The Safe Boat

Safety at Sea

Preparing for the 2007 Marion-Bermuda Cruising Yacht Race

by Rich Pinkowitz

Preparing *Tantrum*, a 1980 Cal 39 for the 2007 Marion-Bermuda Race was at first a dream but became an obsession. The dream began in the 2005 Marion-Bermuda Race aboard a 41-foot Moody named *Sojourner*. It was the joy of five days of sailing without distraction. It was the intensity of four hours sailing, four hours off for a full five days. Our focus was the sailing, not the destination. There was no rush to the next harbor to get a mooring, a slip or a good anchorage. Our ability set our deadline for arrival.

I had two years from my first offshore experience until the June, 2007 start of the Marion-Bermuda Race. In 2005 *Tantrum* was a comfortable, coastal cruiser. Making her seaworthy for an offshore voyage required an extensive plan. Fortunately The Marion-Bermuda officials have organized over 30 races and have helped structure the preparations. In addition race officials require a safety inspection by one of their inspectors to qualify for starting the race. I knew if I could get to the starting line I would have met stringent requirements. I just had to prepare the boat to get through the inspection.

My first step was to get *Tantrum* surveyed to get an opinion whether she was seaworthy for an offshore race. Dan Briggs was a highly recommended surveyor and, I found afterwards, was on the safety committee for the race, so I felt I would get an honest and experienced appraisal. His suggestions were numerous, but nothing, he felt, stood in the way of putting *Tantrum* on the starting line. The boat was capable; now I had to prove I was capable of getting her ready.

My first guideline for race preparation was the International Sailing Federation (ISAF) Regulations for Offshore Racing. The Marion-Bermuda Race is a Category 1 Race, "Races of long distance and well offshore where yachts must be self sufficient for extended periods of time, capable of withstanding heavy storms and prepared to meet serious emergencies without the

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The crew of *Tantrum*, opposite, complete with PFDs and tethers. Checking the rig underway, above

expectation of outside assistance." The requirements for this race are slightly less stringent than transoceanic races. The Marion-Bermuda website (www.marion-bermuda.com) has excerpted the appropriate regulations for Category 1, but I purchased a copy of the ISAF regulations from US Sailing as a reference. The website also had a requirements check list that their inspectors used when checking each entry.

Still, before I started any work and spending money I began to ask the "old salts" in the harbor lots of questions. Everyone I spoke with who sailed to Bermuda had their "to do" list and they all shared their spreadsheets with me. Setting out for Bermuda was never done on the spur of the moment. Everyone's task list was very long. It was all very intimidating.

SAFETY FIRST

There was not financial justification for the money or time I was going to spend on making *Tantrum*, a nice old boat, into an offshore yacht. There was no return on the investment in materials or boat upgrades. *Tantrum* is worth a few thousand more in 2007 then in 2005 when she was surveyed for the race. No, it was my passion and desire to do the race that justified the cost, and the memories and the stories afterwards. Finally, as I explained to my wife JoAnn, *Tantrum* would be a safer boat for our trips and I would be much more knowledgeable about safety at sea.

My to-do list was easily six pages, single spaced. There were large ticket items and lots of smaller items that when added up would still cost lots of money. There are many items that can be borrowed, rented, completed by the captain and their crew that affect the cost and the time for completion. For example, my personal decision was to purchase the life raft and the EPIRB, two items that can be rented for the race.

Making the boat safe and minimizing dangers on board seemed the best approach to "being self sufficient without expectation of assistance." Keeping the crew on-board seemed to be the first priority. We replaced coated lifelines with new stainless steel so that any rusting could be identified, and we installed a few pad eyes with backing so that we could run webbed jacklines from bow to stern, plus one in the cockpit so that crew could clip in when they got into the cockpit and a stern jackline for the helmsman.

All crew were required to wear harnesses and a PFD and to clip in when on deck. Each PFD had to have a whistle, and a light, preferably strobe, attached. All crew carried knives for emergencies. It seems everyone prefers the inflatable PFDs.

Below deck, everything was secured to eliminate flying objects when the boat heeled, or lurched on a wave. Cabinets and drawers had positive closures to keep stuff inside. All horizontal storage had closures in case of capsize. Handholds are important when the boat is heeled even 10 degrees as you try to walk below. We built a bar across the stove with clipping points and the cook had a belt to use while cooking offshore.

SAILS AND HEAVY WEATHER

Sails are an item a coastal cruiser takes for granted. For offshore sailing, where heavy weather is a possibility, a wider range of sails must be available to suit the conditions. A main and a roller furling genoa fit most situations, with an asymmetric, cruising spinnaker sometimes on board.

A minimum suit of sails includes: A main with three reefing points, which will serve until about 35 knots, after which a storm trysail should be hoisted. A genoa, 130 to 150 percent for light air, which can be furled down by about 15 percent at 15 knots before a smaller

Checking the course at the nav station, above. Notice the high-visibility orange patch in *Tantrum*'s storm jib, below. A well-fed and rested crew, next page top, can make better decisions when conditions get rough. The awards ceremony in Bermuda, next page bottom

jib should be hoisted. The Marion-Bermuda and the PHRF rules do not allow more than one genoa larger than 100 percent, so either you have a 100-percent jib or you drop down to a heavy weather jib, which is probably less than 90 percent and can be flown until about 35 knots, after which you would fly a storm jib. Lastly, if you wish to enter the spinnaker class you are allowed an asymmetrical spinnaker.

For racing purposes, the sails must have your sail number on both sides. In addition, for the storm and heavy weather sails, you should have a fluorescent patch to help locate the boat in heavy seas. A three-foot square piece of florescent cloth should also be available to put on the cabin top to further increase visibility in rough weather.

For heavy weather situations you would need either a storm anchor, which keeps the boat facing the wind and allows the boat to take the heavy waves on the bow, or a drogue, which is set on the stern to keep the boat from surfing down waves and possibly pitch poling. I chose the Jordan drogue plus a long bridle so that I could attach the drogue to the stern cleats and to the stern winches.

COMMUNICATIONS AND GEAR

Most coastal cruisers rely on their VHF or their cell phones for communications; however, on the high seas, only the VHF has limited applicability. VHF signals are line of sight and have a range, depending on the height of the antennas, of roughly 25 miles. Offshore, communication tools with longer range are needed. Single sideband (short wave) radios are expensive, can consume significant power for transmission, require extensive installation and require some knowledge of short wave propagation to operate. Instead, I rented an Iridium satellite phone, since at the time they had better satellite coverage in the Atlantic. I also knew my crew could immediately operate the sat phone, and if we had to ditch, the phone in its case could come along to the life raft. The cost of a satellite phone is much less than the SSB; however, there is a set-up fee, connect time charges and the limit that you can only call one person, while once you set up a SSB, communication is free. For weather information, I purchased a portable short wave radio that connects to my portable computer and can receive and download daily weatherfaxes from NOAA.

We did carry a portable VHF in the ditch bag for emergency communications in case we did have to abandon ship. Also, in case of dismasting, we carried a spare VHF antenna so that we could transmit

using the higher power, on-board VHF radio. I also brought along a rig cutter, purchased at a rigging shop, a hacksaw, extra blades, a heavy hammer and punches to knock out clevis pins holding standing rigging.

SOLAS flares and signal devices are also required for offshore races. They are more expensive than the coastal flares, but when you have an emergency and hope that another vessel can see the flare, the difference between a coastal flare elevating 500 feet and burning for 30 seconds versus a SOLAS flare elevating 1,500 feet and burning for 90 seconds is considerable.

I decided to purchase a life raft rather than rent one for the race. Although it is an expensive item that requires maintenance every one to three years, depending on the packing, I decided that if I do the race more than twice it was a smart purchase; otherwise, well, it was the hole in the water that I threw money into. Winslow, the manufacturer, does guarantee that if you do abandon ship into the life raft they will replace it on your return. (The guarantee did not extend to family members if I do not return.) I also opted to purchase an EPIRB with GPS and registered it to *Tantrum.*

CARING FOR THE CREW

Bermuda is over 600 miles from the U.S. placing the boat out of range of help for a considerable period, so crew safety and health are significant issues. Having someone aboard with medical training is invaluable. The second best would be to have at least one person certified for first aid and CPR. Medical kits are commercially available that are suitable for extended offshore voyages. I purchased one and supplemented it with some general prescription medications including a broad spectrum antibiotic, seasickness medications and some general pain medications and a good medical guide.

After all the preparation to make the boat safe, allow us to sail the boat in heavy weather and communicate in case of emergency, we then began to address emergency contingencies. *Tantrum* had one electronic and one manual bilge pump in the cockpit. We added a manual bilge pump operated from below deck, plus a sturdy bucket.

Batteries power many critical functions of the boat including starting the engine, which can then generate more power. Protecting the starting battery requires that the house battery power is separate from the starting battery. Also, vigilance is required while at sea to make sure that the starting battery is always isolated. An additional battery that can power navigational lights, radio and other items is also recommended. To protect the battery supply further, I installed masthead LED navigation lights, which consume about one-eighth of the power of standard bulbs.

Finally there was the food. The plan was to carry enough rations for twice the expected trip time. In our case it was two weeks of food for six people. I divided the food requirements into three areas of concern:

- Regular meals: Fresh food that could be stored in lockers or frozen and stored aboard in the ice box. These had limited life since we did not plan to keep the refrigerator on to limit fuel use. The frozen entrees lasted for five days. The lunch meats and cheeses lasted for about ten days.
- Back-up rations: Items that have long storage times such as canned foods, cereals, soy milk, vacuum packed lunch meats and cheese, dried noodle meals, drinks in a box, etc.
- Emergency rations: Energy dense foods that can be stored at room temperature such as Power Bars, chocolate, dried fruits and nuts.

Well, we made it to the starting line on June 20, 2007. I sighed as we started the race. I told the crew, "I got us to the starting line, now it is your job to get us to the finish." We were not as fast as I had hoped, but we were safe and well fed at the finish. ≈