

dolphin *sails*

A blue silhouette of a dolphin leaping to the right, positioned to the right of the word 'dolphin' in the logo.

Welcome to our series of articles on
sail trim and care.

With helpful facts and hints, this
series is intended to help you
get the best from your boat.

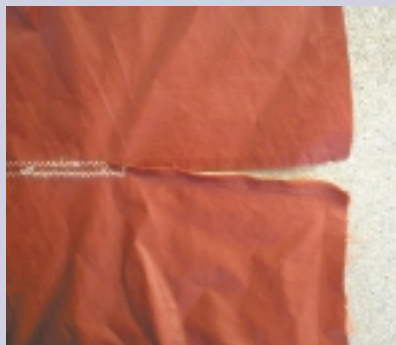
We cover upwind and
downwind sail trim,
maintenance and care of
your sails.

SAIL CARE



By Matthew Vincent of Dolphin Sails

In the fourth of our series of articles on sails we will be looking at the care, protection, maintenance and repair of sails.



Parted seam with ineffective stitches removed.



Frayed edge heat sealed, the two sides double-sided taped and tack stitched together.



Reinforcing patch taped and hand stitched. Leach tape re-established. For this job use a small (approx no. 16 needle) and single waxed thread.

Your sails are one of the two sources of motive power on your yacht and their life can be extended with a programme of inspection and maintenance.

As with any component on a yacht, the early detection of a potential problem can prevent what is a relatively small problem becoming a larger one. In fact the classic 'a stitch in time' scenario.

An understanding of how to effect a 'field' repair can make the difference between a yacht being able to make way or not with obvious possible consequences.

FABRICS AND THEIR GENERAL CARE

Before any sail is hoisted the rig should be checked carefully for sharp corners, sharp spreader ends, split pins and any sharp or potentially abrasive components that may chafe or wear the sail fabric. Spreader ends should be leathered, split pins bent flat and taped, roller luff spars checked for discontinuity in the section joins. Any area where a sail may make contact should be examined for potential problems.

Areas on the sail that may constantly come in to contact with the rig should be protected with, at worst pressure sensitive adhesive nylon, or preferably a cloth protection patch sewn on. This might be where spreaders will chafe the Genoa leach, stanchions on the Genoa foot, spreaders on the mainsail luff.

UV PROTECTION

Sails should always be protected against the effects of UV light. UV is particularly damaging to sails in tropical or Mediterranean climates.

Roller Genoa's should be protected with a UV guard on the leach and foot, and/or with a luff sock hoisted up on a spinnaker halyard. Mainsails, when flaked, should be protected with a cover. Roller Genoa's should be rolled fairly tightly to reduce windage. However, try to avoid wrinkling when furling. When the boat is to be left for any period of time, the Genoa sheets should be wound around the lower luff and tied off near the tack to prevent the sail from unfurling.

USING YOUR SAILS

When the sail is hoisted be careful not to over tension the halyards. Enough tension should be applied to just remove the horizontal wrinkles that appear in the luff. The amount of tension required to achieve this will vary with wind strength. Similarly only apply enough mainsail outhaul tension to just remove the wrinkles in the foot. In roller furling mains the outhaul never needs to be bar tight. You should always have at least an inch or two of depth in the foot of the sail by the boom.

On first using the sail it is advisable to sail in light to medium winds. This is not so much that the sail needs to 'bed in', but more that it gives you a chance to get used to the tensions and settings, without doing it in a gale of breeze and making a mistake.

Leaches (and the foot of the Genoa) of sails may flutter. It is important to stop the flutter as continuous movement will damage and can destroy the sail. Apply just enough tension to stop flutter. In higher winds more tension may be necessary but always reduce the tension when the windspeed reduces. Tensions on the sails should be reduced when leaving the boat.

When tacking the boat, avoid holding on to the sheet too long as this will tend to hang the sail on the spreader and may cause damage. When sheeting in on the new tack don't over tension as the spreader may poke through the sail.

Where applicable adhere to maximum recommended wind speed for a given sail. Where possible, avoid flogging the sails. Certainly don't flog sails to dry them. Dry sails by airing them in light conditions and remain with the boat whilst drying.

FOLDING, STOWING AND STORING

Sails should be folded and rolled in a manner that avoids sharp creases. For sails that are to be stored in a bag, fold the sail parallel to the foot in approximately one metre folds.

Sails should be stored dry in a well ventilated, clean environment. Any dampness may encourage the growth of mildew. Mildew is a destructive growth caused by spore-forming fungi that thrive in a warm, moist, confined atmosphere. Mildew should not affect the strength and life of a sail but can cause unsightly stains that are hard to remove. Mildew is more likely to occur with laminated fabrics that are rolled up damp. The laminate in the fabric creates a seal preventing air circulation.

REPAIRS

KIT AND MATERIALS

A good repair kit should comprise of the following:

A gas operated soldering iron type knife. This is for heat sealing any dacron patches or ends of cordage.

A pair of sharp scissors.

A Leatherman or multi tool.

Pieces of dacron of a variety of weights.

Pieces of spinnaker nylon of the same colours as your sails.

Pieces of sticky back nylon and sticky back spinnaker nylon repair tape.

Double sided tape.

Palm and various size needles.

Whipping twine, preferably waxed.

Bradawl or sail spike for making holes in stubborn and thick materials.

Wooden mallet for hitting bradawl.

Piece of wood or nylon block on which to hit the bradawl

Superglue.

Pieces of thin plastic that can be fashioned to make a batten end chafe protector or similar.

A quite useful, but non-essential, tool is a grommet forming tool and hole cutter with eyelets.

This can be used for fitting an eye into a cover or any fabric/awning type material.

COMMON REPAIR SCENARIOS

BATTEN POCKETS/BATTENS

This is a common area of chafe and wear. The pockets should be checked for chafe where they may touch the shrouds. To protect them, a sacrificial patch comprising 2-3 layers of dacron stuck down with sticky backed nylon can be very effective. When worn this can be replaced.

Broken battens can be repaired in an emergency with a splint and some tape. Full battens can be sheathed in heat shrunk rubber tubes so that, if they break the whole batten can be extracted from the pocket with ease. Spare full length battens can usually be stored in the boom.

SEAMS

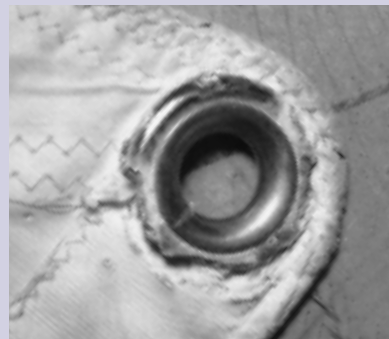
A weak seam can be repaired by sticking a piece of dacron (with double sided tape) on both sides of the sail. Cut a piece that is 2-3 times wider than the seam along the area for repair. This should then be hand sewn down with palm and needle, using largish stitches.

LEACH TAPE

If a leach tape gets a hole in or splits then a piece of dacron tape folded, stuck down (with double sided tape) and hand sewn will provide an adequate repair.

BROKEN LEACHLINE

If a leachline breaks it is often possible to splice a piece in. Slit the leach tape carefully a few inches either side of where the break has occurred. This will leave a few inches of line exposed with which to work. Into one of the slits on the leach tape insert a piece of stiff wire, or thin batten with thin twine taped to it, until the end appears at the slit made for the other end of the broken line. With thin twine attached to the leachline and acting as a mouse pull the broken end of the line through to meet the other broken end. Heat seal the ends of leachline and splice together with palm, needle and whipping twine.



Ring badly corroded, emergency webbing repair needed.



Webbing hand sewn with doubled waxed thread with a no. 13 needle. Be sure to 'pre-tension' the webbing when it is stuck down with double sided tape, to ensure the load is being taken by the webbing.

FACT BOX

As with all sail adjustments it pays to look at the consequences of what you are doing, as you do it, i.e. watch the effect of the sail trim as it happens. This not only helps improve the understanding of the consequences of an adjustment but also gives an awareness of when a sail might be trimmed too much so as to cause damage. This is particularly true of hydraulic systems which will keep furling as long as you keep your finger on the button.

When furling headsails, be sure to furl the correct way so that the UV guard is on the outside protecting the sail.

When furling in mast mains, care should be taken to furl the correct way. For example the Selden mast has an offset luff groove which requires the sail to be furled anticlockwise.

When passing a needle through thick materials pull through with pliers or multi tool. If a needle is put under too much pushing pressure it will break, rendering the work achieved up to that point as wasted.

Where possible use fabric that is slightly lighter than the area to be repaired. The new fabric you are using will be slightly stronger than the old cloth and it will therefore be a more sympathetic repair.

RECOMMENDED READING

A Complete Guide to Sail Care and Repair by Dan Neri, published by Beowulf

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RINGS - CORRODED, WORN OR PULLING OUT

Where a ring has become corroded, worn or is pulling out, a piece of webbing hand stitched on can enable the ring to remain in use.

Take a piece of 1-2" webbing (depending on size of ring), fold in half and pass through the ring. With double sided tape stick down the webbing, bisecting the angle of the corner of the sail. If one side is stuck down first the other side can be located by passing a needle through the sail fabric at the inboard extremity of the webbing. Be sure to slightly pre-tension the webbing so the load is positively being taken by the webbing. (see photos on previous page)

HEADBOARD

If rivets are corroded or worn they can be simply replaced. Ideally the rivets should be of the same metal as the headboard but any metal type will suffice for an emergency 'get you home' repair. Obviously these should be changed at the earliest opportunity.

HIGH LOAD AREA REPAIR

If damage occurs in an area of high load in the sail then it is preferable to use a dacron patch, which is carefully hand-sewn. Cut a piece of dacron that is 20% bigger than the hole and stick it down with double sided tape. Duplicate this on the other side of the sail. If the damage is of particular concern then make the patch on the other side slightly bigger than the first one. Both patches then need to be very carefully hand stitched. Use relatively large stitches as small ones will tend to produce a postage stamp, perforated effect.

LOW LOAD AREA REPAIR

Areas of damage in low load areas can usually be repaired with a piece of sticky back dacron. Placing a piece both sides of the sail will provide enhanced security.

SPINNAKER REPAIR

Spinnaker rips often look more catastrophic than they are. Copious use of sticky back nylon and spinnaker repair sticky back nylon tape can work wonders. When using sticky back nylon for repairs always round the corners so they don't get flicked up so easily, and peel off.

If a field repair has been fashioned it is advisable to get your sail to a sailmaker at the earliest opportunity so a careful check and possible re-repair can be carried out.

WASHING AND CLEANING

It is important to return your sail to your sailmaker as soon as the season ends for checking, washing and refurbishing. Sometimes the life of the sail can be extended by recutting. This should only be done by an experienced sailmaker. Salt attracts moisture with hydroscopic action. Removing the salt prevents moisture being absorbed. Dirt that accumulates on the sail act as an abrasive and literally cut through the fibres. These should be washed out, preferably once a year.

Take your sails to a sailmaker or specialised cleaning company for washing. A good sail cleaner will not use a rotating washing machine for your sails, as this can result in damage to the fibre which will reduce the life of the sail.

If self cleaning, wash the sail thoroughly in fresh water. Localised stains such as rust can be removed with an Oxalic acid solution. Great care should be exercised if attempting this, and manufacturers instructions strictly adhered to. All the acid must be washed away after the stain is removed.

Mildew can be reduced by soaking in a solution of diluted sodium hypochlorite for about two hours then brushed with a stiff but not too harsh brush. Again be sure to wash away all traces of chemical afterwards. DO NOT USE ON NYLON OR KEVLAR

If you have any doubts about a sail care problem refer to your sailmaker who should usually be able to help.

SPRAYHOODS

All covers and biminis should be hosed down occasionally with fresh water to remove salt deposits. Special attention should be given to zips. Avoid touching windows if you have sun cream on your hands as this may stain them. Try to avoid folding windows where possible, especially in cold conditions, as this can induce a weak spot in the fabric. When erecting a bimini use plenty of tension in the lanyards or straps as this makes the frame more rigid and the canvas work tighter.

If with any repair problem help is needed then contact a sailmaker. Dolphin Sails are happy to help, and modern communication methods make this relatively easy.

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