

# SAIL & SCALE

NEWSLETTER OF THE EDINA MODEL YACHT CLUB

November, 1994

VOLUME 3, NUMBER 11

**Board Meeting, Times Two!** A joint Board meeting of all of the members of both the outgoing and the newly elected Board of directors has been called by members of both Boards. Meeting time is 6:00 PM (Sharp!), Nov. 15th, one hour prior to the Builder's meeting and swap meet. All members are invited to observe. Both meetings will take place in the Garage, Band Room, 130 paces North of the Centrum building.

**Builder's Meeting, Swap Meet, Nov. 15:**

It's time to rummage about in the dusty recesses of your workshop and bring forth that trash which others may swear is treasure, and haul it out to Centennial for the big swap meet. You never know what jewels may appear. Bring your checkbook! This is also our end-of-season, builder's meeting. No business! Nothing official! Bring out your intended project for the winter, and share it with the membership. If you don't have a plan of attack for the cold months, this is a great place to pick up an idea or two. This meeting was one of the best attended and most talked about of last year.

**Dry Dock, Revisited:** If you missed it, you missed it! This last official club function of the season was attended by 27 members and 18 "significant others". With the continuing, excellent support of Tom, Barb, and the park staff, Jeff McCabe and his team were able to pull off a grand affair. I suppose that Byerly's should get at least a mention, eh, Jeff? I know that I'll think of them each time that I take a piece of left over cake from the freezer.

**"Let There Be Light"(house):** Those who missed the party, also missed the unveiling of the club's latest decorative piece. Jeff has spent the last several months working on his lighthouse. Eight hundred and seventy nine (plus or minus a couple of hundred) hand laid cedar shakes, and numerous other parts make up this thirty inch gem. It's electrical innards are the product of our resident wiring whiz, John Bishop. Several other members also contributed time and components to the project. It may be available for lease, if you care to have an en'light'ening experience at a family or a business gathering!

**Who's Who for '95?:** One, final act completed at the Dry Dock Party was the counting of the ballots for

Commodore and Board. Joel Hanson, Tony Kartes and Mike Trutwin performed that service. Of the eighty three pre-stamped ballots sent out, 38 had been returned by party time. A tie for the Commodore slot was broken during a meeting of the two candidates with the counters during which Jeff McCabe graciously conceded to Dick. As a result, our new Commodore will be Dick Kjellberg. The new Board will be comprised of Paul Olsen, Gary Phillips, Jeff McCabe and Charles Bottemiller. Congratulations, all!

**Survey '94:** The recent club survey was tabulated the day prior to the party. All the original forms have been bound, and now reside in the club filing cabinet for your review. Results are enclosed herein.

**Columbus Day Regatta:** After a late start, this third annual event went off as planned. It was quite windy, but at least it was cold! Gloves were the order of the day! Several participants departed after the morning series, while a couple of others did not arrive until afternoon. Everyone who raced is listed below:

**Class : Fairwind**

Place	Name	Points
1	Mike Trutwin	30.50
2	Jim Bolin	33.50
3	Jack Lysne	34.50
4	Tony Johnson	54.75
5	Mike Flannigan	59.75
6	Gary Phillips	82.00
7	Jeff McCabe	83.00

**Class : CR 914**

Place	Name	Points
1	Chuck Bottemiller	31.00
2	Tony Johnson	37.25
3	Steve Kraft	40.00
4	Tom Klausler	52.75
5	Ralph Peter	79.00
6	Geoff Cooke	83.00
7	Mike Flannigan	88.00
8	Tom Midtbo	93.00

Note: Series sail racing results, month by month and seasonal rankings, can be found overleaf.

## Seasonal Series Sail Racing Results - Month By Month:

### Fairwind:

Name	May	June	July	Aug.	Sep.	Total	Seasonal Place
Tony Johnson	83.00	55.00	83.00	47.75	17.50	286.25	1
Mike Flannigan	81.50	70.50	96.25	54.25	20.00	322.50	2
Mike Trutwin	108.25	43.75	67.50	83.50	77.00	380.00	3
Ralph Peter	89.75	72.50	151.00	88.75	68.00	470.00	4
Jim Bolin	98.25	216.00	154.75	59.75	31.00	559.75	5
Joel Hanson	108.75	216.00	174.00	120.00	82.00	700.75	6
Marty Baskerville	252.00	216.00	100.00	120.00	78.00	766.00	7
John Bishop	252.00	216.00	158.00	92.25	55.50	773.75	8
Jack Lysne	252.00	216.00	155.75	94.50	82.00	800.25	9
Bob Harvey	252.00	216.00	152.00	120.00	70.00	810.00	10
Roger Flint	252.00	216.00	174.00	116.00	64.00	822.00	11
Jeff McCabe	252.00	216.00	157.75	120.00	82.00	827.75	12
Ryan Johnson	252.00	216.00	174.00	113.00	82.00	837.00	13
Doug Campbell	252.00	216.00	174.00	120.00	82.00	844.00	14

### CR-914:

Tony Johnson	28.50	34.25	52.75	115.50	1
Chuck Bottemiller	73.75	47.75	49.00	170.50	2
Ralph Peter	71.75	80.25	36.50	188.50	3
Tom Klausler	67.25	81.50	73.00	221.75	4
Steve Kraft	78.50	140.00	107.00	325.50	5
Tom Midtbo	162.00	127.00	88.75	377.75	6
Geoff Cooke	162.00	158.00	73.00	393.00	7
Dan Maley	162.00	159.00	107.00	428.00	8

### **Commodore's Corner:**

I would like to take this opportunity on behalf of the Board and myself to thank those who participated in the election and the survey.

In the upcoming year, I would appreciate any help or comments from the members on what they would like to see happening in the club. Feel free to call with your comments [REDACTED]

November 15th is the date for the old and the new Board to pass the belaying pin. This meeting is open to all members. Please feel free to attend!

Good Boating, Dick Kjellberg

### **What's New, Pussycat?:**

Your editor(s), Doug and Jim, have had a long standing and continuing problem with this tabloid. Complacency, apathy, indifference, call it what you will. Although the monthly newsletter received a higher score than any club activity in the recent survey, there is very little input by the membership. An editor is supposed to do just as that name implies, edit! It is not his/her duty to write the whole damn rag! Come on, guys! Let's have a go at submitting something for publication. We don't want to

follow the route of many club publications and just copy stuff from other sources. Let's keep our publication unique. We need your help to accomplish that!

Doug Campbell [REDACTED]

Jim Smith [REDACTED]

**Information Sources:** A definite need for modeling data is evident in the survey returns. Several magazines are available for the boating enthusiast. Try:

*U.S. Boat & Ship Modeler*, published four times per year by: Gallant Models, Inc., 34249 Camino Capistrano, Capistrano Beach, CA 92624. \$14.00/Yr.

*Radio Control Boat Modeler*, Published seven times a year by: Air Age, Inc., 251 Danbury Rd. Wilton, CT 06897. \$19.95/Yr.

*Scale Ship Modeler*, Published nine times per year by: Challenge Publications, Inc. 7950 Deering Ave., Canoga Park, CA 91304. \$19.95/Yr.

*Seaways' Ships in Scale*, Published six times per year by: Seaways Publishing, Inc. 2271 Constitution Drive, San Jose, CA 95124 \$24.95/Yr.

*Flying Models*, (2 page boating column), Published monthly by:

Carstens Publications, Inc. P.O. Box 700 Newton, NJ 07860 \$19.95/Yr.

*R/C Boat Modeler*, along with many catalogs, e.g. *Robbe*, *Scale Shipyard*, *Dumas*, *Hobby Lobby*, *Model Boats Unlimited*, etc. can be found in the club filing cabinet, across from Tom Shirley's office in the Centrum.

**Free!** Hey! I knew that would get your attention! At the Builder's meeting, Jeff McCabe will supply coffee, and the club will serve the canned pop left over from the Dry Dock Party.

**Belay, What?:** My fat Webster's defines a belaying pin (see Dick's reference, above) as "a strong pin in the side of a vessel, or by the mast, around which ropes are fastened". However, I believe the implied definition is closer to, "a big stick with which the Commodore will strike you up beside the head if you don't pay attention while he is talking"! Heads up! Don't be caught napping!

**December Doldrums:** No club meeting scheduled. No club newsletter planned over the holidays. See you all in '95.



## Edina Model Yacht Club

### MEMBERSHIP SURVEY RESULTS

October, 1994

The **37** respondents have been interested in model boating for an average of: 11+ years

They operate the following types of boats:

(many operate more than one type of boat, so total exceeds 37)

Marblehead:- 3 ; EC-12:- 1 ; Fairwind:- 24 ; CR-914:- 5 ; Fast Electric:- 11 ; Scale Electric:- 15 ; Steam:- 3  
Other Sailboats:- 2

They are primarily interested in :

(a few did not reply to this question, so total is less than 37)

Sail Racing:- 6 ; Casual Sailboating:- 16 ; Fast Electric:- 0 ; Casual Electric / Scale:- 12 ; Steam:- 0

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On average, they **rate** the following club activities on a scale of "0" (dislike) to "10" (excellent):

(averages were calculated by dividing the total number of points registered by the number of members replying to that question)

Monthly Meetings:	6.06	Monthly Newsletter:	8.78
Parade of Model Boats:	8.56	Open Boating:	8.56
Disabilities Sailing:	4.85	Series Sail Racing Schedule:	4.63
Electric Events Schedule:	6.38	Dry Dock Party:	7.93
All Day Sailing Regatta Schedule:	6.07		

Do The Above Mentioned Club Activities Adequately Address Your Needs? Yes:- 18 No:- 3

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They indicate a preference for the following **changes** to the 1995 schedule of events:

(score was calculated by dividing the total number of points registered by the number of members replying to that question)

"0" (Schedule as little as possible),

"5" (no change),

"10" (add as many as possible)

Series Sail Racing:	4.35	Occasional Class Regattas:	6.88
Disabilities Sailing:	4.28	Scale Electric (steam) Events:	6.94
Fast Electric Events:	6.17	Spouse Involvement:	5.20
Building and Instructional Seminars:	8.44		

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They Would Prefer To Participate In Sunday Open Boating Scheduled To Start At: (not answered by all)

10 AM:- 0 Noon:- 7 2 PM:- 10 4 PM:- 8 5 PM:- 3 6 PM:- 2

Topics That They Would Like To Have Discussed At Monthly Meetings, In Order Of Preference:

Construction Techniques:- 10, Sailing Techniques: 3, R/C Topics:- 2, Painting/Finishing:- 1  
Boat/Sail design:- 1, Annual Schedule:- 1, Show & Tell:- 1

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Listed below are all of the comments received on club **activities**:

"Additional information on sources of materials, kits and hints on construction techniques would be of value."

"Less frequent series racing - prefer monthly regatta format"

"Would like to see less frequency in series sail racing. Would like to see one main club event per month. Would like to see informal Fairwind racing (south pond) 2-3 times a month. I miss the all-day class regattas we had a year ago. It was fun!

"Builder's meeting in late fall is a great idea!"

"New to club. Still forming an opinion, to date, It's good!"

"I live in Rochester, and it's a little inconvenient to get to a lot of events, but plan on attending more in the coming year."

(continued on reverse)



"I like organized races! Less bull....., more sailing races!"

"Never can run the race course to practice because of too damn much racing going on. Too many racing events. How can a normal person compete? I have a life besides racing!"

"Monthly meetings tend to be long and drawn out meetings that, by chance, usually cut short a good sailing / boating day."

"I would like to see a move towards building, and more all day sailing regattas."

"Doing good!"

"I would like to see a racing series for electric. We could use the NAMBA classifications rather than one model of boat."

"I am impressed favorably with several members I have met and visited with."

"I would like to see more electric events and an all day swap meet."

"We need more discipline on radio frequencies."

"I would like to know what other modelers are planning for the winter building season. Who are the members to go to for advice on kits, techniques, projects, manufacturers!"

"I am a new member and have given my opinion on only what I have seen."

"I like the idea of fun racing with all types of sailboats involved. This would get new members interested in serious racing."

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Listed below are all of the comments received in regard to **changes** for 1995:

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"Have fun and also to obtain assistance from more experienced members on sailing tips and building info."

"Start meetings on time! I have noted that at times there is little effort to keep a posted starting time and lateness seems to be of no concern."

"Let's not overlap all these events. Add more days if necessary. Several times this year, I would have liked to have sailed casually, or observed electric events but races were scheduled. Crowd turnouts would be better. many members are interested in more than one area of boating."

"I enjoy sail racing, but this year may have been a bit much! Rules - it is important to have rules so it is fair to all participating. They need to be simple enough so first timers understand and pros still have enough rules to use as a competitive edge. Let's try to do away with technical terms, or at least define and explain. These terms are proper but scare most away. Some terms leave the true meaning up to personal interpretation (even the pros). Example: 'mast abeam': When asked of five members, all racing, 3 shrugged shoulders and the other 2 offered different interpretations. Set the rules, publish them, define simply (pictorials). Visual boards at each race would be ideal. Maybe two classes of racing need to be started, intro - fun and pro - advanced."

"I was not real pleased with series racing. I didn't feel it was fair to those who could not make all the races, and it forced me to miss other events in order to retain a good score. I thought last year's per night scoring was okay, but the returnable ribbons were a bit much. Just a few ideas. It's been great fun. Thanks!"

"Being new, I thought the support I got was great. I do feel a tension between electric and sail. I don't know why. Let's have some meat in the monthly programs!"

"Sail racers are out of control! Who authorized a 'Fairwind nationals'? It was not mentioned at any membership meetings that I attended. I hope that the new board can keep some control over the over eager members who commit the club to shows, races, etc. that are not authorized by anyone!"

"Thank you!"

"Club is generally fun and well run. Great group of people. Series racing is overdone; even they don't have a good turnout. A series of well planned and well organized events (4-5 a year) are the best recreational events of the group, i.e. Parade, Class regattas, EEEE, Night lights running event, Dry dock party, etc. Just don't overdo it! No more than one per month in the running season and no more frequent than one per year."

"I have always believed the club needs to have a recreational backbone and that racing can and should be an elected choice by any member and based on personal interest. I think you guys are doing a hell of a job. I am proud to be associated with the EMYC."

"..... used his office to promote a new class, that is not right!!! ..... and ..... set up a race schedule that only they could keep - look who won! ..... and ..... won't listen to reason, they do what they want and don't care about the club. We need active class secretaries."

"We need to share our building knowledge with members new and old."

"I feel that it is appealing that our membership has such a wide range of interests. I do feel, however we could attract more participation by the membership if we gave equal attention to the other interests of the membership, i.e. scale / fast electric / steam, etc."

"Radios and assigned channels, or whatever, has disappointed and confused me!"

"List membership not only by boat type but also by radio frequency used."

"I am too new a member to make ratings on 'preference for changes'. I do hope to become active starting spring of '95. I would like to have been more active this summer but retirement is demanding!!!"

## Speed Controls: Managing the Beast !

Jim Smith, EMYC

About midway through the construction of your first electric powered model, the matter of controlling the powerplant inevitably comes to mind. How best to restrain the brute?

Certainly, a servo operating an on-off switch can do the trick easily. Ace, Jomar and RAM have their Power Switch, E-Switch and Motor Switch which moves this method of control into the electronic age. But, you quickly tire of the ensuing 'off' or 'wide open' result. So, some type of speed control becomes a must.

The variable resistance unit, is usually the least expensive approach, and indeed boat kits that are sold complete with operating hardware are invariably so equipped. These devices use either a series of resistors or a wire wound resistor and servo operated wiper to lower the voltage supplied to the motor. These original equipment units are usually restricted to either six or seven nickel cadmium cell use (7.2-8.4 volts). As the name implies, the power run through the resistor is wasted, and extended running at partial throttle can result in substantial heat. Although these units are mostly of low capacity, an exception to the rule, Hughey control, can handle enough juice to start your car! This unit along with the MACK 4400 series, Dumas 2023 and RAM Simple Throttle are the only resistance controllers that I am aware of that can handle 12 volts.

Electronic speed controls (ESCs) are a relatively new addition to our arsenal, and are available in several differing configurations. Frame Rate, High-Rate, BEC, and if your project is to be a scale beauty, reversing is also available. These devices use chip technology to apply full battery voltage to the motor for measured time intervals. If, for example, the supply battery is twelve volts and you select a throttle position that dictates four volts to the motor, the unit rapidly applies, then cuts the full twelve volts, so that the power is on for only one third of the time. Twelve divided by three equals four, Simple, eh?

The Frame Rate unit appeared early in the development of ESCs. These devices cycle the supplied voltage about fifty to sixty times per second (50-60Hz). Unfortunately, the resulting arcing of the motor brushes as a by product of this cycling causes more wear on the brushes and commutator than that experienced with resistor type units. So! Do you choose to waste power with the resistance device or waste cash with a component that wears out your motor prematurely? Fortunately, it's not necessary to do either.

Enter the High-Rate ESC, which has all of the benefits of both of the devices discussed above but none of the shortcomings. These controls function as does the the frame rate, however the operating frequency is usually somewhere between 1000 and 5000 Hz. The motor wear is greatly reduced and efficiency is enhanced. A High-Rate unit is indicated if you anticipate either high power use and/or significant partial throttle operation. These two parameters seem to define model boat motor operation. Several studies reported on in hobby publications indicate that these units approach direct switching in efficiency, and can save almost 25% of battery power as opposed to a resistance type device. High-Rate is the way to go!

Jomar, MCD, Novak, Tekin, Vantec and others, produce High-Rate boat controllers that are capable of handling 12 volts, whereas the units produced by radio manufacturers such as Airtronics, Futaba, Hitec, etc. are usually rated for 7.2 or 8.4 volts. Some are equipped with reversing capabilities and/or battery eliminator circuits (BEC). Novak and Tekin units use a frequency of 2500-2700 Hz. which may produce a whine in your motor which can be unacceptable in a 'quiet', scale boat. The volume of sound produced by the 5000 Hz. Jomar is demonstrably less. Reversing is a must in a scale boat, but not too critical in a fast-electric. BEC is great in a boat, since it eliminates the need for a separate receiver battery. The small amount of power needed to operate the radio and servos comes directly from the main battery. It's a cost, weight and complexity saving device. If your controller does not incorporate a BEC, you can easily build your own with an inexpensive #7805 Fixed-Voltage Regulator IC from Radio Shack. The IC, heat sink and a receiver plug cost less than five dollars! The RAM 5 & 9volt Power Source is a good alternative.

As noted above, when purchasing a controller, check its maximum voltage rating, while keeping in mind that nickel cadmium cells produce about 1.4 volts per cell and lead acid cells yield 2.2 volts. Play it safe here. If you plan to use a ten cell pack, make sure that your controller can handle at least 14 volts. And a nominally, 12 volt lead acid battery can surprise you with close to 14 volts too, when full charged. Amperage ratings also vary considerably. Keep in mind that a large scale boat such as a three or four foot tug will probably draw much less than ten amps at maximum speed, while an eighteen inch fast boat can pull a strong thirty!

If cost is not too big a factor, and you want maximum output, look for a unit

that has a low resistance when it is fully on. Units range from about ten milliohms, on up. Lower resistance equates to a bit less lost voltage, and to higher cost. This is really only of concern to the serious high speed, high power boat driver.

Finally, there are a few safety features to look for which may be hard to ascertain prior to purchase. If you spot a controller that interests you at the pond, ask its owner to check it for you. A good controller will shut off the motor if the radio signal is lost. With transmitter and receiver both on, set the throttle control to off. Turn off the transmitter and see that the motor does not come on. Repeat the exercise, but have the motor running wide open as you turn off the transmitter. The motor should quickly stop. Repeat again, but this time at mid throttle. Shut down is still to be expected.

Loss of receiver power should also cause the motor to quit (or not start). With transmitter and receiver on, throttle off, unplug the receiver battery (or BEC lead). the motor should not start. Repeat at full throttle. When the receiver power is pulled, the motor should stop.

Most ESCs have one or two adjustment screws which tune the unit to your particular radio. With two adjustments and a bit of perseverance, you can get zero to full motor speed to correspond to full throttle stick or trigger movement. The less expensive, one adjustment ESC will usually reach full throttle quite a bit before full stick or trigger is reached. So, they're just a bit touchy, especially in a fast boat.

Several of the latest microprocessor controlled units have no adjustments at all. As a result, some of these can also arrive at full power before reaching full throttle throw input because they are set to accommodate all transmitters, regardless of how much travel is built in by the manufacturer. I have used one of these ESCs (Jomar) in my large tug and have found it to function flawlessly. It might be just a bit too sensitive, and its resistance too high to install in a fast electric, however.

One last caution. Many ESCs do not vary the power to the motor smoothly but do so in small steps. Since these steps rarely match with the ratchet mechanism on the transmitter throttle stick, it is possible to get a mixture of small steps followed by larger steps of power as the throttle control is advanced. In the event that you find yourself in this predicament, adept use of the throttle trim lever can help in setting an intermediate speed if the desired speed just happens to fall between the ratchet detents.



# November Meeting Notice:

**Tuesday  
NOV. 15  
7:00 P.M.**

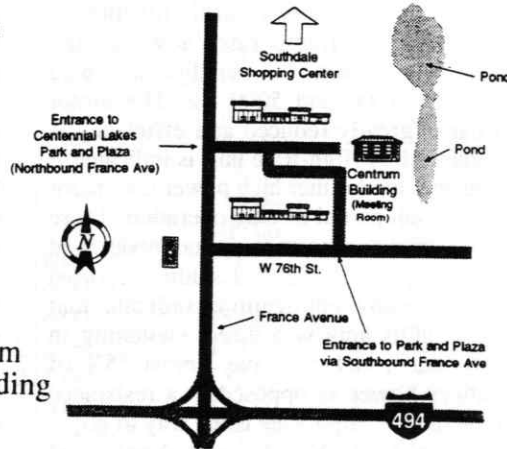
Garage - Band Room Room  
300' North of Centrum Building

**Following  
Open Board Beeting  
At  
6:00 P.M.**

**ANYONE INTERESTED IN THE EDINA  
MODEL YACHT CLUB IS WELCOME TO  
ATTEND OUR NEXT CLUB MEETING.  
FOR INFORMATION , CALL:**



EDINA MODEL YACHT CLUB  
CENTENNIAL LAKES CENTRUM  
7499 FRANCE AVE. SO.  
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