

# HULL BUSTERS



## INTRODUCTION

Take that Allies! Needless to say I need six appropriate Hull Buster logos a year, if you have any ideas please let me have them. By the way Allied Executive Board, this is my proposal for the new Club Patch...giggle,giggle. Well, it seems war is eminent, and I know we all have a bad case of the combat itch, so sit back and enjoy the last Hull Busters before the 1985 ChampionshipShips.

## Launching the Salt Lake City By the formerly sane Chris Pearce

Well, since Fluegel seems to have discontinued the At the Dockyards section, I have decided to write this little article. I forgot to take a camera and take pictures, so, here is the story. Having the hull of the SLC nearly ready, I rushed hooking up the rudder so that I could get it in the water today, March 30, that is. I screwed the deck on, and sailed forth at the rather shallow hockey pond at our school. Shortly afterward I learned something: never use unglued neoprene tubing for a universal.

After I waded out in the water and pulled her out, I took the weeds off the propellers and glued the universals. Then I waded out and set her in the water, and sailed around until the propellers were fouled again, which didn't take long. I then reglued one of the tubes, and went to a deeper spot. When she did run for a while she was slow, resembling half speed on the ships I saw at Alabama. Lesson two: Don't skip on motors. Then there was my last realization, she couldn't turn worth dirt; I was glad there weren't any armed merchant ships out there.

After wading some more, and sailing a little, I packed up and went home, feeling humbled. At least I didn't have any problems with controls, except for having the rudder backwards, which I solved by flipping the switch on my transmitter (72.870, plug in crystals). I don't think I had any problems with leaking, except over the sides. I got something else out of the experiences: While I was wading out to the ship once, I found a hockey puck on the bottom. As I went home I learned one more thing: Lesson 3: Don't test your ship in thirty-six degree weather. Boy was it cold.

Humble, but optimistic,  
Chris Pearce

## Safety, Safety, Safety.....

Safety, Safety, Safety.....  
by Carl Camurati

To date, there have not been any serious accidents in our hobby. Great! But the odds are being stacked against us every day we battle. Please keep this in mind when you go out to test your ship, or when you are in the shop, and especially when you are at a battle.

MKIX, Forster, and Geek guns were powerful and could do serious damage to one's body. Now the "new" generation of gun is about to be deployed (piston or ball bearing). These new designs use much more freon per shot than the old spurt guns. With this additional use of freon comes the tremendous power that is typical of single shot guns. Even when the gun is adjusted moderately (de-tuned), it is powerful. Safety pins are a must. It is a simple thing to do and the consequences of not placing the safety pins in the barrel are not worth the risk. Here are a few additional safety suggestions that Bill Hahn and myself have worked out:

1. Waterbath tanks are necessary so that we limit maximum pressure of the freon supply.
2. All guns at 0 degrees or de-elevate (no-elevate)
3. Spectators not permitted in pit.
4. Pit area enclosed by a 3 foot "skirt" of canvas. (to prevent BB's from leaving pit area.)
5. The use of Freon 12 or Freon 500 because of its lesser vapor pressure at the same temperature.
6. Special spectator area. (seperate from pit and battle area).

## Partial Results of Single shot gun tests (Ball Bearing or Piston)

1. Point blank into safety glasses. Polycarbonate - cracked but did not penetrate. Soft PVC (cheap shop glasses)- dented but didn't penetrate.
2. "Coke" can at 15 feet: Large thumb sized dent. Beer bottle at 15 feet- cracked bottom.
3. Corrugated cardboard at 30 feet: 50% went through, 50% stuck in one side.
4. Masochist test: (Bill's partner) at 45 feet: into the back of this not so willing person. What he said after he stopped screaming can't be printed here. Left a large welt on his back for a long time.

Tests 1 and 4 are the only tests that interest me. Test 1 makes me feel good about the glasses we use, but test 4 makes me very nervous. All of these tests were made with a standard ship tank, standard captive "O" ring breech and barrel and standard piston or ball bearing single shot assembly. When one changes to a restrictor tube, then the power comes down to a more reasonable level. Yes, I feel the single shot Geek gun would be better from a safety aspect. The reason I feel this way is that with a restrictor tube gun, the amount of adjusting is minimal and with waterbath tank, the maximum pressure is limited. This simple solution is really not that simple, I like the "O" Ring breech better because of its easy adjustment and readjustment, so do a lot of other people. I would find it very hard to go against my own preferences, but in the interest of safety, I would go with restrictor tubing if I had to.

In a past Hullbuster, the northeasterners were called "chickens of America" by our founding father. We are chicken, of dangerous situations. The way the Nationals was set up last year was safe for spurt guns. If the same setup was used for single shot, I feel it would be unsafe.

We in the northeast want to avenge this "Chickens of America" statement, and the only way I know of doing it is to change Stan's title to "Foundering Father." We plan to prove this statement at the coming Nats.

Carl  
CAR



### NATS TO YOU

Just think (it's hard, Fluegel, I know) --- this is my last 1985 NATS TO YOU column. The event is only a month away. You should have received the official entry form (if not, drop me a line) and we will all gather at Springfield soon. From the indications I've heard, there will be a large contingent of eastern (Camurati type) battlers as well as the usual obnoxious Texans and even a stray Yankee or two. The number of battlers should be the greatest ever. If the experience at Decatur, Alabama is any indication, the singleshot battling will be exciting and challenging.

#### ITEMS TO BRING

In addition to your usual spare parts and tool boxes, be sure to bring the following items to Nats:

- NAMBA Membership
- Safety Glasses
- Electrical Outlet Box
- Flashlights
- Mosquito Repellant
- Lawn Chair
- Blanket (the dew is heavy)
- Credit Card(s)

#### SAFETY

At the Nats I will be awarding Penalty Points for Safety Violations. For the first violation a person will be given a warning only -- to let you know of the offense. The second, and subsequent, violations will cause you to be penalized just as if you had ram damaged someone. Safety Violations will carry the following penalty points:

- No Safety Glasses On....50
- Guns Not Pinned.....50
- No Frequency Flag.....50

We will have a separate tweaking area at Nats to separate the pits from the firing area; this should increase safety since there will be no "loaded" ships in the repair area. Since I'm also the official scorer during Nats, I will be able nightly to penalize you on the score sheets for your safety lapses. I want to warn all of you about this now, so it doesn't come as a suprise at Nats.

#### 1985 NATS COVERAGE

I have promised Fluegel that I would write up the 1985 Nats coverage which will be included in the August issue of Hull Busters. By making this public announcement at this time I will force myself to meet this deadline. I plan to include photos of all the ships present at Nats. (Plus plenty of photos of those Jass ships -- they're such good looking models. Certain Axis hulks that masquerade as ships may be omitted to save the embarrassment of seeing them on the printed page.) We will try black and white photos this time in hope that they will Xerox better than the colored pictures have. We are again planning to video tape the battles also, so you can have a historical record of the week.

#### MUSTER

The captains listed below have indicated that they will be at Nats (some have even paid their entry fee):

- Mike Deskin
- Carl Camurati
- Dan Hamilton

- Stan Watkins
- D.W. (Don't Win) Fluegel
- David Haynes
- Steve Milholland
- James Foster
- Chris Pearce
- John Jass
- Jim Lisher
- Cris Lawson
- Jeff West
- Martin Schneider
- James West
- Jeff Poindexter
- Marty Hayes
- Jerald Roberts
- Terry Darby

You wouldn't want to miss this one, would you? Send your entry fee in NOW and join the fleets as we relive the WWII era when Battleships were Queens of the Sea (as long as an aircraft carrier wasn't within range).

#### RULES

We will be following the 1985 R/C Warship Combat Club rules. Get your copy from Jeff Poindexter if you haven't already. The price is \$1.50. There will be no "blanket" challenges allowed for weight or hardness. (I won't permit any one contestant to challenge, for instance, all ships for hardness on Monday at 9:00 AM.) Challenges to a particular ship will be permitted only after that ship has battled. This will save time and effort.

All ships that participate in a battle MUST have a full set of main turrets (Section D, Rule B, page 7). This rule will be enforced -- so forewarned is forearmed. Also note that this year that "non damaging rams shall have no penalties". I will be the final judge on those rams that are considered damaging. Read Section 5 (page 23) for the Ram Rule and penalties.

#### FACILITIES

Make your reservations soon for your room at the Battlefield Inn. Drop me a line if you want me to help you locate a carpool mate if you have no ride to the meet. If you need a map of the Springfield area notify me -- Steve Milholland has produced a map from the local Chamber of Commerce.

Tom Jass  
Contest Director

The Allies will jive in 1985  
The Axis will d  
i  
v  
e in 1985





# THE 1985 ANNUAL S.E. Regionals.

A battle report by Tom Jass.

I HAVE SEEN THE FUTURE AND IT WORKS. The 1985 Spring Southeastern Regionals were held in Decatur, Alabama, on May 4 and 5; the battling was all singleshot, and it was fun, fun, fun. There were enough sinks to satisfy the most bloodthirsty, and yet the singleshot damage was not massive. The singleshot sorties involved more seamanship and tactics than multipleshot fights, even though they did not last too much longer than the machinegun battles of yore.

John and I had looked forward to the Southeastern Regionals all winter as a proving ground for the singleshot gun battling. We had modified the RODNEY and the SWIFTSURE for singleshot fleet action. We were unable to make satisfactory ballbearing guns ourselves, so we ordered valves from Carl Camurati. The SWIFTSURE is an English heavy cruiser that we built especially for singleshot. We packed up all the gear on Thursday night and drove to Decatur in the dark. The 10 hour drive from Lombard to Decatur is an easy one as it's all on Interstate and we had a tape from Fluegel and one from David Haynes to help pass the hours. John was always able to find a Rock station on the radio even though we were passing through C&W country. We pulled into Decatur at about 6 AM on Friday; the motel had an empty room, so we sacked out for two hours. We then drove to Dan and Mary Hamilton's home and met Mike Deskin (from Norfolk with the HOOD), who had flown in on Thursday evening. The saga of his flight should be retold by him in a Hull Buster's article. But he was there, and the English fleet was stronger with the HOOD.

We fiddled away the afternoon at the battling lake where we erected spectator fencing and tested the HOOD, RODNEY, SWIFTSURE, and Dan Hamilton's EXETER. These ships were to form the British fleet which would battle the next two days. While we were at the lake, Jeff West arrived with his PENSACLOA. This ship was detailed in his own unmatched way (not as awesome as the WISCONSIN, but still a jewel). He put her in the water and we had five ships underway. Steve Millholland and Jim Lisher

arrived with the ALABAMA and the SALT LAKE CITY. They were singleshot veterans, as the Springfield Club has been singleshot battling this spring (mostly individual battles, however). We all went to supper and then over to Dan's workshop for a session of dockside sailing. Everyone compared notes on making singleshot guns: Steve Milholland, Mike Deskin, Jim Lisher and Dan had been able to make ballbearing singleshot guns that they were satisfied with. We were the only ones to use the Camurati valve in all guns. Dan did have a Camurati valve in the stern of the EXETER, but he was happy with the ballbearing valve that he had built for the bow. Much talk was generated about which freon tanks to use. David Haynes and Mike Deskin were using PVC tanks; Steve Milholland, Jim Lisher and the RODNEY were using copper tanks with water baths; the SWIFTSURE had three stainless steel tanks (from Stan). So there were several solutions to this most critical singleshot problem. David Haynes was expected in from Texas late that evening with the MYOKO and the CLEVELAND. The battling sides were set up with the British fighting the Americans. The sides were as shown:

### BRITIAN

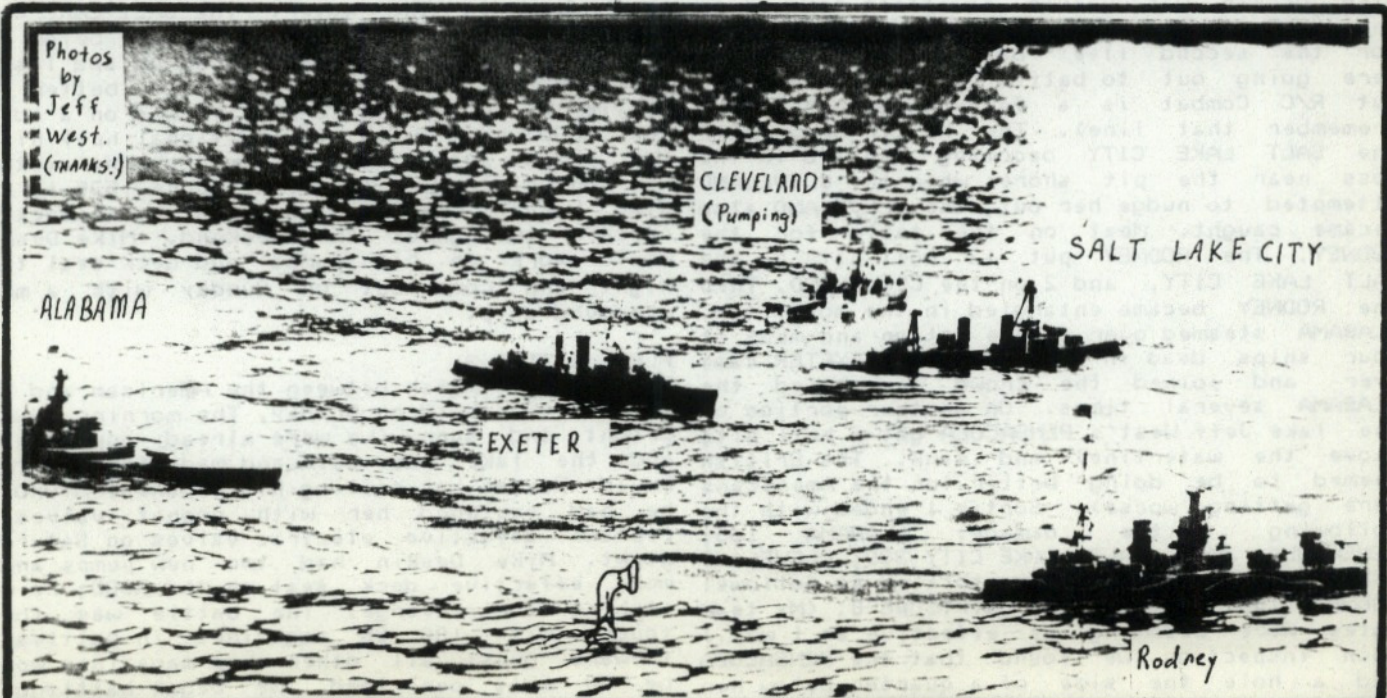
- |              |           |
|--------------|-----------|
| Dan Hamilton | EXETER    |
| Mike Deskin  | HOOD      |
| John Jass    | RODNEY    |
| Tom Jass     | SWIFTSURE |

### AMERICAN

- |                  |                |
|------------------|----------------|
| Steve Milholland | ALABAMA        |
| Jim Lisher       | SALT LAKE CITY |
| Jeff West        | PENSACOLA      |
| David Haynes     | CLEVELAND      |

Saturday arrived sunny and warm with a good breeze. David Haynes had arrived at 4 AM that morning, after getting lost in Memphis. He brought his new model of the CLEVELAND which sported an impressive paint job. She is a heavy cruiser that he plans to battle in the singleshot fighting. We all set up at the lake at 10 AM. The lake was choppy and the wind was blowing in toward the pits and launch area. Fleet Battle 1 was a battle with a 50 BB limit

cont.



Photos by Jeff West. (THANKS!)



per magazine. Fl began about 45 minutes behind schedule (what else is new?). The action is described below. I didn't see much of it, as I was being cautious.

#### FLEET BATTLE 1

This battle opened with the HOOD taking early damage and sinking quickly. She had suffered 3 hits below the waterline, and her pumps were ineffective. The PENSACOLA was also hit early in the battle, and she went limping out toward the open lake. I saw her and put the SWIFTSURE in pursuit; PENSACOLA was listing badly and the forward speed required to shake the SWIFTSURE was enough to sink her. The SALT LAKE CITY also sank, but no one was sure who hit her. The RODNEY and the ALABAMA exchanged numerous salvos and damaged each other, but each was pumping and keeping ahead of the water. Sortie 1 ended, then, with the HOOD, the PENSACOLA, and the SALT LAKE CITY sunk -- this was singleshot action? After the damage was tallied we all agreed that the SALT LAKE CITY's damage was caused by a construction defect, not by gunfire, and since she didn't have any hull hits she was declared an unseaworthy sink. The damage results for Sortie 1 were: RODNEY 575; EXETER 315; HOOD 1165; SWIFTSURE 10 (I had fought a conservative -- read chicken -- fight). For the Americans the damage was: ALABAMA 335; PENSACOLA 685; CLEVELAND 160; SALT LAKE CITY 0. The British were whipped soundly!

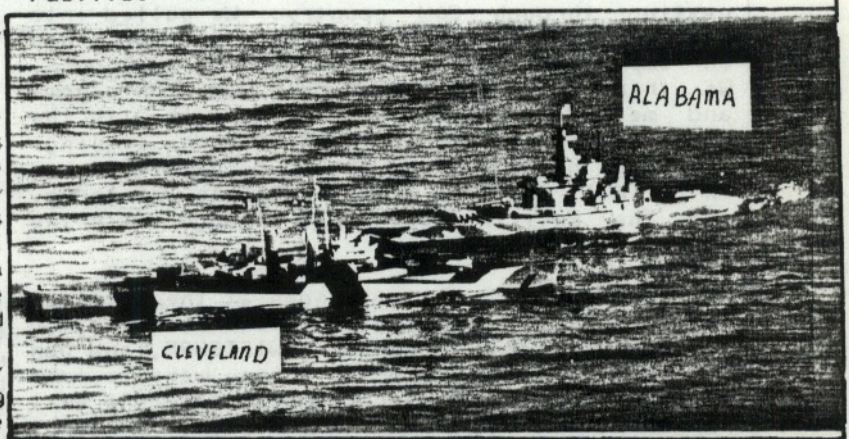
The second sortie saw no sinks but the Americans added to the damage. During this fight the RODNEY suffered another 675 damage points, the EXETER 100, and the SWIFTSURE only 10 additional (cautious). The ALABAMA was dinged for 160, and CLEVELAND for 325 (I didn't do it). So the first battle ended as a smashing American victory -- 2698 to 1663. The ALABAMA and the RODNEY were both effective and there was enough damage to satisfy anyone. All agreed that singleshot was great. The choppy lake was having an adverse effect too. Getting more points for sinking a BB seems to make good sense also, but battleships seemed more equal than cruisers with their additional capacity to absorb punishment.

#### FLEET BATTLE 2

Mike Deskin was unable to affect repairs on the HOOD in time to join the thrashed British for the second fleet battle, so the losers were going out to battle outnumbered 4 to 3. But R/C Combat is a funny game to handicap (remember that line). The battle began with the SALT LAKE CITY becoming tangled in the moss near the pit shore; when the CLEVELAND attempted to nudge her out, the CLEVELAND also became caught. Meat on the table for the RODNEY. The RODNEY put 12 hull hits on the SALT LAKE CITY, and 2 on the CLEVELAND. Then the RODNEY became entangled in the moss, too. ALABAMA steamed over to the action and made it four ships dead in the water. The EXETER came over and joined the crowd and holed the ALABAMA several times. On another portion of the lake Jeff West's PENSACOLA got 2 hull hits (above the waterline) and sank. The British seemed to be doing better (or the Americans were getting worse). Sortie 1 ended with the following battle damage; ALABAMA 165; PENSACOLA 660; SALT LAKE CITY 330; CLEVELAND 165. The British damage totaled as follows: RODNEY 100; EXETER 90; SWIFTSURE 0. (My team mates were becoming as effective as I was.) Upon inspection we found that the PENSACOLA had a hole the size of a quarter below her

waterline; it wasn't BB damage, and Jeff wasn't rammed, so we decided that he had collided with an underwater object (a turtle trap?). This was unfortunate, but the British didn't offer to overlook the sink. Fluegel always said we aren't gentlemen. So the sides were 3 against 3 for Sortie 2, and the SALT LAKE CITY was badly hurt with the 12 hull holes.

During Sortie 2 the SALT LAKE CITY sank and the CLEVELAND took 8 additional hull hits. When out of ammo, the ALABAMA ran to the middle of the lake with the RODNEY and the SWIFTSURE in pursuit. These two chased and chased, but were unable to seriously damage the ALABAMA. The results of the second battle were a complete reversal of Fleet Battle 1. The British won 2268 to 493. Individual American damage for the two sorties were: ALABAMA 310; SALT LAKE CITY 950; PENSACOLA 660; CLEVELAND 350. The British damage was: RODNEY 300; EXETER 235; SWIFTSURE 10. (I was into this battle -- really I was.) Fleet Battle 2 was fought with 30 BB magazines. At the end of the first two singleshot fleet battles, the score was British 3951; American 3151. The battling was close and fun. The lake had calmed down by the time we fought these sorties, and the difference was like the difference between the Atlantic and the Pacific.



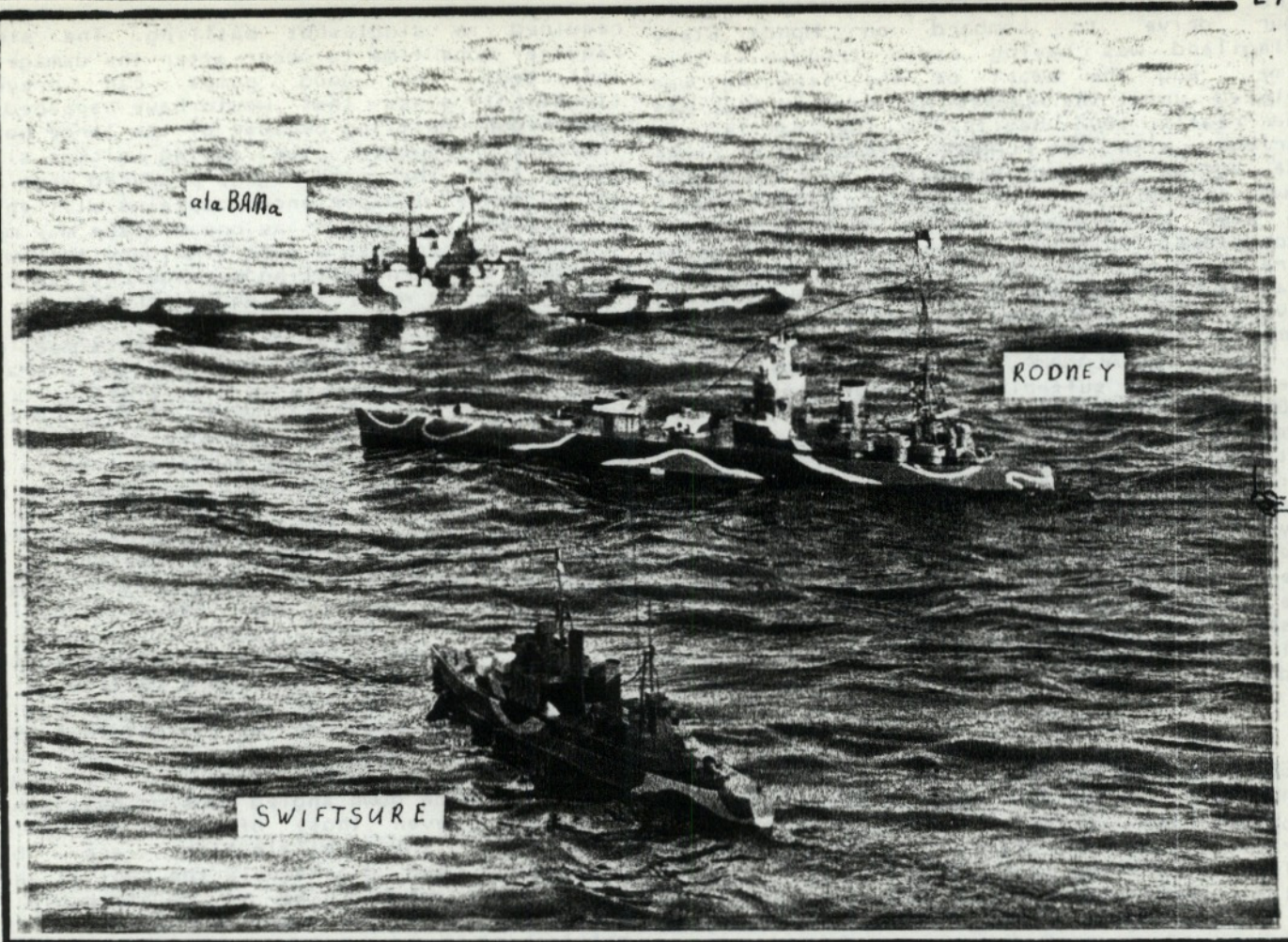
#### SALT LAKE CITY VS. HOOD

The HOOD was repaired by the end of Fleet 2, so Jim Lisher challenged the HOOD. Early in Sortie 1, the HOOD's motor fuses blew and she went dead in the water. The SALT LAKE CITY pounded her for 8 hull hits (3 below the waterline), but the HOOD hung on and lasted out the sortie. Things went no better in Sortie 2 as the SALT LAKE CITY was on a roll. The HOOD sank with 12 additional hull hits. Her pumps just didn't do the job. The victory was one sided with the final score 1535 to 25. Jim Lisher was an aggressive, effective captain throughout the weekend. Mike Deskin would work on his pumps and deck seal that night and come out on Sunday with a much improved ship.

#### FLEET BATTLE 3

The rubber match between the American and the British was held on Sunday. The morning dawned bright and sunny (we were already sunburned), and the lake was calm and made for killing. David Haynes was sailing his Japanese MYOKO as he had equipped her with poppet valves to replace defective electric valves on Saturday night. Mike Deskin had two new pumps and a more effective deck seal on the HOOD; he was itching for revenge. The battle was to be fought with 100 BB magazines in battleship forward guns; all other ship magazines would be 50 BB's per load. We began battling at





about noon (late as usual). The RODNEY became hung up in the crotch of a branch protruding from the shore early in Sortie 1. John lost his reverse and full forward (the result of a loose battery connector), and declared "five minutes, out of control" (softly, so that Steve Milholland wouldn't hear). Steve Milholland heard though, and brought the ALABAMA over to destroy the intrepid RODNEY (I'm not prejudiced). ALABAMA and RODNEY exchanged broadsides, while the EXETER and the SWIFTSURE steamed back to aid the RODNEY. Meanwhile, the HOOD was engaging the American cruisers. The British cruisers harrassed the ALABAMA as she harrassed the RODNEY. The ALABAMA was finally chased away, out of ammo and licking her wounds. Mike Deskin Dan Hamilton and I were jubilant -- we had kept the RODNEY from disaster and redeemed ourselves. We were stunned (as was Steve) when the ALABAMA sunk on her way back to the launching point! Her pumps didn't work properly, and our victory was doubled!! Sortie 1 damage points were: ALABAMA 1360; SALT LAKE CITY 20; MYOKO 85; PENSACOLA 70 (Jeff had finally broken her first sortie sink jinx). The British suffered as follows: RODNEY 275; EXETER 20; HOOD 175; SWIFTSURE 105. RODNEY had fared better than the ALABAMA by being hung up in the tree. The British were smelling total victory. (Remember what I said previously about the odds; the worm was about to turn.)

Sortie 2 saw the HOOD run hard aground close to the RODNEY's grounding location in Sortie 1. The MYOKO, SALT LAKE CITY and PENSACOLA were all over her like wolves scenting blood. HOOD was beached with her below waterline hull naked to her enemies. They blasted HOOD for 13 hull holes (6 below), before she sank. The SWIFTSURE sailed to her aid, but was holed forward 4 times by the MYOKO. The RODNEY in

turn holed the MYOKO 7 times, and the PENSACOLA was riddled with 9 hull hits (3 on the waterline, 1 below). Would anyone survive? SWIFTSURE retreated slowly away from the scene, down by the bow. I couldn't get the pump on. SWIFTSURE sunk 2 feet from shore just as SALT LAKE CITY was getting into position to score additional hits. The PENSACOLA also sank. RODNEY, EXETER and SALT LAKE CITY survived; 5 out of 8 ships that started the fleet battle didn't return to base. The American's had made the battle close, but the British won the deciding battle 3440 to 3092. Total damage points were: ALABAMA 1360; SALT LAKE CITY 70; PENSACOLA 1030; MYOKO 985. For the British: RODNEY 435; EXETER 60; HOOD 1805; SWIFTSURE 795.

In two sorties 6532 points had been scored. Five of the eight participating ships had been sunk. There will not be an absence of sinks with singleshot battling.

**SALT LAKE CITY VS. MYOKO**

This battle was a one sortie affair by agreement. The MYOKO went dead in the water after several minutes into the sortie, but Jim Lisher was unable to take full advantage of the situation and the final score was 40 to 5, with the SALT LAKE CITY the victor.

**ALABAMA VS. RODNEY**

The final battle of the day and the regionals was the battle between the two big boys -- the one that we all wanted to see. All weekend long these two ships were the most effective battlers on the water. They will represent the Allied side well in the singleshot battling at the Nats. Axis beware! Mary Hamilton and I had to drive Mike Deskin to the airport to catch his airplane back to Norfolk. We missed the battle, but I heard all about it during the 10



hour drive to Lombard on Monday. Steve Milholland was having radio trouble at this time, and the start of the fighting was delayed until the ALABAMA was readied (but was she really 100% healthy?). The battle was furious, with the ALABAMA attempting to close the action as her broadside guns were more down angled than the RODNEY's. RODNEY fought to keep her distance and nullify the ALABAMA's broadsides. Quickly into the battle both ships were pumping for their lives. The RODNEY was staying ahead of the flow, but the ALABAMA was having pump problems in that her pumps were pumping only intermittently. Those pumps were to do in the ALABAMA, as she slowly settled by the bow after suffering 670 damage points. The RODNEY had taken 705 points of damage, but her pumps had won the battle. The two Allied battleships had fought a classic fight -- the Axis have problems in the singleshot action coming up at Nats. This individual victory gave John Jass enough points to win the overall regional championship. He was awarded the beautiful traveling trophy that belongs to the champion until the Fall Regionals. Jim Lisher finished a close second, after proving all weekend long that he has already moved up and out of the Rookie Class.

#### LESSONS LEARNED

Singleshot battling does work. All the problems are solvable. The ballbearing valve works; during the battling several two BB 'salvos' were fired, but not often. The Camurati valves never fired other than singleshots (to my knowledge). All the freon tank configurations worked. No one was unable to fire BB's because of depleted freon supply. The damage done by singleshot guns is sufficient to sink ships especially if their pumps are ineffective. Effective pumps are

required in singleshot battling. The sinks require more time to occur after the damage is inflicted, so good pumps can prevent singleshot sinks that would have happened in machinegun battling because of the large holes inflicted. However, the gaping nickle sized holes that the machineguns produced were not in evidence. Inexperienced captains will enjoy singleshot battling, as one mistake may mean 4 holes rather than a sure sink, and they will be able to learn battling more quickly as they are out on the water for longer periods.

The sink per sortie ratio at this meet was about 22%. This means that, on the average, you had about 1 chance in 5 of sinking if you began a sortie. There were 49 ship sorties begun during the fleet and individual battles; 11 sinks occurred during those sorties -- for a rate of 11/49 or about 22%. I don't know how this compares to machinegun battling, but an attrition rate of over 20% would cause a real admiral to seriously consider abandoning the campaign. Singleshot battling doesn't seem to reduce sinks (just as Steve Milholland predicted), but ship repair is simpler and quicker. Two sortie battles are adequate; this will allow us to fight more battles in the same time. The "correct" magazine load has not been settled. Most of us thought that 30-50 BB's were about right, but some were advocating the 100/50 range. All seemed to feel that the down angled guns on battleships are valid (even those of us who are cruiser captains). The battleships are both offensively and defensively the capital ships that they should be in relationship to cruisers. In fact, most of us felt that battleships and cruisers should not share equally in fleet points, since the battleship is more powerful and effective. Perhaps we should think of a 4 to 3 ratio?

All of the captains at regionals had Allied ships; it was a good tuneup for Nats. All expressed the opinion that they probably would not battle in the multiple shot fleet battles at Nats (the Axis may have to battle themselves), because they all liked the singleshot battling so much.

The following lessons were obvious:

1. Have an effective pump.
2. Have watertight boxes.
3. Ballbearing valves will work.
4. Camurati valves do work.
5. Battleships are Queen of the Seas.
6. The Allies will be good at Nats in singleshot.
7. The Allies may not have multiple shot fleet.

The 1985 Spring Southeastern Regionals were a great success. The battling was first rate, the weather was beautiful, the lake conditions were excellent, and best of all there were no Axis present. All of us wish to thank Dan and Mary Hamilton for their hard work and hospitality; without them this event would not be held. Having to host two regionals a year is "above and beyond the call of duty". Their dedication to our hobby makes them special people. THANKS A MILLION. We hope to see you in October, 1985.

RULE BRITANNIA

*Tom Jass*

Tom Jass



THE #  
ONE  
WINNER!  
John  
Jass &  
Rodney.



By Admiral Fluegel

Tom Jass has become self-confident now that he has had some battle success and is an Executive Board member that has served with exceptional ability: That's good. The problem is that he believes he is now equal to an Axis! In my last tape to Tom Jass I rebuked him for acting my equal. I sighted examples of his dishonorable behavior that included looking me in the eyes, good posture, having an opinion of his own etc., etc. His response proved he lives under a misconception of equality. He challenged me to a battle! HAS HE NO RESPECT!

Tom further upped the ante by accepting the Editorial responsibilities for Hull Busters in 1986 if he loses! I know such blatant, flagrant behavior must be punished and as much as I love Hull Busters I need a rest. "Come to the Championships and witness the demise of Tom Jive", a new editor is born.



These are the point standings as of May 22th 1985 as reported to the secretary of the navy.

1. Carl Camurati	+ 14,064
2. Steve Milholland	+ 10,699
3. Joe Vilar	+ 9,102
4. John Jass	+ 7,520
5. Jim Lisher	+ 5,794
6. David Haynes	+ 4,876
7. Mike Deskin	+ 4,842
8. Bob Amend	+ 4,798
9. Dan Hamilton	+ 3,641
10. Tom Jass	+ 3,065
11. Jeff West	+ 2,111
12. James Foster	+ 2,079
13. Terry Darby	+ 1,504
14. Bill Hahn	+ 1,360
15. Robert Shultz	+ 1,141
16. Martin Schnieder	+ 995
17. David Garrett	+ 920
18. Dwyer Wedvick	+ 902
19. D.W. Fluegel	+ 880
20. Marty Hayes	+ 676
21. Robert Russell	+ 596
22. Rick Schultz	+ 253
23. Gerald Roberts	+ 140
24. James West	+ 135
25. Loy Rasmussen	+ 71
26. Chris Lawson	+ 38
27. Billy Gainer	+ 20
28. Dan Schultz	- 24
29. Stan Watkins	- 45

From the Secretary of the Navy  
Dan Hamilton

Fluegel begged (Axis beg Allies request) for comments from Rookies. Well, here goes. I attended last years Nationals with my son and really had a great time. Only battled once as it turned out - but it was a great learning experience. In fact, we both enjoyed it so much that we are going to return this year.

However, I am puzzled. I had thought there was only one meeting to discuss and vote on rule changes, election of officers, etc.. But after reading the past few issues of Hull Busters, I have to believe there was another meeting taking place that we missed. (Perhaps everyone had been cloned except for my son and myself. No doubt some sinister Axis Plot.) What I am leading up to is this. It was agreed that the way ships were to battle at the next Nationals would stay the same. There would be a single shot class of experimental ships to test the feasibility of and the problems of single shot combat. Since then the single shot experimental class ship has been dropped - and in the last issue of Hull Busters it was stated that "Single Shot Battling Takes Precedence Over All Other Types".

Now I want to make it perfectly clear, I am not judging the pros or cons of single shot ship combat. I have not seen or experienced single shot combat and therefore I cannot judge it or make a judgement on it.

The point I am trying to make is that after quite a lengthy discussion, there was a general concession that rules should not be changed but once every two years. I took this literally and believed it to mean not only the printed rules but also by the intent of the rules, the discussion that was held that evening and what we examined and agreed to.

Somehow, I believe, in the enthusiasm for, and the technological breakthrough of the single shot gun this has been forgotten. Let us not use the "shot gun" approach to changes in our great hobby, but rather sail a steady course in introducing changes and technology. This, I believe, would - in the long run prove most beneficial not only to our hobby, but also to the novices and the experienced members of our sport.

By Wayne Stevenson.



## PRESIDENT'S COLUMN

by James C. Foster

Well, here is the final President's Column prior to the National Championships. I hope the rest of you are more prepared than I am for the fighting. The Viribus Unitas is taking shape, with the hull being sheeted as of 5/21/85. She'll be ready by July 15, so don't you enemy ALLIED captains worry!

First of all I would like to clarify some points about the displacements of ships. The deviation over the full load tonnage is 10%, not the 5% Stan mentioned in his Founding Father column. There is also the matter of what is meant by a ton in the reference books most of us use. The books I have all use the English ton for the displacement statistic, which is 2,240 pounds in weight, not 2,000 pounds as in the standard ton. Makes a bit of difference, doesn't it? The other displacement standard is the Metric Ton or tonne. This is 1,000 kilograms in weight, as one might imagine. The formula to determine how much your ship can weigh (maximum) is as follows: weight of real ship in pounds + 10% / 2985984. The 2985984 is only good for ships built to 144th scale, the ships built to some other scale must cube the scale to arrive at the correct number. As for the displacement of submarines, Tom Jass in his article made a somewhat misleading remark that the waterline of submarines are difficult if not impossible to determine. This isn't entirely true as submarines did have a specific surfaced displacement. If they didn't have this specified weight, they would never surface after the first dive. Therefore, submarines will be checked just like the other ships for overweight on challenge using the surfaced displacement + 10% as the standard. I suggest you don't ballast your sub to a 'decks awash' condition unless you can still meet the weight limitations. I believe the final rule we adopt should specify the weight from standard to full load displacements with no over weight allowed.

For the record, the Executive Board is as concerned about safety as Stan is, and we have been making efforts to insure the Nationals are as safe as possible, and we have been discussing methods to improve the safety of the hobby overall. Before I delve into the specifics of what we are doing, I would like to comment on the 'power' of the single shot guns. The single shot guns do not shoot any harder than the peak power shots (the first one or two BBs in a burst) of the old 'shot guns' we used last year. I had no trouble at all in shooting through 1/4" hard balsa with the scatter guns I had last year. The only difference is that there are a greater number of peak power shots with the single shot guns! In this respect they are more dangerous. To help limit the peak power

(muzzle velocity) of the guns, we have been tossing around several ideas. One of the best is a pendulum device which slips over the barrel of the gun which when fired drives the pendulum up a scale to indicate if the gun is tweaked to hard or is firing at a safe level. This would be a simple, inexpensive, and easy method to regulate muzzle velocity. As far as crowd control at the Nationals is concerned, Jim Lisher is fabricating posts so we can rig ropes to designate certain areas. The spectators will be allowed fairly free access to the pit area. We will also have an aisle roped off next to the weeds on the West side of the lake where the spectators can stand and watch. We are going to set off a specific 'tweaking' areas that all captains must use to adjust their guns. We are also going to have an area roped off on the lake shore where all video cameras must stay. There were too many close calls with tripods and captains getting tangled during the heat of action. Perhaps when the club gets larger and richer we can afford to buy the materials to make frames covered with screen to prevent spectator injury. Stan mentioned upgrading the eye protection rules, but we really need to enforce the rules we now have before worrying about upgrading the standards. Eye protection of any kind only works if the captains use it.

The safety of side shooting guns can only be assured if we ban them entirely, which will kill the battleships and battlecruisers. Allowing the down angle on the side shooting guns will help make them safer for the simple reason the ship must list much further to elevate the guns above the horizontal. In fact, our experience with single shot fighting here in Springfield indicates that the side shooting guns are less likely to be a safety hazard due to the steep down angle than the bow and stern guns. One of the rules the Executive Board is going to propose (one more time) is a requirement that all safety pins must be permanently attached to the barrel of the gun or to the deck near the gun. This will make the task of remembering to insert the safety pins much easier as we will avoid what the old adage said 'out of sight, out of mind.'. We may even assign a 'safety' officer to monitor ships leaving the water and assigning penalty points for the violations. As you can see, safety is as much a concern of the Executive Board as it is for Stan.

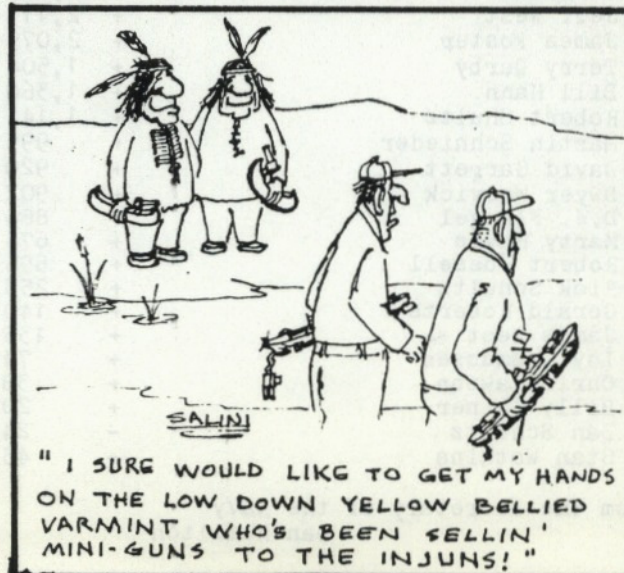
Stan wanted to know why the Executive Board did not make all single shot battles only one sortie long. One reason is that the E. B. does not really have the authority to make such a regulation. Also, the single shot battling is still experimental in nature and no one knows the optimum amount of sorties per battle. Stan's fears that cruisers will not be able to survive two sorties with battleships has been disproven not only in fighting in the Northeast and at the Decatur regionals, but also here at Springfield. As things stand right now, two cruisers vs. a battleship is a very even match, assuming parity

## ROOKIE OBSERVATION

I attended the last Nationals and really enjoyed myself. I cannot describe the feelings of comradeship that is prevalent there. The willingness of the experienced battlers to share their knowledge, time and experience knew no bounds.

However, Once Combat Commenced - They were Vicious - Downright Cruel and Almost Inhuman. No Mercy or Quarter Shown or Given. (I loved it, and will never forget the sight of the Bismark going down, guns ablazing and Allies cheering.)

WJS





of mechanical reliability and captain's abilities. In fact, if the two cruisers coordinate their attacks, the battleship is at a disadvantage! I know Stan is concerned about the down angled side shooting guns on battleships, as are several other people. They do indeed make the battleships more formidable than they were last year with essentially ineffective side guns. However, they do restore some of the 'scale' capabilities to these ships which was lacking last year. Anyway, if enough people don't like it, we can just ignore the whole issue as it is a special rule to be used only during the experimenting with single shot guns this year!

For your information, there will be at least one single sortie battle scheduled at this National, but with a twist. Instead of individuals calling five minute rules, the whole team must call five minutes simultaneously. We are trying this for two major reasons. The first is to more nearly duplicate actual operations by fleets during the wars. Ships would sail into battle as cohesive units and independent action, especially withdrawing from battle, would lead to a quick courts martial. The other reason is we want to try and instill a sense of team work among fleet members. This way, if someone gets in trouble they cannot easily escape by calling five minutes and running away. They must be protected until the fleet has called five minutes and withdrawn from the water. Naturally, this presupposes an admiral who will assign combat duties and call the fleet's five minutes. The labor day regionals we are going to have here in Springfield will consist entirely of single sortie battles with team five minute rules.

Stan is entirely correct in saying I believe strongly in rule enforcement. Why bother to have rules if you ignore them? I think I feel as many of you do in saying that I would much rather participate in a sport where 'bad' rules are enforced rather than one where 'good' rules are ignored. Stan's idea on the citations is good, and we will incorporate it in our own rule proposals. Whether a ship in violation can continue to participate without correcting the problem will have to be on a per battle vote by all participants with one negative vote preventing the ship from fighting. This is the same as ships built in violation of the 1905-1946 launched and completed rule for this Nationals. We have also tried to be lenient in the enforcement of rules this year, realizing the problems in moving from a lax to a strong enforcement scheme. The 10% displacement variation is one example. We have also not bothered to enforce the 'House Rules' edict for some known violations for the simple reason our point and rule structure is in chaos during the transition to single shot guns.

One of the first items to be decided at this upcoming National's rule meeting on Sunday is whether we will battle strictly Axis-Allied or go for a balanced fleet with an even distribution of ship types and captain's abilities.

Stan and I seem to agree that the best way to go is not either choice exclusively, but half Axis-Allied and half balanced. It becomes rather boring to always fight against the same ships and people for an entire week. So vote for half and half (put it in your coffee for a rich taste!) so you can sink a friend along with an enemy!

My feelings about speed (velocity, not the drug) are pretty ambivalent, other than a desire for some sort of speed rule. I tend to lean a bit towards the simple maximum speed limit, as enforcement of this type of rule is the easiest. Dan's speed rule has a lot of merit also, and should be seriously considered. I am not sure, though, if we should slow the fastest speed down to 24 or 26 seconds rather than the 22. A slower speed will make motor/battery problems much easier to solve.

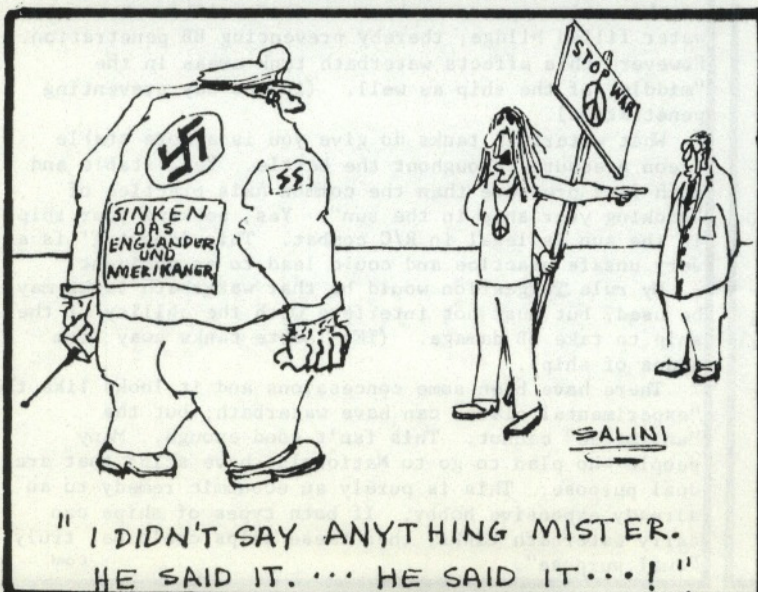
I am completely opposed to a rotating turret rule, for the same reasons we originally banned them. If we retain a limit to the numbers of guns on the sides of battleships, and retain the requirement that one quadrant must remain uncovered by a gun, both of which should be kept to keep battleships from being too strong again, we can not have rotating turrets. Enforcement of these restrictions would become impossible if the turrets could rotate. Cruisers need some kind of an escape route! I am not even sure of the combat effectiveness of rotating turrets. I would gladly challenge a rotating turret ship with my old, obsolete fixed gun ship.

Two columns ago I talked about what a fine publication Hull Busters is. So what does Fluegel do, he starts renting pornographic films! I am, of course, referring to the video tape Fluegel made of himself building an Axis ship!!!! What could be more obscene than that! I hope the moral majority doesn't here about this or we'll all be excommunicated.

Martin recommended some people last year for the Executive Board. Unfortunately, Carl Camurati is the only person I feel should be given any priority for some position. Otherwise, any one who is eligible would be fine by me. If you think you can stand to keep me as an officer, I will be available for any office but Treasurer. I am a lousy accountant! Steve feels basically the same as I do, and I am sure the other board members, Tom, Jeff, and Dan would be willing to serve another sentence er...term. I only hope I have served this past year fairly and for the good of the hobby.

I will now bring this lengthy column to a close before Fluegel edits it to death, and let those very few who read this drivel return to working on their Yamatos, Musashis or whatever. See you in July!

*James C. Foster*



### ALLIES SET NEW RECORD

by Farley Hop

It is now official! The Allies have gone 37 months, 3 days, and 3 minutes without thinking! Congratulations! The record was broken when Foster decided to build an Axis ship, welcome aboard Foster. I know you will find your new life academically exciting.

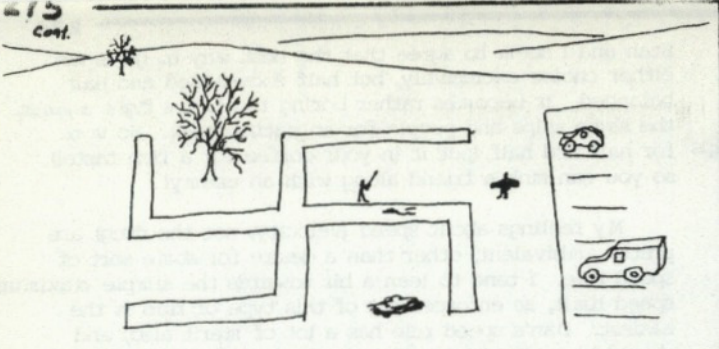
### BUILT TO DESIGN LAKE

By Cancer Pain

Like Poindexter my life has had some strange turn of events that culminated in the construction of the perfect R/C Combat Lake. The way it all happened is when my old Uncle Millbe died. I inherited a barn full of empty coke bottles. Their worth (after paying the trucking charges) was a tidy \$7,355! I took this money and started construction of the perfect lake. The lake has lots of interesting curves and straight runways. It is three feet deep.

continued next page.





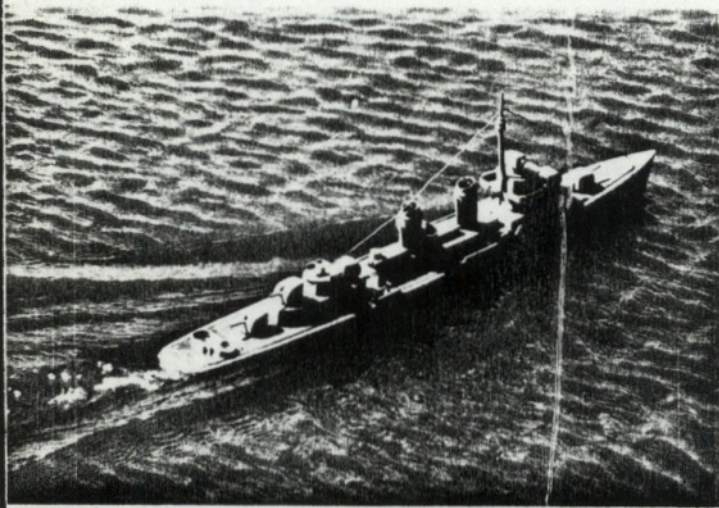
The PERFECT Combat Lake Design

### USS O'Bannon's First Battle

(The Big "O" goes to War!)

By Stan Watkins, Captain, O'Bannon

The peace and tranquility that had existed between the Amarillo Allied and Axis fleets was blasted into history this Sunday. The battle began at about 3:30 pm on May 5, 1985 at the 58th street lake in Amarillo, Tx. This was the first R/C Warship Combat battle at that lake.



USS O'Bannon races toward sonar contact position

After some aggressive jousting the I-400 called the 5 minute rule as her gun had ceased to fire. The Mighty "I" then headed towards shore to be recovered at the end of the sortie. Then the I-400 ran aground with speed control problems and/or radio interference problems. She was now a sitting duck. (See the Video tape of this battle.)

The O'Bannon closed in on the helpless prey. Pow, pow the shots could be heard crashing against the I-400's port beam. One hole was observed to be in the aircraft hanger area. But to soon O'Bannon was out of ammunition and the 5 minute rule was up. The I-400 had no hull holes. The O'Bannon had no holes only a dent at the very tip of the bow.

Thus the first sortie ended the Big "O" (she's no zero) had won her first combat sortie 5 to 0.

In the next sortie the I-400 fouled her starboard screw on a weed and again the Big "O" closed in for some choice carnage. This time she would have nearly a whole magazine to put into a crippled foe. No such luck. As the Big "O" maneuvered for premium shots the water came over her stern. This is normally no problem but unbeknownst to her captain the deck had warped up and a large gap was open to the water. The water poured in and the Big "O" capsized. Her captain knew that she was sinking but ordered hardover to port. This maneuver righted the listing ship and full forward speed drove her



The I-400 is aground and the O'Bannon shortly takes advantage of her misfortune.

towards shore. As she came towards shore the captain ordered all ammunition fired to prevent dangerous spontaneous firing as control of the firing system would probably soon be lost. the I-400 made a brief charge at flank speed to attempt to put some holes into the sinking hulk but with her screws fouled this was all in vain. The O'Bannon was sinking too fast for I-400 to get into range for gunnery hits.

She was awarded a 50 point unseaworthiness penalty. This meant that the total score was I-400 Zero points and USS O'Bannon -45 points. How embarrassing.

Let's Battle (proficiently)!

*Stan*

### MYOPIC RULE INTERPRETATIONS

by Carl Camurati

Back in 1983, radio boxes were considered "water tight compartments". This was in direct conflict with the rules of R/C combat. Needless to say, most of the combatants had them in 1984, and none of the boxes prevented anyone from sinking.

Now the new "Rule Breaking Technology" is water bath tanks. This is in direct conflict with the rule saying "no water filled areas in the hull". The intent of this rule appears to be that one could construct a water filled bilge; thereby preventing BB penetration. However this affects waterbath tank areas in the "middle" of the ship as well. (in no way preventing penetration).

What waterbath tanks do give you is a more stable freon pressure throughout the battle. Yes, stable and much less pressure than the common Axis practice of "cooking your ship in the sun". Yes, cooking your ship in the sun is legal in R/C combat. This 'cooking' is a very unsafe practice and could lead to an accident.

My rule Suggestion would be that waterbath tanks may be used, but must not interfere with the ability of the ship to take BB damage. (IE- locate tanks away from sides of ship).

There have been some concessions and it looks like the "experimental class" can have waterbath, but the "unlimited" cannot. This isn't good enough. Many people who plan to go to Nationals, have ships that are dual purpose. This is purely an economic remedy to an already expensive hobby. If both types of ships can carry waterbath tanks, then these ships could be truly "dual purpose".

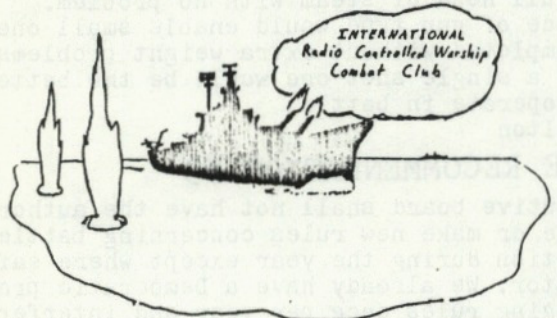


CONT

Waterbath tanks won't give anyone the "unfair advantage". They actually lower the pressure of your freon supply. What they do offer is consistency and reliability to a ship's armament. Isn't that what we are looking for? Also, if everyone had waterbath tanks, everyone's freon pressure would be the SAME. Isn't that a desirable goal, to provide equality in combat? But then again, the Axis and Allies have never been equal. Axis have better engineering and seamanship. British warships make good fishing reefs.

*Paul*

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Steve Milholland  
Rt. 1, Apt. A7  
Brookline, Mo. 65619

P.S. See you in July!

News from the NorthEast.

The latest news from the N.E. is that we just completed our spring regionals. The Axis cleaned house on the Allied fleet. During the two days of battle, everyone of the Allied battleships were sunk except for the Hood which would have been better off had it sunk. The Hood recieved 4820 pts. of damage while resting on the side of the lake out of control.

Six battlers and eight ships showed up in Maryland for the weekend event on May 18-19. Plans are being drafted for summer regionals to be held near the end of summer (maybe Aug.) again in Maryland (New Jersey has no water).

Of the eight ships that showed up only three were ships that had seen battle before. Old ships were the Hood, Doria, and Quincy. New ships were Baden, Maryland, Colorado, Conte Di Cavour, and the Warspite. All ships were equipped with single shot guns.

Many of the N.E. are planning to go to Nationals. Carl Camarati, Rick Schultz, Mike Deskins, Joe Vilar, and Marty Hayes are making plans to drive out as far as I know now.

*Marty Hayes*

BABY BATTLERS

By: Admiral Fluegel

DEFINITIONS

GEEK GUN A gun designed by Camarati to fire fast powerful spurts. Named in honor of the first Geek Joe Salini. Uses an elbow in the magazine and a restrictor tube breach. How to on page 215 of Hull Busters.

E.B. Executive Board

RESTRICTOR BREACH A piece of vacuum line placed between the magazine and gun barrel. No additional O-rings are used. Also called a constrictor breach. Designed by Paul Flemings. Page 215 of Hull Busters.

VALVE SPRING A spring used in car engines that do not use hydraulic lifters. Closes valve port. Popular Mechanics, May 1902.

POPPET VALVE A high volume variable leak. Well suited to instantaneous gun fire and single shot guns. Page 223

BREACH The gun component between the barrel and magazine that accelerates the BeeBee.

FOSTER BREACH Designed by J. Foster. Uses larger O-ring than Stan's M-9 1/8" O-ring. Very Powerful; Hull Busters page 175 & 225.

KICKER The catalyst that is sprayed onto the superglue to accelerate is drying time.

JASS Space Cadet.

AIRCRAFT PLYWOOD or marine plywood. Purchased from better Hobby shops. Midwest and Bud Nelson are common brand names. Very hard. High number of plys. Maximum length 4 feet.

BASS WOOD Harder than balsa but soft wood.

K & S TUBING A useful hobby tubular good. Found in most hobby shops. K & S is the Brand name.

ALLIES Losers, scum, at best sociably unacceptable. Often ugly and commonly wet. Shark food.

STARBOARD The right side of your ship looking at it from the stern.

WA MING MOTORS Excellent but unavailable motors.

X CELLS Sealed lead acid batteries. Twice the size of D cells. Rechargeable.

GCH MARK 9 "Great Cheap Hope Mini gun". Watkins gun that is no longer available.

GUNWALES Horizontal strips of wood, often attached to tops of ribs (frames) around the deck seal. Page 168.

CLIPPARD A brand name of gun hardware, available through the Space Cadet. Page 222.

AXIES Wonderful human beings. Often teachers at local Sunday Schools. Quiet, kind, ...sweet...mel

SORTIE The part of a battle that starts with guns loaded and ends with the termination of the five minute rule or a sink.

UNIT A gun or a pump.

BARNACLES British Armour.

TWEAK Fine tuning of a gun breach.

WATER BATH A method of defrosting ones' freon source. Static or circulated water around the bottom of the freon tank.

"FIVE MINUTE OUT OF CONTROL" RULE...HELP This phrase is yelled out when your ship is out of control, but the guns are operable. It is different than the "Five Minute Rule" which means you are out of ammo because you can defend your ship for the five minutes before it becomes classified a non-target...i.e., for instance use this rule when your props become tangled in moss, or your throttle smokes, or you are semi-beached.



## OBSERVATIONS OF THE FOUNDING FATHER

By Stan Watkins

### Greetings Combatants!

On April 20 of this year the seventh annual anniversary of the first battle in R/C Warship Combat occurred. To commemorate the next milestone of R/C Warship Combat time passage (which will occur on July 20, 1985) a special message has been composed.

### The Emaciation Proclamation

By Stanley (Abraham) Watkins

Four score and seven months ago the founding father and friends brought forth upon this planet a new hobby dedicated to the proposition that a few are created with certain undeniable passions. Among these are life, liberty, and the pursuit of military hostilities.

This new hobby was for the purpose of the satisfaction of the needs of this passion without bloodshed. It never-the-less provides for the vital needs of producing property damage, weapon actuation, victory, defeat, glory, dishonor, courage, fear, and panic.

The hobby has then been successful in its designed purpose and has also provided certain other spinoff releases that are also common to actual war. Some of these are; Axis cheating, deceit, misrepresenting of facts, arrogance, treachery, and temper tantrums, and Allied idealist dreamer qualities of faith, trust, honesty, generosity, and kindness.

And although cheaters never "really" win, the Von Fluegel Traveling Trophy is littered with their Axis names.

So then let the destruction commence but by all means let it be segregated into distinct categories of "Good" (Allied) and "Bad" Axis forever. The father always knew that this was a vital part of the need filled by this hobby and always intended that it should be Allied vs. Axis whenever possible.

Good hunting and  
Let's Battle (Allied vs. Axis)

Stan *Stan*

Destroyers shall have a maximum BB capacity of 10 BB's per magazine. Gunboats shall have a maximum capacity of five BB's per magazine. The two above classes shall be legal to have and operate the above magazine capacity with single or multi shot guns.

The former rule in multi shot combat was 20 shots per magazine for destroyers and 100 shots per magazine for Cruisers or 1 BB per 5 BB's. If Destroyers get a 10 shot magazine and cruisers are allowed a 50 shot magazine for single shot then the ratio would remain the same 1 BB for 5 BB's. This magazine size would enable Destroyers to finish a battle with a full head of steam with no problem. The choice of gun type would enable small ones to be completed without extra weight problems although a single shot one would be the better ship to operate in battle.

Dan Hamilton

### RULE RECOMMENDATION #5

The executive board shall not have the authority to change or make new rules concerning battle or construction during the year except where safety is a factor. We already have a Democratic process for changing rules once per year and interference with process is not only unconstitutional its unfair to the entire membership. This is also appears bad to prospective members as we seem to be a very unstable club.

Dan Hamilton

### RULE RECOMMENDATION #6

Withdrawal Mechanical which now carries 0 penalty points shall count 100 points the same as a unsea worthy withdrawal. The present system allows a easy way out of combat. Also a withdrawal penalty would have the effect of having combatants ships more prepared for battle and encourage people to effect repairs on the spot.

Dan Hamilton

### RULE RECOMMENDATION #7

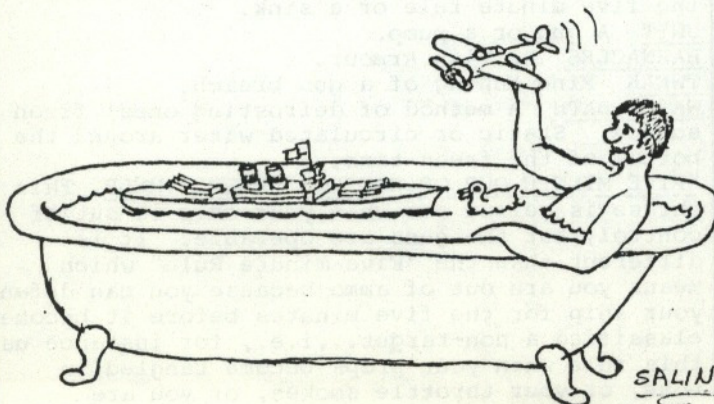
Due to the increased effectiveness of larger more powerful ships in single shot combat. The weight factors shall be changed from 2 for Battleships and Heavy Cruisers, and 1 for Light Cruisers and Destroyers to 4 for Battleships, 3 for Heavy Cruisers, 2 for Light Cruisers, and 1 for Destroyers in fleet battle scoring.

Dan Hamilton

### Powering your Ship Efficiently

P. Futschik,  
60 Park Street,  
South Yarra. 3141.  
Melbourne.  
Australia.

Hi there fellow model warship combat friends! What do I mean by efficiency? Well, your model warship is in all probability powered by some sort of electric motor/battery combination. However, if you think about it, that isn't the whole story. Looked at scientifically, you want your model to go as fast as possible for as long as possible, but you only have the energy of your battery to make your motor turn. Through some kind of coupling, it turns the propellers and eventually, if the propellers are good ones and turning at the right speed, drives your boat. Now the energy in your battery is limited by its size and weight. For instance, it is silly to add a lot of ballast to your





cont

OK, so you've got a good electric motor. It is still necessary to do some thinking about what its best characteristics are. Electric motors (like we use) have a no load speed, which is quite high, at which they draw a fairly low current. As you slow them down, for instance, if you were to do some tests with your motor driving first a very small propellor, then a medium size propellor, finally a very large propellor, you would find:

- (a) that the very small propellor would be turned very quickly, relatively a small amount of current would be drawn from your battery, but your boat would go very slowly.
- (b) Now try the very large propellor - your electric motor could turn it only very slowly, it would draw a very large current from your battery and get very hot. The speed of your boat would only be a little better than with the very small propellor.

Obviously what is needed is a propellor that is just the right size to cause the motor to turn at a speed at which it will draw such a current from the battery that it does not get more than a little warm. I have found that using a typical small motor, the size propellor you want is the same diameter as the motor (3 blade prop). Naturally if you use a geared motor this would not hold. Personally I prefer a silent boat - battleships are not majestic whining away with gear noise. Hence I always use direct drive from motor to shaft, using a double universal plastic coupling. Lots of energy can be wasted here, so hunt carefully for a really good coupling.

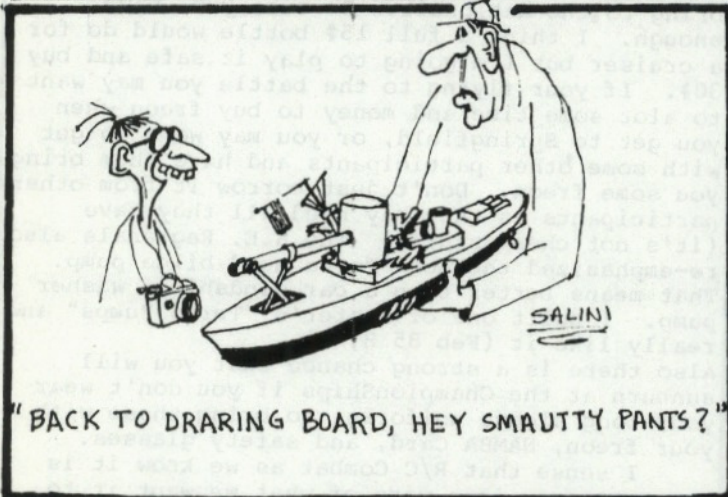
Last, but not least, you need a decent, well oiled free running, straight, brass or

silver steel propellor shaft with a well shaped propellor on the end.

I know you can make propellers in your garage out of tin using tinsnips and a compass. It is however quite impossible to make a truly efficient propellor this way. You really should spend the extra time to find a decent screw on plastic propellor.

When you have got all these things going at once, you will find that you have a ship that is faster than the competition, with similar endurance, or of the same speed with maybe twice the endurance of a ship powered by the cheap motor homemade prop. combination ship and use small batteries. You can only add so much weight to a given size ship for it to float right. For maximum electrical energy to be available, you want your hull, guns, motors, radio control, freon tank etc. to be as light as possible. Your battery can then take up all the spare weight.

The next "link in the chain" is the electric motor (or motors) that you choose to power your boat. There are lots available. Some quite cheap. Some expensive. Generally speaking the cheap ones put out heaps of radio interference, especially if run at higher voltages. Not only that, but remember that electric motors are devices for turning electrical energy into mechanical energy. How well they do this, (without wasting energy simply in getting hot), depends on how good the magnets are, how good the bearings are, what the motor design is like and so on. My own favourite motors are made by Marx Luder (Germany) and are called Monoperm, Decaperm, etc., depending on size. They are expensive, but are very efficient and do not put out any radio interference even without a capacitor across the brushes.



### SCAEE (Editorial)

By: Tom Jass

I suspect that scale is like beauty -- it is in the eye of the beholder. What is scale to me is not scale to you, and vice versa. A cynic might even suggest that what scale is depends on "whose ox is being gored". The subject is complex and filled with more opinion than fact, but we need to address the topic and give it some serious, logical thought.

Why do we weigh ships to insure scale displacement, and, at the same time, allow other ships to battle without complete superstructures? In some cases (rudder size and screw diameter, for example), we have allowed scale deviation through rules -- and probably correctly so. We all recognize that our ships can't be scale in every detail, and we allow these deviations. But in other areas we are not at all consistent -- and this lack of consistency where consistency is applicable creates potential problems and situations.

We have an inherent problem because the plansets that we use are not always very accurate. Even when they are, quite often they have to be reduced or enlarged; this creates another place where inaccuracies can creep into the finished model. When I had the plans for my Shropshire enlarged at a professional blueprint shop the enlargement was 1" too short -- and I paid \$35 for the service. (Rather than spend another \$35, I built her from the plans and kept my mouth shut.) The scale that we use amplifies these

### LABOR DAY FIGHT

On the weekend of August 1 to September 2, the Labor Day holiday, there will be a regionals in Springfield, Missouri. The battling will be restricted to single shot only, so leave those nasty scatter guns at home! Fleet make-up will be varied for every battle, with balanced forces on both sides being the main goals. All fleet battles will be single sorties, with no individual five minute rules, but rather the fleet calling five minutes as a whole. Fleet admirals will be assigned before each battle with everyone being given a chance to make a fool of his or her self. There will be a one hour time limit placed on the sortie, even though the fighting will probably be well over before the time is up. Jim Lisher has volunteered his garage for a dry dock and we are still fighting to see who will be stuck as Contest Director. Write to Steve Milholland at Rtl Apt A7, Brookline, Mo., 65619 for entry forms and more information.

cont.



problems, because an error of 1/12" in a model represents a deviation of 12" from the actual ship. Is it any wonder why a DD model can be modeled "accurately" in length, beam, and draft and yet be grossly overweight or underweight? It's true that the allowance of having the model weight fall within the envelope of standard displacement to full load displacement should care for any deviation caused by poor planset accuracy.

Where is all this taking us? Well, maybe toward a position that says "if being unscale in an area gives an unfair COMBAT advantage, that area should be more closely regulated." Being grossly over weight can give a ship a great advantage in carrying more battery capacity. This is an obvious combat advantage, so the weighing requirement is valid. Oversize rudders are an advantage, but as long as everyone can use them the situation is "fair". What about incomplete superstructures? Lack of superstructure may result in reduced damage points (5 points each -- not very critical), but does that constitute an advantage? Probably not enough to change the outcome of 1 battle in 10. I guess what concerns me about ships with minimal superstructure is that the captain has to spend minimal time repairing the damage (however much or little) to bring his ship back to "repaired" condition. Perhaps this is a case of my ox being gored.

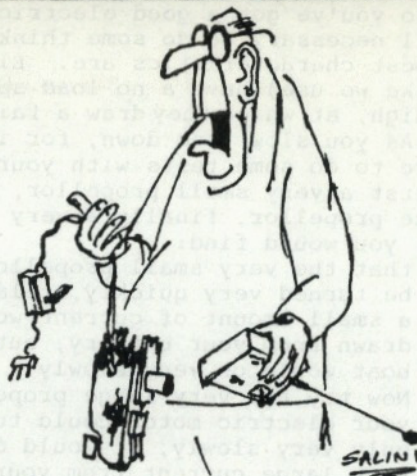
The amount of scale that we require must, in the end, be the decision of the club membership as a whole. Rules have been proposed in the past (and defeated) to require all main and secondary turrets to be installed. Another proposal was to require all prior battle damage to be repaired at the start of a sanctioned event. I feel these proposals are a step in the right direction, and they may be more palatable as we shift to single shot guns. We should probably evolve towards a requirement of more scale, but phase in the rules over several years, rather than in one fell swoop. This would allow us to modify our ships to meet the requirements over several winters (that's when the white rain falls, for you Texans' information).

Let me make a simple suggestion that would at least start us down the road of scale documentation. I propose that we all be required to fill out a data sheet for each model similar to the one shown in Figure 1. This would provide us with the correct basic dimensions of each model. It would speed up any physical checking that might be necessary as the result of a challenge to your ship. The physical dimensions of your model (in inches) can be determined by dividing the length of the real ship (in feet) by 12. Similarly, the weight of your model (in pounds) can be found by dividing the real ship's tonnage by 1500. You would be required to bring along this data sheet to any sanctioned battle.

SINGLESHOT GUNS = MORE SCALE

*Tom Jass*

Tom Jass



"I DON'T WANT TO SPOIL YOUR WEEKEND FLUEGEL, BUT MONDAY MORNING I WANT TO SEE YOU IN MY OFFICE."

#### CONCLUSION

Boy, that was yet another wonderful Hull Busters! Thanks contributing authors. It needs to be said before the ChampionShips that everybody is welcome to attend, no matter what type of guns they have (as long as they are safe). If you have MARK IX's or Geek's or Foster's or single shot guns; then you are one of us and we want and need you there.

The S.E. Regionals brought back to our minds the quantity of freon we will need to bring to the Nationals. Be sure you have enough. I think a full 15# bottle would do for a cruiser but I'm going to play it safe and buy 30#. If your flying to the battle you may want to allot some time and money to buy freon when you get to Springfield, or you may want to get with some other participants and have them bring you some freon. Don't just borrow it from other participants as they may need all they have (it's not cheap stuff.) The S.E. Regionals also re-emphasized the need for a good bilge pump. That means better than a car windshield washer pump. I built one of Foster's "Turbo Pumps" and really like it (Feb 85 H.B.).

Also there is a strong chance that you will sunburn at the ChampionShips if you don't wear your long sleeve uniforms, so bring these with your freon, NAMBA Card, and safety glasses.

I sense that R/C Combat as we know it is about to grow into more of what we want it to be. The long battles of single shots with their limited superstructure damage and ease of gun tweaking will probably be the death of unlimited gun warfare. Let's not get too excited about our new hobby, let the old ways die out slow and naturally. If we don't, people will get their feelings hurt, and that's not what the Magnificent Obsession is all about.

Well, the S.E. Regionals was almost exclusively Allies (British vs U.S.) so we Axes are going to have a tough, battle-hardened enemy to deal with. Axes, get your ships in the water and make them reliable before the ChampionShips. It is vital, it is war!

I'm looking forward to being with everybody (except T. Jass) at the ChampionShips and the Fellowship we all enjoy after the battles (at the restaurant). It will be a hard but dear time for us all.

See ya at de Battlefield Inn.  
Love Fluegel *Blasgu*



# ACHTUNG!

Alles touristen and Non-technischen Lookens Peepers!

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Spitzensparken. Der Machine is Diggen by Experten  
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