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In The Wind

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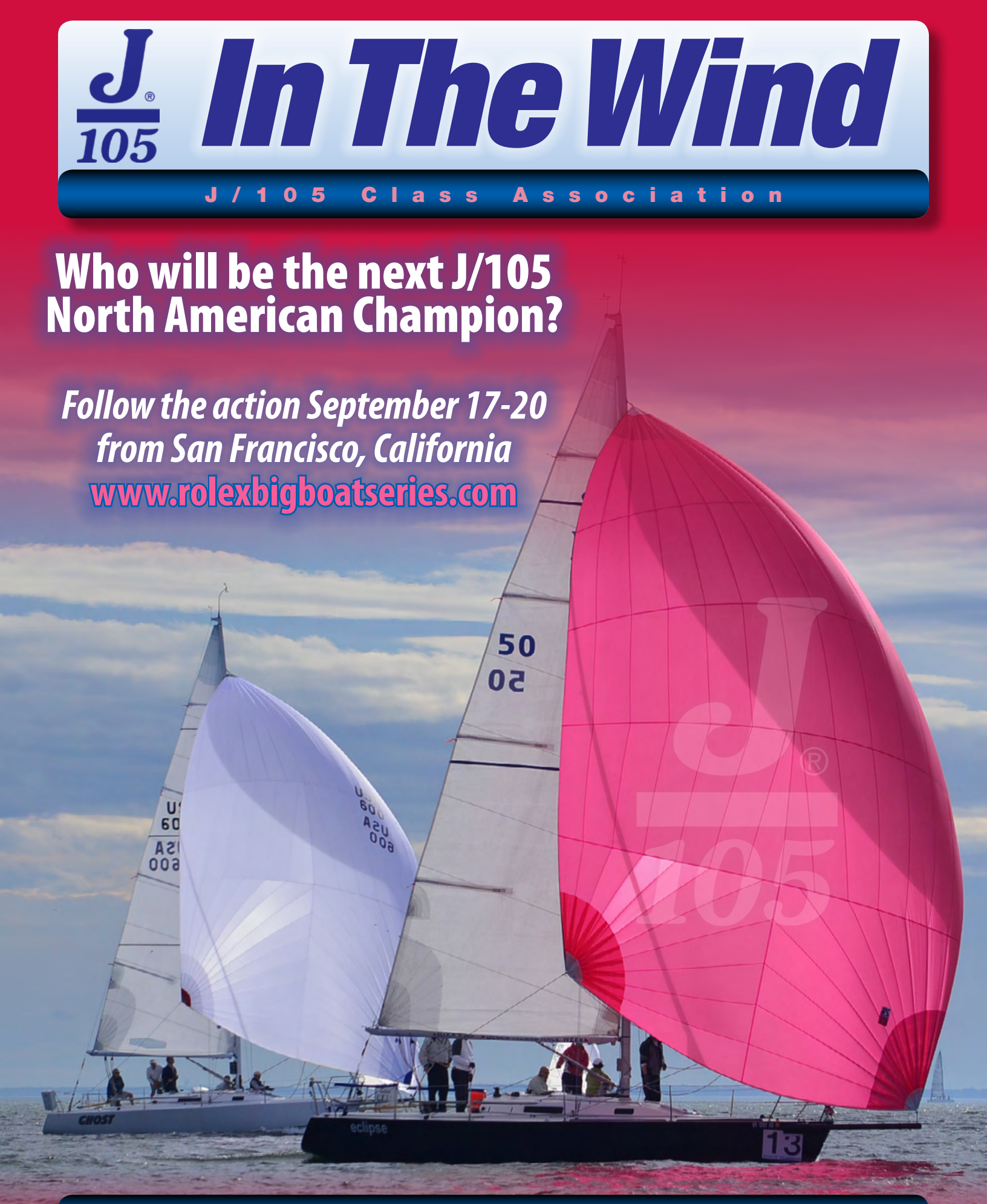

Summer 2015 • Volume 6 • Issue 3

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President's Corner

Dear J/105 fleet members and associates:

As I promised in an earlier discussion, we are working to modernize our national website and also make it easier for local fleets to manage their own websites, posting regatta results, photos and stories, with the same ease as individuals do right now with their Facebook pages. Coincidently, our long-standing webmaster Nelson Weiderman had informed the Class Officers that he would retire in the near future, triggering the need to move hosting of the website. We obtained the services of Fleet 1 member Rolf Kaiser to migrate this to his own server and implement the transition, with support from our Class Administrator Chris Howell. The move went smoothly, and our next step is to put a new face on the national website and develop a template that can be used by fleets that do not currently have active websites. We'll e-mail an update with more information on the timeline.

We would like to thank Nelson for his many years of service as both the webmaster and Class Administrator. It is clear the J/105 Class would not have been as successful as it is without his tireless work, enthusiasm and commitment.

As we transition into fall, with more reliable winds on the East Coast and fluky winds on the West Coast, I want to remind you of the opportunities to bring your teams to other venues. Follow the wind! A good example is American Yacht Club, which runs a well-attended one-design series on the last weekend of September and the first weekend of October. This is a wonderful time to race in Long Island Sound, and there are boats available to charter. This provides great practice for people to get to know the venue where Larchmont Yacht Club will host the 2016 J/105 North Americans.

Another interesting choice, though farther afield, is the Chiloe Regatta hosted by our brethren in Chile with a fleet of 20 J/105s. Racing is both around the buoys and medium distance, starting January 23 and finishing January 30. We've chartered a local boat and will be flying down there both for the racing and the opportunity to tour the country afterwards. If anyone wants to join us, we still have a few crew slots available, and there may be boats to charter.

It has been an exciting year for us, and it is still underway. We are looking forward to the 2015 J/105 North Americans at our home port in San Francisco, and then later catching up with friends at American Yacht Club Fall Series. We hope to see you there!

Bruce Stone, J/105 Class President
bruce@brucestone.com

The East Coast Championship at Block Island Race Week

By Paul Beaudin

Block Island is a small island, five miles square, located just off Rhode Island. Storm Try Sail has been running a bi-annual race week here for 50 years. The island is very understated and dotted with small single-family homes with gray shingles. This place is about as classic New England shoreline as you can get. Sixteen J/105 teams descended, along with another 150 boats to participate in the half-century milestone event from as far away as California, Texas and Bermuda.

Day one brought clear weather with medium air for excellent sailing conditions that would carry on throughout the week. Sometimes fog can shroud Block, but none of that this season. We would have sunny skies for the next five days. *Distant Passion* from Bermuda with James MacDonald took the early lead with consistent finishes on the first day. Day two brought a bit more wind and the historic 'Around the Island Race.' The day for this is always at the discretion of the Race Committee, so you can never be sure when it will turn up. With gusts forecasted to 30 in the afternoon, Tuesday became a logical choice. The fleet had a tight first beat up to the top corner of the island with Bruce Stone's *Arbitrage* getting a great boost with a little late current relief—something the San Fran team probably knows a lot about to be in the front at the turn. The first beat was not without its casualties. Josh Burack's *Peregrina* snapped the rig at the hounds, which was a very unfortunate end to their race week. *Arbitrage* showed their heavy air prowess on the ensuing five-mile downwind, which

featured big waves and a building breeze. Everyone hit big speed numbers. *Arbitrage* seemed to have the highest with a 20.9 over the ground on their Prostart. I saw 18.7 on my knot meter. Bruce and company's downwind form in the breeze would ultimately secure them the win for the day, followed by Andrew Kennedy on *Bat IV* from Annapolis, and *loulou* going very fast, made a big comeback on the last upwind for third.

This had the Bermuda boat still in the lead, but with plenty of racing to go, the heavy weights were knocking at the door. Midweek brought more consistent wind and solid hard fought races. It was *loulou*'s turn to top the leaderboard with solid 1,5,1 finishes on day three to lead by 3 points. Then following, respectively, were *Distant Passion*, *Arbitrage* and Damian Emery, the previous Block champ. Wednesday night, we had a very good "Fleet Fajita Party" hosted by Mark Masur and the *Two Feathers* Texans.

Loulou had some help, besides being super fast all the time, because Wendy Beaudin 'painted the rock.' The Painted Rock has been a feature on Block Island for many years. It changes daily with all manner of art and notes. For the time it was painted with their logo, *loulou* was in the lead (big note for next time).

Thursday brought us to the home stretch. It had been many days of very fun but also hard racing, and proper stamina was needed to get through. *Eclipse* and *Two Feathers* showed their colors, both posting solid finishes. I guess hosting the party was good karma for the Texas team. You could not count *loulou* out yet with the biggest horizon job of the week in the day's final race.

The last day had *loulou* in very strong shape with a 6-point lead over *Eclipse*. The wind had shifted to the north and started light, but built to very proper sailing conditions. Race one had *loulou* first at the top mark only to get passed on the next upwind by *Eclipse* and *Arbitrage*. Note to self: don't try to cover both sides. The last race of the series had *loulou* still leading by three. *loulou* had a poor start and split right which proved fatal with a big left shift turning the fleet upside down. Then a spinnaker sheet foul at the top mark would seal her fate, keeping her in the weeds. Damian and crew showed their very common, last day prowess to finish second and take the regatta by a point. There were long faces on *loulou* for letting unforced errors snatch victory away, but hats off to team *Eclipse* for the repeat win and sticking it out to the end. That put *loulou* in second, followed by Bruce Stone's *Arbitrage* in third.

We could not have had a better event. This is a bucket list worthy race week, and you will have to wait two years for it to come around again.

Chicago to Mackinac Race

By Carter Williams

Carter has enjoyed sailing his J/105 Creative Destruction *for years. His love of sailing came in part from memories as a teenager sailing offshore in various races on Long Island Sound. Now based in Harbor Springs, MI during the summer, Carter decided to again sail the Chicago-Mac Race this year, but giving a youth sailing team an opportunity. Here's his report:*

Creative Destruction sailed with a mostly junior crew, finishing third in the hugely competitive J/105 fleet (22 J/105s took part in the 298 nm race)! We had Libby Forsen as our navigator. She's taken the Starpath Navigation course and, at 16 years old, this was her first time sailing the Mac Race. Sonny Jenema was sailing his second Mac at 18 years old. JT Ludington, 21 years old, was on his first Mac. Preston Carey, 16 years old, was on his second Mac. It was a young crew! The old guys were me, Mike Duff and Robert Matthews. We had reasonable breeze Saturday for the start. The fleet stayed together as we entered the evening. Sunday morning, it was hot, with little wind and lots of biting flies. Despite the lack of wind, the kids stayed focus, which we attribute to close attention to the watch schedule. As the wind built Sunday evening into the Manitou's, everyone was well rested, so we were able to get the whole crew on the rail late Sunday night and early Monday morning. We blasted through the Manitou's, slowly picking up more boats. Passing our home port of Harbor Springs to starboard, we came into Grays Reef early Monday morning, and there were three J/105s in front of us. *Sealark* (Clark Pellett) was in third, so the boat

for us to beat next. We had lost our Ugotta winning streak the year before to *Sealark*, so our competitive juices got going. With the chop around Grays Reef, we sailed our angles well, gybed right on the lay line, and closed the gap on *Sealark* a bit more, maybe to a quarter mile. As we turned the corner at Grays Reef, it was a tight spinnaker reach into the Mackinac Straits. *Sealark* kept up high, so it was difficult for us to fully close the gap, but the kids were focused and all on the rail. We moved weight back and forth a bit to keep the rudder deep, but not too deep. Slowly but surely, we were inching on *Sealark*. About an hour from the bridge, a squall hit, driving all the boats down 90 degrees and into a broach. The kids moved quick, got the spinnaker down, and jib out. They had all the waypoints in for the rest of the course, so in the fog/whiteout, we were back on course quickly. That helped us move up to third place overall! As we hit the other side of the bridge, we covered *Sealark* while looking for our opening to move up to second place, but time and wind ran out and we finished third. The kids absolutely loved

it! They cannot wait to do it again. We are trying to assemble two junior teams to sail J/105s next year, and would encourage other boats to do the same.

Perhaps we will give an award for the boat with highest score with three or more juniors (under 21) aboard! After the Mac Race, we took our J/105 back down to Harbor Springs for the Ugotta Regatta. Being an off year, we did not have enough J/105s for a fleet. So, I and the new owner of J/105 hull 29 (the ex-*Convexity*), Sam Powers, contributed our boats to let the sailing school and juniors field two boats in the Ugotta Regatta. The boats were skippered by junior sailors, racing under the Storm Trysail IOR Collegiate rules (keeping two boat lengths). The kids had lots of fun racing the Ugotta Regatta too! While J/70s have worked their way into our club, the kids realized it takes different skills to do a long distance race. This has sparked a new interest for the kids in our Little Traverese Sailors, our kids sailing program. Windward/Leewards are great fun, but preparing for and sailing the Chicago Mac Race is a lifelong memory.

J/105 Fleet One will host the 2015 J/105 North American Championship at the St. Francis Yacht Club during the Rolex Big Boat Series on September 17-20, 2015.

2015 Rolex Big Boat Series & J/105 NAC Schedule of Events

(Preliminary)

Boat Inspections, Registration & Weigh-In: Tuesday, September 15 and Wednesday, September 16

Race Days: Thursday, September 17 through Sunday, September 20

Social Events sponsored by Mount Gay Rum, Rolex and J/105 Fleet One

Awards Ceremony: Sunday, September 20

Check out this exciting 3-minute video from the 2014 Rolex Big Boat Series: http://youtu.be/toRCldrZOoo

St. Francis Yacht Club

www.rolexbigboatseries.com

Have questions? Contact Bruce Stone at bruce@brucestone.com or 917-822-4060

Getting *Creative* in the Transpac

By Ed Sanford

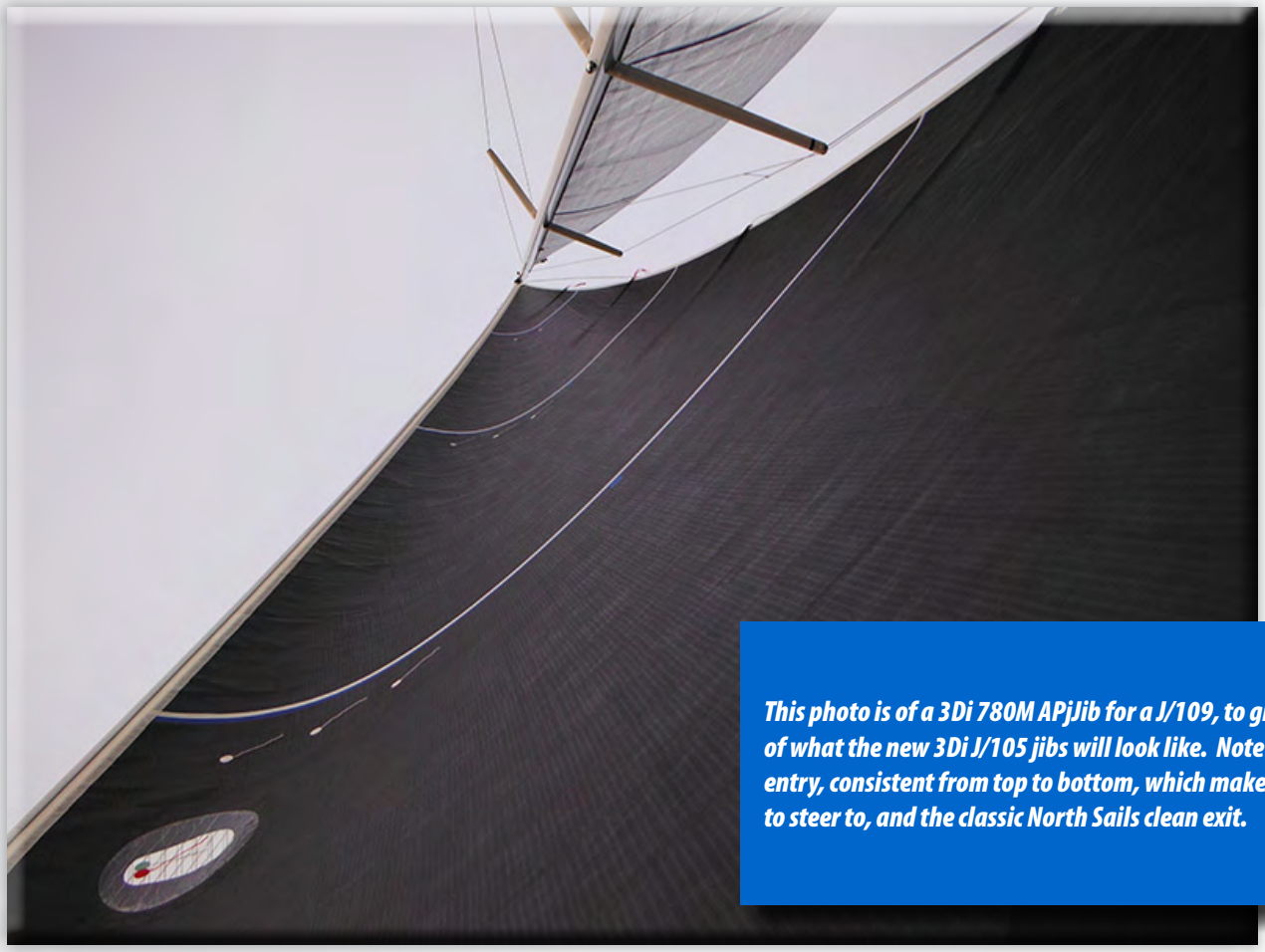
The Transpacific Yacht Race is a 2,225-mile ocean race from California to Hawaii.

The J/105 *Creative* participated in her second Transpac—the first being in July 2013, finishing sixth in division out of six. We had some electronic issues, not enough sails and a lot of inexperience for a race that long. For the 2015 Transpac, we had simple goals of doing it better and competing all the way across. The same crew returned: Bill Beck, Cameron Hurley and Andrew Sapien. The preparation actually started after finishing the 2013 race with making plans. We wanted to continue with what worked well and make improvements as well as revamp what did not work at all (including new electronics and a better sail inventory). We did change our rudder bearings before the race, and were happy we did so as a few boats had rudder problems.

It was a successful launch out of Long Beach. Light winds at the start were followed by increasing winds into the night, approaching 22-23 knots. The crew eats well on Creative—meals are prepared before the race by Cameron Hurley and frozen in dry ice. We ate meals such as Korean barbecue chicken, mustard chicken, breakfast burritos and hamburgers at the halfway celebration. These are cooked in a pressure cooker. The winds remained pretty steady over the first few days of the trip. Going to weather, we averaged 7.5 to 8.5 knots. The boat was real wet in and out. Unfortunately, the Imarsat marine primary communication box failed at approximately three days due to the moisture. Luckily, the back-up satellite phone worked well and carried us throughout the trip. We seemed to track pretty well with the front of the fleet up through the midway point of the race. Right around 1,000 miles, the forestay failed (three years old and inspected twice before the race), hanging on only by the jib halyard. We were able to create a makeshift forestay and drop the furler down to the deck losing about 8 hours, but happy to continue on. The next day's standings had dropped us to approximately seventh. After the midpoint of the race, the weather turned really warm/humid. The morning and evening sailing was very pleasant, but late evening and early morning, we encountered higher winds as high as 26-27 knots. Our top speed during the race was 16.9 knots. Gradually, we clawed back to fifth place and felt we were going to move into the fourth position for the end of the race. Three days before the end, we were 26 miles ahead of the fourth place boat. Two days before the end of the race, we were becalmed and we ended up 18 miles behind him going into the last day. On that last day headed for the Molokai Channel, the winds gradually increased and we had a fantastic day of sailing, passing the boat back and physically beating her by 6 miles (unfortunately, we needed probably 40+ to beat on corrected time). We ended up fifth in division out of 11 boats (29/61 overall) and felt we competed better and gained from the experience. More pictures are posted at www.creativeracing.com.

Introducing North Sails 3Di® Composite Sail Technology

By Bill Pearson, Technical Director, North Sails



This photo is of a 3Di 780M APjJib for a J/109, to give you an idea of what the new 3Di J/105 jibs will look like. Note the nice round entry, consistent from top to bottom, which makes the sail easy to steer to, and the classic North Sails clean exit.

Many of you know North Sails has a long history in the J/105 Class, not only in terms of providing fast sails that have won lots of races, but also in terms of supporting and nurturing the Class at events and with our North Tuning Guides. Our Class leaders are active in helping the Class decide when to introduce new sail technologies, ensuring a measured pace appropriate for the Class. They also help to make sure the Class introduces new technologies once they are proven, ensuring the Class stays current and has the best sail technology available to its members.

Just as 3DL™ one-piece moulded sails were a revolution when the technology was developed in the early 1990s, 3Di® sail technology is a similar magnitude of development today. 3Di sails are truly a paradigm shift in terms of construction, performance and sail longevity.

The driving force behind racing sail development has always been the pursuit of modulus. The material property known as modulus (resistance to stretch) is the measure of that material's ability to resist distortion under load. The more effective modulus a sail has, more of the energy that is created by wind pressure is translated into driving force to power a boat forward through the waves. Stretch in the sails, mast or rigging (the engine above the deck) acts as a shock absorber, and dissipates some of the available power the wind produces from getting turned into driving force. The more fiber modulus you have in your sails, the more power they harness and less is wasted, making your boat go faster.

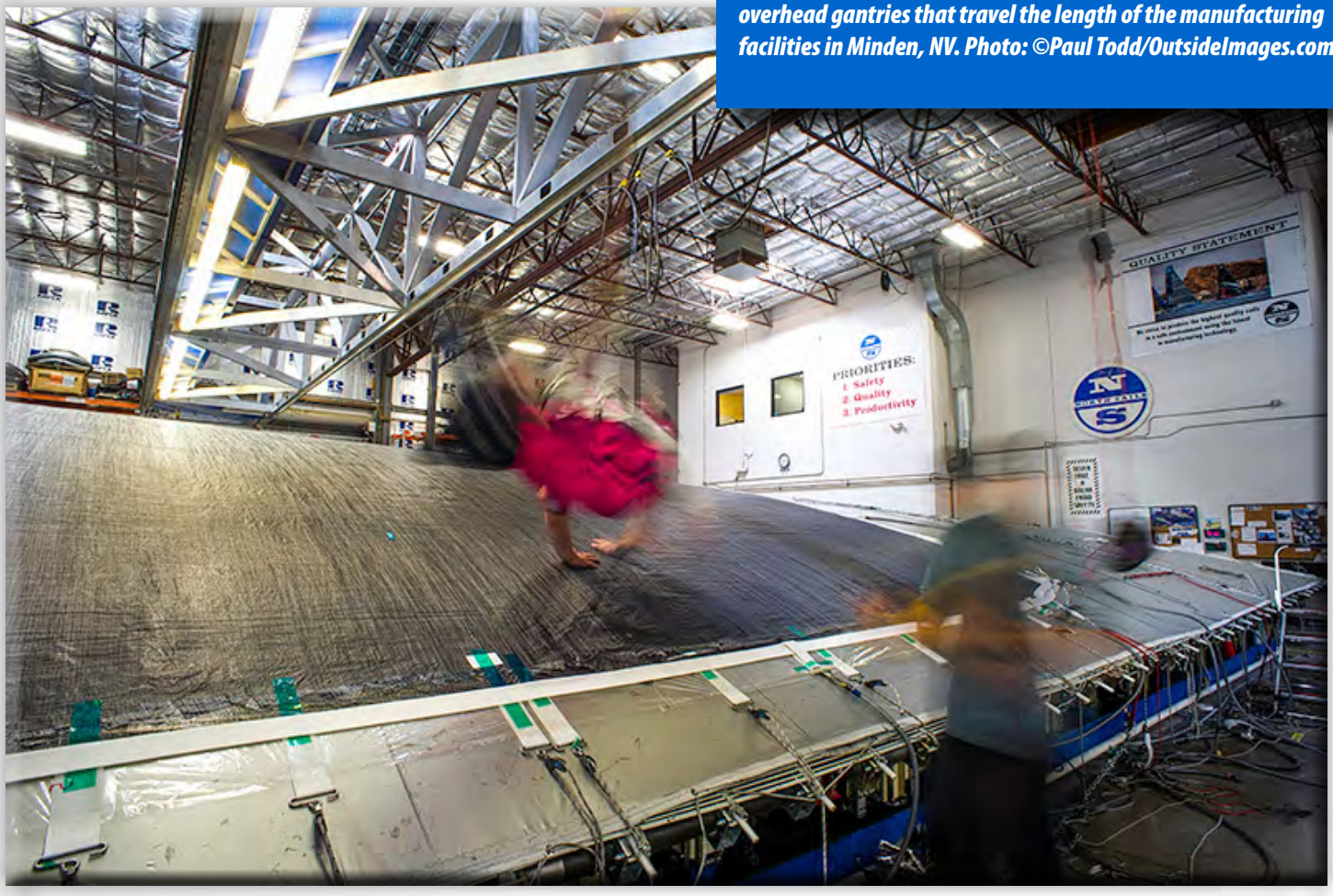
New Technology

3Di is a new technology and innovative fabrication system that processes existing high-tech materials in a manner that obtains more performance from commercially available fibers. It uses a different methodology from current sailmaking practice, to produce a unique result in both membrane construction and significantly enhanced performance.

The highest performing sails have been one-piece moulded membranes for 20 years. While North Sails 3DL moulded sailmaking technology, even in its maturity, remains unique and dominant, the company has long been hungry for a technology to underpin a new sail revolution.

All sails produced from the start of the laminate era in the late 1970s, including 3DL sails, are composed of three constituent component materials: film, fiber and resin (adhesive). Rigid composite structures on the other hand (think boat hulls, masts and race cars) are of only two constituent materials: fiber and resin. The film component of sails, most commonly a plastic film called Mylar, does not impart any performance to the finished product; it is simply used as a carrier for the fibers. Simply put, it is parasitic weight, which by definition is a drag on performance.

North's idea was to produce a sail that would be a true composite structure of fiber and resin only, thereby taking out the lowest performing material, and greatly increasing the fiber density of the membrane. This means that for a given weight, a 3Di sail has a higher percentage of fiber than any other sail and therefore is capable of better shape holding and hence higher performance. The word "composite" implies a fiber and resin matrix structure built from material laid-up on a mold, and thermo-formed under heat and pressure. With invention of 3DL, sailmaking has been evolving in this direction for two decades. Now the transition of sails from textiles to composites (the new revolution) is complete. With the advent of 3Di, the highest performing sails are now made of fiber and resin only, and thermo-formed on a mould, just like any other composite structure.



Operators are suspended in harnesses hanging from the overhead gantries that travel the length of the manufacturing facilities in Minden, NV. Photo: ©Paul Todd/OutsideImages.com

Example of a hybrid carbon/spectra pre-preg tape, that is the building block of a 3Di sail. A spread filament tape is an individual filament bundle (yarn) that has been spread out into its individual filaments lain side-by-side, forming an ultra-thin "tape" that is then combined with adhesive and built up layer by layer to create a sail. Photo: ©Peter Gustafsson/Blur.Se

The 3Di Process

What we think of as an individual fiber or yarn is, in fact, a bundle of very small filaments, about the size of a human hair. For 3Di, we take these fibers and break them down into their base component, the individual filament, and lay the filaments side by side in a flat tape format, holding them together with adhesive (impregnation). A spread filament tape is in effect yarn or yarns, in a different format.

Once these tapes are produced, the heart of this revolution in sailmaking technology is our in-house development of automated tape laying. Like 3DL, by using software and robotics, the range of sail design possibilities are greatly increased, providing more freedom for design engineers to exactly tailor fiber paths to anticipated loads. In our case, we want to be able to place fiber accurately in absolutely any orientation a designer desires.

An important aspect of this process is that patching and reinforcement is embedded in the membrane and integral to the composite structure, where it is most effective. Batten pockets, spreader patches and reef reinforcements are now all integral to the membrane, not affixed externally.

With 3Di, as with 3DL, the soul of the technology is the articulating and reconfigurable male moulds that can be adjusted in three dimensions to match the complex curvatures of a sail, allowing us to take best advantage of the bespoke fiber placement.

The end result is that these modern sails have better aerodynamic shape holding, due to a more sophisticated structure and use of material. Simply put, this means that fiber, and therefore stretch resistance, runs in all directions through the sail, instead of only in the direction of the primary loads as it does with string laminate sails. Resistance of the membrane to stretching and distorting is much improved.

Along with this innovation comes another new reality in terms of what happens to a high performance sail at the end of its life. With 3DL membranes and other string sails, the weak links in the longevity cycle are the film and adhesives that hold the sail membrane together. Because there is more fiber in the 3Di sail structure than is required for breaking strength, the fiber tends to outlast the other constituent components. String sail membranes therefore tend to come apart rather than break, as the films or adhesive degrade; what is generically referred to as "delamination." Since 3Di is not a laminate sail, there is nothing to come apart or "delaminate."

3Di filament tapes are laid down in sections by computer driven robotic tape heads, before being placed on 3-Dimensional moulds to have their flying shape thermo-formed into the membrane. Photo: ©Paul Todd/OutsideImages.com

Summary

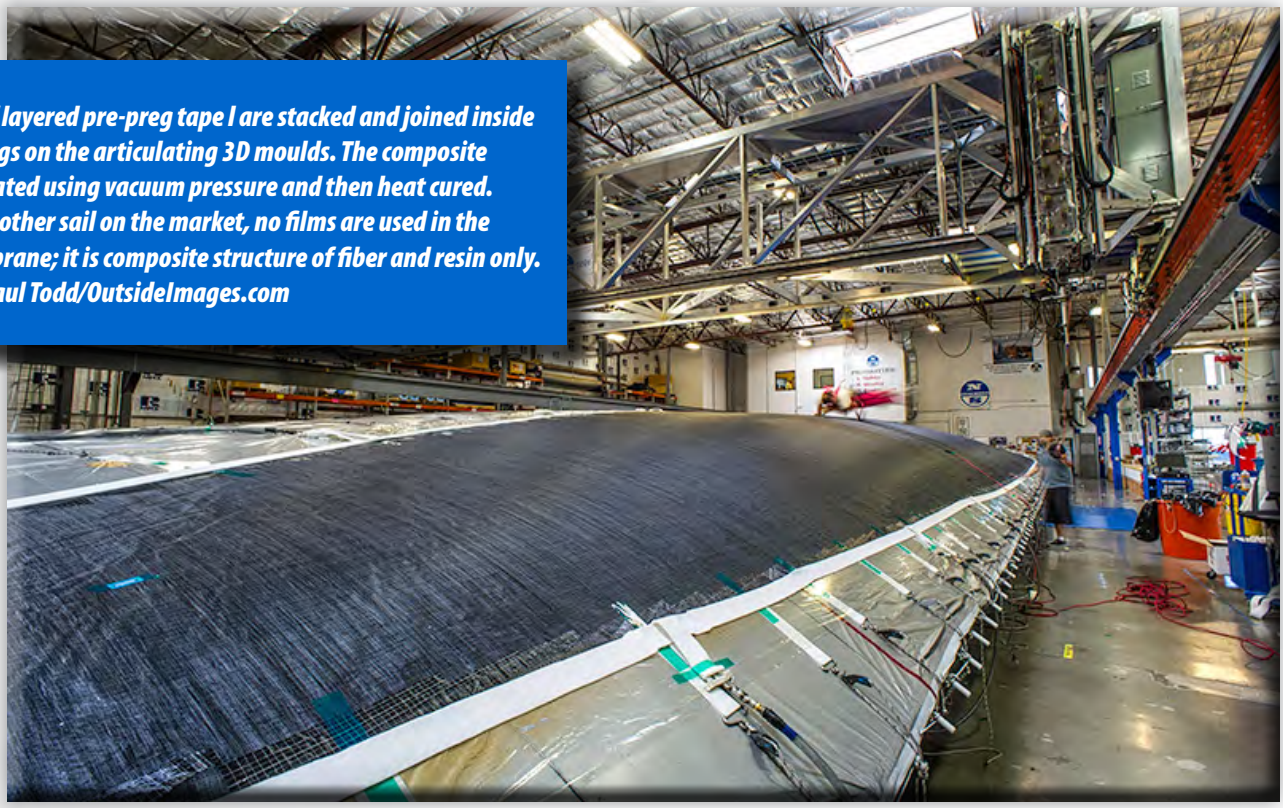
North Sails has progressed from using generic materials, to producing custom sails, to now producing our own customized materials for sails. This gives us infinitely more control over the base constituent materials, and an almost unlimited number of material configurations to choose from for any individual sail. Sail designers can choose from pre-preg filament tapes produced from Dyneema, aramid, carbon or varying combinations of each. As an example, high Dyneema content tapes can be clustered into corners and at load points to greatly increase breaking strength, and add flexibility for furling. Stiffer carbon tapes are located where required for shape holding. There are an almost infinite variety of pre-preg filament tapes that can be selected for the base materials of a given sail membrane, to tailor the sail to a Class or application.

By carefully choosing the constitution of each layer, North sail designers can prescribe exactly the properties of the resulting sail. Because material is placed only where it is needed, on an as-needed basis, we can produce the lightest and most efficient structure for any given application.

While 3Di represents another step forward in removing elasticity from the aerodynamic package as a whole, the story is only just starting. This is the first time in modern sailmaking history that the fastest race sail available and is also the most durable race sail one can buy, therefore providing not only better performance to the Class, but better value for mone as well.

At North Sails, we are very proud and excited that our newest 3Di technology will be offered to J/105 owners starting in 2016. Starting this Fall, in preparation for the 2016 season, we will be introducing our CSD 3Di 780M Carbon/Dyneema Li-4 Light, Mi-4 Medium

Infrared energy is applied to every 3Di sail while under vacuum pressure to bond the fibers together and set the flying shape into the sail. Photo: ©Paul Todd/OutsideImages.com



Sections of layered pre-preg tape l are stacked and joined inside vacuum bags on the articulating 3D moulds. The composite is consolidated using vacuum pressure and then heat cured. Unlike any other sail on the market, no films are used in the final membrane; it is composite structure of fiber and resin only. Photo: ©Paul Todd/OutsideImages.com

An overview of the 3Di automated tape laying operation in Minden, with 6 tapes heads and gantries running 24 x 7. Photo: ©Paul Todd/OutsideImages.com

AP Jib and Hi-4 Heavy Jib. The 3Di jibs will be a further development of our successful 3DL shapes integrated with the new more sophisticated 3Di structures. They will have black exteriors and come with vertical battens, three trim stripes, stanchion patches, two telltale windows and a zip bag. The sail will, of course, conform to the 23lb/10.43kg bag weight requirement.

We anticipate having a Mi-4 Medium AP Jib available for testing before/during the 2015 J/105 North Americans in September in San Francisco.

For more information on our J/105 products please visit: http://www.csdeurope.northsails.com/tabid/40099/Default.aspx.

J/105 Class Leaders:
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Seadon Wijsen, seadon.wijsen@northsails.com
Max Skelley, max.skelley@northsails.com

Technical Committee Report

Matt Arno – Class Measurer – Fleet 16, Dallas/Fort Worth
Pat Benedict – Fleet 1, San Francisco
Michael Penny – Fleet 4, Lake Ontario

The latest news on the Rules and from the Technical Committee is the change to Class Rule 6.5.1 concerning materials of construction of jibs. A rule change was proposed this past spring and voted on in June to revise this rule. The new rule reads:

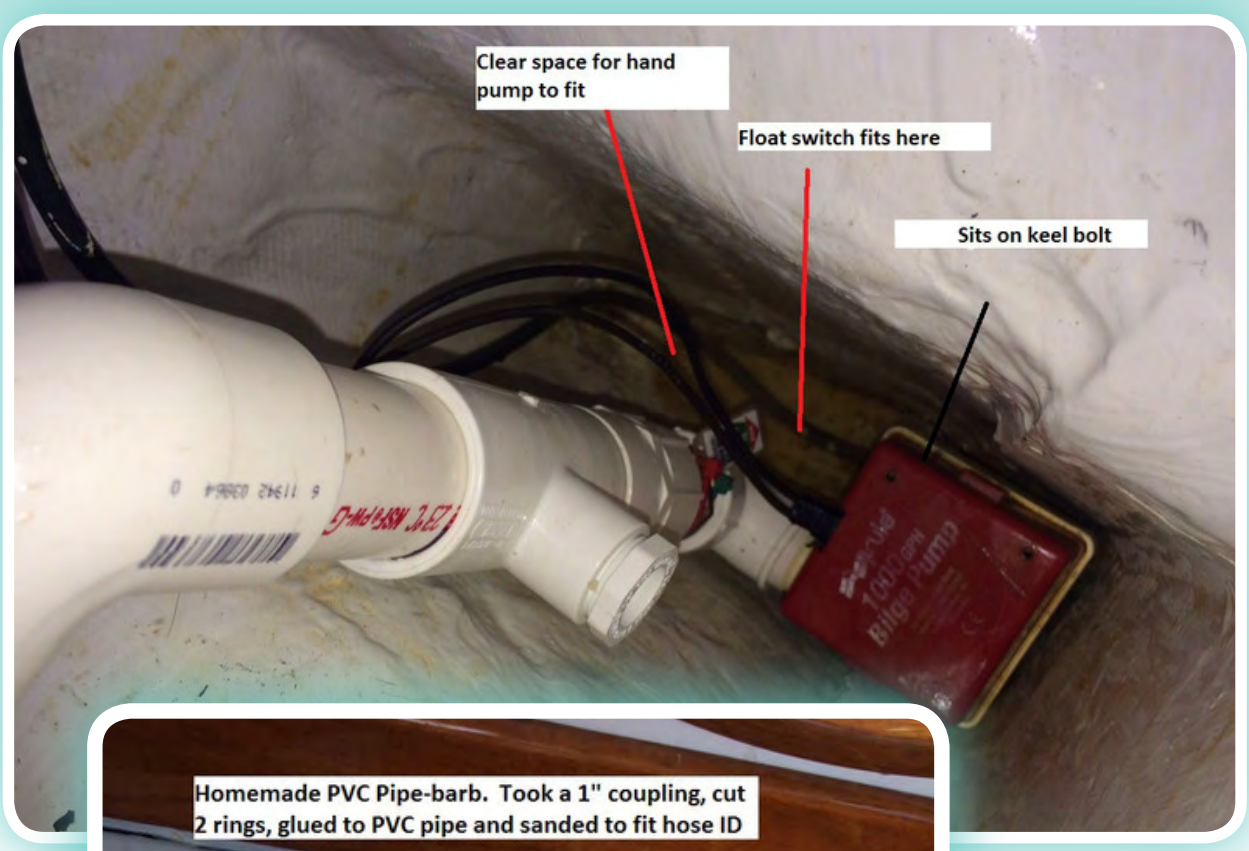
"The roller jib shall be constructed of either **woven ply**, **laminated ply**, and/or **single ply**. The use of Vectran, PBO or Cuben Fiber in the construction is not permitted."

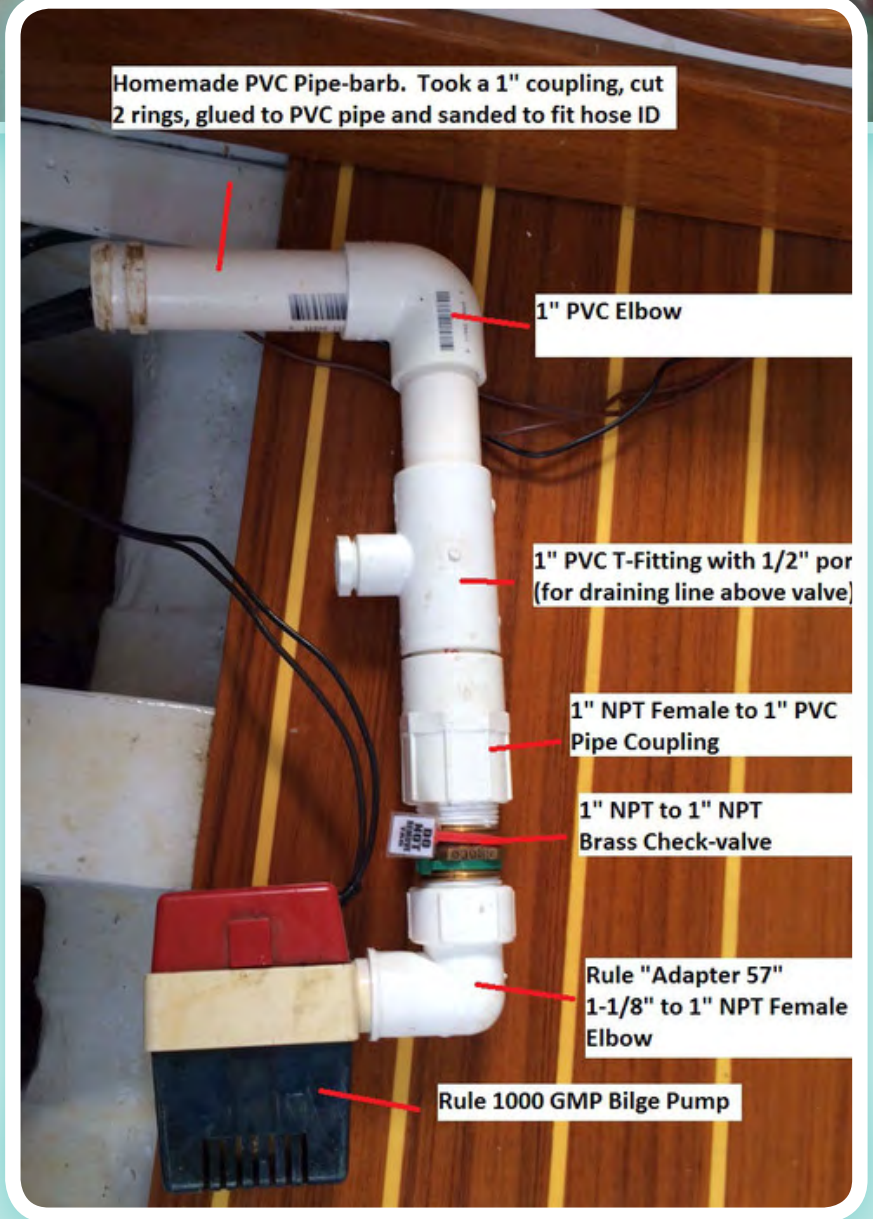
In particular, it should be noted that spectra and carbon, previously not allowed, are permitted under the new version of the Rule. This Rule change also allows 3Di sails. However, even though already approved, this change does not go into effect until January 1, 2016. If you want to take advantage of the changes in the Rule, just remember that you cannot take delivery of a sail built to the new Rules until January 1, 2016.

In addition to this Rule, an additional Rule change has been proposed to allow replacing the boom bails with strops, as are used on some other boat classes. This Rule change is being processed in accordance with our normal schedule of considering Rule changes in the fall, so you will be seeing it circulated shortly.

Other than these two Rule changes, it has been a quiet period for the Technical Committee, with few questions for clarifications and interpretations. The Fleet 3 measurer, Angelo Guarino Crescendo #159, did come up with a solution for the problem of how to install a bilge pump and route the hose for it. The goal of his installation was to have both the bilge pump and switch in the same bilge bay, and have enough space in front of the installation so that a hand-pump could fit to keep the bilge dry in all three compartments.

To do this requires making a tight 90 degree bend right at the pump so that the room is left in front. The Rule pumps have this really weird 1-1/8" port which is hard to match up and convert to other things. Rule has this Rule Adapter 57 elbow which is really made for a different line of pumps, but does fit pretty well and easily secured with a little 3M 4000. It has the 1-1/8" and a female 1" NPT on the other side. After the elbow, add a check valve (to prevent the pump from cycling) and then a T-fitting for a drain plug. This is so that the water doesn't sit in the hose stagnant and also for the weight, as it can be a long hose run depending on where your bilge pump discharges. The standard wire-reinforced bilge hose that is installed is stiff and impossible to fit a 1-1/2" hose barb into, but you can make one yourself. Take a 1" PVC coupler and cut it into rings, glue the rings on the end of the 1" PVC pipe with PVC glue and then sand them down until they are a good fit for the hose ID. You will wind up with a completed assembly as shown in the pictures. The float will be strapped to the pump beside the pipe, and the entire assembly sits on top of the keel bolt in the forward bilge bay with plenty of room in the forepeak of the bay to put a hand pump.


Clear space for hand pump to fit
Float switch fits here
Sits on keel bolt


Homemade PVC Pipe-barb. Took a 1" coupling, cut 2 rings, glued to PVC pipe and sanded to fit hose ID
1" PVC Elbow
1" PVC T-Fitting with 1/2" por (for draining line above valve)
1" NPT Female to 1" PVC Pipe Coupling
1" NPT to 1" NPT Brass Check-valve
Rule "Adapter 57" 1-1/8" to 1" NPT Female Elbow
Rule 1000 GMP Bilge Pump

Calendar

Dates	Event	Contact
September 17-20, 2015	2015 J/105 North American Championship (Rolex Big Boat Series) St. Francis Yacht Club San Francisco, CA	Bruce Stone 917-822-4060
September 25-27, 2015	J/105 Canadian Championship Royal Canadian Yacht Club Toronto, Ontario	Doug Bullock 416-488-1474
October 20-23, 2016	2016 J/105 North American Championship Larchmont Yacht Club Larchmont, NY	Paul Beaudin 917-584-5194

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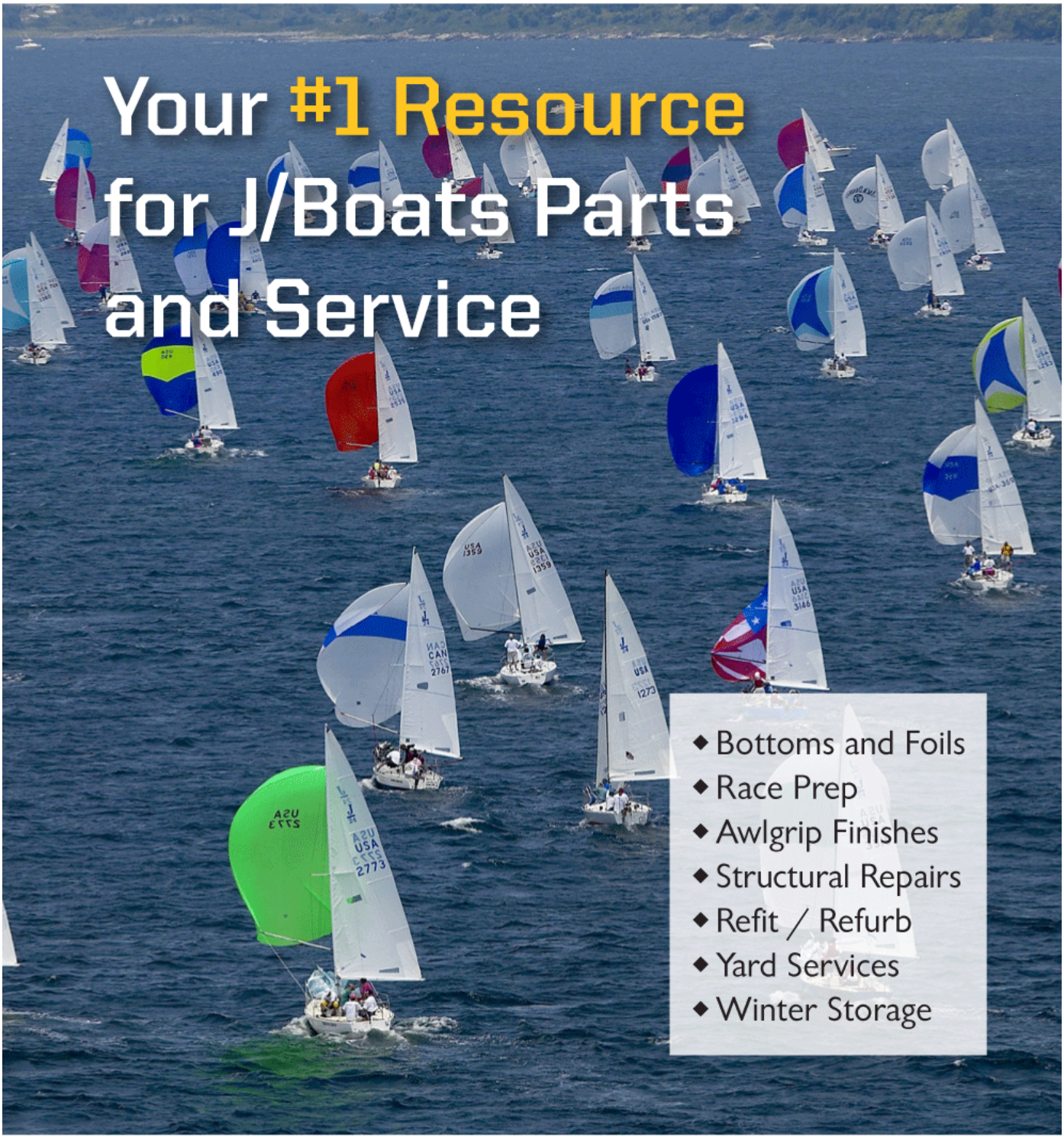

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