Edina Model Yacht Club

SAIL & SCALE

NEWSLETTER OF THE EDINA MODEL YACHT CLUB

October 1999 Volume 8, Number 10

Commodore's Corner: I'm sorry about missing last months corner, I was very busy and time just slipped away.

To catch up, I would like to thank John Bishop for his wonderful presentation on electric lighting at the August meeting. It was nice to see a great turnout at the Lighthouse Night event. Lighthouse Night seems to get bigger and better every year. Congratulations to all the participating members who made this event a success. I want to also thank Dave Bros for his talk on glues at the September meeting. I hope you all realize what a treasure it is to have knowledgeable members who are willing to share there years of experience with the club. Diego Gastón has done a fine job updating the club source list. Diego is still looking for more material to add to the list, if you have a source that is not on the list, contact him and it will be included.

This month we will be planning the Dry Dock party (Sat. Nov 13th), give me a call if you want to be on the planing committee, we need your help. At the October meeting Jim Smith will be sharing some of his expertise (?? Ed.) on batteries.

Hope to see you all at the October Meeting, till then remember we don't give up on running our boats until the water freezes! *Dale*

Welcome: The following boaters have joined us during the past month.

Doran Gerstein	Minneapolis	[redacted]
Harold Pierce	Shorewood	

Welcome aboard!

Our membership now stands at an even 100. I will publish a new roster next month so that you'll have an up-to-date list of people to call when you run into a problem that you "just can't quite figure out"!

Officers: The following members were nominated at the September meeting, and will serve in 2000.

Commodore: Dale Johnson
Vice Commodore: Doug Campbell
Diego Gaston, Alex Raupp, Terry Splettstoeszer
Treasurer: Gary Phillips

Early Newsletter: This issue should reach you one week earlier than normal so that you become aware that the Columbus Day Regatta date has been changed. Changed to when? October 9th. See below!!!

Fairwind Hints: Diego Gaston found a website < http://marina.fortunecity.com/coconut/282/ > completely devoted to Fairwind operation. They have published a list of tips that you may want to incorporate in your boat. Certainly, some of their ideas can be used without concern for upsetting the "class" status of your boat. Others, such as non-standard sails, may not be acceptable in some clubs but would probably be permissible at ours.

Good-bye, Columbus!: Once again, please make note that the date of the Columbus Day Regatta has been changed. Breaking with the six year tradition of Sunday regattas, the event this year will be held on:

SATURDAY, October **9th**

Skipper's Meeting at 10:00AM, First Heat at 10:30AM

Saint Louis Blues: On the drive down to a boating safety conference in Arkansas, I stopped at the St Louis Admirals regatta on Sept 18th . It is in a neat location and Bill Zumwalt and Tom O'Dell were very hospitable when I introduced myself as an EMYC member. The models were first rate, including a large contingent of BIG military models and about a dozen submarines, mine included.

However, I think we can now safely say, that the EMYC Parade of Boats is the largest model boat show in the Midwest! (Of course they charge $10 for each model entered and they all had to be in running condition...both conditions tending to keep the numbers down.) According to Bill Zumwalt there were a total of 94 boats registered by the end of Sunday. In addition to beating them in model count, we also outpaced them in spectators by many times over. I saw no news media or TV coverage, so for the most part, the only people there just happened to be walking through the mall area where the pond is located. *Tim Smalley*

Steam: I know that more than a few of our members are interested in railroading as well as boating. Have you seen the latest 33¢ stamps illustrating the "Hiawatha", "Super Chief", "20th Century Limited", "Daylight", and "Congressional"? The 20 stamp sheet is entitled, "All Aboard!". Available now, at your local post office.

Membership Meeting, 9/21/99: Commodore called meeting to order at 7:05pm. 32 members and guests in attendance. Commodore stated that the "main event" of the evening was nomination of club officers for the next year. B.Larson passed along an idea of G.Merrill's, that all officers continue in office for an additional year. After minimal discussion, it was decided by acclimation that Dale Johnson retain the Commodore's shirt for 2000. D.Person declined re-nomination. The following members were nominated:

Terry Splettstoeszer, by Larson, 2nd by Smith
Alex Raupp, by Smith, 2nd by Larson
Doug Campbell, by Bros, 2nd by Pfeifer
Diego Gaston, by Person, 2nd by Campbell
Gary Phillips elected to remain on as Treasurer

Toy & Model Boat Show will occur on 11/13, the same day as club Dry Dock Party. Smith made motion that club pay for table at show, 2nd by Bros. Agreed. Social and Special Event Committee will run Dry Dock Party. Need volunteers. A show, presentations and a year-end review are planned. New web site is up and running. Andy Valentine requests your input. He has done a great job so far but needs help in several areas. A.Raupp announced a change in date for the Columbus Day Regatta. Regatta will be held on Saturday, Oct 9 from 10am until 2pm, instead of on Sunday the 10th. If there are enough boats, there will be heats by class. Buoys will be removed for the season, after the event. D.Walker offered his Fairwind to anyone wishing to race that day. He'll be "doing" football! D. Gaston distributed information sheets listing suppliers, sources web sites, etc. of interest to model boaters. D.Person made a short presentation regarding club embroidered clothing. He will bring catalog to October meeting. Still time to order for Christmas. A.Raupp donated catalog of nautical books to club library. He also had a listing of scale sailing models, some adaptable to R/C. Commodore has a copy of video tape of all of the coverage leading up to and during the Parade. Will be on display during the Dry Dock party. J.Bomberger inquired if club would be interested in putting on a display and running event for dependency, physically/mentally challenged kids in the Hinkley area. He will make presentation to the appropriate committee early in the New Year.

Meeting .adjourned 7:40pm

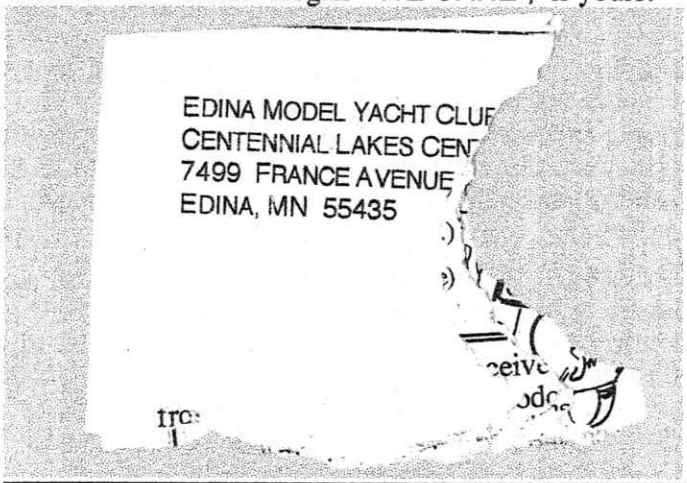
Dave Bros gave a forty-five minute presentation on the use of epoxies in model boat construction, touching briefly on other glues such as Titebond and cyanoacrylate. *Jim Smith*

Schedule Of Upcoming Events

Every Sunday	Open Boating	4:30PM - 9:00PM
Every Tuesday	Open Boating	5:30PM - 9:00PM
Every Thursday	Open Boating	5:30PM - 9:00PM

Oct.	9th (Sat.)	Columbus Day Regatta	North Pond	10:00AM - 2:00PM
	19th (Tue)	Membership Meeting	Centennial Lakes Centrum	7:00PM - 9:00PM
Nov.	13th.(Sat.)	Toy & Model Boats Show	Hopkins House Hotel	8:00AM - 2:30PM
	13th.(Sat.)	Dry Dock Party	Centennial Lakes Centrum	6:00PM -11:00PM
Dec.		**No** Membership Meeting	**No** Newsletter	
Jan.	18th (Tue)	Membership Meeting	Centennial Lakes Garage	7:00PM - 9:00PM

USPS: You didn't receive your September newsletter, eh? Perhaps this remnant that we received back from the Postal Service in an envelope emblazoned with the slogan "WE CARE", is yours.



Decals: Clear (water slide) decal papers are available at your local hobby shop's train department. Using rub-on letters, you can make custom decals for such purposes as ship's names, logos, etc. Rub the letters down on the decal paper and then spray them with a clear coat. These decals should be applied over a glossy surface to preclude a cloudy appearance in the clear areas of the transfer. They can be sprayed with a flat or dull clear coat to match the surrounding area of your boat, after application.

These decal sheets can also be sent through a laser copier or computer printer, and as such will work with black or color. (It might be tough to convince the proprietor of your local copy shop to use his $10,000 printer on your "experiment". Ed.)

If you desire white in your finished product, use a white decal sheet since most color copiers do not print white. (Stolen from the Watts Wake Beacon, Illinois)

I found the following article on the web. I am sure that we have several members who are adventuresome enough to give it a try!

Do It Yourself Photoetching

...or how to wreck your home with toxic chemicals
By
Jeff Herne

There comes a time when every model builder faces the dilemma of a part that is too small or detailed to be scratch built, yet cannot be left out for the sake of convenience. Photo-etching has quickly become the method of choice for duplicating small detail parts that cannot otherwise be made. Excellent examples of photoetch parts include screens and grilles, landing gear and access doors on aircraft, seatbelts and harnesses, ship's railings, and even automobile parts. This article describes a method for producing photo-etched parts from standard hobby store .005 inch (0.13 mm) thick sheet brass.

There are several methods of developing parts, the most common being the duplication of an original. One important aspect to remember is that single side etching will not produce relief details. The results are flat pieces of brass that have features that cannot be achieved by mechanical means, or by laser cutting. (If anyone has a laser cutter in his basement, please let me know...) You will need to create a drawing of the parts you plan to produce in pencil on drafting paper, typically 50% or so larger than the size of the final part. The reason for creating the pattern larger is this: when the pattern is reduced, the detail is carried over and the spaces in the brass become very small. Draw the pattern in a manner that will allow runners, or connection points that hold the parts to the frame, like a sprue of plastic parts, with an outside frame of metal surrounding the desired parts. The runners keep small parts from falling into the bottom of the etching pan. When designing the sheet of parts, you should also try to minimize the amount of brass that must be removed from the sheet. This is important, as the etching solution will work faster and last longer if there is less brass to etch. Once you have the design for the entire photo-etch sheet mapped out, you should transfer the pattern to frosted mylar drafting paper (available at art/drafting stores) using a #0 black technical pen. Color in the parts (corresponding to the brass not to be etched) using a #2 technical pen. Take the mylar artwork to a shop that can make a "film-positive" from the mylar original. Most shops that make blueprints and reproductions of architectural drawings can do this. When you have the positive made, you should specify the amount of reduction you need so that the positive is the actual size you want the etched parts to be. Draw a "scale" on your original that should map to one of your favorite units of length when the reduction is done - e.g. if you're working at 5x actual size, draw a 5 inch (or cm) line along one edge of your artwork. You can then double check the reduction by measuring the line on the film positive - it should be 1 inch (or cm).

Something to consider when producing really small parts: If you're seeking super-fine detail, consider using stainless steel instead of brass. The etching will take longer, but the results are impressive, and the steel etches more sharply than brass.

Several people I have talked to have used CAD (Computer Aided Drafting) packages to print directly to a laser or inkjet printer. If you're not a computer type, then skip this paragraph. If you are then you'll need to adjust your printer to handle the highest resolution it can handle. The higher the resolution, the better the curves, and the finer the over all detail. Create the drawing, and do your editing on the pixel level with photo-retouching software (Photo-styer, PaintShop, Lview Pro 1.6B). Transfer the drawing to a transparency, then continue on to the next step.

The next step is to transfer the artwork from the film positive onto the brass. The first step is to thoroughly clean the brass sheet as if you were going to paint it - wash with detergent, rinse and air dry. Spray both sides with a few coats of photoresist and allow to dry for a minimum of 60 minutes. The drying process can be assisted with a hairdryer. If you have the luxury, let the raw brass set for 24 hours. Keep the brass away from bright light until you are ready to expose it.

The next step is to expose the photoresist. You want sandwich the brass and the photo-positive between a piece of glass and corresponding surface such as a piece of finished lumber. Hardware stores have pre-made shelving boards, they come in various sizes and are pre-finished. Place the resist coated brass on the lumber and the film positive on top of the brass, then cover the whole thing with a sheet of glass. Use real glass, as Plexi tends to be too flexible. It is very important to make sure there is no air space between the brass sheet and the photo positive. Any airspace will result in a ragged etch. Clamp the whole sandwich together. You'll need a UV source to expose the photoresist, and the best part of this step is that it's free. Place the brass outdoors in bright sunlight for 3-5 minutes, 5-8 for cloudy conditions. You may want to experiment with exposure times, as factors such as temperature and angle of the sun will vary the effects and exposure times. NOTE: This procedure doesn't work at night (sic). After you've exposed the brass, you should remove the plate from any light source until it can be developed. I recommend developing the brass immediately after exposing. SHORTCUT: If you simply want to duplicate an already existing photoetch part or tree, simply substitute the part for the photo positive.

(Cont'd Over)

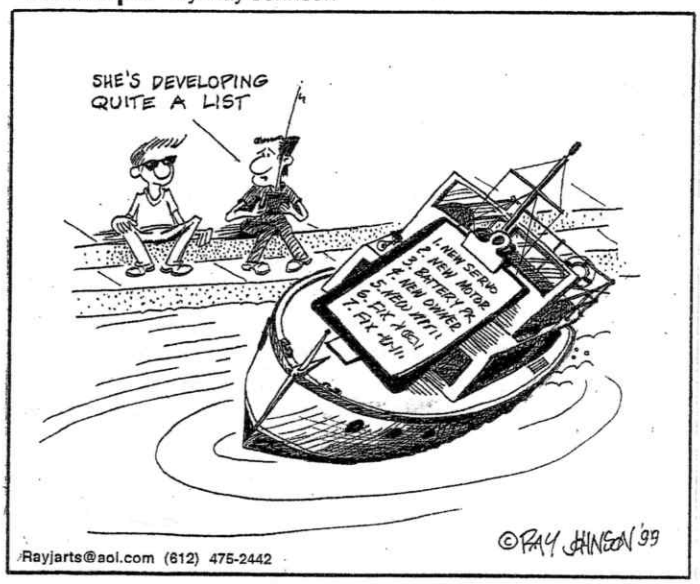
Next, you develop the brass - i.e. remove the exposed parts of the photoresist. Developing is done with a lye (sodium hydroxide) solution -better electronics shops will carry this. Put the exposed plate in a plastic or glass tray, and cover it with the developing solution for a few minutes. Rock the container to agitate the solution. Remove the plate (wear rubber gloves and use forceps or needle nose pliers) and check the development process - the pattern should appear on the brass, and then disappear. This occurs within 5-7 minutes of soaking. When the pattern disappears, the job is finished. Rinse under tap water to halt the development process. If you overdevelop the plate, the etched image will be fuzzy and unusable. Put the plate back in the developer solution until all of the resist is gone, and start over.

The etching solution is ferric chloride. Ferric Chloride is a red brown liquid available at Radio Shack or from GC Electronics. A 32 oz. Bottle should run about $5.00. You need a plastic or glass container that will hold the sheet of brass - a glass cake pan works well. Pour in the ferric chloride solution about 1/2 deep, and place the brass sheet in face down (so that the etched brass falls away from the surface of the sheet). It is necessary to keep the etching solution agitated, new fluid needs to be circulated over the surface of the brass. A simple method is to use an air source to create a whirlpool effect. TRICK: I use my airbrush air hose, clamped to the side of the pan at an angle, to keep the fluid circulating. Remove the plate and check the progress every 15 minutes or so, until the brass is fully etched. Typical etch times are given as 1.5 hours with new etchant...longer with used. Rinse with lots of water to stop the etching process. The Ferric chloride is then disposed of by flushing down the toilet. (Author's note) I questioned the disposal of the used ferric chloride, but the directions on the bottle clearly state that it can be flushed.

Tip-Of-The-Month: Having trouble trying to soak those new-fangled, self sticking stamps off an envelope? Try this. Place a drop or two of lacquer thinner or nail polish remover on the back (envelope) side, behind the stamp. Use just enough to "moisten" the gummed side of the stamp (the envelope paper will become translucent). The stamp will lift right off. You can even stick it back on the original shiny paper that it came on, and use it normally at a later date. Keep the thinner off the face of the stamp though, since it can dissolve some of the colored inks. The stamp then becomes worthless!

Stuff!: Have you got just a little bit too much "stuff" in your workshop? Remember that our November meeting is our big annual swap meet. Start piling up your surplus for the sale. Several members have pick-up trucks if you need assistance.

Turnups by Ray Johnson



Winter: With autumn upon us, can winter be far behind? Tony Johnson passed along the following web site which is devoted to R/C iceboating:
< http://sites.netscape.net/ARCSSA/homepage >

Gotcha!: A fellow was caught in an automated speed trap which measured his speed using radar, and automatically photographed his license plate. He soon received a $40 speeding ticket in the mail along with a copy of the photograph. Instead of payment, he sent the police a photograph of $40. Some days later, he received a reply from the police department containing another photo...this time...handcuffs!

Parts: Nelson Hobby Specialties is a model aircraft supplier, however, their catalog lists items that may be useful in several of our boating endeavors. They have a wide assortment of servo arms and bellcranks (fast electric), scale instruments (ChrisCraft builders), unusual fasteners, including turnbuckles (sail) and even metalworking lathes and mills (everyone). A catalog goes for 5 bucks.
Nelson Hobby Specialties, 394 SW 211th Ave., Aloha OR 97006

Hot Batteries: It is rumored that the new Panasonic 3,000mAh cells (see article on next page) are selling for as much as $14 each, locally. B&T R/C Products, listed on Diego Gaston's information sheet has identical cells in their catalog for $6.25, a 55% saving! Diego will have sheets available at the October meeting in the event that you didn't get one last month.

Attention Editors: Please note that our artist / cartoonist in residence, Ray Johnson asks that you contact him prior to any use of his copyrighted drawings in your publications. Ray can be reached at [redacted] or via e-mail at: [redacted]

Wintering NiCds: To be safe, Nickel Cadmium batteries should be removed from transmitters (and boats too, I suppose) to prevent damage in the event of cell failure and possible leakage. I must confess, I don't do this and, knock-on-wood, have had no problems in over ten years of NiCd use.

Cool storage is desirable. The reason is that most cell failure is a result of separator oxidation. (separators keep the plates from touching and shorting, causing cell leakage). Separator oxidation doubles for every 10°C temperature increase. Storing in the refrigerator is desirable, if you can get a space allocation somewhere behind the lettuce, but freezer storage is too cool. Actually, temperatures below 74°F are quite acceptable. I usually store my batteries in a corner of the basement, against an outside wall, near the floor, probably around 60-65°.

It doesn't matter if you put 'em away fully charged, or not. They'll self-discharge over time anyway. (Storage with a shorting device attached, as done by RC car enthusiasts, is not recommended). The voltage of a cell with a bad separator will drop to zero over the winter months as evidenced by a battery voltage, come spring, of less than 1 volt per cell prior to recharge. Under no load, good cells will indicate 1.1 volts, or more after storage. Toss (recycle) any bad cell(s) and make up a pack with the remainder which will be used in a non-critical purpose (lighting, etc.)...because, all cells within a pack tend to fail after about the same amount of use, abuse and/or age.

If you find a dead cell, check for leakage, usually around the negative pole of the cell. The lost electrolyte tends to migrate up the negative wire (inside the insulation) and cause additional failure later as the wire corrodes away. This is commonly known as "black wire disease". To be on the safe side, if you find leakage, replace the cell and its connected wiring.

Finally, be aware that NiCds will not perform to their highest level after long-term storage...usually not a problem unless you want to operate your transmitter for three hours on your first outing. Incidentally, the first charge cycle after storage should not be a "fast charge". Use the normal C/10 rate (e.g. 100mA for a 1,000mAh pack, 50mA for transmitter and receiver packs) to help equalize cells that discharge unevenly over the winter.

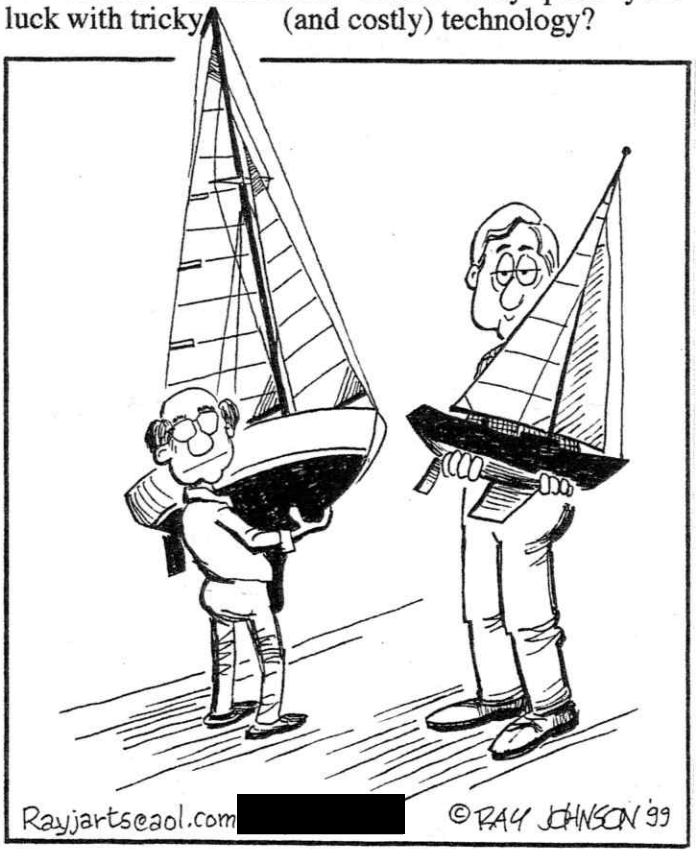
Fast electric guys should cycle their batteries a couple of times if they want to win the first time out in the new season. Cycling the batteries "on the water" is okay, but don't expect top performance until they've been charged-up and run-down a couple of times.

Note that Cadmium, a heavy metal, should not be disposed of in the trash. Recycle! Most local Snyder Drug and Lund's stores have battery recycling bins.

3,000 mAh: Have you noticed the hype in the modeling press regarding the new, Panasonic 3,000mAh NiMH cells? Keep the following in mind if you intend to give them a try. Charging is tricky. Never charge them at a rate exceeding 1C, that is, don't use a charge rate in excess of 3 Amps on the 3,000s. Also, be mindful that chargers designed for NiMH charging can be used to charge NiCds, but the reverse is not necessarily so. You may need a new charger. Incidentally, Astro claims that their 110D and 112D chargers "work fine" on NiMH batteries.

The principal concern while charging NiMH batteries is heat. Battery temperature starts to rise immediately when charging commences. As peak charge is approached using a charge rate of 1C, cell temperature approaches the maximum allowable, according to Panasonic. Pack temperature continues to rise after charger cut-off to near 150°F, the design limit. At that point, you have a fully charged battery that is too hot to hold in your bare hand, that requires a cooling period of forty five minutes or longer before you can use it. Not a "good thing"!

Be aware that these new cells have not been tested by the manufacturer at discharge rates above 30 Amps. so, unlimited type fast electrics, which can easily exceed that value, may ruin the cells in short order. I think, in the near term, I'd watch and wait for a little while before laying out sixty or seventy bucks for a seven cell pack. Over many years of use, fast charge NiCds have shown themselves to be able to withstand considerable abuse. Why push your luck with tricky (and costly) technology?



October Meeting Notice:

(Third Tuesday of the Month)

Tuesday, October 19th

7:00 P.M.

(Board Meeting at 6:30)

Centennial Lakes

Centrum Building

Commodore:	Dale Johnson	[redacted]
Vice Commodore	Kirk Brust	
Vice Commodore	Doug Campbell	
Vice Commodore	Jeff McCabe	
Vice Commodore	Doug Person	
Vice Commodore	Alex Raupp	
Treasurer	Gary Phillips	
Newsletter Editor	Jim Smith	[redacted]
Web Page:	www.emyc.org	

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First Class