

FIRE FROM THE SKIES

1. INTRODUCTION

1.1. "Fire from the Skies" ("FFTS," for short) is a naval warfare simulation portraying naval air warfare in World War II. The simulation presents aspects of this warfare through a series of scenario sets. It is a supplement to "Fire on the Waters" ("FOTW"), a simulation of World War II surface naval warfare.

1.2. The game presents the naval air war on an operational and tactical level, with individual ships and small groups of aircraft portrayed. The game is for two sides. The game system can also be used to add air attacks to surface engagements played using the "Fire on the Waters" system.

2. GAME EQUIPMENT

2.1. Map Sheets. Players chart ship and aircraft movement on paper map sheets. These are provided for each scenario. Each player uses two maps. Maps are printed with numbered hexagons, which are used to regulate location, movement and searches. Each player uses at least 2 map sheets: one to locate his or her task forces and another to resolve his or her searches.

2.2. Formation Sheets. When aircraft strike ships, the ships are represented by ship counters placed on the formation sheets provided with the game. These sheets depict the ships in an air defense formation, with a central position and an AA defense ring of up to 12 ships.

2.3. Charts and Tables. Various charts and tables are provided on separate sheets. Generally, these charts and tables are used in conjunction with dice to determine the results of actions taken by the players and the ships and aircraft that they control.

2.4. Playing Pieces. The cardboard playing pieces (called "counters") should be punched out of the counter sheet and sorted by color and type. There are several types of counters:

2.4.1. 1/2 by 3/4 inch ship counters, which have ship plan views on one side and triangles indicating direction of movement on the other;

2.4.2. 1/2 by 1/2 inch aircraft counters, used to represent small groups of aircraft.

2.4.3. 1/2 by 1/2 inch weapon counters used to record the armament of aircraft.

2.4.4. 1/2 by 1/2 inch task force counters used to track the composition of task forces.

2.5. Miniatures. Alternatively, the game can be played with 1/6000 scale miniature ships and miniature aircraft. Ships should be placed on 1 inch bases for destroyers and smaller ships, 1.5 inch bases for cruisers and light carriers, and 1.8 inch or 2 inch bases for battlecruisers, battleships and fleet carriers. Aircraft can be

mounted on stands directly or on stands with wires.

2.6. Dice. A minimum of two six-sided dice and two ten-sided dice are needed to play the game. More six-sided dice, each of a unique color, will speed play. Six-sided dice are described in these rules as D6 (or as D36 if two are rolled and read as a two-digit number ranging from 11 through 66). Similarly, ten-sided dice are referred to as D10, or as D100 when rolled as percentile dice with results ranging from 1 through 100 (00).

2.7. Other Equipment. Each player should have two decks of playing cards, with jokers. The players may want to have a calculator to make occasional computations easier. Finally the players should have pencils and may want to have clipboards.

3. SEQUENCE OF PLAY

3.1. Setting up the Game. The players should select or make up a scenario, allocate ship, task force, and aircraft counters, set any initial air missions, record task force locations on their map sheets, and make up hands of playing cards to represent each of their task forces.

3.2. Map sheets. Each player makes up two identical map sheets showing the location of that player's real and dummy task forces. Write the number or letter of each task force in the hex in which the task force is located. Each player gives one of the two sheets to his or her opponent after initial air missions (including search missions) have been set. Scenario special rules will typically tell players where they can place their task forces.

3.3. The Game-Turn. The game is played in a series of sequential game-turns, each composed of sequential segments. Segments are always conducted in the order set out below. One game-turn equals 20 minutes of elapsed time.

3.4. Game-Turn Segments.

3.4.1. Initiative Segment – Each player rolls D6 to determine the player with initiative. The player with the highest roll has initiative for the turn. Reroll any ties. Scenario rules may give players modifiers to their initiative die rolls.

3.4.2. Movement Segment – Ships and aircraft move across the map. Players record those movements on their map sheets.

3.4.3. Damage Control Segment – Each player makes damage control rolls for any damaged ships, unless the task force containing the ships was attacked in the previous turn.

3.4.4. Search Segment – Each player announces and resolves searches. The player without initiative does this first.

3.4.5. Strike Segment – If an airstrike has reached a hex containing an enemy task force or base, the striking player announces this and determines whether the strike attacks in the turn. If the strike attacks, combat is resolved. The strike portion of each turn can consist of up to 5 Air Strike Phases (“ASPs”), each 4 minutes long – each corresponding to a 4 minute FOTW game turn. In each ASP, the following takes place in the order shown:

3.4.5.1. Damaged ships attempt to repair any repairable damage and extinguish any fires.

3.4.5.2. Strike aircraft may attack ship targets, taking AA fire and determining hits.

3.4.5.3. Ship targets determine damage done from hits.

3.4.5.4. Combat air patrol combat is resolved before and after the ASPs of a Strike Segment.

3.4.6. Air Operations Segments – In each Air Operations Segment (“AOS”), the players perform the following actions in the order listed:

3.4.6.1. Land and launch aircraft.

3.4.6.2. Move aircraft on a carrier flight deck and between the flight deck and the hanger deck.

3.4.6.3. Ready aircraft.

3.5. Range Conventions. If this rules are being used with the FOTW rules for tactical surface engagements, then the following conventions apply to measure ranges.

3.5.1. If counters are used for tactical combat, ranges are measured from any part of one counter to any part of the other.

3.5.2. If miniatures are used for tactical combat, ranges are measured from forward funnel or cockpit.

3.6. Secrecy. Unless specified otherwise, a player does not reveal to his or her opponent any action that the player is taking or the results of any die roll that the player makes during a turn.

4. AIRCRAFT ENDURANCE.

4.1. All aircraft have an endurance rating that reflects the number of turns that the aircraft can remain airborne. Aircraft that continue to fly past their endurance limit will eventually run out of fuel and crash.

4.2. The following activities count against an aircraft’s endurance: joining a formation, flying to the target and returning, delays in attacking a target, combat over the target, waiting to land and landing. The turn of an AF’s launch is not counted against its endurance, but the turn of its landing is.

4.3. One turn of combat expends 1 additional turn of endurance for dive bombers, torpedo bombers, and fighters.

4.4. An AF landing 1 turn after its endurance has expired crashes into the sea instead on a 1D6 roll of 1 or 2. The roll is 1-4 for an AF attempting to land 2 turns after its endurance has expired. All aircraft flying 3 turns after their endurance has expired crash.

4.5. Players must record the launch turn and last turn of normal endurance for each search, strike and CAP mission. For missions with different aircraft types having different ranges, the player should note the normal endurance for each type of aircraft.

4.6. *Example: on turn 10, the USN player launches a first strike from carrier Yorktown consisting of F4F-3s, SBD-3s with 500 lb bombs, SBD-3s with 1000 lb bombs, and TBDs with torpedoes. The player notes on the Yorktown’s air formation sheet in the Strike 1 box that the strike’s endurance lasts through turn 23 for the F4Fs, turn 24 for the torpedo bombers, turn 26 for the SBDs with the 1000 lb bombs, and turn 30 for the SBDs with the 500 lb bombs.*

4.7. A player may always voluntarily abort a search or strike rather than have it use the additional endurance. The search or strike then returns to base without making any attacks. A player may also split a strike to have some of the aircraft in the strike return. The returning aircraft may not attack.

5. TASK FORCES.

5.1. Players divide their ships into task forces, consistent with any scenario special rules for their organization.

5.2. Each task force is identified by a unique number (for Allied task forces) or letter (for Japanese task forces).

5.3. Ships remain in the same task force for the entire game. Task forces may not split or combine, and ships may not leave one task force to join another task force.

5.4. All ships in a task force move together.

5.5. A single ship may constitute a task force. There is no limit to the number of ships that can be in a task force.

5.6. Each player pencils in the location of each of his or her task forces on the scenario map. Indicate the location of a task force by writing its number or letter into the hex in which it is located.

6. PLANE HANDLING.

6.1. Air operations required time and timing. Aircraft must be readied, positioned for launch, launched and landed.

6.2. Air operations are of three types: combat air patrols (or CAP – aircraft protecting a task force or base), strikes (strike aircraft with or without escorts, tasked to attack a task force or base), and search missions (to locate enemy task forces).

6.3. Two sets of forms provided with FFTS are used to track air operations. Air operations

forms show the status and location of aircraft on air bases and aircraft carriers. Air formation forms show the status of aircraft flying on missions. Aircraft counters are placed on the forms to indicate their status. Generally, each aircraft carrier and base has an air operations form and an air formation form associated with it. In these rules, each aircraft counter is called an "air factor" or "AF", and represents 3 aircraft of the type shown on the counter.

6.3.1. Aircraft in hangers are placed in the hanger boxes of the air operations forms.

6.3.2. Aircraft on deck are placed in the on deck portions of the form, on the portion of the deck that they occupy.

6.3.3. Aircraft on strikes, on searches, or on CAP are placed on air formation forms recording the particulars of their missions.

6.3.4. Fueled aircraft are denoted by pointing the nose of the aircraft towards the top of the form.

6.3.5. Armed strike aircraft are denoted by stacking them with a weapons counter.

6.4. The air operations form also provides other information relevant to aircraft handling and operation.

6.4.1. It shows a diagram of a carrier's flight deck, showing the areas in which different types of aircraft with different loads must be positioned to have enough room to take off.

6.4.2. It shows the amount of space occupied by each type of aircraft carried by the carrier.

6.4.3. It shows the location of a carrier's elevators and indicates their speed of operation.

6.4.4. It lists any catapults mounted on a carrier.

6.4.5. It shows the length of a carrier's flight deck used to land aircraft.

6.4.6. It shows the number of handling points available to fuel, ready, and move aircraft.

6.4.7. It gives information on the range and speed of the aircraft carried by the carrier.

6.4.8. It details any special features of the carrier.

6.5. All air operations (landing, launching, moving and readying aircraft) take place in the AOS of each game turn. Except for the special rule for fighters provided in 6.13 below, air operations always follow this sequence:

6.5.1. Land or launch aircraft.

6.5.2. Move aircraft on the flight deck and between the flight deck and the hanger deck.

6.5.3. Ready aircraft.

6.6. A carrier may not conduct air operations other than launches in a turn in which it is attacked.

6.7. Spotting. In this context, "spotting" means locating aircraft on a carrier flight deck for flight operations. Aircraft may be spotted aft, for launching, or forward, as aircraft land. Carriers with aircraft on the flight deck must either have them spotted forward (permitting landing

operations) or aft (permitting take-offs). A carrier may conduct launching or landing operations, but not both in the same AOS.

6.7.1. All aircraft on a flight deck may be moved from one end of the deck to the other at the cost of 1/2 handling point per AF moved.

6.7.2. Aircraft move from flight deck to hanger at the cost of 1/2 handling point per AF moved.

6.7.3. For aircraft carriers with closed hangers, aircraft can be moved from the hanger to the flight deck at the cost of 1 handling point per AF moved.

6.7.4. For aircraft carriers with open hangers, aircraft can be moved from the hanger to the flight deck at the cost of 1/2 handling point per AF moved.

6.7.5. Due to their greater available space, air bases do not use spotting.

6.7.6. Aircraft must launch from front to back – that is, aircraft spotted at the back of a carrier's flight deck may not be launched until all of the aircraft in front of them are launched or cleared off the deck.

6.8. Readying. Readied aircraft are aircraft that are fueled and armed. Players must record the type of weapons carried by strike aircraft at the time that they are readied. The time taken to ready aircraft varies with the type of aircraft, as shown in the Air Operations Tables. Aircraft may be unreadied at the same rates.

6.8.1. Aircraft readied on the hanger deck must be moved to the flight deck before being launched. The aircraft are moved by elevators, at the rate shown on the carrier's air operations form. They may also be struck below from the flight deck to the hanger deck at the same rate.

6.8.2. Elevators located in deck areas in use for flight operations may not be used in an AOS in which those operations are conducted. An elevator located in a landing area cannot be used in an AOS in which aircraft are landing. An elevator located in a take-off area cannot be used in which aircraft are taking off over it.

6.9. Launching. A carrier may launch 12 AFs per AOS, if the aircraft are launched without the use of catapults. A carrier using a single catapult may launch 4 AFs per AOS, while a carrier using two catapults may launch 8. Aircraft being launched by catapult must be in the deck or hanger location with the catapult (typically the forward part of the flight deck).

6.10. Carriers require certain amount of wind over their decks (which may be a combination of wind speed and carrier speed) to launch aircraft.

6.10.1. A CV or CVL requires a wind speed of at least 24 knots (equivalent to a "Fire on the Waters" speed of 3 inches) to launch armed strike aircraft, and 16 knots (2 inches) to launch other aircraft.

6.10.2.A CVE requires a wind speed of at least 16 knots (2 inches) to launch any aircraft, and must use a catapult to launch armed strike aircraft.

6.11.Air Formations. Unless they take the time immediately after launch to combine, all strike aircraft launched in the same AOS proceed to their target in their separate strike groups. Consult the Air Operations Tables for the timing of forming larger strikes.

6.11.1.The stack of counters comprising each air formation is placed in the appropriate box on the air formation sheet of the base or carrier launching the aircraft. The players pencil into the box the last turn of endurance for the aircraft in the air formation.

6.11.2.A strike group consists of 3 or fewer AFs of the same type of aircraft. Escorts are grouped with the strike groups that they are escorting.

6.12.Landing. A carrier or base may land 6 AFs per AOS. The following rules apply to carrier landings, using rolls on 1 D10:

6.12.1.For every 3 AFs landed in normal conditions, 1 landing AF is destroyed in a landing accident on a D10 roll of 1.

6.12.2.If half or less of the landing area is available to land (due to damage or the presence of parked aircraft) an accident occurs on a roll of 1 for every AF landed.

6.12.3.If a quarter or less of the landing area is available to land (due to damage or the presence of parked aircraft) an accident occurs on a roll of 1 or 2 for every AF landed.

6.12.4.If the reduced landing area is due to the presence of parked aircraft, a crash also destroys 1 randomly determined parked AF.

6.12.5.If the landings are taking place during twilight an accident occurs on a roll of 1 for every AF landed if the AF is not trained in night operations or on a roll of 1 for 2 AFs landed if it is trained.

6.12.6.If the landings are taking place at night an accident occurs on a roll of 2 or 1 for every AF landed if the AF is not trained in night operations or on a roll of 1 for AF landed if it is trained.

6.12.7.If more than 1 of these conditions applies, use the worst when checking for landing accidents.

6.12.8.A landing accident prevents any further landings in the AOS in which it happens.

6.13.Fighters. Two special rules apply to fighters.

6.13.1.Up to 2 AFs of fighters can be landed, readied and positioned for launch in 1 AOS, if the carrier's flight deck is clear of other aircraft and the carrier has not been attacked in the turn.

6.13.2.Up to 3 AFs of readied fighters may be launched immediately after the opposing player

announces that a strike is arriving, provided that the fighters are on a carrier flight deck with no other aircraft AFs in front of them. These aircraft are launched in the Strike Segment, but are considered to have launched in the previous turn for endurance purposes.

6.14.Start of Game. A player may have aircraft ready and in position to take off at the start of a scenario unless a scenario special rule provides otherwise.

6.15.Doctrine, Training, and Equipment. Doctrine, training, and equipment may limit the way in which some forces and ships conduct air operations. These limits will be noted on the applicable ship data sheets or scenario special rules.

7. SEARCH MISSIONS

7.1. Players use search missions to locate enemy task forces and identify their contents.

7.2. An air strike may not be launched to strike a task force until the task force has been spotted.

7.3. Searching only takes place in day-long scenarios, not in scenarios involving a single strike.

7.4. Planning Searches.

7.4.1.Each player plans searches at the start of the day and for the 1200 turn of the day. Searches at the start of the day are planned before the players see each other's maps. Searches for the 1200 turn are planned at the start of the 1100 turn.

7.4.2.Air operation sheets detail the aircraft that are capable of searching, their maximum search range, and the speed at which they search.

7.4.3.Scenario rules may also provide for searches.

7.4.4.Searching aircraft search defined arcs originating from the point at which the search aircraft begin.

7.4.5.Generally, a search-capable AF may search a 60 degree arc. AFs searching at ranges greater than 7 hexes search only 30 degree arcs. If a player pairs searchers (having them search in two-plane groups), a searching AF searches a 30 degree arc, and may not search at a range greater than 6 hexes.

7.4.6.Players must designate the arcs and distances that they are searching. Players note this on the air formation sheet of the base or carrier providing the searching aircraft. Players should use the following format: turn of launch, arc being searched, range to which the search will fly, endurance of the search.

7.4.7.Example of a search record: 3:60-240:6-24. The search begins on turn 3 (having launched on turn 2) and searches an arc starting at the 60 degree line and extending through the 240 degree line – a semicircle. The search will ultimately fan out

6 hexes beyond its starting point across the arc of the search.

7.4.8. Search arcs are set in 30 degree increments. If a search arc bisects a hex, the hex is searched.

7.4.9. When recording search arcs, the 0 degree line is north, and north is towards the top of the map unless scenario rules state otherwise. Degree lines increase in a clockwise direction from the 0 degree line.

7.4.10. Players must ready aircraft for searches as they would for any other mission. Such aircraft must be on deck (if on a carrier) and ready to be launched on the turn that the search is scheduled to begin. If they are not, the search is cancelled.

7.5. Search Movement. Searching aircraft move out the arc that they are searching until they reach their maximum search range, then back to their point of origin.

7.5.1. Aircraft moving at normal speeds move one hex each turn.

7.5.2. Slow aircraft do not move in any turn divisible by 4.

7.5.3. Fast aircraft move 2 hexes in any turn divisible by 6.

8. SEARCH PROCESS

8.1. Sighting Cards. The players use cards from a normal card deck to represent the ships in their task forces. When a search successfully sights a task force, the searching player is able to look at some or all of the cards representing the ships in the task force.

8.1.1. Players make a hand for each of their task forces. In making up a hand, different cards are used to represent different types of ships, with one card in the hand for each ship in the task force.

8.1.1.1. Carriers are represented by red face cards.

8.1.1.2. Battleships and battlecruisers are represented by black face cards.

8.1.1.3. Destroyers are represented by red aces through tens.

8.1.1.4. Cruisers are represented by spade aces through tens.

8.1.1.5. Merchant ships are represented by club aces through tens.

8.1.1.6. Scenario special rules may provide for other types of ships, or permit players to vary the types of cards used to represent one ship.

8.1.1.7. Players keep their hands out of sight of each other. They use the task force markers to designate the task force represented by each hand.

8.2. Searching. Each turn, each player notes the progress of his or her planned searches.

Searches move from their starting point to the maximum range of the search and back to their starting point. They move at the speed of the

searching aircraft. Each search covers a band in the search's arc. The outer boundary of a search area is the hexes in the search arc that the searching aircraft have reached in that game turn. The search area extends 2 hexes back from the outer boundary towards the starting point of the search, but never back beyond that starting point.

8.2.1. Players may (but are never required to) announce that they are trying to search any enemy task force in their search areas.

8.2.2. A player conducts a search by rolling D6 and applying modifiers. If the result of the roll is a positive number, the searching player reveals the roll and is then entitled to look at a number of cards for the searched task force equal to that number.

8.2.3. The player owning the task force being searched deals out cards for the searching player to examine. The player deals the cards face down and out of sight of the searching player, then hands the cards to the searching player face-down. The searching player examines the cards, the returns them face-down to the other player. The other player then returns them to the hand for the task force being searched and shuffles the cards in the hand.

8.2.4. The point of this procedure is that the owning player does not know which cards the searching player has seen, and the searching player does not know how many cards are in the task force being searched.

8.2.5. Searching players may wish to keep a record of the results of searches. They may use the turn record sheet for this, noting the task forces searched and the result of the searches each turn. For example, the Allied player might record "O:2s, kh, 5d," indicating that Task Force O was searched and that the results were a 2 of spades, a king of hearts and a 5 of diamonds. This would mean that the searchers had reported a cruiser, a carrier and a destroyer in the task force.

8.2.6. Task forces may be searched multiple times by the same search over several turns and may be searched by overlapping searches more than once in the same turn.

8.3. Shadowing. If a search spots a task force, it may continue to search that task force from the turn that the task force is spotted until the turn that the searching aircraft must start back to their base or carrier in order to reach it by their last turn of normal endurance. From the turn that the task force is spotted until the turn that the searching aircraft begins to return, the search is "shadowing" the task force. The rest of the search goes on normally while shadowing is taking place.

8.3.1. One search AF may shadow up to 3 task forces. Searches may not shadow more task forces than their AFs permit.

8.3.2. AFs that are shadowing need not return to their carriers or bases with the rest of their search. The searching player keeps track of AFs flying a normal search pattern and those shadowing, noting this in the search's box on the air formation sheet.

8.3.3. Shadowing AFs are subject to the normal endurance rules.

8.4. Searches and Task Force Movement. If a task force moves out of a search's arc while being shadowed by that search, the search may continue to search and shadow that task force as long as it had not moved beyond the maximum range of the search.

8.5. Armed Searchers. Armed search aircraft may attack ships that they have spotted. One AF per turn may attack each task force spotted by the search. It must attack one of the ships represented by the cards that were dealt for its search in the turn that it attacks.

8.5.1. The searching player declares an attack in the Search Segment and reveals the card of the ship type being attacked.

8.5.2. If there is more than one ship of that type in the task force, the other player randomly determines the ship that will be attacked. The other player also determines any other ships in the task force that will support the ship being attacked.

8.5.3. The attack takes place in the Strike Segment of the turn.

8.5.4. The defending player need not use AA or CAP if he feels that this would reveal too much about the composition of the task force being attacked.

8.6. If a search result calls for the searching player to receive more cards than are in the task force's card hand, the task force player declares this fact and shows all of the task force's cards to the searching player. At that point, the only reason to search the task force again would be to conduct an attack by an armed searcher.

9. DUMMY SHIPS AND TASK FORCES.

9.1. Scenario special rules will govern the players' ability to use dummy task forces and dummy ships.

9.2. A dummy task force is simply a task force with no ships. It is placed on a player's map in the same way as a real task force. It is revealed as a dummy and effectively removed from play as soon as the opposing player searches it effectively.

9.3. Dummy ships may be added to real ships in a task force. They may also be used to create a task force comprised entirely of dummy ships.

9.3.1. The card hand of any task force containing dummy ships must also contain a joker.

9.3.2. If the search player is dealt the joker in a search, that player may (but is not required to) have the task force player immediately remove all of the dummy ship cards from the

task force and then re-deal the cards for the search to the searching player.

10. MOVEMENT.

10.1. Task Forces. Task may move across the map in the course of a game. They move from hex to adjacent hex. Players must announce any task force movement as it occurs.

10.2. Movement Plotting. Any task force movement must be plotted in the Initiative Segment of each turn. More than one turn of movement must be plotted before a task force changes hex locations. To change its location, a task force must have the same move plotted for it each turn until it actually moves. Plot task force movement on the turn record, indicating the task force number or letter and the hex to which it will move.

10.3. Movement and Air Missions. Task forces containing ships that have aircraft away on search or strike missions may not move.

10.4. Task Force Speeds. The number of turns that a task force requires to move one hex is based on the speed of the slowest ship in the task force. Consult the game charts for the translation of FOTW speeds into speeds across the map.

10.5. Ships. Individual ships do not move across the map. They do not move across the tactical playing surface unless the FOTW rules are being used. Ships that are engaged in a surface engagement when attacked by aircraft use the FOTW rules for movement. Set them up on a separate playing surface.

10.6. Aircraft. Aircraft do not move across the tactical playing surface when engaged in combat. Aircraft counters are placed near their targets in the ASP in which they will attack. Aircraft do move across the map on which the task force locations are plotted, at the speeds shown for them on the data charts, but they are not represented by counters as they move. Players track these moves on the map in pencil.

10.6.1. In general, aircraft move one hex each turn.

10.6.2. Aircraft rated as "slow" do not move in any turn evenly divisible by 4.

10.6.3. Aircraft rated as "fast" move an extra hex in any turn evenly divisible by 6.

10.6.4. A formation of aircraft moves at the speed of the slowest aircraft in the formation.

11. SHIP FORMATIONS.

11.1. Ships under air attack that are not engaged by surface forces may adopt antiaircraft screening formations.

11.1.1. Force doctrine, as described in scenario information, may prescribe particular formations for a particular force.

11.1.2. Players may use the formation templates provided with this supplement if they wish. These consist of 4 central

positions, 12 inner positions and 12 outer positions. They are not to scale. The ships in the inner positions are considered to be 2 inches from the central positions and from each adjoining inner position. Ships in the outer positions are considered to be 5 inches from the central position and from each adjoining outer position.

11.1.3.No more than 1 ship can be in the central position of any formation that has a ship in any inner position.

11.1.4.Ships on the same formation template must be from the same task force, but different ships in the same task force may be in different formation templates.

11.2.Ships that are engaged in a surface engagement when attacked by aircraft use the "Fire on the Waters" rules for movement. Set them up on a separate playing surface.

12. STRIKE FORMATION AND ARRIVAL

12.1.Strike Groups. At the time strike aircraft are launched, the attacking player divides all attacking strike aircraft into "strike groups." A group can consist of any number of AFs of the same strike aircraft type, plus any AFs of fighters escorting the strike aircraft. "Type" refers to the general model of aircraft. For example, D3As are all the same type of aircraft for this purpose, and D3A1s and D3A2s may be mixed in the same strike group. Bomb-armed aircraft may not be in the same strike group with torpedo-armed aircraft. The attacking player records the composition of each group, its weapons, and its target base or task force. A task force must have been sighted before a strike can list it as a target.

12.2.Strikes. A "strike" can be made up of any number of strike groups (including one).

12.3.Players move formed strikes to the air formation sheet of their carrier or base, penciling in the strike's launch turn, destination and target task force, and the last turn of normal endurance for each AF in the strike.

12.4.Radar. If a scenario special rule provides that a side had radar, then the opposing player must announce whenever a strike moves into a hex adjacent to a task force belonging to that side.

12.5.When strike arrives in its destination hex, the striking player roll on the Strike Sighting Table to determine when the strike attacks.

12.6.Target Movement. Strikes fly to the last hex in which their target was sighted. If the target moves while the strike is flying to it, the strike may move to the target's new location if either (a) the target was being shadowed in the turn that it moved or (b) the target was successfully searched after moving to its new location.

12.7.Attacking strike groups may attack at different points in a single turn.

12.7.1.The strike sequence of a turn is divided into 5 air strike phases ("ASPs"),

each of which corresponds to a 4 minute turn in FOTW.

12.7.2.The attacking player rolls 1D6 for each attacking strike group. The result is a number that indicates the ASP which that strike group will attack. On a 6, the attacking player picks the ASP in which the attacking strike group will arrive, choosing at the time of the roll.

12.8.Each carrier in a defending task force may launch or deready one AOS worth of readied AFs before the strike arrives. Bases may do the same. Count the AFs as being launched or dereadied in the AOS of the previous turn.

13. AIR TO AIR COMBAT

13.1.General. CAP (combat air patrol) fighter flights may engage strike formations as the strikes attack their targets. Because the effectiveness of CAP in intercepting strikes was dependent on equipment, training, and doctrine, CAP combat mechanics vary depending on time, place, and force engaged. The FFTS CAP Attack Tables describe the CAP combat process for each set of FFTS scenarios.

13.2.Unless permitted by scenario special rule, CAP cannot engage at night.

14. ANTI-AIRCRAFT GUNFIRE

14.1.Most ships have anti-aircraft guns that can fire at planes attacking those ships or other ships close by. As with CAP combat, the capabilities and effectiveness of anti-aircraft fire varied considerably by navy and time period. Rules for anti-aircraft combat are given for each set of FFTS scenarios.

14.2.Ships in the center of an AA formation may only fire at aircraft attacking them.

14.3.Ships in the inner ring of an AA formation may fire AA at 1/4 strength at aircraft attacking the ships in the center of the formation. A ship in the AA defense ring of a formation may alternatively fire AA at aircraft attacking it at full strength.

14.4.No AA point may be applied more than once in an ASP.

14.5.All AA rolls are announced to opponents.

14.6.AA Fire and FOTW. The following ranges are used for AA an FOTW tactical engagement.

14.6.1. Heavy anti-aircraft guns can fire at ranges of up to 10 inches. These are guns other than AAMGs with anti-aircraft capabilities.

14.6.2. AAMGs can fire at ranges of up to 3 inches.

15. AIRCRAFT ATTACKING SHIPS

15.1.When aircraft attack ships, aircraft miniatures or counters representing the attacking group are placed by their intended target.

15.2.Level, glide, and dive bombers attack as shown on the hit tables. Note that each AF makes 3 attacks.

15.3.If FOTW rules are in use, torpedo bombers attacking at normal range are considered to have attacked at 2.5 inches. Those attacking at close range attack at 1.5 inches from their targets.

15.4.Attacks are resolved using the values and modifiers as shown in the Air to Surface Attack Values and Modifiers Tables. All rolls are announced to opponents.

15.5.Up to 9 AFs may attack a single ship in 1 ASP – 3 AFs bombing and 6 making torpedo attacks.

16. AIRCRAFT DAMAGE (OPTIONAL)

16.1.*Whenever aircraft engage in combat, the number of aircraft damaged but not shot down will equal the number of aircraft shot down.*

16.2.*Some damaged aircraft will be too damaged to be repaired in the course of a scenario. These aircraft will return to their carrier or base and land, but will not fly again. One-third of all damaged aircraft will be unable to fly again.*

16.3.*Damaged aircraft that can fly again must first be repaired. This requires 12 turns. Treat aircraft being repaired as if they were being refueled and rearmed for purposes of handling points being used.*

17. SHIP DAMAGE

17.1.General. The FOTW rules, as modified by the damage charts for FFTS, are used to determine ship hit locations and damage.

17.2. Effect of Hits on AA. Each hit on an AA mount reduces a ship's AA strength points by 1/4 when half of its AA guns are knocked out and by 1/2 when all of its AA guns are knocked out. Each hit on an AAMG battery reduces a ship's AA strength points by 1. An "AAMG battery" consists of all adjacent hit locations labeled as AAMGs. One hit knocks out the entire battery, subject to the damage control rules.

17.3.Special Damage Rules for Carriers.

17.3.1.Hanger Hits. Each hit on a hanger location decreases the carrier's handling points by 1. Hanger hits may also result in fires.

17.3.2.Flight Deck Hits. Each effective high hit also results in a hit on any flight deck. A flight deck hit makes inoperable 1/6th of the deck around the location of the hit. These sixths are even measured along the length of the deck: 11 to 16, 21 to 26, and so on. Aircraft may not be parked there, nor may they pass that location when taking off or landing.

17.3.3.Elevator Hits. A hit on an elevator takes the elevator out of service and causes a flight deck hit at the elevator's location.

17.3.4.Aircraft. If aircraft are present in a hanger, a hanger hit also destroys 1 AF. If aircraft are present in the sixth of the flight deck hit by a bomb, the hit destroys 1 AF. If any fueled aircraft is destroyed, a fire starts

on a 1D10 roll of 8 or less. For armed strike aircraft starting fires, check also for a ship-destroying explosion. For unfueled AFs, a fire starts on 2 or less. If an AF starts a fire, roll 1D10 for every other AF on the flight deck or in the hanger (depending on the location of the burning AF). On a 1, 2 or 3, that AF is also destroyed. Roll to see if any AFs destroyed in this way also start fires.

17.4.Damage Control Rolls. If ships in a task force are under air attack, they roll for damage control in each ASP. If they were not under attack in the previous turn, they roll twice in the Damage Control Segment of the Turn. See the FFTS Table for the process damage control die rolls.

18. HISTORICAL SCENARIOS.

18.1.General. Historical scenarios portray daylong carrier battles. They are described in more detail in the accompanying materials.

18.2.Special Rules. Some scenarios have special rules. These override any game rules that they contradict.

18.3.Length. Extended scenarios continue until the time indicated for the particular scenario.

19. VICTORY CONDITIONS.

19.1.Most scenarios are won on points, although some may have special victory conditions.

19.2.Score points as shown in the table below for damaged and sunk ships.

19.3.Score 1 point for each AF lost.

19.4.Total the points which each side would receive for sinking all of the other side's ships. Subtract the smaller side's total from the larger, and add the difference to the smaller side's point score.

19.5.For victory point purposes, a ship is "incapable of movement" if any combination of flooded spaces and permanent damage has reduced its speed to 0.

20. INTEGRATING FIRE FROM THE SKIES WITH FIRE ON THE WATERS

20.1. I know of no engagement in World War II featuring a surface battle between ships with both attacking and defending aircraft present. Thus, CAP can be ignored when integrating FFTS with FOTW surface actions.

20.2. Each ASP is also an FOTW turn.

20.3.Strike groups attack after the FOTW movement plot segment and before the movement segment.

20.4. AA weapons that fire at aircraft cannot fire at surface targets in the same turn. They fire at bombers at the start of the movement phase.

20.5. Aircraft can attack any ships on the playing surface regardless of whether they were previously spotted by enemy ships.

20.6.Torpedo bombers are placed at the point where they will drop their torpedoes, and torpedo markers are put in place for those attacks. Each

group launches 1 spread. These torpedo attacks are resolved using the normal FOTW rules, with a +2 range modifier for attacks within 1.5 inches.

VICTORY POINTS TABLE

	Speed < 3.00 inches	Speed < 2.00 inches	Dead in the water	Sunk
DD, DE, TB, A(S)	0	0	1	2
CL, A(M)	0	0	2	4
CA, A(L)	0	0	4	8
BC, BB	0	4	8	16
CVE	0	0	2	4
CVL	1	2	4	8
CV	2	4	8	16