



Air-Naval Operations

23. AIR-NAVAL OPERATIONS

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23.1 OVERVIEW:

23.11 EMPLOYMENT OF AIR UNITS: Air and naval units interact in a variety of ways:

A. ASSIST NAVAL INTERCEPTION (search AAS and land-based NAS): Land-based search AAS and NAS may spot enemy naval activities and increase the number of dice rolled for naval interceptions (22.451A). Spotting does not invert the search AAS or NAS.

B. SEARCH (search AAS and land-based NAS): Land-based search AAS and NAS may increase the number of search die rolls made during naval combat and modify submarine attack dice rolls.

C. COMBAT AIR PATROL (carrier-based NAS): Carrier-based NAS may assist in defending friendly naval units against enemy air attack.

D. AIR COVER (cover AAS, land-based NAS): Land-based cover AAS and NAS may assist in defending friendly naval units against enemy air attack.

E. ATTACKING NAVAL UNITS AT SEA (attack AAS, NAS and kamikazes): Land-based attack AAS and NAS, carrier-based NAS and kamikazes may attack enemy naval units at sea.

F. ATTACKING NAVAL UNITS IN PORT (AAF, NAS and kamikazes): Land-based AAF, land- or carrier-based NAS and kamikazes may attack enemy naval units in port.

23.12 TIMING: The timing of the air activities set out above is detailed in the rules dealing with each activity.

23.13 CONVERSION OF AAF TO AAS:

23.131 WHEN CONVERSION OF AAF TO AAS REQUIRED: Each AAF is converted to three AAS immediately prior to engaging in any of the following activities:

- A. Engaging in air combat in conjunction with friendly NAS or against an enemy force containing NAS.
- B. Assisting in naval interception (spotting).
- C. Providing air cover for friendly naval units.
- D. Searching during naval combat or submarine attacks.
- E. Attacking enemy naval units at sea.

23.132 CONVERSION RATIO: Each AAF is converted into:

- A. One search AAS.
- B. One cover AAS.
- C. One attack AAS.

23.133 MECHANICS: When an AAF is converted to AAS, the AAF is replaced by three AAS (one AAS of each type). The AAF is placed in the designated area on the owning major power's force pool chart, in order to ensure that the conversion of AAF to AAS and the subsequent conversion of AAS back to AAF does not result in the owning major power inadvertently having too few or too many AAF in play.

23.14 CONVERSION OF AAS TO AAF:

23.141 WHEN CONVERSION OF AAS TO AAF REQUIRED: AAS are converted back into AAF:

A. Immediately prior to engaging in any of the following activities. Only the army air units participating in the activity are converted.

- Undertaking an air operation (17.23) other than those that may be performed by AAS (23.15), or continuing such an operation after its interruption by air combat. Inverted AAF that result from conversion may not undertake or continue an offensive or defensive mission.
- Being engaged in air combat as a result of an enemy attack on their base, other than in conjunction with friendly NAS or by an enemy force containing NAS. AAS are never converted to AAF between rounds of air combat, even if all the NAS involved have been eliminated.

B. During the owning player's unit construction phase. Every three unbuilt AAS are converted to one AAF. A remnant of two unbuilt AAS is converted to one AAF and a third AAS, which will be in play, is removed from any location selected by the owning player; a remnant of one unbuilt AAS is disregarded. Only unbuilt AAS are converted.

C. At the end of each player turn, all remaining AAS are converted back into AAF.

23.142 CONVERSION RATIO:

A. When AAS are converted back into AAF, two AAS are converted to one AAF, and remnants of one AAS are eliminated. Thus one AAS is eliminated; two, three or four AAS convert to one AAF; five, six or seven AAS convert to two AAF; and so on.

B. Unbuilt AAS are converted first. This determines the number of unbuilt AAF. AAS on the board are then converted, with a separate determination being made for each air base or mapboard box containing AAS.

C. Once conversion is completed, the number of AAF in play may not exceed the number of AAF in the owning major power's force pool.

23.143 MECHANICS OF CONVERSION: When AAS are converted to AAF, every three AAS are replaced by one AAF. The AAF are taken from the designated area on the owning major power's force pool chart (23.133) to ensure that the overall number of AAF in play remains correct.

EXAMPLE: Britain uses five AAF (15 AAS) in a naval battle and loses nine AAS, leaving two AAS in each of three hexes. At the end of the turn, the two AAS in each hex are converted to one AAF. Since this results in the British having one more AAF than their force pool limit permits, one of the AAF (in any of the three hexes) is removed from play.

23.144 INVERSION OF AAF: When three AAS are converted to an AAF, the AAF created is inverted unless it results from the combination of one uninverted AAS of each type (search, cover and attack). If one or more of the combining AAS is inverted, or if the AAF is not formed from one of each of the three types of AAS, the AAF is inverted. Inverted AAF may not continue their mission and instead return to base.

23.15 AAS OPERATIONS:

23.151 AAS ACTIVITIES: The activities which may be performed by each specific type of AAS are restricted as set out in 23.11.

23.152 COUNTERAIRS:

A. AAF which counterair enemy forces containing NAS are first broken down into AAS (23.131A).

B. The AAS must then be used to counterair one or more enemy air bases, each of which must contain at least one NAS. No AAS may be withheld from counterair combat.

C. AAS from a single AAF may counterair more than one enemy air base, provided each enemy air base contains at least one NAS.

D. Surviving AAS are recombined into AAF and inverted once all counterair attacks in that phase are completed.

23.153 AAS IN AIR COMBAT: All three types of AAS engage in air combat with equal effectiveness.

23.154 LOSSES: Army air units which have broken down into AAS take losses as squadrons. AAS of the same nationality are considered to be of the same type when taking losses (19.65).

23.16 USE OF LAND-BASED AIR:

23.161 INTERACTING WITH MULTIPLE NAVAL ACTIVITIES:

Uninverted land-based air squadrons in operational bases may search, provide air cover or attack naval units at sea. They may conduct these air activities in relation to any or all naval activities that pass within range of their base during the current player turn. A land-based air unit may perform only one such role in each round of naval combat or in each hex entered by a naval force outside naval combat.

EXAMPLE: An Italian TF invades Malta. Axis air units in Sicily are held back to cover the invasion. The British intercept with a TF from Gibraltar and a TF from Alexandria. A second Italian TF counter-intercepts the British TF intercepting from Gibraltar before it reaches the invading Italian TF.

The Axis air units in Sicily may attack the British TF intercepting from Alexandria (one sortie per hex), then the surviving Axis air units may participate in the naval combat between the British TF intercepting from Gibraltar and the counter-intercepting Italian TF; or vice versa, at the Axis player's option. The only restrictions on the use of the Axis air units are: a) they may only attack British naval units within range of their bases; and b) air squadrons eliminated in attacks on one British TF are removed from play and may not attack the other British TF. Surviving Axis air units could attack British naval units which intercept sea escort to Tripoli.

23.162 RESTRICTIONS ON AIR MISSIONS: Land-based air squadrons already committed to an offensive or defensive air mission may not interact with naval activities. Similarly, once a land-based air squadron is committed to support or oppose a naval activity, it may not be used for an offensive or defensive air mission relating to ground or air operations, such as counterairing enemy air units, providing ground or defensive air support or protecting or intercepting airdrops, later in the player turn.

23.163 USE OF AAS IN DIFFERENT HEXES PERMITTED: AAS may search, fly air cover and attack enemy naval units in different hexes, subject to range and other applicable restrictions. There is no requirement that the search, cover and attack components of an AAF be used in the same hex or at the same time.

23.164 INVERSION AT END OF REDEPLOYMENT PHASE:

Land-based air squadrons that search, provide air cover or attack naval units at sea are inverted at the end of the redeployment phase of the player turn in which they perform one of these functions, unless they are themselves redeployed, in which case they are immediately inverted. Inverted land-based air squadrons which do not redeploy may be uninverted at the end of their player turn.

EXAMPLE: German attack AAS attack a British TF which tries to intercept Axis sea supply to a German-controlled port in Britain. Germany then sea transports units into Britain. Any surviving German attack AAS may also attack any British TFs which try to intercept the German sea transport to Britain. Germany later sea escorts an infantry unit to an Axis-controlled port in Britain. Any surviving German attack AAS may also attack any British naval forces which try to intercept the German sea escort to Britain. All the surviving German attack AAS are inverted at the end of the German redeployment phase and may be uninverted prior to the ensuring Allied player turn if they are not redeployed.

23.165 NO BRP COST: Searching, providing air cover and attacking enemy naval units at sea are not offensive operations and do not require any expenditure of BRPs.

23.17 JETS: Jets convert to jet squadrons and back to jet factors, and incur losses, in the same manner as AAF.

23.18 AIR TRANSPORTS: Air transport factors convert to air transport squadrons and back to air transport factors, and incur losses, in the same manner as AAF. An air combat result which eliminates two or more air transport squadrons eliminates the air transport factor; any lesser air combat result other than "0" forces the air transport to discontinue its mission by inverting the air transport factor.



23.2 AIR COVER:

23.21 AIR COVER: Air cover may be flown by eligible land-based cover AAS and NAS (23.11D) to protect friendly naval units at sea engaged in any naval activity. Air cover may not be provided for naval units in port.

23.22 RANGE EFFECTS: All air squadrons assigned to air cover must be based within four (Europe) or three (Pacific) hexes of the naval force being covered.

A. The effectiveness of air cover diminishes as the distance to the naval force being covered increases. In both theaters, the portion of air squadrons assigned to air cover that may engage enemy air units that attack the friendly naval force being covered (23.415A) depends on the distance from the nearest friendly operational airbase, regardless of the exact location of the air squadrons providing air cover:

- **One hex or less:** All of the air squadrons assigned to air cover may engage.
- **Two hexes:** Two-thirds (rounded up) of the air squadrons assigned to air cover may engage.
- **Three or more hexes:** One-third (rounded up) of the air squadrons assigned to air cover may engage.

The portion of air cover squadrons that may engage is always determined by the proximity of the nearest air base. Because Pacific theater one-hex islands are not "air bases" unless they contain a city, port, airbase or artificial port (3.11, 18.12), they have no effect on the portion of air cover squadrons that may engage, even if the air cover is flown by naval air squadrons based on Pacific theater one-hex islands closer to the naval force being covered than is the nearest airbase.

B. Air squadrons assigned to air cover that may not engage attacking air units are committed to flying air cover and may not be used for any other purpose until air cover is reassigned when the naval force being covered moves to a different hex (23.24) or another round of naval combat takes place (23.25).

EXAMPLE: A Japanese TF patrols two hexes from a Japanese airbase containing three AAF and one NAS. Three cover air squadrons and one NAS may provide air cover for the Japanese TF, for a total of four air squadrons; because their airbase is two hexes from the Japanese TF, two-thirds (rounded up) of the air cover is effective ($4 \times 2/3 = 2 \frac{1}{3}$, rounded up to 3 air squadrons), and the other air squadron is disregarded.

If Japan had NAS on two one-hex islands three hexes from the Japanese TF, Japan would have six air squadrons available to fly air cover, of which two-thirds would be effective, because Japan's nearest airbase would still be two hexes from its TF ($6 \times 2/3 = 4$ air squadrons).

23.23 ASSIGNING AIR COVER: How air cover is assigned depends on whether naval combat is taking place.

23.24 OUTSIDE NAVAL COMBAT:

A. As a naval force enters each hex of its path while moving to its destination, the defender may use some, all or none of his available eligible air units for air cover if the opposing player attacks that naval force with land-based air units.

B. The defender is not required to commit his available air units to air cover against land-based air attacks before they are made, although he may not have used those air units for other purposes.

C. Air cover is assigned to the naval force as a whole, with each TF having air cover on a prorated basis, rounding up in favor of TFs which are attacked by the opponent's land based air units. The defender then decides which TFs receive more air cover, after the attacker announces his air attacks.

EXAMPLE: Four British air squadrons fly air cover over a British naval force containing three TFs. If one British TF is attacked by Axis air, it is considered to be the TF that has two air squadrons of air cover. If two British TFs were attacked, the British player would decide which TF had two air squadrons of air cover and which had only one air squadron of air cover. This decision is made after the size of the air attacks against each TF is announced.

D. Once air combat is resolved, both sides' surviving air units return to their bases and the naval force moves to the next hex along its previously announced path, unless it was destroyed or aborted its activity. The process is then repeated as the naval force enters each hex of its route until it engages in naval combat.

23.25 DURING NAVAL COMBAT:

A. ASSIGNED BEFORE AIR STRIKES ANNOUNCED: Air cover during naval combat is secretly assigned to specific friendly combat groups immediately after carrier-based naval air units are assigned to air strikes and combat air patrol, before any air strikes are announced (22.4421).

B. ROUND-BY-ROUND ASSIGNMENT: Each round, a player may use some, all or none of his available eligible land-based air units for air cover, regardless of how they were used in any previous round.

23.26 EFFECTS OF AIR COVER ON ATTACKING AIR UNITS: See 23.416.

23.3 COMBAT AIR PATROL:

23.31 COMBAT AIR PATROL: Combat air patrol may be flown by carrier-based naval air units over their own combat group.

23.32 ASSIGNING COMBAT AIR PATROL: Combat air patrol is assigned as each new hex is entered by a naval force (outside of naval combat) or at the start of each round of naval combat (during naval combat).

23.33 ONE-THIRD RESTRICTION: No more than one-third (round up) of the available carrier-based NAS may be allocated to combat air patrol over their combat group. This limit is determined when a naval force enters a hex (23.34) or at the start of each naval combat round, before carrier-based naval air is assigned to counterair attacks against enemy air bases (23.35).

EXAMPLE: A Japanese combat group contains four CVs, each of which has three NAS, for a total of 12 NAS. Four Japanese NAS may fly combat air patrol over the Japanese combat group in the first round of naval combat. If three of the Japanese NAS were eliminated in that combat round, either while defending against enemy air attacks or while attacking enemy air or naval units, the Japanese combat group would have nine NAS for the second combat round, of which three Japanese NAS could fly combat air patrol over the Japanese combat group.

23.34 OUTSIDE NAVAL COMBAT:

A. As a naval force enters each hex of its path while moving to its destination, the defender may use some, all or none of his available eligible air units for combat air patrol if the opposing player attacks that naval force with land-based air units.

B. Once air combat is resolved, both sides' surviving air units return to their bases and carriers and the naval force moves to the next hex along its previously announced path, unless it was destroyed or aborted its activity. The process is then repeated as the naval force enters each hex of its route.

23.35 DURING NAVAL COMBAT:

A. ASSIGNED BEFORE AIR STRIKES ANNOUNCED: Combat air patrol during naval combat is assigned at the same time as carrier-based naval air units are assigned to air strikes (22.41C), before any air strikes are announced.

B. ROUND-BY-ROUND ASSIGNMENT: Each round, a player may use some, all or none of his available eligible carrier-based naval air units for air cover, regardless of how they were used in any previous round.

23.36 CVEs: CVEs do not contribute to combat air patrol.

23.37 EFFECTS OF COMBAT AIR PATROL ON ATTACKING AIR UNITS: See 23.412.

23.4 RESOLVING AIR ATTACKS ON NAVAL UNITS:

23.41 DEFENDING AIR UNITS:

23.411 ATTACKS ON NAVAL UNITS IN PORT: When air units attack an enemy port which contains both air and naval units, the attacker has the option of counterairing the defending air units with some, all or none of his attacking air factors. Carrier-based naval air units concealed by a TF marker are revealed when the attacker announces his attack on the carriers' base.

A. ALL ATTACKING AIR UNITS COUNTERAIR: If all the attacking air units counterair, the attack is resolved solely as a counterair attack (18.52), with each side making one air combat dice roll to resolve that round of air combat. No air defense dice roll is made for the base and no naval units in the target hex may be attacked in that combat round.

B. SOME ATTACKING AIR UNITS COUNTERAIR: If some of the attacking air units carry out a counterair attack and the remainder attack the naval units in the enemy base, one round of air combat is resolved between the attacking and defending air units engaged in counterair combat. Attacking air units which engaged in counterair combat may not attack naval units in the enemy base in that combat round, regardless of the result of the counterair combat. Some or all of the remaining attacking air units may be able to carry out their attack on the naval units in the enemy base, depending on the defender's air combat result (23.412B).

C. NO ATTACKING AIR UNITS COUNTERAIR: If all of the attacking air units attempt to attack the naval units in the enemy base, ignoring the defending air units, all uninverted defending air units make one air attack dice roll against the attacking air units before the air attack on the naval units is resolved (23.412B).

23.412 EFFECTS OF AIR COMBAT:

A. ATTACKER'S AIR COMBAT RESULT:

- Defending air units forced to abort by the attacker's air combat dice roll participate in subsequent rounds of combat against their hex.
- Defending air units forced to abort in the final round of attack against their hex are inverted for the remainder of the attacker's player turn (18.526).

B. DEFENDER'S AIR COMBAT RESULT:

- Attacking air units which are eliminated or forced to abort by the defender's air combat dice roll may not attack the naval units in the enemy base in that round.
- If the effects of the defender's air combat result exceed the number of attacking air units which counterair the defending air units, the excess is taken from the air units which would have otherwise attacked the defender's naval units. This will always occur if the attacker did not counterair the defender, as the defender's uninverted air units still make an air combat dice roll.
- Apart from the defender's air combat result, defending air has no effect on air attacks on naval units in port.

23.413 INVERTED AIR UNITS: Inverted air units do not make an air combat dice roll against the attacker's air units unless the attacker elects to counterair them.

23.414 NEARBY DEFENDING AIR UNITS IGNORED: Defending air units based in hexes other than the hex under air attack may not assist in the air defense of that base. The attacker need only concern himself with air units based in the hex which is under attack.

23.415 ATTACKS ON NAVAL UNITS AT SEA: When air units attack enemy naval units at sea which are defended by air squadrons flying air cover or combat air patrol, the defender has the option of engaging the attacker.

A. DEFENDER'S PARTICIPATION OPTIONAL:

- Air squadrons flying air cover or combat air patrol over a friendly naval force which is under air attack may engage in air combat with an equal number of attacking air squadrons.
- No more than eight defending air squadrons may engage in air combat with the attacking air squadrons in any one air combat.
- Some or all of the defending air units flying air cover or combat air patrol over attacked naval units may be withheld from air combat. This is announced before the attacker chooses which air factors to assign to air combat.
- Defending air units which do not engage the attacking air units do not incur casualties from any other air combat which may occur and have no effect on any ensuing air attacks on the defender's naval units in that combat round.

B. ATTACKER'S PARTICIPATION MANDATORY:

- If defending air units flying air cover or combat air patrol over an attacked naval force or combat group elect to engage attacking air units, air combat is resolved between the defending air squadrons and an equal number of attacking air squadrons.
- If there are fewer attacking air squadrons than covering air squadrons, all the attacking air squadrons must engage in air combat with the defending air units.
- If there are more attacking air squadrons than covering air squadrons, the attacker decides which of his air squadrons will engage in air combat with the defending air units. The attacker's Air Nationality DRM for the air combat is that of the air squadrons actually engaging the defending air squadrons. The attacker may not commit more air squadrons to air combat than the defender.

The defender determines how many attacking air squadrons he engages in air combat (the same number of squadrons as are flying combat air patrol and air cover, unless there are more defending air squadrons than are attacking or the defender wishes to withhold air units from combat). The attacker then decides which of his attacking air squadrons engage in air combat with the defending air squadrons.

C. COMBAT AIR PATROL AND AIR COVER COMBINE: Subject to 23.415A, air squadrons flying combat air patrol and air cover engage the attacking air units in a single round of air combat.

D. +/-1 DRM FOR COMBAT AIR PATROL: Naval air units flying combat air patrol receive a favorable +/-1 DRM unless the attacker achieves surprise. This modifier is lost if air units flying air cover participate in the air combat.

E. SURPRISE EFFECTS: If one side achieves a surprise in a naval battle, the effectiveness of the defending air units is reduced (23.7413):

- If the attacker achieves a surprise level of "1" or more, defending air squadrons flying combat air patrol lose their +1 air combat DRM.
- If the attacker achieves a surprise level of "4", one fewer defending air squadron participates in air combat against the attacking air.
- If the attacker achieves a surprise level of "5", two fewer defending air squadrons participate in air combat against the attacking air.
- If the attacker achieves a surprise level of "6", three fewer defending air squadrons participate in air combat against the attacking air.
- If the attacker achieves a surprise level of "7" or more, four fewer defending air squadrons participate in air combat against the attacking air.
- In each case, the defender chooses which squadrons don't engage.

23.416 EFFECTS OF AIR COMBAT:

A. ATTACKER:

- All attacking air squadrons which were not eliminated or forced to abort by the defender's air combat dice roll, including those which engaged in air combat against the defender's air units, may be used to attack the naval force being covered in that combat round.
- Air combat losses are first assigned to the attacking squadrons that engaged the defending squadrons (23.415B). If the effects of the defender's air combat result exceed the number of attacking air squadrons which engaged the defending air units, the excess is taken from the attacking air squadrons which did not engage the defender's air units. At both stages, losses are assigned according to 19.6.

B. DEFENDER:

- Defending air units which engage attacking air units and are not eliminated by the attacker's air combat dice roll may engage in air combat against enemy air units which subsequently conduct air strikes against that naval force in that combat round.
- The "abort" effects of the attacker's air combat dice roll are ignored by the defender.

EXAMPLE: Ten attacking American air squadrons are engaged by three Japanese air squadrons flying air cover. If the Japanese air combat result is a "1/0", nine American air squadrons may attack the Japanese naval force. If the Japanese air combat result is a "1/2" (the most likely result if there are no modifiers), seven American air squadrons may attack. If the Japanese air combat result is a "2/4", only four American air squadrons may attack. In each case the number of American air squadrons which actually attack may be further reduced by the Japanese air defense roll.

If the American air combat result were "1/1", two Japanese air squadrons would remain over the Japanese naval force to defend against subsequent American air attacks in that combat round.



23.42 AIR DEFENSE:

23.421 Once any air combat between attacking and defending air units is resolved, the defender determines the defensive strength of his attacked naval units, consults the Air Defense Table and rolls two dice.

- Defending at sea: The air defense level of a naval force attacked at sea is that of the combat group that is attacked.
- Defending in port: The air defense level of a naval force attacked in port is that of the entire naval force, plus the port defenses. Naval units attacked at sea do not receive the benefit of port defenses, even if they are moving through a hex which contains a port.

23.4211 AIR DEFENSE OF NAVAL FORCES: The defensive strength of naval forces is set out on the Air Defense Table:

A. All attacked naval units, including damaged naval units and destroyers which are carrying cargo, are counted in determining the air defense level (EXCEPTIONS: 23.4211C, D).

B. Each CVE is considered to be worth three naval factors for the purposes of air defense.

The air defense value of a CVE is three times that of other naval units to reflect its intrinsic NAS, which are not represented in the game.

C. Ships sunk in port, submarines and transports are not counted.

D. A naval force only makes an air defense roll if its air defense level is one or more. Unprotected sea supply lines and attacked submarines never make an air defense roll, even if the owning player has achieved an air defense research result.

23.4212 AIR DEFENSE OF PORTS: The defensive strength of ports is set out on the Air Defense Table:

A. The basic air defense level of a port is two.

B. The air defense level is increased by one for each flak factor, airbase counter, objective or anchor symbol in the defending hex.

C. The air defense level is increased by one if there is a fortification in the port and by two if the port is a fortress.

23.4213 AIR DEFENSE RESEARCH: The air defense of an attacked naval force is increased by one for each air defense research result, whether the naval force is in port or at sea.

Air Defense Table - 23.42											
Air DF	Dice Roll										
	2	3	4	5	6	7	8	9	10	11	12+
1	0	0	0	0	0	0/1	0/1	1/0	1/0	1/1	1/1
2	0	0	0/1	0/1	1/0	1/0	1/1	1/1	1/2	1/2	2/1
3	0/1	0/1	1/0	1/0	1/1	1/1	1/2	1/2	2/1	2/1	2/2
4	1/0	1/0	1/1	1/1	1/2	1/2	2/1	2/1	2/2	2/2	2/3
5	1/0	1/1	1/1	1/2	1/2	2/1	2/1	2/2	2/2	2/3	2/3
6	1/1	1/1	1/2	1/2	2/1	2/1	2/2	2/2	2/3	2/3	3/2
7	1/1	1/2	1/2	2/1	2/1	2/2	2/2	2/3	2/3	3/2	3/2
8	1/2	1/2	2/1	2/1	2/2	2/2	2/3	2/3	3/2	3/2	3/3
9	1/2	2/1	2/1	2/2	2/2	2/3	2/3	3/2	3/2	3/3	3/3
10	2/1	2/1	2/2	2/2	2/3	2/3	3/2	3/2	3/3	3/3	3/4

Air Defense Level

- +1 for every ten naval factors, including damaged naval factors (round fractions up). Ships sunk in port, submarines and transports are not counted. Each CVE is worth three naval factors.
- +1 each air defense research result
- +1 each flak factor, airbase counter, objective or anchor symbol
- +2 each city or port
- +1 each fortification level (+1 for a fortification; +2 for a fortress; beach defenses have no effect on air defense levels)
- +1 for each five-factor battleship in the attacked naval force
- +1 for each CVB in the attacked naval force
- 1 if the attacker achieves a surprise level of 2 or greater

If the air defense level is more than 10, the result is determined by consulting the "10" row and whatever other row is required to equal the total air defense level.

Results: The number before the slash is the number of attacking air squadrons or factors which are eliminated. The number after the slash is the number of attacking air squadrons or factors which abort their mission and return to base (EXCEPTION: Kamikazes do not abort and ignore the number after the slash - 23.423). Air units which abort may take part in future air sorties during the current air attack.

23.423 RESULTS: The number before the "/" indicates the number of attacking air units which are eliminated (normally squadrons; AAF for army air units attacking naval units in port). The number after the "/" indicates the number of attacking air squadrons or factors which must abort

(EXCEPTION: Kamikazes do not abort). Air units which abort return to their base without loss and do not take part in that air sortie, but may attack in subsequent sorties. Losses to mixed forces are apportioned as per 19.6.

23.424 NO OPTION TO CALL OFF ATTACK AFTER AIR COMBAT: Air units which are not eliminated or forced to abort by air combat must undergo an air defense dice roll. They may not abort.

23.425 CONTENTS OF TARGET REVEALED: The precise contents of a targeted enemy combat group (or the entire naval force for naval units attacked in port) are revealed to the attacker if at least one attacking air factor survived the air defense dice roll without being eliminated or forced to abort.

23.43 TARGET SELECTION BY ATTACKING AIR UNITS: Once the air defense dice roll is made and the results implemented, the attacker selects targets for his attacking air units (EXCEPTION: Kamikazes select their targets randomly - 17.47F).

A. NAMED SHIPS: Named ships may be targeted separately by attacking air units.

B. LIGHT SHIPS: Light ships are attacked as a group. For the effect of air attacks on destroyers and transports carrying cargo, see 20.58B and 20.59.

C. SUBMARINES: Submarines may be attacked by air only if they remain on patrol during the opposing player turn (21.4184C).

D. NAVAL UNITS UNDER CONSTRUCTION Naval units undergoing repair or construction on a Naval Construction Chart may only be attacked by strategic bombing (26.31H). Damaged naval units in the "Waiting for Repair" box of a Naval Construction Chart are subject to normal air attack.



23.44 AIR ATTACK DICE ROLLS: After assigning his attacking air to specific targets, the attacker rolls two dice for each target and consults the Naval Attack Table. Only those air units which have not been eliminated or aborted are taken into account when making the air attack dice roll.

23.441 MODIFIERS: Air attack dice rolls against naval units are subject to the following modifiers:

A. +/-# attacker's Air Nationality DRM (19.31A).

Air Nationality Chart - 19.31A, 23.441A	
DRM	Nationality
2	Germany, Japan, United States, Britain, Finland, Sweden, Australia
1	Italy, Russia, France
0	All minor countries except Finland, Sweden and Australia
Modifiers	
+1	Elite Japanese naval air
+1	Interceptors
+1	American Pacific strategic bombers
-1	British naval air
-1	Air units subject to a winter effect of 8 or more
-1	Air units in partial supply or subject to air oil effects

B. +/-# defender's Naval Nationality DRM (22.552A). A positive Naval Nationality DRM reduces the air attack dice roll; a negative Naval Nationality DRM increases the air attack dice roll.

Naval Nationality Chart - 22.552A, 23.441B	
DRM	Nationality
3	Japan
2	Germany, Britain, United States, Sweden, Australia
1	Italy, France
0	Russia, Greece, Rumania, Spain, Turkey, Dutch East Indies
Modifiers	
+1	Five-factor battleships
+1	German submarines
-2	Japanese and American CVLs; all CVs and CVEs
-1	German, Italian and British CVLs; all CVBs
-1	Naval units in partial supply or subject to naval oil effects.
Explanation: When fleets with different DRMs engage in fleet combat, the two DRMs are compared. The higher ranking side adds the difference to its fleet combat dice roll, and the lower ranked side subtracts the difference from its fleet combat dice roll. Air attack dice rolls against naval units are reduced by the DRM of the attacked naval units.	

C. +1 for naval air units attacking ships at sea, whether the naval air units are based on land or carriers.

D. +1 if the attacker achieves a surprise level of 3 or greater.

Naval Attack Table - 20.51, 22.55, 23.44		Dice Roll											
AS	FF	2	3	4	5	6	7	8	9	10	11	12+	
	1	0	0	0	0	0	0	1	1	1	1	1	
	2	0	0	0	0	0	1	1	1	1	1	2	
1	3	0	0	0	0	1	1	1	1	1	2	2	
	4	0	0	0	1	1	1	1	1	2	2	3	
2	5-6	0	0	1	1	1	1	2	2	2	3	3	
3	7-9	1	1	1	1	2	2	2	3	3	3	4	
4	10-12	1	1	2	2	2	3	3	3	4	4	5	
5	13-15	2	2	2	3	3	3	4	4	5	5	6	
6	16-18	2	2	3	3	3	4	4	5	5	6	6	
7	19-21	2	3	3	3	4	4	5	5	6	6	7	
8	22-24	3	3	3	4	4	5	5	6	6	7	7	
9	25-27	3	3	4	4	5	5	6	6	7	7	8	
10	28-30	3	4	4	5	5	6	6	7	7	8	8	
11	31-33	4	4	5	5	6	6	7	7	8	8	9	
12	34-36	4	5	5	6	6	7	7	8	8	9	9	
13	37-39	5	5	6	6	7	7	8	8	9	9	10	
14	40-42	5	6	6	7	7	8	8	9	9	10	10	
15	43-45	6	6	7	7	8	8	9	9	10	10	11	
16	46-48	6	7	7	8	8	9	9	10	10	11	11	
17	49-51	7	7	8	8	9	9	10	10	11	11	12	
18	52-54	7	8	8	9	9	10	10	11	11	12	12	
19	55-57	8	8	9	9	10	10	11	11	12	12	13	
20	58-60	8	9	9	10	10	11	11	12	12	13	13	

Modifiers - Air Attacks on Naval Units	
+#	attacker's Air Nationality DRM
-#	defender's Naval Nationality DRM
+1	naval air units attacking ships at sea
+1	if the attacker achieves a surprise level of 3 or greater
Modifiers - Fleet Attacks on Naval Units	
+/-#	Naval Nationality DRMs (22.552A)
+/-1	If one of the combat groups involved is carrying out a naval activity which reduces its effectiveness (22.552B)
If more than 20 air squadrons engage in combat, the result is determined by consulting the "20" row and whatever other row is required to equal the total number of air squadrons engaged. If more than 60 fleet factors engage in combat, the result is determined by consulting the "58-60" row and whatever other row is required to equal the total number of fleet factors engaged.	
Results	
Named ships and cruisers: A named ship or cruiser is damaged if it incurs naval attack effects one less than its size in factors and is sunk if it incurs naval attack effects equal to or greater than its size in factors.	
Cruiser groups: If a group of light ships consisting only of cruisers incurs an odd number of hits, the odd hit damages one cruiser.	
One-factor naval units: If a group of ships consists only of destroyers, CVEs, transports or a combination of the three, each hit sinks a destroyer, CVE, or transport factor.	
Mixed light forces: Naval attack effects incurred by a light force consisting of both cruisers and one-factor naval units are distributed evenly between the cruisers and one-factor naval units, subject to the proviso that the number of one-factor ship factors sunk may not exceed the number of cruiser factors sunk until all the cruisers in the force are sunk (20.551).	

23.442 RESULTS: For details of naval attack results, see 20.5.

23.443 EFFECT ON NAVAL UNITS:

A. AT SEA:

- Sunk naval units are immediately removed from the board.
- Damaged naval units remain with their naval force unless they choose to return to an eligible base, with or without the protection of accompanying undamaged naval units, in which case they are subject to interception by enemy naval units and attack by enemy air units.
- Hits short of the number required to damage a named ship remain with the ship until it returns to port.

B. IN PORT:

- Destroyed naval units are immediately removed from the board.
- Sunk naval units remain in port unless eliminated by a critical hit die roll.
- Damaged naval unit remain in port.
- Hits short of the number required to damage a named ship are removed.

23.444 WHEN AIR ATTACK EFFECTS CUMULATIVE: Effects of air attacks, fleet combat and submarine attacks against ships at sea are cumulative and are not removed until the ship returns to port (20.523).

23.45 LOSSES FROM MIXED FORCES: Naval losses from a force of mixed types are distributed equally among the types involved (20.57).

23.46 ESCAPE OF AIR AND NAVAL UNITS: Air and naval units within range of enemy land-based or carrier-based air units may leave their base to avoid air attack after the resolution of at least one round of air attacks by the patrolling force against the defending air or naval units or against friendly air or naval units in a different base.

23.461 AIR:

A. Defending air units may move to any controlled airbase or mapboard box within staging range with sufficient basing capacity that is not also being attacked and was not attacked earlier in the phase (18.523).

B. The defending air factors are inverted for the remainder of the player turn (18.523).

23.462 NAVAL:

A. Defending naval units, other than those sunk in port, may move to the nearest friendly base within range (21.3613) and able to receive them (21.112) which is out of air range of uninverted enemy land-based air units and patrolling naval forces, as if they had been displaced (21.23).

B. After the escaping naval units move into the sea hex portion of their base hex, land-based air units which initially attacked their base may continue to interact and attack (23.7), though they are performing an offensive mission (23.51) and may therefore not interact with any other naval activities (23.162).

C. Patrols and fast carrier missions, including those which launched air attacks on their base, may not intercept or attack the escaping naval units.

23.5 LAND-BASED AIR ATTACKS ON NAVAL BASES:

23.51 OFFENSIVE MISSION: Land-based air attacks on enemy naval units in bases are an offensive air mission and are resolved during the combat phase, immediately after the resolution of counterair missions, prior to any interception of naval missions by the attacked naval units. Land-based air units never combine with carrier-based air units to attack the same base.

23.52 MECHANICS: Land-based air attacks on enemy bases are resolved as a counterair attack, an air attack against enemy naval units, or both, as desired by the attacker (23.411). The attacked naval force does not split into combat groups and is attacked and defends as a whole.

23.53 RESOLVING ATTACKS: Each AAF or land-based NAS is considered to be one squadron when consulting the Naval Attack Table. Attacking AAF take losses as air factors from the air defense dice roll. Attacking forces consisting of both AAF and land-based NAS take losses according to 19.6. Losses to the defending naval force from attacking air units are determined as set out in 23.44.

23.54 ADDITIONAL SORTIES: After the first air sortie is completed, the attacker may launch a second air sortie against the same naval base with his surviving air factors. Subsequent sorties are resolved in the same manner as the initial sortie.

23.55 DEFENDING AIR UNITS: For the effects of defending air units, see 23.412.

23.56 EFFECTS: Losses to the defending naval force from attacking air units are determined as set out in 23.44.

23.6 CARRIER ATTACKS ON ENEMY BASES:

23.61 PERMITTED ATTACKS: Naval air units based on carriers may attack enemy air or naval bases in only three situations:

A. While in their patrol hex. Patrols may counterair enemy air bases while moving to their patrol hex, but may not attack enemy naval units in port until they have reached their patrol hex (21.416I).

B. While on a fast carrier mission, either independently or in combination with another naval mission, from their mission hex (21.556).

C. During naval combat, naval forces may counterair enemy air bases, but may not attack enemy naval units in port (22.43).

23.62 PROHIBITED ATTACKS: Carriers which are attacked by enemy land-based air units while engaged in other naval activities may not attack the hex in which the attacking enemy air units are based other than as set out above.

23.63 MECHANICS: Carrier attacks on enemy bases are resolved as a counterair attack, an air attack against enemy naval units, or both, as desired by the attacker (23.411). The attacked naval force does not split into combat groups and is attacked and defends as a whole.

23.64 TIMING DURING NAVAL COMBAT: Carrier attacks against enemy bases during naval combat are resolved at the start of each combat round, after combat groups are formed and before unused naval air units are allocated to air strikes against enemy naval units or combat air patrol (22.41B).

23.65 DEFENDING AIR UNITS: For the effects of defending air units, see 23.412.

23.66 EFFECTS: Losses to the defending naval force from attacking air squadrons are determined as set out in 23.44.



23.7 ATTACKS ON ENEMY NAVAL UNITS AT SEA

23.71 MECHANICS:

A. Whenever air units attack a naval force at sea, that force deploys into combat groups, following the procedure set out in 22.42 (EXCEPTION: A naval force attacked by land-based air units outside of naval combat may contain more than six combat groups).

B. Air attacks are made against individual enemy combat groups, whether or not the attacked naval units are engaged in naval combat.

23.72 SEARCHING:

A. AIR ATTACKS DURING NAVAL COMBAT: Air attacks during naval combat require search results (22.452).

B. AIR ATTACKS OUTSIDE OF NAVAL COMBAT: No search rolls are made when land-based air units attack naval units at sea outside of naval combat. Each defending combat group is subject to one air strike in each hex through which it passes.

23.73 SIZE OF AIR STRIKES: The number of air squadrons that may attack a defending combat group in a single air strike, whether from carriers, land bases or both, is limited as follows (EXCEPTION: Kamikazes – 17.47D):

A. CARRIER-BASED AIR STRIKES:

- Air strikes by German, Italian or British NAS may consist of a maximum of 6 NAS.
- Air strikes by Japanese or American NAS may consist of a maximum of 10 NAS.
- Carrier-based air strikes may be supplemented by land-based NAS up to the maximum allowable size of the carrier-based air strike.

B. LAND-BASED AIR STRIKES:

- Land-based air strikes by AAS, NAS, or AAS and NAS in combination, may consist of up to 8 AAS.

23.74 CARRIER-BASED AIR STRIKES:

A. NAVAL COMBAT ONLY: Carrier-based naval air units may only attack enemy naval units at sea during naval combat.

B. NAVAL AIR FROM COMBAT GROUPS MAY COMBINE: Subject to the overall restriction on the number of air squadrons that may conduct an air strike (23.73), naval air units based on carriers may make a single air strike against the same found enemy combat group in combination with:

- Naval air units based on carriers in different combat groups; and
- Land-based air units within range of the target.

C. NAVAL AIR FROM A COMBAT GROUP MAY SPLIT: Similarly, naval air units based on carriers in the same combat group may split into two or more air strikes to attack different found enemy combat groups.

D. ONE ATTACK PER COMBAT ROUND: Each attacking NAS may only attack once during each naval combat round. NAS which were unable to attack may attack in a subsequent combat round, if otherwise permitted to do so.

E. SURPRISE AIR STRIKES: If none of the combat groups in a naval force were found by the opponent's search rolls, the first air strike from carriers in that naval force surprises the opponent.

23.741 SURPRISE AIR STRIKES:

23.7411 ONLY ONE SURPRISE AIR STRIKE PER COMBAT ROUND: Only one surprise air strike may be made in each combat round:

A. Surprise air strikes may only be made by carrier-based air units. Carrier-based air units may not combine with land-based air units to make a surprise air strike.

B. A surprise air strike may only be made by the side that found at least one opposing combat group, and only if none of its combat groups were found.

The side that failed to find any combat groups may not launch any air strikes, much less surprise air strikes.

C. Only the first air strike against an enemy combat group in a combat round may be a surprise air strike. Subsequent air strikes in that combat round are non-surprise air strikes.

23.7412 DETERMINING THE SURPRISE LEVEL:

23.74121 The surprise level is determined by rolling one die and applying the modifiers set out in the Surprise Table (23.7413).

23.74122 SURPRISE MODIFIERS: The following modifiers are applied to the surprise roll:

A. SEARCH RESULTS:

- **One result:** No modifier.
- **Two results:** +1.
- **Three or more results:** +2.

B. RADAR: -1 for each radar research result achieved by the defender. Radar never increases the surprise level.

23.7413 SURPRISE EFFECTS: Surprise effects are set out in the Surprise Table. Surprise effects are cumulative, with each result including all lesser effects. Surprise effects apply only to air strikes, not fleet combat.

Surprise Table - 23.7413	
Surprise Level	Result
1	Surprise achieved. The defender does not receive a +1 DRM in air combat between attacking air units and air units flying combat air patrol.
2	Anti-aircraft defenses less effective. The defender's air defense level is reduced by one.
3	Damage control problems. The attacker receives a +1 DRM on his air attack dice rolls against enemy naval units.
4	One fewer defending air squadron engages the attacking naval air.
5	Two fewer defending air squadrons engage the attacking naval air.
6	Three fewer defending air squadrons engage the attacking naval air.
7+	No defending air squadrons engage the attacking naval air. Air attacks which damage a named ship trigger a critical hit die roll against the target (20.524).
Determining surprise: Roll one die and modify as follows:	
+1	Two search results against the defending combat group.
+2	Three search results against the defending combat group.
-1	Each defender radar result.
Naval combat: Surprise effects are cumulative - each result includes all lesser effects.	

23.75 LAND-BASED AIR STRIKES:

A. MAY BE MADE AT ANY TIME: Naval units are subject to air attack whenever they move within range of uninverted land-based air units in operational bases during a naval activity, including during naval combat, (EXCEPTIONS: Submarines which are not in a patrol hex - 20.77; Western Allied transports and ASW moving to or from port - 20.622). Air attacks against enemy naval units at sea may be made by either side, are not an offensive operation and do not require any expenditure of BRPs.

B. AIR FROM DIFFERENT BASES MAY COMBINE: Subject to the overall restriction on the number of air squadrons that may conduct an air strike (23.73), land-based air units may make a single air strike against the same found enemy combat group in combination with:

- Land-based air units from different bases within range of the target; and
- Carrier-based naval air units (during naval combat only).

C. AIR FROM DIFFERENT BASES MAY SPLIT: Similarly, air units from different bases may split into two or more air strikes to attack different found enemy combat groups.

D. ELIGIBLE AIR UNITS: The only types of air units which may attack naval units at sea are attack AAS, NAS and kamikazes (23.11E).

E. NO SURPRISE: Land-based air units may not launch surprise air strikes.

23.751 DURING NAVAL COMBAT:

A. Air attacks by land-based air units during naval combat are resolved before the resolution of fleet combat (22.41G).

B. ONE ATTACK PER COMBAT ROUND: Each attacking land-based air squadron may only attack once during each naval combat round. Land-based air which was unable to attack may attack in a subsequent combat round, if otherwise permitted to do so.

23.752 OUTSIDE NAVAL COMBAT:

A. ONE AIR SORTIE PER HEX: During any naval activity, the naval force involved moves along a specified path of hexes to its destination hex, then back to port. Each defending combat group is subject to one air strike in each hex through which it passes. Each attacking land-based air squadron may attack only once in each hex entered by the target naval force. After the results of the sortie are determined, the surviving attacking air units return to base, remain uninverted, and the naval force moves to the next hex along its chosen path. Only one air sortie is permitted in each hex, including the destination hex of the naval activity.

- **Additional air sorties in each hex:** After the naval force moves to its next hex, all eligible land-based air units within range of the new hex, including survivors of previous attacks against the same naval force, may then make another air sortie against the naval force. This process continues until the attacker runs out of air units or calls off his attack, or until the naval force moves out of range or is eliminated. The attacking air units then return to base.
- **Continuous air attacks not mandatory:** Land-based air units need not attack an enemy naval force at every opportunity. They may fly an air sortie against the enemy naval force, decline to fly a sortie as it enters the next hex, then resume their attacks as the naval force enters a third hex. Similarly, a naval force which comes within range of air units, passes out of range, then again comes within range may be attacked as it enters each hex within range of the air units.

B. AIR MAY ATTACK MORE THAN ONE NAVAL FORCE: Each land-based attack AAS or NAS may attack any or all enemy naval forces that pass within range during a player turn, subject to 23.161.

C. AIR ATTACKS AFTER NAVAL INTERCEPTIONS: Air attacks begin only after all naval interception and counter-interception attempts are announced and resolved. The moving player dictates the order in which air attacks and naval interceptions of concurrent naval activities are resolved, the intercepting player dictates the order in which air attacks and naval counter-interceptions of concurrent naval interceptions are resolved, and so on (22.19).

D. AIR ATTACKS AGAINST SEA SUPPLY LINES: Air attacks against enemy sea supply lines (30.37) are carried out in the same manner as air attacks against enemy naval units. One air sortie may be flown against each hex of the sea supply line.

23.76 RESOLUTION OF AIR ATTACKS AGAINST NAVAL UNITS AT SEA: The following procedure is used to resolve both carrier-and land-based air attacks against naval units at sea, whether or not they occur in conjunction with naval combat.

A. DEFENDING AIR UNITS: For the effects of defending air units flying air cover and combat air patrol, see 23.412.

B. AIR DEFENSE: For the effects of air defense, see 23.423.

C. TARGETING: After naval air defense dice rolls are made, the attacker decides how to carry out his air attacks.

- Only enemy naval units in the attacked combat group may be targeted for air attack.
- Each named ship in an attacked combat group is a potential target, as are any enemy light ships, which must be attacked as a group.
- The attacker announces how many of his air squadrons are attacking each enemy target. Once the attacker has announced his attacks he may not change his mind and switch targets.
- An attacking air squadron may not be used against more than one target.

D. AIR ATTACK DICE ROLLS: A separate air attack dice roll is made for each named ship and each group of light ships which are attacked.

E. MULTIPLE AIR STRIKES AGAINST THE SAME TARGET: If more than one air strike is made against the same combat group, the procedure outlined above is followed for each subsequent air strike.

23.77 PREVENTING NAVAL ACTIVITIES: Air attacks alone cannot prevent the completion of a naval activity unless the losses inflicted on the naval force reduce its size below that required for the activity.