

FEB 1989

HULL BUSTERS

VACUUMS SUCK

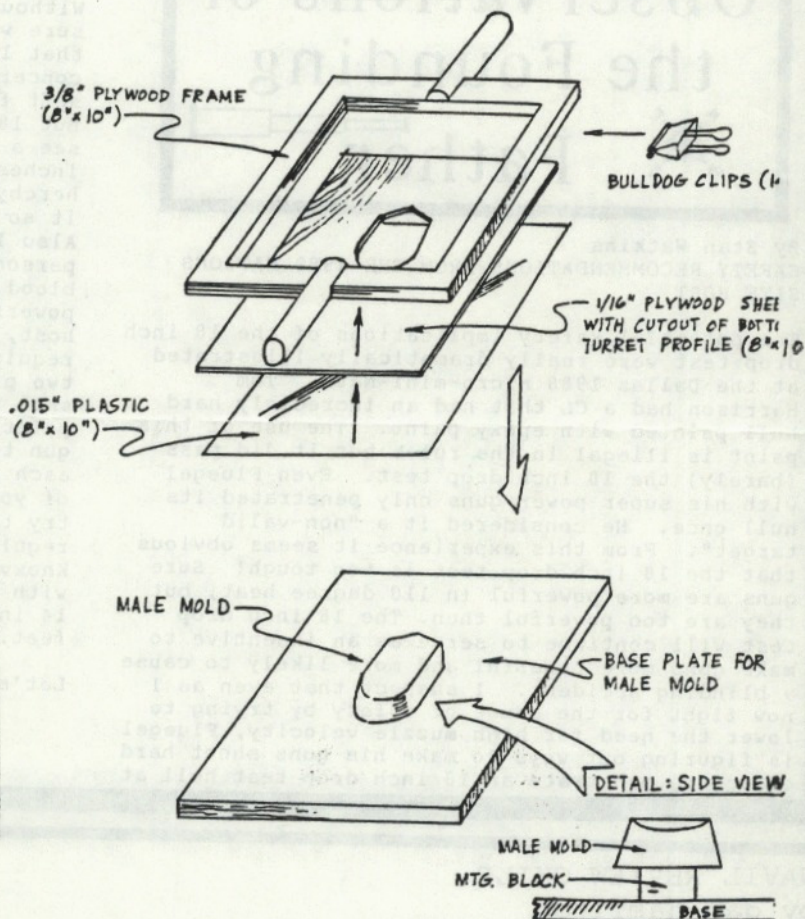
By Tom Jass

The success of the Lides and others in vacuum forming turrets and other superstructure parts from plastic has gotten me interested in learning this method and applying it to my ships. While building the HMS Tiger I decided to master the technique to build the four turrets that I needed. After Steve Smith's article in the October 1988 HULL BUSTERS about vacuum forming I bought a cake pan and two new 1/8" bits and proceeded to drill 10,000 holes in the pan to build a vacuum forming box as he described. I constructed a framework (10" X 8") of 3/8" plywood as described in the HB article to clamp the plastic sheet to. The frame handles I made by cutting two lengths from my workshop broom; I now have to sweep the floor while bent over -- a small price to pay to learn a new trick. I also bought 12 bulldog clips from an office supply store to clamp the whole mess together. I had previously built a male mold of a Tiger turret from plywood and balsa. I clipped the plastic sheet to the plywood frame with the bulldog clips and was almost ready to form the plastic turrets. I had purchased a few pieces of clear plastic sheeting from the hobby shop in various thicknesses (.005", .010" and .015") to experiment with.

I waited until June was gone from the house on a Christmas errand and then lit off the electric oven and set it for 350 degrees. I clamped the .015" thick plastic sheet to the frame, turned on the vacuum cleaner that was attached to the cake tin with the 10,000 drilled holes and placed the frame and plastic sheet into the oven. I waited until the sheet was "sufficiently heated" (whatever that was -- the HB article wasn't too exact on that point), removed the frame from the oven and jammed it down over the male mold. Well, the process didn't work for me!! The plastic sheet would not pull down over the male turret mold enough to form a correct turret shape. I thought perhaps that a thinner sheet of plastic would do the trick. I tried the .005" thick sheet and the same problem existed -- a turret shape that was badly wrinkled and not deeply enough formed to be useful. Evidently the vacuum formed in the box with the million holes was not strong enough to pull the plastic sheet down on the male mold sufficiently to form a deep turret. Now I was really frustrated; could it be that the Axis were smarter than I was??

My anger cooled slower than the plastic sheet and I remembered an article in a model airplane magazine that described how to form airplane canopies from plastic sheets. The sheet was heated and pulled down over a male mold, but no vacuum box was used. Instead, a female mold of the bottom shape of the canopy was cut into the plywood frame

and the heated plastic sheet was pulled over the male mold. So, down to the basement I trekked and I drew a pattern of the bottom of the turret on a sheet of 1/16" plywood. This pattern must be cut slightly oversized (1/16") so that the plastic sheet can be over the male mold. I cut out this shape and attached the 1/16" plywood sheet to the inside of the frame. I attached my last sheet of .005" plastic sheet to the bottom of the frame with the bulldog clips and went back to the kitchen and the hot oven. I reasoned that the vacuum cleaner setup wasn't cutting the mustard, so I did not turn it on. I placed the frame with the 1/16" plywood cutout and the .005" plastic sheet in the oven so that the plastic sheet was on the bottom of the stack, toward the heat. When the plastic had deformed sufficiently (more about that later), I removed the frame from the oven and pulled it over the male mold -- viola!! a correctly formed turret without a vacuum box required at all. (Why did I drill those 10,000 holes?) The turret was correctly formed, but seemed flimsy. Maybe the .005" sheet was just too thin.



The next day I returned to the hobby shop and bought some more plastic sheets to experiment with. After trying several sheets, I settled on using .015" plastic sheets as they provide the correct strength when pulled through the male mold. Using one plastic sheet per turret may sound wasteful, but even then a turret cost me only 60 cents, the cost of a .015" plastic sheet. Listed below is a summary of what I learned about vacuum forming without a vacuum. The diagram provided should help explain the process.

1. Use .015" plastic sheets (8" X 10"); one per item.
2. Make a female mold sheet of the bottom view of the male mold from 1/16" plywood and attach it to the bottom side of the 3/8" plywood frame. The 1/16" plywood can be taped

to the frame using duct tape. The frame doesn't stay in the oven long enough to burn the tape.

3. The male mold should be securely attached to a mounting block which in turn is glued to a base plate made of pine or plywood. The height that the male mold is attached above the base plate is important. If the male mold is too high from the base, the heated plastic sheet will rip as it is pulled down over the mold. I found that a 3/4" height is correct if .015" plastic sheet is used.

4. The plastic sheet should be heated in the oven at 350 to 400 degrees until the plastic sheet sags about 3" to 3 1/2" below the plywood frame. WHEN THE HEATED SHEET IS PULLED OVER THE MALE MOLD, PULL WITH THE PLASTIC SHEET LOCATED ON THE BOTTOM OF THE

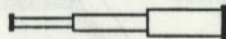
THE STACK FORMED FROM THE FRAME, THE 1/16" PLYWOOD AND THE PLASTIC SHEET.

5. Remove the formed plastic piece from the male mold by cutting it away from the plastic sheet with a razor knife. Do not attempt to pull the frame and plastic sheet off by lifting it up over the male mold.

6. This process is similar to casting. The male mold must be built so that the bottom profile of the pattern is larger than the top profile -- else the plastic will not be able to be separated from the male mold.

Good luck with this method. It works without a vacuum box with 10,000 holes. There are always 9 ways to skin the cat in this hobby.

Observations of the Founding Father



By Stan Watkins
SAFETY RECOMMENDATIONS FROM THE 1989 NATIONS
SITE HOST

The potential safety implications of the 18 inch drop test were really dramatically illustrated at the Dallas 1988 Micro-mini-Nats. Tom Harrison had a CL that had an incredibly hard hull painted with epoxy paint. The use of this paint is illegal in the rules but it did pass (barely) the 18 inch drop test. Even Fluegel with his super power guns only penetrated its hull once. He considered it a "non-valid target". From this experience it seems obvious that the 18 inch drop test is too tough! Sure guns are more powerful in 110 degree heat, but they are too powerful then. The 18 inch drop test will continue to serve as an incentive to make guns more powerful and more likely to cause a blinding accident. I suspect that even as I now fight for the cause of safety by trying to lower the need for high muzzle velocity, Fluegel is figuring out ways to make his guns shoot hard enough to penetrate an 18 inch drop test hull at

40 degrees F (60 inch drop test at 100 degrees F) and is hardening his hull to 18 inches. I believe we should lower the drop test limits. Without some kind of relevant testing I'm not sure what they should be lowered to. It seems that 12 inches was used for a while and some concerns were voiced that supposedly it was too soft for normal battlehardened construction. But 18 is certainly too hard. I would like to see a trial hardness safety requirement of 14 inches. If possible it should be less. I hereby request the Contest Director to declare it so for the 1989 Nationals as a safety issue. Also I witnessed the breaking of the skin of a person at the 1988 Nationals leading to loss of blood. The guns of this hobby should not be powerful enough to break the skin. As site host, I hereby request the contest director to require detweaking of any gun that can penetrate two pieces of corrugated cardboard more than one shot in 10. Also I request that there be a 1000 point battle damage penalty be assessed to any gun that breaks this special safety rule for each offense. So combatants, even though some of you are not concerned about the safety risk try to anticipate a special site safety requirement of the 1982 World's Fair Site in Knoxville Tennessee and please come but come with the gun power necessary only to penetrate a 14 inch drop test hull skin at a range of 10 feet.

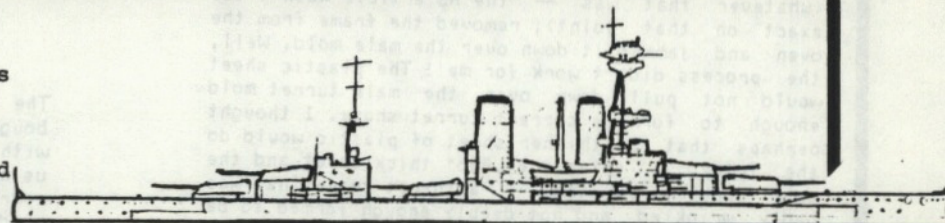
Let's Battle (Fairly and Safely)!

Stan Watkins

NAVIL REVIEW CHILE

by dan hamilton

To understand the modern Chilean navy and its relation to the public it serves. One must start at the pacific war that Chile fought against Peru and Bolivia winning a spectacular victory. In which the navy played a major part. The navy also figured decisively into the Revolution of 1891. The Chilean navy's backbone during this period was English built, Protected [Light] Cruisers. These were called Elswick Cruisers after the ship yard in which they were built. The most famous of which was the Esmeralda, which also typified the group. In 1902 a border dispute with Argentina regarding the Patagonian frontier region was settled with Great Britian acting as a arbitor between the two countries. The two nations also agreed on a naval arms treaty which lasted until Brazil passed a major naval aquisition program in 1904 and Argentina followed suit in 1907. After Brazil and Arqentina had ordered

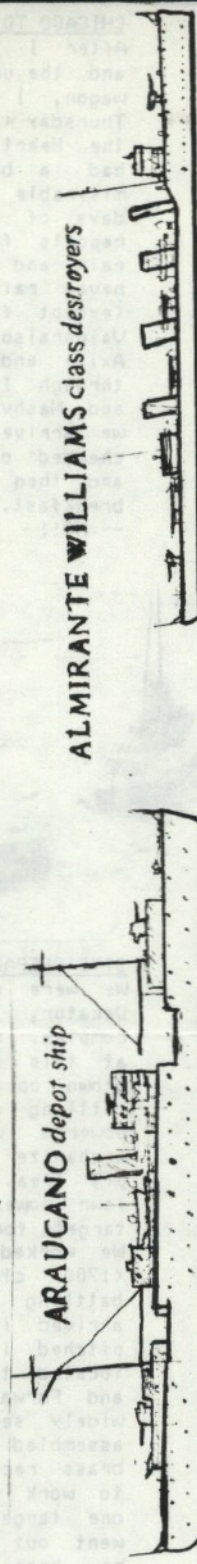


ALMIRANTE LATORRE class Battleships

Dreadnought type Battleships, Chile began to rebuild her fleet in 1910 and entered the naval arms race. The fleet up until this time consisted of an assortment of ageing 1890's Elswick built Cruisers and the old 1890's built Predreadnought Battleship Capitan Prat. The 1910 naval program called for two Dreadnought Battleships and ten large destroyers. Chile also received a British naval staff in 1911 and established a naval war college. World war 1 intervened in the naval program and Chile received only two of

her Destroyers prior to the out break of war. Chile remained neutral in world war 1 but it was a rocky path to follow. Chile's Dreadnought Battle wagon the Almirante Latorre was launched and almost completed in 1914 and her sister the Almirante cochrane was on the slipway. Britian was in a tough position, she needed the big Battleship for her naval war with Germany. But could not afford to upset Chile a friendly neutral and a vital nitrate supplier. There could therefore be no question of seizure as the Turkish Dreadnoughts. Almirante Latorre was purchased by England for the Royal navy and renamed Canada in 1914. Her sister ship the Almirante Cochrane was converted to the Carrier H.M.S. Eagle and her armour belt was fitted to the Battle Cruiser H.M.S. Repulse. Four of the Chilean Destroyers were completed for the Royal navy as the Faulknor class Destroyer Leaders. Chile had a hard time of it enforcing her neutrality in world war 1. A major naval battle was fought in her waters by British and German Cruiser forces in 1914 off of Coronel. This resulted in the worst British naval defeat of the war. The British revenge was short in coming later at the battle of the Falkland islands in 1914. This battle was where the Battle Cruiser became established as a Cruiser killer. Shortly There after one of the new Chilean Destroyers chased away a German survivor of the battle, the German Light Cruiser Dresden in sholl bay in Chilean territorial waters by reminding her captain of the 24 hour time limit on belligerent warships in neutral waters. The Dresden's captain was also informed of the Chilean government decision not to allow the Dresden to refuel there. These new Chilean Destroyers were very large for their time, almost the size of many Light Cruisers. The Battleship Almirante Latorre and the Three remaining Destroyers were delivered to Chile at the end of the war. Chile also negotiated for the return of the Almirante Cochrane but wanted her completed as a Battleship. This was impractical and as the Royal navy wanted to retain her as a Carrier, the deal fell thru. The Chilean navy received further reinforcements in 1928 to 1929 by the additions of six Destroyers built in England by the famous ship builder's yard of Thornycroft. In 1931 the fleet suffered a severe loss of prestige when it was attacked by 22 aircraft during a national crisis Even though there was little damage done, nerves were jangled and the impact was frightening to those who believed in the navy. None of the attacking aircraft were shot - down. The fleet was completely unprepared. As a result of this incident it was years before public confidence was restored in its fleet. Chile was once again neutral at the outset of world war 2 but was also once again pro British.

ALMIRANTE WILLIAMS class destroyers



Most smaller navy's ships were better maintained than larger navies, due to the need to protect their investments and make ships last. The Chilean navy was a spit and polish service that maintained its ships even better than other small navies. As proof of and a result of this, after the Pearl Harbor attack the United States attempted to lease or buy Almirante Latorre and several Destroyers. Of course this was not possible as Chile needed her fleet as her first line of defence in a world in turmoil. Chile entered the second world war in 1944 on the Allied side. At the close of world war 2, Chile became a charter member of the United Nations.

THE SHIPS AND FACILITIES Chile operated major naval bases at Valparaiso, Santiago, and Talcahano with drydock facilities at all three bases. The Almirante Latorre was the Largest ship in the Chilean navy. This Battleship was designed of course to out class the other South American Battleships. She was based on the British Battleship Iron Duke but was longer. The added length was in the lower stern section. She was equipped with 14 inch guns instead of the 13.5 inch guns of the Iron Duke. This also caused her to be a larger heavier ship. As H.M.S. Canada she fought at the battle of Jutland. She received a major refit during 1929 to 1931. She was given new machinery, bulges, new A.A. guns, improved fire control, and the range of her 14 inch guns was limited only by the visibility. She was a powerful ship her only weakness lay in her side armour protection. The Almirante Lynch and Almirante Williams were extremely large Destroyers for their time. The Almirante Williams as the Faulknor class in the Royal navy served as Destroyer Leaders and Flagships. The Serrano class Destroyers were smaller but more modern and faster.

The Araucano gunboat depot ship was built in England for Chile on a merchantile hull. She was also used alternately used as a Flagship and as a cadet training ship.

COMBAT USE
The Almirante Latorre Battleship like all English Battleships of the period were completed with twin rudders. They have plenty of displacement for batteries and equipment, though they are a little longer than the Iron Duke. They are however about an inch and 1/2 shorter than the U.S. Alabama type but she is slower. The older Destroyers are probably easier to built than the newer Serrano class due to the weight factor. But the Serrano class Destroyers are faster. The Araucano class gun boat depot ships were also equipped to carry supplies for the fleet. So they could be completed as Convoy ships or as class 8 warships. This completes our review of a small but efficient South American navy.

CHILIE

REVISED:1-6-88

CLASS	NAME	# SHIPS	LOA (FEET)	BEAM (FEET)	STNDRD DISP (TONS)	FULL DISP (TONS)	HEAVY MODEL		GUNS #	SPEED (KNOTS)	BUILT	OFF/DEF CLASS	SPEE (SEC 100 F)	
							DISP (LBS)	ARMOUR (INCHES)						
DREADNOUGHT	ALMIR. LATORRE	1	661	103	28,500	34,000	25,506	12.0	10	14	22.00	1915	2	28
DESTROYER	ALMIR. LYNCH	2	322	33	1,500	1,900	1,425	0.0	6	4	31.00	1913-14	7	24
	ALMIR. WILLIAMS	2	334	33	1,700	2,000	1,500	0.0	4	4.7	31.00	1915	7	24
	SERRANO	6	300	29	1,000	1,700	1,275	0.0	3	4.7	35.00	1928-29	7	22
GUNBOATS	ARAUCANO	1	390	55	9,000	14,000	10,503	0.0	2	4.7	14.00	1930	8	32

Blow-by-Blow

Battle Reports

"SHOOTING IN THE RAIN" 1988 FALL SOUTHEASTERN REGIONALS

By Tom Jass

JASS PREPARATIONS

I came home from the 1988 Nationals all excited about the good showing the Allies had made during the week of battling at Amarillo, Texas. Consequently I didn't experience my usual post-Nats letdown, but went right to work on repairing the BELFAST's damage from Nats. I decided that I could get through Fall Regionals without reskinning, but spent about three evenings fixing superstructure damage (thanks, Peter Futschik to you and your triple forward guns!). I was unhappy with the reverse speed of the BELFAST so I ordered new four bladed screws from Exact Miniatures to address that problem.

The SWIFTSURE didn't see any action at Nats so she required no repair work at all. The HMS ARETHUSA (my CL) was heavily shredded at the Nats on Friday; Jeff Poindexter used her (harshly) and Peter had holed her extensively in the superstructure and hull on the starboard side. I began to rebuild her because I can't stand to see a wrecked ship around the workshop. During one of Mike Deskin's visits to the Chicago area in his semitrailer, we discussed his desire to build a light cruiser to carry along in his truck to work on during his many nights away from home on the road. I suggested that he purchase the ARETHUSA as repairing her would be much easier than building a new CL. We agreed on a price, I stripped out the radio equipment, and Mike removed her from my basement. I just don't have the time to repair two CH's, a CL and a CVE cargo ship.

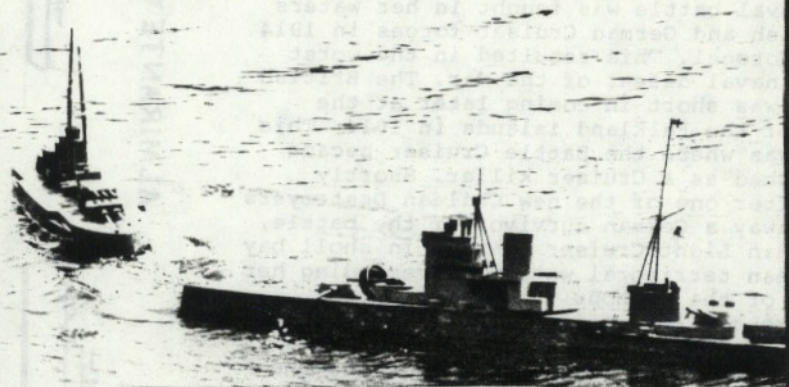
My CVE/Cargo Ship didn't need much repair work, but I removed the D-cells and installed X-cells to double her endurance. The electrical work was easy, but grinding out 12 ounces of ballast (lead shot soaked in epoxy resin) was no Navy Good Deal.

When I sold the ARETHUSA I had already started building my HMS TIGER. She will be a 4 unit, 24 second WWI battlecruiser and she will give the Jasses their first broadside guns since the RODNEY II was retired because of unsuitability (slow speed and poor turning). By mid-September the TIGER was about 75% complete, but I did not plan to finish her in 1988 for the Decatur fall regionals.

Dan Hamilton was going to use the Campaign format on Saturday and Sunday during the fall regionals and he wanted to test a new shore target configuration that could be knocked down from two directions and give an indication in "real time" when a target is hit and destroyed. This would eliminate the need for someone to wade into the water to check styrofoam cups for hole damage, and also clearly identify a destroyed target to a shooter so he would not waste ammo on cups which are already destroyed. I built 12 rectangular brass targets which were L shaped and pivoted on a brass rod. One leg of the L would rest on the wooden target floating in the water, and the other leg would stick up into the air and form the target to be hit by the bb.

CHICAGO TO DECATUR

After I loaded the BELFAST, SWIFTSURE, the CVE and the unfinished TIGER into the faithful Chevy wagon, I drove down to Valparaiso, Indiana on Thursday afternoon to pick up John and head for the Heart of Dixie-- Alabama. In Chicago we had had a beautiful fall in September (after a miserable hot summer when we set a record for 47 days of over 90 degree weather). The weather reports for Alabama during the weekend were for rain and more rain, but I wasn't worried -- it never rains in Decatur on a regionals weekend (except for "Mud Feast"). John and I departed Valparaiso about 1800 hours (supper time, for you Axis) and gunned south on US Route 65. The drive through Indianapolis, Louisville, Bowling Green and Nashville to Decatur is a piece of cake and we arrived at Dan and Mary's at 0400. We all checked our eyelids for light leaks until 0800 and then we four drove to Shoney's for a light breakfast. Biscuits and gravy -- YES grits -- NO!!



SITE PREPARATIONS

We were going to battle at the usual spot in Decatur, on the huge lake by the apartment complex. Since the Spring Regionals were not held at this site, the weeds and brush were quite grown up around the shore where most of the battling occurs. Dan and Mary had purchased a gas powered weed eater and a small chainsaw to mechanize the task of clearing the shoreline and pit area. We loaded these tools and a gasoline lawn mower into the cars along with the two targets for use during Campaign.

We worked from about noon (1200) until 5 PM (1700) clearing the weeds and underbrush from the battling area. Mike Deskin and Carl Shafer arrived in Decatur in the early afternoon and pitched in the efforts to clear the site. We located the British and World fleet Home Bases and Forward Bases on the shore in locations widely separated from each other. Dan and I assembled the Campaign targets and attached the brass rectangles to the wooden tees; they seemed to work well when tested on the shore. We placed one target into the water and Carl's HMS YORK went out on the water loaded with bbs to test the new brass targets. It was extremely difficult to knock down a brass target with a bb because the water film under the leg of the brass L held the target with much more force than was present on the shore. Maybe these new targets would not be an advance after all. James Foster and Steve Milholland drove in from Missouri and arrived about 3 PM in their pickup truck.

Mary, Dan, Mike, Carl, Steve, James, John and I went to dinner at Western Sizzlin' and pigged out on the food and told sea stories.

ORDER OF BATTLE

Dan had decided that the fleet sides for the Campaign should be England against the World as was the case in the past two SE Regionals. So, the fleets shaped up as follows:

ENGLISH FLEET

HMS VALIANT

Dan's veteran BB was replanked and repainted after Nats and she was ready to go. She had had a great 1988 Nats and we Brits were depending heavily on her to help defeat the World fleet.

HMS QUEEN ELIZABETH

Bob Amend's new English BB was the 1988 Spring Southeastern Champion and was returning to Alabama hoping to continue her effective ways. She had been battling out east during the summer of 1988 and she is now a veteran ship. She and the VALIANT are sister ships and always the mainstay of the English fleet.

HMS BELFAST

John Jass' heavy CH was a veteran after battling throughout 1988 at both Spring Regionals and Nats. John was looking forward to resuming battling with Will Montgomery and John French, past World enemies from bygone regionals.

HMS SWIFTSURE

My veteran CH was itching for battle after sitting out 1988 Nats watching the BELFAST get all the action. This could be her last campaign in the Jass fleet as Steve Milholland and I were discussing her sale -- did she know that?

HMS YORK

Carl Shafer's British CH made her introduction at 1988 Nats. She experienced some teething problems, but was an effective ship by the week's end. Carl had rearmed her with 2 stern guns that were servo powered to give variable elevation. He wanted to use them to destroy the World target during Campaign.

HMS EMPIRE MAC ANDREW

My convoy ship/CVE was ready and eager to enter Campaign and furnish supplies to the English fleet. She is a veteran, having served well in the Spring Regionals and 1988 Nats. I had removed the D cells and installed X cells to give her greater endurance.

HMS ADORIAN

The second English convoy ship was built by Dan and was to be sailed by Adam Woods, Dan's young nephew. Adam had been gaining experience with the ship throughout 1988. This ship was a bigger target than the CVE and just as slow.

HMS MERLIN

Dan's second convoy ship is a big tanker. She is longer than the ADORIAN but just as slow. Does a big convoy ship offer increased damage control ability, or is it just a bigger target? Time will tell.

WORLD FLEET

USS NORTH HAMPTON

John French was returning to Alabama with his American CH. She was looking great; she was well detailed and her paint scheme was wild. John had duplicated almost every camouflage scheme used by anyone on her hull. She was an effective ship during 1988 in the eastern battling.

SZENT ISTVAN

James Foster was making his first 1988 season battling appearance with his WWI Austrian BB. She is a 4 unit ship with 28 second speed. She is a small target and can outturn most CHs. James had armed her with 2 stern guns and 1 forward gun. Foster is always tough, tough, tough.

USS SALT LAKE CITY

Will Montgomery (the 1988 Von Fluegel Award winner) was at Decatur with a CH rather than his USS SOUTH DAKOTA. For the English anything would be an improvement to the 3 stern guns on his BB.

At the Northeast Regionals the SALT LAKE CITY was armed with 2 stern guns, but at Decatur she was configured with fore and aft guns. Word was that Will was having a ball with a CH rather than a BB.

USS INDIANAPOLIS

Steve Milholland left the USS ALABAMA in Missouri and brought his newly completed CH. He wanted a chance to see what cruiser battling was all about. He had built large portions of her superstructure from foam to minimize his patching efforts -- a novel approach to an old CH problem. She has 2 drive motors and 2 turning motors and her hull was beautifully built and finished.

JEAN BART

Mike Deskin brought his French 6 unit BB. She has 24 second speed, but only 2 turrets (both forward). She was armed with a 3 gun "B" turret and her "A" turret had one gun. "B" turret was pointed forward, slightly off to port and the "A" turret gun was rotateable. Would she experience new ship bugs, or had Mike made her into a reliable capital ship in a short time?

DKM GNEISENAU

Fred Deskin's German battlecruiser is a 5 unit, 24 second ship. She is new and she experienced some teething problems at regionals. She was painted a dark gray (almost black), which gave her a particularly sinister look; perhaps all German ships should be painted black.

The sides looked fairly even on paper. The World had the slight advantage in ships (6 to 5) and in units (24 to 19), but the British ships were more veteran. The World had 3 captains who were former Von Fluegel winners (Foster, Milholland and Montgomery) but the Brits had more experience operating together as a fleet in past Decatur Regionals. Who can ever tell? The combat worm always seems to turn in our battles.



FLEET BATTLE I

We all arrived at the lake by 0900 and set up the gear required to service the ships. The weather report for the weekend was rain, rain, rain. We agreed to have a fleet battle rather than a Campaign which might get rained out. After the TV introductions of the ships and captains, we placed the ships in the water by 1005 (we were shooting for a 1000 battle start). The weather was windy (onshore) and the water was very rough. The British fleet was composed of QUEEN ELIZABETH, VALIANT, BELFAST, YORK and SWIFTSURE. GNEISENAU was experiencing gun problems, so the World ships were SZENT ISTVAN, INDIANAPOLIS, NORTH HAMPTON, SALT LAKE CITY with JEAN BART to join the battle as soon as she was ready. This battle description is based on the video tape, so some battling which occurred but was not recorded may be omitted -- sorry about that. Battling began at 1010 as VALIANT engages SALT LAKE CITY. SWIFTSURE and SZENT ISTVAN mix it up

and the BELFAST sinks at 1012 without ever declaring "five minutes". Not a good start! After BELFAST is located and removed, QUEEN ELIZABETH and VALIANT battle SZENT ISTVAN -- watch those stern guns, Brits. INDIANAPOLIS steams into the fray and SWIFTSURE scores on her with the stern gun. This battle breaks up, and QUEEN ELIZABETH and YORK exchange bbs with two World CHs -- NORTH HAMPTON and INDIANAPOLIS. There are 8 ships on the TV screen at one time, twisting and firing and evading. Wild! QUEEN ELIZABETH is surrounded by the INDIANAPOLIS, SALT LAKE CITY and NORTH HAMPTON; after the bb salvos, QUEEN ELIZABETH's pumps light off. VALIANT rushes over to aid QUEEN ELIZABETH, and they both single out SALT LAKE CITY for special treatment. Meanwhile, SZENT ISTVAN blasts QUEEN ELIZABETH with stern shots. INDIANAPOLIS rams QUEEN ELIZABETH but neither captain calls a ram check. NORTH HAMPTON is engaging VALIANT with the CH's stern gun apparently scoring. SZENT ISTVAN and SALT LAKE CITY join in the World fun on the VALIANT. They part and SZENT ISTVAN cruises close to shore where YORK rams her aground -- a Fluegel move. James gets permission from the CD to free her, but not before YORK has loosed some stern volleys at her -- a super Fluegel move. Seconds later, QUEEN ELIZABETH has somehow become tangled up with the dock and SZENT ISTVAN deals out massive punishment with her 2 stern guns. YORK attempts to defend, but Carl is having problems bringing his stern only armament to bear. As ships go "on five" the battling winds down with QUEEN ELIZABETH, VALIANT and SZENT ISTVAN engaging in a turning battle. The sortie ends at 1030.

Sortie 1 British damage was: QUEEN ELIZABETH, 1690 (37 above, 7 on and 6 below); VALIANT, 610; BELFAST, 50 (unseaworthy sink); YORK, 0; SWIFTSURE, 140. The World had fared much better: SZENT ISTVAN, 490; SALT LAKE CITY, 0; INDIANAPOLIS, 160; NORTH HAMPTON, 0. Mike never got the JEAN BART into action. John said that the BELFAST had severe radio problems and he couldn't light off the pump nor steer and she got caught broadside in the high waves and took enough water to sink. Not a good start for the good guys!

The second sortie began with several captains dressed in rain ponchos. The captains all agreed to allow JEAN BART and BELFAST to enter this sortie. When the fighting resumed the SWIFTSURE went right after JEAN BART, but my forward gun was blasting a cloud of freon with each shot -- bad tweaking. JEAN BART flees and tangles with VALIANT close in to shore. SALT LAKE CITY uses her stern gun to aid JEAN BART as SZENT ISTVAN chases BELFAST in the middle of the pond. The individual minibattles were constant. SWIFTSURE is battling SALT LAKE CITY and INDIANAPOLIS when QUEEN ELIZABETH joins in and the Brits concentrate on SALT LAKE CITY. The SALT LAKE CITY appears to be in trouble and QUEEN ELIZABETH and SWIFTSURE redouble their efforts. As SALT LAKE CITY slows, QUEEN ELIZABETH catches her and the broadside guns of the BB seal her fate. SALT LAKE CITY sinks. As Will enters the water to raise her, BELFAST also sinks (what, again?) and there are two captains in the water. Sometime in the middle of the battle JEAN BART rams VALIANT and both ships exit the pond. Dan attempts to patch the hole, but both ships remain on the sidelines during the rest of the battle. When battling resumes, SZENT ISTVAN pounces on QUEEN ELIZABETH; YORK again comes to the aid of the BB. QUEEN ELIZABETH rams SZENT ISTVAN and both ram bowed ships come in for a check. As the two resume their fight, it is obvious that QUEEN ELIZABETH can't overtake SZENT ISTVAN who is in reverse. YORK rejoins the fray and Carl tries to get his stern guns on target. SZENT ISTVAN gets angry and turns on the YORK with Austrian stern guns blazing. The sortie winds down as QUEEN ELIZABETH, YORK and SZENT ISTVAN exhaust their bb supplies on each other.



Sortie 2 English damage was: QUEEN ELIZABETH, 900; VALIANT, 40; BELFAST, 680 (combat sunk); YORK, 200; SWIFTSURE, 140. World damage was: SZENT ISTVAN, 80; JEAN BART, 40 (also a 200 point ram penalty); SALT LAKE CITY, 1480 (combat sunk); INDIANAPOLIS, 70; NORTH HAMPTON, 190. The World had crushed the Brits, 4350 to 3000. Where is the HMS HOOD when we need her? The BELFAST was batting 1000% -- 2 sinks in 2 sorties, with radio problems plaguing her.

Because the drizzle was increasing we decided to pack up all the gear into the cars and score and patch at the motel -- looked as if it would rain until next Tuesday. After the points were totaled back in the warm, dry rooms of the motel, John decided to change out the radio gear that had given the BELFAST such control problems. I had brought along a 75 Mz radio that he exchanged for the offender, but the throttle and rudder throws were backwards as the radio was one of our first ones without a "servo reversing" feature. What a mess! But James came to the rescue and showed John how to change the transmitter wiring to the pots to reverse the servo actions. Thanks, James. That's what is great about the people in this hobby -- they'll help each other, regardless of battling sides.

When we had patched the ships, we went to lunch since the rain was still coming down with a fury -- and it looked as if it would continue all weekend. However, at about 4:00 PM it let up and we all decided to zip back to the pond and see if we couldn't at least get in a single sortie battle. No use for us to drive 10-12 hours to get to Decatur and then let a little rain bother us.



FLEET BATTLE 2

When we arrived at the pond we all donned rain gear (if we had it) and covered our radio

(Jan. 20, 1989) Marty Hayes
Nat. Sect'

Well, the ballots are back. The site for Nationals, 1989 is Knoxville, Tennessee. Stan will be coming up with more information in the future as to hotels (motels), lake details, etc.

Don't forget all memberships run out at the end of the year and that your subscription to Hullbusters is included. Also included are the new rules package, ship list, ribbons chart, campaign rules and membership card. So get your memberships in early in December/January. Membership for the coming year is up to \$12/yr. We ran out of money this year and the board (in general) felt that a small increase was called for.

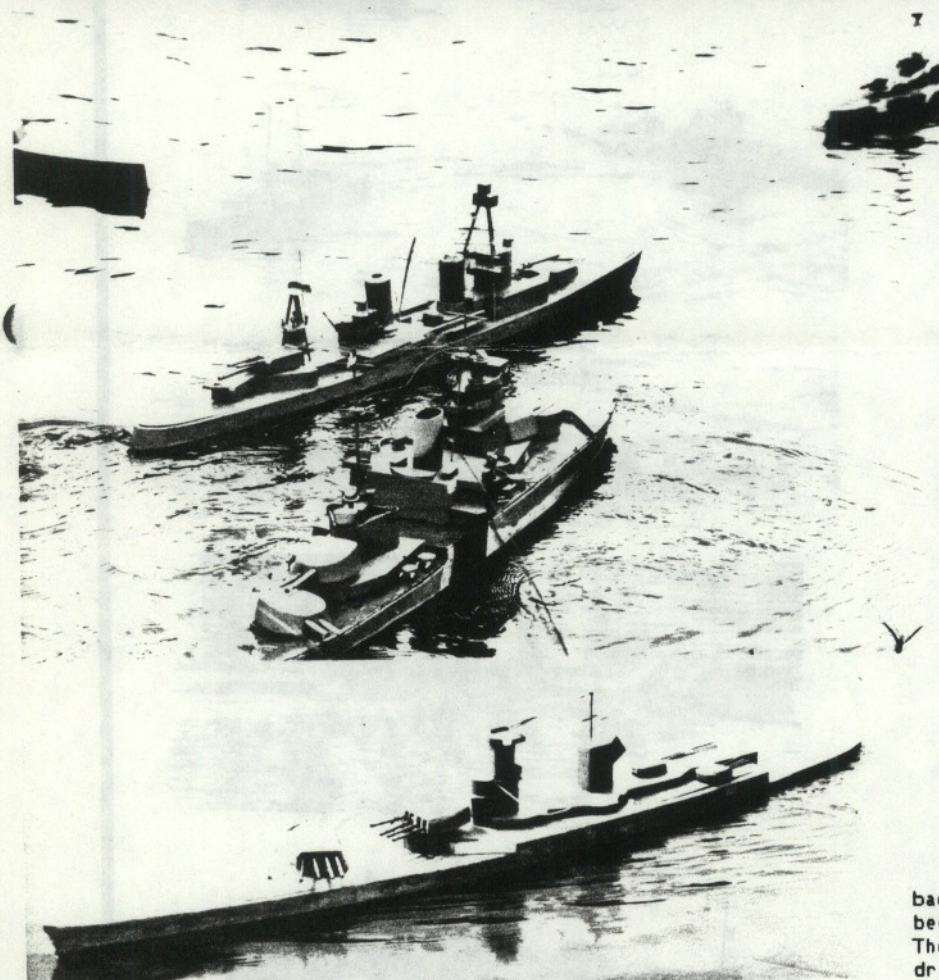
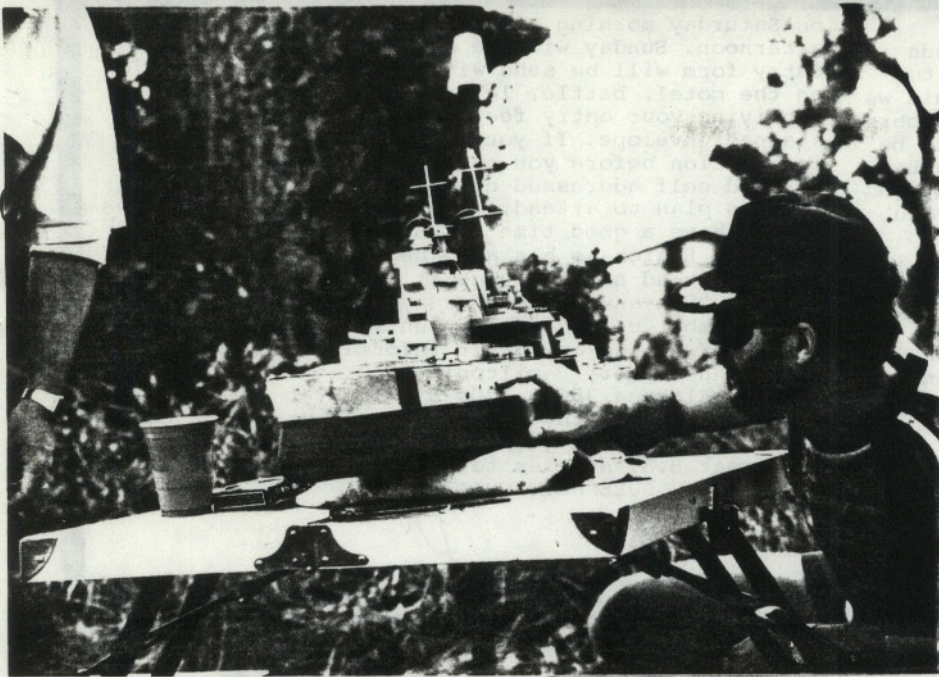
The ribbons for nationals 88 have been purchased and will be sent out with your new membership. We did not get the stars (pins) as we ran out of money. I suggested to Dan that the ribbons for 1989 be purchased prior to Nats. so we can give them out at the event.

Results of Nationals - Ribbons

(Flt=Fleet, Ev=event, nite=night, Con=convoy, cam=Campaign, ind=Individual.)

	Flt	Ev	Nite	Con	Cam	Ind
Montgomery	4	1			1	1
Hamilton	7	1				
M. Hayes	2	1		1		
T. Jass	3	1		1	1	
Watkins	3	1			1	
Shafer	3	1		1	1	
Poindexter		1			1	
Milholand	1	1		1	1	
Dahl		1		1	1	
Futschik	4		1		1	1
Fluegel	5		1		1	
Roberts	3		1		1	
J. Lide	4		1		1	1
S. Lide	3		1		1	
Gainer	5		1	1	1	1
J. West	4		1		1	
Haynes	4		1		1	
Koehn	1				1	
S. Smith	1			1	1	

back at the motel as Fred had crashed out on the bed after driving all night from Ohio to Decatur. The battling began at about 1630 in a light drizzle. As I remember it the battling was as furious as in the morning, but the crucial event was when NORTH HAMPTON went aground right in front of the conning area and QUEEN ELIZABETH, VALIANT and BELFAST closed in for the kill. NORTH HAMPTON's plight had occurred as a result of radio problems that appeared after a ram with the INDIANAPOLIS. However, the Brits asked no questions, and they were thankful for the chance to even the score. Bob Amend was really enjoying himself using QUEEN ELIZABETH's broadside guns to open up the NORTH HAMPTON. John French refused to declare NORTH HAMPTON sunk -- perhaps a northeast feud of some sort between the two captains? Meanwhile, INDIANAPOLIS had remained on shore after the ram, and YORK was experiencing radio



transmitters as best we could. We left all the gear in the vehicles and just took the ships and transmitters to the lake. The eastern guys had orange ponchos. The rain was very light at the start of the battle and the water was dead calm -- quite a change from the morning. Our TV camera wasn't available for this battle, so I'm describing it from memory, through the falling rain.

The lineup for the "Battle in the Rain" was QUEEN ELIZABETH, VALIANT, BELFAST, YORK and SWIFTSURE against JEAN BART, SZENT ISTVAN, SALT LAKE CITY, INDIANAPOLIS and NORTH HAMPTON. The GNEISENAU was

GENERAL QUARTERS MAN YOUR BATTLE STATIONS

Its almost spring time and thats when the ponds melt and the thoughts of a few good men turn to, you guessed it R/C Warship Combat. Knowing this we invite all R/C Warship Club and N.A.M.B.A. members to attend the Southeastern Spring Regionals to be held in Decatur Alabama at the Albany landing Lake on the weekend of April 15th and 16th Saturday and Sunday. The event will be R/C Warship combat club sactioned and N.A.M.B.A. sactioned so your ship must be up to their specs to participate (that is if our Vice President Herr Fluegel allows it). If you plan to attend the entry fee will be \$10.00, this will cover the cost of trophies, ribbon awards, lunch at the lake both days, N.A.M.B.A. lake insurance fees, additional safty equipment, and other items for the Regionals. This entry fee is due by Monday April the 3rd. or a \$5.00 late fee will be charged for a total fee of \$15.00 for entries received after this date. I know its hard to plan in advance but its very hard to set up an event of this size in advance if a lot of folks show up unannounced with all the things to do for these events. We plan to have one Campaign battle

on Saturday morning and Fleet action that afternoon. Sunday will be all Fleet actions. An entry form will be send with additional information on the motel, battle, lake, and directions upon receiving your entry fee and a self addressed stamped envelope. If you require additional information before you enter send just the stamped self addressed envelope. It seems a lot of rookies plan to attend, both Axis and Allied. So we should have a good time as usual. As the date for the Fall Regionals has also been set we might as well go ahead and announce it too, it will be on October 20th and 21st Saturday and Sunday so mark those combat calenders. For entry fee payment, entry forms, and any other information call or write Dan or Mary Hamilton at Route #3 box 558 Decatur Alabama 35603, 205-355-1563. I look forward to seeing you in the spring, we always have a good time, and a lot of good competition, not to mention the great B.S. stories told by the old salts.

RULE BRITANNIA

Dan

problems

World damage in Sortie 1 was: SZENT ISTVAN, 150; JEAN BART, 400; INDIANAPOLIS, 80; SALT LAKE CITY, 290; NORTH HAMPTON, 1840. The Brits damage was: QUEEN ELIZABETH, 660; VALIANT, 150; BELFAST, 180; YORK, 180; SWIFTSURE, 120.

The second sortie began and the rain increased in intensity. YORK and NORTH HAMPTON both absent from the battle due to withdrawal-- YORK due to radio problems, NORTH HAMPTON due to damage holes and radio problems. I can't recall much of this battle except that, from the subsequent scoring, JEAN BART must have been the center of British attention. Foster had wet transmitter problems with SZENT ISTVAN and went on "five out of control" and left us alone. BELFAST rammed SALT LAKE CITY and caused superstructure damage. The battle ended with JEAN BART out of control in the middle of the pond (at least 300' from shore) and QUEEN ELIZABETH and VALIANT swarming around her, carefully trying to get broadside shots at the dead Frog. The battle ended at about 1830 when JEAN BART finally got "off five". Mike had to wade out and rescue JEAN BART at the end of her "five", but we were all soaked to the skin anyway, so no big deal. The rain had certainly caused most of us to have radio problems, but we all stayed in the battle and blasted. Stiff upper lip -- what?

We scattered to our cars after the battling had stopped and agreed to score our ship's Sortie 2 damage back at the motel and bring the results to the Western Sizzlin' where we were going to chow down for supper. Several of the cars had gotten stuck in the red Decatur mud and had to be freed up. Shown below are the Sortie 2 damage totals.

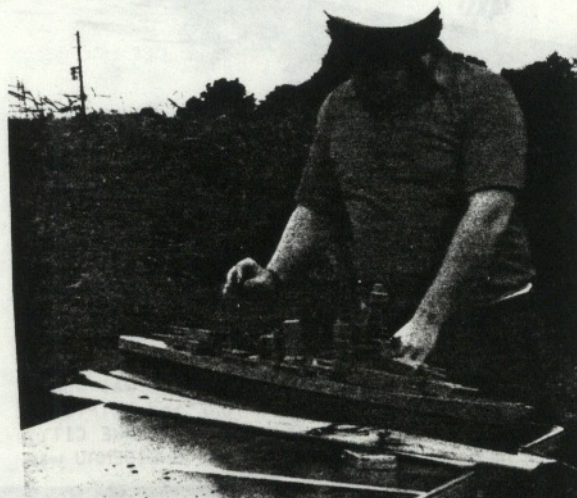
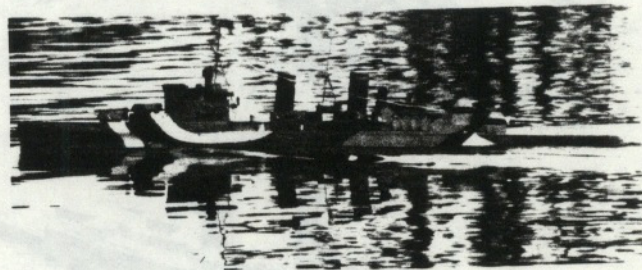
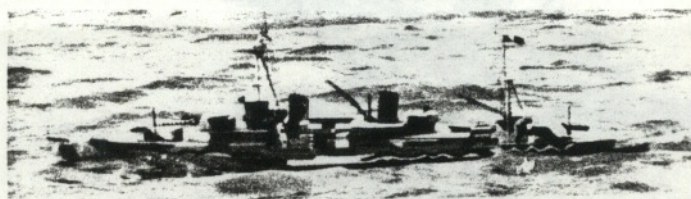
The World had been blasted as follows: SZENT ISTVAN, 220; JEAN BART, 1350; SALT LAKE CITY, 260; INDIANAPOLIS, 100; NORTH HAMPTON, 300 (withdrawal). The total damage for the battle was 4990 points.

The Brits had fared as follows: VALIANT, 140; QUEEN ELIZABETH, 540 (with a 200 point ram penalty); BELFAST, 360 (50 point ram penalty); YORK, 300 (withdrawal); SWIFTSURE, 280; for a total battle damage of 3210 points. The worm had turned in the rain and the Brits had triumphed, 4740 to 3210. Loved that Scapa Flow weather!!

For the day, the Brits had eaked out a narrow 7740 to 7560 win.

SUNDAY BATTLING

Since the weather seemed to be "iffy" for Sunday, and Saturday's battling had ended in a victory apiece for the World and the Brits, we decided to start the battling with a fleet battle to settle





the matter. The GNEISENAU was ready to go and we English were ready for new blood. Bob had equipped the QUEEN ELIZABETH with new props (from me) in an effort to increase her speed; she was about 2 seconds too slow on Saturday. John French was still having radio problems from the rain that got into his transmitter on Saturday. The weather was partly cloudy and the sun was peeking through from time to time. The water was fairly calm, though not dead still.

FLEET BATTLE 3

This battle began at 1022 with all ships finally on the water. GNEISENAU, JEAN BART, SZENT ISTVAN, INDIANAPOLIS, SALT LAKE CITY and NORTH HAMPTON against QUEEN ELIZABETH, VALIANT, BELFAST, YORK and SWIFTSURE to settle the fleet championship. Go Brits!!

BELFAST and SWIFTSURE go after SALT LAKE CITY and YORK joins in to even out the sides -- after all, Will is the 1988 Champ!! QUEEN ELIZABETH and VALIANT decide to test the black boat GNEISENAU by the shore and BELFAST joins the battle. VALIANT brings her broadside to bear and QUEEN ELIZABETH crosses GNEISENAU's T. SZENT ISTVAN charges (at a very fast 28 seconds) to the rescue

and uses her stern guns to punish BELFAST and SALT LAKE CITY rams BELFAST to remove both of them from the melee for a ram check. No damage, and they both rejoin. VALIANT continues to pound GNEISENAU and Fred lights off the pump. QUEEN ELIZABETH rams NORTH HAMPTON and both come in for a check; I thought QUEEN ELIZABETH was too slow to catch anyone. GNEISENAU is steaming away from the main fight with VALIANT chasing; Mike decides to help his brother and JEAN BART joins in the stern chase. GNEISENAU's speed advantage causes VALIANT to abandon the chase and she returns to the main battle where she and BELFAST engage SALT LAKE CITY and INDIANAPOLIS. YORK and SZENT ISTVAN continue their stern to stern dueling which began on Saturday. JEAN BART also returns and she and QUEEN ELIZABETH get it on. YORK has radio problems and goes "on five" and beaches herself -- but luckily it is on the far shore where shooting her is difficult. SZENT ISTVAN uses her stern guns on QUEEN ELIZABETH, and VALIANT chugs to the scene to provide support. Odd -- neither 26 second class English BB can stay up with the "28 second" Austrian BB. The sortie ends at 1043 with VALIANT and QUEEN ELIZABETH battling with SZENT ISTVAN.

Sortie 1 damage to World ships was: JEAN BART, 650; SZENT ISTVAN, 140; GNEISENAU, 800; SALT LAKE CITY, 100; INDIANAPOLIS, 470; NORTH HAMPTON, 310. The English had done slightly better, with less damage: QUEEN ELIZABETH, 1010 (plus -400 for two rams); VALIANT, 310; BELFAST, 320 (plus -100 ram penalty); YORK, 200; SWIFTSURE, 220.

The second sortie began at 1130 with all ships except the YORK on the water; YORK withdrew because of radio problems (Saturday's rain?). GNEISENAU is in the water but immediately declares "5 minutes" and the Brits don't chase her because of her speed. VALIANT and SWIFTSURE gang up on JEAN BART and INDIANAPOLIS spurts a load of bbs at QUEEN ELIZABETH. SWIFTSURE and BELFAST attack SALT LAKE CITY but no good hits result (at least that's how it looks on tape). JEAN BART drives off BELFAST and NORTH HAMPTON joins the fray. Meanwhile, QUEEN ELIZABETH and SZENT ISTVAN are continuing their competition. Suddenly, NORTH HAMPTON goes out of control in the middle of the swirling battle and she's making large port turns. VALIANT quickly comes to the scene and her broadside guns begin to score. BELFAST scents the blood and lines up on the

Target Talk

by curly Barrett

Campaign is without a doubt the up and coming topic in the hobby. So I wanted to aim an article at it!

The trouble is the targets we aim at in campaign are not without drawbacks. The cups are inexpensive, yet they have proven to be too big for targets, and it is too difficult to tell immediately if you have scored a hit.

Dan Hamilton said that an "L" shape piece of metal had been tried. The target would: up over when hit so you could tell it was hit, it was re-usable, and it was inexpensive.

Problems with the size and weight of the metal piece left the project in the research stage. The folks up here in Port Polar Bear, having little Campaign experience, hashed around a few ideas about the ideal target.

An Egg

Spectacular results, but was deemed wasteful and messy.

Inflated Balloon

Quick results but too large a target

Picture of Stan

Think of the Environmental Impact of a dozen pictures of Stan

A match stick

For sharpshooters like Foster. You have to light the match!

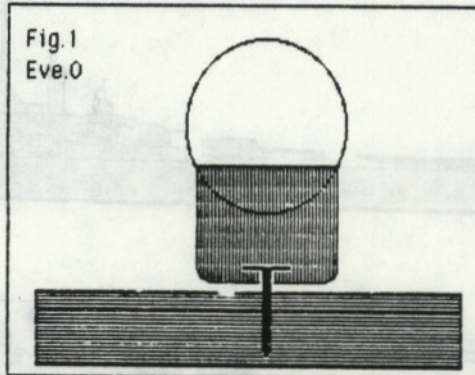
A 1" cube of Lexan

Even Fluegel's guns would have a tough time with this!

The solution must be cheap, effective, give quick results, be easy to construct and re-arm, be stable enough to withstand an accidental ram or nudge to the target area.

The best answer: A Ping-Pong ball in a 1" copper end cap.

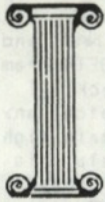
Fig.1
Eve.0



Drill a hole in a 3/4" or 1" copper end cap. Nail it in place on the board. Place a Table Tennis ball in the cap and shoot! Unseat the ball to score a hit.

You could use twist off pop covers, or bottle caps instead of the copper end caps, but the copper would withstand the gunfire longer. The balls may on occasion break, but they are inexpensive.

President's Column



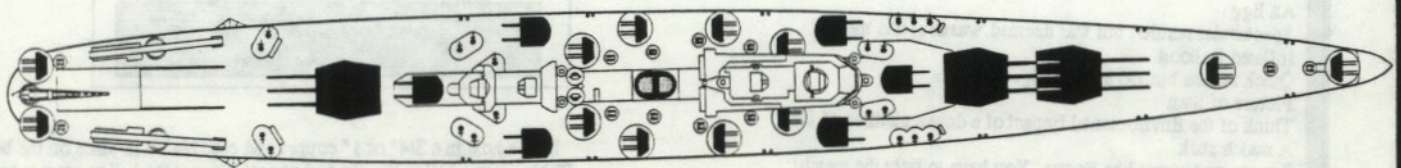
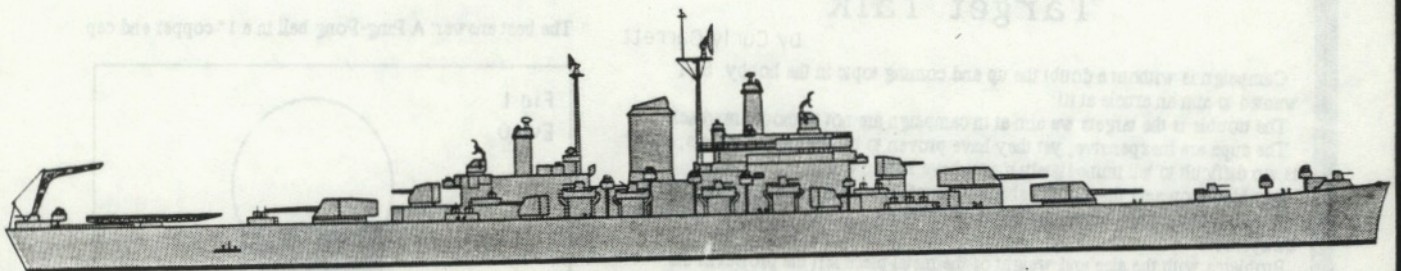
The Prime Minister's Column

Greetings fellow combatants, well the winter is slipping away from us, isn't that just too bad. I've just returned from a visit with Stan Watkins the man who started all this stuff we loosely call a hobby. He's still the grand ole man of the hobby our father figure. He and his family were very gracious hosts. We visited the site for this years (1989) Nationals in Knoxville and found it very interesting. Stan was course working on several projects with his usual efficiency including setting us up with the city for our needs for this years Nationals, we are very fortunate to have him in Knoxville. We talked and talked, something most combatants do whenever they get together. One of the things that came up was the Casemate gun issue. In a way this was caused by the rules committee at last years Nationals as a second rule proposal should have been made to clarify this situation if the first one failed. We are all tired at the end of Nationals but our rules are very important. It is much better to have a few good rules than a host of of semi good ones. We should be more willing to burn the midnight oil to have good ones. I feel that on the whole we have a very good set of rules thats why we should be so careful in making our new ones. We all need to be tolerant of each others views and compromise a little on this and other issues in the best interest of the group as a whole and the hobby at this up coming rule session this year. I would like to make a few proposals on the casemate issue. As Stan said during my visit and I agree completely the issue is really one of, is the ship a valid target for gunfire vrs. ease of construction. One proposal to counter this is to allow the part thats hard to build, the Cupola (the round part) and the gun barrel to be impenetrable to gunfire. This would eliminate hard repairs without making some ships non valid targets. Another would be to allow all ships in classes 1 thru 5 an impenetrable area 3/8 of an inch wide X 1 inch long for every 6 inches of model ship lenght on each side of the ship just

under the main battery (gun) deck. The above would give all ships the same degree of hard area in porportion to their overall lenght resulting in a fair proprotion for every one. These are of course not offical proposals as they do not have 3 signatures just food for thought. At any rate this thornie problem is back in the Contest Directors lap as last year, as if he does'nt have enough problems already. The Executive Board stands behind Steve Milholland's decision just as it stood behind David Hayne's decision and Tom Jass when they were faced with the same decision but this year we should take this issue off their backs at the rules meeting. Support these guys theirs is a thankless task no matter how they decide. Your new Campaign rules are coming to you with your club packages this year, please study them carefully. We have'nt made a lot of changes, other than the expansion scenario which is optional, just cleared up a few gray areas. But the changes were very well thought out over the winter. The rules are long but a lot of this lenght is took up by examples to better explain the game. I have been receiving a lot of letters from new R/C Warship Combat types who are still being reached by the U.S. Boat and Ship Modeler magazine articles. A lot of these new people have contacted me for the second time after receiving our initial club package. The package they have received consists of a 90 minute tape from me, a 60 minute tape from Curley and Fluegel, a Hullbuster issue, and letter with addresses for people they need like Fluegel to collect his garbage and Stan's for something useful like a gun to shoot Fluegel's garbage with. Many of these new rookies would like to attend Nationals and have asked for more assistance to build that first ship. Listed below is a list of these people, the ones with asterisks beside them have recontacted me. Please pick out one and help, remember when you first started with things like whats a dremel tool or a 4.8 volt motor and where can I get one. These people are the future of the hobby so lets welcome them to the magificent obsession with open arms and gunports. Well thats about long enough for this issue see you next issue with more from the former naval person as Prime Minister Churchhill liked to be called, what a man huh! Fluegel, he was the first one to notice the Fuhrer had bad breath when he said " I will hurl his surrender terms right back into his evil smelling teeth".

Your Prime Minister
Dan Hamilton

Dan



The *Des Moines* (CA 134) as designed (July 1945), with catapults and 40mm and 20mm guns.

* Lief Goodson
4419 Selkirk Ln E.
Lakeland, Fl. 33813
813-646-8114

* Greg Wilson
496 Tamarack Street
Altamonte Springs, Fl. 32714
407-774-8666

* Buddy Friend
5715 Estancia Dr.
1097 Orlando, Fl. 32822

* Brett Glover
Apt. 1005
4051 Bayou Rapides
Alexandria, La. 71303
318-448-9899

* Todd Hutchins
Box 118
Clare, Mi. 48617

Doug Haire
5012 N. Hermitage
Chicago, IL. 60640

Robert Kozicki
2720 Market St.
Camp Hill, Pa. 17011

Tony Dalli
50 Weston St.
Panania 2213
N.S.W. Australia

Robert Leytze
1448 Chelsea Rd.
Troy, Ohio 45373

Donald Cole
9000 Haywood Ct.
Orlando, Fl. 32825
407-277 6590

Daniel Brundize
1620 W. 14th
Chanute, Ks. 66720

* Richard Strickland
400 Irvin Dr.
Kinston, N.C 28501
919-527- 3368 after 5

Phillip Strathmann
309 N. 5th. St.
St. Clair, Mi. 48079

Michael Britvich
Box 68 Hadley, Pa.
16130

Charlie Griffen
6625 Argyle St.
Orlando, Fl. 32807

Robert Trawick
1823 Smith Dr.
Titus, Fl. 32780

Scott Davis
2550 Gator Drive
Apt. 329 Orlando, Fl.
32807

Hobby boy Attention Don
15702 N. Dale Mabry
Tampa, Fl. 33623
813-960- 4980

Richard Passaur
11526 Monette Rd.
Riverview, Fl. 33569
813-671-2633

Ken Hayden
938 Fay Avenue
Largo, Fl. 34641

Richard Whitsell
9807 N. Lydia
Kansas City, Mo. 64155

Scott Barney
2672 Trinidad Circle
Melbourne, Fl. 32935

luckless NORTH HAMPTON. John French declares NORTH HAMPTON sunk to preclude a repetition of yesterday's damage when damage exceeded sink points by a factor of three. VALIANT showers her attention on INDIANAPOLIS and SZENT ISTVAN returns the favor to VALIANT and Foster scores again. The sortie ends as VALIANT and QUEEN ELIZABETH duke it out with SZENT ISTVAN and INDIANAPOLIS. JEAN BART isn't "on five" yet and she joins in the melee, singling out QUEEN ELIZABETH for special attention. The battling ends at 1156 -- a total sortie time of 26 minutes.

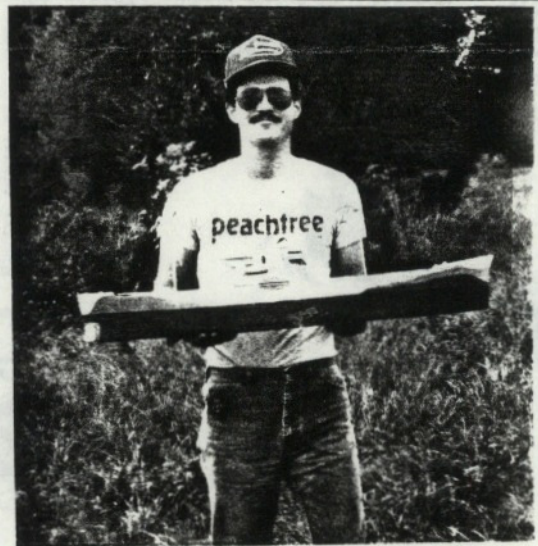
Sortie 2 World damage was: SZENT ISTVAN, 340; JEAN BART, 1000 (25 above, 4 on and 3 below); GNEISENAU, 0; NORTH HAMPTON, 1150 (declared sunk); SALT LAKE CITY, 200; INDIANAPOLIS, 120. The English damage was: QUEEN ELIZABETH, 490 (better, Bob); VALIANT, 810; BELFAST, 330; SWIFTSURE, 170; YORK, 300 (withdrew).

When all the points were totaled up by Mary and James for the deciding battle, the English had scored a narrow victory -- 4750 to 4160. Close, but the Brits were happy to declare it a total victory, and a championship for the weekend fleet battling.

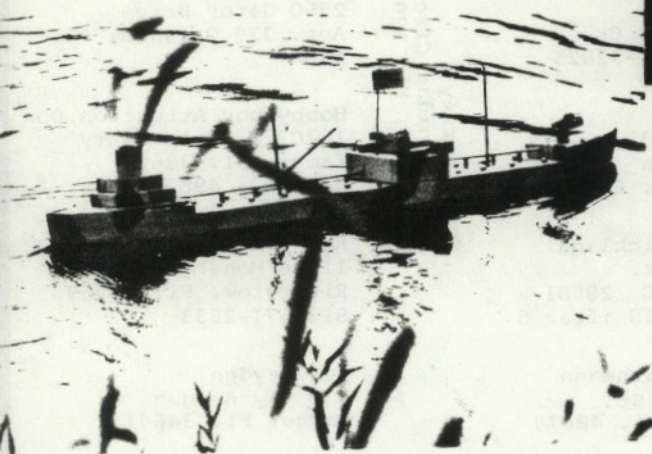
CAMPAIGN

Steve Baker and his wife and child had driven from the Atlanta area on Sunday morning to witness combat and give Steve the chance to drive a convoy ship in Campaign. He had paid his NAMBA dues and was anxious to get his feet (if not his body) wet. Steve has R/C experience flying airplanes and racing power boats, and was interested in our games after reading the Hargrave articles. Welcome aboard, Steve -- even though he's building a DKM LUTZOW!!

We decided to use styrofoam cups for targets rather than the brass rectangles and we attached wide masking tape strips around each cup to designate "hit" areas. Dan assigned the following



duties to the English ships: VALIANT and BELFAST, shore bombardment and convoy attack; QUEEN ELIZABETH and YORK, shore defense and convoy escort; SWIFTSURE, based at forward base; Steve Baker and me, convoy captains. He ordered us to attack World ships if they blocked their target with their hulls, and warned us not to defend our target with our hulls. Steve and I were to captain the convoy ships and to run a constant shuttle if damage allowed.



Fred Deskin had departed with the GNEISENAU for the return to Ohio already, so the World was minus a 5 unit BB. Dan and Will (the fleet admirals) agreed not to call any Campaign time extensions so that the time period would be minimized. Since the World didn't have any convoy ships, the Brits gallantly agreed to permit them to use the MERLIN (the big target, remember?). She would be allowed 3 sinks while the two English convoy ships would be permitted 2 sinks each. Glen Ito was to be the convoy captain for the World. The video camera was set up by the World forward base and target, so most of the action on the tape was centered in this area.



Campaign began at 1404. JEAN BART and INDIANAPOLIS transit to the English forward base and proceed to pound the target. QUEEN ELIZABETH, YORK and VALIANT defend. BELFAST speeds to the World forward base and attacks their target with bow and stern guns. NORTH HAMPTON is defending the target, but not with her hull. BELFAST exhausts her bbs on the target and NORTH HAMPTON and BELFAST goes "on five" and leaves the area. Steve Baker and I launch the English convoy ships and begin the 5 minute journey from our home base to our forward base. We decide to sail independently, so as not to give the attackers two targets close together. SZENT ISTVAN, JEAN BART and INDIANAPOLIS attempt to bar the way, but both ships reach our forward base with only minor damage. Meanwhile, Glen Ito has also launched the World convoy ship at her home base. MERLIN is heavily engaged by QUEEN ELIZABETH and VALIANT as the convoy ship slowly sails toward her forward base. NORTH HAMPTON and SALT LAKE CITY defend

MERLIN. MERLIN successfully enters her forward base, but has been severely punished by the English BBs. While attention is focused on this battle, the 2 Brit convoy ships launch from the Brit forward base and steam slowly to their home base. Both are successful, and Steve loads the ADORIAN's cargo hold with a new manifest for Run #2. I launch SWIFTSURE from our forward base and go hunting. When ADORIAN reaches the lake area near our forward base, QUEEN ELIZABETH and VALIANT provide an escort. SWIFTSURE's guns are inoperable, so she goes "on five". BELFAST has reloaded and returns to the water. MERLIN launches at the World forward base to begin her return trip; QUEEN ELIZABETH, VALIANT and BELFAST swarm all over the defenseless convoy ship and sink her less than 1 minute after she is launched. She sinks 3 feet from shore, so at least Glen doesn't have to get too wet. BELFAST turns to the World target and attacks. SALT LAKE

Join the Club

As the U.S. goes back into space I am amazed at the cost and effort that goes into those booster rockets that push the shuttle up and away. I can't imagine spending the time and effort for a few minutes of performance. Seems silly.

Actually, our hobby is much like that. We spend many hours amidst the fumes and sawdust for a few hours of glory at NATS. (a few minutes if your Allied)

It seems that the hobby just doesn't lend itself to being a weekend hobby.

I have the good fortune of having 5 battlers within 20 minutes of my workbench. I feel guilty for not getting more than 12 sorties in last fall, but I am willing to bet that some of you got NONE in.

Perhaps we can change that with a little effort on your part.

It is hard to get new people, but the place to start is at your hobby shop. If you take the time to explain to your local store manager the amount of money involved in this hobby, he may take notice. Explain to him that his promoting the hobby could start up a few modellers, and in return for his support, he would get a few hundred dollars business. If you would just spend the six dollars for a subscription to Hullbusters, the copy could be left in the store and you would have passive advertising working for you!

I'm hoping to put together a twenty minute loop film so we can show it at shops and hobby shows. Don't wait for me, break the ground this spring so you can be battling this Fall.

If you see a name in the Hullbuster that is a new battler near you - CALL, TAPE or VISIT. You owe it to them and to your hobby. Battling is fun, but waiting a year for the next NATS is a drag.

Happy Hobby! Curly Barrett



CITY is defending -- mainly with her hull, so BELFAST pounds the target and the SALT LAKE CITY's hull. SZENT ISTVAN arrives and drives BELFAST from the target area. With SWIFTSURE gunless I decide to use the CVE to make another supply run -- with a manifest in her hull. The

CVE is so slow that I run her in convoy with a group of ducks who are on the pond. They escort me part way to the forward base and the CVE arrives intact for Run #2. The JEAN BART is ashore for a new load of bbs (Mike walks in front of the video camera). Glen has patched MERLIN and launches her for her Run #2. NORTH HAMPTON and SALT LAKE CITY escort as QUEEN ELIZABETH closes for another convoy attack. A furious fight surrounds MERLIN, involving QUEEN ELIZABETH, VALIANT, NORTH HAMPTON and SALT LAKE CITY. Merlin runs the gauntlet and limps into her forward base down by the bow. QUEEN ELIZABETH and VALIANT vent



ON CASEMENTS, HULL/SUPERSTRUCTURE, DECKS, DECK SEALS, AND BASIC PRINCIPLES OF R/C WARSHIP COMBAT

By Stan Watkins (1/7/89)

My isolation from the current powerful disagreement in rules interpretation was shattered thoroughly by my annual pilgrimage to Dallas. Sure I had heard from Fluegel's tapes that the casement superstructure/hull controversy was alive and well but I did not realize it was such a powerful heated issue. The micro-vision issue is simply whether casement locations on a ship are hull or superstructure. The overall issue is much more dramatic and that is why it is such a hot issue.

So what if the casements are deemed to be superstructure? Big deal. Yes it is a very big deal. A person operating the ship is spared much work repairing complex shapes. But that is only the tip of the iceberg. The declaring of the casements as superstructure means that they are impenetrable and thereby eliminated as scoring area of the hull. On any ship the less target area the better for that ship. But where do we draw the line on minimum penetrable area. Some ships (currently the Japanese battlecruisers and American South Dakota Battleships) the hull penetrable area (above the waterline) is already very small, especially when moving through the water.

When more area is removed by stringers and casements the ship can become a non-valid target. A non-valid target? What does that mean? That means that it is not worth wasting BBs shooting at a ship because almost every shot that hits the ship is hitting solid area that does not score any points. It also does not make any holes to let water in. So the ship builder is encouraged to build his ship to the lowest freeboard that he thinks he can have without being challenged for "non-scale hull violation" and also sets his pump float to allow the ship to sink even deeper once damage or leakage has occurred. So these are some of the current techniques being used to reduce the scoring area. And the incentive is very strong. The ship does better for its team because so few points are scored against it. The team mates are proud of the ratio of point dished out to points taken. The ship builder feels better about his performance and his team mates treasure his participation. This is a wonderful

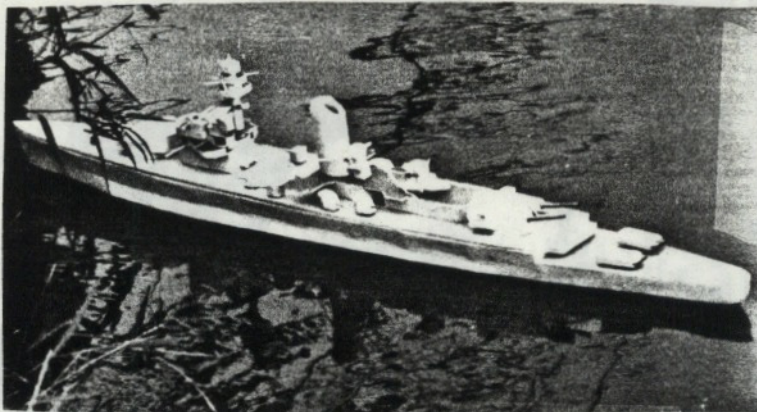
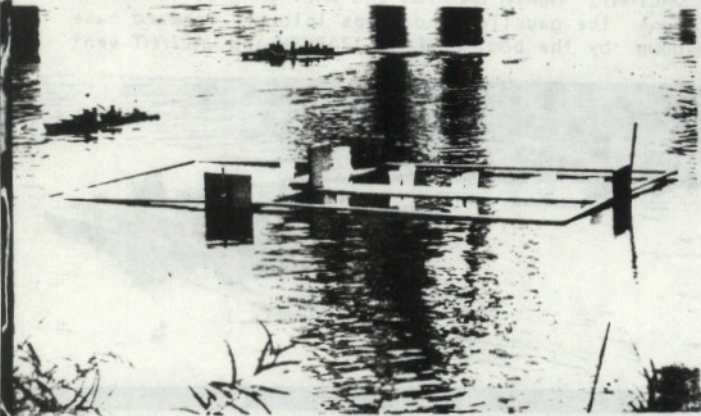
glorious thing, a dream come true, the ship builder is loved by his team mates. Yes this is one of the glories that successful R/C warship combatants receive. But there is the dark side too.

The opponents fire, well aimed, shot after shot into the ship and hear the BBs hit. But when it is time to count the points there are few if any holes to count. The combatant knows that the ship was hit repeatedly and there are no holes. Something is wrong. Isn't R/C Warship Combat a hobby where ships meet in battle and they shoot holes in each other and the holes leak water and the damaged ship can sink if it gets enough holes? Yes, those are basics of the hobby and those basics have been carefully safeguarded by rules changes for years. A maximum for solid area was established from the beginning in 1979. It dealt with the number (as a function of length) and thickness of ribs and the thickness of the deck basically all else (to one inch below the waterline) had to be 1/32 inch penetrable balsa. Then people wanted to simplify construction of bows and sterns and 2 inches of the bow and 1 inch of the stern was allowed to be solid. Then it was perceived that more ribs would be nice for scale hull shape so the number of ribs was eliminated in favor of a maximum 15% of length that could be solid.

But as we now see the length is only one factor in area. Height must also be addressed to complete the Length X Height = Area formula. Should we complete the formula by saying only 15% of the ship's above the waterline hull height may be solid (as well as only 15% of the on the waterline and below the waterline heights to 1 inch below the waterline) may be solid (impenetrable/failing the drop test)? Probably.

We do also need to address the minimum target area. Let's nip monitors in the bud while there is still time. How do we do this? To say all ships will have a minimum of 63 square inches of above the waterline, 10 square inches on the waterline and 55 square inches below the waterline that is penetrable is probably not fair for destroyers. Maybe it would be most fair by ship unit types. A 3 unit ship must have XX above, XX-YY on, and ZZ below the waterline penetrable square inches (we must not forget to tie in the 1 inch below the waterline limiter or every axis ship will have a penetrable bottom). A 4 unit ship would have

their frustration on SALT LAKE CITY. Minutes later SALT LAKE CITY slowly sinks -- the result of too many hits absorbed defending the World target and battling British ships. Somewhere in all this melee Steve and I make Supply Run #3 for both the ADORIAN and the CVE. Glen Ito decides not to attempt to return the damaged MERLIN to her home base. Campaign ends with VALIANT and BELFAST dueling with NORTH HAMPTON around the World forward base.



On the surface it appears that the Brits have won a convincing tactical victory in Campaign. They have made 6 supply runs to the Worlds 2, and have sunk 2 World ships -- SALT LAKE CITY and MERLIN. The Brits will get sink credit for these 2 sinks, and points for excess supplies they have accumulated compared to the World fleet.

Campaign scoring seems to be a mystery to

to have more area and a 2 unit ship could have less, etc. This should help assure that no ship was a non valid target whether it had casements or not. Other factors are also related to this issue and therefore are worthy of consideration.

The Superstructure or Hull conflict also needs addressing. The basic function of Hull skin is to keep the sea out of the Hull. Superstructure is to provide shelter from the elements to areas above the hull. If an area is often partially submerged in normal seas, it can be considered as performing a hull function and should be penetrable. In the same way a hull whose deck runs awash often has too little freeboard because decks are supposed to be above the water in normal seas. We even have a rule that is often violated that says a sink has occurred when any portion of a deck is awash. (This may not be a direct quote because I can't find my rules since my move to Knoxville). So water tight deck seals are giving rise to the use of ships with lower and lower freeboards. Maybe some construction rules need to be considered about limitations of deck seal integrity. In the real world, freeboard had real advantages because it meant that sea water was not normally pressing on the superstructure. Superstructure generally did not have the water integrity of hull. So the watertight deck seal has allowed many of the disadvantages of low freeboard to be negated. A rule addressing this factor could contribute to encouragement of improved targets.

Also the superstructure needs to be addressed. Anything declared to be superstructure could be required to have unrestricted flow of sea water into the hull from its walls (including its bottom wall/deck/hull joint) and could be required to have 1/8 inch holes each inch of length and height that allowed water be able to flow freely into the hull. In this way superstructure (inpenetrable area) could not be allowed to function as hull.

These are just some of the relavent considerations on this controversial issue. But with more ideas perhaps we can come up with rules that properly and fairly address more than one of the facets of this issue of target validity.

The end goal should be that all ships in the hobby are valid targets.

For Historical reference I would like to give some insight into the construction of my

"casement ships".

1. I constructed the USS Arizona as the first R/C Warship combatant. It had penetrable casements that were scored as hull. The axis fleet scored thousands of damage points in these areas in the 1983 Nationals.

2. The USS Oklahoma was used in the megakill days of the 1984 Nationals again she had casements that were penetrable and scored as hull. Again the Axis fleet scored thousands of points in these areas.

3. The USS Oklahoma was used at the 1985 Nats and still had penetrable casements. Joe Vilar had his SMS Baden and was counting casement holes as superstructure (5 point hits). Later in the week the Contest Director resolved this issue stating that casements were hull.

4. During the years that the Arizona and Oklahoma were battling for the Allies (and serving as giant scoreboards for countless Axis BBs) Jeff Poindexter was operating the USS Texas also with penetrable casements (with similar Axis advantage).

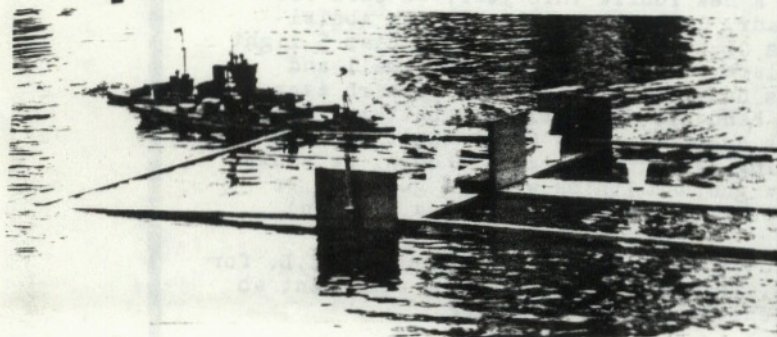
At the 1988 Dallas Triple Crown Gerald Roberts and I had an open disagreement about this issue. As I remember we had some sort of compromise where I counted some of the hard areas (that penetrated anyway) as hull because they had always been counted against my ships (not to mention the Contest director's ruling that I had forgotten with Vilar's disappearance from nationals).

There are other casement ships out there but I am largely unaware about their histories except Jeff Lides Kirishima. I didn't object too much about Jeff's Kirishima because it normally takes its share of hits and has a very penetrable hull. If it had a hull as hard as Fluegels I would have had more objections. The issue of hull hardness is another factor. If a hull is very hard it is a less valid target too. Another area that will probably have to be addressed is the solid stern of cruisers. This can make them a valid target only in fleet battle when they are mixing it up or when they have run aground are are out of control or dead in the water. This is not exactly the same because the ships direction is the critical factor not the overall penetrability.

everyone except Dan Hamilton. Shown below are the point splits for the winning captains on the English Fleet. The Brits were awarded 1750 points for the excess supplies that they had accumulated over the World Fleet during the Campaign; in addition, they could split 75% of the sink points they had gathered. The sink of Will's SALT LAKE CITY (600 points) and Ito's convoy ship (400 points) totaled 1000 points. 75% of that total is 750 points. The grand total to divide then was 2500 points. They were divided as follows:

Name	Ship Weight	Ship Time	Convoy Factor	Total Factor	Points
Hamilton	7	2	0	9	536
Amend	7	2	0	9	536
Jass, J.	5	2	0	7	417
Jass, T.	5	1	2	8	476
Shafer	5	2	0	7	417
Baker	0	0	2	2	120
				-----	-----
Total				42	2500

A captain gets factor credit for ship size, time on the water and complete (round trip) convoy runs. For example, Hamilton's split of the 2500 total points is calculated by multiplying 9/42 times 2500.



AWARDS

The final point totals (Fleet Battles and Campaign combined) for all the involved ships are as follows:

Dan Hamilton	3974 points
Bob Amend	3374
Tom Jass	2933
John Jass	2874
Mike Deskin	2235
Steve Milholland	2164
James Foster	2110
Carl Shafer	2096
Will Montgomery	1924
John French	1924
Fred Deskin	809
Steve Baker	120

The English had won 2 out of 3 fleet battles and a tactical victory in the Campaign battle, and they consequently swept the individual battling awards for the weekend.

The awards were given out by Dan to

Overall Champ	Dan Hamilton HMS VALIANT
Highpoint BB	Bob Amend HMS QUEEN ELIZABETH
Highpoint CH	Tom Jass HMS SWIFTSURE
Best of Scale	John French USS NORTH HAMPTON
Effective Supply Ship	Steve Baker EMPIRE MAC ANDREW
Best of Scale (Convoy)	Dan Hamilton HMS MERLIN

THANK YOU'S

The 1988 Fall Southeastern Regionals were a huge success -- thanks primarily to our Decatur hosts, Dan and Mary Hamilton. Thanks also to Carl and Mike who helped us to clear the shoreline for better battling. Seeing James and Steve M. driving ships again (even if on the opposing side) was a good sight for us. Meeting Steve Baker and his family was a treat and I'm excited about our new addition. I always like battling at Decatur as I feel the pond is the best in the country. I want a Nats in Decatur!! We all felt blessed that we got in a complete weekend of battling considering the weather situation. We'll see you all in the spring of 1989 in Decatur.

John and I also said goodbye with mixed emotions to the SWIFTSURE as she went to Missouri with James and Steve. We had a good 3 years with her, and I hope that some Missouri rookie gets his feet wet (like we did) with her in 1989. Cruisers forever!!

What's In A Word?

by Bill Shakespeare

Lo, what ships through yon harbor shineth, 'tis the Axis Fleet, and Fluegel is the Admiral.

It is no secret that the Axis are dominating the Ocean. For six years the Allies have been on the short side of the war, with no relief in sight. The Axis do have superior captains and ships, but the problem is much deeper than that. Think like an Allied captain and go deep, deep, deeper...

The problem starts with the chosen names of the teams. Axis and Allied!

Look at the letters in the words. If you rearrange them as a Scrabble player might, the list of words that can be formed - spells it out!

AXIS.

- Ax - This symbolizes the power of the fleet.
- Six - Represents the Six Year reign of Axis terror.
- Sax - No need to blow your own horn, the name does it for them

ALLIED:

- Lie - The big lie. Be an Allie and you'll be a winner.
- Ill - You'd have to be sick to build Allied.
- Deal - What lies they will offer you to join.
- Ail - What most of their ships do in battle.
- Lead - Lead sheep to slaughter or lead weight!
- Dial - Soap for getting the pond water off you.
- Lad - How to address an Allied Admiral
- Ladle - Since your pump won't work, this will help.
- Lied - A fleet based on fiction.
- Aid - What all Allied captians seek.
- Idea - Final stage of Allied Research & Development
- Idle - The state you find Allied workbenches in.
- Die - The ultimate, predictable and only order that the Allied high command gives/knows.

There it is in plain print. This is not the full list, but it gives you an idea of what the Allies are based on. Next issue, we'll look at the words that can be made out of the individual captains' name, starting with 'Jass'.....

As the great bard himself said, "An Allied captain, by any other name, would still smell."

SHAFER'S SHIPYARD

Kansas City, Mo.

It was suggested to me that I should do an article on Ni-Cad battery packs. As some people know, I have been using them for the last couple of years with, for the most part, good results. There is some advantages and some pitfalls that I will try to share. What I am using are the same batteries that are currently being used in the R/C cars that are so popular now. They are a 6 cell sub-C 7.2 v/c @ 1200 MAH and they are flat. They also come in 8.4 v/c, but they have a hump in them for the extra battery and take up a little more room. So, there is a choice. The 7.2's take up very little space in an already crowded ship for the power they deliver. I run 4 of them in my HMS York. She has 2 4.8's for power, 1 4.8 pump, and I run my radio off them also. The 4 packs give enough power to run two sorties with. I did learn one thing this last fall at S.E. regionals, don't use too big of props. With 4 packs you have a lot of amps. and they will burn-up 4.8's if they have a heavy load on them. I get around an hour of running and pumping on the York. And she goes just as fast after 59 minuts as she did when she started! But, after that I keep her close to shore. Because when the Ni-Cads are discharged, she will go about 6 feet! I use a stopwatch to keep track of my running time. Besides the power to size ratio the other big advantage of Ni-Cads is their Quick-charge ability. There are several diferent kinds on the market now, but the best one I have found is made by Competition Model Works. It is a pulse charger with peak detection. Forget the ones with a timer. PEAK DETECTION, that is the main thing to get. On mine I can use 3 amps (about 25 minuts) or 4.5 amps (about 15 minuts) to charge with. I have 2 chargers so it takes me 30 to 40 minuts to be ready to

go again! An extra set of battery packs are nice for campain though. A good charger runs about \$40 and the battery packs about \$20. But with the curent car craze, used bargins can be found. And as the craze dies down, even better bargins will be in the future.

Some hints on charging. Cold batteries will take a deeper charge and they should be completely discharged each time (that is why I am still out on the water running around som etimes after a battle). And when not in use, I try to leave the packs almost dead. They work better and last longer. I also reconed sealing the packs on the ends with silicone to keep out moisture which will shorten thier life. That is all I know about Ni-Cads, some of it learned the hard way! I hope that this will help somebody, maby somebody like me who could never find X-cells.

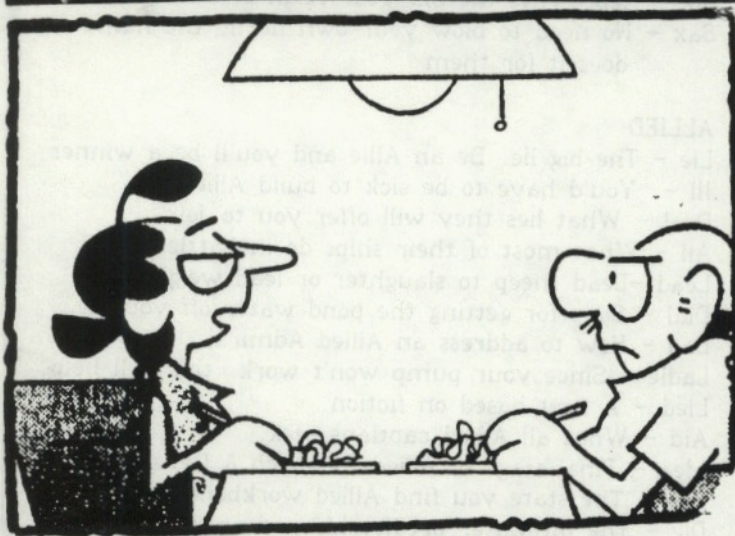
And to Santa, no I am not going to use 66 Ni-Cads in my new S.D. clas BB (USS Indiana)

just a couple to run my pump with. I need the weight of some lead-acid batteries to get on water line. And it took me a little longer than 3 weeks to build her. It did take three montns this time, but, I was also building my son a light cruiser at the same time that did slow me down a little! And yes, we will have a new rookie this year, as Carl Jr. (Ltcmdr. JR) will battle his new Abdiel class CL the HMS Appollo. This clas 5 light minelayer cruiser is fast and small and turns on a dime. And I will prewarn ever-one, JR's hand-eye cordnation is better than most of us over thirtyers (over 40?) - We are skill arguing over gun placment though. He wants a bow gun, but I think a stern gun will be better with less chance of ram. (I win)

And my final coment is to our new C.D. for 1989. Thanks for settling the arguement ab out casements. Carry-on Sir.

No treaties at NATS

Capt. Carl L. Shafer Sr.



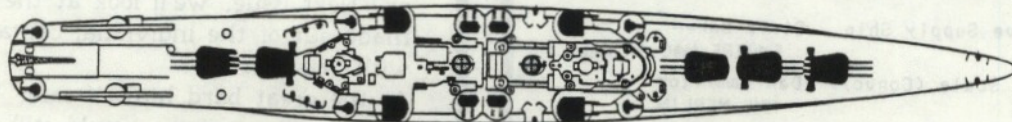
Considering that you've spent our next two year's income on your toy boats...the LEAST you could do is
WIN

A Private Rundown of the Model Boat Magazines Feb. 88

There are now quite a few model boating magazines in the market place. So I thought it might be a good idea to write up a summary of them with respect to our hobby. Well, here is my opinion of them and how they relate to the model warship hobby (Sport?)

Scale Ship Modeller - The magazine which helped start it all. SSM has in the past given us support - they have published at least five articles about the hobby. A Texas battle, How to build a Heavy Cruiser (2 parts), a North Western R/C combat sub, the Iron curtain version of combat (2 parts) and a Nationals. Many in the hobby say that the new editor is not interested in us any more but I think I have detected a note of interest from them within the pages of the magazine - if we would write a good article and send good photos.

In overall concept and presentation, SSM rates high. As one of the older publications, it commands a goodly portion of the market place. It's articles present many R/C ships, contests, shows, super scale ships, new construction methods, materials and new products. Has smallish calender of events usually but most people put in events too late.



Model Ship Builder - A good magazine for static builders of older ships (square rigged, sail). Some articles on modern ships (normally static models). A good detail book, dealing with small details of sailing ships such as rope, rigging, etc. Almost no articles on R/C modeling at all. Some of the articles on making your own tools are very useful.

American Boat Modeler - A new mag. which just came out last year. This one started out well - with a published purpose of covering the whole model boating spectrum. And the first few copies seemed to do just that, except the cover was always a power boat. However, recent issues seem to be taken over by the power boat racing crowd (55%) and the sailboat racing crowd (35%). Very little real scale in this one, but sometimes they come through with some. Some input from us could change the scope of the whole mag.

Model Shopper - Not really a boating magazine but coverage of all of the R/C sports. At times seems to be being taken over by the planes and cars. They publish one of the best calenders of events of any of them. You can put your events in the calender - they want you to! I'm told that the first issue had something about R/C Combat - but I missed that one. These people should react if we send a good article.

U.S Boat and Ship Modeler - One of the best of the new ones. Really seems to try to cover all of the aspects of model boating. Has put plan sets out in the magazine. Seems to cover the hobby from the easy starter boats to more complicated models. Recently, Spring Issue 88, had an article about R/C Model Warship Combat written in generic terms by a west coast warrior, Dick Hargrave. He also expects to have one in the summer or fall issue explaining the construction of a R/C Warship - look for it.

Ships in Scale - Similar to Model Ship Modeler, covers the high end of the model ship hobby. A few more R/C ships, but mainly in the highly detailed and rarely run type. A better balanced look at the high end, with articles about R/C, Static, Steam and sail. Good articles on building special tools, etc. at times.

Scale Model Warships - An abortive attempt by SSM to come out with a magazine based only on warships. It died after only 3 issues, I assume because not enough people subscribed to it because they said they had plenty of articles. Too bad, it looked pretty good at the beginning. But not enough subscribers, not enough advertizers, not enough

money - the publishers are not the ones to blame.

Shotpatter - Newsletter of the Northwestern R/C Combat group. I don't have recent experience with this, but if it hasn't changed much in the last several years, it didn't have a lot of interest outside of the Northwestern club. Many articles on scores, awards, and rules, but few on construction.

Hullbusters - A second rate rag put out of a third world country by a half crazed lunatic. But it does come out regular, and has many articles about our hobby. Needs more pages, more construction articles, more and better pictures, more authors, more issues, more subscribers and perhaps more money.

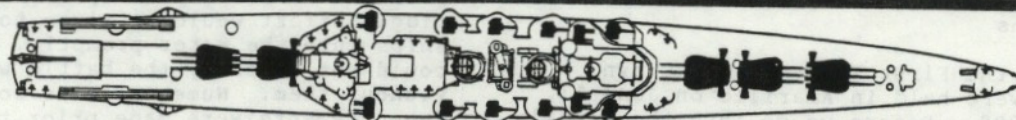
....So thats it folks, which ones do I get - I get them all. However, some I get by subscription and some I pick up at the newsstand (when they have something good.)

How often do they come out? SSM - 9 per. yr., SIS - 6 per. yr., MSB - 6 per. yr., MS - 12 per. yr., Hullbusters - 6+ per. yr., USB&SM - 4 per. yr. (sic.), ABM - 4 per. yr., S - ? per. yr. and SMW - 0 per. yr. now.

We haven't got a lot of coverage in these mags. over the past ten years, with the exception of Hullbusters (of course), USB&SM and SSM to some extent. Whose fault is that? How many of our articles have been turned down for publication? I think there is a public out there just begging to be informed about our hobby, and I think that some of the above magazines would bent over backward for the human interest type of articles or construction pieces from us. At many of the non-battle events I go to, people react to my ship with such coments as "I didn't know you guys were still active." or "R/C combat? Sure, I read those past articles - can you show me how it works?" If we ever want to become a shaker and a mover in the overall hobby of R/C and model boating, we had better get busy and let others know we are still out here. Pictures are the main item in which we don't do well - we need to pool our good "close up" pictures of battle and building (as was done on Dick Hargrave's latest article.)

Marty Hayes
Capt. of the Invisible

P.S. This article was amended in May 88 after Dick Hargrave's article came out. Fluegel tells me that Dick's article (which listed Fluegel as one of the contacts) has resulted in many inquiries about the hobby.



WHAT HAPPENED IN AMARILLO?

By Tom Jass

Have you wondered? Did you hear? 1988 Nats have come and gone and no news in Hull Busters about the result. Seeing how an Axis scum publishes the rag, and no news of a glorious Axis victory has appeared -- perhaps the results were on the order of Stalingrad or Midway?? You do remember that after Midway the Japanese isolated their survivors for months in a remote hospital rather than let news of the "small setback" leak to the Japanese people. The Germans always were masters of news management -- what air raids, what invasion, what surrender?

In the interest of maintaining a free and open press, I hereby announce the results of the 1988 Amarillo Nationals:

Shown below in tabular form is a day by day summary of the battling

		AXIS	ALLIES
Monday	Fleet 1	2,140	1,930
	Fleet 2	5,640	6,420
	Fleet 3	1,920	4,430

Tuesday	Fleet 4	5,810	4,020
	Campaign 1	3,000	0
Wednesday	Night	1,660	1,440
Thursday	Fleet 7	3,460	1,250
	Campaign 2	600	7,600
Friday	Fleet 8	5,060	3,920
	Fleet 9	1,220	3,150
	Total	30,510	34,160

With all the battling tallied, the USA and the Brits defeated a numerically stronger Axis fleet. If only the fleet battles are counted (ignoring 6 hours of on the water Campaign battling), then the Axis squeaked out a narrow 26,910 to 26,560 victory. So I suppose that Fluegel and company will ignore the Campaign battling and claim a victory -- one to parallel Stalingrad and Midway, no doubt!!

May the exploits of the gallant outnumbered Allied fleet composed of the HMS VALIANT, USS SOUTH DAKOTA, HMS INFLEXIBLE, USS OKLAHOMA CITY, HMS YORK, HMS BELFAST and HMS EXETER long be remembered in the history of R/C Warship Combat!!

"CARRS YARD OPENS (again)"

by Danny Schultz

As 1988 starts off, the deck apes here at TB INC are off to there normal slow start. This year, however, there is a little bit more involed. First off, there's my new found love (not cars, airplanes or, SAILBOATS). It's a woman. This does not mean I won't be going to NATS . I can't go...(this also means if anybody wants to try to shoot up the MARYLAND you'll just have to come out to the NORTHEAST and search for her).

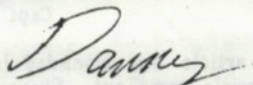
Anyway, alot of ideas that I've been thinking of will be put in motion. Such as a fully operational drydock. I know that there isn't any use for one yet, but in the future somebody might think of one .

Being that the MARYLAND is one of the slowest battleships in the hobby (I counted six slower classes) I figure that she should be manuverable and I'm putting alot of effort in the turning system. I'm pretty sure that when I'm done even my brother will keep his distance.

My fire power hasn't been up to par either so all guns will come out. The new guns will be alot more reliable. After all who do you think is going to build them "ME?"

Pump problems in the past have always plagued my ships. I still plan on using the pump I got from Carl, it's design is by far better than anybody's. It's just that they never come on when they are supposed to. So all you guys with your automatic pumps wait till the plague hits you.

The new dockyard I moved to has more than adequate space. My job finally moved to a position that I don't have to be on my feet at 12 hrs at a crack (I transferred from the PRESSROOM to the Cicurlation Office).



LT. CMDR
USS MARYLAND BB 46



Lide (Maya, CA), Billy Gainer (Prinz Eugen), and Stan (Oklahoma City, large CL). This fleet will be called the SBS fleet.

THE FIRST TEXAS TRIPLE CROWN FINALS

By Stan Watkins

The finals of the First Texas Triple Crown Championship were held in Amarillo on June 11, 12, and 13, 1988. Before we go into the details of the battle, a brief introduction of the "Texas Triple Crown" is needed. The Texas Triple Crown is a group of three regionals held at Dallas, Abilene, and Amarillo to enable Texas and other nearby battlers to be able to hone their fighting skills (and hardware) before nationals. We actively welcome participants from other states who may wish to attend one or all of these battles. If a battler from out of state wins the championship he will be crowned the winner of the Texas Triple Crown. This is an annual award (traveling trophy). The Amarillo Regionals has been a 3 day regionals now for two years. This should make it more rewarding for the participants who drive longer distances. It is the last one before Nationals and is a great opportunity to fine tune a ship in battle before the Nationals.

Those in attendance on Saturday June 11, 1988, were Jeff and Scott Lide, Fluegel, Billy Gainer, James West, and Stan.

Since the USS Oklahoma City was the only Allied ship in attendance, the fleets were chosen by drawing. The first team was comprised of Jeff Lide (Kiroshima CB), Fluegel (Lutzow), and James West (Hipper). This will be called the JFJ fleet. The second fleet was comprised of Scott

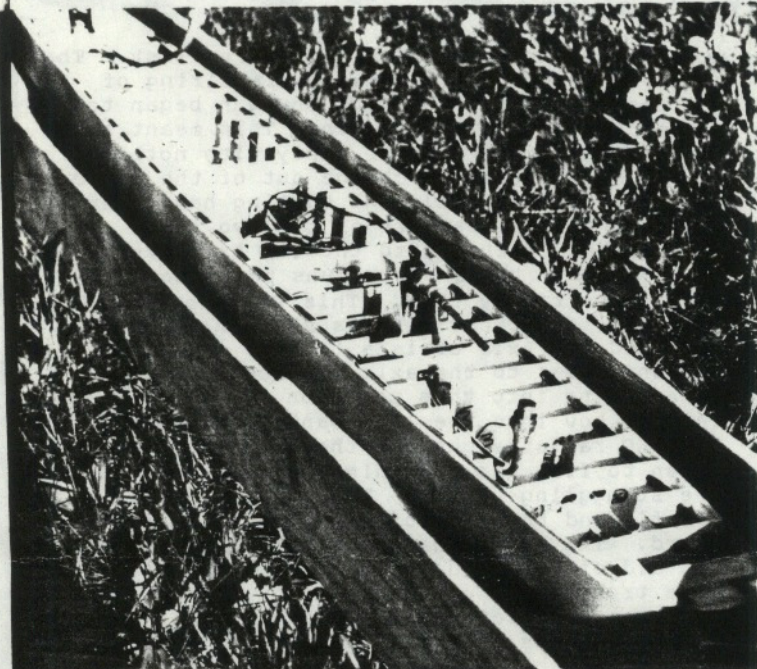
Stan and James West had Co-Contest director responsibilities. To practice for the schedule of 3 or 4 battles per day of nationals, a more ridgid effort would be given to getting the ships into the water promptly. If some ships could not be ready the battle would go on without them. Numerous time countdown announcements were made prior to the first battle. Finally a 2 minute announcement was made. There were some protests but the schedule was to be firm. In event 1 neither Jeff nor Scott Lide could be ready in time. So the fleets were Fluegel and James West vs. Billy Gainer and Stan. The USS Oklahoma City and the Hipper were both slow in the first sortie. The Hipper and Prinz Eugen were pounded badly with the Hipper catching on fire and sinking. (The Hipper center motor was drawing too much current and overheated the resistor speed control. The Oklahoma City was not hit very hard but sank anyway. The Lutzow was only hit for 2 holes. The damage scores from that sortie were Hipper 900, Oklahoma City 710, Prinz Eugen 480, and Lutzow 40. In the next sortie only the Lutzow and Prinz Eugen were left. The results of this sortie were Prinz Eugen 300 and Lutzow 0. The battle totals were The JF fleet had accumulated 1490 points to 940 for the BS fleet.

Fluegel had added 895 points to his TTC total. James added 595. Stan and Billy had both accumulated an additional 470.

For the first sortie of the second battle the fleets would be up to full strength. Just before the battle started the Lutzow was out of

control and withdrew. So the Fleets were (JJ) Hipper and Kirishima vs. OKC, Prinz Eugen, and Maya. The battling was rather hot but the Hipper was not burning this time. She was still very slow and drew alot of attention. She was hit hard and sank late in the sortie. While the Prinz Eugen was pounding her sister ship the Kirishima hit her hard and she sank. The Maya was not heavily hit and the OKC survived the sortie. Since two ships had been sunk and one had withdrawn it was decided to end the battle at one sortie. The JJ fleet had been hit for 1800 points while the SBS fleet had been hit for 980 points.

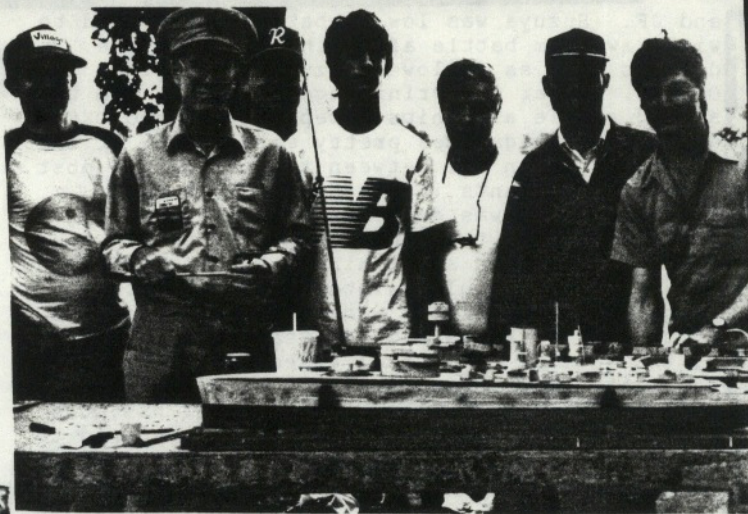
Points accumulated during this battle were Stan, Billy, and Scott 560 each. James 420 and Jeff 560 (his Battlecruiser gets a larger share of points).



In the third Battle the Fleets were actually up to full strength. This time the JFJ Fleet should really wax the SBS fleet. Look at the facts. The JFJ fleet had the power (a battlecruiser and 2 experienced heavy cruisers vs. 3 heavy cruisers). The Prinz Eugen of Billy Gainer was the most experienced ship in the fleet. The OKC and Scott's Maya were both new ships with teething problems. But the OKC was finally up to speed after Stan had discovered the loose allen screw in the universal joint. Now at least the OKC wouldn't be just limping around. But to the advantage of the JFJ fleet the Hipper was now also up to speed.

In the first sortie the ships traded points pretty closely. No ships went down and so the points were not totalled. In the second sortie it was all out war! The battle was not going to be an easy win for the JFJ fleet afterall. But as the battle wound down Scott's Maya slowly sank. No JFJ ships sank. As the scores were totalled the outcome was official. The SBS fleet had be hit as follows: Maya 1350, Prinz Eugen 240, and OKC 80. Total 1670. The JFJ fleet was as follows: Kirishima 1350, Hipper 230, and Lutzow 160. WOW Total damage 1740. The SBS fleet had won! No they had not there was less than 100 points difference so it is legally a TIE! Wow, what a battle. The points acrued are as follows.

Stan, Billy, and Scott, 580. Jeff Lide 668, Flueg and James 501.
An individual challenge was also conducted on



Saturday between Jeff Lide's Mikuma and Fluegel's Lutzow. In the 2 sortie battle old Flueg sent the youngster packing to the tune of 1270 to 220. Fluegel was guilty of a 100 point ram so his total was 1170. Since individual challenge points are doubled the total added to Fluegels score was 2340. Jeff Lide received 440 points.
That concluded the Saturday battling.

Saturdays points by individual were as follows:

SBS Fleet	JFJ Fleet
Stan 1610	Flueg 3736
Billy 1610	Jeff 1668
Scott 1140	James 1516

On Sunday morning Dirty Dave Haynes arrived from Abilene to participate in the hostilities. Dave joined the less powerful SBS fleet. It was now the SBDS fleet vs. the JFJ fleet. In the first sortie Scott's Maya could not be made ready. So it was the SBD fleet vs. the JFJ fleet. Not a single ship sunk in this battle. The lake was calmer and the waves were not as big of a factor. The JFJ damage is as follows: Kirishima 570, Lutzow 100, and Swifty Hipper 60. The SBD damage is as follows: Suzuya 420, OKC 320, and Prinz Eugen 80. So the SBD fleet had won 930 to 820 (more than 100 points difference). Stan, Billy, and Dave each earned 310 points while Jeff's CB received 328, Fluegel and James received 246. In the next battle Scot Lide got the Maya running and again no one was sunk. The damage received was divided as follows: Lutzow 540, Suzuya 500, Kirishima 410, Hipper 370, Maya 220, Prinz Eugen 180, and OKC 40. The SBDS fleet again beat the JFJ fleet by a score of 1320 to 940. Points were divided as follows: Stan, Billy, Dave, and Scott, 330 each. Jeff Lide 376, Flueg and James 282.
Jeff and Scott Lide had to leave for Dallas before the next battle so the fleets were SBD



and JF. Suzuya was low on batteries and had to withdraw from battle after the first sortie. The damages were as follows: Suzuya 700, Lutzow 190, OKC 60, Hipper and Prinz Eugen each 40. In the second sortie all ships except Lutzow and OKC emptied the magazines pretty early. Now it was almost a one on one between the two of the most veteran combatants in the hobby, Stan and Fluegel. Each was determined to play running gunning. Allow the other ship to approach you from the rear and shoot him in the bow. The OKC was faster and could maintain her favorite range. Fluegel didnot want to play "chase the US cruiser". He waited for Stan to grow tired of the tactic. This duel ended up being a sit and wait affair. Neither Stan or Flueg would attack. Finally Fluegel noticed that his guns would not fire. He called 5. Stan prepared to catch him with his superior speed. But what was this? The OKC is out of control. She begins to circle slowly. The main drive batteries must be low or she would have been faster. Five minutes out of control! She circles for about 3.5 minutes and then magically control is regained. She heads toward shore but the bow is getting very low and the pump is not pumping. She is not going to make it. Stan brings her close to shore and she rolls over and sinks. The JF fleet has won the waiting game. Damage in the second sortie is as follows: OKC 660, Prinz 190, Lutzow 80, and Hipper 60. The JF fleet has won a great victory 1650 to 370. Points acrued are as follows: Flueg and James 825 each. Stan and Billy 146 each, Dave 76.

The total of Saturday and Sunday by individual is:

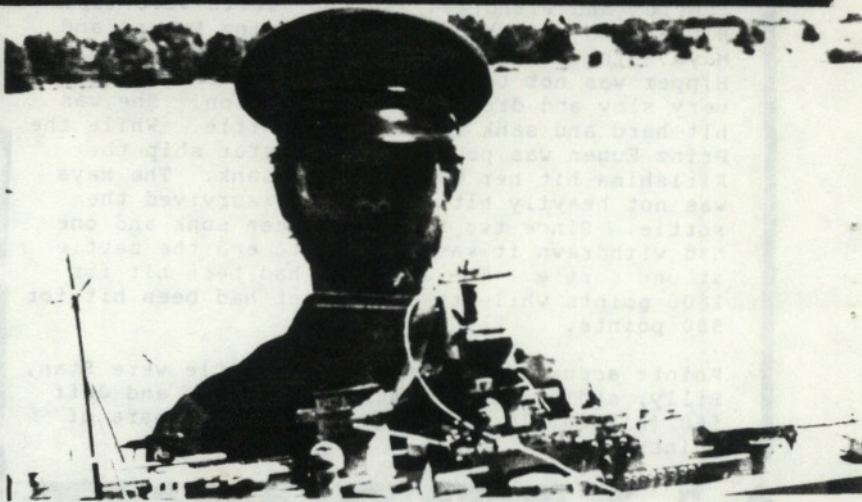
Fluegel	5089
James	2869
Billy	2386
Stan	2386
Jeff Lide	2372
Scott Lide	1470
Dave	716

But the battling was not over, the Amarillo regionals is a 3 day event.

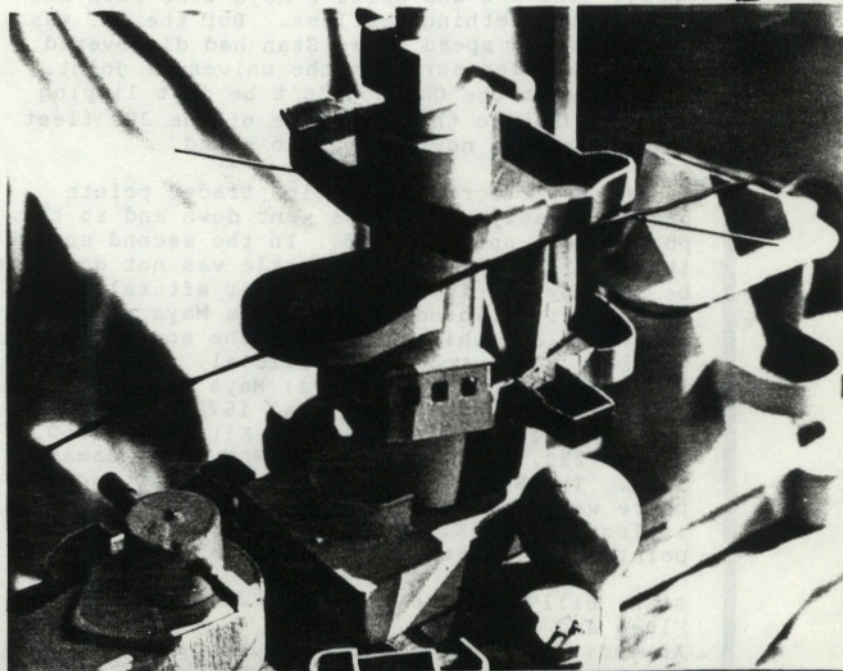
On Monday June 13 the Prinz Eugen, Lutzow and OKC would fight it out again. In the first battle the OKC and the Prinz Eugen would team up on the Lutzow. The OKC was launched with a severe defect, her pump outlet was not extended through her deck. The pump would then be pumping water against the deck and the water would go back inside of the ship. After a few passes and shots at the Lutzow the OKC was getting lower in the water. The OKC sank with only 7 above the waterline hits. The Lutzow had been hit by The Prinz Eugen and OKC with 21 hits. The Prinz Eugen had been tagged for 18 hits. Fluegel then got 1100 points, while Stan and Billy each got 235 each.

The last battle would feature the OKC (with pump outlet above the deck) against the Prinz Eugen and the Lutzow. As the battle began the OKC headed past her attackers toward the long curving neck of the lake. It looked alot like a Norwegian Fjord. Everyone knows that the Germans are terrified of Fjords. Stan took the OKC well up the Fjord to a point that it was not wide enough to turn around without a series of backing and forwarding maneuvers.

Exactly as suspected the two awesome German Cruisers were not going to temp history and venture up the Fjord. So the OKC had a safe haven but how would she win the war if there was no fight. Maybe the Germans would tire of waiting and come up the Fjord. If the OKC could catch them when they were turning around she could hammer them. So the waiting game continued. The Prinz Eugen would occasionally



venture up the Fjord alittle, stern first. The plan was working the Germans were tiring of waiting. But then the OKCs bow gun began to occasionally fire on its own. This meant that the bow gun would soon be empty with nothing to show. It was time to charge out of the Fjord and attack! Afterall, the waiting had taken the edge off of the teamwork of the two foes. As OKC ran out of the Fjord the two Axis cruisers tried to have their stern guns pointing at the OKC as she ran by them. This way they could have her in a cross-fire as she went by. This required the Axis cruises to have there hulls perpendicular to the axis of the OKC. While maneuvering into this position the Prinz Eugen ran her bow into the lake bank and was stuck. The OKC ran straight for the grounded target and began to fire her remaining bow gun shots into the struggling victim. The carnage lasted too briefly and the hiss of empty magazine could be heard. The Lutzow had been trying to come to the aid of her grounded comrade but was having some trouble maneuvering. The OKC began to maneuver for stern shots on the Prinz Eugen but the Lutzow was approaching fast. This would not be a profitable exchange. The Prinz Eugen was also breaking loose from shore. It was time for the OKC to head for open water. Her pump could be seen to give an occasional spurt. That was a good sign! The Lutzow and Prinz Eugen were not operating in an effective team formation. The Lutzow was comming around behind the OKC. A quick maneuver and full reverse power followed



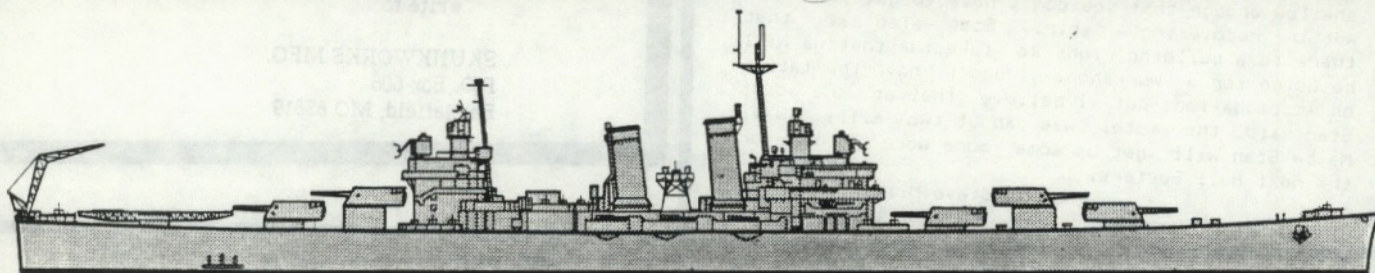
by full off and the Lutzow's broadsides were under the OKC's stern gun. Blam, blam, blam, the stern Mk 28 Mod I was working well. But all too soon again the ammunition was gone. Five minute rule! It was now time to show the Axis her heels! Full speed forward! The Axis cruisers chased the OKC back and forth across the lake. Even German ships would probably follow an unarmed ship up the Fjord, so that escape was ruled out. The OKC had hit the Axis cruisers more than she had been hit so the only thing that was necessary was keep running until the 5 minutes expired and she would have beaten them. Glorious! Glorious! But what is this? The stern looks dangerously low. The pump is working but the stern is too low and getting lower. Great, she is going to sink after beating them with tactics and gunnery, she is going to lose on seaworthiness. So new USS

Oklahoma City went down in her moment of victory. The Axis had won.

The OKC had only 10 holes in her. The Prinz Eugen had 8 holes and the Lutzow had 8 holes. Stan scored 350 on the Axis and both Billy and Fluegel received 440 points.

The Regionals totals were as follows:

1. Fluegel	6629
2. Billy	3061
3. Stan	2971
4. James	2869
5. Jeff	2372
6. Scott	1470
7. Dave	716



Reprinted from Meade Modelers Newsletter, Jan. 86 -

Maryland Attack Group

The Maryland Attack Group (represented by Marty Hayes, John French and Will Montgomery) brought in about a half-dozen of their warship models and gave us a thoroughly enjoyable presentation on their brand of R/C modeling.

I don't know what you have heard about these guys and their models, but I can tell you about what we saw. No slipshod work, but careful, painstaking craftsmanship. We are not talking glueing together some balsa or foam and calling it done here - we are talking taking drawings of the real vessel, buying your stock at the lumberyard, hardware store, or whatever, and having it cut for you, you have to figure out your own weight and balance problems, what goes where, what materials to use where, and all the rest. To top it off, the finished product has to be of a specific size, meet weight and maximum speed qualifications, safety standards, have hull plating that meets absolute penetration specifications - and still look like a scale model.

Think our models get crowded in the equipment bay? Try squeezing in the field box, battery (maybe two), plus enough plumbing for a small apartment, the fresh storage tanks (to power the guns), plus radio receiver, servos, linkages, up to four (!) drive motors, bilge pumps, and lots of smaller absolutely necessary items PLUS those that you would like to get in (like the T.V. camera). And it all has to be water-proof, because to qualify for battle the ship MUST be sinkable! The ships are loaded with hand-machined parts - even the operating guns are entirely hand made. The more you look, the more you see that you admire, and the more you admire the more you see. These guys are worthy of the name "modeler" - they have earned it!

So what is a battle like? One type is "Allies" against "The Enemy" in which scoring is done by side, like in football. And yes, just like in football there are a lot of do's and don'ts and tactics and strategy. After the battle the shot holes are counted up, and all of the other happenings that add or subtract points (a sinking is 900 points), and which side won is announced. The sides also divvy up the point winnings among the side's participants so that they can keep track of their own personal point standings. Like in any competition it pays to be on the winning side!

There is the "single ship" action, or one-on-one. Same type of rules, it seems, but a boxing match instead of a hockey game.

Then they have "reality" games - where freighters try to get supplies through to a forward base, the enemy tries to sink them while the allies try to protect them (and the forward supply base). Just like in real life, the freighter is unarmed, slower, but more maneuverable than the warship.

Strategy, skill, teamwork - the battles are a lot more challenging than just charging at full throttle and blazing away at anything that moves - in fact that seems to be a good way to get clobbered!

How is damage repaired? Easily and quickly. A bit of old-time "silk-span" (the tissue that was all we pre-1970 modelers had to cover wings with) to cover the hole, a swipe of model dope (doesn't even have to be fuel proof!) of a color to match the surrounding area, and you are back in business. One would think that by the end of a busy season the hulls would begin to look a bit lumpy - and they do, but it doesn't seem to detract from their appearance much.

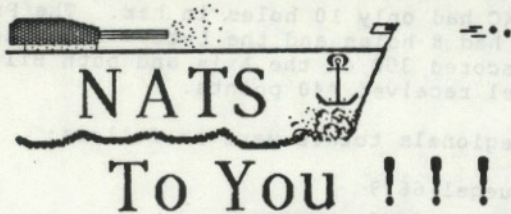
Submarines? Yes, they have been tried, and no, they have not been very effective. Perhaps they were not refined enough, or were not properly employed.

Airplanes? Yes - at least one of the cruisers carries small solid-scale airplanes mounted on catapults. 1/144th scale would not make much of an airplane for R/C purposes though - an F&F would have a wing-span of 3.56"!

O.K. - THE BIG QUESTION! Why would any modeler in their right mind put all that time, effort and money into a model that they KNEW was going to get beat up, shot up, and maybe sunk? All I can say is - ever watch a control line combat contest? How about pylon racing? Limbos? R/C combat? If one of those people say they really expect to get their planes back in one piece -- well, its time for one of those funny coats with long sleeves that button up the back! A lot of the fun of this hobby is KNOWING that every time you lift off you may not be going to get it back in the same condition. There is nothing but your skill in building, maintenance, and flying between you and taking your bird home in a body bag. - if there really is no risk it suddenly gets very boring. So what risk is there in just motoring around the pond - unless there is somebody shooting at you? Makes sense to me!

J. Frank Wood, Chairman, Meade Modelers

(note: this article was a result of a visit and presentation to Meade Modelers at Fort Meade, Maryland. The aircraft modelers were very attentive and seemed to enjoy our models and video tapes. A visit to your local aircraft modeler's club could gain you friends in R/C, and useful contacts to help your own efforts.)



Well, it looks like Knoxville will be the "IN" spot to be during the week of Nationals '89. I know that I will be there, how about you? Stan Watkins, the Father of R/C Warship Combat, will be hosting the event. The word from Stan is that we will be using the reflecting pool in the center of the Worlds Fair grounds. This pool is supposed to be only three feet deep all over. This is still deep enough to make for nice looking sinks but shallow enough that you don't have to get your hair wet in recovering a ship. Stan also says that there is a building right at lakeside that we will be using for a workshop. I don't have the latest on accommodations but I believe that at one point Stan said the motel was about two miles away. Maybe Stan will get us some more word in this or the next Hull Busters.

Steve Milholland
1989 Contest Director

Announcing, for the first time anywhere, MODEL WARSHIP KITS AND ARF's. Starting March 15th, 1989 model warship kits, hardware pkgs, and EE cannon pkgs will be available. Also available will be ARF's. This will be an assembled and painted kit complete with pump, two motors, radio box, and two BB cannons. Included will be a wood travel case and work stand. All you will need to start battling will be a radio (three channel min.), batteries, and ammo.

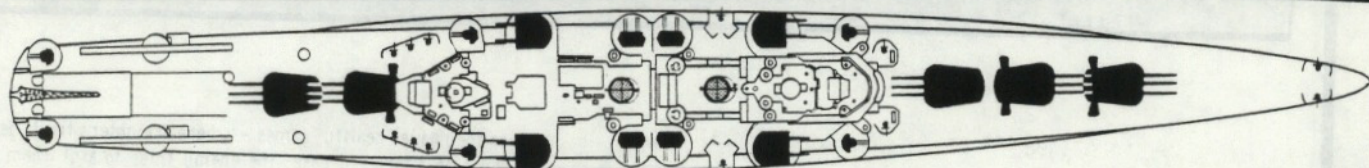
AVAILABLE SHIPS

USS HOUSTON (CA30)	USS BROOKLYN
HMS EXETER	DKM LUTZOW
IJN MYOKO	DMB ZARA

For more information please write for catalog and price list. Due to time concerns no orders or information requests can be filled until AFTER March 15th.

write to

SKUNKWORKS MFG.
P.O. Box 606
Battlefield, MO 65619



The *Brooklyn* (CL 40) class as in 1945; the lower plan view shows the *Savannah* as blistered and fitted with twin 5-in/38-gun houses.

"BATTLE GROUP BB80" IS BACK

After a year where everyone in the Springfield area took a break from R/C combat it now looks like the local club is back and ready for action in 1989. James and I both plan to be at Nationals and maybe a couple of out of state regionals this year. I hope to have the 'Battlin' Bama back in form and have it and the Indianapolis at Nats. James will have a cruiser (Allied) and will possibly have a battleship (also Allied). Jim Lisher plans to do some local battling but due to other demands will probably not be traveling.

The local club has two new members for '89. Dave Crabbe and his son Jason. Dave has model of a Cleveland class on the water and plans to battle here, at Nats, and anywhere else he can. He and Jason are currently building another Cleveland but have not decided whether Jason will captain it or the ex-Jass HMS Swiftsure which they also own. Both Dave and Jason have had a taste of battle at the helm of the Indianapolis and Szent Istvan and are looking forward to doing battle with other members of the club.

And now for the announcement that you have all been waiting for, the first ever SPRINGFIELD SPRING REGIONALS. On April 15 and 16, 1989 we will have a regionals at Sequiota Park in Springfield, Mo. A weekend of individual challenge and fleet battle is planned.

Membership in NAMBA and IR/CWCC is required of all combatants. If you are interested in attending this event, please call or write me at the address below for an entry form.

Steven Milholland
3950 Magnolia
Battlefield, Mo. 65619
phone 417-886-6425

The Next Revolution? a proposed system.

by Larry Dahl

That which follows is only a proposal. I do not even know if the system will work. I am only attempting to stir the creative juices out there.

When we all first got started in this crazy hobby, we all had some sort of crazy dream about entering combat, performing glorious deeds, sinking the enemy (Curly) and coming through with far less scratches on your own ship than on the enemy's. I had been following the hobby from the occasional article in *Scale Ship Modeler* for years, and then later in *Hull Busters*. As I viewed some of the National's video combat footage, and came close to finishing my own Exeter (Ha, they're never finished, right?), I realized that what I found most disappointing about the hobby was that the battles seemed more like aerial dogfights than naval battles. Cruisers fought with guns pointing fore and aft, and so did the main guns of the battleships. The side guns were treated like something to occupy your time as you waited to swing your stern for an aft shot at the retreating enemy. The brief experiment with rotating guns resulted in people complaining that they were difficult to aim and were only helpful if you were grounded, and almost nobody goes aground anymore these days.

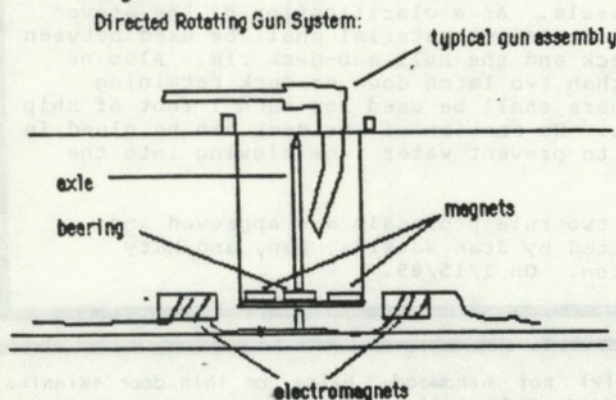
The answer I came up with is a truly coordinated rotating gun system. (You can see right away this eliminates cruisers from using it.) It would have to be simple and cheap, since most of us in this hobby are that way. Another attribute of those in the hobby is being sneaky. I had hoped to spring this system on everybody at a future Nats, but cheapness (let somebody else build it and see if it works) overcame the desire for glory. I guess I'll settle for having my name attached to it.

Enough chatter. The idea is to have one operating gun in each rotating turret. A (read 'one') radio channel is used to select one of five possible gun settings: Home, aim forward, aim astern, aim to port, and aim to starboard. Another channel is used to fire all the guns which can aim in the chosen direction. Thus we have a coordinated rotating gun system.

To do all this, I didn't want to mess with a assortment of gears, pulleys and what nots. I wanted something clean and simple. I came up with magnets and electromagnets (you know, that stuff inside the metal casings of those things

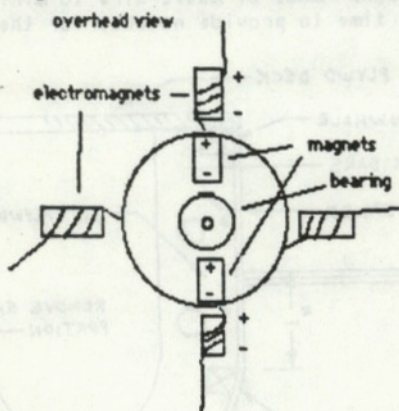
that make your propellers go round.) And it works on the same principle. First we build a carousel (for you Axis, that's an elongated Merry-go-round) on which to mount the gun system. And like a Merry-go-round, it would be mounted and spun about an Axis ('scuse me, I mean axle). The carousel is attached using bearings, or perhaps it would rest on a spiked axle, with a bearing at the bottom (see Figure 1.)

Figure 1:



Two magnets are placed on the base of the carousel, with their polarity in the same orientation (see Figure two). Four electromagnets are placed every ninety degrees around the carousel. The electromagnets are wired in pairs with those directly across the carousel, in the manner shown in figure 2. Then when current is directed down the to the electromagnets, the gun rotates! I'm sure that even Curly can see how easy it would be to get three or four turrets facing in the same direction for a true broadside. One simply sends electrical current to the proper pair of electromagnets. And when not planning to fire, the turrets could be held in their 'home' position using the electromagnets. Now for those of you with four channel radios, we use the same principle for choosing which guns to fire.

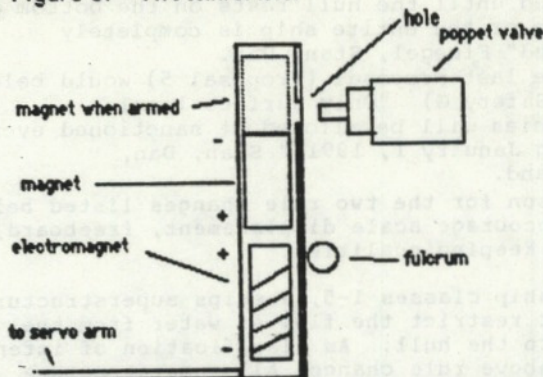
Figure 2: Directed rotating gun system:



The Fire control assembly consists of one electromagnet and one magnet for each gun. The assembly is basically a lever with a hole in it where the poppet valve is triggered. Inside the lever are the electromagnet (at the bottom) and the magnet (resting on the electromagnet). When the guns are moved to a firing position, current is also sent through the electromagnet in the lever, which repels the magnet to the top of the lever, and covers the hole. Then

when the firing servo is actuated, those levers which are receiving current will trigger the poppet valve, and fire the gun. see Figure 3.

Figure 3: Fire control lever



The gun direction would be done with a servo and a sweeper arm, stolen from that old Millholland mark 2 speed control. The current flowing through this would also go to the fire control levers to arm the appropriate guns. The turrets I envision as having 180 degrees of rotation, giving three firing positions per gun. Thus on a ship like the Scharnhorst (let's pick someone who is not a threat), if each turret rotated and had one gun each, one would have two guns forward, three guns to port and starboard, and one gun aft. Seems to me, I would want to hit the enemy with a broadside, rather than chasing or being chased. And who knows what this means for those who build the old WW1 BBs with wing turrets. (When I first thought of this system, I had the Dreadnought in mind.) And for those who nitpick on the rules, I pictured putting in switches for each of the fire control levers and fire quadrants so that one could easily disable the fire control levers, so that I could have a quadrant uncovered. (I thought that with this system, one would always have three quadrants uncovered, if you know what I mean.)

Now for the possible problems I envision for this system: 1) A means of reversing the current through the carousel's electromagnets must be used to get the turret to rotate 180 degrees. I know this can be done, and I even have a system in mind, but ninety percent of my electrical experience is with integrated Circuits (as in computers), and I am not positive it will work. You EEs out there, figure it out. 2) Power. as in how much power do I need to run this system, and how much power do I need in the electromagnet to make the turret rotate. (remember, electromagnets are like people, the more tightly-wrapped, the better.) 3) Are all these magnets and electromagnets going to screw up my radio reception? 4) Combat Damage. How easy would it be to jam up a turret with BBs collected during battle? What effect would all those BBs have on the electromagnets? Would they sap power? What about a jammed turret shooting in an unexpected direction? 5) Will a typical servo have enough torque to fire 3, 4, or 5 guns? 6) Will one freq tank work for firing, or will accumulator tanks, or multiple tanks be needed? Of these possible problems, the one I worry the most about is # 3.

There. I know some of you out there think there is no room in the hobby for rotating guns, but this may change your minds, and a true battle line may appear on the R/C combat lakes. On the other hand, you may legislate it out of the hobby. So be it. Just remember, I thought of it first, and if I'd had the time and money, I would've sprung it on you at Nats. (sniff.) -- Larry P.S. If you want a name for this thing, I suggest the D.G.D system (Dahl Gun Director, or Dog Gone Dumb, depending on your view.)

RULE PROPOSALS

According to the By-laws, three voting members must propose a rule to make it voted on by the ballot committee in advance. Well, Stan and I agreed to these and Dan agreed on the intent by cassette tape. I hope - now that they're in print-that the words I use represent what Stan and Dan approved. You will be told "I BLEW IT" in the next "Observations of the Founding Father" and/or "President's Column" if my words don't agree with their intent.

To be added to the Vice-President responsibilities in the constitution. (Article III C 2) (1) "Receives all Citations of Non-Compliance and sends a list of all

outstanding citations to the Contest Directors of Club Sanctioned events". Hamilton, Watkins, Fluegel. This responsibility will be taken by the Vice-President and removed from the secretary.

To be added to the constitution, (Article III 6a C) (2) "Any interpretation of the rules prior to sanctioned battle must be by the majority of the executive board" Stan, Dan, Fluegel.

Rule 3 could be added to "III Battling, B. Scoring, 6, i". (3) "It is the intent of the ram rules that a captain or team shall not benefit by ramming any ship. This would forbid team mates from ramming one of their own out-of-control 5 minute ships in order to bring

it into check for ram damage". Stan, Dan, Fluegel

Rule (4) would be in "III Battling, B. Battle Conduct". "A sunken ship may not be recovered until the hull rests on the bottom of the lake or the entire ship is completely submerged" Fluegel, Stan, Dan.

The last proposal (Proposal 5) would belong in (I. Safety G) "Only surface legal frequencies will be allowed at sanctioned events starting January 1, 1991." Stan, Dan, Milholland.

The reason for the two rule changes listed below is to encourage scale displacement, freeboard, and sea keeping qualities.

For ship classes 1-5, a ships superstructure will not restrict the flow of water from the deck into the hull. As clarification of intent of the above rule change, All superstructure

will be required to have a water flow port to be no less than 25% of the floor surface area of the superstructure/deck contact area. There shall be no coaming (or fence) or any kind of restriction which impedes the flow of water from the deck into the hull.

7. In ship classes 1-5, ships will not have deck seals. As a clarification of the above rule, no sealant material shall be used between the deck and the hull sub-deck rim. Also no more than two latch down or deck retaining fasteners shall be used for each 1 foot of ship length. No section of the deck can be glued in place to prevent water from flowing into the hull.

These two rule proposals are approved and submitted by Stan Watkins, Dan, and Mary Hamilton. On 1/15/89.

HULL CONSTRUCTION

By Tom Jass

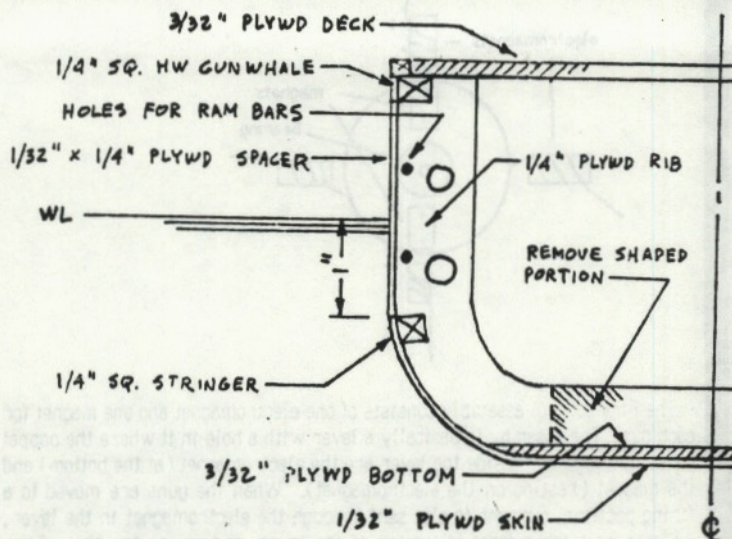
Over the years that I've been in this hobby (I'm beginning to sound like Fluegel and Stan), I have modified the techniques that I've used to build hulls. My first model, the original RODNEY, had a 1" balsa bottom and a 1/4" balsa deck. This was soon changed to plywood for both members to increase the vertical interior space within the ship. I now use 3/32" plywood for both the decking and the bottom of my ship models. One technique which I have stayed with, however, is that I build all my hulls upside down on a wooden jig. I firmly advise this method over the practice of building the hull rightside up with the keel on a work surface for several reasons. The gunwale line is built absolutely straight and without warps. Much of the hull finishing work can be completed with the model attached to the jig. More about the jig and its use later in the article.

Obviously the hull framework is the skeleton of the model; if it's sloppily built and finished the model will be a mess from day one. It's sad to see a model discarded after one year's use because it is crooked or waterlogged or inaccurately built. Why spend hours on superstructure detail, gun systems and electrical installation if the hull construction is sloppy? Also a hull which is well built is much easier to reskin -- and this will happen several times throughout a ship's career. So, with those reasons in mind let's discuss the building of a hull which will last for 5 to 6 years.

The use of a jig is essential in constructing a true hull. I usually employ a 1" X 8" piece of pine (without warps) for the jig. If the ship you're building has a step in the deck you must duplicate the step in the jig. By using shims or shaving the forward jig board you can duplicate the correct step height -- this is a crucial step in constructing an accurate jig. The step must be located in the correct fore and aft position as well. I then draw a centerline on the jig and lay out the rib locations in full scale on the centerline with a drafting triangle. The width of the ribs can then be established on the jig. Because of the techniques that I use INSURE THAT ALL RIB WIDTHS ON THE JIG ARE LAYED OUT 1/8" NARROWER THAN THE FULL SIZED RIB WIDTH FROM THE PLANS. Cover the jig with waxpaper so you don't glue the frame to the jig and have to build an Axis ship. When this has been done accurately the gunwhales which are 1/4" square hardwood can be fastened to the jig with small nails. Drill holes through the gunwhales so that the nails will not split the hardwood. If the gunwhales have extreme curves at the bow or stern the gunwhales may have to be made by laminating 1/4" X 1/8" hardwood pieces together so the gunwhales will not split. At the extreme ends of the ship I glue and screw a piece of 3/32" plywood between the gunwhales for additional support.

The ribs should be constructed of aircraft plywood (5 or

7 ply) not hardwood. balsa or thin door skinnino. For cruisers and smaller ships I use 3/32" plywood for the ribs. 1/4" plywood should be used for battleship ribs. I usually place the ribs 3" apart on the ship; however, you can make more rib locations if you desire so long as you don't exceed the 15% rule. As shown in the diagram each rib should be layed out and cut 1/8" undersized in width (to allow for the skin width); also cut off 1/8" from the bottom of each rib to allow for the plywood bottom(s). Cut a 1/4" square from the top outside corner of each rib for the gunwale location, and another set of 1/4" square notches in each rib 1" below the waterline location. Also drill two 1/4" diameter holes in each side of each rib to allow electrical wiring to be threaded throughout the ship during that phase of installation. If you are going to install "ram bars" made of music wire to minimize ram damage, now is the time to provide notches for them.



When all the ribs have been cut out, drilled and notched they can be attached to the gunwhales on the jig with ZAP. Use a triangle to insure that the ribs are installed true and perpendicular -- don't eyeball the job. Next, using ZAP install the 1/4" square stringers in the rib notches which were cut 1" below the waterline. If the ribs you made are 1/4" stock you should use brass countersunk screws to fasten these stringers to the ribs in addition to the ZAP. 3/32" ribs are too thin to accept screws. Cut the ship's bottom to shape from 3/32" plywood, making it as long as possible to give strength. Only install this 3/32" plywood where the hull bottom is flat. Using a sharp block plane or a sanding block with rough sandpaper, sand the outside edges of the 3/32" bottom so that it fairs into each rib shape -- this step is important. Next cover the entire bottom of the hull with 1/32" aircraft plywood, wrapping the plywood around the hull from one below the waterline stringer to the other. Sheet between as many adjacent ribs as possible with one sheet, but where adjacent rib profiles are not

identical the hull can only be skinned between two ribs. It is best to cut patterns from light cardboard to determine the exact shape of each piece of 1/32" plywood skin before you begin chopping and ruining expensive plywood. If the curves are extreme you should to soak the plywood in warm water for a minute to increase its bending ability. The skin pieces can be ZAPPED to the frame using clamps to fasten the skin to the stringers while the ZAP is setting. Glue solid balsa blocks or laminated sheets to the bow and stern ribs (1 1/2" at the bow and 1" at the stern are the maximums allowed by the rules). Does this all sound like alot of trouble? It may take a little longer than other methods, but you will build a hull frame which is strong, light and capable of lasting many battle seasons if you take your time and follow these directions. After the 1/32" plywood skin has been attached between all the ribs the entire frame can be removed from the jig. Now is the time to double coat all glue joints especially on the inside of the hull where the 1/32" skin is attached to the stringers between ribs. Also use more of the brass screws to fasten the gunwhales to the ribs at each rib location. Form the bow and stern shapes from the solid balsa using knives, Dremel tools and much sanding.

Reattach the ship to the jig and sand the bottom of the hull skin with sandpaper. Fill any imperfections in the skin at the panel joints or wherever there are dings. Mix up a few shot glasses (2 ounce portions) of epoxy resin and coat a portion of the sanded hull bottom. Drape fiberglass cloth over the wet epoxy resin and gently pull out the wrinkles. The cloth will form itself easily around the compound curves of the hull so don't worry. Use epoxy resin and fiberglass cloth to cover the entire hull bottom. Don't try to do the whole job in one step as the epoxy resin will set up in about 15 minutes if you mix the two liquids in the correct proportions. Let the first coat of epoxy resin dry over night, then sand the shine from the dry bottom and paint on one more thick coating of epoxy resin. Cut away the excess fiberglass cloth from the bottom of the skin when the second coat is dry. Now you can sand and sand to your hearts content to smooth the bottom of the hull; begin with rough sandpaper or you'll be on this step for weeks as the epoxy is rock hard when dry.

Remove the hull frame from the jig and apply fiberglass and epoxy resin to the inside of the hull bottom. Cut pieces of fiberglass to size to fit between the ribs. This inside coating is what makes the 1/32" plywood strong enough despite its thinness. Once again apply two coats. No need to sand the inside unless you're Axis. When the epoxy is dry use a Dremel tool to remove the

center of the the ribs. See the diagram; the cross-hatched portion should be removed. This allows water which gets inside the hull to run to the pump and also provides additional room inside the hull for system installation.

Because the 1/32" hull skin is raised from the sides of the ribs it is necessary to install 1/32" X 1/4" plywood fillers to the outside edge of the gunwhales and each rib. ZAP these in place and sand the outside of the frame so that all surfaces are smooth and flush. These spacers have added 1/16" to the width of the hull; the balsa skin will add another 1/16" -- now you see why the rib patterns were cut 1/8" less than the plan width. Fill any voids and sand some more. When your hull could pass for an Allied beauty (not an Axis pig), you are ready to finish the completed frame. ALL EXPOSED WOOD SURFACES SHOULD NOW BE PAINTED WITH 2 COATS OF EPOXY RESIN. This step will seal your hull frame and make it watertight. Sand all outside surfaces after the epoxy resin is dry. Now the hull is ready for skinning with 1/32" balsa. The sealing of the frame with 2 coats of epoxy resin will make subsequent reskinning easy.

I construct the decking of 3/32" plywood with the wood grain running athwartships rather than fore and aft. This minimizes warping in the wrong direction. Glue together enough 3/32" plywood to rough out a deck. Lay the plywood on top of the frame in the correct location and draw around the perimeter of the gunwhales on the bottom of the deck with a soft pencil. Remove the deck plywood with the pattern drawn on it and place a 3/32" square by 36" long piece of hardwood on the pattern so that you draw another line inside the original line. Do this on each side of the deck -- you are locating new deck edges which are 3/32" inside of the hull outline. Cut out the deck pattern following the inside lines. The 3/32" plywood can easily be cut with a utility knife if you make several passes; this works better than a saw as it gives a smoother more accurate edge. Sand the edge smooth and place the decking back in place on the gunwhale frames. ZAP the 3/32" square hardwood pieces to the outside edges of the gunwhales while the deck is layed in place. Just tack glue these pieces to hold them in place. Remove the deck and ZAP the 3/32" stringers solidly to the gunwhales. After all is dry the deck will be a force fit when reinstalled on the gunwhales. Except on DDs, I've never found it necessary to use caulking or a gasket material to seal the deck joint using this method.

Finish the bottom of the decking with two coats of epoxy resin and the top with lacquer and silkspan (or plank the deck with planking if you're a scale nut).

BATTLE CALENDAR

By Editor

TEXAS, Dallas. unsanctioned April 8th and 9th
C.D. - Jeff Lide. (214) 681-3415 \$1.00
entry fee.

ALABAMA, Decatur. sanctioned April 15th & 16th
C.D. - Dan Hamilton (203) 355-1568.
\$5.00 or \$15.00 entry fee.

MISSOURI, Springfield. sanctioned April 15th &
16th. C.D. Steve Milholland. (417)
886-6425.

TEXAS, Abilene. unsanctioned. May 3rd & 4th
or 10th & 11th. C.D. David Haynes. \$1.00
entry fee.

TENNESSEE, Knoxville. NATIONALS, sanctioned.
July 10-14th. C.D. Steve Milholland.

ALABAMA, Decatur. sanctioned October 20th & 21st
C.D. Dan Hamilton (417) 886-6425.
Entry Fee \$5.00 to \$15.00.

TEXAS, Dallas. unsanctioned December 29th & 30th
C.D. Fluegel (214) 681-9471 no entry fee

THE FORM

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ALLIES RAM SINK AXIES CONVOY SHIP & DECLARE A PARTIAL VICTORY IN 88 NATS. By Gross Admiral Fluegel

It was with a smile on my face that I read Tom's article declaring the 88 NATS an Allied victory. Tom's a funny guy! In the past the NATS were clearly won by one team and there was no room for debate. What's changed?

Well, since Tom started coming to NATS we have all enjoyed his charming personality, his computer, and his B.B. sucking ships. Most NATS' evening's Tom would use his computer and produce a kind of score-board. Tom listed not only team scores but detailed spread sheets tracking individual's performances. Before Jass we did our best to tally the total points to determine victory. We also counted winning battles to determine the victor, and we counted numbers of winning "Days" to determine victory. That's news isn't it Tom. Still, Tom's method is a good way to determine victory. But, Tom didn't list the scores daily so we were back on "manual". This was OK because we still were winning. Winning so comfortably that the Admiral transferred his Scharnhorst to a rookie and his Lutzow to another rookie (which was sunk) for the last battle. In effect, we sacrificed the last battle knowing victory was already won!

Really, it wasn't a sacrifice, it was an investment in the Axies future. Today's rookies are needed to assure the Axies of endless victories against the calculating enemy.

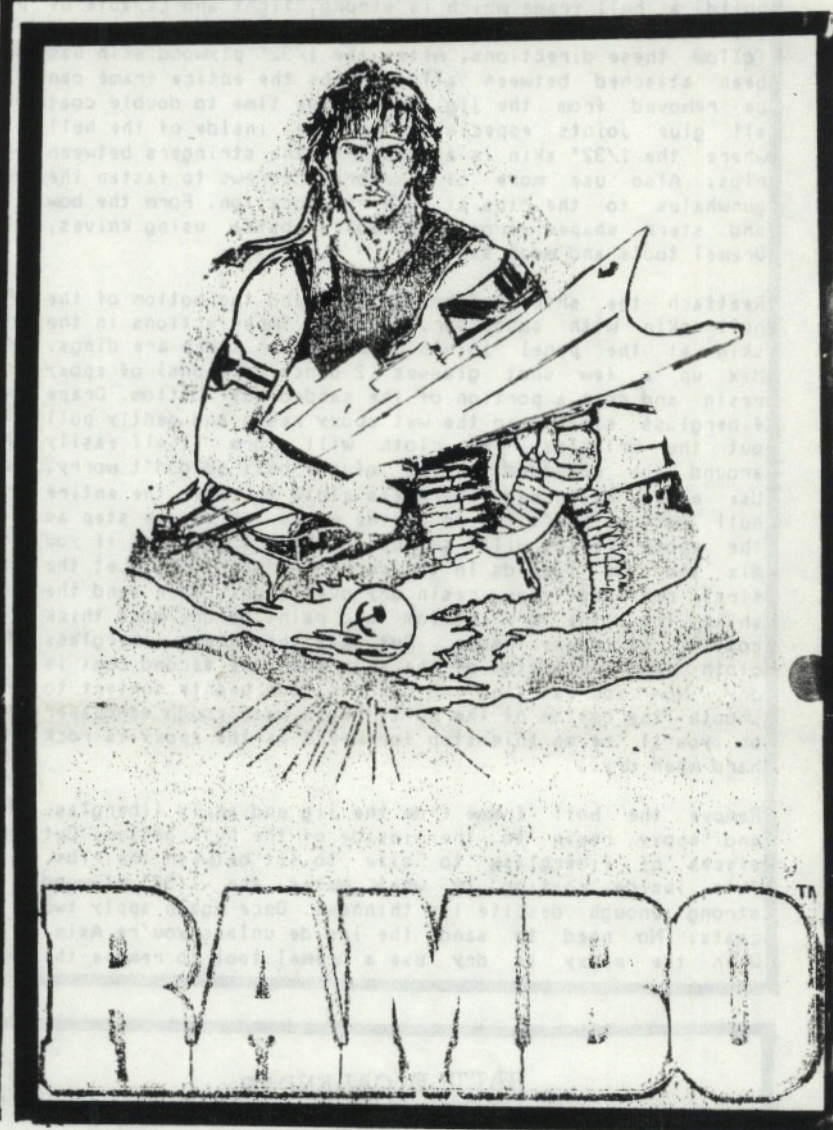
Another matter of 9000 points places the Allies only claim to fame in question. An important new event called "campaign" is being developed. Tuesday morning, both teams had convoy ships, and the Axies won 3000 to zero. Thursday my convoy ship had radio problems. I suppose that means the 9000 points the Allies received were earned? Well, if you discount the fact that the event is still in development and that our only operating convoy ship was ram sunk, (by the Allies), well, I guess the Allies did earn 9000 points.

I'm confused how they scored so few points against a team with zero convoy ships. Maybe the kind hearted British were showing compassion..or guilt. Whatever, let's put an end to these scoring maneuvers. Admiral to Admiral, Fluegel to Montgomery (He even sounds British). Let our future NATS be determined by (but so does Fluegel sound Axies) number of battles won, number of days won and number of points scored.

any 2 of the 3 methods. And Tom, would you post us daily on the approximate team points.

Before I forget, Montgomery was without a

doubt the best point scoring captain at NATS. His South Dakota danced about very much like Milholland's Alabama had done a few years ago. Nothing but admiration for Montgomery's ship, his tactics and his ... chivalry can be recalled. Welcome to the national-science, I look forward to meeting you, Foster, and Milholland in the 89 NATS. The battling will be so fierce that Tom's computer may start smoking. It was a little bit boring in 88, the Axies toyed with the Allies like a cat with a mouse. I suppose that is the truest measure of the Axies victories. We know we're the best.



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Handwritten notes in purple ink: a circle containing the number 15, and the numbers 10/2 and 16/2 written vertically next to it.

Faint, mirrored text from the reverse side of the page is visible through the paper, including phrases like "I am subscribing and have enclosed", "I have a new address", and "To subscribe send this form with your money to Hull Busters".