
## INTRODUCTION

Put on your odd hat, it's time to read an off the wall newsletter. I typed an article on the new popet valve systems, but Ronny sent me a better article on the same topic, so I will save my article for the April issue. A BIG thanks goo's out to the contributing authors, the pump article with its outstanding graphics is a gift from Ron Thibault. Stan contributed the fun article on the other Nats. Marty has been doing a lot for the hobby, including several verities of contributions for this issue. Milholand, Lief, Mike Torda, and of course, Dr Wolfgang are all examples of what makes this group great. THANKS!

Over the past 10 years allot of Captains have retired from the sport, only to return. Foster, Stan, Mike Deskins, and others are examples. Camaratii is apparently back! Welcome back aboard Carl, now get to work! In a related vain, the "I" in IR/CWCC is stiring the waters of combat, that's right, Captain Peter Futcheck called me, just to chat (and order HB). His new address is Flat 4 #10, Clement St Rushcutters Bay, NSW 2011, Australia.

# Nats to U!

by Marty Hayes, site host

Well, at long last I can announce that this years NATS will be held at Green Briar State Park near Hagerstown, Maryland. This is located in the narrow western section of Maryland which might be called a pan handle, butis not. The area is green woods, and small mountains, located near some of the most bloodiest battle areas of the Civil War (appropriate?) Hagerstown is a small to medium sized town with some historical significance and Gettysburg is only a short distance away. The metropolitan areas of Baltimore and Washington are about 1.5 hours drive away for wives and Wed. sightseers.

Green Briar State Park is very well kept and supports camping, fishing and swimming. There are dozens of hiking trails, picnic areas, paddle boats, canoes and a lakeside beach area that we or any of our families can use. The park usually charges $2 per car per day for admission but we have made arrangements to provide free entry to anyone holding an IR/CWCC membership card. There is on-site RV camping available at the park and they take reservations starting in the Spring. The camping sites provide electrical hookups, but not water and sewage (there is a community washroom). We can coordinate such arrangements with anyone who wants to bring an RV.

The lake itself is quite large and we will be using a shallow portion of the lake that is easily secured and is still quite large. The bottom looks to be some sort of sandy gravel or stone. Moss, algae and shoreline weeds should not be a problem at all, and the side chosen for the pit area is completely free of all lakeside vegetation. We will be holding the Northeast Regional there in May and will give a final lake report after that event.

The pit area will be covered by one or more large tents, with plenty of room for additional smaller tents. There are no large trees in that area for shade, so please bring a tent for shade if you have it. We will be renting larger tents as well, but it is better to have too much shade, then not enough. Since the park is secured at night, we can leave everything set up throughout the week. We also plan on renting some tables/chairs if the price isn't too bad and we'll let you know about that in the next message.

There are many hotels located nearby but we have chosen Days Inn as the official hotel for the 1997 Nats. ($45.00 nite/double occupancy) Their phone number is 301-739-9050. When you call mention "The Model Boating Group" to get the group discount. Also be sure to mention that you want Ground Floor Rooms! Our contract has been negotiated with Cathy Zombro (if there is a problem getting the discounted room rate). There are no large airports located nearby, so if you are flying in, I suggest BWI (Baltimore) and a rental car.

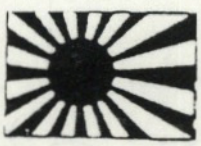
The cost of Nats 1997 will be $120.00 (based upon 30 combatants attending there is the chance of a rebate if more than 30 people attend and our expenses fall within the budget. A late fee of $20.00 will be levied after May 31st. due to the requirements of re-negotiating some of the supply contracts after that date.

What you get for your money is:

- Trophies
- Lunch at the lake (Monday, Tuesday, Thursday, Friday)
- Banquet on Friday nite, and meeting room for rules meeting
- Cool drinks at the lake
- Sunday Captains meeting room
- CO2 (included in the Nats fee this year!)
- Park entrance fees

Not included:

- Breakfast, Lunch (on Wednesday), Dinner (except Friday)



So get your ships all shipshape and set your course for Nats 97 at Hagerstown, Md.

Northeast Spring Regionals will be held at the same location on May 17,18 -- if you can join us, we will be staying at the same hotel.

# BATTLE ANNOUNCEMENT

Battle For Hampton Lake.
By Mike Torda

As some of you may know I am the Dining Room Manager here at High Hampton Inn and Country Club. Unfortunately, our season here at High Hampton coincides with the battling season so that I usually miss most of the battles. To ensure that I am able to attend at least one battle this year, I am going to hold an unsanctioned battle here over the weekend of April 12-14. I have arranged for a special room rate for the IR/CWCC for the weekend of April 12-14. The rates are $59.00 per person, double occupancy and $69.00 per person single occupancy (normal rates are $79 and $89). These rates apply for the evenings of Friday April 12 and Saturday April 13. These rates include room with private bath and all three meals in our main dining room. When calling for reservations mention that you are with the Hullbusters group for the special room rate. Our reservations phone number is 1-800-334-2551. You can contact me here at the Inn at 1-704-743-2411.

I will have the back portion of the lake reserved for our use that weekend. This two or three acre area has an average depth of about two feet (five foot in spots) and will be fenced off by the floating fence design that will appear elsewhere in this issue. I will also have a paddlewheel boat or two available for use in boat retrieval as it can still be cold here in early April.

Please bring your whole family as there are many things to do here in the beautiful blue ridge mountains. I look forward to seeing many of you here in April.

# Pump Construction

By Ron Thibault

I build my pumps using two different methods. The first is basically a Swampworks type using a pvc pipe cap. A lathe or accurate drill template is needed to properly center the motor shaft and mounting holes. This could be done with accurate measurement, but I would buy a kit from Steve if you lack the above. The second type requires only a drillpress or steady hand, a Forstner bit (looks sort of like a hole saw) the diameter you want the pump housing hole to be, and a propane soldering torch as far as "expensive" tools goes. I use a 1" bit, but only because the pump placement in my Battleship limits the external case size. Use a 1 1/8 or 1 1/4 if you have the room.

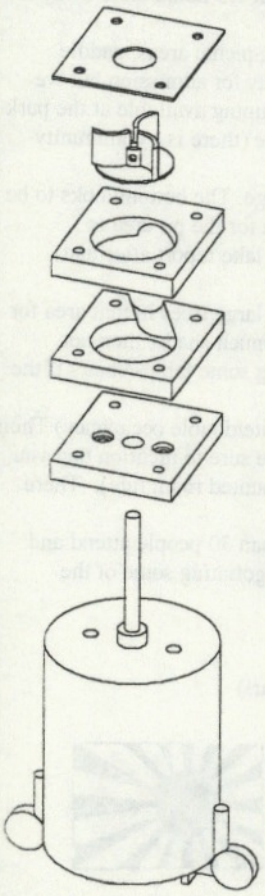


Figure 1

The Swampworks pumps of course can be purchased. Even if you plan to built this type, having a kit available to reference while building is handy. These pumps use a four bladed impeller. They have good output with a lower drag than the built up type. The other type though has a higher output, with consequently higher motor loads. They are thus a tradeoff between output and battery capacity.

For a small ship I use either the Swampworks type 1 ¼" impeller with four blades or a built-up type with a 1" impeller and three blades. For larger ships a 1" or larger with four blades and a larger motor are called for. I believe Swampworks now also offers a larger pump.

For the built up type (see Figure 1) you need three pieces of 1/4" Plexiglas all the same size cut to the following dimensions: 3/4" longer than the pump impeller hole and 1/2" wider than the hole. Stack these on top of each other and drill four holes for bolts (#6 or #8), one in each corner. Before drilling though, make sure that the bolt holes will fall outside the motor case once assembled! The bolts should be 2 nut thickness' longer than the three layers, plus a little extra for the brass bottom cover. We will call these pieces layers 1, 2, & 3. Piece one will be the bottom-most piece, two the middle piece, and three the top/motor mount. Bolt the pieces together and mark for the hole center such that the edges of the hole will be 1/4" from the two sides and 1/4" from one side of the long end (1/2" from the other). Cut a grove down one side of the housing perpendicular to the layers, and off to one end. This will greatly aid in putting everything back together in the proper orientation during subsequent work.

Carefully drill out the hole (through layers 1 & 2) with the Forstner bit so that it just cuts through the two layers. It should leave a small hole/mark in the third (layer 3) from the small center spur of the bit. Drill a hole in the third layer with a drill just slightly smaller or exactly the size of the bearing housing on the motor shaft end of the motor. If the hole is small CAREFULLY use a round file to open it up to size, being sure to check frequently that it is still centered. It is not critical that it be perfectly centered, but the closer it is to center the better. Once the motor fits snugly mark and drill to match the two (generally) mounting holes. If the motor has three mounting holes drill three holes, if four mounting holes just use two opposing holes for mounts.

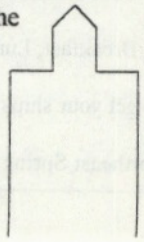


Figure 2

Countersink these holes so that the screw heads are below the surface.

The hardware stores sell "bullet" point drills , these are perfect for countersinking. Figure 2 is a somewhat crude silhouette of one of this type of drill. The ¼" size is good for most of the mounting screws we would use. You first drill for the mounting holes with a regular drill then use the "bullet" drill with the small tip in the hole to drill for the head clearance. If the tip of the bullet drill is smaller than the screw size, first drill with a drill the size of the tip, countersink for the head, and then drill for the screw size. Take a triangular file and cut two slight groves on opposite sides of the bearing mount hole. These are to let trapped air out so that the pump will prime. Don't make them too large as you will be loosing water through these that otherwise would be going outside the ship. About 1/32 to 3/64ths deep should do. Mount the motor using enough washers so that the bearing housing is below the surface on the opposite side. Use stainless steel bolts or sheet metal screws, depending on whether the motor mounts are taped. Be sure that you have mounted the motor on the proper side!!

Now we need to drill the outlet hole. This needs to go through the 1/2" end of the housing in the side of the pump hole. It is centered on the seam between layers 1 & 2 parallel to the seam (horizontally with the pump laid in the normal position). It should be at about a 30 degree angle to the outside edge (see Figures 1 &3). When it penetrates into the pump hole the outside edge should fall on the edge of the hole and be tangent to the circumference. The hole should be 3/8" in diameter. This is for the outlet and should allow for a straight path for the water to exit. The reason we drilled at 30 degrees was to avoid the bolt hole. Bend a piece of 3/8" copper tubing 90 deg. and file one end so that when inserted in the outlet hole it does not enter the pump hole. The opposite end should end up facing up when the housing is assembled (the tubing to the hull outlet attaches here). Using sheet brass cut and fit a cover for the bottom of the housing. Drill a 1/2" hole centered on the pump hole as an inlet. That completes the basic pump housing.

I neglected to mention motor choice. For small ships (cruisers and small battlecruisers) a small Dumas 6volt, Swampworks small motor, or similar is what I would use. The Dumas motors seem to have fallen into disfavor, I understand that the quality has fallen. It if running well is the best I have found in this size for 6 volt operation. The Swampworks motor is more accustomed to 7.2 or 9.6 volts. At 6 volts it just does not run fast enough. If anyone knows of a better motor for this size, please inform us about it, and where to purchase it! Also an excellent motor was the old 380 motor, it screamed! I have not seen them lately and they may no longer be made, but again please tell us if you know a source!! The Dumas motors may still be useful, but a test will have to be run. I will see if I can get a couple and try them. For a larger ship the 540 or 550 case motors are a good choice. They are almost identical in general construction, but the 550 is slightly longer and runs a little faster. The choice would hinge on the clearance you need inside the ship. Use the 550 if you have the room. If any of the motors have a brass bushing on the motor shaft, you may want to remove it. The smaller the shaft the more area you have for the impeller.

On a side note, I used a piece of Plexiglas to make a drill template for drilling the mounting holes. I drilled a 1/8" hole for the motor shaft and then carefully located and drilled holes to match the 540/550 and Dumas motors (two different areas on the piece. I then drilled the motor mount holes 1/32nd larger and pressed in a short piece of brass tubing. The tubing acts as a bushing to keep from tearing up the hole as you drill. You use the jig by first drilling the motor shaft hole with a 1/8th drill. Then you stick a spare 1/8 drill in the hole or a 1/8th piece of rod. Slide the jig over the rod and rotate it to the position you want the mounting holes to be. Drill out the mounting holes, remove the jig, and drill the motor shaft hole to the desired size.

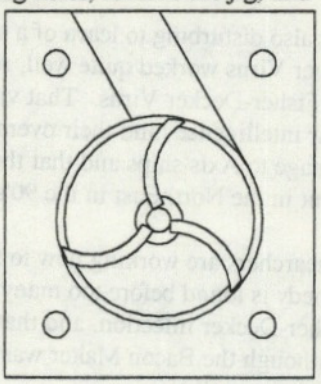
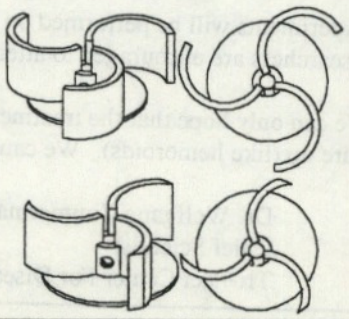


**Figure 3**

In any case, whatever the motor it should be broken in before the first battle. The procedure that I use to break a motor in is to run it at a lower voltage, to allow the brushes to conform to the commutator. Connect the motor to a 3v source (battery or power supply) and run it for 24 to 48 hours (obviously a power supply is preferred). Then run it for 12 hours in the other direction. Now connect it to a 6v battery and dunk it in a bucket of water. If it runs smoothly, it should be all right. If this fails try running it in some more. If it still fails discard it. At least it is better (if not cheaper) to find this out before your ship acquires a large number of new "leaks". I use this break-in for my drive motors also.

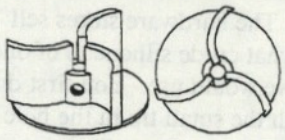
The impeller design is similar in both the small ship and large ship sizes, the only differences would be diameter and number of blades (3 small motor, 4 large motor). As I said earlier, I use 1" for my Battleship due to size limits (yes even in a Battleship). If you use the Swampworks type you already are using 1 1/4" impeller anyway. I use this in my present cruiser as the round shape fit better in the location desired. I have used the Plexiglas type with a 1" impeller in past times and was satisfied (I gave them a away to needy rookies).



For the impeller you need a length of 3/4" or 1" copper pipe, a sturdy piece of brass plate, a setscrew collar to match the diameter of the motor shaft, and the silver solder you can buy at the local hobby or hardware store. This solder is not a "true" silver solder as used in brazing, but is stronger than regular solder. If you can get some brazing type silver solder use that, it is vastly stronger than the other solders. By the

way, with either type of silver solder, be careful to avoid getting the flux or the smoke fumes in your eyes, they use an acid bases flux! Drill a hole the size of the shaft in the brass sheet. Cut and file the brass sheet into a disk about 1/8" smaller than your pump housing hole, centered on this hole. It does not have to be perfect, but get real close. Using a tubing cutter, cut two or three rings from the copper pipe. They should be close to the inside depth of your pump housing, minus a little over 1/16th of an inch, after filing. As you cut each ring file the remaining pipe to remove the traces of the previous cut, leaving a flat edge. File the rings so that both edges are flat across the ends. Cut the rings in half lengthwise leaving two half round pieces. Place the collar on the brass sheet and trial place the copper pieces in place. Figure 4 shows the impeller in various stages of construction. You want one end of the copper at the collar and the other placed so that when the impeller is spun in the direction of the convex side the water will be thrown toward the outside of the disk (see Figures 3 and 4). For example, if the curve of the copper piece running from the center to the outside is curving in a clockwise direction, the disk should spin counterclockwise. Be sure that the copper is placed so that the water will be forced outward at all points on the length. This may sound complicated, but once you start placing pieces it will obvious. BE SURE THAT YOU BUILD

**Figure 4**



# Public Health Warning

The Axis Surgeon General has issued the following public health warning throughout the NorthEast region, as the result of recent disturbing discoveries:

Despite our best efforts over the last few years, we are dis-heartened about an increase in the Allied vermin population in the NorthEast. Specifically, a fresh crop of scurring, furry creatures has been detected in the southern part of the NorthEast region. Clearly, the warmer weather in Virginia this winter has resulted in a strain of vermin (given the names Ali Zinat and John Messere) that are growing quite rapidly.

The Virginia Vermin were considered benign when first detected, but recently they learned to float on the water and have been seen swimming around various ponds. There have also been reports of aggressive acts committed by the vermin. We encourage all Axis in the NorthEast region to contact the Tri-Pact Center For Disease Control whenever the vermin are sighted. Tri-Pact will dispatch an RV full of the latest extermination equipment, the Musashi-2000 Mobile Exterminator, with highly skilled operators to erradicate the problem vermin.

(NOTE: Four years ago, this office advised the Axis High Command to completely wipe out (or recruit) all traces of the Allieds in the NorthEast, in order to end the possibility of continued infection. Unfortunately, they opted for a "kinder-gentler" approach and left a few Allied vermin alive, which have evidently breeded a more violent offspring.)

It is also disturbing to learn of a strain of Allied Virus growing in the North-NorthEast as well. Whereas past innoculations for the Fisher Virus worked quite well, researchers at the Tri-Pact Center for Disease Control have just detected a weird mutation, known as the Fisher-Decker Virus. That virus exhibits a double-NC syndrome, causing an elevated ego in theaffected parties, while decreasing their intelligence (and their overall sex-appeal.) In their delusional state, the affected parties actually believe that they can cause damage to Axis ships and that they can re-kindle a winning Allied tradition in the NorthEast (FACT: The Allieds haven't won an event in the NorthEast in the 90's)

Researchers are working now to find cures for both the Virginia Vermin and the Fisher-Decker Virus and we can only hope that a remedy is found before too many innocent rookies are infected. It is believed that a massive dose of Musashi Medicine will curb the Fisher-Decker infection, and that just one Bacon Maker will be able to round up and completely control the Virginia Vermin. (Although the Bacon Maker was designed specifically to control Pig populations, it has been used successfully to hunt and kill vermin as well.)

Experiments will be performed on live specimens on May 17-18 in Maryland to test the effectiveness of the treatment. All researchers are encouraged to attend.

We can only hope that the treatment begins to show positive signs before the mid-summer season, when Allied symptoms typically flare up (like hemoroids). We can't allow Herr Fluegel to be exposed to such an unhealthy environment.

Dr. Wolfgang Zimmerman
Chief Scientist
Tri-Pact Center For Disease Control

## The Dallas Winter Micro-Mini-Marathon Nats

By Stan Watkins, (1/22/97)

**USA**

Greetings Combatants! Dateline Dallas, Texas, December 23, 1996-January 4, 1997. The BBs did fly in Palos Verdes lake in the Dallas suburb of Mesquite. This year (1996) Stan and Fluegel again repeated a tradition of battling on any reasonable weather days between Christmas and New years. The unseasonably warm weather allowed multiple sorties on 4 different days. It was all very much like the Battles between Stan Watkins' USS Wichita and D.W. Fluegels' DKM Scharnhorst in Beaumont, Texas nearly twenty years earlier (in late 1978). This time it was the USS Detroit vs. the DKM Scheer. Other ships making an appearance were Jarrett Dorough's USS Tennessee, Steven Watkins' USS Houston and Stan's old USS Salt Lake City. The Salt Lake City had been stationed in Dallas for many years . With the closing of the US Navy Base at Dallas due to downsizing, the Salt Lake City was redeployed to the Knoxville, TN base.

The First Battle Day, (December 21, 1996)

In the initial engagement the USS Detroit and the DKM Scheer met following the normal conflagration that is typical of the Dallas armed speed trials. The Detroit was running very slow (about 30 seconds in the 100 ft.). Speed was not vital, but the Scheer also had superior maneuverability and of course a full pump (compared to a half pump) and 125 BBs compared to 100. The unknown advantage that would outweigh all others was that the Scheer had fully charged batteries and the Detroit had almost dead batteries. The two stern gun cruisers were engaged in a test of patience to see who would finally crack and desert the running gunning (run like a Fluegel) tactics. Fluegel repeatedly was more aggressive and therefore lost points for this lack of patience. Fluegel did achieve a few hits. The Detroit's speed soon deteriorated to zero and the pump also quite working signaling dead batteries. The sinking soon followed.

THE DISK TO SPIN IN THE RIGHT DIRECTION IN RELATION TO YOUR PUMP OUTLET as shown in Figure 3!. If you mess this up, chalk it up to experience and build another. Everyone has made this type of mistake at one time. so you are in good company. Cut a chunk out of the collar end of the copper so that it fits over the collar as far as the shaft hole. This will help to suck in the water. Now trim the outer end so that it has a little more than 1/8" extended past the disk, as shown in the second part of Figure 4. Be sure that the edge of each blade that sits on the disk is even and in contact the whole length. Also check that it stands at a right angle (not leaning to one side). Now clean all the pieces. Sand the disk surface that you will mount the pieces on, the edge of the collar that will contact the disk exposing the brass under the plating), and the edge of the copper blades. Clean them again.

Place the disk sanded side up on a fireproof surface (I use a brick). Place the collar over the hole, with the sanded brass side down, and position the copper fins. Make sure that a fin is not blocking the setscrew hole! Place a short piece of solder along the side of each fin and a couple across from each other by the collar. Carefully heat the assembly with a torch. Be careful the torch can blow over the fins. After the solder melts into the seams. let it sit for several minutes. if you try to move it to soon the fins will fall over. If when the solder melts you see that a seam needs more, carefully touch the area with more solder.

Now we need to fit the impeller to both the motor and the housing. Disassemble the three sections of the pump housing and slide the impeller onto the motor shaft, with the motor still installed on the pump section. The disk portion of course goes on the motor side. It should be as close as possible to the Plexiglas without touching. Tighten the set screw and recheck the clearance. The impeller will be slightly cocked do to the small clearance between the collar and shaft, this is OK. Now run the motor while holding the assembly upright and also inverted to insure that the impeller never contacts the housing. If the impeller blades are striking the housing go on to the first parts of the next section then come back once the blades trimmed a bit closer to the final size. Also hold the other two sections in position but to one side and sight over the top to insure that the impeller is shorter than the housing depth when installed. If the impeller is grossly too tall you can either try to extend the housing with another brass sheet, or build another impeller.

Now that the impeller clears the housing, we need to trim the blades to clear the side walls. Install the four assembly bolts and run the nuts down to hold them in position on the motor mount piece. Now slide the next section on over the bolts, trapping the impeller. Mark the top of the blades using the cutout as a guide. Remove the section and impeller, trim the blades, reinstall the impeller, and check the clearance to the motor section again. Slide the cutout section back on, it should now be able to at least gently force the section on. If you still can't get it on repeat the marking and trimming. Assuming that it went on one or more of the blades will probably still be hitting. Note the blades that hit, remove the cutout section and file the offending blades. Repeat until the section slides on.

Now reassemble all the sections and tighten the assembly screws. Try to rotate the impeller, if any blades now strike, trim them. We are trying for the closest fit we can get without interference. You can also try shifting the sections slightly if you are real close. When you are satisfied run the pump and check the clearance in several different orientations.

Figure 4 shows the impeller in the three main stages of construction. The top view shows the initial setup with the full length blades. The blades are shown this size to show you their orientation in relation to the other parts. In actual construction start with them cut to a length more like that of the middle view. Precutting them to this length makes it easier to balance them during soldering. The middle view is after initial trimming and the bottom view is of a

Fluegel was especially accommodating at triangulating the sink position. This was probably the deepest coldest wading that Stan had ever done. The water was slightly deeper than 4 feet and there was about a foot of very soft mud at the bottom. Fluegel loaned Stan his Scheer service board as a buoyancy aid after a first unsuccessful wading attempt. After a few minutes of wading on the second attempt, Fluegel got ready to wade and help in the recovery efforts. Fluegel was very thankful when Stan finally lifted the Detroit from the lake. If memory serves me, the actual hits by the Scheer were 3 and 0 for the Detroit. So it was a clear victory for the Scheer, but based on poor battery charge practice on the Detroit's part.

Salvage Efforts and Lessons Learned at the Yard

Following this effort Stan noted that the only new Futaba servo (rudder) in the Detroit, had destroyed itself following exposure to water. Since the Detroit does not have any watertight electronics boxes, the new water fragile servos are not acceptable. Stan performed a test of water fragility of a new Tower hobby servo. On dipping the new servo into a cup of water while under radio control. After a few seconds of submersion, the servo lost control. On removal of the servo from the water and drying out thoroughly the servo remained unfunctional. Since Stan then substituted an old less sensitive servo from the old Salt Lake City. The same water fragility test revealed that the old servo would operate again after drying out. These old servos have proven to be able to survive getting wet on numerous occasions. Of the three servos tested for the Detroit's demanding environment, the only the old servos are acceptable. It was believed that the speed problems were due to low batteries. Some wiring harness improvements were made and the batteries were charged and the Detroit was made ready for another battle. Stan noted that he had forgotten to bring the extra Nicads. This would limit the number of sorties per day. The battle requirements of facing another running gunning cruiser also dictated the elevation of the guns and accompanying improved firing force. These modifications were also incorporated. Fluegel had been running 2 Swampworks motors, but the lack of spares made these motors an unacceptable alternative for Nats. Fluegel was looking for other options.

The Second Battle Day (December 26, 1996)

finished impeller.

Now install the bottom brass piece and again check clearance by hand and under power. If everything is good disassemble the parts and reassemble them using Loc-tight or a similar product. The assembly bolts should be installed with the double nuts on the bottom. These nuts provide the legs to keep the pump from siting directly on the bottom, thus providing room for the water to reach the pump. The Loc-tight is critical!! If you fail to use this, especially on the impeller setscrew, you will find yourself in deep kimshi the next time you try to work on the pump!! Also if possible use a Stainless Steel setscrew and bolts. These can be had at most hardware stores. Failure to do this will find you trying to drill out the setscrew the next time you have to work on the pump. Recheck the clearance (yes, again!).

Glue in the outlet tube and run a bead of thick superglue along the outside of the seams separating the sections. The idea is to seal the seam, not glue the sections permanently together. Cut and glue (superglue) a piece of screen over the hole. Then fit a larger piece over the entire bottom (including the nuts) and up the sides of the housing. Glue the screening at the sides only. Be sure that the glue seals all the way around the side, to keep debris from entering from this area. This gives good protection from debris clogging the pump. This extra screening is not overkill, but a needed part of the pump. Without the outer screen debris can become lodged under the pump and can only be removed (or seen) by pulling the pump (I know it, caused two sinks in row with almost no damage).

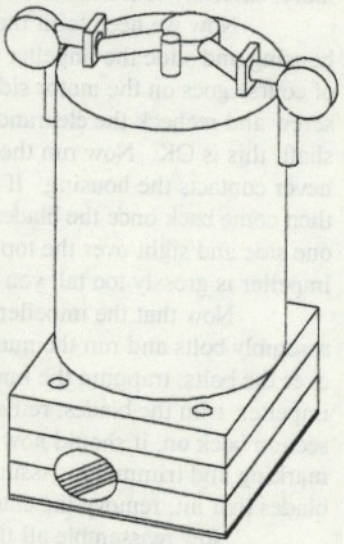


**Figure 5**

Solder three ceramic capacitors to the motor brushes: one between each brush terminal to the motor case and one between the two terminals. Be sure that the capacitor leads can not touch the motor housing except where they are attached. Figure 5 shows the capacitors attached to the top of the motor (the round objects). I recommend placing a 10 amp Slo-Blow fuse on the hot lead close to where the power for the pump comes from (switch or battery). You can use an automotive inline fuse holder. Twice I have had fires start once due to a damaged power connector, the other time to a locked up pump causing the motor to overheat (it fused the switch contacts). I also use the same setup for the main power lead (positive) near the battery. You need the Slo-Blow fuse as many of the motors we use will draw more than 10 amps for a short time when starting. But if a larger fast-blow fuse were used, a lot of damage might occur before enough current was drawn to set it off. If you build a "monster" pump, increase the current capacity to match. Figure 5 shows a completed pump with capacitors, but minus the bolts and outlet tube. I would have included them, but I have not progressed far enough in learning my CAD program to generate them.

Lastly fit a tube from the pump outlet to your hull outlet using gentle bends to prevent kinking. If you are near a battler that has old "HULLBUSTERS" there was an article in the 91-92 time range on the optimum shape for the hull outlet.

This battle again featured the USS Detroit and the DKM Scheer. This time the Detroit was functioning up to her normal speed. In this battle the Scheer destroyed a lot of the Detroit's after lower deck superstructure. The twin 6 inch mount was gutted and the cabin just forward of the turret was also shot up. Not much damage to the hull. This time the Scheer won about 1 hole to 0. The Scheer had now won two battles and lost none.

After this battle Fluegel changed his motors to Radio Shack motors. His speed was correct but his maneuverability was diminished.

The Third Battle Day, (December 28, 1996)

In this battle the Detroit had her speed advantage and was able to utilize her guns to shoot 2 holes in the Scheer. Late in the sortie the Scheer was headed for shore. The Detroit seized the opportunity to avenge herself of earlier provocations by the Scheer when she was the Lutzow. The Detroit pulled in front of the Scheer. The Scheer probably had to slow down momentarily to keep from ramming the Detroit. As the Scheer passed behind the Detroit exposing her broadside the Detroit opened fire. (But she only fired once.) This is an old tactic that Fluegel had used on many an Ally. It was particularly gratifying to see him victim of his own tactic. Yes, he (like the many an ally) whined about it being really dastardly. The Scheer had now won two battles and lost 1. The Detroit had won one and lost two. The Detroit seemed particularly menacing during this sortie. The lake having been successfully purged of Axis, Steven Watkins' Houston made a speed trial. It was much too slow. It would undergo prop change out.

At the dock yards Fluegel took the Radio Shack motors out and installed one "grasshopper motor". This would once again make his speed too fast.

Forth Battle Day, (December 30, 1996)

The Scheer was too fast and the Detroit refused battle. Jarrett Dorough was at the lake with his Tennessee. The Tennessee had a single bow side mount. This should be optimum condition for a stern gun cruiser to defeat a battleship. The Tennessee was also too fast but not proportionally for the fast Scheer. The Scheer had numerous good shot opportunities that somehow were not utilized. It seemed when Fluegel would try to fire the guns, they would not perform properly. They dumped liquid and generally misbehaved. The Tennessee really hammered the Scheer. Actually the number of hits was about 8 on the Scheer. The Scheer's float was not working and the Scheer nearly sank. Why couldn't she behave that way against the Detroit? The Scheer had now won two battles and lost two.

After this action there was another battle between Steven's Houston and the Detroit. The Houston was now up to her speed. The Detroit looked very awesome in the battle with the larger Houston. The Detroit shot 8 holes in the Houston. The Houston failed to connect with the Detroit. The Detroit had now also won two battles and lost two.

Special Comments:

A special note concerning Jarrett Dorough. It was a pleasure to meet Jarrett. His Tennessee interior was among the very nicest that I have seen. It was so well thought ou. It also performed very well. I still can't figure out how it made Fluegel's Scheer's guns malfunction. I want to learn that trick myself. Jarrett also was able to locate a lighter regulator that should help the Detroit recover from some of her current overweight condition. He is currently addressing the modifications that were made to the regulator at a paint ball gun shop by the certified "Airsmith". He is applying for a approval since the "airsmith" work is done by a "manufacturer". I think Jarrett will definitely contribute to the Allied efforts in Maryland this year and look forward to fighting on his side!

Fourth Battle Day(December 31, 1996)

This turned out to be the last battle as the Detroit had only one CO2 cartridge left. The Detroit and Scheer were now at last on equal footing of speeds. The Detroit had her slight advantage. The Scheer was again more aggressive but the Detroit was able to make a few hits. After the battle the Stan counted one hole on the hull of the Scheer and one on the Detroit. It appeared that the battle was a tie. Fluegel, abnormally magnanimous for an axis mentioned to Stan that there was another hole in the Scheer. This meant the Detroit had won. Then Stan brought the Detroit down for a more careful examination. Fluegel indicated that there were two more holes in some tissue patches near the bow of the Detroit. Were these actually holes or did Fluegel simply use enough force to poke through the soggy tissue. We will never really know. So the last battle is a contested event. After this battle the old Salt Lake City was sailing around making a speed trial with no guns. Fluegel proceeded to attack the slow unarmed ship aggressively until it appeared that she might sink. Then he helped her make it to shore. You just never know what might happen at a Dallas Winter Micro-mini Nats armed (or unarmed ) speed trials session.
The visit with the Fluegels was a special highlight of my year. Thanks so much for your hospitality and a target to shoot at. Let's Battle!

Stan Watkins, Founding Father of R/C Warship Combat (and still loving it!) t, planned and executed

# Destination: Outback Steak House

Date: Thus. July 16

Time: Dinner (or a little after)

Crew: Driver: Tom Jass
Navigator and Co-driver:
Bart "I know how to get there" Purvis
Back seat Drivers (or victims):
Marty Hayes and Paul "Doc" Broring

Expected Travel time: 10 minutes
Actual Travel time: 45+ minutes

# of cars that blindly followed Bart: 3

Times lost (misplaced as Bart prefers to call it): Once and it lasted approximately 45 minutes

Laws stretched:
1) left turn from right lane across 2 lanes of rush hour traffic
2) Speeding (what can we say Tom was driving)
3) Illegal "U" turn on a 2 lane road with oncoming traffic and 3 cars following in convoy (somehow we managed to stay intact both car and convoy)
4) Rolling stops at several stop signs
5) Cutting off on coming traffic while turning into the parking lot at the Outback. (relief at arriving there?)

# of good decisions made by Bart:
1) we stayed on the access road instead of taking the main highway which was bumper to bumper.

Mistakes made by the rest of the car:
1) Not leaving Bart in the parking lot of the motel.

# of times Bart tried to pass responsibility for a decision on to one of the other passengers: too many to count. It happened every time a back seat driver opened his mouth with a helpful suggestion (of course, they were rarely accepted).

Best suggestion not used: Marty "no, not that left - I SAID 'NOT THAT LEFT!'" Response from the front seat "Oops, too late!"

The meal: Fortunately the food was excellent, as was the company. Almost all of the battlers were present.)

Return trip: The back seat offered to navigate back to the motel, the front seat reluctantly agreed, but added that the responsibility for this leg would be all ours. This trip proved to be uneventful and lasted all of 10 minutes. (think goodness!). Yes, it is true that Bart did suggest the best way to return would be to retrace all of our steps through the boondocks because he was confident in his recognition abilities. Fortunately Tom overruled him.

End Report.

## News from SWAMPWORKS

Hey guys,

Just a quick note to let everyone know what's been happening here at SWAMPWORKS for the last couple of months. Note: this is being written on January 26, 1997.

Except for a brief period during the middle of December when I had to get out all the last minute Christmas orders, I've pretty much been shut down here since before Thanksgiving. This of course was due to the complete gutting and remodeling of the workshop area here.

At present I have just finished the majority of the project. I now have a true "all weather" shop with lots of insulation and a good heating and air conditioning system. Plenty of flourescent light fixtures have also been added. I also have plenty of workbench space, work tables, and shelving for inventory storage. The only part of the project left unfinished is the spray/grind booth and that is to be done sometime next week.

Earlier this week I got all the tools hung on their own little hooks, each power tool is plugged into it's very own outlet, and all the parts are stashed in their permanent storage spot. I also spent an entire day taking an inventory of parts and materials and then ordering a good supply from my vendors.

I am now ready to get back to work making ships and filling orders. There are several of you reading this who have been patiently waiting for me to get some urgently needed items to you. I expect that I'll have 90% of my orders on their way to the customer by the end of next week. By the time you read this, I should be pretty much caught up on all my backorders.

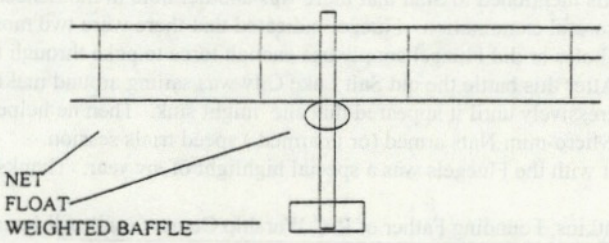
Soon I hope to begin work on some of the new fiberglass hulls that I've been wanting to make available for the last year or more. Those of you who have been wanting a South Carolina, Atlanta, Agano, Derfflinger, Arizona, Missouri, and Yamato hull just hang in there. Now that I have the room to work, I hope to really make some progress toward supplying you with the new hulls you've been waiting for.

Thanks guys,

Steve "SWAMPY" Milholland

### FLOATING FENCE
By Mike Torda

This design is for use in roping off sections of water for use in battling. It is comprised of two major components. The Net and the Floats. The Net is formed by three parallel strings running from float to float. One string is at the surface of the water and the other two are at 2 inches and at 4 inches. The strings are connected by short vertical pieces every 2 or 3 feet.
The Floats are 4 foot long poles that are weighted at one end so that the other end floats vertically out of the water about 5 inches (see diagram). On the bottom end is a baffle arrangement to keep the Float stable.



# *** OFFICIAL E-BOARD NOTICE ***

To All IR/CWCC Captains,

Chris Au asked the E-board to officially rule on the legality of using a 1/4" deck rim, a 1/8" casement deck stringer and a 1/8" bulge stringer when building the QE with casements.

Based on the inputs received from the email forum, and conversations amongst E-board members, the following opinion is hereby given:

THE USE OF A 1/4" MAIN DECK, A 1/8" CASEMENT DECK AND A 1/8" STRINGER IS ALREADY COVERED UNDER THE EXISTING RULES, AND SUCH A CONFIGURATION IS LEGAL.

Specifically, Rule II.A.3 states that:

"The main deck(s) may be no more than 3/8" thick (maximum thickness of any single or multiple deck assembly)."

In the E-board's opinion, the situation decribed by Chris Au is an example of a multiple deck assembly, in which 1/4" is used for the main deck and 1/8" is used for the "casement deck". That is, the solid horizontal detail below a casement is considered a "deck", not a "stringer", in this case. Therefore, the builder is free to use another stringer if "the shape of the hull dictates" (rule II.A.6).

The inclusion of the term "casement guns" in II.A.6.a in the list of features that dictate the use of a stringer is superceded by the "multiple deck" rule in this case.

In order to make this clarification permanent, the E-board hereby submits the following rule proposal for the 1997 Rules Meeting:

Append the following to rule II.A.3 concerning the construction of ships with multiple deck assemblies.

"For example, any ship which has casement guns can have a 1/4" main deck and a 1/8" casement deck, without limiting the use of an additional stringer if the hull form dictates for other reasons (see II.A.6)."

As with all rule proposals, all comments and suggested changes are welcome and the more it is discussed prior to NATS, the greater the likelihood that it will be placed on the ballot and accepted by the membership.

Frank Pittelli
President, IR/CWCC

## One last visit to maintaining the history of Nats, the 1996 Nats scores

HIGH POINT BY TOTAL (includes Individual Combat Points)

| CAPTAIN | SHIP | CLASS | AWARD POINTS | TOTAL SORTIES | SORTIE AVERAGE |
|---|---|---|---|---|---|
| DAVE HAYNES | MUTSU | 6 | 9053 | 13 | 696.38 |
| MIKE BLATTEAU | NAGATO | 6 | 8953 | 13 | 688.69 |
| NATHAN BLATTEAU | MUSASHI | 7 | 8704 | 13 | 669.54 |
| FRANK PITELLI | SVENT ISTVAN | 4 | 7977 | 17 | 469.24 |
| D.W. FLUEGEL | BISMARCK | 6 | 6843 | 10 | 684.30 |
| PAUL BRORING | VON DER TANN | 4 | 6820 | 13 | 524.62 |
| LIEF GOODSON | MOLTKE | 4 | 6584 | 16 | 411.50 |
| CHRIS AU | KING GEORGE V | 6 | 6524 | 13 | 501.85 |
| WILL MONTGOMERY | VIBRUS UNITUS | 4 | 6513 | 14 | 465.21 |
| JAMES FOSTER | SVERIGE | 3 | 6407 | 13 | 492.85 |
| MATT PURVIS | NORTH CAROLINA | 6 | 6304 | 14 | 450.29 |
| DON COLE | ALABAMA | 6 | 6304 | 14 | 450.29 |
| JIM PATE | WASHINGTON | 6 | 6304 | 13 | 484.92 |
| CHRIS PEARCE | NORTH CAROLINA | 6 | 6104 | 13 | 469.54 |
| RICK WHITSELL | NORTH CAROLINA | 6 | 5940 | 12 | 495.00 |
| RON HUNT | INDEFLEXIBLE | 4 | 5939 | 15 | 395.93 |
| WADE KOEHN | BISMARCK | 6 | 5834 | 10 | 583.40 |
| ANDY RAY | MARYLAND | 5 | 5784 | 15 | 385.60 |
| DAVE AU | REVENGE | 5 | 5274 | 13 | 405.69 |
| MARTY HAYES | MUTSU | 6 | 5243 | 9 | 582.56 |

HIGH POINT BY TOTAL (includes Individual Combat Points)

| CAPTAIN | SHIP | CLASS | AWARD POINTS | TOTAL SORTIES | SORTIE AVERAGE* |
|---|---|---|---|---|---|
| GERALD ROBERTS | INDOMITABLE | 4 | 4844 | 13 | 372.62 |
| JOE KUTZ | INVINCIBLE | 4 | 4753 | 12 | 396.08 |
| BOB EAKIN | QUEEN ELIZABETH | 5 | 4743 | 13 | 364.85 |
| FRANK WHITSELL | MICHIGAN | 4 | 4680 | 13 | 360.00 |
| STEVE MILHOLLAND | INFLEXIBLE | 4 | 4141 | 12 | 345.08 |
| MIKE DESKIN | LE TERRIBLE | 1 | 3257 | 13 | 250.54 |
| TOM JASS | AJAX | 2 | 2439 | 8 | 304.88 |
| CAMERON HUNT | F. GEORGES | 2 | 2150 | 10 | 215.00 |
| BRIAN ELIASSEN | SHEFFIELD | 3 | 2037 | 7 | 291.00 |
| BART PURVIS | ATLANTA | 2 | 1505 | 6 | 250.83 |
| BART PURVIS | LION | 4 | 1179 | 3 | 393.00 |
| PAUL BRORING | MICHIGAN | 4 | 255 | 2 | 127.50 |
| BRIAN ELIASSEN | BEARN | 2 | 75 | 1 | 75.00 |
| JIM PATE | INDOMINATABLE | 4 | 35 | 1 | 35.00 |
| KAREN DESKIN | LE TERRIBLE | 1 | 0 | 1 | 0.00 |
| KAREN | BEARN | 2 | 0 | 1 | 0.00 |

ELECTIVE SORTIE AVERAGE BY CLASS (DOES NOT include Individual Combat P

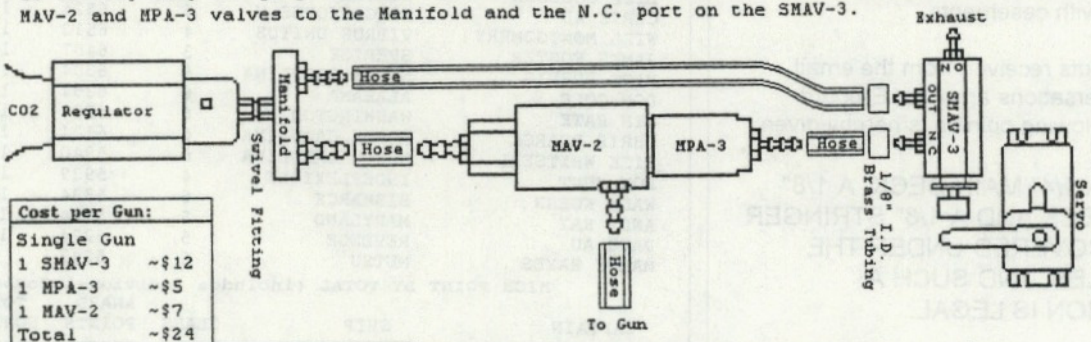
| CAPTAIN | SHIP | CLASS | AWARD POINTS | TOTAL SORTIES | SORTIE AVERAGE* |
|---|---|---|---|---|---|
| NATHAN BLATTEAU | MUSASHI | 7 | 6310 | 8 | 788.75 |
| DAVE HAYNES | MUTSU | 6 | 8039 | 10 | 803.90 |
| MIKE BLATTEAU | NAGATO | 6 | 8039 | 10 | 803.90 |
| D.W. FLUEGEL | BISMARCK | 6 | 6307 | 8 | 788.38 |
| MARTY HAYES | MUTSU | 6 | 4129 | 6 | 688.17 |
| WADE KOEHN | BISMARCK | 6 | 5298 | 8 | 662.25 |
| JIM PATE | WASHINGTON | 6 | 5485 | 10 | 548.50 |
| MATT PURVIS | NORTH CAROLINA | 6 | 5485 | 10 | 548.50 |
| RICK WHITSELL | NORTH CAROLINA | 6 | 5485 | 10 | 548.50 |
| DON COLE | ALABAMA | 6 | 5485 | 10 | 548.50 |
| CHRIS AU | KING GEORGE V | 6 | 5285 | 10 | 528.50 |
| CHRIS PEARCE | NORTH CAROLINA | 6 | 5285 | 10 | 528.50 |
| ANDY RAY | MARYLAND | 5 | 4736 | 10 | 473.60 |
| DAVE AU | REVENGE | 5 | 4536 | 10 | 453.60 |
| BOB EAKIN | QUEEN ELIZABETH | 5 | 4005 | 10 | 400.50 |
| FRANK PITELLI | SVENT ISTVAN | 4 | 5930 | 10 | 593.00 |
| PAUL BRORING | VON DER TANN | 4 | 5928 | 10 | 592.80 |

SELECTIVE SORTIE AVERAGE BY CLASS (DOES NOT include Individual Combat P

| CAPTAIN | SHIP | CLASS | AWARD POINTS | TOTAL SORTIES | SORTIE AVERAGE* |
|---|---|---|---|---|---|
| LIEF GOODSON | MOLTKE | 4 | 5692 | 10 | 569.20 |
| WILL MONTGOMERY | VIBRUS UNITUS | 4 | 5621 | 10 | 562.10 |
| JOE KUTZ | INVINCIBLE | 4 | 4389 | 10 | 438.90 |
| FRANK WHITSELL | MICHIGAN | 4 | 4389 | 10 | 438.90 |
| RON HUNT | INDEFLEXIBLE | 4 | 4389 | 10 | 438.90 |
| STEVE MILHOLLAND | INFLEXIBLE | 4 | 3486 | 8 | 435.75 |
| GERALD ROBERTS | INDOMITABLE | 4 | 4189 | 10 | 418.90 |
| BART PURVIS | LION | 4 | 815 | 2 | 407.50 |
| JAMES FOSTER | SVERIGE | 3 | 5627 | 10 | 562.70 |
| BRIAN ELIASSEN | SHEFFIELD | 3 | 2037 | 6 | 339.50 |
| KAREN | BEARN | 2 | 0 | 0********** | |
| TOM JASS | AJAX | 2 | 2439 | 7 | 348.43 |
| BART PURVIS | ATLANTA | 2 | 1505 | 5 | 301.00 |
| CAMERON HUNT | F. GEORGES | 2 | 1877 | 8 | 234.63 |
| MIKE DESKIN | LE TERRIBLE | 1 | 2811 | 10 | 281.10 |

## RECIPE FOR A CHEAP, QUICK FIRING GUN SYSTEM By Ron Hunt 2/11/97

This is a diagram of the gun system I have been using for the last year. I've found it to be just as quick as any system that uses solenoids, for about half the price. The major advantage of this system is using the SMAV-3 as a "pilot" valve to activate a regular sized MAV-2 "poppet" valve. The SMAV-3 takes only about 1/8" stem travel from closed to fully open, and puts up a very low resistance to the servo pushing the button. The disadvantage to this system is also the SMAV-3, which uses the small 2-56 hose barbs to connect the hose. At normal pressure, the hose will eventually blow off these small barbs, venting all your CO2, UNLESS you use small pieces of 1/8" I.D. Brass Tubing as a collar to hold the hose on the barbed fittings. (Think about the very scale-looking magazine explosions my Invincible had at last year's NATS.) 8-) The swivel fitting between the Regulator and Manifold makes it a little easier to unscrew the CO2 bottle. It is very easy to "gang" multiple guns to a single SMAV-3 by connecting more sets of MAV-2 and MPA-3 valves to the Manifold and the N.C. port on the SMAV-3.




| Cost per Gun: | |
|---|---|
| Single Gun | |
| 1 SMAV-3 | ~$12 |
| 1 MPA-3 | ~$5 |
| 1 MAV-2 | ~$7 |
| Total | ~$24 |

| Dual Guns | | Triple Guns | |
|---|---|---|---|
| 1 SMAV-3 | ~$12 | 1 SMAV-3 | ~$12 |
| 2 MPA-3 | ~$10 | 3 MPA-3 | ~$15 |
| 2 MAV-2 | ~$14 | 3 MAV-3 | ~$21 |
| Total | ~$36 | Total | ~$58 |

Compare the cost of this system to the cost of a solenoid system, which runs $30 or (a lot) more per gun, can give voltage spikes that cause radio problems, and uses microswitches that can burn out.

*Ron Hunt 2/11/97*

## HELP FOR THE SHAKING AND LOOSE PROP SHAFTS

By Marty Hayes

Do you have trouble building reliable prop shaft supports? I did, for years I soldered and glued various configurations of metal tubes, solid rods, etc. togethere to form the supports for my prop shafts. These configurations would hold together for almost a full season before breaking (even when silver soldered), robbing my boat of power due to vibration, and occasinally allowing the prop to cut into the Hull. A couple of years ago, I found the perfect soltion: cotter Pins!

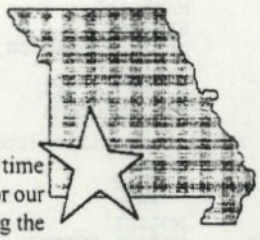
Go to your local hardware store (where everyone knows your name) and prowl the hardware aisle. Find the cotter pin drawer, and look at the LARGE ones. There are cotter pins available which have a 1/4" hole (large enough for the prop shaft)! These are mounted on your ship by drilling a hole at ther proper lacation and epoxing them into the hole (if the walls are thick enough). The split legs can be bent on the inside of the hull to provide more support and epoxied down. The strength of these are terrific, surviving collisions with the shafts of opposing ships even! The prop shafts are vibration free! Why didn't I find these befor?

I did't even bother to solder the shafts into the cotter pin holes because the fit is so tight. The strengeth of the cotter pins is so great, that all previuous methods pale in comparison.

Hope that this helps some of the rookies and perhaps some of the veterans too.

## *MO* Notes:

by Steve Milholland



**A NEW YEAR** is upon us, and it is time here in the Ozarks to begin preparations for our Spring BB Fest. This year we are planning the event for the weekend of May 17th and 18th. This is the weekend just AFTER Mothers Day and just BEFORE Memorial Day.

As in the past couple of years, we are planning to use the lake at Ritter Springs Park which is just a couple of miles outside the NW corner of Springfield. A nice, shallow battling area, good pits, and relative seclusion from mass quantities of the public make this a pretty good site for a contest.

I will have information about scheduling, motels, entry fees, and the like in the April issue of Hull Busters.

At present we have several possibles who say they would like to come, but we all know that a few will drop out due to family and job conflicts as contest time draws closer.

This is understandable..... BUT, like last falls event, in order to break even on expenses we must have a minimum of TEN (10) prepaid entries by the week preceeding the contest, or it will be cancelled. I am now requesting that anyone who is interested in possibly attending, please get in touch with me and let me know who from your area is thinking about showing here for our Spring '97 BB Fest. This is not a request for a firm commitment, just a statement of intent. If it looks like we can't get a quorum, I won't even bother to make the reservations for the lake.

Last falls BB Fest was absolutely GREAT with 15 ships on the water at one time. Our record number for a Spring event was 18, back in '93. You are ALL invited to be here at this years Spring event, so let's see if we can beat that number this May.....

See ya on the water,

Steve Milholland swampy@smartnet.net
(417) 831-2309

# How to become a club member:

Send me a check or postal money order or cash. A large sum would be nice, but since the club membership is only $6, that will do.
Checks should be made out to either Ron Hunt or IRCWCC
My address is:
Ron Hunt
2611 Stratford Dr.
Greensboro, NC 27408
910-288-8154
If you must call me, please DON'T during normal working hours, (i.e. 9am-5pm) because I'm working half of second and all of third shift and (hopefully) I'm DEAD ASLEEP during that time period.

What I send you in return is a membership package that contains: A spiffy new membership card that took me two days to get right and print 100 copies of, a 24 page (double sided) set of construction rules, campaign lite rules, and a list of all the major warships constructed between 1906 and 1946, (which I drove to Maryland to get -- another two days in the middle of January -- I photocopied 100 sets, collated and stapled them) and copies of the frequency allocation criteria, the frequency list from last year, and a 1997 NAMBA membership form. NAMBA membership is required to participate in any sanctioned battles, and is a good idea anyway since they provide the club's insurance.

I guess you get the idea why it took me so long to get the rules package together this year, but now that I have 58 sets left of the ones I put together, I should be able to send them out fairly quickly when new memberships come in.

To subscribe to Hullbusters: you have two options:

1) Mail an extra $9 to me, and I will forward it to Fluegel (the editor) along with your address. This isn't such a good option right now, since I believe Hullbusters will be coming out in the next week or two and I won't be able to get it to him before then.

****If you are an overseas member, it is $15 for hullbusters.****

2) Mail the $9 direct to Fluegel. I recommend this for rookies anyway, since Fluegel is really good about giving you extra information, like back issues. Fluegel's address is:

Hullbusters
c/o D. W. Fluegel
3524 Gray Dr.
Mesquite, TX 75150

Be sure to tell him if you are a rookie. Say hi otherwise. How to reserve a frequency: Please wait till you have a ship nearly ready. Unless you have some help, the first one usually takes forever to finish, and then it doesn't work that well until you have spent a lot of time modifying it and looking at what other people have done. Then you contact:

Mike Deskin, the Frequency Czar
6949 Shull Rd.
Dayton,OH 45424
513-233-5251
MDeskin@aol.com

and he can tell you what frequencys are still open, and have little chance of conflicting with the frequencys of the people you are likely to be battling with. The goal of having a frequency czar is to have 0 frequency conflicts at events, but that can't happen without your help. You may have to get your radio retuned, if you can't find one on the right channel, but it is fairly cheap and most of us (myself included) have had to do it at one time or another.
Could someone post the address of someone who retunes radios for later reference?
Let me retype the Draft copy of the "Frequency Allocation Criteria" while I'm at it:
I GUESS THIS WILL BE IN FEBUARY HULLBUSTERS?
IF YOU DON'T WANT TO SPOIL YOU READING, DON'T GO TO THE END OF THE MESSAGE.
Take Care,
Ron "My fingers are getting sore" Hunt

## To all IR/CWCC Captains,

Jim Pate has requested that the E-board officially state the criteria used by the Frequency Czar to allocate frequencies. Therefore, the E-board has developed the following draft criteria, which will be tested throughout this year. Also, the E-board hereby submits this criteria as a rule proposal for the 1997 Rules Meeting.

Frequency Allocation Criteria Draft

The Freq Czar will maintain a Freq List that will be used as

**********

1997 Nationals Registration

Captains Name

Street Address

City State

Zip

Warship #1 _____
Class _____ Channel _____Freq _____

Warship #2 _____
Class _____ Channel _____Freq _____

Warship #3 _____
Class _____ Channel _____Freq _____

Convoy #1 _____
Class _____ Channel _____Freq _____

Convoy #2 _____
Class _____ Channel _____Freq _____

Registration fee $120 (before May 31st.)

Late fee $20 (after May 31st.)

Total _____

NOTE: Frequency Czar is in charge of the assignment of all primary frequencies. If your frequency has not been registered with the Frequency Czar, you may be in conflict and will possibly not be able to battle.

Send to Marty Hayes, 1113 Crestview Drive, Annapolis, Md. 21401 *

the official record to reduce the number of frequency conflicts at ALL sanctioned events, including, but not restricted to, NATS.
a) The Freq Czar has the operational authority to allocate frequencies as he sees fit throughout the year. The E-board reserves the right to settle any disputes that may arise between captains and the Freq Czar.
b) Only captains in good standing as IR/CWCC members (paid dues and battled in a sanctioned event during the last 2 years) will be assigned a frequency on the Freq List. (First time rookies will be assigned a frequency on a tentative basis prior to their first battle.)
c) Captains may only be assigned a single "primary" frequency. Secondary frequencies may be shown on the Freq List to help resolve conflicts, but they are provided for reference purposes only.
d) The Freq List, as of Dec 31st, will be included in the rules packet sent out every year. It may also be posted in Hullbusters or on the Internet at the discretion of the Freq Czar.
e) The following preferences will be given by the Freq Czar when assigning frequencies:
1) Any Captain already on the Freq List who battled in the last NATS can keep "the same frequency" during the next year.
2) Any captain already on the Freq List who battled in any sanctioned event during the last year can keep "the same frequency" during the next year.
3) All other frequencies are assigned on a "first-come-first-served" basis at the discretion of the Freq Czar, depending on the physical location of the captain and the number and location of events usually attended. Captains should check with the Freq Czar "before" purchasing new radios to "temporarily reserve" an open frequency pending the purchase of the radio.
f) The Freq Czar has the right to request captains to change frequencies in order to eliminate a conflict during a sanctioned event, based on the preferences listed above, with the goal of minimizing the total number of changes needed.
g) Prior to NATS, the Freq Czar will coordinate with the Site Host to determine any potential conflicts involving the captains who have registered for NATS. If a conflict is found, the captains involved will be contacted to resolve the conflict prior to NATS.

## CALENDAR

| | | |
|---|---|---|
| March | 14-15 | Fredricksburg TX Host Jim Pate, 210.669.2441, Tentative? |
| April | 12/14 | Host, Mike Torda, article on page 1188 HB, North Carolina. |
| April | late | Houston TX Host Wade, 713.952.3078 Also unsancsioned. |
| May | 17/18 | Northeast Spring regional Host, Marty Hayes (?) MD |
| May | 17/18 | Spring BB Fest, Springfield MO, check 'MO notes:" this issue of Hull Busters. |
| May | late | Abilene TX, Host Dirty, 915.673.5130 Tentative |
| or early June | | |
| July | 20/26 | Nationals! Very Sanctioned! Refer to Nats to U articles. |

Hull Busters
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