CV and Flat Top
Reconciled, Combined and Explained

I have created a large number of replacement player aids and charts for the Yaquinto game of C.V. (sic, henceforth CV) and the Avalon Hill game of Flat Top. I thought it might be helpful to prospective users of these aids and charts to explain a little of how they came about and the choices I made in creating them.

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Background

The system was designed by S. Craig Taylor and first published by Battleline as Flat Top in 1977. Then, in 1980, Taylor adopted the system to the battle of Midway and published C.V. by Yaquinto. Soon thereafter, Avalon Hill bought Battleline and acquired the rights to Flat Top. The Avalon Hill version was reworked (developed) by Alan Moon and made some minor, and not so minor, changes to the Battleline version. Alan's changes are well documented in an article he wrote for "The General 18-6 "Design Analysis: Flat Top Errata"

An expansion of the game was also published in The General 18-6, "British Flat Tops in the Solomons," which added British ships and aircraft and new scenarios to take advantage of them. Other people have written additional scenarios and other articles that expand or change the system, all that I know of are listed in the bibliography of this narrative. One article in particular caught my attention, a new weather system written by Ryan Schutz who had served as a US Navy meteorologist in the region.

Beginnings

My project started with two simple misunderstandings. The first had to do with the composition of Task Forces in CV. I had all four Japanese CVs in one task force and the plane handling and launching did not feel right. Rather than feeling constrained by the Ready and Launch factors I felt like I had one gigantic

science fiction carrier that never really lacked for enough factors to move the planes around or launch. I decided I wanted a display for each ship or base in the game that would let me track the factors for each independentely. I had no idea how complex that would become (nor how gratifying now that it exists).

The second misunderstanding arose when I became interested in Flat Top. Asking around on the Internet I was told that Flat Top was essentially the same system as CV. A considerable amount of mischief hid behind that "essentially".

What I discovered when I went to play my first game of Flat Top was that while it IS essentially the same system, numerous differences exist in the details. The first difference I stumbled upon was the speed and endurance values of the various planes. I had memorized the values in CV and was surprised to see that planes that appeared in both games had different values. The CV Zero for instance is 10-7 and it is 10-8 in Flat Top. A little time spent comparing the various charts for both games revealed other differences, almost always of the same magnitude, a plus or minus 1, whether we are talking of speeds, ranges, BHTs, what have you.

A smarter man probably would have shrugged and gotten on with the game. But I really did have most of the values memorized and I wanted to play both games using a reconciled system. Plus, in the course of examining the charts, I had been struck by how poorly laid out the AH aids were compared to Yaquinto's offerings and I'd also discovered a few instances where I thought the AH game was superior (heavily influenced in this by Alan Moon's article).

So I decided to reconcile the two systems, and create my own player aids and charts that would allow me to play either game, and while I was at it, to include the British expansion and new weather rules and anything else that would give me as seamless a system as I could make.

At this point a strict chronological telling of my journey is unnecessary and likely to be confusing, as I had to go back and forth a fair bit as I learned more about both games. Instead, I'm going to describe the various play aids and charts and the thinking that went into each.

CVFT_Ship_Base_Displays

I started with the Ship and Base displays. The idea is to have a display for each plane carrying ship and base. These displays include the holding boxes for; "Just Landed", "Refueling and Rearming", and "Ready to Launch" that are found on the originals. But I also added a track along the left side to accommodate little sliders that could be adjusted to show how many Ready or Launch factors had been used that turn. For the sliders I first used matchsticks, but have evolved to ½ inch lengths of 1/8" square brass tubing color coded to match the type of launch factor.

The color coding of the various launch factors lead naturally to a color coded holding box at the top of each display where the newly formed Air Formations can be placed before going to the Air Formation display. This had the advantage of helping me sort out the somewhat counter-intuitive fact that on a maximum launch the planes couldn't leave the hex, while a minimum launch allows the planes their full movement.

As I got into it I realized it would be helpful to show the Maximum Capacity and types of planes handled. For bases I wanted a box to display the accumulated hits, and how many defending and attacking infantry were engaged. (In FT there is no ground combat, CV includes a number of US Marines on the island and as the Japanese infantry are unloaded they fight it out in a very simple system. I wanted to be able to do that in FT as well, the subject of another article).

By this time I had pulled all of the data except Anti-Air and Surface fire factors off the original displays, so I added that to mine as well. Color Coding the ship displays and making the bases green made them just that much easier to recognize around the game table.

CVFT_Combined Game card

The Combined Game Card was an obvious next step and absolutely necessary to reconcile the systems. And it was far more work than I realized. Very briefly, here are the important considerations of each section.

Air Hit Tables

I was mostly unimpressed with the AH layout and adopted a modified version of the CV layout. First thing I added was more plane data, this Game Card is meant to contain most of the necessary data to play the game and it seemed reasonable to add the plane information. Next I added one more set of rows at the top so that dive bombing could be a separate column from level bombing, an idea carried over from AH. I thought General Purpose (GP) was a better name for the bomb type then HE.

Smack in the middle of this table are the values for the British planes, thus incorporating them into the system. All of the plane types from either game, and the expansion article, are included, one of my major goals.

I'd always been a bit confused about which notes went to which table on the CV card, so I made sure and enclosed the Air Hit Table notes within its borders, and likewise for the Surface Hit Tables. The Air Hit Notes are slightly expanded from the CV version to get more of the necessary information on the card, including the table for Hit effects added at the bottom.

Combat Results table (CRT)

As noted, the Basic Hit Tables (BHT) derived from the Air Hit Table were almost always 1 larger in CV versus FT. An examination of the two game's CRTs revealed why. CV has one more column (BHT) and is slightly less bloody at the low odds attacks. This made it easier to just adopt the CV CRT and, generally, inflate the FT values for different attacks by 1 BHT.

Surface Hit Tables

I reversed the axis from that of CV for reasons of space. I wanted to get this table and its notes all in one place, so now the firing unit is along the top and the type of attack is along the left. This is exactly opposite the Air Hit table and that is unfortunate, but I felt it was worthwhile to get the modifiers and notes properly presented. Here, and in other places, I added in the information for Submarines just in case people want to include them.

Sequence of Play

The Sequence of Play (SOP) of the CV and FT is essentially identically; the only difference is that FT has weather at the beginning while CV makes it the last step. Again, partly because I played it first, and partly because I believe it's the way S. Craig Taylor would have preferred, I went with the CV order. I also really wanted it on the Game card, CV has the SOP on the back of the rulebook and that was very much more helpful in learning the game than having it buried inside the rules a la FT.

Observation Table

This is one of the very few places I made a change that represents a blending of the two games instead of simply picking one over the other.

CV has five possible observation conditions, ranging from "1 - Something is there" to "5 - Exact information including names of ships etc.". Alan Moon argued that condition 5 was nonsense, nobody ever had that kind of exact information and there were plenty of cases of mistaken identity. (The Japanese

believed for some time they had sunk Yorktown at the Coral Sea). So FT reduced the possible outcomes to only three observation conditions, which seemed like a good idea to me until I tried to build this table.

The observation condition obtained is a function of the state of nature when you are observing. Dark and stormy nights at a great distance make observation much harder than clear blue skies in daylight. There are five factors effecting observation built into the game; Daylight vs. Nighttime, Clear, Cloudy or Stormy weather, the distance to the target, the altitude of the observer and the type of object (Air or Surface) you are trying to see. I won't walk you through all the possibilities, but you can see that with five factors and the possible range of combinations they form, it is impossible to assign each combination a unique observation condition along a graduated scale. If daytime clear, cloudy, and stormy are going to be 3,2,1 respectively, then what do you do with nighttime clear, cloudy and stormy?

Avalon Hill dealt with the problem by first throwing out the observers altitude as irrelevant, and then just flat forbidding observation in storm hexes. The first is inaccurate and something of a cop out. The second is perhaps a little easier to justify, but it creates a problem in the game play. If you can park your carriers in a storm and only pop out to launch or recover planes you are guaranteed invulnerable as long as you are in the storm. Which is nonsense.

But I wasn't ready to go back to the five conditions of CV either. So I decided to see what would happen if I only used 4 conditions. CV presents "Daylight, Clear" as the normal case for four ranges, and then has a column that shows negative modifiers to the resulting observation condition for each combination of states of nature (i.e. Night and Stormy). To let me see all possible results I built an expanded version of this table that had all four range columns presented under all possible states of nature and the resulting observation conditions.

That table was unwieldy, having 24 possible columns, but it showed two things right away. First, condition four was rarely obtained as a result, so combining conditions 5 and 4 still made most of the appropriate distinctions between different states of nature and let me do away with the exact information of condition 5. The second thing that was apparent was that, other than Radar, it was impossible to see anything outside your own hex at night. And this held generally true for other states of nature, longer range observation was really only possible for Radar. So instead of using 24 columns to show all possible results, I could reduce that to 13 columns (only 2 more than Yaquinto used!) and still show actual results, not modifiers. Which I really liked, when you consult the chart now you get an observation condition, not a modifier that has to be applied back to the "normal" state to figure out your result. It's a minor thing, but one less step, especially a step that must be done as often as observation, can really add up in a game this long.

Two other things about this table improve the ability to read it quickly and accurately. First, by labeling the various states of nature at the top I think it is easier to make sure you are using the right column. In the CV table I always felt like I had to read all the possible modifiers to make sure I didn't forget anything, now it's a quick sequence of simple steps. Daylight or Nighttime? Clear, Cloudy or Stormy? At what range? Here is your answer.

The last change I made was to express the observation conditions as capital letters instead of numbers. OK, I'm a numbers guy, but in CV I'd approach the table with a range (2) in my head, find the appropriate modifier (-1), find the normal case (4), do the math, then get a result (3) that I'd have to apply. Four integers less than 5 representing four different things all in one sentence! Using capital letters for the conditions and eliminating the modifiers means the only number in your head is range and the only result is a condition. Easier, in my opinion.

Search Table

The Search table is an innovation of Alan Moon's for FT only. He felt, and I agree, there should be some chance that the searchers; through inattention, mechanical problems, being slightly off-course, etc. would miss a target they would otherwise spot. He used a 6 sided die for everything (such was the state of the hobby back then that the players had to provide the die!) so his searches would fail on a 5-6, or 33% of the time. I simply substituted an eight sided die and reduced the chances of failure to 25%.

Shadow Table

The Shadow Table is another Alan Moon innovation I like. He explains in his article that the idea was simply to avoid having shadowing be automatic (as it is in CV). He wanted some chance for the observing planes to lose the ships, and without having to wait for night or (in his game) the automatic loss of sight in a storm hex.

Again, all I did was convert this table from a six sided die to am eight sided one, reducing the chance of losing the shadow from 18% to 12.5%.

Note that if the shadowing unit passes this roll (i.e. is shadowing this turn) then the shadowing unit simply follows the target when it moves. But if the shadowing unit fails the roll, then the target move is made in secret and it essentially disappears. However, if the would be shadowing unit is a plane, it can still search for the target on the plane movement step, rolling on the search table and possibly missing, or reacquiring, the target again.

I think the Searching and Shadowing tables add a nice element to the game and I'm pleased to include them.

Night Landing Procedure

Here is one where I just took the CV solution without modification. In CV night landing (and landing in storms) is resolved exactly like combat, with the # of factors being double the number of air factors trying to land and the BHT varying slightly depending on where they are trying to land.

Flat Top used a simple die-roll, modified only by whether the attempt was to land on a ship or base. The end result is probably about the same, but since we've already got a process for inflicting losses (the CRT) I saw no reason to keep an additional process, even one this simple.

Initial Wind Direction Table

The next three tables on the back of the Game Card all deal with the weather. I am indebted to Ryan Schutz, a former navy meteorologist for his suggestions on how to improve the modeling of the weather without complicating the game. This table is directly from his article and it serves to set the initial wind direction in any FT scenario according to a more realistic pattern based on the time of year. There is no need for this table in a CV scenario.

Wind Direction

Straight out of CV, the only difference from FT is the inclusion of #4, which restores the wind to the initial direction in the scenario. Which is also suggested by Ryan Schutz for FT and makes imminent good sense to me.

Cloud Reset on exiting sector

Called the "Cloud Movement Table" in FT and was not included in CV. I prefer this more descriptive title for the table. The content comes from Ryan's article and while he designed it with only FT in mind, it seems to work just as well in CV and helps eliminate a minor problem in CV that the weather inevitably clears over the course of a game as clouds drift off the map. A nice addition to both games.

Critical Hits

Straight out of CV. Both games treat Critical Hits as an optional rule. I prefer the greater variety of possibilities in the CV version which is why its included here.

Interception Table

Straight out of FT. CV uses the same rules as the Battleline version of Flat Top, I think Alan Moon's comments and decisions on this subject were spot on so I've included his table. Read his article for details.

Suggestion

My copy of CV came to me via e-bay and the previous owner had the bright idea of taking the two Game cards and mounting them back to back, then laminating them. I've designed my Combined Game card thinking of the two pages as exactly that, front and back. If you laminate them you'll have virtually everything you need to play the game in one easy to handle card. I recommend this to you.

Counters

I have trouble reading the CV and FT counters as originally published. The type is just too small for me to see very well and it got very old trying to play with a magnifying glass in hand. At first I got by with the expedient of using a Sharpie to write in larger values, but that approach, which worked pretty well for Task Forces, Air Formations and even Plane counters wouldn't work when it came to ships.

Consequently I ended up commissioning a replacement set of plane and ship counters from Tom Cundriff of Old Soldiers. Tom did a fantastic job of producing almost 1800 counters that not only cover all of the ships and planes of the two original games, but he also did up the British units necessary for those expansion scenarios. His planes, and ship silhouettes are far improved from the state of the art ~1980 and, most importantly to me, his chosen font is almost 3 times larger so the counters are once again legible even from across the table.

I mention this partly because I think you will enjoy the games more if you talk to Tom, but also because he and I made some choices to move certain information from the counters to the Ship Rosters and I thought you might like to know the background even if you never buy his counters.

Ships in the two games have five factors; Gunnery, AA, Movement, Torpedoes and Damage. Both games include the first three on the ship counters and Tom and I decided to keep them on his counters. But the two games differ on how they treat Torpedo and Damage values.

FT put the Damage capacity on each ship counter, where it really contributes very little in my opinion. Since you have to record the damage on the ship rosters anyway, it made far more sense to put the damage value for each ship on the roster where you'll be recording the damage. This is how CV handles damage.

CV included the torpedo factor for each ship on the counter, the lower-most value in a diamond layout that included Gunnery, AA and Movement. That diamond layout was a nice mnemonic device, but it took up a lot of room and was the primary reason the font had to be so small. Moving the torpedo factor to the Roster Sheet not only freed up room on the counters, and aligned with FT practice, but since you have to mark off the expenditure of the torpedoes on that roster anyway, it also seemed to make sense.

Tom had one final influence on the ship rosters. He not only gave me counters for every ship in either game, plus the British expansion, but he also included quite a few other ships of the same classes in the game. So I put them all on the Ship Rosters!

CVFT_Ship_Rosters

As described above in the Counters section, my decision to use replacement counters forced me to expand the functions covered by the Ship Rosters. But I would have redesigned the rosters in any case, there was considerable room for improvement and I wanted to be able to use the British expansion for FT.

My ship rosters include the maximum damage rating for each ship and room to mark the accumulated hits, just like in CV. This eliminates the need to fool around with hit markers on ships as in FT. Then there is

an indication of how much ammunition each ship can carry and a place to mark its expenditure. Both games had this feature, but CV did it in slightly more detail and that is the system I've reproduced. Two things bear mentioning. First, Destroyers in FT were one shot affairs, no ammunition tracking at all. CV gives destroyers an ammunition supply and lets the Captain decide how to allocate it, just like the battleships. I want that player choice in my games. Then there is the matter of the troops on the APs and APDs. FT did not bother to represent the troops, essentially you got Victory Points for having the transports unloading each turn. CV actually represents the troops and their ground fighting, admittedly in a very simple and abstract manner. As part of that, each transport has a variable number of troops on-board and I wanted to retain that system so I carried forward the values for the Japanese from CV and made up similar values for the Americans and British.

FT assigned every ship the same survivor factor (5). CV used a sliding scale based on the size of the ship. So I assigned CV like values to each ship type. I think the increase in complexity is negligible and it gives a better flavor for the event to surmise more survivors from a CV or BB than from an AO.

As mentioned above, I chose to put the Torpedo factors on the roster sheet mostly to save room on the counters (where it is almost always a zero), but I've also grown to appreciate having the torpedo factor right next to the torpedo load where I have to record the expenditure anyway.

CVFT_Air Formation and Task Force display

This was far and away the easiest display to do, just a few rectangles! The only reason to replace the originals is they are no longer necessary except for tracking the air formations and Task Forces, and I could do it in half the table space. The bases and ships now each have their own display (CVFT_Ship_Base_Displays) and all of the data about launch factors etc. is included there, including the Just Landed, Rearming and Refueling, and Ready boxes.

But I still needed a place to group the ships and show the planes in each formation, so this is included.

Posting and Updates

This document and each of the player aids will be posted to BoardGameGeek (www.boardgamegeek.com) and Grognards (www.grognard.com). My intention is to periodically update this document and the play aids. If you have comments or suggestions, send them to me at blockhead[_at_]bresnan.net. (Spaces added to foil spambots, remove before sending). I hope you get a chance to play these fine games soon and I hope my efforts will add to your enjoyment.

Bibliography

The following is a list of magazine articles, and websites I think fans of these two games will like to know about. I have added a ** if I have a scanned copy. If I have an article you'd like, just drop me an email at blockhead[_at_]bresnan.net and I'll be happy to send it to you. Or more likely I'll just send you a zip file of all the articles I have.

And if you happen to have a scan of any of the items I'm missing, or have other articles etc. you think should be added to this list, please send them to me! I'll include them in future versions of this document.

Magazine Articles

The Broadside June 1990 Issue #20 on page 6.
** Schutz, Ryan . "New Weather rules for Flat Top" p.6

Fire and Movement, Number 16:
Dunnigan, James F. "A Designer's Review: Flat Top." pp. 18-20.
Ruff, Matthew. "Flat Top Scenario Notes." pp.22-23
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Fire and Movement, Number 29:
Proctor, Bob. "Midway by the Hour: C.V." pp. 10-18.
Taylor, S. Craig, Jr. "C.V. Designer's Notes." p. 18.

Fire and Movement,, Number 36:
List, Steve. "Solomon Sea Battle Report: Umpired Multi-Commander Postal Flat Top." pp. 42-51.

Fire and Movement, Number 37:
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The General Magazine Volume 18, Number 6:
** Collman, Bob, "British Flat Tops in the Solomons," pp. 19-20, 33.
** Gilman, Don, "Flat Top, More Options," pp.15-17, 33.
_____, "Scenario Seven - Wake Island," pp. 17-18.
** Moon, Allan R., "On Deck: The revision of Flat Top," pp. 5-12.
** _____, "Scenario Six - Midway," pp. 10-11.
** _____, "Design Analysis: Flat Top Errata" pp. 13-14.

The General Magazine Volume 19, Number 6:
Burnett, Jim, "Flattop Gamemastered," pp. 26-29.

The General Magazine Volume 22, Number 2:
** Helfferich, Friedrich, "Pacific Dreams: Considerations for Flat Top," pp. 25-30.
Werbaneth, James, "The Airpower System: Understanding Land based Air Assets in Flat Top," p.39-44.

The General Magazine Volume 26, Number 5
** Lutz, James, "Battles for the South Pacific: Hypothetical Scenarios for Flat Top," pp. 41-45.

The General Magazine Volume 27, Number 2:
** Davis, Jim, "Flight Jackets not Included: Tactical Chrome for Flat Top," pp. 45-49.

Websites

http://www.grognard.com/
The original site for all things wargaming. Several entries for Flat Top, one for CV Hopefully to soon include this document and my play aids.

http://grognard.com/indexes/f7.html
An even better list of magazine articles on FT than mine! If you have scans of any of these, please send me a copy!

http://www.boardgamegeek.com/
Good site for replays and player aids. Please see my replay of a CV game. Other replays to be posted soon, as well as (hopefully) this document and my player aids.

http://mysite.verizon.net/rjlein/osm/
The Old Soldiers Magazine website. The owner, Tom Cundiff produced the upgraded counters for me and I highly recommend them (and him) to you. You can also reach Tom at:
tdcgunslinger @ worldnet.att.net
(remove the space before and after the @ sign - done to confound web crawlers)

http://www.wargameacademy.org/FLT/
Includes FT errata and FAQ, taken from Grognards

http://web.archive.org/web/20010506123053/www.facstaff.bucknell.edu/boeke/hobbies/flattop/Main.htm

An apparently defunct site devoted to playing Flat Top by mail. Some intriguing ideas, most notably four new scenarios under the player contributions.