



the **CRonicle**

Issue 58

Spring, 2008

CR 914 Class

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



www.cr914class.org

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Send comments, articles,
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to

the **CRonicle**

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About this issue

TRADITIONALLY (if you can talk about tradition when the current format of the *CRonicle* is only three years old) the Spring Issue, the “Annual Regatta Issue,” has featured articles to whet your appetite for the new regatta season. Alas, the editor’s appeal for regatta-related material this time drew a blank, and even extracting information about regatta schedules from some of the fleets proved to require repeated requests. So, on page 4 you will find the 2008 regatta schedule, what there is of it so far, but as Porky Pig used to say, th-th-that’s all, folks. To make matters worse, the editor has been nearly fully occupied with planning, soliciting, coordinating and editing the articles and photos for the large CR 914 feature section in an upcoming issue of AMYA’s *Model Yachting*, leaving far less time than usual to write stuff for the *CRonicle* this time.

All is not gloom and doom, however, for several CR 914 class stalwarts and a new contributor as well have responded to my plaintive cries for help. And thus this issue, in addition to focusing on several aspects of our class’s relationships with AMYA, will feature a potpourri of articles. We’ll see what happens when a retired guided missile designer from the aerospace industry thinks about how to rescue out-of-control sailboats on a large pond where outboards and trolling motors are prohibited. Phil Adams writes about the pathos of model racing, Rick Martin takes a different slant on batteries, Chuck

About the cover

This dramatic scene was captured on Sunday afternoon at the 2006 CR 914 Nationals when the wind had piped up to 20 knots, making for near-survival conditions and great photo ops. It shows Larry Adams’ *Pyrat* on port tack, ducking Lowell North’s boat on starboard as they battle the chop near the weather mark. The photographer, Jerry Gibbs, is a serious yacht racing photography hobbyist who began to learn his ‘trade’ while driving the official photo boat for all the America’s Cup races that have been held in San Diego, and he has taken advantage of opportunities to learn from some of the best pros in the world. This cover photo and the ones on the next page, taken with a Canon EOS SLR using a 75-300mm zoom lens, demonstrate all the elements of great sailing pictures: dramatic action and great composition, plus high resolution, crisp focus, and perfect exposure.

Luscomb describes a way to prevent gooseneck breakage, and Mark Benedict comes up with yet another innovative way to replace boom sliders. Dan Butterfield makes his debut in the *CRonicle* with a suspenseful tale about his efforts to secure a new venue for the Blue Ridge Sailing Club—to be continued if the attempt succeeds and/or there are useful lessons for other clubs with similar problems. And “Follow in My Wake” returns by popular demand after a 15 month hiatus with a lament about the sagging popularity of yacht racing and a quiz designed to prove that, even if we aren’t as popular as stock car drivers, sailors are much smarter, entitled “Sailing, NASCAR, and MENSA.” Enjoy! **■**

CR 914 Class to be featured in *Model Yachting*

by Dick Martin

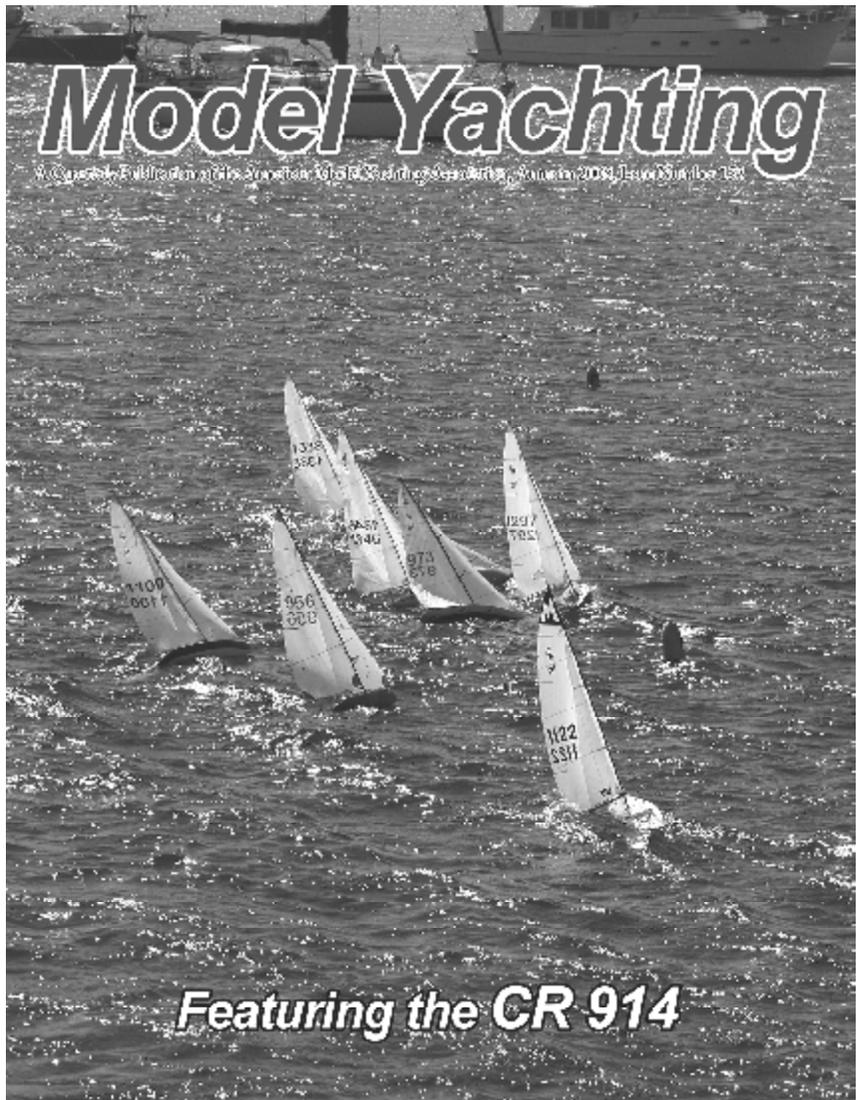
Model Yachting, the quarterly magazine published by the American Model Yachting Association, features one of the AMYA-recognized classes in each issue. Our class, which last was featured in Issue 121 back in 2000, will again have its turn this fall in Issue 153. This presents a good opportunity to publicize our class, and we intend to take full advantage.

We differ from all the other classes in AMYA in that we have our own quarterly ‘magazine,’ the *CRonicle*, where 914ers can find all the class-specific articles about things like building, tuning and maintaining that make up the bulk of the articles in most *Model Yachting* class features and which are aimed primarily at the members of each of those featured classes.

So, as the class editor for the 20 to

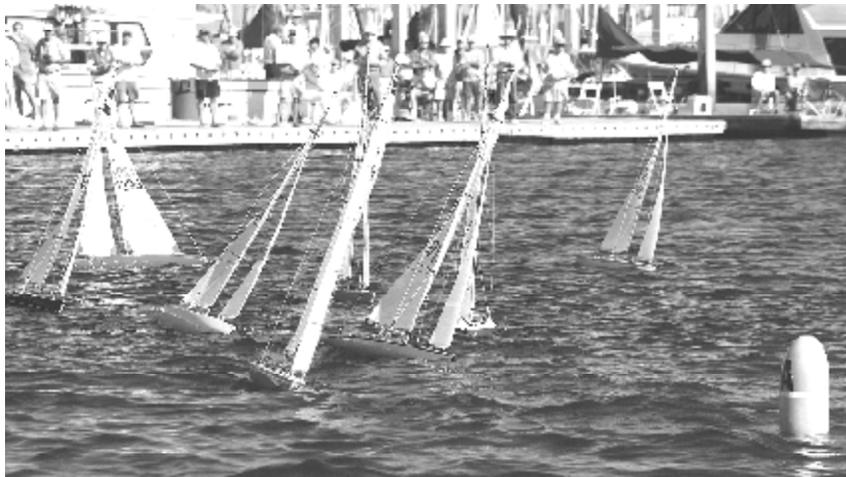
25 pages of *MY* 153 that will be devoted to the CR 914, with the agreement of *MY*'s Editor I have decided that our class feature will be structured to appeal primarily to AMYA members who do *not* sail CR 914s (before you jump on me for that decision, read on). To give them an idea about what our class is all about, and how much fun they are missing out on, a substantial number of our CR 914 articles will represent a sampling of some of the best articles from recent issues of the *CRonicle*, plus some of the general-interest ones that will be of practical value to RC sailors from any class. In addition, of course, there will be the usual Featured Class articles about the history of the class, featured fleets (the San Diego Yacht Club CR 914 Fleet and Dry Pants Model Yacht Club this time around), and articles that hype our boat, our class organization and class rules.

But you're a 914er, you say, and you want to see new stuff in *MY* 153 that will be of interest to *you*. You *will*. In particular you won't want to miss an article that is being written exclusively for *Model Yachting* by 2006 CR 914 national champion Chuck Luscomb, about how to tune your boat and win races. And the *pictures!* Glorious pictures featuring our great CR 914s in action. Some of them you may recognize as the most spectacular ones that have appeared in the *CRonicle*, but commercially printed in *Model Yachting* they will be more spectacular. Including the cover photo taken by Jerry



Gibbs at the 2006 Nationals in San Diego that is shown in the cover mock-up on this page. At high resolution, 8-1/2 by 11 inches, and in full color (the inte-

rior of the letters in "Model Yachting" will be a dark shade of turquoise pulled from the shaded parts of the waves), it should be *extraordinary*. ■



Another outstanding action shot taken by Jerry Gibbs at the 2006 Nationals

Winder One-ders

He who laughs last, thinks slowest.

On the other hand, you have different fingers.

Nothing is foolproof to a sufficiently talented fool.

In large vessels there is travail and perplexity. In little vessels, there is joy. — ERNEST K. GANN



Who's Gotta Regatta

As of March 26, the following 13 regattas have been scheduled for 2008. When an event has already been held it's name appears in gray and an URL, if any, indicates where to go to find a report about it, usually with complete re-

sults and photos. For all other events, the name and email address of the contact person are listed, and an URL, if any, indicates where you can go to find hype about that regatta, the Notice of Race and entry form if they have been

posted yet, and further information such as lodging, driving directions, and special instructions such as those for the Cow Pond Regatta: "Consider bringing a change of clothes. All children will get dirty, or fall in the pond. Or both."

Clovelly's 8th Annual Cow Pond Regatta

April 5

Clovelly Farm
Chestertown, MD

Amy Hitt - ahitt@crobymarketing.com

www.cr914class.org/regatta_cowpond2008.php

New England Spring Invitational

April 12-13

Plattwood Park
Deep River, CT

Brian Jobson - bjobson@dpmys.com

www.dpmys.com/springregatta/index.html

Corte Madera Regatta

April 19

Mission Bay Model Yacht Basin
San Diego, CA

Dick Huntington - dickhuntington@cox.net

? Washington College Spring Regatta

date t.b.a.

Chestertown, MD

Geoff Becker - gbecker2@washcoll.edu

The Yacht Club's Spring Regatta

June 1

Summerwood Lake
Houston, TX

Walt Douglas - waltbdouglas@earthlink.net

AMYA Region 1 Championship

June 29

Redd's Pond
Marblehead, MA

Chuck Winder - chuckw88@msn.com

Cleveland Race Week Regatta

June 23

Edgewater Yacht Club
Cleveland, OH

Bob Rosenbaum - bob@therosenbaum.net

Fourth of July Regatta

July 4

San Diego Yacht Club
San Diego, CA

Dick Huntington - dickhuntington@cox.net

Fourth of July Regatta

July 6

Blue Crab MYC/Germantown
Recreational Park Soccerplex
Germantown, MD

Nils van den Beemt - nvdb@comcast.net

Region 6 Championship

August 16-17

Mission Bay Model Yacht Basin
San Diego, CA

Dick Huntington - dickhuntington@cox.net

CR 914 National Championship

September 26-28

Redd's Pond
Marblehead, MA

Chuck Winder - chuckw88@msn.com

The Yacht Club's Fall Regatta

November 2

Summerwood Lake
Houston, TX

Walt Douglas - waltbdouglas@earthlink.net

CBMRA Invitational

date t.b.a.

Sandy Point State Park
Annapolis, MD

Ernest Freeland - efreeland6@comcast.net

That's Racing

by Phil Adams (CR 914 #1346, Makani)

Quite simply we could not ask for a better one-design boat to race. Our CRs sail great in most conditions and are usually very close in boat speed. Races are often decided on the last leg and are sometimes so close as to require a bystander's call. The major factors in determining finishing places in any race should be sailing ability and tactical decision making. Well, not always! Sometimes it just seems like lady luck has deserted us but our boneheadedness has not. Boat preparation can also play an important part in success or failure, but tuning and maintenance are not what this article is about. I want to concentrate more on those instances when the only sane response is "Well, that's racing!"

Rig failures can be minimized. He who does not research all the little rigging refinements found in the *CRonicle* archives can be guaranteed a rig snafu, almost always when doing well in a big race; believe me, I know. But I have come to realize that even after the most conscientious effort to bulletproof my boat there are times when bad things are just going to happen anyway.

I'm sure that every 914er has had experiences out on the course that defy reason. I want to list a few from our pond to let you know... you are not alone.

There are, of course, the more mundane bonehead acts prior to launch: for-

getting to charge the battery, not reconnecting the battery, not turning the boat on, not extending the transmitter antenna, not reattaching the servo rudder arm after working on something in the boat, or neglecting to close the hatch cover or install the bow plug. You



would think those kinds of faux pas would be completely avoidable. After all, RC sailboat racing is a thinking man's hobby. And most of us have long hours invested in boat preparation. It just seems that at times our big brains are in overdrive when they need to be in park.

Then there are the happenings that fall under Murphy's Law, or having The Keystone Cops as your afterguard. Beside the usual debacles that are caused by faulty depth perception, or 180 degree wind shifts, you can find more cre-

ative ways to blow your lead, like wrapping a buoy line around your keel or rudder. Another exotic way to turn your boat into an obstacle on the course is by getting one end of a toe rail knocked loose in a collision (not your fault, of course) and then having your jib sheet wrap around that loose end. How's this one: loss of control because the jib/main sheet mysteriously slips through the control sheet (later diagnosed as an improperly tied and glued knot). As an aside here, if you really want to learn useful knots that won't come undone, pull out any old string of Christmas lights or long extension cord, and replicate the ones you find there. But I digress. There are more. That string that prevents the bow plug from being lost overboard wraps around the front of the jib boom rendering your boat uncontrollable. Or you're having a perfect weather leg, approaching the mark ahead of everyone, and are brought

to a complete halt by an underwater obstacle that could have only been a fish.

These few disasters are only the tips of the icebergs that lurk beneath the race course waiting to test the mettle of every stalwart sailor. A compilation of them could be titled "Tales From The Pond" and would make for a best selling comic tragedy. But take heart and be assured that we are all in the same boat. When crazy things happen out there, know that we are all shaking our heads with you and empathizing with a hearty, "Well, that's racing." 🚩



Pond Owner Liability Insurance

adapted from the AMYA website at www.modelyacht.org/pondins.html



SAILING SITE PROPERTY OWNERS or their managing agencies can be provided as Additional Insured under AMYA's Pond Owner General Liability insurance policy with The David Agency, Elmhurst, IL. This liability policy provides \$1,000,000 Bodily Injury and Property Damage coverage for the Pond Owner.

Many municipalities require this

degree of insurance coverage in order to allow their park and lake facilities to be used for a club's sailing activities. In 2007 thirty-seven AMYA Sanctioned Clubs insured their Pond Owners with this policy and every pond owner found the insurance provisions satisfactory.

Your AMYA-sanctioned club can provide your pond owner with this insurance, which is in effect for the full

calendar year (expiring January 1), for a cost of \$50.00. Note that this insurance applies only to the Pond Owner, not the club or individual members of the club.

Full details are available on the AMYA website as well as a downloadable application form (www.modelyacht.org/pdf/2008AMYAInsuranceForm.pdf). 🚩

RC Rescue Vessel

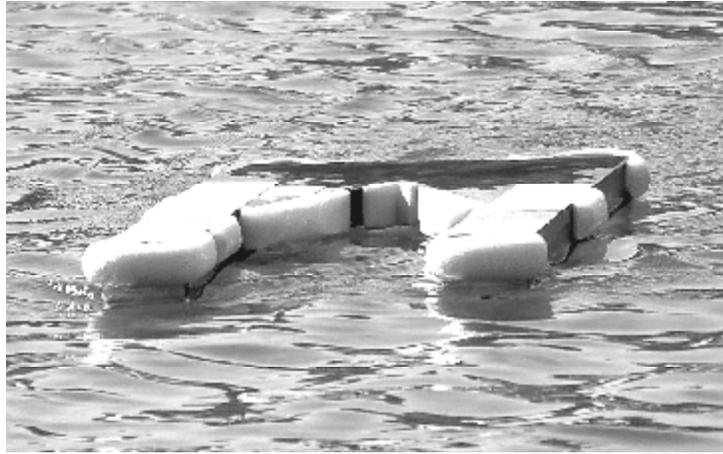
by Jean Malthaner – photos by Elaine Huntington

What do you do when you lose communication with your CR 914 or it becomes disabled during a race? Do you hope that someone in a boat can get to it before it runs aground on the lee shore? At the San Diego Yacht Club we use an outboard motor-propelled Boston Whaler to set course marks and retrieve distressed CR 914s. However, as we began planning to host the 2009 CR 914 Nationals at the Mission Bay Model Boat Pond, where only an oared dory is available, I decided “there must be a better way.”

Being a retired aircraft and missile designer, I naturally began tossing around design requirements: gentle trap

versus grab; maneuverability on the course and shallow water proximity; wind and water conditions; hull options; power options; KISS (keep it simple

when maneuvering with a ‘trapped’ CR914. To preclude entanglement and provide compatibility with the CR 914 deck height and the pond (not open water) conditions, the rescue vessel has a low profile.



The twin hulls are fabricated from 3" ABS black drain pipe cut approximately 0.6" above the centerline. The structural box and topsides are 0.125" Tyrex (ABS/PVC compound) sheet and the deck is 0.080" Tyrex with access openings for the motor/coupling/battery areas, ESC units, power shutoff

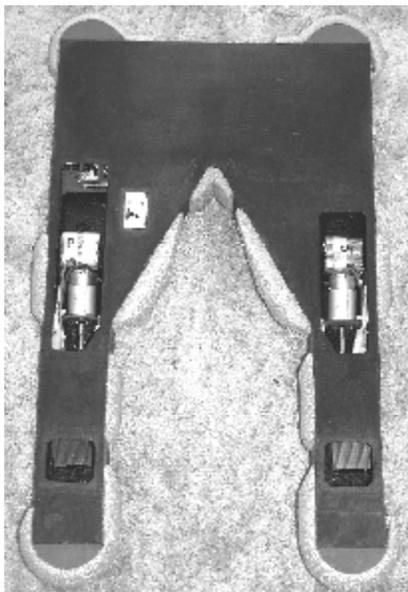
stupid); and low (as possible) cost. My design started to firm up after I returned from the Deep River Nationals and had nothing else to do on those cold and blustery winter days and nights in San Diego.

The configuration evolved into an open-ended dual tubular hull joined by a structural box, with twin electric drives and dual props, partially recessed into the hulls for shallow draft recovery. The props, located in the ‘open end’ of the hull, maximize controllability

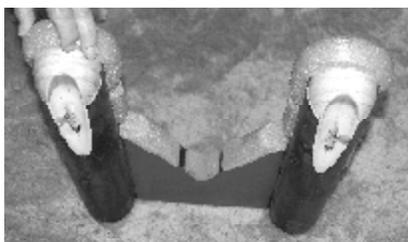
switch, and receiver components. All plastic parts are bonded with black ABS pipe cement. Vessel dimensions are:

- Length - 28 in.
- Beam - 16.5 in.
- Distance between hulls - 10 in.
- Total Displacement - 7.5 lbs.

Two size #550 (AquaCraft) electric motors drive 1/8" stainless shafts and 1-1/4" props rotating in opposite directions. The shafts are structurally supported by Mack Products 7" brass stuffing boxes with oilite bushings and ‘O’ rings that provide forward and aft propeller restraint. The shaft/motor coupling is a standard AquaCraft self-aligning unit. Electronics include a Ranger III FM radio with the rudder gimbal rotated 90 degrees to match the sail con-



Top view with access covers removed.



Underside showing dual props



All systems are GO!



Successful CR 914 rescue operation

trol lever movement, and a Hitec DCX dual-conversion receiver unit with its antenna oriented in a horizontal plane inside a tube sealed in the structural cross beam. Horizon Hobby waterproof Electronic Speed Controllers (ESCs) send proportional signals to the motors, which are powered by 7.2V 2700 mAH NiMH batteries mounted in each hull, controlled by a DPST switch. The batteries have a full-power operational life of about 1½ hours.

It was a fun project. Several successful simulated rescues have been conducted at the Mission Bay Model Boat Pond as shown in the photos. All systems are GO for the August Region 6 Championships and for next year's National Championships. Smooth sailing — and I hope we don't have to use the vessel on your CR 914 when you join us for *both regattas!* ■

On the right:
Jean undocks the rescue vessel
from his CR 914, *Titanic*



Here is how Frank Angel, the outspoken editor of *EC12 Net News*, (bluntly) expresses himself about AMYA membership: "If you have someone sailing in your club who isn't an AMYA member, explain to him that his lack of support for the hobby diminishes the group as a whole. If you want to be crude about it, just tell him he's freeloading."



FLEET STREET ^b

IT HAS BEEN A BIZARRE WINTER SO FAR in the not so snowy north country of Syracuse, NY. After a few snowstorms in early December, mother nature has blessed us, or not depending on your choice of winter sports, with many warm weather days and plenty of rain, sleet and freezing rain. This has allowed to get out a few times and sail, which has been wonderful. Our last day out was the beginning of January when we had a beautiful day in the 60's. We all joked that at our various offices we had people leaving work early to go skiing, golfing and sailing. How often can you say that? Six CR 914ers and three US 1 Meters met on January 7 down at our beautiful Inner Harbor on Onondaga lake and kicked through 11 races in 8-12 knots of breeze. This photo of Steve Woiler's boat was taken late that afternoon as the winter sun was getting ready to set.

So far that's all we have this winter. Looking forward to warmer days ahead and especially heading back to Connecticut for the Spring Regatta. ■

Inner Harbor Model Yacht Club

by Tyler Cagwin





THE BOATYARD

Gooseneck Trouble?

by Chuck Luscomb

THE GOOSENECK IS A VERY COMPLEX FITTING that is made up of six parts. All plastic, and all of them are prone to failure. They are not easy to replace in the middle of a regatta, or anytime for that matter.



When I built my boat eight years ago, after I inserted the two halves of the gooseneck fitting into the boom I glued them in place. Over the years, the mast rings would crack or the boom inserts would crack. I just thought that was normal wear and tear. One day while I was repairing my gooseneck again, I realized that this fitting must have quite a bit of rotational torque exerted on it when the boat is tacking up wind. The attachment of the mainsail clew to the boom and the mainsheet connection both want to rotate the boom, as documented by the white lines drawn on the boom and gooseneck in the photos below, taken after modifying the gooseneck so that the boom can rotate.



Center

Starboard Tack

Port Tack

Well, when the gooseneck is glued into the end of the boom, the clew attachment and sheet try to twist the boom, but it is not going to move in any direction — until something breaks.

So rather than glue those two halves into the boom as I had always done before, I simply slid them into place, and made sure that they could move freely in the boom. The result is that the boom can now rotate easily in any direction. Do not fear that the boom will slide off, because the vang in its normal position will keep that from happening.

If you have already glued your gooseneck pieces into your boom, you don't need to wait until something breaks to make this modification yourself. It's easy to remove that glued-in gooseneck plug from the boom. It requires only one tool, a small butane torch or a propane torch set to very low flame. Simply remove the gooseneck pivot pin that attaches the boom to the mast. Holding the gooseneck end of the boom away from the boat and the sails, gently heat the boom 1.5-2.0 inches away from the glued plastic fitting. Be sure not to overheat the aluminum because you could melt the fitting. You simply want to release the glue. Slowly heat the boom and gently try to rotate the gooseneck out of the boom. It should take about 10 seconds or less of heating in this location to release the fitting. Once you have it out, do not set the boom down. Hold it until it cools. It could burn or melt something that you set it on. When it has cooled, scrape off the excess glue on the fitting and inside the boom. 220 grit sandpaper seems to work for the gooseneck, and an Exacto knife works for inside the boom. Test fit your gooseneck in the boom and continue the clean up until the fitting moves freely. Replace the boom on the mast. ■

Questions? E-mail me at chuckluscomb@dpmc.com.

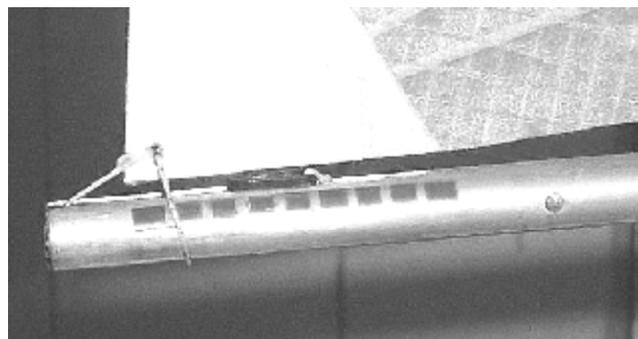
Another Alternative to Boom Sliders

by Mark Benedict (CR 914 #1084, WarBaby)

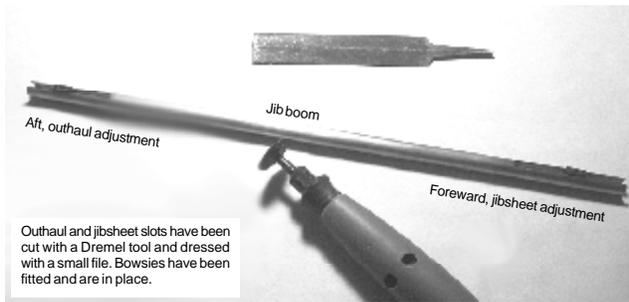
Some fairly critical and frequently-made tuning adjustments are managed with plastic boom sliders. Many 914ers seem to find them adequate, but for guys like me who may be a bit fanatical about boat preparation they have some inherent weaknesses. Longtime readers of the *CRonicle* can recall a number of articles and alternative ideas that have been published on this subject, e.g., "The great boom sliders debate" in *CRonicle* 53.

My first boat, *Seabiscuit*, had its inaugural shakedown voyages in the middle of the New England winter. Aside from my sheets freezing up, the first problem I encountered was boom slider breakage, which is most prone to occur in cold temperatures when the plastic is brittle. After reading that these sliders also tend to snag on the rigging of other boats, I decided to change over to a bowsie arrangement for jibsheet and outhaul adjustments similar to the one described

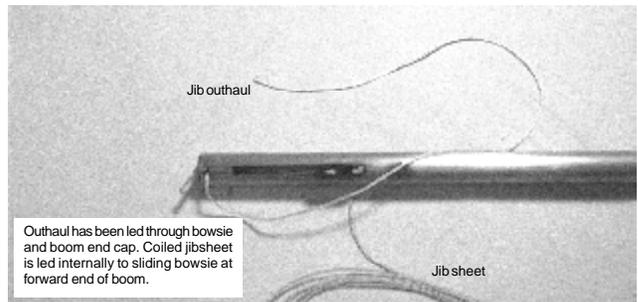
by Dave Clinnin in *CRonicle* 50. This worked fairly well, but when the sails were luffing and the bowsies were flopping about without any tension they had a tendency to loosen up. On my new boat, *War Baby*, I have devised a solution for



Mainsail outhaul



Outhaul and jibsheet slots have been cut with a Dremel tool and dressed with a small file. Bowsies have been fitted and are in place.



Outhaul has been led through bowsie and boom end cap. Coiled jibsheet is led internally to sliding bowsie at forward end of boom.

outhaul and jib sheet adjustment which is clean, easy to adjust and does not loosen up.

A key ingredient for creating the outhaul and jib sheet adjustments shown in the photos and the sketch is a bigger, better bowsie. For all rigging applications on the CR 914, these bowsies hold better and are far easier to manipulate. They can be ordered from Isobar Yachts (www.isobaryachts.com, item #58SE, \$3.95 for a pack of 10). When I use them for the boom adjustments I cut a groove in each side of the bowsie so that it will slide back and forth in a slot that I cut with a Dremel tool at the aft ends of the booms.

For the outhauls I build a loose fitting string loop that holds the clew 1/16" to 1/8" above the boom. This loop slides forward and aft on the boom when the outhaul is eased or tightened. The actual outhaul adjusting line leads from the clew through a 1/32" hole drilled as far aft as possible in the top of the boom end cap. From the end cap the outhaul line runs forward through the bowsie to a 'turning block' located forward of the boom slot and then back to the third 'fixed' hole in the bowsie. The 'turning block' is a plastic pin inserted in a snug hole drilled through the boom and glued in place with CA. As the bowsie slides forward and aft in its track the clew moves fore and aft and the draft of the foot goes from flat to full. Marks on the boom help provide quick reference settings.

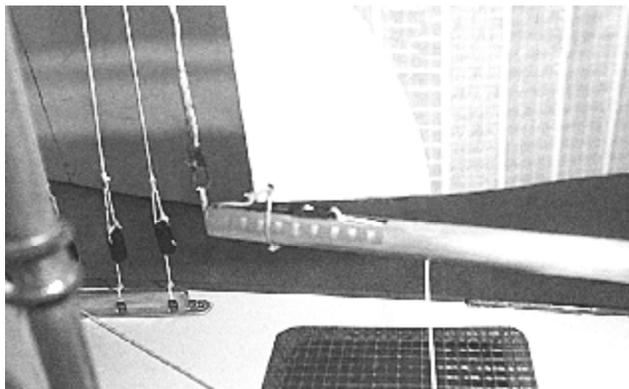
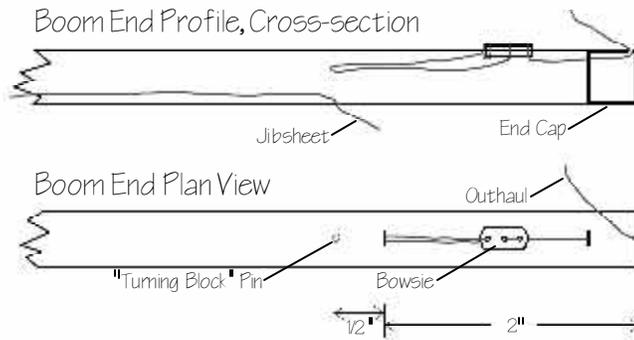
If you want to use this adjusting system to replace the

boom slider that adjusts the length of the jibsheet as well, then that 'turning block' pin for the jib boom outhaul serves double duty. I use a hollow plastic tube (cut from the innards of a used-up Bic pen), set vertically at the point where the jib sheet leads to the boom. The tube wall has a forward facing hole in it so that the jib sheet, entering the tube at the bottom, exits the tube inside the boom, leading forward through the track-mounted bowsie, to another 'turning block' pin, which has been glued inside the hollow center of the

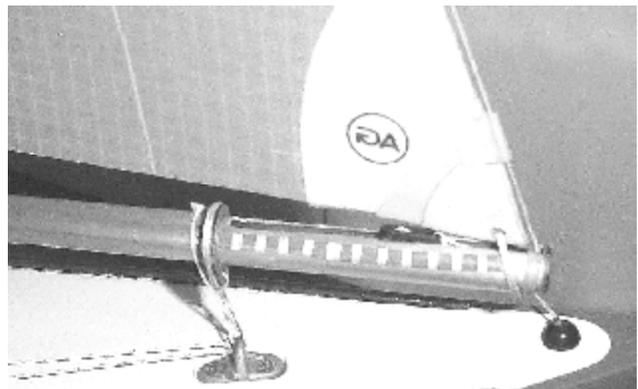
forward boom end cap. The jibsheet end then runs aft to terminate at the third bowsie hole. In order to make outhaul, sheet or bowsie replacement easier, I do not glue the boom end caps. To make replacing the jib sheet easier (without removing the headstay to slide the bowsie on and off), I have lengthened and opened up the aft end of the

boom slot so it is wide enough to release the bowsie. Although this system has worked flawlessly, it would still make sense to build it so it lends itself to preventive maintenance, especially for replacing the sheets.

In an overzealous attempt to replace all boom sliders, I tried to do without the slider that provides fore'n' aft adjustment of the boom downhaul location. But that wasn't a good idea and, as you'll see in the photo below, I returned it, reinforced with Spectra, to its rightful place, because adjusting it works well in concert with mast rake adjustment to achieve that ever-important helm balance. ▀



Jib outhaul adjuster



Jibsheet adjuster

Who's Counting? – CR 914s and AMYA

by Dick Martin

Have you ever wondered what the numbers in that “Class Members (*not boats*) by Region” table on the “AMYA Stats & Facts” page near the back of *Model Yachting* really mean? Probably not, but if you read on you’re gonna find out, whether you want to or not. Over the years it has shown a fluctuating total in the CR 914 line that has been trending down (in the Spring Issue each year our total has been reported to be 223 in 2004, 211 in 2005, 184 in 2006, 206 in 2007, and 172 this year, currently in seventh place among the classes).

Given the feedback that I receive from 914ers whenever the subject of AMYA membership comes up, I have not been terribly surprised to see that decline. But given the true size of our class as measured by boat registrations (which will top 1,500 before long), and ‘active members’ as measured by *CRonicle* subscriptions (topping 300 with this issue) AMYA’s numbers have always seemed to me to be low. And, given the errors that I found on the rare occasions that the AMYA membership secretary reported new boat registrations and AMYA memberships to me, I would have been very surprised if those numbers had proved to be accurate.

I confess, however, that I really never wondered enough to motivate me to do the work required to check them. (My CR 914 registration records include each AMYA membership number that is reported to me, but that only proves that an owner has joined AMYA once upon a time, not whether she or he is a current member. And the membership data that AMYA has made available to class secretaries like me have been in the form of a Microsoft Access database that was impossible for anyone other than a certified Access geek to cross reference, and a cumbersome alphabetized HTML printout of the AMYA membership secretary’s data that spans multiple webpages and would have required a painstaking line-by-line visual comparison with my boat registration data.)

Well, it turns out that a few people did wonder enough about class numbers to complain. And, as a result the president of AMYA a month or so ago ordered each class secretary to take on the job of compiling the numbers for that table. I suspect that many of them will not comply, and I wonder how accurate the numbers reported will be (what a surprise if some of the numbers increase quite dramatically — remember, those numbers confer ‘bragging rights’ to classes with the highest ones).

Our class is blessed, however, with a class secretary’s wife who volunteered for the daunting task, which involved eyeballing in one window on her monitor each entry in my class database (an Excel spreadsheet) and searching in another window the AMYA website records of every currently paid-up AMYA membership for a similar name, address, and other identifying data (you’d be surprised how often names were spelled differently or first names were different, for

example), 1,479 times! Spread over four days, it involved about eight woman-hours, and a few dozen anguished screams and episodes of vertigo and double vision. From the tick marks Carole entered in new columns in my database each time she found a match, however, it was then fairly easy (about one man-hour, only one or two screams) for me to come up with the following, accurate, numbers. Which have an interesting tale to tell if, having invested the time to read this far, you’ll stick with me a little longer:

A. Registered CR 914s as of March 16, 2008	1,479
B. Registered CR 914s that belong to current AMYA members and Family Memberships (FMs)	230
C. Current AMYA members and FMs that own one or more CR 914s	202
D. AMYA membership secretary’s current count of AMYA members and FMs that own one or more CR 914s (which one might reasonably expect to agree closely with C. above)	171
E. CR 914 owners who once were AMYA members but who no longer are	356

Conclusions

1. *Model Yachting*’s “Class Members (*not boats*) by Region” table under-reports CR 914 data by nearly 20% (a surprise, I thought the discrepancy would be larger than that).
2. Only a small minority of registered CR 914s belong to current members of AMYA.
3. Of the 558 registered CR 914 owners who have joined AMYA over the years, more than 60% have chosen to let their memberships lapse. ■





A Case for Alkaline Batteries

by Rick Martin CR 914s 75 and 808 – Seattle, WA and Tokyo, Japan

After 12 years in our hobby/sport of radio sailing I've come full circle on my preferred choice of batteries for the CR 914. I started out with ordinary AA Alkalines for both receiver and transmitter. In my constant search for something 'better' I tried NiCd's, then NiMH's and then still higher capacity NiMH's. What I found was that I was becoming a slave to my battery regimen, and I went back to Alkalines. Here's why:

The NiCd's worked fine, although a full charge only provided about a third to half of the capacity of the Alkalines. With NiCd's there is concern about longevity and so-called 'memory' effects so I was careful to store them discharged, cycle them between charges and always slow charge (C/10) whenever I had the luxury. Because NiCd's give no warning before they are exhausted, estimating how many races I could expect on each charged pack for varying lengths of races and race conditions was always a risky proposition. I will say that the NiCd's have held up well. They still test at 90 to 95% of their rated capacity going on eight years of caring use.

NiMH's were supposed to solve the run-time and memory worries and they did ...while they were new. But in as little as three years the capacity of my

NiMH's fell to one half to a third of their rated capacity, to measured capacities that were similar to those of the 600 mAH NiCd's they were supposedly replacing. And they continue to deteriorate slowly so I'm never very confident how much capacity they really hold, requiring that I frequently do a capacity measurement cycle. On the positive side, the NiMH's are more forgiving in the care and feeding department than the NiCd's, and near the voltage level at which servos will cut out their voltage

With Alkalines the whole burden of rechargeable battery management is eliminated.

decreases slowly enough to provide a warning (by causing the servos to slow down or twitch before they quit completely) in time to finish a race and get off the water to replace or recharge them.

With Alkalines the whole burden of rechargeable battery management is eliminated. I simply run new Alkalines in the receiver until I get the first sign of servo twitching (typically 30 to 40 races) and then replace them. Worst case, I may sail a leg or two with a twitchy sail servo. But here's a little

secret, the Alkalines are not quite ready for the battery recycler at this point. They can be saved and used in the transmitter. You may be surprised at how long they will last before the transmitter alarm goes off, and even then you'll have a race of two left after that. In fact, I rarely need to put new alkalines in the transmitter.

Some may argue about lower cost per mAH economics of rechargeable batteries. If they are sailing/racing multiple models multiple times per week maybe they have a point. Even if they are right, you want to ask yourself how much is your time worth? Keeping track of proper charging, cycling, storing, measuring capacities, and estimating when to change packs is time consuming. You may find the time and energy saved is well worth the bulk price of 25 to 40 cents per alkaline battery.¹

There is one disclaimer I must make. This strategy is the result of my personal experience with 2- and 4-channel Futaba, Airtronics/Sanwa, and JR transmitters controlling analog servos; I have no experience with higher-end radios, digital servos or any of the Hitec radios. So your results may vary. But I do recommend giving it a try. 

¹ Editor's note: Rick reports that he can buy Panasonic, Hitachi and Toshiba alkaline batteries in Japan for 40¢ per battery or less, although it is becoming harder to find them at the 25¢ end of that spectrum. I had hoped to supplement this article with a report on the mAH capacities and time-voltage curves of several brands of alkaline batteries, for comparison with the NiMH battery curves that I have published previously in the *CRonicle*. But the time demands of editing the material for the CR 914 feature articles in *Model Yachting* 153 prevented me from being able to activate the Midwest Division of the CR 914 Laboratory and perform the necessary tests in time. I will do so one of these days, however, and those data will be reported upon as part of my (NiMH advocacy) half of a 'great battery debate' that Rick and I will produce for an upcoming *CRonicle* before long.

25 Years of Cup Racers

A brand-new 2008 CR 914 sails along side a 1983-vintage 500 mm (~19-1/2") 'mini-12' of the sort that was used in the first Super Mini America's Cup Regatta in Japan. Three years later Kazuo Takei designed a 36" replica of the then-new IACC yachts, which evolved to become the CR 914 of today.

photo credit: Rick Martin



Developing a country pond for CR 914 sailing

First of a three part series – I hope

by Dan Butterfield, Fleet Captain/Secretary of the Blue Ridge Sailing Club, Central Virginia

The CR 914 sailors of our Blue Ridge Sailing Club are finally back on the lake warming up (literally as well as figuratively speaking ...brrrr, the lake ice has just melted) and sharpening our rusty racing skills for what promises to be an exciting regatta season. However, interference on our sailing course by canoes, paddle-boats, and kids and parents fishing promises to be as frustrating as last year. After all, it is a public lake, so what to do? Well, how about find and develop another lake or pond for our sailing. Where?

In this rural part of Central Virginia there are few lakes but many ponds... some no more than cow ponds. We have discussed how we might develop some of these ponds as alternatives to using our beautiful Lake Monocan during its congested public use between Memo-

rial Day and Labor Day. There are two small ponds about ten miles down our country road which I've had my eyes on for a number of years. Both appear to be good possibilities. At first glance their two to three acre size seems about right, they are in the open for unobstructed and steady wind, and there seems to be decent access. I plan to check them out as soon as I can, and share the results of my inquiries and my assessment with my Blue Ridge Sailing Club members and you, the *CRonicle* readers.

The first step will be getting permission from the landowner, which of course will include vehicle access and nearby parking for our sailors and spectators. I'm sure an insurance liability waiver will also be required¹, especially covering getting on the water with some sort of recovery boat. Next on the

agenda will be determining each lake's prevailing wind direction, water depth, and water conditions with regard to weeds, near-surface protruding objects, and drifting debris. I will need to determine characteristics of the bottom to plan for the type of anchor we will use on our marks. And I must locate control areas and places to launch, recover, and sit (without getting too wet and muddy). Relative ease of getting into and out of the recovery boat is important too.

So stay tuned for my next report in the Summer Issue, which will reveal what I find out from the property owners and the further steps our club will have taken to develop one or both ponds for our sailing. In the mean time, take a look at photos² I took of the two ponds the day I wrote this article. 📷



Editor's notes:

- 1 On page 5 of this issue, Dan, you can learn how to purchase affordable pond-owner's insurance.
- 2 Two photos of each pond were taken by Dan using his camera's panorama mode and then stitched together to provide these wide-angle views. What a great way to capture the feeling of a place — it's a shame that this technique can't be used when there are moving objects in the scene ...such as sailboats.

How to Build a Club Yourself

by Chuck Winder

WANT TO RACE BUT DON'T HAVE a local group of CR 914s to race with? You've built a boat; you can build a club almost as easily. You'll find lots of pointers and help on the AMYA website at

www.modelyacht.org/clubstuff.html, and the CR 914 class secretary can assist and connect you with other 914ers who have built clubs from scratch. All it takes to get an AMYA-sanctioned

club started is a group of three AMYA members (it also helps to have a body of water to sail on ☺). Then submit the form that you will find at www.modelyacht.org/clubform.html. 📄



To Wax, or Not to Wax: An Engineering Perspective

by Christopher VanEpps

Editor's note: This is the first installment of a long article that I found on the Internet. It was published October 1998 in *On the Wire* and is reprinted, in abridged form, with the permission of the author, an aeronautical systems engineer for Lockheed Martin who sails a Hobie 18 SX. He can be reached at chris.vanepps@lmco.com.

Which is faster? A waxed/polished hull, or a wet-sanded one? This is a question which "surfaces" (ha, ha) on a regular basis and quite often a wave of pseudo-science based debate swells and threatens to capsize scientific reason. While I don't purport to be the Moses who will read from the tablets of speed and end all the arguments, I have, at least, seen the burning bush of science and would like to share my understanding with the reader.

What follows are some basic aerodynamic principles and my observations based on same. I would like to thank Bill Mattson, Mike Fahle, Sonny Barber, Mark Michaelsen and several others for keen insights and anecdotes they've shared with me and I've paraphrased here, as well. Many thanks also, to Brenda Carpenter, MS in Aeronautical Engineering from MIT, for technical editing and BS detection.

The real answers can, perhaps, be found in the world of fluid dynamics and a discussion of laminar vs. turbulent flow and the associated boundary layer. Since an in-depth study of this is about as fun as a root canal and so dry one must be hooked up to an iv just to read a text, I will take my references, in this first section, from a fabulous book entitled *The Illustrated Guide to Aerodynamics* by H. C. Smith, 2nd Edition. This book reads more like a novel than a text and one doesn't need a mastery

of calculus and hieroglyphics to attain enlightenment.

The following rules apply whether a fluid (air or water) is passing around a surface (sail or hull), or a surface passes through a static fluid. In essence, laminar flow occurs when a fluid flows over a surface in a smooth, layered fashion, in which the streamlines all remain in the same relative position with respect to each other. One must observe the phenomena of skin friction and boundary layers to understand flow. The

“Dennis Conner was asked why he wet-sanded his Cup boats. He replied that he had absolutely no idea, but that if he didn't, he was sure the other teams were and by God he was going to as well, if for no other reason than to level the playing field.”

viscous nature of air or water causes it to 'stick' to the surface over which it flows; thus the velocity directly on the surface is zero for any velocity of the main air or water stream. Put into our terms, as our hull speeds through static water (water with no velocity) at 10 knots, a water molecule right next to our hull 'sticks' to the hull and is 'dragged' along at the same 10 knots. Proceeding away from the surface, the velocity gradually builds up to free stream velocity (the velocity of the stream if the surface wasn't present at all) at some distance from the surface. In our sailing case, where it is the surface that's moving through the fluid, as one looks at molecules of water in increasing increments of distance from the hull, they gradually go from 10 knots to 0 knots. This area between the surface and the point where velocity reaches that of the free stream is called the boundary layer. The reaction to the retardation of the flow velocity within the boundary layer is called skin friction drag. The thicker

the boundary, the more drag.

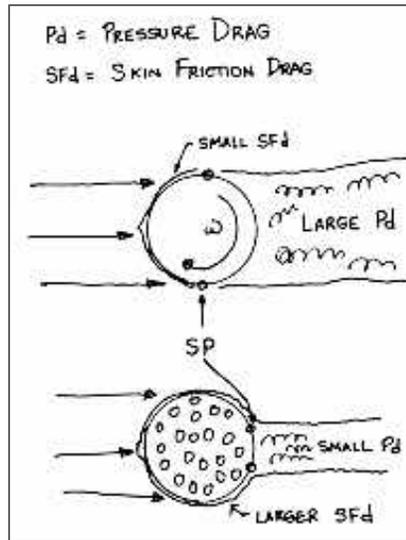
A turbulent boundary layer is thicker than a laminar one. Turbulent flow is marked by streamlines that break up and become all intermingled, moving in a random, irregular pattern. Laminar flow goes through a transition region before becoming turbulent. In terms of efficiency/speed: Laminar = good, Turbulent = bad (in most cases, but not all). This transformation in flow can be seen in smoke rising from a cigarette in calm air. The smoke rises initially in a laminar manner. Then, as it encounters the friction of passing through the surrounding air it transitions to a turbulent flow. A scientist by the name of Osborne Reynolds found that whether a boundary layer was laminar or turbulent depended on the fluid velocity, the distance downstream, and the

fluid's kinematic viscosity. The Reynolds number (Re) = [(fluid velocity \times distance from leading edge) \div kinematic viscosity] and is used to describe the viscous qualities of a fluid-surface interface. At low Re the flow is laminar; a high Re indicates turbulence. The point at which a laminar flow turns turbulent can be referred to as the Critical Re . In aircraft, since there is a change in Reynolds number at each location on the wing as one heads downstream from the leading edge, it is customary to use a 'characteristic' representative length from which to calculate the number. This keeps us out of calculus. The Reynolds numbers in most sailing applications however, (sail/air; foils/water) are orders of magnitude lower than those associated with aircraft. This is significant. It is important to note that either an increase in speed, or, more importantly, a significant distance from the leading edge (bow of your boat) can greatly increase the Reynolds Number. ►

It is also interesting to note that a sailboat presents a rather unique aerodynamic scenario, in that it has 3-part boundary along the water line. An airplane wing only has to worry about the wing-air interface. A submarine only has to worry about the hull-water interface. A boat on the surface, however, has to deal with both the hull-water and the hull-air interfaces. This gets tricky right at the waterline and it has been shown that the hull will literally drag air molecules below the surface of the water, against the hull, breaking up flow.

Okay, so how does all this relate to and solve the original conundrum?

Perhaps it would help to debunk some of the pseudo-science myths that people use when defending wet-sanding. I've heard the golf ball theory used. They say that a dimpled golf ball travels farther than a smooth one. They're right. They then relate this to the rougher surface caused by the sandpaper, as compared to the smoothness of the wax/polished sur-



$$\text{TOTAL DRAG} = \underbrace{C_{Dp} \times \left(\frac{1}{2} \rho v^2\right) \times SA}_{\text{PARASITIC} = Pd + SFD} + \underbrace{\left[\frac{K}{2} \frac{w^2}{\rho v^2}\right] \times SA}_{\text{INDUCED}}$$

where
 C_{Dp} = Parasitic Drag Coefficient = $\frac{D}{q \times SA}$
 D = actual drag
 q = Dynamic Pressure, SA = Surface Area
 ρ = Fluid Density
 v = velocity ; w = weight
 K = constant of proportionality, varied with plan form shape.
(not real useful when dealing with a golf ball :-)

face and claim this is what makes a wet-sanded surface faster. They're wrong. A golf ball is spinning in an airstream caused by its forward motion. A perfectly smooth ball would suffer flow separation very early around its surface, generating a large wake and a subsequently large pressure drag. Remember that Parasitic Drag = skin friction drag + pressure drag. A smooth ball has low skin friction drag, but really high pressure drag, because even though the flow is laminar, it separates from the ball very early. Now, if you put dimples on the ball to roughen the surface, the flow becomes turbulent and the resulting higher energy flow can stay attached to the ball longer, delaying separation, making a smaller wake and reducing the pressure drag. You have traded off the increased skin friction drag against an order of magnitude drop in pressure drag. Thus, the total drag drops and your drive goes farther. Spheres (golf balls) are very special cases, from an aerodynamic point of view. ■

To be continued in *CRonicle* 59



Editorial: Three good reasons to join AMYA now

by Dick Martin



READERS OF THESE PAGES will recall that, although I have always encouraged 914ers to join and support our sport and its national governing body, I have often been critical of AMYA. My personal experiences with several branches of the organization as an AMYA member and as a class secretary confirm complaints that I repeated hear from other sailors. And the table on page 10 of this *CRonicle* shows that sailors who own CR 914s have 'voted with their feet,' by sampling AMYA and then, well over half the time, letting their memberships lapse.

It has been quite a while since my last editorial devoted exclusively to AMYA, however, ("Winds of Change are Blowing at AMYA — well, at least

some cat's paws have been spotted," *CRonicle* 46, Spring, 2005) and there have been several developments since then. As I predicted in 2005, John Davis, the then-new managing editor of *Model Yachting*, has done a remarkable job. For starters he and his staff of vol-

“sailors who own CR 914s have ‘voted with their feet,’ by sampling AMYA and then, well over half the time, letting their memberships lapse”

unteers pulled off the herculean task of getting a quarterly magazine that had fallen a year or so behind schedule back on track by producing a new issue nearly every six weeks. *MY's* content has improved as well, with more articles of general interest such as the excellent series, "Let's Race with the Rules" that

I touted in *CRonicle* 57 this winter. (And *MY's* archaic style of putting two spaces at the ends of sentences was finally eliminated, bringing it in line with 20th century publishing practice ☺.) Although other leftover styles such as crowded layouts and stodgy looking

headlines continue to give the magazine a somewhat amateurish look and feel, *MY's* recent content, many of its grayscale photos, and some of its color covers

now make it well worth the \$25/year price of an AMYA membership. And, of course, Issue 153 featuring the CR 914 Class will become an instant collector's item for every 914er that all by itself would justify paying that \$25 this year.

In 2002, hoping that I could help

bring about needed changes in the organization, I became the AMYA Director for Region 4 (I was appointed; very few of AMYA's offices have been truly contested and the elections that are conducted via *Model Yachting* every two years have been largely ceremonial). But I gradually became frustrated with its good-old-boy leadership network and their inadequate and sometimes divisive communication with directors, class secretaries and the membership at large. And my active involvement effectively ended when, dismayed by the hubris I perceived and things that transpired at the quadrennial meeting of the AMYA Board of Directors that I attended in San Antonio in the fall of 2006, I resigned from the Board a few months later, convinced that I could make little if any difference.

A real opportunity to turn things around is now about to present itself, however. The next AMYA election is

scheduled for this fall (the ballot will be published in the same issue of *Model Yachting* in which our class will be featured, coincidentally). A 'reform ticket' of officers and director candidates plans to contest many of the positions, headed by Rick West, the current EC-12 Class Secretary. Our own Chuck Luscomb is the ticket's candidate for Region 1 Director. Quoting from an ad that this group has submitted for the Summer issue of *Model Yachting*, their team will have "administrative management and Internet technical knowledge" and "is in planning to upgrade the American Model Yachting Association into the 21st Century." Their ambitious platform includes "a marketing presence on the Internet," "fiscal business management and planning," "web provisions and communications support for class secretaries," "near real time database management for managers and class secretaries," "real time communications to

the members," and "building the model sailing playground for the future."

So there you have three very good reasons for 914ers who have never joined AMYA and the large number who once belonged but quit, to join up now: (1) to support our national organization for RC sailing, (2) to receive *Model Yachting* and this year's CR 914 Feature Issue, and (3) to have an opportunity to vote in an important election that can make a difference. Fill out the AMYA membership form that you will find on page 17 of this issue and mail it to the AMYA membership secretary (not to the CR 914 class office) *right now*. And talk this up among members of your fleet who do not subscribe to the *CRonicle* too; make copies and give them application forms so they can join as well. It sometimes takes an inordinate amount of time for AMYA to process membership applications, so you need to move fast. ■



Sailing, NASCAR, and MENSA

by Dick Martin

BUMMER. It looks like our local sailing club is losing its battle for the hearts and minds of the sports enthusiasts in town. First, the Missouri Tigers appeared on the cover of *Sports Illustrated* and finally won a bowl game last year. And now the city fathers have erected a billboard along Interstate 70 as it runs through Columbia announcing that this is the home town of the latest sports idol, Carl Edwards of recent NASCAR fame.

Many model yacht clubs face the same problem. Some have tried to win defectors back by adopting NASCAR's identification system when reporting regatta results (see "Calling Names" in this column in *CRonicles* 47 and 50: "The Talladega Invitational was won by Charlie Glotzbach sailing the #88 boat"). But I think that this 'if you can't beat 'em, join 'em' approach is doomed to fail. We sailors need to differentiate ourselves from our rivals. One way would be to prove that we are smarter.

Not that stock car racers and their fans are dumb, mind you. After all, most of them can speak a foreign language. And, although the Nascore language doesn't contain the word 'starboard,' it has lots of 'ports.' As in, "Coral Edwards and Mork Morton's cores got together in turn two and, man, there was ports all over the track!" Incidentally, Missourians have

great difficulty speaking Nascore. Seems their native language replaces most vowels with one that is unique to this state. Known as the 'Thuud,' it is spelled with double 'u's; that's 'uu,' not 'w.' The Thuud is pronounced "uugh." As in "puut it in the truuck" and "Muugh-zou-ruugh." But I digress.

Here is a MENSA-level quiz that you can use to impress your friends with how smart racing sailors are:

Tom Sawyer and his sailing buddy Huckleberry Finn buy a sailboat. After they have learned to sail it they decide that they want to race, but they cannot afford another boat. So they decide to race against the clock one at a time over a measured course on the Mississippi River where it flows due south past their home town of Hannibal, MO. Because of heavy rains up north in Iowa the current is swift (3 MPH) and they are afraid they can't beat well enough to make much headway upstream, so they will each sail three miles downstream. It will take so long to get the boat back to the starting line between heats that they decide that Huck will sail his heat on Saturday and it will be Tom's turn on Sunday.

On Saturday the wind blows from the north at 3 MPH.

On Sunday it is dead calm.

Who wins the race? ■

New Boats and Owners

Sail No.	Boat name	Owner	City	State
1403	<i>Mellow Yellow</i>	Mark O'Connell	Oakdale	CT
1466		George M. Szabo III	San Diego	CA
1467		Peter Bauer	Mamaroneck	NY
1468	<i>Pamlico Starr</i>	Herbert W. Galer	Washington	NC
1469		Alun Honey	Humble	TX
1470		Gregg Goyette	West River	MD
1471		Tom Hutton	Atherton	CA
1472		Tom Hutton	Atherton	CA
1473	<i>Breeze</i>	Russell F. Godfrey	East Berlin	PA
1474	<i>Hornet</i>	Donald Horton	Westport	CT
1475		Christian Junge	Annapolis	MD
1476	<i>Arabella</i>	Lee H. Luce	Warwick	NY
1477		Bill Dempsey	Deep River	CT
1478		David Blanus	Clinton	CT
1479		Paul Aube	Killingworth	CT
1480	<i>Plum</i>	Bob Puder	Madison	CT

The CRonicle Honor Role

The following Heros of the CR 914 Class contributed ideas, articles, reports, photos and/or letters for this issue.

Phil Adams Cambria, CA
 Mark Benedict Essex, CT
 Dan Butterfield Nellysford, VA
 Tyler Cagwin Fayetteville, NY
 Jerry Gibbs San Diego, CA
 Elaine Huntington San Diego, CA
 Chuck Luscomb Wolcott, CT
 Jean Malthaner San Diego, CA
 Dick Martin Columbia, MO
 Rick Martin Seattle, WA
 Christopher VanEpps Vestal, NY
 Chuck Winder Marblehead, MA

CR 914 Class website PASSWORD

This quarter's password is:

recruit (case sensitive)

This password will expire on July 5 and will be replaced by a new password that you will find in this location in Issue 59 of the *CRonicle*.

Deadlines for future CRonicles

issue	submission deadline	publication date
59 - Summer, 2008	June 15	July 1
60 - Autumn, 2008	Sept 15	Oct 1
61 - Winter, 2009	Dec 15	Jan 2
58 - Spring, 2009	Mar 15	Apr 1

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

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 61, for example, you're good through December 2008. If it says 59 or 60, 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 won't receive another reminder.

The Editor

Solution to the 'Mississippi Mystery'

TOM SAWYER WINS EASILY. On Saturday, the current carries Huck's boat downstream at 3 MPH over the bottom, exactly the speed that the northerly wind is blowing the same direction. So Huck, and his sails, feel no wind at all, and all he can do is drift. At 3 MPH the current carries him 3 miles to the finish line in 1 hour. On Sunday when it is dead calm, the current again pushes the boat at 3 MPH over the river bottom. But Tom and his sails feel a 3 MPH *apparent headwind*. So Tom is able to sail close-hauled at, say, 1 MPH through the water. By tacking back and forth into this 3 knot apparent southerly wind he achieves a VMG of about 0.7 MPH through the water down the river, for a total VMG over the bottom of 3.7 MPH. and he gets to the finish line in about 49 minutes.

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
richard.h.martin22@gmail.com
 (573) 256-7213

— 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
 P.O. Box 360374
 Melbourne, FL 32936
 888-237-9524 (toll free)
office@amya.org



CR 914 Class

1206 Castle Bay Place
Columbia, MO 65203

the **CRonicle**

Issue 58
annual Regatta issue

Spring, 2008

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