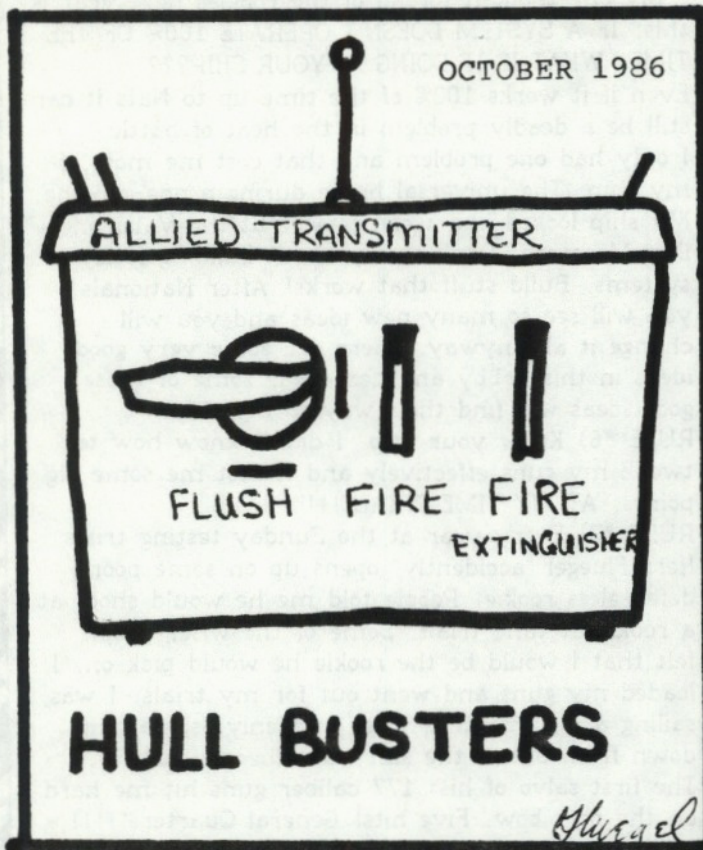


## INTRODUCTION

Welcome aboard another exciting issue of Hull Busters. I got my ballot for the 1987 rule changes and voted yes on every thing except 2 proposals. I can't remember a more boring ballot. Nothing that concerns our ship construction or battling rules seem very significant. The big questions are on less exciting bureaucratic topics like, should we join NRA instead of NAMBA. I guess the hobby is stabilizing. I'm currently developing a new hobby, it's not exactly all worked out but it involves arm wrestling and 1982 Chevy Cavalier exhaust manifolds. Or maybe something with door knobs...no, I don't know, maybe I can design cardboard sunglasses for cars and get rich. Well, first I'm going to create another weird issue about the Magnificent Obsession. I believe it's best read with a record of "Magical Mystery Tour" playing in the background.



## PRESIDENT'S COLUMN

By now you have all received and voted on the proposals that were presented on the ballot. The official totals are not yet known, but there are a couple of the proposals I would like to comment on.

First, is the proposal to allow the Executive Board to make any necessary changes to the club's Constitution that would allow the club to become a member of the National Rifle Association (NRA). If the proposal is passed by the voting members, then the Board would work with officials of the NRA to decide what, if any, changes would be necessary. What we are attempting to gain by this change to NRA is of course to be protected by the insurance that is offered by NRA to its members. If it is decided by the Board that proposed changes would be unsatisfactory to the club and its future, then another area would have to be explored. We would like to have a means where by the club members, and in fact the club itself could be protected and still have the self governing aspect of the hobby that we so much desire.

If this proposal is not passed then we can look forward to another year in which we are protected by insurance, but have to comply with aspects of safety that do not necessarily apply to our situation. In either situation we will do the best we can to do the right thing for you and the hobby.

Someone in the club once said of a rule "It's not great, but it's better than what we have". This is about the way I feel about the rule proposal dealing with materials that are to be legal in covering the penetrable areas of the ships hull. The purpose of this rule is to eliminate the self-sealing hulls that some people were using during the past year. I am disappointed that we must legislate to the members that they cannot make their ships unsinkable, but evidently this is what has to be done.

One of the most exciting moments in R/C combat is when a ship puts its bow under and begins the plunge to the bottom! There is the challenge of taking your own ship out to battle and having to use piloting skills to avoid damage while attempting to put the opponent's ship under. If a hull is constructed so that the hull seals each time a BB penetrates then the risk of sinking is eliminated as is the thrill of seeing the ship sink. It is then no longer the skill of the captain that can save the ship, but the quality of the silicon! Who would want to battle and never see a ship sink, not me. The very intent and design of R/C combat is to be able to sink someone's ship. To eliminate this aspect of the hobby by using self-sealing hulls, is to eliminate the hobby. We would do just as well to build tug boats and push barges around the pond. We need the rule, not the sealing hulls.

I hope that in the next column there will be some news about the insurance problem that I can pass on to all of you members. Until then, keep build'n and battl'n.

*David Agnes*



## ROOKIE OF THE YEAR

### Interview by Mercury Peabody

This hobby brings new people in all the time, and this year was no different. I went to Springfield, MO, to interview this year's top addition to the model warship combat club: John Barrett. First I should tell you a little about this zany person. He is twenty-six years old and has been building his version of the Lutzow since last September. He is skilled at a great number of things. Battling is not one of them. (Yet)

Mercury Peabody: How does it feel to be the best of the new crop?

John Barrett: About the same as being the best hockey player in all of Equador. Actually I have some pretty elite company in that honor.

MP: You won the award with over 30% of the vote. You must have done something right. Tell us about your week at Nationals.

JB: Let me tell you about it....

Being at my first Nationals is something I will remember forever. But I really can't start by talking about the week. Rather, I must begin with the preparation leading up to Nats. I was set on the Lutzow. When the plans finally showed up I unrolled them, "sailed" them around the living room and finally "sunk" the piano.

RULE #1) It's okay to be young at heart (childish). I didn't know much about the construction of these big beasts and I was quick to get help from as many veterans as would answer. I learned almost everything from taping.

RULE #2) Knowledge is good. 2<sup>a</sup>)Tapes are great. I can't possibly tell you enough about the benefits of taping. I can however tell you that I was ready for every fleet battle during the week. Also, the only reliability problems were with universal joints made of fuel tubing. I had been told by most of the veterans to avoid that stuff, but I "knew better."

RULE #3) Just 'cause they're Allied doesn't mean they're wrong. I also was glad to get 15 different points of view on the same subject. It cost all my tape buddies about \$9.65 in postage, but it was worth it. (It WAS worth it wasn't it guys?) With all of my new found knowledge I was full speed ahead in building my ship. It was just after I glued my thumb to the torpedo tube that I realized...

RULE #4) Slow down and do it right. I put skin on my ship before I had all of the ribs on. Slow down! I was on my third pump design before I asked Fluegel for the How-to of pump building.

Rule#5) Don't be upset if you must rebuild things. Most of the guys in the hobby have rebuilt their systems a dozen or so times. It's a frame of mind that Tom Jass helped me acquire... "I know I can rebuild it better and more reliable the second time, and I look forward to it." I have to admit I didn't like rebuilding sometimes, but Tom was right, it can be built better the second, third, twelfth time through. (How can an Allied have such insight?) Build that stuff until it works right. I rebuilt my water tight box four times before it would fit in the boat. And the gun systems are not the kind of thing you build during a commercial of a football game. For months I worked on my systems and when I finally went to show Amy the pump turn on feature the wire shorted out with a puff of smoke that rivaled any thing Stan could produce at Nationals (At least the garage door didn't open and close when I fired the guns anymore).

My one thought for all of the rookies next year is this: IF A SYSTEM DOESN'T OPERATE 100% OF THE TIME, WHAT IS IT DOING IN YOUR SHIP???

Even if it works 100% of the time up to Nats it can still be a deadly problem in the heat of battle.

I only had one problem and that cost me most of my ship. The universal broke during a one-on-one. My ship looked like a centerpiece at the Valentines Day Massacre. Don't worry about building fancy systems. Build stuff that works! After Nationals you will see so many new ideas and you will change it all anyway. There are some very good ideas in this hobby and next year some of those good ideas will find their way to my ship.

RULE #6) Know your ship. I didn't know how to tweak my guns effectively and it cost me some big points. AT MY TIME TRIALS!!!

RULE #7) Every year at the Sunday testing trials Herr Fluegel "accidentally" opens up on some poor defenseless rookie. People told me he would shoot at a rookie at time trials. Some of the wiser people felt that I would be the rookie he would pick on. I loaded my guns and went out for my trials. I was sailing along smoothly when suddenly, screaming down from out of the sun was Fluegel's Lutzow. The first salvo of his .177 caliber guns hit me hard on the port bow. Five hits! General Quarters!!!! I spun my ship towards my aggressor who was showing me his stern and laughing at my plight as the second salvo from his stern turret hit my bridge and A turret. This is where rule #6 comes in. I had not test fired my guns after loading and I still had liquid freon in the hose. Clouds of freon nudged the "shell" out of the barrel and barely cleared my railing. When I was finally at full pressure I found that the difference between tweaked guns and untweaked guns is like a best-of-scale battle between Jeff West's Wisconsin and Brian Schneider's Admiral Sheer. Not only did I not know what to do, but what if he turned to fight? My only hope was to roll enough BB's on his deck to cause him to roll over.

RULE#8) Use your ship before Nationals. This is the one rule I wish I had followed. My problem was that I was not over the awe of watching the water "EXPLODE" when I fired my gun. As a result, when the contest director (who did a great job)said "Let's Battle" I opened up my bow gun, BLAM, BLAM, BLAM, and started steering toward the enemy hoping one of them would cross my bow and get in my sights. I found that my bow gun was empty well before the stern gun. By the end of the week I was using the stern gun first.

Of course that was after I recieved some guidance from Carl and the other Axis bad guys. Another problem was not giving battlers enough credit. I was sneaking up on the Colorado which I thought was dead in the water. Dopey me. The Colorado opened up on me for five hull hits.

Rule #9) Treat every gun as if it were loaded. This is also a dockyard warning. But feel free to pull the safety pins when going into battle. I number myself among the many who went steaming into the heart of a fleet battle with my guns pinned. I like to test fire my guns before I go into battle. (See

Rule #7) What to bring to Nats? For some reason I felt it was important to bring everything. I was glad to lend or give stuff out and people were just as eager to help in return. Bring everything you care to. Don't be a burden on the other battlers and don't be a burden to yourself.

RULE #10) Respect other peoples ships (off the water) I apologize if anyone was nervous or upset about the goings on in the dockyard.

RULE#11) Nationals is a lot more than just a war. PEOPLE - that in a nutshell is the hobby. I spent many long hours in the workshop. Not just because I wanted to re-skin my ship overnight, but because the best times were talking with the people in the hobby. When you spend hundreds of hours on a ship you fall in love with it. There is a certain assumed friendship with anyone else who would let you hurt their pride and joy. Dan Dees didn't drive all that way for his boat. He could have easily set it on fire at his home. It's the people. Rule #2) is a great way to get to know people before Nats. But you should get to know these guys. They're great.

RULE #12) Don't be afraid to ask for help. Most of the guys would love to show off their knowledge. Even people with little knowledge would give an opinion. I gave lots of opinions. Like Foster says, "Opinions, they're free. I've got lots. Here, have one of mine." One suggestion that I got that week was in answer to a problem I was having with getting the water to the pump. A veteran suggested cutting a hole in the hull and letting it start to sink and see if the pump could handle the water. CUT A HOLE IN MY SHIP???

RULE #13) If you don't want your ship to get wet you are in the wrong hobby. Steve Milholland also pointed out that the ships were built to be destroyed (Jeff West, Steve's just kidding,) and if you can't stand holes in you hull you are in the wrong hobby. Steve put quite a few holes in my hull during our one on one but he allowed me to retrieve my ship to repair it before the first fleet battle. He could have sunk me!

RULE #14) Sportsmanship counts double points. It comes back to people. Thanks to all of you. To try to sum up my experience is tough and I feel as though I could never say enough, yet I'm sure several readers feel I have already said too much. Any rookie who sends tapes to people is going to have a much better chance than someone who just shows up at Nats. You can never spend too much time getting familiar with your ship. You can never spend enough time with the people in the hobby. You can't beat the hospitality of the people in this hobby (thanks Mary). Tape to several different people to get a variety of views. Don't feel you have to ALWAYS build Axis or Allied. Some of us like the loyalty and some like the freedom of choice. There is something for everyone in this hobby. Just find your niche. Thanks again to the people with whom I exchanged tapes prior to Nats. (Over 120 hours,) If any rookies need to start taping feel free to start with me. I'm relatively harmless and pretty good on tape turn around. Good luck to battlers old and new.

John "CURLY" Barrett DKM Lutzow  
2170 Draper Ave. Roseville Mn. 55113

JK  
JK

## HOW TO DESIGN THE ELECTRIC SYSTEM FOR YOUR LUTZOW By Herr Fluegel

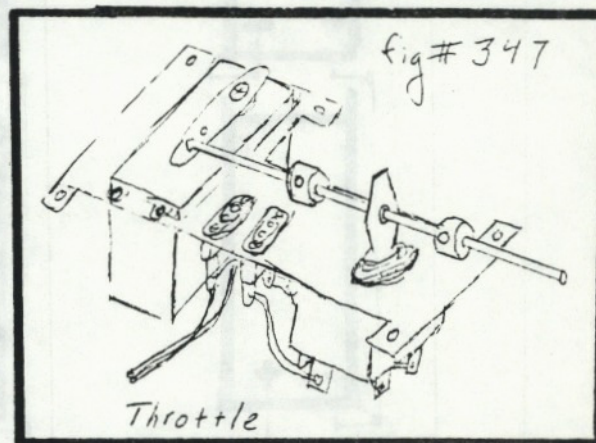
This article is for everybody. The beginner and the expert. Dan Hamilton and Wayne Stevenson asked me to do an article on my turning system. I did this in late July but there was no room in the August Hull Buster. That's good because I've stewed over it and expanded it to include something about the entire electrical system of a ship. This has never been done before in Hull Busters.

Stan said that the enhanced turning system will possibly be the next big technical topic. For years guns and pumps consumed the energies of our inventors and rule makers. It seems that they have been designed and regulated to a satisfactory condition. The rules have stifled the inventors in these arenas so their energies have now turned to fine tuning the electrical systems of the ships, more specifically the enhanced turning systems.

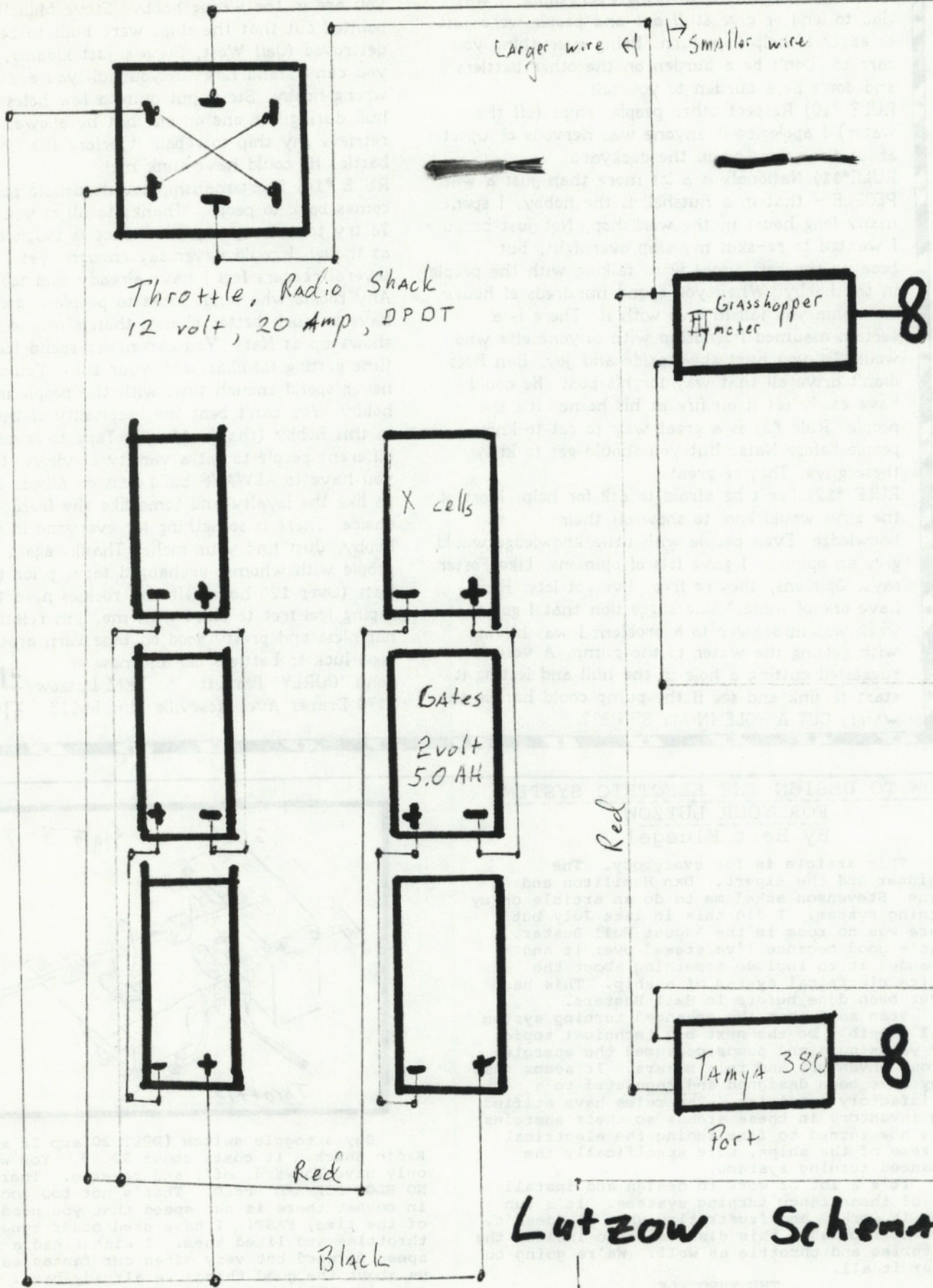
It's a lot of work to design and install one of these fancy turning systems. It's fun when it works, and frustrating when it doesn't. But let's broaden this discussion to include the batteries and throttle as well. We're going to cover it all.

### THE THROTTLE

The first Axis ship was my Scharnhorst. It used this type of throttle as has Schneider's ships. My new Scharnhorst (under construction) will also have this same old reliable throttle. It's history of reliability and winning is well documented.

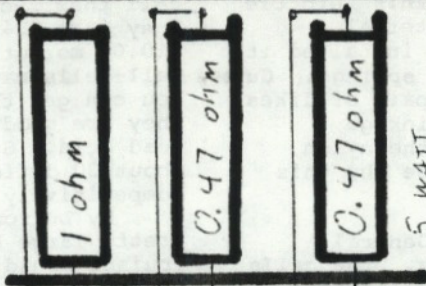


Buy a toggle switch (DPDT 20 amp 12 v) from Radio Shack. It costs about \$2.50. You will only have forward, off, and reverse. There is NO SLOW FORWARD SPEED. That's not too cool but, in combat there is one speed that you need 95% of the time; FAST! I have used other types of throttles and liked them. I wish I had a slow speed forward but very often our fantasies blind us about the good things we already have. After removing this throttle from my Lutzow last winter (to install a Tanya throttle) I decided to open it up and see how pitted its contacts were. They had another hard year of use in them. I remembered how it had not caused me one problem. Not even an adjustment! I put it back in my Lutzow.



# Lutzow Schematic.

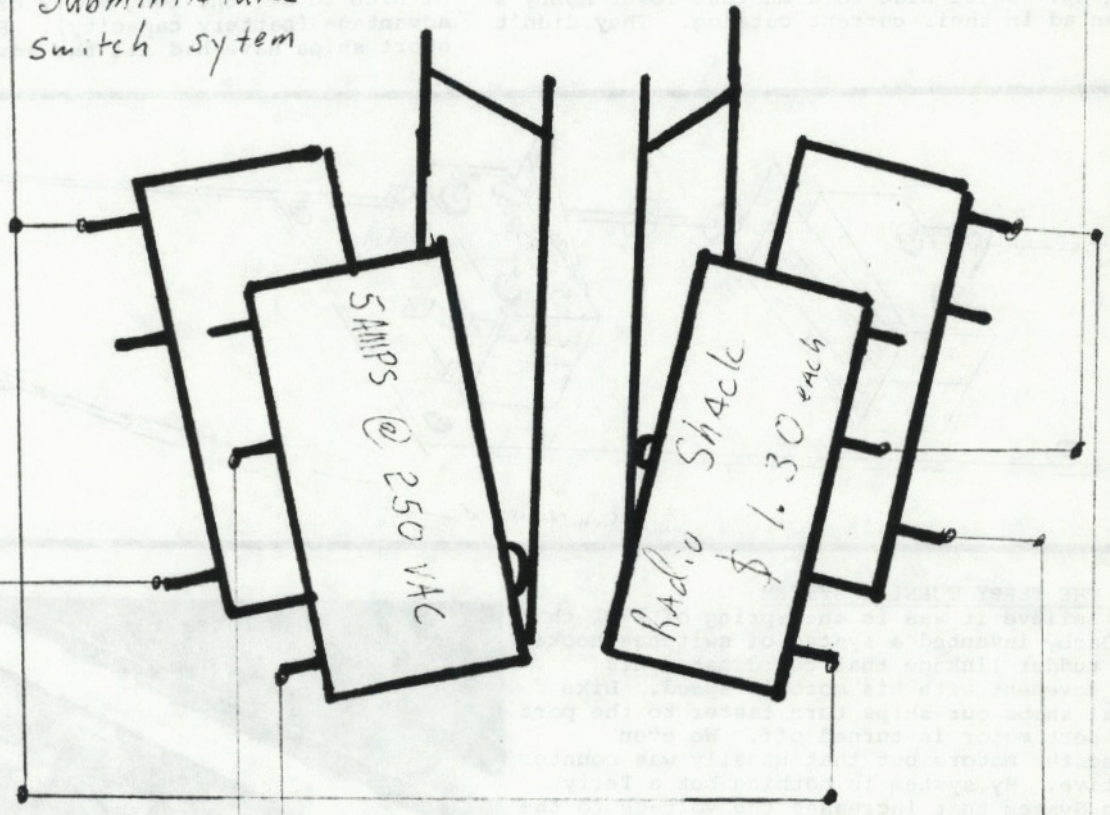
Resistor Panel



5 WATT  
0.47 10%  
# 271-130  
50¢ each

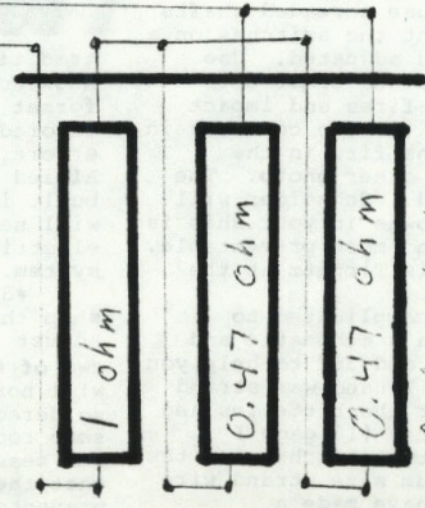
Black

Subminiature switch system



Black

Resistor Panel



RADIO SHACK

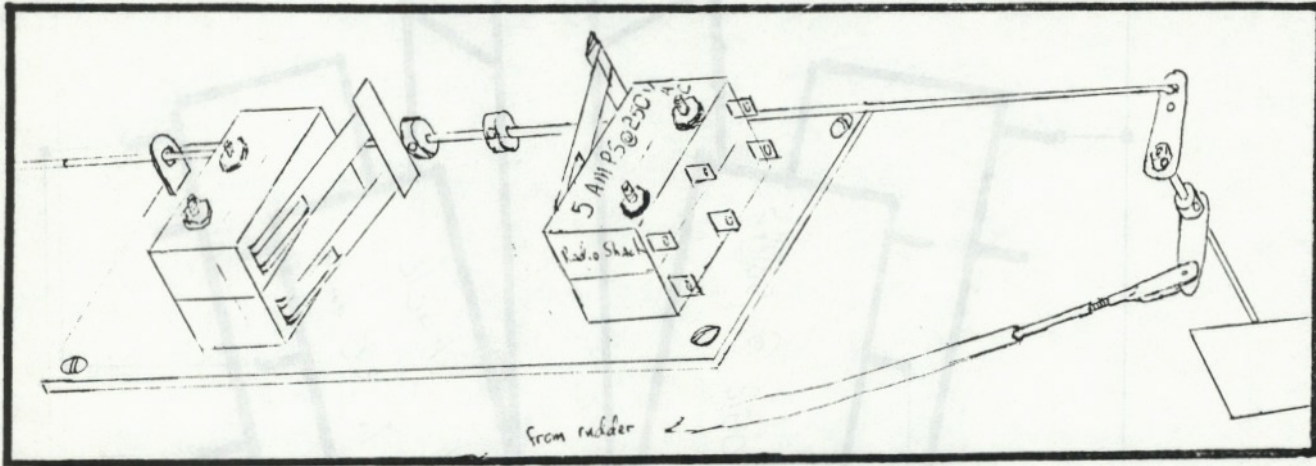
The electrical schematic for this throttle is on page 381. I did make one internal adjustment to this switch before I installed it. I opened it up and found two small springs. Cut one "loop" off each spring with a pair of dikes. The other alteration was for the linkage hook-up. I melted a hole through the nylon switch. Look at figure # 347 to see why this hole was useful.

#### THE BATTERIES

Most combatants use Gates or General Electric sealed lead acid batteries. The cells look like large "D cells". They called them "X-Cells". Each cell is 2 volt and 5.0 amp hour. They come in batteries of 12 volts. They were available at Surplus Electronics in Ohio and the Jerryco Company but both of these sources of surplus electronics x-cells have apparently dried up. Scott Lide told me that Tower Hobby's had an ad in their current catalog. They didn't

call them x-cells but they looked like x-cells. They were \$24.00 for 6 cells which is about \$10.00 more than we are used to paying. Gell-cells may be the batteries of our future. You can get them in about any size you want. They are good looking and just about as good as lead acid. Scott Lide went to a place that had about 30 different sizes of gell-cells, competitively priced.

My Lutzow is a 13,500 ton ship. That's a pretty large heavy cruiser. A 10,000 ton Treaty cruiser would be too small to displace the weight of 6 x-cells. My turning system wastes electricity so I imagine a ship smaller than the Lutzow would not be able to use this system (as described in this article). The Schematic shown on page 381 is for Tamya 380 6 volt motors with Dumas 0.9-1.5 two bladed nylon props. It's kind of nice to see the long heavy cruisers have an advantage (battery capacity). For years, the short ships have had all the advantages.

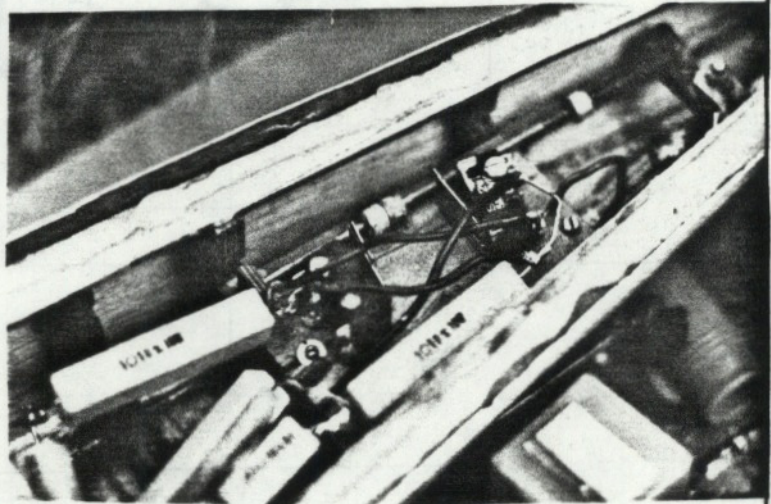


#### THE TERRY TURNING SYSTEM

I believe it was in the spring of 1981 that Terry Darby invented a system of switches hooked to his rudder linkage that coordinated his rudder movement with his motor's speed. Like the real ships our ships turn faster to the port if the port motor is turned off. We even reversed the motors but that usually was counter productive. My system is nothing but a Terry Turning System that increases the voltage to the "outside" motor in a turn as well as turning off the inside motor. So, what happens, well, the left motor turns off in a left turn and the right motor doubles or triples its power and vice versa for a starboard turn. I'm going to discuss this topic in three sections, linkages, wiring, and resistors.

#1. The linkage system needs to be packed with places to ADJUST the linkages. It is also important to keep the "slop" to a minimum. As you can see in the drawing, use threaded shafts and dubro collars. Also mount the switches on a board that can be removed and adjusted. Use bolts to "stack" the switches and armor the system to prevent electrical fires and impact damage. Note the BB between the two contacts in the photo. That BB caused the fire in the water-tight box shown in the other photo. The "hole" is in a plexiglass lid. Schneider will tell you that nuclear melt downs in your ship is worse than post nasal drip and more preventable. This melt down occurred in his Tirpitz at the South Central 1986 Regionals.

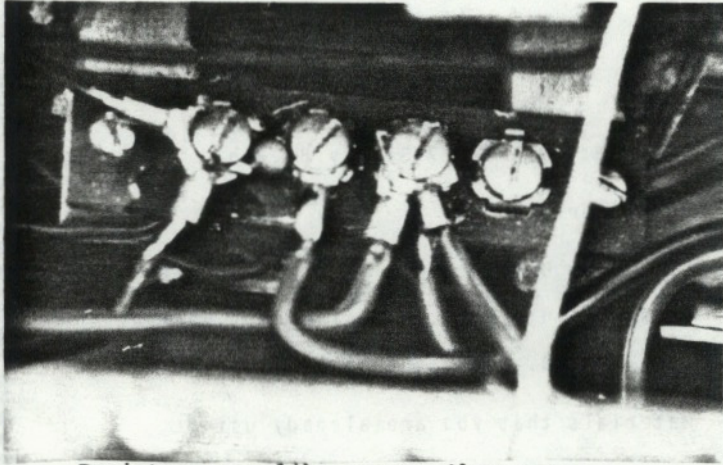
#2. The wiring is too complicated to describe, so I mixed art with a schematic and offer it to you on pages 381 and 382 to help you wire up your ship. The wire I used was strand wire. I used large wires for the batteries and throttle and transmission lines (16 gage I think). From the motors to the switches and the resistors panels I used medium size strand wire (20 gage I think). I would have made a



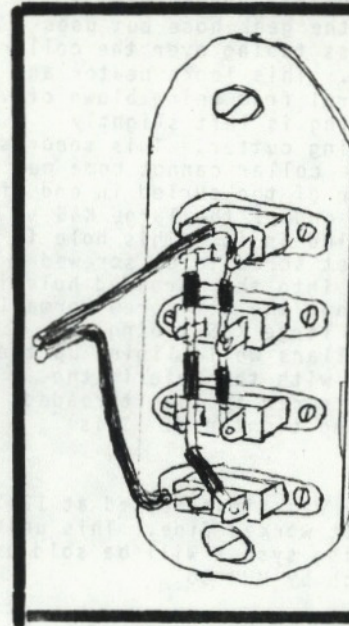
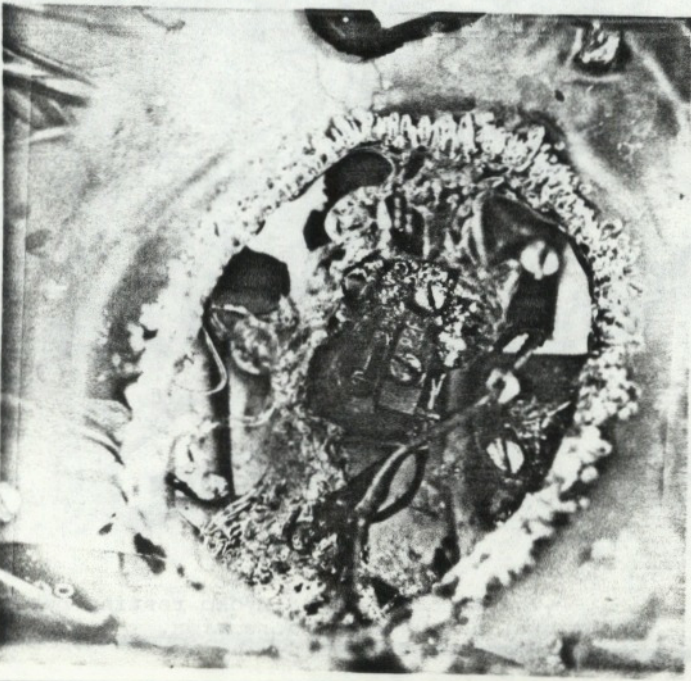
traditional electrical schematic but I didn't know how to make it in a "connect the dot" format for the Allies. Allies may wish to use colored yarn, it's prettier and less critical of errors. Yet, it maintains that all important Allied characteristic, it burns! Just as you built in "adjustability" in the linkages, you will need to build in "plugability" into the electrical system. I used 26 plugs in my system. It is rookie to do less.

#3. The resistor panel is a board in your ship that allows you to plug in resistors to adjust your ships speed (voltage). There are two of these panels, one for each motor. You will note in the first photo that resistors are soldered into the system everywhere there is some room. This makes your ship look complicated and messy, like Schneider's old ships. The fact that they are hard soldered into the system also prevents you from adjusting your resistance due

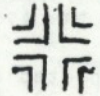
to battery drain, like between sorties. Later I built small panels that allowed me to plug in resistors at the lake side. They look complicated and people will think your smart if you have these in your ship. Use the big porcelain type of resistors and armor the sides.



Resistors are like women, they are different in different situations (Allied women chew tobacco). If you connect them in series, their resistance is simply the sum of each of the resistors ( $1+1+1=3$  ohms). If you connect them in parallel they add up to the sum of their reciprocals ( $1+1+1=0.333$  ohms). You may have noted that the resistor panels have the first plug in series with the rest of the plugs in parallel. That means if you plug in a 1 ohm resistor in that socket you will have a minimum of one ohm resistance to that motor. If the next plug has another 1 ohm resistor then you have 2 ohms of resistance. If the third plug has another one ohm resistor in it you have 1 1/2 ohms of resistance. As you can see, you will need to play with your resistor combinations before you can accurately anticipate what amount of resistance will be the optimum. The amount of available plug receptacles that you build into your ship is up to you. One in series and 3 in parallel is as many as you should ever need, probably, one too many. It should be noted that the first socket (the one in series) must have a resistor or a "plug" in it in order for the circuit to operate. This sounds complicated, I guess you could start your system like I did. Just solder in a 1 ohm resistor...at first.



Back view  
of plug-in  
resistor  
panel.



#### CONCLUSION

This technology is in fashion, it may change many times, then be out-lawed. If it becomes a necessity for victory then I would vote against it. At present it is a valuable aid to the larger, slower turning ships. Like other technologies, if it gets out of hand (so that every combatant will need a degree in electronics) then it needs to be voted out of the hobby or regulated.

This system can be improved by by-passing the resistors when the ship is in reverse. That will be my next project. It really is fun to think of all the different variations. Ships with 3 & 4 shafts have all sorts of possibilities. My Scharnhorst will use this system except that the middle shaft will only be activated when the ship is in reverse. That prop will be mounted backwards. It will not be active when the ship is going forward. It may come on at half power when the ship is in a turn. I told you the possibilities were exciting!

#### OBSERVATIONS OF THE FOUNDING FATHER By Stan Watkins

##### Greetings Combatants!

Mk 27 Safety Breech

On August 30, 1986 the first Mk 27 Safety Breech was assembled and tested. The reason for its development was to try to enable an acceptable version of the "geek" hose seal gun to be manufactured and used because of the inherent lower muzzle velocity of the "geek" over the o ring seal guns (including the Foster breech and others).

The old "geek" hose seal has several disadvantages. The most significant of which are: 1. It's floppy (the barrel can move around alot) and 2. It's ugly (eeuky) looks terrible!

These two problems have been eliminated with the Mk 27 Safety Breech. How? By securing the barrel end of the "geek" hose seal to the elbow end. This is done by installing two "Du-Bro" 1/4" I.D. collars. One goes on the elbow end of the geek seal. The other collar goes on the barrel next to the geek seal. A piece of large K&S brass tubing (the one that just fits over the collars) is then pushed over both of the collars (which covers up the ugly geek hose).

Once again, the Mk 27 Safety Breech uses a collar at each end of the geek hose but uses a piece of large K&S brass tubing over the collars to stabilize the barrel. This looks neater and also restrains the barrel from being blown off. One end of the K&S tubing is left slightly curled in from the tubing cutter. This secures the front collar as the collar cannot come out of the smaller diameter of the curled in end of the tubing. The other end of the large K&S tubing has a hole drilled in it. This hole is drilled to allow the set screw to be screwed through the K&S tubing into the threaded hole in the collar (the hole that the set screw normally is screwed into). The large K&S tubing is pushed over the two collars while lining up the hole in the K&S tubing with the hole in the elbow collar. The set screw is then threaded into the collar hole and tightened. This secures the assembly.

The completed assembly was first tested at 12:34 on August 30, 1986. It worked fine. This unit along with some mounting system will be sold as The Mk 27 Safety Breech by MWP Co.

An additional change is also necessary for the Barrel. To get the barrel up to 1/4" O.D. it is necessary to place a piece of 1/4" O.D. K&S tubing over the standard K&S barrel brass tubing.

The elbow collar should be soldered onto the 1/4" copper tubing with the set screw hole facing up (for easy access). The barrel collar should also be soldered to the barrel. On both ends (barrel and elbow) allow about 1/4" of the tubing to extend beyond the collar. This length is necessary for the geek seal to be attached to the tubing.

This system produces a rigid assembly that is not unsightly. The other disadvantage of "geek seal length" remains, but is not a really serious problem except for ships that have very small turrets.

Now let's try it and reduce the danger of shooting someone's eye out. I'm removing my Mk25's from my Oregon City to reduce the danger to my friends, family, and fellow man. Wouldn't our God want us to reduce the risk of injuring his human creatures, where possible?

Let's Battle!(With Compassion)

Stan *Stan*

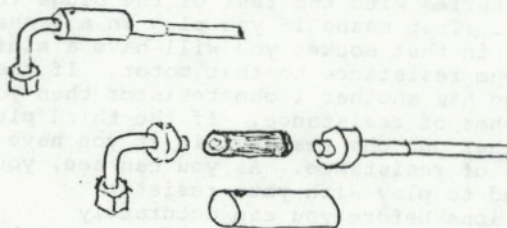
Fabricating a Mk 27 Safety Breech

New materials:

1. 2 each Du-Bro 1/4" (I.D.) collars p/n 244.
2. A 1 1/2 inch long piece of large diameter K&S brass tubing (check for size when you buy the collars).
3. 1/4" O.D. brass tubing (K&S).

Materials that you are already using:

1. piece of 1/4" copper tubing to form the elbow.
2. Barrel Brass
3. Solder
4. 1" length of "geek" rubber hose.
5. 1/4" brass compression nut and ferrule.



## NATS TO YOU

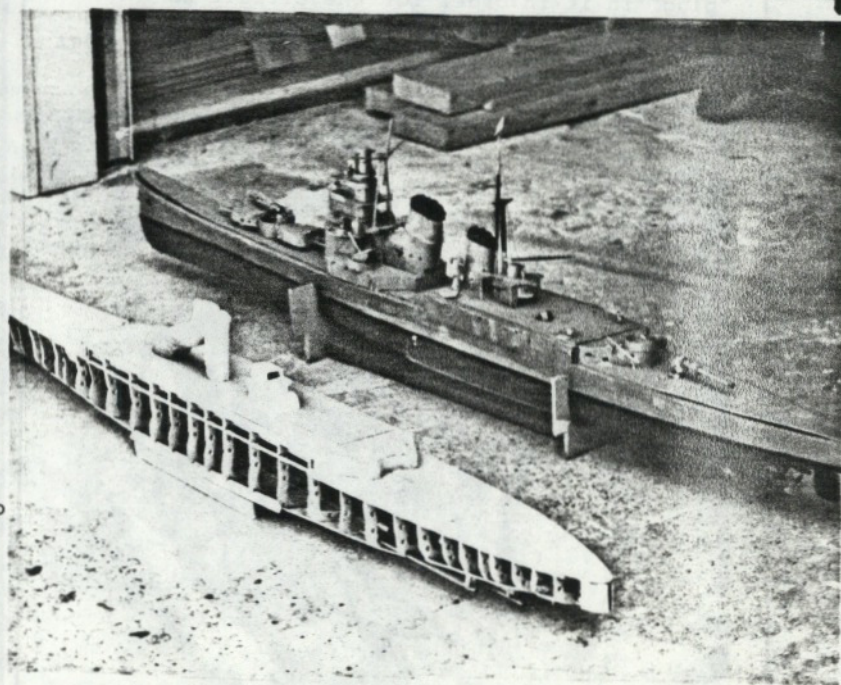
By Jeff Poindexter

### IJN MYOKO DECOMMISSIONED

The Japanese heavy cruiser Myoko, was taken out of service and decommissioned July 21, 1986. She was launched Feb. 1984 and began her battling career in April of the same year. The cruiser was a veteran of six regional battles and three national combat events. Myoko won the Rookie of the Year title at the 1984 National event. She also was the high point ship at a regional event held in Amarillo, Texas.

After all useable systems were removed from her hull, she was placed in permanent drydock as a museum ship. These systems will be used again in her replacement, the IJN heavy cruiser Suzuya, now under construction at the same facility.

Capt. David (Dirty) Haynes



The decommissioned Myoko resting behind the Suzuya, now under construction.



1986  
FALL REGIONALS IN THE NORTHEAST - ANNAPOLIS, MARYLAND

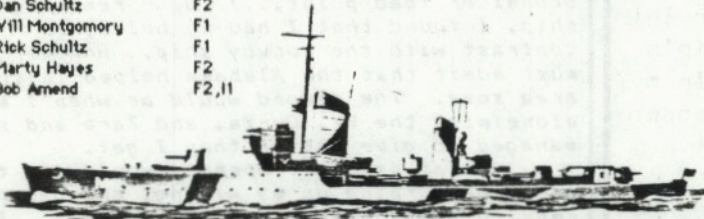
SHIPS	CAPT	CLASS	Fleet #1	Fleet #2	Fleet #3	Individual 1	Individual 2	Total Score
Andrea Doria	Carl Camurati	3	477	1224	573	430		2704
Colorado	Dan Schultz	2	557	329				886
California	Will Montgomery	2	557	1427	669		280	2933
Conti Cavour	Rick Schultz	3	790	860	945	250		2845
Warspite	Marty Hayes	2	722	1003	1102			2827
Lutzow	Bob Amend	4	658	667	283		1020	2628
Zara	Dan Schultz	4			478			478
Damage table		A	2370	2580	2330			7280
		B	1590	2980	1720			6290

Winner B A B Andrea Doria Lutzow

RIBBION AWARDS

Carl Camurati  
Dan Schultz  
Will Montgomery  
Rick Schultz  
Marty Hayes  
Bob Amend

F1,II  
F2  
F1  
F1  
F2  
F2,II



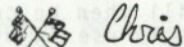
Extreme Points  
-OR-  
Best and Worst  
By Chris Pearce

I must say that the best was just being a part of the excitement, and actually getting to know all of you better. Besides that, there was actually getting to fight some real battles. As far as the actual battling goes, here are some of the highlights:

- Worst moment: Watching the Allies get slaughtered.
- Second worst moment: The miserably short (even if glorious) career of the Surcouf.
- Scariest moment: On Sunday when I was shooting at what I thought was Curly's ship, I saw Curly hand the transmitter BACK to Carl! And Carl wondered where the hull hole came from...
- Almost best experiences: Shooting the Yamato and seeing it go DIW. However, I had to go get tangled on the skier...
- Greatest, most glorious experiences: Campaign battle, at the beginning I was one of the initial units, and when the first convoy came through, I was the only Allied ship to effectively penetrate the escorts and rake the convoy ship. There, I took on about half the Axis fleet with success, until I rammed Brian. Then, while on "30 minutes" I found that I had taken not a single hull hit! To add to this, the convoy ship was taken out and found to have three below the waterline hits in the bow, and through both sides, and I can remember that firing pass! And to add to this, I was later the only Ally in a sea of Axis, and still gave better than I got.

While the rest of the week was not as glorious, I had a fun time. I also found out that "A" fleet battling is great, especially with a rubber ship. The worst part of the week was saying goodbye; I just couldn't handle it. So now I must patiently wait until my new battleship (heh, heh!) is completed and I get to see you all again. Until then, thanks and God bless you all.

Ⓟ No BOZOS!

 Chris

Two opposing fleets of tired, war worn warships met on a lonely pond in Maryland for a last major battle before the winter weather closes in. The news from the Northeast that we had a regionals (the fall), and the biggest news that Carl didn't win high point this time. We had 8 skippers and seven ships in attendance. This was no record but wasn't bad really. Most of the skippers were Maryland Attack Group people with only Carl Camurati and the Andrea Doria from out of state. Other attendees were: Rick Schultz (Conti Cavour), Dan Schultz (Colorado and Zara (Rick's)), Bob Amend (Lutzow), Will Montgomery (California), and Marty Hayes (Warspite).

It was felt that putting both Italian BBs on the same side would weight the side too heavily in one direction so... we divided up the sides as Side A = Andrea, Colorado, California vs. Side B = Conti, Warspite, Lutzow (Zara was used by Danny on the second day replacing the heavily damaged Colorado on A fleet). The Fleet scores were closer than might have been in the last year or so. Side B won Fleet 1 and 3 with 700 or so points each and Side A won Fleet 2 by a couple hundred points. Several individual battles were fought, the first with Andrea Doria captained by Carl beating Colorado driven by Rick. The second was Lutzow (Bob) against Will California (Bob's former ship). The California when out of control and steamed in slow circle while it's previous owner tried to sink it. Lutzow won by better than 800 points.

During the regionals there were three sinkings: Colorado, Lutzow and Zara. High point winner was Will Montgomery the rookie of the event. He had some experience with Rubber ships having built several kit boats up but has just started in R/C Combat through the Maryland Attack Group. Will was going to build a Salt Lake City Class Cruiser and ordered the plan set. However, when the hull (stripped) of the California came up for sale, he bought it and refitted it for this battle in less than three months. The California packed three guns and two pumps, and was very reliable through the fleet battles. Side B picked a lot of silver BB's out of their hulls during these fleet battles and California was the ship sending them to us.

Martin A. Hayes  
Captain of the HMS Warspite

TO THE WIVES AND GIRLFRIENDS

By Hope

Glad to have your lover back. ME, TOO! I just thought I'd check in to see how your "I'll get it done after NATS" are doing.

Fluegel went gun-ho at first. He seemed crazed (I guess he seems that way to a lot of the guys all the time.). The kitchen fan was installed - it waited through 2 "after NATS" campaigns. One day I came home from work, and he had decided to paint the outside eaves. A major repair job on the car was taken care of. I couldn't figure out what the rush was. Then school started. As you know Fluegel teaches High School and has to go to school two nights a week, after teaching all day to earn a Teacher's Certificate. Well you've guessed it - Now it's not only wait until after NATS, it's wait until summer...when it will be after NATS. That gives him about a month to do his "I'll get it done after NATS". I think I'm losing ground how about you!

RULES COMMITTEE MEETING----by Jeff Poindexter

On Friday night July 18, 1986 the 'Rules Committee' voted down a proposed moratorium that would have outlawed any rule changes for the next FIVE YEARS! Can you imagine battling for the next five years, against a ship(s) with a siliconed interior(s)? I personally didn't care if a ship had silicone in it or not as my only desire was to try and 'hole' another ship as many times as possible. (If a ship passed the 'Hull Drop Test' it was O.K. by me.) The rules, before the 1985 rule change, stated that the INTENT of construction was to allow enough B.B. damage to sink a ship if its pump(s) could not handle the water let in. The new rules only require that a ship's construction pass the 'Hull Drop Test.' In my opinion, everyone who voted on those proposed monumental rule changes are the ones that really caused the the silicone problem. (I voted no!) Voting on any package just because it was late was not a good idea and can lead to other problems. Besides being 'tired and it's getting late' are normal for this hobby anyway; or I thought it was.

However that is history and we will have to live with it and several other problems still in the rules. Now, back to my original thought. The '5 year moratorium' brought to mind an article penned by an old friend of mind, named Thomas Jefferson. And now for your enlightenment a piece entitled 'ETERNAL FOE OF TYRANNY' by THOMAS JEFFERSON:

"I AM NOT AN ADVOCATE FOR FREQUENT CHANGES IN LAWS AND CONSTITUTIONS. BUT LAWS AND INSTITUTIONS MUST GO HAND IN HAND WITH THE PROGRESS OF THE HUMAN MIND AS THAT BECOMES MORE DEVELOPED, MORE ENLIGHTENED, AS NEW DISCOVERIES ARE MADE, NEW TRUTHS DISCOVERED AND MANNERS AND OPINIONS CHANGE, WITH THE CHANGE OF CIRCUMSTANCE, INSTITUTIONS MUST ADVANCE ALSO TO KEEP PACE WITH THE TIMES. WE MIGHT AS WELL REQUIRE A MAN TO WEAR STILL THE COAT WHICH FITTED HIM WHEN A BOY, AS CIVILIZED SOCIETY TO REMAIN EVER UNDER THE REGIMEN OF THEIR BARBAROUS ANCESTORS.

I HAVE SWORN UPON THE ALTAR OF GOD ETERNAL HOSTILITY AGAINST EVERY FORM OF TYRANNY OVER THE MIND OF MAN."

Now did he or did he not sound like a combatant to you? (Could we of this and pass ex. boards be accused for being tyrannical?)

May the Force be with you, good hunting, and I'll see you at the '87 Nats. *J. Poindexter*

FROM THE SECRETARY OF DEFENSE  
By Jeff West

My Best and Worst  
By Chris Pearce

It would seem that Fluegel didn't ask us to write about our best and worst, etc. of the week. Well, I will anyways... As far as the best go, I have several contenders, the first of which is just being with all you wonderful people. In the running would also be finally being able to fight in the big fleet. As for specific battling favorites, they would be in the campaign battle, first at the beginning. All the other Allies had hung back, as usual, and so I plunged in to attack the Axis convoy ship. This was done to good effect, and I also managed to shoot up much of the Axis fleet in the area, until I ramsunk Brian Schneider (bad point...) Upon removing my ship, I found that I had no holes, in contrast with the convoy ship. However, I must admit that the Alabama helped in this area some. The second would be when I was alone with the VV, Doria, and Zara and still managed to give better than I got.

As far as worst moments would go, there would be burning up my wiring, and having to rebuild many of my ship's mechanisms. That and having my sub sink itself. The worst would probably be seeing some of the other Allies go out and get plastered continually, and sink repeatedly. In "B" fleet, we were making victories; talk about winning the battles and losing the war... The worst moment of all was saying goodbye to all of you. It was over too soon. But then I slept for about the next thirty hours too...

This would seem to bring us to the idea of lessons learned. My first lesson was to make sure and have enough batteries. Luckily, James Foster let me borrow some. The most important was simply to make sure and do your ship right, and thoroughly test it out before Nats. Don't do anything "good enough"; it will come back to haunt you. (see sub sink...) Don't leave anything to chance. Thanks to all of you for making it such a fine week, and for all the help you gave me on my ship. Best of luck to all of you.

God bless you all,  
*Chris Pearce*

PRODUCT EVALUATION

By Stan Watkins

PRODUCT EVALUATED: Radio Shack DC Motors 1.5-3.0 volts Cat. No. 273-226 (7/20/86) "special purchase"

Greetings Combatants! I have now created a Hull Busters format on the Adam Computer for product evaluations. The first evaluation concerns the above listed small motor.

While at the 1986 Nats Wayne Stevenson gave me these motors if I would perform an evaluation of them for suitability for destroyers. With Radio Shack motors it is necessary to quickly determine if they are acceptable because they will soon discontinue their availability. So, this evaluation is being performed on Monday July 21, 1986 (Jeff Poindexter's birthday).

The motors will then be compared with the motors that I currently use in my 0" Bannon for several parameters. The test voltage was to be 2 volts for the new motors and 4.8 volts for the old

FRIDAY AT THE NATS  
By Old Man Schneider

On Friday the day started with a battle between Curley and Millholland. In the process of defeating him Millholland shot a hole in the center of a target on Curleys snipp. A battle between Dan Dees and Lisher was canceled when a meltdown occurred on Dans snip. The first mixed fleet battle consisted of Brian, Haynes, fluegel and Carl and James west against Tom and John Jass, Stan and Dan Hamilton. Brian went dead in the water and promptly announced it by yelling "Im dead in the water". Several allies promptly responded but Brian did not sink despite several holes below the water line. The second fleet battle had Foster Shepard, Dan Dees Gerald roberts poindexter Shult z Lisher, and the Salt lake city init. The allies were defeated but it was quite interesting because Millholland sank after ramming Stan.

1986 NATIONALS SORTIE AVERAGES

NAME	SHIP CLASS	TOTAL POINTS	TOTAL SORTIES	AVERAGE SORTIE
FOSTER	1	9564	15	634
SCHNEIDER, M.	1	6059	12	505
MILHOLLAND	1	7117	16	445
JASS, JOHN	1	2833	7	405
DARBY	1	2816	8	351
WEST, JEFF	1	1513	9	168
LIDE	1	967	7	138
WEST, JAMES	2	5447	12	454
ROBERTS	2*	1481	4	370
SCHULTZ, R.	2*	1125	3	281
DEES	2*	1096	4	274
HAMILTON, D.	2	2674	11	243
HAYES	2	2660	11	242
POINDEXTER	2	3646	16	240
SCHULTZ, D.	2	1466	12	122
LISHER	3	3822	9	425
DESKIN	3	5931	14	424
SHEPARD	3	4223	10	422
CAMURATI	3	5199	14	371
FLUEGEL	4	5714	15	381
HAYNES	4	4244	12	354
SCHULTZ, R.	4	3629	9	337
DARBY	4*	1205	4	301
WATKINS	4	2980	11	271
JASS, TOM	4	2231	9	248
BARRETT	4	2243	12	187
SCHNEIDER, B.	4	2105	13	162
VITTECH	4	926	7	132
STEVENSON	4*	468	5	94
PEARCE	4	740	10	74
JASS, JOHN	SS	564	4	126
ROBERTS	SS	787	9	87
HAYES	SS	364	4	76
WATKINS	SS	252	4	63
WEST, JAMES	SS*	86	3	29
HAYNES	SS	188	4	27
PEARCE	SS*	-142	1	-142

\* INSUFFICIENT SORTIES TO QUALIFY

motors. During the performance of the test it became immediately apparent that the new motors were either higher than the 3 volt max listed or else were totally useless. Both motors were subsequently tested at 4.8 volts.

The Dumas 3002 (.09-.15) propellor was used for the prop loading tests to simulate the drag of the shafts and universal misalignment that might be expected in a typical installation.

Parameter	New motors	Old motors
1.No Load current	260 ma	145 ma
2.Relative RPM	slower	faster
3.Prop load Current	1200ma	1200 ma
4.Heat accumulation	Cool	3 minute test)
5. Apparent thrust	weak	Much stronger

The reliability of the old motor is known to be acceptable actual ship testing would be necessary to determine the reliability of the new motor. Some smell of damaged insulation seemed detectable in the new motors. The smell factor indicates that the reliability may be less with the new motor.

Summary:

The new motor provides much less thrust than the old motor with similar current consumption. It is slightly smaller and lighter but these advantages are far offset by its current hungry nature. I recommend that it not be considered as a propulsion motor for any R/C combat warship. Sorry, Wayne we did not luck out on this one.

CONCLUSION

That was kind of stressful, I didn't think I would have enough articles for 6 pages. Thanks Authors! The rest of this issue is the wrap up of the 1986 NATS coverage. The "postings" are by John Jass's Dad. Thanks!

The next issue will contain the Annual Survey. If you want a question to be included just write it down (long hand is OK) and send it to me by Nov 25 (deadline). Well, the South East Regionals will erupt next weekend so if an Author is there we can look forward to reading about a hot battle while there is snow on the ground.

God Bless You. Fluegel

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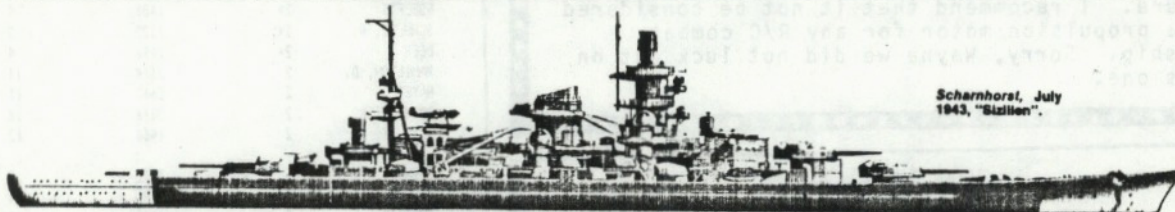
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1986 NATIONALS TOTAL POINTS BY BATTLE

NAME	SHIP CLASS	FLEET					SMALL SHIP		MIXED FLEET				FLEET					ONE/ONE	TOTAL	
		A1	A2	A3	A4	NIGHT	SS1	SS2	M1	M2	M3	M4	B1	B2	B3	B4	B5			
FOSTER	1	363	1027	647	1704	480													3720	950
SCHNEIDER, M.	1	713	927	847	1704				357	369	1131	1194							380	605
LIDE	1												511	-279	726	-111	120		20	96
WEST, JAMES	2	711	899	916	1491	420	43	45			990								20	553
ROBERTS	2						86	130					243		436	83	60			226
CAMURATI	3	410	670	585	1278	160				185	-92	848							1340	519
DESKIN	3	610	770	785	878	360			718										1810	593
SHEPARD	3	610	770	393	1278						277									422
LISHER	3	410	770	585	545						277									340
SCHULTZ, R.	4	508	642	654	454	300					231								180	401
FLUEGEL	4	408	642	654	1065	300						707								571
HAYNES	4	508	642	654	1065		43	65	398			707								170
SCHNEIDER, B.	4					300			598			707								310
BARRETT	4										231	707							120	224
										90		746								
MILHOLLAND	1	569	786	882	957	38			349		196									3340
DARBY	1	769	586	682	533				218		497	730								401
JASS, JOHN	1	669	786	421	957		104	400		90	497									392
WEST, JEFF	1					238			349					460	208	128				151
HAMILTON, D.	2	273	88	571	838	208					696									267
DEES	2		688	368																40
POINDEXTER	2	473	688	771	838	208			305			323								240
HAYES	2	573	688	371	371	208	-96	400		126		323								296
SCHULTZ, D.	2									126	323		303	182	112				220	200
WATKINS	4	294	491	551	598	149	52	200			497									400
JASS, TOM	4	481	491	263	598						398									223
UTTECH	4								218		497									92
PEARCE	4						-142						231	288	130	-170	104	157		59
STEVENSON	4												231			80				46
HAMILTON, M.	3															80			157	240



Scharnhorst, July 1943, "Stalpen".

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