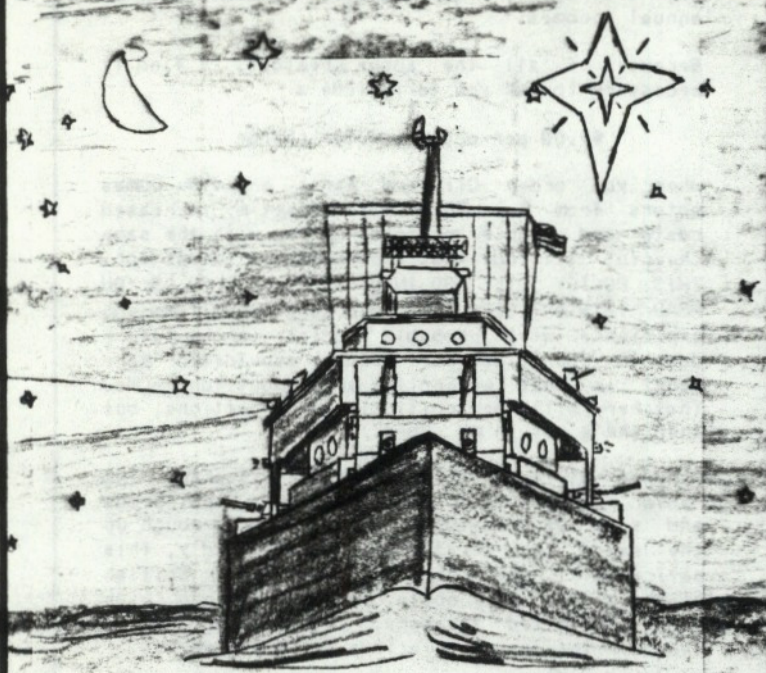


# Hull Busters



*Merry Christmas at Sea...*

*Chris Pearce*

## December 1985

### NATS TO YOU

Hello sports fans! I want to thank all of those people who have sent me suggestions and advice as to what they would like to see done at the 1986 Championship battle. I have heard many good ideas, and some not so good, but keep them coming. I want this event to cater to the desires of the battlers as much as possible.

I will probably be running a non-binding poll in the February issue of Hullbusters to resolve some of the areas about the Championship battle which are still unclear as to how best to organize things. It will save a lot of time at the beginning of the battling to resolve these questions well in advance. I also hope to publish the guidelines for the convoy battle in that same issue. I have been devoting most of my efforts to this one event, with the help of many other interested parties. Hopefully the whole mess will be exciting and enjoyable to participate in.

In rereading our rules, I have noticed we really have no mechanism to deal with that disagreeable issue of cheating. We do have a way to handle inadvertent violations of the rules with the so called "Certificates of Non-Compliance". However, there is no way to deal with people who specifically work to circumvent a rule or rules for some brief combat advantage. If you wonder why we even need worry about this issue,

### INTRODUCTION

A Howdy there Friends. I want MONEY! Your subscription is up and if your boilers need heating up this winter I'm sure some Hull Busters would do nicely. Well, Battling season is over and it's time to hibernate out in the garage! I've decided to be a better family man this year so I will talk a few tapes to my wife. It's important to take care of her because she selects my christmas gifts. We R/C Admirals need special types of gifts. You wives may want to get your admiral a special something but don't know exactly what to select. As a paid-up subscriber I extend my services to the wives of R/C combat: Just drop me a line and I will respond with a delightful gift idea for your husband: Maybe a dremel tool or grinder or exacto-knife kit. And if you're married to an Allie maybe a handsome sweater or monogrammed bowling ball bag...Ladies; make that check out to "Fluegel", it's only \$6.00!

Well, now that the R/C combat calendar has turned from combat to construction I hope to be compiling some construction columns but cannot if contributing authors don't cough them up.....stop that Fluegel.

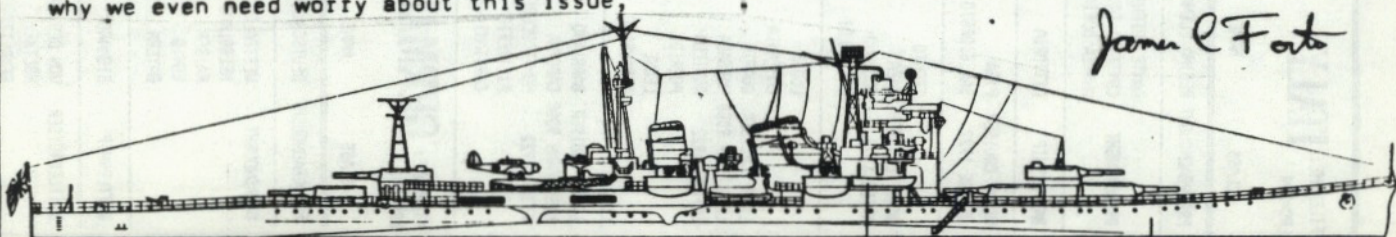
I feel certain that you're now properly prepared to read Hull Busters...good luck & good grief.  
by Fluegel

It is due to the fact that some individuals did cheat during the last Nationals! As an example of cheating, it would be very easy to build a speed control with an in-line resistor to meet the legal speed, but arrange to bypass this resistor by radio or other means for an increase in speed during battle. Another way to cheat would be to make two sets of rudders, one of legal area and the other quite larger which are switched out quickly for testing or combat. Still a third way to cheat would be loading more than 50 BBs in your guns. As you can see, there are many ways to cheat given the cleverness of the amoral person involved.

To punish anyone I or anyone else catches cheating (I will have the final say), The following penalties will be in force: For the first offense, the captain will have the choice of a 1000 point penalty or sitting out 1 fleet battle. The second offense will net 2000 points or sitting out two battles. The third offense will net 4000 points or four battles. And so on in an algebraic progression. If there are not enough fleet battles remaining in the week to allow that option to be taken, the point penalty will be applied exclusively. We may also want to consider placing anyone who cheats on probation for a year preventing them from competing in any club sanctioned events. Hopefully the individuals who cheated last year will compete fairly this year and no new people will join their ranks, as the whole subject is disagreeable to me!

Remember, the event is July 14-18, 1986.

*James E. Fort*



**NEW CLIPPARD PRICE POLICY**

As your friendly Clippard dealer, it has been my pleasure to serve the Allied members of our club (the Axis members I serve only out of a sense of British fair play). During the past 15 months, 68 orders have been filled from the famous Lombard address. I haven't kept accurate books (English gentlemen don't concern themselves with such mundane matters), but my solicitor informs me that I am running a slightly negative balance due mainly to my customer's failure to include postage after an order has been delivered. The overwhelming majority of the offenders are from the Berlin-Rome-Tokyo axis, and it's a shame that all must suffer for the sins of the few.

Also the absence of my dashing, brave, and handsome son (intrepid captain of the famous RODNEY) from my estate has created problems in the area of material pickup. John (The Duke of Lombard) is presently pursuing an advanced degree at Oxford and is no longer readily available for weekly runs to the Clippard dealer to fill orders. This forces his Lordship (me) to drive to the dealer; since they are only open from 8:30 AM to 5:00 PM, Monday through Friday, I must make special trips to procure the Clippard parts to fill your orders. This drill cuts into my grouse hunting time, and is deeply resented by me.

In addition, I have purchased mailing boxes and envelopes to use to insure that the merchandise I send to the stalwart band arrives in 100% A1 condition. All of these "extras" have cut into my funds, and have caused the entire enterprise

to become a slight cash drain on my limited estate. (Even we titled gentry do not have bottomless pockets.) The care and feeding of the RODNEY, SWIFTSURE, JAVELIN, ARETHUSA and SURCOUF do, after all, require a great percentage of my annual incomes.

Because of all the above reasons, I find it necessary to ask you to include a

**\$2.00 per order service charge**

when you order Clippard parts and 4.8v Dumas motors from me. This will offset my increased costs and enable me to serve you with the same cheerful attitude that I have become famous for. THIS POLICY WILL GO INTO EFFECT AS SOON AS YOU READ THIS ARTICLE. The order turnaround time you experience will probably increase in the future due to John's absence. (Slower service for more money is what we English are famous for -- Ms. Thatcher will be critical of my actions, but then she's not in my shoes.)

Keep a stiff upper lip about the situation. The "thin red line" will hold. You Huns, Nips, Frogs and sons of B(enito) will just have to cough up the extra cash to stay in the game. Sadly, this policy will even be extended to my British brothers and the noble Yanks (although, with their unlimited treasury, this will not bother them -- they usually include a tip already).

*Tom Jass*  
Tom Jass, DSO, OBE, VC, KBE, etc.

**FILENAME: ITALY**  
LRC-044

CLASS	NAME	# SHIPS	LOA (FEET)	BEAM (FEET)	STNDRD DISP (TONS)	FULL DISP (TONS)	HEAVY MODEL DISP (LBS)	ARMOUR (INCHES)	GUNS # DIA	SPEED (KNOTS)	BUILT	OFF/DEF CLASS	SPEED (SEC/100 FT)	
PREDREADNOUGHT	REGINA ELENA	4	474	74	12,800	14,100	10,578	10.0	4	12	21.00	1907-08	4	28
DREADNOUGHT	DANTE ALIGHIERI	1	552	87	20,000	21,400	16,204	9.5	12	12	23.00	1913	3	28
	CONTI DI CAVOUR	3	611	92	22,800	29,000	21,755	9.0	13	12	27.00	1914-15	3	26
	ANDREA DORIA	2	613	92	22,900	29,400	22,056	9.0	13	12	27.00	1914-15	3	26
BATTLESHIP	LITTORIA	3	790	107	40,000	46,200	34,659	13.5	9	15	30.00	1937-40	1	24
HEAVY CRUISER BEFORE 1922	PISA	2	461	23	9,800	10,400	7,952	7.9	4	10	23.00	1909	5	28
	SAN GIORGIO	2	470	24	10,000	11,900	8,927	7.9	4	10	24.00	1909-10	5	28
HEAVY CRUISER AFTER 1922	TRENTO	2	646	68	10,500	13,500	10,128	3.0	8	8	34.00	1928-29	4	24
	ZARA	4	599	68	11,900	14,600	10,953	5.9	8	8	32.00	1930-31	4	24
LIGHT CRUISER BEFORE 1922	BOLZANO	1	646	68	11,100	13,900	10,428	3.0	8	8	34.00	1933	4	24
	GARIBOLDI	2	614	62	9,500	11,600	8,702	5.1	10	6	34.00	1937	4	24
	LUBIA	1	367	48	3,800	4,500	3,376	3.9	2	6	22.00	1913	6	28
LIGHT CRUISER LESS THAN 9000 MARSA LA	CAMPANIA	2	272	42	2,500	3,200	2,400	0.0	6	6	15.00	1917	6	30
	QUARTO	1	432	42	3,300	3,400	2,551	1.5	6	4.7	28.00	1913	6	26
	MARSA LA	2	461	43	3,600	4,200	3,151	1.5	6	4.7	24.00	1913-14	6	28
HEAVY CRUISER BEFORE 1922	AQUILLA	4	308	31	1,400	1,800	1,350	0.0	3	6	36.00	1917-18	6	22
	POERIO	3	277	26	800	1,216	0.912	0.0	6	4	31.00	1915	6	24
	LEONE	3	372	34	1,900	2,300	1,725	1.0	8	4.7	34.00	1923-24	6	24
MIRABELLO	3	340	31	1,800	2,000	1,500	0.0	8	4	35.00	1916-17	6	22	
LIGHT CRUISER LESS THAN 9000 AFTER 1922	BARBIANO	4	555	51	5,200	7,000	5,251	1.0	8	6	36.00	1931-32	5	22
	CADORNA	2	555	51	5,400	7,900	5,926	1.0	8	6	36.00	1933	5	22
	MONTECUCOLI	2	598	55	7,500	8,900	6,677	2.3	8	6	36.00	1935	5	22
HEAVY CRUISER BEFORE 1922	FILIBERTO	2	613	58	8,700	11,500	8,627	4.1	8	6	36.00	1935-36	5	22
	CAPITANI	3	468	47	3,700	5,300	3,976	NONE	8	5.2	39.00	1942-43	5	22
	DEUTSCHLAND	5	419	73	13,200	14,200	10,653	9	4	11	18.00	1906-08	4	30
DREADNOUGHT	WESTFALEN	4	479	89	18,900	21,000	15,754	11.5	12	11	19.50	1909-10	3	28
	HELGOLAND	4	548	93	22,800	25,200	18,905	12	12	12	20.00	1911-12	3	28
BATTLESHIP	KONIG	4	580	97	25,500	29,200	21,905	14	10	12	21.00	1914	2	28
	BYERN	2	623	99	28,000	32,200	24,156	14	8	15	22.00	1916	2	28
BATTLESHIP	BISMARCK	2	813	118	42,000	53,500	40,135	13	8	15	29.00	1940-41	1	24
BATTLECRUISER BEFORE 1922	VON DER TANN	1	563	87	19,400	21,700	16,279	9.5	8	11	26.00	1910	3	26
	MOLTKE	2	611	97	22,600	25,300	18,980	11	10	11	27.00	1911-12	3	26
	SETOLITZ	1	658	93	25,000	28,600	21,455	11	10	11	26.50	1913	3	26
ARMORED CRUISER BEFORE 1922	HINDENBERG	3	689	95	26,180	31,000	23,256	12	8	12	26.50	1914-17	3	26
	SCHARHORST	2	770	98	32,000	38,900	29,182	14	9	11	32.00	1938-39	2	24
ARMORED CRUISER BEFORE 1922	SCHARHORST	2	474	71	11,600	12,800	9,602	3	8	8.2	22.00	1907-08	5	28
	BLUCHER	1	521	81	15,500	17,600	13,353	3	12	8.2	24.00	1909	5	28

**FILENAME: GERMANY**  
LRC-048

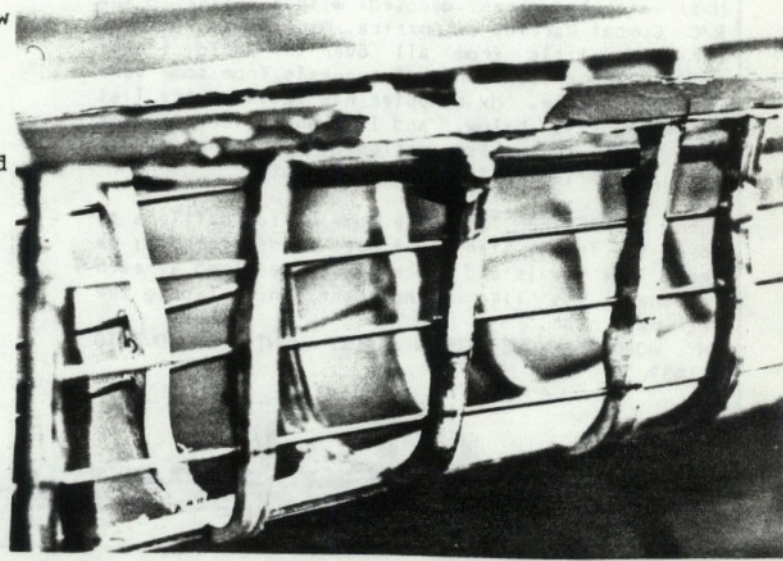
CLASS	NAME	# SHIPS	LOA (FEET)	BEAM (FEET)	STNDRD DISP (TONS)	FULL DISP (TONS)	HEAVY MODEL DISP (LBS)	ARMOUR (INCHES)	GUNS # DIA	SPEED (KNOTS)	BUILT	OFF/DEF CLASS	SPEED (SEC/100 FT)	
PREDREADNOUGHT	DEUTSCHLAND	5	419	73	13,200	14,200	10,653	9	4	11	18.00	1906-08	4	30
DREADNOUGHT	WESTFALEN	4	479	89	18,900	21,000	15,754	11.5	12	11	19.50	1909-10	3	28
	HELGOLAND	4	548	93	22,800	25,200	18,905	12	12	12	20.00	1911-12	3	28
BATTLESHIP	KONIG	4	580	97	25,500	29,200	21,905	14	10	12	21.00	1914	2	28
	BYERN	2	623	99	28,000	32,200	24,156	14	8	15	22.00	1916	2	28
BATTLESHIP	BISMARCK	2	813	118	42,000	53,500	40,135	13	8	15	29.00	1940-41	1	24
BATTLECRUISER BEFORE 1922	VON DER TANN	1	563	87	19,400	21,700	16,279	9.5	8	11	26.00	1910	3	26
	MOLTKE	2	611	97	22,600	25,300	18,980	11	10	11	27.00	1911-12	3	26
	SETOLITZ	1	658	93	25,000	28,600	21,455	11	10	11	26.50	1913	3	26
ARMORED CRUISER BEFORE 1922	HINDENBERG	3	689	95	26,180	31,000	23,256	12	8	12	26.50	1914-17	3	26
	SCHARHORST	2	770	98	32,000	38,900	29,182	14	9	11	32.00	1938-39	2	24
ARMORED CRUISER BEFORE 1922	SCHARHORST	2	474	71	11,600	12,800	9,602	3	8	8.2	22.00	1907-08	5	28
	BLUCHER	1	521	81	15,500	17,600	13,353	3	12	8.2	24.00	1909	5	28

# HOW TO AMOUR YOUR SHIP AGAINST RAMS By Fluegel

It's a little fuzzy to me but somehow on Tuesday night during Nationals I came up with a brilliant idea! Yes Another One! Just imagine this, you're steaming along on another mission of mercy and out of the blue huge Wisconsin and Alabamas come ramming down on your soft balsa waterline. What's an Axis to do?.....run steel bands around your ship!,, I told you it was brilliant. Now what obscure loop-hole in the rules can we "ram" this idea through. Well, if the armour had a gap of 1/8" between it and the inside of the hull skin then it would be legal and if the armour was piano-wire then it would work!

The way I did this was by first ripping the hull skin off the Lutzow....cry, sniff, blow nose. Next I drilled a hole in the #1 rib at the point I wanted to run the piano-wire. Up to this point any mere human can get the job done. This is where being an Axis comes in handy. Make the piano wire into a drill bit! That's right, cut a piece in half (18 inches long) and make the first 1/2 " of it look like a drill bit. It doesn't need to be perfect to work surprisingly well. Chuck up your new bit and slide it into the hole you pre-drilled into the #1 rib and start drilling from rib to rib to rib. After you have drilled 18" of ribs chuck up a 36" piano-wire bit and feed it through the holes you just drilled. When the chuck runs into #1 rib unchuck it and start over on the other side, very neat, very simple.

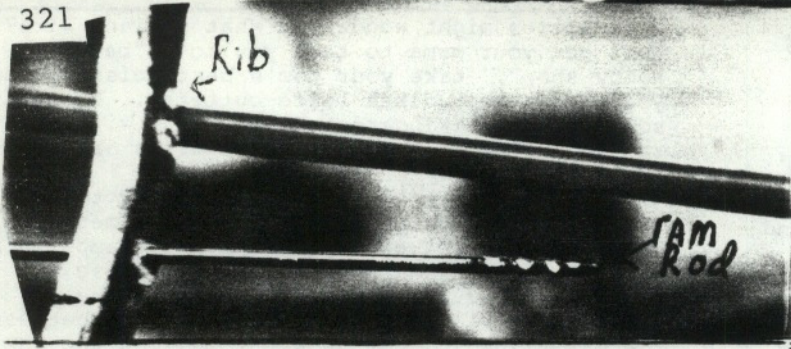
Allies might wonder..."what's piano wire?" Well get your mama to take you to a "better hobby shop", take your mom's best scissors and your dad's best dikes (wire-cutters). Look for some 32" red cardboard tubes. Shiny wire that ruins your parents scissors and dikes are in these tubes. Buy the 20 cent size. This wire is between 1/16" & 1/8". The way to cut this wire is with a dremel tool and a metal cutting disk. Dikes work but I get cramps in my neck from gritting my teeth. I ran these armour-belts 0.6" below the bottom of the waterline, 0.1" above the waterline and between the waterline and the deck. I believe the one below the water line is of significant value! The others were installed because I enjoy revelling in my own brilliance.



HEAVY CRUISER AFTER 1922	DEUTSCHLAND HIPPER PRINZ EUGEN	3 2 1	610 676 689	70 70 71	12,000 14,100 14,800	16,200 18,200 19,800	12,153 13,653 14,854	4 3.2 3.2	6 8 8	11 8 8	28.00 32.00 32.00	1933 1939 1940	4 4 4	26 24 24
LIGHT CRUISER LESS THAN 9000 BEFORE 1922	BREHEN STETLIN DRESDEN KOLBERG BRESLAU KARLSRUHE REGENSBURG FRANKFORT ELBING KONIGSBURG DRESDEN	1 3 3 2 4 4 2 2 2 4 2	378 378 385 389 428 455 446 477 444 497 512	43 43 44 46 44 45 45 46 45 47 47	3,400 3,400 3,500 3,700 4,400 4,600 4,900 5,200 4,400 5,400 5,600	3,800 4,000 4,100 4,300 4,900 6,200 6,400 6,600 5,300 7,100 7,500	2,851 3,001 3,076 3,226 3,676 4,201 4,651 4,801 3,976 5,326 5,626	2 2 2 3.9 3.5 2 2.4 2.4 2.3 2.5 2.5	10 10 10 10 12 12 12 12 8 8 8	4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 5.9 5.9 5.9	24.00 24.00 25.00 25.00 28.00 28.00 27.00 27.00 27.00 27.00 28.00	1907 1907 1907-08 1908-09 1909-11 1912 1914 1914 1915 1914 1916-17 1918	6 6 6 6 6 6 6 6 6 6 6	28 28 26 26 26 26 26 26 26 26 26
LIGHT CRUISER LESS THAN 9000 AFTER 1922	ENDEN KONIGSBURG LEIPZIG NURMBERG	1 3 1 1	509 571 581 595	47 50 53 54	5,600 6,700 7,000 8,500	7,000 8,400 8,400 8,500	5,251 6,302 6,302 6,377	1.5 2.7 2 2	8 9 9 9	5.9 5.9 5.9 5.9	29.00 32.00 32.00 32.00	1925 1929-30 1931 1935	5 5 5 5	26 24 24 24

## BRITIAN

FILENAME: LRC-009	CLASS	NAME	# SHIPS	LDK (FEET)	BEAM (FEET)	STNDR (FEET)	DISP (TONS)	FULL DISP (TONS)	HEAVY MODEL (LBS)	ARMOUR (INCHES)	GUNS (DIA)	SPEED (KNOTS)	BUILT	DEF CLASS	SEE 100 FT.
PREDREADNOUGHT	KING EDWARD	8	454	78	15,400	17,100	12,828	12,828	9.0	4	12	18.00	1905-07	4	3
	LORD NELSON	2	445	80	14,000	17,800	13,353	13,353	12.0	4	12	18.00	1909	4	3
DREADNOUGHT	DREADNOUGHT	1	527	82	18,000	21,800	16,354	16,354	11.0	10	12	21.00	1906	3	2
	BELLEPHON	3	526	83	18,400	22,100	16,579	16,579	10.0	10	12	22.00	1909	3	2
	ST. VINCENT	3	536	84	19,250	23,000	17,254	17,254	10.0	10	12	21.00	1910	3	2
	NEPTUNE	1	546	85	19,900	22,700	17,029	17,029	10.0	10	12	21.00	1911	3	2
	HERCULES	2	546	85	20,000	23,100	17,325	17,325	11.0	10	12	21.00	1911	3	2
	ORION	4	581	89	22,500	25,900	19,430	19,430	12.0	10	14	21.00	1912	3	2
	KING GEORGE	4	598	89	23,000	25,700	19,280	19,280	12.0	10	14	21.00	1912-13	3	2
	ERIN	1	560	92	23,000	25,300	18,980	18,980	12.0	10	14	21.00	1914	3	2
	AGINCOURT	1	672	89	27,500	30,300	22,731	22,731	9.0	14	12	22.00	1914	2	2
	IRON DUKE	4	623	90	25,000	29,600	22,266	22,266	12.0	10	14	21.00	1914	2	2
	O. ELIZABETH	4	640	104	27,500	36,500	27,382	27,382	13.0	4	15	25.00	1914-16	2	24
	REVENGE	5	624	89	27,500	35,400	24,557	24,557	13.0	4	15	23.00	1916-17	2	2
BATTLESHIP	NELSON	2	710	106	33,900	41,300	30,983	30,983	14.0	9	16	23.00	1927	1	2
	KING GEORGE	5	745	103	35,000	42,100	31,563	31,563	15.0	10	14	28.00	1940-42	1	2
	VAINGUARD	1	814	108	44,500	51,400	38,560	38,560	14.0	8	15	30.00	1946	1	24
BATTLECRUISER	IMPINCIBLE	3	567	79	17,250	20,100	15,079	15,079	6.0	8	12	25.00	1904-06	3	2
	INDIFATIGABL	3	590	80	18,800	22,100	16,579	16,579	6.0	8	12	25.00	1911-13	3	2
	LION	3	700	80	26,350	29,700	22,281	22,281	9.0	8	14	28.00	1912-13	3	24
	TIGER	1	784	91	26,500	35,700	26,782	26,782	9.0	8	14	30.00	1914	3	24
	COUAGREOUS	2	786	81	18,600	22,700	17,029	17,029	3.0	4	15	32.00	1915-16	3	24
	FUPTOUS	1	786	88	19,500	22,900	17,179	17,179	3.0	2	18	30.00	1917	3	24
	RENUMAN	2	794	90	26,500	36,100	26,582	26,582	9.0	5	15	36.00	1933-39	3	24
	HOOD	1	861	104	42,000	46,400	34,309	34,309	12.0	8	15	31.00	1920	2	2
ARMORED CRUISE BEFORE 1922	DEWINSHIRE	6	474	69	10,800	13,200	9,902	9,902	6.0	7	7.5	22.00	1906	5	2
	MINCHAIR	3	519	75	14,600	14,100	12,078	12,078	6.0	4	9.2	23.00	1908	5	2
	D. EDINBURGH	2	504	74	12,600	14,000	10,503	10,503	6.0	6	9.2	23.00	1904	5	2



D.W. FLUEGEL "I'd like three authoritative sources that show the BISMARCK to be a 35 knot ship. Also a "dollar pump" for the Dallas Cowboys offensive line -- the way the Bears riddled them, its doubtful if the franchise can stay afloat." THE BISMARCK IS A 29 KNOT TURKEY AND THE COWBOYS ARE LOSERS -- THEY'RE NO LONGER AMERICA'S TEAM, THEY'RE THE AXIS TEAM.

CARL CAMURATI "I'd like a new parrot -- one that sings "Rule Britannia". We need some class out here in Jersey. Maybe then those English captains would respect me." TEACH THE PARROT TO DO AN IMITATION OF GEORGE C. SCOTT IMITATING "IL DULCE". THEY'LL LOVE IT IN THE GARDEN STATE.

**A CHRISTMAS WISH LIST**

STEVE MILHOLLAND "I'd like a 8 foot by 4 foot reflecting pond in my front yard. Then I could retire the ALABAMA and the Von Fluegel trophy in real style. It would become the prime tourist attraction in Springfield.. just like in Mobile." GRANTED...SPRINGFIELD WILL BE FOREVER GRATEFUL. WOULD YOU ALSO LIKE TWO PINK PLASTIC FLAMINGOS TO SET OFF THE WHOLE DEAL?

MARTIN SCHNEIDER "I'd like a one piece mold for the superstructure of the TIRPITZ -- that way I could cast it out of epoxy and never have to repair it again. I'll bet I could win best of scale." YOU'LL WIN BEST OF SCALE WHEN CAMURATI WINS RESPECT FROM THE ALLIES.

TERRY DARBY "I'd like to go through a week at Nationals without being ram sunk. Maybe if the ALABAMA is enshrined in a reflecting pool I'll be safe."

STEVE HAS REQUESTED THAT THE PORTLAND BE IMPALED PERMANENTLY ON THE BOW OF THE ALABAMA AND PLACED IN THE REFLECTING POOL. SORRY, SMOKEY...

Ho, ho, ho! This is St. Nick (Santa Klaus is a Nazi and has been deposed) with a letter to the R/C Combat Warclub of America. As I looked over my Christmas lists from all over the world, I have noticed some very unusual requests from some very unusual people. My computer has isolated the list of screwballs below, and I'll share their wishes with you. I've also included my answer to each list in capital letters after each wish.

JEFF POINDEXTER "I'd like some Allied battlers to move to Texas. Stan and I need reinforcements; we feel like Travis and Crockett at the Alamo at each regional. Its like being Danny White facing the Bear pass rush." WHY WOULD ANYONE (EVEN AXIS) WANT TO MOVE TO TEXAS?



CCOR

CLASS	NAME	# SHIPS	LOA (FEET)	BEAN (FEET)	STNDRD DISP (TONS)	FULL DISP (TONS)	HEAVY MODEL DISP (LBS)	ARMOUR (INCHES)	GUNS #	DIA (INCHES)	SPEED (KNOTS)	BUILT	OFF/DEF CLASS	SPEED (SEC/100 FT)
LIGHT CRUISER LESS THAN 9000 AFTER 1922	DIAMOND	5	374	46	3,000	3,200	2,401	2.0	12	4	22.50	1905	6	28
	ADVENTURE	2	395	38	2,600	3,200	2,401	2.0	9	4	25.00	1905	6	26
	BADOLICEA	2	405	41	3,300	3,800	2,851	1.0	6	4	25.50	1909-11	6	26
	BLONDE	3	405	41	3,300	3,900	2,926	1.0	6	4	25.50	1909-11	6	26
	ACTIVE	2	405	41	3,400	4,000	3,001	1.0	10	4	25.50	1910-13	6	26
	CENTAUUR	2	446	42	4,100	4,900	3,676	3.0	5	6	29.00	1916	6	26
	CALEDON	4	450	43	4,200	5,000	3,751	3.0	5	6	29.00	1917-18	6	26
	CAROLINE	5	450	44	5,000	5,300	3,976	3.0	5	6	29.00	1918-22	6	26
	CAIRO	8	471	46	4,800	5,900	4,426	3.0	6	6	29.00	1918-22	6	26
	CHATHAM	6	458	44	5,400	6,000	4,501	3.0	8	6	25.50	1912-16	6	26
	EASTOR	4	446	42	3,700	5,000	3,751	3.0	2	6	29.00	1915-16	6	26
CAROLINE	6	446	42	3,700	4,700	3,526	3.0	2	6	29.00	1914-15	6	26	
CAROLINE	2	446	42	4,200	4,700	3,526	4.0	2	6	29.00	1915	6	26	
ARETHUSA	8	436	39	4,000	4,400	3,301	3.0	2	6	29.00	1914-15	6	26	
BRISTOL	5	453	47	4,200	5,300	3,976	2.0	8	6	25.00	1910	6	26	
MEYMOUTH	4	453	49	5,200	5,800	4,351	2.0	8	6	25.00	1911-12	6	26	
HEAVY CRUISER LESS THAN 9000 AFTER 1922	BERNARD	2	570	55	7,600	9,300	7,127	3.0	7	6	33.00	1926	5	24
	LEANDER	5	555	54	7,000	9,800	7,352	3.5	8	6	32.50	1933-35	5	24
	FEITH	3	542	57	7,000	9,400	7,052	3.5	8	6	32.50	1935-36	5	24
	ARETHUSA	4	506	51	5,300	7,400	5,551	3.0	6	6	32.30	1935-37	5	24
	BELLONA	5	512	51	6,800	7,600	5,701	3.0	8	5	32.00	1942-44	5	24
	DIPO	11	512	51	5,600	7,300	5,626	3.0	10	5	32.20	1940-42	5	24
	FIJI	11	556	62	8,600	11,100	8,327	3.5	12	6	32.00	1942-44	5	24
	HAWKINS	5	605	65	9,800	12,200	9,152	3.0	7	7.5	30.00	1925	4	24
	KENT	7	633	68	10,000	14,900	11,178	4.0	8	8	31.50	1928	4	24
	LONDON	4	633	64	10,000	14,900	11,178	4.0	8	8	32.30	1929	4	24
	NORFOLK	2	635	64	10,000	14,900	11,178	4.0	8	8	32.30	1930	4	24
NEW YORK	1	575	57	8,200	10,400	7,802	4.0	6	8	32.30	1930	4	24	
EXETER	1	575	58	8,400	11,000	8,252	4.0	6	8	32.00	1931	4	24	
SOUTHAMPTON	3	592	62	9,100	12,200	9,152	4.5	12	6	32.00	1937	4	24	
BLOOMSTER	5	592	62	9,400	12,300	9,227	4.5	12	6	32.30	1938-39	4	24	
EDINBURGH	2	614	63	10,000	14,900	11,178	4.5	12	6	32.50	1939	4	24	
SAITFSURE	2	556	63	9,000	11,500	8,627	3.5	9	6	31.50	1944	4	24	
SUPRE	1	556	64	9,000	11,600	8,702	3.5	9	6	31.50	1945	4	24	

**THE 1986 CONSTRUCTION RULES**

**CONSTRUCTION & CLASS RULES**

**A Construction Specifications**

1 All ships must comply with the following test to be able to participate in R/C Warship Combat.

- a. The ship is placed on its side. One end of a 18" by 3/16" brass tube is now placed against the ships hull skin an equal distance between two ribs (however, the hull skin shall penetrate anywhere between the two ribs). Insert a 12"x1/8" solid brass rod about 1/8" into the brass tube (do not use any lubricant in the tube or on the rod). Letting the rod fall through the tube and striking the hull skin should result in penetration of the ships hull skin. Maximum hull strength shall not exceed a 18" drop. It is recommended that a ship be built to 12 inches of drop to allow for battle repairs and hardening with age.
- b. Hull skin must penetrate in 3 out of 5 locations on first drop.
- c. Superstructure surfaces may be constructed of any material.
- d. Hull hardness testing (as described in para. a. above) shall be by challenge only. The challenger (except if Contest Director at a club sanctioned event) shall submit to the same test at the time of challenge.

JIM LISHER "I'd like a new pair of Levi cut-offs to wear during battling. I don't want a baggy pair of Sears shorts like the elder Jass wears, either."  
 IF GOD WANTED YOU (AND JASS) TO WEAR SHORTS HE WOULD HAVE GIVEN YOU DIFFERENT LEGS. COVER UP, THE GALS ARE GIGGLING.

JAMES WEST "I'd like a box of exploding BBs for the I-400. Have you ever been on the water with 10 BBs when everyone else has 200?"  
 AXIS' CAPTAINS ARE ONLY ALLOWED 10 BBs BECAUSE THAT'S AS HIGH AS THEY CAN COUNT.

DAVID HAYNES "I'd like to have a planset discovered of a Japanese heavy cruiser with a 10' beam. Do you know how hard it is to stuff the proverbial 20 pounds into a 10 pound hull?"  
 BUILD ALLIED...WHY BE ASSOCIATED WITH THE AXIS. YOU ARE THE ONLY AXIS WORTH SAVING.

MIKE DESKIN- "I'd like a Star Wars shield for the HOOD. Maybe Marty Hayes could start the software for it on his Macintosh. Even if it doesn't work the Axis will have to spend time and money to develop one of their own."  
 STAR WARS IS BEYOND THE TECHNICAL CAPABILITIES OF THE AXIS. THEY COULDN'T EVEN DEVELOP AN ATOMIC BOMB...DON'T WORRY.

JOE VILAR "I'd like to change sides and fight for the Allies. Why do the Allies treat me (and Carl) like we're war criminals just because we associate with Fluegel, West and Schneider? I just want some respect."  
 BY THEIR COMPANY YE SHALL KNOW THEM. HOW CAN ANYONE RESPECT THE ITALIAN NAVY?

DAN HAMILTON "I'd like a 396 cubic inch Corvette engine for my Bee. That way I'd finally have the fastest car in 'Bama. I also need a hobby shop closer than New York."  
 THE FASTEST CAR IN 'BAMA WILL ALWAYS BE A CHEVY. A CHEVY ENGINE WOULD REJECT A MOPAR BODY.

JAMES FOSTER "I'd like rewrite the entire R/C Warship Combat rules in 1986. The bozos who rewrote them last year did a rotten job. Can you imagine voting "yes" or "no" on a 300 page document?"  
 LEAVE THE RULES ALONE. THEY'RE PERFECT...EVEN THE AXIS CAN UNDERSTAND THEM.

JOHN JASS "I'd like a C in Calculus so I can go to the 1986 events — not to 1986 summer school".  
 YOU'LL MAKE IT. THE GODS LOOK WITH FAVOR ON THE PURE OF HEART ALLIED CAPTAINS. DID YOU KNOW MY FAVORITE UNCLE IS NAMED RODNEY?

MARTY HAYES "I'd like a planset of the RICHELIEU that shows her with a third turret on the stern. I'm working on the Star Wars software for Mike — we won't negotiate with the Axis about Star Wars, either."  
 SORRY, SIR MARTIN, NO THIRD TURRET. LAVISH YOUR LOVE AND CARE ON THE WARSPITE.

JEFF WEST "I'd like a rule change which would allow SSBNs to play our game. Can you imagine the damage a "boomer" could do to the Axis in a fleet battle?"  
 GRANTED. AFTER ALL, THE ENTIRE AXIS FLEET IS SUBMERGED DURING BATTLE ANYWAY. IT WOULD BE SUB VS. SUB.

STAN WATKINS "I'd like an operational torpedo (even a Mark I) so that the O'BANNON could have a chance against the TIRPITZ. I know how James West feels with only 10 BBS."  
 WRITE THE NORTHWEST CLUB...THEY'VE DEVELOPED TORPEDOS THAT HOME ON JUNK. THEY WOULD BE DEADLY.

CHRIS LAWSON "I'd like a 2 amp hour, 2 ounce battery so my 4 stack destroyer could get into battle. I'd like to know how it feels to be on the water with 10 BBs in a destroyer magazine."  
 EVEN I CAN'T FIND SUCH AN ITEM. HAVE YOU TRIED BAKING SODA AND VINEGAR?  
 CCNT

2. The total hull length that can be solid material shall not exceed 15% of the overall length of the hull. This includes ribs, solid material at bow and stern, and fillets. Measurement shall be made along the longitudinal centerline of the model (farthest point forward to farthest point aft of hard area).

a. A rib or keel shall be defined as any solid material attached to the hull skin, which is perpendicular to the plane of the waterline, and whose function is defining the shape of the hull.

b. Ribs and keel can be no thicker than 3/8 inch thick material.

c. Minimum spacing between ribs shall be no less than 1 inch from rib centers.

d. Solid material in the bow can extend no more than 2 inches aft from the extreme bow measured along the longitudinal centerline of the model.

e. Solid material in the stern can extend no more than 1 inch forward from the extreme stern measured along the longitudinal centerline of the model.

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

4. Impenetrable material may be used as hull skin, but must be at least 1 inch below the waterline.

a. The hull skin immediately around the prop and rudder shaft exits may be impenetrable material; it must not however, interfere with the inherent penetrability of the hull.

5. No water belts, double hull areas, watertight compartments, or other construction advantages may be taken that are attempts to defeat the scope of construction intent.

a. A watertight box(es) may be used for the purpose of protecting electronic equipment. This box(es) shall not have sufficient buoyancy to prevent the model from sinking (for the purposes of defining this paragraph only, a sinking is defined as a model that will completely submerge).

b. A water filled box(es) may be used to enclose a freon tank. This box(es) shall not enclose a total volume greater than two times the volume of the tank it encloses.

c. No interior box(es), bulkheads, or other interior construction shall subdivide the hull into separate compartments or that will affect the penetrability of the hull skin to BB entries.

6. A stringer shall be defined as any solid material that hull skin is attached to that forms the shape of the hull and is not classed as a rib.

a. No stringers shall be used unless the shape of the hull dictates.

b. The surface of the stringer which is against the penetrable area of the hull skin shall be no thicker than 1/8 inch material but may be any width.

c. There shall be no more than one stringer between any two ribs in the penetrable area of the hull (on both sides of the hull).

B. SCALE

1. Any ship laid down after Jan 1, 1984 shall be built to 1/144 to 1/1152 scale (with 2% error allowance).

2. Hull shape shall be relatively scale.

RICK SCHULTZ "I'd like to move to Springfield, Missouri. Do you know what its like to drive 20 hours to a meet -- with your father-in-law as company?"  
 IF YOU THINK A 20 HOUR DRIVE IS BAD...THINK ABOUT LIVING IN SPRINGFIELD FOR 365 DAYS PER YEAR. BORING.

TOM JASS "I'd like to publish HULL BUSTERS for a year. That rag needs some class. The photos are a disgrace. I'd make it into a dynamite publication -- just like the Bears are a class act."  
 NOT GRANTED. WITH THE BISMARCK SUNK AND THE COMBOYS SINKING, FLUEGEL NEEDS SOMETHING TO HOLD ON TO. HIS BLACK HEART IS BROKEN.  
 CHRIS PEARCE "I'd like a transfer from Michigan Tech to UCLA. Do you know how boring and cold it is up here?"  
 BEING AN ALLIED CAPTAIN TAKES FORTITUDE...ONLY AXIS QUIT.

BRIAN SCHNEIDER "I'd like a transfer from the Schneider family to the Allies. Do you know how boring and hot it is down here?"  
 THE SINS OF THE FATHER, UNTO THE SON.....STAY, HE NEEDS HELP.

MAYNE STEVENSON "I'd like Nationals to be held in September. Then my ship would be finished and I could ravish Fluegel."  
 FLUEGEL WILL ALWAYS SCHEDULE NATS IN JULY...HE CAN'T STAND ANY MORE RAVISHING.

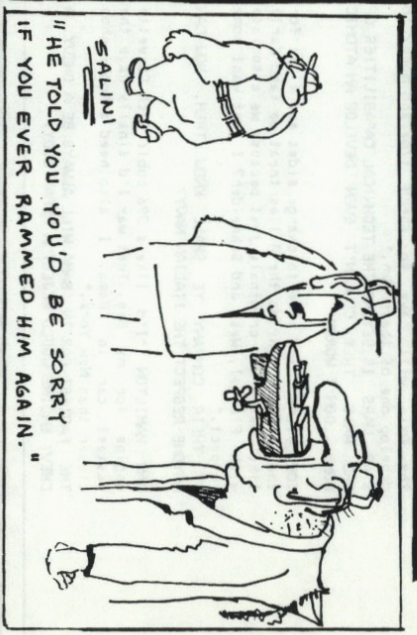
DAN SHEPARD "I'd like my dad and I to build a big ship. Why do we always have to build one small enough to fit into a suitcase?"  
 WHY DON'T YOU BUILD A POCKET BATTLESHIP OR MAYBE A 1/288 VERSION OF THE IOWA?

ERIC NOBLE "I'd like finish school and go to a warm climate."  
 AGREED...JUST STAY OUT OF TEXAS. JEFF NEEDS HELP, BUT YOU DON'T NEED TEXAS. YOU MIGHT TURN OUT LIKE FLUEGEL.

CHRIS ANDERS "I'd like to cancel my Army application and join the Navy."  
 SORRY, CHRIS, THE U.S. NAVY IS ALLIED, REMEMBER? YOU DESERVE TO POUND GROUND.  
 JEFF LIDE "I'd like to see the YAWATO in the water and battling at the 1984 Nats."  
 SO WOULD I. SO WOULD THE WISCONSIN.

Well, that completes the wish list that I was sent. A Merry Christmas to all the stalwart, courageous, handsome, intelligent, etc., Allies...the Axis stockings will be filled with coal and switches (for the tenth consecutive year). You think they'd see the folly of their ways and repent.  
 ST. NICHOLAS

*St. Nick*



3. Displacement of the model must fall between the scaled down standard and full load plus 10% displacement as specified by the IR/DWCC Ship List.

4. The center of the marked waterline of the model must be within 1/8 inch of the actual floating waterline of the model.

a. On ship classes 1 through 6 a ship model may have 1/4 inch wide tape or equivalent painted waterline and ships classes 7 and 8 may have a 1/8 inch wide tape or equivalent painted waterline or a scale width waterline may be used on any class ship.

- 5. The ship shall be equipped with a scale number of shafts.
- 6. Barrels must be installed in all non operational turrets.

C. RUDDER SPECIFICATIONS

- 1. The ship shall be equipped with a scale number of rudders.
- 2. The maximum total movable rudder area shall be by model class as follows.

Class	Area	Unit
Class 1	4.0	Square Inches
Class 2	3.0	" "
Class 3	2.5	" "
Class 4	2.0	" "
Class 5	1.75	" "
Class 6	1.50	" "
Class 7	1.0	" "
Class 8	1.0	" "

3. Ships with 2 or more rudders may have 50% more total rudder surface area than allowed above.

4. If a ship has a scale rudder or rudders which have more surface area than allowed above then that ship may have the scale surface area if it can be substantiated by three sources.

D. REVERSE

- 1. All model ships must be able to change from forward to reverse motion by radio control.

E. GUNS

- 1. A gun shall be defined as an offensive unit and shall not fire any projectile other than a BB (.177 inch diameter steel shot).
- 2. Maximum gun firing pressure shall not exceed the ambient temperature pressure of Freon 22.
- 3. All guns must be equipped to fire single shot.

a. A single shot gun is defined as one which fires one BB for each transmitter joystick movement from neutral to a fire position and return to neutral.

4. For test purposes a single shot gun will be allowed a 20% variance in the ratio of stick movement to BBs fired. Example: For 30 stick movements the gun may fire anywhere from 24 to 36 BBs and still be legal. The contest director shall determine compliance both with shore testing and firing characteristics during battle.

a. Single shot gun testing shall be by challenge only. The challengers guns will be tested at the same time as the challenged guns.

5. Guns must be placed in turrets or casemates occupied by the main battery of the ship modeled. No guns may be mounted near the waterline or below the waterline.

6. Bow and stern firing guns on all classes of ships cannot be angled more than 15 degrees either side of the longitudinal centerline of the model.

OBSERVATIONS OF THE FOUNDING FATHER  
By Stan Watkins

Greetings Combatants!

A current topic of some interest seems to be Convoy Battle. Some suggest that the convoy ships get guns, pumps, and or watertight bulkheads. Well we do need some type of incentive to build and captain a convoy ship but perhaps the answer is not to strengthen the convoy freighter but to weaken the convoy combatants. I therefore suggest that convoy battle be composed of the traditional convoy ship and only "Small Ship" combatants. I also believe that the Captain of the convoy ship should be given a generous number of battle points for surviving a mission and a cut of the damage points scored by the armed ships whether or not his mission is successful. In A Big Ship Well, now on to the "Small Ship In A Big Ship War" story of the O'Bannon in Decatur.

The O'Bannon once more became "carry-on luggage" on Thursday night October 17, 1985 on the 7:30 Southwest Airlines flight from Amarillo to Dallas. David Haynes of Abilene had offered Stan and Fluegel a ride to Decatur if Stan could get to Dallas by noon Friday October 18. The O'Bannon was hurriedly packed and flown to Dallas.

O'Bannon had been experiencing radio interference and Stan would change out her motors in Dallas Thursday night after his flight. The motors were changed out and the noise persisted. A spraying of WD-40 on the shafts then cleared up all interference problems! O'Bannon would fight at Decatur!

The O'Bannon gun servo proved to be too weak to operate the poppet valve on the morning of Saturday October 19. The O'Bannon would

therefore not participate in the first fleet battle. Terry Darby loaned Stan a servo to hook up to the gun system but it was not compatible. Stan's servo was reinstalled and the system was magically now functioning perfectly! Praise the Lord! One other ingredient was now necessary. Terry Darby had shown Stan the magic mending tape trick at the Nationals. A strip of tape over the gap in the O'Bannon's rear deck would keep her dry. Mary Hamilton was kind enough to take Stan to a store to get some of the tape. Now the O'Bannon was back in time to declare her readiness to go into the Second Fleet Battle. It was to be her first "Big Ship Fleet Battle" and Stan was nervous.

As the first sortie began Stan thought it prudent to stay near an American BB (Alabama seemed a good choice). Sure enough, Fluegel's DKM Lutzow was trying to flank the American fleet to get at O'Bannon. Some maneuvering around and this threat was overcome as Fluegel wanted no part of the Alabama's broadsides. Soon Stan developed some confidence in his spirited little ship and the "Big O" was soon on the prowl!

All at once the O'Bannon's gunights were filled to overflowing with an enemy behemoth. The HMS Marspite became O'Bannon's first "victim". The gun crews put two quick rounds into Marspite before making good the retreat. It felt good to get the better of an exchange with a powerful Battleship. The O'Bannon had now repeated history as the original O'Bannon had struggled it out with a Battleship at Guadal Canal in WWII and had survived.

CON'T

But he who lives by the gun dies by the gun and the O'Bannon was getting unwanted attention from Foster's Viribus Unitas. Three passes were made and the Viribus fired a broadside at the O'Bannon once but came up with no hits. Stan breathed a sigh of relief as he quickly fled the

7. Classes 1, 2, and 3 may have side shooting guns (any gun which is angled more than 15 degrees from the longitudinal centerline of the model).

a. During any sortie there shall be a maximum of one firing gun covering any specific side.

b. Side shooting guns may be down angled any amount allowed by the structure of the ship.

c. When battling one specific quadrant shall be left undefended at all times.

8. Rotating turrets are allowed on classes 1, 2, and 3.

a. Rotating turrets must not violate rules 7a. and 7c.

9. The ratio of offensive and defensive units is the choice of the captain but may not be changed during the course of a battle. Offensive unit positioning may be changed between sorties of a battle.

I. SPEED

1. The models maximum speed shall be determined by taking the real prototypes speed from the IR/CWCC Ships List and comparing it to the table below.

Prototype Max. Speed	Model Max. Speed
35 knots -	22 seconds/100 ft.
30 - 34 knots	24 "
25 - 29 knots	26 "
20 - 24 knots	28 "
15 - 19 knots	30 "
14 knots -	32 "

2. Speed testing will be by challenge only. The challengers ship will be speed tested at the same time.

3. Testing will be over a measured 100 foot course from a running start with fully charged batteries. The challenged ship will be piloted by the challenger and the challengers ship will be piloted by the captain he challenged. The timing will be done by the Contest Director or by someone appointed by him.

J. VIOLATIONS

1. A violation shall be defined as any ship that is not constructed in accordance with any one of or combination of the preceding construction rules.

2. Any ship suspected of being in violation of any rule shall be brought to the attention of the Contest Director. The Contest Director or someone appointed by him will immediately investigate the suspected violation and/or apply the appropriate test.

3. A Citation of Non-Compliance will be issued to any captain whose ship has been determined to be in violation of one or more construction rules.

a. All Citations of Non-Compliance will be submitted to the IR/CWCC secretary and kept on record. A copy of all outstanding citations will be mailed to the Contest Directors of all future IR/CWCC sanctioned events. The ship receiving the citation shall not compete in any future Club sanctioned event until it has been inspected and/or tested by a Contest Director and found to be in compliance with the rule(s) which was violated. This Contest Director shall then inform the IR/CWCC secretary that the ship is now in compliance and the outstanding citation will be stricken from record.

4. If a ship is in violation a secret ballot will be taken among all participating captains (both sides) to decide if the violating ship can compete without correcting the violation. If one dissenting vote is received that ship CANNOT compete until the violation is corrected.

a. If a battle is in progress this vote will occur prior to the next sortie. Otherwise, the vote will be taken prior to each subsequent battle as long as the ship is still in violation.

b. This voting will only be allowed during the sanctioned event in

6. Guns may be mounted in the superstructure if the main turrets are physically too small to house the gun.

7. Maximum gun elevation shall not exceed 10 degrees above horizontal.

8. All ships to legally enter a sanctioned event must have all superstructure parts which exceed one cubic inch in volume in place.

#### F. ADDITIONAL WEAPONS

1. Since the goal of the hobby is to conduct safe surface gun battles, other weapons such as mines, torpedos, ram bow usage, depth charges, rockets, fire acids, bases, etc., are not allowed.

#### G. PUMPS

1. A pump shall be defined as one defensive unit and shall not be of a positive displacement design.

2. A pump shall have one round 1/8 inch inside diameter discharge port that is measureable from the outside of the ship.

3. A pumps motor shall be no larger than the largest propulsion motor in the model.

4. A pump shall have only one intake.

#### H. WARSHIP CLASSES

1. Only ships which were launched between 1905 and 1946 inclusive and were completed will be legal to model (refer to IR/GNCC Ship List for legal ships). Listed below are the authorized classes and the offensive/defensive units allowed:

##### CLASS 1: 6 units

Battleships 33,000 tons and over.

##### CLASS 2: 5 units

Battleships 25,000 tons to 32,999 tons.

Battlecruisers 30,000 tons and above.

##### CLASS 3: 4 units

Battleships 24,999 tons and under.

Battlecruisers 29,999 and under.

##### CLASS 4: 3 units

Pre-Dreadnaughts battleships.

Heavy cruisers built after 1922.

Light cruisers above 9000 tons built after 1922.

##### CLASS 5: 2 units

Heavy cruisers built through 1922 (armored cruisers).

Light cruisers less than 8999 tons built after 1922.

CVAs Saratoga, Lexington, Akagi, and Kaga.

##### CLASS 6: 1 unit

Light cruisers built through 1922 (protected cruisers)

##### CLASS 7: 1 unit

Destroyers, destroyer leaders, submarines.

CVAs and CVs.

##### CLASS 8: 1 unit

Gunboats, CVLs and CVEs.

All other ship types not listed above.

2. All displacement values shown above are standard displacement.

3. All displacement tonnages listed above are in English tons (long tons) of 2240 pounds each.

4. All ships are classified according to their original AS BUILT specifications; reconstructions at a later date will not affect the class of the ship.

5. All classes except 7 and 8 will use a standard magazine load of 50 BBs per offensive unit. Class 7 will use load of 20 BBs. Class 8 will use a load of 10 BBs.



Scene. When all looked clear suddenly a round landed in the portside hull amidships. Where did the shot come from. Soon it was evident that the Warspite was after revenge for the previous exchange. The Captain yelled "two minute rule" and ordered "Flank Yell" and had over rudderi. The Big O did her capsize trick and all ashore (including her captain for a minute) thought she was lost. Then Stan remembered that the ship would fight herself again if he would simply give her opposite rudder. Stan did this and she came back up again. One of the combatants was heard to yell "When does the next show start?".

She had soon lost the Warspite and cleared the battle area. Soon the time had expired and she had survived her first Big Fleet battle. But what about the second sortie? Could she survive with the large hole in her hull? Probably she could so she was readied for the next sortie. The "Rest of the World" fleet declined the second sortie of the battle due to a shortage of ships. The O'Bannon was therefore allowed to patch her damage. Rick Schultz the Maryland's Captain took care of that for Stan while he was patching Maryland's holes. Thanks Rick.

On Sunday October 20, 1985 Stan's confidence in his ship and crew was rising to the point that he wanted to single out an enemy ship for destruction. The target would be the Cleveland driven by Mike Deskin. The O'Bannon would attack and attempt to put holes in her bow which should cause her to take on water when she made headway. Good plan but could she isolate Cleveland and could she hit her and could Cleveland sink O'Bannon?

As the sortie opened the Cleveland seared to hang back behind the rest of her fleet. The O'Bannon charged around the island and found her victim unescorted. Attack was the order and soon the Big O's gun was blazing away. Hits were heard. As the target moved the strategy of

hitting the bow was modified to hit the ship. Then the Cleveland was running and the O'Bannon was following. But the Cleveland's stern gun was keeping up a steady barrage. Suddenly the O'Bannon reeled from a hit in the bow then another and another. Two minute rule, Stan yelled and broke off the pursuit. The Cleveland did not seem to want to chase the O'Bannon so she was retiring in peace. It was a good thing. Big O's speed was falling off rapidly. Just as well, the hits might take on excessive water at high speed.

Just when things had settled down to the routine waiting, the Warspite blotted out the horizon. Oh no, the Big O would have no time to tick her wounds, she must run for her life! She headed toward the sheltered Estuary. But her speed was really down, Warspite was catching her! At any moment the deadly broadsides would blow out O'Bannon's midsection. Loy Rasmussen's Z-33 had fallen to that fate against a British battleship and now it was O'Bannon's turn to pay the price.

The Estuary was now in sight and soon O'Bannon was crossing the barrier that the Warspite could not cross. But as she attempted to turn and enter the sheltered port area she found that she must back up and turn and back again and turn to cope the sharp multiple turn. As she began to back up in the first part of this maneuver the terrible bow gun of the Warspite shouted out its anger at the presumptuous pest. The O'Bannon read under the impact but kept on turning. Sneaking from her hull could be seen flying through the air as high holes appeared in her hull. Damage control reported that a hit at the waterline was causing rapid flooding. But finally the O'Bannon completed the final maneuver and headed down the channel into the sheltered port. Then the time that had expired and she had survived.

But she would now have to make the decision to decline battle and cost her fleet 150 points or



risk the sink. After discussions with the other American Captains assistance was pledged and the decision was made to "Go for it!". The Warspite would be after her again but the USS New York would shield her from fire.

She was launched and the Two minute rule was declared at once. The Warspite was seen approaching. Why was she so bent on O'Bannon's destruction? The New York was protecting O'Bannon from the Warspite's fire like a roof protects against the rain. Thanks Dan. Not a single new hit! But with about 30 seconds left in the two minute rule, the O'Bannon drifted slightly ashore and tilted the holes under the water. She filled rapidly and sank. Sunk by gunfire for the first time.

Captain Watkins was haunted by the question, could the O'Bannon have survived if he had put her in a gentle turn to cause a list away from the holes on her port side. By turning to the starboard ship would list to starboard and raise the holes above the water. On October 27, 1935 the question was answered. The O'Bannon was sailed with the same holes, batteries, and other conditions and put in a starboard turn. She took on some water but easily survived the 2 minutes. She could have survived. Live and learn.

Well, That's it for this issue.

Stan

Let's Battle!



News From "BATTLE GROUP BB63"

*Steve Milkolland*

November 1985  
Springfield, Missouri

NEWSFLASH, Official !!!!! "BATTLE GROUP BB63" is now sponsored by the Springfield Park Board. Back in September Mr. Fred Obert, our contact at the Park Board, called me and said that the public response to the Nationals this year and the last couple of years has been so widespread that they wanted to sponsor our local club. They felt that the hobby was something that the public in the Springfield area could possibly get involved in. Mr. Obert said that the Park Board wanted to work with our club just like their other programs such as the city wide volleyball, softball, and basketball leagues, ceramic workshops, chess club, and other hobby activities. As the result of several phone calls and one meeting the requirements of the Park Board and the Club were exchanged and an agreement was reached. "BATTLE GROUP BB63" now has the use of Ray Kelley Craft Center on every second and fourth Tuesday of each month. An added benefit of this sponsorship is that the Park Board will be helping with advertizing our meetings and any future events that we may have.

Meetings have been starting at 7:00 PM and have been lasting about 3 hours. The emphasis has been on "Hands on workshop". At the last meeting there were five ships under construction.

Here is a little rundown on a few of the new members to our local Club. Mickey Ashlock has the framework cut out for a Pensacola. John and Howard Paulson (another father and son team) have the hull assembled but not sheeted for another Pensacola. They have already purchased a four channel radio and Dumas motors. Ron Christlieb has a completed hull for a Lutrow. It is sheeted and has a fiberglass bottom. J.D. (Sarge) Wetherington is a retired Air Force rating who is an avid R/C aircraft man. He has plans for a Naichi and New Orleans and claims that both will be afloat by next Nationals.

Now for news of the old timers of our group. A lot of new construction is going on here. Dave Garrett has the hull complete and some machinery installed in a model of the Italian BB Dante Aligheri. Chris Lawson is cutting out ribs for an Alaska class CB. Jim Lisher and yours truly are working jointly on two South Dakota class BBs. Jim is building the South Dakota and I am building a replacement for the original USS Alabama. The most prolific builder is James Foster. He currently has three ships on the building ways. Frameworks are complete for a San Diego class CL and the Vittorio Veneto, another Italian BB. The hull is complete for another ship but I believe that the ID of this one is being kept under wraps for the time being.

I guess I'll close for now. Keep your freon dry.

## Northeastern News

Well, it's becoming ice breaker weather again in the north and everyone seems to be busy in the boat yards. A great number of ships seem to be under construction this winter and we should see a large turnout in next year's spring regionals.

Some of the ships which I know about are: Two large Italian BB's of the Vittorio Veneto class are under construction in New York (Carl & Joe), a Zara class cruiser is being built by Rick Schultz in Maryland (we may disown him). Rick's old Massachusetts has been sold to his sister and is being refitted for battle, Danny Schultz is still fitting out the Colorado (this time with more guns), Bob Amend is well along on the South Dakota, an Iowa class BB is being built in Glen Burnie, Maryland by Dan Hayes, 7936 Cross Creek Drive (send tapes) and Mark Hayden claims this will be the year he gets his New Orleans cruiser into battle. As for me, the Warspite is presently in my drydock, being reconditioned for next year.

All in all, this may be the year of the BIG BB's with six units being allocated to them. I can't wait to see how these big ships do on our small lake with all of the islands. I hope to see some of our old members get out this coming year and do some battle. We have missed you guys out there and look at all of the cannon fodder that will be afloat (for awhile) next year.

Rick Schultz has been 'appointed' to head up the committee for the spring regionals in Maryland for next year. The dates are June 7th and 8th so put them on your calendar. We hope to be using the same lake again this year (picture at top of page). The hotels will be the same again also. Information packets will be available and will include hotel information, maps of the area, and last wills and testaments for Axis captains. For info. packets write to Rick Schultz, RR#1 Box 263K, Queenstown, Maryland 21658.

Rick, Mike Deskin, and myself went to the Southeastern Regionals in Decatur, Ala. and had a great time. Mike rode down on his motor cycle with his sister and didn't bring a ship with him. He managed to get in some battling with a borrowed ship, the Cleveland. Rick and I drove down in my station wagon. Rick had the Maryland and I brought the Warspite. The Warspite got caught up in a little bit of history when it saw Stan's destroyer and took the bit in it's teeth. After chasing the poor little thing into the shallows, it had to be run off by the big bad Alabama and Maryland. The Warspite got paid back on Sunday when it had to be declared sunk after Foster blew a big hole in it's side. The Maryland survived the trip south with only minor battle damage for the weekend. The people down there indicated some interest in attending our regionals this coming spring and we hope they can. The spring regionals in the Southeast will be in early May (which is one reason we picked early June for our regionals). Rick and I hope to attend their spring regionals but have made no firm promises.

I hope to have a new boat yard soon, the computer room (den) breaths a sign of relief. I'm having a garage built behind the house and I've already told my sons-in-laws that no cars will ever see the inside. Everyone knows garages are not for cars. I'll make a good repair base for regionals, I think.

Marty Hayes, Capt of the Warspite

## Vicious Rumors By Oliver Smith

It has been said that the Axis fleet displays poor scale appearance. Nothing could be further than the truth. Actually, they're very true to life, when you consider how the real ships look now...

Bulletin from the Secretary of the Navy well men the winter is closing in. Time for the building and refitting. The following are probably the final scores under the old rules as we eagerly await the spring and the new year. These are the scores as reported to me as of November 22th 1955.

1. Carl Camurati -----	6,635
2. Rick Schultz -----	6,234
3. David Haynes -----	6,042
4. Steve Milholland -----	4,137
5. Marty Hayes -----	3,914
6. James West -----	3,037
7. Terry Darby -----	2,924
8. D.W. Fluegel -----	2,840
9. Martin Schnieder -----	2,587
10. Bob Amend -----	2,500
11. James Foster -----	1,780
12. Dan Hamilton -----	1,440
13. Brian Schnieder -----	1,337
14. John Jass -----	880
15. Dan Schultz -----	865
16. Stan Watkins -----	601
17. Mike Deskin -----	524
18. Gerald Roberts -----	455
19. Tom Jass -----	437
20. Jim Lisher -----	140
21. Wayne Stevenson -----	138
22. Jeff West -----	110
23. Jeff Poindexter -----	68

*Dan*

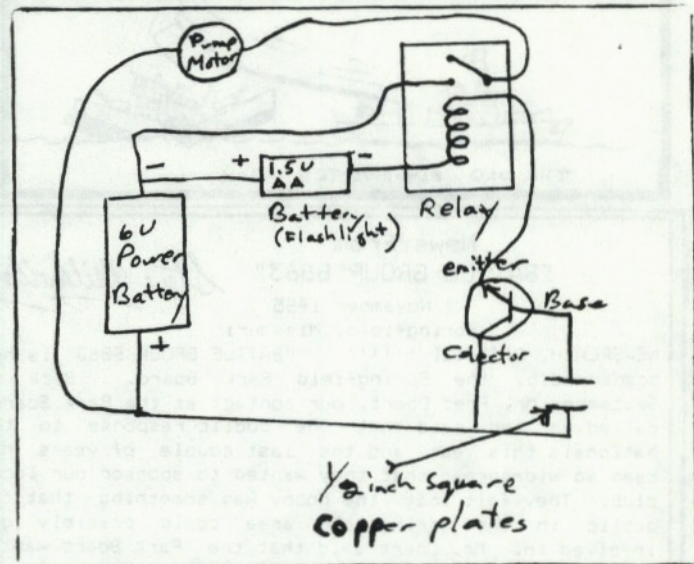
## Pump Turn Systems and Speed Controls

*ca*  
By Schnieder

I am not going to repeat my pump turn on system article from about three years ago. In it I described float switches, relay alone and using transistor alone for a turn on system. There really isn't anything badly wrong with any of them. As a matter of fact, had I continued to use 12 volt motors I would have probably continued the transistor alone system. It is cheap, simple, and it works all of the time. There is a 1.2 volt drop across the transistor which is a 10% drop in power but translated into pump efficiency this is only a 5% loss and in the days of 4 pumps in a battleship with unlimited outlet size this was never a problem. When rule changes demanded greater power, and I went to 6 volt motors, I was looking at a 20% power loss and a 10% loss in pumping ability. This still isn't a lot less. An obvious answer was to combine the relay and transistor system and this has no voltage drop yet doesn't require a lot of voltage to operate as the relay alone system alone system does. Basically this system uses a transistor to turn on the relay. I have used this system for two years and it has never failed. I have had pump failure for other reasons but never because of the pump turn on system.

The above system is basically designed for 6 volts. The transistor is from Radio Shack "TIP 120 NPN Darlington Transistor. The relay is NOT readily available. You can get it from Digikey Corporation 701 Brooks Ave South PO box 677 Three River Falls, Minnesota 56701 part #2423D. Any relay will do provid-

ing the coil rating is 6 volts and the contact rating for the contacts is sufficient for your motor. By now you are probably wondering why the flashlight battery is stuck in there. There is 1.2 volts drop across the transistor and this only leaves the relay 4.8 volts which is marginal. I have been unable to find any relay with a 4.8 volt coil rating with sufficient contact rating. The battery makes up for this. There is a way to simplify construction in that the "collector" of the transistor is grounded to the heat sink tab so if you solder a piece of metal to the pump base (or pump motor if the whole thing is made in one piece) and bolt the transistor to it, the lower plate is not necessary. The pump base has to be metal. If it is not you must use two plates as shown.



Now some notes on speed controls and speed limiting devices. Aside from changing the number of batteries and type of motor there is still a great possibility you might be needing some sort of resistor to adjust the speed of your ship. The way this is done usually is with resistors. These aren't always easy to find in the right wattage and resistance. An alternative to this is to use diodes. There is a .6 volt drop across each silicon diode so by putting one in the circuit you drop the voltage precisely .6 volts for every one you put in. Be sure the amp rating is sufficient. These can be arranged in parallel if you can't find one with high enough amperage. Please also note that current only flows through them in one direction so they must be in the circuit before the reversing switch. I have not actually used the above but they are used exactly this way in some voltage regulators. They precisely drop the voltage available which is usually only determined by trial and error. If you don't understand the above do yourself a favor and give your mind some exercise by reading UNDERSTANDING SOLID STATE ELECTRONICS. Radio Shack sells it. You only need to read the first half or so. Don't let it scare you. It is a lot more interesting than reading about how the bad guys won World War Two. Vive El Duce.

## Allied War Crimes

By Rolf Jones

Not only did the Allies have the gall to fight the Axis this year, but it has been discovered that their ships were powered by thousands of miniature slave laborers. How disgusting. I move that the responsible parties be hanged and shot, at the same time. Oh, by the way, Stalin's grave is a communist plot...

## WATERTIGHT ALIBI

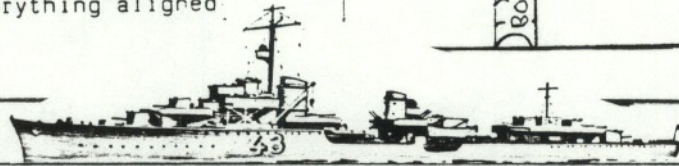
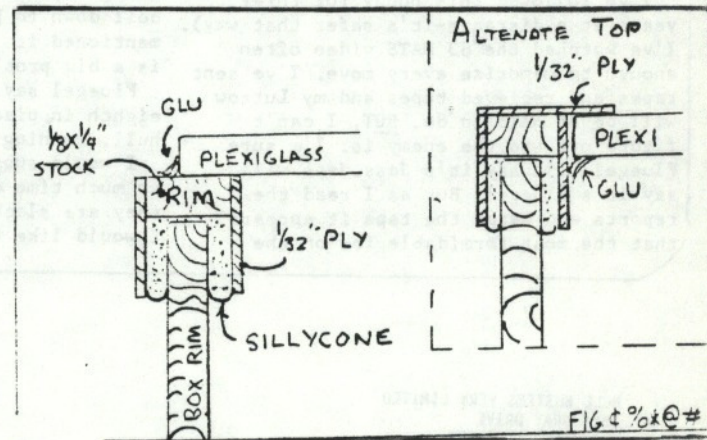
Or is that airtight? Anyway, with this watertight box you can have both! Some of you have seen and may remember the watertight box design I used in the Viribus Unitas consisting of a shoebox type lid rather than the standard flat plexiglass sheet and seal. This design has been tested under combat conditions several times and has performed perfectly. The best test came on Thursday of the Nationals when the Rodney ram sank the Unitas (sorry John, I can't help rubbing it in!). The water depth was five feet and the Unitas was under for about two minutes while I tried to find her. The total leakage during this time was about a 1/4 teaspoon. The other sinks the box has endured have also resulted in water amounts of 1/2 tsp. or less. I would say the design is proven.

Construction is a simple matter. Build a box of ample size to hold your radio gear. I use 1/8 inch ply for all the sides but where the valves go through which requires 1/16 inch ply. Leave at least 3/8 inch clearance between the top of the sides and the under side of your deck. You could save 1/4 inch of clearance by putting the plexiglass inside the lid instead of on top, however. Waterproof this box and set aside to dry (I use epoxy). Next build sufficient channel out of 1/8 X 1/4 inch stock and 1/32 inch ply to make a rim completely around the box. Cut the channel to the correct lengths and angles needed and glue together to make a complete rim. You want the edge of the box to be centered in the channels of the rim. Coat the top edges of the box liberally with Vaseline and fill the channels of the rim with silicone. Carefully press the rim onto the box keeping everything aligned.

and centered. Set aside at least overnight to cure. After the silicone has cured remove the rim carefully and trim away any excess silicone. Afterwards glue the plexiglass on top of the rim or inside the rim with the addition of 1/32 inch ply glued to the top of the rim assembly. Waterproof the top and you are ready to go! See figure #2\* for a picture or two.

One problem you may encounter with this box is difficulty in putting the lid on. The assembly is so airtight that pressure inside the box will keep pushing the lid up. You could drill a hole and stick a cork in it to bleed the excess pressure off, or perhaps install a valve to bleed off the excess pressure. Another idea is simply to install some kind of clamping system to hold the pressure inside by holding the top down. Its up to you. Also, I always lubricate the silicone seal surface with Vaseline to prevent wear and tear before every battle.

*James C. Fats*



Cut Here

## THE LAST HULLBUSTERS

By Editor

Well, this is your last copy of Hullbusters! That's right, everybody's time is up. No more sick junk mail polluting your mail box. No more viscious rumors, no more out-and-out lies and best of all, no more Tom Jass! Gosh, my tender Axis heart is getting sentimental. So, I prefer to look at it this way..Everybody owes me Money! Since your mailing me the \$6.00 please feel obligated to fill in the survey. It's for all subscribers.  
 #1. I am a member of the combat club in the northwest.yes \_\_\_ no \_\_\_.#2: I am a member of the "R/C Combat Club".yes \_\_\_ no \_\_\_.#3. I have

battled.yes \_\_\_ no \_\_\_.#4. I read Hullbusters in public! yes \_\_\_ of course not \_\_\_.#5. I wish the ships could go faster \_\_\_ slower \_\_\_ Current rules are fine \_\_\_.#6. I think there should be greater emphasis on the non-battling aspects of the hobby.yes \_\_\_ no \_\_\_.#7 I would like to see the club dues lowered \_\_\_ raised \_\_\_ no opinion \_\_\_.#8. I believe this hobby will involve thousands of people within 20 years.yes \_\_\_ no \_\_\_ HaHaHa certainly not \_\_\_.#9 I am coming to the NATS as an Axis \_\_\_ Allie \_\_\_ not at all \_\_\_.#10. In order to increase the range of combat I would support a rule that established a minimum range.yes \_\_\_ no \_\_\_ . Check the items that you feel don't belong in the hobby,#11.convoy \_\_\_ #12.Shore bombardment \_\_\_ #13.night battle \_\_\_ #14.Submarines \_\_\_ #15.Tom Jass X.

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NOW HEAR THIS

Cast off all lines prepare for the fourth annual Spring Southeastern Regionals. This will be one of the first battles of the new year and time to try out all those new big Battleships, Battle Cruisers, Cruisers, and Destroyers under the new rules. Everybody I've talked to and myself are all excited and eager about the new ships and the new rules. The dates for this event are the first weekend in May (May ~~third and fourth~~). The place Decatur Alabama. The event will be N.A.M.-B.A. sanctioned(unless changes occur in our insurance) and all Club Rules will be followed. There will be two 2 sorti fleet battles on Saturday followed by individual combat that can be either 1 or 2 sorties. There will be one 2 sorti fleet battle on Sunday followed by individual combat. The regular ribbons will be awarded for winning fleet and individual combat. You could take home the traveling trophy if you can take it away from Steve Milholland. The traveling trophy is given to the person with the highest

point total which means winning in some individual combat. This time for the first time we'll be presenting a small best of scale trophy in order to recognize some fine building skills and encourage people to maintain their ships quality thru out the year. You must compete in four of the scheduled sorties in either fleet or individual combat to be eligible for the best of scale award and the winner be determined by a vote of all participants after four o'clock on Sunday. If you are interested write me Dan Hamilton at route #3 box 558 Decatur Alabama 35603 or call 205-355-1563 for an entry form which will include further information about where to stay in town and other things. There will be a ten dollar fee for entry and a five dollar late fee if it is recieved after Monday April 21th 1986. It helps us to prepare for you if we know you're coming at least two weeks in advance with frequency arrangements, fleet arrangements, number of awards, and other things. We'd love to see you in the spring so write or call us soon.

*Dan and Mary*

THE REAL ENEMY

By CURLY BARRETT

I've followed this hobby for three years(at a distance-it's safer that way). I've watched the '83 NATS video often enough to memorize every move. I've sent tapes and recieved tapes and my Lutzow will be at NATS in '86. BUT, I can't figure out who the enemy is. I'm sure Fluegel will say it's Jass. Jass will say it's Fluegel. But as I read the reports and watch the tape it appears that the most formidable foe on the

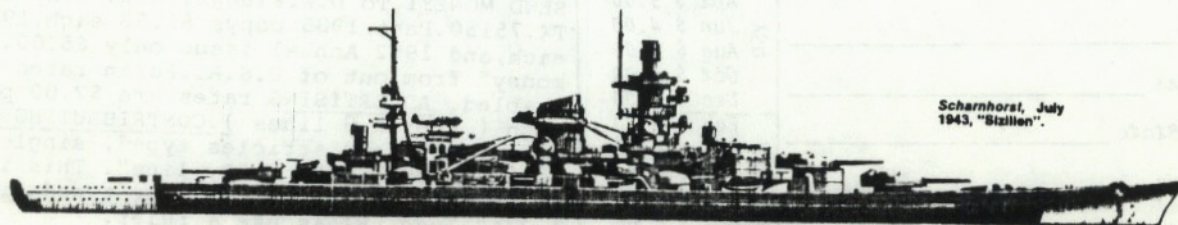
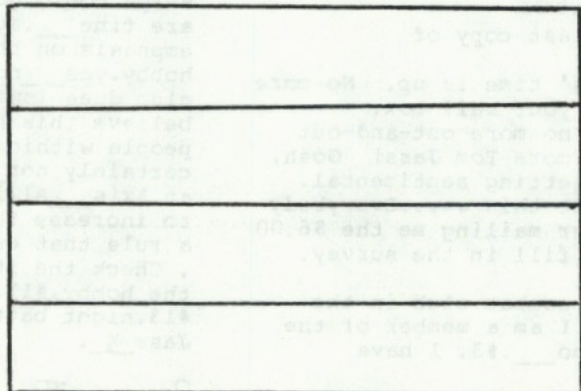
water is the bow of a ship--ANY ship. Hundreds of hours of building, Tweaking the guns, Sea trials. It all seems to boil down to RAM DAMAGE!! Chris Pearce mentioned it in the 8/85 Hull Buster. It is a big problem.

Fluegel says I should put a one-eighth in piano wire just inside the hull. running 1/4"(through the ribs)Deep.

I would suggest that the hobby spends so much time combating one another that they are slack in the area of seamanship. I would like to see a contest which was

set up to show the maneuverability of the ship and the command that the ships admiral had. An obstacle course and/or a driving course. It would do no damage to the ships and might teach better habits on the water. I might take great pride in sinking Jeff Wests Iowa Class if I shot it out from under him(dream on LUTZOW) but if I Ram sink him I will feel like an \*#@?\$( translates to: ALLIED CAPTAIN) I'd like to hear other peoples point of view on this.

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Scharnhorst, July 1943, "Bismarck".