

## Taming the Kite!

### **What goes wrong?**

Wineglass when launching – can happen in light or heavy weather

Broaching on a reach – usually in heavy weather

Death rolls – usually in heavy weather

Gybing disasters – worse in heavy weather

### **Wineglasses.**

Wineglasses occur when the top half of the kite fills before the bottom with a twist in the middle.

Avoiding:

Making sure the kite is not twisted before it is launched is a good start.

Wineglasses can normally be avoided by getting the kite halyard up ASAP and opening the kite from the bottom by bringing pole back and then sheeting on as it goes up. Timing of sheet is important as filling the kite before it is fully up makes it difficult to get to the top! It is generally faster to pull the halyard from the mast rather than in the cockpit.

If the kite is launched from a bag on the bow it is important to get the clews out and separated earlier. If the halyard is well on the way up before the clews are out of the bag then a wineglass is more likely to result.

Fixing:

If a wineglass occurs it can usually be fixed by the forward hand pulling very hard down on the pole end luff from the bow (hanging their weight on it), at the same time easing the sheet a little.

Letting a metre or so of halyard out sometimes helps as well (no idea why!!)

In lighter winds the forward hand can sometimes untwist the kite from the bow.

If all else fails it will need to be partly dropped and re-launched.

### Key Points:

Avoid wineglasses by fast hoisting (from the mast if possible) and coordinated guy and sheet tension, opening kite from the bottom.

### **Broaching while reaching.**

Broaching while reaching occurs when the boat begins to heel excessively to leeward. The heeling causes the boat to want to turn into the wind (weather helm) - at the same time the kite pulls the bow of the boat down, lifting the stern, which along with the angle of heel reduces the steering effect of the rudder which stall (the tiller feels light in the hand). Unless controlled, all this results in the boat rounding up into the wind and stopping, having heeled over to an alarming angle.

Avoiding:

Reaching with the kite is a risky business and the risk increases greatly with the wind strength and the angle. It is possible to carry a kite with the wind ahead of the beam in light winds (though this is not necessarily faster than using a big headsail). However as the wind builds the problems with reaching increase. Twice the wind – four times the problem!

When reaching with the kite the following set-up/trim points may help avoid heeling and thus broaching:

- move all crew weight to the windward side and towards the stern to balance boat and keep the stern and rudder in the water.
- ease main sheet
- move the pole forwards just off the forestay and down. This will flatten/depower the kite and move the centre of effort down
- keep the kite correctly trimmed. Oversheeted kite will increase heeling force and reduce driving force.
- releasing sheet twacker can help (flattens kite)

Once you have done all that the skipper is in the best position to stop a broach. When the boat starts to heel, immediately start to bear away. This will bring the wind aft and re-balance the boat. **It is vital to do this early.** If the skipper waits until the angle of heel/weather helm seems to be a problem (the tiller goes light in the hand) it is probably too late! One way of looking at it is to try to keep the angle of heel constant by changing course – the old saying applies “up in the lulls and away in the puffs”

Fixing/recovery:

Once a broach is underway and the rudder is in-effective then there is little that can be done. Sometimes letting the sheet out to collapse the kite can help but often the kite will just stay filled. If it does collapse it may then refill suddenly as the boat bears away. This usually generates a very nasty “crack” sounds and puts enormous stresses on the kite and associated rigging including the mast!

What usually happens is the boat heels over and rounds up and comes to a halt. Hopefully by this stage the kite has collapsed and the boat will come upright so you can bear away and continue on having first checked that you still have all your crew on board. If not, put your MOB plan into action.

If you are unfortunate, as you stop the kite will stay filled, probably with sheet and guy out to their stopper knots. It will then start pulling the boat sideways through the water by the masthead. Needless to say this is not good and can result in sinking the boat! So – a couple of options at this stage are to release the halyard which may work or to cut either the sheet or the guy (the sheet is preferable but the guy may be easier to get to) as near the knot as possible (this is why you always have a knife handy (don't you??)). With either the sheet or guy now detached the kite is only attached by 2 corners will just fly out like a flag from

which position it can exert no force on the boat and can be easily recovered after the boat has come upright..

#### Key Points:

Avoid broaching by controlling angle of heel – Use crew weight

Flatten kite and move centre of effort lower (pole forwards and down)

In a gust bear away before angle of heel increases, when gust has passed come up to windward again.

If you broach – be prepared to recover crew from the water.

#### **Death Rolls.**

Death rolls occur when sailing close to dead downwind. They are very nasty! The boat starts rolling from one side to the other with increasing angles of heel on each side and the kite rotates from one side of the boat to the other. At this point the crew normally get very nervous! If not controlled the boat will end up broaching either to leeward or windward possibly resulting in a “Chinese Gybe” which is very unpleasant!

#### Avoiding:

Death rolls can usually be avoided by not sailing close to dead downwind. If this takes you off the rhumb line, then either gybing the kite (tricky for new players in heavy weather) halfway down the leg, or continuing even further and then dropping the kite, gybing, and then white sail reaching to the mark.

Extra insurance against rolling can be had by “strapping” the kite closely down to the boat by pulling in both tweakers and over sheeting to pull the clew down to the deck. This is not a time to be practicing precision kite trimming techniques! Having the pole further forward than usual may help.

Some advise that having the boom vang on hard can help but if a gybe does occur boom damage is likely

#### Fixing:

It is said that death rolling can be stopped by steering the boat with the rolls? My experience is that trying that on an SS22 only makes matters worse.

The best way to stop death rolls is simply to head the boat slowly upwind until the rolling (hopefully stops)

Like most kite problems – the earlier you recognize that there is a potential problem developing, the easier it is to fix.

If death rolls are allowed to fully develop the boat will become uncontrollable. At this stage there is not much one can do. If not just warn the crew to hang on and watch out for the boom.

#### Recover:

Recovery is pretty much the same as from a broach.

Key Points:

Avoid death rolls by not steering dead downwind.

Strap the kite down to the deck using tweekers and over-sheet.

If a broach occurs be prepared to recover crew from the water.

## **Gybing**

“We need to gybe the kite” can send a shiver of fear through the crew. It need not be so.

Gybing the kite involves all the crew all working together and understanding what they are doing and why.

Assuming a gybe from a broad reach to a broad reach the steps are:

1. Skipper steers to downwind course, guy /pole is brought back to square and the sheet is eased to keep the kite flying.
2. Foreward hand unclips pole from mast, clips in new guy, releases old guy and clips pole back on mast and shouts to let everyone know it is on. It's good to also swap the lazy jib sheets over the pole at the same time.  
There is a lot to do!
3. Main is gybed and skipper steers on to new course as guy and sheet are trimmed appropriately.

**EASY!!**

Key points:

The dangerous time is when heading downwind with the pole not connected to the mast. Death rolls can quickly develop! It may be worth trying having 2 crew at the mast to make the process easier. The skipper and one crew can usually handle the cockpit.

It is vital that the skipper does not steer up on to the new course before the pole is back on the mast.

With practice (lots of it!) the whole manoeuvre can be completed in one smooth process with the boat slowly passing through dead downwind without actually stopping.

Everyone need to be aware what is happening and work together.

In very heavy conditions it may be better to sail to a point where you can drop the kite and white sail reach to the mark rather than attempting a kite gybe.

All the crew must work together

Keep the kite filled by adjusting sheet and guy as the boat comes to dead downwind.

## **Safety**

With the kite you might not go much faster but it's usually a lot more exciting!! You may also provide almost endless amusement for the rest of the fleet!

Kites are fun and very satisfying to use but they can bite back!

So a few safety points:

If you do broach it is likely that some crew will end up in the water even if only partly. Once the boat has stopped do a quick check to make sure everyone is still on board. If there are any real problems quickly get rid of the kite any way that you can.

Even on an SS22 the forces on sheets, guys and halyard can be huge in a reasonable breeze. Remember the forces increase with the square of the wind speed so 20 knts generates 4 times the forces of 10 knts. Crew should wear gloves and be aware of safe rope/winch handling principles:

- no wrapping ropes round hands
- always have the rope around a winch when easing or releasing
- no fingers inside wraps on winches
- etc

Always make a risk assessment before deciding to fly the kite. Stronger winds and shyer reaches make it progressively more difficult. Is the potential benefit worth the possible losses if it goes wrong?

## **Gear**

A few thoughts about boat setup for quick efficient kite flying.

Tweakers

Tweakers make things much more controllable on an SS22. They work best with blocks (pulleys) on the ends to run the sheets through but some boats do use rings or hooks.

Sheets.

Spectra (low stretch) sheets can be good especially when trying to keep the pole off the forestay on a reach.

Mast Halyard Cleat

A second halyard cleat on the mast just above head height means that the halyard can be raised easily from the mast. This is much faster than doing it from the cockpit.

Pole downhaul

If a boat has tweakers it doesn't need a downhaul. Once a crew are reasonable competent the downhaul just gets in the way and make life difficult.

### Pole Bridles.

Pole uphauls and downhauls should be attached to the pole using rope bridles tied to each end of the pole. Attaching to a saddle riveted to the middle of the pole is likely to eventually result in a bent/broken pole.

It is quicker to leave all ropes attached all the time. This however means that some systems, clips etc, need to be in place to keep the kite running rigging out of the way while the kite is not flying. There are many ways of doing this. Check out some other boats.