FLYING SIMULATORS

NEWSLETTER OF THE AF/D SOCIETY VOLUME 2 NUMBER 1

Welcome to Volume #2 of FS. A year ago, when we started, I didn't have any idea how popular the AF/D Society would be. We have grown to number about 60 in only one year, I have a dozen requests for info on my desk now and am in the process of getting them out. A lot of the people were referred to the Society by someone already in it. To all who made the recommendations, Thanks!!

Len Mumbower's column continues this issue. Norman Albrecht's Flak rules, a review of a computer air game, and a naval rules modification by Mike Telson. There are also some new game openings. About Ratzenberger's House Rules idea, Jim Burnett writes "I would like them to include differences of opinion so we could adapt special rules variations to specific scenario requirements." Good idea.

By the way, several people told me that Impact (mentioned last issue) was available through the Military Book Club for a substantial discount. Again, thank you all for making the last year so successful.

****

GAME ANNOUNCEMENTS:

Jim McAmis: The Third Mission of the Pacific Campaign Game is about to start. The Japanese will be attacking the American airbase at Munda Point. There are openings on both sides.

Robert Cato: I'd like to announce a "giant" demolition derby called Donut Derby. The features are as follows:

1) Each player or players and allies, get between 1,000 and 2,000 points to buy ships and a/c. The greater the number of players on a "team", the more points that team has, but never more than 2,000 (10 players) or less than 1,000 (1 player);

2) The closest enemy fleet will be about 64 hexes away;

3) All print outs of a/c will be based on players carrier being at 2621. Each players turn sheet will be based on his carriers location! This is done to discourage "alliances" between carriers;

4) There is no edge of the board If you fly 256 hexes in any direction, you will be around the world;

5) There are provisions to repair carriers and a/c;

6) There will be spotting rules (continued on page 8)

FLYING BUCCANEERS “43 Yormed Atoll

A “Low Level Mission” over a lightly defended (flak) rear area staging base for the “4th. Imperial Air Army of Japan”. Very little accurate intelligence information hampers the “5th” In planning the raid, but the Group Leaders and Sqd.L. need to brief all pilots under their command before I can start the mission. On entre on to Atoll Home Board a list of target hexes will be posted to all, including shipping when sighted.

The 5th consists of the “Jolly Rodgers” eq. B-25’s, 3rd Attack Group eq. A-20’s and the “Head Hunters” eq. P-38’s

. . . . . VS ..... VS . ‘. . . . . .

The 4th I.A.A.J. armed with Zeke A6M2# 21, Tojo’s a combat modified ac.,Nick’s () and night fighters Dinah’s also field version plus a few A/c for color and my enjoyment as well!!

A Call To Arm’s

The F.Bucc. are lacking a Group Leader,Sqd.L. for the A-20’s and one non-com. slot, the Head Hunters need two non-com slots filled on the other hand the ‘Jolly Rodgers are full and closed!

A total of four people need to come forward for the 5th AF! As for the IAAJ only an optional Sqd.L. is needed in the Command role for the Dinah’s but I have lots of room for non-com. ac a min. & max. number lowest to start the game for the IAAJ would be five but could expand that # to the Max of fourteen slots!

Put on your boots and sign up what will be a classic air battle over the Pacific that should be fun and loaded with action for all! Plenty of old-hands on the stick along with a few new-comers.

If all goes right the deadline for entre into F.Bucc.!43 “Yormed Atoll” will be two weeks after F.Sim. Feb.81 comes out an/or OW/PD 81. Both newsletters will get up dates to Radio Transmissions and all observable action anyone side may have. Damage to a/c Smoke, Bomb bursts, Flak and damage to Atoll Shipping losses to merchants and escorts.

Good Luck & Good Hunting!

Dennis Demory

Ps Please enclose SASE, and if you want the F.Bucc. or IAAF

****

Michael Telson: I’m running an early war North Africa Campaign and need more players for the third scenario that will start early in 1981. At this time I’ll be needing 5 players for fighters: 2 for the Italians (CR 42 BIS): 3 for the British (Glad. I). Also there is a need for from 2-8 players to handle the 12 bombers/2 DD’s/l SUbmarine/Flak Batteries assigned to each side (1-4 players/ side). (cont. p.4)

COMPUTER AIR COMBAT
By Charlie Merrow

A new dimension has been added to World War II flying simulation -- the use of computers! Strategic Simulations Inc. has recently published a computer war game called Computer Air Combat that permits anyone with access to an Apple computer to play highly realistic simulations of WW II aerial combat. Of course, I must admit to being slightly biased, since Jack Avery and I designed the game.

Computer Air Combat includes 36 different US, British, German and Japanese aircraft which can be used in five different scenarios: dogfights, bomber formation defense, radar-controlled nightfighter, V-1 intercept, and air racing. Detailed performance data are used for each specific aircraft in the areas of speed, maneuverability, climbing, diving firepower and the ability to absorb damage. Use of the computer permits a11 movement-related data to be continuous functions of speed and altitude, thus eliminating the "step function" changes inherent in Air Force and Dauntless.

The game scale in time is similar to AF/D, with one game turn corresponding to approximately 7 seconds (the time it takes a plane travelling 100 mph to go 1000 feet). Distances are displayed to the nearest 100 feet, and altitude to the nearest 10 feet. Aircraft can have any of eight different headings and bank attitudes, and five different nose attitudes. Maneuvers are entered using two-letter commands, e.g., TL for turn left, and executed AFTER the aircraft has moved straight the required maneuver distance. Also unlike AF/D, simultaneous turn, roll, and pitch (nose up/down) maneuvers are possible.

Combat is different from AF/D in that determining whether or not the target is hit, and the amount of damage sustained are treated separately. The game a1so has the added uncertainty of PBM games, in that you never know how much damage your opponent has sustained. Ace and Inexperienced pilots included, with the additional feature (relative to AF/D) of differences in ammunition usage per attack (good pilots could shoot you down with fewer rounds!).

Visibility is a more critical factor in Computer Air Combat, because you REALLY have no idea where an enemy aircraft is until you have sighted him, again much more like PBM games. The night fighter scenario is unique with respect to visibility, since you are given only approximate range and bearing to your target, and one of your major challenges is closing to within visual range of the target.

Another real advantage of having a computer in the act is that you always have an opponent available. The night fighter and V-I scenarios are both solitaire only, and the computer, nicknamed "Otto Pilot", will fly against you in the dogfight and bomber formation defense scenarios, if desired. When two human go against one another passwords are used to insure that secret information is given to the right player.

Plans are already underway to expand the game with the addition of another 40-50 aircraft used by Germany, Russia, Poland. Finland and Italy on the Eastern Front. A Pacific theatre expansion may follow soon after, which could include aircraft from the Japanese battles with Russia and China in the late 30's all the way up to the Mig versus Sabre duels in Korea.

If any of you do get a chance to play the game, I would appreciate any feedback you might have an its playability and realism, or anything else for that matter.

****

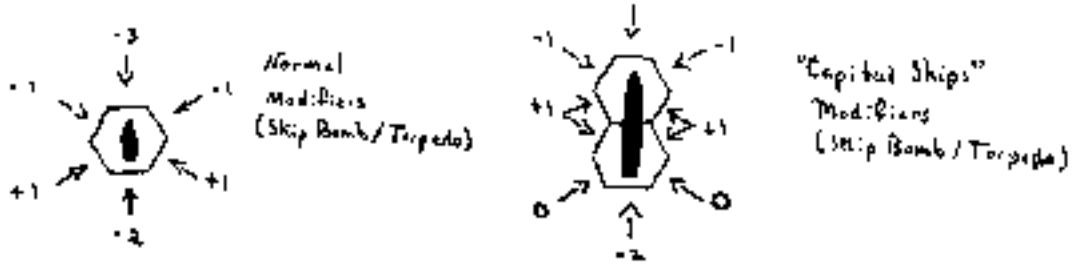
(continued from page 2)

I will not be using pure dogfights in my format, therefore these non-fighter players will be used in each game. Future scenarios will include high and low level bomber strikes, convoy escort, anti-submarine, photo-recon, ground support and anti-shipping missions, in combination or separately. The RAF will have Blenheim I's (later Mk IV's); Town Class DD's; a "T" Class Submarine and assorted Flak batteries. For the RA: SM 79's; Turbine Class DD's; an Adua Class Submarine and assorted Flak batteries. The rules from Submarine will be added to handle naval combat with the following special rule.

Capital Ships:

One flaw in the AF/D/EX Naval rules is that Capital Ships occupy only a single 500 ft. hex. What I propose is that CArs, CV's, BC's and BB's occupy two hexes since these ships are from 600-900 ft. in length (CVL's are CV's with a Silo # of 4 or 5). To do this utilize counters from Submarine or make your own to represent these vessels. See figure below for modifiers.

Send a SASE for further information.



****

CAMPAIGN GAME FLAK RULES

Norman Albrecht

GROUND BASED HEAVY FLAK :

Heavy flak will have the same seven hex burst pattern as rockets. Heavy flak cannot be aimed at a specific a/c but at a specific hex. Two dice are rolled and if the modified dice roll is 11 or 12 there are hits. Combat is then resolved as per normal. If there is an ambiguous combat modifier, the modifier that most favorably affects the a/c will be used. When damage is assessed it is spread around in the following way. Assume there are seven a/c flying in formation and a heavy flak burst scores hits on them (they are flying such that all seven are in exact pattern as flak burst). Let's also assume that the damage inflicted is WFCEE and a critical hit is also obtained. The a/c in the center hex (hex of flak burst) will get W, the a/c 12 o-clock to that gets F, the a/c at 2 o-clock to the center gets e, the a/c at 4 o-clock to the center gets E, the a/c at 6 o-clock to the center gets E, the a/c at 8 o-clock to the center gets the critical, the a/c at 10 o-clock to the center is undamaged. If there had not been any at at any of those clock positions the next plane around would receive the damage. Also, if there was more damage than a/c, the round robin would start again and go in sequence until all damage is assigned.

GROUND BASED LIGHT FLAK :

Light flak is aimed at a specific a/c. To determine if a hit has been scored with light flak, two dice are rolled for each three factors of light flak aimed at a specific a/c. If the modified dice roll is 10, 11 or 12 there is a hit for those three factors. The total number of hits are determined and damage is assessed as per the rules. E.G. There are 20 factors of light flak firing at an a/c. There are 6 groups of 3 factors each with 2 factors left over. This excess is lost. Assume the following modified dice rolls were obtained: 4,6,7,8,10,12. There were 2 hits, therefore combat would be resolved with 6 factors of light flak firing at the designated target a/c.

NAVAL BASED FLAK I

All flak values printed in the rule book are doubled. Up to 3/4 of this doubled value may be fired through any one clock position. Up to 1/2 of this doubled value may be fired through any two non-adjacent clock positions. Up to 1/4 of this doubled value may be fired through any four clock positions. Up to 3/8 of this doubled value may be fired through any two adjacent clock positions. Let me illustrate this with an example. Take an American CA-l from 1944. The printed values are 20 light flak and 9 heavy flak. The new values are 40 light flak and 18 heavy flak. Up to 30 factors of light flak and 13 factors of heavy flak could be fired through a single clock position. Up to 20 factors of light flak and 9 factors of heavy flak could be fired through each of two non-adjacent clock positions (e.g. 12 o-clock and 4 o-clock). Up to 10 factors of light flak and 4 factors of heavy flak could be fired through each of four clock positions. Up to 15 factors of light flak and 6 factors of heavy flak could fire through each of two adjacent clock positions. The fire of the light and heavy flak is handled as per the rules for ground based flak.

MODIFIERS

Single engined a/c flying unloaded	-1
Single engined a/c flying loaded & twin engined a/c flying unloaded	+1
Twin engined a/c flying loaded & three and four engined a/c flying unloaded	+2
Three and four engined a/c flying loaded	+3
A/e Flying in formation	+1
A/e Flying at maneuver speed	+1
Ale Flying at dive speed	-1
Kamikaze	+2

Light flak factors exceeding 24 factors -1 firing at a single target These modifiers apply to all kinds of flak (except the last one).

HANGER TALK..... Len Mumbower

PART IV. DIVE AND GLIDE BOMBING TACTICS

The tactic of dive bombing used initially by the U. S. prior to WWII was an important method of pinpoint delivery of bombs to a target during the early phases of the war by the Germans, U. S., and the Japanese. The JU-87 Stuka, SBD Dauntless and D3A Val made significant contributions in battle. Later the fighter-bombers such as the F4U, P-5l, and many others carrying more weapon loads than the specialized dive bomber and using glide bombing tactics replaced the dive bombers. (In the 30's fighters were only fighters... not dual purpose.)

The basic difference between the 'level' bomber tactics and the dive/glide tactic was that in the latter, the entire aircraft was aimed at the target until bomb release. Thus, complicated bombsights offset aim points and a number of other varieties such as winds and bomb ballistics did not enter into the equation for getting bombs to the target accurately ... particularly small and/or moving targets such as ships. The other difference is that dive/glide bombing is flown from the echelon formation discussed in a previous article.

In both dive and glide bombing the aircraft started at relatively high altitude and performed a dive to the target. In glide bombing the angle of attack during the dive was between 30 and 55 degrees. However, for greater accuracy, bomb release had to be at a lower altitude than in dive bombing (see AF/D dive-glide bombing scatter diagrams charts).

In dive bombing the angle of attack was between 60 and 90 degrees so the aircraft had to have

special flaps/spoilers to help steady the plane in the dive and to avoid building up excessive speed in the dive so it would stay in one piece during the pullout. In the Navy, we were trained to make a dive of about 70-75 degrees. The German Stukas used an 80-85 degree dive. (As an aside, it was necessary for pilot and crewmen to yell on the way down to help equalize pressure on the eardrums and even then some damage was done to the lungs, so that after a lot of dives the pilot had to shift to other types of flying.)

In the dive bombing I was taught and practiced in the SBD the starting altitude was usually between 9 and 10,000 feet and relatively close in to the target because of the high angle of attack. Pullout was commenced at 2500 to 3000 feet immediately following bomb release and the plane finished its pullout at between 500 and 1500 feet going about 425 knots! Total elapsed time from peel off to pullout at the above altitudes was about 25 to 35 seconds. This amount of time was needed to dive in order to build up speed for more accurate bombing and to have time to aim the aircraft.

In glide bombing with an angle of attack between 30 and 55 degrees we started from a lower altitude, generally between 3000 and 5000 feet. The start altitude and angle of attack would be chosen along with the type of target and terrain siting to again allow between 20 to 30 seconds to dive and aim the aircraft prior to bomb release at between 500 and 1000 feet.

Both of these types of bombing tactics were used against surface targets where pinpoint accuracy was called for. Bridges, small buildings, troop concentrations and ships (particularly if moving) were typical targets.

PART IV (Continued)

For attack against ships it was best to perform the bomb run from astern in the 4, 6 and 8 o'clock sectors if they were underway. This way it was easier to make minor turn and dive angle corrections during the dive to compensate for the ships speed and evasive action without running the danger of messing up your aim and missing the target or in dive bombing going over on your back beyond the vertical where you were more likely to come apart or be unable to recover from your dive. So attacks against moving ships (and any moving object) from the 10, 12, or 2 o'clock sectors were avoided.

For attacks against targets such as bridges, vehicles on roads and troop concentrations or fortifications the bomb run was made parallel with the longitudinal axis of the target (e.g., bridge length not width). This way there was more target to hit and if aimed at the center a high or low miss (which was the more likely rather than to the side) would still probably hit some part of the target. For small buildings and approximately square target areas the run approach could be made from any direction.

Of course, since the aircraft ended up at low altitude, the terrain situation around the target was also a major consideration for the angle of approach, final stages of the dive, pullout and climb to safety. Flak defenses were also a consideration since you were in range of light flak and in a straight approach in the final stages of the dive. For flak guns placed near the target the deflection

angles were almost non-existent and they had plenty of time to line up on you as your plane came down to within their range. This latter point was a major consideration in using an approach tactic where the squadron was placed in a banked turn prior to peel off and each bomber performed mild turns during the dive so that they would be arriving from slightly different directions at almost the same time (approximately 5 second intervals). This forced the flak gunners to continually shift and rotate their guns from one target to another.

The current AF/D game rules for diving are completely inadequate (e.g., the SBD at maximum dive from 10,000 down to 3,000 feet would take 6 turns (1 minute) and travel 60 hexes)! The 'spiral down' suggested in the rules is also similarly unrealistic and ridiculous! In actual practice, a dive bomber diving at 75 degree angle lost on the average approximately 3,000 feet every 10 seconds while traveling forward about 1,000 feet. A short calculation shows that for our game a dive bomber diving at 70-80 degrees angle of attack will move forward two hexes for every 3,000 foot loss in altitude. Thus starting at 10,000 feet it will take 3 turns (30 seconds) to drop down to 1,000 feet at completion of pullout just past the target followed by the climb and join up (figures 12, 13, and 14).

I have examined several other 'air games' to verify these calculations. For instance, "Fast Carrier" and "Spitfire" by SPI (both at different game scales) handle dive bombing in essentially the same manner. For "Spitfire" a JU-87 dive speed 8 (middle of dive range) will drop 1080 feet every 3.3 seconds (6 levels) and travel forward 92 meters (300 feet). This works out to a drop of 9,000 feet in 30 seconds with a forward travel of 3,000 feet. Their "Fast Carrier" game is more abstracted, but a dive bomber goes from hi to 10 altitude and bomb drop in 1 hex where a turn is 40 seconds real time and each hex is 1/2 nautical mile. In this game, the aircraft moves into the hex on one turn (gets in position for peel off) and then in the second turn changes altitude to low and drops his bomb without moving out of the hex.
Continued Next Issue

Continuation of Bob Cato's Game Announcement from page 1

similar to those in AF/D, rolled individually;

7) There will be 16 players (teams);
8) In case it is not apparent, the game is computer controlled;
9) The fee is $5. Needless to say, if this game gets off the ground, it will be a wide open affair.

****

More Ramblings:

Virgil Mugler has finished up his first Demolition Derby. He is going to write an analysis of the game and that will appear in a future issue.

The B-52 and B-1 missions ran into a snag. I now have that worked out and will be sending out the initial packages soon. So all you who are writing, don't despair, they are on the way.

I haven't gotten many new/modified rules for the House Rules yet. If you have any drop them to me. They don't have to be in polished form. We'll even accept rough ideas. If you signed up for John Ratzenberger's The Hardest Day, you should have a massive package by now. If not, you better drop him a line.

There have been some requests for a membership list. I keep planning on running one in FS, but always either run out of room or just have a little bit (like this). I am going to include it in the next issue as a special insert.

... And then I did a)SLL and dropped on his tail...