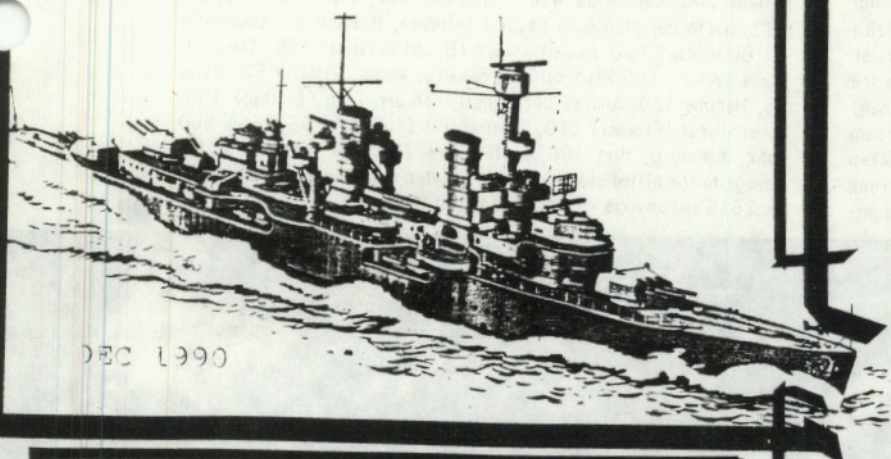


HULL BUSTERS



DEC 1990

SCALING UP PLANS by Steve Smith

Have you ever found that the only plans you can find of our "dream" ship are a 5" long line drawing in book? I frequently go to a self-service copy shop (Kinko's which is nationwide) to enlarge or reduce plans to 1/144th scale. Most copiers with variable enlargement/reduction are limited to a range of 60% reduction to 141% enlargement. When outside of this range, here is a way to figure out the number of generations and percentage setting to get to your size. It helps to have a scientific calculator (\$12-\$15) but a math textbook with logarithm tables would help if you don't have one.

For example, in 1/144th scale (1" = 12') say a ship is 50" long and the plan is 5" long (this is assuming you know the basic dimensions of the ship; length, beam, draft). This would require a 1000% enlargement (50/5 = 10.00) which is more than 141%. This means you will have to enlarge it in steps, making an enlargement of the original, and then making an enlargement of that copy, and continuing on until you reach your desired size. To determine the number of steps and the percentage setting, use the exponential function of the calculator (y key). "y" = size ratio (50/5 or 10 in this case). "x" = the inverse of the number of steps (1/3 = .3333, 1/4 = .25, 1/5 = .2, etc.) Try an increasing number of steps until your answer is 1.41 (141%) or less. In this case, $10^{1/7} = 1.389$, so to get the right size copy, copy 7 times at 139%.

As the copier probably has some error, you may want to check if the final copy is accurate by using a known dimension. Check the copy for both horizontal and vertical accuracy if possible and make an enlargement or reduction of the last copy if necessary.

Friday Action at Nationals - from the deck of the Warspite.

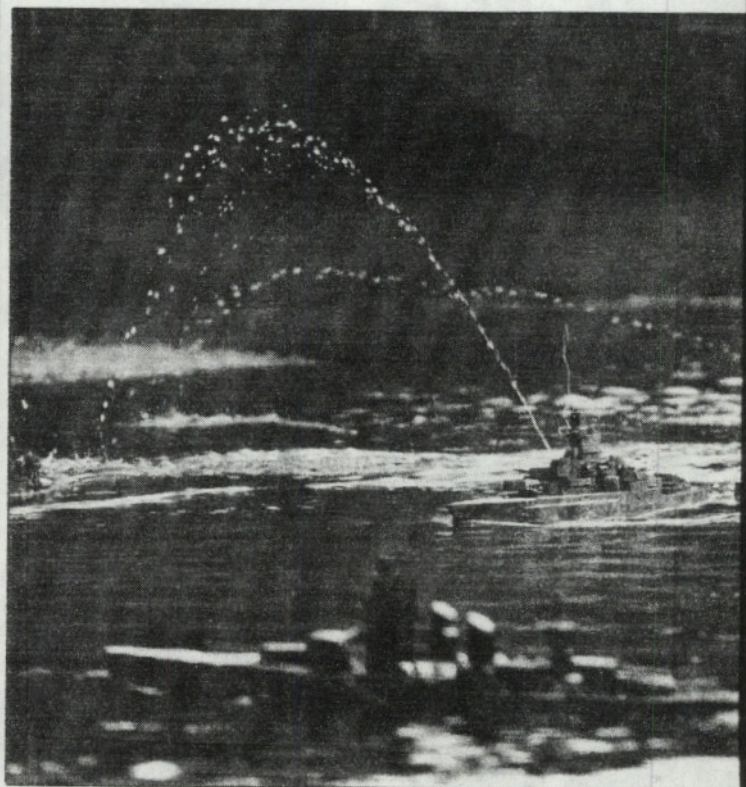
The Fleet Battle on Friday started among the vapors of fog drifting up from the waters of Patuxent Pond. Guns fired with a vaporization of the gas, little puffs of "smoke" during the first sortie and added realism to the moment. Denny Schultz's guns on the Maryland looked like they might have had a bit more freon added and really looked the part.

The Warspite started out running slow during this sortie (and was

destined to run slow on the next also.) So the captain decided after a "slow" run through Axis territory to retire to a safe place to wait out his five. Fluegel spotted the slow Warspite as it left the Axis side and gave chase but was unable to do much damage other than to keep the Warspite moving which with little damage, didn't hurt us at this time.

During this fleet battle, the California, Maryland, and Valiant with a few cruisers attempted a frontal assault on the Axis toward Danny Bottom Straights and were met by The Jap host, the Von der Tann, at least on Ill. BB, one or two Scharnhorst and a small German Cruiser (Wade). The idea, according to Fluegel, was for the Lutzow to lead the Allied main fleet to destruction. The plan didn't seem to work, as the Axis would not even allow the Allied fleet into the "killing" ground. The Allied Cruiser fleet had for the most part gone around the outside of the islands to raid deep in Axis territory with the Warspite, and the Tiger and Indiana was on guard duty in the rear of the Allied area, probably putting up with Fluegel and friends in the early parts of the sortie. Wade seemed to take some damage and retired up Danny Bottom Straights (this was the plan, for him to draw the Allied main body into a trap in the Straights) but everyone was so busy that no one followed him to deal a death blow. The main Allied fleet seemed to be giving as well as they were taking for most of this first sortie and then lost points toward the end as they were forced to retreat (out of ammo) when the mop up (reserve) components of the Axis fleet entered the battle. This was a common tactic for the entire week, used by the Axis with their unusual two to one ratio in heavy ships plus their traditional 2+ sec. speed advantage.

No one sank in the first sortie, and the damage was Indiana 70, Warspite 320, Valiant 340, California 475, Maryland 320, Tiger 325, Augusta 70, North Hampton 260, Houston (Whitsell) 0, Louisville 0, Oklahoma City 40, La Galissoniere 0 and Savannah 40 on the Allied side. The Axis had Roma (Vilar) 100, Roma (Pitteli) 545, Italia 335, Haruna 190, Andrea Doria 10, Von der Tann (Goodson) 675, Von der Tann (Blattau) 20, Scharnhorst (Fluegel) 130, Scharnhorst (Futschik) 180, Kongo 125, Koening 90, Hiei 210, and Graf Spree 120. The score at this point favored the Allied group 2730 vs. 2260.



On the second sortie, the Allied fleet dispositions were just about the same. With the Warspite still running slow, I made another run over to Axis territory and returned through the Straights. But this time as I returned to the main battle area, I was set upon by large elements of the Axis fleet consisting of all of the Japs plus some others to get in their way. Side gun city followed with the Japs firing from both sides at the same time. The Warspite lasted out it's five and made it to shore. In the meantime, the Graf Spree was meeting it's maker somewhere else in the pond. With the Warspite gone, the Japs moved further into Allied territory and in a feeding frenzy on some other hapless victim, Gerald backed into Dirty Dave and left a large

ster shaped hole. Neither captain knew the extent of the damage until the Kongo floundered.

I believe that the North Hampton went down as well in action elsewhere on the pond. Stan ventured into Axis territory without ammo, not recommended, attacked the enemy and said "Boy, I wish I had guns" and retreated without damage. In other action, Joe Vilar (Roma) pressed forward in action against the Allied cruisers to the extent that he pressed one of them (I believe it was the Savannah) under the water by rolling it over for a penalty of a 600 point ram sink. (According to the Axis Admiral Fluegel, Joe shot the stricken cruiser after it was rolled over in a "nice Axis touch". Frank Pittelli claims he ran the Roma aground in Danny Bottom Straights

avoiding Chris's Cruiser which continued on his way. Danny then showed up and dealt the Roma some 50 pts. of damage. The battle wound down, with the Axis fleet firmly in control of the pond, and the Allied fleet returned to home port.

The Allied damage this time was: Indiana 300, Warspite 2000, Valiant 240, California 430, Maryland 350, Tiger 160, Augusta 120, North Hampton 625 (sunk I believe), Houston 80, Louisville 10, Oklahoma City 0, La Galissioner 10, and Savannah 125. The Axis Roma (Vilar) 105 Plus 600 pt. penalty, Roma (Pittelli) 50, Italia 55, Haruna 100, Andrea Doria 160, Von der Tann (Blattau) 150, Scharnhorst (Fluegel) 210, Scharnhorst (Futschik) 95, Kongo 600 sunk, Koenig 0, Hiei 100, Graff Spree 790 sunk. This time the damage to the Allied side was much greater than the Axis with 4150 vs. 2615 and an Axis victory for the last battle.



Treasurers Report -Year End 1990

The Treasury presently (11/12) has \$800.04. The chief expense for this year was as usual, Nationals, but that event paid for itself. The income for Nats was \$735.00 in entry fees and the outlay was \$687.00 in expenses as detailed below. Other expenses through out the year were postage costs and the display in Atlanta, Ga. show. See you at Nats. in '91

Expenses for Nats.

Lake Insurance	\$30
Porta Potty rental	\$84
Porta Potty damage	\$115
Safety glasses	\$108
Banquet extra expenses	\$95
Champaign Target Materials	\$20
Trophies	\$85
Ribbon expenses	\$150
Total	\$687.00

1990 Membership

9/11/90	1990 Membership					
Adams	Willard		500 S. Ralston	Sugar Creek	Mo.	64054
A	Raymond	703-978-9520	5370 Laura Belle Lane	Fairfax	Virginia	22032
Al	Bob	717-846-3733	812 WEST Poplar ST.	York	Penn.	17404
Andrews	Steve	301-544-1490	106 Severn Ave.	Severna Park	Maryland	21146
Baker	Steve	487-2993	208 Hearthstone Reach	Peachtree City	Ca.	30269
Barrett	John	612-781-0858	2816 Silver Lane, Apt. 106	Saint Anthony	Minn.	55421
Blattau	Michael	301-867-1910	320 Frank Moreland Pl.	Lothian	Maryland	20711
Blattau	Nathan	301-867-1910	320 Frank Moreland Pl.	Lothian	Maryland	20711
Brandenburg	Tom	502-765-4893	1018 Shawnee Dr.	Elizabethtown	Ky.	42701
Broring	Paul	301-598-4772	2808 Ashmont Terr.	Silver Spring	Maryland	20906
Browne	Brad		1000 Stormont St.	Ottawa	Ontario, CA	K2C0M9
Cole	Donald		9000 Haywood Ct.	Orlando	Fla.	32825
Craven	Brian	703-537-8722	12310 Ocean Laurel Lane	Houston	Texas	77014
Crowell	Thomas	404-979-5617	2917 Spanish Oak Dr.	Libburn	Ca.	30247
Dahl	Larry		1486 Oakdale Ave.	W. St. Paul	Minn.	55118
Dalrymple	Josh	304-342-6738	1841 Devondale Circle	Charleston	WV	25314
Dees	Dan	503-620-6578	11084 SW 81ST.	Tigard	OR	97223
Deskings	Mike	513-548-8720	101 N. Main St	Greenville	Ohio	45331
Edwards	Jay Russ	425-7412	601 Nevada Ave.	Mtn. Home	Ark.	72653
EVANS	BOB		115 Amazon Ave.	San Francisco	Calif.	94112
Findlay	Sean		12609 146 St. E.	Puyallup	Washington	98374
Fluegel	D. W.	214-681-9471	3524 Gray Drive	Mesquite	Texas	75150
Foster	James	417-278-4378	2662 W. Village Terr.	Springfield	MO.	65810
French	John	301-266-6757	123 FRANKLIN RD.	Annapolis	Maryland	21401
Frey	William Jr.		38 Meggins Rd.	Rockaway	N.J.	07826
Friend	Buddy		7309 Kahn St.	Orlando	Fla.	32822
Futschik	Peter		19 Careel Bay Crest	Careel Bay N.S.W.	AUSTRALIA	2107
Glover	Brett	318-448-5854	4111B Royce Dr.	Alexandria	La.	71303
Goodson	Lief	813-646-8114	4419 Selkirk Lane E.	Lakeland	Fla.	33813
Hamilton	Dan	205-355-1563	RTE. 3 BOX 558	Decatur	Alabama	35603
Hayes	Martin	301-757-5593	1113 Crestview Dr.	Annapolis	Maryland	21401
Haynes	David	915-673-5130	1141 Santos	Abilene	Texas	79605
Hite	Pat	216-929-6746	912 Chestnut Blvd	Cuyahoga Falls	Ohio	44221
HOLMES	Cliff	617-774-0286	81 Miller St.	Quincy	Mass.	02169
Hunt	Cameron		2611 Stratford Dr.	Greensboro	N. C.	27408
JASS	JOHN	312-620-5835	312 E. Circle Ave.	Lombard	Illinois	60148
JASS	TOM	312-620-5835	312 E. Circle Ave.	Lombard	Illinois	60148
Kapraly	Edward	614-792-5220	7272 fall Creek Ln.	Worthington	Ohio	43235
F	Terry	354-1184	RT. 3 Box 10	Morrilton	Ark.	72110
L	Ken	215-362-2038	505 Winding Rd.	Lansdale	Penn.	19446
Koenn	Wade	713-784-5328	301 Wilcrest # 2801	Houston	Texas	77042
Lafave	Charles	875-0534	8715 Twin Trail Dr.	Hunterville	N.C.	28078
Leytze	Robert D.	513-335-7432	1448 Chelsea Rd.	Troy	Ohio	45373
Lide	Jeff	214-681-3415	5414 Coronado Dr.	Garland	Texas	75043
Lide	Scott	214-681-3415	5414 Coronado Dr.	Garland	Texas	75043
March	Paul		39 Fovan St.	St. Johns, N.F.	Canada	A1E4E9
McCluskey	Marvin		503 Oak St.	Oakdale	La.	71463
Montgomery	Will	301-760-8991	110 Thomas Road	Glen Burnie	Maryland	21061
Noble	Eric	825-5706	587 31st. St. S.W. Apt. H	Barberton	Ohio	44203
Pate	Jim		HC 64 BOX 21	Fredericksburg	Texas	78624
Paul	Lt. Andrew		160 Sr. Oliver Rd.	Norfolk	Virginia	23505
Pearce	Chris	313-664-4629	146 N. Hayes Rd.	Lapeer	Michigan	48446
Pittelli	Frank	301-266-8498	33 Wilelinor Dr.	Edgewater	Maryland	21037
Purvis	H.B.	912-367-4101	RTE. 7 Box 465	Baxley	Georgia	31513
Risk	James		303 Sheridan Ave.	Crawfordsville	Indiana	47933
Roberts	Gerald	512-992-7089	7425 Ptper	Corpus Christi	Texas	78412
Rodin	Wayne	355-2491	5309 Chisholm Trail	Amarillo	Texas	79109
Rogers	William O.	205-744-6932	937 - 8th. St.	Pleasant Grove	Alabama	35127
Rogowski	Francis S.	301-768-6563	6393 Smithy Sq. APT 'A'	Glen Burnie	Maryland	21061
Rygoszewicz	Dan		453 Buena Vista Ave. #204	Alameda	Calif.	94501
Schultz	Beth	301-827-7491	Rd.3 Box 285	QueensTown	Maryland	21658
Schultz	Danniel	301-437-0688	1106 Skyway	Annapolis	Maryland	21401
Schultz	Rick	301-827-7491	Rd.3 Box 285	QueensTown	Maryland	21658
Shafer	Carl	816-763-5127	307 S. Independence	Harrisonville	MO.	64701
Shafer	Carl Jr.	816-763-5127	307 S. Independence	Harrisonville	MO.	64701
Smith	Cyrus L.		5939 N. Drake	Chicago	Illinois	60659
Smith	Michael J.	407-896-6878	2472 S. Conway. apt 254	Orlando	Fla.	32812
Smith	Steve		346 Monroe St S PO Box 518	Hutchinson	Minn.	55350
Sontier	Bob		2388 Scotchtown Drive	Virginia Beach	Virginia	23454
Stevenson	Wayne		6134 Twinoaks Drive	Greendale	Wisconsin	53129
Strickland	Richard	919-527-3368	400 Irvin Drive	Kinston	N.C.	28501
Temple	Bob		1498 West Hall	Slidell	La.	70460
Thibault	David		20845 Lagoona Dr.	Davidson	N.C.	28036
Thibault	Ronald	301-768-3095	7811 Overhill Rd.	Glen Burnie	Maryland	21061
Valery	Alan A.	487-1404	P.O. Box 2325	Peachtree City	Ca.	30269
W	Joe	804-320-4207	2734 Grantwood Rd.	Richmond	Virginia	23225
W	Thomas		59 Falcon Road	Livingston	N.J.	07039
W	Stan		1042 Lovell View Dr.	Knoxville	Tenn.	37932
Weinau	Steve	587-4663	12114 Arlington Rd.	Berlin Ht's	Ohio	44814
Wells	Mike		2506 Nature Bend	Carrollton	Texas	75006
Whitsell	Richard	426-3275	9807 N. Lydia	Kansas City	Mo.	64155
Wick	Carl	301-544-2992	763 Cypress Rd.	Severna Park	Maryland	21146
Willis	Lloyd W.		2604 Manor Rd # 229	Austin	Texas	78722
Wilson	Greg	407-788-1766	496 Tamarack Street	Altamonte Springs	Fla.	32714

A FAREWELL TO ARMS

This letter is not to try and aspire to the literary excellence of Hemingway, but simply to say goodbye to my many friends within the hobby. Due to reasons of health I am resigning from active participation in the R/C warship hobby realm.

As many of you are aware, I suffer rather badly from allergies, asthma, and emphysema. These conditions have worsened in the past few years to the point where simple tasks such as walking can sometimes be beyond my capabilities. As the vast majority of my allergies consists of reactions to any form of plant life, the well known stress of R/C warship combat in the open air is something that I can just as well do without any more. Even the task of building a ship is to much as wood dust is a substance that will shut down my breathing passages with ridiculous ease. In addition to reactions to allergens inhaled, are my growing problems with food. There are very few foods which I can eat anymore which do not send me running to the pot with "core meltdown" and severe cramps. The diet available at battling sites with the changed eating habits and cooking styles is just one more problem I can do without.

These health problems came home with a vengeance at this last nationals. I was not aware of it at the time, but I was suffering from some nameless virus at nationals, which lasted until the end of July. The symptoms of this virus were a profound fatigue and a very noticeable drop in mental acuity. I am sure it was a major factor in the irritation I had on Tuesday to my pleural lining making breathing such agony. And on Thursday I actually went blind for about three hours. The afore said mental effects are no doubt to blame for my, shall we say, erratic thought processes. In August I came down with an influenza virus and spent a couple of days nursing a 103 degree fever. A week later this had developed into a mild case of pneumonia which was complicated by asthma. In September a virus with a fondness for the mucous lining of the digestive tract put me in such pain it was necessary to take Tylenol #3 (codine) in order to get any rest at all. Two weeks later as I write this I am still having problems with this bug.

The above litany of disaster may sound like a fluke, but actually it is more the norm than the exception where I am concerned. Is it really any wonder that I am going to try and take it easier?

Anyway, I want to wish all of my friends the best of luck and fun in the future and I regret that genetics is preventing me from seeing you as much as in the past. I enjoyed knowing you all, talking, bragging, fighting (on the water), and even arguing with you all over some obscure rule improvement. This retirement does not mean that I will not occasionally show up at some event, but it will be just to visit, not to fight. Good luck and don't forget strange and difficult James Foster.

My active retirement means that I am stuck with some now totally useless items of ship equipment, tools, books, and etc. I will be selling this extraneous junk and if you wish to purchase some of it please send me an SSAE for a list of what is available and the price. My address is:

James C. Foster
2662 W. Village Tr.
Springfield, Mo.
65810

Goodbye and remember, I AIN'T DEAD YET!

Blow-by-Blow

Battle Reports

1990 SPRING SOUTHEASTERN REGIONALS

By Tom Jass

PREPARATIONS & THE TRIP SOUTH

John and I were unable to drive down to Decatur on Thursday evening as we have done in the past. John's job moved our departure from Thursday night to Friday afternoon, so we were not able to spend the extra time with Mary and Dan preparing the pond site and just generally telling British sea stories. We arrived at Decatur around 11:00 PM on Friday night after an uneventful drive through Indiana, Kentucky, Tennessee and northern Alabama. Most of the battlers had arrived by that time (except the Texans) and we renewed old friendships and met numerous rookies who were at the motel. We all were introduced (informally) to the newest Axis captain -- he was living in the end unit and throwing his empty beer cans onto the parking area. He was willing (he said) to fight all of us -- Axis and Allied alike. Another of Leif's friends from Florida?

ORDER OF BATTLE

Dan had divided the fleets up into Axis versus Allies; this split seemed to balance out the capital ships and the rookies somewhat on each side. The Axis fleet was composed of thirteen ships -- seven capital ships and six cruisers. They had 2 six unit ships and five battlecruisers. The Allies had eleven ships in their fleet -- six capital ships and five cruisers. They had 3 six unit capital ships (two with rookie captains) and only one 30 knot battlecruiser. So, the Axis fleet would generally be faster than the Allies.

Seven Rookie captains were present to add some fun to the activities.

AXIS FLEET

Listed below are the captains of the Axis fleet and their fearsome (not handsome) ships.

Jay Edwards
DMB VITTORIO VENETO (BB)
Frank Pittelli
DMB ROMA (BB)
David Haynes
IJN KONGO (BC)
Will Montgomery
IJN HIEI (BC)
Gerald Roberts
IJN HARUNA (BC)
Leif Goodson
DKM VON DER TANN (BC)
Nathan Blattau
DKM VON DER TANN (BC)
Eric Noble
DKM HIPPER (CH)
Steve Baker
DMB POLA (CH)
DON Cole
DKM DEUTSCHLAND (CH)
Wade Koehn
DKM LUTZOW (CH)
Terry Keef
DKM GRAF SPEE (CH)
Carl Shafer
DMB GORIZIA (CH)

Rather than describe all the ships in each fleet, I'll just run down the new ships and give a brief description of them. Carl Shafer's new Italian CH, GORIZIA, was armed with two stern guns. Carl surely builds faster than anyone else that I know of! Will (Turn Coat) Montgomery was piloting a new Japanese BC, IJN HIEI; she had a broadside gun that was so down angled that he was killing fish ten feet below the water surface. The last thing we Allies need is a Will

Montgomeryship with 30 knot speed. Frank (MAGgot) Pittelli spent his winter in Maryland building a BB for the Italians -- DMB ROMA. He said he was tired of puny cruisers with only fore and aft guns! David Haynes drove all the way from Texas with the motley crew and he also has abandoned his CH for a Nip BC. He had another KONGO class ship, IJN KONGO, the name ship of the class. Her details weren't quite done (perhaps due to a new daughter?), but she was a beautiful Haynes job (the BC -- I haven't seen the daughter as yet). Have KONGOs become as numerous as SOUTH DAKOTAs? Don Cole from Florida (part of the Leif gang) was battling a veteran German CH, DKM DEUTSCHLAND as was Terry Keef who had a DKM GRAF SPEE. Nathan Blattau (a vet from MAGgot land) brought his new German BC, DKM VON DER TANN; she was a small target and Nathan knows how to fight small, tight turning ships.



ALLIED FLEET

The Allied fleet was composed of the following ships and captains (both ships and captains are handsome, intelligent and classy):

James Foster
USS MASSACHUSETTS (BB)
Greg Wilson
USS NORTH CAROLINA (BB)
Jim Pate
USS INDIANA (BB)
Dan Hamilton
HMS VALIANT (BB)
Marty Hayes
HMS WARSPITE (BB)
John Jass
HMS TIGER (BC)
Stan Watkins
USS OKLAHOMA CITY (CH)
Tom Jass
HMS BELFAST (CH)
Buddy Friend
USS INDIANAPOLIS (CH)
Brian Craven
USS SAVANNAH (CH)
Rick Whitsett
USS HOUSTON (CH)

On the Allied side the new hardware was also evident -- all in the hands of rookie captains. Brian Craven (from Louisiana) had a new American CH, USS SAVANNAH. She was well built and was to be baptised during the weekend. Rick Whitsett was another rookie USA CH captain. He brought his USS HOUSTON to test his skill (and skull) against the evil Axis. A good looking cruiser she was. Greg Wilson lugged his USA BB, USS NORTH CAROLINA to the fray. She was long and handsome in her paint scheme. She had broadside guns angled at 45 degrees in A and B turrets. A new ship with some bugs, but good to see one in the water again. Greg had all kinds of radio

interference problems during the weekend, only apparent when all captains were closely jammed together. She'll be a great ship with a few battles under her belt. Jim Pate (the lone active Allied captain in Texas) brought his new beauty -- USS INDIANA. She is just jamed with new ideas and technology (and he's a rookie). Her magazine design alone was worth the trip to Alabama to see. I hope he writes a HULL BUSTER article about the innovations within this ship.

SATURDAY BATTLING

Saturday started out just plain cold (in the mid 50s), and jackets and long pants were the order of the day. The water was slightly choppy with low waves and a brisk, chilly breeze. When the video introductions of the ships and captains were completed, the battling started. After all, if it isn't on video tape it never happened. For those of you who want a great tape with hours of furious action, contact Dan Hamilton for a copy. He charges about \$15, and its worth it to have around to show to rookies and prospective new members.

FLEET BATTLE 1

All ships were ready to go -- the Axis fleet fielded 12 ships (Steve Baker had to sit out for want of a frequency) while the Allied fleet numbered 9 ships (Buddy and Stan were not ready). For the Axis it was VITTORIO VENETO, ROMA, KONGO, HARUNA, HIEI, VON DER TANN (Goodson), VON DER TANN (Blattau), HIPPER, DEUTSCHLAND, GORIZIA, GRAF SPEE, and LUTZOW. The Allies countered with MASSACHUSETTS, INDIANA, WARSPITE, VALIANT, NORTH CAROLINA, TIGER, BELFAST, HOUSTON and SAVANNAH. Away we go!!



Batling began at 10:43 AM and the water is so full of ships that it looks like D Day!! The Axis steam through the channel and the melee begins. TIGER and HARUNA renew old rivalries and VALIANT and BELFAST join the fun. VITTORIO VENETO rushes to the scene. A large battle is swirling in the background away from the TV camera. TIGER shifts her attention to ROMA and VON DER TANN (Blattau) makes it 2 MAGgots against the BC. VALIANT and HIEI get it on, and VON DER TANN (Blattau) shifts her attention to NORTH CAROLINA. HIPPER and BELFAST decide to get involved in a cruiser battle. HIPPER disengages and blasts HOUSTON with her stern gun; GORIZIA joins the fray. HARUNA works over INDIANA and GORIZIA adds her guns to the fight. KONGO and WARSPITE are playing WWI games for the TV camera. AT 10:50 the first sink occurs -- NORTH CAROLINA slides below the surface next to the shore and Greg wets his feet. After battling resumes, INDIANA and HIEI circle each other and ROMA and VALIANT engage. TIGER picks out HIPPER for special attention. HOUSTON has been damaged; her pump is lit off and she has a definite list. VITTORIO VENETO seeks to add to her misery but WARSPITE rushes to her defense. The TV camera shows a furious battle taking place out of range where ship identification is impossible. Throughout the weekend the battling seemed to break up into several smaller battles, widely scattered over the pond. If it wasn't recorded on the TV, it isn't reported here -- sorry about that. MASSACHUSETTS and VALIANT slug it out with ROMA and VON DER TANN (Blattau). These ships are attracted by the wounded HOUSTON who is still afloat

and battling her damage. The battling continues as MASSACHUSETTS, VALIANT, ROMA and VON DER TANN (Blattau) exhaust their bbs on each other. GORIZIA and VON DER TANN (Blattau) chase WARSPITE as the BB waits out her 5 minute time period. HOUSTON survives the first sortie, but GRAF SPEE and SAVANNAH have sunk off camera to add to the carnage. The battle winds down and ends at 11:10.

The Axis had doubled the score on the hapless Allies. They won the first sortie by a score of 4555 to 2000. Allied damage was as follows: MASSACHUSETTS, 875; INDIANA, 0; WARSPITE, 350; VALIANT, 595; NORTH CAROLINA, 1160 (sunk); TIGER, 365; BELFAST, 40; HOUSTON, 430; SAVANNAH, 740 (sunk). The winning Axis had been damaged as follows: VITTORIO VENETO, 205; ROMA, 395; HARUNA, 135; HIEI, 130; VON DER TANN (Blattau), 20; VON DER TANN (Goodson), 30 (100 point ram penalty); KONGO, 80; LUTZOW, 30; GORIZIA, 10; GRAF SPEE, 635 (sunk); HIPPER, 50; DEUTSCHLAND, 105.

With SAVANNAH and NORTH CAROLINA sunk Buddy Friend was allowed to put his INDIANAPOLIS into the pond for Sortie 2 to give the Allies an extra CH.

Sortie 2 starts at 12:01 PM with TIGER in the middle of the Axis fleet (not so smart, John); VALIANT and MASSACHUSETTS wade right in. TIGER bowguns the HARUNA. The CHs are playing their game at the other end of the pond, out of camera range. The capital ships are hogging all the publicity and the CHs have decided to play elsewhere. WARSPITE, VALIANT, MASSACHUSETTS and TIGER battle HARUNA, VON DER TANN (Goodson) and VON DER TANN (Blattau) as ROMA speeds in to the firefight. WARSPITE battles an IJN BC, as VALIANT blasts VON DER TANN (Goodson). ROMA and HIEI blast WARSPITE as they sense the wounded BB is in trouble -- she is down by the bow. MASSACHUSETTS challenges ROMA to defend WARSPITE. At 12:07 WARSPITE slowly, painfully sinks by the bow and Marty wades out into the pond and gets his legs wet up to the knees. After WARSPITE is removed, VITTORIO VENETO and HIEI engage VALIANT as MASSACHUSETTS and BELFAST join into the melee. VALIANT and MASSACHUSETTS go into a defensive circle as BELFAST leaves the battling to the capital boys. INDIANA and TIGER add to the confusion and there are capital ships in front of the TV camera displaying their skills. ROMA broadsides MASSACHUSETTS and TIGER rams ROMA in the fog of battle. Both ships come in for a ram check -- no damage to either. When TIGER reenters, HIEI steams right in and blasts TIGER. The BCs exchange blows and TIGER runs out of ammo and out of the game as she goes on 5 minutes. TIGER speeds away (pumping) with Axis ships in pursuit. The battle ends at 12:15 PM and it looks as if the Axis have definitely won this first battle.

The Axis poured it on during the second sortie, out gunning the Allies 2810 to 1640. The first battle had been a slaughter -- the Axis had blasted to a one sided 7360 to 3640. Sortie 2 Axis damage was: VITTORIO VENETO, 95; ROMA, 305; HARUNA, 0; HIEI, 170; KONGO, 165; VON DER TANN (Goodson), 0; VON DER TANN (Blattau), 120; HIPPER, 10; GORIZIA, 10; LUTZOW, 290; DEUTSCHLAND, 0. The beaten Allies had suffered as follows: MASSACHUSETTS, 265; INDIANA, 10; VALIANT, 425; WARSPITE, 1205 (sunk); TIGER, 630; BELFAST, 130; INDIANAPOLIS, 10; HOUSTON, 135. The Axis had made a glorious start on this chilly, gray day.

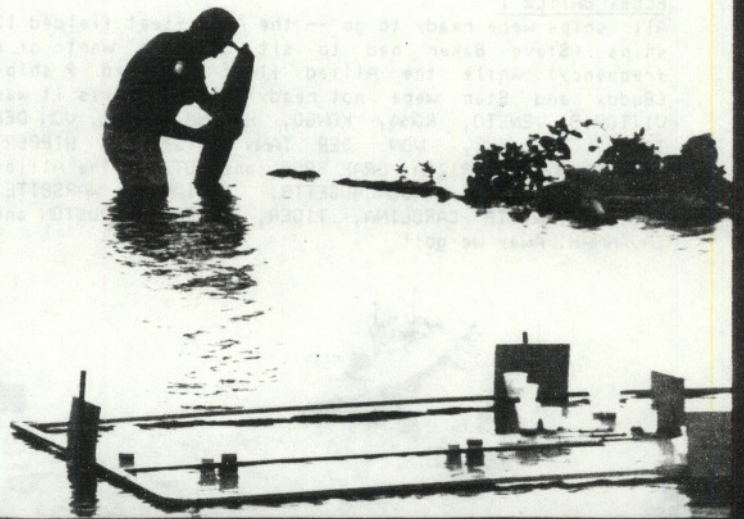
CAMPAIGN BATTLE

Campaign begins at 2:45 PM. SAVANNAH and TIGER steam over to attack the Axis target. GORIZIA defends against the 2 Allies. An Axis convoy ship is in the water!! Attack!! WARSPITE and VALIANT attack and ROMA and VON DER TANN (Goodson) defend. The action is furious, but at 2:49 VALIANT ram sinks the little bugger and a double whammy descends on the Allies -- the convoy mission is declared complete and (even worse) VALIANT is out of the battling until Dan patches the sunk ship. Battling stops as Nathan wades into the pond. The ship is not found until 3:06 (and its Eric Noble who finally locates her). Dan goes to work!! TIGER resumes her blasting of the Axis target; MASSACHUSETTS joins and VITTORIO VENETO does her duty defending. SAVANNAH also joins the melee. DEUTSCHLAND runs aground by the Axis

target and MASSACHUSETTS and TIGER maul her. VON DER TANN (Goodson) aids the stranded CH. At 3:13 DEUTSCHLAND sinks for the first (non-rammed) sink of the battle. Meanwhile, the Allies have put 2 convoy ships into the water -- my CVL and Leytze's EMPIRE JUBILEE. HIEI sinks the CVL in about 2 minutes with her wicked broadside, and EMPIRE JUBILEE is also blasted but she sails away from HIEI into the arms of ROMA. WARSPITE's help is appreciated, but it is too little too late. EMPIRE JUBILEE sinks at 3:20. No Allied supplies through at this time! NORTH CAROLINA and INDIANA mess with KONGO around the Allied target. At 3:23 the IJN sub (Gerald Roberts') is in the water and slowly cruising (3/4 submerged) toward the Axis Forward Base. MASSACHUSETTS carefully sniffs at the stern of the sub, but leaves her alone (fear of ramming?). At 3:29 the sub completes her supply mission -- the second load for the Axis. A Jap BC noses around the Allied target while WARSPITE, NORTH CAROLINA and INDIANAPOLIS defend the territory. NORTH CAROLINA guns the HARUNA. At the Axis target TIGER again goes after the Axis cups while HIEI, KONGO and ROMA exchange bbs with the cat. The IJN sub is in the water again (for the return trip?); when she goes dead in the water, POLA pushes her (gently) back to the Forward Base. AT 3:50 VITTORIO VENETO attacks the Allied target and NORTH CAROLINA paries. Carl Shafer wades out into the pond at 3:58 and retrieves CORIZIA -- what happened?? The Allies are mounting an all-out effort to run a convoy ship through; they are out of bbs at the Forward Base and their situation is desperate!! John will sail the CVL on a one way supply mission. INDIANA, WARSPITE, VALIANT and BELFAST will form a strong escort -- but can they bull through the Axis? VON DER TANN (Goodson), HARUNA and HIPPER open the attack immediately. The CVL staggers through the massed guns to the channel but she is settling due to repeated hits. WARSPITE, VALIANT, INDIANA and BELFAST escort her through the massed Axis and the battered CVL limps into port at 4:20 barely afloat. At 4:23 a real mellee occurs in the channel involving WARSPITE, VALIANT, HIEI and HARUNA. HARUNA goes aground and VALIANT pounds her into a sinking condition. One IJN BC down!! POLA pokes her nose into the fire fight and VALIANT chases her off. TIGER and MASSACHUSETTS resume raking the Axis target. Many ships

mill around the floating boards. At the other end of the pond ROMA guns the Allied target and INDIANA lends a defensive hand. BELFAST joins INDIANA. VON DER TANN (Blattau) smells the battle and steams over -- I count 8 ship hulls on the TV screen at this time. VITTORIO VENETO seems to be hurt and is pumping hard; MASSACHUSETTS attempts to send her under. BELFAST joins to lend a hand, but the 2 Allies can't sink the Italian BB. At 4:55 Gerald launches his IJN KUMA (a CL). WARSPITE and MASSACHUSETTS can't resist the small fella and they toy with her. VON DER TANN (Goodson) defends the fast CL, but MASSACHUSETTS sterns KUMA to the bottom with only a few minutes left in the battle. The battle ends and the paperwork begins -- who has won?

During this battle 29 ships hve been on the water -- an all time record for sure!!



WILL'S HOW TO'S

LIGHTENING OF SHIPS: There are several different places you can lighten ship. Lets start with GUN SYSTEMS. Instead of using 1/4 copper and covering it with plastic shielding to protect it; use brass tubing it's lighter in weight. It also has a larger inside diameter than that of copper and wouldn't be block by a bb dent. The grinding down of all compression nuts to there smallest possible size will also reduce weight. (SEE FIGURE #1) TANK If you are only firing one gun at a time you only need one tank. This tank only needs one valve and one t-block and a special fill set up. (SEE FIGURE #2) To fill remove screw plug from block on tank attach fill hose assembly. Open valve on freon supply bottle partially fill tank with liquid freon, close supply bottle, depress poppet valve to cool tank. Now you are ready to fill tank with liquid freon. Fill tank, close valve on supply bottle, bleed ship's tank thru poppet valve on fill assembly. Close needle valve, reinstall plug, open needle valve and your tank is full with only one valve. CONSTRUCTION Another way I reduce the weight is to use 1/8" plywood instead 1/4" for the ribs. This will also make the hull's shape contoured better. I also use 1/8" ply for the sub-deck. Make sure to compensate for this on your ribs. 1/16" ply can be used for the deck, just add a 1/4" wide piece of 1/16" ply to the edge of the deck. 1/32" ply can be used

for the areas 1" below the waterline. An easy way to bend this wood is to cut to approx. shape then microwave the wood in a shallow tray of water for several minutes. Bend wood into shape dry and glue into place. (THE MICROWAVE IDEA WAS FRANK PITELLI'S) I think he spend to much time in there. HELPFUL HINTS We in the NE have discovered that DUMAS has changed thier 4.8 volt motors. The new ones are putting out alot more noise. To test this run your motor near a stereo and you can hear the noise. The standard way to remedy this problem is to solder capacitors from the case to each lead, and also between each lead. I've found that if run the well lubed motor for 12 hours on 2 volts it will not be as noisy. this also breaks in the brushes. Things to do with old Super Jet bottles. They can be used to hold paint for lakeside patching. Just dap a little dope on the hole apply patch and spread with finger or brush. This has been the first edition of Will's helpful hints and how to's.

WILLIAM MONTGOMERY
110 Thomas Rd.
Glen Burnie, MD 21060
301-760-8991

PS: Hello guess who is your 1991 Nats CD. If your have any questions or comments I can be contacted a above phone number and address.

Figure 1

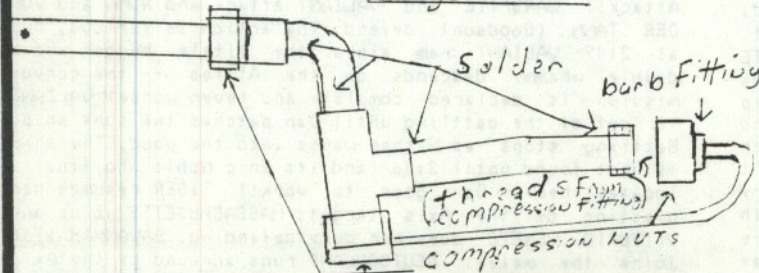
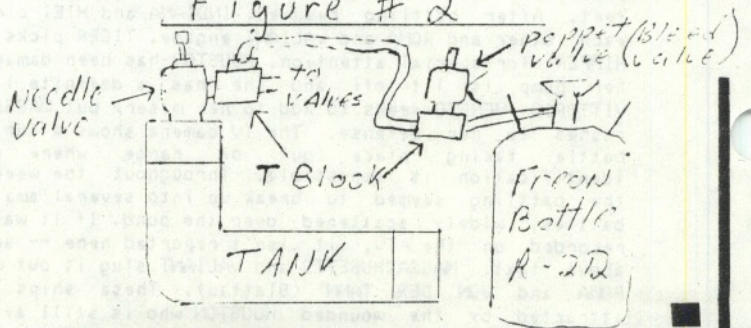


Figure # 2



During the Campaign the Axis sank the SAVANNAH (600 points), three convoy ships (1200 total points) and were awarded 200 points for winning the battle of supplies (5000 tons in excess of the Allies). The Allies were awarded more points (450 for sinking the DEUTSCHLAND, 450 for sinking GORIZIA, 525 for sinking HARUNA, 300 points for sinking KUMA and 300 for the one convoy ship sunk), but they lost the battle due to the penalty points for ram sinking the convoy ship and for having fewer supplies at their forward base.

SUNDAY BATTLING

Sunday was the lovely Alabama spring day that we had driven 10 hours to experience. It was sunny and warm (in the 70s) and the water was dead calm. Those of us who like to wear shorts donned them at the start of the battling. Beautiful weather!!

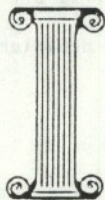
FLEET BATTLE 2

The fleets were at full strength except for the following ships: GRAF SPEE and DEUTSCHLAND for the Axis and OKLAHOMA CITY and SAVANNAH for the Allies. The fray begins at 10:22 AM with the Axis charging through the channel. MASSACHUSETTS and NORTH CAROLINA meet the incoming Axis BBs. VALIANT singles out ROMA and they exchange salvos. KONGO, HIEI and TIGER add their power to the fighting which takes place around the campaign target. WARSPITE and KONGO single each other out. TIGER and NORTH CAROLINA pick on HIPPER, but she out turns them. HIEI has found a slow BELFAST and pours broadside salvos into her. BELFAST can't outrun or out turn HIEI, so its "turn on the pump". MASSACHUSETTS and TIGER attempt to aid BELFAST, but her damage is too great and she disappears below the calm seas. Meanwhile, ROMA and

VON DER TANN (Blattau) have cornered a listing INDIANAPOLIS and are closing in for what looks like an easy kill. POLA sails over to add her guns to the fight. NORTH CAROLINA rushes in to aid HOUSTON and the BB goes aground. VITTORIO VENETO blasts NORTH CAROLINA as WARSPITE and VALIANT steam to help the beached BB. HIEI joins in the fun and TIGER adds her presence to the melee. All this action is occurring right in front of the TV camera, by the island. VITTORIO VENETO, ROMA, VON DER TANN (Goodson) and VON DER TANN (Blattau) add to the swirl of ships (where are the CHs?). NORTH CAROLINA finally frees herself, but is low in the water and her pump isn't impressive at this point. WARSPITE guns ROMA while defending NORTH CAROLINA. VALIANT and INDIANA tackle HARUNA and VON DER TANN (Blattau) joins the Axis BC. Away from the island VON DER TANN (Goodson) gets hung up on the target and VALIANT blasts away. HARUNA and VON DER TANN (Blattau) come to her aid and she comes free after suffering moderate damage. Back at the island, GORIZIA goes aground and the remaining Allies rush to that scene and lick their chops. HARUNA defends as VALIANT turns into firing position. WARSPITE rams VALIANT and both come in for a ram check. GORIZIA has been given some breathing room. MASSACHUSETTS comes in and sterns GORIZIA. INDIANA is nosing around to get into position. WARSPITE, VALIANT and INDIANA spar with VON DER TANN (Blattau) and HARUNA as GORIZIA comes off her 5 minutes. The battle ends at 10:46 with VITTORIO VENETO and VALIANT (the "V" boys) circling each other in the pond and they both decide to call it a sortie.

Sortie 1 damage for the Allies was: MASSACHUSETTS, 750; INDIANA, 320; WARSPITE, 120; NORTH CAROLINA, 115 (100

President's Column



By Tom Jass

Merry Christmas to all of you and your families!! May this season of joy, happiness and family togetherness be filled with special experiences and cherished memories. Those of you with new babies in your families are going to enjoy an especially awesome time as new eyes see Christmas for the first time.

My time during the fall has been occupied with building a new heavy cruiser, HMS SHEFFIELD -- and no, I don't need another ship to maintain. However, after talking with Bill Northrop (publisher of US Boat & Ship Modeler) I agreed to write a construction article complete with photos about building a CH. Bill talked me into also providing a full sized planset to accompany the article. He says he has had numerous inquiries from his readers about a planset for a R/C Combat Warship. I completed the planset (size is 50" X 35") and the first article in October. The first article covers hull construction, skinning and building the superstructure. The second article will address installation of the gun system, the electrical system and the radio installation. The first installment and the planset is scheduled to appear in the spring 1991 issue of US Boat & Ship Modeler. I hope it encourages more people to get involved in our wild and crazy hobby -- and if they show up with British cruisers, well that's just frosting on the cake!! I enjoyed creating the planset; I haven't done any formal drafting since my college days (when Fluegel was still an ornery pup), but I thoroughly enjoyed the experience once I purchased some modern drafting tools.

Another error slipped through the complex 1991 ballot, and it is too late to correct it formally -- but I will make a plea for all of us to correct it by our actions

in 1991. During all of the pre-Nats discussion of the Half Unit proposal (and during our long session at the Nats meeting) the use of SPURT GUNS was to be limited to small ships (1 1/2 units and below). The spurt gun in these small guys was to simulate the torpedoes carried by these ships. When I wrote up the 1991 Ballot I neglected to put this limitation into the description. I goofed!!

I URGE ALL BATTLERS TO OBSERVE THE "SPIRIT OF THE LAW", RATHER THAN THE LETTER OF THE LAW BY REFRAINING FROM INSTALLING SPURT GUNS IN SHIPS LARGER THAN 1 1/2 UNIT SHIPS IN 1991. We don't need to see spurt guns installed as broadside guns on 6 unit BBs. Our advance to single shot guns has been a big plus for our battling. We have seen a big influx of rookies into our hobby within the past 2 years; we don't need to introduce them to battling by blasting nickle-sized holes into their hulls. My plea is a personal one since the Executive Board cannot make this "correction" a formal one; the issue does not involve safety, so the EB must keep its official nose out of the mistake.

The 1991 R/C Frequency situation is still cloudy, but clearing slightly. While I was at the Chicago Hobby Show in November, 1990 I talked to the Futaba and Airtronics people and learned a few new facts. Airtronics said they would modify existing 4 or 5 channel surface radios to the new 1991 narrow band channels for a fee of about \$60 to \$80. Call them first if you plan to change just to insure that what you'll get is what you'll want. Futaba was vague about the situation; they said they would modify existing surface radios but "they wouldn't work on all 30 new channels." What does that mean? Evidently, they meant that they would modify the radios to AM operation and the radios would be 1991 legal, but we would still be able to only use 15 (of the 30) 1991 channels at one time. Futaba has recently had ads in all the model airplane mags in which they offer to modify existing AM or FM radios to FM operation on the 1991 Air Channels for about \$75. Steve Baker warns that we should only modify existing radios to FM operation if we expect to make use of the new frequencies. Hang loose at this point and talk to hobby shop operators and the manufacturers in person before you do anything.

Merry Christmas and a successful 1991 from John and me!!

ram penalty); VALIANT, 620; TIGER, 110; BELFAST, 1475 (sunk); INDIANAPOLIS, 130; HOUSTON, 145. The Axis had been damaged as shown: VITTORIO VENETO, 165 (100 ram penalty); ROMA, 275; HARUNA, 500; HIEI, 205; KONGO, 360 (100 ram penalty); VON DER TANN (Goodson), 380; VON DER TANN (Blattau), 90; LUTZOW, 80; GORIZIA, 170; POLA, 20; HIPPER, 175. The Axis were still on a roll -- they had again mopped up the Allies by a score of 3785 to 2420.

SAVANNAH was ready to go into Sortie 2, and the Axis allowed her to -- the gesture was appreciated as rookie captains need to get their feet wet. This sortie began at 11:33 AM, but real fighting didn't start until 11:35 when the Axis van reached the Allied position. HARUNA singled out NORTH CAROLINA and TIGER and MASSACHUSETTS defend her with their guns. NORTH CAROLINA goes on "5 out of control" (those radio bugs, again) and WARSPITE and ROMA renew old rivalries. Leif Goodson calls out (falsely at this time), "The HOUSTON is sinking!" Mary pans the camera to where HOUSTON is, but no such luck for the Axis. (Keep calm, Leif!!) VON DER TANN (Blattau) attempts to hold off VALIANT and WARSPITE as the Brit BBs try to corner the wiley BC. VALIANT rams VON DER TANN (Blattau) and both ships come in for a check. TIGER and WARSPITE check out HARUNA. GORIZIA is again aground near the camera. INDIANA bores in as does VALIANT who has returned to the fun. Carl pulls GORIZIA out of the water -- is it sunk? HARUNA hounds HOUSTON and VALIANT rushes in to defend the damaged CH. HIEI adds her broadside to the action and elsewhere INDIANAPOLIS declares "5 out of control". MASSACHUSETTS is harrassing a hurting LUTZOW but Wade pulls LUTZOW out for a ram check (but he rammed James -- another cool Axis trick). LUTZOW is dewatered but MASSACHUSETTS is waiting when the battered CH returns. TIGER is dueling with HARUNA and HIEI as the cousin ships get it on. At 11:44, INDIANAPOLIS sinks and Buddy gets his feet wet. When the pond is all clear, ROMA blasts a slow TIGER. POLA and SAVANNAH arrange their own private duel away from the nasty capital ships. ROMA and INDIANA play BB war and VON DER TANN (Blattau) blows bbs at a dead in the water NORTH CAROLINA. ROMA joins in the target practice, but MASSACHUSETTS speeds over to spoil the one sided fun. HARUNA and HIEI are using their superior speed to dog the heels of INDIANA. At 11:54 the battle ends and no where on the film was the sinking of the KONGO recorded (a stealth sink?).

The Allies had roared back in Sortie 2 by sinking 3 Axis ships to 1 Allied CH downed by the Axis. Was it enough? Axis damage was: VITTORIO VENETO, 20; ROMA, 720; HARUNA, 150; HIEI, 95; KONGO, 810 (sunk); VON DER TANN (Blattau), 150; VON DER TANN (Goodson), 0; LUTZOW, 1600 (sunk) (-100 ram penalty); GORIZIA, 895 (sunk); POLA, 100; HIPPER, 285. The Allies had suffered as follows: MASSACHUSETTS, 495; INDIANA, 60; WARSPITE, 75; NORTH CAROLINA, 380; VALIANT, 230; TIGER, 1045; INDIANAPOLIS, 920 (sunk); SAVANNAH, 295; HOUSTON, 265. When the smoke from the battle and the adding machine was cleared up the Axis had squeaked out a narrow 7250 to 6935 win. The margin of victory was 315 points of a

total of 14,185 scored!! This is the highest number of points in a battle I have ever witnessed -- higher than any battle at Knoxville.

FLEET BATTLE 3

For the third fleet battle the Allies outnumbered the Axis -- 8 ships to 7. MASSACHUSETTS, VALIANT, TIGER, NORTH CAROLINA, BELFAST, SAVANNAH, HOUSTON and INDIANAPOLIS went out to salvage some pride against VITTORIO VENETO, HIEI, VON DER TANN (Blattau), VON DER TANN (Goodson), POLA, LUTZOW and HIPPER. Battling begins at 2:04 PM and much of the early fighting takes place at long range away from the camera. Just little blobs on the water. Several rams are called out as 11 ships mill around on the TV screen. NORTH CAROLINA and VON DER TANN (Blattau) battle, and VITTORIO VENETO rams the German BC and both exit the melee. TIGER and NORTH CAROLINA attack VON DER TANN (Blattau) after she reenters. VITTORIO VENETO adds her guns to the mess. TIGER leaves and pins VON DER TANN (Goodson) against the shore; INDIANAPOLIS adds her two cents. VON DER TANN (Goodson) frees herself, but can't shake TIGER. Far out in the pond SAVANNAH is hurting and the vultures rush in. HIEI has done most of the damage in spite of VALIANT's defense. At 2:11 SAVANNAH sinks and Craven enters the pond. When battling resumes TIGER rams MASSACHUSETTS -- no damage, no check. HOUSTON is now in trouble and HIEI and VON DER TANN (Goodson) circle to kill her off. At 2:12 HOUSTON joins SAVANNAH in Davey Jones' locker -- 2 cruisers in 2 minutes!! TIGER and MASSACHUSETTS decide to turn the table, and they sandwich HIPPER between them and blast to revenge the sunken CHs. HIPPER finally frees herself and limps away. Now NORTH CAROLINA is low in the water and surrounded by HIEI and VON DER TANN (Blattau). VALIANT bores in to defend, but to no avail. NORTH CAROLINA slowly settles to join the 2 Allied CHs who have disappeared. At 2:27 the exhausted Allies call it quits and limp off the pond -- battered but not yet beaten.

The departure of the Axis captains did not bother the



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New Rules already under Attack

The ink isn't even dry yet, and the Axis have informed me they already have a way of "beating" the new rudder only rule. Well, pardon me, but I didn't think that the purpose of the rule was to be "beaten". I think this shows how bad off we are. Many of us are trying to come up with a workable set of rules, to allow everyone an equal (as much as possible) chance on the pond, and the rule beaters are busy slaving away to destroy any chance of this.

Rick also informed me that the gun angle rule won't work because the Axis can beat that too. I should have put in a rule about the distance from the hull that the shell hits the water.

Oh yes, the way to beat the rudder rule is only for inline rudder ships and consists of running the forward rudder sideways when going straight (gaining more drag), and turning it straight during turns to lessen the drag, therefore increasing speed in the turn as opposed to non-equipped ships. I have my doubts that it will work that well, anyway.

Marty Hayes, Capt. of the Warspite
10/1/90

remaining Axis as they continued their streak by blasting their way to a 4085 to 1070 win in the first sortie. Allied damage was: MASSACHUSETTS, 315; NORTH CAROLINA, 1180 (sunk); VALIANT, 220; TIGER, 385; BELFAST, 185; INDIANAPOLIS, 80; HOUSTON, 825 (sunk); SAVANNAH, 895 (sunk). The Axis lost no one and suffered minimum damage as follows: VITTORIO VENETO, 110 (100 ram penalty); HIEI, 110; VON DER TANN (Goodson), 225; VON DER TANN (Blattau), 170; POLA, 70; HIPPER, 375; LUTZOW, 10.

Maybe the Axis could sink all the Allies -- nah!! LUTZOW has withdrawn from Sortie 2. The last sortie begins at 3:03. TIGER and VON DER TANN (Blattau) keep their weekend long battle going. Way out on the pond (where the damaged CHs have fled) HIEI stalks INDIANAPOLIS and VITTORIO VENETO pitches in. INDIANAPOLIS stops to lessen the water entering and takes a pounding from HIEI and VITTORIO VENETO. POLA noses around the edges of the fight. MASSACHUSETTS resumes the chase of HIPPER and VALIANT joins in. POLA and VITTORIO VENETO continue to maul INDIANAPOLIS as BELFAST enters the chase of HIPPER. HIEI leaves INDIANAPOLIS and defends HIPPER as she goes on 5. INDIANAPOLIS survives her ordeal and goes off of 5 -- to the anger of the Axis. As the battle winds down, VON DER TANN (Blattau) continues to fight MASSACHUSETTS and VALIANT until they all exhaust their bbs and call it a day. All the CHs (Axis and Allies) that began this sortie survived -- their captains were overjoyed!! This sortie was sort of an anticlimax, as all hands seemed almost exhausted.

Sortie 2 damage to the Axis was: VITTORIO VENETO, 110; HIEI, 0; VON DER TANN (Blattau), 0; VON DER TANN (Goodson), 60; HIPPER, 515; POLA, 0; LUTZOW, 300 (withdrew). Allied damage was: MASSACHUSETTS, 145; VALIANT, 200; TIGER, 425; BELFAST, 20; INDIANAPOLIS, 110. The Axis had made a sweep of the weekend by winning the third fleet battle by a score of 5495 to 1750!! This whole weekend looked like 1939 and 1940 -- black and bad for the Allies.

AWARDS & THANK YOUS

The Axis had blasted out a convincing victory in all three fleet battles and slid past the Allies in the Campaign. The "Bad Guys" consequently swept all of the high point awards for the weekend. The winners were:

High Point Overall	Jay Edwards DMB VITTORIO VENETO
High Point Class 1&2	James Foster USS MASSACHUSETTS
High Point Class 3	Will Montgomery IJN HIEI
High Point Class 4	Eric Noble DKM HIPPER

IMPROVING THE SKUNKWORKS PUMP

Ron Thibault

8/28/90

The SKUNKWORKS pump is an easy to build and fairly powerful pump. It has a couple major problems in it's stock form, however. The most important is that if the pump is running and water starts to come in the pump does not prime until more than an inch of water has entered the hull. This is also true if the pump is pumping and suction is lost (for instance as the ship rocks in a turn), the pump will not start pumping again until the water level has risen. Even if the pump is off and is turned on after water starts to come in, there must be between 3/8 to 7/16 inches of water before it primes. The above problems are caused by the large amount of space between the top of the impeller and the top of the pump housing.

I will explain how to rebuild the pump to solve these problems and to increase the output of the pump at the same time. The first thing to note is that I use a Dumas 4.8 motor, instead of the SKUNKWORKS motor. All the stats referenced in this article (before and after)

Best of Scale	John Jass HMS TIGER	743
Effective Convoy	John Jass	
Best of Scale (convoy)	Bob Leytze HMS EMPIRE JUBILEE	

James Foster had donated 2 new trophies to be awarded -- "Most Feared Axis and Allied Captains" during the weekend as voted by their opponents. Will Montgomery of the Axis and James Foster of the Allies were voted these awards. They both proved that they deserved the trophies during the weekend battling.

Total weekend points for all ships involved are tallied below; these totals include Campaign points.

Jay Edwards	2915
Will Montgomery	2371
Nathan Blattau	2351
Leif Goodson	2251
James Foster	2097
Frank Pittelli	1982
Eric Noble	1969
Jim Pate	1729
Greg Wilson	1679
Wade Koehn	1640
John Jass	1617
Marty Hayes	1539
Gerald Roberts	1501
Steve Baker	1435
David Haynes	1362
Dan Hamilton	1246
Carl Shafer	1242
Buddy Friend	1145
Brian Craven	981
Tom Jass	924
Rick Whitsell	876
Donald Cole	651
Terry Keef	321
Stan Watkins	169
Mike Smith	20

There were twentyone sinks during the weekend. Five capital ships, twelve cruisers and four convoy ships were sunk during the fleet battles and campaign battling. Carnage!! Carnage!!

In my opinion this was the best regionals ever!! Thanks to Mary and Dan for all the work that goes into such an event. The battling was brutal and lots of fun. Thanks to all the battlers (especially the Rookies) who drove from Maryland, Florida, Tennessee, Georgia, Missouri, Texas and Illinois to Alabama to test their ships and share the comradeship. We had a ball and that's why we keep returning to Alabama twice each year.

are with this motor. The reason I use the Dumas instead of the SKUNKWORKS is that I run 6 volts in my ship, and the SKUNKWORKS motor is designed to run best at 8 volts. The pump improvements will help those of you using the other motor but I have no data on how much.

Below is a table comparing the before and after data (ea. test was run several times):

Test	SKUNKWORKS	Improved
Pump 1 gal to end (note2)	1 min 40 sec	1 min 25 sec
Pump 1 gal to mark (note3)	1 min 30 sec	1 min 20 sec
Pump 1/2 gal to end (note4)	55 sec	45 sec
Current Draw	3.2 amps	3.2 amps
Starts at if Running (note5)	1 - 1/8 inch	3/8 inch
Starts at if water added first (note6)	3/8 - 7/16 in	1/8 inch

Empties to 1/8 - 3/16 in 1/16 inch

- Note 1: All measurements with 6 inch rise from bottom of tub to outlet and 1/8 inch outlet.
- Note 2: Put water in tub, let pump pump until stops, add 1 gallon, and pump until stops.
- Note 3: Fill tub to mark higher than in Note 2, Add 1 gal and time until water reaches mark.
- Note 4: Same as #2, but 1/2 gal. Typical amount a Cruiser holds.
- Note 5: Turn on pump, add water until pump starts pumping.
- Note 6: Add some water, turn on pump, see if it primes, repeat until pump starts pumping.

If you already have an assembled pump, carefully disassemble it. You probably will not be able to reuse the plastic bottom cover, but remove it carefully, as you will need it as a pattern to make a new one. I recommend that if you are going to do these mods that you buy the pump as a kit to avoid the above hassle.

Now you have to make a decision. The impeller that comes with the pump has a lot of slop between the vanes and the wall of the pump body (a concession to mass production). You can reuse this impeller, or make a new one. If you decide to reuse the original impeller, unsolder the collar and clean as much of the solder off the top as you can.

If you decide to make a new one, I have included a pattern for one. First take the old impeller to the hobby shop and buy a sheet of brass at least the thickness of that of the impeller. I have heard rumors of the original impeller bending after a while (I personally have not had this problem), so you might want to go for the next thicker sheet.

To make the pattern, start by drawing a square 29/32 inch on a side. Draw the diagonals and mark the hole location. Draw a line 5/32 in. from the center thru one corner (see fig. 1). Repeat for the other corners. Draw a line from a corner to the end of the previous line in the opposite corner (see fig 2). Repeat for other corners. Draw a blade on each of these lines 12/32 (3/8) inch deep (see fig 3). The final pattern will form more of a square than fig 3, the program I used to draw it was not a drafting program.

Layout the pattern on the brass leaving a little extra on the edges, and centerpunch the hole location. Drill the center hole, starting with a small drill and finishing with a 3/32 bit. The drills tend to drift when drilling brass this is why you left a little extra on the edges. Trace the pattern after matching the holes and cut out the impeller. Carefully bend up the blades. Bend them toward the pattern side. Use a vise or pair of sheetmetal vise-grips to get a straight bend.

I have found the sheetmetal vise-grips handy for jobs like this, so you might want to invest in a pair. They look like a regular pair of vise-grips but have two triangular plates welded on. These plates form a long straight edge to bend the metal against, while the metal is clamped in place by the vise-grip action. These are superior to a vise because they do not mar the clamped surface and have a sharper edge to give a better bend.

The next step is to solder the collar to the impeller. Clean the impeller with some sort of parts cleaner to remove the oil left on it from manufacturing. Sand both the impeller and collar. Solder the collar on the inside of the impeller (between the blades).

If you are going to use a Dumas 4.8 motor you have to modify it. The motor is held onto the pump housing with screws. The SKUNKWORKS motor has taped holes to accept the screws. The Dumas motor has holes for the screws, but they are not tapped. To tap the holes you have

FIG. 1

DRAW THIS LINE (X 4)

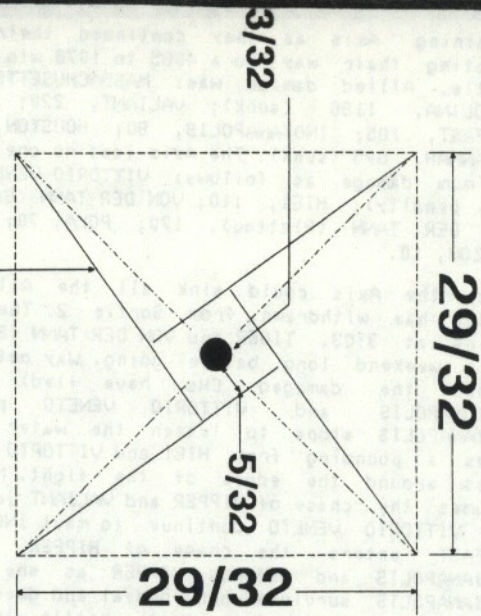


FIG. 2

DRAW THIS LINE (X 4)

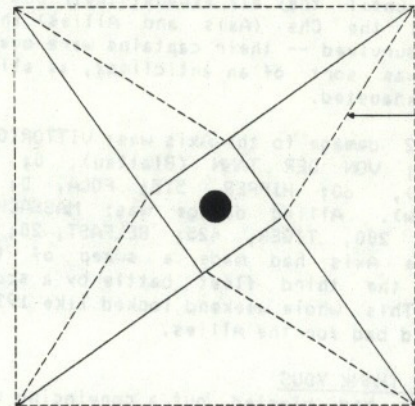
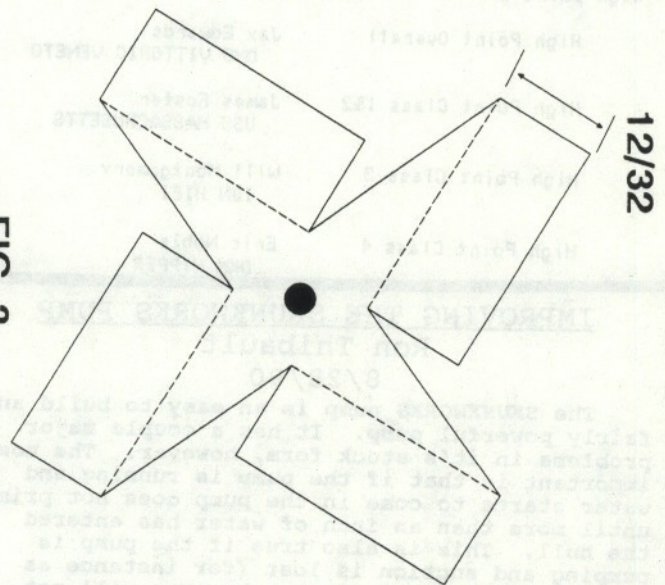


FIG. 3



PUMP IMPELLER PATTERNS

to remove the insides of the motor from the case. The Dumas motor has a sleeve on the motor shaft, you have to remove the sleeve so that you can disassemble the motor. The sleeve has to be removed in any case, as the SKUNKWORKS collar fits the shaft without the sleeve. First take a file, and file one side of the brass sleeve on the shaft. File until you reach the shaft, and remove the sleeve. Next bend up the tabs holding the top of the

motor, and push the armature out by the shaft. Do not pull on the top of the motor, or you will damage the brushes! Tap the two holes using a #4-40 tap and clean all the filings out of the magnets. Reassemble the motor.

If you made a new impeller, the next step is to fit it to the housing. First compare it to the old one to double check that you bent the blades in the proper direction. If not, make a new one, trying to rebend the blades will only cause problems. Also make sure the top of the impeller is flat and that the bottom of the blades are level and square.

Screw the motor to the housing and try to put the impeller in, it should be to big. Carefully file each blade until you can insert the impeller onto the shaft. Remember that we are trying for the tightest fit that will not hit the housing. Once you can insert the impeller, tighten the set screw and try to spin it by hand. You will find some more high spots. File the offending blades unit it turns freely. The impeller should sit just above the screws and the ridge in the pump housing. Now hook power to the motor and make sure the impeller runs freely. This seems like a lot of work but it will be worth it, just work slowly and carefully.

The next step is to determine the placement of the outlet and how much to cut down the housing. With the impeller installed measure the height of each blade at the top and bottom at the location you wish to drill the new hole. Drill the hole so that it will end up at the center of the smallest and largest measurement. Drill a starter hole. Then drill the next hole a little smaller than the outlet tubing. Drill the above holes vertically into

the side of the housing. After you have drilled the last hole, with the drill running, tilt the bit over until the hole comes out at about 45 deg to the housing. Be sure the outlet hole is pointed in the same direction of rotation as the old hole. Test fit the outlet and wiggle the bit in the hole until you can insert the outlet.

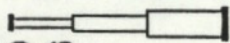
Now take a piece of square balsa just a little bigger than the old outlet hole and force it into the hole until it sticks fully out the inside. Soak the wood on both sides with thin superglue and let set. Be careful to not get any more than necessary on the inside of the housing. After the glue is set, trim both sides flush and soak the wood again. If you want, glue a thin piece of plastic over the outside to reinforce the patch.

Reinstall the motor and impeller. Install the outlet. Test (power) that the impeller still does not hit. Place (do not glue now) the plastic ring in the bottom as close to the impeller as possible without hitting. Measure the distance between the ring and the bottom of the housing. Remove the motor and impeller and trim the bottom of the housing, leaving about 1/8 to 3/16 of an inch extra for "feet". Cut out scallops (similar to original housing) between the new bottom and the ring position.

Reinstall the motor and impeller (use Lock-Tite on the screws and set screw). Check again that it does not hit. Install ring, check for hits, and glue it in. Glue on the screen. Glue the plastic over the set screw hole, leaving a slight gap at the top to allow the air to escape so that the pump can prime.

You now have an improved pump. The above modifications can be done in an evening or two.

Observations of the Founding Father



EXTRA! EXTRA!

A serious step of Axis escalation has occurred! On November 2, 1990 a new Axis combatant was born to Herr and Frau Fluegel! He is Dallas Daniel Fluegel, 9 lbs. 10 oz and 23 inches (sounds like a WWI heavy cruiser). This act of aggression was completely unprovoked. Alright you under 40 Allies, Get to work!

Katherine and Dallas are doing fine! Fluegel is, well, Fluegel. Thank you God for the blessings of a new child and for a safe and healthy delivery for both Dallas and Katherine.

Now on to technical matters. The following is additional information on MEASURING THRUST PRODUCED (AT CURRENT) USING DIFFERENT MOTORS AND PROPS on the USS O'Testboard:

The original test results were obtained as follows:

Motors	Current	Volts/ Batteries	Thrust
1. Skunkworks	2.2 amps	7.2v Nicads	7mm
2. " "	2.0 amps	6v Xcells	5mm
3. My old 380s	6.0 amps	" "	14mm
4. New 380s	9.0 amps	" "	19mm
5. Skunkworks	2.0 amps	7.2v Nicads	4mm (3 bladed Skunkworks/Gruppner props).

After participating in the Fall 90 Southeast Regionals (Waspfest, or Alabama Attack Wasps), Chris Pearce came to my house and allowed the use of several different Exact Miniatures props for thrust/current evaluation. The first test

was of the old "Lutzow" props of original test (above) number 1. There was a considerable offset between the original test result and this test result. This is believed to have been caused by one of the prop shafts having increased drag considerably since that test. The figures in the new test have been adjusted to factor out that offset.

All test results below are with Skunkworks motors at 7.2 volts.

Prop	Thrust	Current
1. Lutzow	7mm	3.0 amps
2. EM 1.0	8mm	3.0 amps
3. EM 1.25	8mm	3.0 amps
4. EM 1.5	10mm	3.5 amps
5. EM 2.0	9mm	4.0 amps

LOST AT SEA or WHERE'S YOUR SHIP?

We were badly out numbered and out gunned but not discouraged. The small US cruiser strike force composed of the USS Miami (Captain Don Cole) and USS Oklahoma City II (Commodore Stan Watkins) were conducting operations against targets of opportunity. Although the fleet as a whole was having problems with the superior enemy the 2 ship strike group was doing well. Several enemy ships had been hit with numerous rounds from these Cleveland Class Cruisers. These ships seemed to work together pretty well. But as all good sorties must this one was drawing to a close. The ships were both out of ammunition. It was time to call it quits and head for home port. Both Captains called 5 and turned about. The silhouettes of the two sister ships looked good from shore as their bows knifed cleanly through the gentle swells of the enemy waters. The speeds of the two ships was so close that they could steam together effortlessly at top speed. The more powerful enemy ships could not catch them. They were headed home free from enemy attack. While sailing in tandem around the large enemy held island the two ships parted. Commodore Watkins

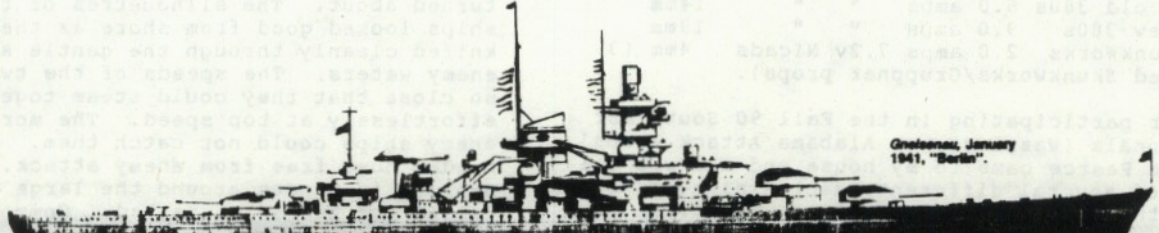
had left the bridge and turned the conn over the the ship's automatic systems. As he vent below to assess the minor damage from the enemy gun fire he had no fears. From shore one of the cruisers rounded the island and proceeded toward the home waters area. The response of the ship to commands from shore indicated to Captain Watkins that the Oklahoma City II was the ship that had rounded the island. He wondered why Captain Cole had turned back into enemy waters. Oh well not to worry, Captain Cole had demonstrated that he could take care of himself. There was still about 4 minutes of the 5 minute rule left for the ships. That was fine. But where was the Miami? Finally, out of curiosity, Captain Watkins ask that Captain Cole be contacted to determine the Miami's position. Captain Cole indicated that the Miami was on the Allied side of the island. If Captain Cole was correct this could only mean that the Oklahoma City II was not where she was supposed to be. This was a source of some discomfort for Captain Watkins. He raced for the bridge. As he was just about to enter the bridge he felt the dull thud and rapid deceleration. Captain Watkins was thrown to the deck. Dazed for a moment he knew this could be serious. Would she be able to pull free? As he personally grabbed the engine telegraphs and forced them into the Full Astern position he thought about the Exxon Valdez and the shame of it all. There were still 3 minutes of the 5 left. As he looked out the bridge windows while wildly reversing the engines he saw the ominous form of the HMS Valiant. With captain "Mad Dog Hamilton" at the helm. Normally an American Cruiser could expect help from thier British Allies, but not from "Mad Dog". He had a reputation for shooting anything that ran aground. As if things weren't bad enough the largest enemy warship on the lake was also closing in. It was one of those dreaded Italian

superbattleships. Maybe Mad Dog would shoot it. No such luck! As the 14 inch rounds skillfully aimed from the Valiant began to crash through the hull of the OKC II Captain Watkins knew he was on his own. By frantically working the rudder controls and the throttles the OKC would pivot slightly. This and the fact that the Valiant was also contacting the bottom made it alittle more difficult to hit the OKC with 100 percent of the ammunition. But the shots that the Valiant may have missed were more than made up for by the Italian BB's BBs. Captain Watkins borrowed from another great moment of R/C Warship Combat History and Yelled "You bunch of Women! Can't you do any better than that?!!" They proceeded to silence that Captain by blasting the bridge. Finally the 5 minutes had expired. Damage was assessed at 505 points. Some asked why Captain Watkins had not declared "Sunk" to minimize damage. In the immortal words of German WWI Admiral Scheer when asked about his strange battle turn east manuever at Jutland (at 1855 hours) his answer was "I don't know." Actually since so much of the 5 minutes was up and the enemy was having some difficulty lining up shots Stan believed that the OKC II would take less than a sink's damage. And since a sink is 600 and she took only 505, this was a slightly successful gamble. Lots of patching was required. We still marvel how the OKC II managed to manuever herself so precisely to the enemy home port shore past all of the obstacles. Rumors of official reprimands for Captain Watkins have been flying about lately and he cannot refute the justification. His recommendation for other Captains, Don't leave the bridge until your ship is docked in "home" port.

Don't Lose the Ship!
 God Bless You and Let's Battle!
 Stan

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Ghebenes, January 1941, "Berlin".