

CE

INVERTERS
GENERATORS

mase
MARINE

IS 3501

IS 4501

IS 5501

MANUALE USO E MANUTENZIONE
USAGE AND MAINTANCE MANUAL
MANUEL D'INSTRUCTIONS ET D'ENTRETIEN
GEBRAUCHSANWEISUNG UND WARTUNGSVORSCHRIFTEN
MANUAL USO Y MANTENIMIENTO
INSTALLATIEHANDLEIDING

NR.000000

mase GENERATORS

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**DICHIARAZIONE CE DI CONFORMITA'
EC DECLARATION OF CONFORMITY**

Fabbricante/Manufacturer: MASE GENERATORS S.p.A.

Indirizzo /Address : Via Tortona 345, Pievesestina (FO)

Il sottoscritto Luigi Foresti in qualità di direttore generale della MASE GENERATORS S.p.A., dichiara sotto la propria responsabilità che il gruppo elettrogeno modello :

The undersigned Luigi Foresti as MASE GENERATORS S.p.A. general manager declares, under his sole responsibility, that the generators model is.....:

Codice / Code	Descrizione / Model	Matricola / Serial N.
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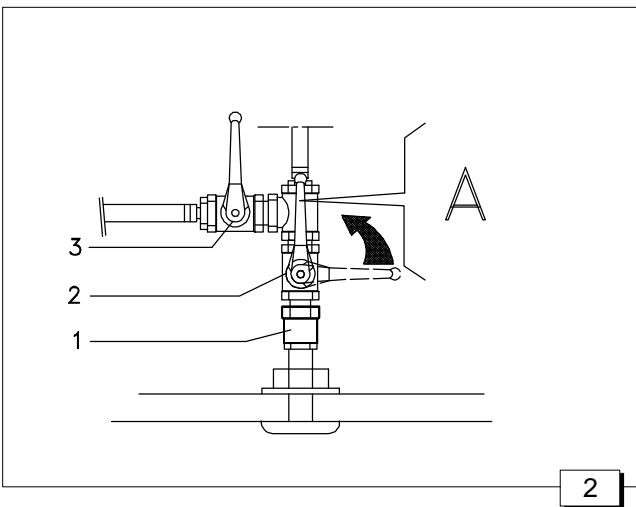
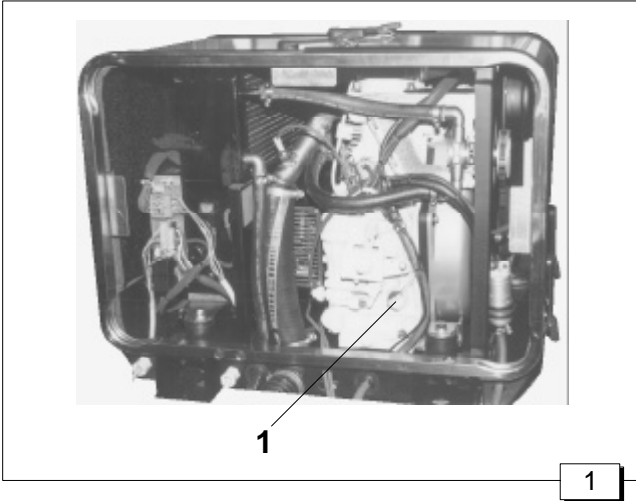
E' conforme alle disposizioni delle Direttive di seguito elencate :
CEE 89/392 (come emendata delle Direttive CEE 91/368 e CEE 93/44)
CEE 89/336 (come emendata delle Direttive CEE 92/31)
CEE 73/23 modificata da CEE 93/68.

Corresponds to the requirements of the following EEC Directives :
89/392/EEC (as amended by the Directive 91/368/EEC and 93/44/EEC)
89/336/EEC (as amended by the Directive 92/31/EEC)
73/23//EEC as amended by 93/68/EEC.

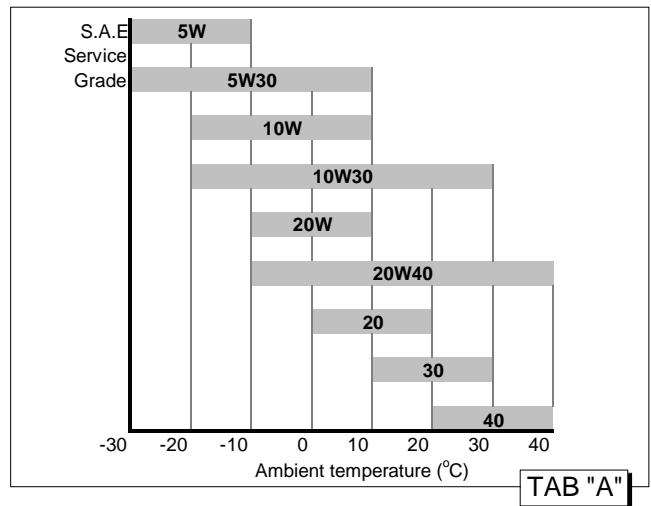
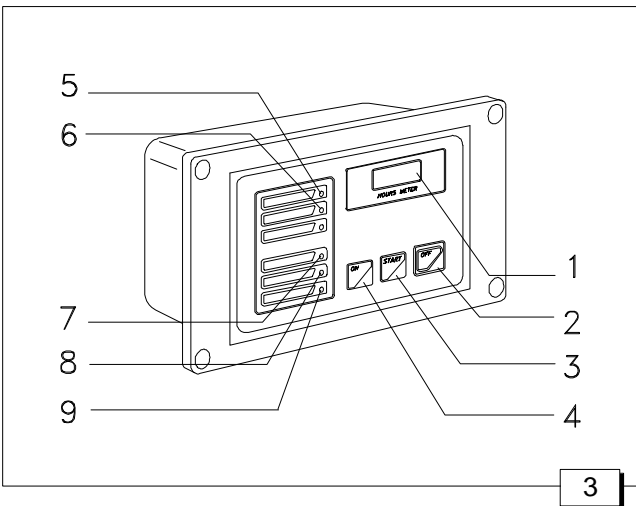
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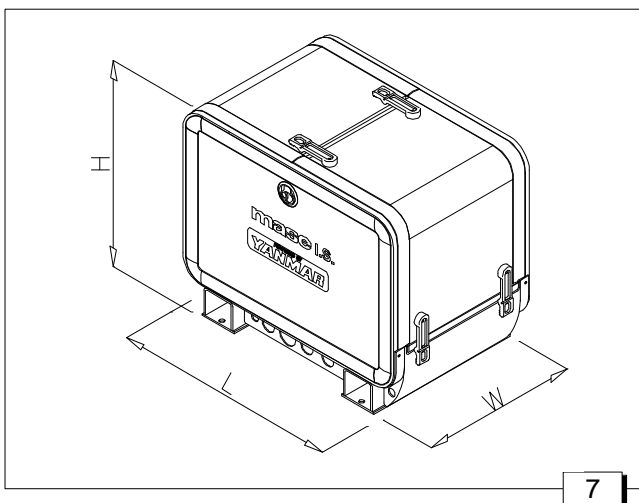
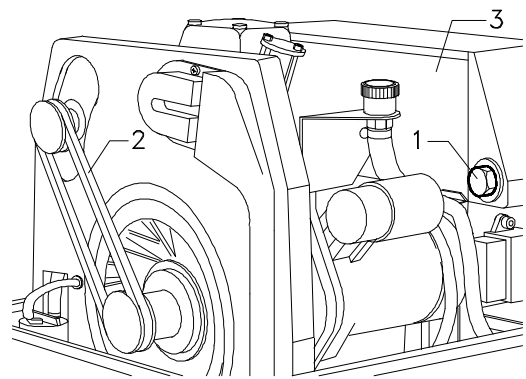
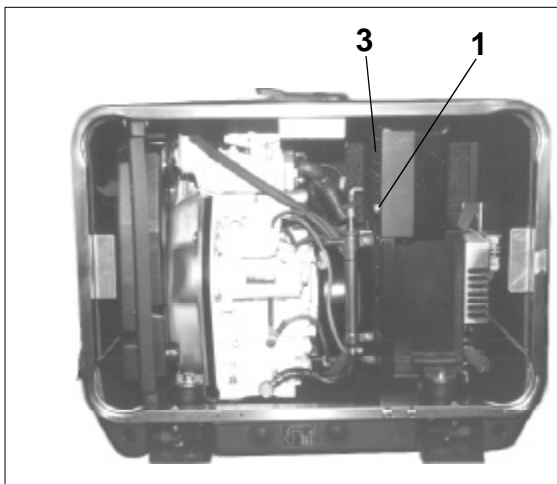
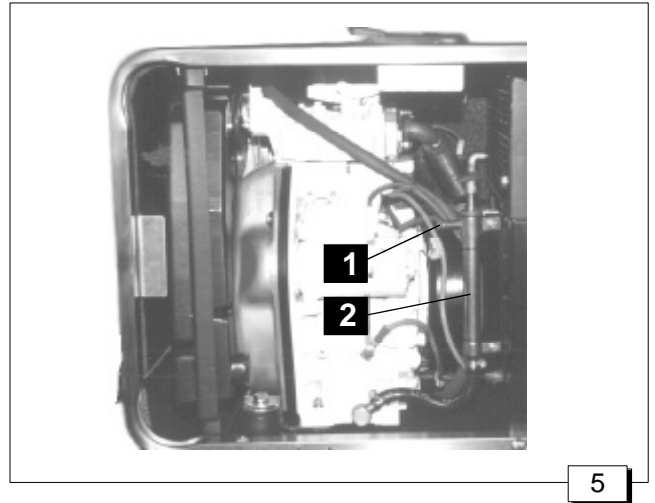
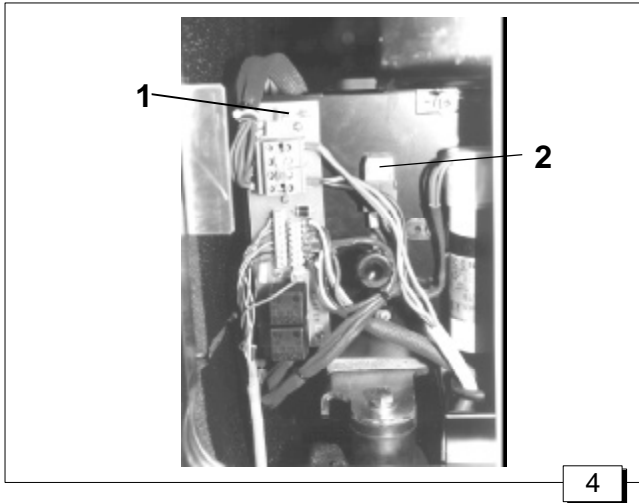
.....
Direttore Tecnico
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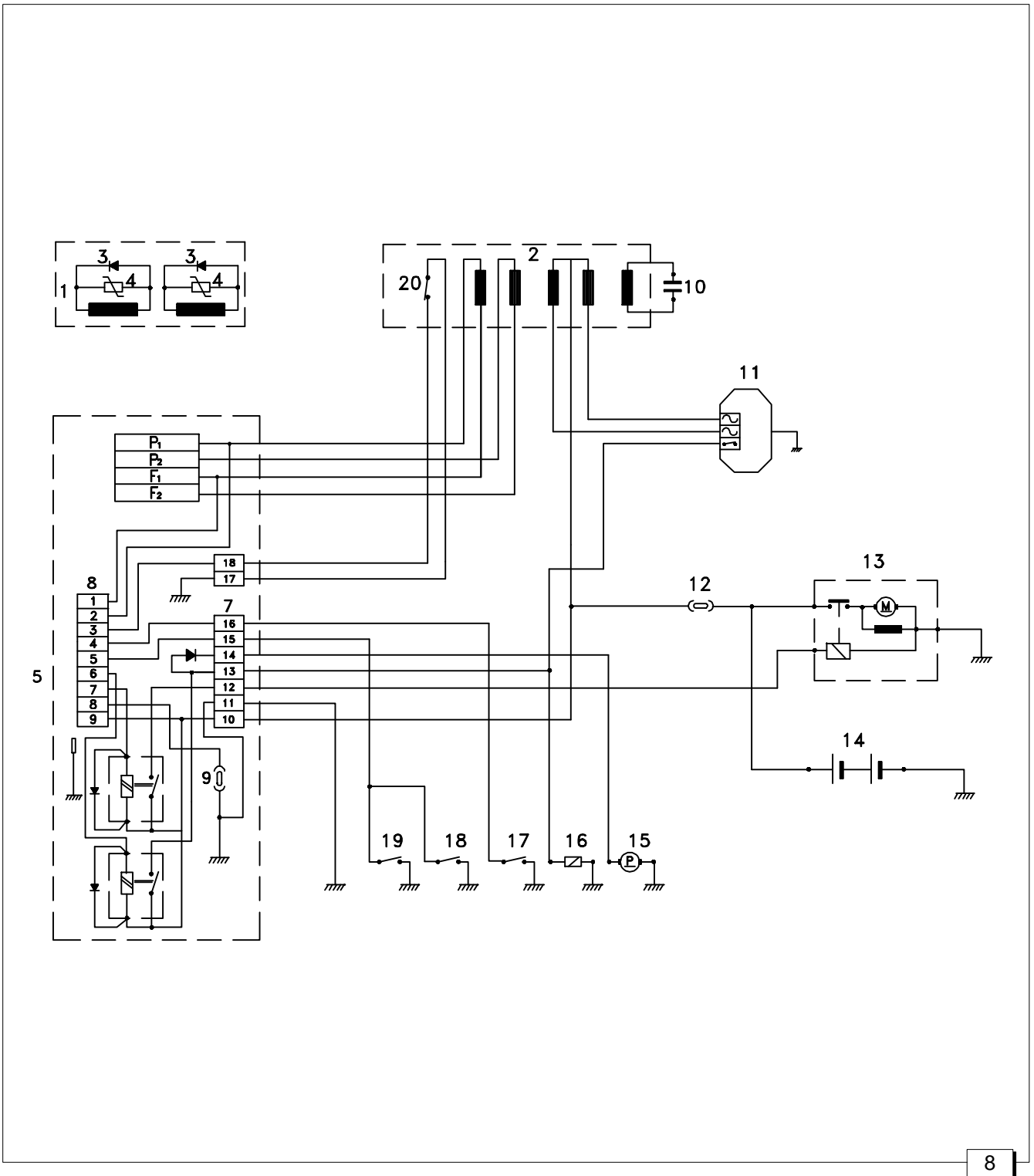


A APERTO
OPEN
OUVERT
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OPEN





SCHEMA ELETTRICO - WIRING DIAGRAM - SCHEMA ELECTRIQUE - SCHALTPLAN - ESQUEMA ELE'CTRICO



CONTENTS

FIGURES pag.2

TAB."A" TABLE SUGGESTED OILS pag.2

WIRING DIAGRAM pag.4

1 SAFETY REGULATIONS pag.13

2 PRELIMINARY CHECKS pag.13

3 GENERATOR USE pag.13
Starting
Generator Stop

4 SAFETY DEVICES pag.13
Low oil pressure device
Warning
High temperature device
Alternator overload/over temperature device
Important

5 MAINTENANCE pag.14
Important
Engine maintenance
Important

6 INACTIVE PERIOD pag.14

7 CONTROL PANEL pag.14

8 PROTECTION FUSE pag.8

9 DIMENSION AND WEIGHT pag.15

10 DESCRIPTION WIRING DIAGRAM pag.15

11 TROUBLE MAINTENANCE pag.15

12 TROUBLE SHOOTING pag.15

13 TECHNICAL FEATURES pag.16



DANGER

A statement advising of the need to take care lest there be serious consequences resulting in death of personnel or in hazard to health.



WARNING

A situation that could occur during the lifetime of a product, system or plant that has the potential for human injury, damage to property, damage to the environment, or economic loss.



CAUTION

A statement advising of the need to take care lest serious consequences result in harm to material items such as the asset or the product.



INFORMATION

Important information.

Drawings are provided by way of example. Should your machine be quite different from the illustrations contained in this manual, the safety regulations and relevant information are always granted.

The manufacturer's policy of constant development and updating may lead to modifications without prior notice.

CONGRATULATIONS ON HAVING CHOSEN A MASE PRODUCT

This manual contains all the necessary information for proper installation and use of the generator. It's essential, either for the customer's safety and satisfaction or for good reliability of the generator, to carry out proper installation and a careful pre-delivery test.

A wrong installation or an oversight on testing may compromise the efficiency of the generator and even jeopardize the customer's safety.

All information and illustrations in this handbook refer to the latest produced model at the time of printing.

For any further information, please get in touch with the nearest MASE SERVICE CENTER, they'll be pleased to help you at any time.

MASE reserve the right to introduce changes without prior notice. No part or illustration contained in this handbook can be reproduced without previous approval by MASE

MASE GENERATORS S.p.A.

1 SAFETY REGULATIONS

- Read carefully all the instructions given in this handbook and in the installation manual; they are of the utmost importance for correct installation and use of the unit and for prompt intervention in case of need.
- Do not allow unskilled or untrained people to use the unit.
- Do not allow children or animals to get close to the generator while it is working.
- Do not handle the generator or the remote control panel with wet hands; any misuse may cause electric shocks.
- Any testing of the unit is to be carried out only when the engine is stopped. Possible checks on the generator when it's running have to be performed only by skilled workers.

2 PRELIMINARY CHECKS

On starting the generator for the first time and after any servicing, it is advisable to make sure that:

- The oil is at the right level through the rod ref. 1 Fig. 1 , as per table for suggested oils.
- The generator is well secured to the soundproofing box by means of the proper bolts.
- The electric loads are disconnected so as to avoid starting the generator on load.
- Every connection (fuel, exhaust, remote control, A.C., battery) has been properly carried out and there are no connections in bad conditions.
- The water cock is open, as per (ref. 2 fig. 2)
- If a non-return valve is used, the cooling circuit from the valve up to the pump has been manually filled (ref. 1 fig. 2)

3 GENERATOR USE

Before starting the generator, make sure all preliminary checks, as per item 1 , have been properly carried out

Starting

To start the engine push the button << ON >> (fig. 3 ref. 4), all the pilot and warning lamps will glow for 5 sec. about in a self control function, later on only the << panel on >> (fig. 3 ref. 5) and then start the engine pushing the button << Start >> (fig. 3 ref. 3), for 5 sec. max. Release it only when the engine runs. A correct generator functioning is demonstrated by the led (fig. 3 ref. 6) glowing on. Once started, the safety devices of the generator are automatically activated (see item. 4).

Generator Stop

The generator can be stopped using the << OFF >> button on the control panel (fig. 3 ref 2).

4 SAFETY DEVICES

The generator has been equipped with a set of safety devices in case of any misuse or running trouble, as follows:

- Low oil-pressure device:

it causes the generator shut-down in case of insufficient oil pressure. Its intervention is shown by the warning light going on (fig. 3 Ref. 7). It is usually enough to top up the oil before starting the generator again.



The low oil-pressure device does not necessarily show the oil level; a check of the oil level is consequently necessary at regular intervals.

- High temperature device:

it causes generator shut-down in case of high temperature of the engine. Its intervention is shown by the warning light going on (fig. 3 ref. 8). Should this device come in to operation, look for and eliminate the causes of the intervention and then start the generator again.

- Alternator overload/over temperature device:

it comes into operation, stopping the generator, in case of thermic or electric overload of the alternator. Its intervention is shown by the relative warning light going on (fig. 3 ref. 9). Wait until the temperature of the alternator windings goes back to the normal values. It's however recommended to look for and eliminate the causes of the intervention before starting the generator again.




If one of the above safety devices intervenes, look for and eliminate the causes of the intervention, then push the << STOP >> button to avoid that signal keeps stored.

 **WARNING**

In case of the two fuses (ref.1/2 Fig.4) got burnt, a protection inserts and does not allow the generator to start.

5 MAINTENANCE

 **CAUTION**

Any servicing is to be carried out with the engine stopped after it has cooled enough, and only by skilled and licensed staff.

Engine maintenance

The engine has to be serviced at regular intervals, as shown in the table:

for any further and more detailed information, please consult the handbook supplied by the engine manufacturer, accompanying every generator.

 **INFORMATION**

Cheek oil level by means of the proper dipstick (fig. 5 ref. 1) and make sure it is always between the minimum and maximum levels of the dipstick.

Engine carter capacity:

IS 3501 lt. 1.1 IS 4501-5501 lt 1.65

Oil topping up and replacement can be carried out through the hole. (fig. 1 ref. 1).

For changing oil, remove the levelstick and replace oil with the special pipe..

We suggest to carry out the draining when the oil is still warm enough, to allow an easy flowing out.

 **INFORMATION**

Before executing the maintenance on the water-air exchanger (rif. 3 fig. 6), it is necessary to empty the water intake circuit through the special cock.(ref. 3 fig. 2)

6 INACTIVE PERIOD

Should the unit remain unused for a long time, it's necessary to act as follows:

- Replace sump oil.
- Replace oil filter.
- Replace fuel filter.
- Replace the zinc anodes (ref. 1 fig. 6)
- If the room temperature is near or below 0°C it is indispensable to drain the engine cooling circuit using the lever cock (ref. 3 fig. 2)
- Lubricate the water pump impeller.

7 CONTROL PANEL (fig. 3)

- 1) HOURS METER
- 2) OFF BUTTON
- 3) START BUTTON
- 4) BUTTON ON
- 5) PANEL ON LED (GREEN)
- 6) GENERATOR OUTPUT LED (GREEN)
- 7) OIL PRESSURE LED (RED)
- 8) ENGINE TEMPERATURE LED (RED)
- 9) GENERATOR TEMPERATURE LED (RED)

When the unit stops because a circuit breaker trips, the operating time indication disappears from the control panel display and a code appears to indicate the cause of the generator stop.

In the table below all the codes and their meaning are listed.

ALARM CODES	
CODE	CAUSE OF CIRCUIT-BREAKER TRIP
E - 80	No power on generator
E - 81	Low oil pressure
E - 82	High motor temperature
E - 83	High alternator temperature
E - 85	Generator overload
E - 87	At 30" from start unit does not reach 80% of nominal voltage
batt	Low battery

Code E - 80 This code indicates that the unit has stopped because of no voltage = 0 Volt. When this code appears, it means:

- that the control panel is unable to measure the alternator voltage for cut-off of an electrical connection;
- that the alternator is damaged.

Code E - 81 This code indicates that the unit has stopped because the motor lubrication system pressure is insufficient.

Code E - 82 This code indicates that the unit has stopped because the motor has reached too high temperatures.

Code E - 83 This code indicates that the unit has stopped because the alternator has reached too high temperatures.

Code E - 85 This code indicates that the unit has stopped because the voltage has dropped to below 70% of the nominal value for longer than 15 seconds.

Code E - 87 This code indicates that the unit has stopped because the generator voltage has not reached 80% of the nominal value 30 seconds after starting. This could be caused by insufficient motor RPM or a broken alternator.

batt This code indicates that the battery is low. When this code appears, the generator is not stopped.

WARNING

When a circuit breaker has tripped with a consequent generator stop, the panel must be reset by pressing the "OFF" button in order to restart the unit.

INFORMATION

If the unit is started and the alternator does not produce voltage, or the control panel does not read voltage, the latter switches off completely after one minute, stopping the unit.

8 PROTECTION FUSE (fig. 4)

- 1)RELAY CIRCUIT FUSE
- 2)BATTERY CHARGER FUSE

9 DIMENSIONS AND WEIGHT(fig. 7)

	IS 3501	IS 4501-5501
L)Length	mm.665(26.18")	mm.733(28.8")
W)Width	mm.423(16.65")	mm.485(19")
H)Height	mm.540(21.26")	mm.578(22.7")
Weight	Kg 78 (173lb)	kg 110 (244.4 lb)

10 DESCRIPTION WIRING DIAGRAM (fig. 8)

- 1 ROTOR
- 2 STATOR
- 3 DIODE 3A
- 4 VARISTOR
- 5 PRINTED CIRCUIT RELAY
- 6 POWER TERMINAL BOARD
- 7 RELAY CIRCUIT TERMINAL BOARD
- 8 CONTROL PANEL TERMINAL BOARD
- 9 FUSE 1A
- 10 CAPACITOR
- 11 BATTERY CHARGER REGULATOR
- 12 FUSE 20A
- 13 STARTER
- 14 BATTERY
- 15 FUEL PUMP
- 16 FUEL SOLENOID
- 17 OIL PRESSURE SWITCH
- 18 OVERHEAD ENGINE THERMOSTAT
- 19 WATER THERMOSTAT
- 20 ALTERNATOR THERMOSTAT

11 TROUBLE MAINTENANCE

MAINTENANCE		HOURS							
		10	20	50	100	200	300	500	1000
CLEANING	INJECTORS								●
	INTERNAL OIL FILTER								●
	GENERATOR CLEANING							●	
CHECK	CRANKCASE OIL LEVEL		●						
	BATTERY WATER LEVEL			●					
	ROTOR BUSHING								●
	ROCKER ARMS CLEARANCE			*					●
	TIGHTEN FUEL DELIVERY UNION							●	
REPLACEMENT	CRANKCASE OIL			*		●			
	OIL FILTER							●	
	FUEL FILTER							●	
OVERHAUL	LAP VALVES								●
	REPLACEMENT OF PISTON'S ELASTIC BANDAGES								●

* FIRST REPLACEMENT

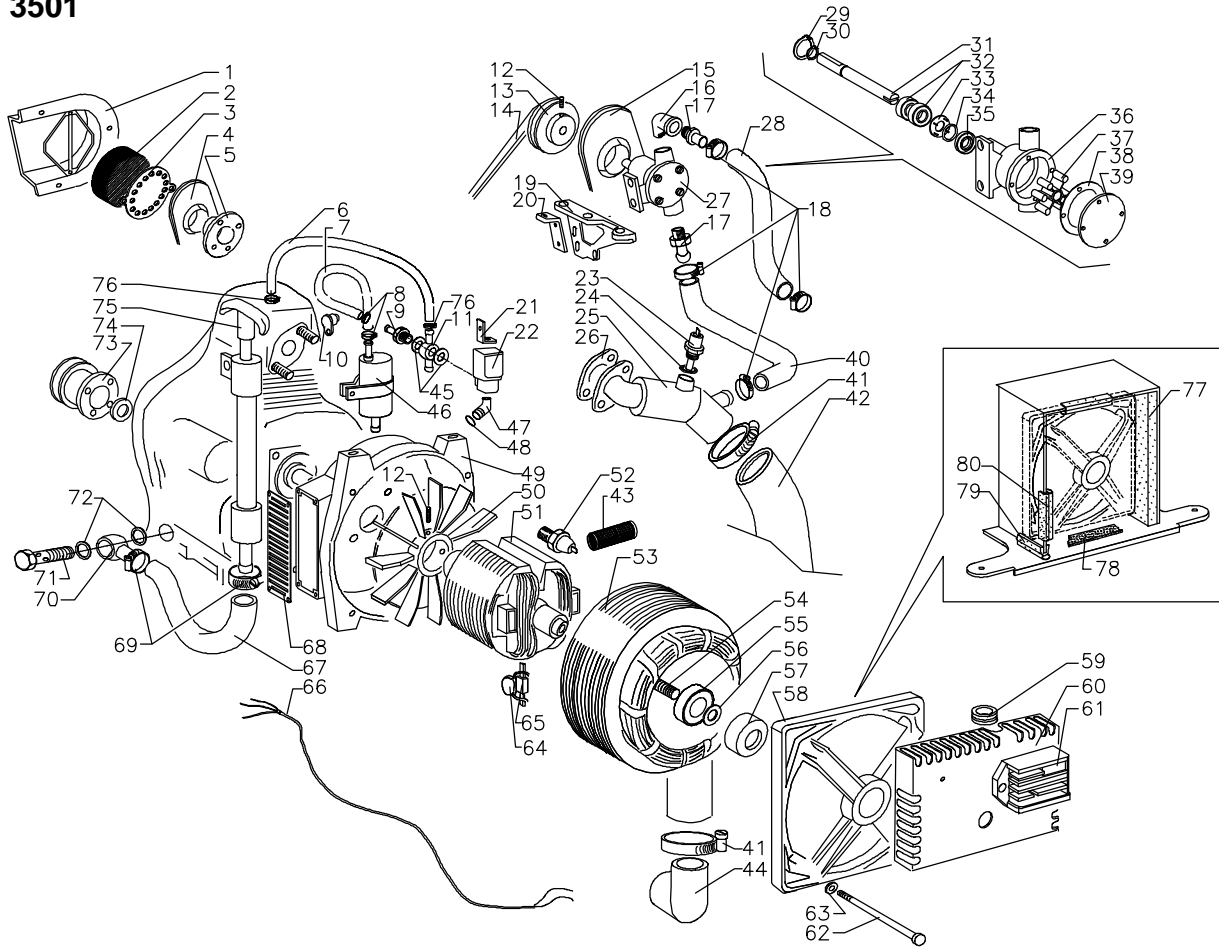
12 TROUBLE SHOOTING

COMPLAINT	DOES NOT START	START AND STOP	UNSTABLE RUNNING	WHITE SMOCKE	BLACK SMOCKE
PROBABLE REASON					
Defective starting buttons	●				
Defective fuel solenoid	●	●			
Defective battery cable section	●				
Defective starting motor	●				
Piping fuel filter choked	●	●			
12V circuit fuse	●				
Avv./Ev.relay	●				
Too much oil in crankcase			●	●	
Safety device intervention	●	●			
Overload					●
Defective governor linkage			●		
Worm valve guides				●	
Blocked valves	●				
Worm cylinder and position rings				●	
Defective injector	●				●
Defective injector pump	●	●	●		●
Defective feeding pump	●	●			

13 TECHNICAL FEATURES

ENGINE	IS 3501		IS 4501-5501	
	YANMAR		YANMAR	
Model	L70AE		L100AE	
1 cylinder, 4 stroke, internal combustion air-cooled diesel				
Displacement	296cc		406cc	
R.P.M.	3000	3600	3000	3600
Bore for stroke	78 X 62		86 X 70	
Power Hp	5,5/6,1	6,0/6,7	7,7/8,8	9/10
Fuel consumption g./Hp.h	220	230	220	230
Fuel	DIESEL		DIESEL	
Starting system	ELECTRIC		ELECTRIC	
Oil capacity	1,1 lt.		1,65 lt.	
Max inclination	20°		20°	
ALTERNATOR				
Synchronous, self-excited, single phase, 2 poles, brushless				
Continuous output	2700W	2900W	4000W	4800W
Power factor	1		1	
Insulation class	F		F	
Frequency Hz	60		60	

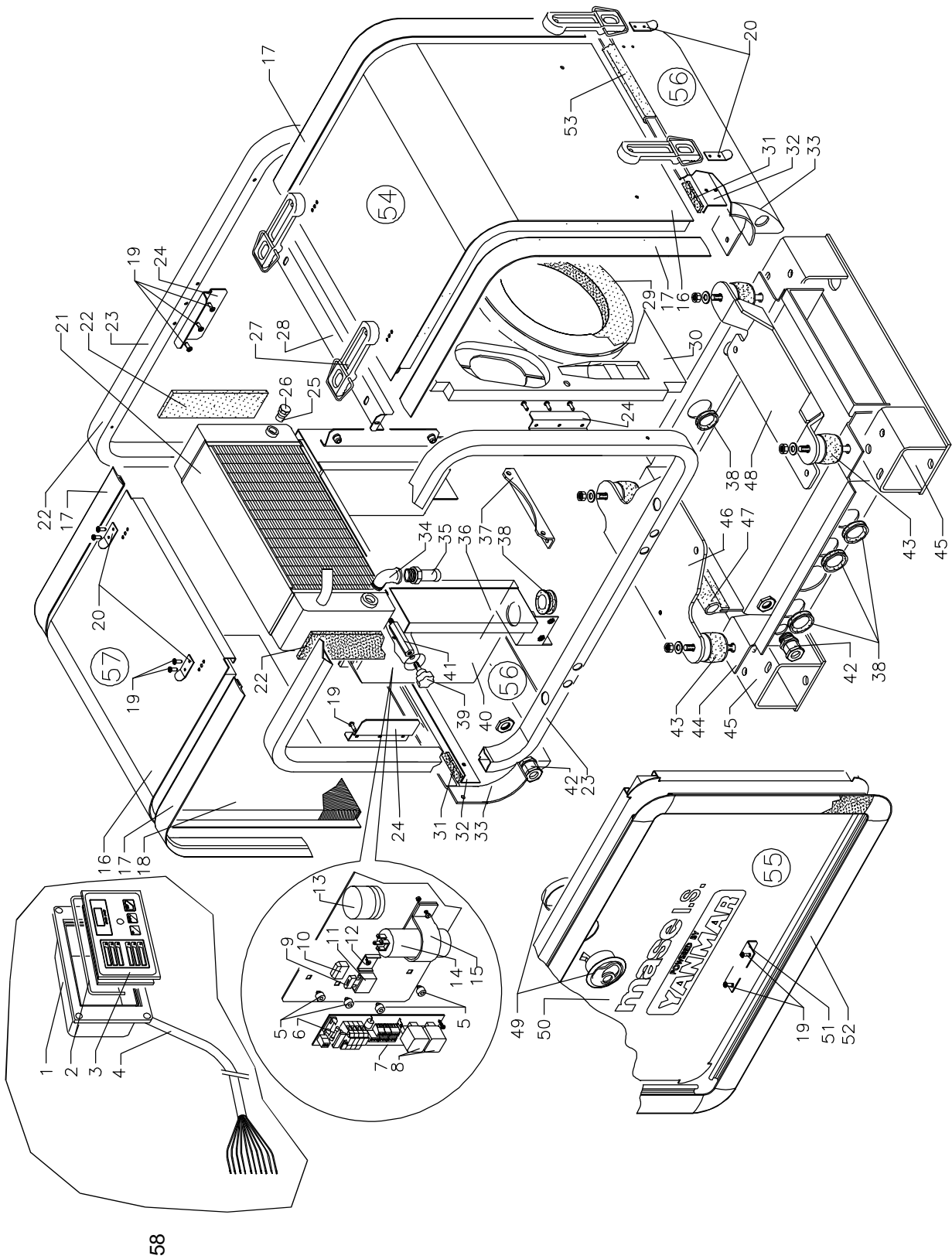
IS 3501



Rif.	Cod.	Qty.	Descrizione	Description
1	90905	1	Scatola filtro	Air filter box
2	70812	1	Massa filtrante	Sponge
3	08900	1	Piastra aspirazione	Air intake protection
4	70802	1	Cuffia in gomma	Rubber cover
5	61156	1	Collettore filtro aria	Manifold
6	70543	cm 30	Tubo gasolio	Pipe
7	70237	cm 25	Tubo gasolio	Pipe
8	11067	2	Fascetta	Clamp
9	10812	1	Portagomma	Nipple
10	80120	1	Sonda temp. cilindro	Thermostat
11	10813	1	Raccordo	Fitting
12	10166	2	Vite	Screw
13	50257	1	Puleggia pompa 50 Hz	Pulley
	50260	1	Puleggia pompa 60 Hz	Pulley
14	70196	1	Cinghia 50 Hz	Belt
	71010	1	Cinghia 60 Hz	Belt
15	70808	1	Cuffia in gomma	Rubber cover
16	10814	1	Gomito ottone	Fitting
17	10614	2	Portagomma	Nipple
18	10825	4	Fascetta 16x25	Clamp
19	61912	1	Supporto pompa	Pump bracket
20	61163	1	Piastrina supporto pompa	Plate
21	07166	1	Staffa elettrovalvola	Bracket
22	30647	1	Elettrovalvola	Fuel solenoid
23	30253	1	Sonda temp. acqua 70 °C	Thermostat
24	10342	1	Rondella in rame	Washer
25	62077	1	Gomito miscelatore	Exhaust manifold
26	97601	1	Guarnizione scarico	Gasket

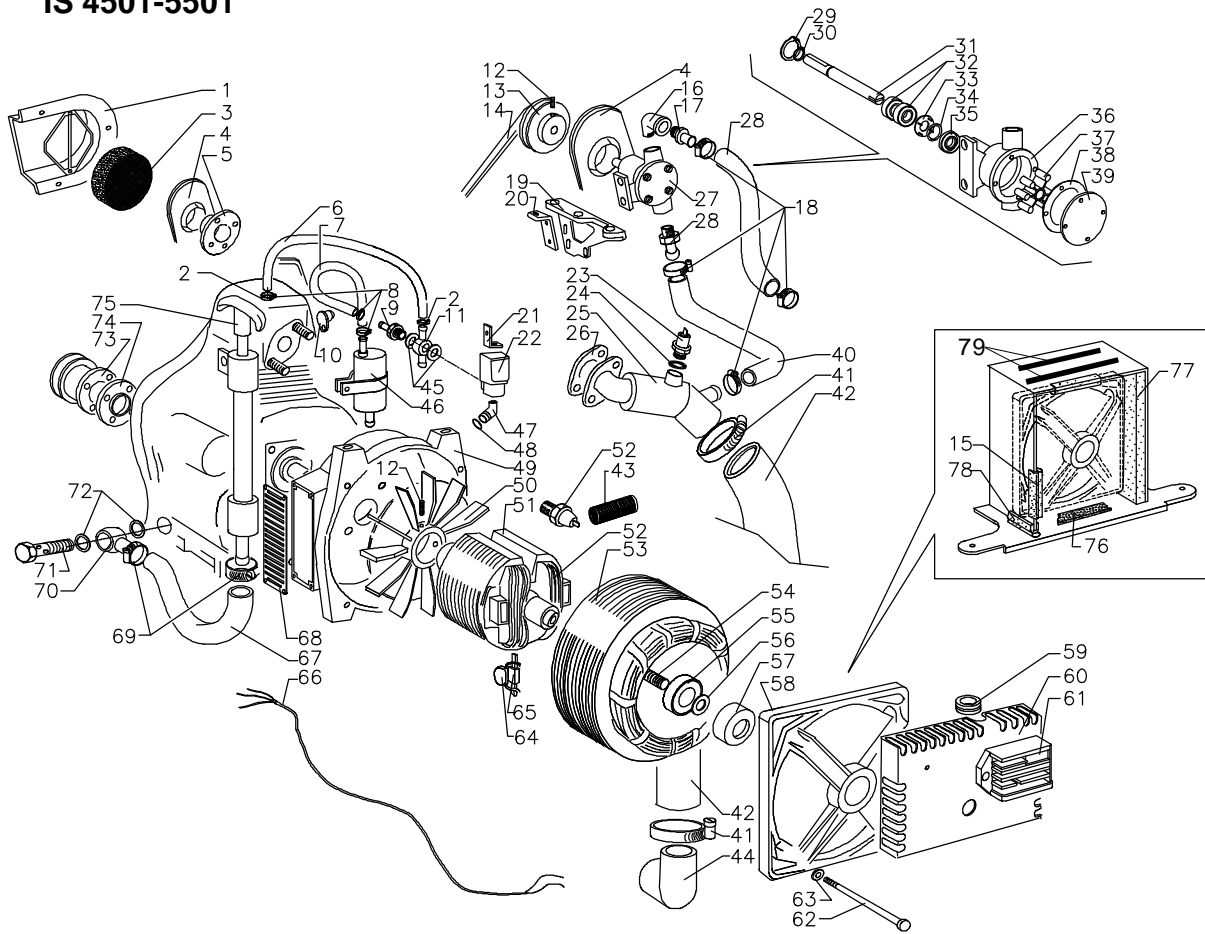
Rif.	Cod.	Qty.	Descrizione	Description
27	31001	1	Pompa acqua mare	Sea water pump
28	92819	1	Tubo acqua d.15	Pipe
29	92738	1	Anello elastico	Snap ring
30	92603	1	Anello elastico	Snap ring
31	92734	1	Alberino pompa	Pump shaft
32	92604	2	Cuscinetti	Bearings
33	92737	1	Distanziale	Spacer
34	92602	1	Anello OR	OR-ring
35	92605	1	Paraolio	Oil seal
36	92735	1	Corpo pompa	Pump web
37	80161	1	Girante	Impeller
38	93312	1	Guarnizione	Gasket
39	92736	1	Coperchietto	Pump cover
40	92820	1	Manicotto acqua	Water pipe
41	10794	2	Fascetta D 40/60	Clamp
42	70629	cm30	Tubo scarico	Exhaust
43	97536	1	Filtro olio	Oil filter
44	10822	1	Curva scarico	Fitting
45	10303	2	Rond.D10 Uni6592 Piana Zn	Washer
46	31004	1	Pompa gasolio	Electric fuel pump
47	97502	1	Raccordo elettrovalvola	Union
48	97538	1	Guarnizione OR	Or gasket
49	07061	1	Coperchio lato motore	Alternator cover
50	02516	1	Ventola	Fan
51	04956	1	Rotore IS3500	Rotor
52	97537	1	Pressostato olio	Oil pressure switch
53	06165	1	Statore 115/230V 50Hz	Stator 110/220V 50Hz
53	06015	1	Statore 120/240V 60Hz	Stator 120/240V 60Hz
54	10878	1	Tirante centrale	Central tie rod
55	80101	1	Cuscinetto	Bearing
56	10464	1	Rond.Guida D24/10/8 H5 Zn	Washer
57	70710	1	Boccola Viton	Viton Bushing
58	03768	1	Coperchio lato cuscinetto	Cover on bearing side
59	70647	1	Passacavo	Cable guide
60	08780	1	Protezione alternatore	Protection
61	80542	1	Regolatore carica batt.	Batt. charger regulator
62	11030	4	Tirante alternatore	Tie rod
63	10397	4	Rond.D 6 Uni6592 Piana In	Washer
64	20550	2	Varistore	Varistor
65	20549	2	Diodo rotore	Rotor diode
66	08875	1	Cablaggio motore	Electrical assy
67	70198	cm20	Tubo scarico olio	Oil draining pipe
68	09020	1	Griglia aspirazione alternatore	Alternator protection
69	10791	2	Fascetta D 8/16	Clamp
70	11048	1	Raccordo	Union
71	11071	1	Vite Forata M16X 1,5 L.31	Screw
72	A10414	2	Rondella	Washer
73	50266	1	Puleggia	Pulley
74	10997	1	Rond.Volano Motore Is3500 Zn	Washer
75	20250	1	Pompa olio	Oil pump
76	10770	2	Fascetta D 9.5	Clamp
77	71009	6x21 cm	Spugna fonoassorbene	Soundproof sponge
78	70220	cm20	Guarnizione adesiva 20x8	Gasket
79	70516	cm4	Guarnizione	Gasket
80	70517	cm40	Guarnizione sportello	Gasket
81	70210	cm70	Guarnizione adesiva 20x3	Gasket
	80769	1	Motore Yanmar L70 AE-DE	Yanmar L70 AE-DE Engine

IS 3501



Rif.	Cod.	Qty.	Descrizione	Description
1	70854	1	Scatola pannello comandi	Printed circuit box
2	70786	40cm	Guarnizione	Gasket
3	91034	1	Circuito stampato	Printed circuit
4	31342	10mt	Cavo pannello comandi	Control panel cable
5	10844	4	Supporto scheda relé	Relay board support
6	30448	1	Fusibile 5x20 1A	Fuse
7	31003	1	Scheda relé	Relay board
8	31678	2	Relè	Relay
9	30921	1	Fusibile lamellare 30A	Fuse 30A
10	31973	1	Coperchio fusibile	Fuse cover
11	30925	1	Portafusibile lamellare	Fuse holder
12	30926	1	Piastrina per portafusibile	Fuse holder plate
13	31972	1	Coperchio condensatore	Capacitor cover
14	20206	1	Condensatore 20 µF	Capacitor 20 µF
15	70318	1	Staffa condensatore	Capacitor support
16	010432	2	Lamierato cofano	Box metal sheet
17	71069	88x4 cm	Guarnizione sportello	Box rubber gasket
18	71102*	1	Serie spugne SP 19	Sponge set thickness 19
19	10092	28	Rivetto	Rivet
20	10815	4	Fermo cinghietta	Plate
21	62212	1	Scambiatore di calore	Water-air heat exchanger
22	70211	16,5 cm	Guarnizione adesiva 50x6	Adhesive gasket 50x6
23	010401	2	Anello telaio	Frame
24	62285	6	Staffa battuta sportelli	Plate
25	92837	1	Pastiglia zinco	Zinc anode element
26	80162	1	Zinco con tappo	Zinc anode with plug
27	04306	4	Cinghietta in gomma	Strap
28	08897	1	Staffa fissaggio paratia motore	Bracket
29	71001	1	Spugna paratia	Soundproof material
30	71068	1	Paratia	Bulkhead
31	70229	33 cm	Guarnizione adesiva 10x3	Adhesive gasket 10x3
32	09135	2	Staffa battuta cofani	Bracket
33	71067	2	Chiusura inferiore cassa nuda	Bottom panel
34	10814	1	Gomito	Union
35	10614	1	Portagomma	Nipple
36	08609	1	Supporto scambiatore	Heat exchanger support
37	08898	1	Staffa supporto alternatore	Bracket
38	10566	1	Passacavo DG29	Cable guide
39	70600	1	Pomello	Knob
40	71098	1	Protezione scheda relé	Relay board cover
41	11194	1	Colonna	Support
42	71037	2	Pressacavo PG13,5	Cable guide
43	70128	4	Antivibrante 40x30	Shock absorber
44	71082	1	Fondo cassa	Bottom soundproof box
45	62215	2	Staffa di fissaggio cassa	Bracket
46	62214	1	Staffa antivibranti alternatore	Shock absorbers bracket
47	70516	25 cm	Guarnizione in gomma	Rubber gasket
48	62213	1	Staffa antivibranti motore	Shock absorbers bracket
49	71084	2	Chiusura portello	Lock
50	010431	2	Lamierato portello	Front panel metal sheet
51	08904	2	Staffa fissaggio sportello	Bracket
52	92836	2	Anello guarnizione sportello	Gasket
53	70119	30x2 cm	Profilato in gomma	Rubber gasket
54	92835	1	Cofano lato motore completo	Soundproof cover eng. side
55	92833	2	Sportello laterale	Side panel assembly
56	92842	2	Chiusura inferiore	Bottom panel assembly
57	92834	1	Cofano completo lato alternatore	Soundproof cover alt. side
58	07664	1	Comando a distanza 10mt.	Remote control panel

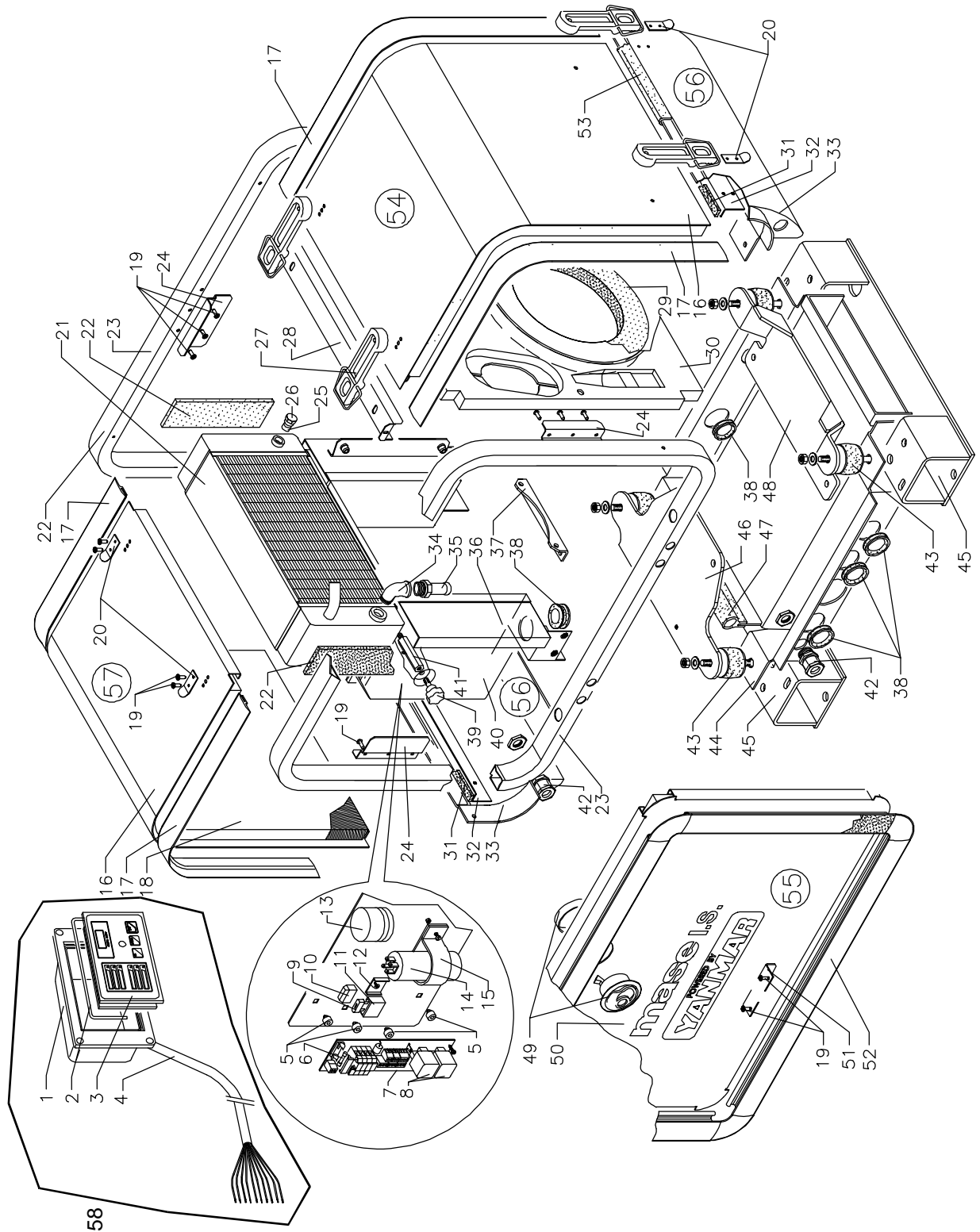
IS 4501-5501



Rif.	Cod.	Qty.	Descrizione	Description
1	90905	1	Scatola filtro	Air filter box
2	10770	2	Fascetta 10x15	Clamp
3	70812	1	Massa filtrante	Sponge
4	70808	2	Cuffia in gomma	Rubber cover
5	07125	1	Collettore filtro aria	Manifold
6	70543	cm 37	Tubo gasolio	Pipe
7	70237	cm 32	Tubo gasolio	Pipe
8	11067	2	Fascetta	Clamp
9	10812	1	Portagomma	Nipple
10	80120	1	Sonda temp. cilindro	Thermostat
11	10813	1	Raccordo	Fitting
12	10166	2	Vite	Screw
13	50257	1	Puleggia pompa 50 Hz	Pulley
	50260	1	Puleggia pompa 60 Hz	Pulley
14	71008	1	Cinghia 50 Hz	Belt
	71010	1	Cinghia 60 Hz	Belt
	70517	42 cm	Guarnizione	Gasket
16	10814	1	Gomito ottone	Fitting
17	10614	2	Portagomma	Nipple
18	10825	4	Fascetta 16x25	Clamp
19	62058	1	Supporto pompa	Pump bracket
20	01584-0*	1	Piastrina supporto pompa	Plate
21	07166	1	Staffa elettrovalvola	Bracket
22	30647	1	Elettrovalvola	Fuel solenoid
23	30253	1	Sonda temp. acqua 70 °C	Thermostat
24	10342	1	Rondella in rame	Washer
25	62077	1	Gomito miscelatore	Exhaust manifold
26	92566	1	Guarnizione scarico	Gasket

Rif.	Cod.	Qty.	Descrizione	Description
27	31001	1	Pompa acqua	Sea water pump
28	70442	cm34	Tubo D 15x23	Tube
29	92738	1	Anello elastico	Snap ring
30	92603	1	Anello elastico	Snap ring
31	92734	1	Alberino pompa	Pump shaft
32	92604	2	Cuscinetti	Bearings
33	92737	1	Distanziale	Spacer
34	92602	1	Anello OR	OR-ring
35	92605	1	Paraolio	Oil seal
36	92735	1	Corpo pompa	Pump web
37	80161	1	Girante	Impeller
38	93312	1	Guarnizione	Gasket
39	92736	1	Coperchietto	Pump cover
40	70442	cm34	Tubo D 15x23	Tube
41	10794	2	Fascetta 30x60	Clamp
42	70629	cm30	Tubo d. 40	Pipe
43	97536	1	Filtro olio	Oil filter
44	10822	1	Curva scarico	Fitting
45	10303	2	Rond.D10 Uni6592 Piana Zn	Washer
46	97502	1	Raccordo elettrovalvola	Union
47	97538	1	Guarnizione OR	Or gasket
48	07061	1	Coperchio lato motore	Alternator cover
49	03750	1	Ventola	Fan
50	06489	1	Rotore	Rotor
51	97537	1	Pressostato olio	Oil pressure switch
53	08878	1	Statore 115/230V 50Hz	Stator 115/230V 50Hz
53	07161	1	Statore 120/240V 50Hz	Stator 120/240V 60Hz
54	10803	1	Tirante centrale FM 5600	Central tie rod FM 5600
55	80101	1	Cuscinetto	Bearing
56	10464	1	Rond.Guida D24/10/8 H5 Zn	Washer
57	70710	1	Boccola viton D 40,5	Bushing
58	03768	1	Coperchio lato cuscinetto	Cover on bearing side
59	70647	1	Passacavo	Cable guide
60	08780	4	Protezione alternatore	Protection
61	80542	4	Regolatore carica batt.	Batt. charger regulator
62	11069	2	Tirante alternatore	Tie rod
63	10397	2	Rond.D 6 Uni6592 Piana In	Washer
64	20550	1	Varistore	Varistor
65	20549	cm22	Diodo rotore	Rotor diode
66	08875	1	Cablaggio motore	Electrical assy
67	70198	2	Tubo scarico olio	Oil draining pipe
68	09020	1	Griglia aspirazione alternatore	Alternator protection
69	10776	1	Fascetta	Clamp
70	11048	2	Raccordo	Union
71	11071	1	Vite Forata M16X 1,5 L.31	Screw
72	A10414	1	Rondella	Washer
73	50268	1	Puleggia	Pulley
74	11032	1	Adattatore puleggia	Pulley adapter
75	20250	1	Pompa olio	Oil pump
76	70220	22cm	Guarnizione adesiva 20x8	Adhesive gasket 20 x 8
77	71009	9x21 cm	Spugna fonoassorbene	Soundproof sponge
78	70516	7cm	Guarnizione	Gasket
79	70210	cm70	Guarnizione 20 X 3	Gasket
	80755	1	Motore Yanmar L100 AE-DEG	Yanmar L100 AE-DEG Engine

IS 4501-5501



Rif.	Cod.	Qty.	Descrizione	Description
1	70854	1	Scatola pannello comandi	Printed circuit box
2	70786	40cm	Guarnizione	Gasket
3	91034	1	Circuito stampato	Printed circuit
4	31342	10mt	Cavo pannello comandi	Control panel cable
5	10844	4	Supporto scheda relè	Relay board support
6	30448	1	Fusibile 5x20 1A	Fuse
7	31003	1	Scheda relè	Relay board
8	31678	2	Relè	Relay
9	30921	1	Fusibile lamellare 30A	Fuse 30A
10	31973	1	Coperchio fusibile	Fuse cover
11	30925	1	Portafusibile lamellare	Fuse holder
12	30926	1	Piastrina per portafusibile	Fuse holder plate
13	31972	1	Coperchio condensatore	Capacitor cover
14	20209	1	Condensatore 35 µF	Capacitor 35 µF
15	70318	1	Staffa condensatore	Capacitor support
16	010434	2	Lamierato cofano	Box metal sheet
17	71070	73x4 cm	Guarnizione sportello	Box rubber gasket
18	71002*	1	Serie spugne SP 19	Sponge set thickness 19
19	10092	28	Rivetto	Rivet
20	10815	4	Fermo cinghietta	Plate
21	62218	1	Scambiatore di calore	Water-air heat exchanger
22	70211	17 cm	Guarnizione adesiva 50x6	Adhesive gasket 50x6
23	010402	2	Anello telaio	Frame
24	62285	6	Staffa battuta sportelli	Plate
25	92837	1	Pastiglia zinco	Zinc anode element
26	80162	1	Zinco con tappo	Zinc anode with plug
27	04306	4	Cinghietta in gomma	Strap
28	08908	1	Staffa fissaggio paratia motore	Bracket
29	71000	1	Spugna paratia	Soundproof material
30	92846	1	Paratia	Bulkhead
31	70229	40 cm	Guarnizione adesiva 10x3	Adhesive gasket 10x3
32	09134	2	Staffa battuta cofani	Bracket
33	71072	2	Chiusura inferiore cassa nuda	Bottom panel
34	10814	1	Gomito	Union
35	10614	1	Portagomma	Nipple
36	08603	1	Supporto scambiatore	Heat exchanger support
37	08763	1	Staffa supporto alternatore	Bracket
38	10566	1	Passacavo DG29	Cable guide
39	70600	1	Pomello	Knob
40	71098	1	Protezione scheda relè	Relay board cover
41	11194	1	Colonna	Support
42	71037	2	Pressacavo PG13,5	Cable guide
43	70650	4	Antivibrante 40x30	Shock absorber
44	71083	1	Fondo cassa	Bottom soundproof box
45	62221	2	Staffa di fissaggio cassa	Bracket
46	62220	1	Staffa antivibranti alternatore	Shock absorbers bracket
47	70516	30 cm	Guarnizione in gomma	Rubber gasket
48	62219	1	Staffa antivibranti motore	Shock absorbers bracket
49	71084	2	Chiusura portello	Lock
50	010433	2	Lamierato portello	Front panel metal sheet
51	08904	2	Staffa fissaggio sportello	Bracket
52	92847	2	Anello guarnizione sportello	Gasket
53	70119	40x2 cm	Profilato in gomma	Rubber gasket
54	92848	1	Cofano lato motore completo	Soundproof cover eng. side
55	92849	2	Sportello laterale	Side panel assembly
56	92850	2	Chiusura inferiore	Bottom panel assembly
57	92851	1	Cofano completo lato alternatore	Soundproof cover alt. side
58	07664	1	Comando a distanza 10mt.	Remote control panel 10mt.



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