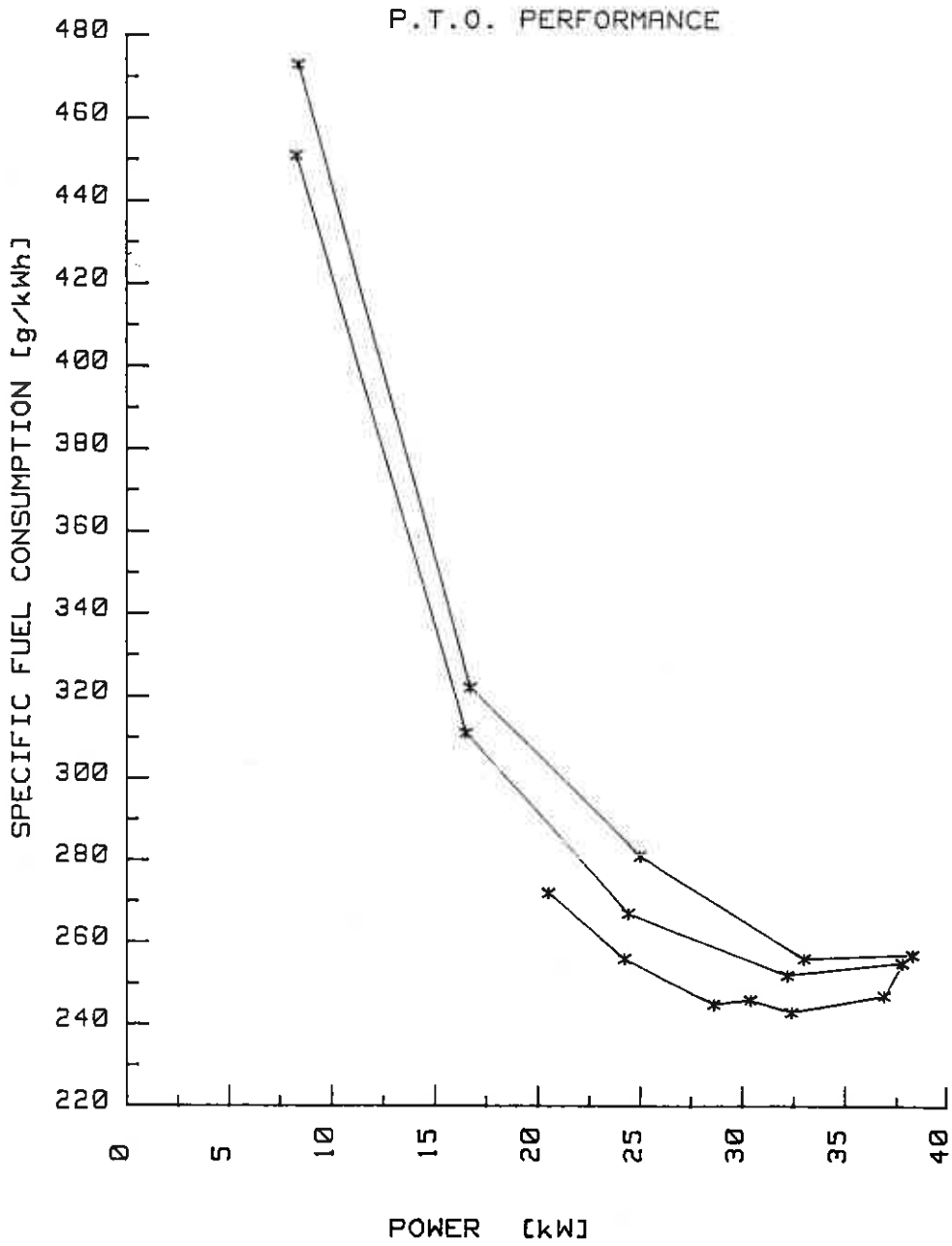
STANDARD SPECIFIC FUEL CONSUMPTION: 256/322/252/311 g/kWh

- No load maximum engine speed: 2620 rev/min
- Torque (1) at maximum power: 14.61 daNm
- Maximum torque (1) (engine speed: 1309 rev/min): 17.64 daNm
- Mean atmospheric conditions : Temperature .... 19°C
  Pressure ..... 99.8 kPa
  Relat.humidity . 75 %
- Maximum temperatures : Coolant .....101°C
  Engine oil ..... 135°C
  Fuel ..... 25°C
  Engine air intake ..... 25°C.

(1) The torque is the equivalent crankshaft torque.

P.T.O PERFORMANCE




P.T.O. PERFORMANCE
SPECIFIC FUEL CONSUMPTION [g/kWh]
480
460
440
420
400
380
360
340
320
300
280
260
240
220
0
5
10
15
20
25
30
35
40
POWER [kW]

2) POWER LIFT AND HYDRAULIC POWER TEST

- Date and location of tests: 14.06.1988 - ISMA Treviglio (BG)

2.1) POWER LIFT

		at hitch point	on the frame
Height of lower hitch point above ground in down position	mm	200	200
Vertical movement	mm	625	880
Maximum corrected force exerted through full range	daN	1863	983
Corresponding pressure of hydraulic fluid	MPa	17.6	17.6
Moment about rear axle	daNm	1688	1490
Maximum tilt angle of mast over range of lift	degrees	--	24

Lifting heights relative to the horizontal lower links											
mm	-250	-200	-100	0	100	200	300	375	400	500	600	630
Lifting forces at hitch points												
daN	1863	1888	1961	2034	2079	2138	2204	2006	---	---	---	
Lifting forces at test frame												
daN	1461	1471	1500	1491	1421	1353	1348	---	1226	1157	1041	983

2.2) HYDRAULIC POWER TEST

Sustained pressure with relief valve open: 18 MPa;
Pump delivery rate at min pressure: 42.5 l/min;

Hydraulic power	kW	flow rate l/min	pressure MPa	oil temp. °C
At 90% of the actual relief valve setting	9.22	34	15.7	67
Maximum	9.31	38	14.7	59

.opening pressure of the relief valve: 17.2 MPa

Tapping point used for test : at rear of tractor;
Hydraulic fluid: see page 19.

3) DRAWBAR PERFORMANCE

- Date of tests: 10 june 1988
- Type of track: concrete
- Type and size of tyres front: 8.25/16 - 4 ply
  rear : 13.6/24 - 6 ply

Height of drawbar above ground: 430 mm
Tyre inflation pressure : .front: 120 kPa .rear: 160 kPa

3.1) MAXIMUM POWER IN TESTED GEARS (unballasted tractor)

Gear	Power	Draw. pull	Speed	Eng. speed	Slip of wheel	Specific ener.cons.	fuel	Temperatures cool.	eng.	Atm. temp.	hum.	cond. pres.
	kW	daN	km/h	rev/min	%	kWh/l	g/kWh	°C	°C	°C	°C	%	kPa
1S	2.97	1354	0.79	2616	15	0.65	1263	25	53	91	16	79	99.2
2S	4.91	1360	1.30	2608	15	1.22	821	25	53	91	16	79	99.2
3S	6.88	1384	1.79	2603	15	1.25	658	25	53	91	16	79	99.2
1N	9.09	1393	2.35	2597	15	1.43	573	25	53	95	16	79	99.3
4S	10.70	1406	2.74	2581	15	1.44	570	25	53	95	17	79	99.3
2N	15.08	1425	3.81	2570	15	1.82	450	25	53	95	17	78	99.3
3N	20.47	1412	5.22	2548	15	2.10	389	25	54	98	17	78	99.3
1F	26.71	1400	6.87	2537	15	2.45	335	26	54	99	18	77	99.3
4N	30.57	1283	8.58	2500	8	2.54	323	26	54	102	18	77	99.3
2F	30.96	919	12.13	2503	7	2.56	320	26	54	101	18	77	99.3
3F	29.00	613	17.04	2502	5	2.37	346	26	54	102	18	77	99.3

4) TRANSMISSION AND FUEL CONSUMPTION CHARACTERISTICS

Gear	Power	Draw. pull	Speed	Eng. speed	Slip of wheel	Specific ener.cons.		Temperatures fuel	cool.	eng.	Atm. temp.	cond. hum.	pres.
	kW	daN	km/h	rev/min	%	kWh/l	g/kWh	°C	°C	°C	°C	%	kPa
4.1) - Selected gear at maximum power:													
2F	30.96	919	12.13	2503	7	2.56	320	26	54	101	18	77	99.3
4.1.1) - 75% of pull at maximum power at rated speed.													
2F	23.66	680	12.53	2545	5	2.31	355	24	52	98	19	77	99.2
4.1.2) - 50% of pull at maximum power at rated speed.													
2F	16.38	460	12.82	2577	4	1.94	424	24	52	98	19	77	99.2
4.1.3) - next higher gear giving the same pull as in 4.1.1, red. eng speed													
3F	23.76	679	12.60	1850	5	2.87	286	25	52	99	19	77	99.2
4.1.4) - next higher gear giving the same pull as in 4.1.2, red. eng.speed													
3F	16.87	477	12.98	1874	4	2.46	332	25	52	99	19	77	99.2

Gear	Power	Draw. pull	Speed	Eng. speed	Slip of wheel	Specific ener.cons.	fuel	Temperatures cool.eng.		Atm. cond. temp.	hum.	pres.
	kW	daN	km/h	rev/min	%	kWh/l	g/kWh	°C	°C	°C	%	kPa
4.2) - selected gear nearest to 7.5 km/h												
1F	26.71	1400	6.87	2537	15	2.45	335	26	54	99	18	77	99.3
4.2.1) - 75% of pull at maximum power at rated speed												
1F	20.94	1039	7.30	2549	9	2.11	388	25	53	100	19	77	99.2
4.2.2) - 50% of pull at maximum power at rated speed												
1F	14.91	699	7.68	2582	6	1.88	435	26	53	100	19	77	99.2
4.2.3) - next higher gear giving the same pull as in 4.2.1, red. eng. speed												
4N	20.90	1021	7.37	2165	8	2.52	325	26	54	100	19	77	99.2
4.2.4) - next higher gear giving the same pull as in 4.2.2, red. eng. speed												
4N	14.72	694	7.64	2200	6	2.05	401	26	54	101	19	77	99.2

REPAIRS AND 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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