

# HULL BUSTERS

The Only Strictly R-C Warship Combat Publication



## INTRODUCTION

Dear Friends and Allies. Being the editor of this newsletter I believe I have a good feel for what's going on in our magnificent obsession. Therefore I humbly present myself to the "Executive Board" as an expert on our hobby's growing pains. Questions I am often asked are "how do I join NAMPA?", "Is there a combat club and if so what does it cost and what do I get for my money?" "I want to start a local club, what do I need to do?" and "where do I get information?" May I represent these people and humbly ask for the answers in writing for the next Hull Busters. Thank you very much.

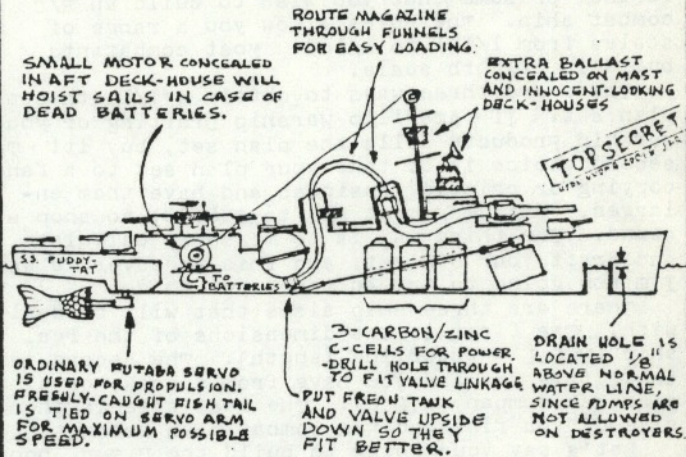
Well, nobody has been battling for the last two months, due to the solid water problem, I guess some things never change. The rookies are working on their ships, worrying about battle damage and complaining about the rules. The veterans are working on their ship's machinery and complaining about the rules. Yep, some things never change.

April 1983

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# ALLIED DESTROYER SECRETS REVEALED!

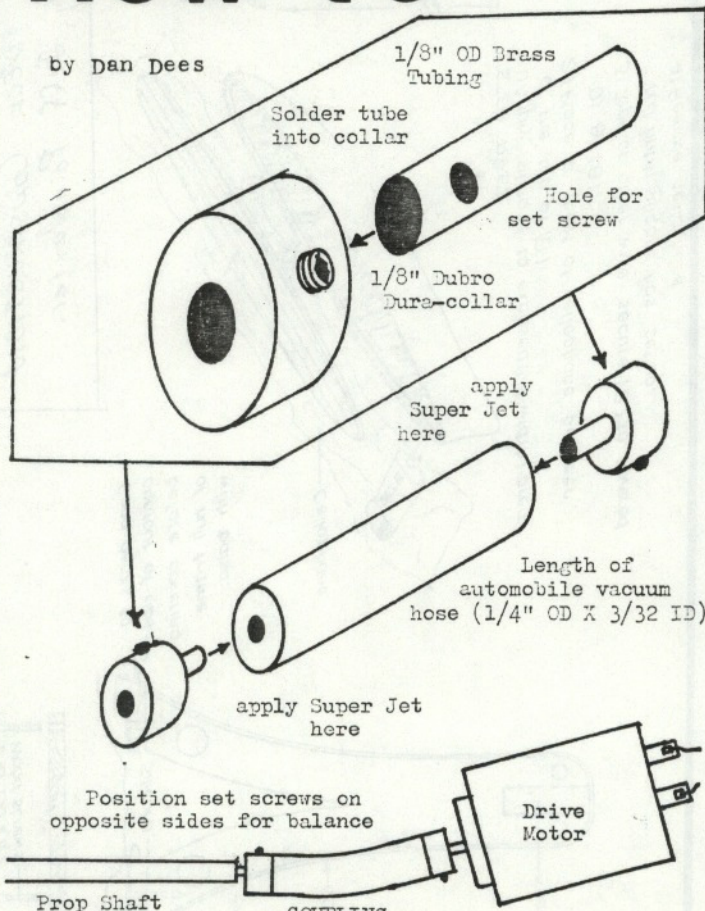
TOP SECRET ALLIED DESTROYER BLUEPRINTS  
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# How to build couplings

by Dan Dees



- Material List
- 1/8" Dubro Dura-collars
  - 1/8" brass tubing
  - 1/4" OD automobile vacuum hose

4 for 80¢  
30¢ per foot  
.45¢ per foot

Dan Dees

I prefer to build parts for my ship wherever possible. There are three reasons for this, the first being because it's usually a lot cheaper. The second is availability. Regardless of how common or obscure the part may be, when I go to the hobby shop (or wherever) to purchase it, it's out of stock (but it will be in a week from Friday). This is not always true. Sometimes I need two of a particular item - they have one, the other will be in a week from Friday. If I need three, they have two etc., etc. It's not that I particularly like building \$2 items - it's just that I can't see spending \$900 in gasoline to build a \$200 R/C combat ship, not to mention all the waiting.

The third reason is that I get a lot of satisfaction from building as much of my ship as possible.

Now to the business at hand - couplings. My ship uses what we call the little 12V "black back" motors. They have a 3/32" OD shaft so when I built my prop shafts I made the motor-end of them 3/32" OD also. That way the coupling can be the same size on both ends. If you use motors or shafts which need a different sized coupling just substitute the proper sized parts in the following instructions.

Cut two pieces of 1/8" OD brass tubing 1/2" long (these directions are for one coupling - multiply by the number you need). Slip each tube into a 1/8" Dura-collar so that one end of the tube is flush with the face of the Dura-collar, then mark the location of the set screw on the tube. Remove the tube and drill a hole at the spot marked large enough to clear the set screw. File off all burrs from the tubes, slip them back into the collars (making sure the hole lines up with the set screw) and solder the tubes to the collars.

Cut off the appropriate length of vacuum hose - this depends upon how far your motors are mounted from your prop shafts. Try to make the cut as square as possible for maximum contact with the collar. Then spread Super Jet (or whatever you like that bonds well) on the outside of the tube and on the face of the collar and push the brass tubes into each end of the hose. Be sure there is good contact between the face of the collar and the end of the hose. Position the set screws opposite to each other to assure the best balance.

If the hose ever wears out, just cut it off with an Xacto knife and glue on a new piece. However, these are so inexpensive and easy to build that I recommend that you build an extra set to throw in your tool box. Then if one breaks just release a couple of set screws, install a new coupling, and get back into action! You can repair the broken coupling later - right now the important thing is - "Let's Battle".



I have just completed my plan set of the German H class battleship. It took me approximately 32 hours and Fluegel asked me to write an article about how I did it. Every time I tell him I'm doing something he has a fantastic article idea for me to author, OK Fluegel, here it is.

Let us presume you have a small accurate line drawing of the ship you wish to build. You have to start with something. Ideally you would also have a plastic model and some photos. Let us further presume that you wish to build an R/C combat ship. The rules allow you a range of scales from 1/144 to 1/160. Most combatants build in 1/144th scale.

There are three ways to obtain a 1/144th scale plan set. If Amarillo Warship Drafting or Model Warship Products sells the plan set, buy it! The second choice is to take your plan set to a fancy copying or printing business and have them enlarged. This may cost \$14 to \$86.00, so shop around. The third way is to measure, calculate, and draft your own set, and this endeavor is what I'm now going to try to teach you to do.

There are three ship sizes that will be dealt with. The first is the dimensions of the real ship (W.L.L = waterline length). The second is the little drawing you have from a book, or a plan set company (W.L.L.). The last size is the size of your finished R/C combat plan set (W.L.L.).

Let's say your going to build the U.S.N. Door Knob. Everybody knows that it's 825 feet long, at the water line, but "how long will that make my R/C ship?" And "will it fit in my winnebago?" To find out simply divide 825 by 144, then multiply that by 12. The answer is 68.75 inches at the water line. That's a big Door Knob!

There is only one more simple math encounter. Let's say your Naval book "Yankee doodle builds a Boat" has a fold out of the Door Knob on page 13. Measure the waterline of that small plan set. It is...13 3/4" long. Make that 13.75" long. Divide 68.75" by 13.75". Your answer is 5. This concludes the math test. You all get an "A", see you tomorrow, bring a ruler that divides one inch into 10 equal parts, and a roll of high quality paper, 24" wide (or wider) by 6 feet, hopefully with graph lines on it that divide one inch into 10 equal parts....good luck.

Day two...begins with an astute question from a tactful student, "Oh great rabbi, yesterday you taunt us how to calculate 5, what do we do with the 5?" I reply, "He who has ears, let him hear (I shouldn't write on Sundays), measure every dimension of the Door Knob from page 13 and multiply it by 5, drafting your results as you go onto your large sheet of paper".

That's why it took me 32 hours. Now let's review the procedure.

$$\frac{\text{Actual waterline length of ship}}{144} \times 12 = A$$

R/C ship length at the waterline, in inches.

$$\frac{\text{R/C ship length at the waterline, in inches}}{\text{Length of small ship plan at the waterline, in in.}} = \text{"magic fudge factor"}$$

$$\text{"magic fudge factor"} \times \text{every dimension of small ship plan} = \text{every dimension of the 1/144 scale ship.}$$

Example: U.S.N. doodle is 802 feet long. Small drawing is 17.05" long. beam of small ship drawing is 3.35"

$$\frac{802}{144} \times 12 = 66.833332$$

$$\frac{66.833332}{17.05} = 3.9198435$$

Multiply everything on small ship plan by 3.9198435 and graphically record results on large sheet of paper, ie, 3.35 x 3.9198435 = the beam of your R/C warship plan set.

In conclusion I hope this helped some of our newer member. I hope one can see the attractiveness of selecting a commercial 1/144th plan set.

The commercial enlargement of your small plan set is also attractive, however, if you want to "do it yourself" now you know how. I have certainly learned one thing, don't tell Fluegel what I'm doing!  
Sincerely, Wilton Peel.

**STEP ONE:**

- 1) Cut sub-deck rim (D) from center piece (C) and discard (C).
- 2) Glue rim (D) to tops of ribs & keel!
- 3) Screw main deck to sub-deck and rib assembly. (DO NOT GLUE)

Also: Eg. Not cut (B) from (A) yet.  
4) Cover hull frame with 1/32" balsawood.

**STEP TWO:**

- 1) After balsawood has dried to hull frame, remove main deck.
- 2) Cut (B) from (A).
- 3) Replace (A) and glue to top of sub-deck (D).

**STEP THREE:**

- 1) Apply silicone to exposed (1/4" width) area of the top of (D).
- 2) Place a sheet of cellophane between (D) & (B).
- 3) Tape or otherwise secure (B) to covered hull until silicone has set up.
- 4) Remove cellophane.

**Deck Construction**  
by Jeff Ponderexter.

Sand front of keel for proper contour.

Sand decks to contour of ribs before covering of hull frame with balsawood.

Cellophane

1/16" Dia x 1/2" Wood screws

Keel

1/32" Balsawood

Rib

Main deck rim

Sub-deck rim

Cellophane



I would like to thank vice-president Jeff Poin-dexter for these official rules. These are not recommendations but the real thing, like coke.

1. Goals of Model Warship Minigun Combat.
  - A. The goal of this hobby is to enable participants to enjoy most of the interesting aspects of surface ship naval battles safely.
  - B. To be a registered voter one must have participated in a N.A.M.B.A. Sanctioned battle within the prior 24 months.
  - C. Registered voters who have participated in one of the two most recent championships will have their votes count twice.
  - D. Rules may not be changed but once a year. The time and place of the annual voting shall be announced at least 30 days prior to the event.

## II. Safety precautions.

The low power of the R/C minigun provides a basic safety factor that is equivalent to a normal "daisy" air rifle. The use in conjunction with a radio control unit, however, introduces the normal uncertainties associated with a radio control unit.

### A. Barrel safety pin

To prevent injuries while ships are ashore, a pin must be inserted in each firing barrel prior to lifting the boat from the water. Damage penalty points will be assigned for failure to insert pins. See Section III.D. for points assigned per violation.

### B. Elevation Limit

Typically, the BB will strike the water before arriving ashore. To help assure that BB's cannot rise to levels that could injure spectators at eye level, the maximum allowable elevation of a gun barrel is 10 degrees with respect to the actual waterline of the ship. This elevation is at maximum servo travel.

### C. Spectator considerations

In spite of normal safety precautions, a conscious effort should be made to consider participant safety at all times. Example; (1) Keep children from sitting near the water's edge, as this can negate the maximum elevation safety precautions. (2) Do not fire guns while participants are retrieving sunken or damaged ships, as the participant's eyes are considerably lower in altitude when they are wading to recover ships, which also negates the elevation limits.

### D. Wear safety glasses

It is an excellent idea to wear safety glasses whenever participating in or watching R/C minigun combat events. Times when safety glasses are even more important are; (1) when retrieving a ship while other ships are in the water, (2) for small children near the water's edge, (3) when inserting barrel safety pins and (4) when spectators or participants are sitting or lying on shore.

## III. Battle Damage Points

Battle damage points are accrued by shooting holes in the opponent's ship. In battles, a points system is provided to enable a victory decision to be made. Totals should also be kept for annual championship awards and ratings.

The following is a list of battle damage and penalty points.

### A. Superstructure Damage points

1. Superstructure entry holes made by BB's count for 5 points each. Items blown off or broken loose also count for 5 points.
2. When a ship battles with an illegally thick skin or solid area, a dent will count as 5 points.

### B. Hull Hole Damage points

1. The entry hole in the hull above the waterline will count for 20 points.
2. Hull holes (either entry or exit) below the waterline, count for 100 points. If a BB enters above the waterline and exits below the waterline, the entry hole is thrown out and only the exit hole is counted.

3. Holes in black boundary area or within 1/8 inch of the junction of gray and red waterline, count 50 points. These are entry holes only.

4. Sinking from a Hull Hole Below the waterline.
 

- a. If a ship sinks and any part of the BB hole is in the red of the below waterline area of the ship, a "sink" is awarded with the 500 points score to the victor.

### 5. Intentional Beaching

- a. If an individual prematurely brings a ship to shore to avoid a sinking from a below the waterline hit, the individual will be penalized 2,000 points.

### C. Optional Turret Damage Disablement.

At the option of the participants by unanimous agreement, the turret disable rule may be incorporated for a prearranged series of battles. If so agreed, a turret that is gun equipped will be considered disabled (and 75 points awarded) for one complete sortie (magazine load). Disablement will occur in the next sortie (magazine load) immediately following the damage occurrence. The turret/gun will not be allowed to be loaded during this sortie.

### D. Safety penalty Damage Points

1. Safety penalty damage points will be subtracted from the rule violator's total for not installing the barrel safety pins, prior to removing the ship or gun from the water or ship respectively.
2. Safety penalty damage points may also be subtracted when 4 or more participants vote to assign them and the violator is the only "no" vote.

## IV. Construction Classes and Specifications.

### A. (Class) Rib and Keel Balsa Glad.

1. For this class, the ribs and keel can be no thicker than 3/8" plywood and must not be so numerous (no closer than 3" center to center) as to significantly thicken the average skin of the hull. The hull skin and superstructure skin must be 1/32" balsa.
2. The main deck may be 3/8" plywood to help strengthen the hull assembly.
3. The top and bottom surfaces of the superstructure "buildings" may be no thicker than 1/16" balsa.
4. The very bottom of the hull and areas immediately around the prop shafts may be thicker material; it must not, however, interfere with the inherent penetration vulnerability of the hull to the R/C minigun.
5. Opponents may refuse or accept combat with minor violations of the rules.
6. No "water belts", double hull areas, water tight compartments, or other construction advantages may be taken that are attempts to defeat the scope of construction intent. Note: For all classes, no damage points will be allowed for ramming and a sink as result of ramming will not count. See Section XII for standard ram penalties.
7. Solid balsa in the hull at or near the waterline cannot extend more than 1 inch behind the bow and 1 inch in front of the stern, and must not extend more than 1 inch at any point along the radius curve of the bow or stern.
8. There shall be no stringer used within 1/2 inch of the top or bottom of the waterline unless the shape of the hull dictates it.

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### B. (Class) Vacuum formed plastic.

1. It is legal to use vacuum formed plastic ships or portions of ships in R/C Warship Combat. Handicap factors acceptable to the majority of the combatants engaged in the contests will be incorporated to compensate for any advantage that the vacuum formed parts have over balsa parts.
2. Handicap factors shall be determined by tests established by the majority of the contest participants.

## V. Guns and Features Allowable for Type Ship.

- A. A gun shall be defined as an offensive unit.
- B. A pump is to be defined as an offensive unit.



1. A pump's motor is to be no larger than one propulsion motor in physical size with only one inlet.
- C. A Gunboat  
1. A Gunboat may have one gun with no more than a 10 shot magazine and no pump, it may have one pump and no gun.
- D. A Submarine  
1. A submarine at present time is not allowed.
- E. A Destroyer  
1. A Destroyer may have one gun with no more than 20 shot magazine and no pump, or it may have one pump and no gun.
- F. A Light Cruiser under 9000 tons standard  
1. A Light Cruiser under 9000 tons standard may have only two offensive/defensive units.  
Examples:  
a. It may have two guns with 100 shot magazine each and no pump.  
b. Or it may have one gun with a 100 shot magazine and one pump.  
c. Or no guns and two pumps.
- G. Heavy Cruisers and Light Cruisers over 9000 tons standard  
1. Such cruisers shall have only three offensive/defensive units. (guns shall only have 100 shot magazines.)
- \*\*\*Special Note\*\*\*  
H. Any ship smaller than a Battle Cruiser shall not have guns pointing directly off the side of the ship.
- I. Battlescruisers  
1. Battle cruisers may have the same number of main guns as the original ship had. Two pumps are also allowed. Only 100 shot magazines are allowed.
- J. Battleships  
1. Battleships are allowed one gun for each 12" or larger gun that she carries. Also four pumps are allowed.
- K. Gun placement in the ship  
1. Guns must be placed in turrets or casemats occupied by the main battery of the ship modeled. No guns may be mounted near the waterline or below the waterline. These guns would make for the "easy kill" and as such are not allowed. This would be unrealistic.  
2. Guns may be mounted in the superstructure if the main turret is physically too small to house the gun. No tactical advantage may be gained, such as peculiar trajectories due to the flexibility this rule allows.
- L. Maximum gun pressure  
1. To help assure safety, the maximum allowable gun operating pressure is 100 psig. An opponent may request a pressure check on the participant's ship at any magazine reload turn.
- M. Secondary guns  
1. The safety limits of 100 psig, and no elevation above the waterline angle apply. At this time, no secondary gun is available from Model Warship products. Future plans, however, do include a "buckshot" firing secondary gun.
- N. Additional Weapons  
1. Since the goal of the hobby is to conduct reasonably safe, surface gun battles, other weapons such as mines, torpedoes, ram bow usage, depth charge, fire, acids, bases, etc. are not allowed. Special combat classes might be started for these type weapons outside the realm of R/C minigun combat.
- O. General operable features  
Generally, any extra features (ringing bell, klaxon horn, operable anchor, lights, etc.) that will not affect the survival of the ship or give it a vastly unfair advantage over the other ships is allowable. The determination of legality will be made by a majority vote, should a question arise.
- VII. Motor power and Rudder specifications  
It is understood that finding motors that have the proper torque might be difficult. Voiting of participants to disconnect a motor, if overpowered, or throttle down or refuse competition is again to be used to settle disputes. A faster ship cannot refuse to battle.  
A. Scale Rudders  
1. Scale rudders shall be used. A normal allowable deviation from scale shall be 25% of surface area.  
B. Number of screws  
1. The number of screws used shall be scale.
- VIII. Scale Waterline Displacement and Draught.  
Hulls shall be relatively scale with a scale draught and displacement.  
A. The waterline  
1. The scale full load waterline shall be maintained using weights, (No water filled spaces are allowed).  
B. Hull below the waterline  
1. The hull must extend below the waterline and displace a proper scale quantity of water.
- IX. Group Designation  
Group designation by scale is as follows:  
(1/141 - 1/160).
- X. Battle conduct  
A. Magazine regulations and Time Limits  
1. A sortie will consist of a trip to sea involving the expenditure of on board ammunition in the magazines. A battle is a series of 3 sorties.  
a. Upon the announcement of one participant that his magazines are empty, the opponents shall have a maximum of 5 minutes in which to fire on him. After 5 minutes, his sortie will be declared "over" and any damage done after the declaration will be awarded to favor the ship damaged. He may return to shore to reload.  
B. Shifting weights  
1. No weights may be shifted inside a hull to help improve seaworthiness during a sortie or battle. (This rule especially applies to shifting weights to avoid hull leakage caused by battle damage.)  
C. Out of control  
1. The empty magazine rule applies from the time that an individual announces that he is out of control.  
D. Water Removal Rule  
1. Between sorties, water may be removed from a ship's hull, but battle damage may not be repaired! If a ship refuses to battle in the 2nd or 3rd sortie without repairing battle damage, 250 points will be awarded to the opposing ship or fleet. Battle damage may then be repaired and the ship may rejoin the battle.  
E. Firing from Shore  
1. There shall be no firing at another ship from shore.  
F. Launching Rule  
1. A ship must not be launched in an attempt to ram or damage another ship.  
G. Launching Coordination  
1. Ships shall be launched in an orderly manner. No ship may be fired on for at least 30 seconds following a launch.  
H. Non-Damaged sinkings  
1. A ship that has accrued no damage during a battle or sortie may be recovered in a sinking condition, but will be declared the loser and penalized 100 points for unseaworthiness and bad seamanship. The ship may also sink with only a 50 point penalty.
- I. Batteries  
1. A ship must finish a battle (3 sorties) with the same set of propulsion and pump batteries it started with. The exception to this rule are the radio receiver batteries. A 250 point penalty will be charged to the ship violating this rule.
- J. Main turrets  
All ships at an "Annual Championship" battle must have a full set of main turrets to le-



- K. The Target for Target Gunnery  
The target for "target gunnery" should be changed to an object that can be hit from any angle (360 degrees).
- L. Pit Time  
To shorten pit (dock) time, points will be awarded to those ships who are ready to battle at the appointed time during the first fleet battle of the day, 100 points per ship assigned to the purposed fleets.

XI. Battle Winner Decision

- A. Draw
  - 1. In non-fleet actions, a draw will be declared if no battle damage points are awarded to either participant of a battle. A draw will also be declared if battle participants receive equal numbers of points.
  - 2. In fleet actions, a fleet battles will be deemed a draw unless there is at least A 100 point spread between the two fleets. To be classified as a fleet action there must be at least two ships in each fleet.
- B. Decision
  - 1. A victory decision will be awarded (in individual non-fleet combat) based on the accumulation of a superior number of battle damage points. This total also includes penalty points.
  - 2. A victory decision will be awarded in a fleet action (battle) when the total battle and penalty points of one fleet is at least 100 greater than the opposing fleet total.
- C. Sink
  - 1. A sink shall be awarded either in an individual battle or a fleet battle, if the participants can unanimously agree on which ship is responsible for the sink. If it cannot be determined, the 500 battle damage points will be added to the fleet battle points of the fleet that sinks the ship.
- D. Beach
  - 1. A beach will be designated to a ship that beaches to avoid sinking. Two thousand battle damage points will be subtracted from the individual who owns the ship and awarded to the opposing fleet's total.
- E. Fleet points
  - 1. After a battle, a fleet's points will be divided among the fleet participants using the following weighed system.

Gunboat-----	1
Destroyer-----	2
Light cruiser (under 9000 tons standard)-	3
Heavy cruiser & Light cruiser (over 9000 tons standard)--	4
Battle cruiser-----	5
Battleship-----	6

The weighing points shall be totaled and the fleet total battle damages will be divided by this number. To determine a specific ship points awarded, the ship type weighing number shall be multiplied by the above fleet damage units.

Example: A fleet of 3 DE, 1 CL, 2 CA, 2 CB and 1 BB acquires 2,500 battle damage and penalty points. To get fleet damage units, the weighing factors must be totaled. 3 DE = 6 + 1 CL = 3 + 2 CA = 8 + 2 CB = 10 + 1 BB = 8. The total is 6 + 3 + 8 + 10 + 8 = 35. Divide 2,500 battle damage points/35 total weighing units equals 71.428. (round down if less than .5) = 71 fleet damage units. The weighing factor of the individual ship may now be multiplied by the fleet damage units to determine each ship's share of the total points. Example: the battleship (BB) is worth 8 weighing factor units x 71 fleet damage units or 8 x 71 = 568 battle damage points.

- F. Disqualification
  - 1. Battle disqualification
    - a. If a ship is disqualified before a battle, it will not compete until the disqualifying factor is corrected or until the other ship battle participants over-

whelmingly agree that the ship can compete. If during the battle, the advantages of the illegal ship prove a noncompetitive advantage, the ship may then be disqualified before future battles or sorties. We will, however, maintain the battle damage points accrued during the sortie prior to disqualification.

XII. Standard Ram Penalties

- A. Ramming Definition  
Any contact between ships shall result in a "ram penalty". These penalty points may not be canceled by agreement between collidants. If the collidants can agree who caused the ram then the collidant "at fault" will be penalized. If they disagree, then both collidants will be penalized. The number of penalty points will be determined by existing rules.
- B. Non-Damaging Ram
  - 1. The penalty for a non-damaging ram will be 20 points deducted from the ramming ship's battle damage points. Note: As with the other penalty points, if the offending party has insufficient points accrued to cover the penalty points, he will be assigned negative points.
- C. Ramming Causing Superstructure Damage
  - 1. In addition to the 20 points for the ram, the ramming ship will also be penalized 5 points for each "BB's worth" of superstructure damage caused by the ram.
- D. Ramming Causing Hull Damage
  - 1. In addition to the 20 points for the ram, the ramming ship will also be penalized 20 points for each "BB's worth" of hull damage caused by the ram.
- E. Ramming Causing Sinking
  - 1. If a ship is sunk by a hole below the waterline caused by a ram, the penalty shall be 20 points for the ramming, plus 100 points for the hole below the waterline, plus 400 points for the ram sinking.

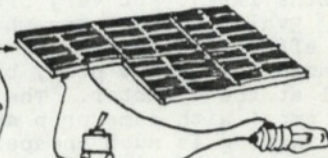
XIII. Conclusion

These rules were written following a considerable number of actual battles and are not ideal, but have proved operable and for the most part are fair to all participants. Undoubtedly, some changes will be needed and be incorporated with additional experience.

**SOLAR POWERED SEARCHLIGHT!**

-AXIS TRAITOR LEAKS HI-TECH SECRET TO THE ALLIES!  
HERE ARE DETAILED INSTRUCTIONS FOR BUILDING YOUR SOLAR-POWERED SEARCH-LIGHTS: (DON'T TELL ANY "AXIS DOGS" ABOUT THIS!)

FIVE SOLAR CELLS  
CONNECTED IN SERIES  
(USE #E31948 FROM  
EDMUND SCIENTIFIC, OR  
#E31949 TO POWER TWO  
LIGHTS IN PARALLEL.)



SWITCH IS LINKED TO SERVO

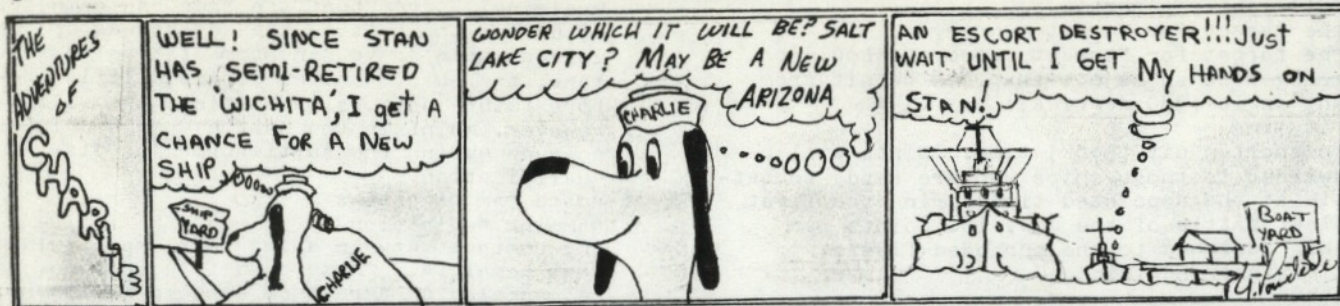
MOUNT SOLAR CELLS ON FLAT PART OF DECK, SANDWICHED BETWEEN TWO SHEETS OF CLEAR PLEXIGLASS TO PROTECT THEM FROM BATTLE DAMAGE.  
THIS SECRET TECHNOLOGY COURTESY COMANDANTE TACCINO FIDONE - FRIEND TO THE ALLIES.

**JUST THINKING**

Sombody told me that when a husband decides to build a ship, that it's similar to a country deciding to build a Navy. A financially well-off family will have a proportionately economic burden as an industrial country. A financially poor country will have a burden proportional to a "third world country". Is this true? How scale is this hobby?

Warley Hop





## OBSERVATIONS OF THE REAL FOUNDING FATHER

firstly, as it should be but seldom is, I wish to express thanks to my/our uniquely omni-personal supreme being, pronounced GOD, for his benevolent generosity and incredible patience with us totally fallible human beings. Amen! I particularly appreciate his demonstrated ability to human us ridiculously biased creatures in the meeting of specific "brand name" needs. Case in point, I was in need of a more dependable automobile. But ole Stan can't get just any dependable automobile. No way. It has to be a cheap but like new AMC Matador station wagon. Not only that but its for sale within one mile of my house! yep, there it was \$795.00 with perfect body and interior and runs great! A 1977 AMC white Matador station wagon. Why so cheap? The odometer strangely reads 98,000 miles. Incredible condition for that many miles. Thank you Lord for my "New" car! And my wife and daughter even like it alot! So now I'm ready to battle you guys at the regionals and nationals. I can haul my ships reliably in comfort!

Now, on to other "less Stan" items.

- 1.) Jeff intends to market a Lutzow plan set by the end of April. It looks like an excellent Axis beginners ship. Thanks Jeff.
- 2.) Jeff's R/C Warship combat book will be done soon, minus the photos that you guys promised, but didn't send to Jeff. I have no sympathy. Most of the pictures are from my files. Maybe next year you will get your photos in?? We'll see.
- 3.) Joe Salini had a fine battery article in Snot patter. May we put that in "Gull Busters" Joe? It has already helped me with the USS Tweedy. It needs all the help it can get.
- 4.) We had a meeting of the "R/C Warship Combat Club" in Amarillo on Feb 13, 1983. Results:
  - a. NAMBA club dues were sent in (2 months late). Not very professional!
  - b. Evaluated poly pac whaming motor (It is efficient 1 amp at 12 volts with a 3 bladed speed boat prop, but not as powerful at the 05 motor. The 05 motor uses 12 amps! with same prop and 6 volts.
  - c. Whaming is much cheaper.
- 5.) Most people want slower speeds to reduce ram damage and stop the "race for speed". somebody can always go faster, let's not destroy workmanship in high speed collisions. Most people (not Fluegel) want the same limit placed on all ships. I suggest 45 seconds for the 100 feet. Fluegel wants a max with different ships being allowed relative speeds below that max, the real ship's actual speed capability. The real ship's speed is a real question since sources vary considerably. Example: USS Alanta/Juneau class CL's are listed as 33, 35, 35+, and 37+ depending on which issue of "Mahey's ships and Aircraft of the US fleet" you read. This is a problem and could be a real hassle as well as checking scale relative speeds. It would be much easier to check all ships against only one maximum speed.

6.) Most combatants favor a significant reduction in pumping capacity for warships. (Not you Fluegel.) I recommend sticking with the existing numbers of pumps and reducing capacity per pump to  $\frac{1}{2}$  gallon per minute. Also a recommended pump description of a pump that pumps this rate could be included as an aid. Mix pumps for easy removal or in boat check!

7.) Amarillo battlers announcing intentions to go to the Alabama Regionals include (in order of points standing); James West, Jeff Poindexter, Martin Schneider, and Stan Watkins. Yes we are coming IN FORCE!

8.) Fluegel, I wish to express my great appreciation for effort and initiative in putting together a great service publication "Gull Busters" is fantastic. Thanks!

9.) Any of you IMPRA (International Model Power Boaters Association) people are welcome to join in on the fun of R/C Warship combat. I hope you will start out with a rule set compatible with ours, for reasons beneficial to all combatants.

10.) The Amarillo group intends to host a Regionals on the weekend following Easter weekend. That's April 9 and 10, 1983. It seems the Dallas Channel 8 television station wants to shoot some video tape and do a story. But, don't bet on it. I have found local news media outfits to be somewhat unreliable. There is a \$5.00 entry fee proceeds to go to the R/C Warship Combat Club!

11.) You may obtain a good book "Scale Model Warships" by John Bowen, from Jeff Poindexter for \$12.95 plus \$2.00 parcel postage or \$3.00 first class.

12.) I'm still selling a 1982 video tapes for \$25.00 plus \$2.50 postage. Quality is not as good as hoped but adequate. (Editors note: free ad #3!)

13.) The USS Tweedy (DE 532) was to a real ship! She was a John C. Butler class DE (also called a WGT type, for Westinghouse geared turbines). She was commissioned in 1944. As of 2-24-83 my 2 foot long Tweedy now sports a new homemade speed control featuring Fast Forward, Slow Forward, OFF and Full Reverse!. And she's ready for any R/C Warship combat battle, assuming the sea's aren't too rough! please don't ram, it will cost you 500 points (she'll sink every time).

14.) The Local Muddy Rudders NAMBA boat club and the ARKS Airplane Club are co-hosting "The Amarillo Model Tradeshow", at the Quality Inn of Amarillo, 601 Amarillo Blvd. W. Amarillo, TX 79107, (806-376-4211) on March 19 & 20, 1983. This show is the fourth annual show and we're hoping it will someday be like the "Toledo show". There are tables to rent for \$5.00 or \$8.00 depending on size, from which you can clean out your old model Airplanes parts (this one's for you Fluegel), R/C units, etc. There is also a rest of plane-Train-Boat-and-Car award. I'll get Charley Moble to award a best of R/C Combat as well. So if it's convenient, come on in. We can have a good full session.

Well, speaking of full the batteries on my electric ball point pen are running low so until next issue or Alabama, whichever is first.

Let's Battle!



## RULE RECOMMENDATIONS

- 20 All pump outlets on any ship shall only have an inside diameter of 1/8". This will help in control of non-damage leaking but will also help in damage flood control. This will allow sinkings with a more realistic amount of damage. Jeff Poindexter
- 21 All points at championships count twice. (Already a NAMPA rule but not in our rule book.) Jeff Poindexter
- 22 Allow a fleet battle to be won if there is only a 50 point or more difference between fleet's scores instead of the present 100 point rule (Rule VI A. 2) Jeff Poindexter
- 23 If a ship sinks, and there is a B.B. Hole any where in the hull, a sink shall be awarded, with 500 points plus any other B.B. damage scored going to the victor(s). (This is usually the way we do it, so let's word Rule III B.4a. to comply with current practices). Jeff Poindexter
- 24 If a ship is 'out of control' and beaches. The combatant can elect to call it a 'sink', or leave it there for 5 minute rule. This applies only to beached snips and only for the purpose of minimizing non-sinkable damage. A majority, in that sortie, of combatants must agree the ship was truly out of control.
- 25 Out of control beaching rule. Beached ships may shoot back for the duration of the 5 minute rule. Same penalty rules apply for damage done or received after the 5 minute rule is up. A majority, in that sortie, of combatants must agree the ship was truly out of control. A beached ship that has been declared sunk can not fire on another ship. Jeff Poindexter
- 26 Out of control 'on water' rule. If rudder hangs up, motors quit (for any reason other than batteries losing normal charge) ship hangs on object, or props get fouled the ship may shoot back if it is capable of doing so for the duration of the 5 minute rule. Jeff Poindexter.
- 27 If any ship has had to call any of the 'out of control' rules and the problem was a mechanical linkage coming loose (rudder post, motor connector etc.) the combatant operating the ship will be charged the standard unseaworthiness penalty. (possible exception would be running aground stern first and breaking rudder post steering gear.) Jeff Poindexter
- 28 To win best of scale at championships a ship must have scored 100 points and have competed in all categories. Penalty points will not be counted against the score for the 'Best of Scale', but will for battle scores. Jeff Poindexter.
- 29 Convoy shall be legal and rules set up at next rule committee championship meeting. J.P.
- 30 If a ship has sunk (not 'beached sunk') and if the guns will still work the ship may continue to shoot at enemy ships if combatant had not declared empty magazine rule. Ship is still declared sunk. Jeff Poindexter
- 31 All pressure tanks must have a pressure safety releases pressure somewhere below 500 lbs per sq. in. Jeff Poindexter
- 32 Top speed for all ships shall not exceed 45 seconds per 100' running start. Stan Watkins
- 33 Pumps shall not displace more than 1/2 gallon per minute. Stan Watkins.
- 34 **WEIGHTED SINKING POINTS**
- |   |         |
|---|---------|
| 1 offensive/defensive unit (destroyer)                          | 200 pts |
| 2 offensive/defensive units (light cruiser)                     | 300 pts |
| 3. offensive/defensive units (9000 + cruisers)                  | 400 pts |
| 4 or more offensive/defensive units (Battle cruiser-Battleship) | 500 pts |
- Dave Garrett

by Winston Neal

The excellent covert intelligence agency of the Axis Naval arm were ordered to uncover the strategies for the Allies new Naval activities concerning destroyer construction. The following quotes are from a taped communique between Admiral Watkins and Captain Dee. This cassette tape was intercepted between Amarillo, Texas and Gig Harbor, Oregon, rushed to Berlin, decoded and sent on to Oregon. All quotes are those of Admiral Watkins concerning his new destroyer tactics, primarily for the important Decatur, Alabama campaign, and secondarily for the 03 NATS.

"I think the thing will make an excellent little gorilla ship against Schneider's Battleship and against other larger snips. It will hide between the islands around Decatur Bay in the shallow water where the battleships can't go and be protected by these islands and as they pass by it to get at the rest of the fleet I will let them have it with some holes in the side.... laugh, laugh, and then I will judiciously back out of the battle area and run go hide. Only having a 15 BB magazine I expected to expend my BBs rather rapidly."

Stan continues..."I chose to name my Fletcher the Obannion because I intend to attack Battleships with it. Uh, I intend to have a stern gun on the thing...laugh...this is kind of confidential information so don't pass this around to the Krauts (boy this is fun) Uh.. I intend to use a stern gun on it for fighting Battleships and what my strategy will be is if a battleship starts approaching me I will turn tale and attempt to get a good stern gun shot on him but I will be ready to run away if..Ah..If ah I'm going to go out to battle some convoy ship I will put the gun on the bow and attack that way...Ahhh...I intend to be able to move the gun, ah, yawn..from front to back at my...what ever I think will be appropriate for the battle, and ah,..but I normally..it will be a rear gun ship for fighting battleships and I think I can give'em fits with it. If they choose to deploy a battleship against this little turkey to run it down and kill it.. uh it will end up having forced them to waste a battleship on a destroyer and I think that would be, ya' know just...wasting the battleships hole sortie and ah, much of its rounds on a destroyer. By the time it got through chasing a destroyer around or whatever I think maybe the cruisers, ah, the Allied cruisers could have already expended their ammunition at other ships, so if its ah, if its able to cost the deployment of a battleship it will be more than worth the expenditure involved in getting it going."

"Of course our major problem is, ah...that incredibly handsome, ah,,, and exquisite craftsman Fluegel. He is so good that, ah.. that we can never hope to compete with the Axis" I'm not sure if Stan actually said that last part, or if....ah...I imagined that, however I feel our earnest peace efforts with the Allies are a waste of time, and that their apparent interest in these matters are simply facade to buy them time. I further recommend to the Axis High Command that a Declaration of War be announced for the summer months of 1983. I believe the Allies will be crushed again with an all out blitzkrieg, similar to the very successful campaigns in the summers of 81 & 82. Stan's statements "I will let them have it", "I intend to attack Battleships", "I'm going to go out to battle some convoy ships", "I think I can give'em fits" these statements make it clear that war is imminent! In conclusion I recommend that secret agent Fluegel be decorated for his excellent work in penetrating the Allie war machine. All of Deutschland is surely indebted to him.

P.S. Axis Officers are cautioned to take care when addressing envelopes for cassette tape communiques. Could you imagine the embarrassment it would cause if we accidentally sent top secrets to the editor of a newsletter!



## HOW I'VE MADE SHIP RAILING

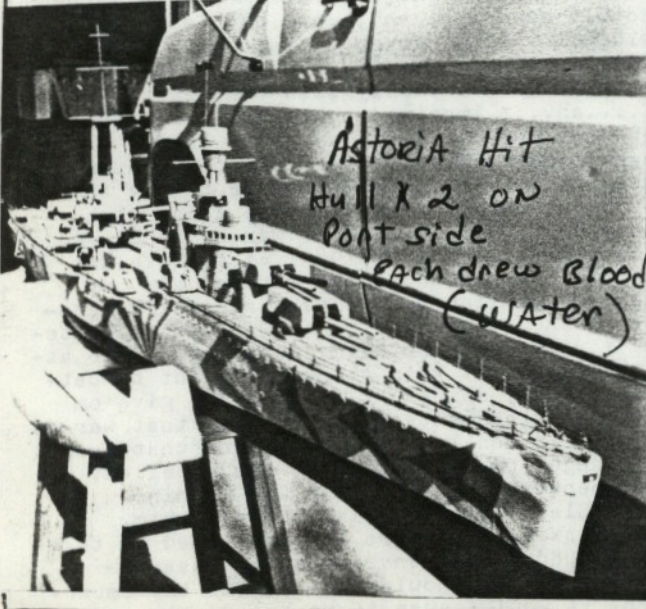
By David C. Garrett, III

What is ship railing? Well, it's the stuff you see on the sides of the ship or the superstructure that keeps folks from washing overboard! in 1:144 scale, railing is the item that you see on a ship that makes it look good, but can be a source of frustration and potential injury to self and ship. When I was building the Bolzano, I did not have time to complete the ship for the 1982 Nationals as I had desired. However, I did complete the ship as well as I wanted it to be completed for scale RC combat by the time of the Fall Fest in Decatur, Alabama. The single bit of detail that helped the ship more as far as looks were the tripod and single post railing. That is what prompted this article.

Materials used were 1/2" and 3/4" brass pins that were purchased in the sewing section of Wal-Mart stores. The thread was plain black thread that had been beeswaxed to maintain a waterproof finish. 5 minute epoxy and wire snips were also used.

There were two types of railing used on the Bolzano. The first and most numerous was the tripod arrangement and the second was a single post system. The single post system on the Bolzano was very simple and easy. It used 1/2" brass needles with the tops snipped off with wire snips and epoxied into a depth by using a needle that had been filed and placed into a regular drill. If this is used by anybody, I would not recommend the wire snips.

In fact, I have for the Garibaldi, used the emory wheel on a moto-tool to have a nice clean finish on the cut end. The wire snips tend to smash the needle, having extremely sharp ends that catch everything. The tripod system was more difficult. The central pillar of the system was a 3/4" brass needle, again with holes predrilled prior to starting any placement of the railing. The two supporting pillars had a bend of about 45 degrees 1/4" from the tip of the needle. These were epoxied in. Then the apex of the central and two supporting pillars were epoxied. See photographs from the Bolzano and illustrations below: *Cont. PAGE 86*



## PRESIDENT'S PAGE by M. Schneider

This is the time that everyone is getting itchy trigger fingers for a new battle. It looks like the turnout for the Decatur regionals should be pretty decent. I plan on being there with my Tiryzitz. I would like to make a plea at this time for everybody to spend some time now on reliability. The more ships we can get on the water the more fun it is for everybody.

As president I feel obligated to make some negative comments about several things. The reason I am doing it is that I feel very strongly about the rule that rule changes should be made once per year. The first is that in the rewritten set of rules incorporating last years changes it states that submarines are illegal. This was never voted upon and consequently I declare that part of the rules null and void. The rules do not state that submarines are legal but to me there is considerable difference between not defining something and making it illegal. Under our present rules the contest director for an individual contest could let one participate. If one followed the new copy of the rules one could not do that.

I feel as though the convoy event certainly sounds interesting and sounds like great fun. It is the first event in which pit time will prove important and the sport desperately needs that. I feel as though some things need to be clarified now to avoid misunderstandings later. They really are only provisional suggestions because they have not been voted on. The only severe objection I had to was stating that the scale for convoy ships should be 1/144. Presently for combat ships the rule is 140-160 and I see no reason it should be different for convoy ships. If we are going to limit the scale I feel we should limit it to 1/150 because that is in the middle of the range. The other reason it should be 1/150 is that many plastic models are in 1/600 and scaling them up only requires multiplying everything by 4.

The other thing which I feel needs to be defined is the total number of supply ships each side may have. I would off the top of my head suggest three. I would also suggest that they be supply ships and not unused cruisers etc. Considerable leeway could be allowed but they should look like a supply ship. I would also suggest that one could make another superstructure on a cruiser to make a supply ship. However I feel this should be the maximum leeway allowed and if one side only has one or two supply ships that's tough. If we don't do that nobodies going to build any. Points should be given to supply ships in some way. If a statement was made on this now there would be adequate time to prepare. By tradition I feel the

next page

## MIXING EPOXY

In the February, 1983, issue of "Hull Busters" Hope Fluegel mentioned the disgusting Kraut habit of mixing epoxy on the lids of perfectly good cans of vegetables. So I decided to pass along the more civilized Allied method of accomplishing the same thing.

For several years now I have been recycling all my tin cans. In this process I remove the labels, run the cans through the dishwasher, cut out the bottoms and flatten the cans, and throw them into a special garbage can I keep in my garage just for this purpose.

Then I got involved in R/C combat and found a need to mix large quantities of epoxy. But not all at once - just in little tiny individual batches. So I dipped into my special garbage can and found a whole bunch of small custom-made epoxy mixing trays. Now I have a small cardboard box next to my workbench. Every day I take the can lids from the dishwasher to that box. I don't save the ones with the numbers or letters embossed in them - I only save the flat ones.

I also keep a box of toothpicks (translation: epoxy mixing sticks) in that cardboard box. Now when I need to mix epoxy I just grab a lid and a toothpick. When I'm done I just throw them away. The supply is infinite.

Dan Dees



Presidents page cont.

final say should be left up to the contest director and I would ask Steve Millholland to make a ruling on this.

As commander of the Axis fleet I would like to make temporary ranks of axis until they can be officially voted upon.

**Grossadmiral-** Grand nationals winner the previous year and a previous grand nationals winner. He is also captain of the fleet.

**General admiral-** In the absense the above this is the capitan of the fleet. He should be either the previous Axis high point man or grand nationals winner. It should be noted that the above are temporary ranks.

**Admiral-** Any previous Grand nationals winner. This a permanent rank. as are the rest below

**Vizeadmiral-** Any previous Axis high point man for the year.

**Konteradmiral** Has sank four ships

**Kommodore** Has sank three ships

**Kapitän zur See** Has sank two ships

**Fregattenkapitän** Has sank one ship

**Korvettenkapitän** Has inflicted 1000 points damage

**Kapitanleutnant** Has inflicted 500 points damage

**Leutnant zur See** Has inflicted damage

The above are officers. below are enlisted

**Matrosenhauptgefreiter-** Has participated in a battle

**Matrosenobergefreiter-** Has compleated a ship

**Matrosengefreiter-** Has a ship under construction

**Matrose-** Has expressed an interest

CONSUMER REPORT

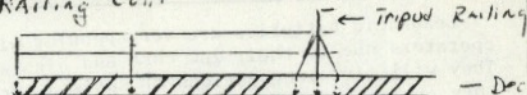
On behalf of Santa Claus my wife asked me what I wanted for Christmas. "A new radio for my Battleship." I told her, she asked "what kind?" That's a good question. They don't make "Hobby Lobby 6" radios anymore so it would have to be something new.

I sent off for several radio info brochures, read the ads, and called several combatants to research my wife's question. pretty soon I had produced several charts, graphs and camparisons. (I'm a superb organizer) to aid me in my selection I knew I wanted plug in crystals, reversible servos, a wide selection of servos, a battle proven brand, electrical noise resistance, reasonably price, lots of proportional channels, etc. etc.

I compared Royal, Futaba, Air-Tronics, Cirrus, Apollo, Tower Hobbies and Ace. The results of the study was clear. They are all very acceptable without exception. Every owner surveyed said they would buy the brand they were using when they replace their current radio. It seems that radios are built for the harsh demands of R/C airplanes so R/C combat is no problem.

The choice is really dependent on what you want to use it for. A strictly destroyer person looks for small equipment. A strictly Battleship person looks for lots of channels. The question one needs to answer is, "what do I want my radio to do", then select the appropriate radio. I selected my new radio because it met my needs (plug in crystals were a must) and it's a pretty color!..?

Farley Pop

Railing cont

top view Tripod

Plain black thread was used for the line between the railing. This was again as described above, beeswaxed, to maintain a water repellent type finish so it was easier to maintain taughtness between the rails and the epoxy was used in the starting and ending knots.

Once the railing was completed, I would say that the actual time for placing all railing on the Bolzano with painting and rigging it took approximately 6 hours. A few suggestions would be in order in that I have changed from the building of the Bolzano to the building of the Garibaldi. First is the use of an emory wheel in cutting the tips off, or the heads off. The second is instead of using a 3/8" drill in order to predrill the holes, I am going to use a moto-tool. I feel that this can do a faster and better job.

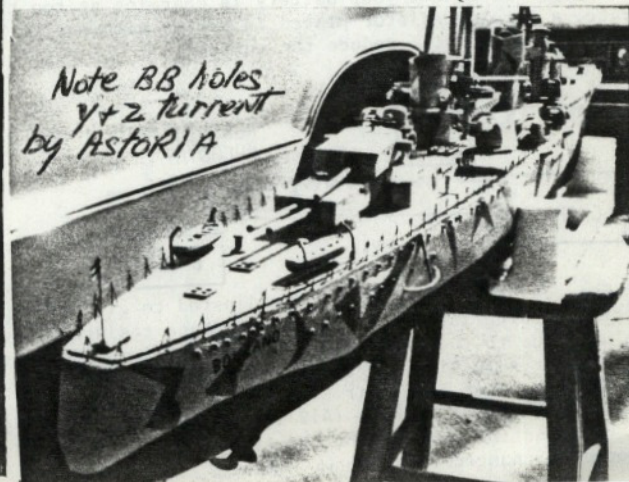
For the Garibaldi, I looked in numerous outfitting stores and catalogues and looked at some pre-made railings. These were cost ineffective as most of them would have cost from \$30 to \$40 to place the railing completely around the ship.

Complications that you have with railings:

1. If the railing has any burrs or sharp points to it, it will catch on any type of material. This will either fray your shirt, scratch your arm, bend the railing or break the balsa that the railing is sitting in.
2. Having experienced a BB shot that went through some railing at the Decatur Fall Fest in 1982, I found out that the severed lines hang all over the ship and looks horrible. Repair of the lower or middle lines is extremely difficult due to the unraveling effect.

All in all, railing looks good on a ship. It would really have to be own personal preference. I am making the railing on the Giuseppe Garibaldi everywhere it is called for.

I hope to see everyone at the Spring Fest in Decatur and the Summer Nationals in Springfield, Missouri. It looks like this year we'll have an Italian fleet complete with two battleships and a light cruiser.





## CARE OF LEAD/ACID BATTERIES

SALINI

Lead/acid batteries are very popular with R/C boat operators due to their low cost and high storage capacity. They will give long periods of satisfactory service if they are properly cared for. But, because there is so little information published about batteries, few people know how to give their batteries proper care. The following notes may help to prolong your battery life.

### BATTERY OPERATION...

Lead/acid batteries are rated in voltage and amp-hours. The voltage indicates the normal operating voltage, while amp-hours is a measure of the storage or discharge capacity. An 8 amp-hour battery is capable of delivering one amp of current for a period of eight hours before discharging the battery. Or it could deliver ½ amp for 16 hours. The "hours" of running time will be equal to the battery's amp-hour rating divided by the amps which the battery is discharged at.

However, this amp-hour rating is the "slow discharge" rating for the battery. If a battery is discharged at a very high current rate, it will not be able to deliver power for its full rated time period. Small lead/acid batteries are designed to operate at a discharge rate less than 1/10th of their amp-hour rating (an 8 A-HR battery is designed for less than 0.8 amp discharge rate). In practice, an 8 A-HR battery could be run at up to a 4-amp rate, but any higher discharge rates could lead to conditions which damage the battery or seriously shorten its useful life.

I recently tested a new 5½ A-HR lead/acid battery which gave the full rated running time when discharged at a ½ amp rate. But when I discharged it at a 4 amp rate, the battery only ran for 25 minutes, as opposed to the 1 hr, 22 minutes expected from its amp-hour rating. If this high discharge rate were repeated many times the battery might reach a condition of not being able to hold a charge.

What does this mean to a warship? If your ship draws a total of 3 amps at full throttle, it's wise to have at least 6 amp-hours of storage capacity. For a 5 amp rate, try 10 amp-hours capacity.

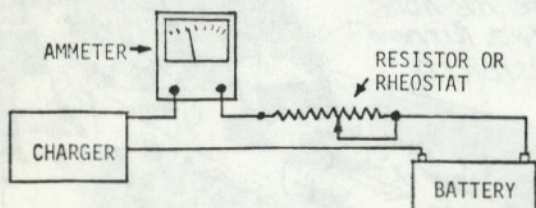
### CHARGING...

Lead/acid batteries should not remain in a state of discharge for long periods of time. A discharged battery will begin to deposit chemicals on its plates which permanently reduce the active plate area and the battery's performance. The lower the state of discharge, and the longer it remains in this low state, the more damage will be done to the battery. It is best to recharge the battery as soon as possible after it has been discharged or partially discharged.

NOTE: If your battery is low enough that you can count the revolutions on your propeller, you're over-due for charging. Above all, don't let it run all the way down so there's nothing left. You'll soon be counting spare change for a new battery instead of propeller revolutions.

When recharging a lead/acid battery it is very important to limit the charging rate to a maximum of 1/10 of its amp-hour rating (for an 8 A-HR battery, don't exceed a charging rate of 0.8 amp). Charging at a higher rate will result in a shorter battery life, or in the case of a gel-cell, could result in a battery explosion. (A gel-cell is similar in operation to a lead/acid battery, and all the same precautions apply).

If you find that your battery is charging at too high a rate, a simple resistor placed in series with one of the charging leads will reduce the current:



The resistor value should be adjusted to give the desired charge rate. A high wattage type resistor should be used due to the large amount of power it must dissipate. For easier adjusting, a rheostat may be used. (Try a 30Ω, 50 watt rheostat from Fair Radio Sales, P.O. Box 1105, Lima, Ohio 45802 Tel: (419)227-6573. \$1.75 plus P&H). If you find the resistor or rheostat becoming too hot, it should be changed to a higher wattage.

There are no adverse effects caused by charging at a rate lower than than 1/10 of the battery's amp-hour rating if you don't mind the longer charging time required.

A lead/acid battery is considered fully charged when all the cells are gassing freely, and the voltage has risen to about 7½ volts (15 volts for a 12 volt battery). The charger should be disconnected at this point, as any further charging will only decompose the electrolyte into hydrogen and oxygen.

A fully charged 6 V. battery should have 6¼ to 6½ volts, measured 1 hour after the charger is removed (12½ to 13 volts for a 12 V. battery). A lower reading usually indicates a sulfated battery (This is a gray coating of lead sulfate on the plates).

### STORING A BATTERY...

A battery that is not in use will gradually lose its charge through self-discharging. At room temperature it will lose about 1% of its remaining capacity each day, or larger amounts when the temperature is higher. If the battery is allowed to remain in a partly or fully discharged condition for long periods it will become badly sulfated, and may never be serviceable again.

Before storing a lead/acid battery it should be charged and the cells should be filled to their proper levels. Then the battery should be stored in a cool, dry place. Every 6 to 8 weeks the battery should be discharged and then recharged. Before returning the battery to service it should be charged with a very low current (½ the normal charging rate, or 5% of the amp-hour rating). This low charge rate should also be used for a new battery when it is charged the first time.

In concluding, these have been basic procedures for operating lead/acid batteries. By observing the precautions, you can greatly extend your battery life.

For further details or questions, please send a letter or tape to:

J. Salini

P.O. Box 643

San Juan Capistrano, Ca. 92693

SALINI

# SCALE MODEL WARSHIPS

Edited by JOHN BOWEN

**\$9.00** Plus \$2.00 postage and handling (Reg. \$12.95)

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I would like to thank vice-president Jeff Poin-dexter for these official rules. These are not recommendations but the real thing, like coke.

- I. Goals of Model Warship Minigun Combat.
  - A. The goal of this hobby is to enable participants to enjoy most of the interesting aspects of surface ship Naval battles safely.
  - B. To be a registered voter one must have participated in a N.A.M.B.A. Sanctioned battle within the prior 24 months.
  - C. Registered voters who have participated in one of the two most recent championships will have their votes count twice.
  - D. Rules may not be changed but once a year. The time and place of the annual voting shall be announced at least 30 days prior to the event.
- II. Safety precautions.
 

The low power of the R/C minigun provides a basic safety factor that is equivalent to a normal "daisy" air rifle.

The use in conjunction with a radio control unit, however, introduces the normal uncertainties associated with a radio control unit.

  - A. Barrel Safety Pin
 

To prevent injuries while ships are ashore, a pin must be inserted in each firing barrel prior to lifting the boat from the water. Damage penalty points will be assigned for failure to insert pins. See Section III.D. for points assigned per violation.
  - B. Elevation Limit
 

Typically, the BB will strike the water before arriving ashore. To help assure that BB's cannot rise to levels that could injure spectators at eye level, the maximum allowable elevation of a gun barrel is 10 degrees with respect to the actual waterline of the ship. This elevation is at maximum servo travel.
  - C. Spectator considerations
 

In spite of normal safety precautions, a conscious effort should be made to consider participant safety at all times. Example; (1) Keep children from sitting near the water's edge, as this can negate the maximum elevation safety precautions. (2) Do not fire guns while participants are retrieving sunken or damaged ships, as the participant's eyes are considerably lower in altitude when they are wading to recover ships, which also negates the elevation limits.
  - D. Wear safety glasses
 

It is an excellent idea to wear safety glasses whenever participating in or watching R/C minigun combat events. Times when safety glasses are even more important are; (1) when retrieving a ship while other ships are in the water, (2) for small children near the water's edge, (3) when inserting barrel safety pins and (4) when spectators or participants are sitting or lying on shore.
- III. Battle Damage Points
 

Battle damage points are accrued by shooting holes in the opponent's ship. In battles, a points system is provided to enable a victory decision to be made. Totals should also be kept for annual championship awards and ratings. The following is a list of battle damage and penalty points.

  - A. Superstructure Damage Points
    1. Superstructure entry holes made by BB's count for 5 points each. Items blown off or broken loose also count for 5 points.
    2. When a ship battles with an illegally thick skin or solid area, a dent will count as 5 points.
  - B. Hull Hole Damage points
    1. The entry hole in the hull above the waterline will count for 20 points.
    2. Hull holes (either entry or exit) below the waterline, count for 100 points. If a BB enters above the waterline and exits below the waterline, the entry hole is thrown out and only the exit hole is counted.

3. Holes in black boundary area or within 1/8 inch of the junction of gray and red waterline, count 50 points. These are entry holes only.
4. Sinking from a Hull Hole Below the waterline.
  - a. If a ship sinks and any part of the BB hole is in the red of the below waterline area of the ship, a "sink" is awarded with the 500 points score to the victor.
5. Intentional Beaching
  - a. If an individual prematurely brings a ship to shore to avoid a sinking from a below the waterline hit, the individual will be penalized 2,000 points.
- C. Optional Turret Damage Disablement.
 

At the option of the participants by unanimous agreement, the turret disable rule may be incorporated for a prearranged series of battles. If so agreed, a turret that is gun equipped will be considered disabled (and 75 points awarded) for one complete sortie (magazine load). Disablement will occur in the next sortie (magazine load) immediately following the damage occurrence. The turret/gun will not be allowed to be loaded during this sortie.
- D. Safety penalty Damage points
  1. Safety penalty damage points will be subtracted from the rule violator's total for not installing the barrel safety pins, prior to removing the ship or gun from the water or ship respectively.
  2. Safety penalty damage points may also be subtracted when 4 or more participants vote to assign them and the violator is the only "no" vote.
- IV. Construction Classes and Specifications.
  - A. (Class) Rib and Keel Balsa Clad.
    1. For this class, the ribs and keel can be no thicker than 3/8" plywood and must not be so numerous (no closer than 3" center to center) as to significantly thicken the average skin of the hull. The hull skin and superstructure skin must be 1/32" balsa.
    2. The main deck may be 3/8" plywood to help strengthen the hull assembly.
    3. The top and bottom surfaces of the superstructure "buildings" may be no thicker than 1/16" balsa.
    4. The very bottom of the hull and areas immediately around the prop shafts may be thicker material; it must not, however, interfere with the inherent penetration vulnerability of the hull to the R/C minigun.
    5. Opponents may refuse or accept combat with minor violations of the rules.
    6. No "water belts", double hull areas, water tight compartments, or other construction advantages may be taken that are attempts to defeat the scope of construction intent. Note: For all classes, no damage points will be allowed for ramming and a sink as result of ramming will not count. See section XII for standard ram penalties.
    7. Solid balsa in the hull at or near the waterline cannot extend more than 1 inch behind the bow and 1 inch in front of the stern, and must not extend more than 1 inch at any point along the radius curve of the bow or stern.
    8. There shall be no stringer used within 1/2 inch of the top or bottom of the waterline unless the shape of the hull dictates it.
  - B. (Class) Vacuum formed plastic.
    1. It is legal to use vacuum formed plastic ships or portions of ships in R/C Warship Combat. Handicap factors acceptable to the majority of the combatants engaged in the contests will be incorporated to compensate for any advantage that the vacuum formed parts have over balsa parts.
    2. Handicap factors shall be determined by tests established by the majority of the contest participants.
- Guns and Features Allowable for Type Ship.
  - A. A gun shall be defined as an offensive unit.
  - B. A pump is to be defined as an offensive unit.



- 1. A pump's motor is to be no larger than one propulsion motor in physical size with only one inlet.
- C. A Gunboat
  - 1. A Gunboat may have one gun with no more than a 10 shot magazine and no pump, it may have one pump and no gun.
- D. A Submarine
  - 1. A Submarine at present time is not allowed.
- E. A Destroyer
  - 1. A Destroyer may have one gun with no more than 20 shot magazine and no pump, or it may have one pump and no gun.
- F. A Light Cruiser under 9000 tons standard
  - 1. A Light Cruiser under 9000 tons standard may have only two offensive/defensive units. Examples:
    - a. It may have two guns with 100 shot magazine each and no pump.
    - b. Or it may have one gun with a 100 shot magazine and one pump.
    - c. Or no guns and two pumps.
- G. Heavy Cruisers and Light Cruisers over 9000 tons standard
  - 1. Such cruisers shall have only three offensive/defensive units. (guns shall only have 100 shot magazines.)

\*\*\*Special Note\*\*\*

- H. Any ship smaller than a Battle Cruiser shall not have guns pointing directly off the side of the ship.
- I. Battlescruisers
  - 1. Battle Cruisers may have the same number of main guns as the original ship had. Two pumps are also allowed. Only 100 shot magazines are allowed.
- J. Battleships
  - 1. Battleships are allowed one gun for each 12" or larger gun that she carries. Also four pumps are allowed.
- K. Gun placement in the ship
  - 1. Guns must be placed in turrets or casemats occupied by the main battery of the ship modeled. No guns may be mounted near the waterline or below the waterline. These guns would make for the "easy kill" and as such are not allowed. This would be unrealistic.
  - 2. Guns may be mounted in the superstructure if the main turret is physically too small to house the gun. No tactical advantage may be gained, such as peculiar trajectories due to the flexibility this rule allows.
- L. Maximum gun pressure
  - 1. To help assure safety, the maximum allowable gun operating pressure is 100 psig. An opponent may request a pressure check on the participant's ship at any magazine reload turn.
- M. Secondary Guns
  - 1. The safety limits of 160 psig, and no elevation above the waterline angle apply. At this time, no secondary gun is available from Model Warship products. Future plans, however, do include a "buckshot" firing secondary gun.
- N. Additional Weapons
  - 1. Since the goal of the hobby is to conduct reasonably safe, surface gun battles, other weapons such as mines, torpedoes, ram bow usage, depth charge, fire, acids, bases, etc. are not allowed. Special combat classes might be started for these type weapons outside the realm of R/C minigun combat.
- O. General operable features
  - Generally, any extra features (ringing bell, Klaxon horn, operable anchor, lights, etc.) that will not affect the survival of the ship or give it a vastly unfair advantage over the other ships is allowable. The determination of legality will be made by a majority vote, should a question arise.

- VII. Motor power and Rudder specifications
  - It is understood that finding motors that have the proper torque might be difficult. Voting of participants to disconnect a motor, if overpowered, or throttle down or refuse competition is again to be used to settle disputes. A faster ship cannot refuse to battle.
  - A. Scale Rudders
    - 1. Scale rudders shall be used. A normal allowable deviation from scale shall be 25% of surface area.
  - B. Number of screws
    - 1. The number of screws used shall be scale.
- VIII. Scale Waterline Displacement and Draught.
  - Hulls shall be relatively scale with a scale draught and displacement.
  - A. The Waterline
    - 1. The scale full load waterline shall be maintained using weights, (No water filled spaces are allowed.
  - B. Hull below the waterline
    - 1. The hull must extend below the waterline and displace a proper scale quantity of water.
- IX. Group Designation
  - Group designation by scale is as follows: (1/141 - 1/160).
- X. Battle Conduct
  - A. Magazine Regulations and Time Limits
    - 1. A sortie will consist of a trip to sea involving the expenditure of on board ammunition in the magazines. A battle is a series of 3 sorties.
      - a. Upon the announcement of one participant that his magazines are empty, the opponents shall have a maximum of 5 minutes in which to fire on him. After 5 minutes, his sortie will be declared "over" and any damage done after the declaration will be awarded to favor the ship damaged. He may return to shore to reload.
  - B. Shifting weights
    - 1. No weights may be shifted inside a hull to help improve seaworthiness during a sortie or battle. (This rule especially applies to shifting weights to avoid hull leakage caused by battle damage.)
  - C. Out of Control
    - 1. The empty magazine rule applies from the time that an individual announces that he is out of control.
  - D. Water Removal Rule
    - 1. Between sorties, water may be removed from a ship's hull, but battle damage may not be repaired! If a ship refuses to battle in the 2nd or 3rd sortie without repairing battle damage, 250 points will be awarded to the opposing ship or fleet. Battle damage may then be repaired and the ship may rejoin the battle.
  - E. Firing From Shore
    - 1. There shall be no firing at another ship from shore.
  - F. Launching Rule
    - 1. A ship must not be launched in an attempt to ram or damage another ship.
  - G. Launching Coordination
    - 1. Ships shall be launched in an orderly manner. No ship may be fired on for at least 30 seconds following a launch.
  - H. Non-Damaged Sinkings
    - 1. A ship that has accrued no damage during a battle or sortie may be recovered in a sinking condition, but will be declared the loser and penalized 100 points for unseaworthiness and bad seamanship. The ship may also sink with only a 50 point penalty.
  - I. Batteries
    - 1. A ship must finish a battle (3 sorties) with the same set of propulsion and pump batteries it started with. The exception to this rule are the radio receiver batteries. A 250 point penalty will be charged to the ship violating this rule.
  - J. Main Turrets
    - All ships at an "Annual Championship" battle must have a full set of main turrets to le-

cont. next page



**rules, CONT.**

K. The target for Target Gunnery  
The target for "target gunnery" should be changed to an object that can be hit from any angle (360 degrees).

L. pit time  
To shorten pit (dock) time, points will be awarded to those ships who are ready to battle at the appointed time during the first fleet battle of the day, 100 points per ship assigned to the purposed fleets.

**XI. Rattle Winner Decision**

A. Draw  
1. In non-fleet actions, a draw will be declared if no battle damage points are awarded to either participant of a battle. A draw will also be declared if battle participants receive equal numbers of points.  
2. In fleet actions, a fleet battles will be deemed a draw unless there is at least A 100 point spread between the two fleets. To be classified as a fleet action there must be at least two ships in each fleet.

B. Decision  
1. A victory decision will be awarded (in individual non-fleet combat) based on the accumulation of a superior number of battle damage points. This total also includes penalty points.  
2. A victory decision will be awarded in a fleet action (battle) when the total battle and penalty points of one fleet is at least 100 greater than the opposing fleet total.

C. Sink  
1. A sink shall be awarded either in an individual battle or a fleet battle, if the participants can unanimously agree on which ship is responsible for the sink. If it cannot be determined, the 500 battle damage points will be added to the fleet battle points of the fleet that sinks the ship.

D. Beach  
1. A beach will be designated to a ship that beaches to avoid sinking. Two thousand battle damage points will be subtracted from the individual who owns the ship and awarded to the opposing fleet's total.

E. Fleet points  
1. After a battle, a fleet's points will be divided among the fleet participants using the following weighed system.

Gunboat-----	1
Destroyer-----	2
Light cruiser (under 9000 tons standard)-	3
Heavy Cruiser & Light cruiser	
(over 9000 tons standard)---	4
Battle cruiser-----	5
Battleship-----	6

The weighing points shall be totaled and the fleet total battle damages will be divided by this number. To determine a specific ship points awarded, the ship type weighing number shall be multiplied by the above fleet damage units.

Example: A fleet of 3 DE, 1 CL, 2 CA, 2 CB and 1 BB acquires 2,500 battle damage and penalty points. To get fleet damage units, the weighing factors must be totaled. 3 DE = 6 + 1 CL = 3 + 2 CA = 8 + 2 CB = 10 + 1 BB = 8. The total is 6 + 3 + 8 + 10 + 8 = 35. Divide 2,500 battle damage points/35 total weighing units equals 71.428. (round down if less than .5) = 71 fleet damage units.

The weighing factor of the individual ship may now be multiplied by the fleet damage units to determine each ship's share of the total points. Example: the battleship (BB) is worth 8 weighing factor units x 71 fleet damage units or 8 x 71 = 568 battle damage points.

F. Disqualification  
1. Battle Disqualification  
a. If a ship is disqualified before a battle, it will not compete until the disqualifying factor is corrected or until the other ship battle participants over-

whelmingly agree that the ship can compete. If during the battle, the advantages of the illegal ship prove a noncompetitive advantage, the ship may then be disqualified before future battles or sorties. We will, however, maintain the battle damage points accrued during the sortie prior to disqualification.

**VII. Standard Ram Penalties**

- A. Ramming Definition  
Any contact between ships shall result in a "ram penalty". These penalty points may not be canceled by agreement between collidants. If the collidants can agree who caused the ram then the collidant "at fault" will be penalized. If they disagree, then both collidants will be penalized. The number of penalty points will be determined by existing rules.
- B. Non-Damaging Ram  
1. The penalty for a non-damaging ram will be 20 points deducted from the ramming ship's battle damage points. Note: As with the other penalty points, if the offending party has insufficient points accrued to cover the penalty points, he will be assigned negative points.
- C. Ramming Causing Superstructure Damage  
1. In addition to the 20 points for the ram, the ramming ship will also be penalized 5 points for each "BB's worth" of superstructure damage caused by the ram.
- D. Ramming Causing Hull Damage  
1. In addition to the 20 points for the ram, the ramming ship will also be penalized 20 points for each "BB's worth" of hull damage caused by the ram.
- E. Ramming Causing Sinking  
1. If a ship is sunk by a hole below the waterline caused by a ram, the penalty shall be 20 points for the ramming, plus 100 points for the hole below the waterline, plus 400 points for the ram sinking.

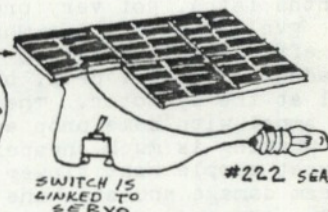
**XIII. Conclusion**

These rules were written following a considerable number of actual battles and are not ideal, but have proved operable and for the most part are fair to all participants. Undoubtedly, some changes will be needed and be incorporated with additional experience.

**SOLAR POWERED SEARCHLIGHT!**

-AXIS TRAITOR LEAKS HI-TECH SECRET TO THE ALLIES!  
HERE ARE DETAILED INSTRUCTIONS FOR BUILDING YOUR SOLAR-POWERED SEARCHLIGHTS: (DON'T TELL ANY "AXIS DOGS" ABOUT THIS!)

FIVE SOLAR CELLS  
CONNECTED IN SERIES  
(USE #E31948 FROM  
EDMUND SCIENTIFIC, OR  
#E31949 TO POWER TWO  
LIGHTS IN PARALLEL.)



MOUNT SOLAR CELLS ON FLAT PART OF DECK, SANDWICHED BETWEEN TWO SHEETS OF CLEAR PLEXIGLASS TO PROTECT THEM FROM BATTLE DAMAGE.

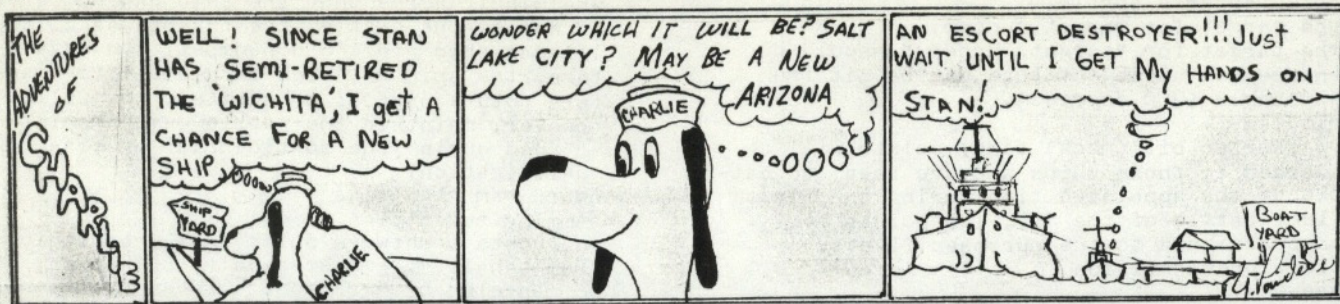
THIS SECRET TECHNOLOGY COURTESY COMANDANTE TACCINO PIFONE - FRIEND TO THE ALLIES.

**JUST THINKING**

Somebody told me that when a husband decides to build a ship, that it's similar to a country deciding to build a Navy. A financially well-off family will have a proportionately economic burden as an industrial country. A financially poor country will have a burden proportional to a "third world country". Is this true? How scale is this hobby?

Warley Wop





## OBSERVATIONS OF THE REAL FOUNDING FATHER

firstly, as it should be but seldom is, I wish to express thanks to my/our uniquely omni-personal supreme being, pronounced GOD, for his benevolent generosity and incredible patience with us totally fallible human beings. Amen! I particularly appreciate his demonstrated ability to human us ridiculously biased creatures in the meeting of specific "brand name" needs. Case in point, I was in need of a more dependable automobile. But ole stan can't get just any dependable automobile. No way. It has to be a cheap but like new AMC Matador station wagon. Not only that but its for sale within one mile of my house! yep, there it was \$795.00 with perfect body and interior and runs great! A 1977 AMC white matador station wagon. Why so cheap? The odometer strangely reads 98,000 miles. Incredible condition for that many miles. Thank you Lord for my "New" car! And my wife and daughter even like it alot! So now I'm ready to battle you guys at the regionals and nationals. I can haul my ships reliably in comfort!

Now, on to other "less stan" items.

- 1.) Jeff intends to market a Lutzow plan set by the end of April. It looks like an excellent Axis beginners ship. Thanks Jeff.
- 2.) Jeff's R/C warship combat book will be done soon, minus the photos that you guys promised, but didn't send to Jeff. I have no sympathy. Most of the pictures are from my files. Maybe next year you will get your photos in?? We'll see.
- 3.) Joe Salini had a fine battery article in snot patter. May we put that in "Hull Busters" Joe? It has already helped me with the USS Tweedy. It needs all the help it can get.
- 4.) We had a meeting of the "R/C Warship Combat Club" in Amarillo on Feb 13, 1983. Results:
  - a. NAMBA club dues were sent in (2 months late). Not very professional!
  - b. Evaluated poly pac whaling motor (It is efficient 1 amp at 12 volts with a 3 bladed speed boat prop, but not as powerful at the 05 motor. The 05 motor uses 12 amps! with same prop and 6 volts.
  - c. Whaling is much cheaper.
- 5.) Most people want slower speeds to reduce ram damage and stop the "race for speed". somebody can always go faster, let's not destroy workmanship in high speed collisions. Most people (not fluegel) want the same limit placed on all ships. I suggest 45 seconds for the 100 feet. fluegel wants a max with different ships being allowed relative speeds below that max, the real ship's actual speed capability. The real ship's speed is a real question since sources vary considerably. Example: USS Alanta/Juneau class CL's are listed as 33, 35, 35+, and 37+ depending on which issue of "Mahey's ships and Aircraft of the US fleet" you read. This is a problem and could be a real hassle as well as checking scale relative speeds. It would be much easier to check all ships against only one maximum speed.

6.) Most combatants favor a significant reduction in pumping capacity for warships. (not you fluegel.) I recommend sticking with the existing numbers of pumps and reducing capacity per pump to  $\frac{1}{2}$  gallon per minute. Also a recommended pump description of a pump that pumps this rate could be included as an aid. Fix pumps for easy removal or in boat check!

7.) Amarillo battlers announcing intentions to go to the Alabama Regionals include (in order of points standing); James West, Jeff Poindexter, Martin Schneider, and Stan Watkins. yes we are coming IN FORCE!

8.) fluegel, I wish to express my great appreciation for effort and initiative in putting together a great service publication "Hull Busters" is fantastic. Thanks!

9.) Any of you IMPRA (International Model Power Boaters Association) people are welcome to join in on the fun of R/C Warship combat. I hope you will start out with a rule set compatible with ours, for reasons beneficial to all combatants.

10.) The Amarillo group intends to host a Regionals on the weekend following Easter weekend. That's April 9 and 10, 1983. It seems the Dallas Channel 8 television station wants to shoot some video tape and do a story. But, don't bet on it. I have found local news media outfits to be somewhat unreliable. There is a \$5.00 entry fee proceeds to go to the R/C Warship Combat Club!

11.) you may obtain a good book "Scale Model Warships" by John Bowen, from Jeff Poindexter for \$12.95 plus \$2.00 parcel postage or \$3.00 first class.

12.) I'm still selling a 1982 video tapes for \$25.00 plus \$2.50 postage. Quality is not as good as hoped but adequate. (Editors note: free ad #3!)

13.) The USS Tweedy (DE 532) was to a real ship! She was a John C. Butler class DE (also called a WGT type, for Westinghouse geared Turbines). She was commissioned in 1944. As of 2-24-83 my 2 foot long Tweedy now sports a new homemade speed control featuring Fast Forward, Slow Forward, OFF and Full Reverse! And she's ready for any R/C Warship Combat battle, assuming the sea's aren't too rough! please don't ram, it will cost you 500 points (she'll sink every time).

14.) The Local Muddy Rudders NAMBA boat club and the ARKS Airplane Club are co-hosting "The Amarillo Model Tradeshow", at the Quality (Inn of Amarillo), 601 Amarillo Blvd. W. Amarillo, TX 79107, (806-376-4211) on March 19 & 20, 1983. This show is the fourth Annual show and we're hoping it will someday be like the "Toledo show". There are tables to rent for \$5.00 or \$8.00 depending on size, from which you can clean out your old model Airplanes parts (this one's for you fluegel), R/C units, etc. There is also a Best of Plane-Train-Boat-and-Car award. I'll get Charley Moble to award a best of R/C Combat as well. So if it's convenient, come on in. We can have a good hull session.

Well, speaking of Hull the batteries on my electric ball point pen are running low so until next issue or Alabama, whichever is first.

Let's Battle!



## RULE RECOMMENDATIONS

- 20 All pump outlets on any ship shall only have an inside diameter of 1/8". This will help in control of non-damage leaking but will also help in damage flood control. This will allow sinkings with a more realistic amount of damage. Jeff Poindexter
- 21 All points at championships count twice. (Already a NAMPA rule but not in our rule book.) Jeff Poindexter
- 22 Allow a fleet battle to be won if there is only a 50 point or more difference between fleet's scores instead of the present 100 point rule (Rule XI A. 2) Jeff Poindexter
- 23 If a ship sinks, and there is a B.B. Hole any where in the hull, a sink shall be awarded, with 500 points plus any other B.B. damage scored going to the victor(s). (This is usually the way we do it, so let's word Rule III B.4a. to comply with current practices). Jeff Poindexter
- 24 If a ship is 'out of control' and beaches. The combatant can elect to call it a 'sink', or leave it there for 5 minute rule. This applies only to beached ships and only for the purpose of minimizing non-sinkable damage. A majority, in that sortie, of combatants must agree the ship was truly out of control.
- 25 Out of control beaching rule. Beached ships may shoot back for the duration of the 5 minute rule. Same penalty rules apply for damage done or received after the 5 minute rule is up. A majority, in that sortie, of combatants must agree the ship was truly out of control. A beached ship that has been declared sunk can not fire on another ship. Jeff Poindexter
- 26 Out of control 'on water' rule. If rudder hangs up, motors quit (for any reason other than batteries losing normal charge) ship hangs on object, or props get fouled the ship may snoot back if it is capable of doing so for the duration of the 5 minute rule. Jeff Poindexter.
- 27 If any ship has had to call any of the 'out of control' rules and the problem was a mechanical linkage coming loose (rudder post, motor connector etc.) the combatant operating the ship will be charged the standard unseaworthiness penalty. (possible exception would be running aground stern first and breaking rudder post steering gear.) Jeff Poindexter
- 28 To win best of scale at championships a ship must have scored 100 points and have competed in all categories. penalty points will not be counted against the score for the 'Best of Scale', but will for battle scores. Jeff Poindexter.
- 29 Convoy shall be legal and rules set up at next rule committee championship meeting. J.P.
- 30 If a ship has sunk (not 'beached sunk') and if the guns will still work the ship may continue to shoot at enemy ships if combatant had not declared empty magazine rule. Ship is still declared sunk. Jeff Poindexter
- 31 All pressure tanks must have a pressure safety releases pressure somewhere below 500 lbs per sq. in. Jeff Poindexter
- 32 Top speed for all ships shall not exceed 45 seconds per 100' running start. Stan Watkins
- 33 pumps shall not displace more than 1/2 gallon per minute. Stan Watkins.
- 34 WEIGHTED SINKING POINTS
- |  |         |
|--|---------|
| 1 offensive/defensive unit (Destroyer)                           | 200 pts |
| 2 offensive/defensive units (light Cruiser)                      | 300 pts |
| 3. offensive/defensive units (9000 + Cruisers)                   | 400 pts |
| 4 or more offensive/defensive units (Battle cruiser- Battleship) | 500 pts |
- Dave Garrett

by Winston Neal

The excellent covert intelligence agency of the Axis Naval arm were ordered to uncover the strategies for the Allies new Naval activities concerning destroyer construction. The following quotes are from a taped communique between Admiral Watkins and Captain Dee. This cassette tape was intercepted between Amarillo, Texas and Gig Harbor, Oregon, rushed to Berlin, decoded and sent on to Oregon. All quotes are those of Admiral Watkins concerning his new destroyer tactics, primarily for the important Pecatur, Alabama campaign, and secondarily for the 03 NATS.

"I think the thing will make an excellent little gorilla ship against Schneider's Battleship and against other larger ships. It will hide between the islands around Pecatur Bay in the shallow water where the battleships can't go and be protected by these islands and as they pass by it to get at the rest of the fleet I will let them have it with some holes in the side.... laugh, laugh, and then I will judiciously back out of the battle area and run go hide. Only having a 15 RB magazine I expected to expend my BBS rather rapidly."

Stan continues..."I chose to name my Fletcher the Obannion because I intend to attack Battleships with it. Uh, I intend to have a stern gun on the thing...laugh...this is kind of confidential information so don't pass this around to the Krauts (boy this is fun) Uh.. I intend to use a stern gun on it for fighting battleships and what my strategy will be is if a battleship starts approaching me I will turn tale and attempt to get a good stern gun shot on him but I will be ready to run away if..ah..if ah I'm going to go out to battle some convoy ship I will put the gun on the bow and attack that way...ahhh...I intend to be able to move the gun, ah, yawn..from front to back at my...what ever I think will be appropriate for the battle, and ah,..but I normally..it will be a rear gun ship for fighting battleships and I think I can give'em fits with it. If they choose to deploy a battleship against this little turkey to run it down and kill it.. uh it will end up having forced them to waste a battleship on a destroyer and I think that would be, ya' know just...wasting the battleships hole sortie and ah, much of its rounds on a destroyer. By the time it got through chasing a destroyer around or whatever I think maybe the cruisers, ah, the allied cruisers could have already expended their ammunition at other ships, so if its ah, if its able to cost the deployment of a battleship it will be more than worth the expenditure involved in getting it going."

"Of course our major problem is, ah...that incredibly handsome, ah,,, and exquisite craftsman Fluegel. He is so good that, ah.. that we can never hope to compete with the Axis" I'm not sure if Stan actually said that last part, or if...ah...I imagined that, however I feel our earnest peace efforts with the Allies are a waste of time, and that their apparent interest in these matters are simply facade to buy them time. I further recommend to the Axis High Command that a Declaration of War be announced for the summer months of 1983. I believe the Allies will be crushed again with an all out blitzkrieg, similar to the very successful campaigns in the summers of 81 & 82. Stan's statements "I will let them have it", "I intend to attack battleships", "I'm going to go out to battle some convoy ships", "I think I can give'em fits" these statements make it clear that war is imminent! In conclusion I recommend that secret agent Fluegel be decorated for his excellent work in penetrating the Allie war machine. All of Deutschland is surely indebted to him.

P.S. Axis Officers are cautioned to take care when addressing envelopes for cassette tape communiques. Could you imagine the embarrassment it would cause if we accidentally sent top secrets to the editor of a newsletter!



## HOW I'VE MADE SHIP RAILING

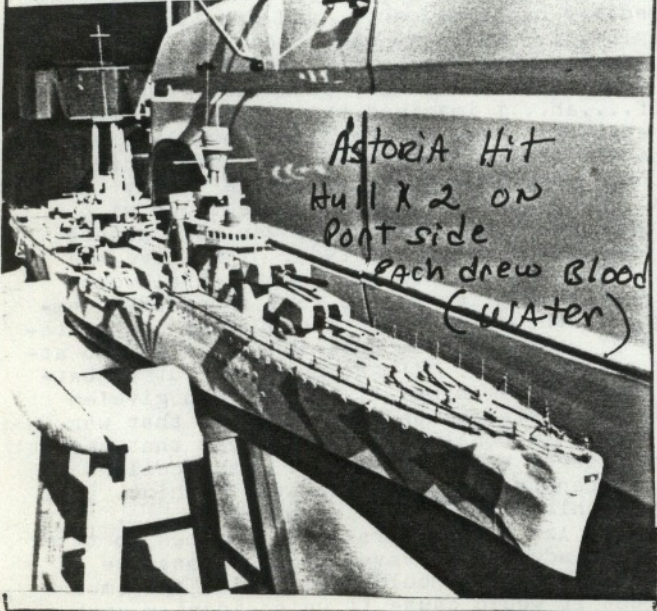
By David C. Garrett, III

What is ship railing? Well, it's the stuff you see on the sides of the ship or the superstructure that keeps folks from washing overboard! In 1:144 scale, railing is the item that you see on a ship that makes it look good, but can be a source of frustration and potential injury to self and ship. When I was building the Bolzano, I did not have time to complete the ship for the 1982 Nationals as I had desired. However, I did complete the ship as well as I wanted it to be completed for scale RC combat by the time of the Fall Fest in Decatur, Alabama. The single bit of detail that helped the ship more as far as looks were the tripod and single post railing. That is what prompted this article.

Materials used were 1/2" and 3/4" brass pins that were purchased in the sewing section of Wal-Mart stores. The thread was plain black thread that had been beeswaxed to maintain a waterproof finish. 5 minute epoxy and wire snips were also used.

There were two types of railing used on the Bolzano. The first and most numerous was the tripod arrangement and the second was a single post system. The single post system on the Bolzano was very simple and easy. It used 1/2" brass needles with the tops snipped off with wire snips and epoxied into a depth by using a needle that had been filed and placed into a regular drill. If this is used by anybody, I would not recommend the wire snips.

In fact, I have for the Garibaldi, used the emory wheel on a moto-tool to have a nice clean finish on the cut end. The wire snips tend to smash the needle, having extremely sharp ends that catch everything. The tripod system was more difficult. The central pillar of the system was a 3/4" brass needle, again with holes predrilled prior to starting any placement of the railing. The two supporting pillars had a bend of about 45 degrees 1/4" from the tip of the needle. These were epoxied in. Then the apex of the central and two supporting pillars were epoxied. See photographs from the Bolzano and illustrations below: *Cont. PAGE 86*



## PRESIDENT'S PAGE by M. Schneider

This is the time that everyone is getting itchy trigger fingers for a new battle. It looks like the turnout for the Decatur regionals should be pretty decent. I plan on being there with my Tirritz. I would like to make a plea at this time for everybody to spend some time now on reliability. The more ships we can get on the water the more fun it is for everybody.

As president I feel obligated to make some negative comments about several things. The reason I am doing it is that I feel very strongly about the rule that rule changes should be made once per year. The first is that in the rewritten set of rules incorporating last years changes it states that submarines are illegal. This was never voted upon and consequently I declare that part of the rules null and void. The rules do not state that submarines are legal but to me there is considerable difference between not defining something and making it illegal. Under our present rules the contest director for an individual contest could let one participate. If one followed the new copy of the rules one could not do that.

I feel as though the convoy event certainly sounds interesting and sounds like great fun. It is the first event in which pit time will prove important and the sport desperately needs that. I feel as though some things need to be clarified now to avoid misunderstandings later. They really are only provisional suggestions because they have not been voted on. The only severe objection I had to was stating that the scale for convoy ships should be 1/144. Presently for combat ships the rule is 140-160 and I see no reason it should be different for convoy ships. If we are going to limit the scale I feel we should limit it to 1/150 because that is in the middle of the range. The other reason it should be 1/150 is that many plastic models are in 1/600 and scaling them up only requires multiplying everything by 4.

The other thing which I feel needs to be defined is the total number of supply ships each side may have. I would off the top of my head suggest three. I would also suggest that they be supply ships and not unused cruisers etc. Considerable leeway could be allowed but they should look like a supply ship. I would also suggest that one could make another superstructure on a cruiser to make a supply ship. However I feel this should be the maximum leeway allowed and if one side only has one or two supply ships that's tough. If we don't do that nobodies going to build any. Points should be given to supply ships in some way. If a statement was made on this now there would be adequate time to prepare. By tradition I feel the

next page

## MIXING EPOXY

In the February, 1983, issue of "Hull Busters" Hope Fluegel mentioned the disgusting Kraut habit of mixing epoxy on the lids of perfectly good cans of vegetables. So I decided to pass along the more civilized Allied method of accomplishing the same thing.

For several years now I have been recycling all my tin cans. In this process I remove the labels, run the cans through the dishwasher, cut out the bottoms and flatten the cans, and throw them into a special garbage can I keep in my garage just for this purpose.

Then I got involved in R/C combat and found a need to mix large quantities of epoxy. But not all at once - just in little tiny individual batches. So I dipped into my special garbage can and found a whole bunch of small custom-made epoxy mixing trays. Now I have a small cardboard box next to my workbench. Every day I take the can lids from the dishwasher to that box. I don't save the ones with the numbers or letters embossed in them - I only save the flat ones.

I also keep a box of toothpicks (translation: epoxy mixing sticks) in that cardboard box. Now when I need to mix epoxy I just grab a lid and a toothpick. When I'm done I just throw them away. The supply is infinite.

Dan Dees



Presidents page cont.

final say should be left up to the contest director and I would ask Steve Millholland to make a ruling on this.

As commander of the Axis fleet I would like to make temporary ranks of axis until they can be officially voted upon.

Grossadmiral- Grand nationals winner the previous year and a previous grand nationals winner. He is also captain of the fleet.

General admiral- In the absense the above this is the capitan of the fleet. He should be either the previous Axis high point man or grand nationals winner. It should be noted that the above are temporary ranks.

Admiral- Any previous Grand nationals winner. This a permanent rank. as are the rest below

Vizeadmiral- Any previous Axis high point man for the year.

Konteradmiral Has sank four ships

Kommodore Has sank three ships

Kapitän zur See Has sank two ships

Fregattenkapitän Has sank one ship

Korvettenkapitän Has inflicted 1000 points damage

Kapitanleutnant Has inflicted 500 points damage

Leutnant zur See Has inflicted damage

The above are officers. Below are enlisted

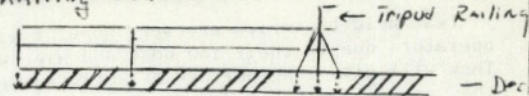
Matrosenhauptzeffreiter- Has participated in a battle

Matrosenoberzeffreiter- Has compleated a ship

Matrosenzeffreiter- Has a ship under construction

Matrose- Has expressed an interest

Railing coil



Plain black thread was used for the line between the railing. This was again as described above, beeswaxed, to maintain a water repellant type finish so it was easier to maintain taughtness between the rails and the epoxy was used in the starting and ending knots.

Once the railing was completed, I would say that the actual time for placing all railing on the Bolzano with painting and rigging it took approximately 6 hours. A few suggestions would be in order in that I have changed from the building of the Bolzano to the building of the Garibaldi. First is the use of an emory wheel in cutting the tips off, or the heads off. The second is instead of using a 3/8" drill in order to predrill the holes, I am going to use a moto-tool. I feel that this can do a faster and better job. For the Garibaldi, I looked in numerous outfitting stores and catalogues and looked at some pre-made railings. These were cost ineffective as most of them would have cost from \$30 to \$40 to place the railing completely around the ship.

Complications that you have with railings:

1. If the railing has any burrs or sharp points to it, it will catch on any type of material. This will either fray your shirt, scratch your arm, bend the railing or break the balsa that the railing is sitting in.
2. Having experienced a BB shot that went through some railing at the Decatur Fall Fest in 1982, I found out that the severed lines hang all over the ship and looks horrible. Repair of the lower or middle lines is extremely difficult due to the unraveling effect.

All in all, railing looks good on a ship. It would really have to be own personal preference. I am making the railing on the Giuseppe Garibaldi everywhere it is called for.

I hope to see everyone at the Spring Fest in Decatur and the Summer Nationals in Springfield, Missouri. It looks like this year we'll have an Italian fleet complete with two battleships and a light cruiser.

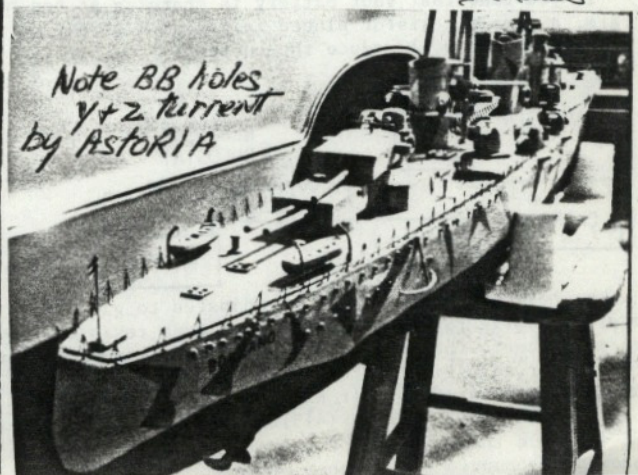
CONSUMER REPORT

On behalf of Santa Claus my wife asked me what I wanted for Christmas. "A new radio for my Battleship." I told her, she asked "what kind?" That's a good question. They don't make "Hobby Lobby 6" radios anymore so it would have to be something new.

I sent off for several radio info brochures, read the ads, and called several combatants to research my wife's question. pretty soon I had produced several charts, graphs and camparisons. (I'm a superb organizer) to aid me in my selection. I knew I wanted plug in crystals, reversible servos, a wide selection of servos, a battle proven brand, electrical noise resistance, reasonably price, lots of proportional channels, etc. etc.

I compared Royal, Futaba, Air-Tronics, Cirrus, Apollo, Tower Hobbies and Ace. The results of the study was clear. They are all very acceptable without exception. Every owner surveyed said they would buy the brand they were using when they replace their current radio. It seems that radios are built for the harsh demands of R/C airplanes so R/C combat is no problem.

The choice is really dependent on what you want to use it for. A strictly destroyer person looks for small equipment. A strictly Battleship person looks for lots of channels. The question one needs to answer is, "what do I want my radio to do", then select the appropriate radio. I selected my new radio because it met my needs (plug in crystals were a must) and it's a pretty color!..? Parley Pop





## CARE OF LEAD/ACID BATTERIES

SALINI

Lead/acid batteries are very popular with R/C boat operators due to their low cost and high storage capacity. They will give long periods of satisfactory service if they are properly cared for. But, because there is so little information published about batteries, few people know how to give their batteries proper care. The following notes may help to prolong your battery life.

### BATTERY OPERATION...

Lead/acid batteries are rated in voltage and amp-hours. The voltage indicates the normal operating voltage, while amp-hours is a measure of the storage or discharge capacity. An 8 amp-hour battery is capable of delivering one amp of current for a period of eight hours before discharging the battery. Or it could deliver  $\frac{1}{2}$  amp for 16 hours. The "hours" of running time will be equal to the battery's amp-hour rating divided by the amps which the battery is discharged at.

However, this amp-hour rating is the "slow discharge" rating for the battery. If a battery is discharged at a very high current rate, it will not be able to deliver power for its full rated time period. Small lead/acid batteries are designed to operate at a discharge rate less than 1/10th of their amp-hour rating (an 8 A-HR battery is designed for less than 0.8 amp discharge rate). In practice, an 8 A-HR battery could be run at up to a 4-amp rate, but any higher discharge rates could lead to conditions which damage the battery or seriously shorten its useful life.

I recently tested a new  $5\frac{1}{2}$  A-HR lead/acid battery which gave the full rated running time when discharged at a  $\frac{1}{2}$  amp rate. But when I discharged it at a 4 amp rate, the battery only ran for 25 minutes, as opposed to the 1 hr, 22 minutes expected from its amp-hour rating. If this high discharge rate were repeated many times the battery might reach a condition of not being able to hold a charge.

What does this mean to a warship? If your ship draws a total of 3 amps at full throttle, it's wise to have at least 6 amp-hours of storage capacity. For a 5 amp rate, try 10 amp-hours capacity.

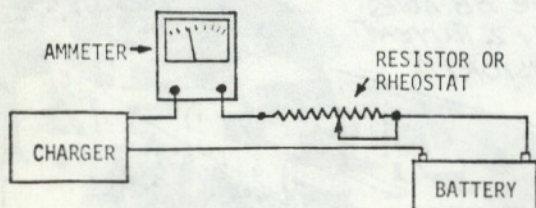
### CHARGING...

Lead/acid batteries should not remain in a state of discharge for long periods of time. A discharged battery will begin to deposit chemicals on its plates which permanently reduce the active plate area and the battery's performance. The lower the state of discharge, and the longer it remains in this low state, the more damage will be done to the battery. It is best to recharge the battery as soon as possible after it has been discharged or partially discharged.

NOTE: If your battery is low enough that you can count the revolutions on your propeller, you're over-due for charging. Above all, don't let it run all the way down so there's nothing left. You'll soon be counting spare change for a new battery instead of propeller revolutions.

When recharging a lead/acid battery it is very important to limit the charging rate to a maximum of 1/10 of its amp-hour rating (for an 8 A-HR battery, don't exceed a charging rate of 0.8 amp). Charging at a higher rate will result in a shorter battery life, or in the case of a gel-cell, could result in a battery explosion. (A gel-cell is similar in operation to a lead/acid battery, and all the same precautions apply).

If you find that your battery is charging at too high a rate, a simple resistor placed in series with one of the charging leads will reduce the current:



The resistor value should be adjusted to give the desired charge rate. A high wattage type resistor should be used due to the large amount of power it must dissipate. For easier adjusting, a rheostat may be used. (Try a 30 $\Omega$ , 50 watt rheostat from Fair Radio Sales, P.O. Box 1105, Lima, Ohio 45802 Tel: (419)227-6573. \$1.75 plus P&H). If you find the resistor or rheostat becoming too hot, it should be changed to a higher wattage.

There are no adverse effects caused by charging at a rate lower than than 1/10 of the battery's amp-hour rating if you don't mind the longer charging time required.

A lead/acid battery is considered fully charged when all the cells are gassing freely, and the voltage has risen to about  $7\frac{1}{2}$  volts (15 volts for a 12 volt battery). The charger should be disconnected at this point, as any further charging will only decompose the electrolyte into hydrogen and oxygen.

A fully charged 6 V. battery should have  $6\frac{1}{4}$  to  $6\frac{1}{2}$  volts, measured 1 hour after the charger is removed ( $12\frac{1}{2}$  to 13 volts for a 12 V. battery). A lower reading usually indicates a sulfated battery (This is a gray coating of lead sulfate on the plates).

### STORING A BATTERY...

A battery that is not in use will gradually lose its charge through self-discharging. At room temperature it will lose about 1% of its remaining capacity each day, or larger amounts when the temperature is higher. If the battery is allowed to remain in a partly or fully discharged condition for long periods it will become badly sulfated, and may never be serviceable again.

Before storing a lead/acid battery it should be charged and the cells should be filled to their proper levels. Then the battery should be stored in a cool, dry place. Every 6 to 8 weeks the battery should be discharged and then recharged. Before returning the battery to service it should be charged with a very low current ( $\frac{1}{2}$  the normal charging rate, or 5% of the amp-hour rating). This low charge rate should also be used for a new battery when it is charged the first time.

In concluding, these have been basic procedures for operating lead/acid batteries. By observing the precautions, you can greatly extend your battery life.

For further details or questions, please send a letter or tape to:

J. Salini  
P.O. Box 643  
San Juan Capistrano, Ca. 92693

SALINI

# SCALE MODEL WARSHIPS

Edited by  
JOHN BOWEN

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James Foster from Austin, Texas sent photos #1 & 2 with the following letter.

March 7, 1983

Fluegel; I am not completely sure when I will be ready to battle you, but as you can see from the enclosed photos it shouldn't be too long now. I realize that in my first note I mentioned I was building the prince of Wales, (photo #1), but for the moment that project has been shelved. As you can see in the photo, I have completed most of the superstructure for the p of W but have no hull. I actually did have a hull at one time, but due to a lousy choice of plywood on my part the buger disintegrated halfway through covering. Things being as they are, the first ship I will likely launch is the CLAA 53 San Diego (photo # 2). As far as her vital statistics are concerned, they are as follows: keel laid 2/5/82; gun: 1 in superstructure; pumps 1; props: 2 Dumas 1 1/2" 3 bladed; motors 2 airtronics .05; Batteries: 2 #635 Thunder Tigre 6v 8AH; radio: Putaba 7 ch 72.960 freq.; lights: 1(?)

At the moment it appears the guns from Stan may be the determining factor in when I will be ready to fight, as I have not yet received them. ( I have three on order). I am also still planning on building the p of W, but when I get back to her is anyone's guess. I doubt it will be sooner than the 83 NATS. So, to paraphrase Bogie, "Here's shooting at you, kid!".

James C. Foster

photo's 3 & 4 are from Dan Dees in Oregon. Dan sent the following description of the ships first sea trials. (problems discovered at sea trials are common & a great deal of the time spent in the hobby is on making a ship competitive).

Thursday, March 24, was the first time in the water for the hull of U.S.S. Colorado (BB45). Sea trials were held and results were disappointing (100' in 38 sec., 360° turn in 25 sec.) but inconclusive, since it was later discovered that a wire had broken loose from one motor. She was also carrying a temporary battery setup with very low capacity. More work is obviously required in the engineering dept.

photot #5 is Dave Garrett's giuseppi garibaldi, and his destroyer (I forget the name). Dave lives in Rogers, Arkansas. I have no detailed information but have been told the destroyer capsized in his bathtub, due to top weight. Something I enjoyed about his photo is the beautiful item on the wall behind the ships, but I have always had a soft spot in my heart for fuse box lids.

SPRING FEST-PANA

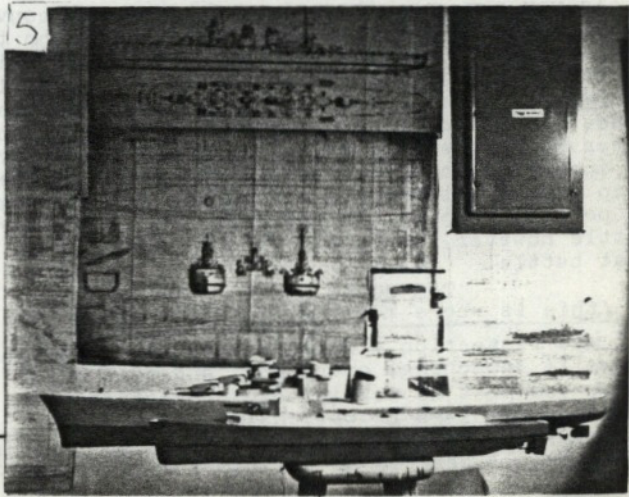
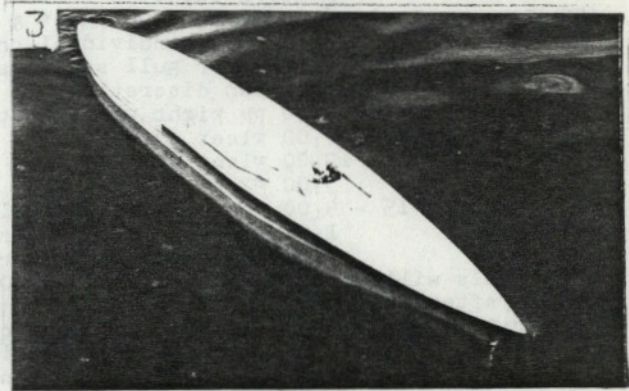
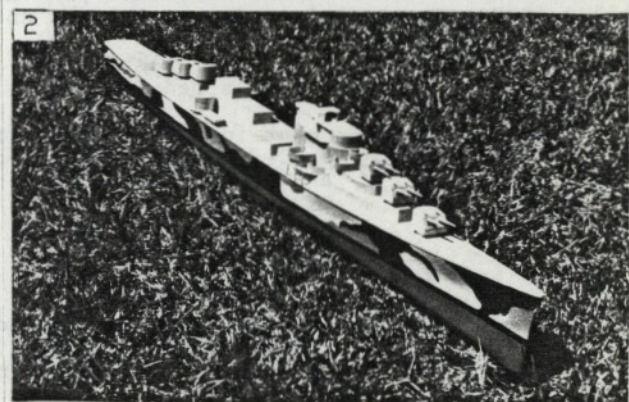
As host of this years Spring Fest we are inviting all those nasty krauts and all of the Lovable Good guys to our home. As quoted in the last Hull Rusters we are supplying food and lodging. We would like to suggest that all persons bring sleeping bags and air mattresses. Their will be a \$10.00 entrance fee for all those attending. Their will be no extra dues for additional ships used. please let us know if you are coming and send entrance fee by Friday April 15th, sometimes known as (shudder) tax day. Also let us know when you plan to arrive so that meals can be prepared. A map is provided if fluegel prints it. If you call please call after 8 P.M. standard Time. As this is a NAMBA event make sure your NAMBA dues are paid. Our address is Route 3 Box 556, Decatur, Alabama 35603, if you want to drop a line. If you want to phone the number is 1-205-355-1563.

LET'S RATTLE DAN & MARY

MY NEW ADDRESS  
Fluegel

Due to my growing Naval fleet I needed a bigger dock yard (garage). Well, about two months ago I was driving through some unfamiliar neighborhoods and spotted a really nice little combat lake. Some gland or enzyme tickled my innards and I felt a migration coming on. I found a suitable garage about 1/2 mile from the lake and moved in!

send all correspondence to 3524 Gray Drive, Mesquite, Texas 75150. NOT to Leland or Rain Forest. Now, if I could only find my typewriter, etc, etc.





Only three months and counting! The greatest R/C Combat event the world has yet seen will take place the second week of July 1983 in Springfield, Mo. Are you ready? I hope so. If not, you'd better get on the ball. Battlers all over the country are getting their ships ready to take on the best that their friends and enemies have to offer (in this sport, friends and enemies are one and the same.).

In order to make this years NATS the greatest ever I am doing my humble best to see that everyone has all the current information. For this issue there are several topics to let you know about, so, here goes.

1983 Nationals, schedule of events.  
At this point the following schedule is very tentative.

SUNDAY; July 10 - Check in and lake practice.

MONDAY; July 11 - 8:00-9:00 AM, Rules meeting and photo session.

9:30 Fleet Battle

12:30 Fleet Battle

3:30 Fleet Battle

TUESDAY; July 12- 9:00 Convoy Battle

1:00 Convoy Battle

7:00 PM, Club meeting concerning rules, constitution and bylaws. This meeting is for R/C Combat Club members only.

WEDNESDAY; July 13-8:00 AM to 8:00 PM. P & R, workshops, individual challenges, or Bull sessions at your own discretion.

9:30 PM Night Fleet Battle

THURSDAY; July 14-9:00 Fleet Battle

12:00 Fleet Battle

3:00 Fleet Battle

FRIDAY; July 15 - 9:00 Convoy Battle Finals

1:00 Fleet Battle Finals

7:00 PM Banquet and Awards

The Nationals will be officially over at 6:00 PM Friday afternoon.

SATURDAY; July 16-Competitors who remain can battle for 1984 points in individual, fleet or convoy as they see fit.

Awards will be given at the banquet as follows.

#### 1983 NATIONAL CHAMPIONSHIPS AWARDS

Highest sortie average in individual battle,

Capitol ship and non-Capitol ship

Highest sortie average in fleet battle, Capitol ship and non-Capitol ship

Rest scale appearing ship

High point Rookie

#### ANNUAL AWARDS

High point overall for '82/'83 battling season.

Highest win/loss percentage in individual combat.

(To qualify for this last award, a person must have been in at least 6 individual challenges since the end of last years NATS).

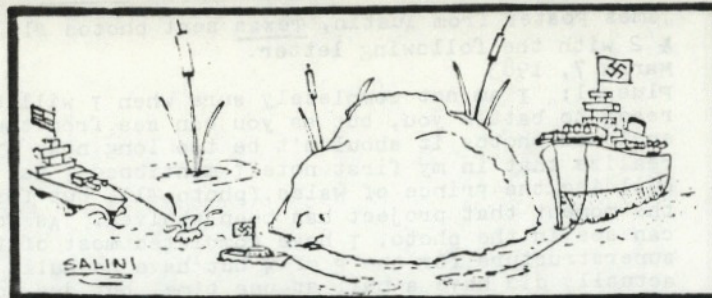
As you can see, there is a full day of convoy battle planned for this years Nationals. On this day, it may be necessary to get a merchant ship operational quickly after being sunk so that it can make another run in the same convoy battle. Since a merchant ship needs only a receiver and 2 servos to operate, it is suggested that they be installed in a waterproof box so that the ship can be returned to the supply runs as fast as possible. Once a warship is sunk in a convoy battle however, it is OUT for the duration of that battle.

#### THE HOUSE RULES

(this is where I get to play dictator).

# 1 Eye protection - while in the pit area and/or while launching, operating, and recovering a ship, you must be wearing eye protection with temple shields-No Exceptions!

# 2 Barrel safety pins - safety pins must be in place in all barrels at all times except when



on the water or when that particular barrel is being "tweaked". penalties will be assessed for violations.

# 3 All competitors must be a NAMBA member.

# 4 All competitors must have an FCC license.

# 5 All transmitters whose frequency conflicts with another will be impounded at a central location immediately upon arrival each day, and released to the owner only when the conflicting transmitter/s are not in use.

# 6 All ships must have reverse power operable by radio control.

# 7 If a ship sinks after its five minute rule has elapsed, it will not count as a combat sink.

# 8 Ships must enter the first sortie of a fleet battle to be eligible to enter the 2nd and 3rd.

A ship may enter a fleet battle in the second sortie without being in the first only by being penalized 200 points. A ship may not enter a fleet battle in the 3rd sortie for any reason.

If, after the 1st sortie, a ship refuses to battle in the 2nd sortie, the opposing fleet will be awarded 250 points. If that same ship refuses to battle in the 3rd sortie, the opposing fleet will be awarded an additional 250 points.

# 9 At the first action of every day (fleet and convoy), if one side cannot show a fleet in being at the appointed time, the side that does have a fleet in being will be awarded 250 points. They will be awarded an additional 100 points every 10 minutes thereafter until the opposing fleet declares itself ready to battle.

# 10 Individual challenges will consist of 2 sorties.

In the last issue of Hull Busters I announced a preliminary survey, requesting information from all persons thinking about attending. The people listed below were kind enough to answer.

Captain	Ship	Frequency
D.W. Fluegel	Bismarck	72.910
	Prinz Eugen	72.240
Joe Salini	Conte de Cavour	72.160
James Foster	San Diego	72.960
	Pensacola	75.640
Dan Dees	Colorado	72.080
Dave Garrett	Garibaldi	72.240
	U.S. Destroyer	72.400
Dan Hamilton	Exeter	72.960, 72.400
Mary Hamilton	Z-28	72.160
Terry Darby	Astoria	54.??
	Giulio Cesare	54.??
Tom Darby	Pensacola	75.510
Steve Milnolland	Alabama	75.550
Stan Watkins	Aoba	72.400
	Arizona	27.095, 27.195
	Salt Lake City	72.960
	Tweedy	72.240
	O'Bannon	72.960

I know that there are more people out there who say they will attend, but I guess that they all have broken wrists and cannot hold a crayon. I trust that when Nationals arrives they can all handle a transmitter.

For those of you who are wondering what the wife and kids can do while you are defending your fleets honor, have no fear, the Ozarks is full of things to see and do. I'll list a few here. All of these are within an hours drive of Springfield.

Silver Dollar City - a theme park similar to Six Flags. *cont. next page*



**FEED BACK**

As requested by Dwyer Q. Wedvick by Stan Watkins

"Hull Busters" is the official publication of the R/C Warship Combat Club. It will keep you informed.

The official National-International NAMBA authorized club for R/C Warship Combat is: The R/C Warship Combat Club

Officers are: Martin Schneider-president, 3518 Rutson, Amarillo, Texas 79109  
 Jeff Poindexter-vice president, 4409 Brown, Amarillo, Tx 79108  
 James West-Secretary, 1255 Iris, Amarillo, Texas 79107  
 Terry Darby-Treasurer, Chillhowee Ranger Station, Tallasee, TN 37878  
 Stan Watkins-Historian, 304 E. Willow Creek, Amarillo, Tx 79108

To join the club send \$10.00 check or money order to the Treasurer (Terry Darby, Chillhowee Ranger Station, Tallasee, Tennessee 37878). The membership fee entitles you to a subscription of Hull Busters as well as membership in the club. If your have already subscribed to Hull Busters send only \$4.00.

To participate in a NAMBA sanctioned battle you must join NAMBA. You may do so by sending \$18.50 to James West, 1255 Iris, Amarillo, Texas 79107. James will fill out the membership form and send it to NAMBA. NAMBA memberships all expire December 31, of each year so you might as well join in January to get your full years membership.

If you wish to donate money to the R/C Warship Combat Club send it to Terry Darby and designate it for "club General Fund". Sorry, it's not tax deductible.

The National Chairman for Scale, Semiscale & R/C Battleships is Stan Watkins. District coordinators are,

- 1.) Bob Spychalski District 2 Ohio, West Virginia, Kentucky, and Michigan.  
1514 Charmaine Toledo, Ohio 43614
- 2.) Terry Darby District 5 Tennessee, Mississippi, Louisiana, Arkansas & Alabama  
Chillhowee Ranger St. Tallasee, Tennessee 37878
- 3.) D.W. Fluegel District 7 Oklahoma, Texas, Missouri, Kansas, Colorado, New Mexico.  
3524 Gray Drive Mesquite, Texas 75150
- 4.) Dan Dees District 8 Oregon, Washington, Idaho, Montana and Wyoming.  
11084 S.W. 81st St. Portland, Oregon 97223
- 5.) Joe Salini District 19 Southern California, Nevada, Southern Utah, and Arizona.  
P.O. Box 643 San Juan Capistrano, Ca. 92693

We need coordinators for states not listed so if you've battled in a NAMBA sanctioned R/C Warship Combat contest please volunteer.  
 \*Membership dues if sent by Feb \$10, Apr \$9, Jun \$8, Aug \$7, Oct \$6, Dec \$5. If you already subscribe to Hull Busters the dues are \$4.00.

**NATS... cont.**

Whitewater - water fun park, giant wave pool, water slide, and inner tube ride.  
 Exotic Animal Paradise - a 9 mile drive through an open zoo with over 3000 birds and animals from around the world.

Shepherd of the Hills Pageant - Nighttime out door play.

My cousin Herb's Cockroach and Termite Collection - similar to the Chicago Museum of Natural History on a much smaller scale. (if Herb offers to show you the film "The louse that ate Philadelphia", politely decline.)

For those wives who like to shop, there are two large shopping malls in Springfield. Battlefield Mall, which is only 5 minutes from the lake, has over 120 stores. Included are Sears, Penneys, Wards, Dillards, and Famous Barr.

Last but not least, the contest package. If you want to enter this years NATS, please send a Self addresses, stamped 4 x 9 envelope and \$1.00 to me. The contest package will have entry forms, Motel information, a map of Springfield, and any last minute information goodies that may come up. I expect to have them ready to mail out around the first of May.

I guess this is enough for now. *S.M.*  
 Keep your freon dry.



"BOY, AM I GLAD I WOKE UP. I FIRED TWO ROUNDS AT THE GERMANS, THEN THEY WERE EVERYWHERE. THEY SHOT OUT BOTH MY FORWARD TURRETS, MY BOW WAS STARTING TO GO, MY..." "GO BACK TO SLEEP HAROLD, AND TAKE WHAT'S COMING TO YOU."

**HELPING ROOKIES**

by Fluegel

The primary purpose of the Hull Busters is to help the rookies. Now let's see, how can we do that better...how to articles? Consumer reports? addresses of other combatants?...we're doing that already. Have you got any ideas? If so tell me, I want to help!

I have a new idea, in this Busters there is a list of people who are area chairman with the states they are responsible for. I know most of these people and suggest you get to know your area chairman. If your a rookie you should have a ship full of questions. I recommend you ask these people your questions on a cassette tape. They are good people and will probably be able to tell you what you need to know. But don't be selfish. When you have a problem that you have overcome, send Hull Busters a how to article. Help me help you. (Chairman Coordinators)

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**HULL BUSTERS**



# SUCH A DEAL ON BATTERIES!

By Dan Dees

Availability seems to be a major problem in the small world of R/C combat. Since this is such a young hobby we have had to learn by trial and error, and this includes finding useful parts and accessories. And then sometimes no sooner do we find an item that is perfect for our needs than it becomes unavailable. This is what happened to the little "black back" 12V motors.

Recently I made the decision to use the so-called "X cells" for batteries in my ship. I had heard from many different people how good they were and they sound like just the thing for me. Bob Spy told me the address and phone number of two places to buy these batteries, as well as the catalog numbers. First I called around Portland to see if they were available locally. No luck, but an electronic surplus dealer said he might get some similar batteries in about a month.

So first I chose to call Poly Pak since they have a toll free number. That's real nice, but nobody ever answers it. Then I called Fair Radio Sales in Lima, OH. I had heard that people were having to wait for the batteries from Poly Pak, and Bob Spy said that Fair Radio always came through. Well, the salesman at Fair Radio said, "That item is out of stock and, since it is a surplus item, I don't know when we'll get more, if ever". Shades of black back motors! Just when I was beginning to think I had found the perfect batteries they seemed ~~unavailable~~, or at least hard to get.

Today I visited that surplus dealer (March 19) and I believe what he has may be better than the X cells. X cells are actually called Gates Sealed Lead Acid Batteries. They are 3" long by 1 3/4" dia. and are rated at 5AH (I don't have any but this is the info I've been given). The batteries the surplus dealer had are D cells - that's right, the same size and shape as regular flash light batteries- and are rated at 2.5AH. They are a lot heavier than regular D cells. They weigh 6 1/2 oz. each and a regular D cell weighs only 3 oz.

This seems ideal for destroyers and cruisers. They can be laid on their sides, thus keeping the center of gravity low - critical on destroyers and most cruisers. 12V worth of X cells weighs 7 lbs., but 12V worth of these D cells weighs less than 2 1/2 lbs. True, they are rated at half the AH as X cells, but for destroyer people particularly the weight saving is probably worth it. Even in my battleship I like the idea of using these batteries as I can put them in places where even X cells would not fit.

When I first talked to the surplus man he said they would sell for about \$1.50 each. Today he said they would cost more like \$2.00 each since he says they are new batteries - but he will get about 2000 of them. He said he would be willing to give me a price break for a large quantity of them (he didn't say how many).

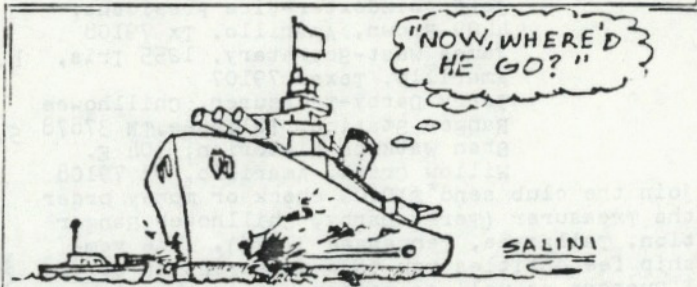
So it appears that we have an opportunity to get a good many of what seems to be a perfect R/C combat battery. But wait, you say, the last batteries I told you about turned out to be somewhat less than good. That's true, and just as before, I haven't had a chance to test these, either. But I'm gambling that since they're made by the same people as the X cells, and they even look just like the X cell, only smaller, that they are probably of comparable quality. I'm going to buy them for my ship. I'll buy a large quantity of them if enough people tell me that they're interested. Figuring on postage, the price will probably be less than \$2.25 each. Write me at the address below if you are interested. I was able to get 4 of these batteries today and by the

time you write I will have tested them. I'd test them before I wrote this but if it's going to be in the April "Hull Busters" I have to send it NOW.

Dan Dees  
11064 S.W. 1st  
Tigard, OR 97223  
1-503-626-1275

P.S. I don't intend to make any money on this deal, so any price break I can get will be passed along to you.

Dan Dees



## TECHNOLOGY VERSES BALANCED RULES

By Fluegel

There exists a consistent conflict within our hobby that keeps the rule recommendations flowing in. A goal of the hobby is to simulate real fighting ships. As a destroyer could not equally compete with a battleship, so to has our rules legislated in a careful balance of handicaps and advantages to produce reasonably accurate battling capabilities. One would think after a week long Nationals type battle, that the rules could be fine tuned to achieve a very accurate scale battle. Not so! The "consistent conflict" keeps our rules in flux, and I suppose there will always be rule changes. Technology improves "the pump" and the unsinkable ship is born. So we live with this unrealistic situation until rule change time (1 year) and we reduce our pumping capacity and the problem is resolved. This conflict between technology and scale fighting capabilities of the various classes of ships applies pressures on the rules to re-establish the balance.

This has not been too serious of a problem and I enjoy the debates we combatants have about rule changes, however I predict a giant can-of-worms is in our future. A single shot, on-command gun is apparently going to be marketed. This sounds great! But it could apply all kinds of pressures on our hobby. Money is my first concern, I would hate to create a rich man's game, that's not our goal. There are a host of other distortions that could also evolve in our hobby. The new guns destructive power is possibly offset by a further technological development. The 8 gallon per minute pump. These two inventions are not theoretical. They exist today.

We have always encouraged the creation of a better mouse trap, but I propose such vast technological improvements in vital systems be implemented into the hobby in a way that would not vastly distort the goals of our hobby. Exactly how we do this, (if indeed we even want to) I don't know. Let's think about it.

### SHIP INFORMATION FORM

Your name \_\_\_\_\_  
 Ship's name \_\_\_\_\_  
 Date started \_\_\_\_\_  
 Ship will have "how many" \_\_\_\_\_  
 Guns \_\_\_\_\_ mounted \_\_\_\_\_  
 Pumps \_\_\_\_\_  
 Motors \_\_\_\_\_  
 Props \_\_\_\_\_  
 Batteries \_\_\_\_\_  
 Lights \_\_\_\_\_  
 Elevate \_\_\_\_\_

How many seconds to travel 100 feet from  
 1.) running start \_\_\_\_\_  
 2.) standing start \_\_\_\_\_  
 How many seconds to turn 360° from running start \_\_\_\_\_

### OTHER INFORMATION

Radio Brand \_\_\_\_\_  
 Radio Frequency \_\_\_\_\_  
 Number of Servos used \_\_\_\_\_

### STATUS OF SHIPS CONSTRUCTION

\_\_\_\_\_



Dear Hull Busters Readers,

As I was reading the '82 Annual Hull Busters, which our beloved editor was kind enough to sell me, (kind of makes you want to throw up doesn't it, but what I want to say deserves a hearing so I'm willing to run the risk of puffing up even further the Kraut's already over inflated ego) when one of the proposed rule changes jumped off the page and hit me between the eyes. Namely "Any ship completed after January 1, 1984 shall be 1/144 scale (1"=12'). Allowable variation shall not exceed  $\pm 2\frac{1}{2}\%$ . I object. Many fine plan sets are available in metric scales, i.e. 1/100, 1/200, etc. With an architect's scale it is a fairly simple procedure to convert these to 1/150. If this proposal is adopted one would be forced to either limit himself to plans published in the United States, the United Kingdom, or Australia, or to use photographic enlargements, an expensive alternative. If you really feel it is necessary to restrict the allowable scale more than it already is, please keep in mind those of us who would like to use German, Italian, and French plans.

*Tom*

T. L. Egelston  
Superintendent of Construction  
Snyder Dockyards

### FROM ONE CHICKEN TO ANOTHER--STROH'S

D. Oswald

**HULLBUSTERS** always inspires me. After each issue I always feel the urge to blow the dust off my "ship box", flip the latches, open the lid, and remove the USS San Francisco (alias IJN Chickensan) from storage. (mothballs)

**HULLBUSTERS ALSO FRIGHTENS ME.** I read these horrid tales about the DKM Tirpitz nonchalantly pulling up along side a ship, firing 1000 deadly rounds of BBs into the hull and superstructure, and then Admiral Schneider commands 1/3 ahead as to avoid any splashing of water on his deck from the sinking ship. Amid th's is the Naval crew working feverishly into the night to repair battle damage and get ready for a second attack (onslaught) by the Germans.

Who needs it??? It makes me sick just to think about it!!! Then I remember all the soldiers, sailors, and airmen in WW II who were frightened too. What we need is a gruff, impatience, sergeant like Stan Watkins to grab us from behind and push us into (R/C) combat. (Nice observation Stan)

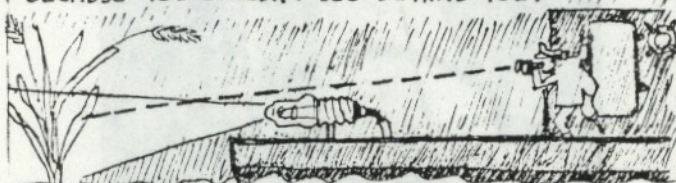
Let all the Chickens of America unite, get a stiff backbone and overwhelm the Deutsch Kriegesmarine. Let us not be unprepared like the British and allow the Germans to BREAKOUT. (That's a book I'm reading) You know they're coming! (to the 83 NATS) The British didn't. United we stand, divided we chic, chic, chicken. Here---have a Stroh's, it'll make you feel better. Let us all feel like we regret to have but one ship to give to our country. Maybe the German BBs will miss!

Sincerely D. Oswald

**P.S.** Now that you have lost your fear of the Germans, I regret to inform you that the Japanese are planning their conquest with the IJN Yamato. She mounts 20 guns, 40 bilge pumps, and 10 (ten) 12 volt, 155 AH batteries. Ch ##22%#(#!!!

(Stroh's is beer)

**DON'T GET STUCK IN THE WEEDS.....**  
**BECAUSE YOU COULDN'T SEE BEHIND YOU!**



IF YOU SPEND A LOT OF TIME IN REVERSE GEAR, YOU CAN'T AFFORD TO BE WITHOUT THESE NIFTY SHIP'S BACK-UP LIGHTS. THESE TINY LIGHTS THROW OUT AN INTENSE BEAM TO ILLUMINATE ANY WEEDS OR DEBRIS IN THE RETREAT PATH. HEAVY DUTY FILAMENT IS RATED FOR CONTINUOUS USAGE. (AVAILABLE ONLY FOR ITALIAN AND POLISH WARSHIPS).

February 9, 1983

Greetings Fluegel,

Just received my first copy of "Hull Busters" on my new subscription. Thanks for the prompt service. I've got a few past issues (from Stan when we purchased our guns) and there's a wealth of info in your publication....keep it up.

You penciled in a "what are you building" question in the margin of the newsletter. I'll describe what we've built, even if it gets me into trouble (I'll explain that later). My 16 year old son and I have been building R/C boats for the past 2 years. All are stretch-built, about 36"-40" long, electric powered; a destroyer; a frigate; a PT-type(English) and a hydro-foil. All have been balsa and misc. material construction.

In "Scale Model Ship Builder" we saw an article on R/C combat and an advertisement for the guns. It sounded exciting, but I believed that building 2 cruisers (4 guns?) was just too large and complex a project to start with. One doesn't start into R/C airplanes with a 6-channel, scale P-51. One begins with a 3-channel high-wing trainer of about .09-.15 displacement.

So, as a first project in R/C combat I designed a PT-type patrol boat (35"length, 8" beam, 1 1/2" draft) that would mount 1 BB-gun, single-screwed with a single rudder. The 2 boats we would build would be identical in hull design and construction; the superstructures would be different. This approach seemed logical to me; we would build 2 simple boats to learn on and later progress to 1/144 scale cruisers if we liked the hobby.

Well....when I called Stan to order the guns (2), he refused to sell them unless we built 1/144 scale ships. So...I ordered 2 guns and a set of plans for a cruiser. Then, being AXIS by nationality (stubborn), we built 2 PT-type boats per my original design. The boats took about 4-5 weeks to build, cost about \$40 for materials (excluding R/C, motors, batteries, etc. which we already had) and when the BB-guns arrived we mounted them and are ready to go!! We have tested the guns and are ready to "do battle" as soon as the ice melts on the pond. The boats are 1/16 inch balsa skinned (and the BBs easily penetrate) are maneuverable and too fast for the R/C combat rules. Rut, they're complete and cheap and we will learn with them.

Seems to me that by "insisting" that the only "legal" entry into the hobby is via a 1/144 scale ship with 2 operating turrets, 4 screws (4 motors or reduction gears), 4 pumps, a 1/32" skin over complex curves, etc. places an almost impossible burden on the builder. (It equates to a 6-channel P-51). In the last issue of "Hull Busters" you complained that many ships are started, but few are finished. Could it be that you need a simple, cheap R/C combat trainer to allow people easy entry? Why not an "authorized" slab-sided, single-screw, single-gun, single-rudder trainer?

Enough of defending my Axis-stubbornness. We'll probably progress to building a 1/144 ship. We're thinking about a H.M.S. Rodney since its short-lengthed (all main guns forward of the bridge) but still has the broad-beam of a battleship. Seems one needs beam for stability (we agree---our experience with 36" destroyers proves that also).

R/C combat is truly an exciting hobby. Keep up the good work. New blood is essential for its growth--I strongly feel you (we?) need a trainer class to allow easy entry and growth in numbers.

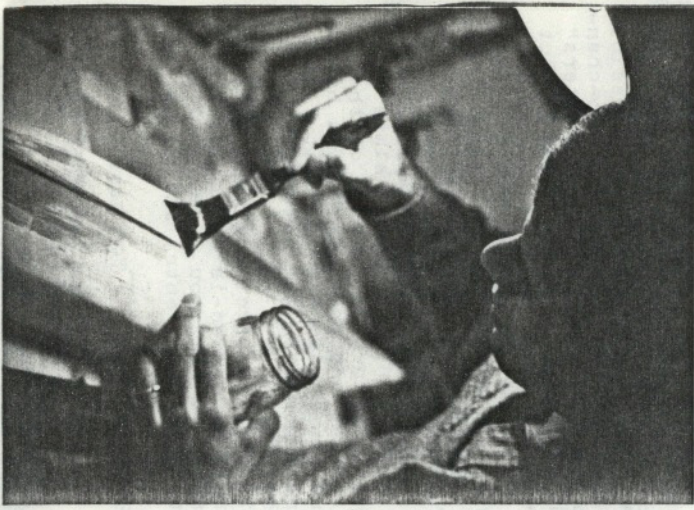
Don't take my guns away!!

Tom Jass

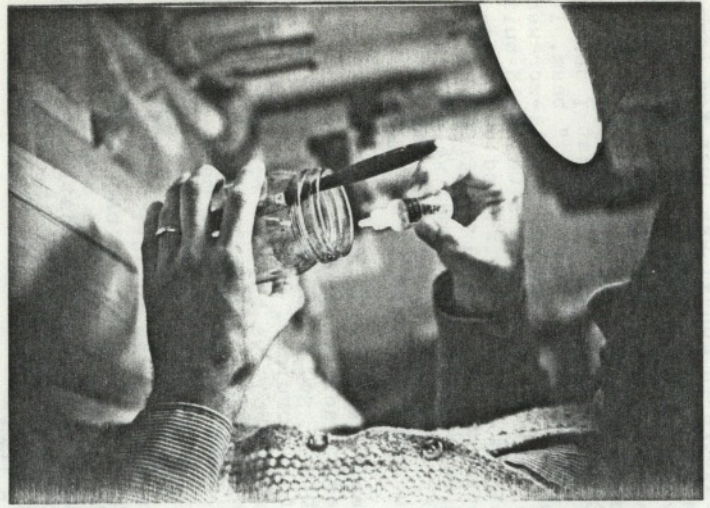
**HULL BUSTERS**





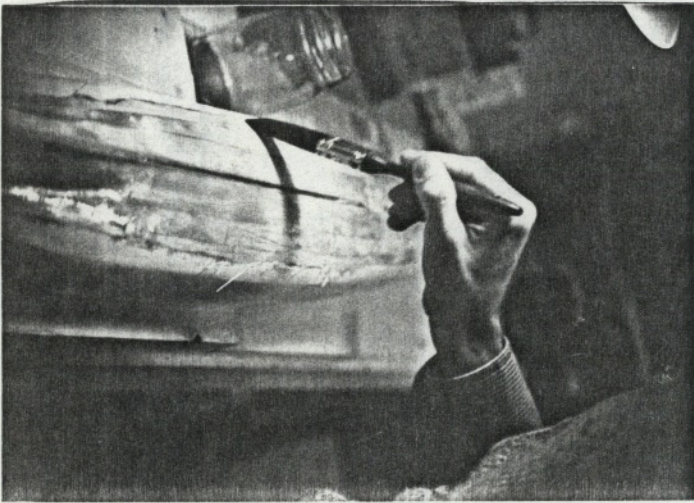


#3



#2

**How to** fiberglass the bottom of your ship. Text on page 94, entitled "Top Secret".



#5



#4

#1  
#9



**FROM:** The Italian Naval Works at Knoxville (Central Italy).  
**TO:** The Joint Supreme Axis Commanders.

Bonjourno.

It has come to our attention, through the covert research of the Knoxville Italian Naval Warfare Committee, that certain modifications to the undersides of existing Axis warships would provide a strategic advantage in combat. The Italian Admiralty hereby suggests replacement of hull plating below the waterline with glass.

Glass-bottomed boats would provide a much better means with which to view the enemy.

The above dispatch is to be released for intercept by those stumbling allied spies. Pertinent dispatch follows.

Greetings:

While those witless allies are trying to find a way to rivet glass to their hulls, VIOLA! The Italian Navy will be using fiberglass. Our engineers were searching for a fast, cost effective way to seal and strengthen our hulls when they stumbled on this one. Our analysts compared the pro's and con's of plywood and fiberglass side-by-side. Here's what they found:

**1/32" PLYWOOD**

In order to butt plywood to balsa, a precise cut must be made to insure a tight seal.

Prone to water saturation on unprotected areas.

Must be sealed with silicon or polyurethane.

Joints and butts must be sanded and filled to insure smooth flow.

Flexes.

Multi-pieced hull.

--Weight is about the same unless heavy cloth used--

Cost is .012¢/sq. in.

Initial cost is only \$3.50 per sheet.

**FIBERGLASS**

Applied over balsa, it can be randomly cut and placed to remain within desired areas.

Waterproof.

Self-sealing

Major flaws in balsa can be smoothed out by pulling glass across holes and gaps.

Very rigid.

One-pieced shell so rigid that keel can be removed to provide more internal room.

Cost is .011¢/sq.in.

Initial cost is much higher: \$8.00 for resin \$5.50 for glass but- will provide material to cover about 4 hulls.

**Step-by-step installation instructions**

- 1) Using a square or wood block with a pencil attached, scribe a line around the hull that is 1½" to 2" below the waterline. This will be a guide to stay within while applying the glass. Fiberglass is impenetrable by anything less than a falling piano. Don't open yourself to disqualification by covering from keel to gunwhale.
- 2) Cut your fiberglass to fit roughly within the area you have marked off. Since fiberglass is semi-transparent, you can drape it over the upturned hull and trace the desired pattern directly to it.
- 3) Mix the resin and hardener. Most types require 11 drops of catalyst to one ounce of resin. When the resin is fresh out of the can, it is pinkish. When mixed, it looks exactly like maple syrup. It takes about 15-20 minutes for the resin gel and harden.
- 4) Resin the area you have marked off on the hull. This will give the glass mat something to stick to.

Don't let it drip down the sides, and don't use an expentive brush 'cause nothing I know of will clean the resin.

- 5) Lay the glass on the hull and tap it into place with your fingers. Wipe fingers on new pants.
- 6) Carefully saturate the fiberglass with resin by brushing more on top. The glass should appear transparent with the wood grain showing through underneath.
- 7) After complete curing (about 6 hours) you can sand the rough edges to blend with the hull contour. Remember, balsa is softer than the glass so don't sand through it first.

Vive il Duce!

Larry Manofsky  
 Captain- Zara & Fiume  
 Italian Cruisers

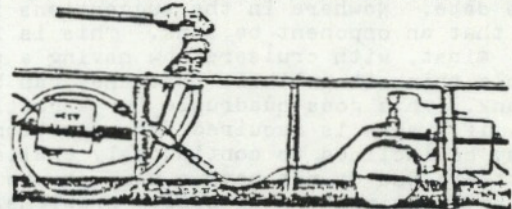
**POINT STANDINGS 3-30-83**

James West	2113 pts
Jeff Poindexter	1490
Martin Schneider	1484
D.W. Fluegel	1180
Stan Watkins	761
Merry Darby	592
Steve Milholland	567
Dan Hamilton	487
Billy Gainer	467
Tom Pace	334
Dave Garrett	267
Brian Spsychalski	82
Tom Darby	40
Don Jackson	5
AXIS FLEET	3611
ALLIED FLEET	1470

J. West

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 Any other use of this gun will be considered as abuse by MWP Co.



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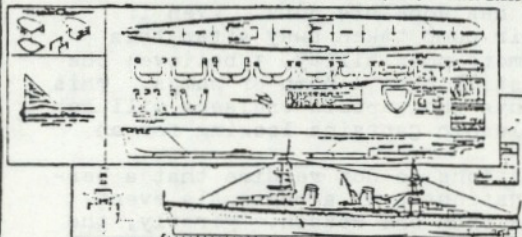
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by Steve Milholland

I've noticed in the last several issues of Hull Busters that there has been a lot of talk about ranking. Well, frankly, until David Oswald's list of rank suggestions were printed last year, I had not thought about it at all. We have all called Stan a Rear Admiral, Martin has been referred to as Ober Grand Admiral, and we've always known that Fluegel was ranker than the rest of us. I have always just thought of myself as Captain Milholland knowing full well that the C.O. of a ship is always referred to as "Captain" be he a Lieutenant or a Commodore in rank.

Well, everyone I've talked to seems to think that there will be some kind of ranking system implemented through a vote at this years Nationals. That's O.K. by me. A lot of people, most notably our Founding Father, seem dissatisfied by the ranking suggestions proposed so far.

For what it's worth, I've come up with my own suggestions for a ranking system. This system is based mainly on individual combat performance. Like most people in this hobby, I think that fleet action (day and night) is the ultimate high, and will always enjoy the multi-ship battling. The only problem is that the value of each individuals combat performance is masked by the fact that all the damage points are thrown together in one pot and divided among the fleet members. Except in cases of outstanding performance (such as Martin's Tirpitz) no one really knows who is damaging who. Even with Martin it is not known exactly how much damage he did or did not cause and how much his Axis cohorts did or did not cause.

Don't take me wrong, I don't think this is bad or anything, everyone who has a ship on the water contributes to the outcome, either by shooting up the enemy, or by being a distraction, (target) or both. However, I don't think promotions should be based on a system where each individuals battling skill is in doubt. That is why I have my rank suggestions lean so heavily on individual battling, it shows exactly how well you fare against an opponent, and is not masked by your fleet mates performance. I do, however, still put in requirements for fleet battle participation, as this will keep a battlers skill in multi ship combat up to date. Nowhere in the suggestions is it required that an opponent be sunk. This is for a purpose. First, with cruisers now having a pump, some people think it unlikely that they can be easily sunk. This goes quadruple for a battleship. Secondly, if a sink is required for promotion, some people may be inclined to continuously challenge other battlers who do not have a pump or who are known to have equipment reliability problems. Thirdly, with most ships now having a pump or pumps, sinking will be largely a matter of luck or poor equipment reliability for the ship damaged. This does not show achievement for the person who scores the hits, but rather a lack of achievement for the person whose ship is damaged. Whether or not the opponent sinks, if a Captain places BB holes below the waterline, he has done his duty. Even if cruisers have their pump taken away after this years Nats (a remote possibility, I believe) the Battleships will still have a pump or pumps. This could mean that guys who Captain cruisers will be picked on by battleship Captains looking for an easy sink.

Also, my suggestions do not require that a person win either a Nationals or a regionals event. This also has more than one reason. Firstly, the number of points a person obtains at a large event is greatly influenced by how good (or bad) his fleet mates perform, and not a good reflection of his own battling skill. It is also a matter of luck in being in the sorties where his side scores well and/or not being in sorties where his side scores poorly. Secondly, requiring a person to win an event to qualify for a higher rank is very discriminatory. Over the next 20 years, there will be only 20 Nationals. If it takes a Nationals win to become Admiral rank, then 20 years

from now we will have a maximum of 20 Admirals. I for one sincerely hope that 20 years from now we have several thousand members in our wonderful hobby. It does not seem quite right to know that only one person per year out of all the people who become involved can advance to flag rank. In the real Navy, the number of Admirals is a very small percentage of the total number of officers, but all of those officers have the opportunity to become an admiral if they put in the time and have the qualities required to be a good admiral. Thirdly, winning a battle in the real world does not get one a promotion. For showing good leadership and excellent strategy and tactics in the face of the enemy an officer might get a commendation or a decoration, but not a promotion. Promotions are based on an officers overall performance over a long period of time, I.E. is he consistently a good leader, and does he show excellent strategy and tactics on a consistent basis?

At first glance, these suggestions might seem rather complicated and unwieldy, but really they aren't. They just look complicated because they take up a lot of space as compared with the previous suggestions. For what it's worth, here are my ranking suggestions.

NOTE: There are several references to "individual challenge" in these suggestions. In this context I define "individual challenge" as one ship against one ship and both ships completing at least 2 sorties. If the opponents ship refuses to continue battle after the first sortie due to combat damage below the waterline then you would still receive credit for two sorties but not if your opponent refuses to battle for another reason (such as low batteries or mechanical difficulty).

Ensign-Battle for the first time against another club member. This can be either fleet or individual combat. Minimum of 3 sorties to qualify. (This will get a rookies feet wet so to speak. The three sorties could be from more than one battle.)

Lt. J.G.-Battle in 2 individual challenges in which you score at least 75 hit points each. These must be against different opponents. (These requirements do two things; one, a rookie gets experience against different opponents and two, must show some gunnery skill to obtain hit points).

Lieutenant-Battle 2 individual challenges against different opponents in which you score at least 150 hit points each. Battle in 4 sorties of fleet battle at a NAMBA sanctioned meet. (Same as above but gunnery skill must improve. Also a new person will get experience in multi ship battling.)

Lt. Commander-Battle 3 individual challenges against different opponents in which you score at least 150 hit points each. You must win one of these challenges by a 20% point margin. Battle in at least 4 sorties of fleet battle. (Same as Lt. with one exception. Up till now only gunnery skill was emphasized. A person could have been scoring the required number of points to qualify and receiving 3 times as much damage in return from his opponents. Now he must not only show his skills, but come out ahead of at least one opponent on damage given verses damage received.)

Commander-Battle 3 individual challenges against different opponents, winning 2 by a 20% point margin. Battle 6 sorties (total) of fleet AND convoy battle. Also since becoming an Ensign, you must have participated in at least 2 sorties of night action. (Same as Lt. Commander but more so. A person must now prove battling skill by winning against different opponents. It could take considerably more than 3 challenges to obtain 2 wins by 20%. Experience in convoy and night action is also required for promotion to Commander.)

Captain- Win 3 individual challenges against opponents of Lt. Commander rank or above by a point margin of 25%. Battle in six sorties of fleet and/or convoy action. (Here is where



we separate the men from the boys. Wins must be made against opponents of some skill, not just rookies.)

Commodore- win 3 individual challenges against opponents of Lt. Commander rank or above by a 33% point margin. Battle in at least 8 sorties of fleet and/or convoy action. Captain a merchant ship on at least 3 successful supply runs. (It gets tougher.)

Rear Admiral-Win 4 individual challenges against opponents of Commander rank or above by a 33% point margin. Battle in at least 8 sorties of fleet and/or convoy battle. Win a battle against 2 simultaneous opponents by a majority of points. participated in at least 3 sorties of night battle since becoming a Commander. (Wins must now be made against still tougher opponents. A real test of skill is the win against 2 simultaneous opponents.)

Vice Admiral-win 4 individual challenges against opponents of Captain rank or above by a 33% point margin. Battle in 8 sorties of fleet and/or convoy battle. Win a battle against 2 simultaneous opponents by a 25% point margin. (If you want to be an Admiral, you've got to be good.)

Admiral-win 4 individual challenges against opponents of Captain rank or above by a 50% point margin. Battle in 10 sorties of fleet and/or convoy battle. Win a battle against two simultaneous opponents by a 50% point margin. (how tough are you? If you want easy, join the girl scouts.)

Fleet Admiral-win 6 individual challenges against opponents of Captain rank or above by a 50% point margin. Battle in 12 sorties of fleet and/or convoy battle. Win a battle against 3 simultaneous opponents by a majority of points. (The ultimate rank.)

There they are, my own ideas on a ranking system. By no means do I expect everyone to agree with these suggestions. Use these as food for thought. At the Nationals I expect that there will be some amount of debate on this subject before a system is finalized and voted upon.

These people have at one time been interested in our hobby. I am sure that some are casualties to the frustration, and should not be on this list. I am equally sure that several people are omitted by oversight or ignorance. Do not take it personally, this was thrown together as impersonally as if a computer had done it. If your name is missing please drop me a letter saying. "Turkey, my name is missing" and it will be on the next list. If you happen to contact a person that no longer has an interest in the hobby, I would appreciate that info also. The purpose of this list is to help not to offend. Some day I may even have an Allie list.

Huck Finn c/o Dennis Fleck  
Box 99 Holland Road/Far Hills  
N.J. 07931

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Warwick, R.I. 02886

Paul Grosinski/1752 Burnet  
Ave./ Union, N.J. 07083

Larry Schmid/ Box 302/Tucka-  
hoe, N.J. 08250

Dwyer Q. Wedvick/P.O. Box 36  
HOHO-kus, N.J. 07423

Jose M. Vilar/831 sip St./  
Union City, N.J. 07083

Qual M. Grosinski/ 1752 Bur-  
net Ave./Union, N.J. 07083

Larry Deveau/154 Ashland Ave.  
Bloomfield, N.J. 07003

R. Dietzsch/532 Highland Ter-  
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N.Y. 11365

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10011

Michael Williams/1826 Barnes  
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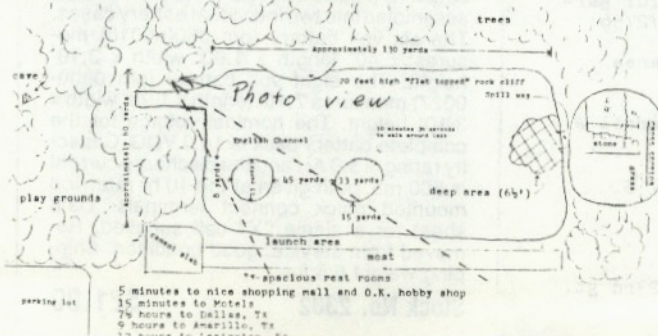
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Dr./Annapolis, MD 21403



This photo (by Flip Flip Flip Millholland) is of the lake that the 83 NATS will be held. The map below it shows the relationship between the photo and the lake. Thanks Flip.





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Dale Beaver/Rt #8 Box 38/Mary-  
ville, TN. 37801

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Clare Michigan 48617

Bob Spychalski/1514 Charmaine  
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Steve Metzler/2608 Lone pine  
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Ronald Picard/630 Bacon Road  
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Richard Braske/2181 Wetters  
rd./ Kaw Kawlin, Michigan  
48631

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Ct./Lexington, Ky 40502

Wayne Stevenson/6134 Twin Oak  
Dr./ Greendale WI 53129

David Ziegenbein/W 164 N 9110  
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ment Blvd #64/Concord, CA 94520

Craig Headaul/1303 Ivy Road Apt  
62 Bromerton, WA 98310

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Capistrano, CA 92693

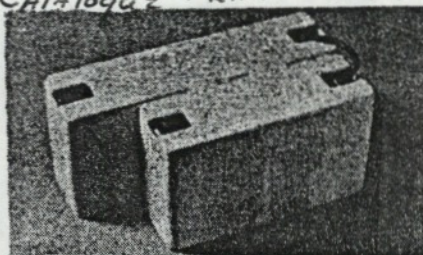
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AEAN Richard Lyons/VXE-6 Avio-  
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Text on page 98  
Catalogue Print # 831



## RECHARGEABLE BATTERY PACK 14 VDC at 5.0 AH

GATES ENERGY PRODUCTS ... re-chargeable sealed lead-acid system utilizes seven (p/n 0800-0004) 2V, 5.0AH "X" cells assembled into two individual battery cases. The six volt battery (p/n 0800-0010) measures: 5.40" length x 1.90" width x 3.10" height. The eight volt battery (p/n 0800-0027) measures 7.10" length x 1.90" width x 3.10" height. The nominal voltage for the complete battery pack is 14.0 VDC. Capacity rating is 5.0 AH and the discharge current is 500 ma, both given at the 10 hr rate. Top mounted quick connect terminals. Data sheet for a single "X" cell supplied. Removed from service, good condition. Shipping weight 6.5 lbs.

Stock No. 2302

\$21.00



## Helpful Items

### By Bob Spy.

Every time I work on these ships and do a little researching, I seem to find new items. The first item is props. I am handy at building things only if they are the size of a garage. I have made the props for the first ship. The props had many faults but they did function. They were out of balance and the vibration was noticeable. They were also cheap. In my search for a better solution, I have found "inexpensive" superbly crafted and functional props. They are silver soldered, well balanced - 3 bladed props. You can order any pitch for the prop because they are custom made. I have installed them on our new Salt Lake City cruiser and they work beautifully. The props come with a set screw for easy installation. The best part about the props is the service and price. They are not \$10.00 but \$3.50 each. A 4th blade can be added for a mere \$.75 per prop. The gentleman who makes the props is a courteous, prompt and skillful craftsman. If the picture I have sent does not reproduce well, you can see them in the 5th anniversary issue of Scale Ship Modeler. The article on the German E boat shows color photos of the props. The owner and builder of the boat is the person who makes the props. Information can be obtained from Exact Miniatures, PO Box 402, Oxford, Maryland 21654. Please, when requesting pricing, send a self-addressed stamped envelope. I would like to see the prices remain the same but postage is expensive.

The 2nd item I have to give credit to Dan Hamilton. At the '82 Regionals I broke a motor mount and did not have a spare. Dan walked over and said, y'all slap some of this clay down and that motor won't move a bit. Needless to say, I was skeptical but out of necessity I tried it. It really does work. Sorry I ever doubted you Dan. When I started building the new cruiser, I knew exactly what kind of motor mounts I was going to use, clay. After turning the city of Toledo inside out, there was no such clay available. I called Dan to find out what kind of clay he had. After talking to Dan, I found out it is not really clay but an electrical putty. The brand I found in Toledo is called "Duct Sealing Compound". A copy of the label is also included unless Fluegel forgets to put it in. It is easy to use and it does work. \*\*

Are you having a problem finding the Terry Darby made famous "Gates X-Cell" batteries? \*\*\* Well, here comes the Allies to the rescue again. The supplier is non-political and will sell even to those guys in the black hats (axis). We good guys in the white hats (allies) never have a problem (except for Mr. Schnieder). The place to obtain the batteries is Technical Electronics Corp., P.O. Box 2361, Woburn, MA 01888. They will take phone orders using Master Charge, Visa or COD. The phone number is (617) 935-7328. Their hours are 9 to 5 Monday through Friday and 9 to 1 on Saturday. These are EDT. They normally ship the same day. A copy of their advertisement is enclosed and should appear unless there is some axis foul play.

The last item I would like to mention is a follow-up of the last article on the MRC speed switch. I mentioned in the last article that I was unsure of the variation between stop and full speed. I am happy to report that the switch has more than enough variation. You can crawl along slowly, increase speed and can control the increase appropriately. I know it is durable because model boaters in this area have used them for years. So if you are having speed control problems I recommend you take a look at last month's article.

Well that's all from the Toledo Naval yards except, we would like to challenge any ship to a running time test. My son has run his new Salt Lake City at full speed for one hour and ten minutes with only a one second drop in speed. That's with only one set of batteries.

98

\* PLEASE SEND CHECK OR M.O. WITH ORDER - NO C.O.D.  
ADD 10 PERCENT POSTAGE  
CANADIAN'S REMIT BY INTERNATIONAL M.O.  
IN U.S. DOLLAR'S & ADD 15 PERCENT  
WE MANUFACTURE MANY SPECIAL FITTING'S  
IN MANY DIFFERENT SCALES  
SEND SKETCH OF PARTS FOR QUOTE'S

Props. R. & L. Hand	1"	3.50
	1 1/4"	3.50
7/82 Price List	1 1/2"	3.75
	1 3/4"	3.95

**\*\* 1 LB. DUCT SEALING COMPOUND**

catalog no. **DUX-1**

quantity **1**

need edp no. **3126-11500**

vendor item **GS O-Z / GEDNEY**  
A UNIT OF GENERAL SIGNAL • TERRYVILLE, CONN. 06766

A soft, fibrous, slightly tacky, non-hardening sealing compound easily applied by hand at all working temperatures. Clean and non-staining — can be painted. Excellent cohesive and adhesive properties. An ideal waterstop and moisture barrier for sealing between electrical cables and conduit ducts. A standard for weather sealing service entries.

### ALLIED RANK SUGGESTIONS

- Seaman.....willingness to man someone else's ship, be a crew member on a two man ship, or helping at contests.
- Ensign.....Building a ship.
- Lieutenant J.G...Launched a ship.
- Lieutenant.....Fights battle and wins by gunfire damage done, (not penalty points) Must have won the battle in a ship to ship challenge.
- Lt. Commander...Wins two battles by gunfire and won them in ship to ship challenges.
- Commander.....Has won 1 battle by gunfire and been to one championship.(Battle must have been ship to ship challenge.)
- Captain.....Has sunk a ship by gunfire or caused a ship to refuse battle due to gunfire damage.
- Commodore.....Combination of sinking and/or causing 3 ships to refuse battle due to gunfire damage.
- Rear Admiral....Has won any championship and has sunk a ship or cause a ship to refuse battle due to gunfire damage.
- Vice Admiral....Combination of sinking and/or causing 5 ships to refuse battle due to gunfire damage; and been to 3 championships.
- Admiral.....Combination of sinking and/or causing 5 ships to refuse battle due to gunfire damage and been to 5 championships.
- Fleet Admiral...Highest scoring Allied (Captain or above) at last championships.
- The officer with the highest rank and seniority commands his fleet at a battle and sets strategy.

Jeff Poindexter & Kay Poindexter



- 14.) O-rings have an indefinite shelf-life.
- 15.) The M.W.P.Co mini-guns has a 100 BB magazine.
- 16.) Screws work well as a deck-hold-down system.

CONCLUSION

How so I do it? The caliber of Hull Busters simply refuses to be anything but wonderful. Actually you are the ones to be commended. Thanks gobs to all the contributing authors! This Busters is unlike all the other Busters, it is longer, thanks to Flip Milholland, and it is late, thanks to Flip Milholland. Should you

**WE'VE  
MOVED!**



Fluegel  
3524 Gray Drive  
Mesquite, Texas 75150  
(214-681-9471)

wish to contribute to the Busters please send me your articles now. This long Busters has exhausted my supply of articles. If you type it, please (1)single space it, (2)make the lines 4 3/4 inches long, (3) title it and sign it (small). Also send it as soon as possible.

As winter is over and battling time is upon us, the flavor of Hull Busters will change for a while, less how to Articles and more battle reports. The "Ship of the Month" articles will re-appear. I am also working on a special article that I hope will be valuable to the rookies. This new article will be a list of items we use and where to get them. I need help-as always-to make this list comprehensive. I need the following information. Items name, cost, dimensions, and use. I also need any special ordering information i.e., minimum order, availability of catalog, catalog number, address of company and phone number, credit cards accepted, experience with delivery time ect. I'm excited about this article because I really believe it will help the ones who need the most help. By the way, polypak is out of business. Oh yeah, any items that you have tried and found unacceptable would also be appreciated.

By the way, On April the ninth a battle occurred in Amarillo. Unofficially I heard that three ships sank, the U.S.N. Tweety, U.S.N. Houston and the U.S.N. New Orleans. Obviously it sounds like the U.S.N. lost and the D.K.M. won. Maybe one of the participants will send us a Battle report. Also, don't forget that on April the 23 and 24 there is a Big Battle in Decatur, Alabama. I can't wait! One other reminder, if you wish to receive Steve Milholland's special edition of Hull Busters, send me your dollar soon. Well, I guess I better stop and say I sure am looking forward to being with all my dear friends this summer, they are the best part of the magnificent Obsession. Fluegel