❖CR 914 NEWS❖

Issue 17 MARCH - APRIL 1999

FORTY-NINE BOATS RACED AT THE LMYC SPRING REGATTA

LARCHMONT MODEL YC 1999 SPRING INVITATIONAL REGATTA

By Commodore Buttons Padin

Overheard the next day: "A good time was had by all…and we did a bit of racing, too!"

The 1999 Spring Invitational Regatta set a new standard for model yacht racing. Hosted by the Larchmont Model Yacht Club on the beautiful grounds of the 110+ year old Larchmont Yacht Club, 49 CR-914 sailors competed in two days of sailing that can only be called glorious. The following report will highlight key elements of this regatta.

But first, some interesting observations. We have all sailed dozens of real regattas against people we really didn't know. And, sailing in a real boat, you didn't get to "know" your competitors. However, with model racing, where you stand shoulder to shoulder on the dock, where between races you work to repair or tune another boat, you develop a much more personal approach to sailing. For one, this writer likes that.

Another thing noticed at the Regatta was the multi-generational aspect of our fleets. Beside having an early teenager, we had three father-son duos competing:

(Continued on page 2)

Inside This Issue

Class Secretary's Report

R E N E W Y O U R *N E W S* SUBSCRIPTION IF THERE IS A WARNING LABEL ABOVE.

LOOKING FOR GOOD PHOTOS.
If you have good action shots of 914's, send them to me. Use e-mail or US Mail. On page 6 is an example of a good action shot. Close-up and high-speed.Would love to have some shots of boats "submarining" or standing on end with the stern to the sky.

Registrations This month there are ~480 boats registered. Of these, 248 subscribe to the NEWS. Thirty-one new owners are listed on page 9.

Boom Springs
These things keep causing hook-ups even when modified. If you're still using them, seriously consider replacing them with something better. See page 7.

Good sailing,

Chuck Winder

(Continued from page 1)
Bill and Ted Spencer, John and Paul Tucker and Bill and Rob Follett. Now for the report:

The Scope of the Regatta
This was the largest model regatta anyone had ever heard of. So, for now, let's take the credit for that. However, the most interesting dynamic may be that sailors were representing six model yacht clubs in four states. We had fifty-one boats on the porch (including two spares brought-in) plus another seven in the Boat Yard as back-ups (which should bring a smile to Greg Worth). In addition to LMYC, sailors were on hand representing American MYC, Marblehead MYC, Cottage Park (non "M") YC north of Boston, Dry Pants MYC (Essex, CT) and Chesapeake Bay Model Racing Association from "Ann-i-*Pole*-as."

From the moment everyone arrived Saturday morning, an air of camaraderie took over. Meeting "foreign" sailors for the first time, looking at how they had set-up their boats and swapping sea stories became the modus operandi. One smart addition to the program at the last minute was name tags to help remember who everyone was.

An interesting commentary to the event is that, everyone was registered and ready to go so early that the skipper's meeting was held 45-minutes early and the racing got a jump on Mother Nature (who, by the way, did give us a break).

The Conditions
Saturday morning, everyone arrived at the Club thinking Small Craft Warnings. The forecast was for winds above 20 knots from the southwest and there was uncertainty in most people's minds if we could race.

Paul Tucker accepts 1st Place, Division 4. Paul also won the Sportsmanship Trophy

Well, race we did as the breeze moderated somewhat. That's not to say that in some puffs all 12 boats of a division weren't laid over. Regardless, everyone faced and met the same challenges. For many pond sailors, this "ocean racing" was a new challenge.

Sunday was a sailor's joy to behold. Temperatures rose to above 60 with the winds down in the 10 – 12 range. Still a bit puffy but better sailing. We even got a bit of sunburn.

Champion Kevin Dooley accepts awards from **"Miracle Worker" Buttons Padin.**
Kevin's smiling in relief after the close finish.

Courses and Divisions
The racing was conducted on two separate courses centered around pairs of docks moored in Larchmont Harbor. The fleet was divided into four divisions with two sharing each dock. Because there were more boats than channels, sailors sharing channels were assigned to alternate divisions on the same dock so they wouldn't be using the radio at the same time. Sailors sailed three races and shifted divisions. This made it tough to tune-up between races but everyone managed. Two LYC launches were on hand to ferry sailors to and from the docks. By Sunday morning, we had these transfers down pat whereby the next division was already on the dock as the last boats finished. This allowed each division to sail twelve races each day (no mere accomplishment by anyone's standards).

Courses were quadrilaterals (like old J-boat jibs) whereby offset marks at the windward and leeward ends of the course kept windward and leeward boats away from each other. The docks were in the middle of the course, which made visibility even better.

With Rob Follett (The Mark Man) having made-up ten high-visibility, numbered marks for each course, courses were easily modified to reflect wind directions. Importantly, essentially no sailing time was wasted resetting marks.

Race Management

To execute the Regatta, a team of over 20 volunteers was on hand. In addition to the Registration Team (Sara Lynn, Christy and Allie Padin), each float had a Judge (Mary Savage, Don Dowd and Andy Kaplan taking turns), a line caller (Ondria Prina and Marty Zavell) and a recorder (Ruth Campanelli, Betty Guerin and Melanie Buenvenue also taking turns). In this way, of the 96 races run, only three protests were logged for post-race hearings. The on-the-water judging was excellent and, while they took boat numbers, they took no prisoners. However, in the future, we will consider a second judge per float to provide better coverage as the fleet stretches out.

After each race the recorders called in the results to the shore-side scorers (Pat Guerin, Eliza Feldman and Jaye Nashawaty from Marblehead who pitched in) who updated the results.

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(Continued from page 2)

To get the boats to the docks on time, Binky Hoffmann and Pat Guerin manned the Ship's Bell on the flagpole ringing warnings for each division. Tom Spelman, Ned Kelly and Ed Capuano managed launch driving. We also had a Whaler acting as crash boat to shift marks or pick-up a disabled boat. This task was handled admirably by Lizzie Padin and Josh Roth.

It should also be noted that all boats were weighed-on and bow bumpers were affixed to, where else, the bow. While there is no quantitative proof, with all these races run in blustery conditions, there were still collisions…however, no one reported any hull damage. Maybe the bumpers made the difference.

Results

Saturday's racing qualified sailors for the Championship to be sailed for Sunday. After the twelve races on Saturday, each fleet's finishers were divided into quarters by score with the first, second, third and fourth quarters of each Saturday division combined, respectively, to race for Sunday. Only the top finishers could compete for the Championship, but each other division still had prizes to sail for.

The overall Championship was won by Marblehead's Kevin Dooley who finished second here last year. Kevin not only won a silver tray engraved with a 914's hull lines; he won a Calypso Watch donated to the event by Festina USA. This is a great looking, stainless chronometer that will serve Kevin well. Behind Kevin was LMYC's Ted Spencer who won a tie-breaker with MMYC's Jose Venegas. There was some hot sailing in that division as one could imagine.

Division two found LMYC's Howie McMichael taking the honors followed by 914 Class Secretary and MMYC guru Chuck Winder. Ernest Freeland from CBMRA was in third.

LMYC's Peter Overzat followed by club mates Sears Wullschleger and Peter Kelly took division three.

The regatta's youngest member, LMYC's Paul Tucker, who has only been sailing 914's for a few months, took division 4. Behind Paul were CPYC's Peter Brown in a boat borrowed from Hank Buchanan (thanks Hank) and MMYC's Sasha Kavs.

In addition to the divisional prizes, Paul Tucker was awarded the Sportsmanship Trophy for the event (decided upon by the on-water volunteers). Paul sent an e-mail the next day saying, "It was the most fun he had ever had in his life!" Congratulations Paul.

The flip side of the Tucker story involved Paul's dad, John, a first time 914'er, who is now hooked. Sailing Binky Hoffmann's boat, Paul distinguished himself, somewhat, and won the dreaded "Low/Gross" golfer's trophy as the last place finisher. John will obviously move up the food chain from being a regular volunteer scorer to being a competitor.

There were two other races held on an ad hoc basis after Saturday's qualifications were done. We put all the boats in at once and Tagg Zurmuhlen won the first…and I don't remember who won the second. Each was to get a bottle of Mt. Gay that night…but the Committee forgot. We'll make good at the Nationals in October.

Finally, all six clubs competed for the coveted LYMC Challenge trophy. MMYC got revenge for having been severely trounced by LMYC last year and beat the pants off all the others. In second was AMYC, third LMYC, and fourth Dry Pants and tied for fifth were CBMRA and CPYC. This competition between four-boat teams added extra importance to Saturday's racing and raised the formality of model yacht clubs a notch or two higher.

Socializing

Sure they sail…but boy do they party. Saturday night found over 100 people at the Club for cocktails and a monster Italian dinner. After a few LYMC local awards were given, the traditional "Committee Reports" were made as topics ranging from 914 insurance policies to LMYC Commodore parking spaces brought a chuckle to all. It wasn't until Chuck Winder gave his "colorful" report on bow bumpers was International Judge Mary Savage driven to tears of laughter sighing, "It's a whole other perspective on sailing." Whatever!

Marblehead MYC Team Wins the Prestigious Challenge Cup
l-r: Kevin Dooley, Biff Martin, Chuck Winder and Jose Venegas
In center, Buttons Padin (trying to force a graciously defeated smile)

Postscript

So in the end, we sailed, we ate, we got nifty new hats, we met sailors who shared an interest in model racing and we set a world record for the largest model regatta ever. We pulled it off without any noticeable hitch and had fun doing it. Now we can look back and languish in the memory of these two days of great sailing…and turn with fear and trepidation to the Nationals in October when in all likelihood we will have over 70 boats. Thanks to all who sailed and all who volunteered.

"Buttons" Padin

Check-out AMYA regatta news!
http://www.intellisys.net/AMYA/

BOW BUMPERS

By Chuck Winder

The time has come to make bow bumpers mandatory for the CR 914 Class. Bow bumpers were mandatory at Larchmont MYC's Spring Regatta. CBMRA, Annapolis, and Marblehead MYC are considering making bow bumpers mandatory within their fleets.

For many other AMYA classes bow bumpers are already mandatory.

Why are bumpers needed?

As our racing fleets have become larger, there have been numerous occasions when a boat has narrowly escaped sinking because of a hole caused by collision. The reality is that collisions are unavoidable so long as we race our boats. Skippers with years of experience have damaging collisions.

I have been racing my 914 since 1995. This winter in strong winds I rammed my own spare boat being sailed by a friend. The result was a hole the size of a "traffic finger" fingernail at the deck edge about amidships.

The most serious collision damage is a puncture hole in the hull well below the deck edge, sometimes below the waterline.

It is probable that potentially damaging collisions will never be eliminated in model racing because the "scale speed" of model boats. It is about five times that of full-scale boats. (See "Sail a 58 knot America's Cup Boat" in the December 1997 NEWS.)

The Plan

1. An "interim legal bumper" defined in this issue (page 10) will give excellent protection. It will be the legal bumper when a bumper is required by the Sailing Instructions for an event such as the Nationals.
2. A final bumper design will be developed and produced in quantity that will become a required feature of the CR 914. It will be included in the kit and available from Worth Marine for existing boats.

The reason for this two-step plan is that it is clear that it will be some time before a production bumper is available. Greg Worth and I are working the problem.

The "interim" bumper will have to be fabricated by the owners, or a local owner who will make them for his fleet, until a production one is available.

Why Only One Bumper Design

The only way to assure equal collision protection and equal boat speed is to control the design the same as any other feature is controlled. Bumper design cannot be left up to individuals.

Bow Bumper Design Requirements

1. Prevent puncture of a hull by the sharp edge formed by the intersection of the deck and the stem,
2. Prevent deck edge cracks and holes caused by the stem,
3. Prevent damage at a boat speed of 3 knots (4.4 feet per second).
4. Do not cause "hook-ups" by snagging on other boats
5. Minimize effect on boat speed
6. Provide acceptable cosmetics

There is no point to having a bumper if it does not do the job.

DISCUSSION

How does a bumper work?

A bumper does two things:

1. Reduces the maximum force during the duration of the impact.
2. Distributes the force of impact over a larger area.

The Force

When a boat runs into another it is stopped by the impact. To stop it requires a force acting on the boat to slow it to a stop. During a collision the victim hull will bend inwards under the force of impact. Assume the hull bends inward 1/16 inch as it slows and stops the other boat that is moving 3.0 mph. The *average* force to bring the boat to a stop in that distance is 82 lbs! ("Hull Speed" of a CR 914 is a little under 3 mph.)

If a ***soft and thick enough*** bow bumper were to slow the boat to a stop in ½ inch, the average force is only 10 lbs!

Of course, the physics of an actual impact are much more complex. The peak force during impact will be more than twice the average force. But the relative size of the force is what is important to show how a bumper helps.

Distribution of Impact

It doesn't take "rocket science" to understand that a bow bumper distributes the force of the impact over a larger area. It is easier to pound the pointy end of a nail into a tree. As a ***soft and thick enough*** bumper flattens out under the collision impact, it is more like pounding the head of the nail into the tree.

What is *Soft Enough*?

If a bumper is too hard compared to the natural elasticity of the hull, then it is like no bumper at all. It is the same if it is too soft.

The challenge is to design a bumper that has the best geometry and the uses a material having the correct "softness" to minimize the force (prevent damage) during a collision.

Design

How do we select the correct bumper material and design?

The engineering approach is to do some analysis. Calculations are cheaper than experiments. Then follow-up with some simple bench tests. Lastly, design an experiment using "crash test dummy boats" or real boats. (Any volunteers?☺)

The Collision Environment

For obvious reasons, damaging collisions occur when the winds are strong and boat speed is high:

1. The force of a collision increases with the square of boat speed. At 3 mph the force of a collision is four times the force at 1.5 mph.
2. At high speeds the skipper, who is probably quite excited, is more likely to lose control of his boat. A twitch of the steering thumb will cause a large change in direction. A high-speed broach results in a gross out-of-control change in direction.
3. A "victim" boat is likely to be heeling more to expose her bottom to the

(Continued on page 5)

"attack" boat's bow.

Bumper Material
Crash helmet lining and bumper material should not be elastic. An elastic rubber ball (or a steel ball for that matter) bounces almost as high as the height from which it was dropped. That is bad because an elastic bumper applies the collision force for the time it is being compressed and then for an equal time as it springs back to its original shape. It **doubles the *time*** the collision force is applied. That is unhealthy for heads and hulls.

A ball make of perfect bumper material would deform, but not bounce, when dropped. Like soft clay for instance.

The best bumper material for hull protection would be sacrificial. That is, it would deform during the collision and not return to its original shape.

The best bumper material for hull protection AND the boat owner would deform during the collision and ***very slowly*** return to its original shape.

In Closing
The first vender contacted to produce a bow bumper required $5 each plus $2000 to build a mold. He could only supply an elastic material. Such cost is impracticable.

Work will continue to find an affordable bumper that satisfies the design specifications defined earlier. In the meantime, make and use the "Interim" bumper to protect the boats of your fellow owners.

Wendy Lull, #753, insists her *Athena*'s performance on port tack is excellent. However on starboard.....

ETHICAL USE OF RADIO FREQUENCIES

The message in this article is that no one can legally or ethically operate a boat using a radio on the 72 MHz frequency band. That band is reserved by the FCC for exclusive use of model aircraft. To use that band to operate a model boat risks a sizable fine.

Even more important is that to use that band for your boat risks destroying some other persons aircraft. If there is a conflict of channels between boats, it's annoying until it is corrected, but the boats aren't destroyed.

.....to use the 72 MHz band for your boat risks destroying some other persons model aircraft.

An airplane owner may have invested hundreds of hours and thousands of dollars to acquire his plane.

A frequency conflict in model aircraft means certain destruction.

Why even bring it up?
Some model boat owners already own airplane radios. Or they find they can acquire one cheap. It seems economical to just use that radio for his boat. But read above.

In Annapolis, while the fleet races their CR 914's, model aircraft can be seen flying a short distance across the harbor at the Naval Academy.

Here in Marblehead RC planes are flown at various small fields around town. These fields are in radio range of our sailing pond. There is no way to see or know that some one is flying a plane.

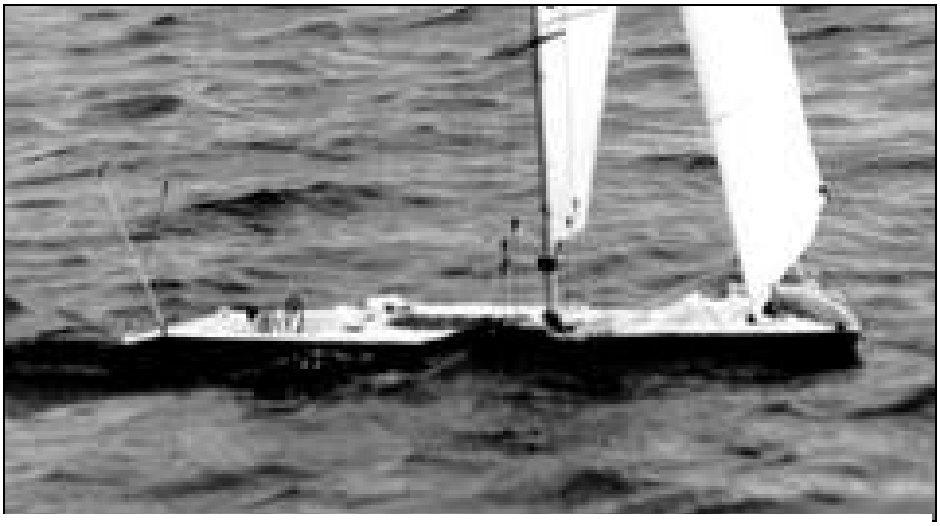
Owners from other fleets have told me that there are no model planes flying in their built-up towns. That is Ostrich-like thinking. Because one doesn't see a model plane doesn't mean they aren't there. Especially these days. A popular trend today is small and slow models that can be flown in backyards and schoolyards, almost anywhere. But a channel conflict means destruction.

Radio Impound
At most model flying sites when an owner arrives his radio is impounded so that he can't turn it on by mistake when checking out his plane. If he did he would destroy someone's plane.

What About Us
Most of us started in this sport completely ignorant of ***radio control***. The CR 914 came with a radio that had an on/off switch. There were some instructions about how to install the various components. We went to the pond and sailed our boat and it was great.

A Refresher on What is Available
75 MHz Band – There are 30 channels (61-90) for us to use. This band is for ground models only (boats, cars, etc.).
27 MHz Band - These six channels can be used by planes and ground models. No intelligent plane owner would use this band for his planes, for obvious reasons.
53 and 55 MHz Bands – These require a HAM license. There are 18 channels that can be used for boats or model aircraft. To me that is a mistake the FCC has made. But I am not an authority about why it was done.

What's the Bottom Line?
No responsible model boat fleet will permit models controlled by radios using the 72 MHz frequency band. The local commodore, race director or whoever, is obligated to prevent the use of aircraft channels. It is simply unethical and irresponsible. Bigger fleets with more than 36 active boats may feel under pressure to accept them to relieve the pressure on available channels.



Buttons Padin's "*Gonzo*" on a High Speed Run
Note the bow wave over the bow and on deck and a wave boarding amidships. The bow is pressed deep into the water. Submarine and broach is imminent.

REGION 2 REGATTA

Saturday, April 24, 1999

CBMRA held the one day event at beautiful Mezick Pond, Sandy Point State Park, near Annapolis. After some delay setting the race course, 15 heats were sailed in variable conditions in the lee of the peninsula. Winds were north by northwest at 8 to 12 knots.

The wind shifts in the lee of the bulkhead and piers were challenging and reminded some of Redd's Pond in Marblehead. Despite this, there were a number of photo finishes.

A great day of racing in good company, who could ask for more?

Mark Zurmuhlen,
Commodore CBMRA

Race Results

Place	Skipper	Points
1	Bill Jenkins	26.75
2	Boris Hughes	31.50
3	Dave Ramos	32.25
4	Tagg Zurmuhlen	37.75
5	Tucker Thompson	45.50
6	Bucky Buchanan	54.75
7	Reg Genola	73.75
8	Tyler Johnson	102.0
9	Ernest Freeland	117.75
10	Mick Price	142.0
11	Tony Gibbons-Neff	192.0

1999 Cherry Blossom Regatta Invitational Match Race

Hosted by CBMRA

March 27, 28, 1999

Eleven boats raced on the Capitol Reflecting Pool in Washington, DC. It's an excellent venue at 2 feet deep and about 600 yards in length. The Japanese cherry trees were displaying their buds for our event.

Non-racing skippers provided excellent on-course judging for the two-day event. Only a few had previous experience in match racing.

Saturday's round robin racing challenged all skippers. A variable and bitterly cold 5 to 12-knot easterly prevailed the entire day.

Eleven flights of four match races were achieved by continuously running the one-minute AMYA standard start tape. The timing worked beautifully as the boats racing finished just ahead of the next match. This kept boats well separated on the course.

At days end Tim Mangus and Tagg Zurmuhlen had tied for first. Third was a three way tie between Sandy Grosvenor, Jim Sagerholm and Hank Buchanan.

The normal ISAF tie breaker would have eliminated Hank from further competition but the skippers voted to keep New Yorker Hank in the running for Sunday's competition.

Sunday's winds were 18 to 22-knots. A quick sail-off determined the final four competitors for the event. It was a day of endurance. Those with the stick time prevailed.

Newcomer Sandy Grosvenor, avid match-racer and enthusiast, succumbed to lack of experience in the heavy conditions.

Semi-finalist Tim Mangus narrowly escaped defeat in his match against Jim Sagerholm.

Semi-finalist Tagg Zurmuhlen experienced major equipment failure. Without time for tuning after repairs, he lost to Hank Buchanan in the Semi Final and to Jim Sagerholm in the Petit Final.

Hank Buchanan proved stick-time and tuning are important assets in heavy air as he defeated Tim Mangus in the Finals.

The Cherry Blossom Regatta was a great success and a learning experience for everyone. CBMRA will hold this event annually. We are looking forward to next year.

Mark Zurmuhlen,
Commodore CBMRA

CR 914 Regatta

Sunday, May 23rd.
At Inner Lagoon
Groton Long Point, Conn.
(near Mystic).

For details contact:
Doug Peacock, 366 West Shore Ave.
Groton Long Point, CT 06340
860-536-2160 dp2nddraft@aol.com

1999 CR 914 4th Region 1 Regatta at Redd's Pond

Marblehead, MA
June 26, 27, 1998

Enter Early-Reserve your radio channel
Registration - June 26, 11 AM, at Redd's Pond
Eligibility - Must be a registered CR 914 owner and AMYA member. Join at pond.
Entrance Fee - $15 includes lunch at the pond Sunday
Accommodations - E-mail, call or write:
Chuck Winder, 19 Robert Rd., Marblehead, MA
(781)631 6727 chuckw88@msn.com

1999 CR 914
Region 4 Regatta
Hosted by Edina MYC,
June 19/20, 1998

The event will be held in the North Pond of Centennial Lakes Park, 7499 France Avenue South, Edina, MN 55435. Approximately 3 blocks north of I494.
Enter Early-Reserve your radio channel
Eligibility - Must be a registered CR 914 owner and AMYA member. Join at pond.
Entrance Fee - $5

Registration and Accommodations
E-mail, call or write:
Tony Johnson, 80 Florence Drive,
Excelsior, MN 55331
(612)470 8818 tonyj@visi.com

Virginia Model YC

plans a **Region 3 Regatta**
at **Norfolk YC, VA**
September 11,1999
John Atwood is the contact at:
757/596-9701
atwoodj@tea-emh1.army.mil
More detail in the next NEWS.

Larchmont Spring Regatta Photo

Disappointing Boat Speed Finally Explained

(Boat was still faster than Buttons Padin's)

Rule Interpretations

Storm Sails
At the windy LMYC Spring Regatta one owner had a drastically cut-down mainsail and another had devised a way to reef his main. Both are legal under class rules.

Class Rule 13.2 The same suite of sails shall be used for all races of a regatta or series. A reefed sail is considered a smaller sail. It must be used as it was reefed in the first heat of a series or regatta.

Ballast not permitted
At the same regatta some boats **illegally added external ballast** mounted aft to keep from "nose-diving" in the strong winds. Class rules state:

14.1 Minimum allowable weight shall be 6 pounds 4 ounces for a complete boat ready to sail, including radio receiver batteries. ***Weight shall not be changed during a regatta or series of races.***

Further ISAF Appendix E5.4a *"ballast shall not be shifted, shipped, or un-shipped"* during an event.

Keel fin fillet
A boat with any **fillet** at the intersection of the fin with the hull is not legal. The rules no longer require that the keel be removable. However, the boat must still conform to the design which has no fillet.

If an owner in an effort to stop leaks and strengthen the hull/fin joint adds any fillet, the boat is not legal. Any amount of reinforcing can be added internally.

Bulb shape
A template will be used at sanctioned regattas that must fit over the bulb. If a kit bulb is smoothed and finished in a normal manner, the template will fit. The bulb shape must be axi-symmetric.

Boom Springs (Page 2 of AG Assembly Instructions.)
Even modified as permitted by the rules, these fittings continue to foul other boats.

As Class Secretary, I recommend that owners do not use them, even modified. A rule change will be proposed in the future. Local clubs may make them illegal at their events

Three options to replace these rings are the black boom rings (part #29), clove hitches using rigging line or 3/8 inch panel grommets (as discussed in the Sept-Oct 1998 NEWS, page 10)

GLUE APPLICATORS

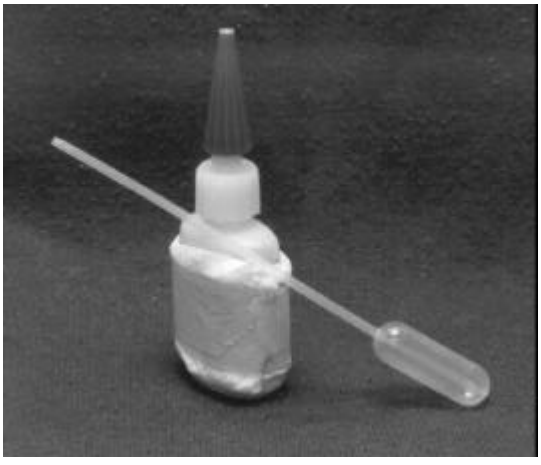
The photo shows a convenient way to control application of CA glue.

The nozzle on CA glue bottles invariably plugs-up. Even when they are open, it is difficult to control the placement and amount of glue.

The bulb applicator is a big improvement. In addition to giving excellent control, its nozzle tends not to clog. When it does just snip of the tube behind the plug. The long nozzle also allows getting glue to places unreachable with the bottle.

To load it squeeze the bulb and dip into an open bottle It sucks up the glue. They are available at your hobby shop or from catalog houses.

Also, Greg Worth suggests wrapping the bottle with a paper towel and masking tape to keep the glue from running down over your fingers. It works good.



RELIABILITY and SALTWATER

RADIO RANGE CHECK

Occasionally a boat will be sent out to race and control will be lost. A rescue will be required. *Don't you hate it when that happens?*

Do a **"range check"** before putting the boat into the water to avoid that annoyance:

1. With Tx antenna fully retracted, turn on the Tx and boat batteries.
2. Walk 20 paces (~60 feet) away from the boat and confirm that rudder and sail servos operate properly. Operate the servos vigorously for more than 10 seconds to exercise the batteries.
3. If everything works fine, launch the boat. Leave the Tx antenna down. Note at what distance control of the boat is lost.
4. Remember that distance. If the boat sails without range problems that day, you now have a bench mark to tell you when the system is operating well.
5. Every time you sail your boat, start with Tx antenna down and check the "loss of control distance" against the above benchmark. If the distance is less something is wrong.

The above is drawn from the standard pre-flight test performed by all responsible model airplane owners. With airplanes loss of control means a destroyed airplane. Worse, someone could be injured.

With model boats you might lose a regatta you trained all year to win. You might even damage another boat.

Play it safe, make a ***range check*** a standard part of your boating.

JIB BOOM TACK FITTING FAILURES

Fix it now so it doesn't break at the Nationals.

The deck fitting that attaches the jib boom to the deck is the most highly loaded deck fitting on the boat. It frequently fails during collision with a boat or dock.

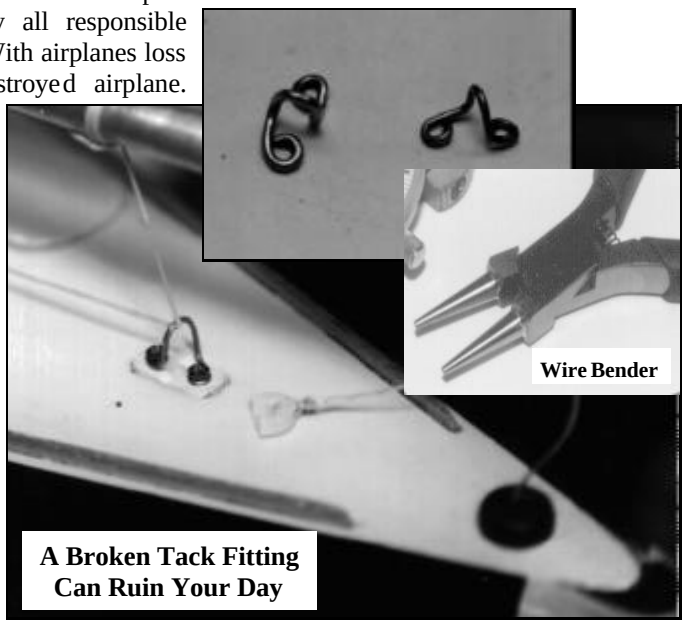
The July-August 1998 NEWS offered some fixes. Here are some more.

An Easy No-Brainer
Tie a loop of line around the "eye" of the fitting before it is screwed in place. If the eye breaks you can still sail the boat.

A Bent Wire Solution
The photo shows how the eye of the fitting breaks off at deck level. Even if the fitting has been glued in, a wire eye can be fastened using the original screws.

Buy wire at a hardware store in straight lengths 12" long. Try 3/64" (0.047") diameter. brass wire. Soft brass 1/16" diameter wire is difficult to bend. Don't use piano wire. Its is too stiff and rusts, too.

The inset shows a wire bender. Sears has them. Makes the job easy.



Wire Bender

A Broken Tack Fitting Can Ruin Your Day

What is the Range of Radio Control?

Owners often ask, "How far away can a boat be sailed and still have control?"

Boat A
A simple experiment was done. First, boat "A" was sailed with the Tx antenna fully down. At about 200 feet, probably further, control was lost

Then, with the Tx antenna fully extended and *pointed at the boat*, the boat was sailed to the end of Redd's Pond, a distance of over 500 feet. (*Note that lowest signal strength gets to the boat when the antenna is pointed at the boat.*) At that distance, full control was maintained as the boat was steered through 360's with rapid operation of the sail servo. The actual range was probably much more than 500 feet.

No model race course will have race marks 500 feet away.

Boat B
With the Tx antenna down, boat B was laid on the grass at the pond.Control was lost at ~70 feet.

But in the water, control was lost at approximately 25 feet!

Control was maintained to 400 feet with the Tx antenna fully extended and pointed at the boat. That's far enough for racing, though this kind of performance is cause for concern.

When the antenna was raised to vertical, control at 500 feet was possible.

(Both boats had internal antennas as described in the January-February 1999 NEWS.)

Why the large difference in range between boats A and B?
We don't know but hope to have the answer in the next NEWS.

Conclusion
The range of a healthy radio is more than adequate for our racing needs, even with an internal boat antenna.

BATTERY MANAGEMENT

NiMH BATTERY SOURCES

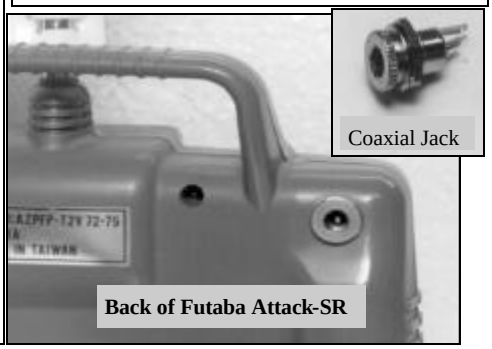
Since the last NEWS two lower cost sources for AA size NiMH batteries have been found. Recall the previously recommended source was TechAmerica, 800 877 0072, who sold a set of 12 for $56 delivered.

John Atwood, Norfolk, passed on this source for the same GP brand as offered by TechAmerica. I have been happy using GP batteries in my boats for over 19 months.
Thomas Distributing, Paris, IL.
http://www.batterysupply.com/gp-130aah.htm
800 821 2769, 888 422 7234
M-F 9 – 4:30 CST, Saturday 9 – 12 CST
Twelve cells plus S/H are ~ $35.

Steve Lang, a new owner from Colorado, told us about BatteriesPlus, a retail store specializing in batteries. There are retail stores located around the country. They also sell the GP brand.
BatteriesPlus®
http://www.batteriesplus.com
800 677 8278
Twelve cells plus est. S/H are $36.50.
Four cells with a charger are $25.

Charger Connector

CR 914 kits now come with the Futaba Attack-SR radio which does not have a connector to charge batteries. Install in the back radio case (upper right hand corner) a 5.5 mm OD x 2.1mm ID C*oaxial DC Power Jack*, RadioShack Cat. No. 274-1563A. Wire it carefully. It works with the recommended Futaba FBC-8B charger.



Back of Futaba Attack-SR

HOW TO USE BATTERY VOLTAGE TESTERS

Important! Test the battery for a minimum of 10 seconds. Continue the test until the voltage stops dropping.

(Also see bottom of page 10)

The typical inexpensive battery tester has a meter and a way to apply a load to the battery. One type has a button which is depressed to load the battery.

Recommended procedure

1. Connect the battery and apply the load (depress the button).
2. Load the battery 10 seconds **minimum**. Don't guess, count 1, one thousand, 2, one thousand, 3, etc.
3. Watch the needle on the voltmeter. If it is slowly dropping, keep the load on the battery. Don't release the load until the voltage is constant.
4. If the voltage continues to drop, the battery should not be used.

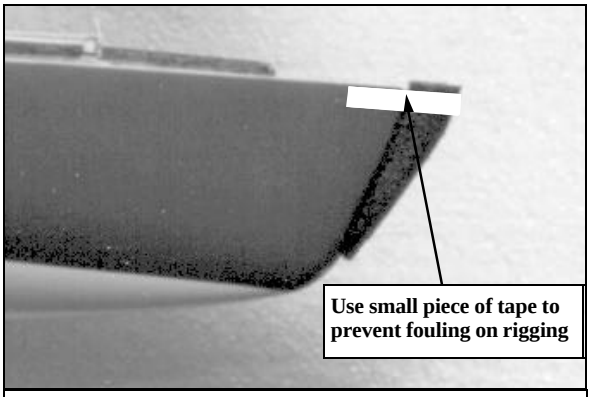
Remember, a battery that is fully discharged will have good voltage if it is measured when the battery is not loaded. When loaded it may still look good for a short time.

Don't worry about running down the battery with the test. A full 60 second test at 300 mA of a good 600 mAh battery will use less than 1% of its charge.

NEW MEMBERS

Last Name	First Name	City	State	Sail Number
Arndt	T. D.	Mamaroneck	NY	361
Bauer	Joe	Waban	MA	284
Beck	Richard D.	Scarsdale	NY	384
Bruno	Marian R.	Alexandria	VA	280
Corning	Chad	New Rochelle	NY	362
DeVore	H. L.	Larchmont	NY	388
Evans	Hugh K.	Cos Cob	CT	279
Fitzgerald	Jack	Savannah	GA	912
Gilbert	James	Haverhill	MA	447
Graves	Mike	Georgetown	TN	789
Hearn	Dean	Hixson	TN	653
Honan	Richard D.	Winthrop	MA	312
Hope-Ross	Denis	Annapolis	MD	311
Jenison	Walt	Signal Mountain	TN	286
Lang	Stephen	Evergreen	CO	530
MacMillian	Loyal	Essex	CT	925
Matt	Rich	Riverside	IL	246
McMullen	Lee	Elburn	IL	567
McMullen	Lee	Elburn	IL	577
McMullen	Lee	Elburn	IL	583
Miller	Derek	Stamford	CT	727
O'Brien	Dave	Winthrop	MA	877
Peterson	John	Short Hills	NJ	287
Rains	William	Irving	TX	288
Rodriquez	Reynaldo	Annapolis	MD	949
Rokosz	John	Belmont	MA	285
Schaffner	Chip	Lakewood	OH	440
Spencer	Ted	New York	NY	391
Squire	Robert	Alexandria	VA	283
Tucker	Paul B.	Mamaroneck	NY	405
Zavell	Marty	Larchmont	NY	377

THE BOATYARD

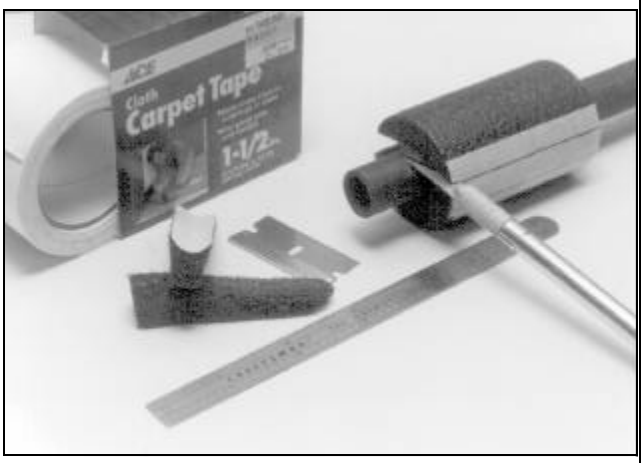


INTERIM BOW BUMPER

How to make one.

Note: Ideally one or more individuals in each fleet will make the bumpers for everyone.
The first bumper attempted may be scrap. Just do it again, the material is cheap. After you try a few the results will be good and making a bumper will take about 15 minutes.

Start by buying a length of ½ inch pipe insulation of plastic foam at any hardware or building supply. A six-foot length costs about a dollar and will make about fifty bumpers. The hole in the middle is 5/8" and the outside diameter is 1½". Its color is gray/black.



Cut off a 2 ½" length. Use masking tape on the outside surface to mark parallel cutting guidelines 3/8" apart. Slip the foam onto a 5/8 diameter pipe or 5/8" dowel to use as a cutting tool. Mount the pipe (or dowel) in a vise at a convenient angle for cutting.

Start the cut with the *side* of the point of a *fresh* #11 X-acto® blade resting on the surface of the pipe. Make a cut the full length of the foam following the line you marked above and keeping the point of the blade against the pipe. Cut the other side the same way. Keep the foam firmly in contact with the pipe during the cuts.

The piece you now have will have ragged thin edges on the concave surface. Use the knife and a straight edge to trim the edges straight.

Shaping the Bumper
Hold the piece to the stem of the boat to judge the angle to cut the top end so it matches the deck.

Starting ½" down from the top, taper the for-and-aft thickness with a knife or a razor to 1/8"minimum at the bottom. Round the edges using a knife and/or sandpaper. (see the photos). Maintain the full fore-and-aft thickness at the top end (~7/16 inch).

How to install it
Install on the stem using double back "Carpet Tape". If you cut a suitable size piece and then fold it in half, sticky side out, it will be easier to stick to the concave surface of the bumper. Trim off excess tape.

It may be useful to mark a centerline on the deck at the bow (use masking tape) and on the bumper. This will help you align the bumper as you install it.

Pinching the the front top of the bumper will flatten the curvature on the aft face of the bumper. That makes it easier to install when the tape backing paper is removed.

Install it with the top of the bumper a little higher than the deck to give maximum protection. Stick the bumper to the stem at deck level first and then align the bottom part as you adhere it the full length.

Expectations
There have been no on-water-crash-tests. We have done bench tests following calculations and expect this bumper will give excellent protection until the final production design is available.

LOST YOUR NUTS?

Occasionally a boat owner will misplace the nut that holds on the keel. While waiting for a replacement from Worth Marine, buy a spare from the local hardware. Ask for a 5mm x 0.8 pitch metric nut.

There are conventional hexnuts, wingnuts and locknuts. The latter have a nylon insert that prevents the nut from loosening, but requires a wrench to install. A bother and not necessary.

They are plated steel and might rust. Keep them coated with Vaseline.

Stainless nuts are available if one spends time searching the Yellow Pages. Look under "fasteners" and "bolts and nuts". One source is:

Metric Screw and Tool Co.
9 Lake Street
Wakefield, MA
(781)245 4950
Hrs – 8-5 M-F (Closed for lunch 12-1)

An Excellent Battery Tester Idea

Larchmont MYC has a club battery tester for use by all members and guests. To accommodate different boats they have spliced into the test lead all of the connectors in use at the club. I didn't count or list them, but it is hard to imagine a battery pack that could not be tested.

CR 914 YACHT REGISTRATION

AND

SUBSCRIPTION TO "CR 914 NEWS"

Circle Choice(s):	**Registration and transfer (a one time only fee)**	**$5.00**
	Subscription or Renewal to the NEWS	**10.00**
	Registration and Subscription Combined	**13.00**

NAME _____ **Date** _____/_____/_____

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ADDRESS _____**E-MAIL** _____

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AMYA NO. _____ **PREFERRED SAIL NO(S).** _____

CLUB AFFILIATION _____

Send check to Chuck Winder payable to: C. R. Winder/***AMYA***

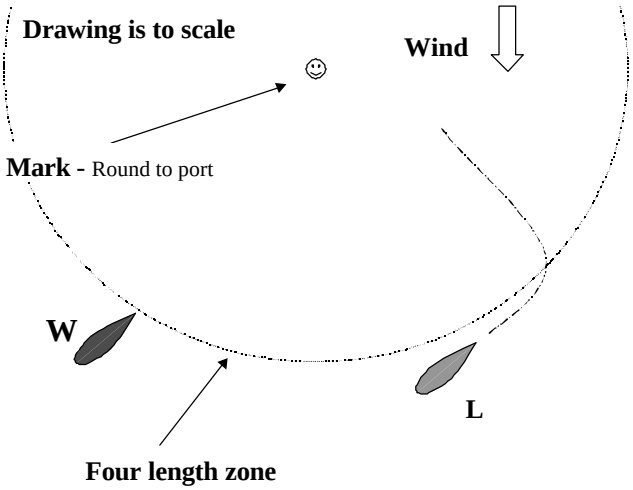
Chuck Winder
19 Robert Rd.
Marblehead, MA 01945
781 631 6727
chuckw88@msn.com

RULES INTERPRETATION

by Mary Savage, US Sailing Rules Judge
On-course Judge at LMYC Spring Regatta

Once L completes her tack onto starboard, then rule 18.3 will apply to W (port) because NOW they are two boats on opposite tacks. If W (P) completes her tack in the Four Length Zone (which she will obviously do), rule 18.3 will apply to her. When W (P) tacks, she shall not cause L (starboard) to sail above close-hauled to avoid her or prevent L from passing the mark. In addition, if W tacks to windward or clear ahead of starboard, W shall keep clear if L becomes overlapped inside her (and, as an extra incentive for W to stay out of the way, rule 15 does not apply in this circumstance, so if L establishes an inside overlap from clear astern, she does not initially have to give W room to keep clear. Rule 16, however, continues to apply, so, once S establishes an inside overlap on W, she cannot alter course unless she gives W room to keep clear.).

To summarize: L, as the boat tacking to starboard, has some obligations under 15 (to initially give the other boat room to keep clear) and possibly 13 (to keep clear of the other boat from the time she passes head to wind until she is on a close-hauled course). And rule 14 always applies to ROW (right-of-way-boat) and give-way boats alike. If L, as the boat tacking to starboard, fulfills those obligations, then rule 18.3 applies to W as described above.



When L completes her tack onto starboard <u>within the 4 length zone</u>, she becomes ROW (Right-of-way-boat) under 10 and 18.3. Rule 18.3 applies to W.

Chuck Winder
19 Robert Rd.
Marblehead, MA 01945

Worth Marine's New Floating Masthead Wind Vane

Acting on an idea from Ted Spencer, Larchmont MYC, Greg now makes the vane of a thin sheet of foam. Now, when the boat is tipped up to drain, the wind vane still falls out, but it floats.

CR 914 SAIL EMBLEM
Full Scale

Future articles in the CR 914 NEWS

The following is a list of articles that are planned for future 914 News. What will actually appear depends on input from you owners in the form of contributed material and requests for particular information.

-Regatta results
-Fleet news
-Battery management - continuing
-Surviving salt water - continuing
-Race rules of sailing topics
-Why do radios "glitch"?
-Class Rules Interpretation - continuing
-Maintenance and repair of radio components
-Building and maintenance - continuing
-Scoring systems
-Boat switches
-Conduct of a model race

START YOUR OWN MODEL YACHT CLUB

There are probably some owners who would like to race but don't have a local club. Start your own by getting three AMYA members together. That's all it takes! (Though it helps to have a place to sail such as a pond.) Ask me for a