

WARGAMER'S GUIDE TO MIDWAY



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★ The AVALON HILL GENERAL The Game Players Magazine

The Avalon Hill GENERAL is dedicated to the presentation of authoritative articles on the strategy, tactics, and variation of Avalon Hill wargames. Historical articles are included only inasmuch as they provide useful background information on current Avalon Hill titles. The GENERAL is published by the Avalon Hill Game Company solely for the cultural edification of the serious game aficionado, in the hopes of improving the game owner's proficiency of play and providing services not otherwise available to the Avalon Hill game buff.

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Avalon Hill Philosophy

MIDWAY was Avalon Hill's eleventh wargame. Since its inception in 1964, it has sold over 100,000 copies, ranking it tenth on the ALL-TIME Best Seller List, as of 1978. Revitalized periodically by variants and analysis, it has managed to hold its own in a market besieged by a plethora of new titles appearing each year. This guide then is a tribute to an old game still going strong—a "classic" with contemporary appeal.

During MIDWAY's early years in the sixties, it was considered unbalanced by almost everyone. The Japanese supposedly couldn't lose. A significant, semi-official rule change was implemented; American ships could leave the board via the east edge after taking at least one air attack west of Midway Island. Unfortunately, many gamers either did not see this change or chose to disregard it. And, almost predictably, those who did begin to use the rule declared that instead of balancing the game, it reversed the advantage and made the Americans unbeatable. Undoubtedly the cries will continue, as the rule is now made OFFICIAL. Another rule change, finally made OFFICIAL, outlaws one-way suicide missions (also known as kamikaze attacks), a tactic mentioned in many of the articles within. Though some players will probably still allow this tactic, it is a tremendous distortion of history and a terrible injustice to loyal but intelligent pilots.

The ultimate balance—the players themselves—has really always been there. Victory in MIDWAY will be determined by strategy, basic odds calculations, cunning, and anticipation. Luck also plays a role, as in all games, and perhaps a little more so in MIDWAY than in most, but this is in keeping with the nature of the war in the Pacific. Sighting enemy carriers, getting a strike to the target area, and hitting the target with the bombs was no easy matter. Certainly no sure thing. Although abstract in many of its concepts, MIDWAY is a fine simulation as well as a fun game.

Many more articles on MIDWAY have appeared in the GENERAL than are presented in this guide, space considerations requiring some tough choices be made in the selection process. In particular, noteworthy but omitted were "Away From The Combined Fleet" by William B. Searight and "Advanced Midway" by Mark Dumdei, both of which have appeared in recent GENERALS. A complete list of MIDWAY articles appears on page 36.

Over the years, many other games on the same or similar subjects have been published. Some are good, some are bad, some are already gone. MIDWAY has outlasted them all, however, and will continue to do so. Being first isn't always being best, but with your help as shown in this guide, an old game can keep up with the times.



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The Midway Thesis

by Harold Totten and Donald Greenwood

The most in depth article on MIDWAY to date, this is one that every enthusiast of the game should be familiar with.



MIDWAY constitutes a very different playing environment—it is a game that demands instinctive handling of unknowns and perfection in air-sea operations. You've got to outguess your opponent at every turn. A good MIDWAY player is recognized by his ability to react to any given situation. Playing the game requires a good grasp of the game concepts, and that is what we intend to discuss.

This article has evolved slowly over the period of well over a year. The hardest thing in preparing this article was preparing the highly "visual" approach—along with the text there are a multitude of diagrams which had to be worked out and then reworked. We do not pretend to present a panacea, by any means. The adroit player will find errors and improvements. This is as was intended; they are left for you to find and deal with as a tactical exercise. The main idea is to express tactical and strategic concepts—if you can spot errors or improvements then you have grasped these concepts. Nor have we covered all aspects of strategy and tactics, as this would involve obscure variations of the main concepts and would simply serve to make the article longer than it is—which would not help get the concepts across.

As far as methodology is concerned, we will first speak of tactics, and then construct our strategic discussion in terms of these tactics. This is because tactics are very solid concepts, whereas strategy involves more general, and therefore vague concepts.

TACTICS: THE BATTLE BOARD

One of the most important, and perhaps the least understood aspects of MIDWAY is fighting the air-sea battles on the Battle Board. This is the very crux of tactics.

Each side has distinct advantages and disadvantages. The Japanese have air superiority, yet they have more carriers to protect. They also have a large fleet split into many independent groups, while the Americans have a small, concentrated fleet.

In discussing the tactical situation, we will use a number of tables and diagrams to set up hypothetical attacks on some model fleet formations. Each diagram will include figures for maximum/minimum/average losses and hits. Also, each diagram will have additional comments and exact dispositions so there will be no ambiguities.

In setting up these diagrams, we've used the three following tables to determine the figures involved. These tables are basically an analysis of the CRT, and can be helpful when setting up attacks. The use of these tables will allow us to get an objective view of each formation. They are presented so you can evaluate your own favorite fleet formation. The tables are as follows:

Average Hits vs. Squadrons Lost						
	1-3	1-2	1-1	2-1	3-1	4-1
Hits	.17	.50	1.33	1.67	3.0	4.5
Squads	3.50	2.83	3.00	3.50	2.5	2.0
Lost						

Maximum Hits vs. Squadrons Lost						
	1-3	1-2	1-1	2-1	3-1	4-1
Hits	1	1	2	3	4	6
Squads	4	4	4	4	3	3
Lost						

Minimum Hits vs. Squadrons Lost						
	1-3	1-2	1-1	2-1	3-1	4-1
Hits	0	0	1	1	2	3
Squads	3	2	2	2	2	1
Lost						

OFFENSIVE TACTICAL CONCEPTS: AIR-TO-SEA COMBAT

On the Battle Board the main attack concept revolves around the sinking of carriers. The carriers, by virtue of their aircraft and victory points, are by far the most valuable pieces on the board. Usually, the attacker chooses the most vulnerable carrier as his primary target.

The best way to attack a carrier is to "sandwich" it. This is done by attacking it on both sides by torpedo bombers and on top with divebombers. Along with this concept, there is the technique of "overloading" the defense. This is done by carrying out secondary attacks on near-by ships and/or other carriers in order to force the defense to commit its anti-aircraft fire away from the main attack. Overloading the defense places the defender on the horns of a dilemma: defend the fleet and lose the carrier, or

defend the carrier and lose a good number of secondary ships. Failure to place the defender in such a dilemma either shows an inept attack, or insufficient attacking material. We will demonstrate the effects of this decision later.

A particularly restraining tactic used as a corollary in overloading the defense is using 5 or more squadrons on the secondary attack. This has the effect of strangling the defense (albeit at an exorbitant loss in aircraft), as the ship usually is forced to concentrate on its attacker or be sunk.

A final concept is the correct placing of torpedo and divebombers. If at all possible, use torpedo bombers to isolate one section of the fleet from the attacked sections.

DEFENSIVE TACTICAL CONCEPTS: SEA-TO-AIR

Since the attacking concepts revolve around sinking the carriers, the main defensive concept naturally revolves around protecting those same vessels.

Both fleets have some very good defensive material available to them. The Japanese have their battleships, and the Americans have the *Atlanta*. By proper placement in the fleet formation, the defender should be able to get maximum defensive AA coverage. Also, the placing of cruisers in the secondary defense is very important. The main idea is to make the "sandwich" attack hard to pull off.

When you are under attack, you should consider whether or not a ship is likely to survive, what ships you are willing to abandon, and what ships you wish to keep. It might help to consult the Average Hits Table to determine the probability of the ship in question being sunk. For example, say that a carrier which can take four (4) more hits is attacked at 3-1, 2-1, and 1-2 in a sandwich attack. By adding the average hits for each of these attacks, we find that such an attack's average yield would be 5.17 hits, which means there is a good chance the carrier will be sunk. The absolute minimum number of hits is three, so if the carrier has readied planes aboard, it's a lost cause and the protecting AA fire would be better utilized elsewhere. Once having decided the probability of a ship being sunk, you must decide whether to abandon the ship, or to try and save it. When it's a reasonable assumption that a given ship is likely to be sunk, then use its firepower to protect other vessels in the area which are under attack. However, if possible do not allow him to get 5-1 attacks, even on a doomed ship as this is tantamount to a "free" attack with no resulting aircraft losses. This is especially crucial in the first two air attacks, as it determines at what strength the enemy will be able to continue to mount air raids.

Finally, do not divide or overextend your fleet formation. The very chances of your survival are based on your ability to concentrate your firepower.

THE JAPANESE FLEET FORMATIONS

In an attempt to outline and illustrate the tactical concepts governing the game of MIDWAY, we will thoroughly examine different hypothetical fleet formations of both sides for their advantages and disadvantages.

Obviously, in order to limit the number of formations we will consider, and for the sake of

making a mathematical analysis of these formations, we must make a number of basic assumptions. Those for the defending Japanese player being:

1. The Japanese have already joined their carriers with the 4 cruisers that enter 1500, June 3rd.
2. The American attacks with all available carrier based aircraft (T15 and D36).
3. There are no readied aircraft on the carriers.
4. American fighter superiority or parity.

JAPANESE FLEET FORMATION COMPARISON

FORMATION	No. 1	No. 2	No. 3	No. 4
Max Hits	14	19	18	16
Min Hits	09	14	12	09
Max Sunk	2CV; 3CA	2CV; 3CA	1CV; 3CA	2CV; 1CA
Min Sunk	1CV	3CA	2CA	1CV
Max Squadrons	25	28	18	27
Min Squadrons	14	15	12	17
Average Hits	11.84	17.66	15.33	11.83
Average Sunk	1CV	1CV	1CV	1CV
		3CA	2CA	
Aver. Sqds. Lost	21.26	23.16	15.33	22.83

Now take a look at the diagram for Fleet formations No. 1 and No. 2. The basic formation is the four carriers in-line, with BB's and CA's on either side. You'll also notice that the thin-skinned carriers *Soryu* and *Hiryu* are placed to the inside of the formation, making them harder to get at. This forces the American to attack the less easily sunk carriers, namely the *Kaga* and *Akagi*. Each battleship is set up for maximum protection, covering three carriers each, giving the *Soryu* and *Hiryu* double protection.

In Fleet formation No. 1, the Japanese player decides the *Akagi* cannot be saved and acts accordingly. The Japanese formation is fairly tight knit here, each carrier being well protected from torpedo plane attack. However, as you can see, the American makes the weight of his predominant divebombers felt. This formation is our personal favorite because it allows a maximum number of ships to come into play in the defense.

Fleet formation No. 2 is identical to fleet formation No. 1 in all respects except the Japanese AA fire. Here we presume that the Japanese player wants desperately to hang onto his carriers, and has decided that the carrier is defensible. In doing this, he loses the *Mogami*, *Suzuya*, and *Tone*. In terms of comparison, formation No. 1 will give up 10 points, and formation No. 2 will yield 9 points. The *Akagi* will take 4 hits, and there is a 25% chance of sinking the carrier.

Fleet formation No. 3 is a lateral variant of No. 1, however it has a few drawbacks. The first drawback is the exposure of the flank carriers. The second drawback is the American ability to isolate those flanks with torpedo bombers. Witness the torpedo bombers in row F. This means that the ships in row C cannot be brought into the defense.

This allows those devastating American divebombers to sit down on the *Akagi* hard, which will most likely result in it being sunk at low cost to the American. This also results in a rather low American aircraft loss. As you can see, spreading

JAPANESE FLEET FORMATION NO. 1 and NO. 2		JAPANESE FLEET FORMATION NO. 3		JAPANESE FLEET FORMATION NO. 4	
Target:	Attacked by: Defending Ships: Odds: Avg. Sqd. Lost Avg. Hits	Target:	Attacked by: Defending Ships: Odds: Avg. Sqd. Lost Avg. Hits	Target:	Attacked by: Defending Ships: Odds: Avg. Sqd. Lost Avg. Hits
Mogami	D5/G1 Mogami 2-1 3.50 1.67	Tone	D5/A3 Tone 2-1 3.50 1.67	Tone	D5/A3 Tone 2-1 3.50 1.67
Haruna	D5/E1 Haruna 1-1 3.00 1.33	Soryu	T2/B3 none 2-1 2.00 1.67	Soryu	D12/C3 none SUNK 0.00 0.00
Hiryu	D5/E3 Hiryu & Chikuma 1-2 2.83 .50	Akagi	D12/C3 none SUNK 0.00 0.00	Akagi	T5/D3 Mikuma, Mogami 1-1 3.00 1.33
	T3/E2 Akagi & Kirishima 1-2 2.83 .50	Kirishima	T3/D3 Soryu, Akagi 1-2 2.83 .50	Kirishima	D6/A5 Kirishima 1-1 3.00 1.33
	T2/E4 Soryu 1-2 2.00 .50	Kaga	T3/B5 Kumano 1-1 3.00 1.33	Kaga	D12/C5 Kaga, Hiryu 2-1 3.50 1.67
Tone	D4/E5 Tone 2-1 3.50 1.67		D12/C5 Kaga, Hiryu 2-1 3.50 1.67		T2/D5 Suzuya 1-1 2.00 1.33
Suzuya	D5/G5 Suzuya 2-1 3.50 1.67		T2/D5 Suzuya 1-1 2.00 1.33		D1/C7 none 1-1 1.00 1.33
Akagi	D12/T10 SUNK SUNK 0.00 5.00		SUNK 0.00 3.00		TOTAL 23.83 12.16
	TOTAL 21.16 12.84		TOTAL 15.33 15.50		
Mogami	D5/G1 SUNK SUNK 0.00 3.00				
Haruna	D5/E1 Chikuma 1-1 3.00 1.33				
Hiryu	D5/E3 Kirishima 1-1 3.00 1.33				
	T3/E2 Haruna 1-2 2.83 .50				
	T2/E4 Soryu 1-2 2.00 .50				
Tone, Suzuya	D4/E5, D5/G5 SUNK SUNK 2.00 6.00				
Akagi	D12/G3 Tone, Mogami, Suzuya 2-1 3.50 1.67				
	T5/G2 Hiryu 1-1 3.00 1.33				
	T5/G4 Akagi 1-1 3.00 1.33				
	TOTAL 22.33 17.00				

your planes thin will result in high casualties. When planes are concentrated, as on the *Akagi*, they have much smaller losses. So, when setting up your fleet for battle, set it up so that a maximum number of ships can be brought to bear on the carriers, and that supporting ships can protect the ships protecting the carriers.

Fleet formation No. 4 is a variation of the historical "box" formation that the Japanese actually used in the battle. This formation without the four cruisers would become a slaughter. However, the additional firepower helps make this formation more sound than it was in the actual battle. This formation is about as good as No. 1. The battleships only cover 2 carriers each, however. In terms of sinkings, No. 1 and No. 4 are about equal.

One way to gauge the damage caused by a formation's firepower is to compare the ratio of squads lost/hits. The ratio for the Japanese formations are:

No.1: 1.78, No.2: 1.31, No.3: 1.00, No.4: 1.93

Now you should be able to see the concepts we discussed earlier in the light of practical example. Naturally, we have not discussed all the fleet formations that come to mind - simply because most of these would not be worth the time and trouble. We did discuss the most obvious, and just perhaps, some of the better formations.

JAPANESE FLEET FORMATION NO. 1 and NO. 2		JAPANESE FLEET FORMATION NO. 3		JAPANESE FLEET FORMATION NO. 4	
Target:	Attacked by: Defending Ships: Odds: Avg. Sqd. Lost Avg. Hits	Target:	Attacked by: Defending Ships: Odds: Avg. Sqd. Lost Avg. Hits	Target:	Attacked by: Defending Ships: Odds: Avg. Sqd. Lost Avg. Hits
Mogami	D5/G1 Mogami 2-1 3.50 1.67	Tone	D5/A3 Tone 2-1 3.50 1.67	Tone	D5/A3 Tone 2-1 3.50 1.67
Haruna	D5/E1 Haruna 1-1 3.00 1.33	Soryu	T2/B3 none 2-1 2.00 1.67	Soryu	D12/C3 none SUNK 0.00 0.00
Hiryu	D5/E3 Hiryu & Chikuma 1-2 2.83 .50	Akagi	D12/C3 none SUNK 0.00 0.00	Akagi	T5/D3 Mikuma, Mogami 1-1 3.00 1.33
	T3/E2 Akagi & Kirishima 1-2 2.83 .50	Kirishima	T3/D3 Soryu, Akagi 1-2 2.83 .50	Kirishima	D6/A5 Kirishima 1-1 3.00 1.33
	T2/E4 Soryu 1-2 2.00 .50	Kaga	T3/B5 Kumano 1-1 3.00 1.33	Kaga	D12/C5 Kaga, Hiryu 2-1 3.50 1.67
Tone	D4/E5 Tone 2-1 3.50 1.67		D12/C5 Kaga, Hiryu 2-1 3.50 1.67		T2/D5 Suzuya 1-1 2.00 1.33
Suzuya	D5/G5 Suzuya 2-1 3.50 1.67		T2/D5 Suzuya 1-1 2.00 1.33		D1/C7 none 1-1 1.00 1.33
Akagi	D12/T10 SUNK SUNK 0.00 5.00		SUNK 0.00 3.00		TOTAL 23.83 12.16
	TOTAL 21.16 12.84		TOTAL 15.33 15.50		
Mogami	D5/G1 SUNK SUNK 0.00 3.00				
Haruna	D5/E1 Chikuma 1-1 3.00 1.33				
Hiryu	D5/E3 Kirishima 1-1 3.00 1.33				
	T3/E2 Haruna 1-2 2.83 .50				
	T2/E4 Soryu 1-2 2.00 .50				
Tone, Suzuya	D4/E5, D5/G5 SUNK SUNK 2.00 6.00				
Akagi	D12/G3 Tone, Mogami, Suzuya 2-1 3.50 1.67				
	T5/G2 Hiryu 1-1 3.00 1.33				
	T5/G4 Akagi 1-1 3.00 1.33				
	TOTAL 22.33 17.00				

Note that in order to preserve the integrity of the final figures in the Average Hits and Average Squadrons Lost Columns, adjustments had to be made in the body of the columns. For instance, although the average loss in a 1-2 attack would be 2.83 squadrons, if the attack is carried out by only 2 squadrons the average loss has been listed as 2 squadrons. Similarly, three 1-1 attacks could yield an average of 4 hits. However, if the target is only a "3 box" cruiser, the average loss has been listed so as not to exceed 3 hits. Also, do not be misled by the "SUNK" listings. It is possible with average luck to sink many more targets than are listed on the charts as "SUNK." Such possible sinkings should also be computed, added to the charts, and weighed carefully when planning your attacks.

Those vessels not shown have been successfully isolated from the attack.

AMERICAN FLEET FORMATIONS

At first glance, the American is at a disadvantage. He does not have the combined force of a large fleet, nor does he have a predominance in airpower. He does have some counterbalancing factors in his favor, however, including a much better search capability, knowledge of the Japanese player's intentions, and a centralized fleet. Also, although he has fewer carriers, he also has fewer ships to defend.

AMERICAN FLEET FORMATION COMPARISON

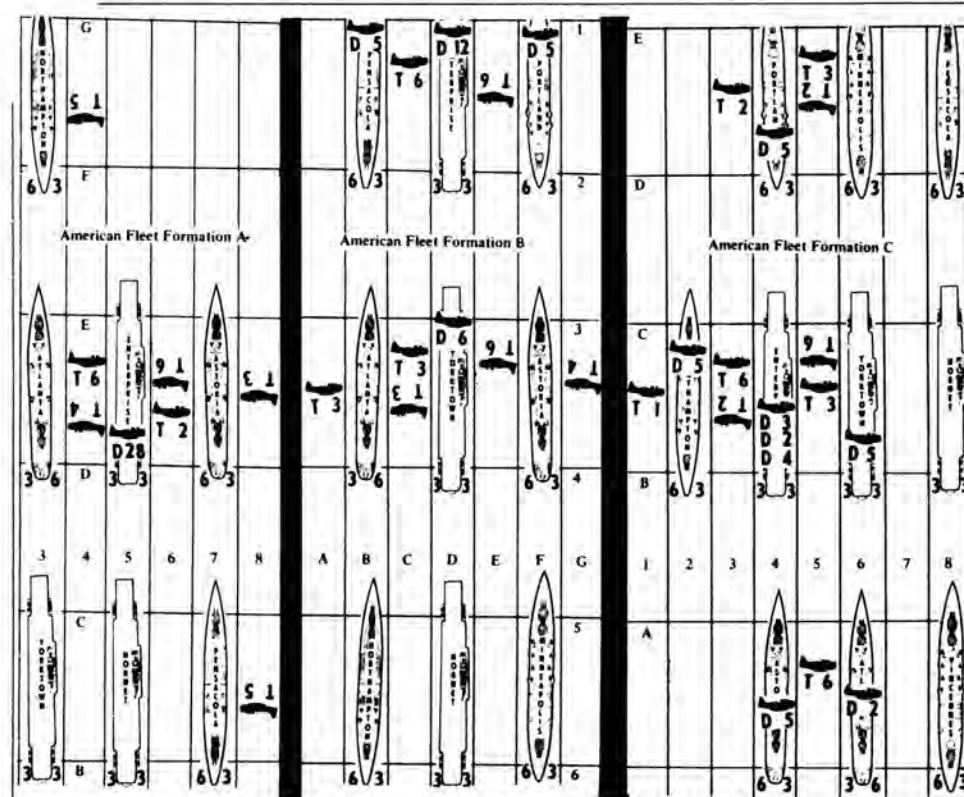
Fleet Formation	A	B	C
Maximum Hits	12	21	25
Minimum Hits	08	15	17
Maximum Sunk	1CV	2CV 1CA 1CL	1CV 2CA 1CL
Minimum Sunk	1CV	1CV 1CA 1CL	1CV 1CA 1CL
Max Squadrons Lost	25	32	43
Min Squadrons Lost	14	17	25
Average Hits	9.49	16.31	20.65
Average Sunk	1CV	1CV 1CA 1CL	1CV 1CA 1CL
Aver. Squadrons Lost	20.83	26.5	32.83

The assumptions I am making for the American fleet formations are quite similar to those made earlier for the Japanese. The assumptions are:

1. The American fleet is kept in one body.
2. The Japanese attacks with all available carrier based aircraft (T31 and D28).
3. There are no readied aircraft on the carriers.
4. Japanese fighter superiority or parity.

The first formation is a box type, with the AA CL *Atlanta* in the open corner. This allows the *Atlanta* and *Yorktown* to cover all three carriers. The *Hornet* and *Enterprise* only enjoys the coverage of six ships. Here the Japanese offensive tactics must differ from the Americans, due to the composition of his striking force. The Japanese have an abundance of torpedo bombers, a factor which subtly changes the ability of a formation to stand up in combat. A formation which works well for the Japanese can be disastrous for the Americans. A variation on formation A would be to place the *Portland* at G-5. This would make the Japanese shift the attack to the *Hornet*, but it would also prevent the Japanese from effectively preventing the *Atlanta's* AA fire support. It would also involve a torpedo plane attack on the *Yorktown*, which, if pressed with sufficient weight, would be able to divert enough firepower to allow a good attack on the *Hornet*.

Fleet formation B is a demonstration that fleet formations that work for one side don't always work for the other. Why is this? For one thing, the Japanese have greater overall AA fire power in the form of their battleships. Another factor is the abundance of torpedo bombers; more than twice that of the American contingent. This dictates different tactics, both offensively and defensively. Formation B shows the "in-line" method used in Japanese formation No. 1. However, the Japanese attacker does not concentrate his divebombers on a single carrier, as the Americans did. Instead, the Japanese can use his abundance of torpedo bombers to threaten two carriers at the same time. This increases the



effective load that the American defense must handle, sinking one carrier and seriously damaging another. At this point, the damage done to the American fleet is not by any means overwhelming, however, it does soften up the fleet for a second strike, which in this case could easily be disastrous.

Fleet formation C is similar to the Japanese formation No. 3. Again, this formation allows the Japanese player to spread his forces out and damage many ships. The formation is an improvement, however slight, over formation B – as it allows better protection for the carriers, and the hits are more dispersed among the fleet. However, formation A is still clearly superior.

This ends our discussion of tactical concepts in the air-to-sea element. We remind you that we are simply trying to illustrate the principles discussed earlier – not get into specifics. That is why we did not discuss follow up strikes, the other Japanese fleets, variations on the main theme, and other obscurities. We are solely interested in concepts – concepts which we will eventually apply to the strategic aspect of the game.



FIGHTERS

The tactical role of fighters is interesting in that it is often mishandled. Fighters can be of decisive importance in protecting the fleet. The Japanese player has the initial fighter superiority, F28 to F26. The fighters that will later get into the act will even the score, F32 to F32. However, in this interim stage the combat between the opposing fighters can change the balance.

Fighters have two main roles, escort and Combat Air Patrol (CAP). The decisions made in whether to escort or to put up a CAP are really not easy, and must be predicated on what you think he'll do. If you prefer to play it safe, you will always send your fighters out on escort. However, in a case where he sends in a strike and

AMERICAN FLEET FORMATION DIAGRAM NOTES

FLEET FORMATION A				
Target	Attacked by	Defending	Odds	Avg. Sqd. Lost
Northampton	T5/G4	Northampton	1-1	3.00
Atlanta	T4/E4	Atlanta	1-2	2.83
Enterprise	T6/E4	Yorktown	2-1	3.50
	D28/E5	None	Sunk	0.00
	T6/E6	Hornet	2-1	3.50
Astoria	T3/E6	Enterprise	1-2	2.00
	T3/E8	Astoria	1-1	3.00
Pensacola	T5/G8	Pensacola	1-1	3.00
Total				20.83
FLEET FORMATION B				
Pensacola	D5/B1	Pensacola	1-1	3.00
Atlanta	T3/A3	Northampton	1-1	3.00
	T3/C3	Hornet	1-1	3.00
Enterprise	T6/C1	Enterprise	2-1	3.50
	D12/D1	None	Sunk	0.00
	T6/E1	None	Sunk	0.00
Yorktown	T1/C3	Yorktown	1-1	3.00
	D6/D3	Atlanta	4-1	3.00
	T6/E3	Astoria, Minneapolis	1-1	3.00
Portland	D5/F1	Portland	1-1	3.00
Astoria	T4/G3	None	4-1	2.00
Total				26.50
FLEET FORMATION C				
Astoria	D5/A4	Astoria	1-1	3.00
Atlanta	T6/A5	None	Sunk	0.00
	D2/A6	Vincennes	1-2	2.00
Northampton	T1/C1	None	1-1	3.00
	D5/C2	Northampton	1-1	3.00
	T2/C3	None	2-1	2.00
Enterprise	T6/C3	Portland	2-1	3.50
	D9/C4	Minneapolis, Enterprise	1-1	3.00
	T6/C5	Atlanta	1-1	3.00
Yorktown	T3/C5	Yorktown	1-1	3.00
	D5/C6	Pensacola, Hornet	1-2	2.83
Portland	T2/E3	None	2-1	2.00
	D5/E4	None	Sunk	0.00
	T2/E5	None	2-1	2.00
Minneapolis	T3/E5	None	3-1	2.50
Total				32.83

you don't, it may be wise to put your fighters on CAP. Again though, the decision is not automatic and some guesswork must be involved. For if he holds his fighters back for CAP on the next turn you'll have gained nothing. Many ponderables must go into the decision.

A couple of notes on the American fighters here is important. In a case where the American sends out a strike and decides to CAP over his own fleet – presumably spotted by the Japanese who will be sending out their own strike – he should fly his fighters from Midway if he is within 14 zones. This will generally result in

American air superiority. Another important usage of fighters can be found in the defense of Midway from reduction (see Appendix section *Midway*, question 5).

In regards to tactics, the following table should be used as a guideline:

FIGHTER VS. FIGHTER RESULTS

	1-3	1-2	1-1	2-1	3-1
Def.	1	3	4.5	5	5.5
Att.	5.5	5	4.5	3	1

This table gives the average number of squadrons lost in a given battle. I cite the example of 7 fighters attacking 10 fighters used by the battle manual. Here the defending player may strip off up to three (3) squadrons for defensive use. However, this raises the odds to 1-1. By stripping off only two, the defender still increases his defensive firepower while keeping the fighter odds at 1-2.

This shows why it can be of advantage to the Japanese player to CAP his planes. The attack would be 26-28 (1-2), and thus give the edge to the Japanese.

SURFACE COMBAT:

Surface combat is one thing the American player MUST avoid at all costs. If he gets into it, he must get out as soon as possible, unless he has chanced upon a lone cruiser. Usually it happens that an air strike will be involved, compounding the American troubles.

However, if the U.S. player uses proper tactics in surface combat, he can reduce the initial threat of the Japanese battlewagons; while rolling on the battle board withdrawal in order to withdraw from surface combat.

When the Japanese set up, they will usually concentrate their ships toward the center. The American should then place his carriers in the extreme corners in order to delay the possibility of an early bombardment from the BB's.

On the first move, the Jap player will move all but his carriers forward. The U.S. player should *not* move forward on the first battle board turn. This keeps him out of BB range. He should then roll for withdrawal.

On the next move both players will move forward, allowing the American to get a shot at his pursuers, and effectively negating the Japanese range advantage. The Jap BB's will fire at the carriers and the CA's will trade shots. At this point the American should again try the battle-board withdrawal option.

If the American's attempt at flight remains unsuccessful, then his doom will be sealed in a turn or two. Tactically, the optimum odds for the surface combat is 3-1 or better, as 3-1 will yield an average of 3.5 hits. Another point here is that 4-1 and 5-1 results include automatic sinking. If you treat the SUNK result on the CRT as 10 hits (the maximum for any ship in the game), then 4-1 yields 5.1 hits and 5-1 yields 7.8 hits — enough to sink just about anything.

The probabilities for the American's withdrawing from surface combat are 33% on the first turn, 56% by the second, 70% by the third, and 80% by the fourth. Note that the probability for a *given* turn is always 33%, but the above figures deal with probabilities over an extended number of turns. Surface combat can be the easy route to defeat in one turn for the American, so he should avoid it if at all possible.

STRATEGY: THE OPENING MOVES

After having discussed tactics in detail, we come to the more difficult discussion of game strategy. Strategy in MIDWAY deals mainly with maneuver on the Search Board, hopefully culminating in a tactical battle on the Battle Board. Although you know the enemy's strengths and objectives, you have no idea *where* he is or what his fleet dispositions will be. You also often do not know whether or not you will be discovered and attacked.

The big problem in discussing sound strategic ideas for MIDWAY is that both players may take equally risky chances, one player getting away with it and the other being caught. So what is an obvious blunder for one may be the saving action for another. Therefore, we will immediately point out that we will discuss possibilities and actions (and the risks involved), but we cannot guarantee that the ideas we present will *always* work. They *do* work given the proper circumstances, which I will also attempt to discuss.

One of the most important aspects of the strategic play in MIDWAY is the proper use of the search procedure and movement intended to avoid discovery. We would suggest two helpful modifications to the MIDWAY search board. Drawing the air range from Midway (7 zones) on the board in magic marker helps by instantly informing the Japanese player as to when he'll be able to strike the island. The other modification is to coat the board with "Con-Tact" or some other clear plastic covering which allows one to mark in movements and enemy dispositions using a grease pencil (water soluble) or a "visual aids" pen made for marking acetates. This allows players to mark searches, movements, and enemy dispositions without having a confusing clutter of counters remaining on the board.

It is amazing that so many players maneuver without any real knowledge or concept of evasive tactics. Your very positioning in a given area dictates your ability to escape detection. The diagram below indicates the number of different areas that are accessible from a given sea zone:

4	6	4
6	9	6
4	6	4

For the American player, evasive tactics are basically simple because the Japanese search is limited to three areas per turn. However, if the Japanese player is caught in a "corner," he cannot possibly escape the American search. By trying to end your movement in the center of an area you keep the maximum number of escape options open, which usually is very important.

The Japanese player, despite a predominance of force, is in a strategically inferior position due to the horrendous dispersion of his forces. His entire fleet is split into four groups, their historical designations being the *Carrier Striking Force*, *Cruiser Division 7* (CruDiv7), the *Second Fleet*, and the *Main Body*.

The Carrier Striking Force (CVSF hereafter) enters the board on the first turn. The CVSF has the heavy burden of destroying the American Fleet and reducing Midway in preparation for the invasion. However, if you examine this fleet in terms of our earlier tactical discussion, you will find that a well placed American strike could

easily duplicate the stunning blows of 4 June, 1942. Because the Japanese player needs the additional firepower of the later CruDiv 7, hanging close to the far edge and joining the cruisers on 1500 is advisable, although not the only course of action. The Japanese player may wish to proceed towards Midway as quickly as possible in order to keep the American off balance, but he is taking a very big risk that he will be able to strike the American fleet and escape before the American can pay him back in kind.

Meanwhile the Americans aren't exactly sitting on their collective cans. The American has a rather clear cut decision, to either head for a confrontation with the Japanese fleet early, or hang around Midway and let the **IJN** come to him. The second option will delay the big battles until the middle of the game. The first can create a really wild game, so we'll discuss its consequences first.

Let's assume the Japanese player has decided to play it safe and unite the CVSF and the CruDiv 7. If the American steams, without delay, to the west (left side of the board), he will be within striking range of the CVSF at 1700, if he knows the general whereabouts of the fleet and can discover its exact position on the 1700 turn. If the American finds the CVSF *before* 1500 (either the 1100 or 1300 turn) he may opt for a "suicide" mission in which he launches all his aircraft at extreme range, making recovery impossible. This strike if well placed, could mean disaster for the Japanese player. However, if the Japanese put up fighter cover (and you lack fighter escort) you're going to be in a lot of hot water. Sending the fighters along will help insure your success, but will denude your own fleet of fighter protection. Usually an opponent will become wise to such tactics after he's been stung once or twice, so it may pay to give him a "fake" attack by seeming to prepare operations such as this, when in reality you are launching nothing. It's often a good idea to do this throughout the game, as some opponents have an extremely bad habit of putting up a CAP and flying off any readied aircraft when they see you "writing" devious plans on your operations sheet. It keeps him off balance, and can pay off in rich dividends when you attack NEXT turn (if you find him), as he will not be able to put up his aircraft. When your opponent doesn't know what to expect, you have a slight advantage in being able to call the shots, if only for a turn or two. Remember, "familiarity breeds contempt," and trying the same maneuver too often versus the same opponent is just inviting trouble. Either way, night sets in and the Japanese fleet usually fades off into the darkness, as the middle game prepares to enter upon the scene.

STRATEGY: THE MIDDLE GAME

In the actual battle, the "middle game" was the time period in which all four Japanese CV's were sunk, and it was also the time when the *Yorktown* received its fatal wounds. For the sake of discussion we will loosely define the middle game as the time when the Second (*Atago*) Fleet enters (0500, June 4) to the arrival of the Main Body (*Yamato* et al) at 1700 on June 4, and ending sometime on June 5th, depending largely on Japanese strategy.

The big question that now looms on the horizon with the advent of the Second Fleet is when to invade Midway. Our general advice on this matter is to keep your options open, with

the hope that you can take it early. The earliest possible time is 0700 on June 5th. If the Japanese player combines with the Second Fleet and Main Body to invade, the invasion should start at Night, June 5. This allows the Japanese to attack under cover of darkness, a factor which will generally insure the safety of the *Atago* and the success of the Midway invasion. It also gives the Japanese a better defensive posture, despite a definite loss in victory points due to the delay.

The middle game usually turns into a game of "cat and mouse," as each player seeks to discover the other, while at the same time remaining hidden. Usually this is the period in which the big tactical battles are fought.

Midway reduction puts another burden on the Japanese player. His carriers must head into a **known area and bomb Midway once, twice, or maybe even three times** if he uses too little force or has bad luck. This gives the American the advantage of knowing the Japanese player's intentions. The quickest way to reduce Midway is by air strike at 2-1 odds (if previous combat has not lost a large number of aircraft); at least halving the relative fortification strength of the island and allowing an easy follow up strike with half the number of planes used previously, but still attacking at 2-1. There's also a 33% chance the bombing will not need to be repeated a second time. The slow way is battleship bombardment, which can be risky if the American has any air punch left to speak of. Should both air fleets be badly crippled little is lost by battleship bom-

bardment. However, they may be put to better use trying to engage the American in surface combat.

The Japanese player may also wish to mix up his fleet in order to strengthen his carrier force. One such combination for rearranging things is: CVFS 4CV: 4BB: 4CA

Second Fleet *Atago*, 5CA: 1CVL

This arrangement is tactically sound, and can be carried out without losing any time. The light cruisers (CL) are out for scout duty. Since the Japanese player has only three searches, it is often worthwhile to send out the weak CL's on search duty. The CL's are not worth much in combat and easily sunk, thus dictating their use as scouts. The added search capability they give the **IJN** player more than makes up for their loss. And while speaking of weak ships, it is often a good idea to transfer a CVL's aircraft to a CV and keep the CVL out of harm's way. We suggest this because the two CVL's are worth 10 points and only take two hits apiece before sinking which is generally a very easy process. By keeping them out of harm's way, you can rob the American player of valuable easy targets.

THE LATE GAME

The Late Game usually seals the decisions made in the middle game. Once Midway has fallen there is little chance that either side will engage in decisive combat.

'A good deal of coy maneuvering takes place

during the Late Game to keep the Japanese from throwing a strike which may cost the Americans the game. This maneuvering is invariably subtle in nature, usually consisting of heading for a safe place where the enemy won't think of looking. One good evasive tactic at this point is to move into an area that's just been searched, as most players will not repeat a search in the same area. Overlapping searches are often a good idea - wasteful perhaps - but they prevent ships from slipping through the search net.

When Midway falls, the American player is usually facing a game which is already won or lost. When he is sure of a win he will usually move away from Midway in an attempt to avoid the pursuing Japanese fleet. If he hasn't enough victory points at this time, he should use his knowledge of the position of the Japanese fleet invading Midway in order to strike them before he loses all chance of victory.

If Midway does not fall, either by reason of the sinking of the *Atago* or lack of reduction due to a loss of air power (or both), the Japanese player is generally lost unless he can decisively engage the American. This is especially true with regards to surface combat, a field in which the Japanese have a decided advantage.

Once a decision at Midway has been reached, the game is usually over for all practical purposes. Although in close games the issue may not be decided until the very last turn as the Japanese try desperately to engage the fleeing American fleet in surface combat.



Midway Re-worked

by Victor Madeja

The full title of this article was "MIDWAY, D-DAY, TACTICS II, STALINGRAD Re-worked". The first MIDWAY article, it is included mainly for the purpose of memorabilia.

There is a major failing in Midway that I believe is due to the turn pattern, movement, search, and operations. Preferably, it should be: 1/2 movement, search, 1/2 movement, and operations. Historically speaking, quite a bit of time often elapsed between "recce" contact and the arrival of the air strike. During the battle

the Japanese carriers made a sharp turn northward during this period. Consequently, Hornet's air strike became completely worthless; the leading 35 dive bombers and the fighter protection of the TPD's never sighted the carriers and the unprotected torpedo planes were creamed as a result. This indicates that preplanned evasive action is a noteworthy factor.

This innovation in the turn pattern would make it possible for the ship(s) to be in 9 possible sqs. rather than 1 during the operations section. As a moderate compensation the planes are given a strike potential of 3 adjacent sqs., in successive order, out of the 9. Each separate strike would have the

choice of striking any one of these 3 zones providing they are all within range. Of course, to be sure of finding the enemy, 3 attacks may be sent. At any rate, these strike groups would be closer to what their numbers actually were. It would be foolhardy to launch suicide missions because of the small chance of locating the enemy with sufficient strength. This is aimed at changing MIDWAY from the present guessing match version. Guessing, of course, was a major factor in the actual battle, but in the original version one lucky guess followed by an all out strike often left the outcome sealed (dividing the ships into groups changes this only slightly).

One Ship Invasion Fleet?

by Charles B. Pelto

Though a logical variant, this one may unbalance more than balance.

On the morning of 3 June 1942, a lonely PBY, one of many such aircraft combing the waters off Midway, broke through the sullen cloud cover to find a Japanese fleet stretched out below it. Frantically dodging the intense fire coming up from the ships, he radioed his base that he had discovered the expected invasion fleet. Unfortunately he had only stumbled upon the convoy that was carrying men to storm the island defenses. Nagumo's carrier force, the group that the pilot was looking for, was still outside of the search area and over 700 miles to the north of the encounter.

For the simplification of the game AH has designated the Japanese cruiser ATAGO as the transport convoy. But it was miles to the rear of the actual invasion group and does not appear on the board until June fourth. Players of the game who desire realism and historical accuracy may **not like the idea of some 5000 troops crammed onboard one little cruiser** along with the assortment of paraphernalia needed to overrun the Midway garrison of 2000.

The group was comprised of twelve transports. These were escorted by three patrol boats, also carrying troops, three destroyer divisions, and a light cruiser, the JINTSU. Onboard the transports were troops of the 2nd Combined Special Naval Landing Force augmented by the Army's Ichiki Detachment.

The entire group enters play at 0900 on June third. To take Midway the Japanese player must move at least nine of the troop carrying ships to the island's square and remain there for four consecutive turns.

Each transport has a screening factor of one. It has no surface factor. The patrol boats have a 1-1 surface-screening factor. The flagship JINTSU has a 2-3 factor. As for the DesDiv, I use the rules from the article "What Next? Destroyers at Midway."

To sink the JINTSU requires three hits. The CL is worth three victory points. All the troop carrying ships are sunk after two hits and are worth two points each. The DesDiv's are worth three points each. But only after the last captain has gone down in the last ship of each division can the US player collect the points.

Those Japanese who like the ATAGO method, with its ability to hide under the smoke from the BB's and CA's guns, may not jump at what I'm proposing. But by splitting the Imperial Fleet into two or three stacks instead of one the US player will be more interested in the whereabouts of the carrier group than in a handful of transports of low value. Besides the one big stack kept falling over on the search board. By keeping the transport group to the rear until US air power is reduced or the Yamato group with its super BB's appears the Japanese player can then sail to Midway with little worry about screening.

Together with the rules provided by other articles, such as "Midway-Unstereotyped" and "Midway-Equilibrated," this variant could result in some of the most complicated battles ever conceived. Maybe even as complex as the actual encounter.

Midway, Bismarck Style

by Peter Harlem

One of the best early variants.

One of the problems of Midway is its surface battles. Yamato with eight hits still has a surface factor of 18. To remedy this I propose using some of the Bismarck attributes. First, a new system of scoring hits is needed. I add hit boxes for bow and stern guns as in Bismarck, leaving the previous hits as midships hits. The best way I found was as follows: U. S. ships, Enterprise, Hornet, Yorktown; 2 bow guns, 1 stern, 5 midships. Minneapolis, New Orleans, Vincennes; 4 bow, 2 stern, 5 midships. Astoria, Pensacola; 3 bow, 3 stern, 4 midships. Northampton, Portland; 4 bow, 2 stern, 4 midships. Finally cruiser Atlanta; 2 bow, 1 stern, 3 midships. Japanese ships as follows: Battleships, Yamato; 12 bow, 6 stern, 10 midships; Nagato, Mutsu; 7 bow, 6 stern, 8 midships. Kongo, Hiei, Kirishima, Haruna; 5 bow, 5 stern, 6 midships. Carriers, Akagi, Kaga; 2 bow, 3 stern, 5 midships; Hiryu, Soryu; 1 bow, 1 stern, 3 midships; Zuiho; 1 bow, 1 stern, 2 midships; Hoshio; 2 bow, 0 stern, 2 midships. Jap Cruisers, Atago, Haguro, Myoko, 4 bow, 2 stern, 4 midships; Chikuma, Tone; 6 bow, 0 stern (all their main batteries were up front), 3 midships; Chokai, Kumano, Mikuma, Mogami, Suzuya; 4 bow, 2 stern, 3 midships; Light Cruisers, Nagara, Sendai, Yura; 1 bow, 2 stern, 2 midships.

All gun "boxes" are used in the same way as in Bismarck. To sink a ship all midship boxes must be checked. The surface combat results table also has to be revised. There is now two ranges; "B" range, 4 squares, for Battleships only and "A" range, 3 squares or less, for all other ships. Battleships cannot fire into squares one square away. They must remain 2 squares or more.

Here is the suggested Battle results table:

B range	Firing at enemy		
	Broadside	Bow	Stern
die roll			
1	Bow hit	Bow hit	Stern hit
2	Stern hit	Bow hit	midships hit
3	midships	—	—
4	—	—	—
5	—	—	—
6	—	—	—

A range	Firing at enemy		
	Broadside	Bow	Stern
die roll			
1	Bow Hit	Bow	Stern
2	Stern Hit	Bow	Stern
3	Midships	Midships	Midships
4	Midships	—	—
5	—	—	—
6	—	—	—

These Tables operate in the same way as the tables in Bismarck.

The only other problem to solve is: **in an aerial attack what hits are scored.** This is solved by making all hits, scored by torpedo squadrons, midships hits. All hits by divebomber squadrons can either be scored as midships or as hits on bow and stern. Remember that when all boxes in bow or stern sections are checked, the next hit in that section is scored as a midship hit.



Chicken Yamamoto

by Lincoln Clark

This deceptive title is another variant which players may wish to try for the sake of variety. Also, a plausible history.

Being stacked up against a superior fleet, you must agree that the United States was lucky to win the battle of Midway. Yet despite the numerically larger fleet that Japan committed to Midway proper, she simultaneously sent another powerful fleet to the Aleutians. Suppose Isoroku Yamamoto had a sudden attack of the heebie-geebies just after the sortie of the Combined Fleet from Japan in late May. The sudden increase in U.S. radio traffic indicates that maybe the enemy knows of his secret plan to seize Midway and destroy the American carrier fleet. Maybe he should recall the Aleutian squadrons already steaming toward Dutch Harbor, Attu, and Kisha. Suppose he does...

CL JINTSU enters with 0500 June 4 fleet
3-1 defensive value

2 hits to sink
2 points

This ship was flagship to Invasion Fleet, not ATAGO, but why argue?

1st night turn (0300) June 5--

CVE RYUJO 7T, 5F

2-1 defensive value 2 hits to sink 7 points

CVE JUNYO 7D, 8F

2-3 defensive value 3 hits to sink 7 points

CA MAYA, TAKAO

6-3 defensive value 3 hits to sink 3 points

CA NACHI

6-3 defensive value 4 hits to sink 3 points

for those who employ destroyers:

DesDiv 7 (3 DD's) plus 2 DD's (DesDiv?)

If appearing this turn, enter at A-1. Each turn delayed permits ships to appear in one area farther east or south, i.e. if ships enter at 0700 June 5, they can enter at C-1 or A-3.

0700 June 5--

BB HYUGA, ISE, FUSO, YAMASHIRO

13-7 defensive value 7 hits to sink 7 points

CL OI, KITAKAMI

4-1 defensive value 2 hits to sink 2 points

CL TAMA

3-1 defensive value 2 hits to sink 2 points

CL ABUKUMA, KISO

3-2 defensive value 3 hits to sink 3 points

DesDiv 20, 21, 24, 27 (4 DD's each) plus DesDiv 6 (3 DD's)

ABUKUMA and KISO are flagships for Attu and Kisha landing forces. More on their use later. Same entry as for other force.

This adds up to an impressive total of Japanese strength, but don't despair, USA'ers. A heavy **vergeld** accompanies it. It is an historical fact that the Japanese did not know the location of the U.S. carrier fleet until 0728 June 4. The operational plan of the First Carrier Striking Force flatly discounted the possibility of contact

with the U.S. fleet before the capture of Midway. Why then, dear reader, is the U.S. player treated to the sight of the Japanese carrier fleet mucking around in a corner for at least twelve hours on June 3 and making no attempt whatever to close the range on its target? Ahh soo, inside inflamation. Don't count on it!

You are charged, Admiral Nagumo, with carrying out an air strike no later than 0700 June 4 on Midway Island. If you don't, hand ten points to the U.S. player and add five more to the kitty for every turn you fail to meet the deadline. All your ships will enter at their specified times; no earlier, no later. If you spot any U.S. surface vessels before 0700 June 4 inclusive, you are freed from your obligations. If you don't find him, he doesn't exist; he isn't within a thousand miles of you; you will follow the operational plan: attack and seize Midway, then wait for the U.S. fleet to come to you.

The two northern landing forces each contain about 1200 men (for those who incorporate transports, ABUKUMA had one, KISO had two.) So even if ATAGO is sunk, an invasion can still be made. There are 5000 men in the ATAGO fleet. If only half that number land, six turns are required to capture Midway; if 1200, eight turns; if 6200, 3 turns; if 7400, 2 turns. If less than 5000 men land, one battleship must stay on Midway to lend artillery support.

This version, as do all, complicates things. It is an improvement, I think, over others I have seen because there are no new rules to learn, just more ships to incorporate. The very real fault in the Japanese plan, ignoring the U.S. fleet, is apparent. But even if the first four carriers are sunk, Japan can still lean on her "second platoon."



What Next? Destroyers at Midway

by Steve Marston

Many players have adopted the following rules, for the addition of destroyers, as an integral part of the game.

First, take a mess of blank counters from the box. Then select three blue counters from the pieces you have next to you, and label them DesDiv 1, 2 and 6. (DesDiv stands for Destroyer Division). The factors (surface and screening) are determined by the amount of hits needed to destroy the entire division. Example: DesDiv 1 requires 4

hits to sink it, so it has defense factors of 4-4.

DesDiv 1

--	--	--	--

 3

DesDiv 2

--	--	--	--	--	--

 4

DesDiv 6

--	--	--	--	--	--	--

 4

Now, take 8 red counters and label them DesDiv 2, 4, 8, 10, 11, 9, 17 and 19.

On the hit record pad, credit DesDiv 2 with four hits, 4 with four hits, 8 with two hits, 9 with three hits, 10 with three hits, 11 with four, 17 with

four, and 19 with four hits. Every IJN destroyer division, when destroyed, is worth three victory points.

All American destroyers are present at start, while only Japanese divisions 4, 10, and 17 appear at start. DesDiv 8 comes in with the next group of Japanese ships, the 2nd and 9th divisions with the Atago group, and the 11th and 19th with the last group.

Naturally, there must be a different way to record battle damage. Each little square in the destroyers hit record section represents 1 destroyer. Hence, if one hit is registered, one destroyer is sunk. Since a destroyer is sunk, naturally firepower is decreased, so, say if DesDiv 2 of blue sustained one hit, it has three destroyers left, so it now has defense factors of 3-3.

Gross Injustice to Submarines

By Richard Gutenkunst

A good counterpart to the preceding article by Steve Marston.

In the early afternoon of June 6th, 1942, the humble Japanese submarine I-168 sank the destroyer Hammann and finished off the heavily damaged but savable Yorktown. Thus the Japanese Navy was saved the humiliation of suffering a complete skunk in the Battle of Midway. Earlier in the battle this same stunt was pulled by the American submarine Nautilus on the unfortunate Sorry which had just barely survived a dive-bombing attack. By contrast, the B-17's based on Midway did not make one bomb hit on any Japanese ship during the entire battle.

So what optional rule does Avalon Hill use in their game? Why B-17 attacks, of course! This is a gross injustice to the Submarine Service!

If the submarines are included in the game, the Americans stand to gain, as the U.S. had 11 submarines on patrol in the area represented by Avalon Hill's mapboard, while the Japanese had only the I-168.

Okay, so how does one put submarines into the game?

First of all, take three blank blue counters from the extras included in the game and number them as follows: SS 1, SS 2, SS 3. These represent Submarine group centers. These are moved like surface ship counters except that they can only move one square per turn. However, on the first turn they can be moved out up to 15 squares.

Due to their restricted visual sighting area, I require at least 3 submarines to search a search area. Each of the three sub group counters represents at least 3 submarines, and therefore is allowed to search areas in the same manner as a surface ship counter.

SUBMARINE BATTLE TABLE

DIE	1	2	3	4	5	6	
HITS:	0	0	1	2	3	4	Sub v. s. Warship
SUB IS:		sunk		sunk		sunk	
HITS:	0	0	0	1	1	1	Sub v. s. ATAGO
SUB IS:		sunk		sunk		sunk	
HITS:	1	1	1	1	1	1	Sub v. s. cripple (Ship other than Atago that is sunk if it sustains one more hit.)
SUB IS:				sunk		sunk	

These sub group counters can also be found by air or sea search (mainly to keep the American from cheating), but they cannot be attacked by air. Ship v. s. sub engagements will be outlined below.

In addition to the counters, the American adds the following to his Hit Record:

SS 1 2 ☐ ☐ ☐ ☐

SS 2 2 ☐ ☐ ☐ ☐

SS 3 2 ☐ ☐ ☐

Each box represents one submarine. Note that each group is worth 2 points to the Japanese player if completely wiped out.

If a sub group counter finds itself on the same square as a Japanese ship or ships, the Japanese player must put these ships on the battle board. The American then picks out which ship he wishes to attack, rolls the die, and checks the results on the Submarine Battle Table. Hits on IJN ships are recorded, and if a sub sunk is rolled, one box is checked off on the appropriate sub group. If there are no air attacks or surface combat play then continues as before.

Now then, as the submarine counters represent centers of sub groups covering more than one square, there is a chance for sub battle on squares adjacent to the sub counter - and also that roving screen destroyers will catch a sub and sink it. Consequently, when a IJN

ship group is found adjacent to a sub counter, the American player rolls the die and consults the following table. If a sub battle is rolled, the players go through the procedure outlined in the preceding paragraph.

DIE ROLL

1	No contact
2	Sub sunk
3	Sub battle
4	Sub battle
5	Sub battle
6	No contact

The American player is required to go through the above procedure for every adjacent square with Japanese ships on it. Also he must fight any ships that are on the same square as the sub counter. However, he may not be in more sub battles in one turn than he has submarines. If a IJN ship group is adjacent to two or more sub counters, the American player has his choice of which sub group to use. A IJN ship group on a single square may not be in more than one sub battle per turn. Two or three sub counters in one stack count as a single counter. Since three subs are needed to search an area, the American player may find it profitable to stack his counters when sub losses bring the individual counters below three subs. When a sub group is down to one sub, it loses its ability to do battle on adjacent squares and may only fight ships on its own square.

It makes little difference if you add the Japanese submarine or not (I bet the original Yorktown wishes it could say that!). If you do, give it the same abilities as an American sub group with only one remaining sub. Also, let it move out 15 squares on the first move.

As I mentioned before, I developed the submarine game balancing method because of my dislike of the B-17 method. However, I must warn you that you have to develop a little skill to use it properly. I believe I can guarantee a more interesting game than with the B-17's and if you think the Japanese have an unbearable edge with either method, you can combine the two.



Midway and the British Home Fleet

by Richard D. Thurston

Prefaced by a farfetched, hypothetical history, this variant nevertheless borders on the ingenious and is an interesting way to add a little variety to the basic situation. It is strongly suggested, however, that the proposed stacking rule (6.) be ignored.

The time is 1700 hours, June 4, 1942 and Admiral Yamamoto is worried. His flagship is now just arriving in the combat area and his confidence has been shaken already by the unexpected American resistance to his thrust at Midway. Intelligence has estimated only one US carrier and four cruisers in the area, but he has identified *three* carriers and *eight* cruisers and the air/sea battle has been ferocious. Already, *Akagi* and *Soruu* have sunk and *Hiryu*, badly damaged, is fleeing to the west with virtually all her aircraft lost. Three IJN cruisers have sunk and battleship *Haruna* is limping back with *Hiryu*, her decks nearly awash.

All is not lost, however, in fact the Japanese fleet is still in good shape to take Midway and destroy the remnants of the Yankee fleet. *Yorktown*, *Hornet* and four US cruisers are already on the bottom and *Enterprise* has fled to the southeast with slight damage. *Kaga*, having recovered the surviving aircraft from the two sunken IJN carriers, is now almost at full strength and is a match for *Enterprise*. All he has to do now is press on to Midway and let his battleships chase down and sink the elusive US ships.

As night falls, however, he receives disquieting news. A scout plane has reported a battleship, three cruisers and an undamaged carrier steaming toward his transport fleet. Yamamoto smiles. As a former aviator, he knows how easily cruisers can become battleships and destroyers can become cruisers, especially in the twilight. This is undoubtedly the *Enterprise* and her escort, making one last sortie to try and disable the IJN fleet before their inevitable destruction. True, the pilot says there is something odd in the appearance of these ships, but warships take on strange shapes under combat conditions, especially in poor light. Supremely confident, Yamamoto orders *Kongo* and *Hiei*, with three heavy cruisers, to intercept these survivors at dawn. He knows that *Enterprise* has very few aircraft left aboard as the survivors from *Hornet* and *Yorktown* have landed at Midway. *Kaga* and the rest of the fleet will deal with them.

At dawn, the situation is radically changed. First, the *Enterprise*, with three cruisers, is discovered again near Midway, recovering aircraft from the island. Then a group of torpedo bombers strike at the crippled *Hiryu* and *Haruna*, sinking both in minutes. *Kongo* and *Hiei* are attacked by another group of torpedo bombers, *Kongo* taking one hit and *Hiei*, three. Still pressing their attack, the two IJN battlewagons are suddenly straddled by heavy-calibre shellfire at extreme range by an unseen enemy. Despite the accurate and concentrated shellfire, the two IJN ships press on and are soon in sight of their assailant, a large battleship with three turrets forward. Taking four more hits in rapid succession, *Hiei* blows up. *Kongo*, now alone, continues the unequal fight until she is hammered to oblivion, scoring three hits on her attacker in the process. Finally, Cruiser *Nagara*, scouting ahead of the transport group, reports sighting three

enemy battleships with quadruple turrets approaching from the southeast.

Yamamoto is stunned. He needs no recognition manuals to account for these mysterious ships now. The oddly-configured battleship that has destroyed *Hiei* and *Kongo* can only be *HMS Rodney*, killer of *Bismarck* and "sharp-shooter" of the Royal Navy. The other three can only be *King George V*, *Anson* and *Duke of York*, the newest and deadliest in the British Navy. Worse yet, there are probably two British carriers out there somewhere. Grimly, he recalls his scattered fleet. Rally around the flagship! Only the powerful 18-inch guns of *Yamato* and the 16-inchers of *Nagato* and *Mutsu* can save the day, now! Outnumbered in the air and only slightly superior on the surface, Yamamoto must now fight, not for Midway and easy victory, but for the survival of his navy.

How did this all come about? The details are not really important. In broad outline, the German surface Navy was virtually destroyed in an all-out attack on an Arctic Convoy. Cut off from their base by the British Home Fleet, assisted by the US battleships *Washington* and *South Carolina*, both of whom were seriously damaged in the battle, every German battleship and battlecruiser was sunk or damaged so severely as to be out of action for at least a year.

Similarly, a German-Italian invasion of Malta was annihilated by Anglo-American sea and air power. The Italian fleet was almost totally destroyed at the cost of the *USS Wasp* and *HMS Ark Royal*, *Nelson* and *Warspite*. Since British battleships and carriers were no longer needed in European waters, and in compensation for the loss of *Wasp* and the temporary disability of *Washington* and *South Carolina*, Churchill has offered the British Home Fleet to Admiral King

to hold back the Japanese in the Pacific until US strength can be restored. Ostensibly bound for the Indian Ocean, the British ships have sneaked around Cape Horn and have now arrived at Midway just barely in time to bring the US Fleet to a rough parity with the Japanese.

So much for history, (unusual and far-fetched as this chronology appears, it *could* have happened this way, given a few disastrous decisions by the Axis and some really good luck for the Allies in battle.) In the situation described in the first five paragraphs, of course, poor, old Yamamoto has just about had it. This makes for exciting reading, but not very good wargaming. So, let's just turn back the clock a couple of days. It is now 0500 hours, June 3d. Yamamoto has just lost his appetite upon receiving the following dispatch from IJN Intelligence:

"Reconnaissance submarines have just reported the majority of the British Home Fleet has been sent to the Pacific instead of the Indian Ocean as previously reported. This powerful force is divided into three groups. Group 1, which includes the battleship *Rodney*, carrier *Victorious* and three cruisers will arrive on your Search Board at about 1500 hours today. Group 2, which includes battleships *King George V*, *Duke of York* and *Anson*, with two cruisers will arrive about 0500 hours, June 4th. Group 3, which includes battleship *Ramillies*, battlecruiser *Renown*, carrier *Illustrious* and two cruisers will arrive at 1100 hours, June 4th. Also, confirming earlier reports, US carrier *Yorktown* has been repaired and will be with *Enterprise* and *Hornet*. Good luck!"

Searchboard counters for these ships will be found in your *Bismarck* game set, **except** for those for *Anson*, *Duke of York*, *Illustrious* and *Cairo*. You'll have to make Battleboard counters for the carriers and cruisers and the two new BB's. Ship characteristics are covered in the following table:

Ship (s)	Surface Factor	AA Factor	Hit Boxes	Victory Points
<i>King George V</i> , <i>Anson</i> , <i>Duke of York</i> (BB)	12	8	8	8
<i>Rodney</i> (BB)	15	7	7	8
<i>Ramillies</i> (BB)	10	5	6	7
<i>Renown</i> (CB)	9	5	5	6
<i>Victorious</i> , <i>Illustrious</i> (CV)	3	3	5	10
<i>Kenya</i> , <i>Norfolk</i> , <i>Suffolk</i> , <i>Sheffield</i> , <i>Dorsetshire</i> (CA)	6	3	4	4
<i>Cairo</i> , <i>Hermione</i> (CLAA)	2	6	3	3

Aircraft Carrier Capacities:

<i>Victorious</i>	T-8, D-4, F-6
<i>Illustrious</i>	T-6, D-4, F-8

All British Ships enter from the Southeast edge of the Searchboard. *Rodney*, *Victorious*, *Cairo*, *Norfolk* and *Suffolk* enter at 1500 hours, June 3. *KGV*, *Anson*, *Duke of York*, *Kenya* and *Dorsetshire* enter at 0500 hours, June 4. *Ramillies*, *Renown*, *Illustrious*, *Hermione* and *Sheffield* enter at 1100 hours, June 4.

Because of the additional units now at the Allied commander's disposal, some of the rules imposed by AH to give the US side a reasonable chance are no longer needed. All rules not

specifically mentioned below remain in effect.

1. Search procedures are unchanged except that the US player loses his extra search square and full-board capability on any turn in which Midway is bombarded by Japanese ships.

2. B-17 rules are completely discarded. (B-17's now can only be used against transports, for those who play with transports.)

3. For those who use destroyers, each British group is accompanied by one DD division consisting of four DD's.

4. US player no longer receives any credit for delaying IJN capture of Midway. IJN receives 25 bonus points if he actually captures Midway, 10 extra points if he reduces Midway defenses to 0-0, but does not capture it. Midway reduction rules are unchanged, except that Midway defenses are reduced by 1 point per turn for each 10 surface factors (BB and cruiser only) used in shore bombardment. Shore bombardment is accomplished only by BB and cruisers in the Midway square and only if there are no US or British ships in the square during the turn.

5. British planes may not be readied on US carriers or on Midway. They may land and fly off from US carriers or Midway, but cannot conduct offensive or defensive missions. Same rules apply to US planes and British carriers.

6. To avoid the common "Tower of Pisa" tactical formation, no more than six major ships, (not counting destroyers & transports, if used), may be placed on any single square. *Exception:* no stacking limit on the Midway square or during the later stages of surface combat.

7. No more than one carrier's load of planes may attack a single square in one wave. Wave attacks are authorized, anvil attacks are not. *Exception:* no limit is placed on planes attacking Midway or defending it.

8. Battleboard procedures:

a. Players roll the die to determine who sets up first. Roll of 1, 3 or 5 means Allies set up first; 2, 4 or 6 means Jap sets up first. Movement order same as setup.

b. *British* Battleships have a range of 5 squares on Battleboard during the daytime, 4 squares at night. *British* Cruisers have a range of 4 in daytime, 3 at night. IJN Battleships have a range of 4 during day, 3 at night. All other ships have a range of 3 during day, 2 at night. (The difference is due to the overwhelming superiority of British radar at this stage of the war. US radar was not nearly as good until the 1944-45 period, and Japanese radar was never as good.)

c. Escape from the battleboard can only be accomplished by rolling a "6" on the die. Then only the ships on the last row of the board may escape.

d. An air strike may precede surface combat, but once surface combat has begun, no air strikes may be conducted against ships involved. (Too hard to tell friend from foe.)

9. Battle damage results: A ship is considered "crippled" if it has received more than 1/2 the number of hits required to sink it. (Examples: *Hornet* would be crippled by 3 hits, *Yamato* by 6 hits, *Hiryu* by 2 hits.) Once a ship has been crippled the following limitations apply:

a. It is restricted to 1 square per turn movement.

b. Its surface and AA firepower is reduced to 1/2 normal. (round this figure up for defense, down for offense.)

c. Its aircraft handling capability is reduced to 1/2 normal. (Excess planes on carriers at the time of crippling need not be removed, but only 1/2 the normal number may be launched or landed during a single turn.)

d. It cannot bombard Midway.

10. Recovery squares for aircraft participating in an aerial attack are given *only* if enemy ships or fighters are encountered on that airstrike.



Mass or Maneuver

American Plans for Midway

by Monte Gray

The ABCs of strategy for the American player.

When I command the Americans I usually exercise one of three plans.

A. Go after the first Japanese task force consisting of four heavy carriers, two battleships, two cruisers, and one light cruiser.

To make this plan work the Americans must find the Japanese fleet within the first few turns. Once the IJN fleet is located the Americans must proceed cautiously. If the Japanese finds the American before the American is within range to attack then the chances for success are considerably reduced. When the American fleet is within attacking range he must send all of his aircraft to participate in the attack on the Japanese fleet. He should also include the planes on Midway island if they are within range. Since the American fighters will take care of the IJN C.A.P. the bombers will be able to attack the enemy fleet unimpeded, save for A.A. fire.

In this type of attack the American can almost always sink at least two carriers, and possibly one or two of the screening vessels. Of the four Japanese carriers the ones that should be hit the hardest are the *Soryu* and the *Hiryu*. It only takes 3 hits to sink them compared with the *Kaga* and *Akagi* which take 5. Besides being easier to sink, they each carry as many planes as the *Akagi* and almost as many as the *Kaga*. Once the Japanese player loses these 2 carriers his chances of winning are lessened by about 45% to 55%. Depending on how bad the rest of the task force was hit.

The best time for the Americans to mount this attack is the turn immediately preceding nightfall. Then, under the protection of darkness the American fleet can slip away into the vast expanses of the Pacific.

There are 2 factors that will keep plan A from working:

1. If the Americans do not find the Japanese.

2. If the Japanese find the Americans, with or without the Americans finding them. If this should occur the American player would find his chances of winning considerably reduced.

As one can see, if either of the above problems occurs the American player should proceed to plan B or C.

B. Go after the second main Japanese task force consisting of the flagship *Atago*, 2 battleships, 3 heavy cruisers, 1 light carrier, and 1 light cruiser.

The purpose of this plan is to sink the *Atago*. This vessel, the flagship, is the IJN's only means of taking Midway. The chances of sinking the

Atago are good: and if this occurs, all the American has to do is hide out for the duration of the game.

There is one bad drawback to plan B. If the first Japanese task force joins up with the *Atago*'s task force the chances of success are slim. The reason being that with their combined force the defensive fire would be too strong.

If the Japanese sends his first task force to soften up Midway, then the Americans should attack the *Atago* task force at once!

If neither plan A nor plan B can be used then plan C should be followed.

C. Attack the last Japanese task force consisting of the battleships *Yamato*, *Nagato*, and *Mutsu*, the light carrier *Hosho*, and the light cruiser *Sendai*.

There are two reasons that make this attack feasible. First, it will enter the board alone. If the Japanese wait for it the Americans will get at least 12 points for holding Midway. Then all the Americans have to do is sink a couple of cruisers to win the game.

Second, the Americans will sink at least 1 battleship plus the smaller ships, assuming a reasonable plan of attack.

The Americans should prepare for this attack in two ways.

1. The bombers from Midway should be traded for fighters from the carriers.

2. The American ships should be spread down on the A row areas so as to be able to ship search if the enemy isn't found by air search. The ships can be divided any way as long as there is a carrier on squares A-2G, A-4A, and A-5G. They should be placed there because then the attacking planes can usually get back to at least 2 of the carriers.

After this attack the Americans will have 12 points for sinking 1 of the battleships and the 2 cruisers. The Americans will also get 6 points for holding Midway. Since these points would be more than the Japanese player would get for taking Midway, the Americans would win (if no American ships were lost).

After attacking the last task force the American has two continuations:

1. The American could continue to hunt down the remaining two battleships from the *Yamato* task force. This course is recommended to those hearty souls who are willing to risk their ships to a counter-attack (at least if you're playing a competent Japanese player).

2. To retire into the horizon, never to be seen again in the course of the game.

THE REST OF THE ALPHABET

by Lloyd Berger

The unusual title of this article was prompted by the preceding article by Monte Gray, and serves as the other side of the coin. Of special note though is the introduction of the 6-9-6 attack, which has practically become a standard tactic.

Has the commander of the Imperial Japanese Combined Fleet taken to drinking saki in an attempt to quiet his shattered nerves, fearing that Plan A, B, or C might be sneaking up on him?

Seriously, for pure fun there is no game that can rival *Midway*. The excitement of trying to fake-out your opponent, of attempting to out-think (or out-guess) him makes this game total enjoyment, even though there is only the slightest chance that the Japanese can lose, Mr. Monte Gray notwithstanding.

The Japanese *can* lose, but it is nearly impossible if the competent Japanese player remembers three things:

1. Your prime objective is to sink the US carriers, and then, if there is time, take Midway. Yamamoto assumed that the US fleet would get into action only after Midway was attacked. You know better. Therefore Midway will be the frosting on the cake, but the cake itself (the US carriers) should be first. Don't make the same mistake Yamamoto made!

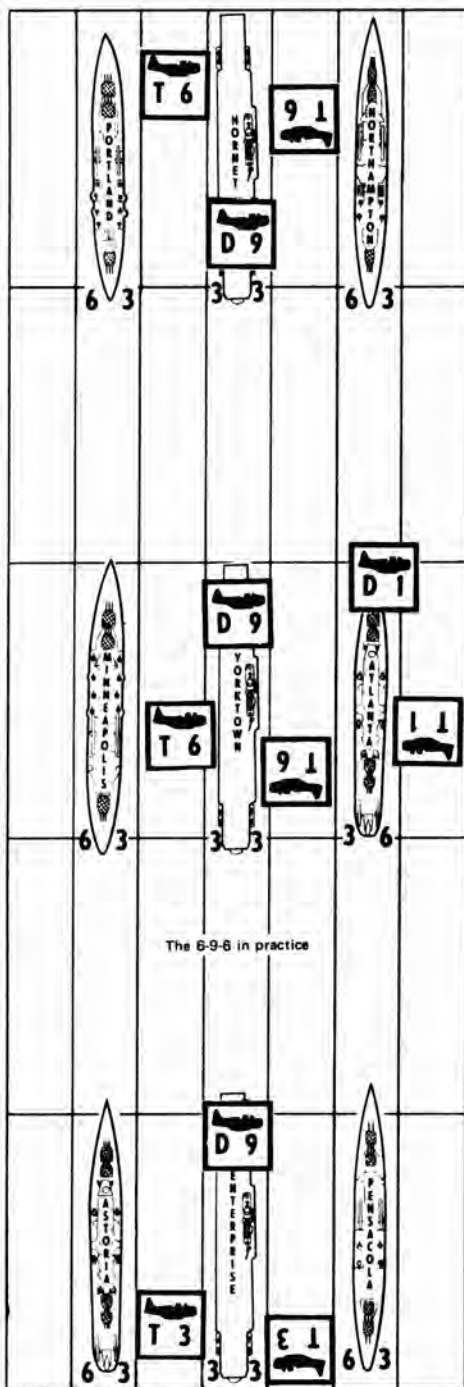
2. Do everything you can to avoid being attacked on the first day.

Send Tone and Nagara to the D column. They will arrive at 1300 June 3. Combining these two ship searches with your three air searches, you search five areas, D2 through D6. This is enough to spot a US threat. Vary the areas where you have ship searches so it will be harder for the US player to find them. Should he attack them, it will be a worthwhile price to pay to find out his position. He will also have to use at least two of his searches to locate them, enabling your carriers to more easily escape detection.

On 1500 June 3, include D1, D2, D6, and D7 in your five searches. If the US is trying an end run, you will spot him. If he has anticipated your search pattern switch and slowed down on his end run to avoid being found, he will never be in a position to attack you on the first day, the only day you really have to worry about.

On 1700 June 3, search C2 through C6, just in case he tries to sneak through one of the gaps left in your basic search screen. If your carriers are in the A column, he cannot attack without also being sighted, allowing you to attack him. If the US barges (no reflection intended on the US ships) into your search screen, use that informa-

tion to avoid combat on the first day like you want to avoid a flat tire on the freeway. Only when the Atago group unites with your carriers are you defensively strong enough to trade punches and live to tell about it.



3. When you attack the US carriers, think 6-9-6. If you cannot avoid being attacked on the first day, you must attack him with full strength. Keep all your fighters on CAP. If he sends all his fighters on escort, you have two fighter factors to add to the defensive power of your ships. If he has exchanged the Enterprise's fighters for the two T's and six D's from Midway, you have ten fighter factors to add to your defense. So much the better! If the US player keeps all his fighters on CAP, call off your attack on his carriers. He will undoubtedly do the same thing. Time is on your side at this point of the game.

But if you can attack (and this applies at any time) the secret to sweet success is the "ole' 6-9-6 attack." What's that? Simply this: six T's attacking on one side of two US carriers, nine D's on top of the same two carriers, and six T's on the other side of those two carriers. On the third carrier, attack with three T's on one side, nine D's on top, and three T's on the other side. (After the first day, you will have more T's to strengthen this attack.) That leaves you with one T and one D left over. Apply both of them to the Atlanta.

In order to present a viable defense, the US player will have to sacrifice one carrier (with no damage to you), accept three 1:1 attacks on his second carrier, and two 1:2 attacks plus one 1:1 attack on his third carrier. Even with the worst possible luck, you get one (sacrificed) carrier and one heavily damaged (three hits) carrier. With average luck you can sink two carriers and leave one lightly damaged. And with spectacular die rolls you can sink two carriers and leave the third carrier almost sunk. Not bad for two hours' work, eh? In addition, he will have to ignore your attacks on the Atlanta, allowing you two 1:1 attacks and a fair chance to sink her.

The reason for this is that the defensive factors of all US ships are in units of three. All the US player can do is put up seven units of three to defend one carrier against seven Japanese units of three, five units of three to guard his second carrier from your five units of three, and nothing to protect his third carrier, against which you have seven units of three. Experience shows that you have a good chance to sink two US carriers, but don't count on it. A follow-up attack will be necessary.

Can the US ever win at *Midway* against a competent opponent? Yes, if the US player can hit the Japanese carriers first, then escape untouched, and come back to hit the Japanese carriers once more. But "ifs" seldom win games. Assumptions included in these observations are:

1. Ships must come on as per the the Order of Appearance Table.
2. Torpedo squadrons attack only the sides of ships.

Now, if only Mr. Gray didn't live so far away. He may like his ABC's, but I'd sure like to show him the rest of the alphabet!



Back to Nuts and Bolts

Harold Totten believes that it helps a player's creativity to get the nuts and bolts down pat, freeing up the game and making it less of a mechanical exercise. Though we certainly agree with this line of thought, players should remember that nuts and bolts come in all shapes and sizes.

No article on a game like *Midway* can ever do the game the justice it deserves. So please allow me to be bold enough to place a demand on the reader: *be creative*. Playing the game of *Midway* almost demands you shrug off the shackles of ordinary moves, and play like a wild man. I can honestly say that this is what fascinates me so much about the game. It's never dull, and I generally love to see how much I can get away with.

OPENING JAPANESE MOVEMENT STRATEGY

In my earlier article, I tried to indicate the importance of joining the *CruDiv 7* (Mogami et al) with the *CVSF* (the four carriers). Of course, that raises some questions. Where should the Japanese fleet start to evade detection? Should the *CVSF* hang on the edge or move out and then back to rendezvous with the *CruDiv 7*? What search patterns are available to the American? And how does the "suicide strategy" I've harped on in the past fit in to the whole picture? And finally, *exactly* how risky is the suicide strategy?

The American will usually steam down the middle of the board (row 4), and west as quickly as possible. His other option is to hang back and wait for the *Atago*, but this has certain problems that I'll get into later. Right now we'll assume the American wants blood and wants it quickly. This middle of the board course will allow the American to quickly switch to either the north or the south, depending upon where he finds the Japanese.

The American initial search patterns will give us the "answer" as to where to start the Japanese *CVSF* fleet, in as much as an answer can be found. The American has six basic search options: north (A1-4), south (A4-7), extremes (A1-2, 6-7), center-north (A2-5), center-south (A3-6), and random (any not included above). The random option is the only obviously foolish option—for if you don't find the *CVSF* on the first try, you will be extremely lucky if you find him later.

Out of the five remaining options, row 4 appears four times, and both row 1 and row 7 appear only twice. So, let us just say that it would not be wise to place the *CVSF* in row 4, and that the Japanese player will commit himself either to the north of the board or to the south, with row 4 being the divider.

The north or south search patterns are obvious American approaches, and when handled correctly also yield the best odds of finding the *CVSF*. To elaborate, say the American uses a southern search and the *CVSF* is really in the north (or vice versa, but this discussion will still be applicable). The Japanese player should have his fleet on zones E or F if he is in areas A2-A3 just in case he is found so that he'll have the ability to escape into any of six adjacent areas on the next turn. Anywhere else lets the American find you at 0700 if he finds you at 0500. If you choose A1, place the fleet at A1i. If you are found at 0500 you will be found at 0700 no matter where you run (this is true of A1 and A7).

However, on the 0700 turn the *CVSF* can move to a sea zone which allows escape by the 0900 turn.

For optimum results if the American does not find the *CVSF* on the 0500 turn, he should then call A3-4 and B3-4 on the 0700 turn (assuming the initial southern search of A4-7). This gives a 50% chance of finding the *CVSF* (as there are eight possible areas for it to hide). If no luck, you have narrowed the Japanese down to at least the northern approach, and you will be able to send your fleet in that general direction. You also have a 44% chance of finding the *CVSF* on the 0900 turn.

The extreme search (A1-2, 6-7) is extremely risky in terms of finding the Japanese. It's almost necessary to find the *CVSF* on the 0500 turn. Assuming the Japanese player will stay out of A4 (it's a very good bet), if he starts in A3 or A5 he will be very difficult to find on the 0700 turn. If the American thinks perhaps the *CVSF* is in A3, he can search either A2-5 (assuming he stays close to the edge) or B2-5 (assuming he moves out). Likewise, for suspected A5, the American options are A3-6 or B3-6. In terms of likelihood in finding him on the 0700 turn, it's a 40% chance: hope you can guess well. But the search is always good to keep in mind against opponents who repeatedly hide in the corners.

The center search (north or south) is a rather unique concept, and not often seen. For example, you suspect the *CVSF* is in the south, so you search A3-6. This covers the middle and A3 in the 0500 turn. If you don't find anything on 0500, then you search A6-7 and B6-7. Thus, if the *CVSF* started in A7 you will be assured of finding him on the 0700 search. The same type of pattern is used in the northern search. I personally feel this type of search to be a good alternative for the American.

	0500	0700	0900	1100
North/South	57%	50%	44%	36%
Center	57%	40%	33%	33%
Extremes	57%	40%	25%	19%

Percentages for each turn represent the assumption that the *CVSF* was not found in the preceding turn, and that the American searches limit the possible hiding areas as much as is mathematically feasible.

SEARCH TACTICS

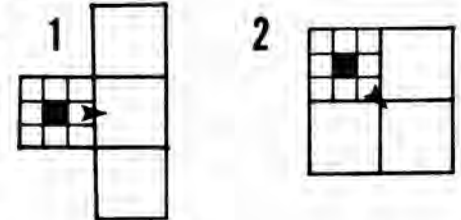
The essence of strategic maneuver in *Midway* lies in setting up search patterns and escaping the search. Hopefully my words will be somewhat obvious, but for those who have not yet mastered the game, they bear repeating.

As was pointed out in the "Midway Thesis" (Vol. 9, No. 4), for the Japanese player to get caught in a "corner" zone of a sea area is disastrous, for the American, with his four searches, is assured of finding you on the next turn (assuming night does not fall). This gives him the option to attack now or next turn, meaning the Japanese player will have some rather rough decisions as to whether or not to fly CAP and whether or not to fly off readied planes (if he cannot attack the Americans). So try and keep away from those corners. It makes his search more difficult.

How should you "follow up" search in a turn after you have found an enemy formation? This depends upon the general expected direction of enemy movement (see diagram 1 and 2). Diagram 1 shows a lateral expected direction of movement. The four areas shown are areas of

Midway: Strategic Perspectives
by Harold Totten

an American search, the three shaded show a Japanese search in the same situation. Diagram 2 shows a diagonal direction of movement, and the searches shown are as in diagram 1 (shaded, Japanese).



You find a player by searching along his expected path of movement. This is difficult in terms of finding the American, who may have no path of movement, but we may generally assume the Japanese player to be headed for Midway, so his general direction is delineated by the victory conditions.

You lose yourself "in the mists" by moving where not expected. This can be in the form of delaying your movement for a turn so your opponent searches the area ahead of you. Losing a single turn is better than losing a number of ships. However, you can get extreme in trading off time for stealth, as in the Berger strategy (which I will discuss shortly). Another search avoiding tactic is to move into an area already searched in the previous turn, which usually works unless your opponent uses overlapping searches. It would be well worth your time to consider the patterns which your opponent seems to use in order to avoid them.

NOTES ON THE "SUICIDE TACTIC"

The suicide tactic, which engenders a certain amount of risk, consists in the American finding the *CVSF* sometime before *CruDiv 7* joins it, and attacking at extreme range, sacrificing his aircraft in order to strike a decisive blow. It can fail with bad luck, but it gives the American a strategic threat early in the game.

Assuming the American steams west without delay, and the 0700 Japanese move is in the B column, then the attack is feasible. At 0900, it is feasible anywhere but the two rows in column A that are closest to the west edge of the board. On the 1100 turn the American can hit anywhere on the board, and it's important that the *CVSF* "loses itself" on this turn. Assuming the *CVSF* and *CruDiv 7* join on 1500 (earliest possible), it's not worth it on 1500 and after. But if the attack comes off the American used to steam off the board, unharmed.

Only AH has changed that. The new ruling on leaving the board forces the American to wait around until his fleet is attacked. This makes the suicide strategy more risky than in the past (almost untenable, in fact) because the American has to gain enough points to offset damage to his fleet as well as offset the fall of Midway itself.

But how should we define "fleet"? Is leaving the *Atlanta* behind on Midway Island sufficient, or must it consist of all the American ships? And if it must be more, does this not put a strategic crimp on the American player who must now keep all his ships together as a fleet until attacked? I also think the ruling has no historical

validity, and seriously disturbs the American's chances for a clean, quick victory. Which means it messes up play balance.

Is there an American alternative? Thankfully, I think there is. The American need not exit the board (as demonstrated in both Series Replay games) (Vol. 10, No. 2 & Vol. 11, No. 3), but rather he can get away just as cleanly by moving off to some remote area of the board, out of the Midway radius of operations, where it would be unlikely that he could be attacked. It entails an element of risk, yes, but so does the whole suicide tactic itself.

THE INVASION OF MIDWAY: The Berger Strategy

Lloyd Berger's article in the May '72 *General* (Vol. 10, No. 1) has brought up some points that I feel should be discussed, especially in the light of the Series Replay game in the July issue.

His first point, that the prime objective is the carriers, is essentially correct, but the obvious distortion of sound strategic play lies in ignoring Midway Island. The tournament game is more balanced than the basic game by reason of Midway reduction. It makes it more difficult for the Japanese player, although the Japanese still retain the advantage. It is unwise to sacrifice too much time chasing the American fleet and totally ignoring Midway—for you lose points just as surely by ignoring Midway.

I also agree with his second point—avoid being found—that's obvious enough to be a maxim for the game. However, the way in which he goes about it is suspect. The search strategy of detaching ships leaves easy points for the American player and makes the suicide tactic all the more easy. In the Series Replay cited, Don Greenwood took the strategic stance of picking off the searching ships one by one. It's a viable option also to suicide attack, as I pointed out, and I think my predilection for the spectacular showed up in my comments there. Don took the less risky, albeit less spectacular, course.

One comment I take exception with is: "Only when the *Atago* group unites with your carriers are you defensively strong enough to trade punches and live to tell about it." This is definitely not true. The combination of *CruDiv 7* with *CVSF* is sufficient, and I've seen this borne out in game after game. Waiting until the *Second Fleet* (*Atago* et al) joins the *CVSF* is viable if conservative strategy, to be sure, but not at all necessary. Uniting these two groups also invites discovery and it delays Midway reduction. It also gains in defensive firepower, so I will leave it up to you to decide which is better. Personally, I prefer not to horse around in taking Midway.

His third point, the "6-9-6" tactic, is really a great device, and I think you should keep it in mind, as it seems to work equally well against the best American formations. Put simply, in case you missed the article, when attacking the

American put D9's on all three CV's, put a D1 on the *Atlanta*, and then have T6's flanking two of the CV's, T3's flanking the remaining CV, and a T1 attacking the *Atlanta*. You're almost assured a kill of one CV, and probably the *Atlanta*, although using the American "box" formation (fleet formation A in the "Midway Thesis" article) you can save the *Atlanta*.

I probably should also comment on the article that prompted Mr. Berger to write: Monte Gray's "Mass or Maneuver" (Vol. 9, No. 3). Plan A is not too bad—but definitely obvious. Plan B is questionable, for it all depends upon sinking the *Atago*. Yet it seems to have some promise, given a certain amount of work. But that's material for another article. Finally, his plan C is downright dumb if you ask me. Attacking the *Main Body* as a strategic option is risky for three reasons. Attacking those big battlewagons (*Yamato* et al) is difficult and risky, but the CVL *Hosho* is an easy target. But will they be enough pointwise to compensate for the fall of Midway? And secondly, this assumes light or no American casualties. Normal American casualties will be a lost game. Third, it saves up the American effort till late in the game. What happens when you can't find the *Main Body* in time? You lose, that's what happens. Especially if you get caught by Lloyd Berger's 6-9-6, for between the loss of Midway and at least one CV, the American is hard pressed to make points (more so in the light of lost aircraft on the sunk CV).



Midway - Unstereotyped

by Mark Saviet

This article presents some early play-balance options, but greatly muddies the waters, detracting from MIDWAY's clear, simple rules.

Midway, like almost all of Avalon Hill's games, has the capability of becoming more than just a stereotyped contest of good luck. It is to this end that this article is directed.

In its present form (in case you hadn't noticed), the Imperial Japanese Navy all but can't lose. I propose several changes in an effort to increase play balance and realism. The only change in the present order of battle is the addition of a Japanese CL: JINTSU, which enters at 0900 June 3.

RULES

First, let us correct a problem pointed out in "Midway, Bismarck Style" by Peter Harlem: "Ya-

mato with eight hits still has a surface factor of 18." His solution, however, was not compatible with air-sea combat. So instead, a system of proportional reduction should be used. For example: CHIKUMA with no hits is a 6-3. As it receives repeated hits, its firepower is reduced. With one hit it's a 4-2, with two hits a 2-1, with three hits sunk. YAMATO with five hits becomes a 9-5. For those ships which don't reduce evenly:

a) a ship always retains a screening factor of at least one.

b) the surface-to-screening ratio should be kept as close as possible to the original ratio.

c) reduction is in proportion to the total number of hits it can sustain.

Attacks may, of course, be made in waves. A ship hit on the first wave is reduced, as has been stated, to a lesser screening for the second wave. After the first wave and each succeeding wave, all ships may move one space on the battle board in any direction before the next wave. This allows for minor readjustments to protect those ships now vulnerable, and also permits compensation for a ship sunk in the first wave (which is removed as explained

below). An unlimited number of wave attacks may be launched per turn.

If a ship is sunk in the middle of a series of wave attacks, it is important to record how many hits were required to sink it. If three hits were required, and four or more (or a 5-1 automatic) were scored, then the ship is removed. If, however, it is sunk by exactly the number necessary, then it is not removed. It is turned over to indicate it is sinking and is no longer a target. It cannot, of course, screen, and all ships must still keep proper spacing from it.

Screening values may be split and applied anywhere within two spaces. (i.e. the YAMATO can split up its ten screening factors and apply the different parts anyway desired).

If a carrier has readied or readying planes on its deck, it sinks with one less hit. In addition, every dive-bomber hit destroys two of the readied, or readying, squadrons (ship's choice of type).

In surface combat, factors may be split in any manner (attack factors only). Battleships may not fire into adjacent spaces. At four square (battleship) range, the battleship's fire is halved (i.e. eight factors are worth four and

eleven factors are worth five).

PLAY PROCEDURE

Both players write, in secret, whether or not they are readying (be specific as to ships, types, and numbers).

The Japanese player must state before the U.S. search that ships (being specific) are on Midway.

Search procedure is the same.

If a fleet is spotted, that **player** must state whether or not his **planes** are readying or readied (can fly that turn). For example: "The CVL is readying and one CV is readied." It is not necessary to specify further. In stating the condition of the aircraft, readying overrides readied which overrides not readied. In other words: if a ship is readying any aircraft at all, the condition, as stated to the searcher, is "readying." This is so whether or not the other aircraft are readied. If some aircraft are readied, and none are readying, then the condition is "readied."

Operations for both sides are written every turn regardless of whether or not anyone was sighted.

Any operations the enemy does not observe are not told to him. If you put up CAP expecting an attack, your opponent is not told unless he had aircraft or ships in the same zone.

When an attack arrives, the attacker must be told by name, which ships have readied or readying planes on deck.

Ships may be kept off the board and brought on at a later hour than that at which they are listed.

MISCELLANEOUS

The American may launch B-17 attacks from MIDWAY to any spot on the board. B-17s must be readied for three turns before they may fly. One ship in a discovered fleet is selected, and a die roll of five is three hits; a die roll of six is five hits. Fighters have no effect on B-17s. They may attack at night. Attack may be made before, after, or between waves of an ordinary air strike. After MIDWAY is reduced to ten or lower, fueling requires five turns. An attack does not have to be made in the midst of a regular strike, and no more attacks may be made after MIDWAY is completely reduced.

There are 8 PT boats at MIDWAY and 2 at KURE. They may all be based at either MIDWAY or KURE or any combination. Aside from loss in combat, they may be captured only by occupying their bases while they are in them.

PT boats must be readied for one turn like aircraft. The **IJN** has no way of knowing if they are or are not readied. This is also true of MIDWAY-based air. PT boats have a range of ten spaces (five out and five back). They

may operate at night. Each boat is the equivalent of one torpedo-plane squadron, and they function (and are lost) the same with the following restrictions:

An **IJN** ship (for PT) placement purposes only) controls its adjacent squares except for those placed diagonally from it. PTs may move into a controlled square but must then stop.

Thus they cannot penetrate the outer perimeter of a fleet.

PTs do not participate in sea-to-sea battles. They may be used in conjunction with a regular air attack. They are lost in the same manner as aircraft.

The **IJN** must state his presence on KURE the same as if it were MIDWAY. Of course, for either island, he no longer must do so once he has taken it (in that case the American must state his presence). KURE is taken like MIDWAY. There is no softening up required. It is worth two points to the **IJN** only if MIDWAY is not taken. Otherwise, its only value is in destroying the PTs. The flagship of the KURE landing force is JINTSU. It must remain on KURE for two turns. If it is sunk, KURE can only be taken by the ATAGO which, to do so, must:

a) take KURE before MIDWAY (two turns) and if MIDWAY is also to be taken,

b) remain on MIDWAY for five turns. JINTSU cannot take MIDWAY.

If MIDWAY is taken, but KURE isn't, it is worth two points to the American.

BATTLE PROCEDURE

After ships about to be attacked are positioned, the attacker places all his aircraft in the attack positions he wishes. The defender now writes down the number of fighters with which he will intercept. These fighters must be ones designated as CAP over those particular ships. The attacker also writes down the number of his escorting fighters that will cover this wave. Combat odds for the fighters are then set up (the ones with the ships are the defenders). The defender can of course strip off as many as he is allowed according to standard procedure (if he has an equal number of fighters he must use them all; if he has more they may be applied to ships, etc.). The die is thrown and all surviving fighters may not be used again that turn. All air-sea battles are resolved and the next wave attacks in the same manner. Neither the number of attack planes nor the total number of fighters is revealed by either side. The attacker is responsible for stating the number of waves. The attacker may abort future waves at any time but must do so according to abort procedure (See below). Fighter-fighter odds are rounded off to those nearest, not in favor of the defender.

If an enemy has fighters over his

fleet, you cannot abort the attack without a fight. If you state you are aborting, the air is handled the same as in a MIDWAY attack. If you have no fighters, **then** a number of aircraft equal to the number of your opponents fighters must be lost. Otherwise, you have a regular fighter-fighter battle with the defender allowed to strip-off and go after the bombers.

A **player** may, upon seeing his opponents dispositions for one fleet of ships, abort that particular attack and hit a different fleet, within range, in the same turn. Abort must be carried out according to the rules previously stated. However, the aborter may, in this situation only, meet the defender with only an equal number of fighters so as to preserve the rest for his attack on the other fleet. You may not hit both fleets unless it is so listed in your operations and you have designated two separate flights (one flight may abort and join the other flight in hitting one fleet). Fighters which were engaged against enemy fighters in the abort cannot be used as escort against the second fleet.

If a surface combat attack takes place while the Jap is bombarding (by sea) and/or invading MIDWAY, that turn does not count towards either.

COMMENTS

It is obvious that these new rules add a greater degree of skill, realism, and concentrated thought to the game. This is particularly true if both players are courageous enough to split up their fleets, the American into two; the **IJN** into three or more. The B-17s enable the American to get the extra points he needs, and thereby force the **IJN** to do more than just take MIDWAY. The PTs give the American the equivalent of 10 desperately needed torpedo-bombers (in a limited fashion to be sure). The **IJN** may find it necessary to reduce MIDWAY fast, even at the risk of bringing his vulnerable first fleet into U. S. range, so as to prevent the ATAGO from being slaughtered by B-17s.

Should the possibility of a suicide attack from more than seven squares become annoying, you can avoid it by employing a technique used by our club. Instead of moving two spaces every turn as is done now, you move one space at a time. It works out to: move (one space) - search - move - attack - move - search - move - attack. This allows for the time lapse between discovery and strike. When the strike force arrives, it can "attack" three of the nine possible locations of the enemy. Thus there is only a 1/3 chance of hitting him with any single attack. Very few people are willing to throw-away all their aircraft with those odds.

Midway—Equilibrated

by Carl G. Nelson

More play-balance options, in retort to the preceding article by Mark Saviet.

After reading a recent article in the *GENERAL* and doing some research on the actual Battle of Midway I have been doing some serious thinking about the AH game as it exists in the Battle Manual. The Japanese did have the upper hand in the actual battle as far as an overwhelming force was concerned. However, the U.S. had one thing going for it in the actual battle that does not exist in the AH game MIDWAY - Surprise! The Japanese were not expecting to find the U.S. Carriers anywhere near Midway during the opening phases of the battle. In the game the Japanese Player knows that the U.S. Fleet is waiting. The longer the Japanese player holds off taking Midway the more points accumulated by the U.S. Player. But, the fact remains that the game is decidedly Japanese all the way even with the employment of the optional rules.

Mr. Mark Saviet, in his *GENERAL* article "Midway Un-Stereotyped", readily suggested the addition of night bombing attacks by B-17's and PT boats. I do not feel that these additions hold the answer to the problem. First of all, the idea is to hold the game as closely as possible to the situation as it existed at the time of the battle. The B-17 did not prove an effective weapon against ships at sea, especially from high altitudes. Considering the fact that there is no loss factor on the part of the B-17 attacks, they must be considered as high altitude attacks. At night the B-17's could not find, let alone effectively, attack a fleet of ships at night. If the general area where a group of ships are located is known a low altitude attack (almost sea level) could be effective because the ships would be silhouetted and therefore present a target. I do not know of any cases where B-17's were used as torpedo planes. The defenders of Midway had an aircraft with long range that could and did carry torpedoes and proved itself fairly effective during the war at night. This was the PBV "Catalina". As the game now stands the Japanese Player has nothing to fear during the night hours, except a surface contact and possible attack in this manner, but he still holds the advantage in this situation. By providing a means for the U.S. Player to attack at night the Japanese player must exercise some caution.

Another factor that seems to have

been over-looked is the use of submarines. The U.S. Fleet had twelve of these craft in the vicinity of Midway Island besides the surface ships.

I propose the following procedures be adapted to employ these two systems in the game.

PBY's

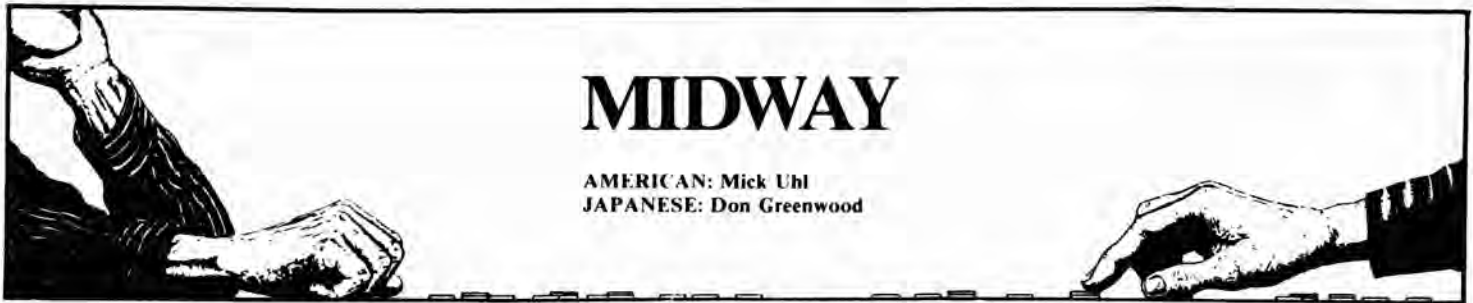
Add nine PBY's to the game, this is the approximate number of aircraft used in Patrol Squadrons in the Navy. Attacks conducted by these aircraft would only take place during the night hours of play on ships sighted during the 1700 hour search move. The U.S. Player determines to which zones he will send PBY's and the number of PBY's to each zone, not to exceed the number of PBY's that he has. A PBY launched during the first night move can not be launched for an attack during the second night move. The U.S. Player calls off the zones in which he has PBY's. The Japanese Player discloses if he has any ships in the zones called off. If ships are located during this procedure, these ships are moved to the Battle Board. The U.S. Player selects the ship he will attack. Each PBY may be used against only one target during the attack phase of play. If more than one PBY is in the same zone then each may be used against separate targets.

If the ship the U.S. Player selects to attack is in the center of the fleet, the Japanese Player rolls the die to determine if the PBY is able to pass the perimeter ships and reach a favorable position from which to launch its torpedoes against the target selected. A roll on the die of a 1, 2, or 3 indicates that the PBY was shot down prior to reaching a favorable launch position. If the Japanese Player fails to stop the PBY the U.S. Player then rolls the die to determine the results of the attack. A roll of a 1 or 2 results in one hit on the target selected, a roll of a 6 results in two hits. At the completion of the attack the PBY is removed from play and is considered shot down. The reason being that the PBY was a very slow aircraft and was an easy target. In penetrating to the center of the fleet it would be sighted by at least one ship and fired upon, after launching its attack on the target the entire fleet would be alerted and the possibility of withdrawing would be just about nil, so it is considered shot down. If, instead of selecting a ship within the fleet the U.S. Player selects a ship on the perimeter of the fleet he would have a better chance of attacking. Therefore, on an attack of this type the U.S. Player rolls

the die for a determination of the results of the attack and the Japanese Player does not get a chance at firing at the PBY. The PBY's will be able to attack any zone on the search board. All attacks would be documented on the operations sheet for each move the same as in the rest of the game.

Submarines

The following twelve submarines are to be added to the game: USS Cachalot, USS Flying Fish, USS Tambor, USS Trout, USS Grayling, USS Nautilus, USS Grouper, USS Dolphin, USS Gudgeon, USS Gato, USS Cuttlefish, and USS Grenadier. The initial move for the submarines will be the same as for the rest of the U.S. Fleet. The subs can move two zones per turn while on the surface and one zone per turn while submerged. If any sub is sighted on the surface by the Japanese Player it is considered as having been attacked and sunk. During the search procedure the U.S. Player may call out the areas in which he has submarines but he must specify that the area is being searched by a submarine. The Japanese Player must reveal the zone within the area so searched that he has ships in, however, he does not indicate the type of ships nor the number of ships, unless the ships happen to be in the same zone as the submarine. In this instance the battle board is not used, the U.S. Player indicates to the Japanese Player the type of ship that he will attack, cruiser, battleship, etc. The Japanese Player then names the ships of the type called by the U.S. Player and the U.S. Player then specifies which ship is the target of the attack. The U.S. Player then rolls the die to determine the outcome of the attack, a roll of a 1, 2, or 3 indicate the number of hits sustained by the ship selected as a target, a roll of a 4, 5, or 6 indicate that the attack was unsuccessful. The Japanese Player then rolls the die to determine the results of a depth charge attack on the submarine. A roll of a 1 or 2 results in the submarine escaping the attack, a roll of a 3 indicates that the submarine is damaged and is withdrawn from the game, a roll of a 4, 5, or 6 indicates that the submarine was sunk. If more than one submarine is present in the same zone each attack is determined as separate attacks. The other submarines could also be used against other types of ships in the group sighted and under attack, or even attack the same ship being attacked by the first submarine. For each submarine sunk, the Japanese Player receives two points towards his score. The submarines are restricted from operating against the Japanese ships in zones G-5-E, H-5-D, and H-5-G, these being the zones containing Midway, its atoll and the island of Kure.



MIDWAY

AMERICAN: Mick Uhl
JAPANESE: Don Greenwood

Three **SERIES REPLAYS** of **MIDWAY** have appeared in the **GENERAL**. This one was chosen because it is a fine representation of tactics and remains a close game throughout. The combatants are both noted **AH** designers and experienced players.

The game was played utilizing full tournament and optional rules, as well as the **OFFICIAL** rule changes of this guide.

0500 June 3

AMERICAN COMMENTS: My basic strategy is to get the first strike on the Japanese carrier fleet before nightfall of the first day and concentrate exclusively on the destruction of his carriers. The idea of allowing a limited counter strike early in the game to release me from the agreed Japanese air strike restriction against leaving the board also appeals to me. Allowing him such a blow will give me freedom of action to leave the board when I wish. It goes without saying that much of my strategy will be dictated by reactions to his moves, but I assume that he won't make any real progress towards Midway until he consolidates his various fleets. This means that I must steam full speed ahead without thought to deceptive maneuvers to evade his search patterns if I am to strike his carrier force before it can combine with the protective screens of later arriving Japanese forces. This strategy should give me the best chance of striking a telling blow and also freeing me from the artificial restrictions against leaving the board later in the game. In so doing I avoid the possibility of surface combat against his battlewagons—a very real threat once my supply of torpedo planes is exhausted.

MOVE: Fleet to G2E
SEARCHES: A1, A2, A3, A4
OPERATIONS: Ready AC

JAPANESE COMMENTS: Having given this same opponent a perfect example in our last encounter (See Vol. 11, #3) of how the American player can utilize his superior search capabilities combined with his knowledge of **IJN** intentions to toy with the **IJN** fleet as it makes its eventual advance toward Midway, I'm sure I can expect the same now that the shoe is on the other foot. Therefore, my gameplan is to maintain a direct course for Midway after hooking up with the *Atago*. I will not attempt evasive maneuvers but rather will concede the first strike to the Americans hoping to get lucky with my search patterns and trade him blow for blow in the ensuing slugfest which I hope to win.

My initial placement is aimed at avoiding a northern cut-off search of the board—hopefully enabling me to double back into A4 after he's searched it in hopes that he will search the southern B row on the second turn.

MOVE: Fleet to A5C
OPERATIONS: Ready AC

0700 June 3

AMERICAN COMMENTS: Having missed with my initial search I know he has started in the southern half of the board and will pattern my search so that his only successful evasion will be to stay in the southeast corner. I will continue my own fast linear course: angling down the board to meet him only if he takes an extremely southern tack.

MOVE: Fleet to F2F
SEARCH: A4, B4, B5, B6
SIGHTING: Enemy fleet in A4F

JAPANESE COMMENTS: So far so good. The fact that he didn't find me dictates my next move. Had I been located I would have moved into the B column so as to be able to search the F row where he could now have conceivably advanced. The fact that I can't launch an effective search this turn should indicate that I have remained in the A column but by that time I will be in the third row and perhaps out of his search. I will continue this charade of attempting to hide until he finds me or I hook up with the *Atago*. Once he locates me the strategy will vary considerably.

MOVE: Fleet to A4F

0900 June 3

AMERICAN COMMENTS: Having spotted the enemy with a strong likelihood of keeping his movements under surveillance I can now transfer all my fighters to the *Enterprise* which I'll keep always out of his range. In this manner I can be assured that my fleet will enjoy the best possible defensive posture with superior protection in any first day action. Although my strike capability will be impaired I feel I can less afford to lose ships of my own than possibly eliminate one more of his. Although I would certainly like to make an unreturned first strike, I will not allow the possibility of a Japanese attack to deter me from attempting to strike before nightfall now that I can move with confidence that I am operating with the best possible defensive make-up. Although full speed ahead increases my chances of detection I am proceeding nonetheless.

MOVE: Fleet to F2D
SEARCH: A5, B5, A4, B4
SIGHTING: Enemy fleet in B4E
OPERATIONS: Transfer 6F from Midway, 9F from *Hornet*, and 2F from *Yorktown* to *Enterprise*. Transfer from *Enterprise*: 6DB to Midway, 5T and 4DB to *Hornet* and 2DB to *Yorktown*.

JAPANESE COMMENTS: So much for the charade—now to advance into the B row to attempt to get a fix on him. I will concentrate my search in the south for I plan to use the bottom of the board as a wall to my back during my advance on Midway. This prevents any attack from the south and cuts my defensive search perimeter in half, and increases my chance of finding the U.S. fleet as it moves into attack range. The problem therein is that it eliminates my own southern evasion possibilities, but remember I plan a straight advance on Midway and expect to be spotted the entire time anyway.

MOVE: Fleet to B4E
SEARCH: 5F, 6F, 7F

1100 June 3

AMERICAN COMMENTS: I am faced with the possibility that he might be able to launch an airstrike during the next three turns if we both continue in the same direction. Having not sighted me to date however, his probable intention is to move to A as he certainly has no wish to take an unreturned strike with so little support this early in the game. I have not split the *Enterprise* off from the main body because I don't want him to suspect what I'm doing until it's too late. I'm sure we both want to launch 1700 air strikes so we can lose our foe in the dark.

MOVE: Fleet to E2E
SEARCH: C3, C4, B3, B4
SIGHTING: Enemy fleet in B3H
OPERATIONS: Ready AC

JAPANESE COMMENTS: Having been spotted again, I am moving north in hopes of drawing attention away from the south where my ultimate advance will take place. In the meantime I intend to remain just outside of his maximum possible strike range while continuing my shot-in-the-dark searches.

MOVE: Fleet to B3H
SEARCH: E4, E5, F4

1300 June 3

AMERICAN COMMENTS: No pre-search commentary.

MOVE: Fleet to D2F
SEARCH: B3, B4, A3, A4
SIGHTING: Enemy fleet in A3F

JAPANESE COMMENTS: His hypothetical maximum advance forces me to withdraw from the preferable center column of B with its increased evasion possibilities and into A3 where I plan to combine with the *Mikuma* group next turn. The move to zone F as opposed to C gives me a 33% chance of evasion on the next turn should I care to exercise it. His second announcement of readying aircraft last turn meant that he has transferred planes from Midway and is now ready to strike at any time. My searches must now be aimed at the possibility of a maximum advance as the danger of a first day strike at 1700 before I hook up with the *Atago* is very real. I do not feel he has taken his maximum advance but is lingering somewhere in the E column. Safety dictates that I pursue the conservative strategy however.

MOVE: Fleet to A3F
SEARCH: 1D, 2D, 3D
SIGHTING: Enemy fleet in D2F

1500 June 3

AMERICAN COMMENTS: His moves indicate that he is preparing to link with his cruiser force entering next turn. He is being careful to stay out of my range, but by continuing my maximum advance I can guarantee a strike at 1700 if he continues back towards the board edge. Now that I've been spotted

I will split the "Big E" from the fleet and prepare to meet a possible enemy air strike.

MOVE: Fleet to D2D. *Enterprise* to E3B

SEARCH: A2, A3, A4, B1

OPERATIONS: All Fighters CAP over D3A; 10 T and 16 DB to B4B 5T and 14 DB to B2H

I am in a terrible position as I have been spotted within range of the Japanese fleet yet failed to locate him. This speaks well as a lesson against overaggressiveness. My only solace is that if he attacks me this turn, I will probably be able to hit him next turn. The only problem with that theory is the matter of how many carriers will be floating from which to launch my strike. I must give the survival of my own fleet primary consideration. If I launch my fighters as CAP now and he delays his strike until 1700, I'm in serious trouble. He could still hit me next turn and force me to abort my own attack by keeping his fighters on CAP. If he doesn't attack this turn I have a 50% chance of escaping his follow up search but that isn't a very large safety margin in a factor as important as this. On the other hand were I to keep my planes on deck and he did attack this turn he would have an excellent chance of knocking out a carrier—even in the face of my fighter superiority. This leaves me with the very unpalatable recourse of a one carrier strike against a fleet with full CAP. Both options are unacceptable—a more drastic step is needed.

Looking at his possible locations I see he can be in one of four possible zones—B2G or H or B4A or B. As he probably did not realize this situation would occur during his move, I am betting that he did not move into A or G as these zones would guarantee that I could spot him next turn if spotted this turn. This leaves me with two possible target zones and I am inclined to pick B4B as this is a more central position with which to attempt escape during the ensuing night turns. Yet, if I'm wrong it means the game. The advantages of launching an attack against both suspected target zones are fivefold:

1. I probably wouldn't do better next turn when you consider the probable loss of aircraft on a carrier loaded with readied planes.

2. I feel confident that my chances of locating him in one of the two suspected zones is far better than the straight mathematical chances of 50%.

3. He will not expect a strike during a turn in which he was not sighted and may even have readied aircraft on deck. Certainly, I would not expect to encounter any CAP.

4. A successful guess relieves my carriers of readied planes and lessens the risk of putting up CAP this turn. Even if he decides to wait until next turn to attack in an effort to fake my CAP into the air I will have hit his fleet first with readied planes on his decks instead of vice versa.

5. There is no 100% guarantee of spotting his fleet next turn anyway. If I'm going to risk losing a carrier (and therefore it's planes) I want to lose the planes in combat—not on the deck of a sinking ship.

Taking all this into consideration I've decided to half my gamble; sending the larger force to B4B and a smaller one to B2H.

JAPANESE COMMENTS: I was amazed to spot him in D2 last turn as I presumed his advance would be more subtle. If I advance or hold my position a battle is possible, but I thought that he would withdraw after being observed. An equal exchange of blows is much to my advantage and I feel confident that, realizing this, he'll withdraw leaving me to combine my forces and pursue my southern

advance as originally planned. However, my searches will be repeated in D to guard against the remote possibility of an unreturned strike this turn. The search at E3 is a concession to my gut instinct that he has withdrawn. An enemy advance into 1D cannot hurt me anyway. My own advance into B4 is a bold step for a conservative player such as myself. If there is an exchange of strikes this turn I will give up the additional shielding of the *Mikuma* group now entering. However, this is the strategy—I am known for conservative play and he will expect me to combine with the cruisers—thus wasting his first 3 searches in A giving me a 67% chance to escape detection. If this happens and he has boldly advanced I would be guaranteed an unreturned initial strike. That could well sew up a victory on the first day! In a mutual strike swap my losses would be horrendous with so few shielding ships for my carriers but the aircraft losses would be fulfilled in my own vicious wave attacks against his fleet. This is a gamble which is unlikely to end in more than conjecture but a nice theory to contemplate nonetheless. The prospect of an initial strike against the American fleet is too good to pass up—I will advance back into B.

MOVE: Carrier force to B4B; *Mikuma* group to A5E

SEARCH: D2, D3, E3

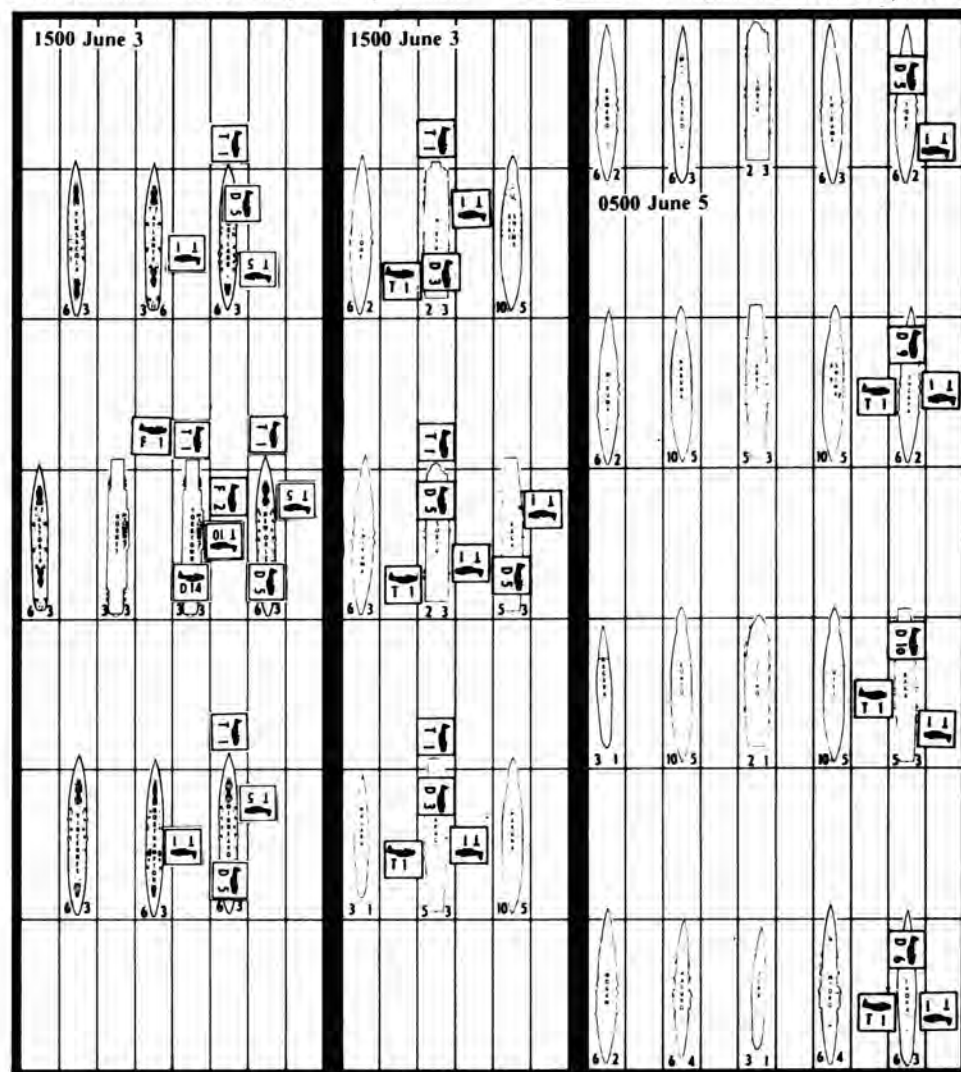
SIGHTING: Enemy fleet in D2D; Carrier in E3B

OPERATIONS: All aircraft to D2D

My early elation at finding the enemy and not being discovered myself has been tempered by

THE ATTACKS

1500 June 3	ATTACKING:	DEFENDING:	TARGET:	ODDS:	RESULTS:
28F		28F		1-2	Jap 4 Sq/U.S. 3 Sq
T1		Huruf, 1F	Yorktown	1-4	-1 Sq
D12		Yorktown, 2F	Yorktown	2-1	1H/2 Sq
T10		Atlanta	Yorktown	1-1	1H/4 Sq
T1		Atlanta	Atlanta	1-1	2H/1 Sq
D5		Portland	New Orleans	1-1	2H/4 Sq
T5		New Orleans	New Orleans	1-1	1H/4 Sq
D5		Northampton	Minneapolis	1-1	1H/2 Sq
T5		Minneapolis	Minneapolis	1-1	2H/3 Sq
T1		Northampton	Northampton	1-1	2H/1 Sq
T1		Minneapolis	Minneapolis	1-1	1H/1 Sq
T5		New Orleans	New Orleans	1-1	1H/1 Sq
T5		Portland	Portland	5-1	Sunk
D5		Portland	Portland	5-1	—
T1		Portland	Portland	1-1	-1 Sq
1500 June 3	ATTACKING:	DEFENDING:	TARGET:	ODDS:	RESULTS:
D5		Kaga	Kaga	1-1	1H/2 Sq
T1		Kaga	Kaga	1-1	1H/1 Sq
D5		Kirishima	Soryu	1-2	-3 Sq
T1		Nagato	Soryu	1-3	-1 Sq
T1		Hiryu	Soryu	1-2	-1 Sq
T1		Soryu	Soryu	1-3	-1 Sq
D3		Haruna	Akagi	1-2	1H/3 Sq
T1		Chikuma	Akagi	1-3	-1 Sq
T1		Akagi	Akagi	1-3	-1 Sq
T1		Akagi	Akagi	1-3	2H/1 Sq
D3		Hiryu	Hiryu	3-1	2H/3 Sq
T1		Hiryu	Hiryu	1-1	Sunk/1 Sq
T1		Hiryu	Hiryu	1-1	-1 Sq
T1		Hiryu	Hiryu	1-1	-1 Sq
1500 June 3	ATTACKING:	DEFENDING:	TARGET:	ODDS:	RESULTS:
T1		Tone	Tone	1-2	-1 Sq
D5		Chikuma	Tone	1-1	1H/4 Sq
D10		Myoko	Kaga	1-1	1H/4 Sq
T1		Suzuya	Kaga	1-3	-1 Sq
T1		Kirishima	Kaga	1-1	2H/1 Sq
T1		Kaga	Chokai	1-3	-1 Sq
D6		Hiei	Chokai	1-1	1H/3 Sq
T1		Chokai	Chokai	1-3	1H/1 Sq
D10		Suzuya	Suzuya	1-1	Sunk
T1		Suzuya	Suzuya	1-1	1 Sq
T1		Suzuya	Suzuya	1-1	1 Sq



reflection on the unusual splitting of his forces. His strategy is at once obvious and excellent!! By withdrawing the carrier he need protect only two carriers while using the third which is out of my attack range to CAP the attack fleet. This will probably result in his getting an attack of his own off next turn as my evasion possibilities are slim. I am almost tempted to try to fake his CAP into the air, move south next turn and hope to spot him again for a 1700 raid. However, the thought quickly vanishes as his chances of evasion are good and I will not disdain the chance of an unreturned first strike. The question now becomes one of fighter coverage. I have decided not to try anything cute such as sending an unescorted attack force while maintaining all fighters as 1700 CAP against his counter-strike. Instead I will send my entire force and gamble on sinking a carrier. If I succeed the loss of aircraft should cost him the game. If I fail—his return strike will undoubtedly do better than mine as I have more vulnerable targets. However, I can take solace in that I will be able to combine with the cruiser force before the strike and that there will be no readied aircraft on my decks. All in all, the first day has gone better than I had hoped—regardless of the outcome of the impending airstrike.

BATTLE RESULTS—1500 June 3: The Japanese player is surprised to find no aircraft on the decks of the enemy carriers, deduces what has transpired, and immediately shifts the focal point of his attack from the coveted but empty carriers to the more exposed escort vessels in an attempt to save more of his attacking planes. The U.S. CAP aids the defense greatly however and only the *Portland* is sunk although the *Minneapolis*, *New Orleans*, and *Atlanta* are crippled. Two additional hits are scored on both the *Northampton* and *Yorktown* at a cost of 17 T and 8 DB.

The American is delighted to find the Japanese carriers in B4B without CAP. He sacrifices all of his torpedo planes and 11 of 16 DBs to sink the *Hiryu*, and secure 3 hits on the *Akagi* and 2 on the *Kaga*.

1700 June 3

AMERICAN COMMENTS: Considering the predicament I got myself into I am quite pleased with the outcome of our exchange. Had I guessed wrong I might be in a bad way, but as it is now I have a 5 point lead. My strategy now is to avoid further combat and thereby protect my battered screening force, move toward my edge of the board, launch one more strike (from Midway if possible), and escape off the board with a lead in points that can't be overcome by the loss of Midway.

MOVE: All ships converge on D3C
SEARCH: B3, C3, C4, B5
SIGHTING: 4 cruisers in B5E; carrier force in C4A
OPERATIONS: Ready AC

JAPANESE COMMENTS: His "guesstimate" attack on B4B was both unexpected and costly. He now has a 5 point lead which, fortunately is not enough yet to enable him to run and hide. I will revert to my original strategy of combining forces and pursuing a southern advance on Midway. As all his planes flew last turn there is no need to combine forces until 0500 June 4 and I'll use this lull to throw him off the track by advancing my forces.

MOVE: Carrier force to C4A; Mikuma group to B5E
SEARCH: C3, D3, E3
SIGHTING: Combined enemy fleet in D3C
OPERATIONS: Ready AC

NIGHT June 3-4

AMERICAN COMMENTS: My position is not an ideal one for avoiding detection. I fear a follow-up raid which could knock out my cruiser screening

relatively easy. His last location indicated that he was trying to close with me. Therefore, I am moving due south as I believe that to be the direction he would least expect me to proceed.

MOVE: D3I followed by D4I

JAPANESE COMMENTS: The loss of 21 squadrons in this attack makes carrier loss almost irrelevant insofar as reduction of strikepower is concerned. If I can knock out his damaged cruiser screen in the next attack without allowing him to grab more than a 9 point lead in sinkings I stand a good chance. I calculate that he'll get 6 points for Midway before it falls—thus giving me the maximum 9 point edge. This is important for it is the only thing that will keep him from hiding or leaving the board. Proceeding south to rendezvous with *Mikuma* and *Atago* groups.

MOVE: Both fleets move to B4H and then to B5I

0500 June 4

AMERICAN COMMENTS: No pre-search commentary.

MOVE: Fleet to D5C
SEARCH: D3, D4, D5, E4

I never expected him to let me get to my edge of the board and, as a consequence, he has spotted me. As I have little defense against this attack, I am in great jeopardy. This time he may well get an unreturned strike in as I have no idea where he is. Hopefully, he will try to fake my fighters into the air first but I think he realizes that he can gain the upper hand by attacking this turn. Since a concerted attack at this point will definitely lose the game for me no matter what I do, I'll take the chance he is bluffing.

JAPANESE COMMENTS: Having completed the rendezvous, I estimate arrival at Midway at 0700 June 5th with a raid scheduled for 1700 against the island at maximum range. This will allow no alterations in course other than diagonal advances. The cat and mouse game begins anew. My searches are directed at mid-board so as not to risk giving away the southern advance prematurely.

MOVE: All three fleets combine at A6C
SEARCH: 3D, 4D, 5D
SIGHTING: Enemy fleet in D5C

I was amazed to find the U.S. fleet on my first attempt while remaining hidden from his own search. I'd gladly launch another strike now but he's out of range. My only course of action is to make him think I'm holding back my strike intentionally in an attempt to get him to commit his CAP prematurely while advancing at full speed. Hopefully, I can keep him under surveillance while shortening the range.

0700 June 4

AMERICAN COMMENTS: I've been so preoccupied with my own fleet that it just dawned on me that perhaps he didn't pursue me after all. My searches this turn will be aimed at finding the *Atago* with special emphasis on determining if they've linked up with the carriers.

MOVE: Fleet to E4E
SEARCH: B3, B4, B5, B6
SIGHTING: Combined enemy fleet in B6E

JAPANESE COMMENTS: I wonder how long I have before he attempts to pick up the *Atago* group. If I can remain undetected throughout the day I'll be both amazed and victorious! My failure to fake his CAP into the air last turn is worrisome, mainly

because I probably won't be able to maintain contact long. CAP or not, I will attack if given the opportunity, for a successful unreturned U.S. strike will give him the points he needs to run and hide.

MOVE: Combined fleet to B6E
SEARCH: D4, D5, E4
SIGHTING: Enemy fleet in E4I

0900 June 4

AMERICAN COMMENTS: Great! My search revealed that he did not turn back to rendezvous after all. Now all I have to do is move to the east edge, launch a strike, and leave the board. He must take Midway by 0700 June 6, or he loses. He must come to me eventually. I'll continue my westward trek, keeping out of range, until he commits himself to reducing Midway. I am transferring all my fighters to Midway so that I can provide CAP for the island without revealing the location of my fleet.

MOVE: Fleet to F3G
SEARCH: C7, C6, C5, B5
SIGHTING: Enemy Fleet in C7A
OPERATIONS: All fighters to Midway; 74 and 1910B to *Hornet*; 12 DB to *Enterprise*

JAPANESE COMMENTS: Well, I lost the golden opportunity last turn. Had I ducked down into B7 he may have been totally in the dark as to my whereabouts. Now the advantage is back with him and all I can attempt to do is maintain a search barrier through which he must pass to attack.

MOVE: Fleet to C7A
SEARCH: D5, D4, E5

1100 June 4

AMERICAN COMMENTS: None.

MOVE: F4I
SEARCH: C7, C6, B6, B7
SIGHTING: Enemy Fleet in C7F
OPERATIONS: Ready AC

JAPANESE COMMENTS: I assume his failure to strike last turn was due to being out of range for had he been in E4G or H he could have cooked my goose with those readied aircraft on my decks. My move to the bottom most row of the map insures that he can't attack me without coming through my search screen—this turn anyway.

MOVE: C7F
SEARCH: D5, E5, F5

1300 June 4

AMERICAN COMMENTS: He continues his southerly course to Midway. I cannot risk a surprise attack on him at this stage as he is searching the areas 7 zones to the north from which I would have to attack from.

MOVE: G4E
SEARCH: D7, C7, C6, D6
SIGHTING: Enemy fleet in D7E

JAPANESE COMMENTS: The fact that he just readied aircraft means he was fooling around with Midway transfers. I hope I can catch some on the ground when I launch my 1700 strike. He must be maneuvering for a strike soon and my search screen can be penetrated at C5 this turn. I'm maintaining my present screen nonetheless and trusting to luck that he doesn't sail behind me. I will again avoid CAP this turn unless I find him.

MOVE: D7E
SEARCH: D5, E5, F5

1500 June 4

AMERICAN COMMENTS: Although I am moving south I cannot escape his search range without an extra move so I'll remain content to prepare myself for his attack on Midway at 1700 which will probably be forthcoming.

MOVE: H5A

SEARCH: E7, E6, D7, D6

SIGHTING: Enemy fleet in E7D

JAPANESE COMMENTS: His failure to even feint an attack last turn leads me to believe he is not even concerned with flanking my search screen, but I am extending it to the extremities anyway. He may well be stalking the Yamato group due on next turn which is fine with me. Such a strategy would put my main fleet between him and his friendly edge of the board.

MOVE: E7D

SEARCH: B5, C5, G5

1700 June 4

AMERICAN COMMENTS: That last search was too close for comfort. I'll not risk trading a strike with him yet by reducing the range as he still has to reduce Midway to win and I can pick my spot tomorrow. I'll attempt to spot both fleets with this search pattern.

MOVE: G4H

SEARCH: I7, A7, A6, A5

SIGHTING: Carrier force in E7F

OPERATIONS: All fighters CAP over Midway

JAPANESE COMMENTS: My opponent is making one foolish effort for which I am thankful—he is making no effort to fake operations and put my planes in the air. I will attack Midway this turn unless I find his fleet in range. In either case he has lost his opportunity to hit my carriers with readied aircraft on board. I fear the real danger is to the Yamato group which has 6 easy points for him to knock off in the *Hosho* and *Sendai*. This would enable him to win 20-18 if there was no further combat and there is absolutely nothing I can do to safeguard these weak vessels. EXCEPT—not bring them on. Technically I must bring the ships on the board when stated but under our agreed upon rules I do not have to keep them there. Therefore, the Yamato group will enter and leave the board this turn.

MOVE: Carrier force to E7F; Yamato force off the board.

SEARCH: C4, C5, C6

OPERATIONS: All aircraft to Midway

BATTLE RESULTS: 28 Japanese fighter factors attack 29 American squadrons at 1-2; losing 4 fighters to 3 for the Americans. Midway is reduced 15 points in a 1-1 attack and now has a reduction factor of 5.

NIGHT June 4-5

AMERICAN COMMENTS: Now is the time to move my force to the board edge and prepare to attack when he moves to Midway. My fighters on the island will evacuate at dawn so I should attack then as Midway will not hold out long.

MOVE: H5A and then to H5I

OPERATIONS: Ready AC

JAPANESE COMMENTS: I feel confident he has opted to ambush the Yamato group out of range of my carrier strike force. Although I'll miss having those fine battleships on the board, even minus their weaker accompaniment, it was too dangerous. Had they come on alone he would have known that I suspected his plans. I want to keep him guessing and searching for that group for many turns to come.

MOVE: F6H and then to G6A

OPERATIONS: Ready AC

0500 June 6

AMERICAN COMMENTS: I am moving slightly away from the board edge in case he decides to search it this turn. I have a choice either to wait one more turn guaranteeing my escape or attack now and hope he can't manage a counter-strike on his turn.

MOVE: H6E

SEARCH: G5, C3, C4, C5

SIGHTING: Carrier force in G5E

OPERATIONS: All planes to G5E

If I send my fighters up over Midway and his CAP is over his fleet I'll have blown the attack and given away my position. He would once again have the advantage. If I delay a turn in hopes of catching all his planes in the air this turn I'm just pressing my luck. Sooner or later he's going to get desperate and find me—possibly even with a ship search. Therefore I'm sending everything to his fleet in hopes of sinking enough points to enable me to get off the board. If he hasn't attacked Midway I'll have to do considerably better than that to avoid losing to his retaliatory raid next turn because he is guaranteed to find me if he uses ship searches. To win—he must attack Midway this turn with all or most of his planes while I sink 5 or more points of ships.

JAPANESE COMMENTS: My opponent has managed to completely lose himself while pinpointing me. I open this new day extremely vulnerable to attack at any time. Therefore I will send the necessary 5 bombers to finish off Midway with full fighter escort and disperse the rest to search the surrounding area—if only to get them off my decks.

MOVE: G5E

SEARCH: 3F, 3G, 3H

OPERATIONS: 5 DB and all fighters to Midway; other 33 squadrons split up and search zones in E3, E4, E5 and E6

BATTLE RESULTS: The American player set up his attack with the idea of gaining at least 5 points while giving the Japanese formation the least number of screening factors with which to intervene. The torpedo planes were all split into one factor attacks to maximize the number of 1-1's.

For his part, the Japanese player set-up his forces with only one goal in mind—prevent the sinking of 5 points worth of ships. Therefore, the weakest ships—regardless of value—were protected the most. This explains how the *Kaga* fell victim to a rather weak attack for the sake of saving a cruiser. By directing the *Kaga's* screening factor against the other T1 and allowing another 1-1 attack on the *Chokai* instead, the chances of both ships surviving the battle were slightly better (2.66 average hits on the *Kaga* as opposed to 2.83 on the *Chokai*). Both ships needed 3 hits to sink and despite the far greater value of the *Kaga* circumstances and statistics dictated that the *Kaga* add her screening value to the *Chokai* reducing the probable hits on that vessel to 1.67. The *Suzuya* was sacrificed in an effort to save

the other three. All of which turned out to be purely theoretical however as the "6" on the 1-3 attack on the *Chokai* would have sunk that vessel also had the attack been the 1-1 denied by the *Kaga's* guns.

0700 June 6

JAPANESE COMMENTS: The enemy position at H6E really took me by surprise as I felt sure he was stalking the Yamato. Hindsight makes me look foolish as I should have guarded against the raid from the board edge but it was just too obvious a strategy to guard against—especially in light of how this same opponent almost did me in on that western board edge two years ago. I was extremely foolish to put so much faith in a hunch and disregard an obvious, but nonetheless optimum, strategy. This game was extremely close with one more hit my way or one less in his favor making the difference, but I trace my defeat back to the 1500 June 3rd turn in which I let subconscious habit defeat me by continuing the trend of always going to a central zone rather than a corner one. My opponent was able to rely on this trend to pull victory out of a very difficult situation that could have well resulted in his defeat.

SUMMARY: The game is now all but over as there is nothing the Japanese player can do to prevent the American fleet from withdrawing prior to another attack. He leaves with a 27-18 victory which was much closer than the score indicates. Midway fell to the Japanese as was predicted on 1500 of the same day.

THE LUCK FACTOR

Die rolls did not play a major role in this game as the overall luck of both players registered close to the norm. The Japanese player made ten attacks in which the die played a crucial role. The probable number of hits for these attacks (one 2-1, and nine 1-1's) was 13.65 and he actually scored 14. The American player made 14 attacks (seven 1-1's, four 1-2's, and six 1-3's) for a probable hit total of 12.32 while scoring 11.

At first glance this would appear as if the Japanese enjoyed a slight edge in the luck department. But how do you equate the 2 hits scored on the *Atlanta* with the two scored on the *Kaga* at game end? There is something to be said for having good die rolls at the right times also. Had the Japanese player gotten an additional hit on the *Minneapolis* or *New Orleans* instead of the worthless "6" on the *Atlanta* he could have well afforded to give two ships to the last Japanese attack and still enjoyed an advantageous position. But all in all, the luck of the die played it pretty straight this time and only a 12% chance of escaping defeat was presented to the Japanese player by the last American attack, which was not decided until the final die roll.



LEYTE GULF

by Robert D. Harmon

The first major variant. A good history and order of battle, but a questionable game. Players should consider whether it is worth the significant amount of preparation time needed in its conception, as the situation is seriously unbalanced.

For four days in October of 1944, there occurred what may be said to be the greatest naval battle in history. Hundreds of ships were engaged over an area stretching 1000 miles. Theoretically, the US naval forces, with their array of mass-produced might, should have had an easy time of it. But it didn't quite work out that way.

THE PRELIMINARIES

The strategic situation at Leyte Gulf was built upon an operations plan, a conference, and two battles. The first incident, of course, was the Battle of the Philippine Sea (19-21 June, 1944), more commonly known as "The Great Marianas Turkey Shoot."

BACKGROUND: After the great naval battles of 1942, the protagonists found themselves badly weakened. The problem was a lack of carriers; of the entire prewar US carrier fleet, only the *Enterprise* was left – *Saratoga* was laid up with torpedo damage; *Hornet*, *Lexington*, *Yorktown*, and *Wasp* were gone. Five Japanese carriers were gone, others were out with battle damage, and, more seriously, Japan's decimated air groups had run short of both planes and experienced aviators.

Both sides spent 1943 rebuilding their forces. The Americans, with Guadalcanal out of the way, made limited advances in Japan's outer dominions – the Gilberts, the Solomons, New Guinea, the Aleutians.

Then, Adm. Nimitz' forces in the central Pacific struck deep into Japanese territory, landing on Saipan, Guam, and Tinian in the Marianas Islands. The long wait was over.

The "Turkey Shoot" was just that. The Japanese fleet hurled itself upon a new generation of US ships – and the result was utter ruination. Over 400 Japanese aircraft were shot down attempting to get at the US fleet. And the Japanese fleet suffered terribly – carriers *Shokaku* and *Taiho* were sunk by US submarines, and the light carrier *Hiyo* was sunk by US planes during the retreat. The US fleet was virtually unscathed.

It would be the last time that Japanese carriers offered battle as an effective striking force.

Gen. Tojo's government collapsed as a result of the Turkey Shoot.

In a series of behind-the-scenes talks among the American high command, culminating at the Octagon Conference at Quebec (Sept. '44), the following decisions were reached:

- 1) Gen. MacArthur's forces would land on Morotai that month, while
- 2) Adm. Nimitz' forces would land on Ulithi and Peleliu, bypassing Yap, and then
- 3) the two forces would converge, bypassing Mindanao to land on the island of Leyte in the Philippines



Although the Chief of Naval Operations, Adm. King, argued strenuously for bypassing the Philippines in favor of landings on Formosa and mainland China, it was obvious that, aside from the dubious nature of operating against the Asian mainland, the US was committed to liberating the Philippines. It was US territory; its inhabitants had loyally resisted Japanese occupation. MacArthur wanted to return to them as he had promised, so long ago. There was no choice.

Meanwhile, the new Japanese government had drawn up four SHO ("Victory") contingency plans, to deal with possible US landings on 1) the Philippines, 2) Formosa or the Ryukyu Islands, 3) the Japanese home islands, or 4) Hokkaido and/or the Kurile Islands. Of the four, the first possibility seemed likely. SHO-1 called for the concentration of all available land-based aircraft in the Philippines, mainly from Formosa; this was to be followed by the entire Imperial fleet. The objective: destroy the US landing forces – at any cost.

The fall of Morotai (a potential bomber base) and the superb anchorage at Ulithi posed a direct threat to the Philippines. Japanese Army commanders began to call for activation of SHO-1. Tokyo stalled, for the Americans had not yet appeared. Then, on 10 October, Adm. Halsey's 3rd Fleet announced itself off Formosa.

The week of 10-17 October saw strikes on Japanese aerodromes on Okinawa, Formosa, and Luzon. But the main fighting took place around Formosa, where Halsey's airmen took on Vice-Adm. Fukudome's 2nd Air Fleet. A furious air battle took place, and Adm. Toyoda, Navy Commander-in-Chief, decided to gamble for a quick victory by rushing the carrier fleet's half-trained squadrons to Formosa. The results: close to 600 Japanese aircraft downed, as opposed to the Americans' 79. Two damaged US cruisers limped back to Ulithi but the Japanese somehow got the notion that 11 US carriers had been sunk.

Certainly, 1000 land-based aircraft had attacked Halsey; from the way the Japanese reacted they must have believed that an invasion was coming and was stopped by quick action on their part. In actuality, Halsey had more than accomplished his mission: Fukudome was able to offer only feeble support to the Philippines – and the carrier forces were toothless. But Halsey's retirement enabled the Japanese to convince themselves that they had driven him off. Then, on 17 October, came the bitter awakening.

MEN AND MACHINES

The reason for the stunning American victories – the Turkey Shoot and Formosa – was due to the late Adm. Yamamoto's dire predictions of American industrial resurgence. Long past were the desperate days of 1942, when a few carriers and green pilots were all that held back the invincible Imperial Navy.

America had spent 1942 and 1943 replacing her early losses with a large second generation of flattops – spearheaded by the *Essex* class. These were formidable – 27,100 tons displacement, well-armed, capable of holding over 100 aircraft. With them were the *Independence*-class light carriers, eight of which were available to Halsey along with the eight fleet carriers of the *Essex* and pre-war classes. Conversions of light cruisers, these CVLs were better in every respect than their Japanese counterparts – fast, capable of carrying 35 planes, displacing some 11,000 tons.



The *Essex* class carrier alone outnumbered all Japanese attempts at carrier production. First launched in July 1942, the *Essex* proved to be superior to anything the Japanese could produce. Displacing 39,800 tons with a complement of 3,460, these vessels maintained their place in the fleet with a speed of 33 knots. Each vessel was protected by eight 5-inch guns, and 28 50mm guns, and carried 80 aircraft.

Then there were the highly numerous escort carriers – conversions of merchant vessels, or, later on, ready-made ships, capable of holding 15-20 aircraft. These were slow and weak but had their uses – landing support and CAP, convoy duty, and, in their most effective role, as U-boat killers. They displaced about 7,000 tons.

There were other vessels – brand-new battle-ships of the *Iowa* and *Massachusetts* classes. Fast, powerful, bristling with radar and AA guns, they offered a formidable challenge to any Japanese units, ashore, afloat, or airborne. Beside the battlewagons were myriads of new cruisers, destroyers, and transports.



The *Iowa* and her 5 sister ships were more than a match for anything the Japanese had to offer, save the *Yamato*. More importantly, with her 20 5-inch guns, sixty 40mm and sixty 20 mm AA guns, these vessels presented a tremendous obstacle to Japanese aircraft as evidenced by the "Turkey Shoot." Capable of 33 knots, they displaced 57,450 tons and carried a crew of 2,753.

In the air, the US Navy was no longer inferior, in either numbers or quality. The Navy had acquired good torpedoes at last, and an excellent torpedo bomber to carry them – the TBF (and TBM) Avenger. The divebombers had also been replaced – the SBD Dauntless had been replaced by the SB2C Helldiver; not much of an improvement, but the Avengers could carry the ball if necessary. And, best of all, the Navy now had the Grumman F6F Hellcat – the first American fighter able to beat the Zero on its own terms.



The CVE-73 *Gambier Bay*, sunk by combined cruiser gunfire off Samar in the battle of Leyte Gulf, was just one of fifty "Casablanca" class escort carriers built by the United States during the war. The most remarkable statistic about these craft was the production rate; towards the end they were being built in less than 4 months; a rate of production that turned even the Japanese kamikaze tactics into a futile effort. Displacing barely 10,000 tons loaded and capable of only 19 knots, these vessels were far removed from their superior sisters in the *Essex* class. Each vessel could carry 28 aircraft and was armed with a single 5 inch gun, 16 40mm and 24 20mm A.A. guns. The wartime crew was 860.

All through the first two years of the war, the Zero had terrorized the Pacific – the Navy's F4F and F4U fighters, and the Army's P-38 Lightning, eventually were able to offer the enemy an even match. Now the Hellcat, fast, maneuverable, well-armed, outmatched the Zero in every way, and made American CAPs virtually impenetrable. Thus the Turkey Shoot. Thus the orgy of plane-smashing over Formosa.

The Japanese still had a number of carriers, despite the losses of '42 and the Turkey Shoot. But the *Zuikaku*, last survivor of the Pearl Harbor carriers, was the only big flattop available. Not that it mattered. One thousand planes had gone down since June, and now there were virtually no planes for the carriers to launch.

Japan did not have America's superiority in machines; the Imperial fleet could no longer beat the US in even battle. But Japan, its home islands threatened, faced with defeat for the first time in two millennia, fell back on its ancient customs – on the Bushido code of the nation, on the samurai spirit shrouded in antiquity. The Navy could not destroy the enemy. Very well. Then it would, in one vast act of self-immolation, hurl itself upon the enemy and wreck the invasion at all costs. The Japanese armed forces might die, but perhaps their sacrifice would save their homeland. The Navy girded for self-sacrifice, especially a new squadron in the Philippines, known as the Kamikaze.

The idea had originated with Vice-Adm. Ohnishi, commander of the 1st Air Fleet at Clark AFB in the Philippines. What more effective way of utilizing what few aircraft were left than plunging them, bombload and all, into the enemy ships? Twenty-three men volunteered for this first suicide unit, named Kamikaze in honor of the "Divine Wind" that had broken the Mongol invasion in 1281.

THE LANDINGS, AND FIRST ENGAGEMENTS: PALAWAN PASSAGE, SIBUYAN SEA

While Halsey's 3rd Fleet moved down from Formosa in support, Gen. MacArthur's forces launched the assault on Leyte, center island in the Philippines. Appearing on 17 October, 7th Fleet units under Vice-Adm. Kinkaid bombarded the island and fought off some feeble strikes by Japanese Army air units. On the 20th, units of Lt.-Gen. Kreuger's 6th Army landed at Dulag and Tacloban. Over 100,000 troops were to land in the next three days.

SHO-1 went into effect.

From the home islands, the Carrier Force, led by Vice-Adm. Ozawa, headed south into the open Pacific. Ozawa, whose defeat at the Turkey Shoot had been through no fault of his own, was headed – with virtually no air units – into a familiar predicament. This time, he was to lure Halsey away from Leyte, whatever it cost. He and his carriers were bait.

From Lingga Roads, near Singapore, the main Japanese battle fleet steamed north to Brunei to refuel. On the morning of 22 Oct., they set sail, and divided. Force C, under Vice-Adm. Nishimura, was to sail across the Sulu Sea and approach the invasion area from the south, by way of the Surigao Strait. Force A (the Center Force), under Vice-Adm. Kurita, was to sail along the west edge of Palawan, then swing below Mindoro, cross the Sibuyan Sea, and approach the beaches from the north, by way of San Bernardino Strait.

From the Pescadores came Vice-Adm. Shima's 2nd Striking Force, consisting of two cruisers: Shima was to support Nishimura.

The objective: Leyte Gulf, choked with transports, LSTs, landing craft; the beaches piled high with supplies and ammunition. Destroy all this, and MacArthur would find his troops on another Bataan. Before dawn on 23 Oct., the Japanese were sighted. Two US submarines, *Darter* and *Dace*, reported a large formation off Palawan, moving north. The submarines promptly attacked. *Darter's* first shots sank *Atago*, the enemy flagship; Kurita and his staff wound up in the drink. In the resulting melee, the cruiser *Maya* was sunk by *Dace*; *Maya's* sister ship *Takao* was sent limping back to Brunei with two hits; *Dace* ran aground and was abandoned after *Darter* evacuated the crew. Kurita eventually continued north, his flag on the *Yamato*.

More important than the loss of three cruisers, the Americans were alerted. Halsey moved his three available task groups into the waters off the eastern Philippines; a fourth task group bound for Ulithi was recalled. But before Halsey could get off his strike, land-based Japanese aircraft struck at TG 3 just after dawn on the 24th. CAP Hellcats knocked down or drove off all of Ohnishi's and Fukudome's planes – all but one.

Just as the CAP was being recovered, a lone Judy divebomber dropped out of a cloud bank and scored a direct hit on the light carrier *Princeton*. For a while, it looked like the carrier could be saved, and the cruiser *Birmingham*, her decks and fantail crowded with rescue and damage-control parties, moved in to help. Then, *Princeton's* after torpedo storage exploded, fatally injuring the carrier and mowing down 800 of the *Birmingham's* crew.

Vengeance was quickly exacted. By 0900 the first strikes took off against Kurita, now headed east through the Sibuyan Sea. Although the

Japanese had heavily reinforced their AA, the barrage had little effect. The Americans concentrated on the two monsters towering over the fleet – *Yamato* and *Musashi*. *Yamato* escaped with superficial damage; *Musashi* went down that afternoon with 19 torpedoes and 17 bombs in her – a quick end to a short career. *Myoko* was badly damaged and was sent home. Kurita continued on, delayed but not daunted. The Americans, believing that Kurita would have the good sense to retire, shifted their attention to Nishimura, sighted late on the 24th, headed for Surigao Strait.

THE BATTLE OF SURIGAO STRAIT

Nishimura was close at hand, and steaming with singleminded resolve for the invasion fleet just beyond Surigao Strait, between Leyte and Mindanao. A brief air strike from *Enterprise* had proven ineffective. Adm. Kinkaid had gotten as much air support as Halsey could give him; now a night surface battle was pending. Close at hand were the 7th Fleet fire-support units, four Allied cruisers and six battleships under Rear-Adm. Oldendorf. The battleships were tubby old relics of Pearl Harbor, but weren't much older than Force C's two battleships. Besides, the American vessels had been fitted with radar fire-control systems. Oldendorf arrayed his force across the end of the Strait and waited.

First contact was made at midnight, when Nishimura encountered Oldendorf's PT-boats. Nishimura brushed them aside (later, PT-137 torpedoed light cruiser *Abukuma*, of Shima's 2nd Striking Force, coming up-channel some time after Nishimura).

At 0300 Oldendorf's destroyer screen attacked Force C, sinking 3 destroyers and fatally torpedoing the battleship *Fuso*. At one stroke, Nishimura's force was reduced to three ships: battleship *Yamashiro* (damaged in the attack), cruiser *Mogami*, and the destroyer *Shigure*. The Americans retired unhurt.

Finally, at 0350, Nishimura reached the American battle line, lying at a right angle to his approach. As at Tsushima and Jutland, a 'crossing of the T' had been achieved. The result was terrible. *Yamashiro*, battered to scrap by gunfire and harried by destroyers, went down at 0415. *Mogami*, seriously damaged, fought her way out and retired with *Shigure*. The Americans suffered only comparatively minor losses – severe damage to the destroyer *Albert W. Grant*, caught in the crossfire and riddled by both fleets. Oldendorf set out in pursuit of the enemy.

Mogami, heading south away from the battle, ran into Shima. Quite literally, that is – just as she had done at Midway. Shima's flagship, the cruiser *Nachi*, had made the mistake of assuming the *Mogami* to be halted. She wasn't, and rammed the *Nachi*. This was the climax of a bad night for Shima – first, Nishimura had not bothered to rendezvous with him; then the *Abukuma* was hit. Now this.

Shima chose to retire. Aircraft from Kinkaid's escorts caught *Mogami* on the morning of the 25th and finished her off.

Kinkaid's southern flank had been successfully covered that night, but now Oldendorf had been pulled out of position. The San Bernardino Strait, some distance to the north on the other side of Samar, was unguarded. But perhaps Halsey would cover –

Where was Halsey?

THE BATTLE OF CAPE ENGANO

The one catch in the victory at the Turkey Shoot had been that the Navy's air units had bagged only one Japanese light carrier. Adm. Spruance, mindful of his original mission — to support invasion — had not pursued Ozawa. Despite the massive Japanese aircraft losses, this had rankled. Halsey, among others, had been critical of what seemed a lost chance. The Japanese carrier force was still at large, and Halsey was ever-mindful of this; his air patrols to the north had been maintained even during the air battles of the 24th. Late that afternoon, Ozawa was sighted heading south, and Halsey, assuming Kurita to be crippled, went north seeking a showdown. What he had no way of knowing was that: 1) Kurita was far from ineffective 2) Kinkaid, thinking that Halsey would leave his Battle Line off San Bernardino Strait, did not send picket vessels or aerial patrols there; and 3) Ozawa's decks were virtually empty.

By 0710 the enemy had been spotted; the first strike brushed aside Ozawa's CAP and closed in, sinking *Chitose*. Subsequent strikes that morning disabled *Chiyoda* and lightcruiser *Tama*, while Halsey, ignoring frantic pleas from Kinkaid, closed in with his surface fleet for the kill. Finally, Halsey got this message from Nimitz, after several requests from Kinkaid for the Battle Line (Task Force 34), at 10 a.m.: "Where is TF 34? The world wonders." TF 34 was promptly detached, along with a carrier task group.

Later air strikes sank *Zuikaku* and *Zuiho*. *Chiyoda* was abandoned by Ozawa and was sunk by Halsey's cruisers. *Hyuga* and *Ise* defended themselves successfully, retiring with both light cruisers despite heavy US air attacks. Ozawa, having pulled Halsey out of position, could leave; he broke contact after dark.

And TF 34 reached San Bernardino Straits at 0100, 26 October — three hours after Kurita's force had escaped through it, after engaging Kinkaid's carriers.

THE BATTLE OFF SAMAR

While Halsey raced north scenting blood, and Oldendorf was becoming the last admiral in naval history to use Battle Line surface tactics, Kurita steamed undetected through San Bernardino Strait on the night of 24/25 Oct., turning south along the coast of Samar. By dawn he was in Kinkaid's rear.

The first ships Kurita encountered were Carrier Group 77.4.3 (known by its radio call sign as "Taffy 3"), consisting of 6 escort carriers and a destroyer screen. Sighting Kurita at dawn, Rear-Adm. Clifton Sprague, commander of Taffy 3, ordered out every plane he had, turned away from the enemy, and threw out smoke screens. The Japanese were faster. Taffy 3 dodged into a rain squall at 0715, and Sprague, to save his carriers, ordered his destroyers to attack.

A two-hour melee followed, during which the Japanese formation broke up in confusion. *Yamato* and *Nagato* turned abruptly and left the scene, avoiding the destroyers' torpedoes; *Kumano* was damaged; *Suzuya* was mortally damaged by the attack. The rest of the formation, grappling with destroyers and harried by planes from Taffy 2 and 3, fell behind the carriers.

The destroyer screen paid for its bravery — two destroyers and a destroyer escort were sunk

by massed gunfire. But most of the attack was turned aside. Not all of it, though.

Despite a pounding from aircraft, *Tone*, *Haguro*, *Chokai*, and *Chikuma* managed to close in on the carriers and add their fire to the occasional shots from the distant battleships. The carrier *Kalinin Bay* was damaged; then, at 0900 *Gambier Bay* went down under fire from *Chikuma*. The carriers were quickly avenged; *Chikuma* and *Chokai* were sunk by Avengers and gunfire from the carriers.

Then, inexplicably, *Tone* and *Haguro* broke off the attack; Kurita had decided to retire. On the other side of the horizon, Kurita had, by his muddled communications, been convinced that the enemy was outrunning his ships (they weren't). Unhappy tidings had just come in from Adm. Shima; no doubt Oldendorf now waited at Leyte with open arms. It had been a difficult cruise, starting with Palawan Passage; Kurita, lacking the single-mindedness of Nishimura, chose the better part of valor.

The Japanese ships were in retirement, but the battle was not over. While Taffy 3 had been occupied with Kurita, Taffy 1 had been the recipient of the first Kamikaze attack of the Pacific war. Striking at dawn, the Kamikazes had damaged carriers *Santee* and *Suwannee*. Taffy 3 had been less fortunate: half an hour after Kurita disappeared over the horizon the Kamikazes had closed in, damaging *Kitkun Bay* and sinking the *St. Lo*.

At a small cost, the Kamikazes had sunk a carrier and damaged three others. The first Kamikaze unit had proven the worth of this desperate measure — many others would follow them in the remaining 10 months of war.

AFTERMATH

The US Fleet stayed in the area for the next few weeks, giving Krueger support, and following up on the victory. Light cruiser *Noshiro* went down during a strike on Kurita on 26 October. *Kumano* received several attacks over the next several weeks, but got as far as Lingayen before it was sunk 25 Nov. by planes from *Ticonderoga*.

Of Shima's forces, *Abukuma* was caught by 5th and 13th Air Force B-24s from Morotai and sunk 26 October; the *Nachi*, damaged by the *Mogami*, limped to Manila and was sunk there 5 November.

Ozawa made it back to Japan, but not before losing the crippled *Tama* to a US submarine en route.

Japan was now left with three operational "carriers," *Hyuga*, *Ise*, and *Hosho*. There were also four battleships left — *Yamato*, *Nagato*, *Kongo*, and *Haruna*, and a handful of undamaged cruisers. Except for the futile, doomed sally of the *Yamato* in April of '45, the Japanese navy never again offered open battle. Losing the Marianas had meant that 20th Air Force B-29s could ravage the ports and shipyards; losing the Philippines had meant that there was no oil available from the Indies, no ships to burn it, no planes for them to launch.

MacArthur would go on to secure all the Philippines (which took until August) and contemplate a landing on Honshu; Nimitz would move against Iwo Jima and Okinawa. As far as Leyte was concerned, it was all over but the shouting.

Recriminations flew on both sides. Kurita was relieved of command and given a desk job. Halsey was accused of stranding Kinkaid without support; Kinkaid was accused of negligence in failing to cover San Bernardino Strait. On the other hand, there is no denying the bravery shown by the sailors and airmen on both sides. But for one side, it was an exercise in futility; on the other, the price of miscalculation.

The game of **Midway** offers many fine features and is an enjoyable game on its own merits. But some players may wish for a little change from a nervous slugfest between a vulnerable fleet and an outnumbered one, or variations on that theme.

I offer such a change — a Leyte variant recreating the 1944 battle on the Midway board. The basic rules are the same, but the situation and course of play are radically different.

So, here are the blueprints for a naval Armageddon, playable on your own **Midway** game and bloody enough to warm any wargamer's heart.

RULES:

All Avalon Hill rules are in force, except as follows:

The Japanese fleet may enter anywhere on the west or north edge of the search board, on or after 0500 23 Oct. The Japanese can also start up to 5 ships in Manila Bay (square C2H).

The U.S. 5th Fleet and accompanying CVE units start within 3 squares of Leyte Gulf (squares E5I and E6C), from where they may move freely. The U.S. 3rd Fleet may start anywhere in or east of row D, but may not set up within 3 squares of land. Once entered, no units may leave the board.

JAPANESE AIR OPERATIONS:

Japanese air units cannot return to carriers after a strike (due to pilots being inexperienced at navigation and deck landing). They may shuttle from carriers to Clark Air Force Base (square C2E) and vice versa, or may operate out of Clark exclusively. As such, the Japanese do not have to reveal the location of their carriers after launching a strike. When spotted, the Japanese player need not report exact information. He may underestimate and/or exaggerate the numbers of his force by 50%. However, he must report if any carriers are present.

Only T, F, and D squadrons may operate from CV's. B (land based aircraft) squadrons are strictly limited to operating from Clark AFB with a range of 10 squares each way. K (Kamikaze; each factor = 1 aircraft) units have a total range of 14 squares, as do CV-based aircraft. Kamikaze units are land-based. The American player is prohibited to bomb Clark AFB or fly one-way (suicide) missions.

B squadrons are counted as dive-bombers on the Battle Board. T, F, and D squadrons may be divided up in any manner between Clark AFB and the ships, subject to capacity restrictions. This applies to setup and play, except where prohibited by range considerations.

KAMIKAZES:

Kamikaze attacks may be launched during air operations on any turn. The attack is launched in the same manner as any air operation, and may be launched in conjunction with any other air strikes, except that once launched no Kamikaze may land. On the battle-board, Kamikazes may

attack from front, side, rear, or overhead even if other aircraft are in the same square or attacking the same ship. Just as an anvil attack is 2 (or more) separate attacks, Kamikaze factors attack in separate attacks and may not combine with other units.

AA against Kamikaze factors is 1 AA factor per ship, regardless of amount. If two ships fire at one Kamikaze, the battle is 1-2. If one ship fires, or if no ship fires at all, the battle is 1-1 with 1 Kamikaze. U.S. CAP functions in the normal manner — i.e., if 1 Kamikaze attacks 1 ship and 3 fighters, it goes in the drink automatically. Kamikaze attack is resolved on the same table as normal air attacks.

AIR SEARCH:

The U.S. player may make 3 air searches per daylight turn and 1 air search per night turn (as long as the USS Independence is still afloat). The U.S. may search only within 4 areas (12 squares) of his units. The Japanese player may make 3 air searches per day turn, anywhere on the board — in or east of row G only. The Japanese player must be automatically informed of all units within one square of any land. If the Japanese player searches west of row G he must have a vessel within 12 squares of the area searched.

STRATEGIC FACTORS:

Each Japanese ship has a Strategic Factor (SF) which it can employ against Leyte Gulf or CVE's when in the same square. The SF, used only on the search board, is as follows: CVL, CL = ½ factor; CV, CA = 1 SF factor; XCV/BB = 1½ SF factors; BB = 2 SF factors; Yamato and Musashi = 3 SF factors each. Every 10 factors of T, D, or B aircraft equals 2 SF factors.

LEYTE GULF REDUCTION:

Each square of Leyte Gulf contains (although there are no counters there) American transports, supply vessels, and beaches piled with material. Each square has a total reduction factor of 10. The Reduction Factor (RF) goes down 1 for each SF in that square at the end of the turn. The Japanese get 3 victory points for each RF destroyed; if both squares of Leyte Gulf are completely reduced they automatically win. The American player may assign a CAP over Leyte Gulf squares. For each 10 factors of CAP assigned over a particular square, the SF for Japanese raids is cut in half. Example: The Japanese player raids E51 with 20 bomber factors. U.S. CAP over E51 is 20 factors — net result: Japanese raid results in the elimination of 1 RF. If Japanese fighters accompany the raid, the American CAP must engage the fighters first using the regular FTR vs FTR CRT. Let's assume that the Japanese player had sent 11 fighter factors along with his raid described in the earlier example. The American must now use his CAP to engage the Japanese fighters at odds of at least 1-1, leaving only 9 fighter factors free to intercept the bombers. This has no effect on the attackers, meaning that the Japanese player now destroys 4 SF during his raid. The Japanese player must lose 1 bomber factor per raid every time he attacks Leyte Gulf by air.

U.S. units may move through Leyte Gulf, but only CVE units and the USS Nashville may be there at the end of a turn. If the Nashville or CVE's are in Leyte Gulf the Japanese must eliminate them before starting reduction.

ESCORT CARRIER GROUPS:

Each CVE group has a RF of 12. They are "reduced" in the same manner as Leyte Gulf. The loss of every two RF means that a carrier is sunk and the Japanese gain 3 points; the American naturally losing the appropriate aircraft complement for that vessel. The Japanese player is assessed one hit against any of his (Jap) ships he wishes and is rewarded with one victory point for each battle turn in which he engages CVE's. This latter ruling simulates destroyer action. Ships which have been sunk by air attack in the same turn in which they are engaged in surface combat are not removed from play until the completion of the third battle turn.

CVE's do not stack with each other or any other U.S. ships; CVE's do not appear on the battle board and do not need battle board counters. Individual escort-carriers (there are 18) do not have any counters of their own in the game.

SUBMARINE ATTACK:

The U.S. may roll for the effect of submarine activity in the area. This is executed immediately after the search phase of the turn, and is done once a turn for a maximum of any seven turns during the game. The effects are:

DIE ROLL	RESULTS
1	Submarine sunk; Japanese get 1 victory point
2,3,4	No effect
5	One group spotted: 1 hit on any vessel therein
6	One group spotted: 3 hits on any vessel therein

A "group" is any stack in a single square. The Japanese need reveal only one group; no matter how many they may have. The group "spotted" can be one already under U.S. surveillance. When spotted by a submarine the Japanese player is not allowed to "underestimate" or "exaggerate" his strength; i.e. he must report the group's actual composition. However, he does not have to report the actual square which the group is in — only the area.

U.S. FLEETS:

Units of the U.S. 3rd and 5th Fleets may not stack together with units of the other fleet. The USS Nashville carries the U.S. commander-in-chief, Gen. MacArthur. If it is sunk the Japanese automatically win.

VICTORY CONDITIONS:

If the Japanese have not achieved an automatic victory by the end of the 1700 Oct. 26 turn, victory will be decided by adding up the points from: a) ship sinkings as in Midway; b) damage to ships (the Japanese get 1 point for each hit on surviving U.S. ships; and c) the total of points won by the Japanese for reducing Leyte Gulf and the CVE's. The side with the highest total wins.

AIR ATTACKS ON CVE's:

Normal air attacks against the CVE's are conducted in the same manner as air attacks versus Leyte Gulf with the following exceptions:

1. The RF for a full strength CVE group is 12. It thus takes an attacking wave of 12 factors to equal two SF.
2. The RF for a CVE group is adjusted downward in accordance with its strength. Thus, a CVE group which had lost one carrier and had another damaged would defend with an RF factor of 9. It would now take 9 attacking bomber factors to equal 2 SF.
3. The Japanese player loses 1 bomber factor for each carrier in the CVE group it attacks.
4. CAP functions in the same manner as described under Leyte Gulf Reduction with the exception (as noted in 2 above) of the variable RF factor.

5. When Kamikazes attack CVE's, the fighter escort (if any) must be met at 1-1 or better odds. Remaining CAP fighters may strip off against Kamikazes. For every two available fighters one Kamikaze is destroyed prior to attacking. Exactly ½ of the remaining Kamikazes (fractions rounded upwards) may be assumed to have found their targets. Each Kamikaze which finds its target is equivalent to two SF.

6. Example: Japanese attack Taffy 3 with 5 Kamikazes escorted by 8 fighters. The American CAP consists of 12 factors; 8 of which immediately engage the Japanese fighters at 1-1. The remaining 4 fighters destroy two Kamikazes. Of the 3 Kamikazes which get through the fighter screen, only two find their targets. Result: 2 U.S. CVE's sunk and the RF for Taffy 3 reduced to 8. On the following turn the Japanese again attack Taffy 3 with 16 bombers and 6 fighters. The U.S. player has a CAP of 15 factors, of which he commits 7 against the Japanese fighters — forcing them to attack at 1-2. The remaining 8 are applied against the RF of Taffy 3, cutting the Japanese SF's for the raid in half. Net result: 2 SF applied against Taffy 3 and 4 Japanese bombers downed in addition to fighter losses.

MISCELLANEOUS:

CVE groups only require 3 search-board counters, marked "Taffy 1" or whatever. No battle-board counters are needed (and since there are 18

One special note: when computing odds in U.S. aircraft vs. Japanese ship battles, remember to add 2 factors to each BB, and 1 factor to each of the other ships, from the Midway game (the Yamato now has an AA factor of 12). The Japanese fleet, from bitter experience, added many 25 mm MGs to each ship's AA battery just prior to sailing.

carriers in the 3 groups, it's a good idea not to make any). Since they do carry planes, and can be sunk, it might be worthwhile to keep track of the CVE ships — if only on paper. They are:

Taffy 1 (TF 77.4.1) — Sangamon, Suwannee, Santee, Chenango, Saginaw Bay, Petrol Bay.

Taffy 2 (TF 77.4.2) — Catona Bay, Manila Bay, Marcus Island, Savo Island, Kadashan Bay, Omnaney Bay.

Taffy 3 (TF 77.4.3) — Fanshaw Bay, St. Lo, White Plains, Kalinin Bay, Kitkun Bay, Gambier Bay.

SHIP CLASSIFICATION

A battle board counter has been provided for each class of vessel used in "Leyte Gulf" other than those already provided in the MIDWAY game. These can be found on the Readers Response page of this issue. We suggest that you Xerox this page several times, and substitute the names of each classification's sister ships on the appropriate counters. All necessary search board and aircraft counters needed for the variant can also be found on the Readers Response page.

UNITED STATES ORDER OF BATTLE

CV — Essex, Wasp, Hornet, Lexington, Hancock, Intrepid, Franklin
CVL — Cabot, Independence, Belleau Wood, San Jacinto, Princeton, Monterey, Cowpens, Langley
BB — Iowa, New Jersey
BB — Alabama, Massachusetts, South Dakota, Washington, Maryland, West Virginia
BB — California, Tennessee, Mississippi
BB — Pennsylvania
CA — Chester, Wichita, Salt Lake City, Louisville, Nashville
CA — HMAS Shropshire
CL — Miami, Birmingham, Vincennes, Biloxi, Santa Fe, Mobile, Denver, Boise, Phoenix, Columbia
CLAA — Oakland, Reno, San Diego

JAPANESE ORDER OF BATTLE

CV — Zuikaku
CVL — Chitose, Chiyoda
XCV — Hyuga, Ise
BB — Musashi
BB — Fuso, Yamashiro
CA — Takao, Maya, Nachi, Ashigara
CL — Tama, Oyodo, Isuzu, Abukuma

The best material for battle board counters is light cardboard, the sort you'd find on notebook pads or clothing packages.

HIT RECORD

JAPANESE HIT RECORD

Zuikaku 10		Yamato 10		Tone 3	
Zuiho 6		Nagato 8		Takao 3	
Chitose 6		Kongo 6		Maya 3	
Chiyoda 6		Haruna 6		Nachi 3	
Hyuga 7		Atago 4		Ashigara 3	
Ise 7		Chokai 3		Abukuma 2	
Musashi 10		Myoko 3		Isuzu 2	
Fuso 7		Haguro 3		Oyoda 2	
Yamashiro 7		Chikuma 3		Tama 2	

AIRCRAFT CAPACITIES

Zuikaku: 21 Chitose: 10 Chiyoda: 10 Zuiho: 8 Hyuga: 3 Ise: 3
CLARK AFB: Unlimited

TOTAL AIRCRAFT AVAILABLE

Distributed in any manner subject to AIRCRAFT CAPACITY limits: T10 F22 D15 K20 B10

TIME RECORD

0500	Oct 23
0700	
0900	
1100	
1300	
1500	
1700	
Night	Oct 23
Night	Oct 24
0500	
0700	
0900	
1100	
1300	
1500	
1700	
Night	Oct 24
Night	Oct 25
0500	
0700	
0900	
1100	
1300	
1500	
1700	
Night	Oct 25
Night	Oct 26
0500	
0700	
0900	
1100	
1300	

3RD FLEET:

UNITED STATES HIT RECORD

Enterprise 10	<div></div>	Washington 9	<div></div>	Cabot 7	<div></div>
Essex 12	<div></div>	Alabama 9	<div></div>	Cowpens 7	<div></div>
Wasp 12	<div></div>	Wichita 4	<div></div>	Langlely 7	<div></div>
Hornet 12	<div></div>	New Orleans 4	<div></div>	Birmingham 3	<div></div>
Lexington 12	<div></div>	Pensacola 3	<div></div>	Miami 3	<div></div>
Hancock 12	<div></div>	Chester 4	<div></div>	Vincennes 3	<div></div>
Intrepid 12	<div></div>	Salt Lake City 4	<div></div>	Biloxi 3	<div></div>
Franklin 12	<div></div>	Independence 7	<div></div>	Santa Fe 3	<div></div>
Iowa 10	<div></div>	Belleau Wood 7	<div></div>	Mobile 3	<div></div>
New Jersey 10	<div></div>	San Jacinto 7	<div></div>	Oakland 3	<div></div>
Massachusetts 9	<div></div>	Princeton 7	<div></div>	Reno 3	<div></div>
South Dakota 9	<div></div>	Monterey 7	<div></div>	San Diego 3	<div></div>

5TH FLEET:

Taffy 1	18		Tennessee	8		Portland	3	
Taffy 2	18		Mississippi	8		Shropshire	4	
Taffy 3	18		Pennsylvania	7		Denver	3	
West Virginia	8		Louisville	4		Boise	3	
Maryland	8		Nashville	4		Phoenix	3	
California	8		Minneapolis	4		Columbia	3	

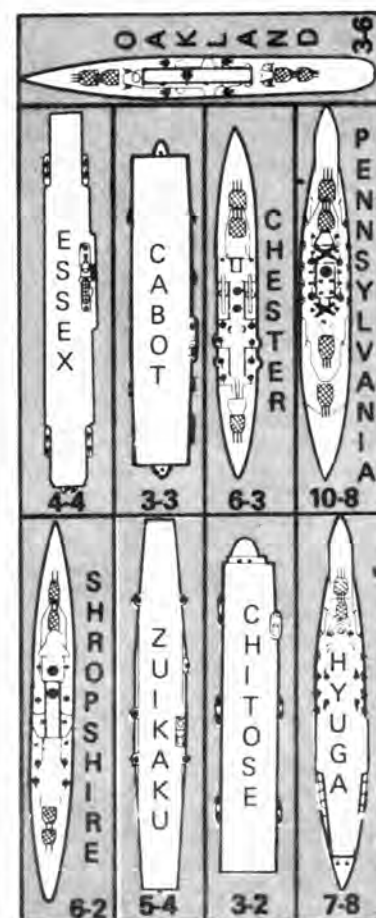
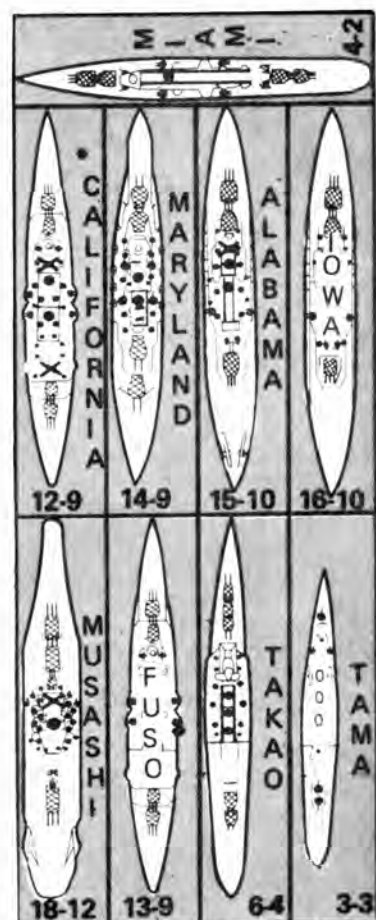
AIRCRAFT DISPOSITIONS

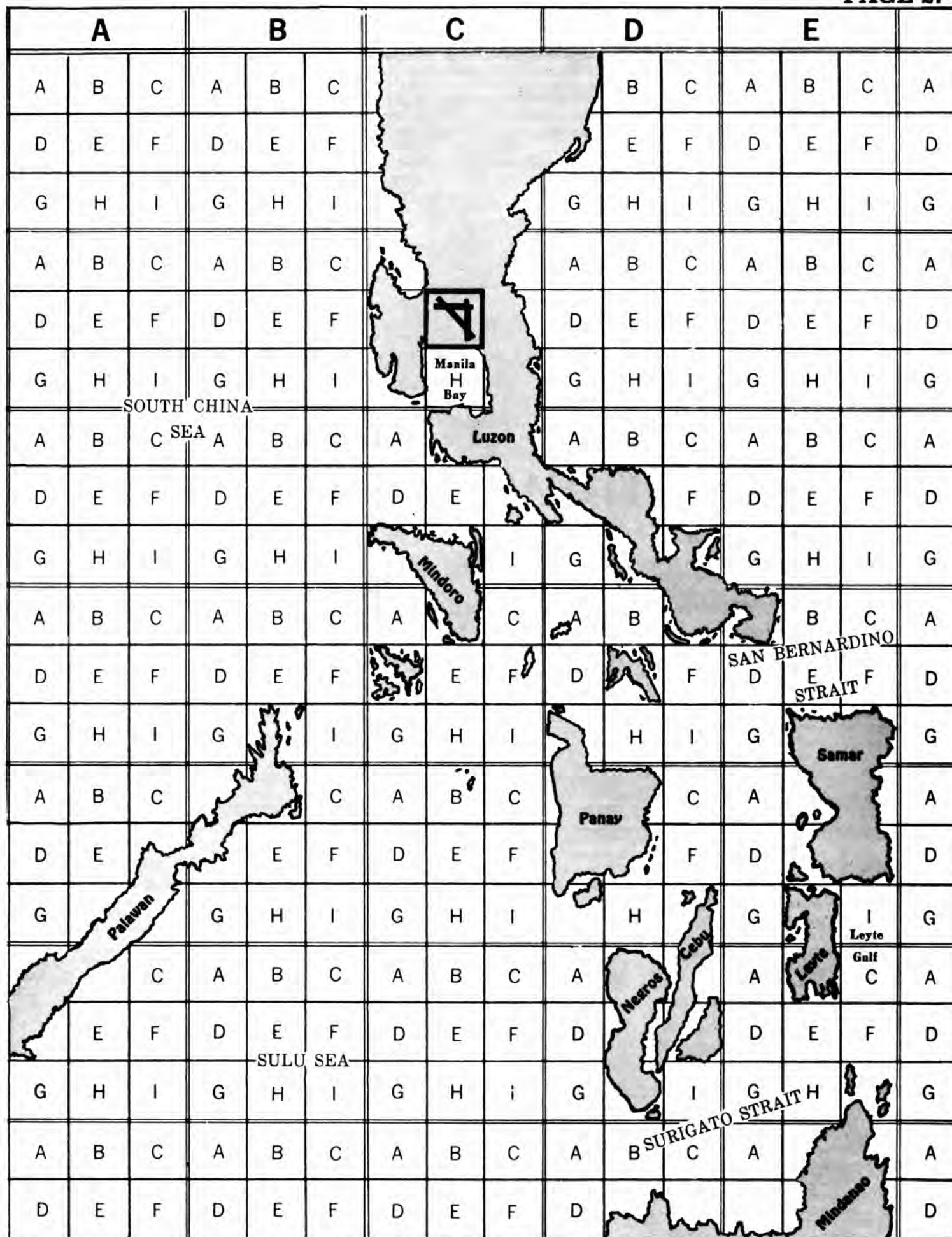
Enterprise: T8 F9 D8 All Essex-Class CV's: T11 F12 D11 each
All Cabot-Class CVL's: T4 F4 D4 each All CVE's: T2 F2 each

Sub Attacks

1.	<input type="radio"/>
2.	<input type="radio"/>
3.	<input type="radio"/>
4.	<input type="radio"/>
5.	<input type="radio"/>
6.	<input type="radio"/>
7.	<input type="radio"/>

CV ³ Essex	CV ³ Wasp	CV ³ Hornet	CV ³ Lexington	CV ³ Hancock	CV ³ Intrepid	CV ³ Franklin	CVL ³ Independence	CL ⁵ Boise	CL ⁵ Phoenix
CVL ³ Belleau Wood	CVL ³ San Jacinto	CVL ³ Cabot	CVL ³ Princeton	CVL ³ Monterey	CVL ³ Cowpens	CVL ³ Langleigh	BB ³ Iowa	CL ⁵ Columbia	CL/AA ³ San Diego
BB ³ New Jersey	BB ³ Massachusetts	BB ³ South Dakota	BB ³ Washington	BB ³ Alabama	BB ⁵ Tennessee	BB ⁵ West Virginia	BB ⁵ Mississippi	CL/AA ³ Oakland	CL/AA ³ Reno
BB ⁵ California	BB ⁵ Maryland	BB ⁵ Pennsylvania	CA ³ Wichita	CA ³ Chester	CA ³ Salt Lake City	CA ⁵ Nashville	CA ⁵ Louisville	CVE ⁵ Taffy 1	CVE ⁵ Taffy 2
CA ⁵ Shropshire	CL ³ Birmingham	CL ³ Miami	CL ³ Vincennes	CL ³ Biloxi	CL ³ Santa Fe	CL ³ Mobile	CL ⁵ Denver	CVE ⁵ Taffy 3	







PACIFIC THEATRE VIA MIDWAY

By Alan R. Moon

This major variant expands the game to the carrier battles in the Coral Sea, while leaving the basic MIDWAY game system intact by making a minimum number of rule changes. Four new scenarios.

MIDWAY is a game with a clean system which is almost always different, and rarely dull. It is a classic, however, and as such was designed before the multi-scenario game era. Luckily, the system can be transferred to other battles quite easily, so for those who want a change, every hundred games or so, I introduce the *Pacific Theatre via Midway*.

Many people believe that Midway was the first carrier battle in the Pacific, when that honor actually went to the Coral Sea. The action in May 1942 was to be the first of a number of intense struggles between, for the most part, fairly equal forces, in the area. However, the first battle of the Coral Sea, though not a decisive victory for either side, was a sign of things to come for the Japanese. Midway was to seal this doom!

CORAL SEA

By May 1942, the Japanese had advanced across the Pacific, capturing key bases as far south as Lae on New Guinea. May 3rd saw them land at Tulagi to establish a seaplane base, with which to patrol the eastern part of the Coral Sea. The major plan though, was to land a large invasion force at Port Moresby. From there, Japanese planes could control New Guinea completely and Australia would be within striking distance. Troops and transports assembled at Rabaul. The light carrier *Shoho* and the seaplane tender *Kamikawa* were sent to support the invasion, while the carriers *Shokaku* and *Zuikaku* patrolled the east, in case American carriers appeared. A carrier strike had raided Australia in February and met little resistance, leaving the Japanese confident of success.

What the Japanese didn't know was that the Americans had been intercepting and decoding

Japanese messages, and were totally aware of their plans. Carriers *Lexington* and *Yorktown* were sent to meet the invasion.

The morning of May 4th opened with a mini-Pearl Harbor at Tulagi as the *Yorktown's* planes surprised the base. The attack did tremendous damage to the transports and equipment there, but also alerted the Japanese that American carriers were in the area. The Japanese carriers streaked toward the scene while the transports, having left Rabaul waited at sea for the results, but May 5th and 6th passed with no sightings by either side.

On May 7th, both sides found each other and planes were launched. American planes, looking for the big carriers, found the *Shoho* instead. Under tremendous punishment, she sunk in less than a half an hour. The Japanese strike, meanwhile, could not find the American carriers, and sunk only two minor vessels. Other strikes were launched by both sides but none found the other's carriers.

May 8th brought sightings by both sides once again, and more strikes. The American planes concentrated on the *Shokaku* and inflicted severe damage, but she refused to go down. The Japanese planes finally found their targets and the *Lexington* joined the *Shoho* at the bottom of the Coral Sea. Both sides withdrew, battered but each claiming victory. The transports turned back to Rabaul, the invasion had been stopped, but the Americans had lost one of their handful of carriers while only sinking a light carrier in return. The first battle had ended in a tactical Japanese victory, but the Coral Sea would claim many more ships and men in the coming years.

RULES

All Avalon Hill rules are in force, except as follows:

Bombers—

1. Bombers have a range of 20 zones.
2. Bombers may not land on carriers or at bases that do not accept them.
3. Bombers attack ships like dive bombers

(from directly above), except that every three bombers count as one attack factor (drop fractions). This is a separate attack; bombers may not attack in the same wave as other planes. Bomber losses are determined by the odds of the attack; 1-3 or less = 2 of every three bombers are lost, 1-2 = 1 of every three bombers is lost, and 1-1 or more = no bombers lost. Attacks at less than 1-3 are treated as 1-3. Bombers may not attack more than one ship in a single battle. Fighters must defend on the battle board as additional screening factors vs bombers attacking ships.

4. When attacking bases, bombers must first fight any fighter cover, and then take AA fire, before bombing. Bomber vs fighter combat is resolved on the fighter vs fighter table with the bombers as the attacker. The number of bombers is divided by two (round down) before figuring odds. Losses are multiplied by the number of multiples of 12 bombers. For instance: 37 bombers fighting 12 fighters would be fought on the 1-1 column, but losses would be tripled because of the 3 multiples of 12 bombers. AA fire is resolved by checking the AA strength and then rolling one die on the appropriate table for every six bombers or fraction thereof. After fighter and AA combat, the remaining bombers attack the base. For every two bombers, one hit is scored on the base and one plane on the ground (if any) is destroyed.

5. When bombers have fighter escort, fight a normal fighter vs fighter combat, with the defender peeling off excess fighters of his choice to fight the bombers.

6. Dive bombers and torpedo planes may also attack bases, acting as bombers. For every four T/D, one hit is scored and one plane destroyed. T/D may not combine with bombers but both may attack the same base in the same turn. Attacker has the choice of what type planes will attack first (thereby suffering the most losses if fighters are present). The defender must use at least enough fighters to get a 1-1 attack (unless impossible, in which case all fighters must fight the first group) against the first group (type) of bombers.

Coastwatchers

1. Ships passing through certain partial-land squares will be spotted by coastwatchers.
2. Any island that touches three squares or more has coastwatchers for both sides. Ships will be sighted in any and every square of such islands.
3. At the end of the turn (after all air ops), the player must state which square or squares he has been sighted in, and if his ships are still present or not. If the ships have passed through a sighting square and not ended their move in another such square, their present location is not revealed. Only the square where they were sighted must be given.

Carrier Planes

1. Only planes that begin the scenario on carriers may land on carriers. Planes that begin the scenario as land-based planes may not land on carriers during the scenario.
2. This will necessitate bookkeeping when, and if, carrier planes start landing at bases, since they must be kept separate from the other planes if they will be landing on carriers again.

3. Carrier and land-based planes destroyed would also be kept in separate piles so the proper replacements can be taken.

EASTERN SOLOMONS

A month after the battle of the Coral Sea, the Americans avenged the loss of the *Lexington*, as four Japanese carriers were sunk at Midway. The Japanese advance across the Pacific was slowed.

In the South Pacific though, they were still on the move. In July, construction began on an airfield at Guadalcanal, and on New Guinea Japanese troops captured Buna, southeast of Lae.

The Americans reacted quickly, marines invading Guadalcanal and seizing the unfinished airfield. It was named Henderson Field after a Midway hero.

Japanese reaction was likewise as swift, as wave after wave of planes from Rabaul attacked the field, and the Allied support ships. Japanese aerial losses were high and seemingly in vain. Each night, engineers repaired the damage done during the day.

The Japanese turned their focus again to New Guinea, and Guadalcanal became a secondary objective. A large force was sent south over the Stanley Mountains in another attempt to take Port Moresby. Transports were sent to Gili-Gili in an effort to capture a newly built Australian base there, and a large carrier force, including the newly repaired *Shokaku* and *Zuikaku*, was dispatched to meet the expected American reaction. Other transports were also sent to reinforce and supply the remnants of the force on Guadalcanal.

August 24th opened with both carrier forces sighting each other early in the day. The Japanese plan was to use the CVL *Ryujo* and its escorts to draw off the main American attack, while planes from the *Shokaku* and *Zuikaku* attacked the American CVs. The plan seemed to be working as American planes did attack the *Ryujo*, never sighting the main fleet. The *Ryujo* was slaughtered. Japanese planes, however, were met by tremendous CAP and AA fire and only managed to inflict minor damage on the *Enterprise*, while losing an incredible number of aircraft and pilots. Other strikes failed to make contact, and both sides withdrew late in the day. A small group of planes did find the Japanese tender *Chitose* and it barely managed to stay above water.

At about the same time, Australian troops had ended the New Guinea expansion by pushing Japanese troops across the Stanley Mountains, while Australian planes repulsed the landings at Milne Bay. The troops landed on Guadalcanal met heavy resistance and though the fighting continued, the Americans held onto Henderson Field.

Round Two in the Coral Sea had gone to the Allies.

SANTA CRUZ

From August to October 1942, a heavyweight bout was fought between the Japanese Tokyo Express and the American Cactus Air Force on and around Guadalcanal. By night, the Japanese ran supplies down the Slot to their troops. By day, the Americans covered the unloading of Allied supplies. The situation seemed stalemated, though the intense fighting continued.

At sea, Japanese submarines sunk the *Wasp* and damaged the *Saratoga*, severely reducing American air-power. American ships did manage a victory at Cape Esperance but the victory was bitter-sweet. The Japanese committed battleships to the conflict for the first time. On October 15th, BBs *Kongo* and *Haruna* shelled Henderson Field and set the pattern for the weeks to come. The Japanese, feeling the advantage had shifted to their side, set Oct. 23rd as Y-Day, an all out attempt to take Guadalcanal.

The battleships lobbed in over 1000 rounds night after night in preparation for the invasion, but the Americans would not be shaken. Y-Day was put back day after day.

To the north, the Japanese carrier fleet sat waiting patiently to move in, after the capture of the field, confident that American CV strength was minimal. Meanwhile, a more than minimal American force including the *Hornet* and a repaired *Enterprise* made a bold move, flanking Guadalcanal to the east, in an attempt to surprise the Japanese force.

The surprise failed as Japanese scouts found the *Enterprise* early on the morning of Oct. 25th. Fortunately, American scouts had also spotted their quarry. In fact, two Dauntless dive bombers attacked the *Zuikaku* and put her out of action.

A strong Japanese strike bit into the *Hornet*, inflicting great damage but losing many planes. The American strike did little damage while sustaining

EASTERN SOLOMONS HIT RECORD**AMERICAN SHIPS**

Saratoga 10	<input type="checkbox"/>	Minneapolis 3	<input type="checkbox"/>	San Francisco 3	<input type="checkbox"/>	San Juan 2	<input type="checkbox"/>
Enterprise 10	<input type="checkbox"/>	New Orleans 3	<input type="checkbox"/>	Salt Lake City 3	<input type="checkbox"/>	Atlanta 2	<input type="checkbox"/>
Wasp 10	<input type="checkbox"/>	Portland 3	<input type="checkbox"/>	North Carolina 9	<input type="checkbox"/>		

CARRIER CAPACITY

Saratoga: (Maximum Capacity 28)

F 11	D 12	T 5
------	------	-----

Enterprise: (Maximum Capacity 28)

F 11	D 12	T 5
------	------	-----

Wasp: (Maximum Capacity 24)

F 10	D 9	T 5
------	-----	-----

BASES

New Caledonia: (Maximum Capacity—Unlimited) Bomber Ready Time—3 Turns

Australia: (Maximum Capacity—Unlimited) Bomber Ready Time—2 Turns

Espiritu Santo: (Maximum Capacity—10) AA 2, Bomber Ready Time—5 Turns

Ndeni: (Maximum Capacity—8) AA 1, May not accept bombers or dive bombers

Henderson: (Maximum Capacity—25) AA 2, Bomber Ready Time—5 Turns

Gili-Gili: (Maximum Capacity—8) AA 1, May not accept bombers

Port Moresby: (Maximum Capacity—50) AA 4, Bomber Ready Time—3 Turns

LAND-BASED PLANES

B 47	F 40	D 6	T 7
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If Japanese ships sighted in rows 5, 6, or 7, these planes are available at Australia.

D 7	B 7	F 16
-----	-----	------

STARTING POSITIONS Row 1, East edge**TIME RECORD**

	0500	Aug 24
	0700	
	0900	
	1100	
	1300	
	1500	
	1700	
	Night, Aug 24	
	Night, Aug 25	
	0500	
	0700	
	0900	
	1100	
	1300	
	1500	
	1700	
	Night, Aug 25	
	Night, Aug 26	
	0500	
	0700	
	0900	
	1100	
	1300	
	1500	
	1700	

JAPANESE SHIPS

Shokaku 10	<input type="checkbox"/>	Kirishima 6	<input type="checkbox"/>	Kinugasa 3	<input type="checkbox"/>	Tatsuta 2	<input type="checkbox"/>
Zuikaku 10	<input type="checkbox"/>	Hiei 6	<input type="checkbox"/>	Aoba 3	<input type="checkbox"/>	Tenryu 2	<input type="checkbox"/>
Ryujo 7	<input type="checkbox"/>	Atago 3	<input type="checkbox"/>	Chokai 3	<input type="checkbox"/>	AP One 4/1*	<input type="checkbox"/>
Chitose 5	<input type="checkbox"/>	Maya 3	<input type="checkbox"/>	Furutaka 3	<input type="checkbox"/>	AP Two 4/1*	<input type="checkbox"/>
Tone 4	<input type="checkbox"/>	Takao 3	<input type="checkbox"/>	Nagara 2	<input type="checkbox"/>	AP Three 4/1*	<input type="checkbox"/>
Chikuma 4	<input type="checkbox"/>	Myoko 3	<input type="checkbox"/>	Yura 2	<input type="checkbox"/>	AP Four 4/1*	<input type="checkbox"/>
Suzuya 3	<input type="checkbox"/>	Haguro 3	<input type="checkbox"/>	Jintsu 2	<input type="checkbox"/>	AP Five 4/1*	<input type="checkbox"/>
Kumano 3	<input type="checkbox"/>	Mutsu 8	<input type="checkbox"/>				

CARRIER CAPACITY

Shokaku: (Maximum Capacity 24)

F 10	D 6	T 7
------	-----	-----

Zuikaku: (Maximum Capacity 24)

F 10	D 6	T 7
------	-----	-----

Ryujo: (Maximum Capacity 14)

F 5	D 6	T 3
-----	-----	-----

Chitose: (Maximum Capacity 8)

F 6

May not accept dive bombers

BASES

Rabaul: (Maximum Capacity—60) AA 4, Bomber Ready Time—3 Turns

Lae: (Maximum Capacity—40) AA 4, Bomber Ready Time—4 Turns

Buka: (Maximum Capacity—8) AA 1, May not accept bombers

Buna: (Maximum Capacity—12) AA 1, May not accept bombers

Gasmata: (Maximum Capacity—10) AA 2, Bomber Ready Time—5 Turns

Shortlands: (Maximum Capacity—12) AA 2, May not accept bombers or dive bombers

Kavieng: (Maximum Capacity—8) AA 1, May not accept bombers

LAND-BASED PLANES

F 26	B 8	T 6	D 2
------	-----	-----	-----

If American ships are sighted in rows 1, 2, or 3, these planes are available at Truk.

F 20	B 6
------	-----

STARTING POSITIONS North edge or at Rabaul**VICTORY POINTS**

Both sides receive one point for every three enemy planes destroyed as well as the usual points for ships sunk. The Japanese receive 10 points for landing an AP at Gili-Gili and 10 points for landing an AP on Guadalcanal. In both cases, the AP must remain stationary for one turn after arrival. Landing additional APs does not yield additional points. The American player receives 10 points if all APs are destroyed prior to landing.

light losses. Strike two hit the *Hornet* again but she refused to go down. The *Enterprise* was also hit, but again Japanese aircraft losses were very high. The *Hornet* had to be scuttled, though it was still afloat when the Japanese returned to finish the job. The Americans retired.

The Japanese had won round three, but lost the war. The tremendous cost exacted in planes and pilots would lead to the eventual defeat of the Imperial Japanese Navy. Few of the pilots who had flown at Pearl Harbor were still alive. On Guadalcanal, the fighting continued.

GUADALCANAL

The shuttle of Japanese troops down The Slot to Guadalcanal continued, and by early November Japanese strength outnumbered the American forces on the island. Both sides made plans to bolster their armies. A large American transport force targeted Nov 12 as its arrival date, while an even larger Japanese transport force planned to land the day after.

The air power situation was poor for both sides. The Americans could muster only the *Enterprise* with less than a full load of planes. The Japanese had only the two small carriers Junyo and Hiyo. In addition, Japanese planes at Rabaul were pulling double duty, flying missions against Guadalcanal and New Guinea where Allied troops were mounting an offensive.

November 12 saw the American transports unloading at Henderson on schedule, under heavy attack from Japanese planes from Rabaul. The Cactus Air Force once again did its job though as little damage was done.

That night, Japanese battleships Hiei and Kirishima plus escorts moved in to bombard the base. They were met by an American cruiser force. A spectacular, completely unorganized battle ensued resulting in heavy losses to both sides. Hiei became the first Japanese battleship lost in the war. Four American destroyers, one Japanese destroyer, and American cruisers Juneau and Atlanta shared her fate. American cruisers San Francisco and Portland were heavily damaged.

The *Enterprise*, fearing surface attack, moved south, but kept within striking distance. The next night, another Japanese force moved in to bombard again. As daylight broke, however, the ships were sighted retiring to the north. Planes from the *Enterprise* and Henderson attacked, sinking cruiser Kinugasa and damaging cruisers Isuzu, Chokai, and Maya.

In the afternoon of the same day, American planes also spotted the Japanese transports in The Slot. Planes from Henderson bit into them sinking seven of the eleven transports.

The night of the 14th saw yet another Japanese bombarding force heading towards Guadalcanal. The Americans were prepared this time. Battleships South Dakota and Washington plus escorts engaged the attackers. Kirishima joined her sister ship at the bottom. American damage was limited to minor hits on the South Dakota.

Morning, November 15th, opened with American planes striking the four remaining transports now preparing to unload at Guadalcanal. They were slaughtered, never making the beaches. What would be the last Japanese attempt to reinforce Guadalcanal had failed. Though the island would not be secured till 1943, the Americans had won. Later in November, Allied troops captured Buna on the north shore of New Guinea. The tide had turned in the battles for the Coral Sea.

The following optional rules can be used in either *MIDWAY* or the *PACIFIC THEATRE VIA MIDWAY* scenarios, except where stated otherwise:

Submarines

1. Players receive the following number of submarines:

- Midway—Americans 7, Japanese 3
- Coral Sea—Americans 3, Japanese 4
- Eastern Solomons—Americans 3, Japanese 6
- Santa Cruz—Americans 5, Japanese 6
- Guadalcanal—Americans 6, Japanese 6

2. Submarines may start anywhere. Exception: American submarines in *MIDWAY* may not start in the A row.

3. Submarines move one zone per turn.

4. If in the same zone as enemy ships, submarines may attack any ship present. This attack takes place before all other combat. Roll one die for each submarine and consult the Submarine Attack Table. If a six is rolled, roll again on the Critical Hit Table.

Sub Attack Table

- Miss
- Miss
- Miss
- Miss
- One Hit
- Critical Hit

Critical Hit Table

- One Hit
- One Hit
- Two Hits
- Three Hits
- Four Hits
- Ship Sunk

5. Japanese submarines must attack CVs or BBs if present.

6. After a submarine attacks, roll a die to see if it is sunk; a six eliminates the submarine.

7. Submarines are worth 1 Victory Point.

OPTIONAL Search Method

- The regular search method is no longer used.
- Only areas and zones containing planes and ships (and submarines if they are being used) may be searched.
- A ship may search only the zone it is in, not the whole area.
- A submarine may search only the zone it is in,

SANTA CRUZ HIT RECORD

AMERICAN SHIPS

Enterprise 10 ☐☐☐☐☐
Hornet 10 ☐☐☐☐☐
South Dakota 9 ☐☐☐☐☐☐☐
Washington 9 ☐☐☐☐☐☐☐

Portland 3 ☐☐☐
Northampton 3 ☐☐☐
Pensacola 3 ☐☐☐
San Francisco 3 ☐☐☐
San Diego 2 ☐☐
San Juan 2 ☐☐
Juneau 2 ☐☐
Helena 2 ☐☐

CARRIER CAPACITY

Enterprise: (Maximum Capacity: 28)

F 12 D 12 T 4

Hornet: (Maximum Capacity: 28)

F 11 D 12 T 5

BASES

New Caledonia: (Maximum Capacity—Unlimited) Bomber Ready Time—3 Turns
Australia: (Maximum Capacity—Unlimited) Bomber Ready Time—2 Turns
Espiritu Santo: (Maximum Capacity—30) AA: 4, Bomber Ready Time—4 Turns
Henderson: (Maximum Capacity—35) AA: 3, Bomber Ready Time—4 Turns
Gili-Gili: (Maximum Capacity—20) AA: 2, May not accept bombers
Port Moresby: (Maximum Capacity—50) AA: 4, Bomber Ready Time—3 Turns

LAND-BASED PLANES

B 66 D 6 T 9 F 43

If Japanese ships are sighted in rows 5, 6, or 7, these planes are available at Australia:

F 18 B 5

STARTING POSITIONS

East edge of row I or south edge of G, H, or I.

TIME RECORD

0500 Oct 25	0700	0900	1100	1300	1500	1700	Night, Oct 25	Night, Oct 26	0500	0700	0900	1100	1300	1500	1700	Night, Oct 26	Night, Oct 27	0500	0700	0900	1100	1300	1500	1700

JAPANESE SHIPS

Shokaku 10 ☐☐☐☐☐
Zuikaku 10 ☐☐☐☐☐
Junyo 8 ☐☐☐☐
Zuiho 6 ☐☐☐
Tone 4 ☐☐☐

Chikuma 4 ☐☐☐
Kongo 6 ☐☐☐☐
Haruna 6 ☐☐☐☐
Hiei 6 ☐☐☐☐
Kirishima 6 ☐☐☐☐

Atago 3 ☐☐☐
Myoko 3 ☐☐☐
Takao 3 ☐☐☐
Maya 3 ☐☐☐
Kumano 3 ☐☐☐
Suzuya 3 ☐☐☐
Chokai 3 ☐☐☐
Isuzu 2 ☐☐
Nagara 2 ☐☐
Yura 2 ☐☐

CARRIER CAPACITY

Shokaku: (Maximum Capacity: 24)

F 10 D 7 T 7

Zuikaku: (Maximum Capacity: 24)

F 10 D 7 T 7

Junyo: (Maximum Capacity: 18)

F 8 D 5 T 3

Zuiho: (Maximum Capacity: 9)

F 4 D 3 T 1

Tone: (Maximum Capacity: 1)

Chikuma: (Maximum Capacity: 1)

Fighter only

BASES

Rabaul: (Maximum Capacity—50) AA: 4, Bomber Ready Time—3 Turns
Lae: (Maximum Capacity—40) AA: 4, Bomber Ready Time—4 Turns
Bain: (Maximum Capacity—40) AA: 3, Bomber Ready Time—4 Turns
Buna: (Maximum Capacity—25) AA: 3, Bomber Ready Time—5 Turns
Buka: (Maximum Capacity—8) AA: 1, Bombers may land but not take off for duration of game
Gasmata: (Maximum Capacity—10) AA: 2, Bomber Ready Time—5 Turns
Shortlands: (Maximum Capacity—12) AA: 2, May not accept bombers or dive bombers
Kavieng: (Maximum Capacity—8) AA: 1, May not accept bombers

LAND-BASED PLANES

B 11 F 33 D 15 T 21

If American ships are sighted in rows 1, 2, or 3, these planes are available at Truk:

F 15 B 10

STARTING POSITIONS

Anywhere in rows 1, 2, or 3.

VICTORY POINTS

Both sides receive one point for every three enemy planes destroyed as well as the usual points for ships sunk. Neither player wins unless he has both the highest point total and a score of at least 50 points.

GUADALCANAL HIT RECORD

AMERICAN SHIPS

Enterprise 10	<input type="checkbox"/>	San Francisco 3	<input type="checkbox"/>	Juneau 2	<input type="checkbox"/>	AP One 4/1*	<input type="checkbox"/>
South Dakota 9	<input type="checkbox"/>	Portland 3	<input type="checkbox"/>	Helena 2	<input type="checkbox"/>	AP Two 4/1*	<input type="checkbox"/>
Washington 9	<input type="checkbox"/>	Northampton 3	<input type="checkbox"/>	Atlanta 2	<input type="checkbox"/>	AP Three 4/1*	<input type="checkbox"/>
		Pensacola 3	<input type="checkbox"/>	San Diego 2	<input type="checkbox"/>	AP Four 4/1*	<input type="checkbox"/>

CARRIER CAPACITY

Enterprise: (Maximum Capacity: 28)



BASES

New Caledonia: (Maximum Capacity—Unlimited) Bomber Ready Time—3 Turns
 Australia: (Maximum Capacity—Unlimited) Bomber Ready Time—2 Turns
 Espiritu Santo: (Maximum Capacity—30) AA: 4, Bomber Ready Time—4 Turns
 Henderson: (Maximum Capacity—35) AA: 3, Bomber Ready Time—4 Turns
 Gili-Gili: (Maximum Capacity—20) AA: 2, May not accept bombers
 Port Moresby: (Maximum Capacity—50) AA: 4, Bomber Ready Time—3 Turns

STARTING POSITIONS

South edge

LAND-BASED PLANES



If American ships are sighted in rows 1, 2, or 3, these planes are available at Truk:



TIME RECORD

0500 Nov 11	0700	0900	1100	1300	1500	1700	Night, Nov 11	Night, Nov 12	0500	0700	0900	1100	1300	1500	1700	Night, Nov 12	Night, Nov 13	0500	0700	0900	1100	1300	1500	1700	Night, Nov 13	Night, Nov 14	0500	0700	0900	1100	1300	1500	1700

JAPANESE SHIPS

Junyo 8	<input type="checkbox"/>	Kinugasa 3	<input type="checkbox"/>	Tone 4	<input type="checkbox"/>	AP One 4/1*	<input type="checkbox"/>
Hiyo 8	<input type="checkbox"/>	Chokai 3	<input type="checkbox"/>	Isuzu 2	<input type="checkbox"/>	AP Two 4/1*	<input type="checkbox"/>
Kongo 6	<input type="checkbox"/>	Suzuya 3	<input type="checkbox"/>	Nagara 2	<input type="checkbox"/>	AP Three 4/1*	<input type="checkbox"/>
Haruna 6	<input type="checkbox"/>	Atago 3	<input type="checkbox"/>	Tenryu 2	<input type="checkbox"/>	AP Four 4/1*	<input type="checkbox"/>
Hiei 6	<input type="checkbox"/>	Maya 3	<input type="checkbox"/>	Sendai 2	<input type="checkbox"/>	AP Five 4/1*	<input type="checkbox"/>
Kirishima 6	<input type="checkbox"/>	Takao 3	<input type="checkbox"/>				

CARRIER CAPACITY

Junyo: (Maximum Capacity: 16)



Hiyo: (Maximum Capacity: 16)



Tone: (Maximum Capacity: 1)



Fighter only

BASES

Rabaul: (Maximum Capacity—50) AA: 4, Bomber Ready Time—3 Turns
 Lee: (Maximum Capacity—40) AA: 4, Bomber Ready Time—4 Turns
 Buin: (Maximum Capacity—25) AA: 3, Bomber Ready Time—4 Turns
 Buks: (Maximum Capacity—8) AA: 1, Bombers may land but not take off for duration of game
 Gasmata: (Maximum Capacity—10) AA: 2, Bomber Ready Time—5 Turns
 Shortlands: (Maximum Capacity—12) AA: 2, May not accept bombers or dive bombers
 Kavieng: (Maximum Capacity—8) AA: 1, May not accept bombers

LAND-BASED PLANES



If Japanese ships are sighted in rows 5, 6, or 7, these planes are available at Australia:



VICTORY POINTS

Both sides receive one point for every three enemy planes destroyed as well as the usual points for ships sunk. Japanese get 10 Points if they land more APs on Guadalcanal (any square) than the Americans. APs must remain stationary for two turns after arrival. Americans get 10 Points if they land more APs on Guadalcanal (Henderson square) than the Japanese. APs must remain stationary for two turns after arrival. Japanese get 5 Points if both sides land the same amount of APs or neither side lands any APs. *4 points before or during landing; 1 point after landing

not the whole area.

5. One plane can search one zone (the zone it is in).

6. A group of planes may attempt to search a whole area. They do not have to fly to a specific zone, just a specific area (all must have the range to get to every zone within the area). The success of this type of search is determined by the number of planes on the AREA Plane Search Tables.

7. All ships in an area successfully searched are sighted.

8. Seven planes searching an area is an automatic successful search.

9. Planes that are searching take-off at the beginning of the search phase before searching begins. All searching planes must be recorded in the air-ops for each turn.

10. Only T, D, and B type planes may search. F type planes may not search.

11. Bombers that are searching may remain airborne for two consecutive turns, but may not attack on either turn. A player must state whether his bombers are using this long-range capacity or not in

his air-ops.

12. Searching planes may only attack ships in the zone (or area as per rule 6.) they have searched. (Exception: rule 11.)

13. Searching planes that attack must attack as a separate wave. (See Attack Coordination Rules)

14. Searching planes must ready as per normal rules before flying again.

Attack Coordination

1. Planes that are attacking a target from several different locations (planes that take-off from more than one zone), may not arrive at the target at the same time, and may not be able to attack together.

2. All groups of planes that take-off within two zones of their target arrive together automatically.

3. Groups that take-off from zones more than two zones away from the target may not arrive with other groups and must use the following procedure:

a. Select attack group one (any one group of planes that all took off from the same zone). If there are planes that took off within two zones of

the target, they automatically attack with group one.

b. Select attack group two and use the Attack Coordination Table to determine whether it arrives with attack group one or not. The number in parentheses is the difference (in the number of zones) that attack group one and attack group two are from the target.

c. Select attack group three and use the table above to see whether it arrives with either attack group one or attack group two, or both if they have coordinated their attack. Attack group three would roll twice on the table if the first two groups did not coordinate, once for each group.

d. Repeat the above procedure for any other groups attacking the same target, until all groups have coordinated or been established as attacking in a separate wave.

e. Repeat the above procedure for each target being attacked by planes from several different locations.

4. Groups may choose to attack alone in a separate wave and forego the above procedure. This includes rolling on the table to try to coordinate with one or more groups and not with certain other groups.

5. Searching planes must attack first as a separate wave, if they attack at all.

6. Waves may abort at any time before attacking (except where otherwise not allowed).

7. Each wave attacks on the battle board separately. Each defending ship (not sunk by previous waves) may use its AA against each wave in any manner it chooses; protecting different ships in different waves. All ships (not sunk) can be attacked by each wave.

Miscellaneous

1. Add 5B to the Midway forces. These planes are used as per the rules in "Pacific Theatre Via Midway", or as per the optional search method (if in use).

2. The Naval Bombardment rule may be used in Midway. Each hit on Midway reduces the relative fortification strength by one, as well as causing plane losses.

3. The Carrier Planes rule may be used in MIDWAY.

4. CVL Hosho should have a maximum capacity of 6 instead of 3 in MIDWAY.

5. Allow CAVs Tone and Chikuma to begin the game with 1F each in MIDWAY. They have a maximum capacity of 1 and can only accept fighters.

Comments

The optional search method adds quite a bit of time (and paperwork) to the game and should only be used with this understanding. It is, however, quite a bit more realistic and players will have to develop good search strategies to gain victory. All of the other optional rules should also be seen as a trade-off between time and realism.



AREA Plane Search Tables

Die	2 Planes	3 Planes	4 Planes	5 Planes	6 Planes
1.	Unsc	Unsc	Unsc	Unsc	Unsc
2.	Unsc	Unsc	Unsc	Unsc	S
3.	Unsc	Unsc	Unsc	S	S
4.	Unsc	Unsc	S	S	S
5.	Unsc	S	S	S	S
6.	S	S	S	S	S

Unsc—Unsuccessful

S—Successful

Attack Coordination Table

Die	(1)	(2)	(3)	(4)	(5 or more)
1.	Unsc	Unsc	Unsc	Unsc	Unsc
2.	S	Unsc	Unsc	Unsc	Unsc
3.	S	S	Unsc	Unsc	Unsc
4.	S	S	S	Unsc	Unsc
5.	S	S	S	S	Unsc
6.	S	S	S	S	S

Unsc—Coordination unsuccessful, attack as a separate wave

S—Attack coordinated, attack with other group

CORAL SEA VARIANT BOARD—MIDWAY

	A	B	C	D	E	F	G	H	I
1	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B
2	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B
3	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B
4	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B
5	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B
6	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B
7	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B

And finally, for you diehards, here's how to keep MIDWAY fresh, without leaving the area.

Other ships, for both sides, could have seen action at Midway. The *Lexington* would certainly have been there, if she had not been sunk at Coral Sea. And what if the *Wasp* had been ready early? Or the Japanese had sent the *Shokaku* and/or *Zuikaku*? Well, here's your chance to find out.

Take seven blank counters and number them from one to seven. Mix them (number down) on the board and have each player draw one secretly. Add the ships listed below, for the chit each player draws. Chits do not have to be revealed till the end of the game.

Another way is to pay victory points for drawing

chits. Pay 5 victory points for chit #1, 10 for chit #2, and so forth. Players do not have to tell how much they paid till the end of the game. With this system, victory will never be certain till the game is over. It can also cause some nasty surprises.

AMERICAN

- #1 BB *Colorado*
BB *Maryland*
- #2 CV *Lexington*
w/ 7F, 7D, 4T
- #3 CV *Wasp*
w/ 7F, 10D, 7T
- #4 CV *Lexington* plus
BB *Colorado*

JAPANESE*

- AV *Kamikawa*
w/ 6F
- CV *Shokaku*
w/ 6F, 6D, 6T
- CV *Zuikaku*
w/ 7F, 7D, 7T
- CV *Zuikaku*
w/ 7F, 7D, 10T

- #5 CV *Lexington* plus
BB *Colorado* and
BB *Maryland*
- #6 #5 plus ADD
6F, 3D, 3T to
Midway forces
- #7 #2 and #3 above

- #3 above plus
AV *Kamikawa*
- #4 above plus
AV *Kamikawa*
- #2 and #4 above

* #s 1, 2, 4 and 6 may start at 0500 Jun 3
#s 3, 5, and 7 start at 0500 Jun 4
All available American ships are present at start
Colorado and *Maryland* are worth 8 points and
take 7 hits.
Specifications for CVs *Wasp*, *Lexington*, *Zuikaku*,
Shokaku, and AV *Kamikawa* are shown in the
PACIFIC THEATRE VIA MIDWAY scenarios.

THE BATTLE FOR AUSTRALIA

by Ron Sarti

This article adds a monster, hypothetical scenario on to the game, using the basic MIDWAY rules and the PACIFIC THEATRE VIA MIDWAY rules.

Now that the navies in *MIDWAY* have been doubled by the addition of the Coral Sea Variant Kit counters, the inevitable hunger to fight a giant scenario which uses all the available ships becomes almost overwhelming. Yet in the course of World War II, these massive fleets never met in a grand battle. So for the *MIDWAY* addict looking for the chance to use all the ships together, I present the following hypothetical history and scenario.

December 20, 1942. The War in the Pacific has gone badly for the Allies. The Japanese have been fabulously successful since Pearl Harbor and have yet to lose a capital ship in action. The demise of the US Navy was the devastating follow-up attack against Pearl Harbor which not only rendered the main battle fleet ineffective, but also forced the surviving elements of the fleet to retire to the west coast of the United States. It was six months before the base could be put back together, although work at repairing and raising the damaged battleships in the harbor continued unabated.

The Japanese made no further attacks on the Hawaiian Islands after December 7th, because they were so busy grabbing key positions elsewhere. By September '42, they had captured the Western Aleutians, Midway Island, Guadalcanal, and all of New Guinea. A ribbon defense was established at Attu, Midway, the Marshalls, Wake, Port Moresby, and Singapore.

Wisely, the Allies declined the chance to contest the seizure of these islands. In spite of having deciphered the Japanese naval code, the odds were too great without Pearl Harbor in operation. Roosevelt and George Marshall were also adamant that the War in Europe be given strict priority on all available resources.

Now there was a threat that could not be ignored. A decoded message revealed that the whole Japanese fleet was preparing to sail southward in an attempt to cut communications between Australia and the United States and possibly invade Australia. New Caledonia and New Hebrides were also potential targets. In addition, Admiral Yamamoto, now hailed as the greatest naval leader in Japan's history, hoped to finally bring the American fleet to battle and destroy it before Japan's naval might was overtaken by American productivity.

Yamamoto had prepared well. With many newly trained pilots and ship crews, every carrier was filled to its maximum aircraft capacity. And several new ships had joined the fleet. The carrier force—8 CVs, 4 CVLs, 2AVs—had a total strength of over 650 aircraft. They were supported by 7 BBs, 13 CAs, and 8 CLs. Ten APs held the troops to be used in the invasions.

Hurrying to challenge this armada was an Allied force of 6 CVs with a combined strength of just under 500 aircraft. They were supported by 5 BBs, 12 CAs, and 6 CLs. Both sides had committed almost their entire fleets to the action.

All *MIDWAY* and *PACIFIC THEATRE VIA MIDWAY* rules are in force, except as follows:

Mapboard Changes—

1. Complete row 7 and add row 8 to the bottom of the Coral Sea Variant Map.
2. Add areas X5, X6, and X7 to the left of row A. A5A would border X5C, A6G would border X6I, and so forth.
3. The following bases now exist on-board:
 - a. Cooktown X6D
 - b. Townsville X7D
 - c. New Caledonia I8H
4. The base designated as Australia in the Coral Sea scenarios is no longer used.
5. The off-board entrance spaces (3A, NC4, etc.) are no longer used.
6. The three new on-board bases may all be bombarded (if the bombardment rule is in use), invaded, and attacked.

ORDER OF BATTLE

American Ships:

CV Enterprise—F11, D12, T5
CV Hornet—F11, D12, T5
CV Saratoga—F11, D12, T5
CV Lexington—F9, D12, T5
CV Yorktown—F9, D12, T5
CV Wasp—F7, D12, T5

BBs North Carolina, South Dakota, Washington, Maryland, Colorado

CAs Australia, Minneapolis, New Orleans, Vincennes, Astoria, Chester, Chicago, Northampton, Pensacola, Portland, Salt Lake City, San Francisco

CLs Atlanta, Juneau, Helena, San Diego, San Juan, Hobart

Starting Positions: Anywhere in rows 7 or 8

Bases: Cooktown; Maximum Capacity—Unlimited, AA—4, Bomber Ready Time—2 turns
Townsville; Maximum Capacity—Unlimited, AA—4, Bomber Ready Time—2 turns
Espiritu Santo; Maximum Capacity—30, AA—4, Bomber Ready Time—4 turns
New Caledonia; Maximum Capacity—Unlimited, AA—4, Bomber Ready Time—3 turns

Land-Based Planes: B70, D12, T10, F65

Japanese Ships:

CV Akagi—F7, D7, T7
CV Kaga—F7, D7, T10
CV Shokaku—F7, D7, T7
CV Zuikaku—F7, D7, T7
CV Hiryu—F7, D7, T7
CV Soryu—F7, D7, T7
CV Hiyo—F6, D5, T5
CV Junyo—F6, D5, T5
CVL Ryujo—F4, D5, T5
CVL Shoho—F3, D3, T3
CVL Zuiho—F3, D3, T3
CVL Hoshio—D6
AV Chitose—3F, 3T
AV Kamikawa—3F, 3T
CAV Tone—1F
CAV Chikuma—1F

BBs Yamato, Mutsu, Nagato, Haruna, Hiei, Kongo, Kirishima
CAs Atago, Chokai, Haguro, Maya, Myoko, Takao, Aoba, Furutaka, Kinugasa, Kumano, Mikuma, Mogami, Suzuya
CLs Isuzu, Jintsu, Nagara, Sendai, Tatsuta, Tenryu, Yubari, Yura
APs One—Ten

Starting Positions: APs at Rabaul. All other ships at Rabaul, Port Moresby, Henderson, or north edge.

Bases: Rabaul; Maximum Capacity—60, AA—4, Bomber Ready Time—3 turns
Lae; Maximum Capacity—40, AA—4, Bomber Ready Time—4 turns
Bun; Maximum Capacity—40, AA—3, Bomber Ready Time—4
Buka; Maximum Capacity—8, AA—1, Bombers may land but not take off for duration of game
Gasmata; Maximum Capacity—10, AA—2, Bomber Ready Time—5 turns
Buna; Maximum Capacity—25, AA—3, Bomber Ready Time—5 turns
Shortlands; Maximum Capacity—12, AA—3, May not accept bombers or dive bombers
Kavieng; Maximum Capacity—8, AA—1, May not accept bombers
Henderson; Maximum Capacity—35, AA—3, Bomber Ready Time—4 turns
Port Moresby; Maximum Capacity—50, AA—4, Bomber Ready Time—3 turns
Gili-Gili; Maximum Capacity—20, AA—2, May not accept bombers
Ndeni; Maximum Capacity—6, AA—1, May not accept bombers or dive bombers

Land-Based Planes: B30, D25, T25, F35

VICTORY POINTS

Both sides receive one point for every three enemy planes destroyed as well as the usual points for ships sunk. The Japanese receive points for APs landed as follows:

Landing Sight	#APs (Points Received)
Cooktown/Townsville (including a combination of the two)	1 (5) 2 (10) 3 (25) 4 (50) 5 or more (100)
Espiritu Santo	1 (5) 2 (10) 3 or more (20)
New Caledonia	1 (5) 2 (10) 3 (25) 4 or more (40)

The American player receives 10 points if the Japanese don't land any APs at Espiritu Santo, 20 points if the Japanese don't land any APs at New Caledonia, and 40 points if the Japanese don't land any APs at Cooktown/Townsville.

*Specifications for all ships can be found in the Coral Sea and Midway scenarios. Note: the Hoshio has a maximum capacity of 6, not 3 as in Midway.

MIDWAY HIT RECORD

UNITED STATES SHIPS

Enterprise 10	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Minneapolis 4	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Astoria 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Portland 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Hornet 10	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	New Orleans 4	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Northampton 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Atlanta 2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Yorktown 10	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Vincennes 4	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Pensacola 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

Place a check mark in one box for each HIT. When all boxes contain check marks, ship is sunk and the opposing player receives the points printed next to that ship's name. For example, 5 HITS sinks the American Carrier Enterprise for which the Jap player receives 10 points.

TIME RECORD

	0500 June 3*
	0700
	0900
	1100
	1300
	1500*
	1700
	Night, June 3
	Night, June 4
	0500*
	0700
	0900
	1100
	1300
	1500
	1700*
	Night, June 4
	Night, June 5
	0500
	0700
	0900
	1100
	1300
	1500
	1700
	Night, June 5
	Night, June 6
	0500
	0700
	0900
	1100
	1300
	1500
	1700

Check off one box at the conclusion of each turn as outlined in the instructions. Asterisks (*) after certain "hours" indicate time of arrival of ships on the Search Board. All newly arriving ships come on board at the beginning of the specified "hour" and are placed on any of the shaded squares. Arrival hours are as follows:

AT START, 0500: All U.S. ships; Jap ships—Akagi, Kaga, Soryu, Hiryu, Tone, Chikuma, Haruna, Kirishima, Nagara
 1500, June 3: Mikuma, Mogami, Kumano, Suzuya
 0500, June 4: Kongo, Hiei, Atago, Chokai, Myoko, Hagura, Zuiho, Yura
 1700, June 4: Yamato, Nagato, Mutsu, Hosho, Sendai

JAPANESE SHIPS

Akagi 10	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Yamato 10	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Mikuma 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Kaga 10	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Nagato 8	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Mogami 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Hiryu 8	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Mutsu 8	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Suzuya 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Soryu 8	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Haruna 6	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Tone 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Zuiho 6	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Hiei 6	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Nagara 2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Hosho 4	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Kirishima 6	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Sendai 2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		Kongo 6	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Yura 2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
				Atago 4	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
				Haguro 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
				Myoko 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
				Chikuma 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
				Chokai 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
				Kumano 3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

OPERATIONS

OFFICIAL RULES CHANGES

1. American ships may leave the mapboard via the east edge after receiving at least one air attack west of Midway Island.
2. Japanese ships may leave the mapboard via the west, north, or south edge at any time.
3. Ships of either side that leave the mapboard may

not return. They are not considered sunk and the opponent receives no victory points for them.

4. No one-way suicide attacks (kamikaze attacks) are allowed. A player may not launch an attack in which his planes cannot safely return to a carrier (or Midway).

OPTIONAL RULE

Aircraft that begin the game at Midway may not land on carriers.

QUESTIONS AND ANSWERS

Q. Is it legal to attack a position, and after learning what's there, call off the dive bombers and torpedo bombers and send them home without attacking, but engage in a fighter-fighter combat?

A. Yes, but even the fighter-fighter combat is not mandatory.

Q. Assume surface combat lasts longer than four turns. What happens to any new forces entering the square where the combatants are held in combat?

A. They enter the battle from the last row of rectangles and maneuver normally.

Q. Can anvil attacks be made from the stern?

A. No.

Q. Can the Japanese player bring the Hosho or Zuiho on board with planes already readied so that they can be launched on the turn of entry?

A. Yes.

Q. When placing ships on the battle board, may some ships be facing others?

A. No, all ships of each side must be facing in the same direction, which is towards the enemy ships.

Q. When ships are sighted, exactly what information must be given?

A. Just the type of ships present; carrier, battleship, cruiser. No numbers or identifications are given.

MAKING VARIANTS

The Coral Sea Variant Kit, which contains two die cut full counter sheets (one 1/2" sheet of ship search and plane counters and one 2" x 1/2" ship battle-board counters) and two actual size, full color, unmounted maps, is available from our parts dept. See our parts list for current price. The counters in the kit can also be used in conjunction with other variants and articles that appear in this Guide.

The Leyte Gulf map and counters are not available but can be made using the pictures and diagrams in the article. Rows F-I on the map are all clear ocean.

Components for all other variants are not available but can be made from the pictures and diagrams provided.

THE GENERAL

Now that you know how to play the game, the next problem is probably *who* to play it with. We can help you with that problem and many others only through your subscription to our bi-monthly gaming journal, the **GENERAL**. In the **GENERAL** you'll not only read all there is to know about this game, but will also learn about our dozens of other exciting simulation games of skill. Every 2 color, thirty-six page issue is jammed full of professional articles on the strategy and tactics of Avalon Hill gaming. Look and see what the **GENERAL** offers:

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MIDWAY Articles Appearing In THE GENERAL

- * 1. "Midway-Reworked" by Victor Madeja (Vol. 1, No. 5, pg.3)
2. "The Japanese Have The Best Of It In Midway" by John E. Curtis (Vol. 1, No. 6, pg. 4)
3. "Amercs Have It Made In Midway" by Lou Zocchi (Vol. 1, No. 6, pg. 10)
4. "Midway Solitaire" by Robert Olson (Vol. 2, No. 2, pg. 2)
5. "Midway's Hidden American Power" by Lou Zocchi (Vol. 2, No. 2, pg. 12)
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