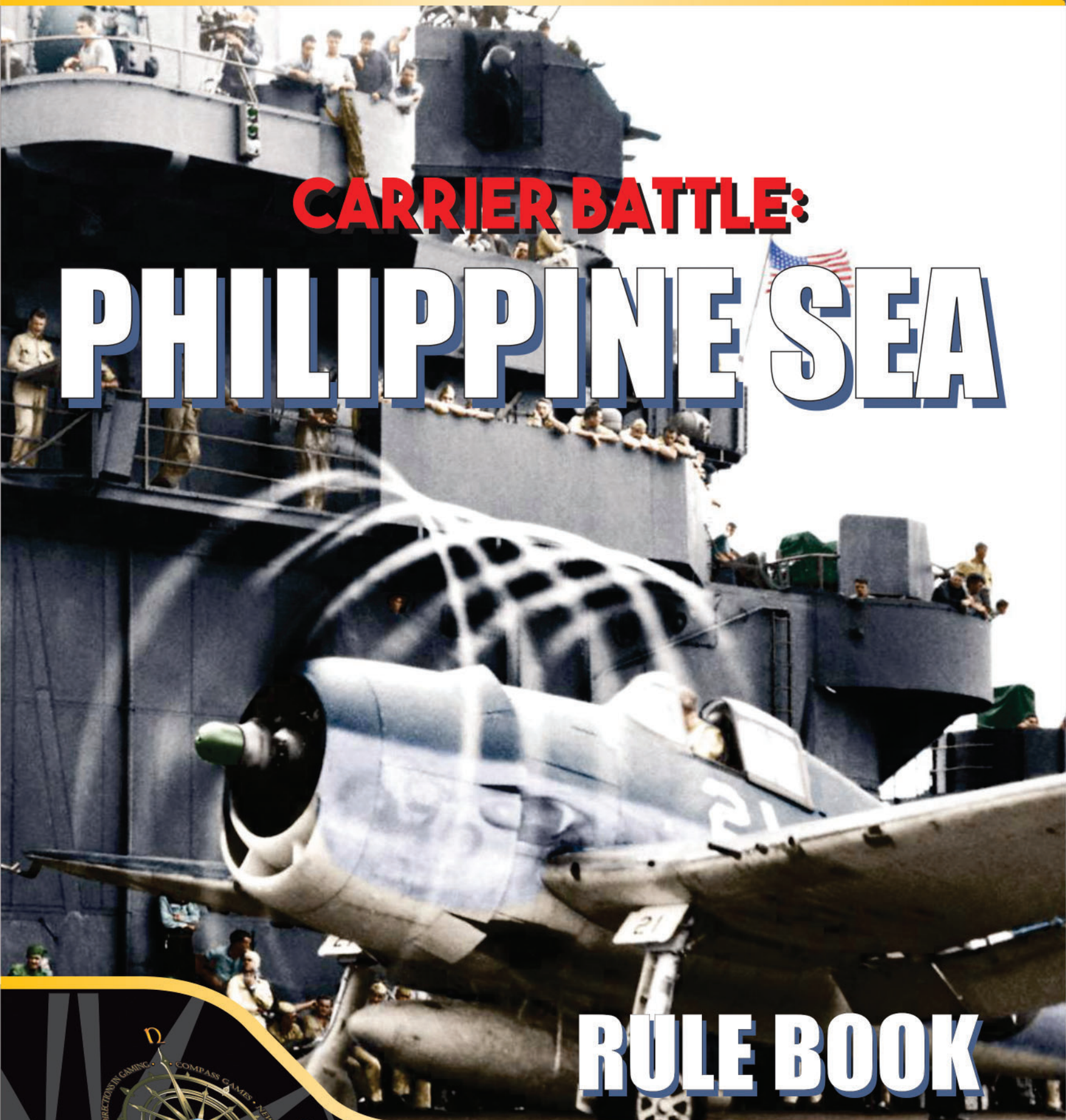

CARRIER BATTLE:

PHILIPPINE SEA

RULE BOOK

Compass Games

New Directions in Gaming

Carrier Battle: Philippine Sea

Carrier Battle: Philippine Sea is a solitaire game about the Battle of the Philippine Sea, fought June 19-20, 1944, near the Mariana Islands. This was the greatest aircraft carrier battle in history and also the last time the Japanese navy sortied seeking a decisive action with the serious hope that it might win. The Americans accomplished their mission of protecting the invasion fleet and shot down a great many Japanese aircraft, but many US naval officers were disappointed with the result. Can you do better?

The game focuses on the central problems of carrier warfare: searching for the enemy, evaluating intelligence, launching air strikes, and protecting one's own fleet from enemy raids. The game rules dictate how Japanese forces arrive in play, move, and attack.

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1.0 INTRODUCTION

This section gives a broad and general overview of the game. For precise rules on all topics mentioned see the later rules sections.

1.1 GAME OVERVIEW AND BASIC CONCEPTS

In **Carrier Battle**: **Philippine Sea**, you control a US fleet consisting of carriers, their air units, and surface units. These are organized into task groups. Aircraft are controlled mainly on the off-map displays on the right-hand side of the mapsheet. Aircraft are either on board a carrier or organized as part of an air mission (strike or intercept). Aircraft on board a carrier are moved about the task group displays to indicate their current state of readiness: stored in the hangar, arming and fuelling, ready on the flight deck, etc.

The Japanese appear in the game as forces. A force counter can represent many ships or none at all. Forces arrive randomly and move initially according to a concept of mission movement, attempting to reach the invasion areas off Saipan. After contacting US forces, they maneuver for best tactical advantage.

In each turn, you will ready planes, launch them on search missions, and then launch air strikes against detected forces. At the same time, Japanese forces within range may launch air raids against you. The first you will learn of an incoming attack is when it is detected on radar. You will not know the exact composition of a force which attacked you; you will just know how many planes appeared.

Japanese forces progress through five different intelligence levels, representing increasingly precise and reliable information. All forces start at Level 0, meaning that you know nothing (not even whether the force is real, or a false contact). With repeated search contacts a force progresses ultimately to Level 4, at which point you know the exact force composition.

Some Japanese forces will be discovered to contain carriers -- either because you search them, or because they attack you. Japanese carrier forces generate air attacks according to a set of rules that model the likelihood that a force found you, the likelihood that it had carriers, and its admiral's decision about how much strength to put into an attack.

Each game turn consists of four identical action phases. In each phase, some portion of the Japanese forces (chosen by chit draw) can move and attack. In every action phrase, air units of both sides fly missions and are moved around on the carriers.

1.2 HOW TO LEARN THE GAME

The rules to Carrier Battle: Philippine Sea are lengthy, but they have been structured to assist you in learning them. We strongly recommend you begin by reading rules section 2 (Game Equipment) and section 3 (Sequence of Play) and then read the Comprehensive Example of Play, which appears in the Play Book. This will give you a good idea of how the game works, providing context for understanding the actual rules.

Like its predecessor game Carrier (Victory Games, 1990), Carrier Battle: Philippine Sea includes many mechanics and concepts not found in other wargames. So that you may learn these in small chunks, the rules use the method of programmed instruction, making use of small scenarios to teach the game.

Scenarios 1 through 5 each introduce a new portion of the full rules set as well as a specific part of the actual battle. Thus, in addition to teaching the rules, these scenarios serve as an introduction to the history. It is strongly recommended to learn the game by playing these scenarios, each of which can be set up and played fairly quickly. Each of these scenarios appears in the Play Book, and the rules indicate the specific point at which you should stop reading and play each one. Scenarios 6 through 9, also in the Play Book, are the full game. The Comprehensive Example illustrates the opening moves of Scenario 6. Scenarios 7 through 9 present different possible battle situations, but are no more difficult then Scenario 6. The main rules indicate the point at which you are ready to play these full scenarios.

For later variation or increased challenge and realism, most scenarios include some variations to setup, scenario rules, etc. When you are ready, you can also use any of the Advanced Rules you wish (sections 16.0 and after). These are not necessary to enjoy the game (although some are recommended), but they will extend your enjoyment once you have learned the standard rules.

While programmed instruction is great for learning, it does mean that the rules must be organized in order of teaching and not in order of the sequence of play.

The 'order of teaching' is dictated in part by the need to make bite-size scenarios for learning; this, for example, is why the rules on air-to-air combat [Scenario 1] come before rules on actually launching aircraft. To enable easier reference during play we have provided a Game Turn Flow Chart, which shows the entire sequence of play with rules references. It is recommended to keep this play-aid in front of you for reference.

As you read you will notice some asymmetries in the terms used in the rules: for example, we speak of US "air strikes" but Japanese "air raids," and of US "task groups" but Japanese "forces." This is intentional: it reflects that your knowledge of what is going on with US units is much different from your knowledge of the Japanese, so these entities function differently in the game.

2.0 GAME EQUIPMENT

A complete game of Carrier Battle: Philippine Sea includes the following components:

One mapsheet with hexgrid game map and displays
Three die-cut counter sheets
One Game Turn Flow Chart player aid card
One Air Raid Flow Chart / Japanese Movement Priorities player aid card
One Butai Displays player aid card
Four Charts and Tables cards, printed both sides
Rule book
One 10-sided die

2.1 GAME MAP

The hex grid game map portrays the area of the Pacific Ocean where the Battle of the Philippine Sea took place, at a scale of 33 nautical miles per hex.

2.11 The Japanese arrival hexes, movement compasses, and movement zones printed on the map control the arrival and subsequent movement of Japanese forces.

2.12 The map depicts certain large islands including Saipan and Guam. (Note, these islands are not drawn to scale on the map, but are shown at larger size.) A US carrier task group may not enter an island hex. Japanese forces may enter any hex.

2.13 The map is divided into an eastern section and a western section. The red line that zig-zags down the middle of the map divides eastern map zones from western ones. The two sections have some different rules for Japanese movement.

2.2 US AND JAPANESE DISPLAYS

The game includes several displays for control of carrier forces and their aircraft. Air units mostly operate on these displays, not on the map itself. These include the Task Group displays (US carrier forces), Butai displays (Japanese carriers), Air Mission displays (US), and Guam Air Display (Japanese). (For the meaning of the Japanese word "Butai," see the design note in section 9.1.)

2.21 The Task Group displays (6.1) are used to hold US ships organized into task groups. US surface ship counters are rarely placed directly on the map; normally they occupy these displays.

2.211 There are five historical US task groups, numbered 58.1, 58.2, 58.3, 58.4 and 58.7. Task Group 58.7 is also called "Battle Line": it has no carriers, but seven battleships. Since it has no carriers, it does not have its own task group display, just a holding box. Battle Line has some special abilities for antiaircraft defense against Japanese raids. Extra surface task groups are also possible as a scenario variation.

2.22 The air mission displays (4.1) show the units in each US air strike or intercept mission, and the amount of fuel remaining for that mission.

2.23 The Butai displays (9.1), on separate cards, are used to hold the ships of Japanese carrier forces, as well as information about the air assets of those forces.

2.24 The Guam Air Display (11.2) holds raids launched from the Japanese land base of Guam.

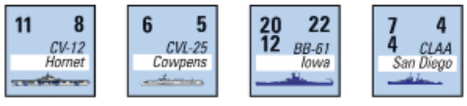
2.25 The "Task Force 58 -- in hex" box is provided as a convenience to hold units that are in the same hex as Task Force 58, since at times a significant number of pieces can be piled into this one hex.

2.26 For convenience, map boxes are provided to hold sunken Japanese ships, Japanese ships exited from the map, and also lost/destroyed US air units. Separate boxes are provided for air units lost in the same hex as a US task group versus units lost elsewhere, as the latter are weighted more heavily in assessing victory (15.1).

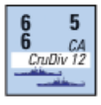
2.3 UNIT COUNTERS

2.31 The playing pieces represent the ships and aircraft of each side. Many pieces are markers to record information known to you at a given moment.

2.32 US ship units may represent:
Individual aircraft carriers (CV or CVL), battleships (BB), or anti-aircraft cruisers (CLAA)



Heavy or light cruiser divisions (CruDiv, 2-3 ships each)



Destroyer squadrons/divisions (Desron or DesDiv, 3-5 ships each).

2.33 Japanese ship units represent individual aircraft carriers (CV, CVL), individual battleships (BB), and groupings of cruisers and destroyers.

A "cruiser force" represents two or more heavy cruisers plus a screen of destroyers. A "destroyer force" represents anywhere from three to ten destroyers, possibly with a light cruiser attached.

2.34 US air units represent 12 aircraft each. Japanese air points represent about eight aircraft each. (The different scales were chosen to give the most natural representation of the air groups on each side's ships.) Note that because of this and certain other asymmetries, US and Japanese air-to-air combat use separate tables.

DESIGN NOTE: Players of the Carrier game will note that the scale for US air units is quite different here. That is because of the scale of this battle. More US aircraft and flight decks took part in this battle than in all the South Pacific battles put together.

2.341 Certain US air units are night capable (see Unit Counter Summary). These are treated the same as other units unless using optional rule 22.0.

2.35 Japanese ships are classified as either "historical," "additional," or "ghost."

- Ships with no backprinting are "historical ships." These ships took part in the actual battle.
- Ships backprinted "Addl" are "additional ships." These are ships that did not take part in the actual battle, but might have. The US player can choose when setting up the game whether to use these ships.
- Ships backprinted "Scen 9" are "ghost ships." These are intended for use only in Scenario 9, the Great Carrier Battle of the Pacific. Historically, these ships had already been sunk in earlier campaigns, and did not appear at the Battle of the Philippine Sea.

2.36 The following abbreviations are used on the playing pieces and in the rules:

F6F - Grumman 'Hellcat' single engine fighter

F6F-3 - F6F equipped and trained for night operations

SBD - Douglas 'Dauntless' dive bomber

SB2C - Curtiss 'Helldiver' dive bomber

TBF - Grumman 'Avenger' torpedo bomber

TBM - Functionaly the same as a TBF but manufactured by General Motors

(Note: The game does not distinguish specific types for Japanese aircraft.)

Ship and Ship Unit Types

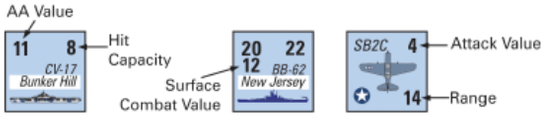
CV - Fleet carrier
CVL - Light carrier (see Design Note following)
BB -- Battleship
CLAA -- Light Cruiser, Anti-aircraft
CruDiv -- Cruiser Division
DesDiv -- Destroyer Division
Desron -- Destroyer Squadron

Other

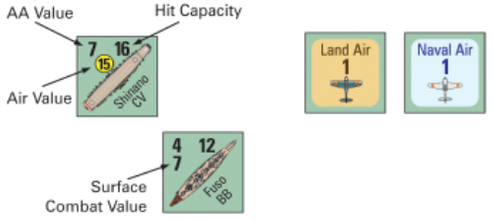
AA -- Anti-aircraft
CAP -- Combat Air Patrol
DRM -- Die-roll modifier

DESIGN NOTE: The term "CVL" in US Navy parlance referred to specific classes of carriers built on light cruiser hulls. The American fleet in this game includes a number of these. For convenience we also use the term to refer to all Japanese carriers below fleet carrier size.

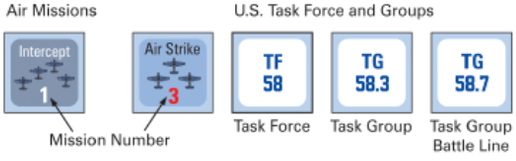
U.S. Naval and Air Units



Japanese Naval and Air Units

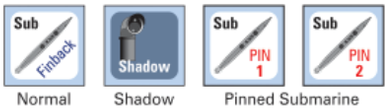


U.S. Markers



Fuel Markers

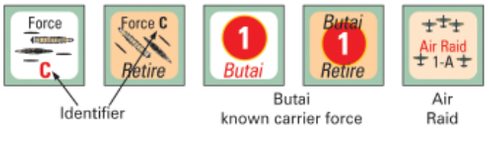
U.S. Submarines



Miscellaneous U.S. Markers and Damage Markers

Japanese Markers

Japanese Forces

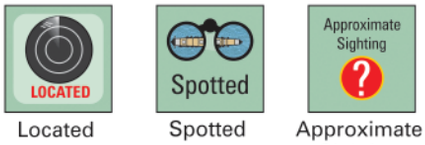


Miscellaneous Japanese Markers

Activation Chits

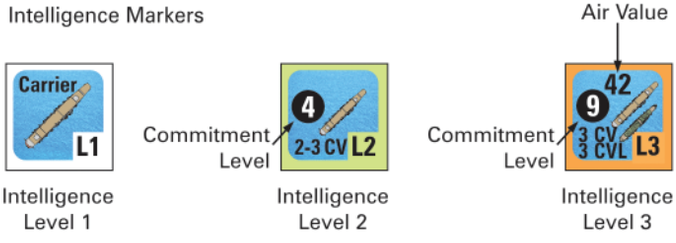
Miscellaneous Markers

Detection Markers



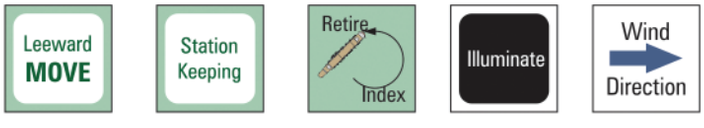
Search Markers

Intelligence Markers

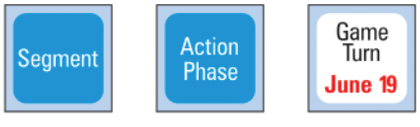


Hit Markers

Miscellaneous Markers



Segment, Phase and Turn Markers



2.4 PLAYER AIDS

The player aids include four charts and tables cards (printed front and back) with the charts and tables required to play the game, and three other player aid cards each printed on one side only: the Game Turn Flow Chart, the Butai Displays, and the Air Raid Flow Chart (on the reverse of which is the Japanese Movement Priorities chart). The Game Turn Flow Chart and Butai Displays will be needed throughout the game and will hold pieces; they should be laid out in a convenient place beside the map. The Air Raid Flow Chart and the Movement Priorities, like the charts and

tables, are to be referred to only when needed. The intent is that once a player is familiar with the rules, the game can be played mainly from these player aids with only infrequent reference to the rule book.

At the place where a chart or table is first referenced, the rules will include an indication of where to find it: for example "**Card 1, front**" meaning the front side of Card 1.

2.41 Many tables list die roll modifiers (DRM). In all cases, if the modified roll exceeds the greatest value shown, or is less than the smallest value shown, use that greatest or smallest value. For example if your modified die roll is -1, but the smallest die roll line shown is 1, use 1.

2.5 DICE

All die rolls in the game use a 10-sided die. A "0" is read in all cases as "10."

If any parts are damaged or missing please contact:

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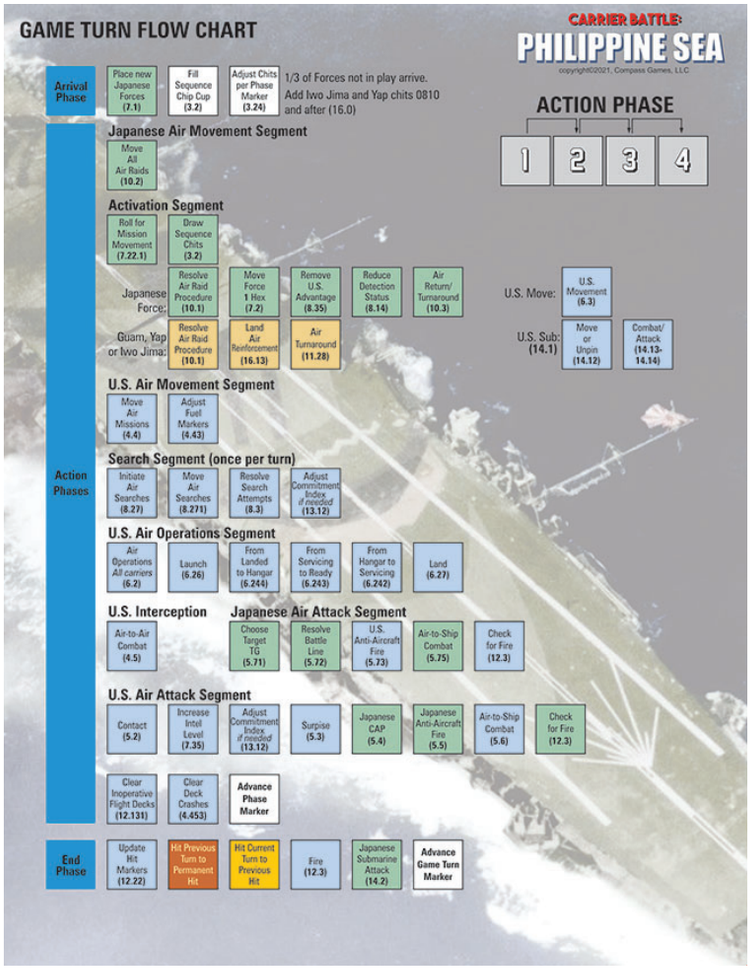
3.0 SEQUENCE OF PLAY

Carrier Battle: Philippine Sea is played in game turns. Each turn consists of several phases, some of which are further divided into segments. Each complete turn represents 80 minutes of real time.

This full sequence of play is placed here for reference and as a further introduction to the full game. Scenarios 1-4 use only selected portions of the sequence, as described in scenario special rules. Scenarios 5 and after use the full sequence.

The Game Turn Flow Chart player-aid card is an important reference during play. Use the Action Phase and Segment markers with this flow chart to record the current action phase and segment.



3.1 SEQUENCE OUTLINE

I. Arrival Phase

1. Determine how many Japanese forces arrive this turn (7.1).
2. Place new Japanese forces on the map (7.1).
3. Place Activation Chits for the new forces into the cup and count the total number of activation chits in the cup. Place the Chits Per Phase marker (3.24).

II. First Action Phase

Japanese Air Movement Segment
Move all Japanese air raids on the map (10.23 or scenario-specific rules).

Activation Segment
1. Draw activation chits. The same number of chits is drawn in each phase (3.2).
2. For each Japanese force activated:
- Apply the carrier air raid procedure (10.1).
- If the force is a carrier force, move air units on the Air Raid Return or Turnaround sections of its Butai display one box to the right (9.12).
- Move the activated force (7.2).

3. If Guam is activated, carry out the land-based air raid procedure (11.2).
4. If using rule 16.0, Land Air Reinforcements, and if the chit for Iwo Jima or Yap/Peleliu is drawn, carry out the Land Air Reinforcement procedure.
5. If the US Subs chit is drawn, resolve US submarine actions (14.1).
6. If the US Move chit is drawn, US task groups / task forces can move (6.3).

US Air Movement Segment
Move US air missions and expend fuel (4.4).

US Air Search Segment (once per game-turn)
Once per game turn the US player can declare an Air Search segment in which he moves search aircraft (8.2) and conducts air searches (8.3).

US Air Operations Segment
For each carrier task group, perform US air operations -- launch, raising, servicing, lowering, landing (6.2).

US Interception Segment
Perform air-to-air combat (4.5) between US intercept missions and Japanese raids.

Japanese Air Attack Segment
Perform Japanese air/sea attacks against US task groups (5.7).

US Air Attack Segment
Perform US air/sea attacks against Japanese forces (5.1), including air-to-air combat against Japanese CAP.

End of Action Phase

1. Check for removal of Inoperative Flight Deck (12.13) and Deck Crash (4.452, if used) markers.
2. Move Action Phase marker to next box

II. Second Action Phase

Identical to first.

IV. Third Action Phase

Identical to first.

V. Fourth Action Phase

Identical to first.

VI. Game Turn End Phase

1. Hit Adjustment step: Japanese "Hit Previous Turn" markers become permanent hits, and "Hit Current Turn" markers become "Hit Previous Turn."
2. Fire Step: Assess fire damage for any US carriers currently on fire (12.3).
3. Japanese Submarine Attack step (6.433): Check for possible submarine attack versus any illuminated hex. Illumination markers may be removed.
4. Advance Game Turn marker and return Action Phase and Segment markers to initial boxes.

3.2 ACTIVATION CHITS

3.21 Activation chits are used to determine when Japanese forces are activated and when certain other actions take place. Activation chits are placed in a cup (a coffee mug works well) and drawn during each Action Phase. Chits are resolved in the order drawn.

3.22 The following activation chits are available:

Japanese Force Activation -- One per force in the game.
US Subs -- Scenario 6 and after, only.
Guam -- Scenario 6 and after, only.
Iwo Jima, Yap/Peleliu -- Only if using Japanese Land Air Reinforcements (16.0).
US Move - Allows TF 58 and US task groups to move.
No Op (these look the same as other activation chits, but say "No Op"). A No Op chit causes no action when drawn; it does not activate anything.

3.23 During the arrival phase, you restock the cup with action chits as follows:
1. One chit for each force now on the map (including forces arriving that turn, 7.1).

2. Include the US Move chit, US Subs chit, and the Guam chit as required by scenario.
3. Include the Iwo Jima and Yap/Peleliu chits if using optional rule 16.0.
4. Finally, add No Op chits as required so that the total number of chits in the cup is evenly divisible by four.

3.24 One-quarter of the total number of chits are drawn in each action phase. You may place the "Chits Per Phase" marker on the General Records Track to record this.

EXAMPLE: It is Scenario 6, and there are 14 Japanese forces on the map. You add the US Move, US Subs and the Guam chit. Assume rule 16.0 is not in play, so you will not use the Iwo Jima or Yap/Peleliu chits. The total is 17 chits.17 is not divisible by four; the next number evenly divisible by four is 20, so you add all three No Op chits to the cup as well. You will draw five chits in each of the four Action Phases. You place the Chits Per Phase marker in the '5' box of the General Records Track.

4.0 US AIR MISSIONS

US air units are moved about the map primarily as part of air missions. There are two types of air mission: intercept and air strike.

4.1 AIR MISSION DISPLAYS

4.11 The US player has sixteen individually identified air mission counters: "Air Strike 1" through "Air Strike 8," and "Intercept 1" through "Intercept 8." These represent aircraft flying missions. The air mission counter is placed on the map while the individual air units are placed on the air mission displays.

4.12 There is one air mission display for each numbered mission. It contains a box to hold the units on the mission, and a track to record the mission's remaining fuel.

4.13 The air mission displays are labelled generically "Air Mission." Each can be used for either type of air mission. Use the air mission counter for the desired type. For example, to use track 6 for an air raid, use the "Air Strike 6" counter, and to use it for an intercept use "Intercept 6."

- As a practical matter, when glancing at the display you can recognize strike missions because they will be the ones that have attack aircraft types.
- Thus, the US can have a maximum total of eight missions, both types included, at one time; this is a design limit reflecting command and control limitations.

4.14 An air mission is formed by launching aircraft in the Air Operations Segment. The player selects an unused mission display, places the units in the box, places the Fuel marker on the fuel track, and places the mission counter itself onto the map. The mission counter is placed in the hex containing the task group that launched the units.

- An air mission can move, within certain special limits, in the same phase it is placed on the map. See 4.42.
- Units launched from different task groups in the same hex can be combined into a single air mission. (Exception: CAP, 4.33) Units launching in different hexes cannot.
- Units just launched can be added to a previously existing air mission (of either type) in the same hex, if the player wishes. The mission's Fuel marker is set to be the minimum of its current value, and the Fuel value the launched units would have if placed in a separate mission.
- The type of an air mission cannot be changed in flight, e.g. you cannot convert an intercept mission to a strike mission.
- Once air units are placed in a mission they remain in that mission until they are eliminated or land; units cannot be transferred between air missions. (Exception: 4.37)

4.15 The Fuel marker for a new mission is placed initially in the box corresponding to the lowest endurance value of any aircraft in the mission. For example, if a strike mission included both F6F (endurance 16) and SB2C (endurance 14) units, place the marker in the "4" box with the "+10" side up, representing the value 14. The marker is moved down the track as the mission flies (4.4).

- There is a special type of intercept mission (Combat Air Patrol) which does not get a Fuel marker right away. See 4.33

DESIGN NOTE: Fuel was a critical consideration in all the US air operations in this battle. The Japanese were able to search and attack beyond the ranges at which the US could operate comfortably. The US launched its one large strike -- on the afternoon of June 20 -- knowing that it would be a struggle for many of the planes to return. Fuel was also a consideration for the defending US fighters, as planes low on fuel had to be landed and replaced.

4.16 Units in an air mission may be landed on any carrier in a task group in the same hex, during the US Air Operations Segment. They must be brought down to the hangar and go through servicing (6.2) before being launched again. (Note: In Scenarios 1 and 2 there is no servicing; air units fly at most one mission each.)

- Note that it is permissible for an air mission to wait in the task group's hex (burning one Fuel Point per Air Movement Segment, per rule 4.431) until there is room to land. This can easily happen with rule 17.0 (Leeward Movement).

4.2 AIR STRIKE MISSIONS

Note: Section 4.2 is included here for easier reference but is not actually needed until Scenario 2. You may skip it on a first reading and return to it when playing Scenario 2.

The purpose of an air strike is to attack detected Japanese forces or the land base at Guam.

4.21 An air strike mission may contain any type of aircraft. Attack planes (SBD, SB2C, TBF, TBM) will attack enemy ships. Fighter aircraft (F6F) will not attack enemy ships, but will act as escorts.

4.22 A strike cannot move more than two hexes away from its launching carriers unless moving directly towards a detected enemy force or Guam. Any level of detection (8.1) suffices.

4.23 It is permitted to start moving a raid towards one target and then redirect it to a different one if a better target becomes detected. It is also permitted to fly around within two hexes of the task group and wait for a target to be detected. Rule 4.22 only prohibits flying a raid speculatively toward a force not yet detected.

DESIGN NOTE: This rule exists to prevent you from taking advantage in an unrealistic way of extra knowledge you have in the game. Historically, the US had strike planes ready on the morning of the 19th, but these planes were flown off the decks when incoming Japanese raids were detected, and circled a little to the east during the air battles.

4.24 An air strike may not engage in air-to-air combat with a Japanese air raid.

4.25 4.25 An air strike can never be split while in flight. (An intercept mission can be; see 4.37.)

4.3 INTERCEPT MISSION

The purpose of an intercept mission is to shoot down incoming Japanese air raids.

DESIGN NOTE: The interception mechanic is one of the biggest ways in which Carrier Battle: Philippine Sea differs from its predecessor, Carrier. By June 1944 the US Navy had perfected a technique of radar-controlled interception which allowed incoming raids to be intercepted at distances of 75 to almost 150 miles from the fleet. (This required both good radar technology and also the effective radio discipline to make use of it.) Intercept missions in the game work essentially like little air strikes which fly out to do battle with incoming raids.

Intercept missions can also represent Combat Air Patrol (CAP), which was a force of fighter planes maintained in the air for close protection of the fleet. A few of these at a time would touch down for refuelling so that the patrol was maintained. In the game, CAP is portrayed as a special type of intercept mission which is restricted to the task group's hex. Essentially its purpose is to have some planes ready in the air when a raid is detected; the cost is that these planes will have a lower initial fuel level (4.35).

4.31 An intercept mission may contain only fighter (F6F or F6F-3) units. Units launched from different carriers and task groups may be combined in a single mission.

4.32 A normal intercept mission is placed on the map and given a fuel marker, like a strike mission. The Fuel marker is initially placed at 16 (the endurance value of the F6F). The mission may then be moved, with limits, in the same phase it is placed (4.42). (These missions typically are formed when an incoming raid is detected, and fly out to intercept the raid.)

4.33 Intercept missions can also be placed on Combat Air Patrol (CAP), as follows:

- All units in each CAP mission must be launched from the same task group.
- A task group can have at most two CAP missions totaling at most three air units between them. CAP missions are placed in the group's CAP box.
- A CAP mission is not given a fuel marker.
- The mission remains in the CAP box unless placed on the map (4.34, 4.35), at which point it acquires a fuel marker.
- CAP missions can be created only at launch; a mission on the map cannot be moved to the CAP box.

(Note: the limits on CAP missions reflect the need to cycle planes to refuel.)

4.34 A CAP mission is placed on the map (and receives a Fuel marker, 4.35) in two cases:

1. During the US Air Movement Segment, a CAP mission may be placed on the map in its task group's hex. The mission may then move normally in that same segment. The reason for placing the mission on the map in this way is to allow it to fly out and intercept incoming raids.
2. A CAP mission must be placed on the map in order to fight air-to-air combat in its hex. This can be done during the US Interception Segment. A mission cannot fight air-to-air combat while it remains in the CAP box.

In either case, from that point on the mission functions as a normal intercept mission. It cannot return to the CAP box.

4.35 A CAP mission receives a fuel marker when placed on the map. The player rolls a die and consults the Interception Fuel Level Table (card 1, front) to determine the initial fuel state. Place the Fuel marker on the track accordingly. From this point on the marker is used to track fuel state as for any other air mission.

INTERCEPTION FUEL LEVEL TABLE (4.34)

Die Roll	1-2	3-4	5-6	7-8	9-10
Initial Fuel	10	11	12	13	14

EXAMPLE: The player rolls the die and obtains a '7'. The result is the CAP mission starts with a Fuel Level of 13.

4.36 An intercept mission can be moved anywhere the US player wishes, except into a hex containing a Japanese naval (force or ship) unit. In other words, it cannot be used like an air strike, but apart from that it can go anywhere, including Guam. (Indeed, sending an intercept mission over Guam early in the game is a useful tactic, and was done historically.)

4.37 An intercept mission can be split at any time while in flight, provided a free air mission display is available. Move the desired number of units onto the second display and place its counter on the map in the same hex as the original mission. The second mission gets the same Fuel value as the original. Two missions can never be combined.

4.4 US AIR MISSION MOVEMENT

Except as noted, all rules in this section apply equally to both types of US air missions.

4.41 US air missions move in every US Air Movement Segment. A mission moves from hex to hex. Terrain (islands) and Japanese units do not affect air mission movement.

4.42 A mission which has just been launched can move one (and only one) hex, at the cost of one fuel point, at the same time it is launched. This is a special move occuring outside the US Air Movement Segment.

4.43 Air missions expend fuel for movement, combat, and landing as follows (4.431-4.435). Adjust the fuel marker on the mission's track to show the expenditure of fuel.

4.431 The first hex of movement in a US Air Movement Segment costs one fuel point.

- The player may choose not to move the mission at all -- keeping it in the same hex -- but he still pays the cost of one fuel point.

4.432 An air mission may move one additional hex per segment, at a cost of one or two additional fuel points. The US player must roll the die. On a roll of **1-5** he must expend one additional point (a total of two for the entire move). On a roll of **6-10** he must expend two additional points (a total of three for the entire move).

4.433 An air mission must pay one additional fuel point to land, over and above the cost to move into the landing hex. If unable to pay this fuel point it suffers a DRM of **+2** on its Safe Return die roll (4.451).

- It is permitted to land some of the air units in a mission and leave others aloft. In the case where the mission is remaining stationary in the landing hex, it pays one fuel point, not two. (In effect the units that land pay one point to land, and those that remain aloft pay one point to remain aloft.)

4.434 Intercept missions must pay a cost of three additional fuel points to engage in air-to-air combat. This cost does not apply to fighters in strike missions. When a CAP mission is placed on the map to engage in combat (4.34), the cost of three fuel points is deducted from the initial fuel level as determined using the Interception Fuel Level Table (4.35).

4.435 The fuel costs for movement and combat are summarized on the US Fuel Expenditure Summary (card 1, front).

US FUEL EXPENDITURE SUMMARY (4.4)

Move 0 to 1 hexes	1 fuel point (4.431)
Move 2 hexes	2 fuel points on DR 1-5 3 fuel points on DR 6-10 (4.432)
Intercept Combat	3 fuel points (4.434)
Air Strike Attack	1 fuel point (5.61)
Land	1 fuel point (4.433)
2nd Contact Attempt	1 fuel point (5.22)

4.44 When an air mission's fuel marker reaches zero, it is replaced with a Fuel Critical marker. This marker is moved one position higher on the track for each fuel point expended. The mission is said to be "fuel critical," or "in a fuel critical state."

EXAMPLE: An air mission has one fuel point remaining, and is required to expend 3 points for combat. It deducts one fuel point, reaching 0, and replaces Fuel with Fuel Critical. It then advances the Fuel Critical marker to the "2" box to account for the other two points.

4.45 An air unit which is in a fuel critical state suffers the following effects:

- The unit can move at most one hex per segment. Each hex moved costs one more fuel point, moving the marker one place higher on the track.
- The unit suffers adverse modifiers in air-to-air combat, both when the unit fires and when it is fired on.
- The unit may crash on landing (4.451).
- The unit is eliminated if Fuel Critical reaches "7" (4.454)

4.451 When an air mission that is fuel critical lands, you must check each aircraft for possible ditching or landing accidents. For each individual unit, roll one die and consult the Safe Return Table (card 1, front). Add to the die-roll the current value of the Fuel Critical marker -- for example, if it is in the "5" box then you add five to each die roll). The result will either be no effect (safe landing), or the loss of the unit.

- If the unit is unable to pay an additional fuel point for landing (because of an extreme fuel critical state) it suffers a modifier of +2 on this roll.
- Note that there are modifiers for night and dusk conditions.
- Rolls for the Safe Return Table should be made after all air unit movement for that segment is complete.

other aircraft you might have intended to land on the ship that phase need to either land somewhere else or wait one more phase.)

4.452 (Optional) Deck Crashes: Each time an air unit is eliminated by a die roll on the Safe Return Table, roll one additional die. On a roll of "10" there has been a deck crash. Place a Deck Crash marker. The carrier cannot conduct any flight operations (launch, landing, or raising or lowering of aircraft) while this marker is in place. (This implies that other aircraft you might have intended to land on the ship that phase need to either land somewhere else or wait one more phase.)

4.453 Clearing Deck Crashes: At the end of each Action Phase, roll one die for each Deck Crash marker. The marker is removed on a roll of 1 through 7. This includes the Action Phase in which the deck crash occurred.

DESIGN NOTE: The Deck Crashes option can be added to provide a little additional detail and color and a little added challenge after you have some experience with the game.

4.454 If a mission's Fuel Critical marker reaches the "7" box, all its aircraft are eliminated immediately. Note that it is legal for the US player deliberately to push missions beyond the point where they cannot return safely.

DESIGN NOTE: The safe return result takes into account both the possibility that the aircraft ran out of fuel and ditched en route, and the possibility of a landing accident (more likely when the aircraft is low on fuel, and more likely in darkness or low light). Different pilots had different levels of skill and training at coaxing the most miles out of each gallon.

4.5 AIR-TO-AIR COMBAT

Air-to-air combat occurs:

- In the US Interception Segment, when a US interception mission is located in the same hex with a Japanese raid. This is called interception combat.
- In the Japanese CAP Step of the US Air Attack Segment, when a US strike has contacted a carrier force. This is called strike combat. Each strike will engage in at most one strike combat.

Note that air-to-air combat occurs only at these specific times, and not when units move through each other's hexes during movement.

4.51 In interception combat, the following rules apply:

- The US player may intercept (i.e., engage in air-to-air combat) with some, all, or none of the intercept missions in a hex. He makes all the decisions before rolling any dice.
- Each intercept mission resolves its air-to-air combat separately, in the order the player wishes. Each intercept mission may engage at most one Japanese raid. It may not split its aircraft against more than one raid.

- There is a fuel cost for interception combat. Each mission that intercepts must immediately pay a cost of three fuel points (4.434). A mission which cannot pay the cost (because it is at a fuel critical state of 4 or worse) cannot engage in interception combat. For a CAP mission placed on the map, the three points are deducted after determining the mission's initial fuel state (4.35).

4.52 In interception combat, a proportion of the air points in the raid are fighters, and the rest are attack planes. You determine how many points are fighters the first time a raid is contacted by US fighters (10.13).

- Combat against the Japanese escorts is resolved before combat against the attack planes. The US player apportions his aircraft between the two.
- At least one fighter unit per two Japanese escort points must be allocated against escorts, before allocating any against strike planes. If there is only a single Japanese fighter point present, at least one fighter unit must still engage it.

4.53 In strike combat, Japanese CAP is randomly generated (5.4). All Japanese CAP points are fighters.

- The Japanese fighters will engage any escorting American fighters on a one-for-two basis (i.e., one air point per two US escort units). If there are any excess Japanese CAP points, they fight the US attack planes. The two combats are resolved separately.
- It is possible, as a result of the "A" combat result (4.57), that some Japanese points will fight the escorts and then also fight the attack planes.
- If there are no escorts, the number of Japanese CAP points is doubled for purposes of the Japanese Air-to-Air Combat Table. For example, four CAP points would use the "8" column.

4.54 In both types of air-to-air combat, the fighters on each side fire. Only fighter units fire, and all fighter units participate. All fire is simultaneous.

- US fire is resolved using the US Air-to-Air Combat Table (card 1, front). Cross-reference the number of units firing with a die roll -- applying modifiers listed -- and read the number of Japanese air points lost. The same table is used for firing against fighters and strike planes, but there is a die-roll modifier when the target is fighters.
- Japanese fighters attack US planes using the Japanese Air-to-Air Combat Table (card 1, front). Locate the column heading corresponding to the number of Japanese air points engaged. Apply modifiers as listed with the table and cross reference the column with the modified die roll to read off the result.
- If the number of air units/points in one combat should exceed the maximum column of the air-to-air combat table, use that maximum column. (This design limit reflects the numbers of aircraft that could be coordinated in one battle.)

4.55 US air-to-air combat results are a number of Japanese air points destroyed. In interception combat, results against escorts are separate from results against attack planes; any excess against either is ignored, and not applied to the other type.

4.56 Japanese air-to-air combat results are as follows:

A -- Abort result (4.57).
E -- one unit is immediately removed
A+E -- both the above results, one A and one E
2E -- two units are eliminated

For results against attack planes, if multiple types of attack plane are present, choose randomly.

4.57 The A (Abort) result is applied according to the combat situation:

- Versus US attack planes: One randomly chosen unit is held out of the air attack and returned to the Air Mission display.
- Versus escorting US fighters: one surviving CAP point (if any) which engaged the escort may also fire at the attack planes.
- Versus intercepting US fighters: If this result is achieved in the initial battle between US fighters and Japanese escorts, then one surviving escort (if any) can attack US fighters which were allocated against the attack planes. This extra attack is resolved before the battle involving the attack planes. If this extra attack results in an A, then one of the target fighters cannot shoot at the attack planes

DON'T GET WAVED OFF!

At this point, please play Scenario 1 found in the Play Book.

5.0 AIR/SEA COMBAT

When carriers are battling carriers, there is only one foolproof method of defense: to bomb the other fellow's flight decks before he can launch a strike. — Samuel Eliot Morison

The rules of sections 5.1 through 5.6 apply to US air strikes, which are the subject of Scenario 2. Section 5.7 explains how to adapt these procedures for Japanese air raids, which are needed in Scenario 3 and after. Some other parts of these combat rules also do not apply until later scenarios, but are included here for easier reference. These are identified by indicating the scenarios to which they are applicable.

5.1 US AIR STRIKE ATTACK PROCEDURE

In the US Air Attack Segment, a US air strike may attempt to attack detected Japanese forces in the same hex. Only detected forces can be attacked. The procedure is as follows. The individual steps are identified on the Game Turn Flow Chart.

1. **Contact:** Determine if the strike contacts its target (5.2). If it does not, the rest of the procedure is skipped. The strike must return to the task group which launched it. If the contact succeeds, continue with step 2.
2. **Intelligence Level (Scenarios 4 and after):** In scenario 4 and after, increase the intelligence level of the contacted force to the maximum (Level 4 for carrier forces, Level 3 for surface forces). Promote one level at a time, e.g., Level 1 to Level 2 and then Level 2 to Level 3. Note: Intelligence level does not apply in Scenario 2 or Scenario 3.
3. **Commitment (Scenario 6 and after):** Adjust Commitment Index as required, if the target increased in intelligence level (13.1).
4. **Surprise:** Determine whether the strike catches the target by surprise (5.3).
5. **Air-to-air Combat:** Determine the strength of Japanese CAP and resolve air-to-air combat (5.4).
6. **Japanese Anti-aircraft Fire:** Resolve the effects of anti-aircraft fire (5.5) Note, this step may be skipped depending on the Surprise result.
7. **Air-to-Ship combat:** Resolve the attacks versus ships (5.6).

5.2 CONTACT

A US air strike must contact a target force in order to attack.

- A strike may make two contact attempts. Each contact attempt is against a specific force (if there is more than one in the hex, the US player chooses one).
- A strike can contact a target only if the target is detected (either Spotted, Located, or Approximate Sighting, 8.1); an undetected force cannot be contacted or attacked (except as a wrong target, 5.24). In scenario 2, all Japanese forces are considered Located and can be contacted.

5.21 Resolve each contact attempt as follows:

1. On the Strike Contact Table (card 1, back), locate the column corresponding to the distance from the target force to the nearest US task group. (In Scenario 2, this distance is taken to be 10 hexes.)
2. If the target is Approximate Sighting (instead of Spotted or Located), there is a die-roll modifier, as listed on the chart. (In Scenario 2, all Japanese forces are considered Located.)
3. Roll the die, apply listed modifiers, and read the result from the selected column.
4. If the contact attempt succeeds:
   - **A.** Flip the Air Strike counter to its reverse side, indicating that it may not make further contact attempts.
   - **B.** The target force becomes Spotted, if it was not already.
5. If the contact attempt fails, see 5.22-5.23

5.22 If a strike's first contact attempt fails, it may immediately make a second attempt. The strike must expend one additional fuel point in order to make this attempt. A -1 modifier applies to the second contact attempt. If there are two or more forces in the hex, the second attempt can be against the same or a different force, but not against a force in a different hex. (Note that a false contact is not possible at this point because strikes can only attempt to contact a detected force, implying that the force is at least Level 1 and known to not be a false contact.)

5.23 If both a strike's contact attempts fail, flip the Air Strike counter to its reverse side. It may not make further contact attempts, and it must now return to its carrier.

5.24 The result of W/2 is a wrong target. If there is a different Japanese force -- detected or not -- available within two hexes, the strike contacts that force instead. (This is the only case in which a strike can end up contacting a previously undetected force.)

- If more than one wrong target is available, give preference to any detected force over an undetected one. If there is still a choice, prefer the target closer to the original hex; otherwise, choose randomly.
- If no wrong target is available within two hexes, treat the W/2 result as C.

5.25 In the event of a 'W/2' result, move the strike to the hex containing the other force selected in 5.24.

- If the force was Level 0 (implying that it was undetected), draw a Level 1 chit for it. If the force turns out to be a False Contact, remove it. If there is a second Japanese force in that same hex (detected or not) the strike can use its second contact attempt (5.22) to attempt to contact this force.
- If the wrong target turns out to be anything other than False Contact, the strike attacks it, even if it is not a carrier force.

5.26 A result of W/0 is the same as W/2, but applies only if there is another force in the same hex (not two hexes); otherwise it is treated as a C against the original target. If the wrong target turns out to be a false contact, the strike can use its second contact attempt (5.22) to attempt to contact the original target in that hex.

DESIGN NOTE: Wrong target represents the aviators chasing after some waves that look remarkably like ship wakes, getting their radio communications confused, and perhaps expending all their ordnance against harmless ships. All these things happened numerous times in the war.

5.3 SURPRISE

5.31 To determine effects of Surprise, roll the die and consult the Surprise Table (card 1, back). The result may modify Japanese CAP and AA die-rolls, or prohibit CAP and/or AA combat altogether.

5.32 The die roll is modified (as listed on the table) if the force has a US Advantage marker or has not launched any air raid so far in the game. These modifiers are cumulative.

5.33 Surprise applies only to strikes against carrier forces.

5.34 If multiple strikes attack the same target in the same Air Attack Segment, determine surprise separately for each strike.

DESIGN NOTE: Surprise applies only to carrier forces because it represents having aircraft and/or fuel and munitions in vulnerable locations on the ship, and perhaps having no CAP in place. It is possible for two strikes to arrive just minutes apart (i.e., the same Air Attack Segment) and the second one achieves surprise while the first does not; this happened at Midway.

5.4 JAPANESE CAP

5.41 In Scenario 6 and after, use the following procedure to determine the strength of Japanese defensive fighters (CAP). (In earlier scenarios the strength of Japanese CAP is fixed by scenario; you do not need this rule.)

1. Determine the target force's net air value. This is the printed air value minus the number of points currently unavailable (9.25).
2. Locate the corresponding column of the Japanese CAP Strength Table (card 2, front).
3. Roll the die, and if the Japanese force was surprised (5.3) apply the modifier from the Surprise Table.
4. Cross reference the die roll with the column and read the result, which is the number of air points of Japanese CAP. (Note that CAP can appear even if the net air value is 0, and 2 points of CAP can appear even if the net air value is 1; air value is only what you know, not a precise count.)

5.42 The Japanese CAP immediately attacks the strike using the air-to-air combat procedure (4.5). US fighters escorting the strike fire back, subtracting one from their die rolls. Place any Japanese air points eliminated in this combat into the force's Lost box.

5.43 If more than one strike contacts the force in the same phase, generate CAP only when the first one arrives. The same CAP fights all strikes arriving in that phase. Air points eliminated in combat with one strike do not fight later strikes.

5.44 After all strikes arriving in the phase have concluded CAP combat, return any surviving CAP to the pile of unused counters; they count neither as "lost" nor as "unavailable." CAP is generated again each time it is needed.

5.5 ANTI-AIRCRAFT FIRE

Anti-aircraft fire is resolved during each side's Air Attack Segment. The rules of this section apply to both US and Japanese fire, with differences as noted.

5.51 To resolve anti-aircraft fire:

1. Total the A. A. values (printed on ship counters at upper left; see page 5) of all ships firing from the target force or task group.
   - **a.** In US attacks, if the Surprise Table result (5.31) was "Complete Surprise," there is no Japanese AA fire; the rest of the procedure is skipped.
   - **b.** In US attacks, if the Surprise Table result was "Partial Surprise," the total value is halved, dropping fractions.

2. On the Anti-aircraft Fire Table (card 2, front), locate the highest column whose value does not exceed the total number of factors firing. If the adjusted total A.A. value is less than 10, the A.A. has no effect.

3. Roll the die and cross reference with the column to find a result.

4. Japanese AA results are the number of US air units aborted/eliminated.

a. Aborted air units remain in play and may return to their carrier or base, but they do not participate in the air-to-ship attack.

b. Eliminated units are removed from play immediately.

c. In each case choose affected units randomly from the attack planes (SB2C, SBD, TBF, and TBM). Note that AA fire affects only attack planes, not escorting fighters.

5. US AA results are the number of Japanese air points aborted/eliminated. Aborted points do not take part in the ensuing ait-to-ship attack. Eliminated air points are placed in the Lost box of the raid's Butai display.

DESIGN NOTE: The 'abort' result does not mean the planes turn around and abandon the attack; this did not happen. It means their aim is spoiled so their attacks have no effect.

Players of the original Carrier game should note that in this game all ships are allowed to fire. The antiaircraft values and table take into account that not all ships are likely to have a good shot.

5.6 AIR-TO-SHIP ATTACKS

Air-to-ship attacks are resolved during each side's Air Attack Segment. The rules of this section apply to both US and Japanese attacks, with differences as noted.

5.61 Air-to-ship attacks use a two-part procedure in which you first determine a number of die rolls you get to make for damage, and then make those rolls to determine the actual damage inflicted.

The procedure is as follows:

1. Total the attack values for all air units in the strike. US air units have their attack values printed at upper right (see rules page 5, top). Look up the corresponding result on the Air Attack Die Rolls chart (Card 2, front).

a. If there was no air-to-air combat between the attacking unit and either CAP or intercept missions, the force's total attack strength is doubled. Note that this will always apply to US attacks on a Japanese surface force; this is intended.

2. A US air strike must immediately expend one extra fuel point, or else the US player must shift one column left. (This represents time to coordinate the attack.)

3. The result indicates how many damage die rolls the strike is allowed, and a die roll modifier (which may be 0) for each. It can happen that different rolls are assigned different modifiers.

4. Each damage die roll is assigned an individual ship target. All the rolls need to be assigned to targets before any die rolls are made.

a. For US attacks, the player can assign rolls however he likes.

b. For Japanese attacks, assign each damage roll to a randomly chosen carrier. CVs and CVLs are treated equally (assigned equal chances) for this purpose. (Exception: In the Great Carrier Battle of the Pacific scenario, Japanese naval air points will attack CVs in preference to CVLs.) If no carriers are present the Japanese will attack battleships (BB) if any are present; otherwise, choose randomly.

5. Roll the die the specified number of times (applying modifiers listed) and consult the Air Attack Damage Table (card 2, front) to determine the number of hits on each target ship. (See 12.0 for damage effects.)

DESIGN NOTE: You might expect that Japanese planes would attack big carriers (CVs) in preference to smaller ones (CVLs), but this does not seem to have been the case either at Philippine Sea or at Leyte Gulf; in both battles attacks were made on CVLs even when CVs were nearby. This may have been another effect of the poor Japanese pilot training at this stage of the war. In the hypothetical Great Carrier Battle of the Pacific scenario, the Japanese pilots will 'get the big ones first.'

5.7 JAPANESE AIR RAID ATTACK PROCEDURE

DESIGN NOTE: The Japanese fliers at the Philippine Sea were less well trained than the more experienced pilots of earlier battles. They did not organize their attacks the best way possible, and they allowed themselves to be diverted from hitting the carriers to attack the US battle line instead. The rules of this section reflect these realities.

This section of rules describes the procedure when Japanese air raids attack US task groups. Note that these rules are put here for continuity, but are not needed until scenario 3.

Japanese air-to-sea attacks occur during the Japanese Air Attack Segment. Attacks are resolved one raid at a time.

Note that air-to-air combat against US interception missions (including CAP) will have been resolved in the immediately preceding US Interception Segment.

5.71 For each Japanese air raid that has reached its target, carry out the following procedure. If more than one raid has reached the same target, resolve them in random order. Separate raids attack separately.

1. If the hex contains Task Group 58.7 ("Battle Line"), roll the die and consult the Japanese Action vs. Battle Line Table (card 2, front) to determine the Japanese action. The possible results are Divert, Overfly, and Avoid (5.72).
2. If a Divert result was obtained in Step 4, the Japanese will attack TG 58.7. Otherwise, randomly select a carrier task group to be the target of the attack.
3. US ships in the randomly chosen target task group (only) use the Anti-aircraft Fire Table as described in 5.5.
4. Resolve air vs. ship attacks (5.75)

5.72 The results on the Japanese Action vs. Battle Line Table are as follows:

- **Divert**: Japanese planes attack the Battle Line instead of the carriers. Ships in Battle Line fire AA according to 5.73.
- **Overfly**: Japanese planes overfly the Battle Line on their way to attack the carriers. They suffer AA fire from the battleships (BB) in Battle Line in addition to normal AA fire from whatever carrier task group they attack. The Battle Line BBs fire with half the normal AA value (total all, then halve, dropping any fraction). Each hit is applied against a randomly chosen point of the strike, fighters included (i.e., fighters are affected on an equal basis with attack planes, as all are flying over). The Battle Line AA is in addition to normal AA and is resolved separately.
- **Avoid**: Japanese planes avoid Battle Line altogether. They attack a carrier task group. Ships in TG 58.7 do not participate.

DESIGN NOTE: AA values are halved in the 'overfly' case because the overflying units would be at greater range than if they were attacking the firing ships, and also moving laterally, a harder shot.

5.721 If multiple raids overfly Battle Line in the same Action Phase, each BB can fire against only one overflying raid. The US player decides when each ship will fire. Flip a ship over after it fires. All the ships are unflipped after all raids have been resolved. A flipped-over ship can still fire against any planes that attack Battle Line itself.

5.73 Anti-aircraft fire by attacked task group:

- The procedure of section 5.5 is used.
- Only units in the attacked task group fire, not the other task groups.
- For convenience, the scenario instructions list the starting AA total for each US task group. This total will change only if the Japanese score hits on some of the ships.
- Results are interpreted as a number of air points aborted/eliminated.
- Aborted points remain in the air raid box and may return to their carrier or base, but do not contribute to the final attack die rolls.
- Eliminated points are placed in the Lost box of the Butai display immediately.

5.74 The rules for Contact and Surprise do not apply to Japanese strikes.

5.75 Japanese air-to-ship attacks are resolved using the same basic procedure as US attacks (5.6). Japanese naval air points have an attack strength of 4. Exception: If you are playing the Great Carrier Battle of the Pacific scenario, this is raised to 5 for Japanese naval air points (only). Japanese land air points have an attack strength of 3 in all scenarios.

DESIGN NOTE: The Japanese attack values take into account the likely mix of torpedo planes and dive bombers. On the American side, the values presume that torpedoes and divers are used in combination as this is nearly always the case in play. US attack values also take into account the various munitions carried by US torpedo bombers (some carried bombs). The SBD has a better attack value than the SB2C it was slated to replace, reflecting the common opinion of American airmen who preferred the former type to its successor, which had many developmental troubles.

DON'T GET WAVED OFF!

At this point, please play Scenario 2 found in the Play Book.

6.0 TASK GROUPS AND CARRIER OPERATIONS

6.1 TASK GROUP DISPLAY

The Task Group display holds US ship and air units. These units are never placed on the map but are held on the task Group display (and in the case of air units, on the Air Mission display or in air searches).

6.11 Each Task Group display is identified by number (e.g., 58.1) which is printed on the corresponding Task Group counter.

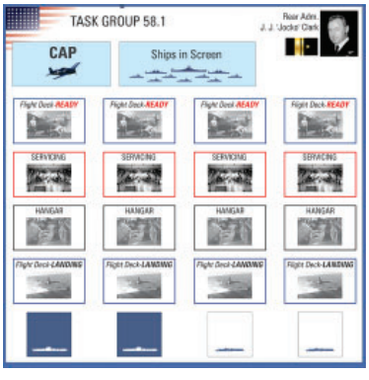
6.12 As per scenario instructions, ship counters are placed on the display and the Task Group counter is placed on the map. Any number of Task Group counters can occupy the same hex.

- You can use the Task Force 58 counter as a replacement for multiple TG counters in the same hex, and move TF 58 like a single task group. (In the actual battle, all the task groups remained together as a single task force.)
- The TF 58 hex sometimes gets crowded with air units. You can use the "Task Force 58 In Hex" box on the mapsheet as a holding box.

6.13 Each carrier unit is placed in one of the individual carrier boxes used to track its air operations. Note that in most scenarios Task Group 58.4 has only three carriers. Its fourth slot is used in the Great Carrier Battle of the Pacific scenario.

6.14 All surface ship units in a carrier task group are placed in the TG's Screen box.

6.15 Units may not transfer from one task group to another once play has started. Exception: Battleships and other surface units may be detached from Battle Line (TG 58.7) and put into a separate surface task group at any time. There are three extra "Surf TG" markers for this purpose. The special functions of Battle Line pertain only to TG 58.7, not to any detached forces. Such detachment is a one-way operation; task groups may not be recombined.



6.2 AIR OPERATIONS

DESIGN NOTE: Managing your flight decks is one of the central challenges in the game. How many planes of what type should be readied, when? If too few fighters are readied, there may not be enough to deal with incoming raids. If too few attack planes are readied, there may not be enough to strike at targets when they appear. If attack planes are readied but no targets are found, you risk being caught with those planes on the deck, a potential disaster.

6.21 The planes on each carrier are held in that carrier's column of the display. Each display has the following parts:

Flight Deck - Ready: Planes are on the Flight Deck. Planes here are armed and fueled and ready for a mission.

Servicing: Planes here are being armed and fueled before being taken to the Flight Deck.

Hanger: Planes here are in storage or on their way back to Servicing.

Flight Deck - Landing: Planes here have just landed. They must be taken to the hangar below and then serviced before flying again.

6.22 Occupancy Limits: The Carrier Operations Limit Chart states limits on how many air units can occupy certain boxes at any one time or at the end of the Air Operations Phase. These limits are per carrier and are different for CVs versus CVLs. All air units count one against these limits regardless of type. (Note that, unlike the Carrier game, air units are unitary wholes; there are no 'steps.')

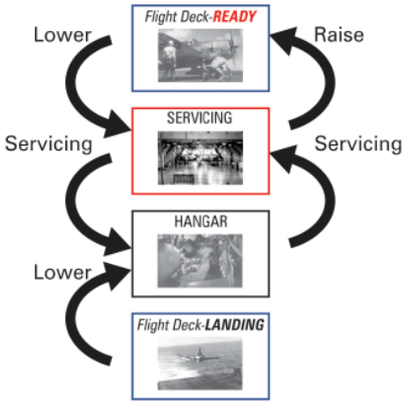
- The 'Flight Deck" limit refers to the sum of Ready plus Landing aircraft; all of these are on the flight deck. The words "flight deck" appear in both boxes as a reminder.
- The number of unts in the Servicing box at any time cannot exceed the "Servicing" limit.
- The 'Hangar/Total' limit refers to all air units in any box on the carrier. This is the maximum number of units the carrier may have aboard. They can all be in the Hangar if desired.

There are other limits on how many units can perform certain operations per phase; see 6.23.

6.23 During the Carrier Operations Phase, the US player may perform the following operations, in order.

1. Launch any Ready aircraft, subject to Launch Occupancy limits
2. Raise aircraft from Servicing to Ready, subject to Flight Deck limits
3. Move aircraft from Hangar into Servicing, or from Servicing back to Hangar, subject to Servicing limits.
4. Lower any aircraft on the flight deck, subject to Lowering limits.
5. Land any aircraft from air missions in the same hex, subject to Flight Deck limits, on any carrier that did not launch aircraft in this same Air Operations Segment.

There are limits to the number of air units which can be involved in each plane handling operation on each carrier per US Air Operations Phase. These limits are explained in the following paragraphs and summarized on the Carrier Operations Limits Chart. A carrier cannot conduct any air operations while on fire (12.3).



CARRIER OPERATIONS LIMIT CHART (6.2)

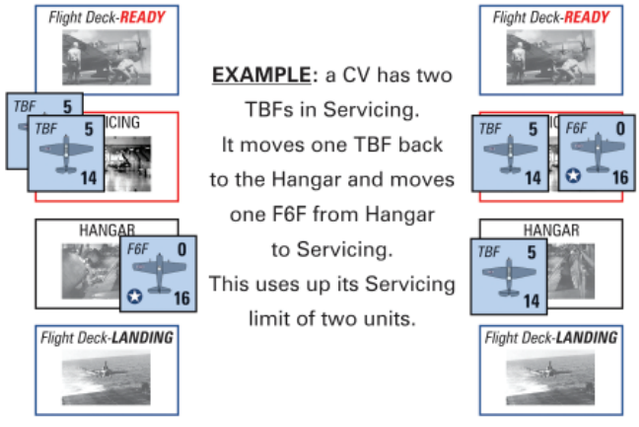
	CV	CVL
Launch or Land (not both)	2	1
Flight Deck Limit	3	1
Launch Occupancy Limit	2	1
Lower	2	1
Servicing	2	1
Hangar/Total	8	3

6.24 Launch: Units launched are moved from the Ready box and placed either in an air mission or a search mission.

- Units can be launched only if the total number of units, then occupying the flight deck at that moment does not exceed the Launch Occupancy Limit (see chart). Some, all, or none of the Ready units can be launched. (Exception: Leeward movement, rule 17.0.)
- The number of units launched per phase cannot exceed the Launch limit.
- If a Search segment (8.2) immediately preceded this Air Operations Segment, any units launched on Search count against the Launch limit for the current segment.

6.25 Raising: Planes moved from Servicing to Ready are said to be "raised." Any units in Servicing can be raised subject to Flight Deck limits, which are in force at all times.

6.26 Servicing: Planes can be moved from Hangar into Servicing or in the opposite direction, from Servicing to Hangar. Each unit so moved (in either direction) counts one against the Servicing Limit.



- At the end of the Air Operations Segment, the number of units in the Servicing box also cannot exceed the Servicing limit. In other words, you cannot accumulate planes in Servicing. Servicing is both an occupancy and an operations limit.

6.27 Lowering: Planes may be moved from Landed to Hangar, or from Ready to Servicing. In each case they are said to be "lowered." The total number of units lowered cannot exceed the Lowering limit.

- A unit lowered from the Landed box always goes to the Hangar, not directly to Servicing.
- A unit lowered from the Ready box always goes to Servicing, not directly to the Hangar.

DESIGN NOTE: Before a ready plane could be returned to the hangar space, it had to be de-armed and de-fueled, which was about as time-consuming an operation as arming and fueling. In the actual battle, American strike planes on the carrier decks were simply flown off when the first Japanese strike was detected. After orbiting to the east for a time, they 'unloaded' their ordnance over Guam.

6.28 Landing: Units being landed are moved from the Air Mission display or search mission to the Landing box of a carrier in the same hex. Units can land on any carrier -- it does not matter from which one they launched.

- Aircraft pay one extra fuel point to land (4.433).
- Units that are fuel critical must check for loss when landing (4.451)
- The Flight Deck Limit is in effect at all times. A unit cannot be landed if the total number of units in the Landed box plus the total in the Ready box would exceed the Flight Deck Limit.
- The number of units landed per phase cannot exceed the Landing limit (same as the Launch limit).
- Units cannot be landed if any units were launched from that carrier in that Air Operations Segment, regardless of flight deck limits. You may wish to invert any carrier that launches planes in the launch step, as a reminder that it cannot land any in that same Air Operations Segment. One carrier in a task group can launch planes while another lands them.

• An air mission need not land immediately on reaching the carrier's hex. It can remain in the air waiting for room on the flight deck, burning one fuel point per Air Movement Segment per rule 4.431.

DESIGN NOTE: When a wave of aircraft was launched, planes would wait on the after section of the deck, blocking the space used for landing. Modern carriers use the angled flight deck (introduced in 1953) and catapults to avoid this problem.

6.29 The total number of air units on a carrier cannot exceed the carrier's Hangar/Total limit. This is also the limit on the number in the Hangar.

6.291 Players may voluntarily eliminate Landed units (not Ready units) on the Flight Deck at any time. For victory point purposes these units count the same as units ditched in the hex of the Task Group.

DESIGN NOTE: Units voluntarily eliminated have been pushed over the side. The pilots, however, are not pushed over the side, hence the reduced victory point effect. To do this with armed and fuelled aircraft (Ready aircraft) would pose too much danger to the ship.

6.3 US MOVEMENT

Note: This rules section is placed here for continuity and for easier reference during play, but it is not needed until Scenario 5. You can skip it until then.

6.31 US ships are organized into five task groups (four carriers and one surface), which together make up Task Force 58. In all scenario setups, the US begins with the Task Force 58 counter, which represents all the task groups in its hex.

6.32 Movement of all US task forces / task groups occurs when the US Move chit is drawn. This is the only point in the turn at which they can be moved.

6.33 The US player may detach individual task groups from Task Force 58 at the same time as movement. He places a detached task group counter on the map. A task group may rejoin Task Force 58 any time the two end their moves in the same hex.

6.34 A task force or task group may move one hex each time it moves. A task force or task group containing carriers cannot enter island hexes (light blue).

6.35 A US task force or task group can enter a hex occupied by a Japanese force only when using rule 21.0.

6.36 When a task force or task group moves, any air raids, air strikes, or intercept missions on the map remain behind in the hex; they do not accompany it. CAP missions do, as they are on the task force display and not the map.

6.4 DUSK/NIGHT RECOVERY AND ILLUMINATION

"Bald Eagle, this is Blue Jacket himself. Turn on the lights." — Admiral Marc Mitscher, 2030 pm, June 20, 1944

Note: This rules section is placed here for continuity and for easier reference during play, but it is not needed until Scenario 5.

6.41 The second and third Action Phases of the 1850 game turn each day are Dusk. The fourth Action Phase of that turn is Night, as are all turns from 2010 through 0410 inclusive. The first Action Phase of the 1850 turn, and all turns from 0520 through 1730, are day.

6.42 Whenever non-night-rated units land on a dusk or night turn, and the hex is not illuminated (6.43), then (regardless of fuel state) the US player must roll one die for each such unit, applying modifiers for night or dusk as usual, and consult the Safe Return Table (card 1, back), applying results immediately. If the mission is also fuel critical then those modifiers are applied as well.

6.43 Illumination: The US player may declare during any US Air Operations Segment that he is 'turning on the lights' for any task group or task force. Place an Illumination marker in the hex.

6.431 If lights are turned on for any task group in a hex, they are considered turned on for all. You can't illuminate one task group in a hex and leave another dark.

6.432 Units landing in an illuminated hex must check the Safe Return Table only if they are fuel critical.

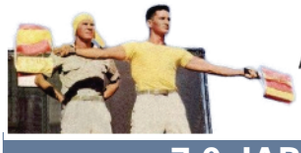
6.433 In the Japanese Submarine Attack step of the End Phase:

1. The US player must make a submarine attack die roll (14.2) against any task group currently illuminated.

2. The US player may turn off lights (removing the illumination marker) if desired. (Note that this follows the potential submarine attack -- thus, any time the US player turns on lights the Japanese submarines get at least one chance to attack.)

DESIGN NOTE: Admiral Mitscher's order to "turn on the lights" to help his tired fliers get home is the most famous incident of this battle. The 'lights' included searchlights, beacons, and star shell, and thus lit up the surrounding ocean to a considerable distance.

DON'T GET WAVED OFF!



At this point, please play Scenario 3 found in the Play Book.

7.0 JAPANESE FORCES

Japanese units arrive in the game as Force counters. Each force is at a specific Intelligence Level, from 0 to 4, at all times. The intelligence level reflects how much information you have about the force and how reliable that information is. All forces arrive initially at level 0, meaning that you know nothing: it could be a carrier task force, or it could be a false report. As you contact the enemy forces -- or as they contact you -- the forces increase in level, meaning that your knowledge improves. If you lose contact, your knowledge may decline. The heart of the game is figuring out how best to use your aircraft in this situation of limited and imperfect knowledge.

DESIGN NOTE: Your initial knowledge of Level 0 forces represents information gained through radio direction finding (HF/DF), code breaking, submarines, and long-range aircraft (PBM Mariner flying boats and B-24 Liberators). You obtain more detailed information primarily through air search with your carrier aircraft.

7.1 JAPANESE FORCE ARRIVAL

In the Arrival Phase of each game-turn, one-third of the Japanese forces not currently in play (rounded down) will arrive on the map. (Count all lettered Force markers not in use, but not Butai markers.) Exception: If only one or two Japanese force markers are not in use, one of them arrives.

7.11 Begin by selecting the required number of force counters. (It does not matter which letters.) Select the corresponding activation chits to be placed in the activation chit cup (3.23).

7.12 Each force arrives randomly in one of the four Arrival Zones printed on the map. For each arriving force, carry out the following procedure:

1. Using the Japanese Arrival Table (printed on the map), roll the die and read the result to determine the Arrival Zone (7.13) in which the force arrives.
2. Roll the die again to determine the specific arrival hex in that zone (7.14).
3. If some force already arrived in that hex this turn, choose randomly from among the unoccupied hexes in that Arrival Zone.
4. If there is a US carrier task group within six hexes, see 7.15.
5. Place the new force on the map and place its activation chit in the Sequence Cup.

7.13 There are four Arrival Zones on the map. Counterclockwise from top of map to bottom, these are Zone I, Zone II, Zone III, and Zone IV. Each Arrival Zone consists of a group of hexes numbered 1 through 10.

7.14 Each result on the Japanese Arrival Table specifies a zone. Each zone has ten arrival hexes. Determine the exact hex by rolling the die again and locating the corresponding number hex within the specified zone.

7.15 If there is a US carrier task group within six hexes of a selected arrival hex, roll one die and proceed accordingly:

1-3 — Re-roll on the Arrival Table until you select a different zone, then repeat 7.14.

4-8 — Roll again to select a different hex in the same zone and place the force there (even if within 6 hexes of a US carrier).

9-10 — Place the force in the original arrival hex (the carrier task group has no effect)

These outcomes are printed with the Japanese Arrival Table.

7.2 JAPANESE FORCE MOVEMENT

DESIGN NOTE: Japanese forces in general are trying to move toward Saipan and attack the invasion fleet. Carrier forces, when they engage US carriers, will draw off to what they consider an optimum range -- except in some cases they will move instead toward Saipan and try to do an "end run" around the US fleet, a possibility that worried Admiral Spruance.

Each Japanese force moves when its Activation Chit is drawn.

7.21 A Japanese force moves by the following rules, in order of priority. (These rules are listed for reference in a chart on the reverse side of the Japanese Air Raid Flow Chart.)

1. If retiring (rule 19), the force uses Retirement Movement (19.2).
2. If located in the Invasion Zone (between Saipan/Tinian and the east map edge), use Mission Movement (7.22).
3. If adjacent to or stacked with a US task group, and not located in the Invasion Zone, see 7.24.
4. If it is a surface force:
  a. if there is a crippled US ship within six hexes, move toward it (see 12.45)
  b. Otherwise, use Mission Movement (7.22).
5. If it is a force of unknown type (this includes all Level 0 forces, as well as Level 1 Large, Medium and Small), then use Mission Movement (7.22).
6. If it is a carrier force (Level 1 Carrier, or Level 2 or higher known to have carriers), and has not launched any air raids up to that point in the game (i.e., has no air points on its Butai display), then use Mission Movement (7.22).
7. If it is a carrier force that has launched an air raid at some point in the game (i.e., has air points on its Butai display), then proceed as follows:
  a. If located 15 or more hexes distant from all US carrier task groups, use Mission Movement (7.22).
  b. If located 8 or fewer hexes distant from a US carrier task group, move one hex further away from that task group. When choosing the hex, give preference to hexes further east; otherwise choose randomly.
  c. If located 9 hexes distant from a US carrier task group, do not move.
  d. If located 10-14 hexes distant from the nearest US carrier, and in a eastern map zone, use Mission Movement (7.22). The red line that zig-zags down the middle of the map divides eastern map zones from western ones.
  e. If located 10-14 hexes distant from all US carriers, and in a western map zone, move directly toward the nearest US task group with carriers.

Note that Japanese carrier forces consider only US carrier task groups in their movement decisions. They ignore surface-only task groups.

7.22 Mission Movement: The map is divided up into Mission Movement Zones, each with its own Mission Movement Compass, showing different directions labelled with die-roll values 1 through 10.

7.221 At the start of each Activation Segment you make a single Mission Movement die roll. This value is used for all mission movement in that segment. When a force uses Mission Movement, locate the compass arm corresponding to the current Mission Movement die roll for the zone in which the force is located, and move the force one hex in that direction.

7.222 Except as described in 7.23, forces do not exit the map using Mission Movement. A force at the map edge which is directed to move off map will move along the map edge instead, in whatever direction is closest to the intended move.

7.23 A Japanese force in the Invasion Zone (between Saipan/Tinian and the east map edge) always uses Mission Movement. The Mission Movement in this zone will attempt to move the force due east toward the map edge. If it starts adjacent to the map edge it exits the map, which awards victory points to the Japanese (15.0). Once a Japanese force has exited, it does not return.

7.231 If a Japanese force is in the Invasion Zone and a US task group occupies the next hex located due east, then move either northeast or southeast (into one of the two possible hexes adjacent to the preferred one), choosing randomly.

7.24 If a Japanese force is activated while adjacent to US units, and not in the Invasion Zone, proceed as follows. (Note: this is extremely rare; you can wait to read this rule until you need it.)

1. If you are using rule 21.0 (Surface Combat), then the Japanese force moves into the US force's hex (possibly bringing about surface combat) if any of the following is true:
   - **a.** This is a surface force (of any size) and the US units include a crippled ship;
   - **b.** This is a Large Level 2 surface force, or a Level 3 surface force containing a battleship;
   - **c.** It is Night, and the force is either a Medium Level 2 surface force or a Level 3 force containing a cruiser unit.
2. If you are not using rule 21.0, or none of the cases described in 1(a), 1(b), and 1(c) holds, then the Japanese force uses Mission Movement, but never into the US-occupied hex. If Mission Movement dictates a move into the US-occupied hex, the Japanese force does not move. Note that when not using rule 21.0, neither side can enter a hex occupied by an enemy force or task group.

DESIGN NOTE: Part (1) says that the Japanese will always try to mop up crippled ships, that a large Japanese force with battleships will try to engage either day or night, and that a cruiser/destroyer force will try to engage at night.

7.25 Japanese forces can enter island hexes as well as open sea.

7.3 INTELLIGENCE LEVELS

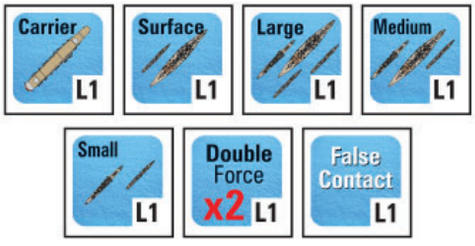
Each Japanese force is assigned an Intelligence Level, 0 through 4, at all times. The intelligence chits are used to record intelligence level.

- Rules 7.31-7.33 explain the meanings of the different levels.
- Rules 7.34-7.39 explain how forces progress to higher levels.

7.31 A force is at Level 0 when initially placed on the map. This state is represented by the force having no chit. At this point you do not know what ships the force might have or even whether it is real.

7.32 A Level 1 force is denoted by a Level 1 intelligence chit identifying it as one of the following: "Carrier," "Surface," "Small," "Medium," or "Large." A "Carrier" force is known to include at least one carrier. A "Surface" force is most likely surface ships, although there is a chance it may turn out to have a carrier. The other three types may or may not have carriers.

7.33 At Level 2 and higher, you know definitely whether a force has carriers ("carrier force") or is composed only of surface ships ("surface force").



7.331 Carrier forces:

- At Level 2 and Level 3, a carrier force receives an intelligence chit denoting approximate numbers of carriers. These may turn out to be incorrect, and you do not yet know the actual ships.
- At Level 4, a carrier force receives its actual carriers and their screen. (See 7.4 for progression of carrier forces to level 4.)

7.332 Surface forces:

- A Level 2 surface force receives a Level 2 intelligence chit identifying it as "large[-sized] surface," "medium surface," or "small surface."
- When a surface force progresses to Level 3, it receives its actual ships. These will consist of either a 'cruiser force' or a 'destroyer force' plus possibly one or more battleships. These are placed underneath the force counter.
- Surface forces do not have a Level 4.

7.34 Forces progress from one level to the next at the following times:

- A force at Level 0 will progress to Level 1 and receive a Level 1 chit (7.32) when any successful search result (L, S, or ?) is obtained against it (8.341). Note that an "S, chit+1" result against a Level 0 force is treated simply as "S.".
- A force at Level 1 or higher, but less than the maximum (Level 4 for carrier, Level 3 for surface) will progress to the next higher level and receive a new chit whenever a "S, chit+1" search result is obtained against it (8.342).
- A force immediately progresses to the maximum possible level (Level 4 for carriers, Level 3 for surface), no matter what level it is currently at, when contacted by a US air strike (5.2), or when it engages in surface combat (21.0). (A force can also reach the maximum level as a result of normal progression from one level to the next, per the other bullet points of this rule.)
- A force at Level 0 or 1 may progress to Level 2 and receive a new chit as part of the air raid procedure (10.1C). In this case, a force may progress two levels, from Level 0 to Level 2, at the same time.

- A force contacted by a US air strike, or which engages in surface combat, immediately increases to the maximum level (level 4 for carriers, level 3 for surface). This is done one level at a time, progressing through successive levels as described in 7.37, 7.38, and 7.41.

Note: In Scenario 6 and after, the discovery of a new carrier force or the progression of an existing one to a higher level affects the Japanese Commitment Index (13.1).

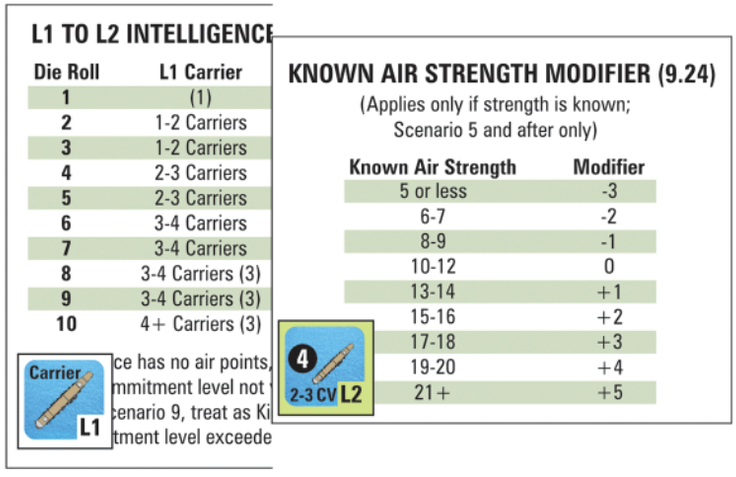
7.35 When a Level 0 force progresses to Level 1, the Level 1 chit is drawn randomly from a cup. When setting up the game, all the Level 1 force chits are placed in a cup for drawing. (Include the "Double Force" chits only if using rule 7.5.)

- If the chit reads "False Contact," remove the force from the map and place it back in the pile of available force counters. Set the Level 1 chit aside; it is not replaced in the cup. As the name implies, this turned out not to be a real force.
- If the chit is anything other than "False Contact", place it beneath the force counter. (It may be examined at any time.) This is most likely a real force, albeit you do not yet know much about it.

7.36 Whenever a Level 1 force progresses to Level 2, the Level 2 chit is determined using the Level 1 to Level 2 Intelligence Table (card 3, front). On this table there is one column for each possible Level 1 chit. Cross-reference the existing chit with a die roll to obtain the new chit. Place the new Level 2 chit and set the old Level 1 chit aside (it is not replaced in the cup).

- There are die-roll modifiers for Known Air Strength (9.24). These apply only in Scenario 5 (where rule 9.24 is introduced) and after. They apply only if the strength is known; if the force's air strength is unknown, there is no modifier.
- The outcome can be either a carrier force with an approximate number of carriers, or a large, medium, or small surface force.

DESIGN NOTE: As you will learn in rule 9.24, Known Air Strength is a measure of how many air points the force had at the start of the battle. The purpose of the modifier is to make the next Intelligence Chit more consistent with what you know about the air strength. If a force has launched a large number of aircraft at you, it is more likely to be a strong force.



L1 TO L2 INTELLIGENCE

Die Roll	L1 Carrier
1	(1)
2	1-2 Carriers
3	1-2 Carriers
4	2-3 Carriers
5	2-3 Carriers
6	3-4 Carriers
7	3-4 Carriers
8	3-4 Carriers (3)
9	3-4 Carriers (3)
10	4+ Carriers (3)

Carrier L1

ce has no air points,
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cenario 9, treat as Ki
tment level exceede

KNOWN AIR STRENGTH MODIFIER (9.24)

(Applies only if strength is known; Scenario 5 and after only)

Known Air Strength	Modifier
5 or less	-3
6-7	-2
8-9	-1
10-12	0
13-14	+1
15-16	+2
17-18	+3
19-20	+4
21+	+5

4 2-3 CV L2

EXAMPLE: A level 1 carrier force previously launched an air raid totaling nine air points; its known air strength is nine (9.24). You search it and receive a "L, chit+1" result which causes it to be promoted to Level 2. You will use the "Level 1 Carrier" column of the Level 1 to Level 2 Intelligence Table. The list of Known Air Strength Modifiers shows that a -1 modifier applies for the known air strength of nine. The die roll is 6, modified to 5. This produces a "2-3 Carrier" result. You replace the Level 1 chit with a "Level 2 2-3 CV." The Level 1 chit is set aside. Note that at level 2, the term "CV" is used for all carriers; CVs are not distinguished from CVLs. This is not the case at Level 3.

7.37 Level 2 carrier forces progress to Level 3 using the Level 2 to Level 3 Carrier Forces Table (card 3, front). This table is divided into four major sections according to which Level 2 chit the force currently possesses (e.g. "L2 1-2 Carriers.") Each of these sections is further divided into several rows according to the force's current Known Air Strength (9.24). Select the correct row, roll the die (a modifier applies in scenario 9, only), find the die roll in that row, and read the result from the top of the table. The results are listed in a row at the top: Number of CVs/Number of CVLs.

- One row on each table is printed in bold and includes the label "Unknown." It is used for forces that have not yet revealed any air points, as well as for certain values of known air strength. In Scenario 4, use this row in all cases.
- There are no die-roll modifiers on this table.

7.38 The Level 2 to Level 3 Carrier Forces Table result specifies which Level 3 chit to apply: for example, "4/2" equates to "4 CV + 2 CVL."

- If the required chit for a table outcome is not available, you may replace it with one that differs as little as possible from the required chit, using a die roll to resolve any ties.

L2 TO L3 CARRIER FORCES TABLE (7.38)

	Number of CVs/Number of CVLs								
L2, Carrier chit	**0/1**	**0/2**	**0/3**	**1/1**	**1/2**	**1/0**	**2/0**	**2/1**	**2/2**
L2, 1-2 Carriers									
Known Air Strength:									
5 or less	1-8	9-10							
Unknown or 6-7	**1-3**	**4-9**				**10**			
8-10		1-5		6-8			9-10		
11+				1-2			3-7	8-10	

EXAMPLE: A force is currently "L2 1-2 CV." It has unknown air strength. You will use the topmost section of the L2 to L3 Carrier Forces Table. Since the force's air strength is unknown you will use the row labelled "Unknown or 6-7" which you would also use if it had a known air strength of 6 or 7. The die roll is 5. Reading from the selected row, a roll of 4-9 yields the result "0/2", 0 CVs and 2 CVLs. As shown in this example, CVs are distinguished from CVLs at Level 3, reflecting more precise knowledge of the Japanese forces.

7.39 A Level 2 surface force is promoted to Level 3 using the Level 2 to Level 3 Surface Forces Table (card 3, front). You cross-reference a die roll (there are no modifiers) with the force's current Level 2 chit. Results are as follows:

DD — the force becomes a destroyer force. Draw one Destroyer Force chit from the pool of available chits, and replace the Level 2 chit with this one.

CA — Cruiser force. Same as for DD, but use the Cruiser Force chits.

CA2+ — Choose two cruiser chits, and use the one with the larger numeric values.

CA2- — Choose two cruiser chits, and use the one with the smaller numeric values.

BB + CA — The force consists of one battleship plus a cruiser force. Draw one BB counter randomly from those available, and one Cruiser Force. If all available Japanese battleships are already in play, then further 'BB' results are ignored; just apply the 'CA' portion.

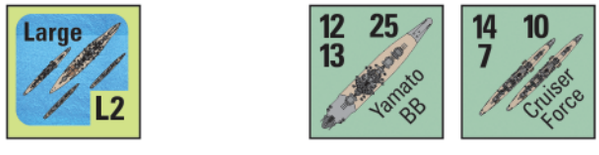
2BB, 3 BB, 4 BB — same as BB + CA, but draw 2, 3, or 4 battleships respectively.

The ship/surface units drawn for a Level 3 force are placed directly underneath the force counter, on the map. The force then retains the assigned unit(s) for the rest of the game, unless they are sunk. The maximum level for a surface force is Level 3.

EXAMPLE: A level 2 large surface force is searched and a "S, chit+1" result obtained. The force is promoted to Level 3. The die roll is 5, for a result of "BB + CA." Draw one battleship and one Cruiser Force unit from those not in play. Note that as with carriers, some battleships are classified as Additional Ships and others as Ghost ships, and may not be available depending on what option you have chosen. (See 2.35.)

L2 TO L3 SURFACE FORCES TABLE (7.38)

Die Roll	L2 Large Surface	L2 Medium Surface	L2 Small Surface
1	CA2+	DD	DD
2	CA2+	DD	DD
3	CA2+	CA2-	DD
4	BB+CA	CA2-	DD
5	BB+CA	CA	DD
6	2BB+CA	CA	DD
7	2BB+CA	CA2+	DD
8	3BB+CA	CA2+	DD
9	3BB+CA	BB+CA	CA2-
10	4BB+CA	BB+CA	CA2-



7.4 LEVEL 4 CARRIER FORCES

When a carrier force progresses to Level 4, you determine its actual aircraft carriers and their screen.

- In Scenario 5 and after, you put the ships in the Ships box of the force's Butai display (9.1).
- In Scenario 4, you score victory points for the ships, but need not actually put them in the game.

7.41 Level 3 carrier forces progress to level 4 using the Level 3 to Level 4 Carrier Forces Table (card 3, front). Cross-reference the current Level 3 chit with a die roll (there is a modifier only when playing Scenario 9). The result specifies the number of carriers of each type (CV and CVL).

7.42 There are no 'level 4 chits'; instead, you draw ships. Draw the required ships randomly from the Japanese ship counters. Note, it will be convenient to separate the counters into piles by type, so as to be able to draw the correct numbers of each type. The Japanese ships will be placed on a Butai display (9.1) for the new force.

- If there are not enough ships of one type available you may substitute with the other type (CVL for CV and vice versa).
- If the force had suffered hits (which would have been from submarine attack), you assign these randomly to a carrier at this point. See 14.162.

7.43 When using historical ships (2.35), it can happen that you exhaust all the historical carriers but the game calls for more to be brought into play. In this case, draw from the additional ships. If you bring into play all historical and additional ships, no more carriers can be brought into play; do not use the ghost ships (Akagi, Kaga, Hiryu, Soryu) except in Scenario 9.

7.44 In addition to determining the carriers, you also determine the surface forces in the screen, as follows:

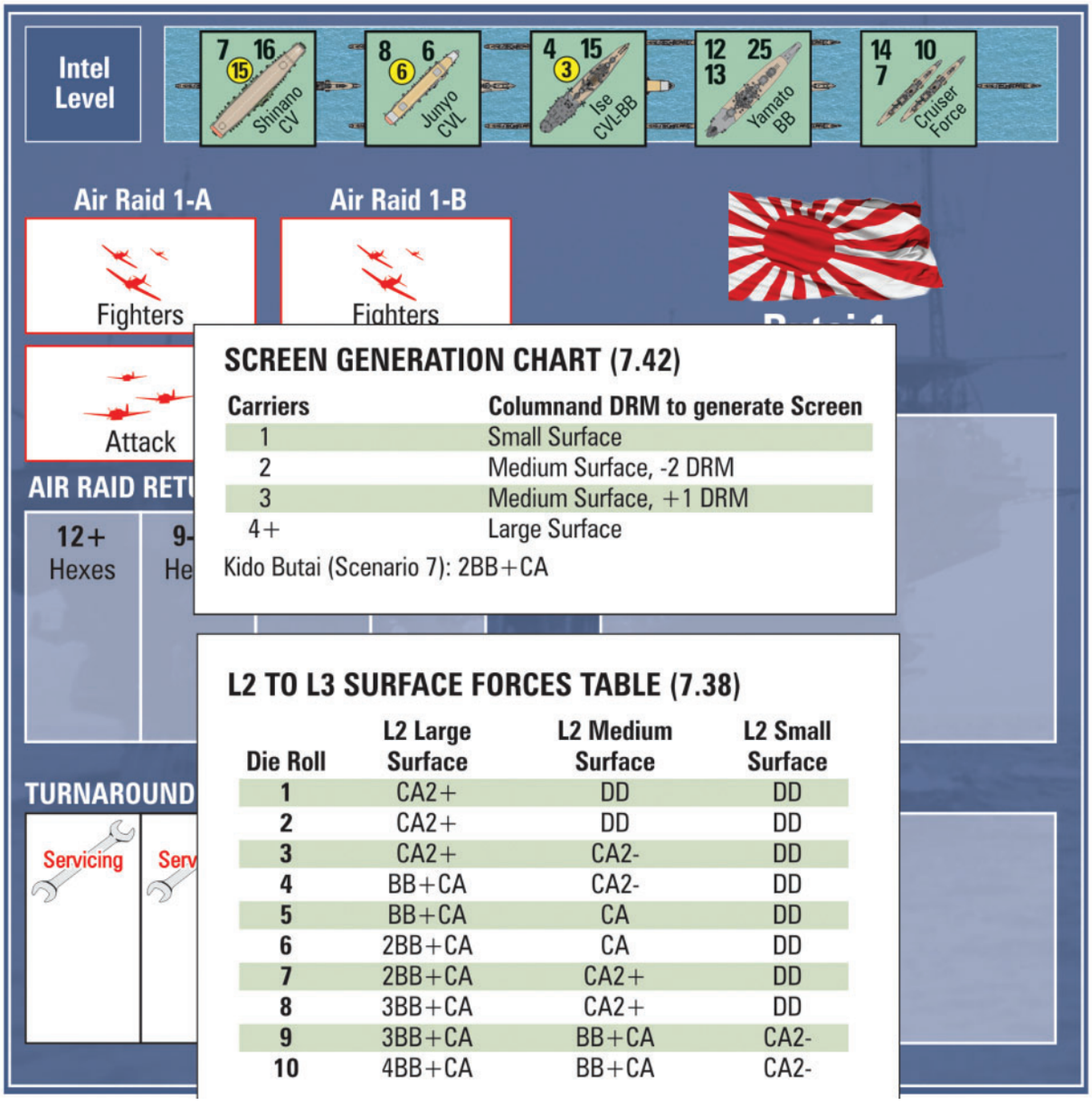
1. Determine the number of carriers first.
2. Locate the corresponding row in the Screen Generation Chart (card 3, front). This row specifies a type of Level 2 surface force (small, medium, or large) and a die-roll modifier.
3. Use the Level 2 to Level 3 Surface Forces Table (card 3, front) to generate the screen. Use the column corresponding to the type of Level 2 force listed in step (2), and apply the die-roll modifier.
4. The result will be either a Cruiser or Destroyer force and possibly some battleships. Place these ships together with the carriers on the Butai display.

- If there are not enough ships of one type available you may substitute with the other type (CVL for CV and vice versa).
- If the force had suffered hits (which would have been from submarine attack), you assign these randomly to a carrier at this point. See 14.162.

L3 TO L4 CARRIER FORCES TABLE (7.41)

	1 CVL	2 CVL	3 CVL	1 CV	2 CV	1 CV 1 CVL
1	CVL	CVL	2CVL	CVL	2CVL	2CVL
2	CVL	2CVL	3CVL	CVL	2CVL	2CVL
3	CVL	2CVL	3CVL	CVL	2CV	CV+CVL
4	CVL	2CVL	3CVL	CVL	2CV	CV+CVL
5	CVL	2CVL	3CVL	CV	2CV	CV+CVL
6	CVL	2CVL	3CVL	CV	2CV	CV+CVL
7	2CVL	CV+CVL	3CVL	CV	2CV	2CV
8	2CVL	CV+CVL	CV+2CVL	CV	2CV+CVL	2CV
9	CV+CVL	2CV	CV+2CVL	2CVL	2CV+CVL	CV+2CVL
10 or more	2CV	CV+2CVL	2CV+CVL	CV+CVL	2CV+CVL	2CV+CVL

EXAMPLE: A Level 3 CV+CVL ("1 CV 1 CVL") force is promoted to Level 4. Using the "1CV 1CVL" column of the Level 3 to Level 4 Carrier Forces Table, you roll a 9 and determine that in fact the force consists of one CV plus two CVLs. Drawing one ship from a pile that includes all the available Japanese CVs, you draw Shinano. Drawing two ships from a pile that includes all the available Japanese CVLs, you draw Junyo and Ise. These ships are placed on a Butai display.



SCREEN GENERATION CHART (7.42)

Carriers	Columnand DRM to generate Screen
1	Small Surface
2	Medium Surface, -2 DRM
3	Medium Surface, +1 DRM
4+	Large Surface

Kido Butai (Scenario 7): 2BB+CA

L2 TO L3 SURFACE FORCES TABLE (7.38)

Die Roll	L2 Large Surface	L2 Medium Surface	L2 Small Surface
1	CA2+	DD	DD
2	CA2+	DD	DD
3	CA2+	CA2-	DD
4	BB+CA	CA2-	DD
5	BB+CA	CA	DD
6	2BB+CA	CA	DD
7	2BB+CA	CA2+	DD
8	3BB+CA	CA2+	DD
9	3BB+CA	BB+CA	CA2-
10	4BB+CA	BB+CA	CA2-

Continuing with the previous EXAMPLE: There are a total of three carriers, so the Screen Generation Chart specifies that the screen is to be generated as a Medium Surface force with +1 die roll modifier. You roll a 9, which becomes 10 with the modifier. On the Level 2 to Level 3 Surface Forces Table, a die roll of 10 in the Medium Surface column gives a result "BB + CA." You draw the battleship Yamato and a cruiser force.

7.5 DOUBLE FORCES (OPTIONAL)

DESIGN NOTE: The standard Japanese arrival mechanism will tend to produce several Japanese forces at different points of the compass, each with several carriers. This was an approach the Japanese had used in several previous battles, and it was of particular concern to Admiral Spruance. However, the actual Japanese deployment concentrated all the Japanese carriers within the space of a single hex. This optional but recommended rule allows the game to recreate this deployment. We recommend its use once you are comfortable with the basic rules for forces and intelligence.

7.51 When using this rule, make the following changes to the Level 1 Detection cup:

- Add the Level 1 force chits labelled "Double Force" to the cup.
- Remove from the Level 1 chit cup the following: Two L1 Carrier chits, one L1 Large chit, one L1 Surface chit, and two False Contact chits.

Set the Carrier force chits and the Large force chit aside for use during play (7.52).

7.52 When the first Double Force chit is selected, proceed as follows:

1. Take one additional Japanese force from among those not in play and place it in the same hex as the original force.
2. From the two Carrier and one Large force chits held out in 7.51, draw two. Place one of these with each component force.
3. Leave the Double Force chit on top of the stack as a reminder.

7.53 The two halves of the double force move together for the rest of the game. You put both activation chits into the cup, moving the force when the first of the two is drawn, and ignoring the second.

7.54 The two component forces function in every other way as separate forces: they are searched and detected separately, they launch air raids separately (do not combine), and they must be attacked separately.

- Whenever either component of a double force is attacked, a "W0" result will result in the strike making a wrong-target contact against the other.

7.55 When the Commitment rules (13.0) are in use, a Double Force can enter play only if the Commitment Index does not already exceed the Commitment Limit (13.2). If it does, treat the Double Force result as False Contact.

7.56 It is possible for a second Double Force to enter play. In this case, use the remaining chit from the three withheld at start (7.52), and also take one additional Level 1 Carrier chit from the cup. The limit is two; additional double force results are ignored.

8.0 DETECTION AND SEARCH

DESIGN NOTE: Force counters represent vague, imprecise information about a possible force. Detection represents more precise information — enough to launch an attack. This information degrades over time; the ocean is a big place. Since in all eras the first principle of naval combat has been to attack effectively first (see the Hughes book in the bibliography), detection and search are central to the game.

8.1 DETECTION

8.11 Each Japanese force is in one of the following detection statuses at all times: Undetected [no marker], Approximate Sighting ['?'], "Located" ['L'], or Spotted ['S']'. All states other than Undetected are collectively called "detected." Japanese forces enter the game Undetected.

8.111 "Located" and "Spotted" are equivalent for most purposes; the only difference is how recent the information is. Spotted is most recent. Your information about a force will gradually degrade from Spotted all the way to Undetected unless you maintain contact.

8.12 Any force becomes detected in these ways:

- An 'S', 'L', or '?' result in air search (8.3) or submarine contact (14.1)
- At the instant a US air strike contacts a Japanese force (5.2), that force becomes Spotted (S).
- A force that engages in surface combat (21.0) becomes Spotted (S).

8.13 At the moment a force becomes detected (in any of the three ways listed in 8.12), the following occur.

- If the force is Spotted or Located, it receives a "S" or "L"marker respectively.
- If a "?" (Approximate Sighting) is obtained, place an "?" marker on the force unless it already has an L or S marker.
- For any detection result (L, S, or ?), if the force is Level 0, draw a Level 1 chit (7.36). If the result is False Contact then the force is removed, otherwise it is now a detected Level 1 force.

DESIGN NOTE: The 'L' and '?' results in search represent a sighting where precise information was not provided. This could occur for many reasons, including calculation error, coding problems, and garbled or delayed radio transmission.

8.14 Reducing Detection Status: Whenever a detected Japanese force is activated, its detection status is immediately reduced to a lower level, as follows:

- A Spotted ("S") marker is replaced by Located ("L")
- A Located marker is replaced by Approximate Sighting("?")
- An Approximate Sighting marker is removed, and the force is now undetected.

8.15 Detection has the following effects:

- An undetected force cannot be contacted by (and hence not attacked by) an air strike. In fact, a strike cannot even fly out in the direction of that force; see 4.22-4.23.
- A higher detection status improves the chance of US air strike contact (5.2).

8.2 AIR SEARCH MISSIONS

DESIGN NOTE: This game shows more detail about search than its predecessor did, because the disappointing results of American air search in this battle were a key factor in the outcome. The US admirals allocated a very small number of planes -- no more than a few dozen out of about 950 available in the fleet -- to search duties. The result was that the US got its first chance to launch a strike only late in the afternoon of the second day of the battle, and was able to launch only a single deckload, not enough to achieve the hoped-for results. You have a choice in the game between a narrow search -- essentially a pencil-thin beam in a specific direction, to a long range -- and the standard search, which covers a 60-degree arc of ocean. (The planes would split up this arc and each cover a small arc of about 5 degrees.) Both types were used in the actual battle. For more options relating to search, see advanced rule 18.0.

8.21 The US player may send units on air search. Units performing air search are placed directly on the map. They fly out to a designated distance from the fleet and attempt to detect Japanese forces as they go. Air search is not an "air mission" in the sense of 4.0; the units do not use the Air Mission Tracks or track fuel.

8.211 Any type of aircraft may conduct search, but fighters (F6F) suffer an adverse die roll modifier for search attempts.

8.22 In any one Action Phase per turn, the US player may declare a Search Segment. If declared, the Search Segment occurs following the US Air Movement Segment, as shown on the Game Turn Flow Chart. At this time the player can launch new searches (8.27), move search missions (8.271) and resolve search attempts (8.3). The Search Segment marker can be placed on the Action Phase track as a reminder that the search segment option has been used for the current turn.

8.23 Each search mission is either Standard search or Narrow search. The player decides which type when initiating the mission. A Standard search goes out to ten hexes and a Narrow search to 14. In both cases the searching units fly directly out to the marker and back. however, a Standard search will include everything within 30 degrees on either side (8.25-8.251), while a Narrow search includes only the hexes actually flown through (8.26).

8.24 For each search mission, a numbered Max Radius marker is placed in the furthest hex that will be searched. It has two sides, one for standard search and one for Narrow search. The search mission flies to the Max Radius marker and back, resolving search attempts on both the outbound and return legs. After the search has started its return trip the Max Radius marker can be removed.

8.25 For a Standard search, the Max Radius marker is placed in one of the twelve possible hexes marked with solid squares on the Standard Search Display (charts card 1, back). Thus, planes flying a standard search always fly in one of twelve possible directions (0 degrees, 30 degrees, 60 degrees, 90 degrees, and so on) from the task group.

8.251 Planes flying a standard search can search in the two narrow wedge-shaped sectors on either side of their flight path. Each of these sectors is 30 degrees wide (one-twelfth of a circle, or one-third of a right angle), so the total search sector is 60 degrees wide (one-sixth of a circle).

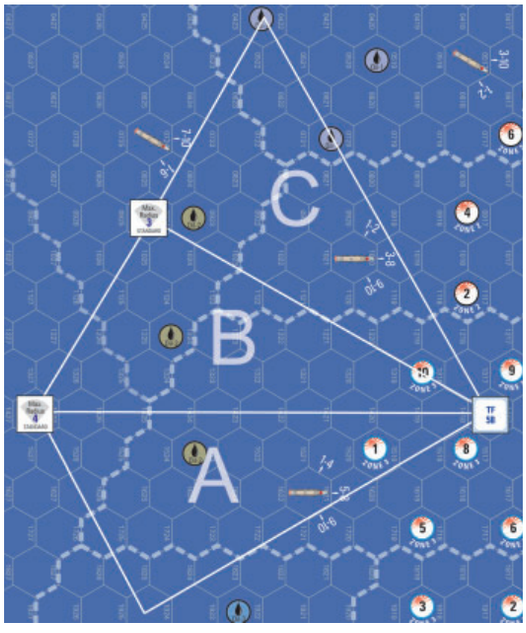
8.26 For a Narrow search, the Max Radius marker can be placed in any hex exactly 14 hexes distant from the point of origin, in any direction. The marker is placed with its "Narrow" side up.

- The search aircraft must fly directly to this marker and back. Only forces in the hexes actually flown through are searched.
- A +1 die-roll modifier applies to all Narrow Search attempts.

8.261 If the 10-hex or 14-hex distance runs off the edge of the map, the Max Radius marker can be placed in the last available hex or half-hex. The search will turn around at this point.

8.27 To initiate a search, proceed as follows:

1. Launch the unit(s) during a Search Segment. A search will consist of either one or two units (stacked together). There is no benefit to having more than two.
2. Select a numbered Max Radius marker and place it as described in 8.25-8.26, on the correct side to indicate the type of search.
3. Move the search mission two hexes directly toward the Max Radius.
4. The units may now attempt to search any Japanese forces located in their Search Zone for that move (8.3).



EXAMPLE: If the Max Radius marker is placed at "Max Radius 4" in the illustration, the search zone will cover both of sectors A and B. If the marker is placed at "Max Radius 3", the search zone will consist of sectors B and C.

8.271 Search aircraft move two hexes in the Search Segment in which they are launched, and four hexes in each other Search Segment. Thus, searching aircraft will end their moves at a distance of two, six, ten, and (if Narrow searching) 14 hexes away, in successive Search Segments. Searching aircraft move on a straight path to their Max Radius marker and back; in case of doubt or ambiguity, the player may choose.

8.28 Search units return directly to the task group or task force that launched them, even if it has moved in the meantime. This implies that search units possibly will not return on the same path they used outbound. When search aircraft return to their task group's hex, they must immediately land. Landing search aircraft count against the carrier's Landing limit for that action phase, and must observe flight deck occupancy limits.

- Search aircraft can land on any carrier in the hex, in any task group.
- Any units which cannot land are removed from play. For victory point purposes they are considered to have ditched in the task group's hex.
- The same carrier cannot both launch and land search aircraft in the same segment.

8.281 If the task group moves, the original hex where the search was launched is still taken to be the point of origin for purposes of calculating search zones and distances. A Search Origin marker may be placed to mark the hex. Note that the Search Origin marker has nothing to do with return of searching aircraft (8.28); it is used only to compute search zones and distances.

8.282 Aircraft launched or landed in the Search Segment count against the limit that each carrier can launch or land in the immediately following US Air Operations Segment. A carrier which launches a search mission is considered to have launched aircraft and therefore cannot land any aircraft in that same Action Phase; likewise, landing a search mission prevents the carrier from doing any launches.

8.3 AIR SEARCH RESOLUTION

8.31 After its movement in each Search Segment, a search mission can attempt search against certain enemy forces (8.32-8.33). Note that aircraft can search on both the outbound and return legs of their mission.

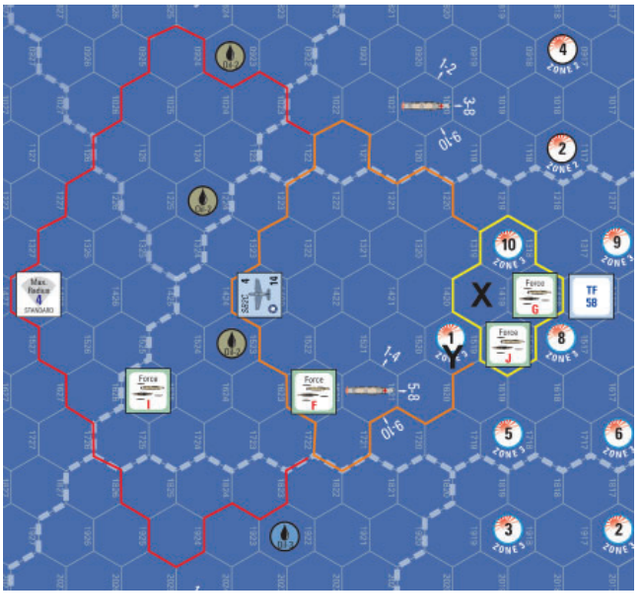
8.32 For a Narrow search, a force is searched only if the searched aircraft flew into or through the same hex in that move. The player can choose the exact path as long as it proceeds straight and direct from the origin point to the max radius hex (and on the return leg, from the max radius hex to the current position of the launching task group / task force). Note that when the search path runs along a hexside, the player chooses which of the two adjacent hexes the air unit will move through.

8.33 For a Standard search, the Standard Search display defines three zones according to range. The close zone is 0-2 hexes from the task group, the middle zone is 3-6 hexes, and the far zone is 7-10 hexes. Aircraft search forces in the zone they just flew through. The example below shows the zones. Note that the search zone is always computed with respect to the point of origin (8.281), but on the return leg, the searchers' path back to their launching task group / task force will determine what zones they fly through.

8.331 Search is resolved against every enemy force in the zone at that moment, in any order. Each air search resolves its search attempts separately -- thus, an enemy force could be searched more than once per turn.

- Enemy forces which might have started the game turn in the zone, but have been activated and moved out before the search segment was declared, are not searched.

8.332 If the maximum Search Zone extends off the map edge, then the air unit turns around in the last zone it can search. It will spend two turns in that zone (one outbound, one inbound) before returning to the previous zone. Note, if only part of the maximum range Search Zone is off map, then the search proceeds normally, and the air unit searches whatever part of the zone is on the map.



EXAMPLE: In the following image, the searching SB2C has just moved four hexes from hex X to its current position, on its way towards its destination at "Max Radius 4." The search zone for this turn is the orange area. Force F will be searched. Force G and Force I will not be.
Force J started the game turn in hex Y and moved one hex eastwards to its present location; the search will miss it, since it is no longer in the zone being searched.

8.34 A search attempt is resolved using the Air Search Table (card 1, back). Roll one die, apply all modifiers, and read the result from the table. Results are listed beside the table.

- There is a die-roll benefit if two units are searching. Note that this means two units in the same search mission; each search mission resolves its attempts separately. There is no additional benefit for more than two units in a mission.
- A narrow search receives a +1 benefit,
- If a US submarine unit is currently shadowing the force (14.15), there is a die roll benefit. There is no additional benefit for more than one submarine.
- There are also modifiers for time of day, range, or fighters searching.
  - **a.** The fighters modifier applies if any of the units being rolled for are fighters.
  - **b.** Range is the distance from the search launch point.
  - **c.** Only night-capable aircraft (optional rule 22.0) can make search attempts on night turns.

DESIGN NOTE: Search was chancy at the best of times: pilots might fail to spot enemy ships, fail to recognize them, or suffer a radio malfunction and be unable to communicate their findings. Modifiers for range occur because as the search fans out to longer ranges, each plane is covering a larger area of ocean. The time of day modifier reflects that it became much harder to see targets as dusk gathered. Fighters get an adverse modifier because the pilot of a single-seat, single-engine plane could not give his full attention to observing the ocean -- in fact all his training told him to ignore the surface and scan the sky for enemy planes.

8.341 If you obtain a 'S', 'L', or '?' result:

1. If the force is Level 0, draw a Level 1 chit from the cup. If the result is False Contact, remove the force from the map and discard the False Contact chit -- it is not replaced in the cup. (The Force marker becomes Available again for arrival on later turns.) Otherwise, place the chit underneath the (now Level 1) force. If the force is Level 1 Carrier, then in scenario 6 and after you will need to adjust the Commitment Index (13.0).
2. Place the marker for the new detection level (8.13).

8.342 If you obtain a 'chit+1' result against a Level 1 or higher force:

1. Use the Intelligence Tables (7.3) to promote the force to the next higher intelligence level.
2. If this causes a non-carrier force to become a carrier force, US Advantage results (8.35). Also in this event, in scenario 6 and after you will need to adjust the Commitment Index (13.0).

Note that these effects apply only if the force was already Level 1 when searched. Against a Level 0 force, the "chit+1" part of a result is ignored.

8.35 US Advantage: You place a "US Advantage" marker whenever a non-carrier force (either Surface, or type not specified) becomes a carrier force as a result of a "chit+1" result in search. The marker remains in place until the Japanese force completes its next activation.

8.351 The effects of a US Advantage marker are:

- a DRM on the Japanese Air Raid Table, making it less likely that the force will attack you, and
- A die-roll modifier in Surprise, making surprise more likely.

DESIGN NOTE: The US Advantage rule represents the chance that you may have surprised the Japanese. If the force had already found you, it probably would have generated an air raid and become a carrier force at that point.

DON'T GET WAVED OFF!

At this point, please play Scenario 4 found in the Play Book.

9.0 JAPANESE CARRIER FORCES

A Japanese carrier force is one with any type of "carrier" or "carriers" Intelligence Chit, or a Level 4 force containing carrier units. As soon as a carrier force is known to have air units, you keep track of what you know about the force using a special play aid, the Butai Display.

9.1 BUTAI DISPLAY

DESIGN NOTE: The Japanese word "butai," which means in this context "force," "echelon," or "element," was often used to refer to combat groupings of Japanese ships, much like the US terms "task force" and "task group." The Butai display replaces the paper record-keeping and some of the on-map markers of the original Carrier game.

9.11 When a Japanese force either reaches Level 2 with carriers, or is Level 1 but has air points, you need to set up a Butai display for it. Proceed as follows:

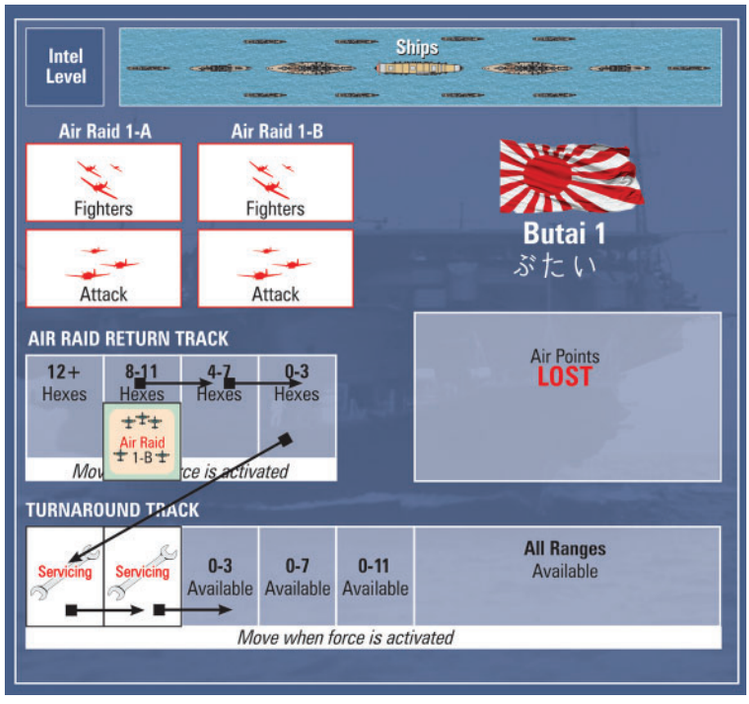
1. Select one Butai display to represent information about that force. The Butai displays are printed on separate cards. This card can be placed anywhere convenient near the map. When you are playing action from June 19 the Butai displays can be placed over top of the westernmost portion of the hex field, as that space is not needed until June 20.
2. For each Butai display there is a Butai counter, identified for convenience by number. Replace the force counter on the map with the Butai counter.
3. Remove the original force's activation chit from the cup, and replace it with the activation chit for the Butai.
4. The Intelligence Chit may be placed in the corresponding space on the display.
5. The Butai counter functions the same as other forces, but it allows the carrier force to be linked to the Butai display. From that point on, the Butai display is used to keep track of known information about the force's air assets and ships.

display is used to keep track of known information about the force's air assets and ships.

NOTE: You do not yet set up a Butai display for a Level 1 "carrier" force that does not yet have air points because there is still a chance that this "carrier" force might turn out to have no carriers after all.

9.12 The Butai display has the following sections:

- The Intel Level space holds the force's intelligence chit.
- The Air Raid boxes hold air points for air aids currently in progress (10.0, step G).
- The Air Raid Return Track is used to keep track of air raids returning to the force (10.3). An air raid counter is placed initially in a box of the track corresponding to their return distance (i.e., the distance from force to target) and then moved one one box to the right each time the force is activated.
- The Turnaround Track is used to measure the time it takes to service aircraft and make them available again. When a Japanese raid counter reaches the last box of the Air Raid Return Track, it is considered to have landed. The air raid counter (and its corresponding marker on the Butai display) is removed, and the air points in the raid are placed in the first (leftmost) box of the Turnaround Track, indicating that they are being made ready to attack again. They are then moved one box at a time along this track each time the force is activated. The first two boxes of the Turnaround track are labelled 'Servicing.' Air points in these boxes are being refueled and rearmed and are not available for any strikes. The remaining boxes are labelled "Available 0-3," "Available 0-7," and "Available 0-11." Units in these boxes are available for raids at the stated ranges, only.
- The "Available All Ranges" box is also the last box of the Turnaround track. Units in this box are available for strikes at all ranges (at least, all ranges within those allowed by the air raid procedure).
- The Lost box contains units that have been eliminated in combat (or diverted to Guam, advanced rule 23.0).
- The Ships section is used only for Level 4 forces, to hold the ships of the force.



EXAMPLE: A Japanese raid completes its attacks. The target is eight hexes from the launching force, so the air raid counter is placed in the "8-11" box of the return track. In the next Air Movement Step, it will be moved to the "4-7," box and in the phase after that to the "0-3" box. In the phase after that, the air raid counter and its corresponding marker are removed, and the air units are placed in the first "Servicing" box of the Turnaround Track. In the next phase, they are moved to the second "Servicing" box, and then in the next phase, to "Available 0-3." During that same Action Phase, their force is activated and launches a strike against a target five hexes away. These points are counted Unavailable for that strike, since they are available only at 0-3 hexes at this time.

9.13 If a Level 4 carrier force loses all its aircraft carriers, the remaining units are treated as a Level 3 surface force. If a regular Force unit is available, place this unit on the map in place of the Butai and place the surface ships under it. The Butai counter is then returned to the pile of unused units.

9.2 AIR POINTS, KNOWN AIR STRENGTH, AND AIR VALUE

DESIGN NOTE: Air points in Carrier represent not what the Japanese have, but what you know about what they have. For Level 1 and Level 2 forces your information is less complete, and we speak of Known Air Strength (in the predecessor game, this same basic concept was called Revealed Air Strength). This is not necessarily all the aircraft the force has, just the ones you know about. At Level 3 and Level 4 you have more definite and specific information, which is called the Air Value.

9.21 The air assets of Japanese carrier forces are represented by air points. Air point units are generic -- unlike US aircraft, they do not represent specific types -- and may be exchanged in any denominations, like making change.

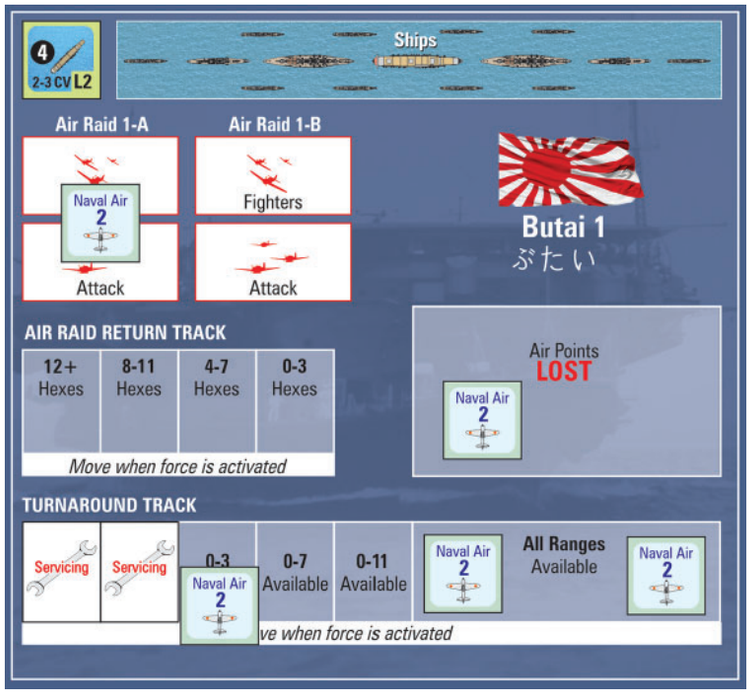
9.22 Air points are held on the Butai displays (9.1). They are never placed directly on the map. Air points are added to a force's Butai display as it performs air raids (9.23). Once added to the Butai display, the air points never leave it; if eliminated in combat they are moved to the Lost box of the display.

9.23 A Level 1 or 2 force adds air points as it generates raids (10.1E). This is an important and perhaps difficult concept: the air raid procedure tells you how many points are in the raid. This may exceed the number so far revealed. (For the first raid launched by a force, nothing will yet have been revealed.) You draw as many points as possible from those already revealed and known to be available. If more points are needed, you add them by taking counters from those not in use, thus adding to the force's total of known air points.

9.24 Known Air Strength: To compute this total, add all air points anywhere on the Butai display -- including the Lost box and all boxes of the Turnaround Track. The Known Air Strength is an input to both the air raid and intelligence processes (10.1E, 7.37). Note that a Known Air Strength of zero is different from an unknown air strength.

DESIGN NOTE: The Known Air Strength can be thought of as the minimum number of air points you know the force must have had at the start of the battle, including points that have since been shot down. The force might yet have other air points you don't know about. A force that has shown you more aircraft is more likely to launch large raids, unless lots of those aircraft were shot down or are still doing turnaround -- and also more likely to have more ships.

9.241 If the force has permanent hits (12.23), you subtract one per hit from the force's Known Air Strength when computing the strength for air raid purposes (only). You do not apply this modifier when computing the strength for purposes of the Intelligence Tables.



EXAMPLE: A Level 2 force (Butai) has four air points in its "Available All Ranges" box, two air points in its "0-3 Available" box, and two air points in its Lost Box; total Known Air Strength, 8. You determine that it launches an air raid of six air points at a range of 10 hexes. You would take the first four points from those available at all ranges. The points in the 0-3 box cannot be used for this raid, and neither can the lost points, so you would take 2 more air point counters from those not in use and add them to the raid. These represent planes that were there all along but which you didn't yet know about. Thus, the force would now have a Known Air Strength of 10. If the raid had been launched at a range of two hexes you could have used the points in the 0-3 box and you would not have needed to add any. In that case the Known Air Strength would have remained at 8.

9.25 Air Value (Level 3 forces): When a force attains Level 3, it receives a Level 3 intelligence chit, which has a printed Air Value.

- For raids (10.1), the printed air value is used to compute an initial raid strength (10.1E), which is then modified for lost/unavailable points (10.1F). The number of points lost or unavailable are shown on the Butai display.
- For CAP (5.4), you use a net air value, which is the base air value minus the number lost or unavailable.

DESIGN NOTE: The difference between Air Value and Known Air Strength is that the former defines the maximum the force could have, while the latter represents only what you know about so far. In other words, Air Value provides an upper bound while Known Air Strength is only a lower bound. This represents the more complete and definite information you have about Level 3 and Level 4 forces.

9.26 Air Value (Level 4 forces): Level 4 forces work like level 3, with the difference that when a force attains Level 4, you draw its actual carrier counters and place them in the Ships box of the Butai display (7.4). From that point on, the force's air value is the sum of the printed air values of its carriers, adjusted for any permanent hits (12.23).

10.0 JAPANESE AIR RAIDS

The Japanese air raid procedure determines whether you detect an incoming air raid from an activated Japanese force. This includes a determination of whether this is actually a carrier force (if you do not already know), whether it launches an attack against you, and in what strength.

DESIGN NOTE: In **Carrier Battle: Philippine Sea**, every Japanese force is potentially a carrier force until you are sure that it is not. And any force that may contain carriers may launch air raids. It's critical to understand that you find out about an air raid when you detect it -- not when it was launched, which would have been some time before. The strength of the raid may be affected by things that have happened in the past, such as hits on the launching force. The information the game gives you over time is consistent, albeit often vague and uncertain. For example, a force that launches a large air raid is more likely to end up containing a large number of carriers.

10.1 AIR RAID PROCEDURE

The air raid procedure -- including modifiers applied for known information about Japanese air strength -- is one of the most important parts of the game, and also the most complex. (Scenario 5 lets you practice it in a simplified situation.)

The air raid procedure is carried out at the instant any Japanese force is activated, before that force moves. The Air Raid Flow Chart can be used as a reference for the steps. It is recommended to follow along on this play aid when reading the instructions that follow. In Scenario 5, omit the steps noted as "Scenario 6 and after."

You can think of the air raid procedure as a sequence of four questions:

1. "If this were a carrier force, would it attack me now?" (Steps A and B)
2. "If so, is this actually a carrier force?" (Step C)
3. "If so, and if it had full air strength, how big would the raid be?" (Steps D and E)
4. "If the force is not at full strength, by how much should the raid be reduced?" (Step F)

A. Is this force potentially eligible to launch a raid?

1. A force which already has two raids in progress cannot launch a raid. For purposes of this rule, all units on return tracks (not yet reached their Servicing boxes) are counted as a single "raid."

2. Otherwise, a force is potentially eligible to launch a raid if either:

- It is a carrier force; or
- It is a Level 0 force or Level 1 small/med/large force, and the Japanese carrier commitment limit has not yet been exceeded. (Scenario 5 does not use commitment limits.) A Surface force is never eligible to launch a raid.

DESIGN NOTE: The idea is that as long as the carrier commitment limit has not been exceeded, there can still be more undiscovered carriers out there, so any one of the force types listed could be a carrier force. In a later step of the procedure, you will determine whether it really is.

B. Does the force discover a target within range?

This step uses the Japanese Air Raid Generation Table (card 2, back) to determine if the Japanese carriers (if there are any) find and wish to attack a target in range.

1. First check the maximum range allowed on the current game turn, as listed on the table. If there is no US task group within that range, there is no raid.

2. Next, select the target task group. This will be the closest US task group with carriers. If there is more than one equally close, select the one with the most carriers.

3. Then roll the die and apply modifiers listed on the table (some of which depend on the game turn and one of which is specific to scenario 9, only) and read a result. The result will either be that the Japanese launch an attack, or not.

DESIGN NOTE: The table reflects the chance of the Japanese finding you, and takes into account the time of day and the time required to reach targets. It presumes that strikes might be launched in the predawn darkness (astronomical twilight) as was done at Pearl Harbor, provided targets have been found, but not earlier. Individual search planes with highly experienced pilots could be launched in full night, but strikes could not (at least, not in 1944).

C. Is this in fact a carrier force?

If the Japanese force is already known to be a carrier force, skip to step D. Otherwise, it must be either a Level 0 force, or a Level 1 Large, Medium, or Small force.

1. If it is a Level 0 force, first draw a Level 1 Intelligence chit.

a. If this is a Carrier force chit, continue to step D (you now have a Level 1 carrier force).

b. If it is a Small, Medium, or Large force, continue to step C(2). (This will occur only in Scenario 6 and after.)

c. If it is any type of Surface chit, or a False Contact, replace the Level 1 chit in the cup; the force reverts to Level 0 and does not launch a strike. Note that you do not remove the force in the event of False Contact; the air raid is cancelled, but the force remains in play and could turn out to have carriers later.

2. (Scenario 6 and after) If the force is Level 1 Large, Medium, or Small, use the Level 1 to Level 2 Intelligence Table (card 3, front) to determine a Level 2 force chit.

a. If this turns out to be a Carrier force, proceed to step D (you now have a Level 2 carrier force).

b. If this turns out to be any type of Surface force, remove the Level 2 chit and revert the force to whatever level it was at the start of this procedure. If you just promoted it from Level 0 to Level 1 in step C(1), it reverts back to Level 0 now, and the Level 1 chit used is replaced in the cup. The force does not launch a raid at this time.

3. (Scenario 6 and after) If the force is a Level 1 carrier force with a known air strength (i.e., it has previously launched raids), promote it to Level 2 using the Level 1 to Level 2 Intelligence Table. The force then uses the procedure for Level 2 forces. (That procedure will correctly take into account the force's known air strength.)

DESIGN NOTE: The idea is that you get information at this time only if the force decides to launch a raid against you. The information you get is what you can infer from the raid. You aren't seeing the actual ships. So, if the above procedure winds up with a non-carrier force, and hence no raid, you 'call back the play' (as in American football) and discard the changes, since you didn't see anything. The force might turn out later to be a carrier force after all. Note that Level 1 chits that result in non-carrier forces during the air raid procedure are replaced in the cup and the force remains in play. This is in contrast to what happens during search, when the chits are removed from the cup and the force is removed from play.

D. (Scenario 6 and after) Compute Known Air Strength or Air Value. (In Scenario 5 the air strength is specified by scenario rules.)

- **Level 1-2 forces** have a Known Air Strength, which is the sum of all air points on the Butai Display, including Lost or Unavailable points (9.24). If there are no air points on the display, the strength is 'unknown.'
- **Level 3 forces** have an Air Value which is printed on the Intelligence Chit. Air points on the Butai Display do not affect this value.
- **Level 4 forces** have an Air Value which is the sum of all the individual aircraft carrier values in the force, adjusted for damage (12.23). Damage to the carrier affects this value, but air points on the Butai Display do not.

Note: In all cases, the known air strength or air value represents what the Japanese force would have been capable of if it could muster all its aircraft. Adjustments for lost or otherwise unavailable aircraft are made in Step F.

E. Determine strength of raid.

There are three Air Raid Strength tables:

- **Level 1-2 Forces, Known Air Strength** (card 2, back). (This is the only table you will use in Scenario 5.) On this table, you select the column corresponding to the known air strength (9.24), apply column shifts (listed with the table) for the force type (e.g., "1-2 Carrier"), then

cross-reference with a die roll. (Note: you cannot have a Level 1 force with a known air strength launching a raid; it would have been promoted to Level 2 in step C(3).)

- **Level 1-2 Forces, Unknown Air Strength** (card 2, back). On this table, you cross-reference the force type ("Level 1 Carrier," etc.) with a die-roll. (This table is used only in the full-battle scenarios -- Scenario 6 and after.)
- **Level 3-4 Forces, and Guam** (card 3, back): On this table you select the column corresponding to air value (9.25-9.26), then cross-reference with a die roll. (This table is used only in the full-battle scenarios -- Scenario 6 and after.)

Note that in the air value or known air strength may be modified for hits the force has suffered (9.24-9.26). (You do not need to worry about this in Scenario 5.) The result is the number of air points in the attack.

- A result with the '/' symbol indicates an attack in two waves. For example, "5/4" indicates a first wave of five point and a second wave of four points. The second wave becomes a second, separate air raid, placed separately on the map (10.24). However, in the full battle scenarios (Scenario 6 and after) this strength must be adjusted for lost or unavailable air points (Step F) and this may result in a reduction from two waves to one. Also, if a force already has one raid in play, an additional raid always is delivered as one wave, with the combined strength of both values (9 in the example above).
- Air raids from Guam (land-based aircraft) always arrive in a single wave. Add the two wave values together and use the combined value, after applying Step F. (Guam air raids occur only in Scenario 6 and after.)

DESIGN NOTE: You will see that the Level 1-2 and Level 3-4 tables are similar, but the Level 1-2 allows a greater range of values, and hence more uncertainty. This is in keeping with the basic concept that you have less definite information about Level 1 and 2 forces. The table for Level 1 and 2 forces with no known air strength allows the greatest uncertainty of all.

F. (Scenario 6 and after) Reduce raid strength for points lost or unavailable.

1. Total the number of air points in the Lost box of the force's Butai Display, plus the total in Servicing boxes, plus the number in the Butai's air raid boxes, plus the number unavailable at this range.
   a. The number unavailable at this range is the total in Available boxes that are lower numbered than the range. For example, if the target is at a range of 9 hexes, then any points in the "Available 0-3" and "Available 0-6" hexes are counted as unavailable.
   b. For raids from Guam the same procedure is used, but you are applying to the Guam Display instead of a Butai Display.
2. Using the Air Raid Strength Reduction Chart, cross-reference the initial strength for the raid obtained in (E) with the number of points lost/unavailable. (No die-roll is involved.) The result is the reduced, final strength of the attack.
3. For raids with two waves, add the value of both to get the initial strength. Apply any reduction to the second wave. If the strength of that wave falls to three or less, the two waves are combined into one (i.e., what remains of the second wave is added back into the first).

G. Place air point counters in Air Raid box.

Select an available Air Raid box on the Butai display for this force, and place air points in the box. For raids with two waves, you use both boxes. (Remember that if there was already a raid in play for this force, the two waves are combined into one.)

10.11 There are no separate Japanese fighter and attack plane counters; there are just generic "naval air" and "land air" counters in point denominations, like change. Each Air Raid box has a 'fighters' section and a 'attack planes' section. These will hold air points known to be of those types.

10.12 When a raid is first launched, you do not know how many of its points are fighters and how many are attack planes. Simply put counters representing the total strength of the raid on the boundary line between the Fighter and Attack Plane boxes.

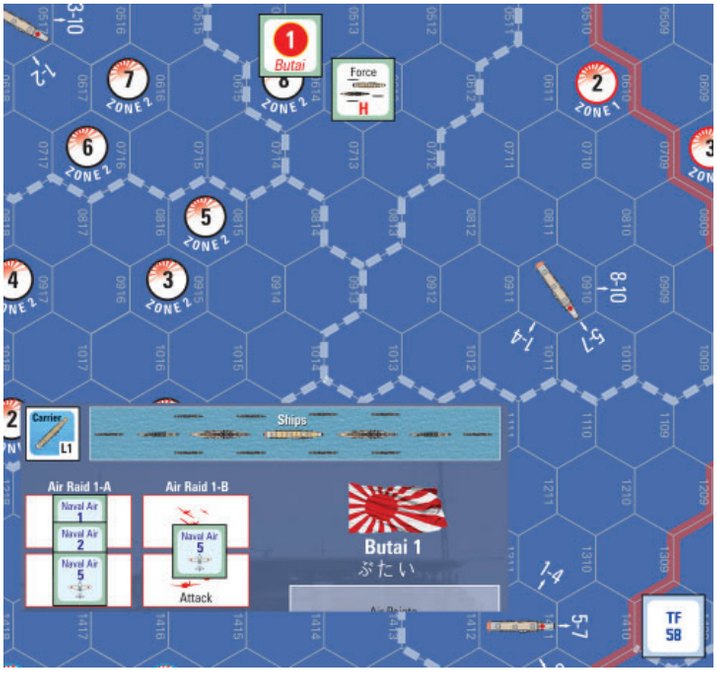
10.13 You determine the exact number of attack planes and fighters when the raid is first contacted by US fighters, or if never contacted by fighters, then when it reaches its target, as follows:

1. On the Japanese Escort Fighter Table (card 2, front), locate the highest column not exceeding the size of the raid (e.g., if the raid has seven points, then use the "6" column.
2. Roll one die and cross reference with the strike size to determine the number of fighter points.
3. From the total points in the raid, put the required number in the Fighters box. These now represent fighters for the duration of the raid.

4. Put the remainder in the Attack Planes box -- i.e., all points which are not fighters are attack planes. These represent attack planes for the duration of the raid.

10.14 The grouping into fighters and attack planes -- and the identification of individual air points as each of those types -- endures only for the duration of the raid. The aircraft revert to being generic 'air points' upon return to their carrier.

DESIGN NOTE: You will note that the same force might launch one strike having one proportion of fighters, and then later launch a strike with a different mix. Remember that the air points only reflect what you know so far. You don't know what else the Japanese might have on their decks.



EXAMPLE: Japanese Force 'H,' currently at Level 0, is located eight hexes away from TF 58 when activated. It is the 0810 turn. According to the Japanese Air Raid Generation Table the maximum range for a strike on the 0810 turn is 11 hexes, so a strike is possible. The table lists a modifier of -1 for raids on this turn. It also lists a 0 modifier for range 7-9. The net modifier is -1. Your die roll is a "6", modified to 5, and thus the force would launch an attack if possible. You draw a Level 1 chit and it turns out to be "Level 1 Carrier." This is the first carrier force that has appeared, so you use Butai display 1 for it, placing the Intelligence chit in the upper corner and replacing the Force "A" counter with "Butai 1." The force has no air points yet, so you use the Air Raid Strength Table for Level 1-2 Forces With Unknown Air Strength. A die roll of "7" on the "L1 Carrier" column yields a result of "8/5" -- a first wave of 8 points and a second wave of 5 more.

EXAMPLE: In the previous example, suppose instead that Force "A" was already known to be Level 1 Carrier, but had not previously launched a raid, and that it had just been detected by a US search attempt in which a "US Advantage" marker was placed. In this case an additional die-roll modifier of -3 would have applied, and the force would not have launched an attack. This is one effect of US Advantage.

10.2 RAID PLACEMENT AND MOVEMENT

"The particular strength of your [carrier] task force is the use of radar, interception of radio messages, and intercepting by radar of Japanese air attacks which they can catch and destroy ('eat up') whenever they want to." — Admiral Jisaburo Ozawa, postwar interrogation, October 1945

10.21 After a raid has been generated and its strength, composition, and target determined, the raid is placed on the map using this procedure:

1. Roll one die and consult the Intercept Range Table (card 1, front), applying die-roll modifiers listed. The result shows the range of intercept.
2. The raid will be placed at the specified distance from the target.
   - **a.** Count along a direct line from source to target. Note: The "source" is the force which launched the strike; the "target" is the target US force as determined in 10.1(B).
   - **b.** In case of ambiguity, prefer a hex containing no US aircraft.
   - **c.** If there is still ambiguity, resolve randomly.

10.22 The Air Raid counter represents the planes in the raid. Only the raid counter is placed on the map, not the planes. Once placed, the raid moves as a unitary whole. Japanese air units never transfer from one raid to another, nor do raids split up or combine.

10.23 A raid moves two hexes per Japanese Air Movement segment. US units do not affect this movement. The raid moves directly to its target task group along a straight line from source to target. If there is a choice of two hexes equally along the straight line, pick randomly.

10.231 Note that the Japanese Air Movement Segment precedes the Activation Segment, and therefore new raids -- which are placed during the Activation Segment -- do not move in the same Action Phase they are placed.

10.24 When a force launches a pair of raids as a first and second wave, the first wave is placed according to 10.21. The second one is placed two hexes behind the first wave, counting back towards the originating forces by the most direct path. Both waves are placed on the map immediately.

DESIGN NOTE: You see the Japanese aircraft only in the final hexes before they reach their targets; we presume they move at a speed of 2 hexes per segment during that time. For the rest of their mission, out of your sight, they would be using more economical cruising speeds. It may seem odd that the Japanese can fly right through US interceptors, but planes don't come to a stop in midair. What is really happening is a running fight as the Japanese fly toward their target. The US interceptors generally will move to the hex where the Japanese ended up and air combat will be resolved there. The battle actually would be occurring over the course of one to two hexes of movement.

10.3 AIR RAID RETURN

10.31 After a carrier air raid's air-to-surface combat is complete, the raid marker is placed on the Air Raid Return track for the Butai that launched it (as recorded by marker). Place it in the box corresponding to the current distance from the launching force to the target task group. The raid does not remain on the map to fly back to its carriers; the Air Raid Return track represents the return flight. (Raids launched from Guam are different in this respect; see 11.28.)

10.32 Returning units are moved one box per action phase along the track to lower numbered boxes, then to the Turnaround boxes, and then to the Available boxes, as described in 9.12 and its example. This occurs at the time the force is activated.

10.33 If the Japanese force has no operating flight decks when the returning aircraft are due to be placed in the Turnaround box, the air points are eliminated.

DON'T GET WAVED OFF!

At this point, please play Scenario 5 found in the Play Book.

11.0 JAPANESE LAND-BASED AIR

Japanese land-based aircraft operating from Guam were a concern for the Americans. Admiral Ozawa was led to believe that he would get powerful support from these forces. They were weaker than he expected and they accomplished nothing. Rule 16.1 may be added to let the land-based air turn out to be stronger than it was historically.

11.1 LAND AIR BASES AND UNITS

11.11 Japanese land-based air units are represented by unit counters. Like naval air, these are represented in the form of generic unit counters, which can be exchanged for one another in any denominations.

11.12 The Japanese have an air base at Guam. It can launch air raids against American forces (it is, in effect, a large stationary aircraft carrier).

11.13 Japanese air bases at Yap/Peleliu and Iwo Jima do not launch raids, but can be a source of land air reinforcements if Rule 16.1 is in play.

11.2 LAND-BASED AIR RAIDS

DESIGN NOTE: Procedures for Japanese land bases and their aircraft are much simpler than those for carrier aircraft because there is less uncertainty: you know exactly where each base is and how large it is. However, the exact number of aircraft remains a mystery to you: the Japanese were good at hiding their aircraft from view, using revetments and the like.

11.21 Guam has an Air Value, assigned by scenario. Place the Guam Air Value marker on the Records Track at the start of the game to record the value. The Air Value of Guam can change only if Rule 16.0 is in play. (Note, the use of Rule 16.0 is recommended as soon as you don't mind adding on a little more complexity; it adds many possibilities.)

11.22 Guam has its own activation chit. (Note: There are also activation chits for "Iwo Jima" and "Yap/Peleliu" but they are used only with Rule 16.0.) When the Guam activation chit is drawn, and if no Guam air raid is currently in play, carry out the air raid procedure in the same manner as for a Level 4 Japanese force.

- Note that the activation chit, as for forces, determines when you launch raids, not when you move aircraft. Guam's aircraft are moved at the same time as naval aircraft.

11.23 Guam cannot launch a new air raid if a Guam air raid is currently in play. In this event treat the Guam activation chit as a No Op.

11.24 The decision to launch a raid from Guam is made using the Japanese Air Raid Generation Table (card 2, back), same as for naval air raids. The strength of a Guam raid is determined using the "Level 3-4 Forces and Guam" chart (card 3, back). Use the column for Guam's current net air value (its original value minus any points lost or unavailable). The Air Strength Reduction Chart is not used for Guam. If Guam's air value is less than 3, it does not launch a raid.

11.25 Die-roll modifiers for game turn and range apply to Guam as for any other Japanese raid. US Advantage never applies to Guam. There is a special die-roll modifier if a US intercept mission is present in the Guam hex (11.27).

11.26 The Guam raid counter is placed on the map as follows:

1. If the US player has an intercept mission in the Guam hex, the raid is always placed in that same hex (11.27).

2. Otherwise, the raid is placed using the procedure of 10.2, determining a distance of intercept. If the distance from Guam to the US task force is less than the distance of intercept, place the raid in the Guam hex.

3. A Guam raid always arrives as a single wave. If you get a two-wave result from the table, you combine with the values: e.g., a 5/4 result becomes a single raid of nine points.

11.27 If the US player has an intercept mission in the Guam hex, there are the following effects:

1. A die-roll modifier is applied to the air raid generation die roll when the Guam activation chit is drawn. This modifier is listed on the Air Raid Generation Table (card 2, back).

2. If a raid is launched from Guam, the raid is placed in the Guam hex and does not move in that Action Phase. Other segments in the Action Phase are carried out normally. The US player adds two to his air-to-air combat die roll against the Guam units in that phase. This applies only when units are taking off from Guam, not when they are landing.

The above effects are only for an intercept mission. An air strike mission does not have these effects. Note that a US intercept mission can loiter in the Guam hex (as was done during the actual battle), paying one fuel point per action phase.

11.28 The Guam display has no raid return sections. Instead, following a raid the the raid is flown back to Guam on the map by the most direct path. It moves in each segment, just as incoming Japanese air raids do. A Guam raid may be intercepted en route either to or from the target. Conduct air-to-air combat as usual and place any air points lost in the Losses box for Guam.

11.29 When the raid returns to Guam, place the air points in the Landed section of the Guam display. From there they move to the Servicing section and then to the Available (at various ranges) box in the same way as for the Butai displays.

12.0 DAMAGE, FIRE, AND CRIPPLED SHIPS

12.1 US CARRIER DAMAGE

All damage to US carriers is recorded using Hit markers. These numbered markers can be used like change.

12.11 The US Damage Effects Summary Chart (card 4, front) lists the effects of damage for each type of carrier (CV and CVL).

- A carrier's damage state is referred to as "light damage", "heavy damage", or "crippled," as listed on the chart. These terms are used in certain other rules and victory conditions.
- Effects include a reduction of the carrier's AA value, restrictions on flight operations, and a loss of ability to move. (For damage to surface ships, see 12.5.)

12.12 Inoperative Flight Decks: A US carrier that suffers any hits (even light damage) immediately receives an Inoperative Flight Deck marker. While it has this marker, it cannot conduct any air operations. This includes launching or landing units and raising or lowering aircraft.

12.13 Repair of Inoperative Flight Decks: At the end of each Action Phase (not game turn), roll one die for each Inoperative Flight Deck marker. On a net roll of 7 or higher, the marker is removed. Do not make the roll in the same phase in which the damage is suffered.

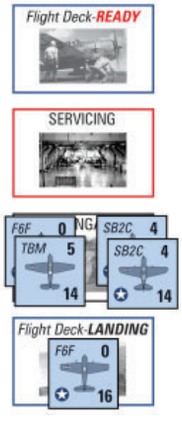
- Note that a carrier can potentially have an Inoperative Flight Deck and Deck Crash marker at the same time, and it needs to remove both before flight operations can resume.

DESIGN NOTE: "Inoperative Flight Deck" encompasses any damage that would shut down air operations. This might be holes in the deck, debris on the deck, or damage to the ship's power plant or steering that prevented the ship from steaming into the wind as required for launch and landing. US sailors had

become very efficient at repairing these problems, but the time required could vary. The differences in this area between this game and its predecessor reflect the much improved state of damage control procedures in the US Navy by mid-1944.

12.14 In addition to effects listed on the chart, a US carrier immediately loses one air unit for each hit suffered. Units must be lost first from the flight deck (landed or ready), next from servicing, and last from the hangar; select one unit randomly for each hit, within these categories.

- Each unit lost from the hangar counts as two units for this purpose.



EXAMPLE: A US carrier suffers three hits. It has one Landing unit and four others in the hangar. The Landing unit is eliminated. One of the units in the hangar is eliminated. The unit in the hangar counts double, so this counts as three total units eliminated, as required.

12.15 Repair of inoperative flight decks (12.13) and clearing of deck crashes are the only forms of "repair" in the game.

12.16 A US CV with 6 or 7 hits or a CVL with 4 hits is Crippled. See 12.4.

12.2 JAPANESE CARRIER DAMAGE

DESIGN NOTE: The basic idea is that damage to a Japanese carrier will affect the force's ability to launch planes, but will not affect raids already in the air. Since raids were launched some time before you detect them, it is necessary to take into account whether damage happened before a particular raid was launched, or after.

12.21 For Japanese carriers there are three types of hits: current turn, previous turn, and permanent. Only permanent hits affect air raid strength.

1. When hits are initially suffered, place a "Hit -- Current Turn" marker in the correct number of hits.
2. In the Update Hit Markers step of the End Phase, do the following:
   a. Replace each "Hit -- Previous Turn" marker with a permanent Hits marker.
   b. Flip each "Hit -- Current Turn" marker to its "Hit -- Previous Turn" side.

12.22 "Previous Turn" and "Current Turn" hits have no effect on Japanese air raids. They are ignored.

12.23 Permanent hits can reduce the known air strength or the air value of Japanese forces as follows. Only permanent hits have these effects. Note that permanent hits on a force less than level 4 would necessarily have been inflicted by submarine attack (14.0) since any air strike would have raised the force to Level 4.

- If a Level 1 or 2 force has permanent hits, subtract the total number of hits from its Known Air Strength (9.241).
- If a Level 3 force has permanent hits, subtract the total number of hits from the Level 3 force's Air Value (9.25).
- A carrier with light damage (less than half of its total hit capacity) in permanent hits loses one point of air value per permanent hit.
- A carrier with heavy damage (half or more its total hit capacity) loses its entire air value. If its force has air point losses, apply the procedure of 12.24 when computing air raid strength.

EXAMPLE: A Japanese force has the carriers Shokaku and Zuikaku (each worth 10 air value) and Chitose (worth 4 air value). In the first Action Phase, an American attack inflicts five hits on Zuikaku. These are registered as "Current Turn" hits. In the second Action Phase, the Japanese force is activated and you determine that it has launched a raid. The force's air value for this raid remains 24, as the raid would have been launched prior to the hits on Zuikaku.

12.24 When a Japanese carrier has become heavily damaged (or more) by permanent hits, its entire air value is lost to its force.

- In this event, only Lost air points in excess of the carrier's Air Value are treated as lost when computing air raid strength. However, a portion of the force's Lost air points are considered to belong to that carrier. These losses, like the carrier's air value, are ignored when computing air raid strength.
- Lost points are assigned in proportion to the number of carriers in the force, counting CVs as 2 and CVLs as 1, and rounding any fraction down.

EXAMPLE: Continuing the previous example, suppose the Japanese force had lost ten air points, and that it launches a raid two turns later, by which time the hits on Zuikaku have become Permanent. Zuikaku's five hits are more than half of its hit capacity of 8, so this is heavy damage. Zuikaku's 10-point air value is no longer counted, leaving only 10 for Shokaku plus 4 for Chitose. Of the ten lost air points, two-fifths, or 40% (4 points) are considered to have come from Zuikaku. This is because points are assigned in the proportion of two for Zuikaku, two for Shokaku, and one for Chitose. The four points belonging to Zuikaku are not counted in the losses, leaving only 6 losses remaining of the original 10. In sum, when computing raid strength use an air value of 14 and air losses of 6.

DESIGN NOTE: The idea of this rule is to avoid "double counting" air losses: you don't penalize the Japanese both for air points shot down and for the ship put out of action. This rule in fact grants the Japanese a few more air points than a precise accounting would give, but it spares you some arithmetic and some complexity.

12.25 A Japanese carrier's AA value suffers the same effects as for US carriers, at each level of damage: halved for light and heavy damage, zero if crippled.

12.26 A Japanese carrier becomes Crippled (12.4) if all its hits (permanent and otherwise) total one or two less than the Hit Capacity for a CV, or one less than the Hit Capacity for a CVL. All hits are counted for this purpose, not just permanent hits.

12.27 A Japanese carrier is sunk if it suffers permanent hits equal to or exceeding its Hit Capacity.

12.28 The Japanese ships Ise and Hyuga were part CVL and part battleship. Like battleships (see 12.52), they are crippled if they take hits totalling at least 75% of their hit capacity (12 points). They suffer the same effects on air value at each level of damage as a CVL. In all other respects their damage effects are the same as for a battleship.

12.29 If following the US Air Attack Segment there are enough hits of all types to put all flight decks in a Japanese force out of action, then any CAP generated for that force in this segment is eliminated and placed in the Lost box.

12.3 FIRE

DESIGN NOTE: Fire was a terrible threat to carriers, as they were packed full of aviation fuel and explosives. A carrier might survive the immediate effect of bomb hits but eventually be destroyed by fire. A fire might also reach and detonate stored munitions -- a disaster which caused the loss of the USS Princeton at Leyte Gulf just a few months after this battle. US ships had the advantage of better firefighting equipment and damage control. Obviously, fire also affected Japanese carriers, but the details of its progress and the firefighting attempts would not be known to you; effects of fire on the Japanese ships are built into the game.

12.31 A fire may result any time a US carrier suffers hits. Check for fire using the Fire Outbreak Table (card 4, front). Roll one die, apply the modifiers listed with the table, and read the table result. If a fire breaks out, place a "1 Fire" marker on the ship. Note that you roll once per segment, using the total number of hits from all attacks made against the ship in that segment.

- There are three possible levels of fire: 1, 2, and 3. Fire can increase or decrease in level as a result of the Fire Spread Table (12.33).

12.311 Fire can also start as a result of a Japanese submarine attack on a US carrier (14.2 and Japanese Submarine Attack Table). No additional die roll is involved; if the table result specifies fire, a fire breaks out.

12.32 In the Fire Step during the End Phase of each game turn (not each Action Phase) you check for possible spread of each fire that is raging. This includes fires started that turn. For each ship that is on fire, roll the die and consult the Fire Spread Table (card 4, front), applying listed modifiers.

12.33 Results on the Fire Spread Table are as follows:

Fire Extinguished - remove Fire marker

-1 fire level -- reduce fire one level. A 1 Fire marker is removed (same as extinguished).

+1 fire level -- increase to next fire level. A 3 Fire remains a 3 Fire.

+damage -- ship suffers additional damage equal to current fire level. For example, if the current level is 2 Fire, the ship suffers two additional damage points.

+ 2x damage -- ship suffers additional damage equal to twice current fire level (e.g., four points for 2 Fire).

12.34 A carrier cannot conduct any air operations (landing, launching, raising, lowering, or servicing) while on fire.

12.35 Fire applies only to carriers, not surface ships or surface units. It applies only to US ships. (The progress of fire on Japanese ships would not be known to the US admirals. Fire damage for the Japanese is taken into account in the surprise modifier.)

12.36 It is possible for a ship to have more than one fire if it is attacked again before the first fire is put out. Roll separately for each fire and track each fire's progress individually.

12.4 CRIPPLED SHIPS

A carrier or battleship of either side can become crippled as a result of damage (12.16, 12.26, 12.51-12.52). You can place a Crippled marker as a reminder.

12.41 A crippled ship can remain with its force or task group only as long as that force or task group remains in the same hex. If the force or task group moves, the crippled ship is placed on the map. This applies to both sides.

12.411 If using Rule 21.0 (Surface Combat) then the US player, when moving, can leave one or more surface units behind in the hex with a crippled ship if he wishes; in this case, these units remain with the crippled ship for the rest of the game. The crippled ship and its accompanying unit(s) move when the "US Move" chit is drawn. This option exists only when using Rule 21.0; otherwise the crippled ship is left by itself. Japanese crippled ships are detached from their forces and placed on the map as required by 12.41, but the Japanese never leave surface units behind with them.

12.42 A crippled ship can move only in turns ending in "30," e.g., 0530 -- in other words, every third turn. (The ship is actually being towed. The towing ship is not represented in the game.)

12.43 Crippled Japanese ships use Retirement movement (19.0). A crippled Japanese ship moves at the same time as its original force.

12.44 A crippled US carrier can be the target of a Japanese air raid. However, a Japanese raid will attack a task group first. It will attack a crippled ship only if no task group target is within 12 hexes, and only if there is no Japanese surface force within six hexes of the crippled ship.

12.45 Japanese surface forces within six hexes of a crippled US ship will move directly toward that ship in place of Mission movement, unless they are located in a zone adjoining the east map edge, in which case Mission movement takes priority.

12.46 When not using Rule 21.0, it is permitted for units of either side to enter a hex occupied only by one or more crippled enemy ships. If a US task group enters a hex containing a crippled Japanese ship, the ship is considered sunk (actually, scuttled by an accompanying destroyer), and immediately removed from play. The same applies if a Japanese surface force enters a hex containing a crippled US carrier, unless the surface combat and evasion rules are in force (see 21.16).

12.47 Crippled US ships can be attacked by Japanese submarines (14.25).

12.5 SURFACE SHIP DAMAGE

12.51 US battleships can suffer damage from air raids and in surface combat. There is a column for BBs on the US Damage Effects Summary Chart (card 4, front).

- The chart shows the number of hits needed to attain each damage level. Where the Damage Effects Summary shows a pair of values (for example, "10/12") the first value applies to battleships having Hit Capacity 20 or lower, and the higher value applies to battleships with a Hit Capacity greater than 20.
- The battleship may lose AA value, go dead in the water, or be sunk, for the values shown.
- A BB with 15+ hits is Crippled (12.4).
- A US BB unit is sunk when it suffers damage equal to its hit capacity (20 for some BBs, 22 for others).

12.52 Japanese battleships suffer the same effects for each level of damage as US battleships do. The thresholds for each level of damage are as defined on the Japanese Damage Effects Summary: 50% of total hit capacity for heavy damage, 75% for crippled.

12.53 Cruiser and destroyer units of both sides (which represent multiple ships) suffer no effects from hits until the number of hits equals the hit capacity, at which point the unit is removed from play.

13.0 COMMITMENT

DESIGN NOTE: The purpose of the commitment rule is to prevent the Japanese carrier forces in the game from growing beyond reasonable levels. Note however that if you play (as recommended) with the Japanese additional ships (2.35), you may end up with different ships from those that participated in the actual battle. This is intended; the US admirals did not know the exact makeup of the Japanese fleet.

13.1 COMMITMENT INDEX

13.11 The Japanese Commitment Index records the approximate size of the Japanese carrier forces so far revealed in play. It starts at zero and increases as new forces are introduced into the game. Use the Commitment Index marker on the General Records Track to record the index.

13.12 The Commitment Index must be checked and possibly adjusted each time any of the following happen:

1. A new Japanese carrier force is revealed in play, either in search or air raid;
2. The Known Air Strength of an existing Level 1 force increases.
3. A Japanese carrier force increases to a higher level, either in search or air raid.

13.13 To compute the Commitment Index, you compute a Commitment Value for each carrier force in play, and sum these values together. The force values are computed as follows (see Commitment Values Chart, card 3, back):

- For each Level 4 force, points accrue for each carrier either in play or sunk: 2 points per CV, 1 point per CVL. (In other words, points accrue for each carrier that joined the battle in that force, even if it is now sunk.)
- For each Level 2 or Level 3 force, the value is printed on the intelligence chit (white number on black circle background).
- The commitment value of a Level 1 force is a function of its Known Air Strength. The L1 Commitment Value Chart (card 3, back) shows the values. If no air strength is yet known, the commitment value for the force is taken to be 4.

It is possible for the Commitment Value computed for the same force to decrease and then increase again as the force goes through successive intelligence levels.

EXAMPLE: Three Japanese carrier forces are in play: a Level 1 force with known air strength of 7, a Level 3 "2 CV" force, and a Level 4 force that has the CVL Zuiho, and which formerly had the CVL Chitose that is now sunk. The Level 1 force, per the L1 Commitment Value Chart, has Commitment Value 2 (we read from the "6" row, not "8"). The Level 3 chit shows value 4. The Level 4 force counts one point for each CVL, total 2. The Commitment Index is 8.

13.2 COMMITMENT LIMITS

13.21 Each scenario (Scenario 6 and after) specifies a Japanese Commitment Threshold and a Japanese Commitment Limit.

These values do not change during play. You record them by placing markers on the General Records Track. The Threshold determines when you start to see commitment effects; the Limit acts like an upper bound on the index. Also as part of the scenario setup, you will decide whether you are using the historical Japanese force posture, or using additional ships. This choice affects the operation of the commitment rules.

13.22 If the commitment index currently equals or exceeds the commitment threshold at the time a new carrier force is revealed, the force may turn out to be a False Contact instead. Perform a commitment test using the Commitment Test Table (card 3, back), as follows:

1. Locate the line at the top of the table corresponding to the current scenario and force posture. If playing with historical ships only, use the Historical line; if using Additional Ships (2.35) use the Additional Ships line; use the Scenario 9 line only in that scenario.
2. In the line selected, locate the column corresponding to the current commitment index.

13.221 Double forces (7.5) may not enter the game once the commitment threshold has been exceeded. A double force result is treated as Level 1 Carrier instead.

13.23 At the moment the Commitment Index reaches or exceeds the Commitment Limit, immediately carry out the following procedure for each Japanese Level 0 or Level 1 Large/Medium/Small force, starting with those closest to the Invasion zone.

1. If the force is Level 0, draw a Level 1 chit from the cup.
   - **a.** If the result is any type of carrier chit, remove the force from play, as no more carrier forces are allowed.
   - **b.** If the result is a Surface chit, place it underneath the force and the force remains in play, up to a maximum of four surface forces in play (Step 3).
   - **c.** If the result is a Large, Medium, or Small Force, immediately proceed as in Step (2).
   - **d.** If the result is False Contact, the force is removed from play.
2. If the force is Level 1 Large, Medium, or Small, promote it to a Level 2 force using the Level 1 to Level 2 Intelligence Table. If the result is a surface force, place the chit underneath the force. If the result is a carrier force, remove it from play.
3. As soon as the Japanese have a total of at least four surface forces on the map, the procedure is halted, and any remaining Level 0 and Level 1 Large/Medium/Small forces are removed from play.

13.231 If the Japanese already had four or more surface forces in play when the Commitment Limit was reached or exceeded, then all existing surface forces remain in play but the procedure of 13.23 is skipped. Remove any remaining Large/Medium/Small forces.

13.232 It can also happen that the Japanese have only a few non-carrier forces in play when the limit is reached. In that case you still carry out 13.23(2) for each Large, Medium, or Small force, removing it if it turns out to be a carrier force and keeping it in play if it turns out to be a surface force, and stopping when you have four surface forces in play.

13.24 After the Commitment Level has been exceeded, the following effects apply for the remainder of the game:

1. Level 1 carrier forces already in the game remain in play and function normally.
2. For the rest of the game, the air raid procedure is carried out only for forces already known to be carrier forces.
3. No new Japanese forces arrive.

14.0 SUBMARINES

The Philippine Sea was an unusual case in which US submarines made a large direct contribution through attacks on enemy warships, as opposed to their usual role of destroying the Japanese merchant marine. The game regards the historical result -- two Japanese carriers sunk -- as a longshot; it can occur, but it is unlikely.

DESIGN NOTE: Concerning US submarines, the game takes some liberties with player role. Historically the US submarines were under the command of Admiral C.A. Lockwood (Commander Submarines Pacific Fleet), who was based at Pearl Harbor and not under the direct control of either Admiral Spruance or Admiral Mitscher. However, as submarines sank two of the three Japanese carriers lost in this battle -- and did so with no assistance from aircraft -- it seemed unsatisfying to have such an important force not be under the player's control. It does appear that there was close-coordination among the admirals involved, and the submarines were given orders firmly in support of TF 58's mission, so perhaps the game is not too far from reality.

14.1 US SUBMARINES

US submarines are used in scenarios 6 through 9.

14.11 There are five US submarines, identified by name. In Scenario 6 and later, they are set up as part of the US forces on map at the start. Each may be placed anywhere on the map, including island hexes.

14.12 There is one "US Subs" activation chit. When the US player draws this chit, he may do the following with each of his submarines:

1. If the submarine is not pinned and not shadowing, move the submarine one hex, if desired. Following any movement, the submarine may attempt to contact a Japanese force in its hex (14.13). If the contact succeeds, the submarine can either shadow or attack the force.
2. If the submarine is pinned, remove any Pin 1 marker and replace any Pin 2 marker with a Pin 1 marker (14.171). In either case, the pinned submarine takes no other action in that phase; its activation consists solely of having its pin marker reduced or removed.
3. If the submarine is shadowing, see 14.151.

14.13 To resolve a contact attempt, roll one die and consult the Submarine Contact Table (card 4, front). The result is either success or failure.

14.131 The following die roll modifiers apply to contact attempts:

+1 if the Japanese force did not move when most recently activated. (This can occur as a result of movement priority 7.21 (7)(c)).
+1 if the force moved into the submarine's hex
-2 for "oblique approach": the submarine moved into the force's hex in this activation from the quarter, i.e., from an oblique direction with respect to the force's movement (see Example).
-3 for a "stern chase": the submarine moved into the force's hex in this activation from directly astern (i.e., moving the same direction the force did, from directly behind -- see Example).
-1 if the current Action Phase is Dusk or Night
+3 versus a Crippled ship

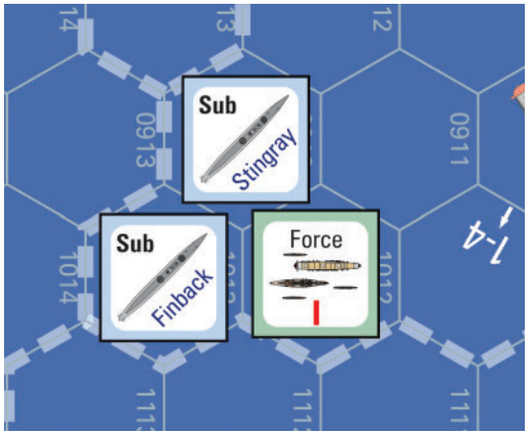
Note: When a Japanese force is moved in a position where US submarines might attack, you can orient the force counter to show direction of movement.

SUBMARINE CONTACT TABLE (14.13)

Die Roll	Result
1-4	FAIL
5-10	CONTACT

Modifiers:

+1 vs. activated force that did not move	-3 stern chase (14.131)
+1 force moving into submarine's hex	-2 oblique approach (14.131)
+3 vs. crippled ship	-1 Dusk turn



EXAMPLE: Japanese force I moved from 1013 to 1012 in its most recent activation. The USS Stingray enters hex 1012 from 0912. It is approaching from the quarter and gets the oblique approach modifier (-2). The Finback was left behind in 1013. If it attempts to give chase into 1012 it will suffer the stern chase modifier (-3).

DESIGN NOTE: The top speed of US submarines on the surface was about 16 knots. It was difficult to give chase to a Japanese force from astern, but possible when the Japanese were operating at economical cruising speeds. The best attack position resulted if the submarine could wait in ambush and let the Japanese approach.

14.14 If the contact succeeds, proceed as follows:

1. If the Japanese force was Level 0, it is promoted to Level 1. Draw a Level 1 chit. This may reveal that the force is a False Contact; if so, skip the rest of the procedure.
2. A submarine which makes a successful contact has the option to either shadow the force (14.15), or else attack.
3. If you wish to shadow, flip the submarine to its reverse ("Shadow") side. The sub remains on this side until it stops shadowing.
4. If you wish to attack, proceed to the attack procedure (14.16). In this case the sub remains face up.

Note that a submarine contact does not result in any form of Detection.

14.141 If there are multiple Japanese forces in the hex, and a contact attempt against one reveals a False Contact, then the US player may attempt to contact a different force. This can continue until either a contact attempt fails or a real force is revealed, at which point no further contact attempts can be made.

14.15 Shadowing: A submarine can choose to shadow a force it has contacted. Flip the sub to its reverse, Shadowing side. Shadowing continues until either the player voluntarily stops shadowing (14.151) or attacks, or the sub suffers an adverse ASW result (14.152). The benefit of shadowing is a favorable modifier on air search die rolls.

14.151 Any time the US Subs chit is drawn, a shadowing submarine has the following options:

- It can continue shadowing, in which case it does nothing at this time.
- It can stop shadowing. Flip the submarine face up. The submarine may not be moved at that time.
- It can attack the force it is shadowing (only). Flip the submarine face up, and proceed as in 14.16.

14.152 When the shadowed Japanese force is activated, resolve an ASW attempt (14.17) against the sub. If the sub becomes pinned, it loses contact and ceases to shadow the force. Otherwise, it accompanies the moving force to that force's new hex. (Note that there is no ASW attempt when the sub first contacts, only when the shadowed force moves.)

DESIGN NOTE: The Shadowing option simulates keeping the force in sight while evading detection and

and reporting its position. This was done by US submarines in the lead-up to the battle, but on the day of battle they opted for attack.

14.16 To carry out a submarine attack, proceed as follows:

1. Roll one die and consult the US Submarine Attack Table (card 4, front). This may specify no effect, or that you obtain damage rolls. Note that there is a die-roll modifier for firing at a crippled ship.
2. For each damage roll, you roll the die again and consult the Submarine Attack Hits Table (card 4, front) to determine the number of hit points.
   a. For a Level 4 force, all the hits are applied to one carrier of your choice. Place "Hit - Current Turn" markers on the affected carrier. All the hits must be applied to one carrier; they cannot be divided among multiple targets.
   b. For any lower level carrier force, or a force of unknown type, the hits are simply applied to the force. Place "Hit - Current Turn" markers on the force's Butai Display (or for a force of unknown type, underneath the Force counter). The hits will be applied to individual ships later (14.162).
   c. For a surface force, promote the force to level 3 and apply the hits to a single ship or unit of the largest class present in the force (14.163).
3. Resolve an anti-submarine warfare (ASW) attack against the sub.

14.161 Hits inflicted by submarines start out as "current turn" hits and progress to permanent hits, the same as hits inflicted by air strikes, and they have the same effects on air value.

14.162 When a Japanese Level 3 carrier force that has accumulated submarine hits becomes Level 4 choose one carrier randomly. If any CVs are present, choose only from among the CVs. Assign all the hits to that carrier. If there are at that point enough permanent hits to sink the carrier, remove it from play. Any excess hits are forfeited. (Note that all hits incurred by a force at Level 3 or below must be sub hits, since a force becomes Level 4 when it undergoes air attack.)

DESIGN NOTE: A submarine would line up one target, torpedo it, and then dive to escape the depth-charging by the escorts. Thus, all the hits are assigned to one target.

14.163 Submarines can attack Japanese surface forces. If a submarine obtains hits against a surface force, immediately promote the force to Level 3. Hits are applied to one ship of the largest class present in the force. For example, if the force contains battleships, you apply the hits to one battleship.

14.164 A roll of 10 on the Submarine Attack Hits Table requires a second roll, as stated beneath the table. This will result either in the award of additional hits, or (on a second roll of 10) the immediate destruction of the target ship. (This represents some form of 'critical damage,' as happened to the Japanese aircraft carrier Taiho.) If this result is obtained against a Level 3 or lower force, you can just place a large number of hit markers.

14.17 Anti-submarine warfare (ASW) attacks occur when a shadowed Japanese force moves or when a submarine attacks. Roll one die and consult the ASW Table (card 4, front). There is a modifier of +1 if the ASW attack immediately follows an attack in which the submarine scored hits.

14.171 The possible ASW results (other than no effect) are:

Pin 1, Pin 2 — Place a Pin marker. A Pinned sub cannot be activated, attempt contact, attack, shadow, or move. Pin effects can last either one or two full turns. When the Sub chit is drawn, Pin 2 markers are replaced by Pin 1, and Pin 1 markers are removed (but the sub cannot be activated until the next turn).

Destroyed — Remove the submarine from play.

When any of these results occurs against a shadowing sub, flip the submarine to its non-shadowing (face-up) side.

DESIGN NOTE: The "Pin" result represents the submarine going deep and quiet to wait out the attack. An attack would inevitably be followed by depth-charging, which would require the sub to dive and hide, probably staying down for a time and losing contact with the force. USS Cavalla, for example, was 'pinned' for nearly three hours following its successful attack on Shokaku.

14.172 When attacking a lone crippled ship (not part of any force), all odd die rolls are treated as No Effect for ASW. For example, a die roll of 10 followed by 9, which would normally sink the attacking sub, is treated as No Effect.

14.18 Submarines cannot contact, attack, or shadow Japanese air raids. An air raid moves through submarines with no effect on either the air raid or the submarine.

SUBMARINE EXAMPLE: The submarine Cavalla moves into a hex containing a Level 0 Japanese Carrier force. The US player rolls for the Submarine Contact Table and obtains an 8, resulting in contact. He draws a chit and obtains a Level 1 Carrier force. He decides to attack. Using the US Submarine Attack Table, his attack die-roll is 10, yielding two rolls on the Submarine Attack Hits Table. For the two hit die rolls he obtains a 9 and a 10. The 9 gives a result of five hits. For the 10, the table states he must roll the die a second time. The second roll is 7, for six more hits; the total is 11 hits. The US player places 11 points of "Hit - Current turn" markers on the force's display.

Since the sub made an attack, the player must roll for ASW. He rolls a 7, to which 1 is added because the sub attacked and obtained hits. The adjusted roll of 8 gives the result "Pinned 7, for six more hits; the total is 11 hits. The US player places 11 points of "Hit - Current turn" markers on the force's display.

Since the sub made an attack, the player must roll for ASW. He rolls a 7, to which 1 is added because the sub attacked and obtained hits. The adjusted roll of 8 gives the result "Pinned for 2 turns." The sub receives a Pin-2 marker. The next time US Subs is drawn this will be reduced to Pin-1; the sub takes no action. The time after that, the Pin-1 marker will be removed, and the time after that, the sub can be activated again.

Later in the game the Japanese force is promoted to a Level 4 force with carriers. One of the carriers drawn at that time is Shokaku. The 11 hits, which by that time have become permanent hits, are assigned to Shokaku by random choice (rule 14.162). Shokaku is immediately removed from play.

(Note: This is the historical attack made by the USS Cavalla, Lt. Cmdr. Hermann J. Kossler commanding, on June 19.)

14.2 JAPANESE SUBMARINES

14.21 There are no Japanese submarine units in the game. But if the US player chooses to illuminate a hex (6.43) he may suffer a submarine attack (14.22). He may also suffer submarine attack if he has any crippled ships on the map (14.25).

14.22 For each US-occupied hex that is illuminated at the end of an Action Phase, roll one die and consult the Japanese Submarine Attack Table (card 4, front). You roll once per hex, even if multiple task groups occupy the hex.

14.23 The result of the submarine attack may be 'no effect,' or may require a second die roll to determine the final result, which may include hits, fire, or immediate sinking.

14.24 The results of the submarine attack are applied to a single carrier chosen at random from those in the hex.

14.25 Submarine attacks against crippled ships occur at the end of each daylight game turn (not including Dusk). Roll once per crippled ship, applying the listed modifier for any surface units in the same hex. Apply any result to the crippled ship immediately.

14.26 There is no ASW attack against the Japanese submarine. (Actually, there is, but the destroyers take care of it and you don't know the results.)

15.0 VICTORY CONDITIONS

DESIGN NOTE: The mission of the American fleet at the Battle of the Philippine Sea was to cover the invasion of Saipan. It was not within the capabilities of the Japanese fleet to prevent this invasion, nor to change the outcome of the war, which by mid-1944 Japan had clearly lost. Historically, Admiral Spruance pursued a conservative strategy which accomplished the mission, but was disappointing for some of Task Force 58's officers and men, who wanted to seek out and annihilate the Japanese fleet. And anyway, we are wargamers. Accordingly, the victory conditions in Carrier Battle: Philippine Sea are based on what the US sailors wanted to achieve and on what is challenging for the player. To win a game victory you are required to 'clean the table,' not just cover the invasion. But failing to cover the invasion hurts you badly, as that is your primary mission.

15.1 VICTORY POINTS

Victory is determined by Victory Points.

The US player receives points:

- For damaging and sinking Japanese carriers
- For destroying Japanese naval air points.

The US player loses points:

- For damaged and sunk carriers and submarines, and US air units eliminated.
- For Japanese forces that exit the map from the Invasion Zone (the darker-shaded sea zone along the east map edge and containing the islands of Saipan and Tinian)

VICTORY POINT AWARDS

Result	CV	CVL
Sunk	25	15
Crippled (12.26)	17	10
Heavy Damage	10	6
Light Damage	1 per damage point	
Per 5 Japanese Air Points (Land or Naval) in Lost Boxes	1 (A)	

(A) in Scenario 9, award 1 VP per Japanese Naval Air Points.

Victory Point Deductions

-5 per US carrier (any type) lightly damaged
-10 per US carrier heavily damaged (4-5 hits for CV, 3 hits for CVL)
-15 per US carrier crippled (6-7 hits for CV, 4 hits for CVL)
-25 per US CVL sunk
-35 per US CV sunk
-4 per US submarine sunk
-1 per two US air units eliminated in combat when not in task group hex
-1 per four US air units eliminated when in task group hex (this includes units lost in combat in that hex, units lost on landing, and units eliminated through damage to carriers)
-20 Each Japanese carrier to exit the map from the Invasion Zone (7.23)
-15 Each battleship to exit from the Invasion Zone (7.23)
-8 Each cruiser or destroyer unit to exit from the Invasion Zone (7.23)

Note that there is a VP award for Japanese air points actually destroyed in combat, but no separate award for remaining air points that might have been on board a sunken carrier (they are included in the points for the carrier itself).

DESIGN NOTE: The deduction for US air units lost reflects the loss of pilots and aircrew; the high volume of US production meant that the planes themselves were worth little. The different awards for points eliminated in the task group's hex versus eliminated in combat elsewhere reflect the differing chances of recovering the pilot and crew. One of the striking differences between the US and Japanese services was that TF 58 managed to rescue most of its downed fliers, while on the Japanese side, "a man who did not return from a mission was dead" (Sakai, *Samurai*; see Bibliography).

15.11 In order to determine victory points, whenever a Japanese force exits the map from the Invasion Zone, immediately promote it to the highest possible level (Level 4 for carrier, Level 3 for surface) and place in the Japanese Ships Exited box.

Net US VP Level of Victory

101+ Overwhelming US Victory
History records the Philippine Sea as a success to go alongside Midway in its effects on the war. The Japanese navy ceases to be a factor for the remainder of hostilities.

76-100 Substantial US Victory
The battle is judged a clear victory. The Japanese fleet is unable to sortie again. The Japanese turn to kamikaze tactics.

51-75 Incomplete US Victory
The Japanese fleet loses this battle but is still able to contest the invasion of the Philippines. There is a general feeling that 'we could have done better.' (This was the historical outcome.)

31-50 Mixed Results
The Japanese withdraw and the invasion goes forward, but there is much grumbling and dissatisfaction in the fleet, and some historians are harsh in their judgements. (This would have been the historical outcome but for the contribution of US submarines.)

16-30 US Defeat
The battle is judged a Japanese victory and the invasion is delayed. You are relieved of command of the carrier forces and sent home to testify at a Congressional inquiry.

15 or less Humiliating US Defeat
The invasion is seriously compromised and the battle is judged a humiliation for American arms. You are court-martialed and then sent to command the naval depot at Stuber Forks, Iowa. The local paper publishes a stiffly worded article which omits all mention of the battle. (Those familiar with the novel The Caine Mutiny may recognize this outcome.)

DON'T GET WAVED OFF!

At this point, you are ready to play Scenarios 6 & 7 found in the Play Book.

ADVANCED RULES

The following rules sections provide additional simulation detail, additional tactical and strategic considerations, game variation, or more challenge. They can be used with any scenario from Scenario 6 onward. (Some can also be used with earlier scenarios, as noted.) The Advanced Rules can be used singly or in any combination, as the player wishes.

16.0 LAND AIR REINFORCEMENTS

DESIGN NOTE: The Japanese had about 500 aircraft in the general area of the Philippine Sea, and tried to shuttle some of them to Guam during the battle. Many of these were intercepted by US fighters. Admiral Ozawa's plan presumed that essentially all these 500 aircraft would be deployed in support of his operation; in this he was badly disappointed. This rule allows for a level of land air more in line with what Admiral Ozawa expected.

16.1 LAND AIR REINFORCEMENT PROCEDURE

With this rule, the Japanese may receive land air reinforcements from Iwo Jima and from Yap (the latter represents aircraft from Yap, Peleliu, and neighboring islands).

16.11 The Activation chits for Yap/Peleliu and Iwo Jima are added to the activation chit cup beginning with the 0810 turn of each day. They are not used on the first two game turns of each day.

16.12 When the Activation Chit for either Yap or Iwo Jima is drawn, carry out the following procedure:

1. Roll the die. If the roll is "9" or "10", there is an air reinforcement; proceed to the next step.
2. Roll the die again and consult the Land Air Reinforcement Strength Table (card 4, front) to determine the number of points received. Note that the outcome on June 19 can include a modifier to be applied to rolls for this table for the same base on June 20.
3. The new air points can be taken in any denomination of counters. They are put in play per rule 16.2.
4. Remove this Activation Chit from play for the remainder of the day. In other words, there can be only one air reinforcement per source land base per day. In two-day scenarios there can be one on June 19 and one on June 20. A chit drawn on June 19 is restored to the cup on the 0810 turn of June 20.

16.2 LAND AIR REINFORCEMENT ARRIVAL

16.21 If there is a US task group within two hexes of Guam in any direction, or if there is a US intercept mission in or adjacent to the Guam hex, then the reinforcements are placed on the map as though they were an air raid coming to attack Guam.

1. Treat Guam as the target hex and use the Intercept Range Table to determine the distance.
2. Count hexes in that distance toward the point of origin by the most direct straight-line route.
   a. For reinforcements from Yap/Peleliu, the point of origin is the island of Yap (hex 2219)
   b. For reinforcements from Iwo Jima, the point of origin is hex 0109.
3. The air points are then placed on the map and move towards Guam in the same way a raid moves towards its target. They can be intercepted the same as a raid.
4. When the reinforcement arrives at the Guam hex, it must fight air-to-air combat against any US fighters in the hex. Following the air-to-air combat, the reinforcing units land.
   - The air value of Guam is immediately increased by the number of points that landed. Adjust the Guam Air Value marker on the Records Track.
   - The air points are placed in the Landed box on the Guam display. They progress from there the same as points landed from a raid.

16.22 If there is no US task group within two hexes of Guam in any direction, and also no US intercept mission in or adjacent to the Guam hex, then the units immediately arrive at Guam.

17.0 LEEWARD MOVEMENT

DESIGN NOTE: The wind blew steadily from the east on June 19-20, 1944, as it most commonly does in the vicinity of the Marianas at that time of year. As carriers needed to steam into the wind to launch or recover planes, this wind gave the Japanese an advantage: the US could close the range on the Japanese fleet only by steaming to leeward (away from the wind) and thus reducing their air operations.

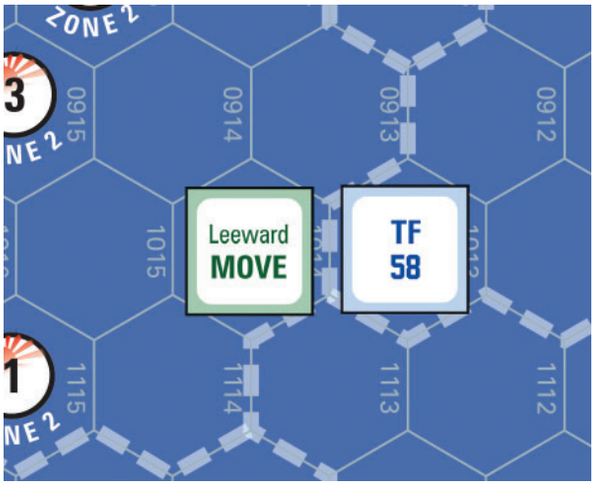
The Leeward Movement rule increases both realism and player challenge. It is recommended for use primarily in two-day scenarios (Scenarios 8 and 9). It can be used in single-day scenarios, but may make the game extremely challenging.

At the end of each US Move segment, check Task Force 58 and each detached carrier task group for leeward movement, as follows:

- A TF or TG which moves away from the current wind direction -- either directly away, or diagonally away (see Example) receives a Leeward Move marker. Note that there are three leeward and three windward directions from any hex.
- A TF or TG that remains in its hex and does not move receives a Station Keeping marker.
- A TF or TG that moves toward the wind (opposite from leeward) receives no marker, and any existing Leeward Move or Station Keeping marker is removed.

Leeward Movement applies only to Task Force 58 and carrier task groups.

17.1 Once placed, a Leeward Movement or Station Keeping marker remains in place until the end of the next activation of that TF or TG. The condition of moving leeward or station keeping is thus in effect from activation to activation. It affects flight operations in that interval, as described in 17.2 and 17.3.



EXAMPLE: Wind is blowing due west (toward the left-hand side of the image). Task Force 58 is located in hex 1013. It would receive a Leeward Move marker if it moves to 0913, 1014, or 1113.

You can place the Wind Direction marker in the corner of the map to record the direction.

17.2 A task group marked with a Leeward Move marker suffers the following effects:

- It can launch or land (not both) at most one air unit (for the entire task group) in that phase.
- Any existing CAP mission must immediately be placed on the map and assigned a fuel marker (4.34).

DESIGN NOTE: Planes on CAP had to be constantly cycled for refueling, which required launches and landings.

17.3 A task group marked with a Station Keeping marker suffers the following effects:

- Each CV in the task group can either launch one air unit or land one air unit (not both) per action phase.
- One CVL in the task group can either launch one air unit or land one air unit per action phase. The other CVL or CVLs cannot launch or land any air units in that phase. A different CVL may be chosen to launch or land an air unit each action phase.

17.4 A task group moving to windward (no Leeward Movement or Station Keeping marker) has full air operations capacity as described in earlier rules.

17.5 A Leeward Movement marker may already be in place at the start of a scenario, as per scenario instructions. In this case the marker affects air operations through the end of the task group's initial activation.

17.6 (Optional) Variable Wind Direction: The wind direction historically was from east to west. Players who wish to explore other possibilities can make a die roll using the following table before the start of the scenario:

Die Roll	Wind Direction
1-7	East to West
8	Southeast to Northwest
9	Northwest to Southwest
10	Roll Again

Die Roll	Wind Direction
1-5	Northeast to Southwest
6	Northwest to Southeast
7	West to East
8-10	Southwest to Northeast

The wind does not change during the game.

18.0 ADVANCED SEARCH OPTIONS

DESIGN NOTE: These rules add more options, choices, and detail to the search system. Rules 18.1 and 18.3 together enable the exact sequence of events which happened in the US searching of the Japanese fleet on June 20, 1944. I am grateful to John D. Burtt for suggesting options 18.1 and 18.4.

18.1 SHADOWING

The shadowing option allows a searching unit on its outbound leg to forego further searches in return for a second search against the same target.

18.11 A search mission on the outbound leg which obtains an 'S' or 'L' result has the option to shadow the detected force.

1. Place the shadowing mission on top of the force it is shadowing.
2. In the next Search Phase, it will make a second search attempt against the shadowed force (only). A +1 die-roll modifier is applied. If the force should move in the meantime, the shadowing force moves with it.
3. In the Search Phase after that, it will return direct to its carrier from the hex where it shadowed. It does not conduct any searches in the sector where the shadowed force was, but it can conduct searches in the closer sectors.

18.12 The option to shadow must be exercised immediately when the search result is obtained. The unit then does not search any other forces in that sector. Search results already obtained against other forces in that sector stand.

18.13 When resolving normal searches in the long range sector (7-10 hexes), a player may exercise a shadowing option only against a force at range 7-8 hexes. He foregoes any further searches against any other forces in that range sector.

18.14 A shadowing search mission gains a +1 modifier in its second search (only) against the shadowed force. Please note this should not be confused with the modifier for a shadowing submarine (14.15). It is possible that both could apply.

18.15 The shadowing decision is per mission not per unit. If two units are on the search mission, either both must shadow or neither.

18.2 EXTENDED SEARCH RANGE

DESIGN NOTE: This option simulates the use of fighters equipped with drop tanks (extra fuel) for longer range search.

18.21 A search mission composed only of fighters may search out to 12 hexes. The Max Radius marker is placed 12 hexes away from the hex of origin.

18.22 The mission searches the zones for 0-2 hexes, 3-6 hexes, and 7-10 hexes normally. In the next Search Phase after it has searched the 7-10 hex zone, it moves two additional hexes (to 12 hexes total distance) and searches all forces at a distance of 11 or 12 hexes. On the following turn it returns to the 10-hex distance, searching the 11-12 hex zone again. It then returns normally to the carrier.

18.23 If a fighter air search mission contacts an enemy force that turns out to be any type of carrier force (Level 1 Carrier, or any Level 2 through 4 force with carriers), the air search mission must immediately turn around and return to the carrier. It searches zones on its return leg normally.

DESIGN NOTE: It is presumed that if the fighters contact an enemy carrier force they will be engaged by CAP, or at least threatened, and have to drop their tanks.

18.24 The printed modifiers for fighters in search apply to Extended Search as well.

18.3 LOCATION UNCERTAINTY

DESIGN NOTE: The "?" result implies less precise information about the enemy force, which may extend to its location. When the Japanese fleet was detected on June 20, a second contact report (the shadowing option, in game terms) corrected the position to be 60 miles further out, which made a big difference as strikes had already been launched.

18.31 When you obtain an "S" or "L" detection result against a force that already has a "?" marker, the force may change location. You roll the die twice, once to determine the direction of the possible change, and a second time to determine the distance.

18.32 Roll the die once for direction, on **Table 1**.

18.33 Having selected a direction, roll the die a second time to determine how far to displace the force in that direction on **Table 2**.

TABLE 1

Die Roll	Direction
1	NE
2	E
3	SE
4	SW
5	W
6	NW
7-10	No Change

TABLE 2

Die Roll	Distance
1-2	0 (no change)
3-7	1 hex
8-10	2 hexes

18.34 Immediately place the force in the hex indicated (direction and distance). Air raids the force has in the air are not affected.

18.4 MORNING SEARCHES

18.41 With this option, on the 0530 turn of June 19 the US Search Segment is conducted prior to the Japanese Arrival Phase (different from the usual play sequence). Thus, the US player must decide on his searches before having any information about where Japanese forces arrive.

19.0 RETIREMENT

DESIGN NOTE: The Retirement rule covers several situations in which Japanese forces abandon the normal scheme of advancing toward the enemy, and instead withdraw toward the west side of the map.

19.1 A Japanese force will switch to retirement movement in any of the following situations:

- A Level 4 carrier force in which all the carriers have been sunk or crippled.
- A surface force that has fought a surface action and lost a battleship, or if it had no battleships, a cruiser unit sunk or crippled.
- A crippled ship (12.4).
- In scenario 8, if rule 20.0 (Japanese Refueling) is in play then all Japanese forces in the western map section (2.13) retire.

When a force meets any of these conditions, flip it to its reverse (Retiring) side.

19.2 A force using retirement movement moves using the Mission Movement compasses, but moves in the opposite of the die roll direction. There are two exceptions:

1. If currently located less than nine hexes away from the closest US task group, it must move away from the US task group. Subject to this, it will move as nearly as possible in the required retirement direction.
2. If you are using the Japanese Refueling rule, then a retiring force moves toward an oiler unit (20.5) until it is refueled or abandons refueling. Subsequent to that, it moves as described above.

19.3 A retiring carrier force does not launch air raids. It can still have CAP.

19.4 When either component of a double force (7.5) retires, the double force ceases to act as a double force, and moves as two independent forces thereafter.

20.0 JAPANESE REFUELLING

DESIGN NOTE: By mid-1944 oil was a serious problem for the Japanese navy. Japanese movements on the morning of the 20th were dictated by the need to refuel. Had the Japanese not been compelled to delay several hours attempting to refuel, they probably would have escaped the battle area without the sunset air strike that evening. This rule can be used to re-create this aspect of the battle.

20.1 The Refueling rule applies only to scenario 8. The rule governs Japanese movement on the night of June 19-20 and the morning of June 20.

20.2 Japanese oiler units A, B, and C are used with this rule. (Each one represents a supply fleet consisting of several ships.) They arrive as reinforcements on the Dusk turn (1850) of June 19.

20.3 Place one oiler by random choice in one of the hexes labelled "Oil-1"; place the second by random choice in an "Oil-2" hex; and place the third in an "Oil-3" hex.

20.4 Oiler units cannot be attacked. They never move.

20.5 When using this rule, all Japanese forces in the western map section (2.13), both carrier and surface, start using Retirement movement as of the Dusk turn on June 19. The standard retirement movement is modified, however. Each force moves directly to the nearest oiler unit (if equidistant, choose one randomly and then move to that one). After entering the oiler's hex, it must remain in that hex until it succeeds in refueling (20.61). After refueling, the force continues to use normal retirement movement until it exits the map.

20.6 One force may attempt to refuel from each oiler unit each Action Phase. The attempt is made when the force is activated. If more than one force is present in the hex, refuel them in the order they entered the hex (you can stack them to record the order). A double force refuels as one force.

20.61 Refueling succeeds on a die roll of 1 through 4. If the aircraft carrier Taiho has entered the game and been sunk or crippled, refueling succeeds only on 1 through 3.

DESIGN NOTE: The Taiho was the Japanese fleet flagship, and after its sinking the Japanese experienced a great deal of confusion attempting to organize the fleet for refueling.

20.7 Any force that is Spotted or Located by an American air search abandons its efforts to refuel and uses normal retirement movement for the rest of the game.

20.8 All Japanese oiler units are removed at the start of the 1330 turn of June 20, and all Japanese forces use normal Retirement movement from then on.

21.0 SURFACE COMBAT

DESIGN NOTE: Surface action at this battle was unlikely, but was nonetheless an option considered by both sides. The rules here are a highly simplified representation of the types of combat likely to occur in this game -- the most probable case being if surface units were sent to mop up crippled enemy ships. Players who want to save the time can use Special Rule 1 from Scenario 6 instead of this rules section. But for those who don't mind adding these rules, it should be noted that the forces at this battle included the most powerful battleships ever to serve in their respective navies, or any others.

Each time US and Japanese forces find themselves in the same hex following a move by one side or the other, carry out the following procedure. Note that the procedure is symmetric; it does not matter which side was moving.

1. If the Japanese force is at intelligence level lower than 3, promote it to Level 3 immediately, using the usual tables, drawing specific ship/surface units in the case of a surface force.
2. Determine whether the Japanese force accepts battle (21.11), or attempts to evade.
3. The US player chooses whether to accept battle or evade.
   - **a.** If both forces are evading, apply rule 21.13, and skip the remaining steps of the procedure.
   - **b.** If only one side wishes to evade, resolve the evasion attempt (21.14).
4. If both forces either accepted battle or failed to evade, resolve surface combat (21.2).
5. Following surface combat, one side withdraws (21.26).

21.1 EVASION

21.11 A Japanese surface force will accept battle under either of the following conditions

1. It is a night turn, and the force is any type of surface force;
2. It is a day turn, and the Japanese force contains at least one battleship and at least half as many battleships as the US force. (Round fractions up: for example, "at least half" of three would require two battleships, not one.)

If either of these conditions applies, the Japanese force accepts battle. If neither condition applies, it attempts to evade. A carrier force, or any force not known to be a surface force, will always evade.

21.12 The US player may accept or attempt to evade any surface combat, at his option.

21.13 If both the Japanese and the US wish to evade, there is no combat and the evasion is automatic. Each side retreats (21.15).

21.14 If only one side wishes to evade, the evasion is resolved as follows:

1. Roll the die once for each side. If the evading force contains carriers, add four to its die roll. This modifier applies only to the evading force.
2. If the evading force's modified die roll is greater than or equal to the other force's, the evasion succeeds.

21.15 A force that successfully evades retreats from the hex. If it was the moving force, it retreats to its original hex. Otherwise, it retreats one hex due west (for the Japanese) or due east (for the US).

21.16 Crippled ships do not take part in surface combat. If enemy surface ships/units enter a hex occupied only by a crippled ship, the crippled ship is sunk.

21.161 Crippled ships cannot evade. A force that evades leaves any crippled ships behind. If the enemy force remains in the hex (i.e., does not also evade), the crippled ships are considered sunk.

21.2 SURFACE COMBAT RESOLUTION

Surface combat is resolved as follows:

1. If this is a Night game turn, roll one die to determine surprise (21.21)
2. Resolve a first round of combat with ships eligible to fire in the first round (21.22).
3. Resolve a second, identical round with ships eligible to fire in the second round.

21.21 If the combat is taking place on a Night game turn, roll one die to determine surprise. On a roll of 10 the Japanese are surprised, on a roll of 1-2 the US is surprised.

21.22 Surface combat is resolved in two rounds.

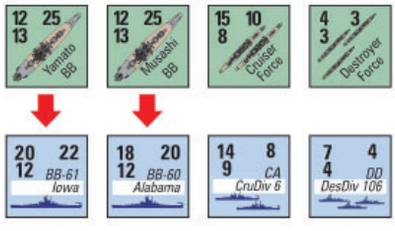
- In day combat, only the heaviest class of ships present (both sides included) fires in the first round. In the second round, the heaviest class present on each side fires, and all units of the same or heavier class on the other side also fire. (If one side has lighter ships, this means that those ships will not fire until the second round, at which point all ships of the same weight on the other side will also engage.)
- In night combat, if one side was surprised then none of its units can fire in the first round. Otherwise, at night all ships may fire in both rounds.

EXAMPLE: If BB Musashi and a Cruiser force were to fight USS Iowa and CruDiv 6 in the daytime, only Musashi and Iowa would fire (in both rounds). If instead of Iowa the US had DesDiv 106 (and no battleships), then in the first round only Musashi would fire; in the second round CruDiv 6 (the heaviest unit on the US side) could fire, and the Japanese Cruiser force (same weight as CruDiv 6) could also fire. DesDiv 106 would not fire in either round. The only way destroyers can ever fire in a day action is if all ships on one side are destroyers, in which case all ships on both sides will fire in the second round.

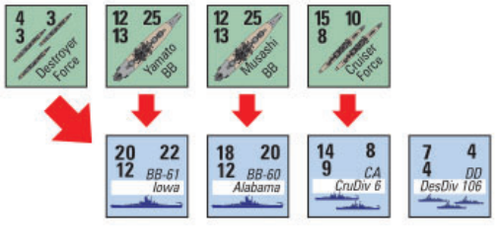
DESIGN NOTE: The rules presume that a day action would be long-range gunfire, whereas a night action would be at much closer range and more confused.

21.23 In each round, match up Japanese ships firing against targets by the following procedures. Note that a Japanese ship can fire against a US target even if that target is ineligible to fire.

- In combat on a day turn (including dusk), all Japanese units firing are matched up with US targets in order of weight. Match all the battleships first, then all the cruisers. Each is matched against the heaviest target not yet being attacked (choosing randomly to break ties). If all targets are being attacked, then start again with the heaviest US target and match up two against each, and so on. For purposes of this rule all battleships are considered equally heavy, then all cruiser units, and finally all destroyer units.
- In a night turn, carry out the above procedure for all Japanese battleships and cruisers. Then start again with the destroyers, beginning with the heaviest target.



EXAMPLE: A Japanese force consisting of BB Yamato, BB Musashi, a Cruiser force, and a Destroyer force battles the USS Iowa, USS Alabama, CruDiv 6, and DesDiv 106 in a daytime action. Since this is a daytime action, only the heaviest ships present (battleships) will fire in the first round. Yamato chooses randomly between Iowa and Alabama, and selects Iowa. Then Musashi fires against Alabama since that is the heaviest target not yet being attacked.



EXAMPLE: The same ships are engaged in a nighttime action. In this case all ships on both sides fire. The battleships would select targets as in the previous example. The Cruiser force would then attack CruDiv 6 since that is the heaviest target not yet engaged. Finally, the Destroyer force picks a target, starting over with the heaviest targets. The Destroyer force would attack either Iowa or Alabama, choosing randomly.

DESIGN NOTE: By this point in the war, the destroyer forces on both sides tended to operate independently and attack the biggest targets, while the battleships and heavy cruisers fought in line of battle together.

21.24 The US player may match up his ships against Japanese targets in whatever manner he prefers, subject to the following:

- No enemy ship/unit may be attacked by two firing units until all enemy ships/units of the same weight class (battleship, cruiser, destroyer) have been attacked by one.
- All firer/target matchups must be declared in advance of any die rolls. If you forget to assign a unit, it does not shoot.

21.25 Each unit's fire is resolved using the Surface Combat Fire Table (card 4, back), as follows:

1. Destroyers firing in night actions use the Torpedo column of the table (21.26). Otherwise, the column is determined by an attack-minus-defense differential. Note that Japanese cruisers also get a torpedo attack in the first round of night combat (21.261).
2. Defense values for each type of target are listed with the table (not printed on the counters). Subtract the defense value from the attack value.
3. Locate the highest table column that does not exceed the net attack value. Roll one die, apply modifiers listed with the table, and cross reference to obtain a number of hits.
4. Damage markers are placed for all hits. Use permanent hit markers. All damage takes effect at the end of the round. (Note, there is no use of "current turn" / "previous turn" hits in surface combat.)
5. Any ship in surface combat that reaches a Crippled damage level is considered to be sunk (remove from play).

21.26 Destroyers firing at night use the Torpedo column of the table. The target type does not matter. There are modifiers for Japanese units firing and for surprise.

21.261 Japanese cruiser units in the first round of night combat may make an attack on the Torpedo column in addition to their regular firing. The two attacks are made against the same target. This special attack is made only at night and only in the first round of combat.

21.27 Following a surface combat, the side that lost more ships sunk retreats one hex following the same rule as for evasion (21.15). If losses were equal, both sides withdraw. Note that ships at a crippled damage state are considered sunk (21.25(5)).

21.28 A Japanese force that has fought a surface combat and lost a battleship sunk (or if it had no battleships, a cruiser unit) must use Retirement movement (19.0) for the rest of the game. Flip it to its Retiring side.

22.0 NIGHT AIR OPERATIONS

Only the F6F-3 US air units can conduct night air operations.

22.1 Night-capable units may launch and land at night, the same as in the day. They can be launched only for search or intercept missions.

22.2 Night-capable units may search at night, but there is an adverse die-roll modifier for searches on night turns.

22.3 Night-capable units can, if the player chooses, operate during day turns the same as any other units.

22.4 A night-capable unit that launches or searches during a night turn is removed from play after it lands. It is not destroyed and does not entail a victory point penalty; it just is not available to be used again. (The crew needs to rest.)

22.5 Night-capable units that operate during any day turn of June 19 cannot launch or search during any turn that night. (It may be helpful to keep the night units inverted on the task group display as long as they are not used.)

22.6 If any night-capable units launch from a carrier at night, the takeoff and landing capacity of the carrier is reduced by 1 throughout the first day turn following.

22.7 Night-capable units require a die roll on the Safe Return Table (card 1, back) if they are fuel critical, but modifiers for dusk or night do not apply.

DESIGN NOTE: You can use the night units either in the night role or as regular day fighters but not both. This reflects the need for crew rest. The limitation of 22.6 simulates the same issue, but for the deck crews, who also need to rest sometime. It may have been this latter consideration that caused Admiral Mitscher not to undertake any night missions. Some sources suggest that he may also have distrusted the planes' night capabilities.

23.0 SHUTTLE RAIDS TO GUAM

DESIGN NOTE: Historically, most of the planes from the fourth (and last) Japanese raid on June 19 attempted to shuttle to Guam instead of returning to their carriers. Many of them were intercepted and shot down on the way.

23.1 If the target of a Japanese air raid is within four hexes of Guam, there is a chance the raid may divert to land on Guam instead of returning to its carrier.

23.2 After the raid has completed its air-to-surface combat, roll one die and subtract four from the value. If the net result exceeds the distance to Guam, the raid diverts.

23.3 If the raid diverts, proceed as follows:

1. The air mission flies to Guam by the most direct straight-edge route. It may be intercepted by US fighters on the way.
2. When it reaches Guam, after air-to-air combat with any US fighters in the Guam hex, the remaining air points land. Immediately increase the Guam air value by the number of surviving points in the raid, adjusting the Guam Air Value marker on the Records Track.
3. Replace the Naval Air Points by an equal number of Land Air Points and place these in the Landed box on the Guam display.
4. Place the original Naval Air Points in the Lost box of the Butai Display. However, the US player does not receive victory points for these. (You can either keep them in a separate pile or make a note.) Note that you place the air points in the Lost box since those points are effectively lost to the force which launched them. This way they will be correctly accounted for when launching future strikes.

24.0 ADDITIONAL VARIANTS

You can use any or all of the following additional variants to re-balance any of scenarios 6 through 9 as you gain skill and experience with the game.

24.1 TG 58.1 NOT PRESENT

Remove TG 58.1 (all its ships and aircraft) from the starting US forces. Historically, this task group was on a raid to Iwo Jima during the days before the battle; this variant assumes that American intelligence had been less effective and the battle had opened before TG 58.1 returned.

24.2 LESS EFFECTIVE INTERCEPTION

American air interception was highly effective during the battle. This was a combination of remarkable work by US fighter direction, and a lucky break in the weather: conditions were almost perfect to spot incoming raids. To simulate a less favorable outcome with either or both of these factors, subtract two from all die rolls on the Intercept Range Table. This is in addition to the modifier for Dusk, should that apply. (For even more challenge, you can subtract a greater value such as three or even four.)

24.3 NO US SUBMARINES

This variant assumes that the US submarine fleet had been fully deployed on a more distant patrol line and/or against Japanese commerce, rather than in the battle area. Remove all US submarines from the starting forces.

24.4 NEW JAPANESE AIRCRAFT TYPES

The Japanese were working on some newer types of aircraft, but never managed to deploy these widely with the fleet; they fought this battle with many of the same planes they had been using in 1942. This was in contrast to the US fleet which had new -- and in the case of fighters and torpedo bombers, much improved -- types across the board. Assume a wider deployment of new Japanese types, and modify die rolls as follows: Add 1 to add Japanese air-to-air and air-to-surface rolls, and subtract 1 from all US air-to-air combat rolls against Japanese fighters.

CREDITS

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Gratitude also to the hundreds of players of Carrier who have shared their observations on many forums over the years.

DESIGN NOTES

The Battle of the Philippine Sea is an exciting game situation in several respects. It was the last carrier-to-carrier battle in history, and by far the largest in terms of numbers of carriers and planes involved. (Leyte Gulf does not really count in this respect, as the Japanese carriers had hardly any aircraft and were used as sacrificial bait.) It was also the last time the Imperial Japanese Navy sailed into battle believing it had a chance of decisive victory. Ever since the start of the war the Japanese had sought "decisive battle" with the US Navy; the Philippine Sea was their last try.

The Marianas campaign was indeed decisive, but not the way the Japanese hoped: it shattered their inner defense line and led to the fall of the Tojo government. I am grateful now to have the chance to apply the ideas behind the game Carrier (Victory Games, 1990), the continued success of which has been deeply gratifying to me, to this new situation.

Carrier Battle: Philippine Sea attempts to improve the two aspects of the original Carrier design that I wished could have been done better: I wished it could have been less complex, and I wished there had been less written record-keeping. The Philippine Sea situation does not involve Japanese transports or amphibious landings, which allows a savings in complexity. I am also hopeful that we have simplified some of the concepts -- such as revealed air strength -- which were most challenging in the original game. Some new play-aids have replaced the written record-keeping. **Carrier Battle: Philippine Sea** remains a complex game to learn, but we've tried to compensate for that by including numerous scenarios and variants so that your time is well rewarded.

One significant change which players of the former game will notice right away concerns the unit scale. US air units now represent 12 aircraft each; ship units, apart from capital ships, represent more than one ship. This change was necessary given the scale of this battle. There were 15 US aircraft carriers and more than 900 aircraft embarked, more than in all the South Pacific battles put together, and it is estimated that the Japanese lost about as many planes in this one battle as they did in the entire Guadalcanal campaign. All the tables have been recalibrated to reflect both this scale change and the plane and pilot qualities of 1944.

The decision to aggregate the Japanese surface ships (apart from capital ships) into amorphous 'cruiser force' and 'destroyer force' counters not only makes the game more manageable, it also fits better with the idea that you know only what the admirals would know. Air search reports concentrated on capital ships; they would not identify enemy forces down to the last destroyer. In any case, with surface combat a much less important possibility here than in the Solomons, it was not necessary to show the surface forces in full detail.

Other changes represent specific factors of great importance in this battle, some of them reflecting changes in the practice of carrier warfare between 1942 and 1944. The interception mechanic, reflecting the success of American radar-guided fighter direction, is the most obvious. This change also gives a greater tactical feel to strikes. The search system has also been modified to provide more options for the player, since the use of these options was among the most important command decisions of the battle. There is more detail over the issue of aircraft fuel expenditure, as this was so critical on the second day of the battle. And of course, there is the combat role of submarines, which was omitted from the original Carrier game but could not be omitted here.

Among the changes from 1942 to 1944, one of the most obvious was that the fleets of 1944 were better able to defend themselves. Anti-aircraft fire -- especially on the American side -- had improved significantly, both in number of weapons and in fire direction, over that of 1942. There was also better firefighting and damage control. It remained true that there was a great deal of luck involved. A large number of planes might attack and get no hits, but just a few hits could destroy a carrier, especially if they caught it with planes on deck.

The balance of air-to-air fighting had shifted by 1944 in favor of the Americans. The F6F Hellcat fighter was much more effective than its predecessor the F4F Wildcat, while the Japanese were still flying essentially the same Zero fighters with which they had attacked Pearl Harbor. And Japanese aircrews no longer had the advantages of training and experience they had enjoyed in the earlier days: most of the Japanese pilots at this battle were hastily trained wartime replacements for the men lost in the battles of 1942-43. The Japanese training program was much less successful than the US one. You will see all this reflected in the game in large numbers of Japanese air unit losses, which mirrors the actual outcome.

As in the original Carrier game, a core design principle is that at the start of the game you do not know the forces deployed against you. To allow for more variation we have included a number of ships which didn't take part in the actual battle, but which

might have done so had they been outfitted in time and had air groups been made available. These include the supercarrier Shinano (built on the hull of a Yamato-class battleship) and the converted "battleship-carrier" vessels Ise and Hyuga. I hope you enjoy trying out these unique warships.

Concerning Shinano, a point of detail. Historically the ship was sunk on its fitting-out voyage by the US submarine Archerfish. At that time Shinano had not yet been outfitted with its watertight partition doors and other essential equipment. For this game we assume that these items would have been fitted before the ship went into battle. Thus, Archerfish's attack can't happen in this game. In game terms, the ship Archerfish attacked would have had a defense value of about '10' or at most '12,' so the sinking would be possible using our submarine attack tables.

One thing you will not find in the game is US flying boats. While these played a very valuable role in the South Pacific, they operated under significant handicaps in this battle and their contribution was negligible. Their effect is factored into the Japanese arrival.

The US fleet's many advantages in numbers, equipment, and experience would work against an enjoyable two-player game, as it would not be much fun to play the Japanese, but make for a good solitaire one. Historically Admiral Spruance fought the battle conservatively and defensively, sinking just one Japanese carrier through air action (the others were lost to submarines). Yet he clearly accomplished his primary mission of covering the amphibious invasion. In order to make a challenging game, we demand that the US player do more, and 'clean the slate' by also destroying most of the Japanese carrier force. To do this, the US player will need to search more aggressively and take more risks than his historical counterparts did. This in turn can lead to disaster if the US player isn't careful or is unlucky. We've also included a what-if scenario (scenario 7) so you can explore what might have happened had Spruance made a different decision.

Those who want an even more demanding challenge and don't mind an exercise in historical speculation are encouraged to try the Great Carrier Battle of the Pacific scenario. This assumes that instead of expending their forces on the far perimeter of an over-stretched empire, the Japanese saved their fleet -- with its experienced aviators -- for a decisive battle closer to home. The result is a great brawl -- essentially, the best of Japan's ships and aviators against the best of America's -- which surpasses anything that occurred in the real war.

Production of a top-flight game requires a top-flight team, and it has been my good fortune to work with a playtest crew whose skill and dedication rivalled that of the US fighter pilots. John Burtt, a longtime friend, was kind enough to join a test session on the spur of the moment at ConsimWorld Expo, and ended up giving months of his time (and long experience as designer and game reviewer) in field test. John Vasilakos, a new colleague, is by profession a naval architect and generously contributed his great knowledge and experience of everything navy blue. Jack Polonka joined the project late and did a super job tying up all the loose ends. At the final round of production testing we were blessed by some outstanding new colleagues: Chris Schall, Przemek Bozek, Kirk Allton, and Rob Doane did a great job checking all the scenarios with actual production art and putting the final polish on the project. Bill Thomas and the rest of the Compass team were, as always, a great pleasure to work with. A special salute to Bruce Yearian for his amazing artwork and tireless efforts throughout. Much gratitude also to Michael Neubauer for his rules edit, to John Kranz for hustling up playtesters, and to Joe Balkoski, Mark Herman, and Jack Greene for helpful and thought-provoking conversations. And finally, my deep thanks to all the players who have shared their thoughts about Carrier on various internet forums over the years. I have read it all and learned from it all and I am grateful.

It is my hope that we have here maintained -- and enhanced -- the qualities that have earned Carrier a loyal following over 30 years, and that we also have cleaned up some of the points that made the original game difficult. And it's my hope that this new game will give wargamers, for the first time, a full appreciation of this great and important battle. I wish you good gaming and I look forward to your comments and questions online.

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The basic source and most valuable reference is the magisterial history by Morison, still the starting point for anyone who wants to understand any of the US Navy's campaigns in World War II. Morison's research was prodigious, his first-person viewpoint irreplaceable, and his prose often magnificent; his books should be forgiven the limitations which others have pointed out. Like its predecessor, Carrier Battle: Philippine Sea is above all a game of narrative, and there is no better narrative than Morison's. Those not wishing to tackle all his volumes should get the excellent one-volume abridgement, The Two-Ocean War; I bought this in paperback for less than a dollar at a supermarket book rack more than 45 years ago, thus taking the first step on the path to the design of these games.

All that said, the more recent works of Y'Blood and Hornfischer -- both published since the appearance of the original Carrier game -- are very valuable as well. Y'Blood's book includes an appendix with a compendium of all the air-to-air actions.

It's worth noting that each of these authors takes a somewhat different stance on the crucial debate around this battle, concerning the defensive posture of Admiral Spruance. Morison depicts it as a second-best accident which worked out, Y'Blood suggests it was a mistake, and Hornfischer defends it as the best strategy available. The disagreement is not over whether Admiral Spruance accomplished his mission, which he clearly did, but over whether he could have done better. For the viewpoint of a modern professional naval officer -- who concurs with Hornfischer and backs up Spruance -- see the Greene monograph.

We can thank the Internet for access to some valuable sources which would have been harder to obtain 30 years ago. The Ozawa interrogation is a unique primary source. The wartime aircraft performance test results were the basis for the rules on fuel consumption. The Kobayashi study is a remarkable source which challenges the version of events given elsewhere. Certain aspects of the submarine rules are directly based on facts gleaned from the sources related to Cavalla and Shokaku.