



# San Diego Ship Modelers' Guild

2960 Chicago Street, San Diego, Calif. 92117

Volume 13

Number 3

**March Meeting: Friday, March 17, 1989**

**7:30 Social - 8:00 Meeting**

**Orlop Deck of the *Star of India***

**Bring a model !**

## **Notes from the Feb. meeting**

Bob Crawford announced that volunteers are still required to man the museum model shop on the 2nd and 4th Saturdays of the month and on any Sunday.

Doug McFarland requested a volunteer to coordinate the joint picnic suggested with the Maritime Museum. Last years event, held at the model yacht basin, provided a forum for guild members to show off their models and familiarize museum members with our hobby, as well as to meet members of the museum staff and museum members at large, all of whom have at least some level of interest in ships and the sea. It was not only a useful sharing of interests, but a fun event as well. It is also a privilege for the Guild to be held in such high regard by the museum. Hopefully a volunteer will step forward, so that this opportunity will not be lost.

Additional discussions were held regarding the continuation of the "Modeler of the Quarter" program, in which a member would be selected to display his work in a special display case aboard the *Berkely*. The selected member would also be written up in the newsletter. John Turner has agreed to write the biographical notes for the newsletter, but a suitable display case has yet to be located. Anyone who has a lead on such a case, preferably a rather large one, to accomodate more than one model, or perhaps a model up to six feet in length, should contact Bob Crawford at the Museum.

Ralph Arruda provided an update on the Chollas Lake regatta, and also brought in the remnants of a once very impressive trophy, that had been damaged in transit on its way to be engraved. The trophy is a very large, silver cup or bowl, mounted on a pedestal base. The pedestal supporting the cup on the base was broken. Ralph agreed to either donate the trophy to the guild, if someone would volunteer to repair it; or alternatively, in a solemn ceremony after the meeting, to commit it to the deep, just off the stern of the *Star*. Eventually, Art Aydelotte agreed to attempt repairs (proving once again that there's a sucker born every minute!). Although it is still unclear as to what purpose the trophy will be put if Art is successful in repairing it, a perpetual trophy is one possibility.

Bob Wright provided additional details on the museums tour of Great Britain, which will be from Oct. 2nd through the 16th, 1989. Further details are provided elsewhere in the newsletter.

## Models present

Dan Herrscher brought in a two cylinder, horizontal steam engine which he plans to install in a paddle wheel steam boat.

Doug McFarland brought in his beautiful model of *Hotspur*, which, to the uninitiated, appears to be complete, but to which Doug continues to add minute details.

## Program

Albert L'Heureux described his "once in a life time opportunity" to go to sea aboard a U.S. Navy nuclear submarine. Albert was one of only a handful of civilians to be extended this opportunity. His excitement in describing the cruise was evidence enough that Albert took full advantage of this rare opportunity.

As a second part of his presentation, Albert presented a workshop on how to prepare a photetching master. As a professional graphic artist, Albert is an expert in this field and a very valuable asset to the guild.

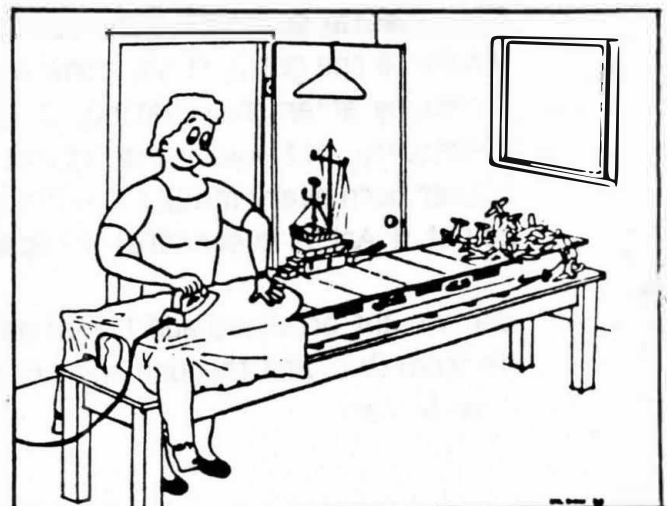
## Hint of the month

The following hint is one which your editor stumbled across quite by accident. One task that I had been having some difficulty with was the painting of the design on the shuffleboard courts for my model of *N.S. Savannah*. In 1/96 scale these designs are quite small and rather intricate. My initial attempt was to use friskett film as a masking material. The design was cut out of a piece of friskett film; the film applied to the surface to be painted; and the design applied with spray paint. This process is much the same as using masking tape, but the friskett film gives greater control and hence can be used to provide greater detail. Unfortunately it did not work well for me. At first the paint was too thick and peeled off with the friskett film when the film was removed. Thinning the paint resulted in leakage under the film. Amid rising frustration I noticed that the paint adhered very uniformly and very well to the friskett film itself. The film could then be very precisely cut with a razor, or even a sharp pair of scissors. In that way the desired design could be made from the film, and the adhesive on the back of the film allowed it then to be stuck on the desired surface. Finally the design was over-sprayed with a clear sealer coat to make it permanent, and Eurika, the job was done. Admittedly, a rather unorthodox method of using friskett film, but then, "Any old port in a storm".

**HUH?** Bob Ross recently purchased a radio controlled toy speedboat (made in Korea) in order to use the RC equipment from it in a model of navy personnel boat that he is building. While examining the instructions included with the toy boat, Bob found this useful bit of advice regarding proper operation, and we quote: "Operate only on the water. Do not allow the boat to get wet!"

## **SHOW & TELL**

**by Nilson**





# TRAVEL PLANNERS

## MARITIME MUSEUM TOUR OF GREAT BRITAIN

OCTOBER 2, 1989 TO OCTOBER 16, 1989

- OCTOBER 2 DEPART SAN DIEGO VIA BRITISH AIRWAYS
- OCTOBER 3 AFTERNOON ARRIVAL LONDON, GATWICK. TRANSFER TO ROYAL COURT HOTEL.
- OCTOBER 4 FULL DAY EXCURSION TO GREENWICH, INCLUDING ONE WAY THAMES BOAT TRIP.
- OCTOBER 5 MORNING PANORAMIC TOUR OF LONDON'S WEST END, INCLUDING CHANGING OF THE GUARD CEREMONY AND VISIT TO CHURCHILL'S CABINET WAR ROOMS.
- OCTOBER 6 MORNING DEPARTURE BY PRIVATE MOTOR COACH FOR YORK, ONE OF THE MOST HISTORIC OF ENGLISH CITIES. OF PARTICULAR INTEREST TO OUR GROUP WILL BE A VISIT TO THE JORVIK VIKING CENTER AND THE NATIONAL RAILWAY MUSEUM.
- OCTOBER 7 LATE MORNING DEPARTURE FOR HEYSHAM, FERRY CROSSING TO ISLE OF MAN.
- OCTOBER 8 FULL DAY OF SIGHTSEEING ON THE ISLE OF MAN, INCLUDING RAMSEY WHERE THE STAR OF INDIA WAS BUILT.
- OCTOBER 9 MORNING FERRY DOUGLAS TO HEYSHAM, AND ON TO THE BEAUTIFUL COTSWOLDS.
- OCTOBER 10 LEISURELY DRIVE THROUGH CHARMING COTSWOLD VILLAGES BRINGS US TO BRISTOL AND A HIGHLIGHT VISIT TO THE SS GREAT BRITAIN, THE SHIP THAT REVOLUTIONIZED NAVAL ARCHITECTURE AND OCEAN TRADE.
- OCTOBER 11 ON TO EXETER WITH ITS FAMOUS MARITIME MUSEUM, ONE OF THE MOST UNIQUE COLLECTIONS OF SAILING AND STEAM-POWERED CRAFT ANYWHERE IN THE WORLD.
- OCTOBER 12 DAY EXCURSION TO PLYMOUTH WITH VISITS TO BUCKLAND WHITE HART ABBEY (SIR RICHARD GRENVILLE AND SIR FRANCIS DRAKE) AND THE BARBICAN CRAFTS CENTRE.
- OCTOBER 13 A DETOUR TO STONEHENGE IS PLANNED TODAY ON OUR WAY TO PORTSMOUTH, HOME OF THE HMS VICTORY, LORD NELSON'S FLAG SHIP AND THE MARY ROSE, HENRY VIII'S FLAG SHIP, AND THE ROYAL NAVAL MUSEUM.
- OCTOBER 14 AFTERNOON DEPARTURE FOR LONDON.
- OCTOBER 15 FREE DAY IN LONDON.
- OCTOBER 16 RETURN TO SAN DIEGO. (Arrangements can be made for longer stay and independent return)

**Cruise Ship Schedules** Our resident Viking, Lew Johnson, passed along the following schedule for cruise ship visits to San Diego, (B Street Pier).

<u>Vessel Name</u>	<u>Line</u>	<u>ETA</u>	<u>ETD</u>
<i>Azure Seas</i>	Admiral Cruise Lines	02/28-0830	02/28-1530
<i>Southward</i>	Norwegian Caribbean Lines	03/01-0830	03/01-1700
<i>Bermuda Star</i>	Bermuda Star Lines	03/04-0800	03/04-1500
<i>Polaris</i>	Special Expeditions	03/05-0800	03/08-1300
<i>Azure Seas</i>	Admiral Cruise Lines	03/07-0830	03/07-1530
<i>Southward</i>	Norwegian Caribbean Lines	03/08-0830	03/08-1700
<i>Bermuda Star</i>	Bermuda Star Lines	03/11-0800	03/11-1500
<i>Azure Seas</i>	Admiral Cruise Lines	03/14-0830	03/14-1530
<i>Southward</i>	Norwegian Caribbean Lines	03/15-0830	03/15-1700
<i>Bermuda Star</i>	Bermuda Star Lines	03/18-0800	03/18-1500
<i>Azure Seas</i>	Admiral Cruise Lines	03/21-0830	03/21-1530
<i>Southward</i>	Norwegian Caribbean Lines	03/22-0830	03/22-1700
<i>Bermuda Star</i>	Bermuda Star Lines	03/25-0800	03/25-1500
<i>Azure Seas</i>	Admiral Cruise Lines	03/28-0830	03/28-1530
<i>Southward</i>	Norwegian Caribbean Lines	03/29-0830	03/29-1700
<i>Bermuda Star</i>	Bermuda Star Lines	04/01-0800	04/01-1500
<i>Azure Seas</i>	Admiral Cruise Lines	04/04-0830	04/09-1530
<i>Southward</i>	Norwegian Caribbean Lines	04/05-0830	04/05-1700
<i>Bermuda Star</i>	Bermuda Star Lines	04/08-0800	04/08-1500
<i>Azure Seas</i>	Admiral Cruise Lines	04/11-0830	04/11-1530
<i>Southward</i>	Norwegian Caribbean Lines	04/12-0830	04/12-1700
<i>Bermuda Star</i>	Bermuda Star Lines	04/15-0800	04/15-1500
<i>Azure Seas</i>	Admiral Cruise Lines	04/18-0830	04/18-1530
<i>Southward</i>	Norwegian Caribbean Lines	04/19-0830	04/19-1700
<i>Azure Seas</i>	Admiral Cruise Lines	04/25-0830	04/25-1530
<i>Southward</i>	Norwegian Caribbean Lines	04/26-0830	04/26-1700
<i>Azure Seas</i>	Admiral Cruise Lines	05/02-0830	05/02-1530

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The following information on super glues was submitted by a fellow guild member. Unfortunately, your editor, whose brain has a slow leak, can not now recall which member it was. Many thanks to whomever it was, and apologies for the oversight. As a note to future contributors, it would help insure that proper credit is given, if you would write your name on items submitted for publication.

# Secrets of the superglues

**H**ave you ever tried one of those super-fast cyanoacrylate glues only to be disappointed by a weak bond or even no bond at all? If so, you are not alone. When those tiny tubes of revolutionary adhesive came out several years back, I tried them dozens of times on all kinds of materials and finally gave up in disgust. Sometimes they worked perfectly, but more often they failed miserably. And everyone I've ever talked to has had the same experience.

It doesn't have to be that way. About two years ago I stumbled onto a brand of cyanoacrylate that really works. This stuff comes in three different viscosities, and the maker, Satellite City, Inc., also offers a spray-on catalyst, or cure accelerator. With this superglue I started getting consistently good results. I talked to experts, learned more about these glues, and began getting even better results. Recently I've found other brands of high-quality cyanoacrylates. I've also learned the reasons behind those early problems.

## Super discovery

Serendipity played a starring role in the discovery of superglue. During World War II, its inventor, Dr. Harry Coover (now president of Loctite Corp.'s new business development group), was a young chemist working at the Kodak Research Laboratories in Rochester, N.Y., looking for an optically clear plastic for gun sights. "I was working with some acrylate monomers that showed promise," he relates. "But everything they touched stuck to everything else. It was a severe pain."

1951 found Coover supervising a group of chemists at the research laboratories of Tennessee Eastman Co. Their mission: to find a tougher, more heat-resistant acrylate polymer for jet canopies. One of the group, Dr. Fred Joyner, spread a film of ethyl cyanoacrylate between a couple of prisms of a refractometer to check its refractive index. He made the measurement, but couldn't pry the prisms apart. "He came to me to report that he had ruined a seven hundred dollar instrument," Coover recalls. "It was then I suddenly realized that we had a unique adhesive." Years of work remained before cyanoacrylate became a viable product. Eastman 910, an industrial adhesive, was introduced in 1958.

Cyanoacrylates are reactive monomers that polymerize (chemically link) when pressed into a thin film—and only then. Under normal conditions "all surfaces have at least a monomolecular layer of water on them," Coover explains. "It's actually the water, or any weak base, that is the catalyst causing the polymerization."

The original cyanoacrylates were water-thin and good for gluing nonporous surfaces only: metal, glass, rubber, some plastics. Later, thickeners and other agents were added by some companies to adapt the adhesive for wood, leather, ceramics, and such.

All cyanoacrylates bond flesh well, as nearly every user knows. This generally causes no problem, for acetone (lacquer thinner or nail-polish remover) will dissolve the glue and free your flesh. But beware of tots bearing superglue. A medical journal recently described the case of a man who had to have a plug of cyanoacrylate surgically removed from his ear. It seems his three-year-old son squirted in a glob of glue while daddy slept.

## Trouble with superglue

The problems most people have with cyanoacrylates are tame by comparison: merely poor or failed bonds. Why does this happen?

There can be many reasons. Sometimes the trouble starts in the plant. Bob and Bill Hunter, a father and son who head Satellite City, Inc., voiced the same opinion: "Inferior drugstore cyanoacrylates often are of poor quality to begin with."

"Most are imported from Japan or Taiwan, where some producers don't spend enough time in refining," Bob Hunter explains.

"If the cyanoacrylate isn't properly prepared, it will have a short shelf life," Coover elaborates. So the makers of the low-quality stuff add excessive stabilizers to keep it from curing in the tube. "The result is poor performance," Coover goes on, and he explains why: "The stabilizers are acidic materials. If the concentration is too high, it will overcome the catalytic effect of the minute amount of moisture on the substrate and nothing will happen. A lot of the imported materials perform well," he adds, "but those sold at the low end of the market have given cyanoacrylates a bad name."

"Somebody buys the inferior stuff to do a specific job, bonding things that are important," Bill Hunter laments. "The glue fails, and he gets the impression that CA [cyanoacrylate adhesive] is just for fun."

But good CAs—used properly—are not just for fun. They are used every day by hundreds of different industries. Museums soak brittle bones and fossils with the glue; it helps bind them together and give them strength. Burt

Rutan used Satellite City adhesives extensively in the construction of his *Voyager*, the lightweight airplane that flew around the world [Sept. '84].

CAs can have a tensile strength of 4,000 to 5,000 psi, or roughly four times that of white oak. Says Bill Hunter: "For all practical purposes it's overkill."

## Glues to choose

Some of the products you buy in the tiny tubes at the hardware or drugstore are fine for the quick repair jobs they're made to do. (Coover claims that his company's Duro Quick Gel is "technically the best one out there. It has an additive that makes it, in my judgment, foolproof.")

But the tiny tubes are not convenient for me: I use CAs too profligately. And they are not economical: I buy cyanoacrylate in one-ounce bottles for around \$10. At my local drugstore, a tube containing 0.07 ounce costs \$2.50. That works out to nearly \$36 per ounce!

After working with Satellite City glues for over a year, I started running into other makers, all marketing CAs for the hobby trade, and like Satellite City, all offering various viscosities—in one- and two-ounce bottles—plus spray-on cure accelerators. Among these makers are Pacer Technology & Resources, Sig Manufacturing Co., PIC, and Carl Goldberg Models. Now (too late to be included in our photos) I've learned that 3M has joined the ranks. There may be others.

I tried some of these products around the shop, and for my purposes, they seemed to work as well as Satellite City products. Others have found significant differences though. When *Scale Radio-Control Modeler Magazine* tested the tensile strength of two cyanoacrylates for a piece it ran in its January-February 1987 issue, Satellite City's Hot Stuff came out on top, "... almost two times stronger on average than the brand with which it was compared," according to the article. In that test fiberglass circuit board was glued to itself. Fiberglass was chosen because it's a difficult test material: smooth, nonporous, and strong enough not to fail before the glue itself.

Nevertheless, when I spoke with the magazine's publisher, Norm Goyer, he pointed out that for most jobs around the home all the products named above serve him well too. Generally, the material being glued will fail before the bond does.

The moral of all this? For simple gluing jobs—involving wood, most plastics, rubber, etc.—any good CA should work. If you have a particularly difficult job—gluing metals or composite materials, for example—it may pay



to choose your glue more carefully. Check to see if it conforms to Military Spec MIL-A-46050-C. or ask the maker for test data on the actual materials you plan to glue.

### Use it right, too

Getting good results is more than a matter of buying a quality glue, however. You also need the right formula for the job you're doing, and you have to use it correctly. Rule one is this: Don't expect the water-thin cyanoacrylates to do every job. (Most drugstore brands, unless the tube says otherwise, will be this type.)

"With CAs," notes Tom Nightingale of Pacer Technology & Resources, "the gap-filling capacity is directly related to viscosity." You use the watery versions on parts that are smooth, tight-fitting, and relatively nonporous. These glues set fast; so when gluing a joint you must assemble the parts dry, then apply the adhesive around the edges of the seam. It wicks deep into the joint by capillary action and cures in seconds.

Because these CAs are so thin, they will not wick into loose joints, and they won't bridge gaps. They're not much good on porous materials either. They get soaked up before they can wick throughout the bond area.

That's where the higher-viscosity formulas come in. Makers offer medium viscosities (like syrup) and thick glues (like a mixed epoxy). These are thick enough to bridge small gaps and to resist being sucked out of the joint. You apply them to the surfaces first, then assemble the joint. Consequently they have slower cure rates. The thickest usually take about a minute to cure.

But if you are using them on sloppy joints with wide gaps to fill, cure time may extend to minutes or even hours. This is one case where the spray-on cure accelerators are indispensable. Just mist a light coat on one of the mating surfaces. It will dry almost instantly, but remain active for several minutes. Apply your glue to the other part, then assemble the joint. The accelerator will normally kick the glue over in seconds.

In addition to different viscosities, Pacer makes special formulas such as Poly-Zap for bonding difficult plastics like polycarbonate and polyamide nylon, and Plasti-Zap which contains ingredients to overcome the mold-release agents often found on the surfaces of plastic model parts.

If you have specialized needs—and need large quantities—you might want to investigate the industrial lines of cyanoacrylates. Says Nightingale: "We have over one hundred different formulations and materials in the CA family."

For use around the shop and home, however, the three basic viscosities I've mentioned should be adequate. In fact, I find I don't have much use for the

medium-viscosity materials. I either want the fast set and excellent wicking of the thin formulas, or I want the gap-filling ability and the longer assembly times of the thick formulas.

### Sticky but tricky

Cyanoacrylates are odd beasts. So sometimes, despite your best efforts, you may still have problems with them. Common causes are:

- Poor fit. Even though thick formulas can fill small gaps, the better the fit, the better the bond. Always check mating surfaces before bonding. Smooth them up and remove any burrs or rough spots. Kickers help, but it's best to aim for a good fit in the first place.

- Too much glue. Never use more than necessary. According to Bill Hunter, "Optimum results are obtained with the minimum quantity of adhesive required to fill the joint. In general, one free-falling drop spreads over one square inch." It takes some experience to know how much glue is enough, so it's a good idea to experiment on scraps of your material—making joints, then tearing them apart to check coverage.

- Premature curing. Do not spread your glue before you assemble the parts. This encourages it to start curing. Instead, lay down a serpentine bead, then assemble the parts, letting pressure squeeze the bead out into a thin film.

- Premature stressing. Although CAs cure in a matter of seconds, this initial cure is only about 20 percent of full strength, which is only reached after 8 to 24 hours. Give the bond ample time to cure before subjecting it to much stress.

- Surface contamination. CAs are more tolerant of this than most glues, but they still work best on clean surfaces. Waxes, oils, and excess moisture can act as barriers between glue and substrate, and this can lower bond strength.

- Acidic surfaces. Since alkalinity triggers the cure, it's not surprising that acidity inhibits it. To solve this problem, you can use a kicker on one of the mating surfaces. These are essentially organic amines that "supply a heavy dose of alkalinity," as Bill Hunter puts it.

- Low shelf life. The Hunters recommend storing unopened bottles of CA in a freezer. Frozen, the adhesive should last at least two years. Once the bottle is opened, however, shelf life drops to about six months. Moisture in the air gets in, starts the curing process, and the glue gets progressively thicker until it is too gummy to use. They do not recommend refrigerating or freezing bottles that have been opened.

- Cold. Users who store CA in the fridge or freezer may take it out and use it cold. They apply it as usual, and

the joint simply falls apart. What happened? "The polymerization is not terribly sensitive to temperature," explains Coover, "but when the glue is cold it gets thicker, and it may not get squeezed into a thin enough film to expose it adequately to the surface moisture it needs to catalyze."

### Pet projects

Although CAs will do just about any job other glues can handle, most often I find myself using them in unusual ways.

I use them almost daily in the home and shop for dozens of little odd jobs. The most common is tacking. A drop or two will tack a workpiece, a hinge, or a curtain-rod bracket in place so it can't skid out of position while I nail or screw it down. If work tends to slide around on my drill-press table, I tack it down.

To whip the end of a rope I soak it with glue and mist it with kicker. If I need to drive a screw in a tight or awkward spot, I tack the screw to the tip of my screwdriver so I can work one-handed. The photos and captions show more applications.

Bill Hunter has used CA as a wood finish on both his kitchen table and the walnut instrument panel of his Sunbeam Tiger. His technique? Dribble Hot Stuff (Satellite City's thin formula) on the wood, spread it around with a business card, then mist lightly with kicker. Sand lightly with fine paper on a block. Then repeat, applying two or three coats. You can get a matte finish by rubbing with steel wool, or use polishing compound to achieve a high gloss. A complete multi-coat job takes less than half a day.

Using CA with kicker opens up a realm of possibilities. You can lay a thick bead of the viscous stuff and spray kicker over it to create a neat fillet along a seam. By alternately applying glue and kicker you can build up acrylic plastic to any shape you like. A fishing fanatic. I use this technique to build plastic-bodied flies.

The only way you'll ever realize the full potential of CAs is to buy some and have them on hand. I'd suggest a bottle of the thin stuff, a bottle of one of the thickest formulations, and a spray bottle of kicker.

You aren't likely to run into one- or two-ounce bottles of CA in the local drugstore. I've seen these products in hobby shops (model makers love it), but I usually turn to mail-order catalogs aimed at model makers and woodworkers. If you have special needs or questions, or have trouble locating the adhesive you want, contact the manufacturers directly. 13

**SOME MANUFACTURERS OF SUPERGLUE**  
Carl Goldberg Models, 4734 W. Chicago Ave., Chicago IL 60651. Loctite Corp., 4450 Cranwood Ct., Cleveland OH 44128. Pacer Technology & Resources, 1600 Dell Ave., Campbell CA 95008. PIC, 943 North Shoreline Blvd., Mountain View CA 94043. Satellite City, Box 836, Simi Valley CA 93062. Sig Manufacturing Co. Inc., 417 S. Front St., Monroezuma IA 50171. 3M Co., 3M Center, St. Paul MN 55144

Comments on completing SDSMG member specification sheet.

MEMBER ID NBR: Leave blank, a number will be assigned at time of initial data entry. This number will be used as a key to entering and retrieving data for each member of the guild. Your member id number will appear on a master roster, and you will use this number to add, modify, or delete information from the database.

{nn} This symbol indicates the maximum number of characters that can be used to provide the requested information. ie: HULL NUMBER {15} indicates that you have 15 characters of information that you may use for a ships hull number.

Fill out the name and address portion of the form, business phone is optional (your discretion).

=> BE SURE TO INCLUDE YOUR R/C FREQUENCY, a list will be generated with this information.

PLEASE include PAST models you have done as well as CURRENT completions and WORK IN PROCESS.

Under the headings Category, Power, Method, and Hull insert the appropriate 2 digit numerical code. I have left gaps so that additional breakdowns can be inserted.

Please include scale, I will fit it in and make it useful somehow.

Be sure to include special talents and skills at the bottom of the form.

On the reverse side there is a Plans section and a books section to fill out also,

If you have any questions, please feel free to call me at home. 619-275-2809

RUSS LLOYD

SAN DIEGO SHIP MODELERS GUILD - MEMBERS SPECIFICATION SHEET

==> MAIL CODED FORM TO: Russ Lloyd, 4711 Iroquois Ave., San Diego, CA 92117 Ph. 619-275-2809 <==

MEMBER ID NBR: \_\_\_\_\_ NAME: \_\_\_\_\_ | (32) PHONE: RES. \_\_\_\_-\_\_\_\_-\_\_\_\_ | (10)  
 ADDRESS1: \_\_\_\_\_ | (32) BUS. \_\_\_\_-\_\_\_\_-\_\_\_\_ | (10) (OPTIONAL)  
 ADDRESS2: \_\_\_\_\_ | (32)  
 ADDRESS3: \_\_\_\_\_ | (32)  
 CITY: \_\_\_\_\_ | (15) STATE \_\_ | (2) ZIP \_\_\_\_\_ | (9)

OCCUPATION: \_\_\_\_\_ | (32) \*\*\* YOUR R/C CHANNEL: \_\_\_\_\_ MHZ \*\*\* <== \* IMPORTANT

\*\*\*\*\* MODEL SECTION \*\*\*\*\*

SHIPS NAME(32)	COUNTRY OF ORIGIN(10)	HULL NUMBER(15)	CLASSIFICATION(24)	C A T E G O R Y	P O W E R	M E T H O D	H U L L T E C H N I Q U E	MANUFACTURER(15)	SCALE
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CLASSIFICATION (EXAMPLES)	CATEGORY	POWER	METHOD	HULL TECHNIQUE
BATTLESHIP, IOWA CLASS	10 COMMERCIAL	5 FREE SAIL	5 BASHED	5 FIBERGLAS
CRUISER, ATLANTA CLASS	20 MILITARY	50 R/C ELEC	10 BOTTLED	30 METAL
TUG	40 PERIOD	52 R/C GAS	30 KIT	40 PAPER
TRAWLER	50 PLEASURE	54 R/C SAIL	40 MODIFIED	50 PDF/POB
LINER	60 POWER	56 R/C STEAM	60 RESTORED	60 PLASTIC
FREIGHTER		70 RUBBER BAND	70 SCRATCH	70 SOLID/LIFT
BRIG		80 STATIC		
BRIGANTINE				
BARK				
SCHOONER				
SUBMARINE				
SIDE WHEELER				
MINE SWEEPER, ADMIRABLE CLASS				
CARRIER				
SUB CHASER				
PT, HIGGINS				
etc.				

Special talents or skills: \_\_\_\_\_





San Diego Ship Modelers Guild  
Doug Smay, Editor  
/redacted/



FRED FRANKS  
/redacted/

### San Diego Ship Modelers Guild Officers for 1989

Master  
Mate  
Purser  
Logkeeper  
Newsletter Editor  
Steering Committee

Doug McFarland /redacted/  
John Fluck /redacted/  
Bob Hanley /redacted/  
  
Doug Smay /redacted/  
Ed White /redacted/  
Bob Crawford /redacted/  
Ralph Aruda /redacted/  
Roy Nilson /redacted/

#### Schedule of Activities

Meetings - Third Friday of the month  
7:30 PM social, 8:00 PM  
meeting  
Static Workshops - Every other Tues.  
7:00 to 9:00 PM aboard  
the ferry Berkeley  
R/C Operations - Saturday mornings  
Model Yacht Pond  
Annual Regatta - Third weekend in  
June

#### Membership

Dues are \$10 annually

We strongly encourage all to join  
the San Diego Maritime Museum as  
an expression of appreciation for  
the facilities they provide us.