

Setting Storm Sails

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Professional mariners, and those of us involved in sail training, know the drill. Station bills are created for the three major emergencies—fire, overboard, and abandon ship—then posted and regularly practiced. It is prudent for us recreational sailors to do the same, including making “station bills” for what I call “lesser emergencies”. Establishing our own ship’s routine for “Storm Preparedness” that includes practicing the setting of storm sails will help us racers and cruisers avoid some discomfort (or worse) when we must do so in heavy weather. Our ease in accomplishing this task has to do with proper timing and knowledge of our vessel’s rig. The “when” of it is dictated by our circumstances including the following: wind speed, wave height and period relative to point of sail, amount of sea room, crew and vessel condition, and finally the duration of the storm including its anticipated course and intensity. Once the decision to set storm sails has been made, the “how” of it is at hand. Ideally the (practiced) storm sail setting protocol is “posted” on a bulkhead or in the ship’s log so an exhausted or less experienced crew member can review the routine before venturing on deck.

A storm headsail is often set before a storm trysail, and it’s flown in conjunction with a deeply reefed mainsail. This sail is called a storm jib when it is deployed from the jib stay/ head stay or a solent stay. It is called a storm staysail when it is flown from a staysail stay or inner stay that is about 3-6 feet abaft the head stay. A storm jib or storm staysail is designed and built for gale to storm force winds. The storm jib/storm staysail’s geometry and the stay that it is bent on and deployed from may vary, but the sail’s size (relative to the rig) and duty do not. Many storm jibs/storm staysails are set on inner stays that are fitted with release levers at their deck ends so the stay may be secured, when not in use, somewhere closer to the mast or shrouds to facilitate tacking the genoa. These removable inner stays are generally installed in their working position only at the time of heavy weather and solely for the purpose of setting the storm headsail. Each crew member should know where the inner stay is secured when it’s not in its ready/working position. Any tools necessary for removal of the stay from its stowed position and for installation in its working position should be noted on the station bill and in hand for the job. If your vessel is fitted with running backstays, your ship’s protocol should dictate how and when they are to be rigged. Once the inner stay is in its working position, it is time to secure and tension the windward running backstay if this was not done earlier.

The storm jib should be stowed in its own bag in a dedicated and easily accessible place, ready to go on deck and be bent on the stay from which it will be set. Ideally the sail will have been folded neatly with head, tack, and clew at the top of the sail bag. It is useful to keep all of the hanks in order from head to tack by hanking them on to a “magazine” (a short length of wire or rope about 18-24 inches long) that stays with the sail in its bag. After the sail bag has been secured to the deck with a lanyard (such as a sail tie), and before the sail is removed from the bag, the “magazine” is made fast to the boat with its bottom or tack end secured to a deck fitting near the base of the stay and its top end secured to the lifeline or bow pulpit. This positions the hanks for easy attachment to the stay and keeps the storm jib from going adrift. Ideally a storm jib is fitted with an 18”–30” integral tack pendant (wire, spectra webbing, or rope) with a snap shackle at its deck end for quick attachment to the tack fitting. The tack pendant will lift the storm jib above the lifelines allowing visibility forward while minimizing both chafe and the possibility of scooping green water into the foot of the sail. After the tack pendant is attached to the tack fitting on deck, the storm jib is bent on by removing each hank from the magazine and attaching it to the stay.

Separate port and starboard sheets should be secured with bowlines (not snap shackles) to the clew of the storm jib and preferably kept in the bag with the sail. Sheets should be as large a diameter as lead blocks and self-tailing winches allow for ease of handling and withstanding chafe. Double-braided polyester is an excellent choice for sheets; high-tech, low stretch line is unnecessary in this application. Knowing where the storm jib's sheets need to be led is critical to the sail's performance and its longevity. If a sheet is led too far forward when beating, the sail will contribute unduly to heeling and leeway. If the sheet is led too far aft, the leech of the sail may be damaged from excessive fluttering. To determine the correct fore and aft position, sight an imaginary line from the middle of the storm jib's luff through the clew and down to the deck. Position the sheet lead at that point or slightly farther aft when beating, and tension the storm jib's leech line to correct any leech flutter. When reaching or running, the sheet lead must be moved forward to minimize leech twist and its resultant contribution to a vessel's rolling. Sheeting as far outboard as possible is ideal in gale to storm force winds—especially with the wind abaft the beam. Once the ideal sheet lead position is established for your intended point of sail, determine the sheet's fairest lead from the storm jib's clew to the sheet lead block and from there to the winch. For example, when beating, a chafe free path may be found from clew to lead block by leading the sheet outside of the lower shrouds and inside the upper shroud. However, this same path may allow the sheet to chafe on the upper shroud when the sheet is eased for a reach or run. Only practice will reveal how storm jib sheets should be led on your boat.

Now is the time to attach the halyard. Know where both ends of it are made fast, and how much to ease the halyard in order to attach it to the head of the storm jib. Sight aloft to ensure that the halyard has a clear, chafe free path from the halyard block to the head of the storm jib, and make sure the storm jib is free from the constraints of its sail ties or bag before attempting the hoist. Keeping the windward sheet slightly tensioned while setting the storm jib will minimize the possibility of the sail or sheets flogging until the sail is properly trimmed. Proper storm jib trim includes a taut luff (lots of halyard tension), as well as an optimal sheet lead position as discussed above. Finally, when it comes time to strike the storm jib, either for heaving-to under trysail alone or because the wind has abated, it works well to backwind the sail before easing the halyard. In this manner the sail can be flaked on deck as it is lowered.

A trysail is a small heavy weather sail that is flown from the mast, whose name is derived from the old fashioned term for heaving-to, "lying a try". Ideally, the trys'l is flown from a dedicated secondary track that is roughly parallel to the track on which the mainsail is set. The trysail track should start from about 6-12 inches above the base of the mast, allowing the sail to be most easily bent on and for the possibility of leaving the sail bagged and "at the ready" on the cabin top or deck. If it is ship's protocol to bend the trysail when needed, make certain the trysail track has a gate at its deck end that is both easy to open and attached with a lanyard so it cannot go adrift. The tack of the trysail must be fitted with a pendant long enough to allow it to clear the head of the mainsail when the mainsail is furled on the boom. The trysail tack pendant can be rope, webbing, or wire, but its bitter end requires a dedicated belaying point such as a cleat on the mast or pad eye at the mast base with a position allowing the tack pendant to have a chafe free path when the trysail is set.

A trysail is designed to be flown independently of the boom; indeed, this is one of its many attributes. The trysail requires two sheets that are secured independently with bowlines to the clew. Their diameter should be as large as sheet lead blocks and self tailing winch allow and is comfortable to handle. As with storm jib sheets, polyester double braid is ideal. Trysail sheets are generally led from the clew to blocks in static positions in the stern quarter (one port and one starboard) and from there to winches. Consult a sailmaker if there is uncertainty regarding the sheet lead's ideal position. Trysail lead blocks should be chosen to accommodate their working load, which will double if the sheet has to make a 180 degree turn to reach its winch. The windward sheet generally has a relatively direct path to its sheet lead block, but the leeward sheet most

commonly must be led over the boom, abaft the leech of the mainsail, and forward of the topping lift on its way to its lead block. In addition, sheets must be routed around any lazy jacks or stack-pack "legs". Finding a fair lead for both windward and leeward sheets should be determined through practice, then recorded and available to crew as part of ship's trysail setting protocol.

With the trysail bent on, tack pendant belayed, and sheets led, the sail can be raised. Here again, we may run afoul of lazy jacks or stack-pack "legs". Only practice (preferably with lazy jacks engineered for this concern) will help you devise a protocol for setting the trysail. The easiest way to hoist the trysail is with the mainsail set (it will likely be reefed). This requires a dedicated trysail halyard or spare mainsail halyard, ideally rigged on the same side of the mast on which the trysail track is installed. Raising the trysail while the mainsail is still working facilitates a controlled trysail deployment, and more importantly, always leaves sail area abaft the mast, which is critical for beating, lying hove-to, or quartering breaking waves. Once the trysail is sheeted, the mainsail can be struck (or "peeled") and secured on the boom. It is important also to secure the boom in its gallows, a crutch, or with a combination of rigid vang, topping lift, and quarter tackle. The trysail's port and starboard sheets may be used independently (similarly to a jib's), or they can be used simultaneously to bring the trysail closer to or on the center line for beating or heaving-to.

A vessel with one set of cockpit winches may have sheeting challenges when sailing with both storm jib and trysail. Solutions may include leading trysail sheets to cabin top or mainsheet winches, or "cross sheeting" from a leeward block to a windward winch. Sheets must have chafe free fairleads. Only practice will help establish a protocol that ensures a trouble free deployment of the trysail.

Bear in mind that setting the trysail in other than storm force winds can have benefits beyond practice drills. The trysail makes a fabulous steadying sail when motor sailing or in slatting conditions, saving wear and tear on the mainsail and the rig.