Notes from a Bermuda 1-2 First-Timer

Paul Grimes, March 2018

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Why Write This??

I am not an expert. I'm a fascinated student, and feel grateful to have had a chance to do the race in 2017. In fact I think that anyone who feels more proud than grateful after such an adventure is missing the point entirely. Anyone who does the Bermuda 1-2 is lucky to be in a situation financially, health-wise, work-wise, and even family-wise that allows them to take the time to prepare and do the race.

There's a little Karma involved too. I feel the need to share my lessons and mistakes because of all the things that didn't happen during the race. No matter how much you prepare, unexpected things can go wrong, and I got away with more than my share of mistakes and gaps in preparations. If there's a next time, I'd better be good, because lucky doesn't happen twice.

I hope this case study helps to break down barriers for those who would like to do the 1-2 for the first time – even to the point where it allows anyone in that position to feel almost like they have already done one race, and are preparing for their second. It's not the Vendee Globe, but for those of us who have sailed one-design and coastal races, it's a big project. The off-season gatherings are a great way to meet the group, but unless you corner someone for an hour with a list of questions and your notebook in hand, you're pretty much on your own when you need to figure out the details of the safety list and other preparations for the race. Don't get me wrong – any of the experienced 1-2 sailors would be happy to help as much as they can (it's that good of a group), but there's so much involved that it's hard to come up with all the questions. Maybe this can be an outline for those discussions . . .

Also, I'm writing this because I wish others would do something similar. I'd love to hear what Doug Shearer, Rick McCally, Ray Renaud, Kristen Wenzel, Murray Danforth, Tristan Mouligne, Mike Hennessy, Roy Greenwald, Fred Cosandey, John Van Slyke, Gust Stringos, Peter McCrea, Louis Meyer, Bjorn Johnson, Mike Millard, Ed Sisk, Jonathan Green, Barrett Holby, and others have to say about boats, sails, electronics, autohelms, batteries, pumps, rigging, food, sleep, etc. etc. There is so much experience among those who have done the race several times. Maybe my inaccuracies will prompt them to chime in with better insights than what's here.

Finally, a lot of work has gone into this event from Roy Guay, Ted Singsen, Jeff Spranger and countless others. Anything we sailors can do to help grow the event is time well spent.

How this is Organized

The first section is just an overview of the race – the singlehanded leg to Bermuda, time in Bermuda, and the doublehanded leg back to Newport. After that, it's all about the preparation for the race, how our boat was set up, and mistakes/omissions I made in that area as well. This is just a set of examples from one boat. As I said before, I am not an expert (and I'm about to prove that).

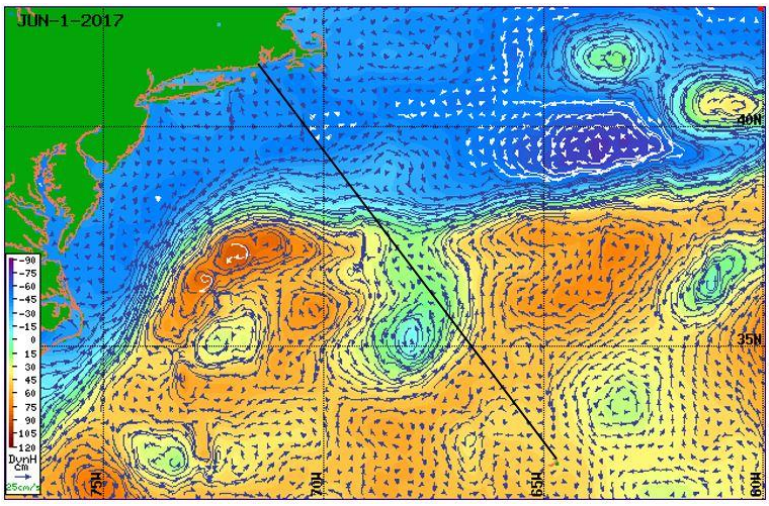
Our Race

Singlehanded Leg to Bermuda

I motored our J/35 “Breakaway” down from Hunt Yachts in Portsmouth to an Oldport Marine mooring in Newport Harbor the day before the race – just in time to get to the skipper’s meeting at Newport Yacht Club. (Roy had mentioned that he would rather save spots at NYC for boats from out-of-town.)

(It so happens that Comanche was leaving for the west coast at the same time. There was a distinct difference in delivery styles. Here’s Comanche’s limo.)

At the skipper’s meeting, Frank Bohlen gave an update on the Gulf Stream, and Ken Campbell, from Commander’s Weather gave a weather briefing. My interpretation of Frank’s info on the Gulf Stream was to go west of rhumb line to get a boost going into the stream, and then work back east after the big cold eddy to avoid a smaller eddy south of the stream (in the orange area).



Ken basically laid out the wind exactly as it turned out to be – a southerly for Friday, the first day, then a front Friday night with NW winds behind it for Saturday as we approached the stream. Then we would have light W-NW winds on Sunday shifting to SW on Monday for the rest of the race. I hadn’t had a lot of time to do any independent studying of the situation myself, so that’s what I went with.

On the morning of the race, my 18 year-old son, Alden, (who played a key shore crew role in the last days before the start) and I drove to Oldport Marine with a minivan full of food and gear, and loaded it onto the boat. It was key to have a second person onboard that morning – Alden was prepping sails, sheets, halyards, etc. while I was stowing food and stuff below. The timing worked out pretty well – he hopped off mid-morning, and I was ready to drop the mooring and head out. Before I left, I pulled out Frank's 8 ½ x 11 printout of the gulf stream, grabbed some parallel rulers, picked a point that looked good for "Point Alpha" (a stream entry point) to the west of the rhumb line, plugged those (approximate) coordinates into the GPS, and that was my waypoint for the next couple of days.

There was a nice southerly breeze starting, and I motored up off Ida Lewis YC, and put up the main and #3 jib while the autopilot "Auto" kept the boat creeping forward into the wind. Next was a trip downwind to check in with Roy and the race committee, and then a little upwind sailing to get warmed up. It was a cool moment – as others have said, this is when you finally get to stop working on the boat!

Our class was the second to start, after the Class 40's and faster boats. I started toward the pin, and didn't expect to have as many boats right on the line on my hip – all making it harder to tack as we headed toward Newport Harbor. The current was coming in, and the "standard" move in those conditions in Newport is to head to the Jamestown side. I had expected to be able to tack sooner, but Steve Gay on Barcanova, Fred Cosandey on Choucas, and Richard Lett on Gillette Children's (Velocity Girl) were all right there. Luckily, they started to tack right, and I was able to tack just in time to clear the breakwater at Ft. Adams. This was a wake-up call – this was not a casual group in our class. (Photo by John Anderson from B1-2 site)

Soon after this, I realized that I had forgotten to clip into the jack lines. I went for another tack as we worked out the Jamestown side, and started the routine of switching my tether to the other side – but it had never been clipped in. Roy had changed the rule from clipping in as soon as you leave the dock, to clipping in at the warning signal (which is good change), but I just spaced-out in all that was going on at the start. I reported this to Roy when I finished in Bermuda and he "took it under advisement." I assume I'm not the first one to make a mistake like that. (Photo by Ted Huebner from B1-2 site)

After a couple of tacks to clear Ft. Wetherill in Jamestown, we were just about on the starboard tack layline to clear R2A, which is basically the last buoy off Brenton Reef that you need to observe before cracking off a bit and heading toward Bermuda. We tacked that direction, and it was a cool sight to see the Class 40's ahead – already past the buoy, cracked off a bit, and heading out.

Clearing R2A was a great moment. As Churchill might say, it was the "end of the beginning." All of the preparation was to get to the starting line, and once there, you just wanted to get off the line and out the channel without some sort of disaster. Now the boat could be dialed into a course, and there was a little time to take a deep breath.

The fleet began to split – showing different philosophies on how to get to the gulf stream. Ken Campbell had assured everyone that the breeze would be going aft, from SW to NW, so there was no need to sail high and slow just to aim at your point for entering the stream. I split the difference – not wanting to sail too low, but with the jib sheeted outboard a bit and sailing just below close hauled. It was a great afternoon to be heading to Bermuda – plenty of company, sunshine, smooth seas, and breeze around 12-13 knots. The tiller pilot "Auto" was driving well on apparent wind, but it was an interesting tradeoff – the boat was going fast, but following oscillations in the breeze rather than sailing a straight course.

Velocity Girl had been on my hip, but then we switched places, with Richard sailing a slightly lower course. I went down below for a minute to use the head, and heard a British accent on the radio as I was coming back up on deck. Richard was calling, and I answered him. “Do you see the fishing boat crossing your bow?” He asked. “I think he’s clearing you, but I didn’t see you on deck so I thought I’d call over.” I popped up on deck, and looked under the jib, and yes, there was a big, steel fishing boat just crossing me – as if he were a port tacker. I checked the AIS, and he was right there – plain as day. That was the first of several rookie mistakes throughout the race – AIS is a great tool, but only if you look at it, or have the alarm set.

As we got toward Friday night, more and more boats appeared to be turning off their AIS transmitters. I learned later that nobody had done that, but with the signals going out from VHF antennas, and the boats heeling over, the transmissions didn’t seem to carry that far.

The breeze was also getting lighter as the afternoon went on, and the expected clouds from the cold front were appearing in the west. This was the first of several times when I saw that there could be an advantage to having a furler and a smaller jib on a solent stay. I just had jibs and genoas on hanks, and a separate inner forestay for a genoa staysail or storm jib. Changing from the #3 to the genoa would be a project, and not easy to reverse if the front brought a sudden breeze line with it. Jibs on hanks can be longer on the luff, and should be faster in a straight line, but a furler could actually allow you to be more aggressive in changing gears, or in using a bigger sail longer – knowing that you can furl it up instantly if you have to.

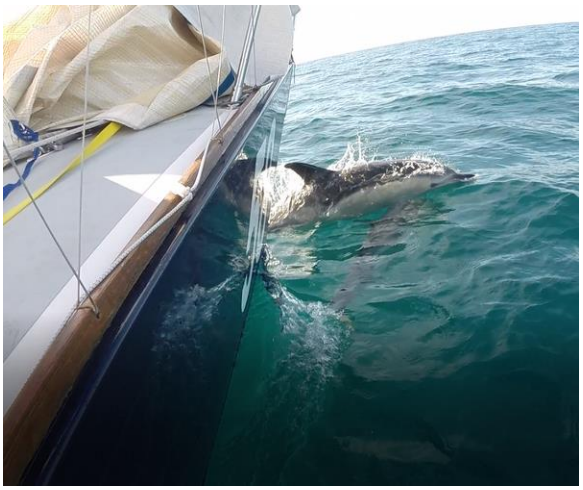
The clouds were spectacular as the sun started to go down behind them, and there seemed to be rain showers coming out of them, but no lightning. A couple of dark patches came overhead, and there was a little more breeze under them, but not much. The breeze started to go aft, and was pretty light. I decided that I had to change, and got the 1.5 oz. reaching spinnaker ready. It seemed to be a good compromise given the uncertainty of the situation. The jib would still be hanked on, and if it looked ugly, I could bear off, pull up the jib, and pull the spinnaker in behind it. As it got dark, I put the spinnaker up and all seemed OK - until the light show started.

The lightning seemed to develop right above three of us – Seriana, Velocity Girl, and me. I guess lightning has to start somewhere, and this time, we were "somewhere." I just tried to head away from it with the chute, and started pleading with it. "Please don't fry my electronics . . . please don't fry my electronics. I've worked so hard to get ready for this race. Please, please don't fry my electronics . . ."

The three of us were on the western edge of the fleet. There were a few flash/booms, and then it all moved off toward the rest of the fleet to the east. Unfortunately, it did claim one electrical system, as Murray Danforth, who has done the race 10+ times, was forced to turn back with a total electrical failure from the storm.

The breeze stayed pretty light that night and into the morning, still from the W-NW, and the spinnaker was up all night. I can't remember if I slept, but I must have taken some naps. I didn't appreciate how chancy that was with the spinnaker up . . .
I assume I had Auto driving on apparent wind, which certainly helps.

Saturday morning started off clear, with a good NW breeze that slowly went forward as we got into the afternoon. The highlight was a visit from a pod of dolphins. This felt totally undeserved – we hadn't even been racing for a full day, but here they were, and I can attest that it's even better seeing dolphins when you have no other company. Even at low speeds, they stayed for a few minutes as I held a GoPro over the side from the foredeck. There wasn't much of a bow wave, so I don't think their main purpose is to play in the wave – I just think they're curious. They spent a lot of time on their sides – maybe looking up.

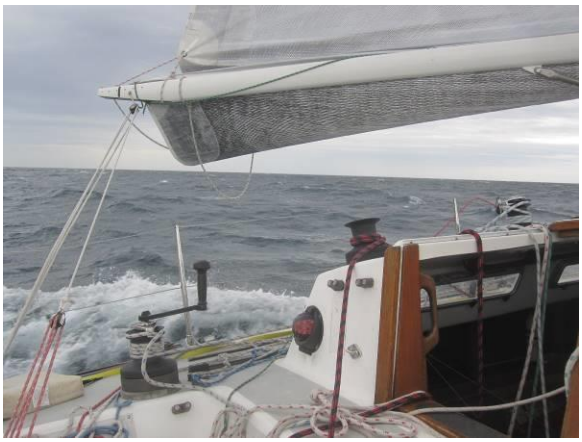


As the breeze went forward, I switched from the 1.5 oz. spinnaker to the 135% genoa, which I thought would be better for reaching in breeze than the bigger 142% genoa. This was sheeted to the rail outside the stanchions, and it would have been a good time to use the staysail on the inner forestay as well, but there were some nasty-looking clouds to the west, and I was worried about the breeze building.

The breeze did build more, and I reefed the main and the genoa. The genoa had never been reefed before, even though it was designed for it. It was built with a second tack a couple of feet up the luff and a higher sheeting point on the leech – as well as points between the two for tying up the foot. The sail is about 6 years old, and as the wind got into the mid 20's, I was afraid it was going to give out.

I shifted to the #4 – skipping the #3 because it was looking pretty nasty. This consisted of easing the halyard a bit so that I could hank on the #4 at the bottom of the forestay, leading the new sheet, then blowing the halyard and unhanking the 135 before pulling the #4 up. Finally, I have to admit, the 135 was unceremoniously shoved down the forward hatch, where it stayed in the V-berth for the rest of the leg.

The switch seemed to be a good move – as soon as I sat back down in the cockpit, the breeze hit 30, but that was about as much as we would get, and the skies were brighter behind this line of clouds.



At this point, Velocity Girl was visible on a similar course up to windward. No other boats were around, and once Richard and I parted ways later that afternoon, I wouldn't see another boat until Bermuda. With only 30 boats in the race, I should have expected that, but it became a very solitary trip.

As the clouds moved on, the wind moved aft and dropped a bit. Both Richard and I put spinnakers up and were having a good ride downwind in the waves, but it was still puffy. He had a good wipeout, and pulled his chute down temporarily. I radioed to see

if he was OK (he was) and promptly had a good digger of my own. Luckily, though it was loud and a bit violent, nothing broke, and we got going again. Auto was driving well, set on true wind at this point, and seemed to be able to handle the surfing just fine.

I was feeling pretty smug at this stage, and tried to take a video with my son's GoPro. The battery seemed to be dead, so I jumped down below to plug it into its charger. All of that gear was over by the electrical panel, in the starboard quarterberth. I found the charger, plugged it in, and put the GoPro on the shelf above the electrical panel. As I was coming up the companionway, the boat seemed to be sailing a bit high, and then went into a dial-up broach to the point where the spinnaker blew through the foretriangle. I jumped back in the cockpit, grabbed the tiller with the tiller pilot arm still attached, and slowly brought the boat back down. The spinnaker came back through the foretriangle and filled again (thwack!), but had not wrapped – probably because the #4 was there on the forestay. I was hand-steering, and we were back on course, but there was a problem – the autopilot control panel in the front of the cockpit had gone blank.

So, Mr. Cool-Singlehanded-Sailor-With-Spinnaker-Up-and-Auto-Driving-on-True-Wind, what are you going to do now??? There was no emergency – I could hand steer the boat, but I was stuck at the tiller with the spinnaker up and the breeze still around 20. There was a spare version of Auto onboard that I had found on EBay a few months before the race, but how can you troubleshoot when you can't leave the tiller? I realized that you really need a separate tiller pilot, even just a basic one that can hold a course, stored in the back of the cockpit, ready to be installed if the primary tiller pilot fails.

I was pretty tired, and I guess I should have driven longer, but I wanted to get out of this mess. The resistance from the tiller arm was enough to stop any sudden tiller movement, and I found a line to wrap around the tiller to try to keep it straight. After several quick trips jumping forward in the cockpit and back to the tiller again, I was able to get the spinnaker halyard ready, bring the lazy guy to the cockpit, and finally let the pole forward, blow the halyard, and pull the spinnaker in behind the main. It came down wet, but in once piece. I had dodged a big bullet – what if the boat had rounded down rather than up when the tiller pilot failed? I had a preventer on, but that would have been a huge mess.

The next step was to figure out what was wrong with the tiller pilot. I was hoping that I had just flipped off the breaker by accident – otherwise I would probably have to stop completely to fix something. I made a quick trip down the companionway and found

that the breaker was off – the GoPro charger cord had flipped it as I put the GoPro on the shelf above the panel. It had even picked that breaker from among others above and below it that it had left untouched. Someone was sending me a message on the dangers of getting cocky in the ocean.

As we got into Saturday evening, the breeze began to fade. The water was getting warmer as we got closer to the Gulf Stream. I put up the white all-purpose spinnaker, and ended up having to make a few jibes in the lighter air. At one point, I think we had 4 knots of current under the boat – pushing us mostly east. As night came on, the beauty of the AIS system came through. There was a light coming from the southwest, and as usual at night, you just can't tell how far away it is, how big it is, how it's moving, etc. However, the AIS system made it all clear, including the name of the ship, and the vectors showing that it would cross ahead. I was able to radio the ship, get a response, and the whole thing was a non-event. For an AIS first-timer, this was a huge relief.

Later on that night, sailing on starboard with the spinnaker up in light air, another light show started. Up ahead, the clouds were flashing with streaks of lightning in them. It was impossible to tell how close we were to the clouds. At one point, as we seemed to be getting closer, the wind shifted forward (more westerly) and I decided it was time to get the chute down. It was a trick – the wind went back where it was, and the clouds seemed to recede to the east. About this time, a white light appeared over toward the northeast. In a sleep-deprived state, I was convinced that this was a masthead light, but why wasn't it green? Just before reaching for the radio to give it a call, I realized it was a star, and we probably weren't on a collision course anytime soon.

By dawn, the clouds had disappeared. Somehow, I think I've seen this before in a previous Bermuda race – clouds that have lightning jumping around in them, and then dissipate by dawn.

We were left with a nice morning, and just as Ken Campbell had predicted, Sunday would be our light air day. The breeze faded in the early morning, and we reached the point where I was just slogging around on stbd. tack in leftover slop with the spinnaker up. There was nothing to do but jibe to port and point the stern toward the waves. According to all polar charts and common sense, this was a much lower course than I should have been sailing in such light air, but it was the only course possible in the waves. Eventually, I was able to jibe back to starboard, with the spinnaker still drawing, but the breeze was still pretty light.

One common theme in the race was that I seemed to get distracted in the mornings – we'd just made it through another night, and whether it was breakfast, or cleaning up, or some other chores, I seemed to forget that we were actually racing.
This morning, I warmed up some oatmeal for breakfast, and decided it was time to check the weather. I had a small laptop with Ocens software that could download charts using the sat phone. It was a sunny morning, and pretty calm, and I felt like a high-tech singlehanded racer sitting down below on the starboard settee berth with my laptop. The download worked perfectly, and I got the charts I wanted – which confirmed the prediction that the breeze would go forward to SW for Monday and Tuesday. It was great to be able to get that information, and I was pretty pleased with myself.

I put the computer away and went back up on deck to face rookie mistake #3. While I had been exploring the high-tech world of satellite data transfer, the spinnaker had performed a most excellent version of a low-tech wrap around the forestay. My initial tugs on it had me fully convinced that I would be sailing to Bermuda with it wrapped. I tried jibing to reverse the flow, and tugging every which way. I finally lowered the halyard and was able to pull the mess down the forestay a bit and slowly unwrap it. That was a huge relief – another bullet dodged.

On Sunday afternoon, the breeze finally started to go forward. It set up an interesting dilemma – the spinnaker would fill, but there was enough slop that it seemed like the 142% genoa might actually be faster – just because it would be more stable. I switched to the genoa, and the breeze slowly filled more from the WSW. We were about 300 miles from Bermuda at this point.

The genoa stayed up overnight in light air as we reached the south end of a large cold eddy that had become part of the gulf stream. The scale of these things is incredible – this one was about the size of Maine (see Frank's chart).

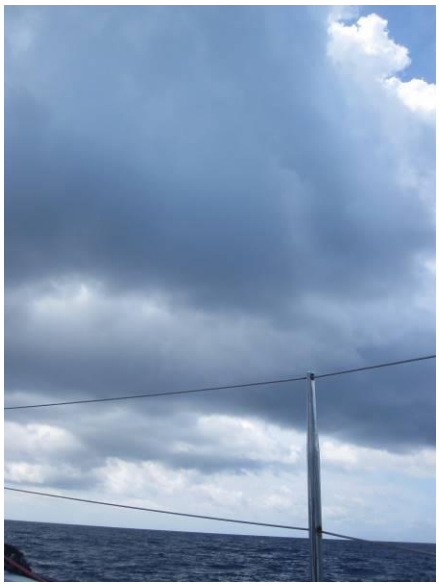
Monday morning was beautiful – close reaching on starboard in flat water with the genoa sheeted to the rail.

As the morning went on, we started to approach a line of clouds. I was more concerned whether there might be some lightning, or rain, or gusts under the clouds, and didn't see them for what they really meant.

As we got closer, we actually got a big enough left shift to tack on. A momentary tack to port caused several small crashing sounds from the cabin, even after I thought everything was secure.

Another eye-opening sight was a funnel cloud that appeared under the group of clouds directly to windward. Luckily it dissipated, and that group of clouds came right over. I was focused on the clouds and didn't even consider that this might be a wind shift, or a sign of a major change.

As the clouds passed over, it got pretty dark and gray, and up ahead appeared a serious breeze line. I realized that I had been gazing at the clouds when I should have been thinking ahead. I pulled the genoa down as fast as I could (another sail shoved unceremoniously down the front hatch), and pulled the #4 up on deck. The breeze seemed to switch on instantly, complete with chop already established. I hanked-on the #4 and got it flying. Soon after that, it was time to reef the main. There were 200 miles to go, and this was going to be nasty.



The breeze built into the low 20's and the chop continued to build through the day. I was awfully glad not to be in a Mini. The boat was pounding pretty hard, but moving pretty well. I knew that if I could just get through the coming night, I could finish on Tuesday and sleep in Bermuda Tuesday night.

The funny thing about the pounding was that there always seemed to be sounds that didn't belong. The biggest crashes probably came from the forward end of the spinnaker pole going weightless and landing back down on the deck, but the most worrysome sounds were the second thumps. If you hit a wave, you would expect to hear one "thump," so what was "thump, thump" - a delamination in the hull, or maybe the keel starting to work its way loose??

I was a bit paranoid about having something break. It seemed like I could get there OK if everything stayed together and I didn't start a downward spiral with an initial problem. I was worried about the shackles in the mainsheet system, and lashed them with some spectra. Then, I took the boom preventer line (green in the photo) and used it to back up the reef line through the clew of the mainsail. As for everything else, I just had to hope it hung in there.

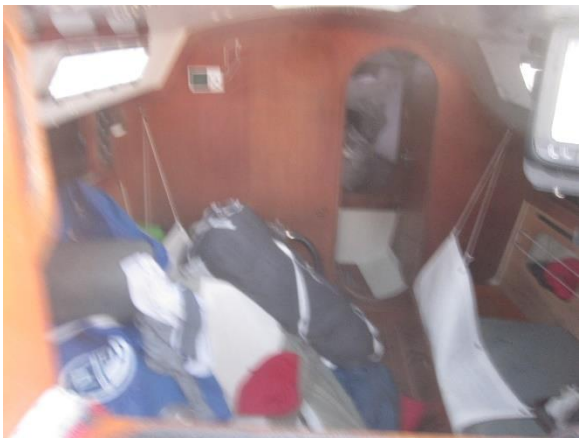
Monday night was a bit tough. I hadn't slept enough in the calm days before this, and was nodding off on deck. I decided that it really wasn't productive to sit there staring at the instruments. Auto was still driving well on apparent wind, and the boat was actually doing around 6.5 knots through the water.

Below, everything was soaked. I had only finished rebedding the aft chainplate covers before the start, and the forward chainplates were leaking a lot. Rain water has no pressure behind it, but a wave on the deck has some pressure – even if it's just a couple of inches of water. The cabin light closest to the windward chainplate actually shorted-out. Water must have been getting in somewhere else as well, and the shallow bilge had overflowed. There was standing water to leeward – behind the settee berth and the stove.

I was in my wet foul weather gear and didn't want to get the settee berth cushions wet, so I just flopped on the pile of sails on the cabin sole. They had slid to leeward, were super comfortable, and it was warm enough that being wet was not that

uncomfortable - so I crashed on them like a dripping, beached Beluga for 20 minute naps.

It was also pretty quiet down below. And each 20 minute nap would get me a few miles closer to Bermuda. What a deal – go to sleep and a few more miles would be gone when you woke up.



I should have mentioned earlier that the real darkness only lasts from about 10PM to 4 AM, when the glow starts in the east. On Tuesday morning after sunrise, the breeze moderated a bit into the upper teens, and I think I took the reef out for a short time, but then the breeze came back on. There were around 100 miles to go, and everthing was holding together. I just wanted to get to Bermuda as fast as possible and end the damn pounding. I had already decided that if I couldn't make the finish on starboard, I was going to continue behind the island to find some flat water before tacking up to the finish – no matter what. The boat was going pretty well despite the pounding, and a look at the tracker after the race showed that this was a good stretch for the J/35 vs. other boats in our class, but there was no competitive push from me. As they say in youth sports, "You'd be amazed what fear will do for your speed."

At about mid-day, some rain squalls started to roll through. The wind got up to 30 at one point in one squall, and the waves were still pretty angry. I remember one wave that just didn't seem to have a back side to it, but somehow there was no huge crash landing – not sure why. There's nothing you can do – you just keep going.

That afternoon, I was below, and Auto's windshift alarm started ringing – saying that there had been a shift of more than 15 degrees. I was momentarily psyched when coming on deck – I thought the wind had shifted more westerly, and I'd be able to reach into Bermuda. No such luck - the directional arrow of the masthead wind sensor had "left the building," and Auto had shown it's concern by taking a left turn and following it off to leeward. There was no windshift – we were just heading northeast.

I got the boat headed toward Bermuda again, with Auto only able to steer on a compass course now, and resumed the pounding.

Bermuda got closer as Tuesday afternoon wore on, and by about 5 PM, we were able to get some relief from the waves by being to leeward of the island. The breeze was down a bit and I took the reef out, but convinced myself that the #4 was still OK for the beat up to the finish. The breeze had some light spots, but all in all, this was OK with the main powered up. Even so, it probably would have been faster to work to windward before getting behind the island, and sail in around Kitchen Shoals and up to the finish on starboard - but that just wasn't an option in my mind.

As the sun started to go down, the island was clearly in view, with a cruise ship coming around the east side, and what looked like a splash from a breaching whale in the distance at one point. I should have been happy and excited, but was really tired, pretty hungry, and just wanted to get it done.

Approaching the finish, the big moment arrived to call Bermuda harbor radio. I contacted them and was promptly asked for my call sign. I felt like the full JV idiot as I realized that I had done the registration last winter, but never brought that onto the boat. Oh well . . .

The last tack was in toward Kitchen Shoals on port, and we had to go pretty far in toward the reef to be able to make the finish line at Mills with one more tack to starboard. The final irony of the whole leg was that I found myself headed toward Mills after that tack, worrying if I would be able to pass within ¼ mile of it as the instructions required. Traveler up, mainsheet on hard, jib in a few more clicks, tell Auto to pinch up a couple more degrees, check the chartplotter . . . looks like we'll make it, and we did.

It was starting to get pretty dark at that point, and I radioed Roy with my finish time. Kristen Wenzel was offering to meet finishers at customs and help with docking the boats at the dinghy club, and that was the plan for few minutes. I got the jib down, and then pulled the main down. This was a stupid move – I realized immediately that it was still pretty wavy at the Mills buoy, and I really should have headed in toward the cut before taking down the main. The boat was rolling around pretty well as I tried to semi-flake the main on the boom enough to get a few sail ties around it.

After that, it was time for the sat phone, and I called my parents, and wife, Kim - actually in that order. My parents had been worried about the whole project, and the sooner I could put them at ease – the better.

All this must have taken longer than I thought, because Roy was back on the radio wondering where I was at this point. We agreed that I should just go anchor for the night – which was just fine with me. I was experiencing the adrenaline drop that comes right after an intense push like that, and all I wanted was a hot bowl of pasta and some sleep.

I radioed Bermuda Harbor Radio and mentioned that I would like to anchor for the night. They gave me clearance to enter and anchor in Powder Hole. A boat I'd been on had done this before after a late-night finish in the Newport Bermuda race, so I had a vague idea of where I was supposed to go.

The trip through the cut into St. George's harbor was surreal. First, I had expected to take a left turn to go through the cut, but it's a straight shot from the Mills Buoy. There was still some breeze, but everything seemed so incredibly calm as I headed in. The lights of the harbor were spectacular – with the town lit up to the right, a few Tall Ships still there from their rendezvous, and all the cruising boats drawn to Bermuda by the America's Cup.

The dinghy club is just to the right as you come through the cut, and it was lit up, with Toothface, Mike and Tristan's Class 40, parked off the breakwater, and other boats on the inside.

I motored farther into the harbor and to the left, and found a spot to anchor among the cruising boats there. The boat was a soaked mess, but all I wanted was that pasta and some sleep. In retrospect, this may have been the first time I'd relaxed in 6 months.

Notes from Bermuda

On Wednesday morning, I cleaned up a bit, and motored over to customs. It was blowing pretty hard in St. George's harbor – not a good sign for the boats yet to finish. The white customs building is on the east end of a little island off the center of town that has a pirate ship set up on it. If you followed the north coast of the harbor from the dinghy club west to the center of town, you would run right into it. The customs dock is on the inside of the island, and there were a few people from the Bermuda 1-2 group there catching lines, which was a huge help. You have to go into the office – they don't come out to the boat, but that's fine.

At customs, I learned for the first time that Justin Wolfe had abandoned his boat, Spadefoot, and had been picked up by Noel Sterrett, on his J/130 Solarus. They had been right in front of me at the customs dock, and we talked in the office. I realized that I probably should have kept my sat phone on at all times during the race. I had just turned it on to check weather, for one call to my Mom on her birthday, one call home, and a call to Ted Singsen at the duty desk at Newport YC. In this emergency, I hadn't been one of the closest boats, but I should have been available by phone for a situation like this.

After customs, I contacted Roy on 72, and headed to the dinghy club. Tristan came out in a dinghy and jumped onboard to help me get in. We ended up backing in, and everyone on nearby boats helped out. Having at least 4 dock lines ready was helpful, and there's no way I could have gotten the boat in myself.

On Wednesday and Thursday, boats kept coming in. The disturbing fact was that it just kept blowing harder and harder – the smaller and "less fast" a boat was, the more of a beating it took. I had only seen 30 knots for a brief time during my 30 hour slog to the island. But we were now hearing about 30-40, and certainly the waves weren't getting any smaller.

Wednesday evening, those who had finished went to Wahoo's, in town. (This was the first of 3-4 dinners there for me – the Wahoo tacos rock!) We took up a few tables, and since I had missed the gathering in Newport a couple of nights before the start (the checklist was still too long . . .) this was a first chance to meet other sailors. Needless to say, the conversation came easily – we had a lot in common.

Thursday morning started with a sail-folding session with Jason Seibert, who was tied up next door, and was doing the race on his Olson 30. We both had sails that had been stuffed down into our V-berths. He had spent most of the last upwind stretch inside his cabin as the waves came over the deck. He's a brave soul – braver than I am . . . After folding, we headed into town for some breakfast. It's about a 10 minute walk to town, and the road is narrow for the first half, but there isn't much traffic. Momma Angie's is a great little breakfast restaurant on the left just before you get to town. Nothing happens in a hurry there, but there always seemed to be other sailors there to chat with.

Noel Sterrett came in, and we started discussing the process of transferring Justin from his boat to Noel's. Jason had been nearby as well, transferring status updates to shore. Noel had some previous experience with this from an episode where his boat had been holed by floating debris offshore, and he had been helped by the US Navy. In that case, he hadn't needed to leave his boat, Solarus, but had been told that they would have used the liferaft if he had needed to make the transfer. In this case, he had insisted that Justin get in his liferaft to switch boats with his gear. This is a smart approach to remember – eliminating the chance of suddenly having two damaged boats rather than just one.

Back at the club, it was time to get things dried out. We were parked stern-to the inside face of the concrete pier that forms the little harbor at the club. Other boats were moored to the harbor side of this pier with planks from their sterns to the pier, but we could use ladders to get on/off our boats on the inside. More boats were in with their sterns toward the seawall at the club. I mention this because it was nice not to have to use a plank to get on/off as the outside boats did, but it was super-hot in our position. Especially at low tide, the wall blocked the wind coming off the harbor, and the boat really heated up. Also, it was a little rough soon after we got there, and waves would hit the outside of the pier and spray would come over the pier, and down our open companionway – not quite what we needed when trying to dry out the boat. In general, being on the inside of the pier probably isn't so bad, but we had a combination of rough water in the harbor (probably from the America's Cup traffic too), and then some really hot days.

The dinghy club is nice, but not fancy – actually just about right. This undoubtedly helps with the cost of the event vs. being in Hamilton. There is a great upstairs porch, and a bar inside, but no kitchen or grill operating onsite. It's small, welcoming, unassuming and friendly. Brenda is the bartender and basically runs the show. She's a huge help.

We didn't realize that the club had ice available, which would have made it easier for us – we could have kept our icebox cold and cooked more food onboard while we were there – rather than going out for so many meals.

My family arrived on Friday as planned. This worked just fine – we stayed on the boat, had breakfast at Momma Angie's, used the bus to get to Hamilton Friday afternoon, and took the high speed ferry over to the Dockyard to see the America's Cup racing on Saturday (with a big group of B1-2 people). On Sunday, we went to the Crystal Caves, the Swizzle Inn, and visited friends.

They headed home on Monday, and when asking about a cab to the airport, were promptly given a ride by a club member. This is typical of the warm treatment from the club, and even though the Dinghy Club is at one end of the island, it worked fine as a home-base for a family visit to Bermuda. Once the family left, however, I was ready to head home.

Geoff Rand, my co-skipper for the doublehanded leg, had arrived late Sunday. He is the epitome of understated ability and experience. He wears nothing that would lead you to believe he's a sailor, yet he has been teaching at the Boston Sailing Center for years, and now teaches onboard cruising classes for them. He has also been the navigator on several Bermuda Races and a few Marblehead Halifax races, usually on "Dreamcatcher," a really well-sailed Swan 48 that I've been able to jump on for a few of those races as well. Finally, he is never one to use the navigator's role to start dictating what he wants the boat to do – his style is to poke his head up the companionway and say, "OK, this is what it looks like," rather than "I'd like to head farther west . . ." or "I'd like to jibe." In reality, though, everyone onboard knows that he's been watching the Gulf Stream for weeks, and pouring over computer models and forecasts constantly for days before the start, and his hunches are really, really, good. He's also a pretty cool customer on the water – unfazed by just about anything.

In Bermuda, I have to admit that it was a bit tough to get psyched for the return leg to Newport. Maybe I was a little bit gun-shy after the pounding at the end of the first leg, or still mentally & physically worn out from it. Either way, it was good to know that the trip back was doublehanded - the 1-2 format of the race now made a lot of sense.

In light of that, it was great to have Geoff arrive with new focus. He immediately started downloading temperature & altimetry data on the Gulf Stream, and verifying the results with his own way of overlaying the two charts to compare them. He was also tracking weather in the days before the race, and shooting emails back & forth with Matthew Sullivan, Dreamcatcher's bowman, who had jumped on the project too.

Fortunately, we didn't have too much work to do to the boat. My family had brought down a new masthead wind wand, and we had already installed it. The hiking stick needed a little TLC, and Geoff re-bedded the leaking forward chainplates, but overall, we were in good shape. I cleaned the bottom, and there was a little growth on our year-old VC Offshore paint, but not too much. Maybe this was one advantage to being on the inside of the seawall – with a line led under the keel and pulled up tight on both sides, I could pull myself down to the keel and actually stand on the bottom while I sponged off the slime. That was a first!

Somer's Market, in St. George's worked well for provisioning for the way home. It's not a huge market, but it's well stocked. The club also put in a big ice order just before we left, and that was a huge help too. We refilled gallon water jugs at the club, and had no problems drinking that water on the way home. The club also did a fuel run for us - we all left fuel cans near the flag pole, and they came back filled for the price at the pump, which was a great service.

Robertson's Pharmacy was another good resource in town. I was on a mission to get Stugeron (seasickness pills). Geoff's daughter, Martha, had given me the box that she had bought for Dreamcatcher's return delivery from the last Newport-Bermuda race, and I needed to restock her stash – as well as get more for myself and my father in-law.

We made another trip to Wahoo's, and went to The Wharf for dinner once, but never made it to the White Horse Pub – though others liked that one too.

On Wednesday afternoon, Bermuda Weather gave a presentation on the weather to expect on the way back. The forecast was for us to start on Thursday AM in NW winds, and then get a front early Friday that would shift the winds to easterly. After that, they would build and swing SE, S and SW over the next few days until the finish in Newport. The Gulf Stream features from the first leg had shifted east a bit, so we would need to stay a bit east through the stream before heading directly for Newport.

I had subscribed to a forecast from Commander's Weather before each start, and their forecast the next morning was very similar. Downwind the whole way seemed too good to be true – we had to get whacked sometime. (They were right, though, and deserve credit for nailing the forecast for both legs of this race, all the way through to the last days of each leg.)

Our Race Back to Newport

Thursday brought the start of the return leg. The camaraderie among the 1-2 group, especially after the days in Bermuda, is a great feature of this event. It hadn't changed, but everyone was focused again, and boats started pulling out pretty early. We motored to the south end of the harbor, and got our sails up as Roy set up a line off the town. It would be a downwind start – almost a dead run, out the cut. I was wondering how serious people were inside the harbor – most photos I'd seen from previous races showed boats wing & wing as they went out the cut.

The smaller boats started first, chutes up. For our start in class 2, it was game-on, chutes up immediately. Steve and Del on Barcanova nailed the start, but had 3 of us blanketing them, and we pulled even as we neared the cut. Steve was to leeward, and looked over at us with a grin, “I guess it would be a real dick move if I decided to luff everyone right now . . .” Luckily he didn’t, and we sailed out the cut with 4 boats, Choucas, Breakaway, Velocity Girl, and Barcanova all overlapped, 3 with spinnakers up. Steve was so close to the rocks on the port side that we just couldn’t look, but I guess that’s how they get cruise ships in there. It was all about just getting along - hold your breath, nobody move, we can do this . . .

The photos here are from drone footage taken by Vernon Hultzer. The top one shows us just after clearing the cut, and at the bottom we have more room. From left to right are Choucas, Breakaway, Velocity Girl (aka Gillette Children’s), Upstart, and Barcanova.

Once out the cut, we had to round the usual suspects to port – Mills, then Kitchen Shoals, and then head home. We dropped our spinnakers at Mills, and rounded up on port to a close reach to get to Kitchen Shoals. Once past Kitchen, it was close hauled to head home – at least for us.

Everyone seemed to be determined to get east toward the front that would bring easterly winds. Geoff had plotted out the line of the front from the Commander's forecast (it was coming in from the northeast), and knew that we could get to it just as fast by getting north-northeast as by getting east. Soon after Kitchen Shoals, we got a shift and tacked to starboard for a short time. It was pretty light, so we switched to the 142% genoa from the #3 when we tacked back to port, and stayed close hauled, with most of the fleet separating to the east. A J/35 sails really well in light air upwind with a genoa, and we slowly worked past Zach and Leif on "Yankee Girl." Zach had won overall on the way down (and won one of the doublehanded divisions in last year's Newport Bermuda Race). He's very sharp - running Expedition, etc. and apparently their money was with Geoff. By nighttime, they were out of sight, and we saw no other 1-2 boats until we arrived in Newport harbor on Tuesday.

The breeze got lighter and lighter through Thursday night, and by Friday morning, we were “in the doldrums” - with clouds from the approaching front to our right. However, the tracker (after the race) showed what Geoff predicted – that we would get the easterlies the same time as the eastern boats. The breeze landed, we tacked to stbd. and took off. During the day, the breeze kept going aft, and we went to a 1.5 oz. spinnaker.

That night, the breeze and seas kept building, and we found ourselves at about midnight, with the chute up, and things getting hairy. I had made another rookie mistake – I forgot to consider what our next move would be after the spinnaker, and left the 142% genoa hanked on the forestay. We really needed a #3 to wing if we couldn’t carry the spinnaker. I was tired, and got into that dangerous zone of thought paralysis – hoping the breeze would die down again rather than dealing with the situation. Geoff rightly suggested that we really needed to get the chute down and regroup for a few hours. We got the spinnaker down and switched jibs, and sailed with the #3 winged out until early morning. We jibed during the night, and would be on port the rest of the way to Newport.

Saturday brought big breeze and big waves with the 1.5 oz. chute back up. These were amazing conditions, but a bit tough to enjoy at the time - there is a constant concern about breaking things. I think Auto set a boat record in the 13's driving down some waves, and then I was driving for a surf into the 14's. That record lasted for about 20 minutes until Geoff surfed 2-3 waves back to back and hit 15.0! I've got that written in the cabin - "15.0 knots, Geoff Rand, 6/17/17, just south of the Gulf Stream." As I mentioned, we would have been hooting and high-fiving on an afternoon race off Newport, but when 300 miles from anywhere on a J/35, it was a sign that we needed to throttle back right away – before we broke something. The breeze was getting up around 25.

As we took down the chute, we got away with another rookie mistake. We actually had the #3 up for the takedown, which should have made things easier, but it wasn't trimmed in. Our routine for takedowns was to head off to blanket the chute behind the main and jib, and take it down. This works fine in "normal" conditions off Newport, but Geoff noticed that there is a flaw in this approach in waves – the boat starts rocking back and forth when you head down, and the spinnaker wants to go through the foretriangle. This time, the takedown started pretty well, with the chute collected behind the main, but then it wouldn't come down. I thought the halyard had jammed inside the mast, but as we had rocked in the waves, the chute had wrapped itself tightly around the topping lift for the spinnaker pole. We were granted a pardon by lowering the topping lift, and the chute with it. It was kind-of an impromptu top-down furler system, but unwrapping it was like disassembling a tornado.

Taking the spinnaker down left us reaching with the #3 and staysail in the gulf stream. We had to head up to keep our speed up – aiming more toward Newport, but we were getting some current on the nose – an indication that the meander may have pulled a fast one on everyone and slipped unexpectedly east. As Geoff pointed out, we should have been trying to work more easterly to get out of the foul current, but we just couldn't get there. For a while that afternoon, I think the current reduced our speed

over ground to under 5 knots, and the tracker showed that we lost a lot of ground on the other boats during this time.

Toward the north wall of the stream, we had some heavy downpours that revealed to both Geoff and I that our 5-6 year-old foul weather jackets were no longer anywhere near waterproof. As things smoothed out, we shifted to the 135% genoa and headed toward Newport. We still had not seen any other boats since Thursday, and while we thought things went well for us early in the leg, we had no way of knowing what was happening around us now.

During the night and into Sunday, the breeze went farther aft, so that we were now broad reaching on port toward Newport.

We had put the blue, 1.5 oz. spinnaker back up during the night, but as the breeze lightened up more toward daybreak, (Geoff's Birthday) he came up on deck after a nap to find me setting up for a light air spinnaker peel to our white ¾ oz. chute. The seas were smooth, and there was plenty of time and room to set it up, so why not give it a try? We pulled it off without incident, and agreed that Matthew (Sullivan)

would be proud. The white chute was much better, but it was a bittersweet to realize that I had never really compared the two spinnakers in controlled conditions like this. Before this race, we had only flown the blue spinnaker when tight reaching. Now I realized that it was not only heavier and flatter than the all-purpose chute, but a lot smaller (and slower . . .). Woops!

Other than that, Sunday morning was perfect – we were through the stream, less than 200 miles from Newport, and sailing downwind with the pole back in smooth seas. The weather predictions were holding up, with no sign of a front coming off the shore to hammer us. Best of all, Geoff could finally uncork his onboard culinary skills, and whipped up a couple of omelets on flatbread for brunch. Life was very good.

Of course the race was not done with us yet – there would be no boring run into Newport in smooth seas. Some rain showers came through from the southwest, and the breeze went forward and built up again, along with the waves. We switched to the blue chute (genoa up, white chute down, blue chute up, genoa down) and reached toward Newport with the pole forward. It was pretty breezy, and I tried lowering the pole a bit to free-up the leech of the reaching chute. It looked pretty good – a bit like the asymmetrical spinnaker we probably should have had for times like this.

Around sunset, I was driving by hand, and had a transcendental moment when I thought I had finally found a way to steer the boat better than Auto. "Look where you want to go, Luke, look where you want to go . . ." – but it was short lived. There was a huge BANG, followed by the sound of a very large flag. In fact, it was a couple of large flags – the remnants of what used to be the 1.5 oz. spinnaker. (Full disclosure: The reaching spinnaker was actually a used sail that I bought last year from a fellow in Wisconsin who had advertised J/35 sails on Sailing Anarchy. I think it cost $600, and we nicknamed it "Flat Stanley." I had no idea at the time how much use it would get in this race.) It gave us our money's worth and more, but I probably broke it by

trying to turn it into an asymmetrical – lowering the pole put a lot of stress on the material along the luff, and it just couldn't deal anymore.

After hauling in the remains, we went right back to the 135 with the staysail and kept going toward Newport. This time, at least, we had kept that sail hanked on and ready to go, so it was a pretty good recovery. I decided that we really couldn't risk putting up the .75 oz. white spinnaker – it was too likely to blow out as well, and that was now our only decent spinnaker for the summer ahead.

All that was left was to reach through the night with the genoa and staysail. The breeze built up a bit and went forward more, so this was probably the right combination anyway. It was still pretty wavy, so breakage was always a concern. Geoff and I traded off every hour which worked pretty well. Geoff got cozy with a few ships as we crossed the shipping channels (AIS rocks again . . .) and as it started to get light out, the only thing clear was that we were in dense fog.

We called Roy as we got closer to the finish, and as a rookie, I have to admit that this was probably my favorite time of the whole race. Getting to Bermuda was a relief from the pounding, and a great feeling, but as my sister said, "It's like mountain climbing – it's great to get to the top, but then you have to get back down." About 12 miles out, I realized that any number of things could quit at that point – Auto, the primary GPS, the whole electrical system, and we would still be able to finish. And even if the rig went over the side, we'd still be able to motor in. I had started this leg pretty tense, but the closer we got to Newport, the better I felt.

We finished just before 8AM and actually saw the (groaning) R2 buoy. After that, we didn't see a thing until we got closer to Newport harbor. We both decided that this was more like finishing in Halifax than Newport.

It wasn't long after we finished that we heard Barcanova checking in with Roy – not far from the finish. We were psyched to have been the first Class 2 boat to finish, but Steve and Del had smoked us on corrected time. This wasn't a huge surprise, and it was cool that they had done so well. We had met Steve and Del in Bermuda, and not only are they are both International Canoe sailors (aka fun-loving, creative, scientific, talented speed freaks), but Steve is an active-duty Navy F18 pilot who clearly has lost his fear gene. Even when we couldn't see any other boats, I knew they were the ones to worry about on this, mostly downwind, leg – they were just going to send it. A look at the tracker shows that they didn't have a great start to the leg (the word is that the Sunfast 3200's have a lot of wetted surface and are a bit sticky in light air), but once the easterly came in, they cranked out the downwind miles like a small Class 40.

All that was left was to clear customs. We had called customs on the way in the channel, and got on the list to be checked at Newport Yacht Club. The dock crew at the club helped us to tie up to an end float, Tristan brought us some coffee, and we had some time to relax and chat while waiting to be cleared. Steve and Del pulled in, and we traded some stories with them for a few minutes until the customs officer arrived.

The inspection was quick – the customs officer didn't even come on the boat – I guess we were playing the part of wet, unshaven, too-busy-to-smuggle sailboat racers pretty well. We also had the customs sticker that I had applied for just before the race. After that, we motored over to Jamestown to unload and put the boat on its mooring for the first time that season.

Preparations – The Real Race

The Elephants . . .

There are two elephants in the room that can't be avoided. One is time, and the other is money. In our case, the project was to take a reasonably-equipped J/35 that had already done some coastal shorthanded racing, fully-crewed racing, and short cruises, and prepare it for the 1-2.

Time

Once the boat was hauled out in the fall of 2016, I began working on it – first renewing the plumbing. In retrospect, this section took way too long, and held up the other projects, but it needed to be done.

I kept track of hours on the project from 11/19/16 to 5/14/17, and here's how it came out:
Hull – 22.5
Rig & Sails – 10.5
Electrical & Electronics – 34.5
Deck & Interior – 23.5
Mechanical & Plumbing – 48
Safety – 11.5
Other (often on computer researching or purchasing parts) – 49.5
Total = 200

This doesn't include some hours before November, and especially the hours in the last 3 weeks before the race. The boat was in the water at that point, and it's a pretty good bet that another 60+ hours went into the project in those last 3 weeks.

I work full-time, so this was quite a push. Dealing with sleep deprivation is a big part of the 1-2, and then you start the race . . .

Money

This is a tough subject to put on the web. I'd be happy to talk to anyone with more specifics about this. Here are a few ideas:
- This is the roadblock that kept me as a 1-2 race wannabee for several years. I'd get fired up at the end of the summer beforehand, and then come back to reality when I started to put some cost estimates on paper. For this one, I decided that I would issue an IOU to my wife from my IRA account. This one was on me – at the expense of my retirement. (It also helped that I had talked about this for so many years that she was tired of hearing about it!)
- The big ticket items were sails, electronics, safety gear, and engine service. We made a family adventure out of it as well – with my wife and kids flying to Bermuda to stay on the boat and see a little of Bermuda and the America's Cup. That added to the justification to do the race in 2017.
- My cost estimates over the years turned out to be pretty good. I actually think that most boat owners could come pretty close on the back of an envelope in 10 minutes.
- One hidden expense that I didn't expect was the wear & tear on the boat and the sails. We put about 200 hours on our mainsail – probably the equivalent of 4 years of

sailing/racing in the bay. Also, the boat got soaked on the way down – I have a lot of work to do on the interior.
- There was also the unexpected. When the masthead wind direction indicator flew off on the way down, we had to scramble to order another wind wand and get it in time for my family to hand-carry it on the plane to Bermuda. Cay Electronics was able to get it in quickly, but that added an instant $672.73 to the total. The expenses are tough.

Qualifying

I did the Offshore 160 the year before the race. It was key to get the qualification out of the way the summer beforehand. I'm not big on heading out all alone, so doing it as part of a race is much better. Furthermore, with the ongoing preparations, it would have been really hard to do a qualification sail during the spring before the race. (Besides, it's friggin' cold out there in May.)

Actually, I almost backed-out of the Offshore 160 – I was late getting the boat in the water, and I had a lot going on at work. If I had skipped that step, I might not have done the 1-2.

The Boat

Our boat is a 1988 J/35. We actually owned another J/35 years ago when I had a boat shop and we bought one from the US Naval Academy and fixed it up. It was too much boat for us at that point, and we sold it and bought a Hobie 33. Even then, I was thinking about doing the 1-2, and others have done the 1-2 in Hobie 33's. One rougher N.E. Solo-Twin race, however, convinced me that I wasn't going to Bermuda in a Hobie (though others have). We bought this J/35 about 7 years ago, and while J/35's are not spectacular at anything (except upwind in light air), they hang tough in all conditions.

While I have huge respect for those who do the 1-2 in Hobie 33's, Olson 30's (like Jason), and Mini's, I can't agree that they are the right boats for the race. I had never before sailed my own boat to Bermuda, but had done the fully-crewed races from Marion and Newport before on boats from 44 to 48 ft. You can run into some real crap out there that would just pummel a smaller boat (and I think we did during this race). Those who say that you're guaranteed to get everything from 0 to 30-plus knots are right – unless you're in a real sled, you're going to be out there for about 8-11 days total, and during that time there will be a range of weather systems and two trips across the Gulf Stream. It's one thing to dream big dreams sitting at your computer on the internet, but reality is a different story. As I mentioned, that one Solo-Twin Race upwind in big breeze in the Hobie 33 taught be a lot. If you're considering doing the 1-2 in a small boat, make sure you get it out in nasty conditions – upwind with waves. It's not the wind that is a shocker, it's the waves.

Sails

We've had our boat for a while, and have collected a bunch of sails, some quite old at this point. It's not necessary to have this many sails. In fact, it's kind-of cool to do the race with a main, genoa that can be furled/reefed, and a gennaker – a minimalist approach.
For reference, though, here's what we had for sails:
- North 3DL Main with taffeta on one side, bought before 2015 season. It has 2 reefs, with the second reef being deep enough to qualify for the 1-2. Dan Neri helped us with this – it has a bigger roach than a class J/35 mainsail. Given another shot at it, I think we might see if we could get the taffeta on both sides of the main – the side without taffeta seems a bit fragile for this, and we chafed through a spot with our spinnaker sheet on the way home.

- North 3DL 142% genoa. This was new for 2017 – our big sail purchase. It has construction similar to the mainsail with taffeta on one side. It also has an upper clew point on the leech for reaching. We've never used the upper sheeting point, but I think we should try it when the sail is trimmed all the way out to the rail.

- North 3DL 135% genoa. This is the sail we replaced with the 142%. It is reefable, with a second tack and clew. It's a tired sail, but the shape has hung in pretty well.

- Doyle #3 Blade – This is a full-cut #3, meant to be usable in less breeze than a normal, flat #3. Mark Washeim built this one, and the idea is to be able to switch from the genoa before you're totally overpowered – very smart. This is also reefable - to a high-clewed #4 (though it would be pretty full for a #4).

- North 3DL #4 Jib – This sail is a recut heavy air (flat) J/105 jib, also new for 2017. The J/105 class now allows 3Di sails, so North had some 3DL J/105 sails still in stock – and this is one of them.

- Doyle Staysail/Heavy Air Jib (aka "Mini-Me") – This is a Dacron sail w/ soft hanks that is flown off the inner forestay. It helps when reaching w/ a genoa or spinnaker.

- "Stumpy the Staysail"- (I am not making this up.) This is a cut-down #3 jib that is now a triangle. The idea is to catch air that would otherwise pass below the spinnaker. The idea came from old photos of racing boats from the 50's and 60's. - Not sure it's been worth the effort.

- Storm Jib – Have never used it, and hope to continue that trend. It would fly off the inner forestay.

Spinnakers
- Doyle AP .75 oz. Symmetrical – This is our workhorse spinnaker, 4-5 years old.
- Shore (yes, Shore) 1.5 oz. Reacher – As mentioned, bought in 2016 from a fellow advertising on Sailing Anarchy. Thank God we had it.
- Sobstad (yes, Sobstad) .75 oz. Symmetrical – Pretty tired, but a backup.

Notes on Sails:
- Our boat is used for fully-crewed PHRF racing, doublehanded racing, and singlehanded racing. To accommodate all three, we've compromised by using hanks on the headsails, rather than a headfoil, or a furler.

- The sailmakers we've talked to agree that the 3 second-per-mile credit for using a furler is not enough for the shorter luff length and the loss of the endplate effect where the jib is sealed against the deck. It would also be tougher to change jibs, and sailing with a partially rolled jib isn't as fast.

- However – If the boat were used only for shorthanded racing, you could make a good case for a furler with a solent stay behind it. Joe Cooper, from Hood Sails, is a big proponent of this setup, and it could allow you to be more aggressive in changing gears with the conditions. (The new J/121 also has this setup.) On our boat, changing jibs is a big deal, and we have to be very conservative when shorthanded. Knowing that you could roll up the genoa and go right to a smaller jib on the solent stay could allow you to carry the genoa longer in potentially building breeze, or switch to the genoa faster if the breeze lightened up. I guess hanks and specific headsails can be faster if you have the right jib up in steady conditions, but changing is a real project.

- In general, our approach for the 1-2 was that we really wanted to be well set up for the extremes – light air and heavy air. The 142% was our light air weapon, and ended up being used for about 24 hours on each leg. The flat #4 was the heavy air weapon – a suggestion from Dan Neri. He did the race in 2001 on his Aerodyne 38 and had a 200 mile upwind stretch on the way to Bermuda, where he didn't have the flat jib he wanted. He suggested the modified J/105 jib, and the big SW breeze on the way down appeared on cue about 200 miles from Bermuda. What a call . . .

- The big gap in our sails is in asymmetrical spinnakers. We do OK when we can pull the pole back and go downwind, but we are not fast when reaching. For our boat, I don't think just an asym. tacked to the bow would be a good approach, even with the PHRF credit, but flying one off the pole would be better, and the full switch to a sprit and asymmetricals would probably be best – but what a project . . .

- It's important to realize how much the sails are aged by a trip to Bermuda and back. As I mentioned, we put 200 hours of pretty hard use on our mainsail – probably the equivalent of 4 years of racing for us. I think that's a hidden expense in doing this event. As Steve Kylander, who owned Dreamcatcher, says, "The wind may be free, but the sails sure aren't." The sails really need to be bulletproof, and the motion from the waves contributes to the wear on them as well.

- Finally, I think it's important to keep it simple in the 1-2. With only the race in mind, Dan Neri and Nick Dobvniak at North were in favor of a new 135% rather than the 142%, and carrying both may not have been an advantage. A bulletproof 135 would have been good upwind, reaching, and downwind (as our heavy air spinnaker - winged out). That, with a regular, flat, #3 that was reefable may have been enough - only 2 headsails. Joe Cooper also mentioned that you could do the solent stay approach with hanks as well as a furler - another interesting idea. Simple is good.

Rigging

- Our mast and standing rigging is about 5 years old. The mast that came with the boat when we bought it was pretty tired – with some cracking around the gooseneck. Hall Spars had a J/35 mast on the shelf that they had built for an insurance claim that had fallen through, and with more offshore sailing in mind, we decided to make the switch. They added an inner forestay and staysail halyard just below the second spreaders, and it has worked well.

- The inner forestay was yet another Dan Neri suggestion. It's farther aft than the Solent Stay that Joe Cooper advocates, but they are variations on the same theme, and both are smart for this type of racing.

- The boom is original as far as I know but looks OK.

- We have an aluminum spinnaker pole, and a carbon pole that was given to us by Stuart MacNeil, who has a turbo'ed One-Design 35. For the 1-2, I decided to leave the carbon pole in the garage and use the heavier aluminum pole. I think that was smart – it's always wavy out there, and every time the pole was up without the spinnaker (before a set or after a takedown), it wanted to bang repeatedly against the forestay. Arrgh!

- Our backstay has a Navtec hydraulic cylinder that has needed service twice. Rig Pro, in Portsmouth has been a good resource for keeping that working.

- Our halyards and sheets were new in 2015. Before that, we learned the hard way that they only break in the worst situations – when it's blowing really hard. That's not something you want happening in the 1-2.

- One thing we did before the race, which turned out to be hugely important, was to pour Spartite (small kit) at the mast partners. Prior to that, the boat had had pieces of vinyl rubrail pressed into the mast collar to support the mast. This always worked well, but occasionally a piece would come loose after sailing in rough conditions.

I had never poured Spartite before, but David Moffet, who works for Hall Spars, is (with is two kids) half of our PHRF racing gang during the summers. He came down to the boat one morning in the spring, and we did our best to center the mast (the partners seem to be a bit off), and he set up the foam and clay and poured the Spartite. One key detail was that he slathered the Vaseline on both the mast collar and the mast itself. (The nightmare scenario is to have the Spartite stick to the mast collar and have to be cut out in order to take the mast out of the boat. He has had to do this and lubes up both surfaces as extra insurance.) After it all cured, I finished it off with the stretchy 4" mast boot tape, which has always worked well.

I can't stress enough how important the Spartite turned out to be. The wedges would not have stayed in place during the 30 hours pounding upwind, and it would have been a real nightmare trying to wedge something into the partners to keep the mast from slamming around – not to mention the water that would have been pouring in. We're very lucky to have gotten this done. Huge thanks to David for that one!

Mechanical

- Our boat has the standard Yanmar 3GM30F diesel engine that came with the boat originally. We have done the usual maintenance, and Oldport Marine replaced the exhaust elbow about 4 years ago. For this project, I called Mike Muessel and Matt Gineo at Oldport Marine in the fall. Ideally, I would have gotten the boat to them before it was hauled for the winter, but didn't get that done. At any rate, they said to bring it by in early May, which I did. They gave the engine a full maintenance check, and also installed a Balmar high-output alternator. The alternator that had been on the engine became our spare.

- During the winter, I had also drained and cleaned out the fuel tank. I had heard stories about sediment getting stirred up in rough weather and clogging fuel filters, so I decided to play it safe.

Electrical

- I am not an electrical wiz, so I had a lot to learn in this area. I wasn't sure what to do for battery capacity - how much amperage each item would draw, etc. I did some rough figuring using Nigel Calder's Boatowner's Mechanical and Electrical Guide, and looked into solar panels as possible charging sources. Ray Renaud has a great setup with solar panels on his bimini. We don't have a bimini, but Geoff Rand had a good idea of putting panels on a board across the stern pulpit aft in the cockpit, but I just ran out time to get that done.

- We decided to double the battery capacity – going from two group 27, 90 amp-hour batteries to four, in separate banks. The idea was to run off only one bank and keep the other one as a spare in case of a charging failure. During this project, I realized that we really had no ventilation for the area under the quarterberths where the batteries live. With two batteries on each side, and our new high output alternator, it seemed like we might want to fix that. (The issue is hydrogen gas given off when the batteries are charging.) We bought a couple of Sea Dog (331380) stainless louvered vents, and put them over new vent holes going into each area.

- Another addition that was a <u>huge</u> help, and <u>really</u> educational, was a Blue Seas 8248 DC digital multimeter that Geoff installed. It give a clear, digital readout of battery voltage in the nav station. It made it easy to monitor battery voltage and try to keep it between 12.2 and 12.8 volts (as recommended by Nigel Calder). Before this, I think we had been charging too soon, and for too long.

Better still, it can be switched to display amps flowing from the batteries. This took the guesswork out of estimating the amps consumed by different systems on the boat. We learned that the current draw from the following things was:

- Raymarine X-5 Autohelm – 2-4 amps
- Autohelm on standby - .2 amps
- Interior LED lights - .1 amp each
- Masthead LED tricolor - .3 amps
- VHF Radio - .3 amps
- AIS - .3 amps
- B&G Triton Electronics - .8 amps
- Raymarine A65 Chartplotter - .4 amps

(- Running lights on deck – 1.2 amps. Need LED's for those!)

- Finally, I learned the hard way during the race why you often see plexiglass covering a breaker panel. Flipping off the autohelm breaker by accident seemed like a fluke at the time, but the panel is in a spot where anything stored in the quarterberth could slide against it, and I've made the mistake before of flipping off a breaker by accident when reaching back there in the dark. I think the lesson is to realize that you may be doing things differently in this race, or carrying things in different places, and you really don't want breakers getting turned off by accident.

Electronics

- Our boat came with the original Ockam system for wind/speed/heading. It was a good system, but not able to communicate with our Raymarine tiller pilot. Finally, before the 2016 season, we bought a B&G Triton system from Defender. This package had wind, speed, depth and GPS included. The speed and depth were combined in one transducer (their DST800), with the paddlewheel slightly off center, but I mounted it as accurately as I could on centerline and didn't think the slight offset would matter.

It did. The old Ockam system had two paddlewheels, and always varied a little from tack to tack, but this was way off. I tried angling the paddlewheel a bit, but that didn't help. A call to B&G didn't help much at all. They said that Triton customers usually didn't pay very close attention to the accuracy of the speed. Of course, the speed differences threw all of the calculated information off as well. I asked about getting a different transducer with just a centerline paddlewheel (and losing the depth function for now), but there wasn't one that would fit the same housing, so we were stuck with that setup for 2016. We did learn late in the year just to use speed over ground from the GPS, rather than the paddlewheel information, which worked pretty well in some cases – you just had to keep the current in mind.

- For 2017 I installed a new housing and paddlewheel (an ST850PV-N2), and a separate depth transducer (a P79-235-N2) that reads through the hull (as long as there's no core). This setup was a good improvement – not perfect, but much better.

- Our GPS is a Raymarine A65 on a swing arm so that it can be positioned to be read from the cockpit. It's small, but seems to work well. For this race, we bought a download of the Region 16.1 Bermuda chart from the Raymarine chart store.

- We installed a Raymarine AIS650 with and AIS100 antenna splitter unit during the winter before the race. The splitter allows the AIS to use the same VHF antenna as the radio. This worked fine, and interfaced with the A65 display.

- We had a backup hand-held GPS onboard, ready to take over if things went black.

- The radio is a Raymarine Ray55 with DSC.

- Had a couple of handhelds onboard, one with GPS/DSC.

- Finally, we have a Weems Electronic Barometer 4002. I'm trying to learn more about weather.

Satellite Communications

- On Tristan's recommendation, we rented a sat phone from OCENS. It was an Iridium 9555 as part of their (Marion) Bermuda race package. It comes in a Pelican case with a charger, antenna & cable. We had to figure out the mount for the antenna on the stern pulpit, and the cable needed yet another hole through the deck back there with a cable clam to seal it. We also got the Sidekick router, and downloaded the OCENS software to be able to download weather charts. Unfortunately, we didn't already have a small laptop that would work for this, so that was another last-minute expense.

- The only tough part is that the phone arrives about a week before the race, and you're busy with other stuff, low on sleep, etc. I was lucky that Alden (18 year-old shore crew) took this on, and got the internet part working after a few calls to OCENS. Once the antenna was installed, he just said, "OK Dad, plug it in, click on this, pick the charts, and hit go." Teenagers come in very handy sometimes.

- The phone worked well to call my Mom on her 86th birthday, and to check in with Ted Singsen on the duty desk at Newport Yacht Club a couple of times.

- We were also able to download weather charts a couple of times.

- As I mentioned, the next step for this would be to make sure we can also download boat positions a few times during each leg. While friends and family were watching the tracker, we actually had no idea where any other boats were after the first night out. With only 30 or so boats in the race, I guess it's unusual to see other boats.

Self Steering

- We have a Raymarine X-5GP tiller pilot. It is the version of the X-5 that is rated for boats up to about 16,500 lb. It has a Gyro, and is a big step up from the ST4000GP that I had on a previous boat. That one had never been able to steer well in waves, but this one is pretty impressive. With the Triton system installed, and its NMEA 2000 networks, we were finally able to sail with the Autohelm on apparent wind or true wind. This is a must for keeping the boat going fast, especially if you need to get some rest.

In fact, it's so fast that it's tough to hand steer faster than "Auto" can drive. By keeping the sails at a constant angle of attack, it just finds another .1 to .2 knots, and it never loses focus or nods off.

- The control box for the autohelm is on the forward face of the cockpit. This is perfect for maneuvers, and works well on either tack, but has one drawback – we've had some interesting moments when leaning into the companionway to check the chartplotter. The problem is that it's easy to hit the "standby" button with your knee and not know it until the boat starts to veer off course. The solution was to make a small cage from G-10 fiberglass that covers the buttons and protects them from errant, knobby knees like mine.

- I found another X-5 tiller pilot on E-Bay a few months before the start. That was onboard, ready for use, but I had never really considered how I would make the switch if I had to. I think it really should be completely hooked up on a separate breaker, so that it's just a matter of switching the pushrod to a different plug, and maybe switching a couple of cables on the back of the control head.

- Auto puts strange songs in your head. The tiller arm motor makes a whining sound as it extends and contracts the pushrod attached to the tiller. I kept getting songs stuck in my head and couldn't figure out why. On the way down, it was "Play that Funky Music, White Boy . . ." and I think it was because the tiller arm must have said "Whiiiiite Booooy" at some point, and I was doomed. On the way back it was "Backstreets" by Springsteen - or as Auto would say, "Baaaaackstreets."

- I don't want to jinx it for the future, but the X-5GP drove for almost 200 hours without missing a beat. It was the real hero in this race – an amazing piece of equipment. Our tiller arm has a plastic bag (from newspaper delivery) taped onto it to help keep water out.

Plumbing

- The first project in the fall of 2016 was to replace the sanitation hoses and the marine toilet, as well as the fresh water hoses. This took a lot longer than I expected – it's much easier to run hoses when the boat is being built than when it's all assembled with the deck on. The project was a mix of boat yoga and hose wrestling, but I guess it had to be done – the sanitation hoses were permeated and smelly, and the fresh water hoses were old and nasty as well.

It all got done, and the head worked well with a new Y-valve that allowed for overboard discharge, but I'm not convinced that some of the water in the boat when we got to Bermuda wasn't actually fresh water from the tank and the new hoses. It would have been good to have more time to test this.

Logistics, Customs, etc.

Dockage in Newport

There are slips available at Newport Yacht Club, but, as I mentioned, Roy suggested that local boats leave those for boats from out of town. NYC also has some moorings. It worked fine to bring the boat to an Oldport mooring the day before the race. The Oldport dock is a few minutes away from NYC by car, and there are plenty of moorings at that time of year.

Dockage in Bermuda

Roy sends out information on this. The dockage is arranged by Bermuda Yacht Services.

Customs

Follow Roy's lead on this one. He sends information on this, and has the paperwork at the skippers meeting for arrival in Bermuda. It may have also helped to get the US customs sticker for the arrival back in the US – we cleared through awfully quickly.

Safety Gear

Life Raft

- We rented one from Liferaft & Survival Equipment in Tiverton, RI. It fit well just behind the companionway ladder. It avoided the standing water on the way down, but definitely got closer to that than I wanted. For the trip back, we put it in two garbage bags with tape to hold it all secure. This was better.

Abandon Ship Survival Kit

- Many of the items came with the raft.
- Flashlights from West Marine.
- Some flares from West Marine, and from our stock on the boat.
- Fishing kit was a spool of fishing line, a few lures and leaders.
- Cliff bars for the food rations.

Emergency Water
- Tristan had a good idea with this – pour a slight bit out of each gallon and freeze them for use as ice in the icebox.

Distress Signals
- We rented these from LRSE as well.

EPIRB
- Our EPIRB is an ARC GlobalFix Pro 406, model #RLB-37 – nothing special. It is registered – nobody around here will ever forget the Mike Plant saga . . .

Class 1 Lifejackets
- Bought these years ago from West Marine.

Safety Harnesses & Tethers
- We have webbing jacklines that run from the bow cleat aft on each side. They run outside the shrouds and make a loop around the fwd. foot of the stern pulpit before being cleated off at the aft cleats. The loop at the stern pulpit is just a nod to the idea of not being dragged behind the boat.

- There are also padeyes on each side of the companionway, which work well when coming on deck or going below.

- We also use the halyards running along the cabintop as jacklines. I don't think tethers should be used to keep you attached to the boat if you fall over – they should be used to keep you on the boat if you fall. In other words, we always tried to clip into something to windward when working on something to leeward.

- Our harnesses were part of standard inflatable lifejackets. Jeff brought a Spinlock lifejacket/harness that was much better than mine – much more comfortable to wear for long stretches than the basic U-shaped version I had.

- We did have crotch straps. The Storm Trysail Safety at Sea Course a few years ago was a big eye opener. If you jump in a pool without a crotch strap on, your inflatable lifejacket goes right up around your ears. The crotch strap doesn't have to be tight, but needs to be there to be tightened if the worst happens.

Lifelines
- Yup – uncoated wire. No vinyl covering.

Radar Reflector
- We had one of the round Davis reflectors on the backstay. This has always looked a little hokey, but there is a West Marine article online where various reflectors are compared, and the tubular ones aren't very impressive. Maybe this is becoming less of an issue with AIS being used.

Emergency Tiller
- We do not have a wheel, and did not have a separate emergency tiller. Not a bad idea though.

Alternative Steering System
- We have a drogue, and had tried it in the weeks before the race. It has potential, but did not work as well on our boat as in Mike Keyworth's demonstrations. We felt that we could probably get it to work, at least under power, but we would have to do a lot of active steering with our sails if we were sailing.

Man Overboard Pole or MOM
- We have the ancient setup of a man-overboard pole on the backstay with a horseshoe lifering. This was a rush purchase years ago from Newport Nautical just before a NE Solo-Twin. It's time to get a MOM unit, and get the PVC tubes off the backstay.

Second Throwable PFD or Lifesling
- We have a lifesling that lived in the cockpit just under the tiller.

Heaving Line
- We just have the one in a bag that attaches to the stern rail.

Cockpit Knife
- We have one looped around the top of the companionway ladder – just a standard knife from West Marine.

- Wichard, one of the sponsors for the B 1-2, had very nice knives made for each boat, with the boat's name, and B 1-2 logo etched on them – many thanks to Wichard!

Two Anchors, Suitable Rodes
- We had our regular Danforth anchor that lives in the anchor locker amidships on the starboard side. The rode for it lives below. I also found a smaller Danforth 12H High-Tensile anchor with chain & rode at The Ship's Store, at New England Boatworks. It seemed silly to bring the rode for that one too, and Ted Singsen agreed that there were plenty of lines onboard to use as a spare rode. The rode came with us, but in the form of dock lines for use in Bermuda.

Fog Horns
- Yup – air horns and one old manual honker.

Nav Lights

- We use primarily the masthead tricolor, but also have the running lights at deck level, and the steaming light on the mast.

- For our spare running lights, we have one of the battery-powered Navi Lights lights (right) that can be clamped to the bow pulpit.

Flashlights

- Lots of flashlights for this race . . . We had some small spotlights from West Marine, and some others.

Deep Reef in Mainsail

- A much better idea than trying to set a storm trysail singlehanded. This was built into our 2015 mainsail just in case it was needed for a future race . . .

Leeboards, Storm Shutters

- Luckily, our boat was designed with a companionway at the main deck level, and no portlights larger than 2 sq. ft.

Buckets

- Yup, had two buckets, but also a smaller one with a lanyard that was the cockpit pee bucket. No squirting off the stern pulpit on our boat.

Race Numbers

- We went with 24” numbers on the hull – mounted at the bow like bow numbers for a regatta. 18” just looked like it would be a little small. I put them on before waxing our hull (which has faded Awlgrip) for the spring. I think this helped them to stay on, and they came off after the race without too much trouble.

- We put the deck numbers on the main cabin hatch – the foredeck hatch already has nonskid tape on it, and there is nonskid all over the deck. They were still 18” tall, but needed to be squeezed together a bit to fit on the hatch.

- Henry Reynolds, from Reynolds Signs in Portsmouth, RI, did the numbers for us. He has been doing boat graphics for years and is a great resource.

Manual Bilge Pumps

- We have a manual bilge pump in the cockpit, but had to figure out how to run one belowdecks. This was a tough one – a time-sink trying to figure out what to use and how to run the discharge hose. We finally settled on a Bosworth Guzzler 500 Hand Pump (G-08001) mounted on our main bulkhead with an intake hose going into the forward end of the bilge. The discharge hose goes outside the settee berths and the

galley to port, and all the way aft to join the discharge for the cockpit-mounted manual bilge pump, and exit at the transom. My mistake was not to account for low spots in the run. I'm sure we're always carrying water around in that discharge hose – oh well . . . it was in, and I could check it off the list.

Water
- We had water in gallon jugs, some of them frozen. There was also about 5-10 gallons of water in the water tank – mostly for galley use.

Fuel for Charging & Motoring
- Our regular fuel tank is a 16 gallon aluminum tank under the starboard settee berth. We also took two 5 gallon diesel cans. We figured that the 26 gallons would allow for the charging the spare fuel for motoring. I can't find the quick calculations for that, but they were based on fuel used per hour by the 3GM30 at idle, and at cruising speed, and came out to the 26 gal amount.

(Actually, the aluminum fuel tank came from Luther's welding in Bristol RI. The tank that was on the boat when we bought it had a seeping leak from poultice corrosion where the bottom of the tank had been sitting against its supports for years. Luther's built tanks for TPI before TPI switched to tanks from a company in Florida. They can copy the size and fittings on any tank that is brought to them – a good resource.)

Fire Extinguishers
- We have 3 Kidde extinguishers, and took them to Firex on Rt. 114 in Portsmouth to be inspected/tagged for 2017. I've since learned that there is a big recall of Kidde extinguishers with plastic nozzles/handles – something we need to look into.

Plugs
- Yup, a wood plug tied to each through-hull fitting.
- We also bought (2) Forespar StaPlug Soft foam plugs. Happily, I can't say how well they work.

Medical Kit and Medical Book
- Our medical kit is an "Adventure Medical Marine 1000 Medical Kit" from Defender.
- Our medical book was "Marine Medicine" 2nd Edition – from Defender.

Shut-off Valves on Fuel Tanks
- Tank came with this – pretty standard.

Tools and Materials for Repairs
- This was a last-minute push, and not a strong point. We were pretty well supplied with stuff, but specific kits for hull, ports, rigging, engine & sails would be good. There are some repair resources in Bermuda – a Doyle loft in St. George's, and a fellow who did some fiberglass work on Jason's Olson 30, but you really need to be as prepared as possible.

- One material that is so useful is G-10, which you can easily order from McMaster-Carr. G10 is flat epoxy/fiberglass (circuit board material), that comes in different thicknesses. It's great for backing plates, pieces to glue onto cracked areas, any repairs. Some 1/8" G10 would be a great asset onboard, and can be glued together with epoxy, or 5200, or 4200 to create thicker material if necessary.

Hack Saws & Drift Punches
- Yup, had these for cutting/releasing rigging.

Heavy Equipment Secured
- This one is a biggie – a lot of work required by one sentence on the safety list.

- For the quarterberth panels, we used 2.5 inch barrel bolts (West #4488607) for the forward panels over our batteries, and wood screws with fender washers to hold the aft panels down.

- We installed a little Perko finger latch to keep the center panel in the main cabin latched down.

- We had good luck with installing Sea Dog 0901451 folding padeyes as anchor points for lashing the batteries in place, and for lines to hold the liferaft and spare fuel containers in place just behind the companionway ladder.

- The settee berth tops over the fuel tank and water tank are screwed down into place. (We had to renew these with new plywood.)

- We stretched shock cord across the openings in the storage areas outboard of the settee berths. Nothing heavy was back there, but we didn't want things falling out anyway.

- Our spare anchor was stored inside a sailbag and tied to the mast inside the head.

- We also installed a folding padeye on the lid for the anchor locker on the stbd. side deck, and lashed between that and a nearby stanchion base to secure that lid.

- One thing I now realize that we forgot to do was to secure the two-part ice box lid in the galley. It would not be pleasant to have those heavy panels fly across the cabin, with jugs of frozen water in pursuit.

Fire Blanket
- Ours came from West Marine years ago and is mounted across from the galley.

Heel of Mast Bolted to Step (a "Bermuda Bolt")
- This is one to take care of when the mast is out. Our G-10 mast step from Hall had a padeye installed on it. We measured for the right position above the bottom of the mast, and drilled for a 3/8" bolt that goes through the mast and the padeye.

Steering Compasses, Deviation Table
The boat has two magnetic compasses – on the aft face of the cabin each side. Then there is the fluxgate compass for the Autohelm, and another for the B&G system. Geoff is far more in tune with this process than I am. We went out in Narragansett Bay and ran compass courses from a chart, and checked the compasses to see if they agreed. That produced a deviation table. The B&G compass was closest to agreeing with the chart (our primary steering compass) and we made a deviation table for the others. This was not a terribly exact exercise.

Depth Sounder, Speedo, Distance Measuring Device
Yup – all part of the instruments and charts. The depth sounder seems almost redundant with a chartplotter, but it's a nice second opinion sometimes.

Paper Charts
- I wasted time looking around on the internet for these, and then found them all at Landfall Navigation. – Had them ordered in about 20 minutes - done. Don't waste time on this like I did.
- Parallel rulers are always handy . . .

Two Electronic Position-Fixing Devices
- We had the chartplotter, the GPS from the B&G system, and a handheld GPS that my father-in-law, Linc Spaulding sent at the last minute.

Safety Equipment Location Chart
- Ours is a letter-size piece of paper with a sketch of the boat, stored in zip-lock bag and taped to a cabinet in the galley.

VHF Radio
- Ours has a masthead antenna, and a second coax cable that runs aft to the stern pulpit. The stern pulpit has a bracket with a connector for a spare antenna in case the mast comes down.

PLB's
- We had 2 PLB's from Landfall Navigation. They were the Ocean Signal RescueME PLB's. And were small enough to fit inside our inflatable lifejackets.

Preventer
- We just had a line from the end of the boom with a snap shackle at the forward end. When not in use, it was clipped to a shock cord loop on either side of the boom. When needed, it was clipped to a line that was led through a block at the stemhead and aft to a cabintop winch. It's nothing fancy, and was used not only for running downwind, but for light air when the boom wanted to bang around.

Clothes

As anyone who's done a Bermuda Race knows, it can get pretty chilly on the first night out. A wool hat is good to have. I had some boots too, but I only wore the same pair of Keenes down and back.

Gill water-repellant shorts worked well too.

For foul weather gear, I had a pair of Henri-Lloyd Salopettes – probably the best piece of sailing gear ever created, and a spray top and a leaky foul weather jacket.

One key lesson from the way down is that there is a great value to the dry tops the Volvo sailors wear. When there is a lot of spray, you just can't keep the damn water from going down your neck. You might not want to have your hood on, so every cloud of spray sends a little more water inside.

Extra hats, extra sunglasses – all smart to have.

(And to avoid the dreaded itchy butt – gotta slather up with Desinex or Balmex before the race starts. And never let your butt get wet if you can help it.)

Food, etc.

Our boat has an Origo alcohol stove & oven. Geoff and his wife, Anne, are absolutely fantastic cooks, and love the challenge of cooking onboard underway. I'm a little simpler (OK, completely unsophisticated) in this area. We had a good assortment of quick foods that could be eaten if it was rough, and some great frozen foods that could be cooked in the oven.
Only on the way back did I realize that there was one other category that might have come in handy. Geoff had cooked a big pot of pasta with veggies for dinner the last evening out, and we kept switching off every hour or so during that night. I kept going back to that cold pasta for a few spoonfuls every time we switched. I realized that, between "easy to cook" foods, and "easy to grab" snacks, there could be another category of pre-cooked foods that can be eaten cold, or warmed up – and would be a lot more satisfying than a Clif bar and a banana.
- Caffeine – Just my preference, but I completely stopped caffeine while I was preparing for the race – I was always tired from the work sessions on the boat. Caffeine could not keep up with it and just seemed to make it worse. I continued that during the race – no caffeine, and minimal sugar.
- Electrolyte Tablets – Didn't have any of these and will bring some next time. I just drink water, and could have used these.
- Water bottles – I made the mistake of bringing Nalgene water bottles without a squirt top. A squirt top would be easier to drink from, and the bottles would double as rinse bottles for sunglasses, eyes and face if there is a lot of spray at some point south of the Gulf Stream. The water south of the stream is very salty (or evaporates quickly on you).

- Seasickness Meds – I've been on boats where everyone was required to be on Stugeron, and I haven't found anything as good. It isn't available in the US, but you can buy it in Bermuda, and maybe online from Canada. I don't have a great stomach, but it works really well. In this race, I kept it going all the way to the finish, even though I usually phase it out after the first few days. I was wary of breaking something, and having to stop and work on deck or in the bilge while the boat wallowed around.

Sleep

- Sleeping is key. If there are steady conditions and Auto is driving well on apparent or true wind, you have to (check the AIS) get below for 20 minutes with the timer set. Those naps actually work. Sitting on deck nodding off while staring at the instruments is not constructive.
- I wish I had kept a log of the naps. I really don't know how much I slept on the way down, but it wasn't enough in the first few days. It seems like every time you get steady-state conditions where the boat is doing well, you need to nap.
- On the way back, we tried for more of a 2 hr. on, 2 hr. off watch routine, but that shrank to 1 hour shifts at night and toward the end.
- This is a clear area of inexperience.

Misc.

Rudder Bearings - Our upper bearing is the original Harken bearing, but we replaced the lower bearing with a Jefa bearing in 2016. It has worked well so far . . .

Keel – We've done two keel-fairing jobs on the boat, and I don't care if I ever do one again. Anyway it has been the usual routine with templates, epoxy filler, Interprotect 2000/2001 primer, and VC Offshore paint.

Deck Cushions – Standard equipment on both sides of our cockpit are standard throw cushions from West Marine (the square ones with handles) that are tied in place. We put them right where you want to sit if you are on watch – and they are key pieces of equipment – you don't want to sit on a hard deck for days or hours on-end. (They're probably a key component in avoiding itchy butt, too.)

Insurance - In the late-spring scramble before the race, I meant to inquire about an insurance rider to cover the race, or at least to cover the boat while in Bermuda, but I didn't get it done in time. I hear it's hard to get any insurance for this race, and we sailed without it once we had left the coastal waters of the US, and until we returned.

Routing Software
- I didn't have time to get into running Expedition, but others have, and we've had it on fully-crewed boats that I've been on in previous Bermuda races – mostly with

Geoff running it. If a boat is well set up for it, it could be an advantage. I had thought that just keeping it simple would be the way to go shorthanded, but maybe shorthanded racing is where you aren't thinking quite as sharply as you should. On the way down, I probably should have been sailing higher when south of the Gulf Stream to get more to the southwest in anticipation of the SW breeze filling in. And once we cleared the Gulf Stream coming north we probably should have sailed hotter angles to go faster and get farther west in anticipation of the breeze going SW on that leg too. All of this seems obvious now, but it would have been nice to have Expedition drawing a line that direction to bring up the subject during the race.

Checklists - I guess it goes without saying for any boat owner, but checklists are key. Starting in the wintertime, we had checklists for every category above, and kept updating them as the race got closer. There's so much to keep track of, and if something new comes to mind, it's key to have a place to write it down immediately. At least for me, the checklists are a key part of managing the stress, and run all the way to the start of the race. I was checking things off until the moment I dropped the mooring in Newport the morning of the race.

Great Sources - If you haven't come across Paul Cronin's "In and Out of the Boatshop" video series, it's really worth a look. He has documented a lot of different projects that he's done over the years – most recently on his Archambault 31. These are fantastic videos from a very experienced sailor who is also a professional videographer, and loves to optimize his boats for shorthanded sailing.
- Singlehanded Sailing, by Andrew Evans, is also worth a read. As with this PDF, you won't agree with everything, and lots of it is boat-specific, but he makes some great points. The one that stuck with me above all was about the energy/awareness low that everyone goes through in the early morning hours before sunrise. That's a tough time.

Main-First Jibes - Another tip in Andrew Evans's book is the main-first jibe for boats flying symmetrical spinnakers. Previously, I had tried to get the boat going dead downwind with the main in halfway and the pole squared back with the spinnaker eased, then had run up and jibed the pole (we do end-for-end jibes with lazy sheets and guys) and then run back and jibed the main. This is OK in flat water and 8 knots, but pretty dicey otherwise. The better approach is to pull down the leeward twing all the way, and jibe the main first. If you then head up to a broad reach, the boat will sail just fine with the spinnaker flying to leeward, and the sheet (acting as the guy through the twing) will keep the spinnaker from skying. Then you can switch the pole to the windward side using the lazy guy – much better.

My Contact Info - I'm happy to go further into any of these topics – it's fun to discuss them, and we all learn from trading ideas. Again, I am not an expert (as you've seen), but I hope this case study has been useful. The best way to reach me is probably by email at paulgrimes@cox.net. Our boat lives in Portsmouth, RI in the winter, and on a mooring in Jamestown, RI in the summer – it's easy to jump on for a look if that would help.

Just One More - Winning the Bermuda 1-2

This one outstretches my experience, having done only one race, but I'll take a shot at it from what I just saw.

In some ways, the 1-2 is like a road race, where the runners are all at different levels and may be running for different reasons. Yes, someone wins the race on the scoreboard, but most of the runners are trying to run a personal best, or even just finish the race and learn from the experience.

In any one race, the conditions will favor certain boats on each leg – maybe even the same boats over both legs. In any one race, you can also take chances, or make a mistake that would hurt you 70% of the time, but get away with it. For instance, an experienced sailor might prepare for a squall by reefing the main and dropping or furling the jib, while the inexperienced (or reckless) sailor might leave everything up. If the squall turns out to be manageable with full sails, the inexperienced sailor might look smart and gain from their inaction . . . this time. But was that the right move?

There are some really experienced sailors in this group. They have done this race multiple times, and keep coming back. They don't rely on huge sail inventories or heavily optimized race boats, but they have learned so much from their experience, and made great friends in the process.

It was telling to see the line-up of boats in Bermuda. Some of us came in looking like drowned rats, in boats that were soaked, and had to pull everything out of our boats to dry. Other boats looked like they had just been out for an afternoon sail, and their skippers looked that way too – very impressive.

I think winning the 1-2 is about sailing really well – preparing well, sailing hard (but knowing when to sail defensively), sleeping regularly, eating well, keeping the boat dry, managing the passages well, and learning more for the next race. The corrected time results from PHRF can be a partial indicator from one race, but the real winning boats in this event have done the race several times, not just once. They are a low-key group of the best sailors that most people have never heard of.