Fresh to Frightening…
Heavy Weather Sailing
What sails do I need?
How should they be setup?
The De-powering Sequence
Tips: Getting them up and down.
and... Keeping them in one piece.
Heavy Air Strategy and Tactics
Heavy Weather is Relative

10 knots is heavy weather to an 8 year old in a sabot.
21 knots is small craft warning in California.
It blows a steady 25 knots in Hawaii in the summer.
In the Southern Ocean, you might see a steady 45
knots of wind for days at a time, when it dropped to
35 knots it feels like light air sailing.
The more you practice in wind, the easier it gets.
Performance Cruising

Working sails

• Mainsail w/2 or 3 reefs
• Mid-Size all purpose genoa

Heavy weather

• small /working jib 85-95%LP
• staysail /storm jib
• Storm Trysail
Moderate Air
Heavy Air
Heavy Air Sails: the ORC #4  
No Larger than 13.5% of I2
Storm Jib

5% of l2
Storm Jib vs. Heavy Weather Jib
Navy 44

Heavy weather jib not greater than 13.5% of $l^2$

5% $l^2$

13.5% $l^2$

Independent means of attachment for any luff grove devices
How are you going to do it now?
It’s Easier with Hanks
Do it bare-headed!
The Inner Forestay Alternative
You Could Roll it...
Getting Serious
Mainsail Reefs
How Many?
Where?
Setup
Trysail
THIRD REEF OR STORM TRYSAIL?
Separate track
What About In Mast Furling?
The Depowering Sequence Race

- Full Main / Light #1 0-8
- Full Main / Heavy #1 8-14
- Full Main / #2 14-20
- Full Main / #3 19-25
- Full Main / #4 24-28
- Reef Main / #4 28-32
- Reef Main / #5 32-36
- Double Reef / #5 36-40
- Three Reefs or Trysail / SJ40+
The Depowering Sequence
Cruise

- Full Main / Full Genoa 0-12
- Reef Main / Full Genoa 12-20
- Full Main / Partially furled Genoa 14-20
- Reef Main / Staysail 19-25
- Double Reef Main / Staysail 24-35
- Three Reefs or Trysail
  - / SJ/Staysail 35+
Keeping Them in One Piece

- Spreader/stanchion/pulpit patches
- Batten pockets against rig
- Sew or tie in battens (carry spares)
- Minimize flogging
- Watch what you are pulling on
Strategy and Tactics
Strategic Tip #1…
Know When to Say No

- If your trip is less than 5 days, given the availability of modern weather forecasting, you will probably never have to experience extreme conditions.
- If possible, stay in port until bad weather passes.
- If underway, find a safe port or anchorage.
- Know your limitations… Once you are committed there is no turning back.
Are there intermediate ports to use in the event that weather threatens?

- How difficult are the entrances?

- Can they be negotiated in foul weather, with a sea running, or at night? Do you have the right charts?

- Will you be on a lee shore?

- How seaworthy is the boat?

- How fast can she travel under power (including range) and under sail? The wind often dies in the approach path of a major storm system.
Strategic Tip #2
It’s All About the Team

- Steering is the key to sailing in heavy weather
- Your pool of helmsmen is critical
- Ideally everyone can steer
- Let your inexperienced crew steer during the day when visibility is good and conditions are reasonable
- Save your best helmsmen for night time, when visibility is poor and when squalls build up
STRATEGIC TIP #3
PANIC EARLY… AVOID THE RUSH

On Deck Preparation

• Jack Lines Rigged
• Remove all extra cockpit canvas and dodgers
  • Hatches secured and taped
  • Reef lines led
• Coil and secure all lines and halyards
  • Rig inner forestay and backstays
• Preposition all storm and heavy weather sails
  • Hatch boards in and secured
    • Cockpit lockers secured
• Rubber Flap over Engine Exhaust at Transom
Below deck Preparation

• Secure all heavy objects batteries, floorboards, books etc.
• Lock gimbaled stove and reefer doors
• Stow sails in proper order heavy on top
• Test pumps (lanyards on pump handles)
• Close all unnecessary thru hulls
• Call in position
• Charge batteries
• Install or have ready ventilator caps
• Preposition buckets below
• Have a grab (ditch) bag at the ready

• Stow all galley equipment (pots Pans)
• Pre prepare thermos of hot soups make sandwiches and put out snacks and energy bars Freeze dried food
• Get rigging cutters out with a lanyard attached
• Rig lee cloths on the bunks
The Crew

- Eat when you can; bring all your clothes
- Keep the bunks dry
- Have headlight, knife, personal epirb
- Have reliable routines and timely watch relief
- You are going to be cold, wet, exhausted and miserable… embrace it
The Squall

❖ Get it down
❖ all hands on deck; battle stations
❖ mainsail halyard ready to run
❖ sail ties ready
❖ GPS dialed in
Surviving... Upwind
Fore reaching

- A way to slow the boat down to get some rest.
- With a reefed main, sheet it close to the centerline, and lock the helm amidships.
- Adjust the helm so the boat sails up into the wind, starts to stall, then bears off and starts sailing again.
- The boat sails, up and then back, averaging 60 to 90 degrees off the wind and at 4 to 7 knots.
Heave-To

Turn the Boat Into the Wind & Let out the Mainsail

Close Reach

Wind

Come About, Back the Jib & Slow the Sailboat

Close Reach
Downwind

- Traditional Approach – Slow the boat
- With today’s Modern Designs – Speed is good
- Higher speed allows more steering control
- Overtaking wave will have less impact
- If you are racing to Hawaii or Mexico, put up your biggest sails, put on your best helmsmen, and go surfing
- If you are cruising or short-handed, reduce sail early and put best helmsmen on the wheel
- Dead downwind is probably not the best option
Don’t Auger In...
A Traditional Approach… the drogue

- Anything towed from the stern to slow the boat down.
- Ideally it should be deployed 2 waves back, so when the boat is on the face of the wave, the drogue is on the back of the second wave.
- You need strong attachment points and chafe free for the rode.
- Leading the rode to an anchor windlass or electric winch will help retrieve the drogue.
Sea Anchor

A tool to be used when normal seamanship techniques are inadequate. It is deployed off the bow, where a drogue is deployed off the stern.

Can be used to:
- Stop the boat off a lee shore
- To make repairs in comfortable, quiet conditions
- To jury rig after a broken rudder or mast
- To allow a boat overwhelmed by heavy weather a break to rest crew and put the boat back in order.
Beware of a Lee Shore

Breaking waves will occur at a depth of 1.3x the wave height at shoals (10’Wave Breaks in 13.3’of water)
Heavy Air Can Be Fun!

- Prepare your boat
- Prepare your crew
- Practice when it is windy
- Have a positive attitude
- Enjoy it, don’t fear it