

KELT

**Maintenance
Handbook**

MCP KELT
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Dear Owner,

On behalf of the whole Boatyard team, I would like to thank you for your confidence and for choosing to sail a KELT .

This service handbook has been prepared to help you to become familiar with your boat and its maintenance .

I truly hope that your KELT will bring you great pleasure during your many sailing trips .

Very sincerely,

M.C.P. - KELT
S.A. au capital de 1.000.000 F

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Owner

Name

Address

KELT DEALER stamp

type of boat

Fab. No

Hull No.

Engine No

Date of receipt

Delivered to the port of

Transporter

Comments made about the transport

DEFECTS, ANOMALIES, MISSING ITEMS REMARKED

1/ Hull, deck

2/ Standard inventory : exterior, interior (superstructure, sails)

3/ Rigging and spars

4/ Engine

5/ Electricity

6/ Options

7/ Other

Signed at

on

Signature

1st page : "Copy to be kept by the owner"
2nd page : "Copy to be kept by the builder"
3rd page : "Copy to be kept by the KELT dealer"

FIRST COMMISSION REPORT

T A K E - O V E R C H E C K L I S T

In order to quickly get used to your new boat, kindly have your KELT dealer explain the following points to you :

I - INSIDE THE BOAT

- 1°) Control of the equipment inventory (role and desired place)
- 2°) Engine
 - water
 - . Before using the stopcocks :
 - fuel tank, gauge, use of fuel and clutch levers and buttons .
 - . Starting up after various check-controls .
 - . Running in
 - . General maintenance .
- 3°) Electricity
 - . Role and use of the battery commutator
 - . Electrics chart (role and position of each of the plugs) .
 - . Charge indicator

Functioning of the navigation instruments (speedo, compass, radio and depth sounder, etc).

- 4°) Fresh Water System (usage and precautions) .
 - . Filling-up-filter-foot pump-stopcocks (washbasin and sink drains) .
- 5°) Gas Circuit
 - . Accomodation and positioning of the container
 - . Lighting
 - . Precautions for usage .
- 6°) W.C.
 - . Functioning, precautions
- 7°) Accessoires
 - . Setting up the dining table
 - . Bunks
- 8°) Bilge pump
 - . Fundamentals, functioning, drain, cleansing .

9°) Use of the drop Center-board

II - DECK SERVITUDE

- . Setting up the standing rigging, the moorings, the mast .
- . Use and functioning of the running rigging and the functioning of the reefing system .
- . Adjustment and reefing of sails .

III - ENGINE EVOLUTION AND MANOEUVRE

- . Mooring, berthing
- . Beaching precautions .

G U A R A N T E E C A R D S

Owner's Kelt Guarantee	1 ^{er} propriétaire Nom / Prénom	First owner Name / First name
	Adresse personnelle / Tél.	Personal address / Tel.
	Nom du bateau / N° de série	Your boat / Fab. nub.
	Conseiller KELT	Dealer adviser
	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">KELT Advisor's Stamp</div>	
Port d'attache / Zone de navigation	Home port / Usual zone of navigation	
Owner's 2nd after-sales service guarantee	Date de changement de propriétaire	Date of change owner
	2 ^e propriétaire Nom / Prénom	Second owner Name / First name
	Adresse personnelle / Tél.	Personal address / Tel.
	Nom du bateau / N° de série	Name of your boat / Fab. nub.
	Nouveau port d'attache / Zone de navigation	New home port / Usual zone of navigation

AFTER-SALES SERVICE 2ND OWNER

Now you have taken possession of a KELT, you have become a "Keltist" . Kindly return this service card to us . It will be used by us for putting you in touch with the sales representative in your zone of navigation .

We Shall also keep you up to date with activites such as meetings, regattas, open-days, presentation of new models, etc .

YOUR KELT DEALER'S RESPONSIBILITY

The KELT dealer from whom you bought your boat is a specialist in sailing . He knows our products, understands your needs, and tries as hard as possible to satisfy them .

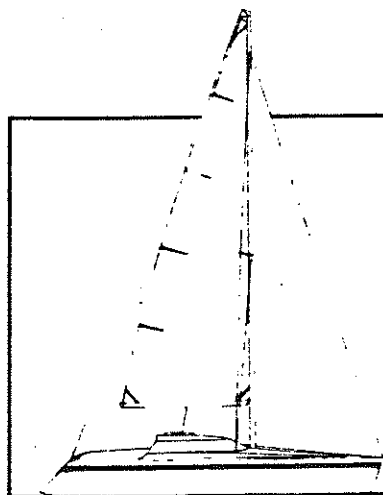
The confidence shown by him in the quality of the construction of our boats permits him to pledge his reputation when he sells you your boat .

Over and above the factory quality control, your KELT dealer inspects the boat upon arrival, checks the equipment inventory and controls all the elements of the boat . He deals with the setting up of the mast and the adjustment of the standing rigging .

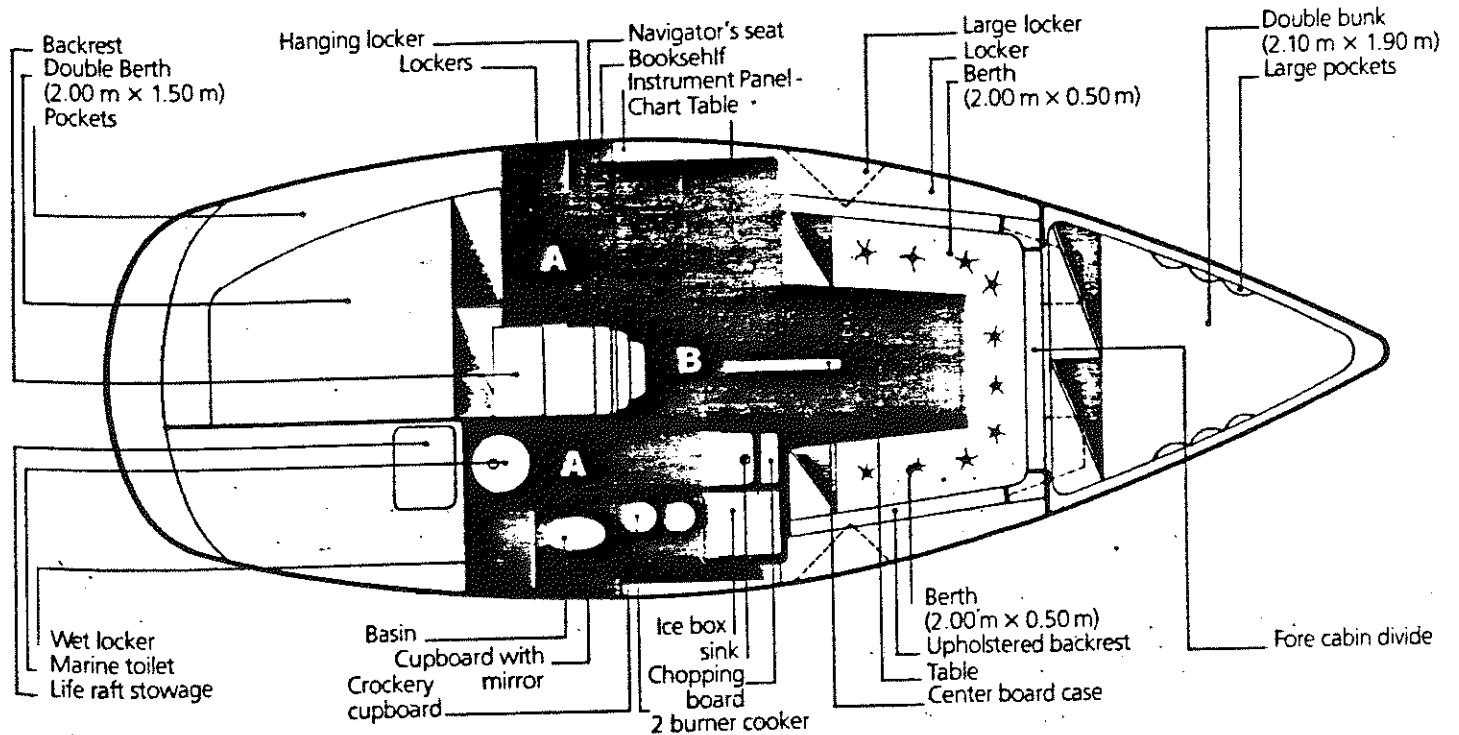
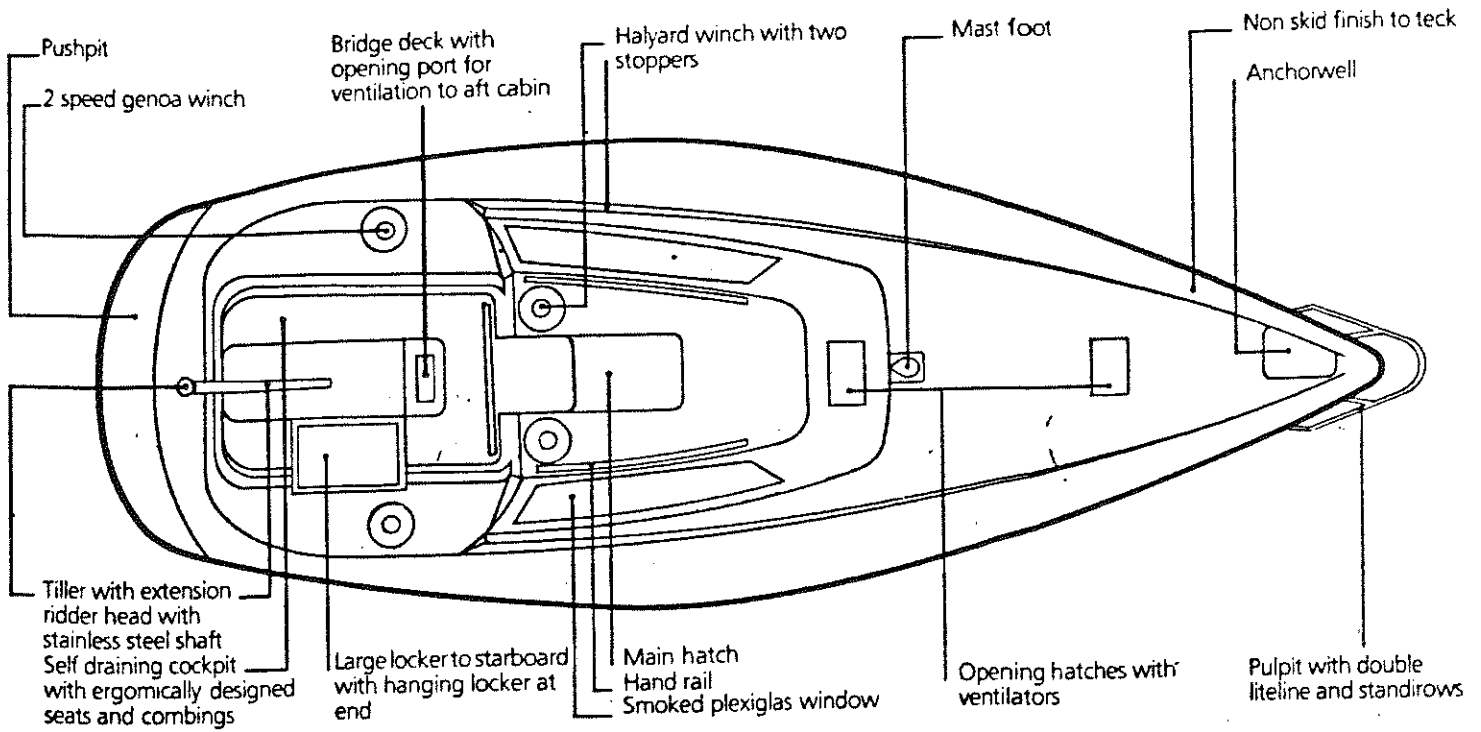
Your KELT dealer also has to settle any problem with the transporter .

Do not hesitate to consult your KELT dealer immediatly should any problem arise . Finally, he remains at your disposal for the purchase of spare parts for the modification or adaptation of the equipment .

TECHNICAL SPECIFICATIONS



L.O.A. :	8,65 m / 28.2 Ft	Sail area :	44 m ²
Hull length :	8,50 m / 28.0 Ft	Main sail :	18 m ²
LWL :	7,50 m / 24.75 Ft	Genoa :	26 m ²
Beam :	3,10 m / 10.30 Ft	Solent jib :	15 m ²
Draft Center Board :	0,68 / 1,73 m	Storm jib :	5 m ²
	2.30 / 5.70 Ft	Spinnaker :	62 m ²
Draft keel :	1,62 m / 5.35 Ft	Berths :	6
Displacement :	2900 kg	Hedroom :	1,82 m / 6 Ft
Ballast :	1200 kg		
Rig :	9/10 ^e	Designers :	Gilles VATON / Patrick ROSEO



Headroom : A : 1,72 m, B : 1,895 m / 1,82 m

LAUNCHING / HANDLING

The minimum capacity of the crane machinery should be equivalent to the weight of the boat, i.e. roughly 3 200 Kg .

It is imperative that a spreader bar be used to ensure a minimum transversal clearance of 3.10 metres for the straps .

The straps must be placed in the correct position ("raise here" stickers) so that they do not deteriorate the external parts protruding from the hull (log-line, depth sounder, propellor shaft ...).

N.B. please close the stop cocks during launching and check that all submerged parts are watertight .

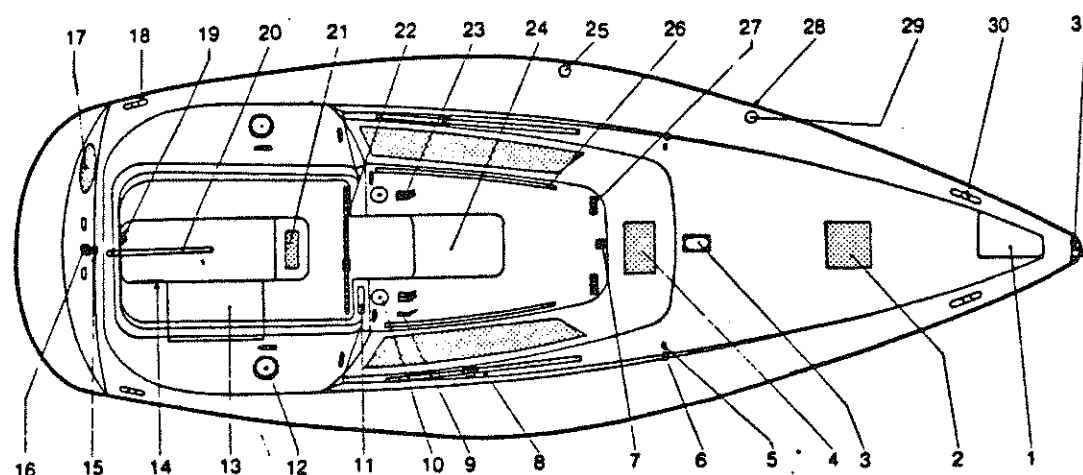
SETTING UP THE MAST

The KELT 29 must have its mast set by crane .

The steps to be taken are as follows :

- . Lie the mast flat on a cradle or on trestles ;
- . set the spreaders and fix the shrouds slightly braced towards the top of the mast in the spreader ends ;
- . attach the halyards, the cap shrouds and lower shrouds the length of the mast and tie them to its base ;
- . grasp the mast with the crane below the rigging of the spreaders, raise and position in its base-plate ;
- . temporarily fix the cap shrouds, lower shrouds, stays and backstays in order to free the crane .

SUPERSTRUCTURE

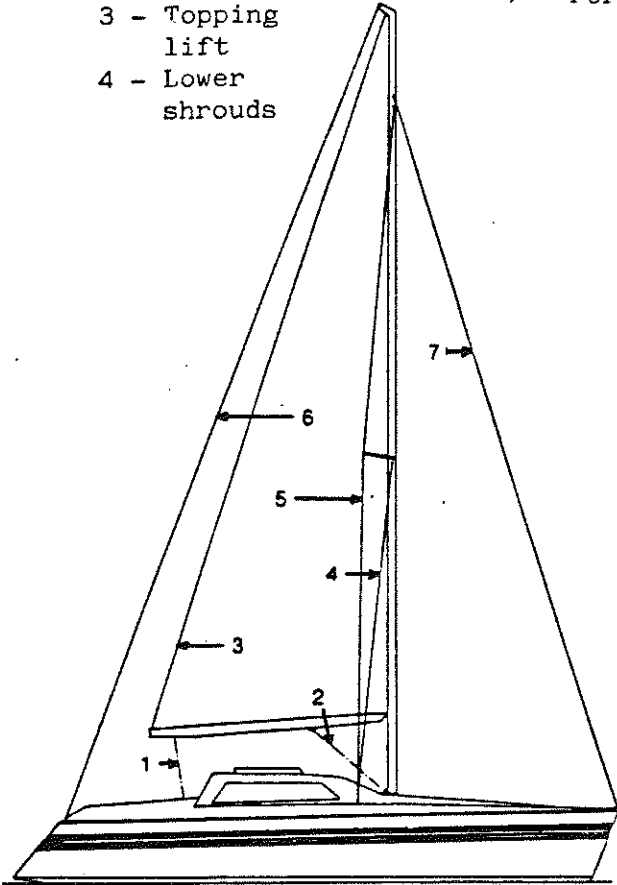


- | | | |
|--|--------------------------------|------------------------------------|
| 1 - Anchor well | 10 - Halyard winch | 21 - Aft window |
| 2 - Forward opening hatch | 11 - Toilet Port | 22 - Mainsail sheet track |
| 3 - Mast foot | 12 - Sheet winch | 23 - Halyard stopper |
| 4 - Strylight | 13 - Sail and life-raft locker | 24 - Main hatch |
| 5 - Fairlead | 14 - Gas locker | 25 - Fuel tank filler |
| 6 - Shroud chain-plate | 15 - Backstay chain-plate | 26 - Hand-rail |
| 7 - Centre-board lifting halyard block (C.B.) | 16 - Navigation light | 27 - Halyard return blocks |
| 8 - Genoa sheet track and genoa traveller | 17 - Aft cabin port | 28 - Perforated aluminium toe-rail |
| 9 - Center-board cable stopper (C.B.) | 18 - Stern mooring cleat | 29 - Water tank filler |
| | 19 - Engine controls | 30 - Bow mooring cleat |
| | 20 - Tiller | 31 - Bow fitting |

STANDING RIGGING

- 1 - Mainsheet
- 2 - Kicking strap
- 3 - Topping lift
- 4 - Lower shrouds

- 5 - Cap shrouds
- 6 - Backstay
- 7 - Forestay



We recommend the use of rustproof tools for every manipulation .

Make sure of the rigging screws by blocking the counter-nuts and by opening up the pins

Cover all the asperities and pins with adhesive tape .

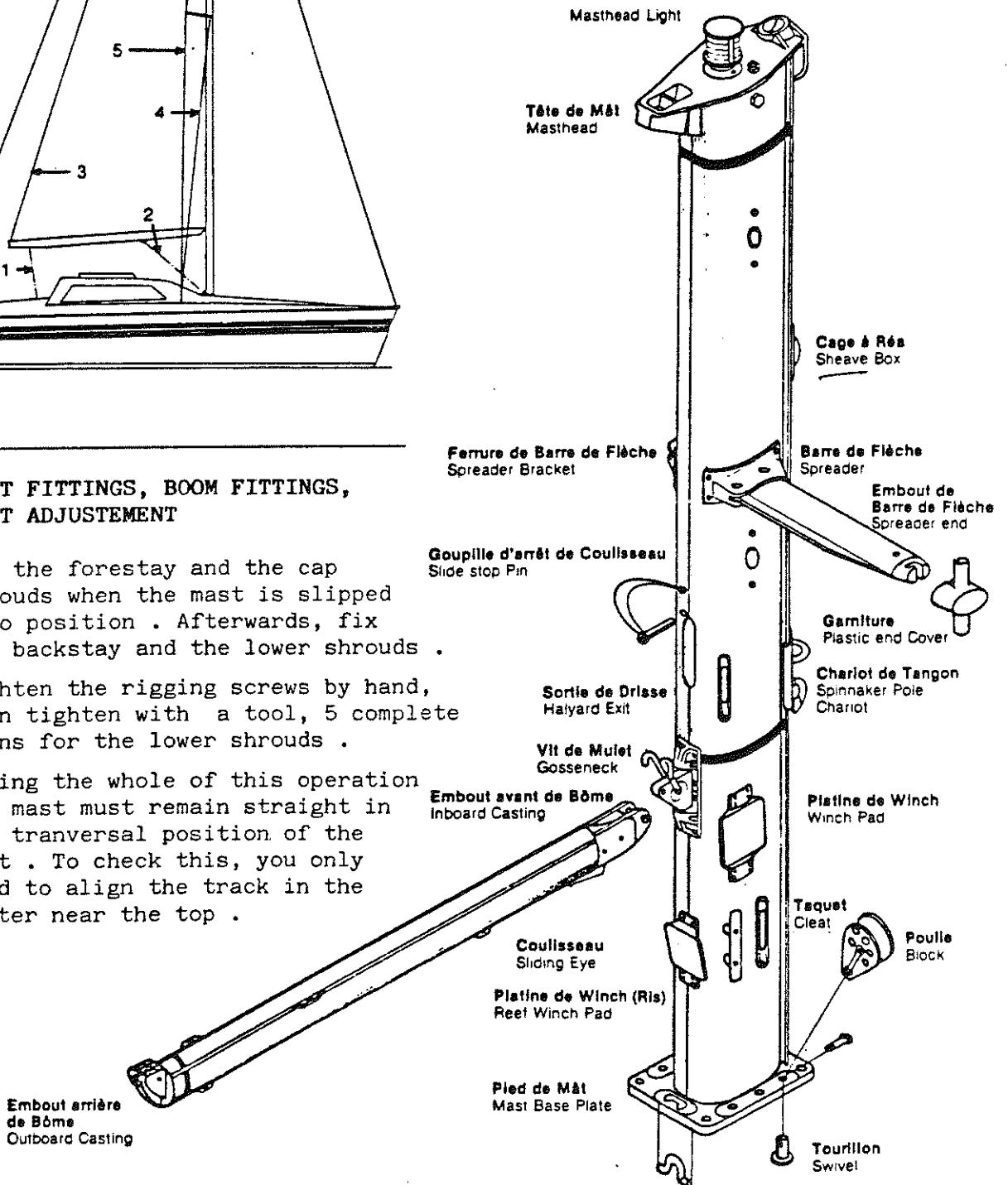
Certain adjustments should be made after a few nautical miles of navigation .

MAST FITTINGS, BOOM FITTINGS, MAST ADJUSTEMENT

Fix the forestay and the cap shrouds when the mast is slipped into position . Afterwards, fix the backstay and the lower shrouds .

Tighten the rigging screws by hand, then tighten with a tool, 5 complete turns for the lower shrouds .

During the whole of this operation the mast must remain straight in the transversal position of the boat . To check this, you only need to align the track in the master near the top .



Tighten the backstay in order to obtain a slight aft take in the mast .

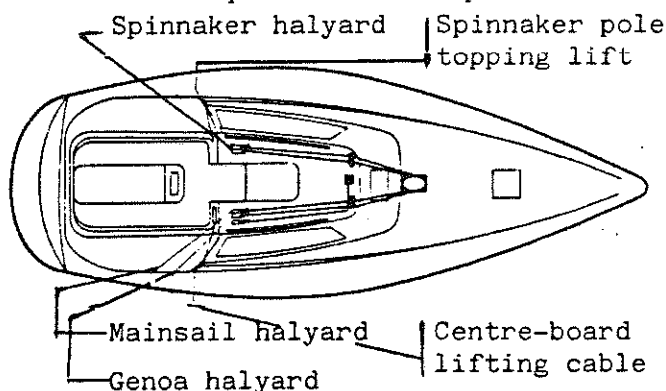
REPLACEMENT OF AN INSIDE HALYARD

1 - Get a member of the crew up to the top of the mast on a bosun's chair . He will have with him a carrier (e.g. flag halyard of about 2 millimetres diameter) ballasted at the end with a small weight . Introduce this ballasted halyard into the masthead sheave corresponding to the halyard to be replaced, and let it drop down until its end appears level with the mast foot exit

2 - Make a hook enabling you to get the carrier out .

3 - Bind the other end of the carrier to the new halyard and cover with adhesive tape so that it passes more easily through the sheaves . Pull the carrier until the halyard comes out . The crew-member at the mast-head will help ease the halyard through .

This is a delicate operation which will require a little patience .



ADJUSTMENT OF THE SAILS

I - THE BASIC PRINCIPLES

Only after getting a good idea of the behaviour of the boat can we try to adjust the sails .

The two points upon which we shall centre our efforts are the force provided by the sails and the stability of the air flow .

Numerous parameters intervene in the adjustment of the sails . The given data are the characteristics of the boat and the cut of the sail in hand, then one must consider the variables which are the strength of the wind, the relative condition of the sea and the incidence of the wind on the sails .

Ideally, every naturel element situation would have a corresponding type of boat and cut of sails .

With a desire for clarification and for easy application of the advice given in this article, we are going to accept the boat, its rigging and its sails, such as they are .

Let us go to sea and try to understand what happens on the water .

First of all, one must know where the wind is coming from . To this effect, vane and tell-tales are indispensable . They help us to appreciate the incidence of the wind on the sail .

Let us now consider the behaviour of the boat with respect to the force of the wind and the condition of the sea . With regards to this, let us take note of the wind force : generally, a condition of sea, a certain height of waves, corresponds to each force of wind .

In practice this relationship is not always constant and two types of situation can be seen :

- . wind stronger than that which would correspond to the sea encountered ;
- . wind weaker than that which would correspond to the sea encountered .

When the sailing conditions are ideal, the wind corresponds to the state of the sea encountered, our boat carries sufficient sail area, it is weel-balanced at the helm, progresses normally and heels to about 10 degrees .

Going from this normal situation :

- . if the wind weakens, the boat will no longer have sufficient sail area to give it the necessary force to progress in the waves . We shall call this condition "under-strong" ;
- . if, on the other hand, the wind strengthens, the boat will have more sail area than necessary, we shall qualify this condition as being "over-strong" .

Let us note finally that the correlation of wind strength, sea conditions which we have just studied can be influenced by the action of the current or by the lie of the coast .

Schematically we have :

UNDERSTRONG CONDITION

Indicators	Remedies
Little wind	. Let out the sail to give more power
Rough sea	. use the whole sail . pull down the leeches
Slight heel	. reduce the gap between genoa and mainsail
Slack boat	. diminish the stay tension

OVERSTRONG CONDITION

Indicators	Remedies
Strong wind	. eliminate the fullness of the sail by flattening it.
Calm sea	. help the air flow
Strong heel	and reduce the heel of the boat by opening the upper part of the leech of the sail
Sluggish boat	. Get the stay as tight as possible

N.B. : the indicators are inexact if one takes each one separately (see the sea/wind effect) it is in fact the whole tendency that must be taken into account.

II - THE MEANS OF ACTION .

The two sails which will serve as a basis for our study are the genoa and the mainsail .

We must note that in modern rigging, when close-hauled, only the genoa has a propulsive role, the mainsail being limited to the role of a foil helping the airflow .

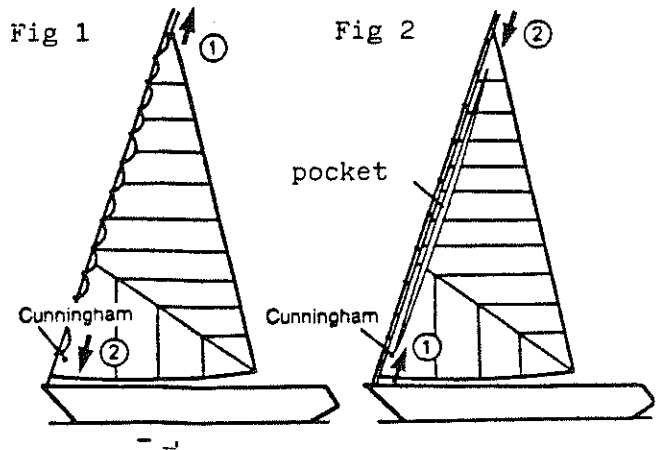
a) Adjustement of the genoa

1 - Luff tension : playing on the tension of the luff enables one to let out or flatten the sail . This is done with the help of the halyard and, when the head has reached the masthead sheave, with the help of the cunningham (if it exists) .

Indication of bad adjustement :

Fig 1 The genoa scallops : the tension is too weak on the luff . The halyard (1) must be taken up then the cunningham (2) tightened if the tension is still insufficient .

Fig 2 The genoa is too taut : a pocket appears along the luff . One must slacken the cunningham (1) and if that is insufficient slacken the halyard (2) .



In a general manner one must slacken the halyard when the boat is understrong and haul it taut when it is overstrong .

2 - Angle of incidence of the wind on the sail : the adjustment of this angle of incidence is made with the help of the sheet .

The best indicator of a correct adjustment of this angle of incidence is certainly constituted by the tell-tales fixed in the genoa .

Unfortunately this indicator is seldom used despite it being easily fitted and very economical . It is a question of fixing wool tell-tales in the genoa as follows (fig 3) :

- . Thread a piece of of red or black wool on a needle ;
- . Heat the needle until it is red-hot;
- . Pierce the genoa at about 20 Cm from the luff;
- . Make a knot in the wool each side of the sail .

Let us call A the tell tales to windward, directly visible from the boat . Let us call B the tell-tales to leeward, visible by transparence They are going to help us to find a correct ajustement .

If we haul in the genoa too much, the A tell-tales are horizontal, the B tell-tales fly in every direction . Fig 4

Let's progressively slacken the genoa sheet, at one point the B tell tales will become horizontal Fig 5

Let's release a few more cm of sheet, the A tell-tales begin to rise . STOP ! We have attained the correct ajustement . Fig 6

If we slacken excessively the genoa sheet the A tell-tales will rise vertically . Fig 7 .

When close-hauled and when a correct ajustement has been made, the helmsman is the one who must keep the tell -tales in the right position .

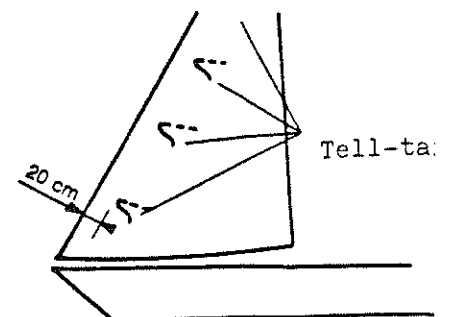
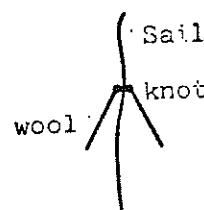
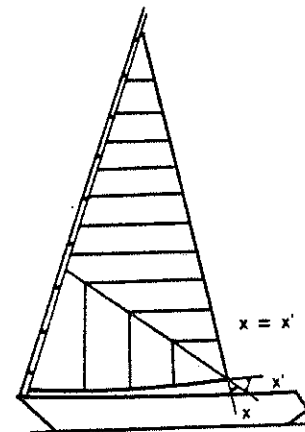
3 - Adjustement of the sheeting angle : let's come back to the normal situation defined above (well-balanced boat) . The genoa sheet should then, theoretically, represents the bissector of the foot-leech angle of the sail - Fig 8 .

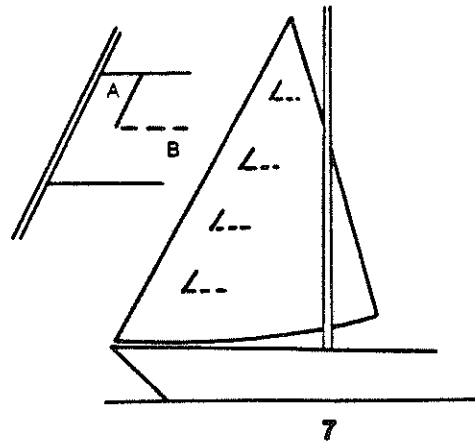
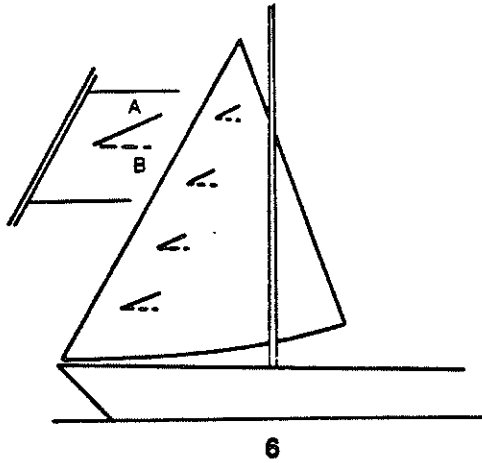
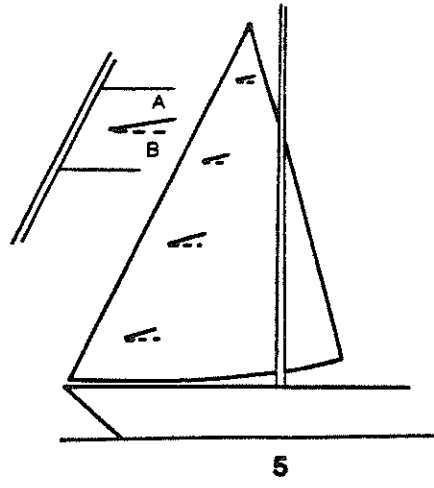
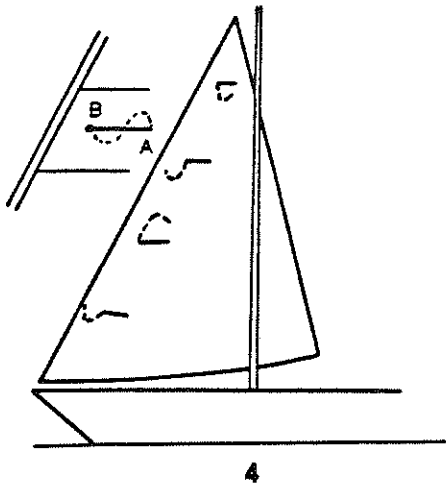
When the helmsman luffs too much, the whole of the luff of the genoa should, normally, lose wind almost simultaneously ; the phenomenon beginning at the top of the sail and all the tell-tales following the movement .

Indication of an incorrect ajustement :
 if the sheet is too far back, the boat loses speed and is sluggish, one can see the A tell-tales rise vertically, the sail loses wind high up and even flaps . The foot is tighter than the leech which is also likely to flap ;
 . If the sheet is too far forward, the boat loses speed and the genoa throws back excessively into the mainsail . Even hauled flat its foot is not taut .
 If the boat becomes over-powered, the sheet should be pulled further astern in order to open up the leech and eliminate The sag in the sail .
 The genoa thus loses strength .
 On the other hand, if the boat becomes under-powered, one has to give the genoa more strength .

4 - Stay tension : the best way to feel the stay tension is with the forestay tensioner, whether it be a pulley-block, a rigging screw or a hydraulic system . If the boat is under-powered we shall slacken the stay to help fill out the genoa . If the boat is over-powered we shall tauten the stay, and vice-versa, to obtain a leading edge of the genoa as straight as possible .

N.B. Abusive use of the forestay tensioner can considerably damage the hull . We must never forget to slacken it as soon as the tension is no longer required .





b)Adjustement of the Mainsail

Now that our genoa is well-adjusted, let's study the adjustment of the mainsail, first of all looking at the indication of an incorrect adjustment .

Between these two extremes the adjustment will be made according to the same principles as for the genoa :

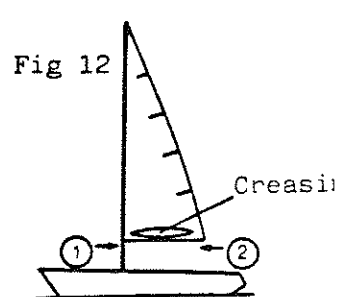
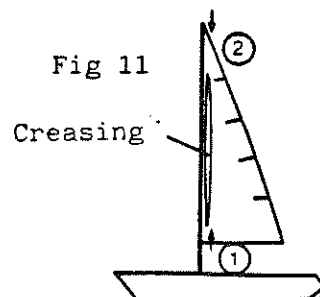
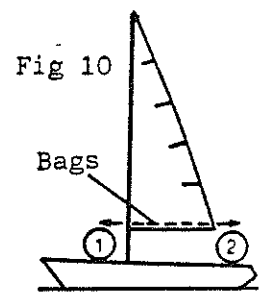
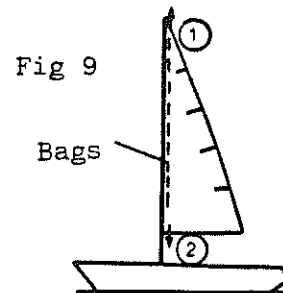
- . under-powered boat, slacken everywhere in order to fill out the sail .
- . Over-powered boat, haul in everywhere in order to flatten the sail .

Bags along the mast, the luff is too slack . The halyard must be hauled in, the cunningham (2) tautened (if it exists) - Fig 9

Bags the length of the boom : the foot is too slack . More tension needs to be taken at the end of the boom or at the tack . Fig 10

Creasing along the mast : the luff is too taut . The cunningham (1) must be slackened, then the main-sail halyard (2) . Fig 11

Creasing the length of the boom : the foot is too taut . The tension must be eased at the end of the boom and at the tack . Fig 12



c) Adjustement of the main sheet track and the sheet .

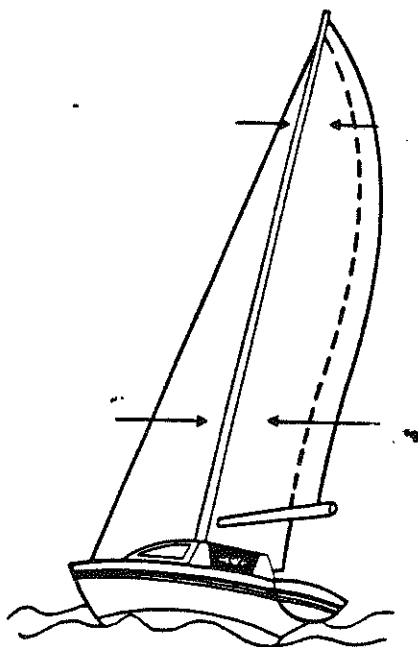
We have already said that the main sail must only be adjusted with respect to the genoa .

The aesthetic and visual criteria of a correct adjustement is the similarity between the genoa and main sail leech (Fig 13) .

To obtain this, we mustn't hesitate to twist the mainsail by pushing the mainsail sheet tack windward and slackening the sheet until the sail flaps the length of the mast . This adjustement of the main sheet track is subtle enough and its results are variable . It is up to each person to draw his or her own conclusions by watching the speed of the boat .

We must however, that in no case should the boom go windward beyond the axis of the boat and it is never a good idea to haul the mainsail in too far, as it plays the role of tail even if it is not in full use and appears slack along the mast .

At a fair speed, on the other hand, the main sheet track must be adjusted to leeward and the forestay tautened in order to reduce the fullness of the mainsail .



- Fig 13

d) Role of the mast .

Its main role is that of support to the genoa and to fulfill this purpose and resist compression, it must be as straight as possible .

On a cruiser, it is difficult to get it to bend, as for a centerboarder to the point of absorbing part of the belly of the mainsail .

With respect to the adjustements of the sails, the only thing that counts is on the water . One must act fast and the only criteria that can indicate the value of the adjustement are the speed indicator or the other boats in proximity .

The correct adjustement of the sails must be a constant preoccupation . In a race, it helps to win ... on a cruise it gives us, apart from the satisfaction of by a well sailed boat, the means to cover an enlarged area with more security . Before leaving, listen to the weather forecast pleasure-sailing must remain a pleasure

Have a good sail .

TAKING IN REEFES

This is done as follows :

1 - Position the reef-line .

To do this all you have to do is take hold of the line coming out of the boom, pass it through the reef eyelet-hole and fix the line to the stainless steel eye-bolt which is behind the clew of the main sail .

2 - Slacken the kicking-strap and the mainsail sheet .

3 - Lower the mainsail a little and fix the eye of the reef band tack in the hook on the gooseneck . Tauten the halyard again .

4 - Pull in the reefline with the help of a winch at the foot of the mast, tauten carefully and stop the line in the stopper .

5 - Haul in the kicking-strap and the main sheet again .

BEACHING THE KELT 29

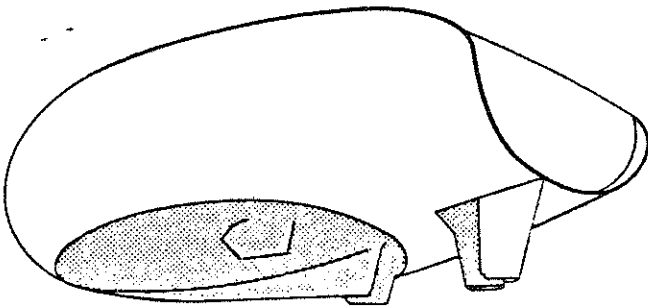
You have chosen to sail the KELT 29 integral centreboard yacht .

KELT has conceived for you a center-board yacht which is perfectly reliable and will with its 68 cm draught allow you to :

- . sail in the summer away from the overcrowded and expensive ports,
- . reach the places of your dreams which were up until now inaccessible,
- . beach instantly without legs .

Beaching without legs is an indisputable advantage of the KELT 29 . But the sea is still the sea, and we advise you therefore to respect the usual beaching precautions :

- . quality of the shelter
- . state of the bottom
- . evolution of the weather situation, rotation of the wind,
- . anchoring from the stern in order to get clear,
- . raising of the centre-board .



PARTICULAR ADJUSTMENTS FOR A CENTRE-BOARD YACHT

Your KELT 29 has been thought out with respect to its beaching ability . Nevertheless it keeps its excellent sea-going qualities . A few additional ideas can help you obtain an even better helm :

- . do not over cover ; the KELT 29 centre-board yacht benefits from a stiffness superior to that of the keel boat . If the helm becomes too strong, flatten your sails or reduce them .
- . do not force the boat by close-hauling in strong winds, by pulling at the tiller ; on the contrary, first let her have a little more wind and then pick up your course again .

- . adjust the mast vertically with no rake
- . when racing, raise the centre-board to its hal-way mark,
- . adding a folding propellor will improve the boat's performance and the efficiency of the rudder .

CHANGING THE CENTER-BOARD RAISING CABLE

This operation can only be done if the center-board is completely raised . The boat will therefore be gently beached so as not to damage the center-board into its box . One only has to lower the boat very gently, taking care to advance the boat slightly throughout the whole operation .

- 1 - Open the inspection hatch
- 2 - Unfasten the return sheave on deck
- 3 - Send a carrier line down into the support tube, pick it up through the inspection hatch .
- 4 - Fix the carrier line to the top end of the cable (the end without a lug) .
- 5 - Pull the line until the cable appears on deck .
- 6 - Put it through the return block flat on deck (the block will have to be unfastened) .
- 7 - Place the stainless-steel shackle through the lower part of the cable which will be fixed on the centre-board (tighten the shackle well) .
- 8 - Close the inspection hatch, making sure it is watertight (a mastic such as RUBSON should be used) .
- 9 - And fix the cable to the center-board pulley block on the deck .

LIFE-RAFT

The life-raft goes in a corner designed for it in the cockpit locker .

ENGINE

STARTING THE ENGINE

First of all we would advise you to carefully read the instruction leaflet which comes with your engine . Precautions before first use : check

- . the battery fuse is in working order;
- . the fuel stop is open;
- . the oil levels are correct;
- . the cooling system valves are open,
- . the drain cocks are closed ;
- . all the elements in contact with the sea are watertight ;
- . the control box lever is in neutral position ;
- . the engine "stop" is pushed in .

Only once these verifications have been made can you switch on and press the starter .

Engine started : check at the exhaust outlet that the water from the cooling system is actually coming out .

For any additional information, we would advise you to refer to the instructions leaflets for the YANMAR, VOLVO or BMW engines .

Beware :

The engine is subject to numerous and strong vibrations while it is running . After 3 hours of service, it is recommended to check that the following are tight :

- . the fixation collars of the fuel pipe
- . the fixation collars of the cooling system water pipes ;
- . the collars of the exhaust circuit ;
- . the fixation collars of the flexible connection piping of the stuffing-box ;

- . the electric lugs, starter and engine earth ;
- . the engine fixing nuts on the flexible suspensions .

ROLE OF THE STERN GLAND

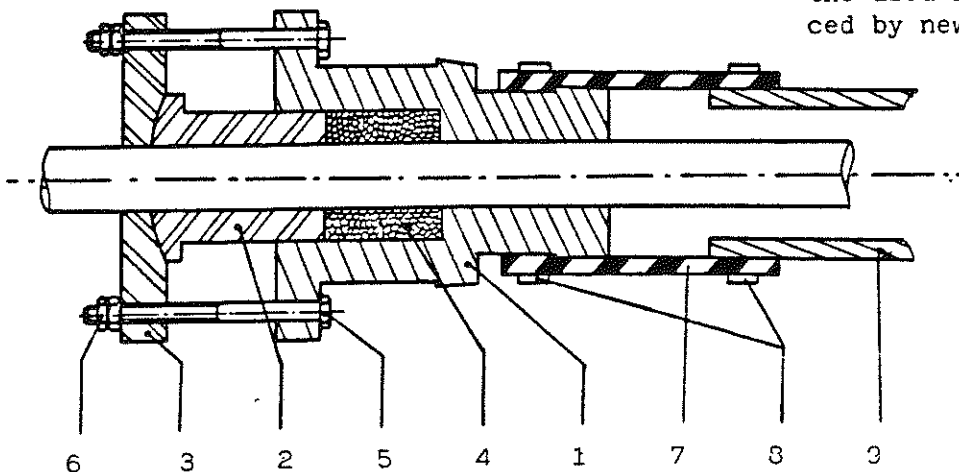
Check on the water tightness between the stern tube and the shaft . Watertightness can be obtained by using a greased or graphited gland .

In the yard, the gland is mounted "free" . It is therefore necessary to adjust it during the first hours of service of the boat and the starting up of the engine . This first adjustment will be made by your KELT dealer when the boat is launched .

Please note that during normal service when the shaft turns, a well adjusted gland should "DRIP" permanently because the water lubricates the grease ; this is VERY IMPORTANT . If this does not happen, there is a risk of deterioration of the shaft .

The rotation of the shaft in the course of time provoking the normal deterioration of the braid, a regular check-up of the gland (adjustment, state of the braids, watertightness, etc) is imperative at least every 6 months . If it appears to need adjusting this should be done by your KELT dealer or by a professional .

The length of life of the stuffing is not indefinite and one must realize that when the adjustment limits (compression of the stuffing) are reached, the used braids will have to be replaced by new ones .



- 1' - Gland element
- 2 - Cover
- 3 - Top of the cover
- 4 - Stuffing (graphited braid)
- 5 - Tightening bolt
- 6 - Blocking counter-nut
- 7 - Flexible connection piping
- 8 - Tightening collars
- 9 - Stern-tube

ENGINE ANOMALIES

SYMPTOMS	POSSIBLE CAUSES	REMEDIES
The engine will not start	<ul style="list-style-type: none"> . Fuel tap turned off . Blocked filter . Faulty fuel admission . No diesel . Unprimed pump . Decompressor open . Faulty gasket 	<ul style="list-style-type: none"> . Turn the tap on . Clean the filter . See your dealer . Fill the tank up . Prime the pump once more . Close the decompressor . See your dealer
There is no compression	<ul style="list-style-type: none"> . The engine stop button is not pushed in completely 	<ul style="list-style-type: none"> . Push the button in
The engine does not turn over regularly when in neutral	<ul style="list-style-type: none"> . The throttle will not open fully . The injection pump is not working . An injector is leaking . An injector is faulty 	<ul style="list-style-type: none"> . Check the lever travel . See your dealer . Tighten the injector . See your dealer
the engine gives off black smoke	<ul style="list-style-type: none"> . Blocked air filter . Faulty injectors . Too much oil in the crank-case . Bad lubrication 	<ul style="list-style-type: none"> . Clean or change the filter . See your dealer . Check the oil level . See your dealer
The engine gives off blue smoke	<ul style="list-style-type: none"> . Segmentation 	<ul style="list-style-type: none"> . Change the propellor
The engine revs up but the boat does not advance	<ul style="list-style-type: none"> . Lost propellor . Broken propellor shaft . The reversing device is slipping 	<ul style="list-style-type: none"> . Replace the shaft . Tighten the center-boss . Check that the stern-gland is tight . Oil the propellor shaft . Check the oil level of the reversing device
Reverse gear in working order Forward gear out of order	<ul style="list-style-type: none"> . Faulty regulation of the reversing device . Control cable-track which is out of order . Incorrect regulation of the forward gear stop . Gear pinion broken 	<ul style="list-style-type: none"> . See your dealer . Re-regulate the track . Re-regulate the gear stop
Forward gear in working order Reverse gear out of order	<ul style="list-style-type: none"> . Ditto above . Except for broken gear pinions . Neutral out of order 	<ul style="list-style-type: none"> . See your dealer . See your dealer
Stiff reverse lever	<ul style="list-style-type: none"> . Control cable lacking in lubrication . Lack of oil in the reverse system 	<ul style="list-style-type: none"> . See your dealer . Oil the cable . Check the oil level

VENTILATION

A double ventilation has been planned ; one in the cockpit, one in the double cabin .

ACCESS TO THE ENGINE

Two access hatches are placed in the stern cabin . Furthermore, an access hatch is situated in the toilet . The main access is in the companionway ;

EXTINGUISHER

We leave you to choose where you wish to

have your extinguisher . In the event of fire in the engine, a hole has been provided for in the main hatch, of the size of the head of an extinguisher . Do not open the engine locker hatch, this might create a downdraught .

POSITION OF THE ENGINE CONTROLS UNDER SAIL

To prevent the propellor from turning when under sail, put the gear in reverse preferably .

E X T E R N A L M A I N T E N A N C E

CLEANING THE HULL

Use black soap or natural cleansing powder (avoid using abrasive detergents) and a car shampoo without silicones .

To prevent the polyester from tarnishing we recommend polishing it every now and again with a boat polishing paste . Every 6 months, the boat needs washing with fresh water and a brush in order to take off the layer of slime that covers the antifouling and prevents it from acting

It is recommended to rub the hull down and to apply a layer of antifouling roughly once a year, according to the state of the antifouling . In the case of oil stains : clean with white spirit, wash the grease off then apply polish .

CLEANING THE DECK

We recommend a natural unfrothy cleansing powder (do not use abrasive detergents) .

SCRATCHES ON THE HULL

Small scratch : rub down with NO 400 or 600 sandpaper, add a little washing-up liquid to your water . Rinse in fresh, clean water . Finish with a product that gives a shine .

BALLAST AND CENTRE-BOARD CASTINGS MAINTENANCE

No particular maintenance is necessary A layer of antirust has been applied to the castings . We recommend repainting the hull with antifouling once a year .

REPAIRS TO THE POLYESTER

1 - Two types of defects in the polyester can appear

a) Small chips and bubbles . The bubbles are between the gel coat and the first layer of material . They are rare and can appear on the prominent corners of the deck . The small chips sometimes appear after a shock (mainsail block, winch-handle) . These bubbles are of no consequence to the structure or the quality of the polyester . They are however inaesthetic .

b) Bigger chips or scratches due to mechanical shocks .

2 - Material needed

- . No 150 sandpaper (water)
- . No 600 sandpaper (water)
- . Gel finishing coat and catalyst
- . Acetone (gel coat solvent)
- . Polyester mastic
- . Polish
- . Rubber gloves
- . Small paint-brush (for waterpaints)
- . Cloth

3 - Precautions to be taken

The gel coat catalyst is a toxic product which can cause burns . It must be handled with care, avoiding all contact with the skin . The use of rubber gloves is recommended . The repairs must be made on perfectly dry surfaces and with an ambient temperature of a least 15° C .

4 - Operation instructions

a) Small air-bubbles and chips

. Rub down the edges of the cavity with N° 150 sandpaper to smooth the angles then sand down a diameter of roughly 3 cm around the chip, this giving a better adhesion of the fresh gel coat on the original gel coat .

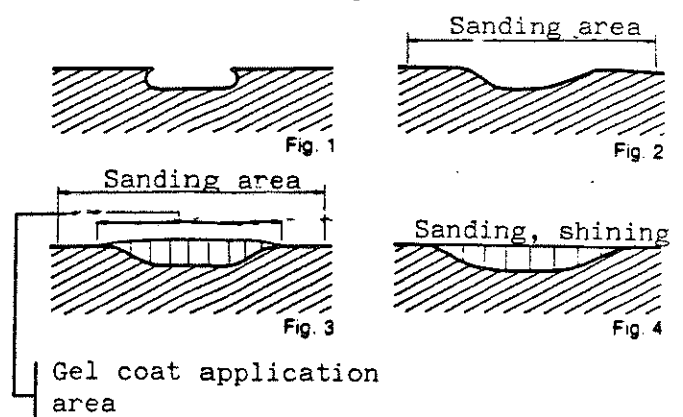
. clean the sanded area with acetone .

. Mix 2% catalyst with the quantity of gel coat needed (too little catalyst would slow down the hardening process too much, too much catalyst would cause intense overheating of the mixture and this might be the cause of an eventual difference in colour) . It is therefore better to have a weaker rather than stronger mixture .

. Apply the mixture with a paintbrush in order to fill the cavity and overflow on the previously sanded surface (fig 3) . When the gel coat is completely dry, rub down with N° 150 sandpaper, then finish off with N° 600 . Shine with a polish and a cloth . (fig 4) .

Gel coat application area

Small chips or bubbles



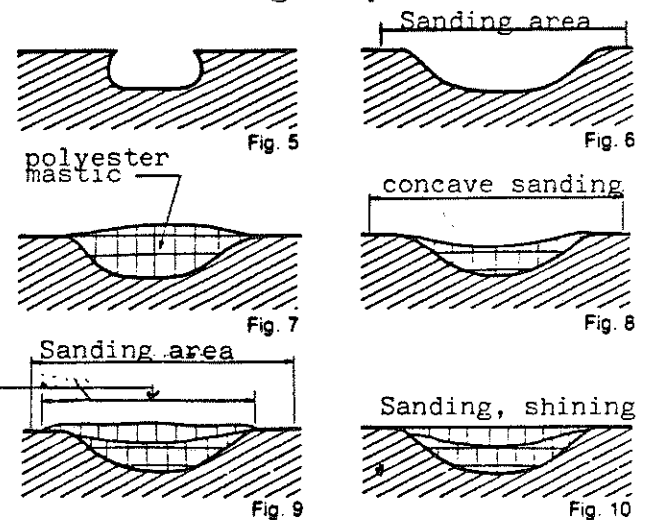
b) Important chips and deep scratches

Same operation as previously except for the necessity afterwards to touch up the cavity with mastic (fig 7)

Once it is hard, gently sand leaving a slight hollow (fig 8), then continue the above-mentioned operations (fig 9, fig 10)

N.B. On the vertical parts of the deck it is difficult to keep a gel coat in place while it is being applied . A piece of adhesive tape stuck just below will help .

Large ships



Winches, Blocks, Rigging screws

. Give them to your sailmaker as soon as possible for an eventual overhaul .

Grease regularly with a silicone-based grease

Cleaning

The rotation of the sheaves

Rust stains :

. Use a 5 or 10 % hydrochloric or oxalic acid solution according to how serious the stain is . Rinse under running water .

It must be checked . If necessary use a lubricating oil to loosen them .

. Or use an ammonium fluoride solution (commercial anti-rust) .

Stainless steel rigging

Blood stains :

Wash with fresh water .

. If fresh, wash in cold water .

Is liable to either tarnish or rust in the long run . In this case, clean with soapy water, then polish, with mirror or adapted polish, with a cloth .

. If dry, let them soak in cold water, then use a little pure bleach . Rinse under running water .

Glass surfaces and frames

Oil and grease (fuel oil, oil, tar) :

. Soak with absorbent fat ; butter, cooking oil ...

The seaspray often leaves a layer of salt on the panels and their frames .

. Clean with trichlorethylene

Hose down and then apply an adapted product on the glass panels and paraffin oil with a soft cloth on the frames .

. Wash with soap

Note : for removing non-animal fats : trichlorethylene .

Sail Maintenance

The sails need a great deal of attention We recommend rinsing them in fresh water as often as possible ; the salt burns the seams, hardens and weighs down the sails which can influence speed in calm weather .

Paint stains :

. Use the solvent recommended for the paint in question, or start by using methylene chloride

. Avoid storing damp sails on board

Mildew :

. Wash with soap or bleach . If this is insufficient, use a little washing soda (very small quantity)

. Avoid letting them flap in the wind : this wears them out quickly .

Winter Storage

. Fold and roll them fairly loosely

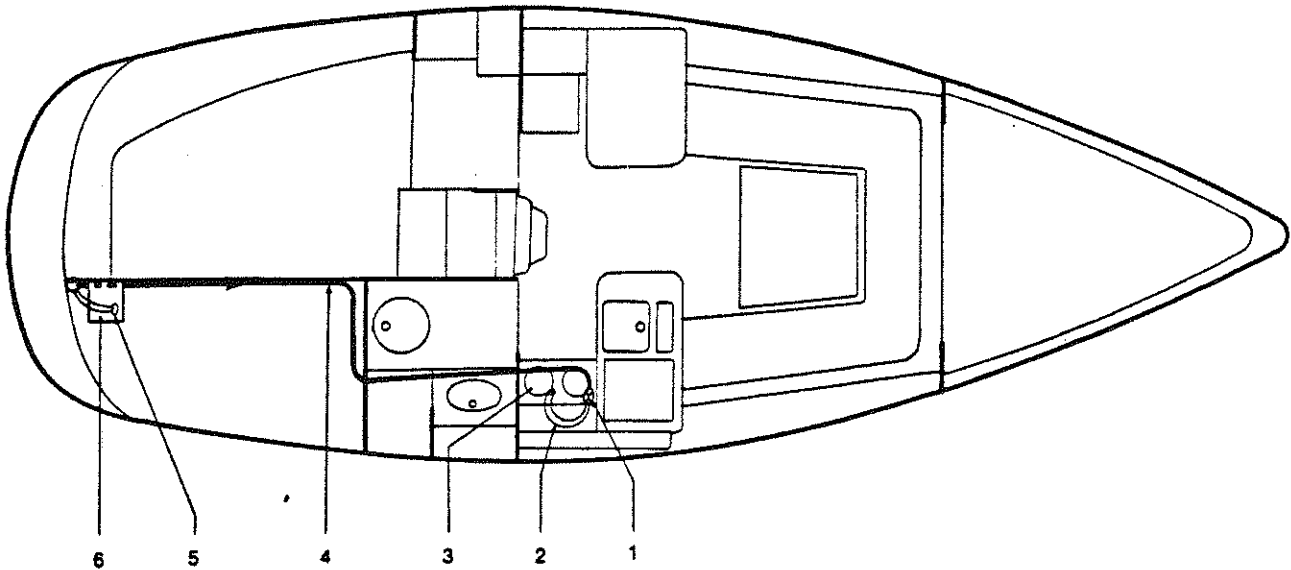
The sails must be stored in a dry place

INTERIOR FITTINGS

GAS CIRCUIT

- 1 - Quarter-turn cock
- 2 - Normagaz flexible pipe
- 3 - 2 ring cooker

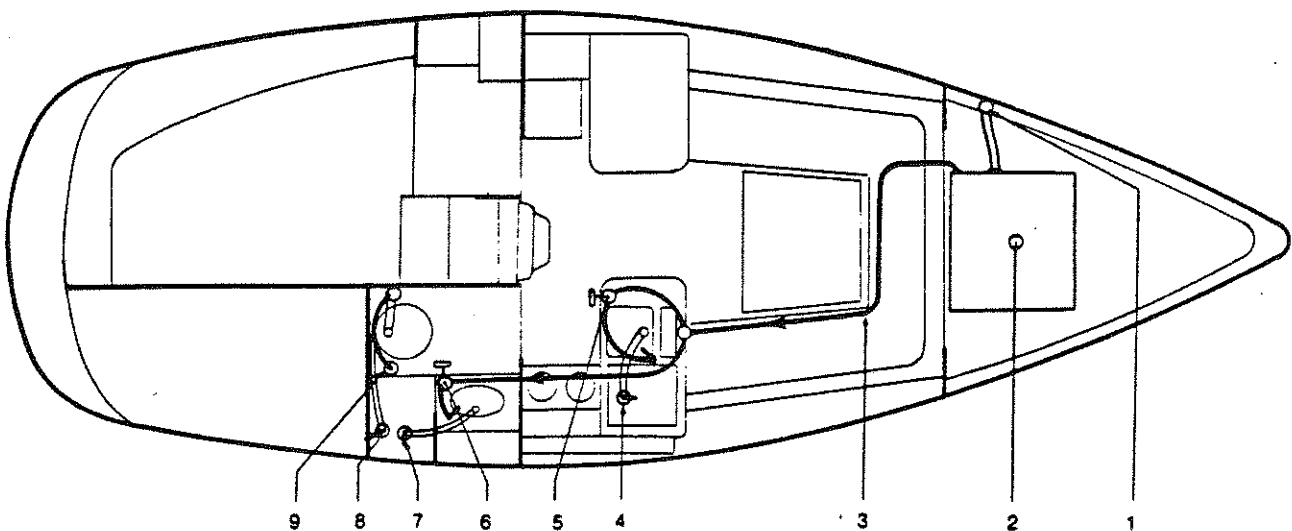
- 4 - Rigid pipe
- 5 - Security pressure-reducer
- 6 - Locker for gas container



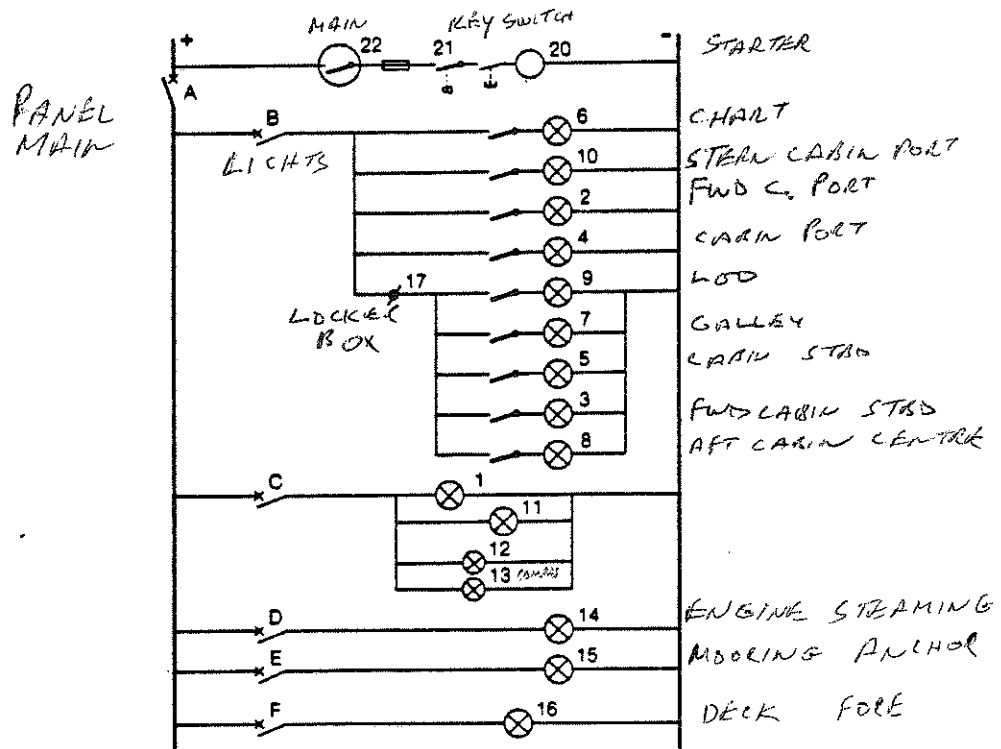
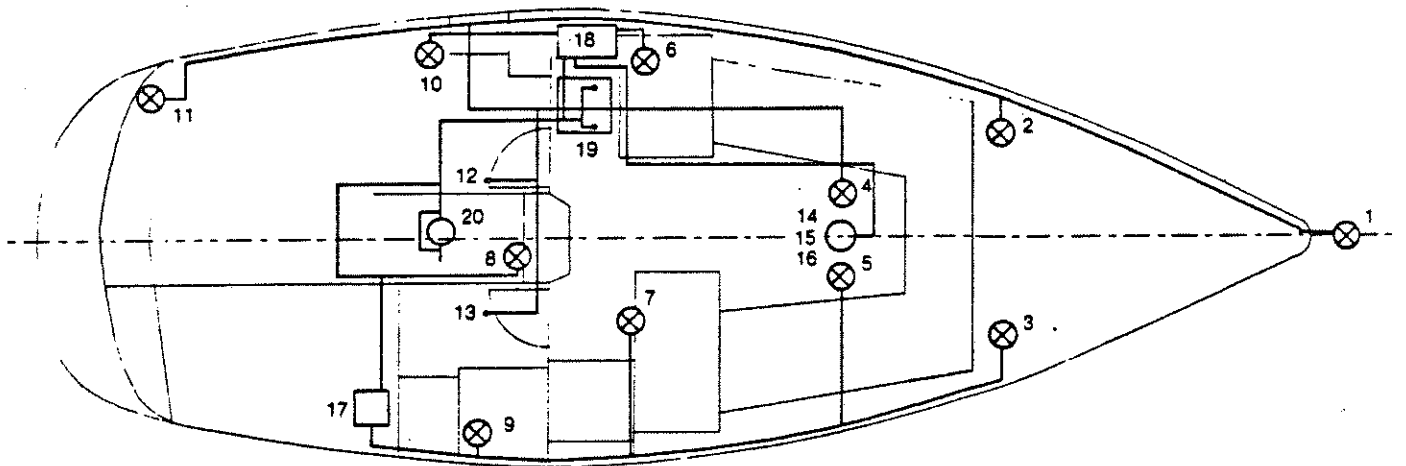
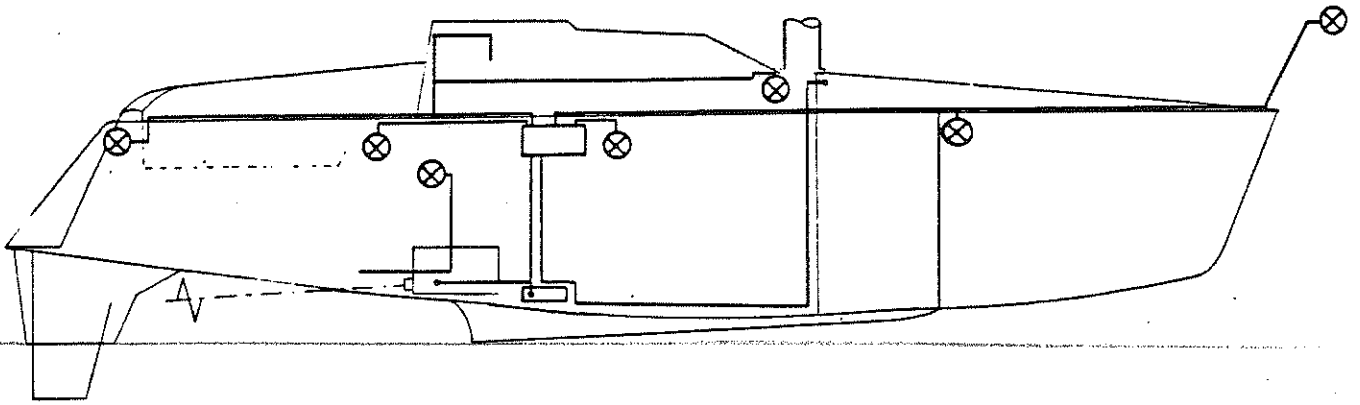
WATER SYSTEM

- 1 - Plughole and pipe for filling the tank
- 2 - 90 litre tank
- 3 - Water supply pipe
- 4 - Sink drain valve

- 5 - Sink water supply pump
- 6 - Basin water supply pump
- 7 - Basin drain valve
- 8 - WC drain valve
- 9 - W.C. suction valve



ELECTRIC CIRCUIT



Ref	Num	Description	Characteristics	Remarks
22	1	mains switch		
21	1	Key switch		
20	1	Starter		
19	1	Battery	12 V 70 at 80 Ah	
18	1	Switchboard	6 circuit breakers : A, B, C, D, E, F	+ 1 voltmeter + 1 point
17	1	Branching box		
16	1	Deck lighting <i>FWD</i>		
15	1	Mooring light <i>ANCHOR</i>		
14	1	Engine signal light <i>UNDER ENGINE</i>		
13	<i>N2V</i> 1	Compass light		Extra flex
12	<i>N2V</i> 1	Compass light		
11	<i>N2V</i> 1	Stern light	10 Watts	
10	1	Stern cabin	2 x 5 Watts	2 bulbs
9	1	Washbasin, W.C.	2 x 5 Watts	2 bulbs
8	1	Stern cabin	2 x 5 Watts	2 bulbs
7	1	Galley	7 Watts	
6	1	Chart table	3 Watts	
5	1	Dining quarters	7 Watts	
4	1	Dining quarters	7 Watts	
3	1	Forward station	7 Watts	
2	1	Forward station	7 Watts	
1	<i>N2V</i> 1	Forward light (bow) <i>R+G</i>	25 Watts	

HEAD

The WC water supply valve is to the left of the WC when facing it . The drain valve is in the oilskin locker (righthand cock when facing it) .

Instructions for use

1 - Open the water suction and evacuation valve fully

2 - Put the little lever on "flush", work the pump, which will rinse the bowl .

3 - To empty the bowl, put the little lever on "dry bowl" and work the pump

4 - Leave the lever on "dry bowl" when the W.C. is not in use .

5 - When the sea is rough or when the W.C. is not in use, shut the suction and evacuation valves .

TOILET

A foot pump under the basin will bring in the water supply ; the basin water evacuation valve is in the oilskins locker (the lefthand valve) .

The storage locker is behind the mirror .

1 - Teak, wood, interior and exterior varnish

All the interior woodwork has been previously varnished . No special upkeep is indicated . However if you wish to avoid a certain "weathering", we recommend using "lobo" varnish .

For exterior wood : (the wood can do without upkeep without harm ; in this case it will soon take on a greyish tint) .

One only needs to rub it over with quick-drying linseed oil . If this has been neglected, paint some "colorblack" on to clean it thoroughly .

Brush with a metallic brush . Scrub the wood before varnishing it (stoppani varnish) .

2 - Upkeep of the cushions

We recommend brushing the cushions regularly to prevent the dust from discolouring them . If stained, wash with plain or soapy water, depending upon the degree of the stain .

OPTIONAL EQUIPMENT

Optional equipment

We suggest a certain number of options direct from the boatyard :

- . Sails
- furling system and furling genoa with flatterer system
- 26 m² medium genoa

- . Antifouling

Furthermore, your KELT dealer is the best person to recommend any additional equipment .

Examples : log, speedometer, leadsman, wind gauge, etc .

This is not the complete list .

TRANSPORT

On the roads, the KELT 29 is driven by special convoy .

- . Overall length : 8,65 m
- . Width : 3,22 m
- . Centre-board yacht height : 2,27m and the cradle : 15 cm
- . fixed keel yacht height with ballast : 3,20 m ; cradle : 15 cm
- . fixed keel yacht height without ballast : 2,27 m
- . tonnage : 2 900 Kgs

. length of the mast : 11,50 m in the In the event of transport by cargo, the estimated volume is :

- 95 m³ for the fixed keel yacht with cradle
- 67 m³ for the C.B yacht with cradle

These boats are delivered with the guard-rails, stanchions, forward pulpit dismantled .

LAYING UP FOR WINTER

Laying up for winter

For a prolonged halt, or for laying up for winter, particular attention should be paid to the whole of the boat . A careful control must be made .

Precautions to be taken :

- . a complete rinse with fresh water
- . the mechanical parts must be oiled and greased, the stern-gland slightly tightened to render it completely watertight (do not forget to loosen when next used)
- . the sails must be rinsed, cleaned, dried and stored in a dry place .
- . the bilges must be washed and dried .
- . avoid any humidity inside the boat if the boat remains afloat do not forget to shut all the valves and protect all exposed parts .

. Do not leave anything perishable aboard . We recommend removing the cushions and placing them in a dry and well-aired spot . Furthermore, leave the interior lockers open to allow the air to circulate .

. A zinc anode is fixed at the end of the propellor shaft . We recommend that at each careening or taking out of the water, it be checked and eventually replaced .

Precautions against frost

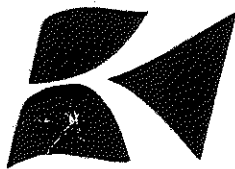
- . Drain the water systems
- . close the valves (if the boat is out of the water for the winter, open all the valves) .
- . Block up the exhaust outlet .
- . Put antifreeze in the pipes for boats wintering afloat in countries where the temperature drops drastically .

P E R I O D I C A L M A I N T E N A N C E C H A R T

Points to be checked	After :				Observations
	the 1st week	6 mths	1 Year	Wintering	
Antifouling		W	WP	WP	Check play in the rubber tube
Outlets in the hull		WI	WI	WI	
Rudder		C	C	C	
Stern-post		CI	CI	CIW	Check play
Anode		CW	CW	CW	
Propellor		CW	CW	CW	Check each time
Engine	C	C	C	CD	
Valves	CI	CI	CI	CIWG	Graphited grease
Exhaust pipe	CIT	C	C	D	
Diesel filter			CW	CD	Change according to builder's instructions
Air filter				C	
Stern gland	I	I	I	I	recharge during winter lay-up
Engine body fixtures	CT		C	CR	
Battery charge	C	C	C	C	
Lights	CI	CI	CI	CI	
Electricity		C	C		
Pumps	CI			WD	
Water tank	I			WD	
C.B. control winch	C	C	C	C	
Pipes	I			WD	
Deck moorings	T			TW	
Standing rigging	T	T	T	CG	
Running rigging	C	C	C	CW	
Winch, sheave, block				G	
Sails	C	C	C	CW	

C : check the condition
 I : check the water tightness
 G : grease
 W : wash/clean

P : paint
 T : Check tension
 D : Drain



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