



Caring for your sails

photos by **Logan Devoy**

They're arguably the most important feature on a yacht, yet sails are often the most overlooked items on the maintenance list.

Whether cruising or competitive, sails are expensive to replace. Fortunately there are many things you can do to help minimise sail damage, keep them looking pristine, increase the interval between servicing and extend their overall life.

Two main factors affect your sails: general wear and tear from use, and damage from exposure to the elements. Let's start with usage.

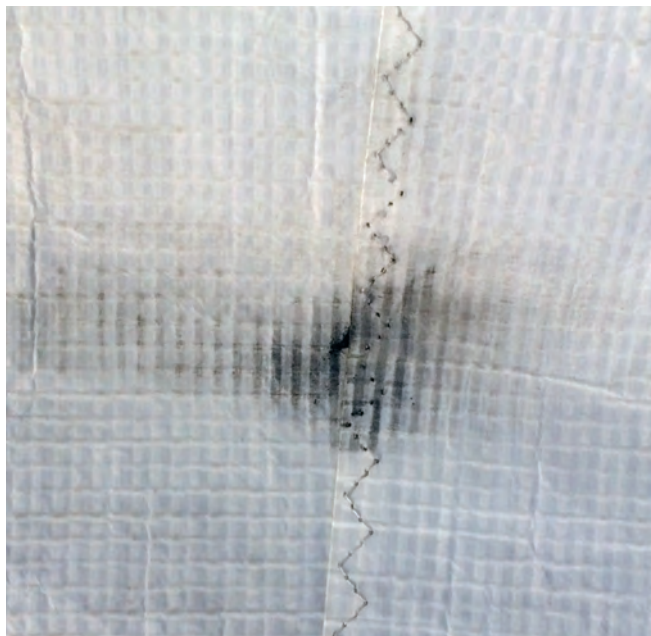
Most wear and damage occurs when the sails are flogging. When a sail flogs the fabric is subjected to incredible violence – the leech in particular. Over time, this breaks down and weakens the sailcloth and consequently, it's more easily ripped or torn. This is why the vast majority of rips occur in the leech and clew areas.

Headsails usually wear out faster than Mainsails. There are a couple of reasons for this. First, the mainsail is attached along two of its edges so it has more support and stability. Headsails are only attached along one edge. So when hoisting or unfurling or tacking, headsails flog more fiercely than mainsails.



Lack of use makes a furling sail the ideal environment for mildew to prosper.





TOP: Chafe is one of the worst offenders for sail damage. Check for areas that may need re-stitching. ABOVE: The webbing on a main's slides takes heavy punishment and will need replacing from time to time.

Second – and more importantly – headsails tend to be bashed mercilessly against the rig, whereas mainsails generally don't come into contact with anything on the boat. Combined, these two issues mean genoas deteriorate far more quickly than mainsails.

MINIMISE FLOGGING

Doing everything you can to minimise flogging pays dividends by extending the life of your sails. Strategies include:

- try and hoist/unfurl sails in a sheltered spot if possible
- don't motor to windward on full throttle while hoisting/unfurling – slow down and hold the boat head-to-wind (some race boats actually reverse while hoisting head-to-wind to really reduce the apparent wind – try it, it works!)
- Furling genoas should be furled quickly and efficiently – know your drill and have everything ready to go with ropes flaked and ready to run freely before you start the process. You don't want the sail stuck halfway in with a line jammed and the sail being beaten to death.
- Make sure leech-line tensions are correct. A flapping leech can stretch and wreck the leech sailcloth in a single afternoon. The result is degraded sailcloth, a "hooked" leech and poor performance. Adjust the lines just enough to take the flutter out of the leech. As wind strength

▶ POWER tip

with **CZONE**

FREQUENTLY ASKED QUESTIONS ABOUT NMEA 2000

WHAT IS NMEA 2000?

NMEA 2000 is a plug and play electronics communication standard based on Controller Area Network (CAN). The network carries data sentences for commands as well as messaging (tank levels) between NMEA 2000 devices.

WHAT IS A PGN?

All data transmitted on an NMEA 2000 network are organised into groups. These groups are identified by a parameter group number (PGN) that describes the type of data contained in the group. The CZone system can share certain monitoring PGN's with other NMEA 2000 compliant devices, such as engine temps, pressures, SOG, battery monitoring etc.

HOW MANY DEVICES CAN I HAVE ON THE NMEA 2000 NETWORK?

No more than 50 NMEA 2000 devices can be connected to any one NMEA 2000 network. It is also important that there is no more than 3 V voltage drop from the power source to the device located farthest from the power source. In case there are more than 50 devices or the voltage drop exceeds 3 V, a CZone Network Bridge Interface can be installed to expand the network to a maximum of 252 devices.

HOW DO I CONNECT AN NMEA 2000 NETWORK?

The main communication channel of the NMEA 2000 network is the backbone to which your NMEA 2000 devices connect. Each NMEA 2000 device connects to the backbone with a T-connector. The NMEA 2000 backbone must be connected to 12 V DC power, and terminators must be installed at both ends of the network to function correctly. Daisy chaining is not allowed.

WHAT ARE THE POWER REQUIREMENTS ON THE NMEA 2000 NETWORK?

Your NMEA 2000 network must be connected to a 12 V DC power supply. Do not connect the network to any other voltage source, such as a 24 V DC power supply. Supply power as close to the middle of the backbone run as possible. Do not connect the NMEA 2000 network to power in more than one location unless a CZone Network Bridge Interface is used.

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Running repairs

Even with the best sail care regime, chances are you will damage a sail during a straightforward maneuver – catching the genoa on the lifelines or tearing your racing gennaker on some mysterious object during a routine takedown.

All is not lost. There are a few things you can do to keep the sail operating safely to get you home or finish the race.

Keep a sail repair kit on board that includes:

- a roll of self-adhesive “stickyback” sail repair cloth, say 100mm wide. This cloth revolutionized sail repairs when it arrived on the scene: it doesn’t need sewing
- a pair of scissors (the type with orange plastic handles and stainless steel blades is best: the blades don’t rust, they keep their edges and they’re relatively inexpensive)
- an aerosol can of quality spray-glue
- a sailmaker’s needle and palm, with a roll of waxed hand-sewing thread.

With these basic items, you can work wonders with small to moderate sail damage.

Small rips and ‘puncture’ type holes are easy for fix – whether it’s an upwind sail or a spinnaker. Cut a piece of stickyback big enough to cover the damage. Lay the damaged area of the sail out flat, and under a bit of tension if you can manage it.

Gently lay the stickyback patch over the damage, rubbing it down hard. The stickyback fabric uses a pressure-sensitive adhesive (PSA), so it will stick more aggressively with more pressure.

Using a washboard or even a breadboard underneath the damaged part of the sail can help a lot to provide a strong flat surface to press on. Applying a stickyback patch to both sides of the tear will add a lot of strength. In a racing situation where you’re pushing the sails harder, it may well be worth taking the extra time to complete this step.

Spray glue is worth its weight on gold – it’s like a repair kit in a can. More often than not your on-board sail repair is going to have to be performed on a wet sail. This is where spray glue comes in to its own: it’s effective even on wet sails.

Follow the same procedure as above, but first wipe any obvious surface water off the damaged area with a towel. Then once you’ve got your repair patch cut, spray the glue on both the sail and the stickyback. Follow the instructions on the can to determine when to stick the patch to the sail.

Do it the same way as described above: sail out tight and flat, and lay the repair patch gently over the damage. Then rub and press down hard. Let the solvents flash off and the glue cure, and you’ll be ready to go again in minutes.

If the damage is bigger, say a tear of a metre or more, you may still be able to effect a decent repair to keep you going. But rather than preparing a single repair patch for the entire length of the rip, mend the tear in a series of smaller patches.

Align one section of the rip at a time (say 300mm or so), gluing and patching as described above. Try to keep the sail flat and even as you work along the rip. It doesn’t need to look perfect but simply be strong enough to hold fast for the day.



Top left: Frayed stitching has eventually seen the clew pull free from the sail. Top: Algae quickly flourishes in a dank environment. Above: Pocket chafe - in dire need of repair. Opposite: This sail has rarely seen the light of day - algae and mildew are well-entrenched.

changes, you may need to adjust the leech line tension. As soon as the leech starts to flutter, get down and make an adjustment, don’t let it “helicopter” all the way home

- Tuck the leech line tail into its cover (if it has one) or tie it up tidily. This will prevent it snagging or catching on the rig during a manoeuvre and causing some nasty damage.

CHAFE

A major enemy of the sail fabric. Sails chafe when they come into contact with other solid surfaces – whether it’s the mast, shrouds, lifelines, reefing lines or the pulpit. Chafe is worst where the contact is regular and constant.

Key areas to inspect regularly include the webbings on the sail corners (especially roller furling genoas which usually have webbings on each corner rather than metal rings). Any sign of fluffiness or fraying means that attachment point has been weakened and the sail needs to be assessed by a sailmaker. These things never fail at a “good” time and failure can lead to a real “situation”.

DAMAGE FROM THE ELEMENTS

Ultraviolet (UV) light is notoriously harmful in New Zealand and is by far the biggest sail-killer, even in winter time.

With the rising popularity of roller-furlers in the 1970s, sails



began to live on the rig all year round. Specialised sailcloth and textile manufacturers have subsequently developed many kinds of UV resistant fabrics to protect the sails from UV exposure.

These materials are most commonly seen as the UV covers on the leech and foot of roller-furling genoas, and sometimes on furling mainsails. Similar fabrics are used for boom covers, dodgers and biminis.

But our local star is relentless and even the very best and most expensive of these fabrics have finite life spans. A UV cover should last around three years before needing replacing (depending on the fabric type), but this lifespan can be extended significantly without too much effort.

The biggest favour you can do for your sails is removing them from the rig during winter when they are not in use. This practise of winterising the boat is very common in the Northern Hemisphere but something we're very lax at in New Zealand, probably because of our temperate climate.

Despite our best intentions to "get the boat out over winter", a huge number of New Zealand yachts get little if any use at all. Removing a furling genoa at the end of the season, and storing it dry off the boat until Spring can double the life of the UV cover. This will also benefit the sail itself.

To check the condition of your UV cover, look for heavily faded

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Serious algae damage - an entirely new sail might be required.

or fragile UV cloth and cracks or splits in the UV fabric. Look up the rig when the sail is furled to spot any tatty little “flags” flying loose. If you observe any of these issues, have the sail seen to swiftly before major problems develop.

Most importantly – check the UV cover stitching. If you can fray or break the stitching by scratching it with a car key, it’s definitely due for a re-stitch. This is a common task for a sailmaker and should be done every three years or so. Failure to keep an eye on this can result in a UV cover that literally flaps off the leech one day when it’s being furled away.

MILDEW & ALGAE

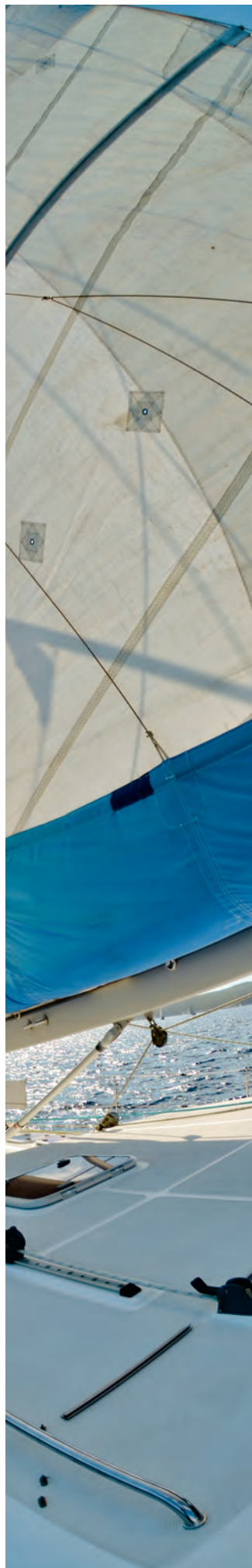
Another major benefit from removing the sail for winter is avoiding the build-up of algae and mildew in the sailcloth. A furled genoa is a near-perfect environment for these tiny organisms to take hold and thrive: they have shelter (from a sail not being regularly unfurled) and they get plenty of oxygen and fresh water (from rainfall). Pretty much everything needed to sustain life!

Which is why the genoa, when it’s unfurled on Labour Weekend after a winter of non use, has black mould in the UV cover and great, green runnels of algae all the way down the sail.

Algae and mildew are not only unsightly, they also degrade the sailcloth over time. In some laminated sailcloths, mildew left untreated can penetrate inside the laminate, where it spreads in huge dark blobs that look like oil stains. Once it reaches this stage the problem is too far advanced.

Mainsails are less prone to algae infestation and are generally





Another example of mildew and algae - and a seriously weakened clew.

happier on the rig so long as they're under a good sail cover. A thorough check of the mainsail cover each Spring is a must.

Check there are no frayed edges, tears, broken zips or fasteners, and ensure the cover goes all the way over the head of the sail and past the clew ring. More often than not, mainsail failures at the head and the clew are caused by UV breakdown of the webbings, because those parts of the sail have been poking out of the cover on the mooring.

Removing the mainsail for winter is more of a challenge than a furling genoa, but is well worth the effort if you can manage it.

WASHING THE SAILS

Having the sails off the rig is a great opportunity to wash them. Regular washing of sails is highly recommended – it gets rid of salt build-up and general airborne dirt (you'd be surprised at how much there is!) and helps cut down algae and mildew infestation.

Some sailmakers offer washing services. For DIYers, always check with your sailmaker prior to using any chemicals and cleaning agents on your own sails. You need a big, clean area for sail washing – the back lawn or driveway is not recommended as algae and mould microbes are transferred to the sail from the ground. You're simply giving them a helping hand to start living on your sails.

Spending time and a little maintenance money on your sails each year undoubtedly pays off in the long run. Your sails will look great, last longer, perform better and, most importantly, they will be safer and more seaworthy. ☑

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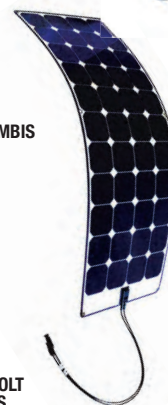
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