

The Model Yacht

*Spreckels Lake, Golden Gate Park,
San Francisco, California.*



The Model Yacht

Fall 2018

U.S. VMYG Leadership

President: John Y. Stoudt, jstoudt309@gmail.com	(610) 316-8695
President Emeritus: John Snow, jsnowj@comcast.net	(978) 594-8521
Treasurer: Ernie Mortensen, usvmygt@gmail.com	(858) 525-5217
Newsletter Art Director: Bruce Richter, richterbruce@gmail.com	(917) 575-2221
Newsletter Editor: Jeff Beck, beck.jeff@gmail.com	(240) 252-0236
Webmaster: Jim Flach, Jim.flach@gmail.com	(610) 299-8138
Membership: Ernie Mortensen, usvmygt@gmail.com	(858) 525-5217
Regatta Coordinator: Nick Mortgu, mortgu@comcast.net	(609) 820-0509
Awards Coordinator: Rob Dutton, edwin653@aol.com.....	(703) 608-8812
Resources Coordinator:.....	Open
Historian: Earl Boebert, boebert@swap.com	(505) 823-1046
Boat Yard: Jim Linville, linvillejim@gmail.com	(781) 534-0203
Plans Coordinator: Ivor Walton, vintageplans@comcast.net	
Construction Advice: John Henderson, jgnhenderson@atlanticbb.net	(443) 282-0277

Class Coordinators

Free Sailed:.....	Open
Intl A Boat: Mike Denest, mjd12k@yahoo.com	(610) 316-3570
Schooner: Charles Bloom, Charlie@pondyachts.net	(516) 902-1055
Skipjack: John Henderson, jgnhenderson@atlanticbb.net	(443) 282-0277
Unrestricted: John Y. Stoudt, jstoudt309@gmail.com	(610) 316-8695
Vintage 36: Alan Suydam, alansuydam@comcast.net	(301) 653-4899
Vintage Marblehead: Bruce Richter, richterbruce@gmail.com	(917) 575-2221

Regional Coordinators

International:	Open
Mid-Atlantic:	Open
North Central:.....	Open
North East:.....	Open
North West:.....	Open
South Central:.....	Open
South East:.....	Open
South West: Ernie Mortensen, usvmygt@gmail.com	(858) 525-5217
UK Coordinator: Graham Reeves, graham@reevesmail.co.uk.....	+44 151 936 1140



The Model Yacht is published three times per year by the US Vintage Model Yacht Group. Copyright 1998 to 2018 by the USVMYG. Reproduction for noncommercial purposes permitted; all other rights reserved. Other copyrights are maintained by the original holders, and such material is used here under the fair use provisions of the relevant copyright acts for nonprofit research and educational purposes.

Editorial Address:

John Stoudt
309 Sundance Drive
Chester Springs, PA 19425
jstoudt309@gmail.com

On the Cover:

Skippers freesailing their pond yachts, as they still do today, on Spreckels Lake in Golden Gate Park, San Francisco.

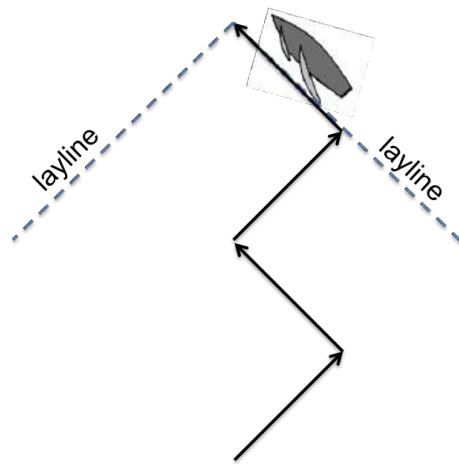
Membership Renewals:

The annual membership fee will be due and should be renewed with the publication of the first newsletter of the calendar year. Please reference “Membership” on page 5 and 41 for the dues amounts. Please use the form that accompanies this issue of *The Model Yacht* to complete your membership renewal.

The Layline

President's Message

I always begin thinking about this message as the prior newsletter is “put to bed”. There is never a want for topics to be discussed in this column. In this issue I will address membership, Issue 197 of Model Yachting, the need for articles and authors, regional efforts, an awards coordinator, expanding what boats we represent and a special thank you.



*Definition: A **layline** is a straight line (or bearing) extending from the next mark to indicate the course a boat should be able to sail on the one tack in order to pass to the windward side of the mark. (vsk.wikia.com/wiki/Layline)*

Membership—The US VMYG is at a cross roads. Our membership is dwindling, mostly due to age as we are all getting older. We must take steps to correct this downward trend by increasing membership. How might we do that?

1. Begin to involve younger people in our pastime.
2. Involve more women and minorities.
3. Expand the base from which we pull members, i.e. the AMYA, overseas.
4. Increase our visibility.

There is no question that we have much to offer the model yachting community. We need to figure out how to leverage our mission and goals into increased membership. Let’s face it, membership provides income enabling the vintage Group to provide services to our membership and to expand those services. I have worked with Ray Seta, President of AMYA, to improve our presence on the AMYA website. We would also appreciate your thoughts and ideas on bringing others with an interest in the “Vintage Model Yachting” to our group.

Inside

Leadership Team.....	i
The Layline.....	1
Barnacles.....	5, 6, 7, 34, 38
Membership Renewal.....	3
US VMYG Budget.....	4
US VMYG Clothing.....	4
Event Schedule.....	5
Breaking News.....	6
UK/USA Challenge.....	6
Vintage Plans Update.....	6
Herreshoff Exhibit.....	7
Earl Boebert Tribute.....	8
100% Scale?.....	9
Scale Models.....	10
What Class of Boat?.....	17
Right Place, Right Time.....	20
Draw an Ellipse.....	22
Make a Mold.....	23
The Svea Project.....	25
Storrow Lagoon.....	28
Mystic Seaport Museum.....	31
The Draketail.....	35
Banner Unveiled.....	38
Resources.....	39
Publications Available.....	40
Membership Form.....	41
Boat Registration.....	42

Regional Efforts—The Group still needs regional coordinators. We would like these individuals to take on some limited responsibility to include:

- encouraging individuals to join and become involved in the organization.
- serving as a point of contact for questions regarding the US VMYG in their region.
- providing information for articles to the newsletter editorial staff
- developing and maintaining contact with the club commodores in the region to encourage support of vintage pond sailing.
- nurturing regional vintage events to encourage enthusiasm on a regional basis.
- establishing a written list where the vintage boats are in the region.
- sharing the list with the various class secretaries.
- encouraging owners who are not members to join the US VMYG.

I am finding out more and more that there are vintage boats all over the country, some in areas that do not have clubs sailing vintage boats. Identify these boats and their owners and let us know who they are. Have an impromptu regatta and tell us about it. This will help generate more interest, excitement and potentially new members. These regional coordinators along with those already working on the leadership team will help ensure the longevity of the vintage Group. If you have interest in helping out and have questions do not hesitate to call me.

Articles—The life blood of the Group over time has been the newsletter. We have been able to maintain the tradition established by Earl Boebert and continue a well received newsletter. We are looking for subject matter and authors to help with the material and with the writing. If you have any thoughts on topics, know someone doing something worthy of publication, or know an author or would personally like to write something please let us know. WE NEED YOUR HELP – there is a lot of “vintage” going on around the country that we would like to discover and report on .

Model Yachting Magazine Feature—The US VMYG will be the feature in an upcoming issue of *Model Yachting* the magazine of the American Model Yachting Association. Issue 197, the fall 2019 issue will focus on the US VMYG and the vintage boats we build, collect and sail. The copy and photos for this feature must be in my hands by April 25, 2019. I serve a dual role in pulling together this feature, as your president and as the feature editor of *Model Yachting*. This places some additional responsibility on the editorial staff of *The Model Yacht*. We now have to find additional material, use existing material, or plan the feature using a combination of both. As the staff moves forward planning this feature for the magazine we would like to ask the following of you:

1. Do you have suggestions for the feature spread – article titles, author suggestions, photos, regatta reports, etc?
2. Are there articles we have printed in previous issues of The Model Yacht that you think the members of the AMYA would like to read?
3. Are you willing write an article for this feature? If so, what is the subject matter?
4. Is there someone who has a good story to tell? What is that story? Who is the author and how do we make contact?
5. Are you aware of anyone building a vintage boat? Would that person be willing to share what they are doing with words and or photos?

We realize that some people do not want or like to write. We can help and will be more than happy to work through the process with you.

A Special Thank You!—A number of our members, both regular and life, have indicated a willingness to accept the newsletter electronically. For that I thank you. I encourage more of you to do the same. It helps us control costs and gives you a color copy of our newly formatted newsletter.

Expanding Our Role—I believe that we must be inclusive rather than exclusive. What do I mean by this? I want to see boats on the pond sailing not in a closet or attic gathering dust.

Marblehead Thoughts—The Marblehead class is a good example. When the class rules were updated in 1994 a lot of what appeared in the MYRA (Model Yacht Racing Association) was used in the new rules. There are things in these rules that prevent certain types of Marbleheads from participating either by their shape or age. As president I believe we should allow Marbleheads with Prognatheous keels and classic Ms to sail in our regattas. Since these boats may have an advantage over traditional Marbleheads we will simply score them separately.

Other Vintage Model Yachts—There are other vintage model yachts – vintage power boats, replica schooners (great schooners). We are going to begin to encourage those who build and sail these to join our Group. And, we will begin to include articles related to these in our newsletter. If you know someone who builds, collects, and/or sails other vintage model yachts share with them what we are about and ask them to join us.

Membership Renewal Reminder - Time to Renew for 2019

US VMYG membership and dues are on a calendar year basis from January 1 to December 31 each year. Joining within the calendar year entitles you to that years 3 published newsletters. The newsletter and dues renewal form is at the rear of this newsletter. Thank you for your continued support.

Membership in the US Vintage Model Yacht Group is on a calendar year basis.

If you join at any time within a calendar year you

will receive all newsletters published in that calendar year based on the membership category you are joining, for example:

- Emailed Newsletter - \$30: you will receive 3 emailed newsletters.
- Printed Newsletter - Domestic Address \$40: you will receive 3 printed newsletters mailed to you if you reside in the USA or Canada.
- Printed Newsletter - Foreign Address \$50: you will receive 3 printed newsletters mailed to you if you reside outside the USA or Canada.

US VMYG 2018 Budget

By Ernie Mortensen

The budget established for the US VMYG at the beginning of the 2018 calendar year anticipated revenue of \$5,505. The actual revenue thru the current date is \$4,072 or a shortfall from anticipated revenue of \$1,433. Our revenue was less than expected due to fewer annual renewing members. We expected 79 annual members to elect the Electronic newsletter whereas only 44 annual members elected this membership category. We also anticipated that 55 annual members would elect for a printed newsletter but only 42 elected this category. Our Life members however donated significant contributions.

Also, overall our membership dropped from 180 members to 157 members. I believe that the drop in membership is the result of older members dropping out of the sport and a number who have passed. As we move forward, additional efforts will be placed on outreach to solicit new members from

AMYA and other potential model membership groups.

On the expenditure side of the budget we anticipated we would spend approximately \$3,595 for production and mailing of newsletters, marketing, boat plan digitization, National Regatta, Awards and Post Office Box Rental. Realizing that the revenue stream would be less than expected, we cut back on discretionary expenditures. We did not however reduce the expenditures for the publication and distribution of our newsletter which we believe to be the most important membership benefit. Our expenditures to date are \$1,900.

With this management of our financial resources we expect our ending financial balance to be approximately \$4,100 which is an increase of \$1,800 over our beginning balance of \$2,284.

US VMYG Clothing Available Soon

The US VMYG is finalizing a clothing line for its members and others. It is working with Corporate Casuals in Massachusetts to make a series of clothing available, embroidered with our logo. This company uses high quality clothing manufacturers. It provides the clothing at reasonable costs and will do a one piece minimum order. You will place your order with them on the webpage they are setting up for the US VMYG.

The line of clothing will include:

- Knit caps and ball caps
- Denim shirts, Sport Shirts, and long-sleeve tees
- Hooded soft-shell jackets, fleece jackets, and rain jackets
- Pull-overs and V-neck sweaters

Stay tuned for more information about this opportunity to display your colors.

Event Schedule

October 18, 2018 (opens).....Lighter, Stronger, Faster: The Herreshoff Legacy

MIT Museum
265 Massachusetts Avenue
Cambridge, MA 02139

April 13 – 14, 2019.....Woods Hole Model Boat Show

More information will be made available on the following website as it is finalized: www.woodsholemuseum.org/

April 27, 2019.....Vintage Invitational, Conservatory Waters, Central Park, New York, NY

Hosted by the Central Park Model Yacht Club.

WoodenBoat School Classes

July 7 – 14, 2019.....Model Yacht Restoration (John Stoudt)

September 15-21.....Build Your Own Plank Constructed Pond Yacht (Bruce Richter)

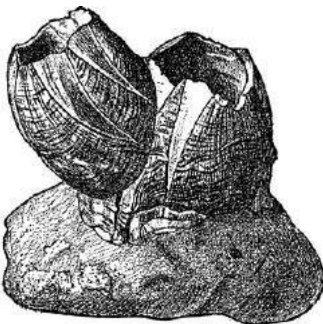
More information on these classes will be available in early December at: <https://www.thewoodenboatschool.com/>

2019 Vintage Race Week (TBD)...25th Anniversary Event, Marsh Creek State Park, Downingtown, PA

All US VMYG supported classes
Hosted by Chester Springs Model Yacht Club

NOTES:

- The US VMYG would like to identify and post the dates of events as soon as possible. If you are interested in hosting one of these events please contact Nick Mortgu at mortgu@comcast.net or (609) 820-0509.
- The US VMYG encourages regional vintage events as well. Give it a go, get like minded individuals together and lets us know about it. We will publicize the event.
- Watch our website for additions and changes to this schedule: <http://www.usvmg.org/>
- If you are aware of other noteworthy events lets us know so we can post them.



More Barnacles please

By now, most of you know what we're talking about. If not, the Barnacles we're referring to are those little insights, pieces of news, or oddities that make you stop and go, "Hmmmph...I didn't know that." You'll see several examples as you go through this newsletter. If you have one or two to share, email them to John Stoudt at jstoudt309@gmail.com

Breaking News

The UK/USA Challenge is on for 2019

This was just included in the most recent issue of the *Turning Pole* the newsletter of the VMYG in the United Kingdom. As we have more information we will make it available:

The UK/USA Challenge Once Again

In twelve months time we will have the opportunity to take part in the next UK/USA Challenge Regatta. It sounds a long way ahead but we need to start thinking of plans now. Lisa Mckercher and I are in contact with Colleen and Jeff Stobbe. Venue is likely to be San Francisco and/or San Diego over two weekend event.

This presents a wonderful opportunity to see parts of California and to absorb a firsthand impression of life amongst our US friends. If you think you may like to "join the party" then please let Lisa or myself know as soon as you can as this will help our planning. lisamcathingy@aol.com

Vintage Plan Update

By Ivor Walton

At the beginning of September the US VMYG has the following plans available on our website:

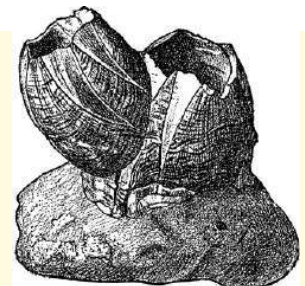
- 4 - 10 Rater Plans
- 7 - International A Boat Plans
- 3 - Schooners Plans
- 3 - Unrestricted Class Plans
- 3 - 36R Plans (free sailed boats)
- 4 - Vintage 36 Class Boats
- 23 - Traditional Marblehead Class Boats
- 9 - Hi Flyer Marblehead Class Boats

More boats will be added at the beginning of the New Year. Keep checking the website.

You may order any of these plans for \$15.00 per plan/set. Once your PayPal payment clears the plan is sent to you electronically. You take the electronic file to your favorite printing facility, such as Staples or Kinkos and have the copy made.

Barnacle

- **Strap Material** – A great material for the straps on your boat stand is the material used as sail ties on full size sailboats. These are available at marine supply stores or on the internet. Conduct a Google search for sail ties. These come in various colors and lengths and are available in 1" widths. The material will not mar the finish on your boat and does not stretch. It is more reasonably priced than the material found in fabric stores and is available in many colors



- *Lighter, Stronger, Faster:* *The Herreshoff Legacy* - Exhibit at MIT Museum

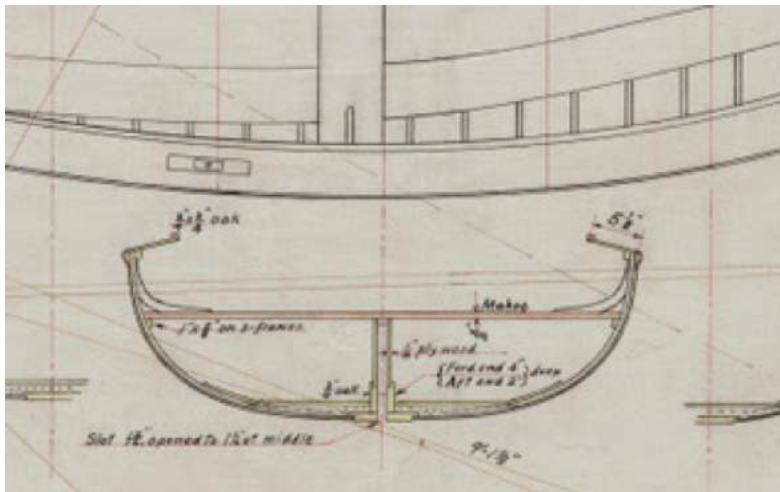
Article prepared by the Herreshoff Marine Museum. Used with permission.

Currently, The MIT Museum is presenting *Lighter, Stronger, Faster:*

The Herreshoff Legacy, an exhibition that celebrates Captain Nat - one of MIT's first students - and the Herreshoff Manufacturing Company. The exhibition includes

exceptional models, artworks, and historical documents associated with HMCo.'s breakthrough designs, together with a unique digital interactive. A number of artifacts and historic photos are on loan from the HMM collection for the exhibit.

The exhibition is timed to coincide with the digital publication of the MIT Museum's entire Haffenreffer-Herreshoff collection, which consists of some 14,000 paper plans and 5,000 related



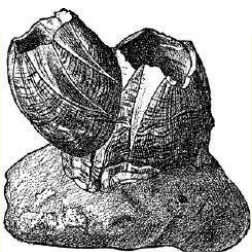
artifacts including offset booklets, correspondence and corporate archives. The collection will be freely available for browsing online at high resolution and in color, granting unprecedented access to the HMCo. design archive.

"MIT has been

producing leaders in technology and innovation for more than 150 years, and it's wonderful for us to be able to bring to the public at last a fitting tribute to the life-work of one of our earliest and greatest innovators." said John Durant, The Mark R. Epstein (Class of 1963) Director of the MIT Museum. The exhibition is scheduled to run until 2020.

For more information, visit:

<https://mitmuseum.mit.edu/herreshoff>



Barnacle

- **Boat Speed** – How do you know when your boat is going as fast as it can? The bow wave that a boat makes is a sine curve. You remember the sine curve from trig class right? When that sine wave completes at the stern of your boat, your boat has reached its fastest speed. It is going as fast as its hull shape allows.

A Tribute

Earl Boebert

From the AMYA archives

Earl Boebert was a founder of the Duke City MYC and has been a driving force in model yacht racing in Albuquerque, New Mexico. He also led in the establishment of the AMYA-sanctioned RG65 Class and has served as its class secretary for a number of years. In addition, Earl is a founding member and the historian of the US Vintage Model Yacht Group (US VMYG) from its inception in 1994, and in 1995 was instrumental in having it adopted as the AMYA's only Special Interest Group. Most significantly, Earl has been the Editor and Publisher of *The Model Yacht*, the publication of the US VMYG, delivered thrice annually since the spring of 1997. This 20–24 page newsletter is a treasure trove of vintage model yachting information and an invaluable resource for historical model yacht knowledge, loaded with illustrations and photos, detailing free sailing era designs and methods, and related technology. Earl's publication of this newsletter alone is enough to warrant his induction into the AMYA Hall of Fame, but he has done so much more. Earl recently retired from this endeavor of the US VMYG.

Earl has made it a priority to reach out to our full-size yachting brethren through formal model yachting-related presentations of original historical/technical papers at American yachting symposiums. These have further educated others on the many key aspects of our sport and its contributions to yacht design in general. This has included the 1930s free sailing (vane-steered) models of Captain Nat Herreshoff (of 1890s to 1920s America's Cup racing fame) as well as the 1983 12-Meter America's Cup winner Australia II's breakthrough winged keel, which designer Ben Lexcen had first tested on a radio-controlled Australian 10-Rater Class model.

Further, Earl has compiled US VMYG membership records for the past 20 years and the development of formal display concepts and narratives for US VMYG-sponsored exhibits at leading yachting-maritime museums. One truly special effort was the 2004 special exhibit, "The World of Model Yachts", at the Museum of Yachting in Newport, Rhode Island, from May 15 to October 31. It was then the largest exhibit (65 boats) to document our sport, going back to 1854. Another key example was the 2008 Herreshoff Marine Museum Gallery exhibit, working with the Museum's curator and Halsey Herreshoff, in the promotion of an AMYA J Class Region 1 Championship Regatta, in Bristol, Rhode Island.

Also, Earl proactively supported the US VMYG's initiative to establish the "American Model Yachting Collection" archives at the Mystic Seaport Museum Library in about 2003. This is a rich, archival resource of reference material as are the vast collection of issues of the US VMYG's *The Model Yacht* newsletter and the group's website, usvmyg.org. As an example, *The Model Yacht* helped give rise to the curiosity of members who attend the wooden pond-yacht building courses taught annually (since 1998) by US VMYG member Thom McLaughlin at WoodenBoat School in Brooklin, Maine. Due to the lasting and unique legacy Earl has created for future modelers, the expansive scope of his model yachting endeavors can surely be recognized as worthy of the AMYA Hall of Fame.

Earl recently co-authored with James M. Blossom, *Deepwater Horizon: A Systems Analysis of the Macondo Disaster*.



100% Scale Schooner Models?

Article and photo,
Charlie Blume



Several times this year, the question of revising the rules for the Schooner Class have come up. John Stoudt has asked me to present the question to the membership for their opinion.

The specific rule change that has been suggested is, to allow an increase in draft over scale and still be considered a scale model. The reasoning offered for this suggested change is to improve sailing performance to weather and increase stiffness of the models in a breeze compared to an exact scale model.

The current rules state:

Class Specifications

Schooners will be divided into two major categories: scale models and non-scale models.

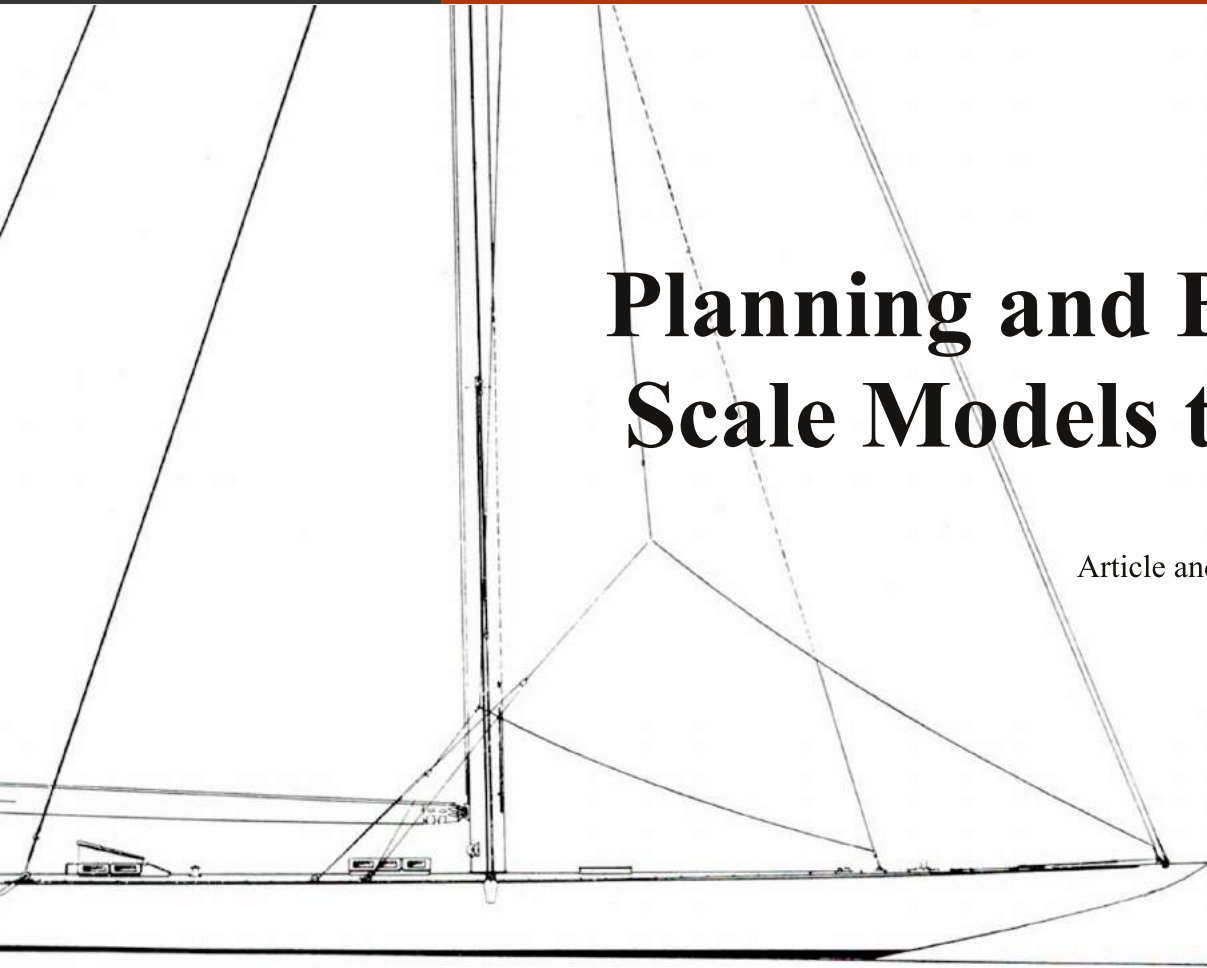
- A scale model is defined as an exact replica of a full-sized schooner built before 1940.

- A non-scale model is defined as a schooner designed in the style of schooners of this era, but they may include keel fins, with or without bulbs, to improve sailing performance.

So here's everyone's chance to voice their opinion and vote. The reasons for your opinion are not necessary, but definitely encouraged. Please send your response to me at charlie@pondyachts.net

As schooner class coordinator I think the rule should stand as written. A scale model is a scale model. This is the reason for the different classification in the rules. To my thinking when the decision is made to build a true-to-scale model it is understood that performance will be affected due to the non-scale effect of wind and water conditions. What do you think? I look forward to all your responses! Schooner Class Rules can be found at:

<https://usvmyg.org/classes/schooner/schooner-class-rules/>



Planning and Building Scale Models that Sail

Article and photos, John Henderson

Part 1: Implications of Scale and Model Choices

Those of us who sail vintage RC boats do so because we either enjoy the process of scratch building from plans or value the skills involved in scratch building. If we elect to build scale models of full-sized boats, then we certainly want the result to look realistic, but we also insist that it sail well. These two goals have more or less equal importance, but they can conflict, and so we must address the trade-offs. We recognize that RC boats that were conceived without reference to any full-size vessel may have some advantages for sailing at small sizes, but their appearance can be jarring to those of us used to “real” boats – they might be too narrow, or too deep, or the aspect ratios of the sails may be exaggerated to the point of caricature.

That said, the requirement that the models actually sail well imposes some practical limitations. It is a premise of these articles that scale details and even exactitude in matters such as rig will be sacrificed in the interest of ruggedness, stability, and management with 2 or 3 (maybe 4) channels of radio control. We may think about eliminating or simplifying some deck details (winches, air scoops) if their presence would tend to snag sheets or other control lines. The hoped-for result is a model that looks realistic from a “stand-off” distance (OK, maybe “stand-way-off”), that will sail in a reasonable range of conditions, that can be transported with no more care than other RC models, and that can be rigged at the launch site with no more than the usual care.

As an example, and to give some specificity to this series of articles, I will use the building of a model of the J-Class yacht Rainbow. Plans for this particular boat are available: for example, in much-reduced form in the book *Enterprise to Endeavor* by Ian Dear; in 1:16 scale through the AMYA J-Class. The latter choice produces a magnificent model, which is about 8' long and weighs in the neighborhood of 75 pounds. Magnificent it may be, but, at least for me, it is not a practical size or weight for the kind of broadly useful model I want to build and own. Therefore, the Rainbow model whose design choices we will work through in these articles, will be a bit smaller than 1:23 scale, which, as we will see, brings the length to about 5'9" and the weight to around 25 pounds. It fits into my car easily, and I can carry it to the water by myself.

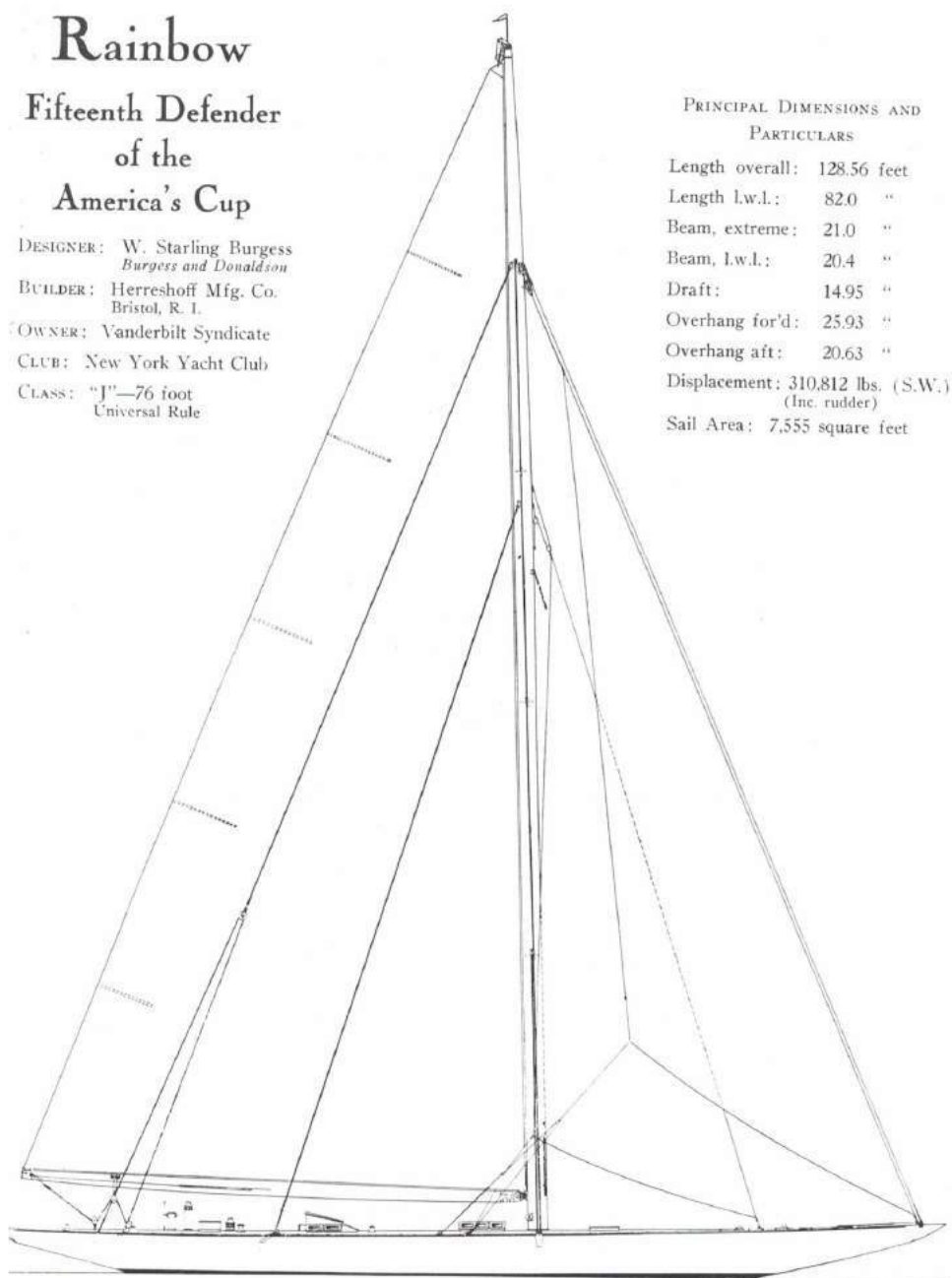


Fig.1: Rainbow profile and sail plan. Taken from "Enterprise to Endeavor" by Ian Dear

In future articles, we will use the lines drawings to calculate accurately the displacement, center of buoyancy, ballast, etc., but at this point we just want some quick calculations to get us into the size ballpark. The first requirement is overall length, which is generally constrained by the transporting car or the storage space or the building space.

Pick the length you want and divide it into the length of the full-scale prototype. In our example, this gives the 1:23 scale in the paragraph above, meaning that the model is 1/23 as long as the prototype. It also means that every linear dimension (e.g., length, beam, draft, mast height, boom length) is reduced by a factor of 23.

Using the scale factor, we can do a quick (and surprisingly accurate) estimate of the model's weight. We know that all boats must displace a volume of water whose weight matches the weight of the boat (so sayeth Archimedes). That volume of water is the volume of the boat below the waterline. All volume calculations are based on the product (i.e., multiplication) of 3 linear dimensions – length, width (beam in our case), and height (draft in our case). Therefore, if each of the linear dimensions is reduced by a factor of 23, then the volume is reduced by a factor of 23 to the 3rd power (i.e., 23 cubed). Yes, I know that the underwater shape of a boat is complex, but that does not change the cubing function. So – some simple arithmetic:

- 1) $23^3 = 23 \times 23 \times 23 = 12167$
- 2) The displacement of the prototype Rainbow was 310,812 pounds (according to page 97 of “Enterprise to Endeavor” and Fig. 1).
- 3) And so the expected displacement (weight) of our model is $310,812 / 1,2167 = 25.5$ pounds.

This is a weight that I can manage.

Key point: The expected weight of the model is the prototype's weight divided by the cube of the scale factor.

Note that this displacement (or weight) calculation is not derived from an estimate of the weight of the hull and its components and equipment. Rather, it is a calculation of what the model must weigh in order to float on its lines. It is derived from a volume calculation of the portion of the hull below the waterline. Since a scale model must float on its designed waterline, this tells us that the weight of a 1:23 scale Rainbow, including hull, ballast, rigging, and radio gear, must come to about 25.5 pounds.

We can use a similar approach to estimate the model's sail area. The linear dimensions of the

mast and boom are each reduced by the scale factor, so the prototype's sail area is reduced by the square of the scale factor. Applying this to our example 1:23 Rainbow, again referring to Fig. 1:

- 1) $23^2 = 529$
- 2) The sail area of the prototype Rainbow was 7,555 square feet.
- 3) And so the expected sail area of our model is $7,555 / 529 = 14.4$ square feet = 2074 square inches.

Putting that much sail area on a model of this size should give us pause, especially if we note that, for example, an EC-12 RC model, whose waterline length, beam, and displacement are quite similar to our 1:23 J-Class model, has a sail area in the range of 1200-1300 square inches. In my own (limited but non-zero) experience, a scale-sized rig (2074 sq. in.) on a scale hull might work spectacularly well in light air, but it is probably not suitable for the kind of “all-weather” model that is our goal. E.W. Hobbs, in his book *Model Sailing Yachts*, makes a similar point on page 35. To make the model practical for a wider range of conditions we must either: 1) make the model more stable with a deeper keel (perhaps even an added non-scale fin-and-bulb), or 2) reduce the sail area. In the example model developed for this series of articles, I will opt for a “judicious” combination of these two options.

To generalize the situation for practical sailing scale models: We acknowledge that a scale-sized rig makes for a proper-looking scale model, but it generally (or at least very often) leads to a model that is over-canvassed for actual practical sailing. In planning the sail area and rigging, the calculated scale sail area must be compared with the sail areas of practical models of similar size and weight. In most cases, and especially for scale models of racing yachts, I think it is wise to reduce the sail area below the proper scale dimensions. For example, if you made the mast and boom each 90% of their

proper scale size, then the sail area would be reduced to 81%, which might still be too aggressive. I believe that this sail area compromise is fundamental to making scale models that sail well. Perhaps the compromise would sound better if we called it a “B Rig”.

I also believe that it is common practice among RC scale modelers to make the keels a bit deeper than scale. For example, the AMYA J-Class permits keels 2” deeper than proper scale, which seems a good compromise. In other scale models, some folks add a fin-and-bulb that is inserted for sailing and removed for display, which is another good compromise at the expense of some added complexity at the launch site.

We can debate the causes for this scaling problem. I suggest that it is partly because air density and wind speed are not scaled, but it is also true that bigger boats are simply more stable and survive tough conditions better than smaller boats – look at some reports of full-size ocean racing disasters (e.g., the famous Fastnet). Although there is a bit of hand-waving in this next argument, we might also note that the heeling forces are related to the sail area, which was reduced by the square of the scale factor, while the stability is related to the displacement, which was reduced by the cube.

Even if such departures from scale make you cringe, they offer another advantage that might make you cringe even more. Most “early” race boats (think America’s Cup before and including the J-Class) had running backstays that were required either by the gaff rig or the long booms on their Marconi sails. Running backstays are a considerable complexity for an RC model, and reducing the rig size judiciously may enable use of a (non-scale) permanent backstay. Just sayin'.

While the boat size and weight and the sail area and mast height are the most important initial

parameters to plan what we will build, there is at least one more interesting calculation that we can perform to evaluate our potential project. That is the ratio of sail area to displacement, which is (sort of) to a boat what the ratio of horsepower to weight is to a car. The equation is:

$$SA/Displ = [\text{sail area in square feet}] / [(\text{Displ in pounds})/64]^{2/3}$$

Note that the units are square feet and pounds. The factor of 64 is the density of salt water in pounds per cubic foot. Note also that the denominator of the equation must be raised to the 2/3 power, which means you will probably need a calculator more advanced than the one needed to balance your checkbook (or you can search on-line for “Sail area to displacement ratio calculator” and just plug in the numbers). Note also that the ratio is dimensionless – the dimensions of both the numerator and denominator are square feet. A consequence is that the SA/Displ does not depend on boat size, and so the full-size prototype will have the same SA/Displ as our model.

The SA/Displ is, in some sense, a measure of the “liveliness” or “sportiness” of the boat. While this has some correlation with the inherent stability of the design, we should not conclude that our model will have the same stability as the prototype. We have already discussed the stability issues related to scaling. I think the best use of SA/Displ for our purposes is to compare different models. We can compute the ratio for other models in the same size range as the one we are considering, and we know or can learn their performance characteristics, so computing the ratio for our model during the planning stages gives us more confidence that our model will be practical.

In case it is not already clear, a purpose of these articles is to enable calculation of model characteristics in advance of building. We will not

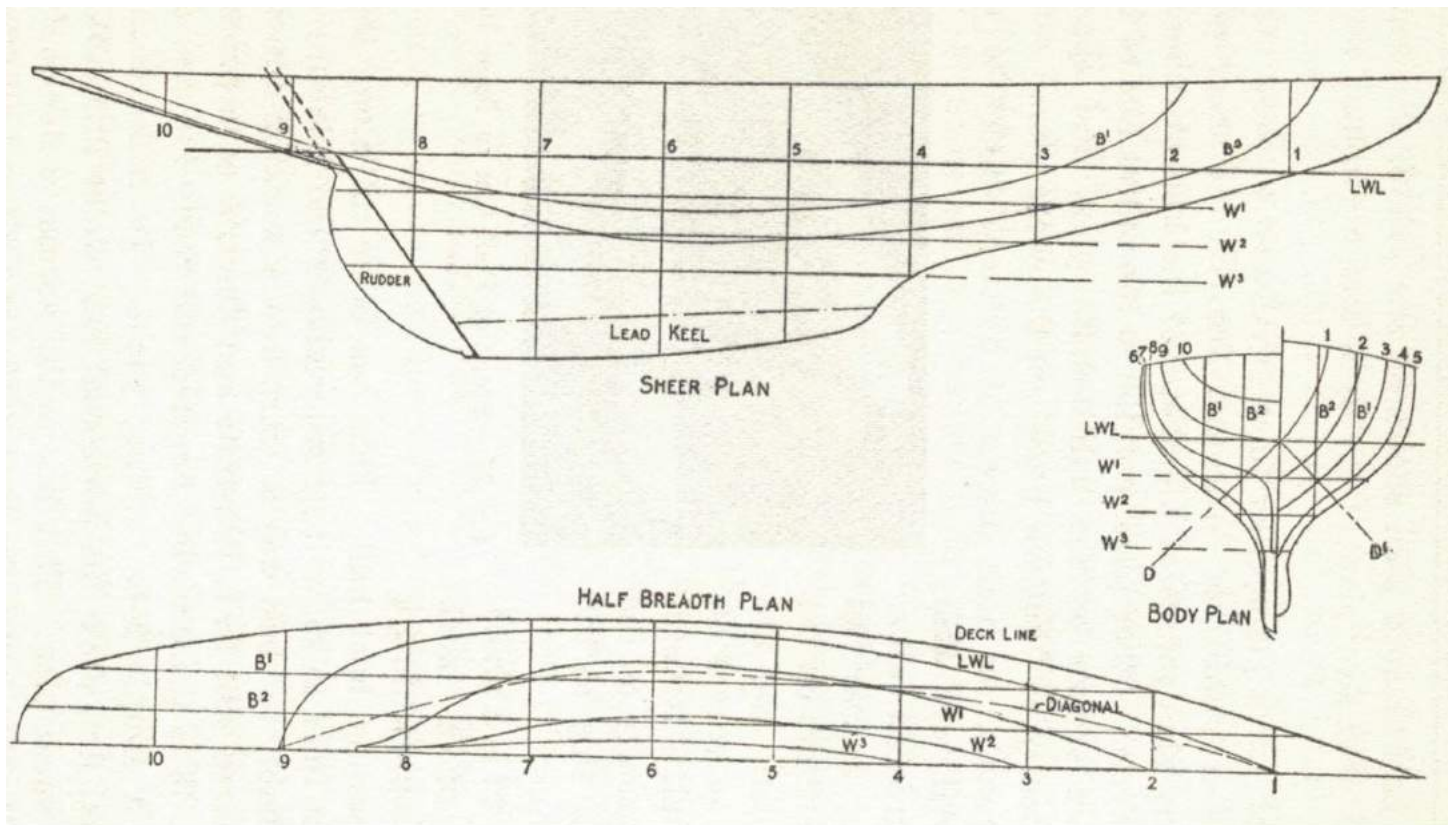


Fig.2: Example Line Drawing

shape a hull, put it into a swimming pool and add ballast until it floats on its lines and only then learn the weight. We will try to make reasonable rig size adjustments and plan the location of the resulting sail plan to try to get the helm balance right as built (OK, I confess that this can be tricky even for full-size and fully analyzed designs, but we'll try to get very close). We will try to plan the location of the weight of RC gear by first calculating the fore-aft center of buoyancy. In short, we'll try to work out an actual design. I think this saves extra work after construction is well along, and, frankly, it makes us feel like we know what we are doing.

The basis for all of these calculations is the lines drawing. Therefore, we will spend a little effort to reach a common understanding of the basics of this plan. Figure 2 shows a simplified lines drawing of a generic vintage-type model boat, which I have taken from page 80 of the book *Model Sailing*

Boats by E.W. Hobbs. Drawings for prototype-size boats would have many more lines – a plan like this, with relatively few lines drawn, might be suited for making a carved model from a solid block or a bread-and-butter glued block, but you would probably need more sections to build an accurate plank-on-frame model. I chose this simplified drawing to clarify the key elements.

A lines drawing consists of three parts:

- a profile view (called the “Sheer Plan” in Fig 2);
- a set of sections (called the “Body Plan” in Fig. 2) – note that the half-sections for the forward half of the hull are shown on the right side, and the half-sections for the aft half are on the left;
- a half-breadth plan.

The profile view, as its name implies, shows the side view of the hull, emphasizing the shape of the

keel line and the sheer line (the edge of the deck). The numbered vertical lines are the fore-aft locations of each of the sections, whose shape is revealed in the sections view. The main horizontal line is the designed waterline, identified as LWL (load waterline) on the drawing. The horizontal lines parallel to the LWL, numbered W1, W2, etc. (which are also shown on the sections drawing as horizontal lines) locate the curved lines in the half breadth plan, and they show the shape of the underbody of the boat. These waterlines are like the edges of the slabs in a bread-and-butter model – in fact, if the wooden layers were sized appropriately, they would define the shape of each layer.

For plank-on-frame (or plank-on-bulkhead) models, we shape each frame (bulkhead) based on the sections drawings. Note that, unless specifically stated otherwise, these sections show the outside of the planking, as necessary because these sections are used to calculate the displacement of the boat, which, as we have seen, is the underwater volume and necessarily includes the thickness of the planking. Therefore, when we use these drawn sections to shape our frames (bulkheads), we must reduce the size of the frame by the thickness of the planking we have chosen.

The profile view shows us the spacing of the sections as we will set them up on the building board. It is the usual practice to make the sections equally spaced, since this enables calculation of the underbody volume by a method (Simpson’s Rule) that we will describe in a future article. Simpson’s Rule also requires an even number of sections, and this is the usual design practice. More sections create more accuracy in the volume calculation, but it may not be necessary in model

building to create a frame at each section. It may, however, be wise to make more closely spaced “extra” frames at places where the hull shape changes rapidly – e.g., below the waterline just forward of the rudder – to enable the planking to be bent accurately.

A drawing of each section, reduced by the planking thickness, defines the shape of each frame. Trace each section onto the frame material and cut. I think it is convenient to also shape the deck camber by making the deck beam part of each frame – i.e., by making each frame a “ring”. See the photo in Fig 3. This deck camber may or may not be shown in the lines drawings (it is not shown in Fig. 2); if not, then you must draw a reasonable deck camber that is consistent on all frames.

I think it is easiest to plank the boat upside down on the building board. To do this, not only must each frame be shaped, but the height above the building board must be established for each frame – this is how we create the proper curve in the sheer profile. To do this, draw a reference line some arbitrary distance above the sections drawing and add “legs” to each frame to reach this line. Make the legs long enough to allow you to reach under the sections to retrieve parts that you drop inside the hull when it is mostly planked; we won’t talk about why I find this point so important.

Figure 3 shows sections erected upside down on the building board. Note also the “extra” frames in the area just forward of the rudder location.

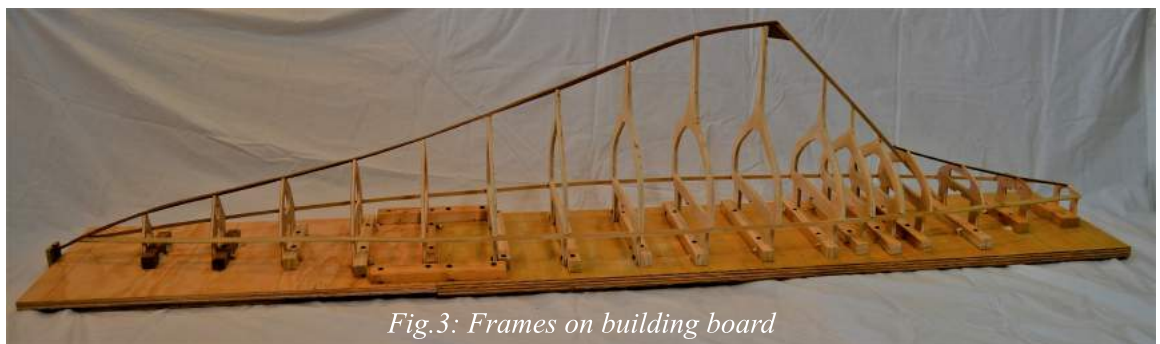


Fig.3: Frames on building board



Fig.4: Frames with "legs"

Figure 4 shows how the “legs” establish the height of each section above the building board, creating the curve of the sheer.

The half breadth plan can be used to bevel the frames and keel before they are mounted on the building board – and I think shaping before mounting is more convenient. Examine the half breadth plan where each section (vertical lines) crosses the waterlines (LWL, W1, W2, etc.) and the keel (straight horizontal line at the base). If you add lines showing the actual thickness of the sections and the keel, the dimensions of the forward and aft faces (where they cross the waterlines) of each section will be slightly different, depending on the angle of the waterline at that section.

The observation in the previous paragraph also reveals a necessary caution about mounting the frames. The section line on the drawing defines the bigger face of each section. The bigger face is almost always toward the center of the boat, and it is this bigger face that must be located at the defined section spacing (not, e.g., the center of the frame).

The other lines on the lines drawings are buttocks (B1, B2) and diagonals (D1, D2). They are useful in designing to reveal the way water runs along the bottom when upright or heeled, but we can pay them less heed when building a scale model of a boat that has already been designed, except perhaps, as aids to fairing the bottom.

There may be times when the only design information is a Table of Offsets, not an actual set of drawings. The Offsets are a numerical tabulation of the drawing dimensions – e.g., the width of each section at each waterline, the height of the sheer at each section, the section and waterline spacings, etc.

From such a Table of Offsets, you can reconstruct the lines drawings by plotting the defined points and then connecting them with fair lines. The “fairness” of the lines so created must be checked for consistency among all three views. This is not a trivial task.

After going through all these exercises, I think we have the basis for a sound choice of model and size. We have also gained a lot of familiarity with our planned model, well beyond simple appearance. In future articles in this planned series, we will discuss “normal” changes to a scale model to make it more practical (e.g., deeper keel, bigger rudder, rig), and we will make a more detailed calculation of displacement that includes these changes. We will find the lateral center of buoyancy, which will help us get the ballast in the right place. We will make the best estimate that we can of the center of effort of both the hull and the sail plan, to try to put the mast in the right place (if we have reduced the sail plan, the center of effort of the rig of our model may not match that of the prototype). And then we will go through the process of actually building the model.

What Class of Boat Is This?



Author and photos, Chuck Luscomb

In a recent conversation with John Stoudt, I asked him if he could help identify a large vintage boat. John suggested I send along some photos with measurements. I did that. Excerpts from the subsequent emails are:

John: Really cool boat! The cold molded hull is impressive. I will send them to Mike Denest for some help with ID – Mike is the former A Boat class secretary. It does look like an A boat to me but I have limited experience.

Mike Denest: Quite probably so! I see two travelers that it had a Braine quadrant mounted on it at one time. The 73" LOA is another clue.



Hull and keel detail

Two things to look for are the draft and displacement.

- **Displacement** - A 10R will displace @ 30 lbs. while an A Class will displace around 40 to 60 lbs.
- **Draft:** Measure down from the bow towards the keel about 7.5 to 8 inches and take a string as straight as possible aft to where it touches the bottom of the stern. Measure down from the line to the bottommost part of the keel. It should be not more than 11 to 11.75 inches. I suspect that the rig sat at around 22 to 25 inches aft of the bow so that would give the boat at least 1600 sq. ins. of sail. It was designed to free sail: therefore, performance with radio control may not be as good as expected. The rudder is missing. A free sailing boat does not need the rudder area to make it turn so it was sized just large enough to correct its course with the least amount of drag. For radio, it will need a much larger rudder to be effective. There is enough information out there to get a good idea of the rudder size. Shape would be something pleasing to the eye.

It's a pre-war design so it would have been built sometime around the 1928 to 1936 time period. I assume there are no builder marks or ID. Regarding building style, you might be able to ID the builder according to the way it was built. Where did the boat originate from? New York? New England? MYRAA had a very large A class fleet in the NE, NY, NJ and southeast PA region.



Chuck: It was purchased in an antique store in Germany in the early 90's. The store owner says he got it in the UK. Based on the weight, I'm leaning toward an A Boat as she is quite heavy. The current owner provided the mast and sails after these photos were taken. The hull construction being a pre epoxy cold molding is very interesting. Also, if you reach down into the hatch, you find a handle for lifting on top of the ballast.

Mike Denest: Okay, that's a start. A Class activity was hot in Gosport (home of the A Class) and Fleetwood. You might try the VMYG <http://www.vmyg.org.uk/index.htm> to find out who used the cold mold building technique. Is there a registration number on the sails? British boats will have a "K" (now GBR) while a USA boat would have a "U". If there is a sail number, it may be possible to track down the last owner and where it was located. However, Brit recordkeeping on model yachts may be as bad as it is here in the USA.



Some of our friends in England were contacted.

Graham Reeves: If I can have the weight, max beam and some idea of the depth of the whole boat at amidships, I'll go through my library and see if I can identify the design and designer.

It is obviously built in either double or triple diagonal planking which was a good way of building a strong, light hull but very time consuming. Also any sail dimensions would be helpful.

As with the general consensus of opinion I also think it is a 1930's A class. The only commercial builder I know of that ever built in diagonal planking was Jimmy Alexander from Preston UK. He built a 10 Rater in 1948 ish. Charlie Williamson who lives in Ithaca now owns it.

Martin Bandey: Thank you for this and for your previous email with the photos. In the text document there is mention of spars and sails having been found / now available. Is there a number on the sails.??? This should then lead us to date, designer, builder and owner. We have a compiled copy of the UK A Class Register in a book by Robert Hobbs, one of our members and past Commodore of Gosport Club. The Title is 1001 International A Class Yachts. Contact Robert Hobbs as although I think the book is presently out of print, he may have a spare copy but I believe he also plans a reprint for the Centenary. His email address is roberto.hobbs@virgin.net. I agree with era circa 1930's. The design could be one of any from Daniels, Feltwell, Littlejohn etc: The quality of fittings do not look the best. Most of the London built boats were of good quality. And I'm not wild about the construction. It suggests a shortage of otherwise suitable timber to either plank or build bread and butter method. I'm not aware of any mainstream builder who would have built in diagonal method. Without a sail number I regret a proper identity will be unlikely. For restoration, with the likely unreliability of the diagonally glued planking it may reluctantly be best to think of lightweight glass cloth sheathing. Good luck anyway ! If you discover other information which may help identity then feel free to contact me again. Certainly interesting!

Here are some additional boat details:

- No sail or builder marks visible.
- No sail numbers or anything on the sails.
- The sails are cotton with a fair bit of detail in terms of hanks, etc.
- Rig height off the deck is 72"
- Main Luff is 64"; Main foot is 23"
- Jib luff is 45"; Jib foot is 14.5"
- Bottom of keel to the deck level is 14.5"

As more information becomes available it will be made available.

Right Place, Right Time

By Rich Hilsinger, WoodenBoat School Director



*Week 2 student with completed hull,
working on the keel and ballast*

In the fall of 1998 Thom McLaughlin stopped by the offices of WoodenBoat School to introduce himself and to show me a couple of his exquisite radio controlled, model pond yachts that he had built. Over the years, I had seen historic photographs of model yachts sailing in Central Park but this was my very first exposure to seeing such gorgeous models up close. Needless to say, I was impressed and the ensuing conversation had me eventually asking Thom if there was any chance in the world that we could design a WoodenBoat School course focusing on the construction of such craft. Thom was willing and that very next summer we presented our first foray into students building their very own wooden vintage pond yacht.

The course would be an intense six days of building and learning to bring the hull to completion by course end. Students would learn how to read vintage period blueprints. And instruction on decking, painting, mast construction, hardware, rigging, and sailing would be provided to ensure the task of finishing the boat at home. It was an instantaneous hit with our audience and, thanks to Thom and others, we've been running productive courses ever since.

The first design Thom's students had the opportunity to build in 1999 was STARLET, a 36/600- class, plank-on-frame, hard-chined pond yacht of 1940's design.

In 2002, Alan Suydam, well-known modelmaker, successful pond yacht racer, and long-time member of the U.S. Vintage Model Yacht Group, joined our faculty and offered a course which had participants building a 36/600 class pond yacht using the “lift” method of construction.

In 2003, Thom introduced students to a different design – NASKEAG, a member of the 50/800-class, also known as the Marblehead class. The hull named BROOKLIN followed soon after and in 2007 PEONY, another 50” Marblehead design was offered.

Over these many years, Thom kept busy at the design table and came up with additional Marblehead designs including RUSTICATOR, IDUNA, and NORUMBEGA. It was amazing to watch each season as students came from across North America to learn the history of these beautiful boats and build and sail their very own pond yachts. Many of these individuals have returned year after year to continue working on their models and starting new ones.

This past winter Thom decided to retire from teaching and he led his final course at the school this past September. Ask any of his many students what they thought of him as a teacher and you constantly hear such words as very knowledgeable, unbelievably patient, dedicated, gracious, extremely helpful, committed to his craft, humorous, and enthusiastic.

We thank Thom McLaughlin for the passion and enthusiasm that he brought to our campus for the past 20 years. Little did I know when Thom dropped by our offices all those years ago that WoodenBoat School would be acquiring an amazing talent and, most importantly, a wonderful friend.

We are excited to announce that Bruce Richter, Commodore of the Central Park Model Yacht Club, veteran model yacht builder and racer, and WoodenBoat School alumnus will be taking over for Thom as our lead instructor.



Thom McLaughlin (right) and Bruce Richter

Draw an Ellipse

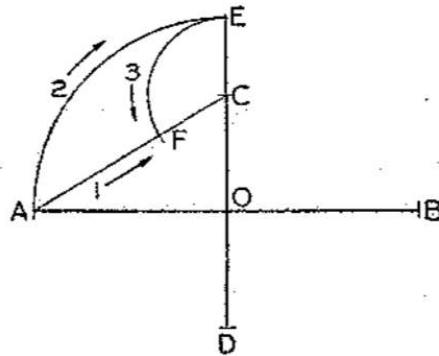
By John Stoudt

So you want to put an elliptical hatch/cover on your vintage model yacht. You have to draw an ellipse to do this. How do you do that? There are numerous ways to draw an ellipse. An ellipse template can do this for you, if you have the correct one available or you can use a CAD system.

Not likely!

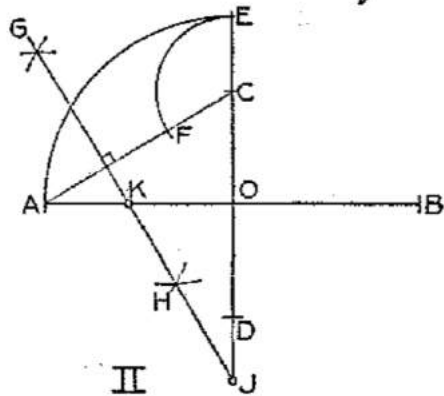
Gieseke, Mitchell, Spencer describe how to do this in *Technical Drawing (Fourth Edition,*

"To Draw an Approximate Ellipse – For many purposes, particularly where a small ellipse is required, the approximate circular-arc method is perfectly satisfactory. Such an ellipse is sure to be symmetric and may be quickly drawn. Given axes AB and CD. (These represent the ellipse length and width)."



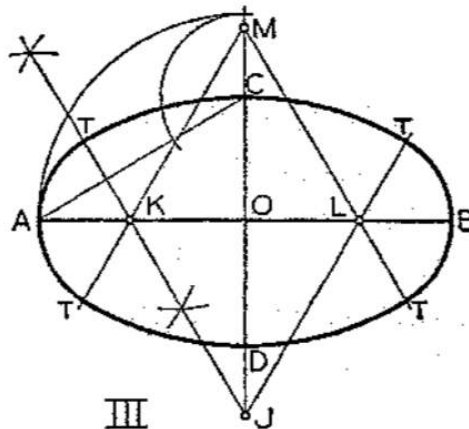
I

- I. Draw an arc AC. With O as center and OA as radius, strike and arc AE. With C as center and CE as radius, strike an arc EF.



II

- II. Draw perpendicular bisector GH of the line AF; the points K and J, where it intersects the axes, are the centers required arcs.



III

- III. Find centers M and L by setting off $OL = OK$ and $OM = OJ$. Using centers K, L, M, and J, draw circular arcs as shown. The points of tangency T are at the junctures of the arcs on the lines joining the centers.

There you have it. That was not so bad.

Make a Mold for Bending Wood

Article and photos by John Stoudt

So now you have a boat you are working on and you want it to have a curved hatch opening. You have gathered the materials to cook the wood: aqueous ammonia, strips of wood and your “cooking chamber” (see “Bending Wood”, page 35, Issue 19 – 02, *The Model Yacht*). Wait, you need a mold with which to shape your wood strips.



Molds in various sizes and shapes

The mold is constructed to hold the pieces of wood (veneer for this application) in the desired shape. It is thick enough to accommodate your wood strips. The holes allow you to use small bar clamps to apply pressure to these strips. The aluminum strip distributes that pressure evenly and smoothly to the strips and holds them tight against the mold until they dry.

Materials needed:

- 2 pieces - $\frac{3}{4}$ " MDF (medium density fiberboard) $\frac{3}{4}$ x 6 x 10
- 6 each - #8 x $1\frac{1}{4}$ " all purpose flat head wood screws
- Cardboard

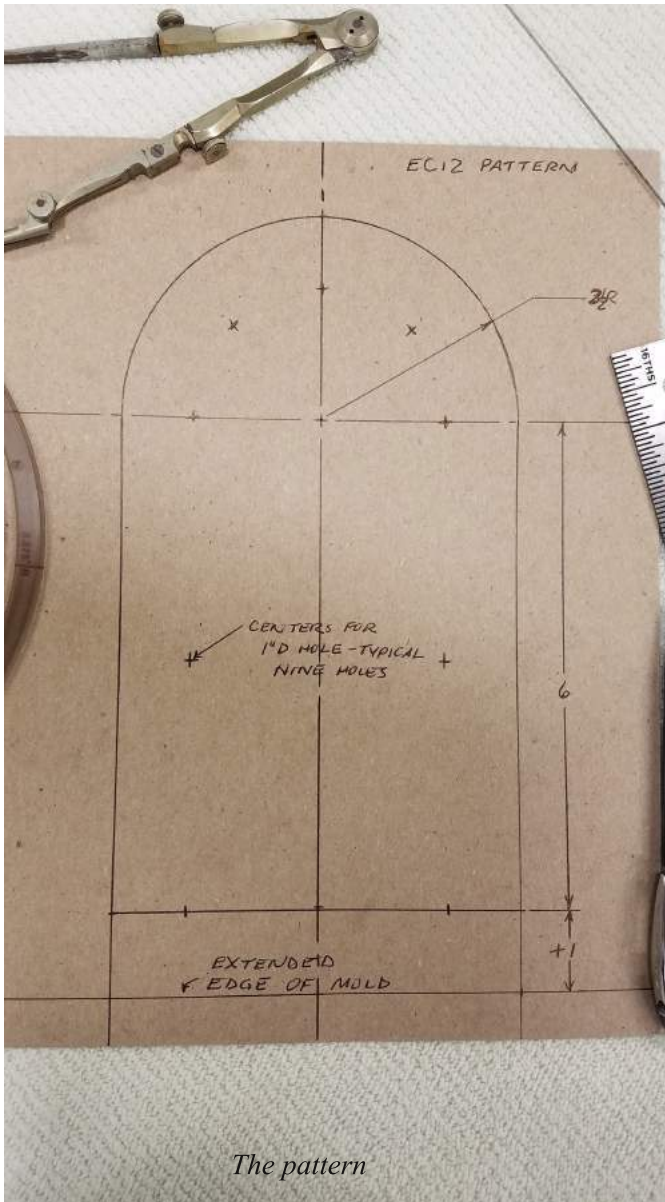
- Pencil
- Assorted drafting tools
- Center punch or awl
- 1" spade bore wood drill bit
- Drill press or power drill
- Band saw or saber saw
- Power sander (disk or random orbit)
- $\frac{1}{16}$ " x $1\frac{1}{2}$ " aluminum bar
- Wood sealer – whatever you have around

For the purpose of this article I will discuss making a mold for a hatch opening with a half round forward edge. The opening is 5" wide and $8\frac{1}{2}$ " long.



Hatch opening

The pieces of MDF should be slightly wider than the width of the hatch opening and a couple of inches longer. Begin by drawing the exact shape, of the piece you want to make, onto a piece of cardboard. I use the cardboard backing piece from a tablet. Extend the sides 1" beyond the back edge of your shape – this allows you to run the sides slightly longer and trim to them to the correct length as you fit it onto your boat



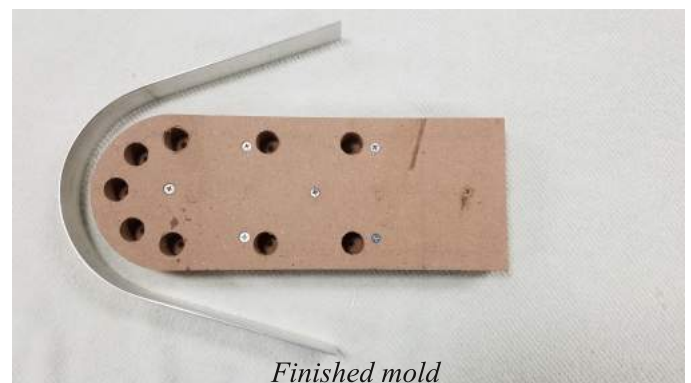
The pattern

Cut out your pattern with a pair of scissors. Transfer (trace) the shape you have drawn onto one piece of $\frac{3}{4}$ " MDF. You should tape the pattern to the MDF to accurately transfer the hole centers. Mark these centers with a center punch or awl. Fasten the two pieces of MDF together with the wood screws. Be careful to place the screws where they will not interfere with the holes to be drilled in the mold. Cut out the MDF using a band saw or a saber saw. Leave the line and clean up the edge, sanding to the line, using a disk sander if you have one.

It is important to get the edge smooth, fair and square. All irregularities in this step will be transferred to the finished piece. So take extra care in getting the mold right. NOTE: As was done here you can fasten two or more pieces of MDF together if your finished piece is wider than $\frac{3}{4}$ ".

You do not need multiple molds, one mold and the resultant shaped pieces you make can be used for all of the parts. What do I mean by that? For example: You are going to make a hatch cover with a round leading edge. The form can be used to make the hatch cover cowling in three steps - the piece that fits around the hatch opening and sticks up above the deck. The cowling when installed on the deck can be used to make the hatch cover edge band.

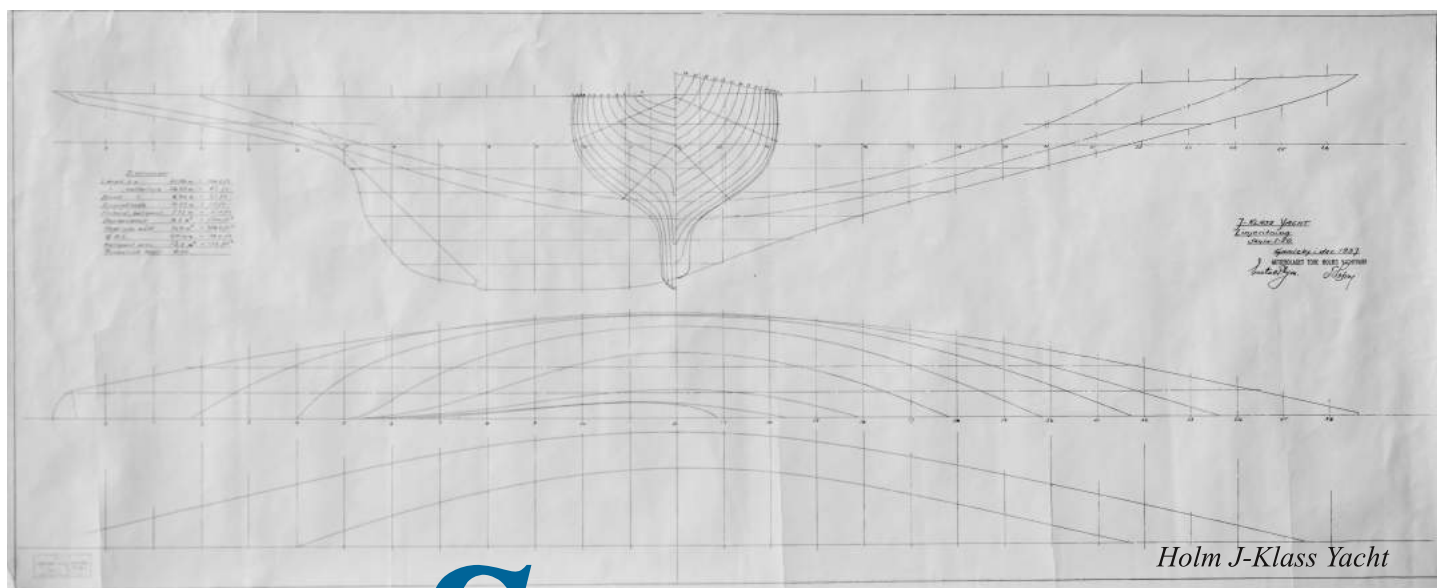
Drill the holes on a drill press using a 1" spade bore bit. You may also use a hand power drill to make these holes. Place a backing board (scrap of wood) under the piece you are drilling to prevent tear out. You will need to cut a piece of $\frac{1}{16}$ " x $1\frac{1}{2}$ " aluminum a couple of inches longer than the total measurement around the mold's edge, excluding the flat side (back edge).



Finished mold

This process can be used to make many different types of molds. See examples.

The next installment of this series will show how to "cook" the wood and bend it around this mold.



The *Svea* Project

Article and photos, Gene Novak

While perusing the J Class Association website (jclassyachts.com) one day last July, I read a race report about the Superyacht Cup Palma with results of racing between Velsheda and Svea. It appeared to me that Svea was a fast boat but her corrected handicap time was a problem. This interested me because I compete in the AMYA J Class with a scale model of Ranger, 101" long and 97 lbs. The thought was to investigate the possibility of a Svea project to compete with Ranger. Since we don't have handicap considerations and race boat to boat, the possibility of a speed advantage was attractive.

Ranger was of course designed by Sparkman & Stephens/Starling Burgess for the 1937 Americas Cup and went on to win decisively over Endeavor II in the last of the J Class races for the Cup. When I produced a hull and mold using plans from Sparkman & Stephens, the boat proved to be fast. Fast enough to win the 2017 J Class National Championship against models of Shamrock V, Endeavor, Endeavor II and a couple other Ranger

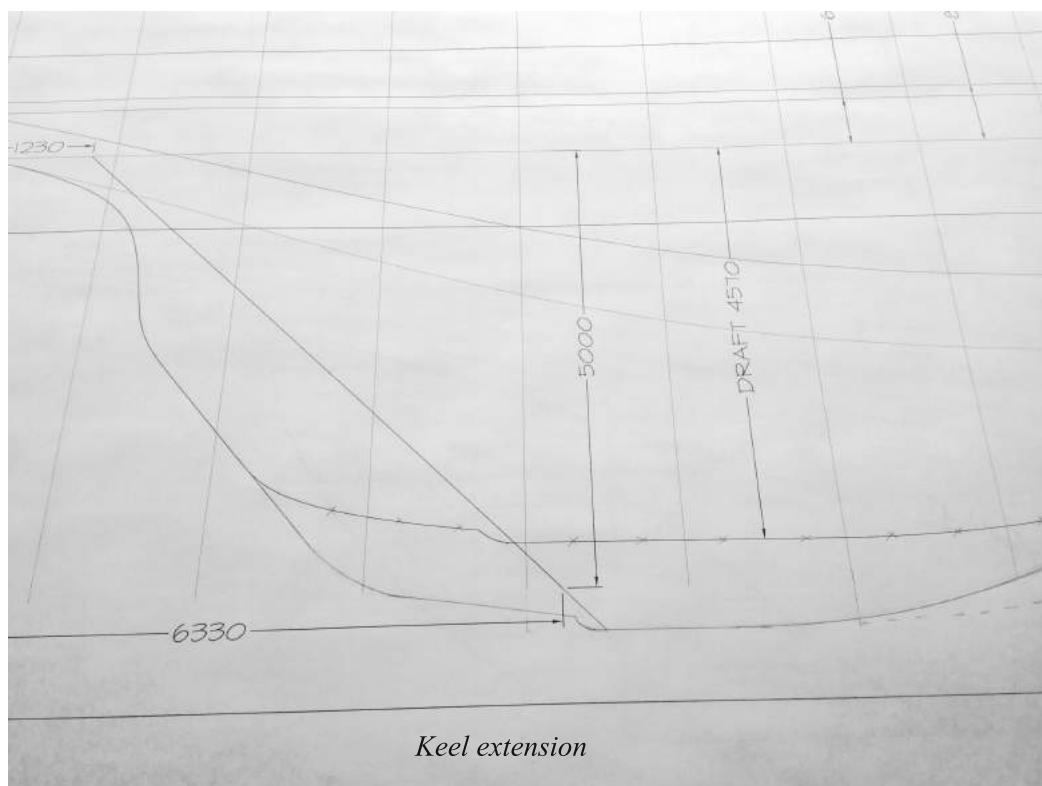
hulls. Svea was designed by Tore Holm of Sweden after the America's Cup of 1937 had been held. In doing some research on Svea I found an article in classicoat.co.uk showing that the plans had not been discovered until John Lammerts van Bueren, owner of an 8 Meter yacht designed by Tore Holm, found the plans among other designs in the basement of Holm's daughter's house. I was intrigued. Attempts were made to contact several sources to obtain copies of the plans with no success until I emailed John. Wow, what a fantastic source of information on classic boats!

When I mentioned to Mr. van Bueren that I was thinking of the 1/16 scale radio-controlled version of Svea, he jumped at the chance to offer information and assistance. He was kind enough in his response to copy two key people: Elizabeth Meyer, who restored the J boat Endeavor, co-founder of the J Class Owners Association, and owner of J Class Management, who had contracted to have the original drawings of Tore Holm digitized.

Elizabeth was so taken with the design drawings that she named the boat Svea (feminine Swede). And T. J. Perrotti of Perrotti Performance Designs who digitized the original drawings and with the approval of Elizabeth, made them available to me in a CAD program. Without the help from these three fine people, this project would not have been possible. Fortunately, my son is an architect with access to CAD programming and he was able to convert the files into 1/16 scale drawings of incredible accuracy. Because physics don't scale down, the AMYA J Class rules allow for the keel to be extended by 2 inches which was done and approved by the class secretary John Hanks. This proved difficult to extend without disturbing the attractive lines of Svea and took considerable thought to look just right. Now that the hull is planked, the extra thought was well worth it.

During the process of deciding whether or not to go forward with this project (building the boat, creating

a mold and then producing accurate hulls) I continued correspondence with John Lammerts van Bueren. He is an incredible resource and informed me of a little-known detail. When Harold Vanderbilt committed to building the defender for the 1937 Americas Cup, he contracted Sparkman & Stephens/Starling Burgess, to create 8 designs which were then tank tested at the Stephens Institute to ascertain which design was superior. They tested all of the designs in 1/24 scale with various angles of heel and different angles of leeway to see which design was best. During that tank testing they employed an apprentice by the name of Gustav Plym, who was observing the tests. When Gustav finished his apprenticeship with Sparkman & Stephens, he returned to Sweden project, plans were produced according to T. J.'s CAD program and thanks to the detail of the drawings, frames were produced to very close tolerances and put together on a building board. They tested all of the designs in 1/24 scale with



various angles of heel and different angles of leeway to see which design was best. During that tank testing they employed an apprentice by the name of Gustav Plym, who was observing the tests. When Gustav finished his apprenticeship with Sparkman & Stephens, he returned to Sweden and partnered with Tore Holm to design a J boat that remained secret until late in the 20th Century. His knowledge from the tank testing of Ranger was surely used in the design of Svea.



This will serve as the plug to create the mold for fiberglass hulls. There is lots of work to do yet, more fairing, fiber glassing the hull, the final boat for sea trials against Ranger. I have to thank all who have assisted with this project: John Lammerts van Bueren, Elizabeth Meyer, T. J. Perrotti, and my local source here in Sacramento, Gordon Nash, who just happened to have a supply of 50 year old Sitka Spruce that he donated to the project. With the help of Bill Robinson and his wood shop, this aged wood was turned into 5/32" X 3/8" S4S planking. As the process continues, follow up articles are promised. I hope the finished product meets all of their expectations.

Once the decision was made to go forward with the project, plans were produced according to T. J.'s CAD program and thanks to the detail of the drawings, frames were produced to very close tolerances and put together on a building board. Plank and frame construction has produced a unique boat which compares very favorably with the 1/16 model of Ranger produced from Sparkman & Stephens plans that I made two years ago. The differences between the designs make it hard

to believe that they are both J Class yachts. Svea will be 1-1/2 inches longer than Ranger at this scale which is 102-1/2 inches long, yes that's 8' 6-1/2". Svea has finer ends, more beam and a wider keel.

It will be very interesting when I put both boats together on the course and have a 1940 America's Cup here in Northern California.

So here we are, six weeks after I read the article on the J Class Association website and the plank and frame construction for the hull is nearly done.





Storror Lagoon

By John Storror

“Every day was race day for the model yachts in the lagoon of the Charles River, and Oct. 6, 1935, was no different. The Boston Model Yacht Club, founded in the 1920s, began using the Storror lagoon in the mid-1930s and it was known as one of the most prestigious model yacht lagoons in the United States.

Club racing generally opened in mid-April and lasted until November.”

Photo and caption, The Boston Globe

The Boston Embankment, now commonly referred to as the Charles River Esplanade, was completed in 1910 as part of the Charles River Dam construction project. This narrow strip of land served as a promenade for the neighborhoods of Back Bay and Beacon Hill.

The Esplanade went through a major expansion from 1928 to 1936, widening and lengthening the park land. These improvements were aided by a one million dollar donation from Helen Osborne Storror, in memory of her husband James Jackson Storror (I believe he was my grandfather’s cousin once removed). The Storror Memorial

Embankment, designed by Arthur Shurcliff, added the first lagoon, boat landings, plazas, playgrounds, and the music oval, where a temporary bandshell was placed. The summer of 1929 was the first year Arthur Fiedler and the Boston Pops performed on the Esplanade.

Landscape architect Arthur Shurcliff designed the riverbank paths and a series of formal overlooks and boat landings along the shore of the expanded esplanade, which was dedicated in 1936. Picturesque trees softened the appearance of the overlooks and offered places to sit and enjoy the river scenery. Shurcliff’s Storror Lagoon was

created for pleasure boating, model yacht sailing, and ice skating. A canoeway was extended from the Hatch Shell to the Storrow Lagoon. A new pedestrian overpass near the 1941 Hatch Shell was named for the Boston Pop's legendary conductor Arthur Fiedler.

When Storrow Drive was constructed in the early 1950s, much of the parkland between the river, the Back Bay, and Beacon Hill was lost. Shurcliff and his son Sidney were hired to redesign the entire shore from the Boston University Bridge to the Charles River Dam. The Centennial Fountain, located in the lagoon on axis with Dartmouth Street, celebrates the 100th anniversary of the Metropolitan Park System.

The Boston Model Yacht Club (1924) skiff-sailed "A", "B", "C", "D" and "R" boats on Mystic Lake in West Medford, MA in the 1920s. Then the club sailed "A", "M", and "X" boats on the man-made racing pool on the Charles River, the Storrow Lagoon on Exeter Street. They joined the Model Yacht Racing Association of America in 1925. Boston featured the most capable and best known skippers and designers in the country. Model yachtsman like Norman Skene, H. E. Richardson, William Bithell, Fred Pigeon, John Black, James Potter, and Charles Farley assumed legendary prominence internationally. Always an Eastern powerhouse, the Boston Model Yacht Club was a traditional rival to the Marblehead club and hosted the Annual Gillette International "A" Cup races. Boston also skiff-sailed on the Charles River basin.



Aerial View

Photo by Alex MacLean for BSLA

If one Googles “Model Yachting on Storrow Lagoon Boston” you get some very interesting pictures of model yachting on the lagoon. A large part of this sailing took place before Storrow Drive was built in 1951. Access was cut off from the city to the lagoon, against the wishes of Helen Osborne Storrow. So, they named it “Storrow Drive”.

I believe there was some sailing activity on the lagoon after Storrow Drive was built, but it dwindled over time. Perhaps for the same reason it is non-existent today. You cannot park anywhere near the place. Apparently before 1951 though, it was the ultimate model sailing venue.

I remember the first time I sailed on Storrow Lagoon, in the late 1970s. I had my dad’s pond boat, which we called “the red boat”. It was his own design, resembling a miniature vintage Marblehead. It had a simple Braine gear. I figured out how to make it go dead down-wind from one end of the pond to the other. I was only 12.

In the early 1990’s I started sailing R/C models there. I did not mind carrying my boats to the lagoon because it was such a nice place to sail. It was only me until about 2006 when I started volunteering with some friends for the Esplanade Association, which purchased 10 R/C Lasers for general public use. I helped maintain them and also brought and sailed many of my own boats for show, tell, and inspiration.



Freesailing on Storrow Lagoon Photographer unknown

We had a tent that we brought out to attract attention on the same day every week, and we had some workshop sessions where we helped people build Soling 1 Meter boats. I always hoped that people would be inspired to build or bring their own boats, which might have made it more long term sustainable, but somehow it never reached critical mass.

In 2006, a large group of skippers from the Marblehead Model Yacht Club brought their boats to the lagoon for a major demonstration regatta to promote model sailing.

Last year, 2017, I sailed on the lagoon every single weekend the whole season. Not one other model boat but mine the whole time. If Helen Osborne Storrow we’re alive today, I imagine she would shake her fist and say “SEE! I TOLD YOU SO!”

Mystic Seaport Museum – The American Model Yachting Collection

By Paul O’Pecko and John Stoudt
Photos, Mystic Seaport Museum



Mystic Seaport Museum Research Center

We met in late June 2018 at the Collections Research Center in Mystic, Connecticut. The purpose of the meeting was to ensure a working relationship between the Mystic Seaport Museum and the US VMYG. We discussed the goals of the US VMYG as they relate to the collection, known as the American Model Collection. The discussion occurred while we toured the archives viewing the Ted Houk collection, various pond yacht models and the files containing L. Francis Herreshoff’s plans and papers.

Part of the Mystic Seaport Museum, the Collections Research Center is quite an impressive building. It

has four acres under roof housing collections of models, paper work and full-sized boats. One acre is devoted to research spaces, a library and office spaces while the remainder houses their “under-roof” full size boat collection. Special climate-controlled spaces hold the plan and file collections as well as their many models, static, half hull, pond

models and dioramas. Not to mention the many other aspects of their collection. Special rolling, compact shelving units allow them to house many more items than traditional storage systems.

The museum has a great website. Much of their material is accessible on-line. The database is very user friendly and searchable. The collection and on-line resources includes art and objects, books, film and video, manuscripts, maps and charts, periodicals, photography, ships plans, sound archives and watercraft. For more information and access to their database to go:
<https://research.mysticseaport.org/>

The pond model related archive is an impressive collection of materials and boats. There are numerous model pond yachts, including Nat Herreshoff's wishbone rigged M boat (now on exhibit at MIT), a Gus Lassel M class boat, a beautiful replica of Iris, a 1902 yawl built for offshore racing among other boats. When Ted Houk, the Seattle doctor and avid pond sailor, designer, and builder, died his family sent the materials he had collected over decades to the museum. An impressive part of these materials include his extensive notes on all aspects of his collection and work with pond models kept on 3 x 5 cards.

L. Francis Herreshoff was an incredible boat designer. He was an avid pond sailor. He moved his yacht design office to Marblehead, MA in 1926. He became an active member of the Marblehead Model

Yacht Club. That same year he designed a 450-square-inch-sail-area class that was avidly sailed at Redd's Pond for roughly six years. L Francis is



Herreshoff's wishbone rigged M Class

quoted as having said "These little boats are the most fun of any I have ever tried . . ." The museum houses much of L. Francis Herreshoff's plans and other materials.



Gus Lassel M Class

The digitized collection of his papers can be viewed at <https://research.mysticseaport.org/coll/coll138/> and the list of his available plans can be seen at <https://research.mysticseaport.org/coll/spcoll038/> .

Our hope is to spend time with the collections and to prepare articles that encompass the following:

- Highlight the American Model Collection
- Focus on individual pond yachts in the collection
 - Herreshoff wishbone M class model
 - Gus Lassel M class model
 - 1926 replica of Iris
 - Other pond models
- Provide information on Ted Houk and his collection
- Elaborate of the history of model yachting
- Relate information on L. Francis Herreshoff and his work with model yachts

One thing is very evident; there is a plethora of material on model yachting at the Mystic Seaport Museum.

The USVMYG will need volunteers to assist with the research and the preparation of the articles. If you are interested please contact either of us.

In the past the museum has accepted materials related to model yachting and it will continue to do so. If you have something you would like to donate please feel free to contact Paul. While the Museum cannot take everything offered, they are happy to have items of quality that add to the history and understanding of model yachting.

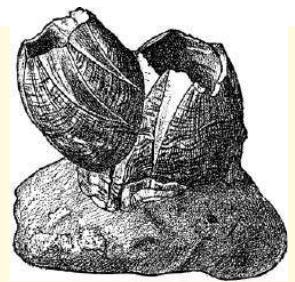
Paul O'Pecko is Vice President of Research Collections and Director of the G.W. Blunt White Library, Mystic Seaport Museum. He may be contacted at: paul.opecko@mysticseaport.org
John Y. Stoudt is the president of the United States Vintage Model Yacht Group. He may be contacted at: jstoudt309@gmail.com



Model Yacht Replica of Iris

Barnacle

- **Redd's Pond Video** – The president recently received an email from Colleen Stobbe of the San Francisco Model Yacht Club. The email contained the link to a great early video of various footage including an event at Redd's Pond, Marblehead, MA. There is a nice interview of Bill Bithell included in the footage. The link to the video is: <https://vimeo.com/289176933>
Once you have viewed the video you can go to the other videos on file by the SFMYC.





Article and photos by Annie and Richard Rogers

The Draketail

The original Draketail was built in 1936 at Broomes Island, Maryland, by a gentleman whose name was Sewell. Three generations of his family worked the neighboring waters with her -- fishing, crabbing, and eeling. She was indeed a workboat. However, she was never named and to this day she is known simply as the Draketail.

Richard and George Surgent, the Boatwright at the Calvert Marine Museum in Solomons MD are critiquing a model of the boat that Richard built. The model was based on plans George had shared with Richard.

In the late 1980's, Mr. Sewell's wife donated the Draketail to Calvert Marine Museum. The staff and volunteers had planned to renovate the boat but found as they began their work that she would need to be totally rebuilt from scratch.

George carefully took her measurements and drew up a set of plans. He and the volunteers began the rebuilding, an effort that took them ten years. When they completed the new boat, the only original item remaining on the Draketail was the coca-cola bottle opener.

When Richard and Annie became volunteers at the museum in 2000, their favorite task was being responsible for the Draketail's readiness. They continually maintained her and in the process were fortunate to operate her and carry out various museum requests for Patuxent River tours.

*The Drake after Hurricane Isabel*

She is truly a delightful boat and they thoroughly enjoyed the hours they spent aboard her – whether cruising the creeks, painting her topsides, or taking staff members out for a luncheon cruise. They spent so much time on her that everyone thought she was their boat and would be going to Florida with them.

However, sadly this wasn't true. Thus when Richard and Annie moved to Florida in 2008, Richard decided to build a scale model, following measurements he received from George Surgent. Through every step of the building process they could visualize themselves being on the Draketail.

Richard used tight grained yellow pine to scratch build the boat and began by building a strongback, cutting frames and planking.



After laying out and building her hull, board by board, as well as building the keel, and focusing on the design of the bow, he removed her from the strongback and turned her over for side panels and decking. If you look closely you'll notice the stern post – the original stern post was turned into a lamp, given to Richard & Annie when they left Solomons.





Boats built this way were not known for their strength since the short boards did not offer any longitudinal support. However, they were easy to caulk and of course they were cheap. After all this part of Maryland was the country. Owners improvised and built their boats in their backyards, generally curving them with pipes and chain pulls which were readily available.

One might question, what's the Draketail, also called Ducktail or Torpedo stern -- all names given to describe this type of boat? Richard's only conclusion is that since the boats were worked from the stern, the Draketail design gave the boat a curved sloping stern – a gentle place for the wave to break.

It's interesting to note that anchoring took place from the stern. Anchors were usually a motor head or crankshaft just kicked over the side to stop the boat and in doing so presented the stern – the Draketail -- to the following waves.

The museum's Draketail was outfitted with a 1965 Grey Marine 25 HP Sea Puppy engine which was quite adequate for running the boat at 12 to 15 knots.

Note the use of the short planking on the bottom – it was easy to come by. Note also the side panels. The original was one piece twenty inches wide by thirty four feet long.



Richard checking her waterline

Richard's model was outfitted with an electric motor with 2 to 1 reduction gears and belts. This is about the only area he deviated on from the original.



Banner Unveiled at National Championship Regatta

Photo Sara Harland

The USVMG, trying to increase awareness about the vintage group, has unveiled a new feather banner at the NCR at Redd's Pond in Marblehead, MA.

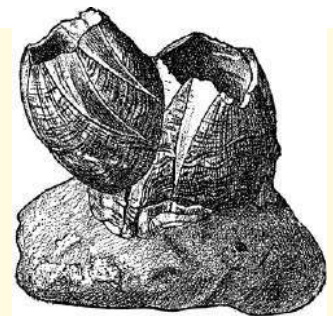
It stands fifteen feet tall and incorporates aspects of our new logo into the design as well as a photo of some Marbleheads sailing. You will notice the color theme, boat silhouette, and wording are like that

found in our new logo. The banner also features the link to our website. The banner was designed by our web master Jim Flach.

If a club would like to borrow this banner to use with a local or regional event, contact John Stoudt. He will mail it to you. Your only responsibility is to mail it back.

Barnacle

- **Book Recommendation** – You are building, repairing, and making sails for your vintage model yacht. You need to know the lead so you locate the rig correctly on your schooner. A great reference that has a lot of this type of very useful information in it is: Skene, Norman L. *Elements of Yacht Design*, Sheridan House, Dobbs Ferry, NY. 2001.



Resources

Plans:

- A.J. Fisher (<http://www.ajfisher.com/>)
- Pinterest (<http://www.pinterest.com/pin/506866133039763052/>)
- Solomons Island Model Boat Club (<https://sites.google.com/site/simbclub/home>)
- Sublime Boatworks (<http://www.sublimeboatworks.com>)
- The Vintage Model Yacht Group, UK (<http://www.vmyg.org.uk>)
- US Vintage Model Yacht Group (<http://www.usvmyg.org>)

Hulls:

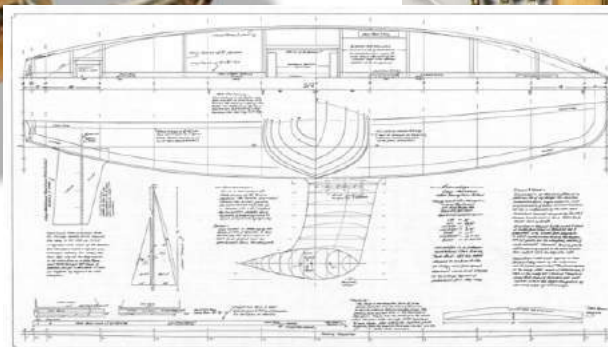
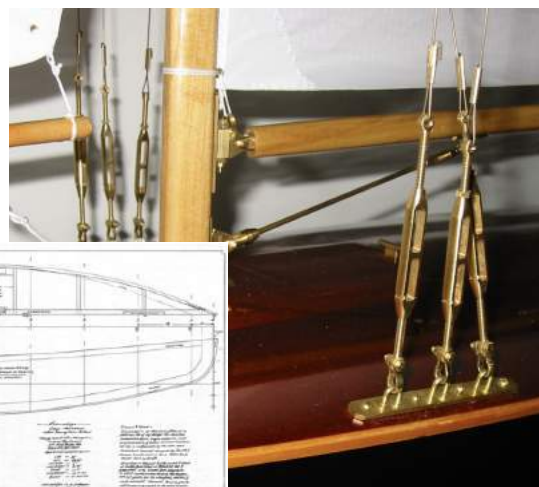
- Biff Martin, Marblehead, MA – Biff Martin (978-828-9765)
- Blue Crab Model Yacht, Cambridge, MD – Scott Todd (410-310-2453)
- The Vintage Model Yacht Group, UK (<http://www.vmyg.org.uk>)

Construction Manual and frames for Wampum

- Steve Deligan, stevedeligan@gmail.com (www.rcmodelyachts.com)

Parts and Tools:

- Horizon Hobbies: <https://www.horizonhobby.com/>
- Long Beach RC, Hickory Corners, MI (<http://www.longbeachrc.com>)
- Micro-Fasteners: <http://www.microfasteners.com/>
- Micro-Mark: <https://www.micromark.com/>
- MidWest Model Yachts, Plainfield, IN (<http://www.midwestmodelyachting.com/>)
- Model Yacht Fittings, The Villages, FL (<http://www.modelyachtfittings.com>)
- SAILSetc (<http://www.sailsetc2.com/store/index.php/products-by-category/fittings/vintage-style.html>).
- ServoCity: <https://www.servocity.com/>
- Small Parts: <https://www.smallpartsinc.com/>
- Tower Hobbies: <https://www.towerhobbies.com/>
- West Systems: <https://www.towerhobbies.com/>
- Worth Marine, Marblehead, MA (<http://www.worthmarine.com/store2/>)



Publications Available

The USVMYG has a number of publications available for sale a very reasonable cost. These will assist individuals in the construction and/or restoration of a vintage model yacht. They include:

1. *Yankee III* by Earl Boebert, 140 pages, (\$25.00)
A booklet written about the building of a vintage 36 replica of Yankee III.
2. *Building Planked Models* by Charles Farley 118 pages, (\$15.00)
An excellent description of the process of building a model yacht using the plank-on-frame method.
3. *Plank on Frame Workshop* by Al Hubbard, 75 minute video (\$15.00)*
This was a video tape of his lecture at the Woods Hole Model Boat Show, May 1997
4. *Building Madcap, A Vintage Marblehead Model Yacht* by Ivor Walton,(\$20.00)
This is a good photographic sequence of the building of a vintage Marblehead.
5. *Restoring Tritonia: A Vintage Marblehead Pond Yacht from 1934* by John Stoudt, 28 pages, (\$20.00)
6. *How to Build a Model Yacht: A Detroit 24"/36" School Built Model Sailboat*, 88 pages, (\$10.00)
The construction booklet written by the teachers in the Detroit Public Schools for the boats (Chico) built in class by their students.

These are all available in electronic form. We will not reproduce and mail any of these. When you place an order we will send you electronic files that you can than can file, print or view on your computer.

There are two steps to placing an order until the website has the built in capability.

STEP 1: Send an email to the following individuals:

- Ernie Mortensen at: usvmygt@gmail.com
- Jeff Beck at: usvmyg@gmail.com
- John Stoudt at: jstoudt309@gmail.com

Indicate in the email which publications you would like by title.

STEP 2: Send payment to Ernie Mortensen by PayPal (PREFERRED METHOD OF PAYMENT)

as instructed below:

- Go to [PayPal.com](https://www.paypal.com) and sign into your account.
- Click on the Pay or Send Money button.
- Click on the Pay for Goods or Services button.
- Enter this email address – usvmygt@gmail.com
- Enter the correct amount in UDS (United States dollars).
- Click the Send button.
- Pay in U.S. funds only.

OR, OPTIONAL STEP 2: Send a check in the correct amount to Ernie Mortenson, US Vintage Model Yacht Group, P.O. BOX 9721, San Diego, California 92169 (indicate what you want)

If you have any question please feel free to contact the president by email or phone.

* This is currently unavailable in digital form.

US VMYG Membership Form (2019)

NAME _____ AMYA # _____ *

First Initial Last

STREET _____ PHONE # _____

CITY _____ STATE _____ CTRY _____ ZIP _____

Email Address _____ (required)

DUES – emailed newsletter

_____ \$30.00 for U.S., Canada, and Overseas

DUES - mailed newsletter (please do not request a mailed copy if you have an email address)

_____ \$40.00 for U.S. and Canada

_____ \$50.00 for Overseas

_____ Life Member Contribution in the amount of \$ _____

COMPLIMENTARY MEMBERSHIP – The US VMYG makes complimentary memberships available to museum personnel, school directors, et cetera by email only. If you would like to have a complimentary membership for your organization please provide an email address for the individual who will be receiving the newsletter and other communication.

Organization: _____

PREFERRED METHOD OF PAYMENT - You may pay using PayPal.

Go to PayPal.com and sign into your account.

- Click on the Pay or Send Money button.
- Click on the Pay for Goods or Services button.
- Enter this email address – usvmyg@gmail.com
- Enter the correct amount in USD (United States dollars).
- Click the Send button.
- If you pay by PayPal please send this completed membership form to the address below.
- Pay in U.S. funds only.

You may also send a check along with this form for the correct amount to:

US Vintage Model Yacht Group
P.O. BOX 9721
San Diego, California 92169

NOTE: The US VMYG will not share your personal information with outside parties.

*The US VMYG strongly recommends membership in the AMYA.

US Vintage Model Yacht Group Boat Registration Form (effective July 2016)

Name: _____ AMYA #: _____

Address: _____

Email Address: _____

Phone Number (home): _____ (cell) _____

I would like to register/obtain a sail number for the following boat/s:

- Free Sailed Boats – Request sail number _____ or the next available number
 Boat Design: _____ Circa: _____
 Position Currently Open – for more information contact the president
 Email: _____ phone: _____
- Vintage International A Boat – Request sail number _____ or the next available number
 Boat Design: _____ Circa: _____
 Mike Denest, 2 Whitehaven Court, Newark, DE 19711
 Email: mjd12k@yahoo.com phone: 1-610-316-3570
- Schooner – Request a sail number _____ or the next available number
 Boat Design: _____ Circa: _____
 Kerry O'Malley, 348 Kirks Mill Road, Nottingham, PA 19362-9012
 Email: komalley1@comcast.net phone: 1-717-548-4632
- Skipjack – Request a sail number _____ or the next available number
 Boat Design: _____ Circa: _____
 John Henderson, 465 Gull Court, Chestertown, MD 21620
 Email: jgnhenderson@atlanticbb.net phone: 1-443-282-0277
- Unrestricted Class – Request a sail number _____ or the next available number
 Boat Design: _____ Circa: _____
 John Stoudt, 309 Sundance Drive, Chester Springs, PA 19425
 Email: jstoudt309@gmail.com phone: 1-610-316-8695
- Vintage 36/600 – Request a sail number _____ or the next available number
 Boat Design: _____ Circa: _____
 Alan Suydam, 11665 Asbury Court, #560, Solomons, MD 20688
 Email: alansuydam@comcast.net phone: 1-410-394-3150
- Vintage Marblehead (50/800) – Request a sail number _____ or the next available number
 Boat Design: _____ Circa: _____
 Select one - Traditional: _____ High Flyer _____
 Bruce Richter, 345 West 13th Street, Apt. 3G New York, NY 10014
 Email: richterbruce@gmail.com phone: (917) 575-2221

Please mail this form with a check for (\$7.00 x number of boats) to the class coordinator.
 Checks should be made payable to the US VMYG.