

the CRonicle

a stroll down



The CR 914 class needs more exchange of information—914ers need to learn what’s going on in other fleets and in other parts of the country. Our goal should be to see some news about every active fleet at least once a year. Regatta reports don’t count, since most of them are published only on our website and they rarely provide much information about the fleets that host them. So far this year we have published (non-regatta) photos or news from our Larchmont, Cincinnati, Marblehead, Chesapeake Bay, Cleveland and Mid-Missouri fleets, and in this issue the Blue Crab, Seattle, Syracuse, Laguna Lakes, San Diego and Blue Ridge fleets weigh in as well. If *your* fleet is among the 16 that do not appear on this list, get after your fleet captain, or better yet, take some pictures and/or write something up for Issue 53 or 54 yourself. — THE EDITOR



photo credits: Nils van den Beemt

“This might take awhile...”

Algae? We Laugh at Algae

by Nils van den Beemt (Blue Crab MYC, Gaithersburg, Maryland)

The Blue Crab Model Yacht Club has had the good fortune of being granted access to an excellent sailing site: the Germantown Maryland Soccerplex. When the 25+ high quality soccer fields and associated buildings were built a few years back, the construction site sported a “sediment control pond” which was destined to become a “stormwater management pond” – county governmentspeak for a facility the public could enjoy. It’s size, shape, clear exposure to wind, adjacent parking lot, (restrooms within 300 yards – essential for RC yachting) and, ultimately, a dock made it a far better venue than any other in the County. In our first season we struggled with algae, like many fresh-water pond-bound clubs, but the County did treat the water to perhaps some benefit. Sure, we lived with some algae, but none of us was prepared for the nightmare that was to come: The Attack of the Weeds – which made algae look like food coloring in the water.

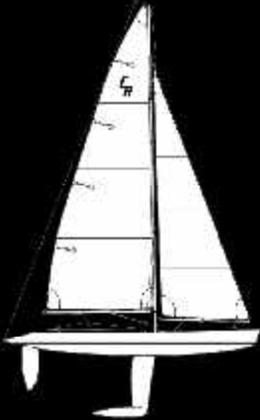
“The Attack of the Weeds made algae look like food coloring in the water.”

INSIDE THIS ISSUE

- Inner Harbor MYC.....2
- VMSRYC.....3
- Laguna Lakes MYC.....3
- San Diego YC.....4
- Blue Ridge SC.....5
- Chesapeake Bay MRA5
- Mid-Missouri MSC.....6
- Marblehead MYC.....6
- Why race sailboats?7
- Starting to race7
- Letters to the Editor7
- Rechargeable batteries 1018
- Engineer’s reports10
- Class website news11
- Spektrum DX6 update12
- Who’s gotta regatta14
- 2006 Nationals14
- Future regattas14
- Nationals NOR and entry form.. 15
- New boats and owners16
- CRonicle honor role16
- Website password16

CR 914 Class

A one-design class
member of the
American Model Yachting
Association



www.cr914class.org

Class Secretary

Dick Martin Columbia, MO

Class Measurer

Chuck Winder Marblehead, MA

Advisory Committee Members

Ernest Freeland Annapolis, MD

Pablo Godel West Chester, OH

Howie McMichael Larchmont, NY

Buttons Padin New Rochelle, NY

Dave Ramos Arnold, MD

Class Webmaster

Pablo Godel West Chester, OH

the **CRonicle**

is published quarterly

Send comments, articles
photos and other material

to

the **CRonicle**

Dick Martin, Editor
1206 Castle Bay Place
Columbia, MO 65203
email: rhm@ussailing.net

In the Summer of 2005 the pond was drained so the final pond shape and drainage plumbing could be configured. We knew this was coming, but we anticipated an even better facility once it refilled. And since it is the catch basin for more that 120 acres of surrounding park and fields, it doesn't take too much rain to bring the level up. Unfortunately, late summer 2005 was dry – very dry – and instead of water, we got ... weeds. Three-foot tall weeds. We joked about buying a club lawnmower. But confident the weeds wouldn't survive the winter, we patiently waited. Come spring, it became apparent that the pond was leaking, so it was drained again. What followed was an unusually dry spell, and once again the weeds went wild. By the time the end of the summer came around we had the problem you saw on the previous page. We had the water we had been waiting for, but the weeds were everywhere. And a club lawnmower wasn't going help. Even where the water was three feet deep, there were weeds and, as you can see, the dock was surrounded. We tried other sailing venues, but nothing was nearly as good for RC sailing.

So, on Labor Day Weekend, BCMYC invested in waders, not because the water was cold, but to keep the tadpoles out of my shorts. On Labor Day at 10 AM



An average fistful of weeds

four of us descended on the pond determined to clear the weeds and return our favorite sailing site to the skippers. The photo above tells the working story: while I grabbed fists full of weeds and tossed them to the dock, another of us pitch-forked them into a pile that ultimately would be large enough to fill a large pickup truck.

Two hours, and a sore back, later, we declared victory. And now we can sail again – if the algae doesn't get too bad. **A**



See you next Sunday at noon!

Inner Harbor Model Yacht Club, Syracuse, NY

by Tyler Cagwin

We are just finishing up our nine-week summer series which followed our nine-week spring series and we will be starting our fall series in a few weeks. We have typically had six to eight boats sailing and the competition has been close. Lee Cagwin won the spring series by a large margin but the summer series is coming down to the final race with Lee Cagwin still in front, Charlie Elve and Sub right behind him, and Paul Talaga's *Knot Fast Enough*

and Tyler Cagwin's *Uprising* all close behind.

From mid-May through September our racing is every Tuesday evening starting right at 5:30 on the east end harbor of Onondaga Lake. From mid-October until the ice comes we sail Sundays at 3:30, and then we start that again when the ice clears until mid-May. We would love to have anyone in the area come and visit, boat or not. We are happy to rotate people in. **A**

Virtual Model Sailboat Racing Yacht Club, Bellevue, Washington

by Jim Owens

I wanted to report that for the first time, one of our members, Ted Garman, won every one of our 12 races on Sunday, August 13th at the Downtown Bellevue Park Pond. No one has ever before won every single race in a day. Last Sunday Ted arrived early and had been tuning and adjusting his boat for a half hour before I arrived to set out

the buoys.

We have been racing on Sundays in this small, ten-inch deep pond since 1999 when the VMSRYC was formed, and Ted Garman signed on as a charter member. Ted, who hones his CR 914 racing skills on a Snipe, currently possesses our famous Rotating Beer Can Trophy.

Here is a picture of Ted's boat, #688, Dennis Dickert's boat, #1080, Ted Watson's new boat, #1359, and my boat, *Tabasco*, #541. You can also see our beautiful Bellevue skyline and a few of the construction cranes that dot our booming city. 🏗️



Laguna Lakes Model Yacht Club, San Luis Obispo, California

by Phil Adams



Our club is in a bit of a transition period right now. The founder of LLMYC and the person who has really been the driving force behind our club, Paul Genshaw, has decided to step down as Commodore. Paul has been a wonderful mentor to everyone involved. He is always there with a helping hand for construction, tuning or repair jobs. He has bent over backwards to make sure we all have the best equipment and provided the leadership to ensure sailing at the lake would be as enjoyable as possible. Fortunately for us he will continue to be lakeside often to provide examples of his sailing expertise for which we can strive. He's going to always be considered the Admiral!

The number of boats in our fleet continues to grow at a slow but steady rate. Some of the things we have done to try to drum up interest have included putting up flyers at local

hobby shops and having a sailing demonstration at the local "people boat" yacht club. We usually sail on Tuesdays and Thursdays, so we set up a race result board to draw attention to our activity, and have cards with printed information sources to hand out to interested parties.

Our club now has a website (<http://lmyc.spaces.live.com>) thanks to webmaster Wade Akle. On the website

is information about an approved modification to the mast head crane (MHC) that we have found valuable. As the lake level drops in the summer we have to launch and retrieve our boats using a long pole with a hook on the end to lift the boats up by the MHC. We found that a reinforcing of the MHC was necessary and devised a method that has received approval from the class Advisory Committee.

We usually manage to get in ten races every day we sail, so we get lots of practice and the competition is hot and heavy. A couple of us recently went up to the San Jose area to race with the Shoreline MYC. We had a great time and sometime in the near future we plan to get our clubs together for a Nor-Cal regatta. That's all for now; we Shoreliners hope you all have had as fine a sailing summer as we have. ☐

CR 914 Model Yacht Fleet of San Diego Yacht Club

by Carl Hancock

Greetings from sunny San Diego, this year's venue for the National Championships which, you all know, will be held October 20-22, 2006. Those of you who are planning to come won't be disappointed. We'll have blazing fireworks, exotic dancing girls, endless fountains of champagne, and .. wait, wait, wait ... wrong party. Sorry. Coastkeeper said no more fireworks, the auxiliary nixed the dancing girls, and

the dockmaster said that an entire fountain of champagne would likely bring out the undesirables. But we will have lots of racing. And maybe we can sneak out a couple of kegs to the dock.

The latest request for material for the *CRonicle* asked for ideas about what you all do when it freezes over. Sorry, we can't help you. It doesn't freeze here. It rains. Sometimes. So we race all year long. We do have a break in the

action after October, but we start right back up in January and race once or twice a month until summer, when, since it is still officially that season here, we race every Friday evening. So if you're in the neighborhood, drop in. There's always a spare boat sitting around.

The San Diego fleet has grown steadily from its meager beginnings five years ago to a robust group of 35 boats.



Members of the Model Yacht Fleet of San Diego Yacht Club, on Dennis Conner's *Stars and Stripes*, a full size Cup Racer. Standing, from left: Bob Feinstein; Jean Malthaner, #476; Dick Slayter, #495. Seated, from left: Sandy Purdon, #970; Douglas Mc Kerrow, #972; Peter Van Horne, #582; David Ryan, #973; Tom Healy, #975

Fleet Captain David Ryan and our local boatwright, Jean Malthaner, have labored tirelessly to promote and improve the fleet, and we're hoping it pays off with some good performances in October. Friday evening racing is punctuated by Tuesday afternoon clinics, where the focus is on boat-tuning and sailing mechanics. In addition to a 32-race schedule, we hold an April regatta and barbecue, a Fourth of July regatta, and a late-summer charity race. The

evening racing, usually sailed before an array of the often curious, is held off the patio deck of the San Diego Yacht Club while the more serious stuff is raced in one of two other venues near the Club. From light-and-fluky to plenty-of-breeze, the three areas nicely contrast.

Those of you who are still waffling over attending the Nationals, come out and join us. We'll throw you a couple of really fun parties, give you a nice

place to race, and swap sea stories. And if that's not enough, there's San Diego itself, a true mecca of sailboat racing, where you can hop on an America's Cup yacht or the replica of the *America* itself and sail around the Bay, tour the WWII flat-top U.S.S. Midway, see the Zoo or the Wild Animal Park, or lie on the beach and do nothing at all. Even without a fountain of champagne, you'll be glad you made the trip.

Blue Ridge Sailing Club, Lake Monocan, Virginia
(photos from LMYC website, www.stoneycreekwtg.org/sailing_club.html)



Regatta on July 12, 2006



Kemp Bond with his CR914 *Bond Voyage*

Chesapeake Bay Model Racing Association
by James Appel

Twenty boats participated in CBMRA's Summer Series, which consisted of one Tuesday evening series of races each month. Each evening 11 to 15 boats sailed 8 to 12 races. A tie-breaker was required to decide the top three finishers, and only three points separated first from fifth place. The top seven places, with points based on each boat's placement in each of the monthly series, are shown in the table.

The winter series will start with a kick-off day of sailing on Sunday, No-

vember 5th at the Chart House in Eastport. The follow weekend will be the CBMYA Invitational at Sandy Point. We will then be sailing the first and third

Sundays at the Chart House during December, January, February and March; then it's back to Tuesday nights in April. 🏠

<u>driver</u>	<u>boat name</u>	<u>#</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>points</u>	<u>place</u>
Dave Ramos		238	0	12	14	26	1
Tucker Thompson	<i>www.t2p.tv</i>	1270	0	13	13	26	2
Steve Mc Laughlin	<i>Silk Cut</i>	309	9	7	10	26	3
Bucky Buchanan		833	6	6	12	24	4
Clay Bartel	<i>America True</i>	51	2	10	11	23	5
James Appel		69	7	5	8	20	6
ErnestFreeland	<i>Sunburst</i>	956	8	11	0	19	7

Mid-Missouri Model Sailing Club

by Dick Martin

Opening Day - Our all-time record was tied when eleven sailors, including one from Kansas and three from the St. Louis area showed up to race in perfect sailing weather on April 9. Here are a couple of photos taken that day.



photo credit: Dick Martin

Traffic jam: Street scene on Opening Day

Columbia's Cup - We look forward to an even larger turn-out for our Columbia's Cup Regatta on Sunday, November 5. Entries thus far, from Minnesota, Kentucky and Missouri, include a former CR 914 national champion and

this year's AMYA Region CR 914 champion. Only seven registration slots remain available, so get your entry in soon. Full details, the Notice of Race and an entry form are available at www.m3sc.org/ccr. 📷



photo credit: Carole Martin

Opening Day Action: 10x telephoto view from the far side of the pond

Marblehead Model Yacht Club

by Chuck Winder

Corinthian YC Youth Sailing Event

Marblehead Model YC participated in a youth model sailing event at Corinthian YC on Tuesday, July 18. Peter Stier, CYC Youth Sailing, was the organizer with support from Sarra and Stuart Tubbs. Six MMYC members provided eight CR 914s for the kids to sail. A hot westerly provided good sailing conditions until later in the evening as the wind finally faded. The day was a scorcher at about 95° F.

Stuart Tubbs gave an introductory briefing on how the boats work and the

importance of avoiding collisions. Of note is that there were no intentional collisions and few unintentional ones.

Ages varied from 7 or younger upwards to 12. They all quickly mastered boat control assisted by boat owners. An occasional parent was seen sailing the boats as well (they were almost as competent as the kids). All were well behaved and politely thanked the owners for use of the boats.

A triangular race course was set up in front of the main CYC float. The regulation AMYA start-sequence CD

was used to start racing. Despite the kids' lack of experience with model boats, the racing was quite good. They quickly mastered sailing the models, helped in all probability by the video game and computer savvy that the young now possess.

The Youth Program staff provided ice water and pizza for participants as well as marks for the race course. Festive balloons and a sign marked the event.

Boat owners retired to the CYC bar for post-race refreshment. 📷

*Chesapeake
Performance
Models*

www.rcyachts.com

Dave Ramos

227 Main Street
Stevensville, MD 21666
(410) 604-3907
(410) 604-3908 fax

A brook would lose its song if God removed the rocks.

If your dreams turn to dust... vacuum.

We act as though comfort and luxury were the chief requirements in life, when all we need to make us really happy is something to be enthusiastic about.

- CHARLES KINGSLEY

Why Race Sailboats?

Excerpt from a story on the Yacht Racers Online website, www.yachtracersonline.com/why_race_sailboats.htm

“No more expensive way of going really slowly has been invented by man than sailing.” (Chris Caswell, *The Quotable Sailor*). No less of a quandary to the land lubber is the idea of racing boats moving at speeds no faster than a man can run...

But regardless of the outsider's view, there is something about the sport of yacht racing — the heart pounding pressure of competition, the brain straining tactics and strategy, the fortune telling of wind events, the stress of seeing heavy floating masses of fiberglass converge just inches apart with no brakes, the tension of stop watches clicking the seconds away, the sounds of grinding winches, crackling sails, hull pounding waves and the firing start gun, the intense focus on telltales and advancing waves, and the winning or getting closer to winning — that just gives us all a rush and keeps us coming back for more week after week. We just love the challenge.

Yacht racing is also known as the most complex sport ever invented by man. Pick a sport. Any sport. And find that in sailboat racing the venue is not a fixed football field or basketball court or even a racetrack, but is a changing surface that is sometimes flat, choppy, confused, peppered with different sized waves with different periods and heights, coming at the boat from different directions, with characteristics that differ from location to location.

A sport where the predominant forces of wind and water are unknown from moment to moment, where velocity, direction, and consistency may vary by height from sea level. A sport where the participating vessels can only move forward and the predominant factor controlling chaos is the “Corinthian spirit” and each participant's understanding of the rules. A sport driven by teamwork, intellect and sometimes physical and mental endurance. A sport where sometimes different boats may be used, each variant having a different

speed, and requiring different rigging and sails and unceasing learning.

There is no question that yacht racing is an intellectual sport more than a strictly physical one; where one's age, height, physique, or gender does not determine the winner. Anyone with the developed skill — skills that can be learned — can win. 🏁

Starting to Race

A big obstacle [to starting to race] for some people is a sense of insecurity and concern that they'll make mistakes or cause problems. To those folks we point out the eternal truth of sailboat racing — mistakes are normal and, in fact, nobody ever sails a perfect race. As long as you don't sell yourself as more experienced than you are and are willing to ask questions when you need guidance, you'll do fine. Racers are always eager to explain what you should do next, because every good explanation means another mistake avoided.

— Excerpt from “Five Ways to Start Racing” by John Burnham in *Sailing World* magazine.

Letters to the Editor

The *CRonicle* needs some give and take.

Nothing you read in these pages is required to pass extensive peer review or represent the gospel truth or even a consensus of opinion before it is published. If you spot something you question or disagree with, speak up. Send us an email and ask the author to clarify what he or she wrote. Or give us your point of view about something some author has said.

Likewise, if you find an article to be particularly helpful, tell us that too. Positive feedback is surprisingly rare, and highly appreciated by all authors (who are advised to follow a rule I learned early in my career: assume that each note of praise or support speaks for at least ten other silent souls who felt the same way).

To get the ball rolling, here is our first email to

— the Editor

From: Chuck Winder [chuckw88@msn.com]

Sent: Tuesday, July 04, 2006 11:01 AM

To: Editor, the *CRonicle*

Subject: Saltwater Precautions

Buttons Padin, in *Cronicle* Issue #51 on page 2, said to rinse the inside of the boat “with fresh water every few weeks.” The “Class Recommendation” should be after every sail.

At Larchmont I usually rinse after every trip out to the raft to race. Takes less than a minute to pour a cup of water into the boat, swish it and drain it out. Letting saltwater dry is not healthy for the boat. In fact, I use the hose to rinse off the whole boat if I remember to. As I recall that is Howie McMichael's recommendation too.



Rechargeable Batteries 101

by Dick Martin

A 'gas tank' analogy

Think of your battery as a fuel tank. The fuel is electricity, and the 'octane rating' of that fuel is the voltage the battery delivers to your servos or transmitter.

A size AA battery of the kind used by CR 914s delivers a nominal 1.2 volts per cell. In battery packs the cells are connected in series, so a 4-cell battery delivers 4.8 volts and the eight cells used in a transmitter deliver 9.6 volts. (These numbers approximate the voltage during the long, nearly flat, plateau of voltage in the middle of the battery's voltage vs. time curve; the exact voltage at any given time depends upon the load applied to the battery and how nearly charged or depleted it is, as can be noted in Figure 1).

The rate of flow into and out of the tank is expressed in milliamperes (mA). The capacity of the tank is expressed in milliamp-hours (mAh). When you discharge and charge a rechargeable battery you are simply emptying and refilling this tank.

Consider a 2500 mAh battery. Its tank 'holds' 2500 mAh. If you start with a full tank, and drain it at a rate of 250 mA, you will run out of fuel in 10 hours. If you start with an empty tank and pump fuel into it at a rate of 50 mA, it would take 50 hours to fill it completely if the charging process were 100% efficient.¹ And if you start with a full tank and sail for five hours (a process that 'burns fuel' at about 250 mA per hour) when you quit your tank will be half full (still containing 1250 mAh), and it will take only 25 hours to refill it with a trickle charger that 'pumps fuel' at a rate of 50 mA per hour [(50 mA x 25 hours = 1250 mAh) + (1250 mAh left in the tank) = 2500 mAh].

Battery chemistry

(Portions of this section are borrowed from Wikipedia, http://en.wikipedia.org/wiki/Nickel_metal_hydride_battery.) For our purposes, nickel metal hydride chemistry is superior to the nickel-cadmium approach that was the earlier standard for most small rechargeable batteries. Although NiMH batteries first became commercially available in 1983, the development of the inexpensive and high-capacity AA NiMHs we use today was stimulated by the rapid growth of the digital camera market in the late 1990s.

NiMH batteries use a nickel hydroxide cathode and an alkaline electrolyte, usually potassium chloride. The anode reaction is as follows: $\text{H}_2\text{O} + \text{Mm} + 2\text{e}^- \leftrightarrow \text{OH}^- + 0.5\text{H}_2$. The

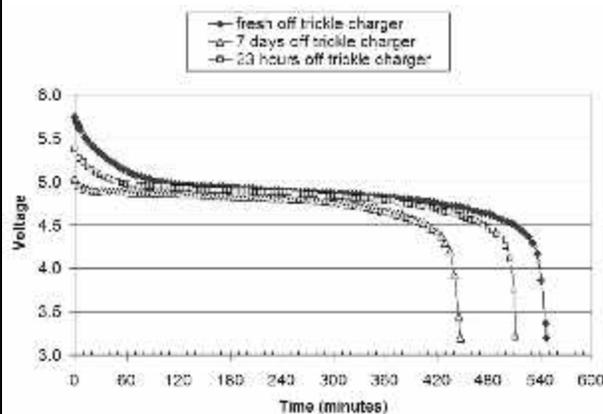
¹ 'Refueling' is somewhat inefficient, and it may take as much as 140% of a battery's capacity to refill it completely. For simplicity this inefficiency is usually overlooked when applying the fuel tank analogy.

battery is charged to the right in this equation and discharged to the left. The hydrogen evolved during charging is stored as metal hydride rather than being evolved as a gas.

The "mixed metal" in a NiMH battery (Mm in the above equation) is an intermetallic compound. The most common type is AB_5 , where A is a rare earth mixture and/or titanium and B is nickel, cobalt, manganese, and/or aluminum. Higher-capacity multi-component electrodes are based on AB_2 compounds, where A is titanium and/or vanadium and B is zirconium or nickel, modified with chromium, cobalt, iron, and/or manganese. Any of these compounds serves the same role, reversibly forming a mixture of metal hydride compounds. When hydrogen ions are forced out of the potassium hydroxide electrolyte solution in the battery by the voltage applied during charging, this process prevents them from forming a gas, allowing low pressure and volume to be maintained. As the battery is discharged, these same ions are released to participate in the reverse reaction.

Modern NiMH batteries contain catalysts to immediately deal with gases developed as a result of over-charging ($2\text{H}_2 + \text{O}_2 \xrightarrow{\text{catalyst}} 2\text{H}_2\text{O}$). However, this only works with currents of up to one tenth of the capacity of the battery,

Figure 1. Voltage vs. time curves for a 2700 mAh SANYO 4-pack demonstrating self-discharge



Measurements were made with a Mastech MAS-345 digital multimeter interfaced to a computer running Mastech DMM View software. An Accu-Cycle Elite programmable battery analyzer was used to discharge the battery at 295 mA. The brand-new battery was cycled several times until constant performance was observed before recording these data. These data show that 6% of its capacity was lost as a result of self-discharge in the first 23 hours after the battery was taken off trickle charging, and after seven days its capacity had decreased 18%.

abbreviated C/10; this explains why long-term trickle charging, discussed on pages 10-11 of this issue, must be limited to C/10 or less.

Practical issues

Reforming - Although the misnamed “memory” phenomenon that reduces the capacity of NiCad batteries over time is much less of a problem with NiMH chemistry, brand new NiMHs or ones that have not been used for some time may need several charge/discharge cycles before they will reach their full rated capacity. Never discharge an NiMH battery completely (there is no hazard from doing so, but it may damage the battery). Devices designed to perform this cycling procedure automatically cut off the discharge phase at around 1.0-1.2 v per cell. You can accomplish much the same thing by leaving your boat and transmitter circuits turned on until they cease to function, but be sure to turn them off at that point so that they will not discharge the batteries too far. This “reforming” process can increase the capacity of an NiMH battery by only 10% or so, and it is far easier to simply use batteries with such a high capacity, e.g., 2500 mAh, so that pushing them to their limit is not necessary.

Self-discharge - Most rechargeable batteries gradually discharge spontaneously. According to Wikipedia, for NiMHs this self-discharge amounts to 5-10% of C on the first day after being fully charged, and stabilizes at around 0.5-1% per day at room temperature after that.² Some experts claim that self-discharge is no longer a significant problem conventional NiMHs, but they provide no supporting data. Measurements at the Midwestern Division of the CR 914 Laboratory, however, show that modern high-quality NiMH batteries still do undergo substantial self-discharge, as shown in Figure 1 — 18% in one week for a new SANYO 4-pack, not significantly better than the 21% observed when a five-year old Panasonic (Hydrimax) 4-cell pack was tested in the same manner. 

² SANYO has developed a new NiMH battery that they call the “eneloop,” which retains 90% of its capacity for two years. It appears that eneloops, which are just beginning to appear on the market in the United States, will be limited to around 2000 mAh and will cost more than conventional NiMHs because they require refrigeration during transport from Japan. While eliminating self-discharge may prove to be worthwhile for digital cameras, for our purposes it makes more sense to simply use batteries with enough excess capacity to compensate for the loss of a few hundred milliamp hours if they are left off the charger for a week or so before being used.



photo credit: Dave Yardy

The 2006 AMYA Region 4 Championship Regatta, hosted by the Cincinnati Model Yacht Club on September 16-17, was won by CR 914 “rookie” (but IOM veteran) Brian Sims from Louisville, Kentucky. You will find a complete report and more pictures on the CR 914 class website (www.cr914class.org). The building in the background is where the famous Voice of America broadcasts originated during World War II.



Converting to Rechargeable Batteries

THE STOCK CR 914 is set up to use AA alkaline batteries that are disposed of after use. For the owner who sails his boat on a regular basis, rechargeable batteries are preferred.

Batteries

Rechargeable NiMH (Nickel Metal Hydride) cells are the best choice. The Tx (transmitter) and the boat battery box are designed for AA size cells. The Tx accepts eight cells. The class rules limit boat batteries to four or five cells. Using five cells increases the voltage from 4.8 (1.2 x 4) to 6.0 volts and sail servo strength by 20%.

Buy batteries at Wal-Mart or similar stores. A n 8-pack of 2500 mAh batteries costs about \$18. When fully charged, they will last more than eight hours at the pond.

Battery packs

Battery packs with cells soldered together and packaged with heat shrink is the most reliable arrangement for the boat. The stock Tx is not designed to use battery packs; individual AA cells simply snap into place. (More expensive radios are delivered with battery packs for the Tx though they are usually of insufficient capacity for use with boats.)

To power the electronics in the boat, 4- or 5-cell ready-made battery packs with connectors are available commercially, at RC hobby stores and via the Internet. One source is Radical RC (937-256-7727, www.RadicalRC.com). They also

supply 8-cell packs if your Tx uses that type of battery and you want upgrade to a longer-lasting one.

A rechargeable battery upgrade package

Here is a list of what you will need when you decide to climb on the NiMH bandwagon.

Transmitter batteries – Eight NiMH AA cells; you'll spend about \$18 at a Wal-Mart or equivalent store.

Boat battery pack – Choose a 5-cell or 4-cell version. If you order from Radical RC, here are the stock numbers.

5-cell boat pack – SKU Number RRC05H2500F; \$22 with connector; Sanyo 2500 mAh 5-AA Cell 6V Flat NiMH Battery Pack. **4-cell boat pack** – SKU Number: RRC04H2500F; \$18 with connector; Sanyo 2500 mAh 4-AA Cell 4.8V Flat NiMH Battery Pack.

Battery charger – A simple wall charger like the Radical RC SKU Number CMCH84 costs only \$14 and takes care of the Tx and boat batteries. It has a three-way plug for Futaba, Hitec/Airtronics or Spektrum/JR transmitters. It comes with a Futaba J connector for boat batteries, but Radical RC will add any connector you need. It charges the Tx at 90 mA per hour, and the boat batteries at 150 mA (four cells) or 125 mA (five cells).

Connectors – Make sure you order the correct connector for the boat battery pack and the charger. The stock CR 914 boat battery box has a red "BEC" connector. A universal "Futaba J" connector like the one shown attached to the 4-cell flat-pack on this page is more commonly found on chargers and boat battery packs. 

Battery Maintenance Charge

WHAT IS THE SAFE MAINTENANCE CHARGE RATE for high capacity NiMH batteries?

Sometimes called "trickle" charge, the *maintenance* charge is that charge rate that can be used continuously without damage to the batteries. Using a maintenance charge rate allows placing batteries on charge when returning from the pond until it is time to sail again. This is simple, reliable and inexpensive.

Maintenance charge is often called the "C 10" or "C/10" rate. Simply divide the battery capacity in mAh by 10 to get the trickle charge rate in mA. Thus a cell with capacity of 600 mAh uses a maintenance charge of 60 mA. The RC flying industry standard for years for battery packs has been a

capacity of 600 mAh. Because of this, a simple wall charger delivering about 60 mA has been included in many radio system packages.

But a 600 mAh CR 914 boat battery pack becomes depleted in less than 2 hours. When longer-life NiMH cells became available about ten years ago most serious racers switched to them. It is now common to find NiMH cells with capacities up to 2500 mAh.

DOES CONTINUOUS CHARGING DAMAGE BATTERIES?

Since ten years ago when longer-life NiMH cells became available I have always kept my batteries continuously charging at 60 mA. I put them on charge when I returned from

sailing until the next time I sailed. The chargers used were those that were included in many RC radio packages. Purchased separately they cost about \$15. One set of 1300 mAh Tx batteries purchased in 1997 tested at 1170 mAh in 2005. They were always on charge, winter and summer, for that entire time. In those early days of NiMH batteries I talked with battery engineers at GP batteries and one other that I can't remember. They both insisted that the C/10 maintenance charge would do no damage.

High Capacity Batteries

But what about the current NiMH 2500 mAh batteries? Most of the packs ordered recently at my club have been made using SANYO 2500 AA cells. What is the safe maintenance charge for these? SANYO battery engineers, contacted using email, stated that it is safe to use a continuous

maintenance charge of 150 mA. ■

Editor's note

There is an abundance of opinion and misinformation about this subject available on the Internet. You can find a number of blogs and other sources that would dispute Chuck's conclusions about the advisability of long-term continuous trickle charging at C/10, including the *Panasonic Metal Hydride Handbook* and the *Wikipedia* website. Here are a few samples: "Permanent trickle charging (small current overcharging) can cause battery deterioration, and the trickle charge rate should be limited to between 0.033xC per hour and 0.05xC per hour for a maximum of 20 hours to avoid damaging the batteries." "Long term maintenance charge of NiMH batteries needs to be by low duty-cycle pulses of high current rather than continuous low current in order to preserve battery health." None of the sources that I have found, including that Panasonic handbook, present actual data of the sort that Chuck has provided, however, and in any contest between opinion and data I always recommend letting the data decide the outcome.

CR 914 Class Website Members Area Update

by Dick Martin and Pablo Godel

WE HAVE DECIDED to put the online boat registration and subscription features of the class website, which were promised over a year ago, on hold indefinitely. There are multiple reasons. PayPal, the company we had planned to use for online payments, has had numerous security and scam-vulnerability problems. Indeed, earlier this year, before we had logged any transactions other than those required by PayPal to institute its automated fund-transfer process, the company notified us that the CR 914 Class account had been frozen because of suspected fraudulent activity. Efforts to resolve that problem dragged on for more than three months and took an inordinate amount of time and effort to resolve. We concluded that we cannot trust the company to correct these problems with its system. Meanwhile, Google has developed a new online payment system, but we want to wait until Google has established a track record before signing on to it. In addition, Pablo has been unable to budget the time required to implement the online registration and subscription process and complete the development of the online class database that will be required to replace the current, spreadsheet-based, registration and subscription system that runs on Dick's computer.

A number of 914ers have commented that because of the incomplete parts of the Members Area portion of the class website, it looks like a chronic work in progress and hurts the image of the class. We agree. So, until such time as we can finish the development of the online registration/subscription features, we plan to remove all references to them. At the same time, we will make the Members Area look like a finished product. It will contain the newsletter archives and the searchable newsletter database — the features of which will be streamlined and made easier to navigate — and a downloadable version of the CR 914 Tuning Guide that is sent to all new owners at the time they register their boats but is updated annually. Until we find a volunteer with the time and interest required to operate the CR 914 Net (regular class news by email) we will remove it from the Members Area, along with references to "Your Profile" and "Members' Photos."

We believe that the newsletter archives must be restricted so that non-subscribers cannot access them, in order to preserve the funding for the newsletter and the website. (Subscriptions are the major source of our funding; boat registration fees represent a one-time-only source that can pay for little more than the publication and mailing

of the materials each new owner receives in his/her registration packet, the postage for which currently costs \$1.11. The classes receive none of the \$25 annual dues that members pay to AMYA.) It is perhaps not coincidental that subscriptions leveled off and began to decline after back issues were made available on the AMYA website several years ago. We know of several CR 914 owners who have boasted that they obtain their copies of the *CRonicle* for free by downloading them from the website — apparently they find the three-month delay before the latest issue gets posted, and the diminished quality of the pictures in those PDF files, to be only a minor inconveniences.

Within a few weeks after you receive this issue, access to the Members Area will require you to enter a password. Here is how that will work. The current issue of the *CRonicle*, which all currently paid-up subscribers receive by snailmail but which is not posted in the archive until three months later, will contain the current password (look for this quarter's password on page 16 of this issue). Each quarter, the password will change, and you'll need the new password, published in the same place in your latest *CRonicle*, at that time. Remarkably simple; why didn't we think of that sooner? ■

Spektrum DX6 Update

by Dick Martin

Waterproofing the receiver

Chuck Winder's old standby, Vaseline, does a good job of making conventional AM and FM receivers water resistant. But it is too viscous to squeeze into the small openings in the case of the tiny Spektrum AR6000 receiver.

The folks at Spektrum RC advise sealing the AR6000 in a balloon, similar to the way Pablo Godel uses a ZipLoc bag for that purpose as reported in Issue 52.

Issue 52 also speculated about the use of Aeroplate, a dielectric penetrating 'lubricant' that is advertised for use on servos and receivers (www.aero-trend.com/shop_cat.php?cat=1). Its viscosity is similar to machine oil, allowing it to flow easily. I have now tested it on my AR6000 and the receiver still works fine. I have not had the guts to immerse it in fresh or salt water, however, so I can't yet vouch for its effectiveness. I squirted Aeroplate into the AR6000 case until it was full to the brim, and let it soak in for several hours before draining it back into the bottle. A Dave Brown "C/Applicator" pipette (www.dbproducts.com/store/caap.htm), commonly used for applying CA glue, makes a good delivery system.



Dave Brown pipette

To minimize the chance that water can find its way onto or into the AR6000 case, I stick a small patch of Velcro to the back of the case and mount it under the starboard deck, just ahead of the front of the hatch opening. Mounted diagonally, the antennae that exit from the corners of the case line up parallel to the front and side of the hatch where they are Velcroed to the under side of the deck about 1/4 inch from the edges of the hatch, neatly fulfilling the

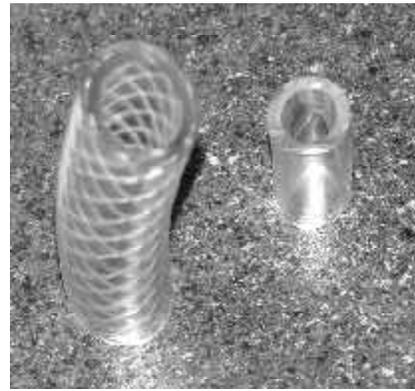
manufacturer's recommendation that the antennae be aligned perpendicular to each other. It's hard to fit the receiver, with the servo and battery wires connected, into that spot; but temporarily removing the rudder servo makes it a piece of cake.

Antenna fractures

Fractures of the hinge in the DX6 antenna, also reported in Issue 51, are proving to occur quite often.

Surgical therapy - If this has happened to your DX6, check out James Anderson's website at www.legacyfamilytree.ca/sail/DX6%20antenna%20fix.html to learn about a fairly simple repair. Anderson's approach involves amputating the remains of the fractured joint and operating on its broken coaxial cable so the antenna stump will have the same effective working dimensions as the original. It ain't pretty, but Chuck Winder has used this method and he reports that his stumpy DX6 still has adequate range.

Preventive medicine - Here is one way to build a 'splint' for the antenna joint, to reinforce the joint and reduce the likelihood that it will break. The base of the antenna has a diameter of 9/16"; at the hinge the diameter is 3/8". Hardware stores carry vinyl tubing in a variety of diameters. Buy 3/8" (ID) tubing that will just slip onto the hinged section of the antenna. It should have an OD of 9/16". Also buy 5/8" (ID) tubing (or, if you can find it, 9/16" ID, but be sure it will fit over the base of the antenna and that your 3/8" inner tubing



Vinyl tubing: 2-1/2" length of 5/8" ID and 1-1/4" length of 3/8" ID

will fit into it). Things don't have to be a perfect fit: tubing comes in large coils that permanently set enough of a curve in the short pieces you will use to ensure that they fit reasonably tightly on the antenna even if there are small gaps. The pictures show how the splint is assembled and the finished product installed on my DX6. It's light and unobtrusive, fits securely, but can be removed easily when you need to slip a plastic bag over the antenna to keep the transmitter dry in the rain. It prevents the antenna hinge from bending more than about five degrees, but even with the antenna essentially horizontal my radio still has plenty of range.



Glitching case reports

Chuck Winder has proved that, despite all the hype for the DX6 system, it is not totally immune from glitching. Here is his report:

"During recent racing my boat had brief occasions of uncommanded steering. It was discovered that the Rx had



AR6000 receiver and its antennae positioned above the positions they will occupy when Velcroed under the deck.

fallen into the bilges because the Velcro on the cockpit bottom had detached. The Rx antennas were in the bilges and bent, certainly not oriented at the recommended 90 degrees. In addition the Tx antenna had broken at the hinge and was taped in a straight position, meaning that when sailing the antenna meant pointed at the boat, the worst orientation for maximum signal strength.

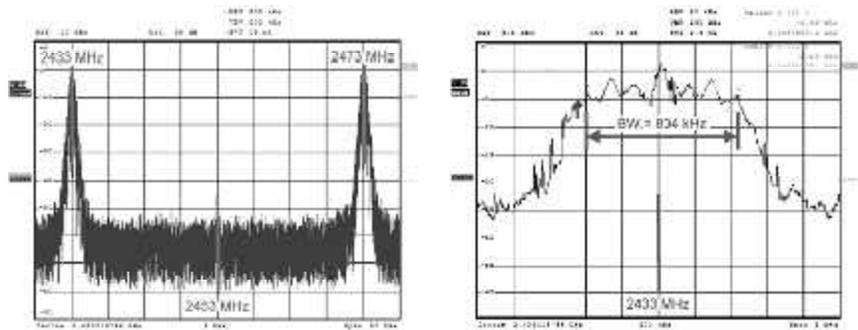
“The problem was solved by reattaching the Rx to the bottom of the cockpit sole using care to achieve good Rx antenna orientation.

“Unfortunately, I had not done a range check before sailing, which might have revealed a range problem. After I put the Rx back in its proper place with its antennas oriented properly, in-the-water boat control was good to about 60 feet with the Tx range test button depressed and with the Tx antenna pointed at the boat. And without the test button depressed range was more than 500 feet with the Tx antenna pointed at the boat. Range with the Tx antenna vertical would have been even longer.”

More worrisome is a report from Jean Malthaner that while racing with the San Diego fleet with quite a few other DX6s in operation recently, his boat suddenly and without warning stopped responding to commands completely. Transmitter and receiver batteries still showed an adequate charge. After the boat was retrieved everything in it looked normal, and when Jean tried to reproduce the problem a little later at home the radio worked perfectly. When this issue of the *CRonicle* went to press this Malthaner Mystery remained unsolved. Is there a new Bermuda Triangle in La Playa Cove? Can a sufficient number of DX6s in close proximity to each other somehow wipe out communication between one of them and its receiver, despite claims to the contrary by the manufacturer? Stay tuned, and be sure to send us reports of any other problems you discover.

For technophiles only

If you are interested in learning in depth about the inner workings and some of the mysteries of digital spread



Illustrations on the Spektrum DX6 Resource Center website

spectrum radio control as implemented by the DX6, a new website entitled “The Spektrum DX6 Resource Center” by its webmaster, an RF Engineer and RC hobbyist named Kirt Blattenberger, should be right down your alley:<http://spektrumdx6.com/default.aspx>.

Summary

Despite the emergence of a few problems — some of which can be blamed on “pilot error” rather than any

flaw in the electronics — satisfaction with digital spread spectrum radios remains very high. Three DX6s were in use at the recent Region 4 Championships in Cincinnati and all performed flawlessly; that has been the true in all the other regattas I have heard about so far (except for the transmitter and receiver that ‘drowned’ in the storm at Larchmont last spring). **A**



Who's Gotta Regatta

This table lists all the CR 914 regattas that were scheduled this year at the time this issue went to press. Schedules can change, however, always check the up-to-the-minute Schedule Page of the class website for the latest information. In the following list, when URLs are listed they

will direct you to the results of regattas that have already been held (whose titles are shown in gray) if they have submitted reports, or to Notices of Race and entry forms for regattas that are scheduled later this season.

Sixth Annual Cow Pond Regatta

March 25 * Chestertown, MD

www.cr914class.org/regatta_2006_cowpond.php

Larchmont Spring Invitational

April 7-9 * Larchmont, NY

www.cr914class.org/regatta_2006_larchmont.php

Cordamadera Regatta

April 29-30 * San Diego, CA

Washington College Spring Regatta

May 20 * Chestertown, MD

www.cr914class.org/regatta_2006_washcoll.php

The Yacht Club's Spring Regatta

May 21 * Houston, TX

Route 66 Regatta

June 10 * Tulsa, OK

www.cr914class.org/regatta_route66.php

AMYA Region 1 Championship

June 11 * Marblehead, MA

www.cr914class.org/regatta_region_1_results.php

Cleveland Race Week Regatta

June 19 * Cleveland, OH

www.cr914class.org/regatta_cleveland.php

Toms River Rotary Regatta

September 9 * Island Heights, NJ

AMYA Region 4 Championship

September 16-17 * Cincinnati, OH

www.cr914class.org/regatta_region_4_report.php

Sharp HospiceCare Regatta

September 23 * San Diego, CA

CR 914 National Championship

October 20-22 * San Diego, CA

Doug Mc Kerrow - mckdm@sbcglobal.net

www.sdyc.org/cr914

Columbia's Cup Regatta

November 5 * Columbia, MO

Dick Martin - rhm@ussailing.net

www.m3sc.org/ccr

The Yacht Club's Fall Championship

November 5 * Houston, TX

Graham Elliott - elliottshome@houston.rr.com

CBMRA Invitational

November 11-12 * Annapolis, MD

Ernest Freeland - efreeland6@comcast.net

CR 914 Midwinter Regatta

January 27-28, 2007 * Fort Lauderdale, FL

Vince Peritore - rscsailorscove@aol.com

2006 CR 914 National Championships Update

In sunny SoCal the preparations are well underway for the 2006 National Championships October 21 and 22.

Jean Malthaner is doing a terrific job on the trophies as usual and they are nearly ready to be claimed. Dock prep, perimeter floats, etc. are well in hand and the food arrangements are complete except for the total head count. We have the Spinnaker Room in San Diego Yacht Club again as race headquarters.

The list of paid-up competitor slots is beginning to fill in. This is a first come first served event and it takes

receipt of entry form and money (check or money order or credit card details) for entry completion. So don't get disappointed, send off your entries. Word must have got around about our organized previous events because sign-up is ahead of previous Nationals. [Ed. note: on September 22 Jean Malthaner told me that 22 entries had been received by then.]

We are looking forward to welcoming fellow CR 914 racers and friends for this stellar event. You'll find more about the 2006 Nationals at our regatta website, at www.sdyc/cr914.

Douglas McKerrow

Future regattas

There will be no Larchmont Spring Invitational next year. Instead, the Larchmont Model Yacht Club will host the 2007 Nationals (in the autumn). Dry Pants MYC, which had been working on plans to host the '07 Nationals, now hopes to host a regatta in the spring of '07

to offset the loss of the annual LMYC Invitational, and to host the 2008 Nationals in Connecticut.

Meanwhile, several of our Midwestern fleets (Cincinnati, Edgewater, and Mid-Missouri) have begun to make preliminary plans to submit a bid to host the 2009 Nationals, possibly in Cleveland.

2006 Nationals – Notice of Races

The CR914 Class, The AMYA and the San Diego Yacht Club cordially invite sailors to participate in the 2006 CR914 Class National Championship Regatta.

Date: October 20, 21 & 22 (Come Friday for registration, tune-up and San Diego Yacht Club hospitality).

Venue: La Playa Cove off San Diego Bay adjacent to the San Diego Yacht Club facilities.

Friday, October 20th

Registration, measurement & tune-up 1:00 – 4:00p
 Social Hour & Dinner 5:30p

Saturday, October 21st

Late Registration & measurement 9:30a
 Skipper's Meeting & Seed Draw 11:00a
 Initial Seeding Race 11:45a
 Lunch (between heats) 12:15p
 Second Race Start 12:30p
 Last Race Start 4:15p
 Social Hour & Dinner 5:15p

Sunday, October 22nd

Skipper's Meeting / Race Division Info 10:30a
 First Race / Division 11:30a
 Lunch (between heats)
 Last Race Start 4:15p
 Social Hour & Trophy Presentation 5:15p

Rules: The regatta will be governed by the Racing Rules of Sailing (RRS) 2005 – 2008, appendix E to the RRS, rules of the CR914 Class, the Heat Management System (HMS) approved by the ISAF – RSD dated 4/02 and the Sailing Instructions.

- The Sailing Instructions will be available to each skipper at registration.
- There shall be no appeal of Judge's Decision that could affect a boat's promotion / relegation per RRS 70.4(a).
- All boats must comply with the CR914 Class Rules. Boats will be measured, weighed and bow bumpers will be required. Entrants shall be members in good standing of the AMYA and the CR914 class.
- The maximum number of entrants will be 23 in the 75MHz band, 6 in the 27MHz band, and open in the 2.4 GHz band.
- It is desirable, but not mandatory, that attendees use FM dual conversion or 2.4 GHz (Spektrum DX6) radios.

Format: Saturday's races will be conducted and scored in Accordance with the HMS (available on the AMYA website). Sunday's Championships Races will be in two divisions predicated On Saturday's qualification races.

Registration: Registrations will be accepted using the below-noted entry form accompanied by the \$125 entry fee on a first-come / received basis and you will be notified of your entry acceptance. Final registration at SDYC will be Friday October 20th. (late registration on Saturday October 21st, AM)

Awards:

Gold Division 1, 2, 3 ,4 & 5; Silver Division 1, 2 & 3; Masters 1

ENTRY FORM

2006 CR914 CLASS NATIONAL CHAMPIONSHIPS – October 20, 21 & 22, 2006

NAME _____ AMYA# _____ SAIL# _____
 ADDRESS _____ CITY _____ STATE _____ ZIP _____
 PHONE _____ E-mail _____

RADIO (type)(circle one): AM 27 MHz AM 75 MHz FM single conversion FM dual conversion or 2.4 GHz
 (Spektrum DX6) radios. **FREQUENCY:** #1 _____, #2 _____, #3 _____. **AM, , 2.4 GHz.**

In consideration of your acceptance of my entry, I agree to the following conditions:

1. I hereby release the San Diego Yacht Club, its Officers, Agents and Committeemen from any and all liabilities for any injury to myself or yacht arising out of my conduct during the regatta.
2. I assume any risk of injury arising out of my participation of the race(s), failure or breakage of my yacht or any of my equipment or weather conditions.

I have read the Notice of Races for the 2006 CR914 National Championship Regatta and accept the conditions and rules.

SIGNATURE _____ **DATE** _____

FEE: \$125. Entry fee includes Lunches, Social Hours & Dinners. I will be bringing _____ guests (Guest fees for the Social events are payable at registration). Please make checks payable to San Diego Yacht Club.

Mail ENTRY FORM & direct inquiries to:

Douglas McKerrow
 3284 Talbot Street
 San Diego, CA 92106

mckdm@sbcglobal.net
 Home phone (619) 223-0840
 Fax (619) 223-2995

New Boats and Owners

Sail No.	Boat name	Owner	City	State
1076	<i>Tack-Keel-Ya</i>	Matt Dathe	San Diego	CA
1369	<i>Dollface</i>	Eric Cunamay	San Diego	CA
1370	<i>Crazy</i>	Steve McLachlan	Auburn Hills	MI
1371		Brian Sims	Louisville	KY
1372		Scott Williamson	Westfield	IN
1373		Chuck Mellor	San Diego	CA
1374	<i>Tess</i>	Steve Weintraub	Millboro	VA
1375	<i>Dog</i>	John Downing	Leucadia	CA
1376	<i>More Cowbell</i>	Brett Davis	Gaithersburg	MD
1377		Colie Runyon	Mantoloking	NJ
1378		Kevin Maclellan	Guilford	CT
1379		James Wright	Nellysford	VA
1380	<i>Zephyr</i>	Dan Aeling	San Diego	CA
1381	<i>Laurel Anne</i>	Ray Wright	Lusby	MD
1382		Tony Gallo	Pismo Beach	CA
1383	<i>Daisea</i>	Linda Smith	Deerfield Beach	FL
1384		Mike Komes	Houston	TX
1386		Brian Jobson	Wolcott	CT

When does my subscription expire?

Look at the mailing label on the cover of this issue. Immediately after your name you will see a number. That will be the last issue in your current subscription. If it says 55, for example, you're good until July, 2007. If it says 53 or 54, however, it would be a good idea to renew *right now*, before you forget. Your new subscription will simply be added to the number of issues remaining in your current one.

Have you ever wondered whether the *CRonicle* was overdue, only to go back and find that the last issue you received (quite some time ago) bore a warning that it would be your last issue unless you renewed your subscription? There will be bright fluorescent labels on the address page and at the top of the first page of your last issue the next time your subscription is due to run out. You need to remember to renew *the very moment you see those colored labels!*

If you don't, you will receive a reminder (but no *CRonicle*) when the next issue is published. But if you don't remember to renew then, you'll be out of luck.

The Editor

The *CRonicle* Honor Role

The following Heros of the CR 914 Class contributed material for this issue.

PhilAdams Cambria, CA
 James Appel Annapolis, MD
 Niels van den Beemt Bethesda, MD
 Kemp Bond Nellysford, VA
 Tyler Cagwin Fayetteville, NY
 Pablo Godel West Chester, OH
 Carl Hancock Chula Vista, CA
 Carole Martin Columbia, MO
 Dick Martin Columbia, MO
 Douglas Mc Kerrow San Diego, CA
 Jim Owens Bellevue, WA
 Chuck Winder Marblehead, MA
 David Yardy West Chester, OH

Deadlines for future issues

issue	submission deadline	publication date
53 - Winter 2007	Dec 15	Jan 2
54 - Spring 2007	Mar 15	Apr 1
55 - Summer 2007	June 15	July 1
56 - Autumn 2007	Sept 15	Oct 1

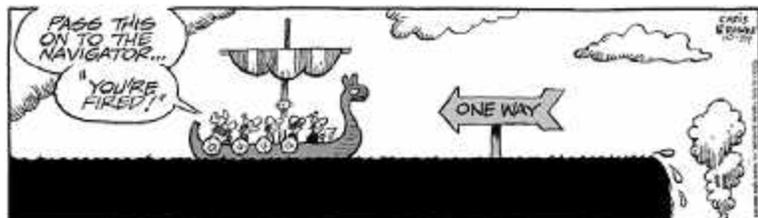
But submissions are **welcome any time**. There's no law that says that you must wait until a deadline! ☺

CR 914 Class website PASSWORD

This quarter's password is: VERTIGO (case sensitive). This password will expire on January 5 and will be replaced by a new password that you will find in this location in Issue 53 of the *CRonicle*.

A calm sea does not make a skilled sailor.

– African proverb



RENEW YOUR SUBSCRIPTION to CR 914 COMMUNICATIONS

It's quick and easy to do:

1. Check your name and address on the mailing label on the reverse side of this form.
2. If the information there is correct, all you need to fill in below is your current email address (they change often) and anything else that is new or has changed since the last time you subscribed.
3. Write a check for \$10 (18 months, 6 issues of the *CRonicle*) or \$20 (13 issues) payable to R. H. Martin/AMYA.
4. Cut out this form. (If you prefer to make a copy of it be sure to *copy both sides!*)
5. Stick this form and your check in an envelope and mail to the address shown at the bottom of this form.

Name _____ Sail number(s) _____

Address _____

City, State, Zip _____

Email _____ Evening phone number (_____) _____ - _____

AMYA Number (if you are a member of the American Model Yachting Association) _____

Sailing club affiliation (if any) _____ Boat name: _____

Want to register another CR 914?

Download a registration form at
www.cr914class.org/pdfs/registration_form.pdf

Make check payable to:
R H Martin/AMYA

Mail check with this form to: CR 914 Class Secretary
1206 Castle Bay Place
Columbia, MO 65203

Questions?
Contact Dick Martin
rhm@ussailing.net
(573) 256-7213

52

— cut here ↩ —

AMERICAN MODEL YACHTING ASSOCIATION

Application for membership Check one: **New**___ **Renewal**___

Check one: **Adult-\$25**___ **Family-\$27.50**___ **Junior-\$12.50**___

Add \$10 for postage in Canada and \$15 for other countries. Add \$10 for first class mail delivery in U.S.

Enclose check or money order payable to AMYA, or check one: Mastercard___ VISA___

card number _____ expiration date _____ signature _____

Name _____

Address _____

City _____ State _____ Zip _____ Country _____

Telephone _____ Email _____

Current AMYA membership number _____ Club affiliation (if any) _____

List all model sailboats you own:

class	sail number
CR 914	_____
_____	_____
_____	_____



Send completed form to
AMYA Membership Secretary
Michelle Dannenhoffer
558 Oxford Avenue
Melbourne, FL 32935
888-237-9524 (toll free)
office@amya.org



914 Class

1206 Castle Bay Place
Columbia, MO 65203

the **CRonicle**

Issue 52
a stroll down FLEET STREET

Autumn, 2006
