

WING LEADER

VICTORIES 1940 - 1942



Rule Book version 1.2

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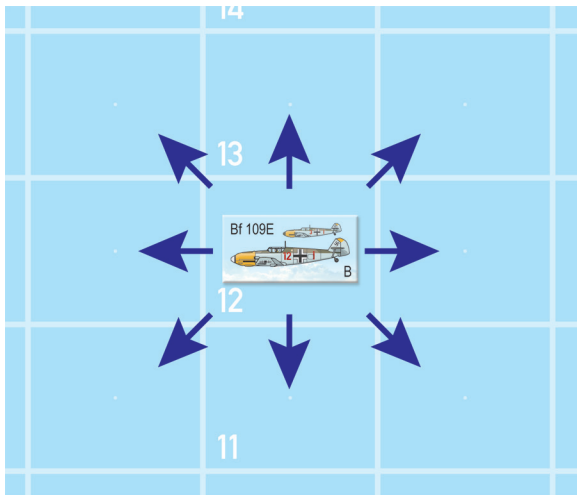
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Sidebar. These sidebars are used for examples and to expand upon the rules. Design notes are presented in boxes and describe the rationale behind the rules.

Wing Leader Series. *Wing Leader* is planned as a series of games. The first volume covers the key aircraft and battles of the years 1940 to 1942 and the second volume the years 1943 to 1945. Further expansions will fill in gaps in the aircraft inventory and add more battles.

Language. The rules use British English in preference to American usage.

Living Rules. ‘Living rules’ with corrections and changes can be found at www.gmtgames.com



Adjacent. The arrows point to the eight squares adjacent to this Bf 109E squadron.

1.0 INTRODUCTION

Wing Leader is a game of World War 2 air combat, in which fighter aircraft try to intercept and break up formations of enemy raiders.

The basic unit in *Wing Leader* is the squadron or flight. Unlike conventional air games, where the world is viewed from above, in *Wing Leader* players view the air battle from the side.

Players win battles either by stopping bomber raids or by fighting their bombers through to the target.

1.0.1 Rulebook

This rulebook describes the rules of the game. Rules are numbered. Cross-references to other rules are listed in [square brackets]. Notes in the sidebars describe the rationale behind the rules, along with examples, illustrations and other useful information.

The advanced rules and rules for surface units and bombing [13.0-15.0] are recommended when players have tried a few of the early scenarios and picked up the basics of play.

1.0.2 Scenario Book

The scenario book lists various historical situations to set-up and play.

1.0.3 Rules Editions

The *Wing Leader* series employs a common set of rules. Future volumes will issue updated rules incorporating changes and corrections. Changes and corrections from version 1.0 are underlined.

1.1 GLOSSARY

The following are important terms used in the game.

Adjacent. An adjacent square on the map is one of the 8 squares next to the square a squadron occupies. Adjacency exists diagonally as well as orthogonally.

Altitude/Height. Altitude is the number of squares a squadron is above the ground. Altitude levels are printed on the map and go from 0 to 19.

The terms altitude and height are used interchangeably in the game. The terms ‘higher’, ‘lower’, ‘above’ and ‘below’ refer to the relationships between heights. A squadron at altitude 7 is higher than one at altitude 6 and below one at altitude 8.

Alert. An alert fighter squadron is aware of the presence of enemies. The opposite of Alert is Unalert.

Available. An Available fighter squadron is one that is unbroken, not in a dogfight, and not occupying the same square as an unbroken enemy squadron. A fighter squadron that is broken, in a dogfight or occupies the same square as an unbroken enemy squadron is Unavailable.

Basic Speed and Turn. A squadron’s speed or turn values, shown on the Aircraft Data Card, modified by weapon loads, climbing and diving. (See also Combat Speed and Turn.)

Bomber. Bombers are squadrons marked with a Bombing mission marker.

Broken. A broken squadron is scattered across the sky, its aircraft fleeing for home. The opposite of Broken is Unbroken.

Climb. A squadron increases altitude.

Combat Speed and Turn. A squadron’s basic speed or turn values modified by factors that only apply to combat. (See also Basic Speed and Turn.)

Disrupted. A disrupted squadron has become less organised and a few aircraft have gone home, making it harder for the remaining aircraft to provide mutual support.

Distance. Distance on the map is measured by counting the number of squares from one square to another, by the shortest path. Squares can be counted diagonally. Count the destination square but not the start square.

Dive. A squadron decreases altitude.

Enemy. All squadron and surface units belonging to the opposing player are termed the enemy. The opponent's map edge will be treated as the enemy map edge. (See also Friend.)

Fighter. Fighters are squadrons marked with Escort, Sweep or Intercept mission markers.

Fighter-Bombers. Fighter classes marked with Bombing mission markers are Fighter-Bombers.

Flight. See Squadron.

Formation. To be in formation, friendly squadrons have to be in the same or adjacent square to another friendly squadron AND facing in the same direction.

Friend. All squadron and surface units belonging to a player are regarded as friendly to that player. The player's map edge will be treated as the friendly map edge.

Initiative Order. Initiative order is the order in which squadrons move on the map.

Line of Sight. An uninterrupted line between two squadrons on the map, or between a squadron and a surface unit, that permits a squadron to tally an enemy or a surface unit to shoot flak at it.

Loss. A loss is a shot-down aircraft. Though units are squadron-sized, the game measures casualties as individual aircraft losses.

Modifier. Die rolls in the game are subject to modifiers. Add (or subtract, if negative) the modifier values from the roll to get the final total. Modifiers are cumulative.

Squadron. A squadron is a unit of aircraft flying together. A flight is a unit roughly half the size of a squadron.

For the sake of brevity these rules use the term 'squadron' to refer to squadrons *and* flights. All rules that apply to squadrons also apply to flights except where specifically indicated.

Straggler. A straggler is an aircraft that has become separated from its squadron, making it vulnerable to attack.

Sun. To be 'in the Sun' the target of a tally is in the Sun arc.

Tally/Tallied. A tally means that a squadron has spotted an enemy and is engaging it. The enemy squadron is referred to as being tallied.

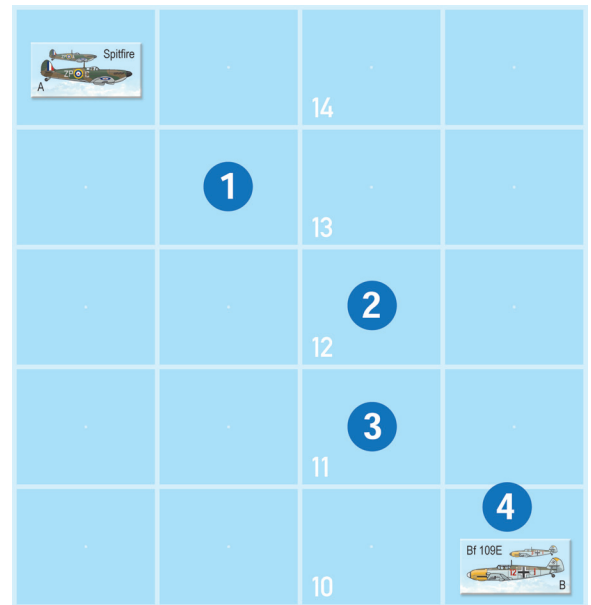
Unavailable. See Available.

Unalert. See Alert.

Unbroken. See Broken.

1.2 FRACTIONS

Some game rules require the players to multiply or divide numbers. After division all fractional values are rounded to the nearest whole number (as zero is also a whole number, round to that if it's closest). Fractions of 0.5 are always rounded up.



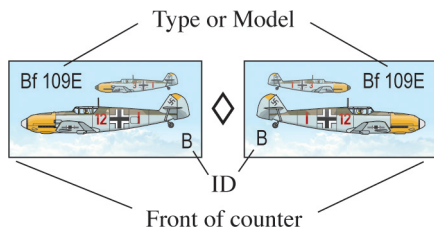
Distance. The Bf 109E squadron is a distance of four squares from the Spitfire squadron.



PHOTO: A squadron of Hawker Hurricane fighters in the kind of tight formation that the game treats as Rigid doctrine.

The box should contain the following game components:

- Rulebook
- Scenario book
- Map board
- 3 sheets of counters and markers
- 40 Aircraft Data Cards (ADCs), printed on 5 sheets
- 3 player aid cards (2 Combat Cards, 1 Bombing Card)
- 2 Wing Displays
- 2 six-sided dice

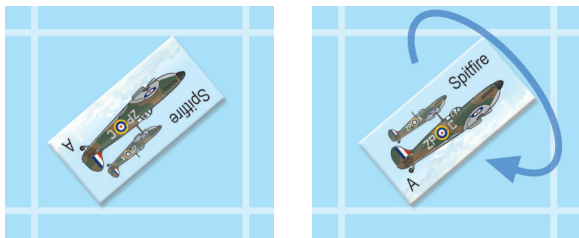


Squadron Counter. This illustration shows both sides of a squadron counter.



Flight Counter. Flight counters show one aircraft, rather than the two shown on squadron counters.

ID Letters. As a rule of thumb, ID letters A to R on the squadron and flight counters are reserved for fighters and S to Z for bombers, though there are exceptions in the counter-mix. If counters of the same type of aircraft have identical ID letters, it's probably because they represent variant colour schemes such as temperate and tropical paint schemes.



Flying Upside-down. Try not to fly squadrons upside-down, because it looks wrong. If a squadron counter goes inverted, simply flip it over to right it.



Surface Unit. Surface unit counters are described in detail in rule section 14.0.

2.0 COMPONENTS

This section describes the components used in the game.

2.1 COMPONENT NOTES

Scenario Book. The scenario book contains a number of scenarios, each describing a different historical situation and information for setting up and playing that scenario [5.1].

Additional scenarios will appear in future game expansions, in magazines, or online.

Map. The map shows a grid of 26 squares in length by 20 squares high. (Okay, the squares are rectangular, but we call them squares.) Each square has a centre dot used to determine lines of sight [4.6.1].

The long, bottom edge of the map is marked with the ground. This is 'down'. The opposite map edge is 'up'. So the map shows movement from side to side and in height above the ground.

The row of squares nearest the ground is marked as altitude 0 (zero). Squadrons cannot fly any lower than this. Each row above this is numbered up to altitude 19, which is the highest any squadron can fly on the map.

Each vertical column on the map is lettered, from A to Z. It is possible to note the position of a squadron on the map grid by writing its column and altitude as follows: B5, G13 and so on.

In some scenarios the map may feature terrain and weather in certain squares [4.0].

Squadron Counters. Counters show silhouettes of aircraft from the side. The counters indicate the unit size. Counters with one aircraft on them represent flights; those with two aircraft printed on them represent squadrons.

Each squadron counter has the name of the aircraft type or model [3.2] and an ID letter to distinguish it from other squadrons.

The edge of the counter nearest the nose of the aircraft is the front and indicates the direction the aircraft is flying. Squadron counters are double-sided. If the aircraft looks as if it is flying upside-down on the map, immediately flip the counter over so that it is right-side up again.

Surface Unit Counters. Some counters represent surface units. These are printed with various values used in flak attacks and bombing [14.0].

Markers and Counters. The game includes markers to note the status of squadrons and the environment.

The following markers are placed on the map:

The **Sun** marker indicates the Sun arc [4.2].

The **Haze** marker indicates the highest altitude that haze extends to [4.3].

The **Contrail** marker indicates the lowest altitude for contrails [4.4].

Slow markers mark squadrons that are taking off [13.7] or are slowed by torpedo attacks [15.3.5.1].

Slow Climb markers mark squadrons that are climbing but have not changed altitude [8.5.1].

Dogfight markers mark squadrons that are engaged in a dogfight [10.8.1].

Lufbery markers mark squadrons in Lufbery circles [13.4.3].

Climb markers mark a squadron when it climbs [8.5]. On the reverse, **Dive** markers mark a squadron when it dives [8.5].

Tally markers mark enemies that have been tallied [7.2.1]. The ID letter of the marker indicates the tallying squadron. On the reverse is the **Vector** marker for the same ID [9.2.4].

Bombing markers mark the effects of flak fire on bombing attacks [14.2.5]. They show -1 on the front and -2 on the reverse.

Barrage markers mark flak zones [14.2.2].

Cloud markers indicate the presence of clouds in a square [4.5]. There are three types of cloud marker: Wispy, Broken and Dense.

The following markers are placed on the Wing Display:

ID markers are placed in the circle of a Wing Display to indicate which squadron the neighbouring track belongs to [2.1]. ID markers A to S indicate whether the squadron is alerted (front side) or unalerted (reverse side) [7.1]. ID markers T to Z simply show the ID letter.

Loss markers mark the number of losses in a squadron [10.6].

Straggler markers on the reverse of loss markers mark the presence of a straggler in a squadron [10.6.1].

Disrupted and **Broken** markers mark the status of squadrons [10.7].

Ammo markers mark those squadrons with low (front side) or depleted (reverse side) ammo [10.7.2].

Rocket markers mark squadrons that have rockets (front side) or are depleted (reverse side) [13.5.2].

Gun Pod and **AT Pod** markers mark squadrons that are carrying gun pods [13.5.6].

Mission markers for **Bombing**, **Escort**, **Sweep** and **Intercept** mark the squadrons' missions [9.2].

Green and **Veteran** markers mark a squadron's quality [5.1, 5.2.1].

Experte markers indicate outstanding individuals in a squadron [5.1].

Wing Leader markers indicate the commanders of multi-squadron formations [9.5.1].

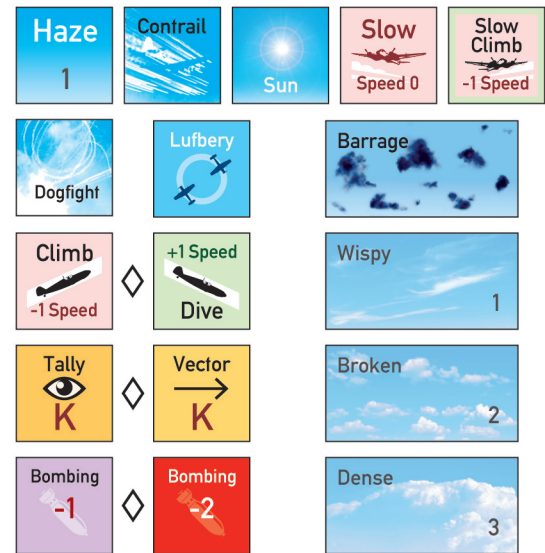
Bomb Load markers mark squadrons that are carrying bombs [9.2.1]. Variants of these are the **Torpedo Load** and **ATGR Load** markers [15.1]

Drop Tank markers mark squadrons that are carrying drop tanks [13.2].

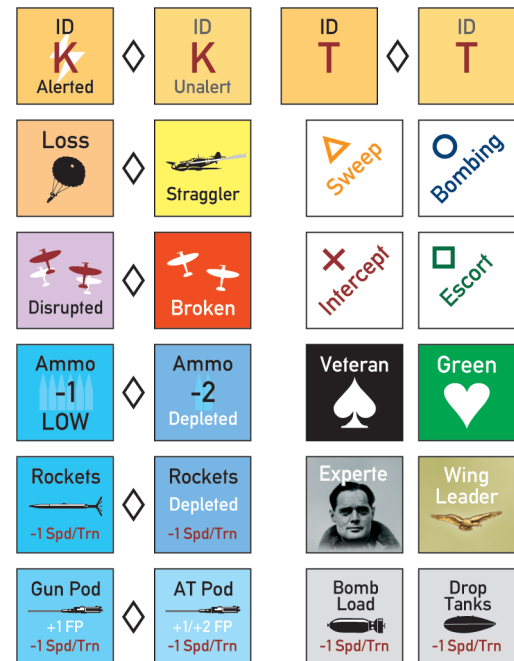
Aircraft Data Cards (ADC). The game comes with a number of aircraft data cards (ADCs). Each card represents one or more models of aircraft and lists their ratings [3.3].

Player Aid Cards. The player aid cards (Combat Card and Bombing Card) contain aids and tables for resolving combat and other game functions.

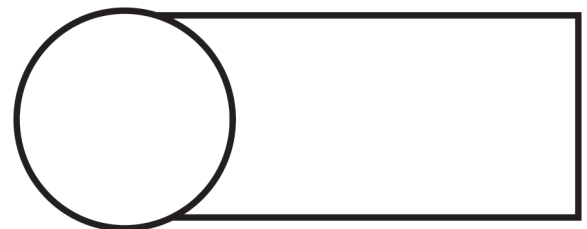
Wing Display. Players each have a Wing Display and use it to keep track of the states of their squadrons. The Wing Displays have a number of tracks. Place a squadron ID marker and the mission marker in the left-most circle. Place markers for losses, ammo, unit quality, stragglers, Experten, weapon loads, etc. on the track next to the ID and mission [5.2].



Map Markers. These are used to mark statuses on the map.



Wing Display Markers. These are used to mark squadron statuses on the Wing Display.



Wing Display Track. Place markers on these to indicate a squadron's status. Note the circular space for the ID marker and mission marker.

Unit Size

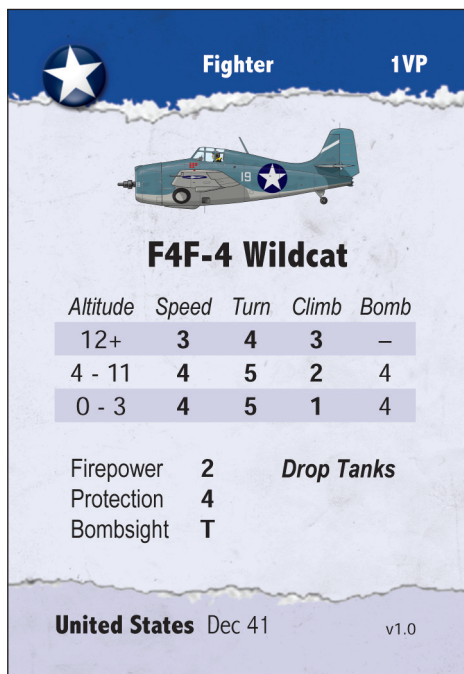
Squadrons and flights vary in terms of composition. British squadrons may be 12 aircraft strong while a German *Staffel* may be 9 aircraft or less. A flight in the game may be a British flight of six aircraft or a section of three, or a German *Schwarm* of four. It can even be as small as a pair of aeroplanes. In this game an American fighter squadron of 16 aircraft would appear as two squadrons of eight or four flights of four.

The seven classes of squadron are:

Fighters
Dive Bombers
Torpedo Bombers
Light Bombers
Medium Bombers
Heavy Bombers
Transports

Models and Types. The Spitfire is a type of aircraft. The Spitfire Mk.IA and Mk.VB are different models of Spitfire. However, the same Spitfire counters are used to represent all models from the Spitfire Mk.IA to the Spitfire Mk.VB.

The Spitfire Mk.IA and Spitfire Mk.VB have separate ADCs. However, the Spitfire Mk.IA ADC has notes on the reverse for other models, such as the cannon-armed Mk.IIB. Similarly, the Mk.VB ADC lists variant models.



Aircraft Data Card. The front of the F4F-4 Wildcat ADC.

Dice. At various points the rules instruct players to roll one or two six-sided dice and check the result. Where the game says to roll two dice, total the numbers to get the result.

3.0 SQUADRONS

The basic player-controlled unit in the game is the squadron. A squadron represents a group of aircraft flying as a team.

3.1 UNIT SIZE

There are two sizes of unit in the game: squadrons and flights. Rules that apply to squadrons also apply to flights except where specified.

Squadrons usually represent 7 to 12 aircraft. Flights represent smaller units of 2 to 6 aircraft. (See also rule 13.6.) Sometimes a squadron may split into two flights [9.3].

3.2 AIRCRAFT CLASSIFICATION

Squadrons are classified by the class, type and model of aircraft that make up that squadron.

Classes are the broad category of aircraft, describing their role. There are seven classes of aircraft in the game (see the list in the sidebar).

Any class with 'Bomber' in its title is a 'bomber class' and there are rules specific to them. Transports are considered 'bomber classes' for the purposes of the game. Fighters are, of course, in the 'fighter class'.

In addition to classes, the game distinguishes between various types and models of aircraft. In general types have no effect on the game other than some squadron counters are marked with the type rather than the model and so may be used to represent different models of a type.

Each aircraft model has its ratings defined on a separate aircraft data card (ADC) [3.3]. Some ADCs may carry information for more than one model. These additional models are listed as variants on the reverse of the card, along with any data differences.

3.2.1 Bombers and Fighters

Different rules apply to bombers and fighters. However it can be confusing when bomber classes are used as fighters and fighters fly bombing raids. So we define bombers and fighters by their mission, as follows:

Bombers. Any squadron tasked with the bombing mission or a variant of bombing mission is a bomber [9.2.1].

Fighter-Bombers. Fighter class units tasked with bombing behave as bombers up until the moment they have released or jettisoned their bombs, at which point they revert to being fighters. Fighters tasked with Recce [15.2.1.2] behave as bombers throughout the scenario. See also 15.2.4.

Fighters. Any squadron that begins the game tasked with an escort, sweep or intercept mission is a fighter [9.2.2, 9.2.3, 9.2.4].

3.3 AIRCRAFT RATINGS

Squadrons have different ratings depending on the model of aircraft. The aircraft data cards list the ratings for each model. Aircraft are rated for the following factors.

Class. The aircraft class [3.2] is listed at the top of the ADC.

VP. The Victory Points (VP) scored for each aircraft loss [12.1].

Nationality and Date. The manufacturing nation and the date it entered service are listed at the foot of the ADC.

Version Number. Each card has a version number in case of updates.

Speed. This value represents the squadron's speed in air combat [10.5].

Turn. This value reflects the squadron's effectiveness in a turning fight [10.5].

Climb. The Movement Point cost for the first altitude level climbed during movement [8.3]. If marked 'S' the squadron must slow climb [8.5.1].

Bombs. This value represents the bomb load of the squadron if it is tasked with a bombing mission [9.2.1]. Flights have a bomb load of half this value. The bomb load varies according to the altitude of the squadron at the start of the game. A dash ('-') means no bombs can be carried.

Firepower. This is a value from 0 to 5, representing the power of the squadron's gun battery.

A value of 'U' means the squadron is unarmed for air combat [10.5.3] and cannot strafe [15.3.7].

If there are two figures listed, separated by a slash, the first is the squadron's firepower when attacking or defending as a fighter or when strafing. The value after the slash is its firepower when defending as a bomber.

Protection. This rating represents the squadron's resistance to critical damage [10.6]. Some aircraft have two numbers listed, representing extra protection.

Some bomber models are vulnerable to head-on attacks, as noted by values with an 'h' after them [10.3].

Bombsight. This letter indicates the type of bombsight used by the aircraft [15.4].

Defence. Some aircraft have a defence rating, expressed as a dice roll modifier from 0 to 3, representing the crew-served guns aboard the aircraft [10.5.2].

Abilities. Some aircraft have abilities listed. Abilities include:

AAR. The squadron can make attacks with air-to-air rockets [13.5.2].

ATGR (value). The squadron can make attacks with air-to-ground rockets [15.3.6]. The value is the bomb strength of the rockets.

AT Pod. The squadron can carry gun pods to enhance the firepower of strafing attacks [13.5.6].

Dive Brakes. The squadron can make dive bombing attacks [15.3.2].

Drop Tanks. The squadron can carry drop tanks [13.2].

50mm. The squadron is equipped with a 50mm Bordkanone [13.5.5].

Gun Pod. The squadron can carry gun pods [13.5.6].

Gyro. The squadron may be equipped with gyro gunsights if the scenario special rules permit it [13.5.3].

Jet. The squadron uses jet movement rates [8.2].

Low Drag. The squadron can maintain high speeds while carrying bombs [3.3.1].

Rear View. The squadron has an improved rear view.

Rocket. The squadron is rocket-powered [8.2, 13.8.2].

Speed Brakes. The squadron can make steep angle bombing attacks [15.3.3].

Torpedo (value). The squadron can launch torpedo attacks [15.3.5]. The value is the attack modifier [15.4]. Some torpedoes are listed as being Slow, which means the attacking squadron is marked as being slow while aiming [15.3.5.1].

Background. The back of the card has some general background on the aircraft and its role in the war.

Altitude Effects on Performance. Speed, Turn and Climb values vary with altitude. The aircraft data card lists values for different altitude bands. Use the values for the band the squadron currently occupies.

There is no maximum altitude for any aircraft in the game. All aircraft can fly up to altitude 19.

Firepower

Firepower is a measure of the weight of fire and destructive capabilities of gun rounds. The game will show how from modest beginnings gun power increased as the war progressed.

Two Protection Values. An aircraft marked as having Protection 4-5 has Protection ratings of 4 and 5.

Protection

The protection rating reflects the employment of pilot armour and self-sealing fuel tanks. Multi-engined aircraft also enjoy the benefit of redundant systems, which is why they are given two values.

Note that unlike firepower, aircraft did not substantially improve their protection after the first year of the war.

Bombsights

The bombsight letters stand for:

- T** Telescopic sight (and fighter gunsights)
- V** Vector sight
- G** Gyrostabilised Tachometric sight

Speed Brakes

Speed brakes are just another term for dive brakes. But we use it here to differentiate between dive brakes on dive bombers and those on larger aircraft.

Warning. Players should be careful not to confuse Speed and Movement Points. See the sidebar to rule 8.2 for a discussion of the difference.

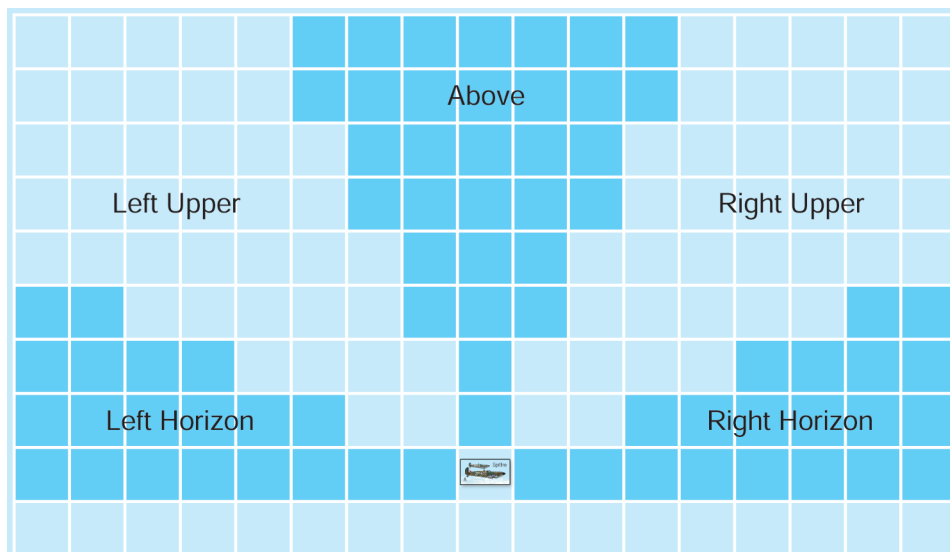
Basic Speed and Turn. The terms ‘basic speed’ and ‘basic turn’ appear a number of times in these rules. This is the speed or turn rating, modified as listed at the right to obtain the basic value. It should not be confused with the ‘combat speed’ or ‘combat turn’ values, which are, as the name suggests, the values used in resolving combat and are the basic speed or turn values with further modifications as listed below.

Combat Speed and Turn. Combat modifiers to the basic speed or turn:

- +1 for each additional fighter squadron or flight counter in the combat (fighter-bombers count as fighters for this purpose, even if carrying a bomb load)
- +1 the squadron is Veteran [5.1]
- 1 the squadron is Green [5.1]
- 1 the unit is a flight, not a squadron
- 1 if disrupted or broken
- 1 if defending using Rigid doctrine [5.1]
- 1 if flight is a single aircraft formation [13.6]

Crashes. No, you are not allowed to fly your squadrons into the ground. However, there *are* rules later in the game for suicide attacks [15.5.3] and Me 163 flights are an exception [13.8.2].

The Sun. The arcs around a squadron indicating Sun directions.



Variants. This lists variant models and any differences between these and the main model represented by the card. If a scenario lists a variant model, use the changes listed for that variant.

3.3.1 Speed and Turn Values

Speed and turn values vary with altitude and also the situation. To calculate the basic speed or turn values, take the printed rating from the ADC and modify as follows:

Speed and turn values decrease by 1 if the squadron is carrying a bomb load [9.2.1] (including ATGR or torpedo load [15.1]), drop tanks [13.2], gun pods [13.5.6] or rockets [13.5.2]. (If it has the Low Drag ability, do not reduce speed for carrying a bomb load.)

The speed and turn values are 0 if the squadron is marked with a slow marker (ignore all other modifications) [13.7, 13.8.1, 15.3.5.1].

Speed increases by 1 if the squadron is marked with a dive marker [8.5].

Speed decreases by 1 if the squadron is marked with a climb or slow climb marker [8.5, 8.5.1].

The basic speed and turn applies to all situations involving speed or turn ratings, such as combat, evasion, initiative, mutual attack and dogfight rolls.

To calculate the combat speed and turn value, take the basic speed or basic turn and modify as listed in the sidebar.

Speed and turn values can never be reduced below 0 by modification.

4.0 ENVIRONMENT

The map is not featureless sky. There is ground, sun and weather to consider.

4.1 THE GROUND

The bottom edge of the map is the ground. Squadrons at altitude 0 may not dive. All surface targets are considered to be on the ground in the square they occupy [14.0].

Scenario special rules can modify the ground:

Sea. By default, the surface is land. However, scenarios can specify that the surface is sea. Ships only set-up on the sea and torpedo attacks are only launched over the sea [15.3.5].

4.2 THE SUN

The direction of the Sun is defined as a number of arcs radiating out from each squadron.

The arcs are named: Left Horizon, Left Upper, Above, Right Upper, Right Horizon. The scenario will specify which arc the Sun is in.

An enemy occupying a square in the Sun's arc relative to a squadron is said to be ‘in the Sun’.

A Sun display is printed in square C17 of the map. To note the Sun arc, place the Sun marker in the square adjacent to the aircraft corresponding to the arc indicated by the scenario.

4.3 HAZE

Haze is a form of weather and is present only when indicated in a scenario. Place the Haze marker at the edge of the map at the upper altitude of the haze for that scenario. All map squares at that altitude level and below it are affected by haze. Any line of sight to or from a squadron in a haze square is affected by haze.

4.4 CONTRAILS

Contrails are present only when indicated in a scenario. Place the Contrail marker at the edge of the map at the lowest altitude for contrails. Squadrons at that altitude or above are affected by contrails.

4.5 CLOUDS

Clouds are a form of weather. There are three types of cloud:

Wispy. A thin layer of cloud.

Broken. A layer of cloud with gaps.

Dense. A uniform layer of cloud.

A scenario will list the squares affected by cloud. Where two squares are listed, separated by a dash, those squares and all squares between them are filled with cloud.

Placing a cloud marker in a square fills that square with cloud. If there are insufficient cloud markers to cover large areas of the map, they can be placed on the borders between two squares, or on the corner of four squares, to note that all those squares are affected by cloud.

4.5.1 Rain

If there is dense cloud in a scenario, that scenario can specify rain. If there is rain, all the squares beneath the bottom-most dense cloud layer down to the ground are affected by rain. Rain functions exactly like broken cloud for all purposes.

4.6 LINES OF SIGHT

The environment can affect tallying, reaction and bombing. If a line of sight (LoS) to a target is blocked then no tallies or bomb aiming may take place. If a line of sight is not blocked but there are weather effects in the intervening squares, weather modifiers might apply. LoS blockers are described in 4.6.1.

4.6.1 Cloud

Draw a straight line from the centre dot of a squadron or surface unit's square to the centre dot of the square occupied by an enemy squadron or surface target. If at any point the line enters or exits a square containing cloud the line of sight is affected by cloud. Lines of sight that touch a corner of a cloud square without entering are not affected by cloud.

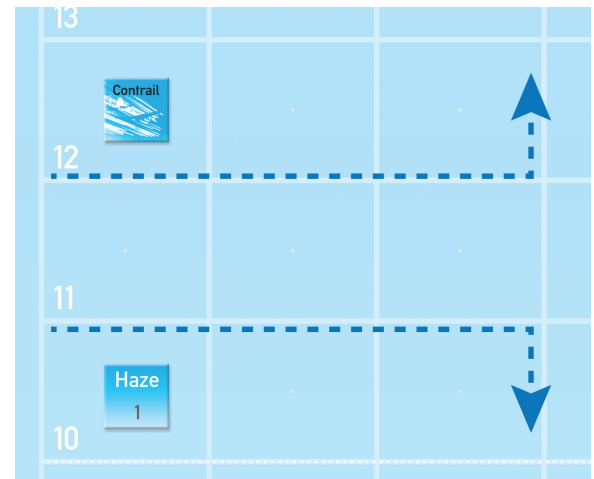
A squadron tracing a line of sight to a target in the same square is affected by the cloud in that square.

If intervening cloud is dense cloud, then the line of sight can enter the cloud square, but blocks all lines of sight to squares beyond it.

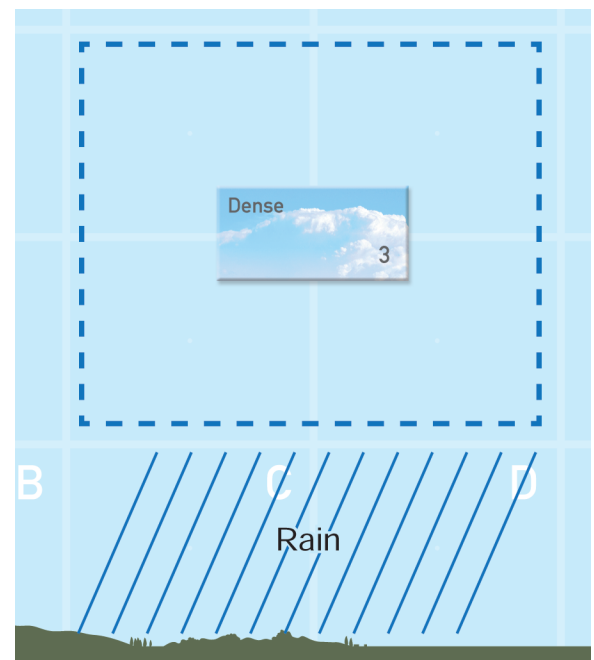
If intervening cloud is broken cloud, then the line of sight can enter two broken cloud squares, but blocks all lines of sight to squares beyond the second broken cloud.



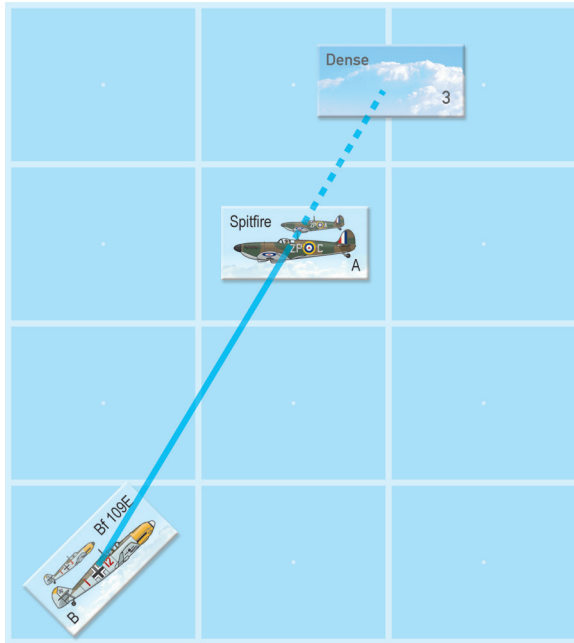
Sun Display. Place the Sun marker to indicate the Sun arc for the scenario.



Haze and Contrails. Place these markers at the edge of the map. Haze affects all squares at the marker's altitude and below. Contrails affect all squares at the marker's altitude and above.



Cloud and Rain. The dense cloud marker sits at the junction of four squares, filling all of them with cloud (dashed line). As rain is in effect, all squares beneath the cloud are filled with rain.



Cloud Blocks the Sun Example. The Sun arc is Right Upper. The Bf 109E squadron attempts to tally the Spitfire squadron. The Spitfires are in the Sun arc, but if the line of sight is extended to the edge of the map, it is blocked by a dense cloud layer, so the Sun modifier does not apply.

4.6.2 In the Sun

When tallying, check whether the target is in the tallying squadron's Sun arc. If the target occupies a square in the Sun arc, it is in the Sun.

If an attacking squadron enters its target's square for air combat (or for ship defence against attacks in the same square [14.1.3]) the squadron qualifies as attacking out of the Sun if both of these conditions apply:

- (1) It entered the target square from a square in the Sun.
- (2) It spent two or more consecutive Movement Points (MP) in squares in the Sun just before entering the target's square. The MP can be spent moving, not moving, or on changing facing, but must be spent in the same Movement Phase.

Attacks from out of the Sun may qualify as a bounce [13.4.1].

If a target is in the Sun, take the line of sight to the enemy and extend it to the edge of the map. If this line of sight is blocked (for example, by higher cloud layers), the target is not in the Sun.

Similarly, if an attacker is attacking out of the Sun, take the line of sight to the square the attacker entered the defender's square from and extend it to the edge of the map. If this line of sight is blocked, the attacker is not attacking out of the Sun.

4.7 WEATHER MODIFIERS

Weather modifiers from weather such as cloud, haze or rain can affect combat, cohesion rolls, bombing, tally, reaction rolls, escape rolls and direct fire flak. Apply these modifiers to the die or dice roll:

- 1 affected by wispy cloud or haze
- 2 affected by broken cloud or rain
- 3 affected by dense cloud

Weather modifiers are not cumulative. If the line of sight is affected by different types of weather, only the worst weather modifier applies.

A modifier of 1 is the best weather, 2 is worse than that and 3 is the worst weather of all.

Combat and Cohesion. Subtract the modifier from combat [10.5.1] and cohesion [10.7] rolls if the combat takes place in a square affected by the weather.

Bombing. Subtract the modifier from bombing rolls [15.4] based on the worst weather flown through while aiming or the worst weather affecting the line of sight to the target at the moment the bombs were dropped.

Tally. Subtract the modifier from tally rolls [7.2.1] if the line of sight to the target squadron is affected by the weather.

Reaction. Subtract the modifier from reaction rolls [10.4] if the line of sight to the bomber being protected is affected by the weather.

Escape. The roll is equal to or less than the smallest weather modifier that applies [11.0].

Direct Fire Flak. Subtract the modifier from the flak attack roll if the line of sight from the flak unit to the target is affected by weather [14.2.4].

5.0 SET-UP

Set the game up as follows.

5.1 SCENARIOS

The scenario book contains a number of different scenarios to set up and play. Pick a scenario and look at the information there.

Scenario Number and Title. The scenario has a number to identify it and a title.

Background. The historical background describes the battle.

Order of Battle. One side consists of raiders and the other of defenders. The scenario lists the nationality of each side, whether they are raiders or defenders, and which side sets up first.

The scenario lists the number of squadrons (and flights) on each side, their model, their mission and where they set up on the map. Some units are not set up at start but enter on later turns as indicated by the instructions.

Max Losses. This is the maximum number of losses a squadron can take. If losses reach this number the squadron is eliminated and removed from play, along with any Wing Leaders or Experten in that squadron. Max losses are listed separately for squadron and flight-sized units.

Alert Status. The scenario describes which squadrons start alerted. All other squadrons begin unalerted [7.1].

Quality. This lists the number of Veteran, Green and Experte markers that should be placed on squadrons or flights on the Wing Display [5.2.1].

Map Edges. One map edge will belong to one side and the other edge to the other side. The scenario assigns the right or left edges of the map to each side.

Doctrine. This applies to fighters only. Doctrine determines how a squadron flies: either Loose or Rigid. If no rating is specified the doctrine defaults to 'Loose'.

GCI Control. The scenario notes whether there is any GCI control and what the GCI rating is [9.2.4].

Radio. By default, all squadrons have radios, unless the scenario specifies they do not.

Radio Nets. The scenario describes the radio nets and which squadrons are on each net. GCI control, if any, will also be assigned to a radio net. All squadrons assigned to the same radio net as GCI control are under GCI control [9.2.4].

Sun Position. The scenario lists the Sun arc. Place the Sun marker accordingly [4.2].

Clouds. The scenario describes the location and type of any cloud, as well as the presence of rain. Place cloud markers accordingly [4.5].

Haze. The scenario lists the uppermost altitude level for haze. Place the Haze marker on a map edge at that height [4.3].

Contrails. The scenario lists the lowest altitude level for contrails. Place the Contrail marker on a map edge at that height [4.4].

Surface Units. The scenario lists which surface units [14.0] are present and in what squares they set-up.

Special Rules. Any special rules unique to the scenario are listed here. Special rules take precedence over rules in this rulebook.

If the scenario features the bombing attack rules this is noted here [15.0].

Scenario Design. Players are encouraged to create their own historical scenarios and publish them online. If we see a great 'home brew' scenario we may contact the author to ask if we can publish it as an 'official' scenario.

Wings. If squadrons are grouped together as a wing in the order of battle, in a coloured box named for the wing, assign a Wing Leader counter to one of the squadrons [5.2.1, 9.5.1].

Facing. Squadrons start facing left or right on the map. A squadron's left or right facing in the order of battle indicates the direction in which it sets up.

Map Edges. Some air combat games feature an 'endless' map, where if aircraft fly off the edges, all aircraft are shifted to accommodate the move. This is NOT true of *Wing Leader*. Squadrons that fly off a left or right map edge are gone from the game.

Doctrine

Rigid doctrine applies to those early war formations such as Vics that are inflexible or require attention to station-keeping. Loose doctrine applies to flexible formations such as the 'finger four'.

GCI Control. A scenario setting of GCI 4 means interceptors have GCI control with a rating of 4.

GCI

GCI stands for Ground Control Intercept. Squadrons under GCI control take orders from fighter direction officers on the ground (or on ships) who pass on the direction and height of enemy raiders from radar plots and ground observers.



Wing Display Set-Up. This Wing Display is set up for play, with the ID and mission markers in place and the other markers on the track.

Quality

Squadron quality levels in the game are:

Green. The squadron is under-trained or is not tactically adept.

Trained. The squadron is trained.

Veteran. The squadron is well-trained or tactically adept.

Wing Leaders and Experten. Unlike Veteran and Green markers, which indicate the training of a group of pilots, Wing Leader and Experte counters represent individual pilots.

Experten

Whether you call them 'Aces' in the Allied nations or 'Eagles' (*arawashi*) in Japan, Experten are the 4% of pilots who contribute 40% of kills in every air war.

Aircrew Quality Levels. Scenario designers will note that we represent a fighter force's overall quality by the proportion of Green, Trained and Veteran squadrons in it. A force at the peak of its powers, such as early war Luftwaffe or Japanese Navy may have 66% to 100% of its force as Veteran. A well-trained force with doctrinal flaws, such as the early war RAF, might only have 33% Veterans, if that. Forces with poor doctrine and inadequate training, such as early war VVS (the Red Air Force), will have no Veterans at all and may comprise between 66% and 100% Green squadrons.

Experten will appear at an approximate rate of 1 for every 25 aircraft in a fighter force. However, you may need to vary this according to the overall quality of the force.

These are rough rules of thumb, of course, and will vary according to the historical situation. Well-trained forces can have bad days while poorly-trained forces exceed expectations. There's a lot of scope to be flexible when designing an order of battle.

Victory Conditions. This section describes how victory is determined after the scenario ends [12.1].

Aftermath. Some scenarios describe the historical aftermath of the battle, to add context.

Gameplay Advice. Some scenarios give advice for players new to the scenario, usually to illuminate a feature of the set-up.

5.2 WING DISPLAY SET-UP

Each player takes a Wing Display, which should be placed somewhere both players can see. Wing Displays are not hidden.

One player takes the blue ID markers and associated tally/vector markers and the other takes the yellow markers.

Place an ID marker in the circle of each track to mark the track as belonging to that squadron. If a squadron is a fighter, find the tally/vector marker that corresponds to its ID and keep it close to hand.

Place the appropriate mission markers in each squadron's circle [9.2].

All other markers are placed on the track. Bombers are marked with a bomb load marker [9.2.1] (or a torpedo or ATGR load marker [15.1]). Squadrons carrying air-to-air rockets are marked with a rocket marker [13.5.2]. Squadrons carrying drop tanks are marked with a drop tanks marker [13.2]. Squadrons carrying gun pods are marked with a gun pod or AT pod marker [13.5.6].

5.2.1 Squadron Quality

The Quality section of the Order of Battle lists the number of Veteran or Green markers the player assigns to his squadrons. Place markers on any squadron track, no more than one per track. Any squadron not so marked defaults to being Trained.

Veteran markers may be assigned to bombers as well as fighters. Green markers are not assigned to bombers unless scenario special rules permit it.

Wing Leader and Experte counters are assigned to fighter squadrons. Wing Leaders should be placed on the track of a squadron in their wing. Experten cannot be placed on squadrons that already have an Experte. An Experte who is also a Wing Leader is placed on its reverse side with the Wing Leader icon [9.5.1].

5.3 MAP SET-UP

Place any markers for cloud, haze, contrails and Sun on the map, as indicated by the scenario [5.1]. Also place surface units at altitude 0 on the map, as indicated.

The Order of Battle states which player sets up first. For each squadron, players pick squadron counters of the appropriate aircraft type or model and set them up on the map in the indicated squares.

All squadrons start oriented level to the ground, pointed left or right as directed by the Order of Battle. Squadrons with Intercept missions place vector markers on the map when they set-up [9.2.4].

Close escorts set-up in the same square as a bomber, with the same facing. Escorts set-up within three squares of bombers, with the same facing. Escorts cannot set-up ahead of the lead bomber, or in the same square as a bomber, nor can they set-up more than one altitude level below [9.2.2].

If squadrons set-up in wings, place them in formation with the Wing Leader's squadron [9.5.1, 9.5.2]. Do not set-up any other squadrons in formation with the wing.

5.3.1 Set-up on Subsequent Turns

Some squadrons enter the map after the game has started. These units set up on the Wing Display during the Set-up Phase of the turn of entry.

Squadrons can be set up in squares on the map or, if the square is on a map edge, they enter by moving into the map-edge square from off-map.

If setting up in a square, place the squadron in the square in the Set-up Phase.

If entering via a map edge, the scenario will indicate the edge and possible altitudes where the squadron will enter. Place the squadron at the edge of the map next to the square it will enter in the Movement Phase. It is considered to occupy the entry square for the purposes of determining initiative. Enter the squadron on the indicated map edge during the Movement Phase. (See also 8.4.1 for details on how to enter.)

For a squadron with an Intercept mission, place its vector marker anywhere on the map in the Set-up Phase.

6.0 SEQUENCE OF PLAY

Once set up the game is played in turns. Each turn is divided into a number of phases. Play these phases in order, and within each phase perform actions in the order listed:

Set-up Phase. Set up squadrons that enter play this turn in their set-up square or on the map-edge next to the square they enter. Place a vector marker for each Intercept squadron entering play [5.3.1].

Tally Phase. Squadrons attempt to tally enemies [7.2]; the raider player rolls first, then the defender player. Unalert squadrons become alerted if warned by radio [7.1]. Wing Leaders issue orders [9.5.4].

Movement Phase. Squadrons move [8.0]. Jettison bomb loads and drop tanks during movement [9.2.1.1, 13.2]. Escorts react to enemies moving into the same squares as bombers [10.4]. Resolve barrage fire attacks [14.2.3].

Combat Phase. Resolve direct fire flak [14.2.4]. Resolve bombing attacks [15.4]. Resolve air combat in an order determined by the raider player. Jettison bomb loads and drop tanks following combat [9.2.1.1, 13.2].

Administration Phase. Squadrons roll to escape [11.0]; the raider player rolls first, then the defender player.

Place Escort markers on eligible squadrons [9.2.2]. Change vectors for squadrons under GCI control [9.2.4].

Roll for a flak surprise check [14.2.9]. Place flak barrage markers [14.2.2].

End Turn. The turn ends. Proceed to the Set-up Phase of a new turn.

Once the game starts the players continue playing turns until the game ends [12.0].

6.1 MOVE ORDER

In the Movement Phase, squadrons move in the following order:

1. Dogfights
2. Escorts
3. Bombers
4. Unalerted fighters move in initiative order
5. Alerted fighters move in initiative order

Set-ups on Subsequent Turns If both sides enter squadrons on the map in the same turn, the side that set up first in the scenario also sets up first in the Set-up Phase.



PHOTO: A mass of B-17 bombers, flying in a 'box' formation that allowed their defensive guns to provide mutual support.

Escorts and Move Order. Escorts (i.e. fighters marked with an Escort mission marker) move before bombers so that they can be in place to react after bomber movement. Escorts that have changed to Sweep missions no longer move before bombers, but later in the move order.

Initiative Rule Example. German squadron D and two British squadrons, A and B, are at the same height and speed. The players roll for each squadron. Squadron D rolls 2 and the squadrons A and B roll 4 and 2, respectively. So A will go last, and B and D will have to roll again for initiative. They both roll a 6, which doesn't resolve the initiative. So they roll again, with D rolling a 5 and B a 2. B will move first, then D then A. (Note that although D eventually rolled a value higher than A, it came after the initial roll. The second and third roll were intended to determine the order for B and D only, not with A.)

The Tally Rule and Bombers. A fighter with a tally on a bomber moves immediately after the bomber moves, but before any other bomber can move.

Chain of Tallies Example. Squadron C tallies squadron B which has tallied squadron A. Squadron A has no tally, so moves first; squadron B moves immediately after its tallied target; then C moves in response to B.

Circle of Tallies Example. Squadron C tallies squadron B which tallies squadron A, which in turn has tallied C to create a circle. Checking the initiative order, squadron B moves first, so the order of movement is B, C then A.

Bomber ID Markers. ID markers T to Z are reserved for bombers and so don't have an alerted or unalerted side. Should a bomber unit need to use an ID marker between A and S, ignore the alert/unlert status.

Two rules modify the movement order: the initiative rule [6.1.1] and the tally rule [6.1.2].

6.1.1 The Initiative Rule

Where asked to move in initiative order, move in the following order:

- (1) Lowest altitude squadrons move.
- (2) If at the same height the squadron with the lowest basic speed value [3.3.1] moves first.

When fighter squadrons have the same height and speed, roll a die for each squadron to determine initiative. The lowest roll moves before the next higher roll.

If any squadron rolls are tied, the tied squadrons (only) roll the dice again to determine the order between them. If the dice are still tied, keep rolling until there is a result.

6.1.2 The Tally Rule

When a squadron moves, all fighters with a tally on that squadron move immediately afterwards, before any other squadron moves [7.2.2]. If two squadrons have a tally on the same target, the moving player decides their order of movement. If a tallying squadron is in turn tallied this could create a chain of movement.

If a squadron has tallied another squadron it does not move until its target has moved, even if the initiative rule would mean it normally moves first. If there is a chain of tallies, the squadron without a tally moves first, then each member of the chain follows in order of its target's movement.

If two squadrons have a tally on each other, they determine initiative order [6.1.1] and then move in that order.

In the rare event that a chain of tallying is arranged in a circle of tallies, determine initiative order to find the squadron that moves first and then the rest of the chain follows.

6.1.3 Dogfights

Units caught in a dogfight are all considered to move at the same time and so there is no move order to distinguish between them. If there are multiple dogfights, the raider player decides the order in which each dogfight moves.

6.1.4 Escorts and Bombers

When escorts and bombers move, move them in any order the raider player desires. However, if both sides have escorts and/or bombers on the map at the same time, the raider player moves before the defender moves.

7.0 SITUATIONAL AWARENESS

Players only track the situational awareness of fighters, not bombers. Situational awareness is expressed in two ways: by alert state and tallies.

7.1 ALERT

Fighter squadrons are unalerted or alerted. (Bombers do not have an alert state.)

Squadrons immediately become alerted in three ways:

- (1) They tally an enemy squadron in the Tally Phase [7.2.1].
- (2) They are alerted by radio in the Tally Phase [9.4].
- (3) After resolving an attack by enemy fighters.

When a squadron is alerted, flip its ID marker on the Wing Display to the alert side. Once alerted the squadron never reverts to unalerted.

Alerted squadrons can jettison drop tanks [13.2], declare Evasion [13.4.2] and enter a Lufbery circle [13.4.3].

Alerted Sweep squadrons change their behaviour [9.2.3].

Unalerted escorts cannot enter a Lufbery [9.2.2]. Unalerted squadrons are vulnerable to being bounced [13.4.1].

7.2 TALLIES

To engage in air combat a fighter squadron requires a tally on an enemy squadron. Bombers do not tally.

Each fighter squadron that does not have a tally and is not in a dogfight may roll one tally attempt each Tally Phase against an enemy squadron that is on the map. Specify a target squadron on the map that it has a line of sight to and which is less than ten squares away, and roll.

If the squadron occupies the same square as an unbroken enemy squadron, it can only make tally attempts against squadrons in its own square. It cannot roll tallies against more distant targets.

The raider player rolls all his tallies before the defender player rolls his.

7.2.1 Tally Roll

To make a tally attempt roll one die. Modify it as indicated on the player aid card.

Calculate the distance to the target in squares by the shortest route. The target is tallied if the modified die roll total is equal to or greater than the distance.

If the tally roll is successful, place a tally marker with an ID matching the tallying squadron's ID on the target squadron. (The tally marker is on the reverse of the vector marker, so it replaces any vector the squadron had [9.2.4].) Also alert the successful squadron if it was not previously alerted.

A squadron can never have more than one tally and cannot make more than one tally roll in a Tally Phase.

Squadrons with tactical flexibility may split when they tally a target [9.3.2].

Tallies are retained until:

- (1) The target squadron is removed from the map.
- (2) There is no line of sight to the target squadron in the Tally Phase.
- (3) The target squadron is ten or more squares distant.
- (4) The tallying squadron is broken.
- (5) The tallying squadron drops the tally voluntarily during a Tally Phase. A squadron that drops a tally can attempt a new one in the same Tally Phase.
- (6) The tallying squadron is attacked in air combat. If the tallying squadron is already in a dogfight, it keeps the tally on its current squadron, otherwise it now switches its tally to its attacker. Move the tally marker accordingly. If the squadron did not have a tally at all, it automatically places a tally marker on its attacker.

If a tally is lost or dropped, remove the tally marker from the map.

7.2.2 Tallies and Movement

Squadrons with tallies move immediately after their target moves [6.1.2].

If a squadron moves into the same square as a target it has tallied it must stop movement. It must attack that target in the Combat Phase [10.0].

If a squadron starts its move in the same square as its tallied target, it must stay in that square and attack that target in the Combat Phase.

Tallies

In the game tallies represent whether a squadron can see an enemy. A tally also indicates where the squadron's attention is focussed, and whether it is committed to the attack. So tallies are a combination of awareness and aggression. A squadron that fails to tally might not have seen the enemy, or can see them but is showing insufficient *élan*.

Tallies in the Same Square. The distance is 0 if the tallying squadron is in the same square as the target.



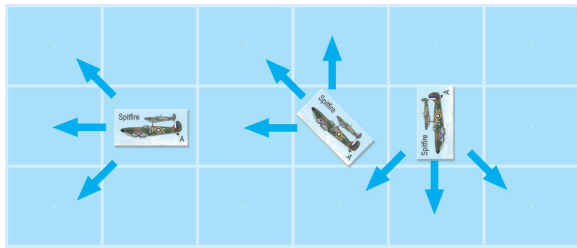
Tally Example. The Wildcat flight attempts to tally the Zeroes. The distance is two squares, meaning a die roll of 2 or more is needed.

However, the Zeroes are behind the Wildcats (-2 die modifier) and the line of sight is affected by a layer of Wispy cloud (-1 die modifier). With modifiers totalling -3 the Wildcat will need a roll of 5 or more to successfully tally.

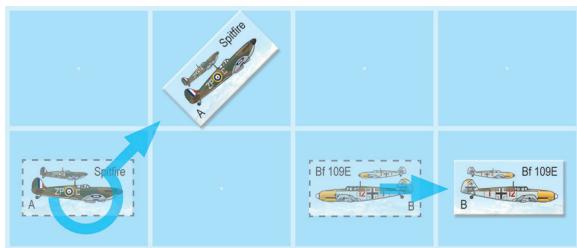
If the Sun arc is Right Upper, the Zeroes would be in the Sun (a further -1 modifier) meaning the Wildcats would need to score a 6 on the die to tally the enemy.



Facing. Squadrons can face up to eight directions.



Moving. Squadrons move into the square they face or the squares either side of that. Regardless of the square moved into, the squadron retains its facing.



Turning Example. The Spitfire squadron turns 45 degrees before climbing into the adjacent square. There's no MP cost for this turn.

The Bf 109E squadron turns 180 degrees before moving into a square. This costs it 1 MP. Because a 180 degree rotation would cause the squadron to fly upside down, the counter is flipped upright.

Movement Points and Speed. A squadron's Speed rating and its Movement Points are unrelated. It is important not to confuse the two. A squadron's Speed value has no effect on the number of MP it has. MP regulate movement on the map, while Speed determines the squadron's effectiveness in combat.

Movement

Allowances of 2 MP assume that squadrons mostly fly at economical cruise speed. 3 MP allowances are for squadrons trying to dash while maintaining formation. These speeds are less than the aircraft's rated maximum, since full throttle would be reserved for combat only.

However, if a squadron moves into the same square as the target it has tallied from one of the three squares ahead of it (i.e. it meets the criteria for a head-on combat [10.3]) it does not have to stop moving, provided its next MP is used to leave the square.

Similarly, if a squadron starts its move in the same square as its target because that target entered the square from ahead earlier that Movement Phase, it can move, provided its next MP is used to leave the square.

7.2.3 Automatic Tallies

It is possible to obtain a tally without making a tally roll. This happens if the tally is awarded as the result of a Wing Leader's order [9.5.4] or if the squadron rolls a successful or late reaction [10.4.2, 10.4.3] or if the squadron is attacked [7.2.1].

8.0 MOVEMENT

Squadron counters are placed in squares. Any number of squadrons on either side can occupy or move through the same square.

8.1 FACING

Squadrons move in the direction they are facing. There are 8 directions a squadron can face. The direction its nose is pointed is its facing.

When it moves, a squadron moves into the adjacent square it faces, or the squares on either side of that without changing facing. Diagonal moves are permitted.

8.1.1 Turning

During movement, squadrons can change their facing immediately before entering a square. Any change of facing in a square of greater than 90 degrees costs a Movement Point [8.3]. Turns of 90 degrees or less cost nothing.

8.1.2 Aspect

Some rules define target squadrons as being ahead of or behind a squadron. The illustrations on the page opposite depict those squares that are ahead or behind.

Squadrons in a Lufbery do not have an ahead or behind aspect [13.4.3].

8.2 MOVEMENT POINTS

The number of squares a squadron can move is determined by its Movement Point (MP) allowance. For each square moved expend a number of MP [8.3]. A squadron cannot move into a square if it would cost more MP than it has remaining.

Movement Point allowances are as follows:

- 2 MP Bomber squadrons, escorts and unalerted fighter squadrons.
- 3 MP Fighters with Intercept missions and alerted fighter squadrons. (Alerted escorts continue to move 2 MP [9.2.2].)
- 4 MP Jet squadrons, regardless of alert state. (For rocket-powered Me 163 flights, see 13.8.2.)
- +1 MP If a squadron declares it is diving when it begins moving add 1 MP to its allowance (it then **MUST** dive at least 1 altitude level during movement).

8.3 MOVEMENT COSTS

It costs 1 MP to move to an adjacent square.

It costs 2 MP to enter or exit a Lufbery [13.4.3].

Before moving into a square a squadron may change its facing [8.1.1]. Changing facing by more than 90 degrees costs 1 MP.

A squadron can spend 1 MP not to move and stay in its current square. Such a squadron can change its facing in the square by any amount.

If the squadron moves to an adjacent square at a higher altitude it costs a number of MP equal to the aircraft's Climb value. Use the Climb value for the altitude it starts from. This cost applies to the first square the squadron climbs into in a Movement Phase. If, in the same phase, the squadron tries to climb into a second square, it costs 2 MP, regardless of the Climb value. The climb cost is instead of, not in addition to, the normal 1 MP to move to an adjacent square.

If a squadron moves to the square directly below (not diagonally), it spends 0.5 MP (half a Movement Point), not 1 MP.

8.3.1 Circling

A squadron does not have to expend any or all of its MP unless required to by its mission [9.2]. A squadron that spends no MP is still considered to be moving. Such a squadron is said to be circling.

Some mission behaviours instruct squadrons to circle [15.2.1, 15.2.2, 15.2.3]. This means that they don't expend MP except to change facing. (In other words, they stay in their square.)

8.4 MOVE RESTRICTIONS

Squadrons can move into, out of and through the squares of other squadrons, even enemy ones. However, see 7.2.2 for the exception to this.

Squadrons cannot move lower than altitude 0 or higher than altitude 19.

Some mission behaviours mandate that squadrons must move a set number of MP without changing altitude or facing [9.2.1, 9.2.2, 9.2.3]. Squadrons whose movement is not mandated by their mission do not have to move their full MP allowance or even move at all.

8.4.1 Entering and Exiting the Map

Squadrons entering the map from a map edge square should be set-up in imaginary squares beyond the map edge. The entry square is the first square they move into and costs 1 MP. If the scenario states that multiple squadrons enter a square 'in trail', the following procedure is followed: the first squadron enters in the square and moves its full MP allowance. The second squadron enters in the same square and moves its MP allowance less one. The third squadron enters in the same square and moves its MP allowance less two. If this leaves it with no MP remaining, then it remains off-map and enters the map on the following turn.

Squadrons may not exit the map except by the right or left edges. A squadron that exits the map does so by flying into an imaginary square beyond the map edge. It is then removed from play.

8.5 CLIMBING AND DIVING

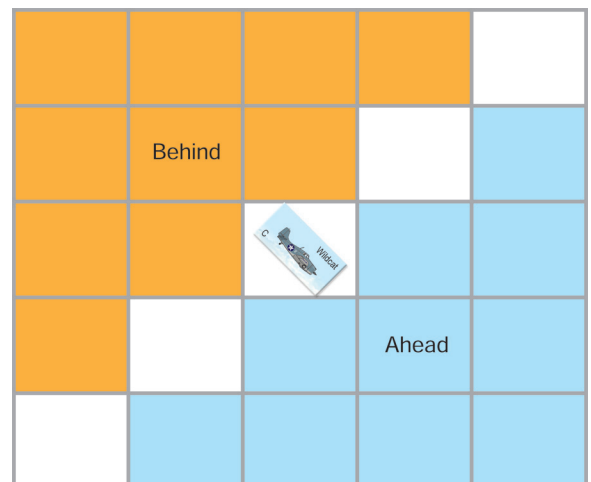
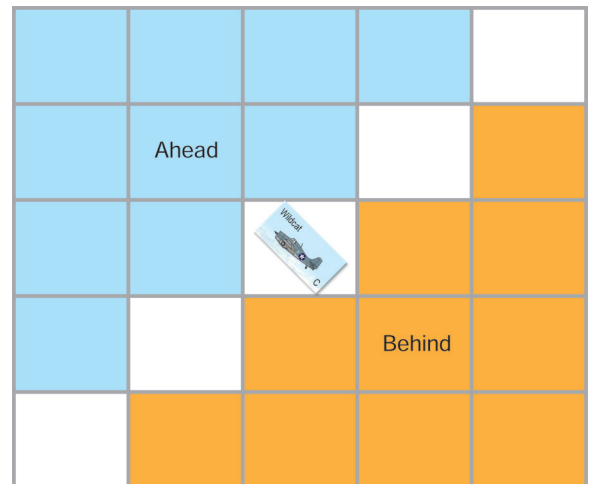
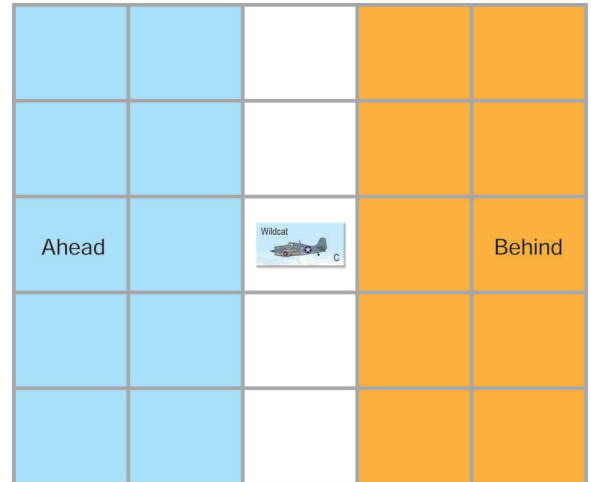
When moving a squadron may increase altitude level (climb) or decrease altitude (dive). A squadron cannot climb and dive in the same Movement Phase.

If a squadron moves to a lower altitude mark it with a dive marker.

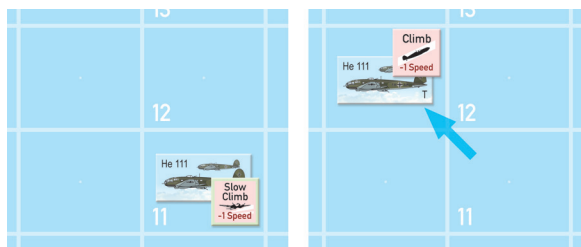
If a squadron moves to a higher altitude, mark it with a climb marker.

A squadron that climbs but does not move due to having an 'S' climb value has a slow climb marker placed on it [8.5.1].

If a squadron moves or circles without climbing or diving, remove any climb, slow climb or dive marker it has.



Aspect. These illustrations show the squares ahead and behind a squadron. Note that the areas ahead and behind extend indefinitely in each direction. The white spaces are neither ahead nor behind.



Slow Climb Example. The He 111 squadron begins a slow climb to altitude 12. On the first turn it expends all its MP climbing, but because it is a slow climb it does not move. The squadron is marked with a slow climb marker.

On the second turn, the squadron expends all its MP and can complete the climb into an adjacent square at higher altitude. The slow climb marker is removed and replaced with a regular climb marker.

Variant Missions. Some missions have variations which alter the rules for the mission slightly. Variants of missions are as follows:

Bombing Mission Variants. Transport [9.2.1.2], Strafing [15.2.1.1], Recce [15.2.1.2].

Escort Mission Variant. Close Escort [9.2.2.1].

Intercept Mission Variant. Combat Air Patrol [9.2.4.1].

Mission Behaviours. The behaviour rules do not cover all situations and there's considerable wiggle room to get around them. Please abide by the spirit of the behaviour, as found in each mission's summary listed in the sidebar.

Bombing Summary. Bombing squadrons are loaded with bombs. They fly directly to the far edge of the map at a steady 2 squares each turn and exit. They maintain their course regardless of enemy fighter attacks and only turn back if broken.

Apply climb and dive markers to squadrons that change altitude during reaction [10.4].

A squadron can only have one climb or dive marker at a time on it, so climb markers replace any dive markers and vice versa.

While marked with a dive marker, a squadron is considered to have its speed value increased and while marked with a climb or slow climb marker, the squadron is considered to have its speed decreased [3.3.1].

8.5.1 Slow Climb

A squadron with an 'S' for its Climb value climbs very slowly. The first turn it tries to climb it does not move but expends all its MP towards climbing. Place the slow climb marker to note that the squadron has been climbing but hasn't changed altitude that turn. On the second consecutive turn of climbing it expends all its MP again but only then does it change altitude; the slow climb marker is removed and replaced with a regular climb marker. To climb again, repeat the cycle of a turn of slow climbing then a turn of climbing.

If a squadron starts a slow climb but on the subsequent turn it does not expend its MP to climb, remove the slow climb marker.

9.0 COMMAND & CONTROL

The command and control rules describe the behaviour of squadrons and how to manage a group of squadrons organised into a wing.

9.1 FORMATIONS

A formation is a group of squadrons flying together. To be in a formation, a friendly squadron has to be in the same or an adjacent square to another friendly squadron AND facing in the same direction. A formation can occupy many squares.

A squadron is automatically in formation the instant it meets these criteria. It is possible for a squadron to enter and exit a formation multiple times during play.

Wing formations are a special kind of formation that have additional rules to regulate their behaviour [9.5].

9.2 MISSIONS

Squadrons are assigned missions at the start of the scenario. These determine the squadron's behaviour. Missions are:

Bombing. Assigned to bombers [9.2.1]. If assigned to fighter classes they become fighter-bombers [3.2.1].

Escort. Assigned to fighters [9.2.2].

Sweep. Assigned to fighters [9.2.3].

Intercept. Assigned to fighters [9.2.4].

Some scenarios may assign bomber classes to escort, sweep or intercept missions, in which case they operate as fighters.

During set-up, mark each squadron's Wing Display track by placing a mission marker in the circle to indicate its mission.

The following sections describe the behaviour expected of squadrons depending on their mission. The summary sidebar outlines the spirit of the rule while the rule section describes the rule in detail.

9.2.1 Bombing

Use these rules in scenarios where bombers do NOT conduct bombing of surface units. The bombing rules [15.0] expand upon these behaviours for those scenarios in which bombers DO bomb surface units.

Squadrons tasked with Bombing start the game carrying bombs. Place a bomb load marker on the squadron Wing Display.

Bombers fly to the far edge of the map and then exit off the enemy map edge. They move exactly 2 MP each turn without climbing, diving or changing facing.

9.2.1.1 Jettisoning Bombs

Bombs may be jettisoned by removing the squadron's bomb load marker from the Wing Display. Removing the bomb load marker means it no longer modifies speed or turn ratings.

Bombs can be jettisoned either during movement or after an air combat is resolved. If a bomber squadron is broken, bombs are jettisoned immediately and the squadron returns to base [9.2.6].

9.2.1.2 Transport

Transport is a variant of bombing, except that the bombs represent a cargo. The cargo can never be jettisoned, even if the squadron is broken.

9.2.2 Escort

Fighters marked as Escorts begin play unalerted [7.1].

Escorts set-up within 3 squares of a bomber squadron, with the same facing. They cannot set-up ahead of the bomber (or if the bombers are in formation they cannot set-up ahead of the leading bomber squadron). They cannot set-up more than one altitude level below the bombers, nor can they set-up in the same square as a bomber (only Close Escorts can do that [9.2.2.1]).

Escorts fly to the far edge of the map and then exit the enemy map edge, just like bombers. They move exactly 2 squares each turn without climbing, diving or changing facing. (EXCEPTION: If using the bombing rules, escorts conform to any height change on the part of the bombers [15.2.2].)

Escorts may tally enemies in the Tally Phase [7.2].

If an enemy attempts to move into a nearby bomber's square, an Available escort may react [10.4].

Escorts change their mission to Sweep in certain circumstances. Replace the Escort marker with a Sweep marker; thereafter the squadron behaves as a sweep squadron [9.2.3]. Circumstances are as follows:

- As soon as an escort places a tally marker OR finishes resolving an air combat, change its mission to sweep.
- An alerted escort may enter a Lufbery [13.4.3]. In which case change its mission to sweep

In the Administration Phase players can swap Sweep markers for Escort markers on unbroken fighter squadrons that qualify for escort (i.e. are in three squares of a friendly bomber with the same facing, etc.). Escort markers cannot be placed on squadrons that are Unavailable [1.1].

A former escort that has changed to a sweep mission can choose to form back up with a bomber as an escort, in which case it flies the shortest route to a square that meets the criteria for escorting a bomber [9.2.5], then in the Administration Phase swaps its Sweep marker for an Escort marker when in position, provided it does not have a tally.

Should a bomber successfully escape [11.0], and there are no other bombers to escort in the same formation, any escort for that bomber must return to base [9.2.6].

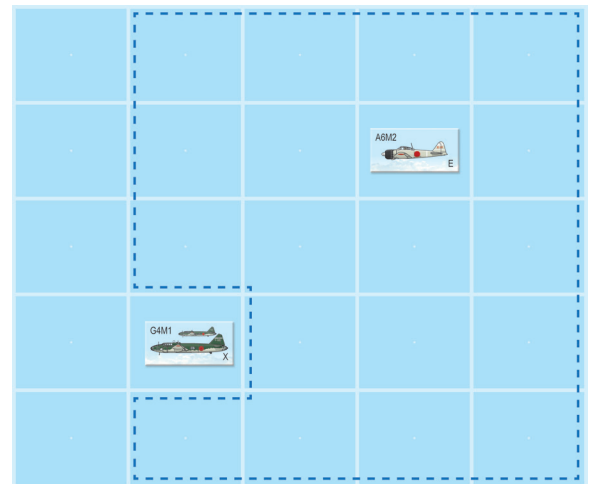
9.2.2.1 Close Escort

Close Escort is a variant of escort. Close escorts function the same as Escorts, but must set-up in the same square as a bomber squadron.



PHOTO: B-24s bomb the oil refineries at Ploesti in Romania.

Escort Summary. Escorts fly with or near the bombers, moving at the same rate. Escorts can react to approaching interceptors or tally and go hunting them, at which point they are no longer escorts. If it survives combat a squadron can re-join the bombers and resume escorting. Otherwise it behaves like a sweep squadron.



Escort Set-up. The dashed line shows the area within which an escort can set-up relative to a bomber squadron. Note that only close escorts set-up in the bomber's square.

Sweep Summary. Sweep squadrons fly above or ahead of the main body of a raiding force, such as the bombers. Their job is to clear a path for the bombers or provide high cover against attack. Sweep squadrons that are alerted to enemies can continue their sweep, engage any enemies they tally, fly to aid friendly squadrons, or return home.

Sweep MP. In this rule section 'all its MP' means 3 MP for an alerted squadron, as per 8.2, plus any dive bonus it might accrue.

Intercept Summary. Intercept squadrons are directed towards a spot in the sky where they try to tally enemies and attack them. If under ground control (GCI) their direction may be updated each turn.

Shortest Route Summary. The shortest route is a roughly direct line towards a destination square that the squadron must move closer to.

9.2.3 Sweep

Fighters marked with a sweep marker begin play unalerted [7.1].

Sweep squadrons fly to the far edge of the map and then exit the enemy map edge. They move exactly 2 MP each turn without changing altitude or facing. As soon as the sweep squadron becomes alerted, it may move as follows:

- (a) Move 2 MP per turn in the direction it is facing without changing altitude.
- (b) Move up to all its MP per turn via the shortest route towards any friendly fighter squadron on the same radio net that has a tally [9.2.5].
- (c) If it has tallied an enemy, move up to all its MP.
- (d) Declare it is returning to base [9.2.6]. It now moves all its MP towards a friendly map edge and exits.

Former escorts now flying sweep missions can move all its MP via the shortest route to form back up with the bombers [9.2.2].

9.2.4 Intercept

Fighters marked for intercept begin play alerted [7.1].

During set-up each squadron must have a destination map square specified by placing a vector marker anywhere on the map. The squadron must move to the vector square via the shortest route [9.2.5] then wait at that location, circling if necessary.

If part of a wing, only the Wing Leader places a vector marker [9.5.3]. The other squadrons in a wing maintain formation on the Wing Leader, trying to keep the same relative position.

As soon as an intercept squadron tallies an enemy, flip the vector marker over to its tally side and place it on the enemy squadron [7.2.1]. The squadron may now move freely.

A squadron cannot change its vector unless it is under GCI control. A squadron is under GCI control if the scenario specifies a GCI rating and the squadron is on the same radio net as the GCI. A squadron under GCI control may place a vector marker or change its vector in the Administration Phase. Roll one die. On a roll equal to or greater than the GCI rating, the owning player can change the plotted square of the vector; otherwise the vector does not change. To change the vector move the marker to any square on the map.

An intercept squadron without a vector or a tally cannot move independently. It must either circle [8.3.1] or return to base [9.2.6].

9.2.4.1 Combat Air Patrol

Combat Air Patrol (CAP) is a variant of intercept. A squadron on CAP starts in a square but does not have a vector specified. It circles in that square [8.3.1] until either it tallies or, if under GCI control, a vector marker is placed in an Administration Phase.

9.2.5 Shortest Route

Where a squadron is instructed to move by the shortest route it must attempt to reduce the distance to its destination by at least one square. It cannot fly in a manner that increases the number of squares to the destination.

If its altitude is below the destination square it must climb at least one altitude level during movement. (Or expend MP to climb if it must slow climb [8.5.1].) If above the destination it must dive at least one altitude level and if at the same height it cannot climb or dive.

9.2.6 Return to Base

Where squadrons are instructed to return to base they must, at the earliest opportunity, fly toward the friendly map edge [5.1], using all their MP to move. On reaching the map edge they must exit the map [8.4.1].

If the bombing attack rules [15.0] are in effect, squadrons can fly off either map edge, declaring which they are headed for when they commence their return to base.

Within these restrictions the squadron freely move, climb and dive, regardless of whether they are fighters or bombers. Bombers and their escort may benefit from the +1 MP bonus to diving while returning to base.

Unbroken fighter squadrons can tally and attack enemies they encounter en route. If they lose their tally, they resume returning to base.

9.3 SPLITTING SQUADRONS

A player may split a squadron into two flights. Replace the squadron counter with two flights of the same type or model and set up markers for the flights on the Wing Display. Only squadrons that are not disrupted or broken can split. Flights cannot split.

Splits are allowed only in the following circumstances:

- (a) In the Tally Phase a Wing Leader may split a squadron to which he issues an order [9.5.4].
- (b) If a side has Tactical Flexibility [9.3.2], a fighter squadron may split in any Tally Phase in which it successfully rolls a tally [7.2.1].
- (c) If a side has Tactical Flexibility [9.3.2], squadrons that successfully react may split and send one flight to attack [10.4.2].
- (d) In the Tally Phase a bomber squadron carrying a torpedo load [15.1] may split.

Once split, flights may not be reformed into a squadron.

9.3.1 Flights after Splitting

Both flights have the same aircrew quality as the squadron, though if the squadron has an Experte or a Wing Leader they must be allocated to a flight. The owning player divides any losses or stragglers between the flights. However, no flight may have losses and stragglers whose total exceeds the flight's Max Losses limit [5.1].

Both flights share the same radio net [9.4] and any ammo status such as low or depleted ammo [10.7.2]. If the squadron carried bombs, ATGR, torpedoes, rockets, gun pods, AT pods or drop tanks, so do the flights.

If the original squadron had a tally, choose which flight retains a tally on the target; the other flight has no tally and cannot roll for a tally this phase. If an escort squadron splits due to tallying the flight with the tally changes its mission to Sweep [9.2.2] while the other flight remains an Escort.

If an enemy squadron has tallied the splitting squadron, the enemy player chooses which flight he retains the tally on. He does this after the splitting squadron has selected which flight retains any tally it might have.

The countermix forms a hard limit on the number of splits that are permitted. A player cannot split a squadron if there are insufficient unused flight counters remaining.

9.3.2 Tactical Flexibility

If a scenario specifies that a side has Tactical Flexibility, fighter squadrons of that side can split in any Tally Phase where they successfully roll a tally [7.2.1], or in any Movement Phase in which they react [10.4.2].

Return to Base Summary. The squadron should head towards home as fast as possible.

Torpedo Squadron Splits. Torpedo squadrons may split so as to conduct anvil attacks [15.5.1].



PHOTO: Tactical flexibility was based on the versatile 'Schwarm' formation developed by the Luftwaffe, and copied by the Allies, who renamed it the 'finger-four'. These USAAF P-51s fly a finger-four for the camera.

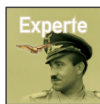
Tactical Flexibility

Air forces with flexible doctrine and an aggressive spirit, such as the early-war Luftwaffe, were able to break into smaller formations, to divide their attention between different tasks such as providing cover while a part of a formation attacked.

Radio Clutter

As a fight got underway, radio control became more difficult due to pilot chatter.

Radio Clutter in the Tally Phase. Since combat happens after tallying, radio clutter only affects the Tally Phase when a squadron on the radio net is in a dogfight.



Wing Leaders. On the left a Wing Leader counter. On the right Adolf Galland's Experte counter is flipped to indicate he is also a Wing Leader.

9.4 RADIOS

The scenario will specify what radio networks exist in the game and which squadrons are on each net.

Squadrons without radios do not have access to a radio net. Squadrons with radios get a number of benefits.

- (a) Unalerted squadrons immediately become alerted in any Tally Phase if another squadron on the same radio net is alerted [7.1].
- (b) A squadron gets a bonus to tally rolls against enemies that are tallied by another friendly squadron on the same radio net. Squadrons alerted by radio immediately benefit from any such bonus if they haven't yet rolled for a tally.
- (c) A squadron gets a bonus to tally rolls if it is on the same radio net as GCI control [9.2.4].

In addition, Wing Leaders may issue any number of orders to squadrons on the wing's radio net [9.5.4].

9.4.1 Bomber Radios

If a scenario specifies that bombers are on a radio net with fighters, those fighters are alerted if a bomber squadron is attacked [7.1].

9.4.2 Radio Clutter

If one or more squadrons on a radio net are in a dogfight, or were in combat that turn, that radio net is cluttered with pilot chatter.

While the radio net is cluttered, the following applies:

- (1) **Tally Phase.** Tally roll bonuses for the radio net or GCI cannot be applied to tally rolls.
- (2) **Tally Phase.** Wing leaders are limited to one order in a Tally Phase, as if they had no radio [9.5.4].
- (3) **Administration Phase.** To change a vector requires a die roll of 6 rather than a roll based on the GCI rating [9.2.4].

9.5 WINGS

A wing is a group of squadrons that operate together. It is possible for wings to operate without radios, but usually all squadrons in a wing operate on the same radio net [9.4].

Wings exist only where specified by a scenario order of battle. Wing squadrons are displayed in a coloured box. A wing starts a scenario in formation and then squadrons leave the formation to battle enemies.

9.5.1 Wing Leaders

Wings have a Wing Leader, a counter that is placed on the Wing Display of one of the wing's squadrons during set-up [5.2.1]. Wings set-up in a formation with the Wing Leader's squadron [see 9.5.2].

Experten can also function as wing leaders. Instead of placing a Wing Leader counter, place an Experte on its reverse side, with the Wing Leader icon.

9.5.2 Wing Formation

A wing formation is a group of squadrons assigned to the wing that:

- (a) Are in a formation with the Wing Leader's squadron. Squadrons are not required to be in or adjacent to the Wing Leader's square, merely be in the same formation as him [9.1].
- (b) Are Available [1.1].

When setting up a wing at the start of a game make sure all squadrons obey the constraints above. A squadron that no longer obeys these constraints at the end of any phase has left the wing formation. Squadrons

that leave a wing formation cannot return to it. However, a squadron that leaves a wing formation remains a part of the wing's radio net.

9.5.3 Wing Intercept

If a wing is tasked with an intercept mission, plot a vector only for the Wing Leader [9.2.4]. All other squadrons in the wing formation maintain formation on the Wing Leader.

9.5.4 Orders

If the Wing Leader's squadron is Available in the Tally Phase, he can select an Available squadron in the wing formation and issue it an order. If the wing operates with radio [9.4], any number of orders may be given each turn, against the same or different enemy squadrons.

If the wing operates without radio, or is affected by radio clutter [9.4.2], no more than one order may be given each Tally Phase. Alternatively, an order can be given to every Available squadron in the wing formation (including the Wing Leader's), provided it is to tally the same target squadron.

To issue an order choose any enemy squadron tallied by a member of the wing. The target of the attack is:

- (1) The tallied squadron, OR
- (2) Any squadron in the same formation as the tallied enemy

Place the Available squadron's tally marker on the target; no roll need be made [7.2.3]. However, to be given the order there must be a line of sight from the Available squadron to its target and the target must be less than ten squares away.

Note that only the squadron given the order must be Available and in wing formation. The squadron with the original tally does not have to be Available or in the wing formation, but must be on the same radio net as the wing.

If an order is given to a squadron, it may split [9.3]. The flight not assigned the tally remains in the wing formation, or can be given its own order.

Orders can be issued to squadrons that have already rolled for tallying in that Tally Phase as well as those that haven't. They can also be issued to squadrons that have only just been alerted by radio [9.4].

9.5.5 Wings and Sweeps

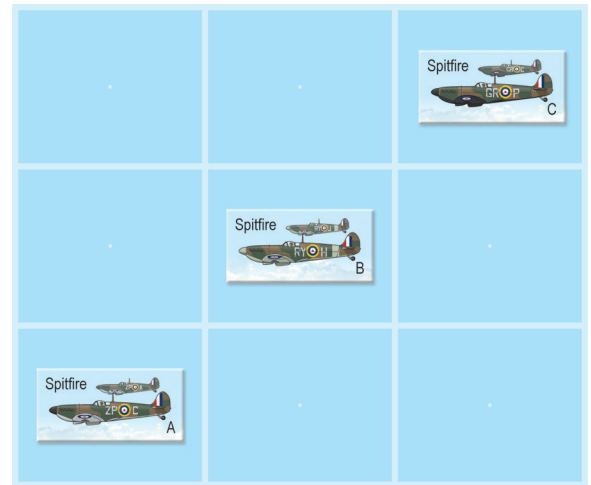
If a wing is assigned a sweep mission, squadrons continue with their sweep behaviour [9.2.3] even if part of the wing is ordered away and leaves the formation.

If the Wing Leader tallies an enemy and leaves the rest of the formation (i.e. they don't or cannot follow), the remainder of the wing will continue their sweep behaviour but no longer be in wing formation.

9.5.6 Balbos

If the wing formation comprises more than two squadrons (count flights as half a squadron), the following rules apply to movement. Squadrons that break these rules leave the wing formation:

- (1) No squadron may climb or dive more than one altitude level per turn.
- (2) No squadron may claim the 1 MP bonus for diving [8.3].
- (3) Facing changes of 90 degrees or less cost 1 MP for each squadron.
- (4) Facing changes of more than 90 degrees cost 2 MP for each squadron.



Wing Formation Example. A wing of Spitfires. Strictly speaking this formation is a Balbo [see 9.5.6]. Note that the Wing Leader could be with any one of the squadrons; Wing Leaders are not required to be in the leading squadron nor do they have to be adjacent to all squadrons in the formation.

Orders. Note that a squadron can fail its tally roll and then receive an order from the Wing Leader.

Balbos

Balbos were named after Italo Balbo, a fascist aviator famous for his record-breaking feats with large aircraft formations. In the Battle of Britain the term came to be used to describe 'Big Wings' of three or more squadrons.

Combat Summary. A summary of the combat process is:

- (1) Determine the attacker [10.1].
- (2) Determine which rating is used in combat [10.5].
- (3) Determine the combat differential of the attacker and defender [10.5].
- (4) The attacker and defender roll to determine the number of hits on the opponent [10.5.1].
- (5) Distribute hits between enemy squadrons [10.2.2].
- (6) Confirm hits on the opponent and apply losses [10.6].
- (7) Participants roll a cohesion check which may disrupt or break squadrons [10.7].
- (8) Place or flip ammo markers [10.7.2].
- (9) Check if a dogfight begins [10.8].

Mutual Attack Shenanigans. The determination of the attacker is based on the move order and not on whether a squadron moved. For example, squadrons A and B have tallied each other. Squadron A has to move first, and it moves into squadron B's square, preventing B from moving. However, since squadron B is last in the move order, it still gets to be the attacker.

Numbers in Combat

A tenet of the combat system is that a law of diminishing returns applies to air combat. Doubling the number of squadrons does not double the chances of success.

Multiple Fights in a Square. It's possible for there to be more than one combat in a square. If squadron A tallied squadron B, and squadron C tallied squadron D in a square, you'd get two separate combats, A vs. B and C vs. D.

10.0 AIR COMBAT

Air combat takes place in the Combat Phase when opposing squadrons occupy the same square. Only squadrons that have a tally or which have been tallied take part in air combat. A squadron will never roll air combat more than once in a game turn.

Fighter squadrons that occupy the same square as an enemy they have tallied must attack in the Combat Phase. If multiple air combats take place in a turn the raider player decides the order they take place in.

10.1 ATTACKER AND DEFENDER

In a combat, the side with the tally is the attacker and the side without the tally is the defender. Sections 10.1.1 to 10.1.4 give the exceptions to this.

10.1.1 Bombers on Defence

The side that has a bomber is always the defender.

10.1.2 Mutual Attack

If both sides in a square have tallied each other, the last squadron in the move order [6.1, 6.1.1, 6.1.2] is the attacker and its opponent is the defender.

If both sides are in a dogfight, the squadron with the highest basic turn value is the attacking side. If both sides have the same turn value, roll randomly to determine the attacker.

10.1.3 Chains of Tallies

It is possible for the squadrons in a square to be in a chain of tallies, so that squadron Red A has tallied squadron Blue 1, which has tallied squadron Red B that in turn is tallied by squadron Blue 2. The result would be a single combat involving all the squadrons [10.2]. In these situations determine attacker and defender as follows:

Bombers. If one of the squadrons in the chain is a bomber, the side with the bomber is the defender and the opposing side the attacker.

Fighters. If all the squadrons are fighters, determine the attacker as for mutual attacks [10.1.2]: the last squadron in the move order defines the attacking side; or in a dogfight the side with the squadron with the highest basic turn value is the attacker.

10.1.4 Reaction

In a combat triggered by a successful reaction roll [10.4.2], the reacting squadron is the attacker and its opponent the defender.

However, if the reacting squadron reacts late [10.4.3], and must resolve combat in the bomber's square, then the opponent is the attacker and the reacting squadron's side is the defender.

10.2 MULTIPLE SQUADRONS IN COMBAT

Multiple squadrons can find themselves in combat in a square in the Combat Phase. Possible causes include:

- (a) Two or more friendly squadrons attack a lone enemy.
- (b) There is a chain of tallies so that one squadron is being attacked by a second, which is in turn being attacked by a third, and so on [10.1.3].
- (c) An escort rolls a late reaction so that it must participate in the defence of a bomber [10.4.3].

Only squadrons that are connected by tallies or chains of tallies can participate in a combat. Any squadrons in a square that are not connected by a tally do not take part. It is possible to have multiple combats in a square if they are unconnected by tallies (see sidebar).

If more than two squadrons are involved in the same combat in a square (i.e. not a one-on-one matchup but two-versus-one, one-versus-two or two-versus-two, etc.), don't roll combats separately but instead make one combat roll for each side, in which all squadrons participate.

Before declaring what rating is used [10.5], the defender and then the attacker each choose one squadron to be the primary combatant [10.2.1]. This combatant can be a bomber or fighter squadron. The players figure out the combat differential using the primary combatants' combat values.

Additional squadrons in the fight may contribute to the combat. Each additional fighter squadron or flight modifies that side's combat value (turn or speed) by +1. It cannot modify the combat value if unarmed [10.5.3].

Additional bomber squadrons do not modify the combat value, though they contribute any defence rating to modify the defender dice roll [10.5.2]. **EXCEPTION:** Fighter-bombers are treated as fighters and DO contribute +1 to that side's combat value.

All participants in the combat, regardless of whether or not they are the primary combatant, must check for cohesion, place ammo markers, etc.

10.2.1 Primary Combatant

The primary combatant determines any special combat situations that apply. An attack is a bounce [13.4.1] or a head-on combat [10.3] only if the attacking primary combatant is making a bounce or head-on combat on its tallied target. Evasion is in effect if the defending primary combatant is evading [13.4.2]. See also 10.5.1.

10.2.2 Distributing Hits

If a side inflicts hits [10.5.1] they can decide which enemy squadrons take those hits. That side's player can distribute hits between enemy squadrons as he wishes. However, each enemy squadron must take one hit before a second (or third, fourth, and so on) can be assigned to a unit. Hits must be assigned before losses are confirmed [10.6].

10.3 HEAD-ON COMBATS

A head-on combat is one where the attacker has, in that game turn, moved directly into its target's square from one of the three squares ahead of it. It can also be a head-on combat if the defender finished its move in the attacker's square from one of the three squares ahead of it.

Where head-on conditions apply, it must be resolved as a head-on attack. Head-on combats are always made as hit-and-run attacks [10.5].

Head-on combats prevent escorts from reacting [10.4] and give bonuses to firepower when resolving hits against some aircraft models [10.6].

10.4 ESCORTS AND REACTION

Fighter squadrons marked as escorts may react to protect bombers, provided they are Available [1.1]. Reaction is an event that takes place during an enemy squadron's movement and interrupts it.

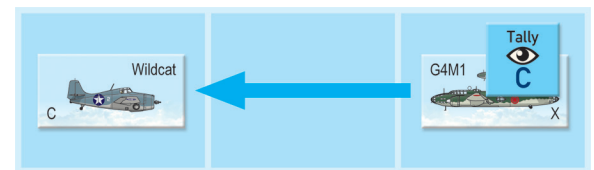
In the Movement Phase, if an enemy fighter squadron attempts to move from a square adjacent to a bomber it has tallied into that bomber's square, escorts may react. To react, the escorts must be within three squares of the targeted bomber and no more than one altitude level below it.

Escorts cannot react if they are tallied by enemies in their own square [7.2.2]. Escorts also cannot react if the enemy if head-on conditions apply [10.3].

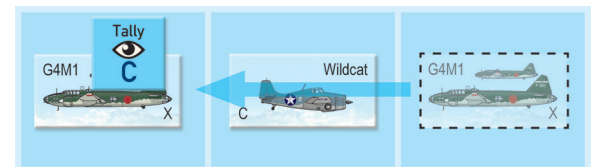
The moving player must announce he is moving his squadron into the square and pause to give the escorts time to declare their reaction. If the escorts do not declare a reaction, the squadron completes its movement into the square.

Tally Chains Example. A He 111 bomber squadron, two Hurricane squadrons and two Bf 109 squadrons occupy a square. Both Hurricanes have tallied the bomber. One Hurricane is tallied by one of the Bf 109 squadrons. The remaining Bf 109 has no tally. The subsequent combat between the squadrons chained by tallies is rolled as a single air combat. However, the Bf 109 squadron without a tally is excluded.

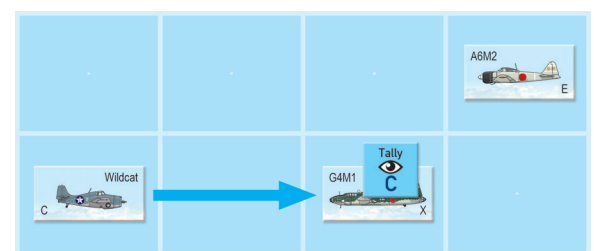
Primary Combatant Example. Two squadrons attack the same target. One enters from the front to make a head-on attack, while the other comes out of the Sun and qualifies as a bounce. Depending on the choice of primary combatant, the attack is either a head-on or a bounce, but not both. If the player chooses the squadron that conducts the bounce, then the head-on squadron only contributes +1 combat value to the combat.



Head-on Combat. The tallied bomber in this illustration finishes movement in the fighter's square. If the fighter chooses not to move as per 7.2.2, it will attack as a head-on combat.



Bomber Passes Through. If the tallied bomber moves through the fighter's square without ending movement there, then there is no head-on combat.



Head-on and Reaction. In this head-on situation, the A6M2 Zero escort cannot react, as per 10.4. However, if the escort tallies the attacker, it changes its mission to Sweep, then it moves immediately after the attacker moves. In the subsequent head-on combat the Zero can be chosen as the primary combatant [10.2].

Reaction and Bounce. Note that a successfully reacting squadron automatically qualifies as bouncing the enemy, because they have tallied an opponent in a different square [13.4.1]. A late reacting squadron would not qualify for the bounce because they are defending.



PHOTO: British escort fighters weave above a formation of Blenheim bombers attacking Libya in 1942. Escorts commonly had to weave as they had to maintain a high speed in case of enemy fighter attack.

Multiple Reactions Example. Squadrons A, B and C all react against the same enemy. They roll a No Reaction, Late Reaction and Successful Reaction, respectively. Since squadron C was successful, all of the reacting squadrons are successful.

When a reaction is declared, the reacting player rolls two dice and modifies as indicated on the player aid card. The results can be No Reaction, a Late Reaction or a Successful Reaction.

10.4.1 No Reaction

If No Reaction is rolled, there is no effect. The moving squadron completes its move into the bomber's square.

The unit that rolled for reaction may roll again should another enemy attempt to move into a bomber's square.

10.4.2 Successful Reaction

If a reacting squadron makes a successful roll it tallies the enemy [7.2.3]. Place its tally marker on the opposing squadron. The reacting squadron then performs one or other of these reactions:

Attack. The reacting squadron moves into the enemy's square, interrupting its movement and preventing it from entering the bomber's square. Move the reacting squadron as if moving in the Movement Phase. There is no MP allowance for reaction—expend as many MP as necessary—but each MP must be spent moving the squadron a square closer to the enemy (or into the same square).

Mark the reacting squadron with a dive marker if its movement took it to a lower altitude [8.5]. Mark it with a climb marker if its movement took it to a higher altitude.

In the Combat Phase it will conduct a combat. The reacting squadron is the attacker and the enemy squadron the defender in this combat [10.1.4].

Split Squadron. If the reacting squadron has tactical flexibility [9.3.2] it may split into two flights. One of those flights interrupts movement and moves to the enemy square (see Attack, above). The other flight stays where it is, out of the combat.

10.4.3 Late Reaction

If the reaction is Late, the reacting squadron can choose to attack or split the squadron, just as with a successful reaction [10.4.2], but instead of interrupting the enemy's movement, the moving squadron completes its move into the bomber's square and the reacting squadron then joins it in the same square.

In the Combat Phase, a combat is resolved involving the bomber, the reacting squadron and the opposition (along with any other squadrons involved through chained tallies). The reacting squadron's side is treated as the defender and the opponent is the attacker [10.1.4].

10.4.4 Reaction During Bomber Movement

It is possible for a bomber squadron to finish its movement in the square of an enemy that has tallied it. If this happens, the escort may roll to react the moment the bomber's movement finishes, provided the encounter is not head-on [10.3]. However, any successful reaction must be treated as a late reaction in the combat that follows [10.4.3].

10.4.5 Multiple Reactions

Multiple escorts can react to the same enemy movement. Roll separately for each escort. If a Late or Successful Reaction is rolled for any escort squadron, take the best result and apply it to all reacting squadrons.

10.5 COMBAT RESOLUTION

To resolve combat, the attacker and the defender each roll dice on the Air Combat Table.

The attacker first decides what rating he will use in the combat. The defender must use the same type of rating the attacker chooses. The attacker can declare either:

- (1) **Turning Fight.** Use the squadron's Turn rating, modified as per 3.3.1 to obtain the combat turn value.
- (2) **Hit-and-Run Attack.** Use the squadron's Speed rating, modified as per 3.3.1 to obtain the combat speed value.

In certain circumstances the attacker must declare a particular rating:

- (a) The attacker must select hit-and-run when making a head-on attack [10.3].
- (b) In dogfights, turning fights must be selected [10.8.1].

Calculate the combat values for the attacker and defender primary combatants, modified by any additional squadrons [10.2]. The combat column used on the Air Combat Table is based on the differential between the attacker's and defender's values.

To find the attacker's differential column, subtract the defender's value from the attacker's.

To find the defender's differential column, subtract the attacker's value from the defender's.

Differentials greater than +4 use the +4 column. Differentials lower than -4 use the -4 column.

10.5.1 Air Combat Table

Each side rolls two dice. The attacker applies the attacker dice modifiers and the defender applies the defender dice modifiers, as indicated by the Air Combat Table.

Only apply attacker and defender dice modifiers for the primary combatants [10.2.1]. **EXCEPTION:** Apply the defence rating modifier even if the squadron with the defence rating is not a primary combatant [10.5.2].

On the Air Combat Table each player cross-references their modified roll with the column being used in the combat to find the result. Results are as follows:

- A dash result means no hits are scored on enemy aircraft.
- # A numbered result means that hits equal to the number are scored. Check for losses [10.6].

10.5.2 Defence Rating

A squadron with a defence rating applies it as a dice roll modifier when the squadron is defending, regardless of whether or not it is the primary combatant. If more than one squadron can contribute a defence rating to a combat, apply only the highest value.

If the defenders have a defence rating and are being attacked in a turning fight [10.5], increase the rating by 2.

Attackers cannot apply the defence rating modifier.

10.5.3 Unarmed Aircraft

If a squadron has a firepower value of 'U' it is unarmed and cannot attack in air combat. If defending in a combat as the primary combatant, the defender does not roll on the Air Combat Table and no hits are inflicted on the opponent.

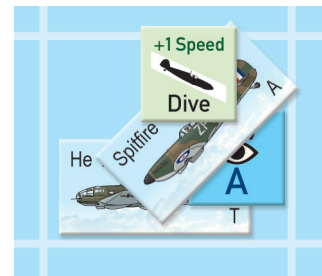
Unarmed squadrons do not contribute to the combat value in multi-squadron combats [10.2].

Attacks

The hit-and-run attack represents the use of speed and energy to slash through enemy formations. Against bombers this is the classic high side attack at speed that reduces exposure to defensive guns.

The turning fight leverages an aircraft's manoeuvrability to generate stern attacks. However, against bombers this can leave fighters vulnerable to coordinated fire from defensive guns.

Differential Example. The attacker's value is 6 and the defender's is 7. The attacker rolls on the -1 column. The defender rolls on the +1 column.



Air Combat Example. A Spitfire Mk.IA squadron dives to attack a He 111H-1 squadron. The Spitfires choose to make a hit-and-run attack.

The altitude is 11, so the bomber Speed is 3, reduced to 2 because it is carrying bombs. The Spitfire Speed is 5, increased to 6 by the dive marker. The differential is +4 for the attacker and -4 for the defender.

No modifiers apply to the attacker roll, while the bombers get no benefit from their 0 defence rating. (It would have been 2 had the Spitfires chosen a turning fight.)

The Spitfire rolls on the Air Combat Table, scoring a 7 which results in 2 hits on the bombers. The bombers roll a 10, resulting in 1 hit on the Spitfires.



PHOTO: Ground crew work on a P-38's mixed battery of machineguns and cannon. At the beginning of the war many air forces relied on machineguns of 0.303 to 0.5 calibre. However, the need to knock down well-protected bombers signalled the move to heavier weapons of 20mm to 30mm.

Loss Example. A bomber squadron's Protection rating is 4-5h. If a hit is scored against it a result of 1 to 3 after adding firepower means no losses; a result of 4 or 5 creates a straggler; a 6 or more means a bomber is lost. If the attack is head-on the attacker increases their firepower by 1.

Multi-Squadron Loss Example. A defending He 111H-4 squadron and Bf 109E-4 squadron each take a hit in a multi-squadron combat. The hit on the bomber is rolled against a 4-5 Protection rating, while the hit on the fighter is rolled against a 4 Protection rating.

10.6 LOSSES

Each hit must be confirmed. Immediately after the combat roll, roll one die for each hit, adding the squadron's firepower value to the roll. (Use the primary combatant's firepower in a multi-squadron combat.)

If the shooting squadron has an Experte, increase its firepower by one.

If the shooting squadron is equipped with a gyro gunsight [13.5.3], increase its firepower by one.

If the enemy squadron's Protection rating is marked with an 'h', increase the shooting squadron's firepower by one if in a head-on combat [10.3].

Then compare the result with the Protection rating of the enemy squadron. (In a multi-squadron combat, if hits have been distributed between squadrons [10.2.2] each squadron receiving a hit uses its own Protection rating, not that of the primary combatant.)

It is important that each loss must be rolled sequentially (i.e. don't roll to confirm the second loss until the first has been rolled).

If the roll is less than the enemy squadron's Protection rating (or ratings if two numbers are listed), no loss has occurred.

If the roll is greater than the enemy's Protection rating (or ratings if two numbers are listed), a loss has occurred. Place a loss marker on the enemy squadron's Wing Display.

If the roll equals the enemy's Protection rating (or one of the ratings), place a straggler marker on the target's Wing Display.

If the total losses equals or exceeds the squadron's Max Loss value [5.1] remove the squadron from play.

10.6.1 Stragglers

Stragglers may be created as a result of hit confirmation [10.6]. Place straggler markers on the Wing Display.

If a hit confirmation roll equals the enemy's Protection rating when the squadron is marked with a straggler marker, instead of placing another marker, flip the straggler to its loss side instead.

10.7 COHESION CHECK

After air combat has been rolled and hits resolved, each unbroken attacking and defending squadron in that combat rolls a cohesion check, regardless of whether or not it took losses. However, if resolving flak combat only roll cohesion when prompted by the flak result [14.2.5].

Roll two dice and modify as indicated by the Cohesion Table. Apply Air Combat modifiers only for checks made as a result of air combat.

If the cohesion check is made as a result of an air combat, and the squadron is a fighter or fighter-bomber, use the Fighter column of the Cohesion Table. If the check is made for a bomber squadron, use the Bomber column. If it was a flak attack roll on the Flak column.

A result of 1 or 2 applies that many levels of disruption to the squadron. Place a disrupted marker on that squadron's space on the Wing Display. Disruption is cumulative with disruption levels from previous combats.

A flight that takes 1 or more levels of disruption is broken. Place the disrupted marker on its broken side.

A squadron that takes 2 or more levels of disruption is broken. Flip the disrupted marker to its broken side.

A broken squadron may not be disrupted or broken again, so remove all markers that modify cohesion rolls such as ammo markers [10.7.2].

10.7.1 Broken Squadrons

A broken squadron remains broken for the rest of the game. Broken squadrons cannot tally, attack or react. Broken squadrons must return to base [9.2.6].

A broken bomber squadron jettisons its bombs immediately. Remove the bomb load marker [9.2.1.1]. A broken squadron cannot make bombing attacks [15.0]. If it is broken before resolving its bombing attack, remove the bomb load marker from the map; no bomb attack takes place.

Broken fighter squadrons remove any tallies and mission markers. They immediately leave any dogfight they are in [10.8.1] and any Lufbery circle [13.4.3].

Players may voluntarily break their squadrons at any time during movement or after a combat.

10.7.2 Ammo

Fighter and fighter-bomber squadrons use up ammo as they fight. After rolling air combat and cohesion for the first time, each attacking and defending squadron is at low ammo. Place an ammo marker on the Wing Display. This modifies the cohesion roll in the squadron's next combat.

After rolling for air combat a second time the squadron's ammo is depleted. Flip the ammo marker to its depleted side. This modifies the cohesion roll in all the squadron's subsequent combats. The squadron remains depleted for the rest of the game.

Do not place ammo markers on bomber squadrons in air combats. Bomber squadrons may only be marked with ammo markers if they strafe [15.3.7]. Ammo markers have no effect on bomber cohesion rolls.

Do not place or flip ammo markers if resolving flak attacks [14.2.3]. Also, do not place or flip ammo markers if attacking with air-to-air rockets [13.5.2].

Unarmed fighter and fighter-bomber squadrons [10.5.3] DO place ammo markers in situations where armed fighters do.

10.7.3 Aircrew Casualties

If a squadron:

- (1) takes one or more losses in combat, AND
- (2) the cohesion roll is a natural, unmodified 2, AND
- (3) the squadron has an Experte or Wing Leader, THEN

That Experte or Wing Leader has been shot down and has been killed or had to bail out of his aircraft. Remove that Experte or Wing Leader counter from play.

10.8 DOGFIGHTS

In combat between fighters, if unbroken opposing squadrons remain after cohesion is rolled, a dogfight may begin.

If both players agree to dogfight a dogfight begins. If they agree not to dogfight, it does not begin.

If a player refuses the dogfight but his opponent does not, each player rolls one die and adds their squadron's basic speed [3.3.1] to their roll. Add one more if the aircrew quality is Veteran and subtract one if Green. Compare the totals. If the player who wants the dogfight has a total equal to or greater than that of the player who refused, a dogfight involving both squadrons begins. Otherwise, there is no dogfight.

If a side has multiple unbroken squadrons involved, the player chooses one squadron to make the roll. A successful roll by the player who wants the dogfight means ALL squadrons are engaged in the dogfight.

Ammo

The ammo rules not only represent expenditure of ammunition, but also the accelerating disintegration of squadrons in combat as pilots become separated and return to base.

Ammo Depletion. Depleted ammo does not prevent squadrons taking part in further air combats. However, it will tend to make those squadrons break up faster.

Dogfight Entry Example. A German Bf 109F-2 squadron with a dive marker and a Veteran aircrew attacks two British Spitfire VB squadrons in the same square at altitude 9, one of which is Green. All squadrons survive the combat unbroken.

The German player wants to force a dogfight while the British player declines. So it goes to die rolls. The British player chooses the Trained squadron to roll rather than the Green.

The German roll is 3, plus 6 for the squadron's basic speed (including the dive marker) and 1 for the Veteran aircrew, for a total of 10.

The British roll is 5, plus 5 for the squadron's basic speed, for a total of 10. As the result is even, a dogfight starts involving all three squadrons. Given the German roll and their advantage in speed and aircrew, the British would have had to roll a 6 to avoid the dogfight.

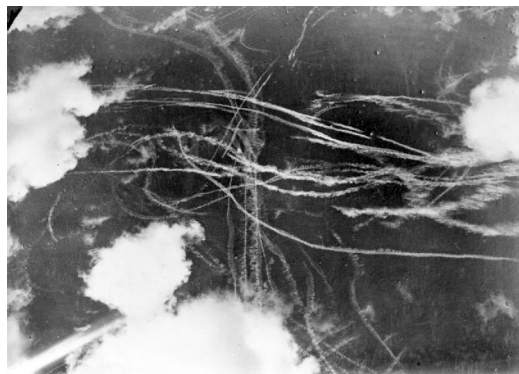


PHOTO: Contrails mark the aftermath of a dogfight over England in 1940. This shows some of the confusion of a fight and offers a clue to how easy it was for aircraft to become separated from their squadrons and have to drift off home.

If a bomber was involved in the combat, only the fighters check to enter the dogfight. The bombers are left out of any dogfight that ensues.

10.8.1 Dogfight Behaviour

If a dogfight begins, stack the squadrons together and place a dogfight marker on the stack. Place each squadron in level flight, facing towards its own map edge.

The squadrons in the dogfight immediately tally each other, if they haven't already done so. If one or both sides have multiple squadrons in the dogfight, choose one enemy squadron for each to tally.

Squadrons that end their movement in the same square as a dogfight and have tallied an opponent in that fight are stacked with the dogfight and join this combat. If they have no tally on a squadron in the dogfight they do not join.

A squadron leaves a dogfight as soon as it is broken [10.7.1]. Move the squadron out of the stack, maintaining its current facing. If there are no unbroken opposing units left in the stack, remove the dogfight marker.

In the Combat Phase both sides in the dogfight must use their turn values in the combat [10.5]. The attacker is the side with the squadron that has the higher basic turn value [3.3.1]; the squadron with the lower basic turn value is the defender. If both sides have the same modified turn value, roll randomly to see which side is the attacker.

10.8.2 Dogfight Movement

If at least one dogfighting squadron is in a Lufbery [13.4.3] the dogfight doesn't move. However, squadrons in a dogfight cannot enter a Lufbery circle.

Otherwise, fighters in a dogfight do not move normally. Instead, roll a die to see who moves the stack.

1-3 The raider player moves the stack.

4-6 The defender player moves the stack.

The winner of the roll moves the stack, but are restricted in how it can be moved to the following choices:

(1) The stack stays in the current square.

(2) The stack moves to an adjacent square at the same or lower altitude level.

Dogfights cannot be moved off the map edge. Dogfight movement does not use Movement Points, simply move the stack of counters to the destination square without changing the facing of the squadrons. If the fight loses altitude place dive markers on the units.

11.0 ESCAPE

Squadrons can escape by moving off the friendly map edge. Remove the squadrons from the game.

Squadrons can also escape, regardless of their position on the map, if both players agree to let them escape. This allows players to remove any squadrons from play that are no longer taking part in the battle.

If the players cannot agree, a player can declare his squadron is making an escape attempt in the Administration Phase. The raider player resolves his escapes first before the defender player resolves his.

If no Available enemy has a line of sight to the squadron, the escape succeeds automatically. Also, if the squadron is 10 or more squares from the nearest Available enemy, escape is automatic. If escape is not automatic the squadron can try rolling for an escape attempt.

To roll an escape attempt, the squadron must be 2 or more squares from the nearest Available enemy fighter and must benefit from weather modifiers for cloud, haze or rain against ALL enemies. It cannot roll for escape if in a flak zone.

Roll one die. If the roll is equal to or less than the smallest weather modifier that applies against the squadron, the escape succeeds. Otherwise it fails.

Squadrons that escape are removed from the game. For the purposes of victory they are assumed to have moved off the friendly map edge [12.1].

12.0 ENDING THE GAME

The game ends when the players mutually agree to stop play, or when all squadrons have done one of the following: exited the map, escaped or are broken.

Some scenarios may outline alternative triggers for the end of the game in the Victory Conditions.

When the game ends, the players determine the winner.

12.1 VICTORY CONDITIONS

After the game ends, check the victory conditions for the scenario. If they instruct the players to count up Victory Points (VP), use the following tariff. Each side acquires VP for achieving the following:

- ? VP Each enemy aircraft loss inflicted (use the VP value listed at the top of the Aircraft Data Card)
- 1 VP Each enemy balloon counter eliminated [14.3]
- ? VP Victory Points scored for successful bombing attacks on surface units [14.1.1]
- 6 VP For each unbroken bomber squadron exit (halve to 3 VP if disrupted or a flight) ¶

¶ If the scenario does not include bombing [15.0], the raiding player scores 6 VP for each unbroken bomber (or transport) squadron that exits the map via the enemy map edge with its bomb load. (Halve the VP for each bomber squadron that is disrupted or is a flight.) Bomber squadrons without a bomb load score no VP for exiting.

The scenario will specify how the VPs are used to determine victory.

STOP! You have read enough of the rules to understand the basic play of the game. Now play the first three scenarios.

Sections 13.0, 14.0 and 15.0 are advanced rules that add detail. Players should use these after they have played the first three scenarios.

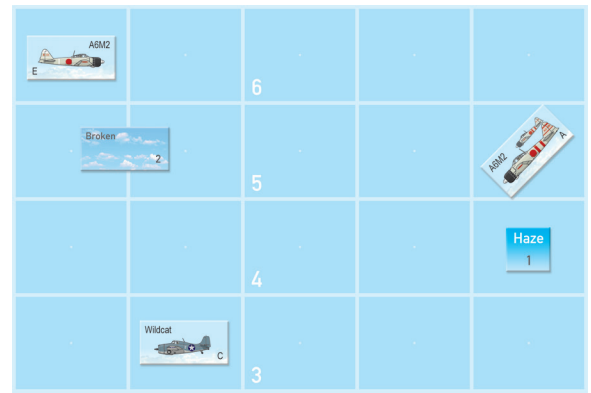
13.0 ADVANCED WING LEADER

These advanced rules add more detail and are essential for playing many of the later scenarios in the game.

13.1 HEIGHT ERRORS

After a player places a vector marker on the map during set-up, or successfully moves a vector marker in the Administration Phase [9.2.4], the opposing player can immediately choose to roll a die. If the roll is 6, there is an error, otherwise there is no effect.

If there is an error, the opponent can move the vector marker up to two squares away. They are not required to move the marker at all.



Escape Example. An F4F Wildcat flight is trying to escape from two Available Zero units. The Wildcat is in a Haze square. Zero squadron A has a line of sight uncluttered by cloud, while Zero flight E has a line of sight through broken cloud. The roll to escape is a 1, since the Haze is the smallest weather modifier that applies.

Introducing the Advanced Rules. Once you have played the first three scenarios feel free to replay them with the advanced rules.

Wing Leader Volumes. Some of these rules are not used when playing scenarios from the first volume of *Wing Leader*, but feature in the second volume of the game.

Height Errors

Radars had problems determining target height, especially in the early war. As a result inaccurate information about enemy altitude was sometimes issued by GCI controllers.

Drop Tanks. There are no explicit advantages to carrying drop tanks in this rule. However, scenario designers may wish to consider sparing squadrons with drop tanks from fuel limit penalties [13.3].

13.2 DROP TANKS

Scenarios may indicate that squadrons are carrying drop tanks. Only aircraft with the drop tanks ability can carry drop tanks [3.3]. Mark these squadrons with drop tank markers on the Wing Display when setting up [5.2]. Drop tanks reduce a squadron's speed and turn by 1 [3.3.1].

A squadron may jettison drop tanks during movement, provided the squadron is alerted, or after an air combat is resolved. Remove the drop tank marker from the Wing Display.

13.3 FUEL LIMITS

If a scenario states that fighter squadrons are operating at their fuel limits, those squadrons begin the scenario marked with low ammo markers on the Wing Display [10.7.2].

13.4 SPECIAL TACTICS

The following are advanced combat options and can be used in any scenario (i.e. they do not require a scenario special rule to be used). It is possible for more than one of these to apply to a combat.

13.4.1 Bounce

A bounce is an attack on a primary combatant in which one or more of the following applies:

- (1) The defender is unalerted
- (2) The defender has a tally on a squadron outside its current square
- (3) The attack is made from out of the Sun [4.6.2] and the defender has not tallied the attacker

A bounce awards modifiers to that combat. It also prevents evasion [13.4.2].

Only attackers can bounce; defenders cannot. A bounce does not occur if the defenders tallied one or more attackers before the combat commenced. A bounce does not occur if the defender is in a Lufbery circle [13.4.3].

Because bombers do not have an alert state, nor can they tally, the only way bombers can be bounced is from out of the Sun.

13.4.2 Evasion

If a primary combatant is defending and has a basic speed [3.3.1] equal to or greater than that of the attacking primary combatant it can declare it is evading, even if in a turning fight. This will result in a modifier to the combat roll. A defender may only declare it is evading if it is a bomber or an alerted fighter and is not being bounced [13.4.1].

13.4.3 Lufbery

An alerted, unbroken fighter squadron can enter or exit a Lufbery circle when it moves. An escort that enters a Lufbery changes its mission to Sweep [9.2.2]. Place a Lufbery marker on the squadron if entering the circle and remove the marker if exiting. It costs 2 MP to enter or exit a Lufbery [8.3]. A squadron immediately leaves the Lufbery at no MP cost if it is broken.

While marked with a Lufbery marker a squadron circles [8.3.1]. It does not have an ahead or behind aspect while in a circle [8.1.2]. If in a dogfight do not roll to move the dogfight, the dogfight stays where it is. (However, the squadron may, in the Movement Phase, voluntarily leave the Lufbery at no cost so as to allow the dogfight to move.)

If the primary combatant is defending in a Lufbery circle they cannot be bounced [13.4.1] and they apply a defender dice modifier.

Lufberys

Defensive circles, named Lufberys after the French-American air ace of WWI, Raoul Lufbery, were a means for slower aircraft to nullify the speed advantage of enemy aeroplanes. The squadron would fly in a circle so that each aircraft covered the tail of the 'plane in front. Any enemy attacking the circle would soon find itself sandwiched and in danger.

13.5 SPECIAL WEAPONS

The following rules add special weapons and equipment for air combat.

13.5.1 Weapon Load Restrictions

Air-to-air rockets [13.5.2], gun pods [13.5.6] and bomb loads (including torpedo and rocket weapon loads [15.1]) are incompatible with each other. If a squadron is equipped with one of these loads, it cannot carry any other load.

13.5.2 Air-to-Air Rockets

Aircraft listed with the AAR ability may carry air-to-air rockets. Unless mandated by a scenario special rule, players choose whether or not a fighter squadron carries rockets during set-up.

Squadrons equipped with air-to-air rockets are marked with a rocket marker on its front side on the Wing Display. While marked with a rocket marker the squadron's turn and speed values are reduced [3.3.1].

Rockets may only be used in attacks on bombers. If the combat includes any fighters (such as a reacting escort) then rockets cannot be used. There is a modifier for the rocket attack. Treat the squadron as having firepower 5 for the rocket attack.

Flip the rocket marker over to its depleted side after the attack. That squadron can no longer make a rocket attack on bombers, but its turn and speed remain reduced.

13.5.3 Gyro Gunsights

Aircraft with the Gyro ability have gyro gunsights, but only where scenario special rules allow them. Squadrons equipped with gyro gunsights receive a favourable modifier in combat AND add 1 to their firepower.

13.5.4 USAAF Heavy Bomber Groups

American heavy bomber groups comprise 2 heavy bomber squadrons in formation in the same square. These squadrons provide mutual support for each other. If both squadrons are unbroken, they create a flak zone in their square [14.2.2].

The bombers are unaffected by the zone, but all other squadrons, friendly and enemy, that enter the square during the Movement Phase, are attacked by barrage fire [14.2.3]. The flak zone has a strength of 0.

13.5.5 50mm Bordkanone

Me 410 squadrons with the 50mm ability can announce a long-range attack when attacking in air combat. Long-range attacks may only be made against bombers. If the combat includes any fighters (friendly or enemy) other than the Me 410 squadron, long-range attacks cannot be announced.

Long-range attacks with the 50mm Bordkanone apply a modifier to combat. However, the defending bomber squadron does not roll in the combat, so the attacker takes no losses. Both bomber and attacker roll for cohesion normally after combat.

13.5.6 Gun Pods and AT Pods

Aircraft that are allowed to carry gun pods may be equipped with a gun pod marker on its Wing Display during set-up. While equipped with gun pods the squadron's turn and speed are reduced [3.3.1]. A gun pod marker may not be dropped or jettisoned.

A variant of the gun pod is the anti-tank gun pod or AT pod. Use the AT pod side of the gun pod marker to mark this.

Squadrons equipped with gun pods increase their firepower by 1 for air combat and strafing.

Load Restrictions Example. A Bf 109G-6 squadron is equipped with air-to-air rockets. This prevents it from carrying gun pods or bombs.

Air-to-Air Rockets

The primary rocket modelled here is the German WGr 21, a 21 cm weapon derived from an army rocket mortar. Fighters had to launch the rocket from a large tube bolted to the wings, which is why they continue to suffer a performance reduction after launching.

Gyro Gunsights

The Ferranti Mk II D gyro sight doubled the accuracy of British fighter pilots. After debuting in RAF service, the Americans adopted the sight for the Army Air Forces (as the K-14) and Navy (as the Mk23).

Production sights were fitted to British Spitfires from Feb 44 and were in widespread use in Spitfires by May 44. The USAAF in Europe mounted operational trials of the sight in July and August 44, after which they were widely adopted. The USN was more resistant to the technology and did not install the sight aboard fighters until 1945. It failed to achieve standard use in the Navy before the war's end. The German EZ42 Eagle gyro sight was tested in 1945 but never reached service.

Heavy Bomber Groups

The sheer amount of machinegun fire around an American heavy bomber group made it a dangerous place even for friendly fighters to fly. This rule adds an element of risk for enemies and for escorts who get too close to their charges.

50mm Bordkanone

One solution to American heavy bomber raids was to equip Me 410 bomber destroyers with a 50mm cannon derived from a tank gun. With the aid of a telescopic sight it proved effective against unescorted B-17s, permitting the interceptors to shoot from beyond defensive gun range.

Gun Pods

Some aircraft could be equipped with extra guns (usually 20mm or 30mm cannon) bolted to the wings, to aid attacks against bombers or tanks. However, these heavy weapons came with a performance penalty.

Single Aircraft. There will be times when the game will feature a unit comprising a single aeroplane, often a reconnaissance model. Such units, lacking mutual support from other aircraft, are very vulnerable.

Aircraft Carriers

The defence modifier of aircraft carriers represents evasive manoeuvres during combat. When launching aircraft, they must steam steadily into the wind.

Jets and Rocket Planes

The world entered the jet age in World War 2. These early jets and rocket planes were an immature technology and none of the combatants succeeded in developing aircraft, training or doctrine to the point where they could enter combat in great numbers.

Rocket Fuel. Scenario special rules may start a Me 163 flight with less than 10 fuel. Fuel is not counted for the turn a flight takes off because it is figured into the flight's fuel allowance.

A squadron carrying AT pods increases its firepower by 1 in air combat but has enhanced firepower when strafing [15.3.7]. Its firepower increases by 2 when making a strafing attack. This increase is doubled to 4 if the target is a Tank, Truck, Train or Ship.

If an aircraft has two firepower values separated by a slash, gun pods and AT pods only modify the value before the slash.

13.6 SINGLE AIRCRAFT FORMATIONS

If a scenario states that a flight is a single aircraft, it has a Max Losses value of 1, regardless of whatever is printed for other squadrons. Furthermore, that flight reduces its combat value (Speed or Turn) by 1.

This rule also applies to squadrons that have taken losses such that they are just one away from reaching their Max Losses value [5.1].

13.7 TAKING OFF

A scenario may specify that a squadron enters play by taking off from an Airfield, CV (aircraft carrier) or CVL (light aircraft carrier) surface unit.

No more than one squadron or flight may take off each turn from a single surface unit. Take offs are not allowed if the surface unit is heavily damaged, or worse [14.1.1].

Place the squadron on the map in the Movement Phase in the same square as the surface unit. Place its counter level with the ground facing right or left. It does not expend MPs in the phase it enters. Place a slow marker on the squadron [3.3.1].

Remove the slow marker at the beginning of the Movement Phase of the game turn after the squadron enters play. It can now move normally.

13.7.1 Aircraft Carriers

The defence modifier [14.0] of a CV or CVL surface unit is treated as 0 for the turn in which a squadron takes off.

13.8 JETS AND ROCKET PLANES

These rules govern aircraft marked as jets or rockets on their ADCs.

13.8.1 High Speeds

Jets and rockets can fly at very high speeds. Rules 13.8.2 and 13.8.3 indicate when these high speed rules apply.

When a squadron at high speed attacks, apply the high speed modifier.

When a squadron at high speed is defending, always apply the evasion modifier [13.4.2], even if the squadron does not declare evasion, and even if it is unalerted or being bounced.

Squadrons at high speeds do not enter dogfights.

13.8.2 Me 163

Me 163 units only operate as flights. The movement of a Me 163 flight depends on its fuel expenditure. Each flight starts with 10 points of fuel, which are consumed each turn it selects full or half throttle. However, on the turn it takes off, a Me 163 flight consumes no fuel. Keep track of fuel with a piece of scrap paper and a pencil.

Me 163 speed and turn values are listed as two numbers separated by a slash. The value used depends on the throttle setting.

A Me 163 flight must select a throttle setting each turn:

Full throttle. Consumes 2 points of fuel.

Half throttle. Consumes 1 point of fuel.

No throttle. Consumes no fuel. If no throttle is set, the flight cannot set full or half throttle for the rest of the scenario.

If a flight has insufficient fuel remaining to pay the cost of a throttle setting, it must choose a lower throttle setting.

At full throttle, the flight moves 4 MP (plus bonus for diving). Use its full speed and turn values listed before the slash. High speed effects apply [13.8.1]. The 'r' next to the climb value indicates that when the flight climbs at full throttle, it spends only 1 MP for every altitude level climbed (instead of 1 MP for the first level and 2 MP thereafter). Me 163 flights may climb more than two altitude levels each Movement Phase.

At half throttle, the flight moves 3 MP (plus bonus for diving). Use the reduced speed/turn values listed after the slash. High speed effects do not apply. The flight climbs at regular rate (1 MP for the first level and 2 MP thereafter).

At no throttle the flight moves 2 MP (plus bonus for diving). Mark the flight with a slow marker [3.3.1]. High speed effects do not apply. The flight cannot climb. It must dive at least one altitude level during the turn. A Me 163 flight that dives into the ground is removed from play; all aircraft are assumed lost.

13.8.3 Me 262

High speed effects [13.8.1] apply to the Me 262 at all times. EXCEPTION: do not apply the high speed attacker modifier in air combat if the squadron is marked with a climb marker.



PHOTO: Jets were an immature technology, and in the case of the Me 262 it was rushed into service with unreliable, short lifespan engines. Though it showed potential, the Allies found ways to keep the jet threat suppressed.

Me 262

The Me 262 was extraordinarily fast. Pilots were unable to juggle the throttles in combat and couldn't slow down to attack, except by climbing.

14.0 SURFACE UNITS

Surface units are military formations and installations on the land or vessels at sea. Surface units do not move. The scenario will specify the set-up locations of any surface units and which side they belong to. Counters for surface units are placed on the map at altitude zero [4.1, 5.3]. There are no limits on the number of surface units that can be set-up in a square.

Surface units have the following characteristics:

Type. This identifies what the unit represents.

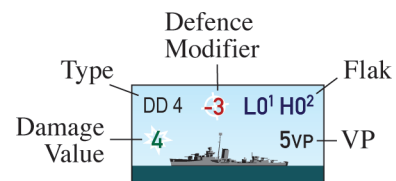
Units marked DD, CL, CA, CV, CVL, CVE, BB or Aux are ships. Ships marked with an additional number are variants of the ship type.

Defence Modifier (crosshair symbol). This is a die roll modifier applied to any attack on that unit, reflecting the difficulty of hitting that target [15.4].

Damage Value (explosion symbol). This is the number of bombing hits required to cause heavy damage to that unit [14.1.1].

Flak. If the unit has flak capability its type, strength and fire channels are indicated [14.2].

VP. This is the VP scored for heavily damaging that unit [12.1, 14.1.1].



Surface Unit Key. The ratings for a destroyer ship unit.

Ship Variants. CV 1 and CV 2 are variants of aircraft carrier with different ratings.

Ships. The classification of ships is as follows:

- DD, Destroyer
- CL, Light Cruiser
- CA, Cruiser
- CV, Aircraft Carrier
- CVL, Light Aircraft Carrier
- CVE, Escort Carrier
- BB, Battleship
- Aux, Auxiliary.

14.1 SURFACE UNITS IN COMBAT

Surface units take part in combat by being the targets of bombing [15.0] or by firing flak at squadrons in the air [14.2].

14.1.1 Damage to Surface Units

Bombing attacks [15.0] can cause damage to surface units.

Damage depends on the number of bombing hits inflicted on a surface unit by bombing attacks [15.4]. Hits are cumulative, so add hits from multiple attacks together. Use a piece of scrap paper and a pencil to keep track of cumulative hits on a target.

Compare the cumulative bombing hits to the target's damage value to determine the damage level, to see how many VP are scored [12.1] and whether there is any effect on the unit [14.1.2, 14.1.3].

Apply the highest damage level achieved. Do not remove the surface unit from the map, even if the damage is fatal.

<i>Number of Bombing Hits</i>	<i>Damage Level</i>	<i>Effects</i>	<i>VP Scored</i>
Hits equal or exceed triple the damage value	Fatal Damage	Flak suppressed Ship dead in the water	Triple the unit's VP value
Hits equal or exceed double the damage value	Crippling Damage	Flak suppressed Ship dead in the water	Double the unit's VP value
Hits equal or exceed damage value OR completes Recce mission [15.2.1.2]	Heavy Damage	Flak suppressed	Unit's VP value
Hits less than damage value but exceeds half the damage value	Minor Damage	None	Half the unit's VP value (see 1.2)
Hits are greater than zero, but half or less of the damage value	Slight Damage	None	1 VP

Ship Defence

The defence modifiers for ships assume they are in open water and able to evade bombing attacks. Surprise attacks out of the Sun make evasion harder.

Ship Defence Example. A DD with a -3 defence modifier is dive bombed from out of the Sun. The modifier is reduced to -2.

Bombing Results

Given that the bombing system covers many different types of target, players need to interpret the results and make up their own stories.

We can assume that anything that takes fatal damage is completely demolished or sinking. Similarly, a crippled target no longer functions and may or may not be salvageable.

But what of heavy damage? A heavily-damaged ship might live or die, depending on its damage control parties. A heavily damaged tank unit may have lost a couple of panzers, and is temporarily out of action because the crews have bailed from their vehicles. A heavily damaged airfield needs repair before it can recover aircraft.

Minor damage means the target has taken hits but is still functioning. The tank unit fights on. A bridge still has a lane open. The airfield has a couple of burning aircraft but is still operational.

Feel free to create your own narratives as you play.

14.1.2 Flak Suppression

If the total bombing hits scored on a surface unit equals or exceeds its damage value, that target is suppressed. Suppressed targets cannot make flak attacks for the rest of the game [14.2.1].

14.1.3 Ship Defence

If crippling or fatal damage is inflicted on a ship, it is considered dead in the water. A ship that is dead in the water has a defence modifier of +0 instead of the printed value.

If a squadron makes a dive bombing or steep angle attack on a ship from out of the Sun, reduce the defence modifier by 1 (toward 0). The attack is out of the Sun if the squadron is in the Sun arc at the moment it drops its bombs, or the attack is made in the target's square and meets the criteria outlined in rule 4.6.2.

14.2 FLAK UNITS

Some surface units can fire flak at squadrons. These are termed flak units. Units are marked with three characters, such as L1², which stand for the flak type, flak strength and fire channels.

The first character is the type of flak the unit can fire:

- S = Small Arms (barrage fire only)
- L = Light Flak (direct fire only)
- H = Heavy Flak (barrage or direct fire)

The second character is the flak strength of the unit, and ranges from 0 to 2.

The third, superscripted, character is the number of fire channels. This is the number of targets the flak can shoot at with direct fire during the turn. (Small Arms units do not list a fire channels value since they cannot use direct fire.)

Ships may be marked with two types of flak. In this case treat them as two flak units for the purposes of flak combat.

Barrage balloons also make flak attacks [14.3], as do heavy bomber groups [13.5.4].

14.2.1 Flak Modes

There are two modes of operation for flak: direct fire and barrage fire.

Direct Fire. Only Light and Heavy Flak units can make direct fire attacks. During the Combat Phase they can attack a number of squadrons up to their fire channels value.

Barrage Fire. Only Small Arms, Heavy Flak, barrage balloons [14.3] and heavy bomber groups [13.5.4] perform barrage fire. A Heavy Flak unit using barrage fire cannot make direct fire attacks in the same turn.

Ship units with a Light and Heavy Flak rating may use direct fire for the Light Flak and either direct or barrage fire for the Heavy Flak.

14.2.2 Flak Zones

Flak zones are created by barrage fire.

Small Arms. Units with small arms automatically create a flak zone in the square they occupy.

Heavy Flak. In any Administration Phase Heavy Flak units can place or remove a barrage marker on the map. Place it at the junction of four squares (see example in the sidebar). The junction can be of any squares in the same or adjacent columns to the flak unit. A barrage can be placed even if the flak unit does not have a line of sight to any of the squares forming the junction. Note that placing a barrage marker prevents that flak unit from using direct fire in the next turn.

The flak zone extends into all four squares that touch the junction point. Do not place a barrage marker in such a way that would cause its flak zone to overlap that of a barrage balloon [14.3].

Barrage Balloons. Balloons create a flak zone in the balloon square and in all squares directly below, down to the ground [14.3].

USAAF Heavy Bomber Groups. See rule 13.5.4.

14.2.3 Barrage Fire Attacks

As soon as a squadron finishes movement, check to see if it entered any squares in a flak zone (leaving a flak zone square does not trigger an attack). If it entered such a square the non-moving player rolls a barrage flak attack against the moving squadron. If a dogfight moves through a flak zone, roll attacks separately against each squadron in the dogfight.

To make a flak attack the non-moving player selects a single flak unit whose zone it moved through and rolls an attack [14.2.5]. If the squadron flew through the flak zones of multiple flak units only one attack roll is made, using the selected flak unit. However, each additional flak unit is considered to contribute supporting fire that adds +1 to the dice roll.

Flak barrage attacks every friendly and enemy squadron that moves through it. There is no limit to the number of squadrons a flak barrage can affect.

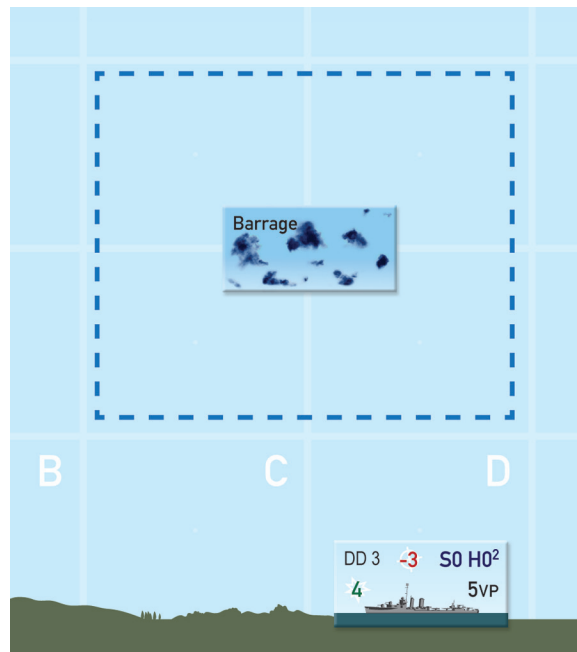
14.2.4 Direct Fire Attacks

Direct fire is resolved in the Combat Phase, before bombing or air combats are resolved. Flak units that placed a barrage marker cannot make direct fire attacks [14.2.1]. Direct fire attacks target individual squadrons on the map.

Light Flak can fire at any squadron in the same column or up to two columns away that is at altitude 4 or less.

Heavy Flak can fire at any squadron in the same column or up to two columns away, regardless of altitude.

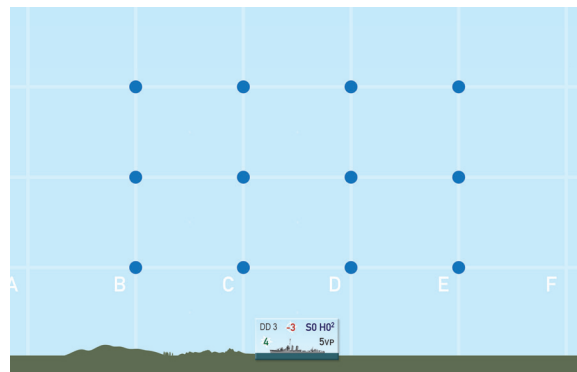
Direct Fire Channels. A L0² flak unit has two fire channels, so it can make direct fire attacks on up to two units in the Combat Phase.



Barrage Example. The dashed line marks the flak zone emanating from the barrage marker.

Multiple Flak Zones Example. A squadron flies through two flak zones—one belonging to Heavy Flak and one to small arms. The opposing player reckons the Heavy Flak has the best chance of inflicting losses, so selects that unit to roll, but will add +1 to the dice roll for the supporting fire of the small arms zone.

Who Rolls? Barrage fire attacks friend and foe indiscriminately. So although the flak belongs to one side, the non-moving player always makes the attack roll.



Flak Barrage Placement. The dots indicate legal junctions to place barrage markers. (The dots continue up to altitude 19.)

Supporting Fire. Because a squadron can only be attacked by direct fire once each Combat Phase, if you want to use multiple flak units against it you must use supporting fire.

Supporting Fire Example. Two H1² flak units attack a squadron. One flak unit rolls the attack and the other contributes a +1 supporting fire modifier. The attack counts towards both units' fire channels used.

Friendly Fire Example. An H1² flak unit attacks a bomber squadron that is also being attacked by a friendly fighter unit in the same square. The attack hits both the bomber and the fighter that has tallied it. But this only counts as one fire channel used.

Flak units cannot use direct fire against squadrons to which they have no line of sight [4.6].

A direct firing flak unit can attack a number of squadrons up to its fire channels value. It cannot attack the same squadron more than once.

A squadron can only be attacked by direct fire once in each Combat Phase.

To make a direct fire attack the player controlling the flak selects a single flak unit to roll the attack. Multiple flak units can be assigned to attack the same squadron, but only the chosen flak unit rolls the attack. Each additional flak unit is considered to contribute supporting fire that adds +1 to the dice roll.

Lending supporting fire modifiers to a roll is treated as an attack for the purpose of counting fire channels.

Roll an attack against the target squadron [14.2.5]. If there are other squadrons in the same square that either have a tally on the target or which are tallied by the target, roll a separate attack on each one. These additional attacks do NOT count towards fire channels. It is possible that different dice modifiers may apply to different squadrons.

14.2.5 Resolving Flak Attacks

To resolve flak attacks the opposing player rolls two dice, modifies the roll as indicated and checks the result on the Flak column of the Flak Attack Table.

Modifiers listed as applying to direct fire are not applied to barrage fire. Direct fire modifiers for altitude are based on the target squadron's altitude.

Results are as follows:

- ‘–’ No hits are scored and no cohesion check is made.
- C There are no hits but the squadron makes a cohesion check [10.7].
- # The value listed is the number of hits scored. Roll to confirm the hits using a firepower value of 0 if a barrage fire attack or 1 if a direct fire attack [10.6]. The squadron then rolls a cohesion check [10.7].

The result listed in the Bomb column is applied only if the target dropped bombs during movement. It indicates the modifier applied to that squadron's bombing attack that turn. Add a -1 or -2 bombing marker to the bomb load marker as a reminder. If a bombing marker is placed during movement due to barrage fire and another placed in the Combat Phase due to direct fire, they are NOT cumulative. Instead, only the largest penalty applies.

14.2.6 Flak Effects

Since flak attacks are resolved before air combats, a squadron that is broken by flak cannot attack in the Combat Phase (though it can roll air combat as a defender) [7.2.1].

14.2.7 Advanced Flak

Scenario special rules may list that a side's flak benefits from improved fire direction, proximity fuses or dual-fused ammo. Unless otherwise noted these capabilities apply to all flak units on that side.

Improved Fire Direction. Light and Heavy Flak attacks apply the improved fire direction modifier to all direct fire attacks.

Proximity Fuse. Heavy Flak attacks apply the proximity fuse modifier to all direct fire attacks.

Advanced Flak

As the war progressed there were many advances in flak that enhanced its effectiveness.

Fire directors—both optical and radar—were one major area of improvement, providing better prediction of the target's movement.

On the Allied side, proximity fuses for Heavy Flak, an offshoot of radar technology, were a major advance that radically reduced the number of rounds needed to damage or destroy an aircraft.

For the Germans, late war experiments with dual-fused ammo, that detonated on timing or impact, proved a multiplier to the effectiveness of Heavy Flak.

Dual-Fuse Ammo. Heavy Flak attacks increase the firepower of flak attacks (barrage or direct fire) by 2.

14.2.8 Low Angle Naval Guns

If Heavy Flak guns aboard a ship are marked with an underscore, they are low angle guns.

Low angle guns can use direct fire only at targets at altitude 0 or 1 that are not marked with dive markers. They can only place barrage markers at the junction of squares at altitude 0.

14.2.9 Flak Surprise

If scenario special rules state that Flak Surprise is in effect, no Light or Heavy Flak can fire until it has passed a surprise check.

Flak cannot make a surprise check until enemy squadrons are within 2 columns of a Light or Heavy Flak unit. Once this trigger condition has been met, at any point during a turn, roll a surprise check in every Administration Phase until the check succeeds.

Roll one die. On a 1-3 the surprise check fails. No Light or Heavy Flak may fire. On a 4-6 the surprise check succeeds and all Light and Heavy Flak units may now place barrage markers and/or use direct fire for the remainder of the scenario.

14.2.10 Camouflaged Flak

Land-based flak units (not ships) may be indicated as camouflaged by scenario special rules. A camouflaged unit cannot be attacked by a squadron until one of two things happens.

- (1) The flak unit fires.
- (2) The squadron spots the flak unit.

A squadron can spot a flak unit by moving into its square or an adjacent square and interrupting movement to roll a die. On a 1-3 the spot attempt fails and the squadron may not re-attempt it until the next game turn. On a 4-6 the flak unit is spotted and can now be attacked by all friendly squadrons (not just the one that spotted it). After rolling the squadron can continue moving.

14.3 BARRAGE BALLOONS

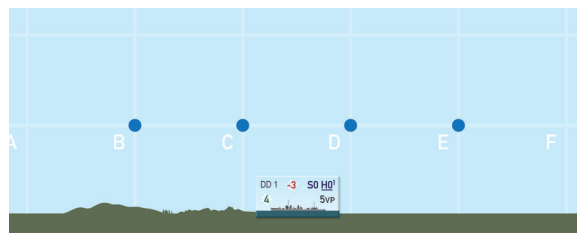
Barrage balloon counters are placed on the map during set-up at any altitude from 0 up to 2. Once placed they cannot move.

Barrage balloons are treated like flak units. They create a flak zone [14.2.2] with a strength of 0 in the balloon square and in all squares below, down to the ground. They function like flak barrage, affecting all squadrons that enter the flak zone, and can supply supporting fire to other flak unit attacks [14.2.3].

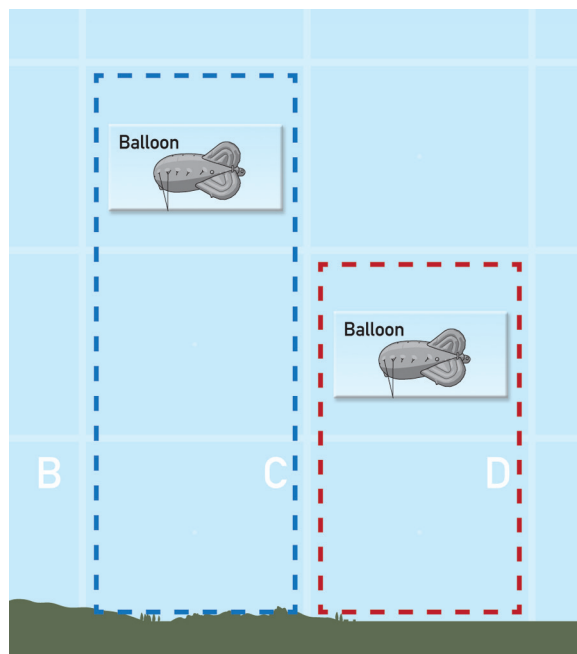
Balloons can be attacked in air combat. No tally is required to attack balloons. A squadron can attack barrage balloons provided it occupies the same square and is not in an air combat with any other squadrons.

Balloons have a speed and turn rating of 0, and a Protection of 0 (meaning that any hit on a balloon will always create a loss). In air combat with balloons, only the attacker rolls. Do not make a defender roll. However, the attacker rolls cohesion and uses up ammo as normal.

Track balloon losses with a piece of scrap paper and a pencil. The Max Loss value for balloon units is 3. If this number of losses is inflicted, eliminate the balloon and remove the counter from play. Its flak zone disappears.



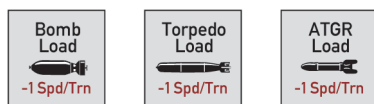
Low Angle Naval Guns. The dots indicate legal junctions to place barrage markers.



Barrage Balloons. The dashed lines indicate the flak zone of each balloon. Note that a squadron flying through both flak zones would be subject to the supporting fire modifier from one of the zones.

Bombing Rules. Adding these bombing rules changes the way bomber, escort and sweep squadrons behave. So pay close attention to the differences.

Weapon Loads. Only *one* weapon load can be carried. Either a bomb load [9.2.1] or one of the special weapon loads listed at the right. You cannot mix and match loads. See also 13.5.1.



Weapon Load Markers. Torpedo and ATGR load markers are a variant of bomb load marker. Where the rules refer to bomb load markers, substitute Torpedo or ATGR load markers as appropriate.

Mission Summaries. These rules change the nature of some of the missions. As with the original mission rules, we ask players to abide by the spirit of the rule, as found in the summary. There are so many permutations of situations that the rules might not cover them all. If you come across an unusual situation, use common sense to resolve it.

Bombing Mission Summary. Bombing squadrons fly directly to their target, losing height where necessary to set-up a bombing attack. If not broken and forced to turn back, they bomb their targets and then turn and head home.

Bombers and Diving. Bombers are not allowed to claim the MP bonus for diving unless flying a bombing profile.

Circling

Circling before bombing was sometimes necessary to delay the attack. For example, where bombers were reliant on other aircraft to suppress flak before their bomb run.

15.0 BOMBING

If a scenario says that the bombing rules are to be used, then squadrons tasked with Bombing will attempt to attack surface unit targets on the ground or sea. They score VP for inflicting hits on those targets [14.1.1]. They do not earn VP for exiting the map carrying their bomb load [12.1]. Scenario special rules may limit which targets can be attacked.

There are several stages to a bombing attack.

- (1) The bomber flies toward the target [15.2.1].
- (2) The bomber approaches the target and flies a bombing profile [15.3].
- (3) After flying the profile the target is attacked and the attack is resolved [15.4].

Broken squadrons may not make bombing attacks [10.7.1].

15.1 WEAPON LOADS

Bombing attacks require the correct weapon load. For most types of attack this is bombs, but some attacks require special loads.

Torpedo attacks require torpedo loads. Squadrons carrying torpedo loads can only make torpedo attacks [15.3.5]. To mark these loads replace the bomb load marker with a torpedo load marker.

Rocket attacks require air-to-ground rocket (ATGR) loads. Squadrons carrying ATGR loads only make rocket attacks [15.3.6]. To mark these loads replace the bomb load marker with an ATGR load marker.

Strafing attacks do not require a weapon load, only that the aircraft does not have depleted ammo [15.3.7].

All rules that apply to bomb loads also apply to torpedo and ATGR loads. The Torpedo load and ATGR load markers are used in place of the bomb load markers as a reminder of the weapon load carried.

The scenario special rules may list whether a special weapon load is carried. If no loads are listed, the player may choose which load to carry.

15.2 BOMBING MISSIONS

When the bombing rules are used, modify bombing, escort and sweep missions as follows.

15.2.1 Bombing Missions

The scenario assigns the raiders one or more surface targets for their bombers to attack [5.1].

Instead of flying to the far map edge, bombers fly toward the map column occupied by their target, then fly a bombing profile [15.3] to conduct a bombing attack [15.4]. After attacking the target they fly away from the target, then at any point the raiding player desires they return to base [9.2.6].

On their way to the target bombers move exactly 2 MP each turn without climbing or changing facing. Diving is permitted to reach the altitude from which the raiding player wishes to fly the bombing profile and bomb, but until the squadron begins to fly the bombing profile, no more than one altitude level may be dived each turn. Bombers cannot use the 1 MP bonus for diving unless they dive in a turn in which they are flying a bombing profile.

When returning to base, bombers move 2 MP per turn (see also 9.2.6).

In any Movement Phase prior to flying a bombing profile, bombers may begin to circle [8.3.1]. Circling is entirely optional, but if one squad-

ron in a formation circles all bombers in that formation must circle. Escorts for those bombers also circle when the bombers start to circle. The bombers can exit the circle in any subsequent Movement Phase. Once they exit the circle they cannot circle again in that game.

15.2.1.1 Strafing

Strafing missions are a variant of bombing mission. Strafing squadrons may carry a bomb load as normal. Once the bomb load has been dropped the squadron does not have to return to base. They can continue to make strafing attacks [15.3.7] until their ammo is depleted, at which point they return to base. Between dropping bombs and commencing their return to base the squadron is free to move provided they stay within 5 squares of an enemy surface target. They can also take advantage of the 1 MP bonus for diving when not flying a bombing profile.

15.2.1.2 Recce

Recce (reconnaissance) missions are a variant of bombing mission.

Squadrons on recce missions do not carry bombs, drop bombs or resolve combat against the target. Instead, they fly a level bombing profile against the target [15.3.1]. Ignore the aiming requirement based on the bombsight and instead aim for 4 squares of movement. The squadron must maintain line of sight to the target throughout aiming or the reconnaissance fails. If it completes aiming the reconnaissance is successful.

On successful completion of the reconnaissance the squadron must safely escape or exit the map. If it does so score VP equal to the value printed on the target counter.

15.2.2 Escort Missions

All normal escort behaviours apply [9.2.2]. However, if the escorted bombers change altitude [15.2.1] or fly their bombing profile, the escorts climb or dive to conform to the height change.

Once per scenario, all escorts for a bombing formation may switch to a sweep mission. They all switch to sweep at the same time and may form back up on the bombers as escorts in some later game turn as per 9.2.2.

Escorts that switch to sweep can circle as per 15.2.3. However, they do not roll a die to determine when they leave circling. Instead they leave circling if one of the following triggers applies:

- (1) The squadron returns to base [9.2.6].
- (2) The squadron tallies an enemy and moves to attack [7.2].
- (3) The bombers finish their attack and the escort moves by the shortest route to take up a new escort position on the bombers [9.2.2].

15.2.3 Sweep Missions

All normal sweep behaviours apply [9.2.3]. However, instead of flying to the far map edge, sweeps move until the raiding player decides they should start circling [8.3.1].

At the beginning of each Movement Phase after a squadron starts circling, roll one die. On a 4 to 6, the squadron continues to circle for that Movement Phase. On a 1 to 3, the squadron returns to base [9.2.6]. If the sweep is part of a formation, all squadrons in the formation circle together and the die roll applies to all squadrons in the formation.

A circling squadron that tallies an enemy is freed from the requirement to circle for the remainder of the game.

Instead of circling, sweep missions are permitted to strafe surface units [15.3.7]. While strafing they are free to move provided they stay within 5 squares of an enemy surface target, as described in 15.2.1.1. If their ammo is depleted they must return to base.



PHOTO: An armed SBD dive-bomber prepares to attack Wake Island in 1943. In the early war the dive-bomber allowed commanders to launch precision attacks while limiting exposure to low altitude flak. Later in the war, the high performance fighter-bomber filled this role while proving more able to look after itself.

Escort Mission Summary. Escorts fly with or near the bombers, moving at the same rate. At or near the target the escorts will wait and circle while the bombers expose themselves to flak and make their bombing attack. After the attack the escorts take up a new escort position on the bombers.

Anticipating Bomber Movement. Because escorts move before bombers, they can dive to anticipate diving movement by the bombers that turn.

Escorts to Sweep. Use this option to have escorts circle away from any flak while the bombers fly ahead and bomb, so they are not attacked.

Sweep Mission Summary. Sweep squadrons fly above or ahead of the main body of a raiding force, such as the bombers. Their job is to clear a path for the bombers or provide cover against high interceptors. Near the bomber target they will circle for a while until they turn and head home. Sweep squadrons that are alerted to enemies can continue their sweep, engage any enemies they tally, or return home.



PHOTO: A bomb-armed Typhoon beating up shipping. Unlike the dive bomber, which would bomb and dash for home, fighter-bombers were prepared to wade in at low altitude and mix it with multiple passes of bombs or rockets and cannon strafes.

No Aim Penalty Example. A squadron flies a dive bombing profile. It starts at altitude 2 and dives to altitude 0. This doesn't meet the minimum aim requirement of diving four levels, so the dive bomb attack goes ahead with the no aim penalty.

Tackling the Bombers. Because bombing is resolved before air combat, defending interceptors need to strike the bombers in the game turns before the bombing takes place.

15.2.4 Fighter-Bombers

Fighters carrying bomb loads behave as bombers up until the point they either jettison or drop their bombs. However, unlike bombers fighter-bombers are permitted to roll for tally attempts against enemy squadrons. Fighter-bombers attacked by enemy fighters are alerted [7.1].

Fighter-bombers can jettison their bombs during movement if they become alerted or tally an enemy squadron. They can also jettison following resolution of an air combat. A fighter-bomber that no longer has bombs functions as a sweep squadron and may strafe [15.2.3, 15.3.7]. (EXCEPTION: Fighters tasked with Recce [15.2.1.2] carry no bombs. However, they behave as bombers throughout the scenario.)

15.2.5 Attack Positioning

All the behaviours in the preceding sections assume the bombing squadrons fly directly toward the target's column then commence their attack when they get near it. Alternatively, bombing squadrons (and their escort) are allowed to fly over and past the target's column, then turn to face the opposite direction, fly back and conduct the bombing.

Not all bombers need to do this. Some bombers can attack from the left and others from the right in the same scenario.

15.3 BOMBING PROFILES

A bombing profile describes how a bomber squadron must fly before it can drop bombs. A profile, and the aiming requirements for the profile, may need to be flown over two or more game turns. There are different bombing profiles for different types of attack and different weapons.

The prerequisites describe the conditions that allow that bombing profile to be used. If these are not met that profile may not be flown. Prerequisites may allow the profile to be flown only by certain aircraft classes, or aircraft with particular abilities, or in certain conditions. The player can choose any profile to fly, provided the prerequisites allow it.

The aiming instructions indicate what must be done when flying the profile in order to complete aiming. If aiming instructs the bomber to fly a 'course', it must maintain this flight right up to the moment of the bomb drop in order to aim. A failure to aim means the attack takes place with the no aim penalty.

While flying a bombing profile, bombers must move their full Movement Point allowance, if possible. (No circling allowed.) They may claim the 1 MP bonus for diving [8.2].

Where the bombing profile refers to being above the target, this means the bomber occupies the same map column as the target at the same or a higher altitude.

On completing the profile, the squadron drops its bombs. Take the bomb load marker from the squadron's Wing Display and place it on the target. If the bombs were dropped in the middle of movement, complete the squadron's remaining movement. Resolve the attack in the Combat Phase after flak attacks but before any air combats take place.

15.3.1 Level Bombing

Prerequisites. All aircraft can perform level bombing.

Aiming. To aim the bomber must fly a course for a number of squares without changing height or facing. The number of squares depends on the bombsight type:

- T 1 square
- V 2 squares
- G 4 squares

Profile. To perform level bombing the bomber flies over the target at any altitude without changing height or facing.

Once above the target, the squadron drops its bombs.

15.3.2 Dive Bombing

Prerequisites. Only aircraft with dive brakes [3.3] can perform dive bombing. The squadron must have a line of sight [4.6] to the target before the dive commences or no attack may be made.

Aiming. To aim the bomber must dive at least four squares.

Profile. A dive bombing attack commences when either above the target or adjacent to the target's column at any altitude from 2 to 10. Change facing to permit a dive, then dive directly down to altitude 1 or 0 without changing facing. If starting from an adjacent column, the squadron must at some point move into the same column as the target.

On reaching the desired altitude above the target, drop bombs.

Air combat attacks are not allowed against a squadron on turns in which it dives two or more altitude levels as part of a dive bombing profile.

15.3.3 Steep Angle Bombing

Prerequisites. Fighter-bombers and dive bombers can make steep angle bombing attacks. Other aircraft classes can make steep angle attacks only if equipped with speed brakes [3.3]. The squadron must have a line of sight [4.6] to the target before the dive commences or no attack may be made.

Aiming. To aim the bomber must dive at least three squares.

Profile. A steep angle bombing attack commences when either above the target or adjacent to the target's column at any altitude from 2 to 10. Change facing to permit a dive, then dive directly down to altitude 1 or higher without changing facing. If starting from an adjacent column, the squadron must at some point move into the same column as the target.

On reaching the desired altitude (1 or higher) above the target, the squadron drops its bombs.

15.3.4 Glide Bombing

Prerequisites. All aircraft other than heavy bombers may make glide bombing attacks. The squadron must have a line of sight [4.6] to the target before the dive commences or no attack may be made.

Aiming. To aim the bomber must dive exactly two squares.

Profile. A glide bombing attack commences two columns from the column the target occupies, and at altitude 2 or 3. The squadron flies toward the target, diving one altitude level (only) for each square it moves forward. This means that if the squadron starts at altitude 3 it should enter the target's column at altitude 1; if it starts at altitude 2 it should enter the target's column at altitude 0.

Once above the target, the squadron drops its bombs.

15.3.5 Torpedo Attack

Prerequisites. Only aircraft that have torpedo ability [3.3] can perform torpedo attacks. The squadron must be carrying a torpedo weapon load [15.1]; mark it with a torpedo load marker. Torpedo attacks can only be made over the sea and the target must be a ship [4.1, 14.0].

Aiming. To aim the bomber must fly a course of at least 2 squares over the sea at altitude 0 without changing height.

Profile. To perform a torpedo attack the bomber flies toward the target at altitude 0 without changing height or facing during its move. Squadrons may not split while flying the torpedo attack profile [9.3].



Dive Bombing Example. A SBD squadron flies a dive bombing profile. It starts at altitude 4 and, claiming the 1 MP dive bonus, dives to altitude 1. While diving vertically in the target column it gets the benefit of 0.5 MP for each square moved. It cannot expend the final half MP, but that's okay because it's not possible to use the full MP allowance.

Because it has flown a dive bombing profile and dived four altitude levels, the SBDs cannot be attacked in air combat.

Dive Bombing and Combat

Once committed to a dive, fighters without dive brakes could not attack dive-bombers without overshooting. In the game we represent this by disallowing air combat.

Torpedo Attack Modifier

The torpedo attack modifier reflects the reliability and effectiveness of the torpedoes. American torpedoes were notoriously unreliable in the early stages of the war.

Slow Torpedoes

Slow torpedoes lacked 'air tails' that permitted high speed drops.

Rockets

Rockets were highly accurate weapons, but their explosive payload was small, making them less effective against well-protected targets or infrastructure.

Strafing Firepower Example. If the bomber firepower is 0, the bomb value is 1. If the firepower is 2, the bomb value is 3.

Once adjacent to or above the target (player's choice), the squadron drops its torpedoes. Treat the torpedo load marker like a bomb load marker and place it on the target after dropping. A torpedo attack from the adjacent square applies the long range penalty to the bombing attack roll.

The bomb value used for torpedo attacks is always 20 (ignore the aircraft's listed bomb value). The torpedo attack modifier listed on the ADC [3.3] must be applied to the attack [15.4].

15.3.5.1 Slow Torpedo Attack

If the Torpedo is listed as Slow mark the squadron with a slow marker while aiming [3.3.1]. While aiming the squadron moves only 1 MP per turn. Remove the slow marker at the beginning of the Movement Phase of the game turn after the attack.

15.3.6 Rocket Attack

Prerequisites. Only aircraft that have ATGR ability [3.3] can perform rocket attacks. The squadron must be carrying a rockets weapon load [15.1]; mark it with a ATGR load marker.

Aiming. To aim the bomber must fly into the target's square or an adjacent square at altitude 0.

Profile. To perform a rocket attack the bomber flies into the target's square or an adjacent square at altitude 0 without changing facing. It may not dive more than 1 altitude level during movement.

Once in or adjacent to the target's square at altitude 0, the squadron attacks. Treat the ATGR load marker like a bomb load marker and place it on the target after dropping. A rocket attack from the adjacent square applies the long range penalty to the bombing attack roll [15.4].

Instead of the aircraft's listed bomb value, the bomb value used for rocket attacks is printed next to the ATGR ability. Halve this value against Airfield, Bridge, Bunker, Factory and Port targets.

15.3.7 Strafing

Prerequisites. Squadrons must have a strafing or sweep mission to strafe. All aircraft with a firepower value can strafe. No bomb load is required to strafe. However, if the aircraft's ammo is depleted, it cannot strafe.

Aiming. To aim the squadron must fly into the target's square.

Profile. To perform a strafing attack the squadron flies into the target's square without changing facing. It may not dive more than 1 altitude level during movement.

Once in the target's square, strafing takes place. Unlike normal bombing attacks, no bomb load is expended. The bomb value used for the attack is equal to 1 plus the squadron's firepower value. (For the effects of gun pods on firepower, see 13.5.6.)

After the strafing attack, mark the squadron with a low ammo marker (even if it's a class that doesn't normally mark ammo [10.7.2]). If its ammo is already low, mark the squadron as ammo depleted.

15.3.8 Rockets & Strafing

It is possible to combine rockets and strafing in the same attack if the squadron meets the prerequisites for both types of attack. Make a rocket attack in the same square as the target [15.3.6]. Add the bomb value for strafing to that of the rockets [15.3.7]. Mark the squadron with a low ammo marker per the normal strafing rules.

15.4 RESOLVING BOMBING ATTACKS

To resolve a bombing attack, the bombing player must:

- (1) Roll on the Bombing Table to see what percentage of bombs hit.
- (2) See how many bombing hits are scored based on the rolled percentage of the bomb load.

Roll two dice and modify as indicated by the Bombing Table. Refer to the Altitude Modifier Table to get the modifiers for the bombsight, based on the altitude from which the attack is made. Check the final modified roll against the Bombing Table to find the percentage of hits.

After determining the percentage, calculate the bombing hits scored in the bombing attack as follows: multiply the squadron's bomb value by the percentage rolled and round to the nearest whole number [1.2]. (It is possible to round down to zero.) This is the number of bombing hits inflicted.

Flights and disrupted squadrons should halve their bomb value before multiplying by the percentage.

Rule 14.1.1 describes the effect bombing hits have on surface units.

15.5 SPECIAL BOMBING ATTACKS

15.5.1 Anvil Attacks

An anvil attack is a torpedo attack [15.3.5] launched by two or more squadrons in the same game turn against the same ship.

The anvil attack modifier applies to all torpedo attacks from one squadron only (the attacker chooses which). It does not apply to the squadron not chosen.

15.5.2 Suicide Attacks

If a Japanese squadron bombs a target from altitude 0 or 1, and that unit is marked with stragglers, the Japanese player can choose to suicide the straggling aircraft. He chooses before the attack is rolled. Flip the straggler marker over to its loss side. Increase the squadron's bomb value by 1.

15.5.3 Tokko Attacks

Only Japanese squadrons that are designated by the scenario as Tokko units may make Tokko attacks.

Once they commence flying a bombing profile Tokko units do not break. If disrupted, they ignore all additional disruption levels applied to the unit. Disrupted flights are disrupted rather than broken.

To make a Tokko attack, fly any level or dive bombing profile that would normally release bombs at altitude 0. Aircraft that are not normally permitted to dive bomb may do so in a Tokko attack. Instead of releasing bombs the entire squadron attempts to crash into the target and is removed from play.

When resolving bombing, apply the Tokko modifier to the attack (instead of the modifier for dive bombing if making a dive bombing attack). Increase the bomb value by 1 for each aircraft remaining in the squadron when it attacks. This number of aircraft is equal to the Max Losses value for the squadron (or flight) less any losses on the squadron's Wing Display. (Stragglers do NOT count as losses for this purpose.)

Interpreting Bombing

The bombing system covers so many possible situations and outcomes that the players have to interpret what happened. Not all of a squadron's bombs strike home in an attack. And of those that hit, not all impact a vital spot.

You can assume a 100% result means that a critical part of the target is hit: a magazine or hangar deck on a ship, an ops room at an airfield or the command group of an army unit.

A 50% result represents a solid hit or a good concentration of bombs. Maybe some of the vitals were hit but not catastrophically.

Lesser results represent glancing blows, hits to the strongest part of the armour or non-critical systems.

Anvil Attacks

Anvil attacks required one group of torpedo bombers to attack at 90 degrees from another group so that whichever direction the ship chose to evade the torpedoes, it would receive a broadside from one of the attacking groups.

Suicide Attacks

This rule refers to the Japanese tendency to crash damaged aircraft into targets. It is not a reference to massed Kamikaze attacks (see the Tokko Attacks rule for that.)

Kamikaze

Tokko units, or 'special attack units', became known as Kamikaze by the Americans for their massed suicide attacks on ships.

Tokko Attack Example. An A6M3 Zero squadron makes a Tokko attack on an American CV. The squadron's bomb value is 5. At the moment it attacks the squadron's Max Losses value is 8 and the squadron has taken 5 losses from fighters and flak, which also causes it to be disrupted. It achieves 25% hits on the attack and is immediately eliminated.

The bomb value is halved to 3 due to the disruption. However, it is increased by 3 due to the number of remaining aircraft in the squadron. Multiplying 6 by 25% and rounding the result means that 2 bombing hits are scored on the CV.

Inspirations

The first inspiration for *Wing Leader* is Mike Spick's miniatures skirmish game, originally published in *Airfix Magazine* in the April, May and June issues of 1977. He later expanded upon this in his book *Air Battles in Miniature* (Patrick Stephens Limited, 1978), one of the classic manuals of wargame design.

Another great inspiration is Alfred Price's illustrated war studies: *World War II Fighter Conflict* (Macdonald and Jane's, 1975) and *The Bomber in World War II* (Macdonald and Jane's, 1976). These books succinctly outline the mechanics of air warfare and the fundamentals of combat aircraft design.

Finally, an honourable mention for Anthony Williams and Emmanuel Gustin's book *Flying Guns of World War II* (Airlife, 2003). Their formulae for calculating gun power underpins the firepower values in this game.

16.0 DESIGNER'S NOTES

Wing Leader is a game about interception, about bombing and about large-scale air engagements. Its focus is a level above the usual dogfight game.

A number of premises underpin the design.

- (1) *Wing Leader* is a game about the interception of raids. Given that raids fly long, straight courses towards their targets, we can reduce the geometry of a raid to two dimensions: the length along the axis of the raid, and altitude above ground. All interception courses are essentially pursuit or collision courses.
- (2) Engine performance rather than airframes proved to be the decisive factor in air warfare. The game depicts how Allied engine technology surpassed that of the Axis in the development of power at high altitudes. German motors had insufficient design 'stretch', while the Allies perfected the means to boost engine power at altitude through supercharging and turbo-supercharging. Japan and Italy suffered from inadequate engines throughout the war and became reliant on license-built German engines to boost the performance of their airframes. In the first volume of the game, set early in the war, the differences in performance are minor, but they become pronounced in the late-war second volume.
- (3) Formations of fighters are fragile and tend to fly apart in combat. More than one veteran told me how he would become embroiled in a fight and then suddenly found himself on his own in an empty sky. Once engaged, squadrons have a short lifespan before they are used up and break for home. The decision to commit squadrons to combat is therefore an important one.
- (4) The pre-war debate over the dominance of speed or manoeuvrability in air combat was won by the advocates of speed as soon as air forces were tested in battle. This proved a disadvantage to Italy and Japan, which had invested heavily in light, agile dogfighters. Hit-and-run attacks should be more common than turning fights.
- (5) Though aircraft protection improved early in the war with the adoption of pilot armour and self-sealing tanks, survivability did not radically improve thereafter (save for a few exceptional aircraft such as the IL-2 and the Fw 190A-8 'Sturmböck'). Rather, great leaps and strides were made in the killing power of aircraft gun batteries. The apex of this advance is seen in the second volume of the game but can be detected in the first volume with the progression from machineguns as the primary weapon to cannon that fired explosive shells.
- (6) Almost as decisive a factor as performance was aircrew training and doctrine. Here, the Luftwaffe and Japanese naval aviation held the edge at the start of the war and are superior in many of the scenarios found in the first volume. In the second volume scenarios we see German and Japanese aircrew quality decline, in part because of casualties but in the main due to inadequate training establishments, curtailed syllabi and a lack of flying hours. By comparison, the lavish training programs of the Allies would churn out superbly trained and prepared aviators in time for the final years of war.

Only in numbers of Experten would the Luftwaffe have any advantage in the late war, thanks to the practice of keeping them constantly in combat. However, it's notable that of the German fighter pilots with 100+ kills, almost all joined their squadrons before the

summer of 1942, when the demand for pilots caused the Luftwaffe training program to be relaxed.

Like the Luftwaffe, the Japanese kept their Experten fighting throughout the war. However, the Pacific seas and jungles ate up bailed-out pilots at a far greater rate than the Luftwaffe suffered.

- (7) In *Wing Leader* setting the initial conditions of an air engagement is something of a chess game. Altitude is often the decisive dimension for the same reasons it was historically. Higher aircraft can convert their altitude advantage into speed as well as take advantage of positioning themselves in the Sun.
- (8) Though dogfights obeyed a law of diminishing returns when the numbers of aircraft increased, the big battalions still held the upper hand. Balbos were brittle and hard to manage. However, small wing formations appear to have been effective.
- (9) Aerial bombardment was hard to pull off. High accuracy could only be achieved through attacks at low level, including dive bombing and steep angle attacks. However, quantity has a quality of its own. High-altitude bombing could achieve results simply through the mass of tonnage dropped near the target. Even if a small percentage of bombs hit, they could do great damage. The bombing mechanics try to capture this dynamic.
- (10) Though the dive-bomber achieved unparalleled levels of accuracy, the flexibility of the fighter-bomber, its ability to defend itself and its relative low cost, made it a far more attractive tool for tactical support.

17.0 CREDITS

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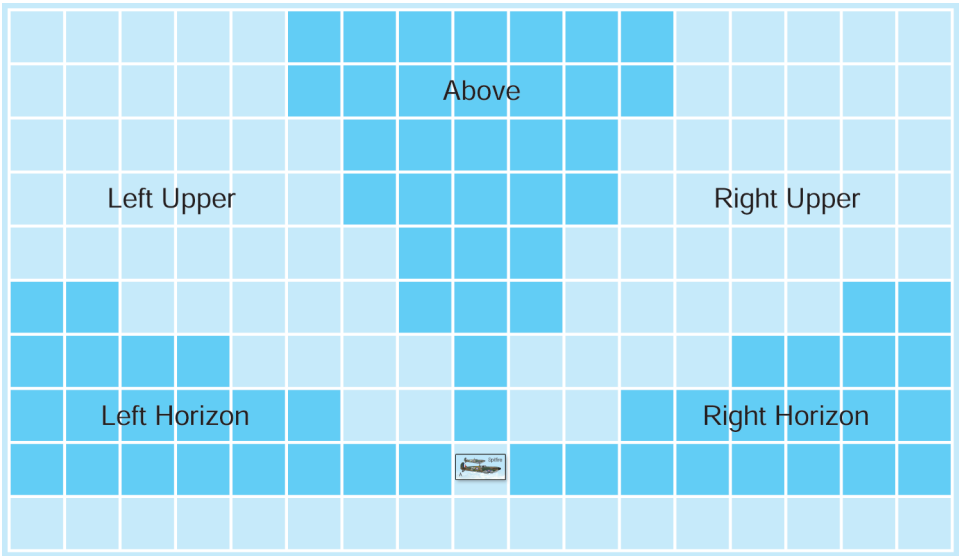
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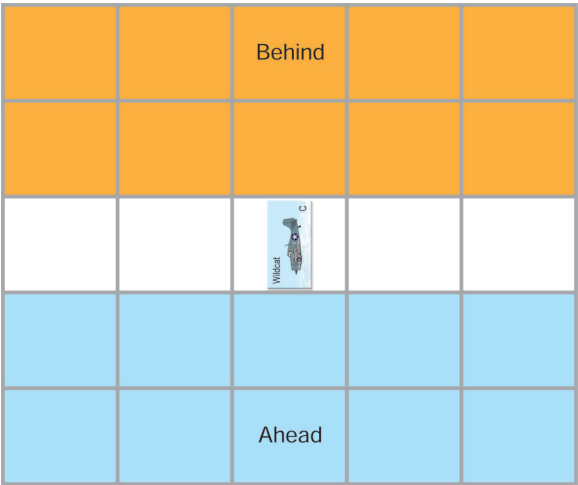
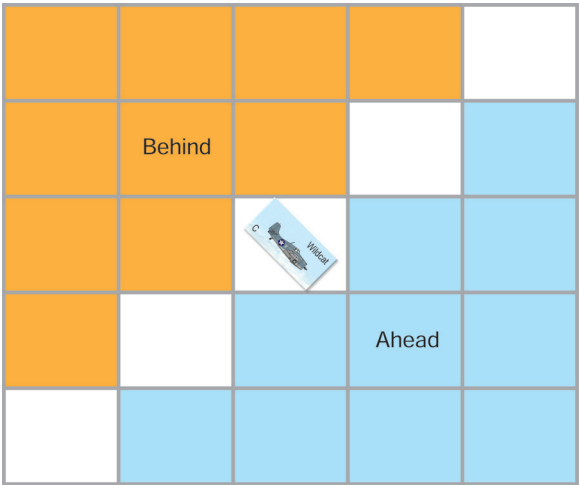
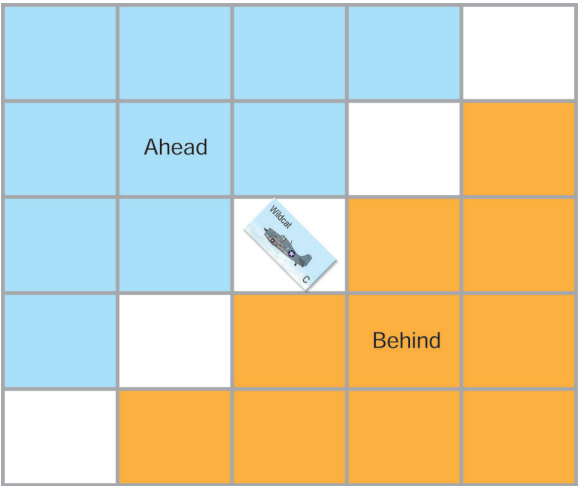
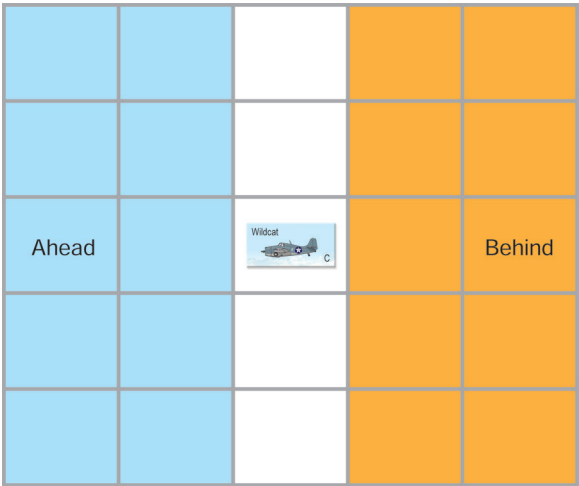
A *Damn Fine!* production



SUN ARCS

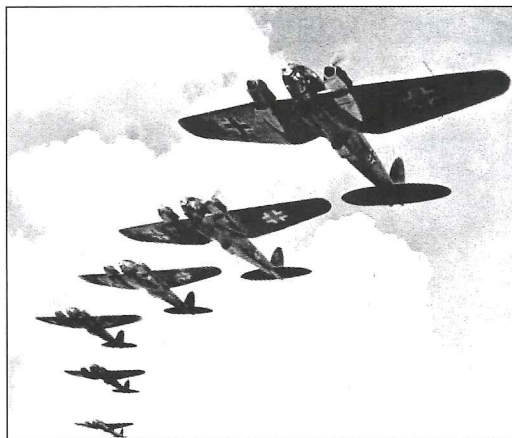


ASPECT



WING LEADER

VICTORIES 1940 - 1942



Scenario Book

This book contains 23 historical scenarios,
recreating air battles from 1940 to 1942



Background

China, 23 December 1941

Just before America's entry into WWII, Claire Lee Chennault, working in war-torn China, formed the American Volunteer Group (AVG). Comprised of adventurers attracted by high pay, this group of inexperienced airmen defended Southern China and Burma against the Japanese Army Air Force. On 23 December the Japanese mounted a major raid on Rangoon. While parts of 3rd Squadron and the RAF tackled the first wave, the rest of 3rd Squadron's 'Hell's Angels', led by Parker Dupouy, took on the follow-up raid.



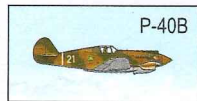
v1.0, Scenario by Allan Cannamore

Order of Battle**Defenders – American**

Elements of 3rd Squadron, AVG

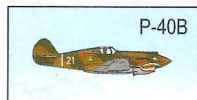


x1



P-40B – Intercept mission
Set-up in I9

x1



P-40B – Intercept mission
Set-up in I7

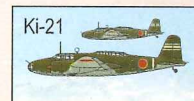
Max Losses Flights 3
Alert All squadrons start alerted
Quality Veteran 0; Green 0; Experte 0

Raiders – Japanese (set-up first)

Elements of 98th Sentai, JAAF



x2



Ki-21-IIa – Bombing mission
Set-up in O9, P9

Max Losses Squadrons 9
Alert Not applicable
Quality Veteran 0; Green 0; Experte 0

Map Edges *Left* - American; *Right* - Japanese

Doctrine All squadrons use loose doctrine

GCI Control None

Radio Nets *Able* - All American flights

Sun Position Right Upper

Clouds None

Haze None

Contrails None

Special Rules This is a scenario designed to help players learn the game. No advanced rules are needed, but the following special rules apply:

1. The scenario is best played solitaire. The player controls both Americans and Japanese.
2. Japanese movement is 'pre-programmed'. Fly the Ki-21 squadrons to the H column. On entering the H column each squadron drops its bombs (remove the bomb load marker), and expends its next MP to flip and face the Japanese map edge. Thereafter, the squadrons return to base.
3. AVG units can set up facing right or left.
4. AVG units cannot enter map squares to the right of the N column.

5. Due to the scarcity of P-40s, each American loss scores 2 VP for the Japanese instead of the normal 1 VP.

Victory Conditions

At the game end total each side's Victory Points (VP) for losses only.

In addition, the Americans score 4 VP for each Ki-21 squadron that is broken before reaching the H column or 2 VP if the squadron is disrupted.

Subtract the Japanese VP from the American VP to see who wins:

+4 or less	Japanese Victory
+5 to +6	Draw
+7 or more	American Victory

Aftermath

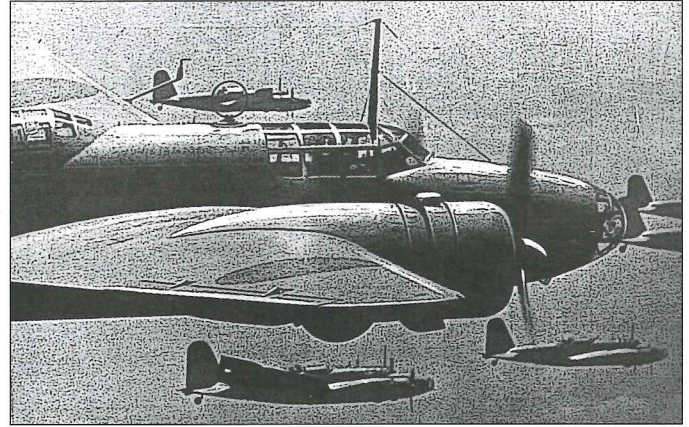
Dupouy split his 'Hell's Angels' into three-ship flights to attack the Sallys, commanded by Colonel Usui Shigeki. In a fight that lasted almost half an hour, two bombers went down for the loss of a P-40. The fighters could not prevent the Sallys from plastering downtown Rangoon, but this fierce battle and others to follow was to earn the AVG the nickname 'The Flying Tigers'.

Background

China, 28 April 1942

Claire Chennault, commanding the American Volunteer Group, believed the Japanese would put on a spectacular show for the Emperor's birthday on 29 April. It turned out the show was to be the Japanese Army's attack on Lashio with the help of paratroops and that this required their bombers to neutralise the Americans at Loiwing the day before.

Fortunately, the AVG deployed more fighters to cover the city. They were stacked up over Hsipaw when the Japanese, escorted by the Hayabusa pilots of the 64th Sentai, hove into view.



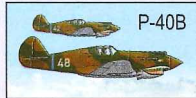
v1.0, Scenario by Lee Brimmicombe-Wood

Order of Battle**Defenders – American**

Elements of 2nd and 3rd Squadrons, AVG



x1



P-40B – Intercept mission
Set-up in columns A to K at altitude 6

x1



P-40B – Intercept mission
Set-up in columns A to K at altitude 7

x1



P-40E – Intercept mission
Set-up in columns A to K or V to Z at altitude 11

Max Losses Squadrons 8; Flights 4

Alert All squadrons start alerted

Quality Veteran 1; Green 1; Experte 0

Raiders – Japanese (set-up first)

Elements of 12th Sentai and 64th Sentai, JAAF



x2



Ki-21-IIa – Bombing mission
Set-up in R11, S11

x1



Ki-43-I – Sweep mission; set up as if squadron was an escort

x1



Ki-43-I – Sweep mission; set up as if flight was an escort

Max Losses Squadrons 12; Flights 6

Alert No squadrons start alerted

Quality Veteran 1; Green 0; Experte 0

Map Edges *Left* - Allied; *Right* - Japanese

GCI Control Allied - GCI 4

Radio Japanese squadrons do not have radio

Radio Nets *Able* - All P-40B squadrons and GCI

Baker - The P-40E flight and GCI

Sun Position Right Upper

Clouds Wispy in C9-R9

Special Rules

1. Allied squadrons set up facing right or left as the Allied player desires.
2. The P-40Bs set up within 2 squares of each other.
3. Because of lack of oxygen supply, the P-40Bs cannot climb above altitude 11. The P-40E flight is not so restricted.

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the Allied VP from the Japanese VP to see who wins:

+4 or less	Allied Victory
+5 to +7	Draw
+8 or more	Japanese Victory

Aftermath

The Hayabusas, led by Captain Kuroe Yasuhiko, broke from their escort duty and managed to keep the AVG away from the bombers in an epic but confused melee that saw claims of no fewer than thirteen Japanese fighters downed for no loss. However, only two Ki-43s failed to make it home, making it a grand day for overclaiming.

Background

Stalingrad Approaches, December 1942

The Luftwaffe's response to Operation Uranus was to airlift supplies to the Sixth Army trapped in Stalingrad until a relief could be mounted. Hastily, He 111s were commandeered as transports to supplement a scraped-together force of Ju 52s.

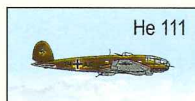
However, transports had to cross more than 75 miles of Soviet-held territory to reach the Stalingrad pocket. The Soviet air force, the *Voyenno-Vozdushnye Sily* (VVS), harried the transports at every opportunity. German fighters, stretched between protecting the air bridge and cover for the relief columns, found themselves on the defensive against an increasingly aggressive enemy.

Order of Battle**Raiders – German** (set-up first)

Elements of KGrzbV 20 and JG 52

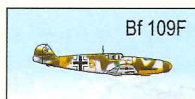


x2



He 111H-1 – Transport mission
Set-up at least 5 squares apart in columns I to O at altitude 1

x1



Bf 109F-4 – Escort mission

Max Losses Flights 4

Alert No squadrons start alerted

Quality Veteran 1; Green 0; Experte 1

Defenders – Soviet

Elements of 512 IAP



x2



Yak-1 – Intercept mission. Set-up in formation in any squares in columns A-G or Q-Z

Max Losses Squadrons 9

Alert All squadrons start alerted

Quality Veteran 0; Green 2; Experte 0

Map Edges *Left* - German; *Right* - Soviet

GCI Control Soviet - GCI 4

Radio Nets *Anna* - The Soviet squadrons and GCI

Berta - The German escort flight

Sun Position Left Upper

Cloud Dense in F3-Z3

Special Rules None.

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the Soviet VP from the German VP to see who wins:

+1 or less Soviet Victory

+2 to +3 Draw

+4 or more German Victory

Aftermath

As VVS early warning and ground control improved, the Germans found it hard to fly transports into the Stalingrad 'cauldron' unscathed. The escorts would win almost any fight they found themselves in, but they were stretched too thin to stop all the interceptors.



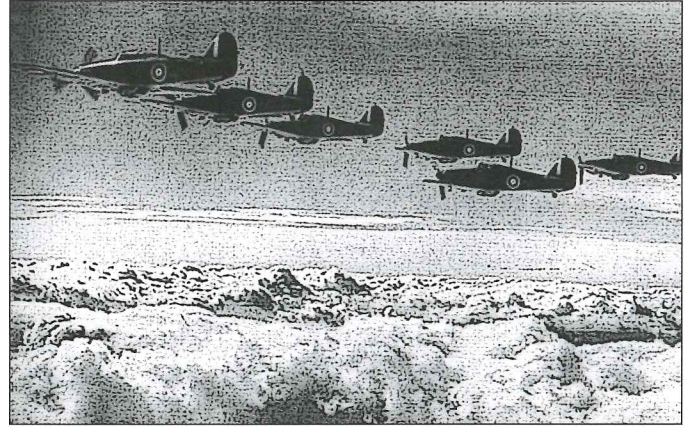
v1.0, Scenario by Lee Brimmicombe-Wood

Background

Southern England, August 1940

From their airfields in France, the Luftwaffe struck out at British aerodromes in an attempt to neutralise the Royal Air Force's Fighter Command. The depth of penetration was so shallow that Air Vice-Marshal Keith Park, commanding 11 Group, barely had any warning of raids.

Squadrons, scrambling for height, reached the raids in individual 'penny packets', becoming prey for the higher-flying free hunters and extended escort. Without the benefits of concentration, only a fraction of the squadrons ever reached the bombers.



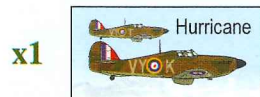
v1.0, Scenario by Lee Brimmicombe-Wood

Order of Battle**Defenders – British**

Elements of 11 Group, RAF



Spitfire Mk.IA – Intercept mission. Set-up in columns A to E at altitude 1 or less



Hurricane Mk.I – Intercept mission. Set-up in columns F to J at altitude 6 or less



Hurricane Mk.I – Intercept mission. Set-up in columns U to Z at altitude 3 or less



Spitfire Mk.IA – Intercept mission. Enter left map edge on Turn 5 at altitude 9 or less

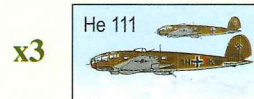
Max Losses Squadrons 12

Alert All squadrons start alerted

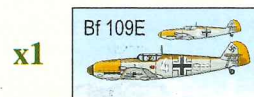
Quality Veteran 0; Green 0; Experte 1

Raiders – German (set-up first)

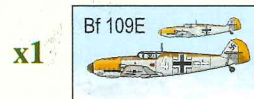
Elements of KG 51 and JG 3, Luftflotte 2



He 111H-1 – Bombing mission
Set-up one each in V8, W8, X8



Bf 109E-4 – Escort mission



Bf 109E-4 – Sweep mission
Set-up in columns P, Q or R at altitude 9 or higher

Max Losses Squadrons 9; Flights 4

Alert No squadrons start alerted

Quality Veteran 2; Green 0; Experte 1

Map Edges *Left* - British; *Right* - German

Doctrine British squadrons use rigid doctrine
German squadrons use loose doctrine

GCI Control British: GCI 4

Radio Nets *Ack, Beer, Charlie, Dog* - Each British squadron has a separate radio net, shared with GCI

Emil - The sweep fighter squadron

Friedrich - The escort squadron

Sun Position Above

Clouds Broken in K5-L5, K6-L6, O5-V5, O6-V6

Special Rules German squadrons have tactical flexibility [9.3.2].

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the British VP from the German VP to see who wins:

+12 or less British Victory

+13 to +15 Draw

+16 or more German Victory

Aftermath

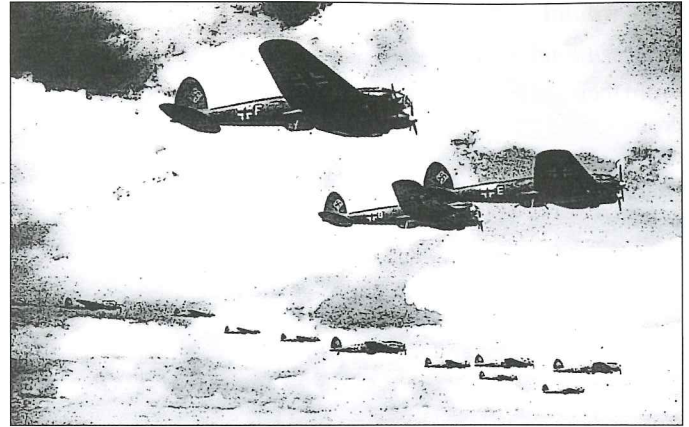
The difficulties faced in getting past the sweep and escorts led to a fierce debate at Fighter Command on the best use of squadrons. Keith Park maintained he didn't have the warning time to organise his squadrons into wings, but other voices agitated for wing formations to smash their way through to the bombers.

Background

Northern England, 15 August 1940

Believing Fighter Command to be fully engaged in the South of England, Luftflotte 5 entered the Battle of Britain by raiding the Northeast. A force of Heinkels descended on Tyneside from Norway, accompanied by Zerstörer heavy fighters, laden with extra fuel.

German intelligence was faulty. Alerted by a diversionary raid that went awry, a number of RAF fighter squadrons, sidelined from the battle down south, eagerly scrambled to meet the attack. A running battle developed as the raid headed towards Newcastle and Sunderland, scattering bombs as it flew.



v1.0, Scenario by Lee Brimmicombe-Wood

Order of Battle**Defenders – British**

Elements of 13 Group, RAF



Spitfire Mk.IA – Intercept mission. Set-up on or left of column P at altitude 12



Spitfire Mk.IA – Intercept mission. Set-up anywhere more than two squares from the enemy at altitude 8



Hurricane Mk.I – Intercept mission. Enter right map edge on Turn 2 at altitude 10 or less

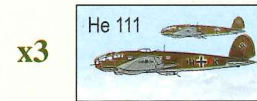
Max Losses Squadrons 12

Alert All squadrons start alerted

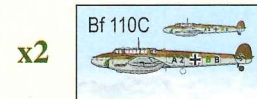
Quality Veteran 2; Green 0; Experte 1

Raiders – German (set-up first)

Elements of KG 26 and ZG 76, Luftflotte 5



He 111H-1 – Bombing mission
Set-up one each in V9, W9, X9



Bf 110C-4 – Escort and/or Close Escort mission

Max Losses Squadrons 9

Alert No squadrons start alerted

Quality Veteran 0; Green 0; Experte 0

Map Edges *Left* - British; *Right* - German

Doctrine British squadrons use rigid doctrine
German squadrons use loose doctrine

GCI Control British: GCI 4

Radio Nets *Ack, Beer, Charlie* - Each British squadron has a separate radio net, shared with GCI

Dora - All German fighter and bomber squadrons

Sun Position Above

Clouds Broken in C2-R2, C3-R3; Wispy in A8-N8

Special Rules

1. The Bf 110s are carrying drop tanks [13.2].
2. The German player cannot jettison the fighter drop tanks.
3. The Bf 110 squadrons can set up either as Escorts and/or Close Escorts.

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the British VP from the German VP to see who wins:

+9 or less British Victory

+10 to +12 Draw

+13 or more German Victory

Aftermath

As the Spitfires of 72 Squadron spotted the formation of Heinkels, a pilot shouted over the radio, "Have you seen them?" Acting squadron leader Ted Graham stuttered in reply, "Of course I've seen the b-b-b-b-astards! I'm t-t-t-rying to w-w-w-ork out what-what-to-d-do!"

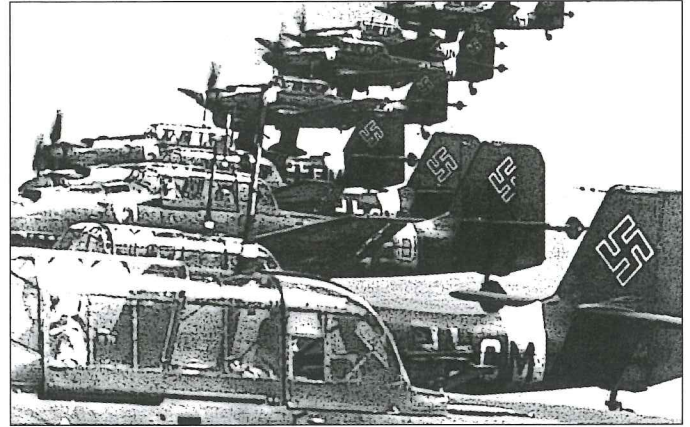
The Spitfires hurtled toward the bombers, joining other squadrons in picking on the unfortunate raiders and forcing most of them to turn back before they reached land. Eight bombers and seven fighters would go down for no British loss. For the rest of the Battle of Britain, Luftflotte 5 would never risk such a large raid in daylight again.

Background

Southern England, 15 August 1940

A gigantic plot over the Cherbourg peninsula resolved itself into a number of raids, one of which headed toward the naval base at Portland. However, the form-up between fighters and Stukas took too long and the early warning allowed 152, 87 and 213 Squadrons to get into position on the compact group of Stukas, protected by superior numbers of fighters.

Faced by overwhelming numbers, Flight Lieutenant Ian Gleed, leading the 87 Squadron Hurricanes, charged into the enemy, quipping "Okay chaps, let's go and surround them!"

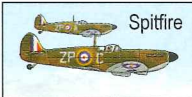




v1.0, Scenario by Lee Brimmicombe-Wood

Order of Battle**Defenders – British**

Elements of 10 Group, RAF




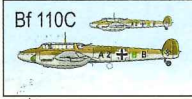
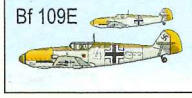
- | | | |
|-----------|--|--|
| x1 |  <p>Spitfire</p> | Spitfire Mk.IA – Intercept mission. Set-up in any unoccupied square on the map |
| x1 |  <p>Hurricane</p> | Hurricane Mk.I – Intercept mission. Set-up on or left of column E at altitude 9 or less |
| x1 |  <p>Hurricane</p> | Hurricane Mk.I – Intercept mission. Set-up on or right of column W at altitude 10 or less |

Max Losses Squadrons 12; Flights 6
Alert All squadrons start alerted
Quality Veteran 1; Green 0; Experte 1

Raiders – German (set-up first)

Elements of Luftflotte 3



- | | | |
|-----------|---|--|
| x3 |  <p>Ju 87B</p> | Ju 87B-1 – Bombing mission
Set-up one each in Q6, R6, S6 |
| x2 |  <p>Bf 110C</p> | Bf 110C-4 – Close Escort mission |
| x3 |  <p>Bf 109E</p> | Bf 109E-4 – Sweep mission
Set-up one each in Q11, R11, S11 |

Max Losses Squadrons 9
Alert No squadrons start alerted
Quality Veteran 1; Green 2; Experte 1

Map Edges *Left* - British; *Right* - German
Doctrine British squadrons use rigid doctrine
 German squadrons use loose doctrine

GCI Control British: GCI 4

Radio Nets *Ack, Beer, Charlie* - Each British squadron has a separate radio net, shared with GCI
Dora - All Bf 110 squadrons
Emil - All Bf 109 squadrons

Sun Position Right Upper

Clouds Broken in O2-Z2, Wispy in F10-M10

Special Rules

1. Bf 109 squadrons are close to their fuel limits due to late form-up. Mark them with low ammo markers during set-up [13.3].
2. The German player assigns the two Green quality markers to the Bf 110s.
3. Treat cohesion results of 1 against Ju 87 squadrons as 2. In other words, a single disruption breaks a Ju 87 unit.

4. The British Spitfire squadron can set up facing right or left.

5. One British squadron (only) may split when it first tallies an enemy.

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the British VP from the German VP to see who wins:

+8 or less	British Victory
+9 to +11	Draw
+12 or more	German Victory

Aftermath

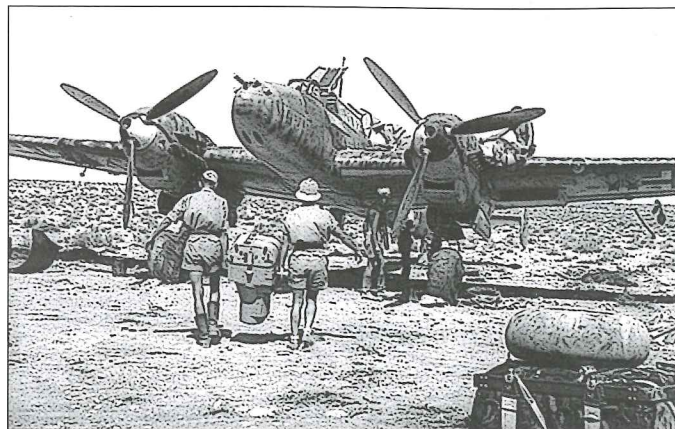
In the confused battle that followed, the British made inroads into the vulnerable Stukas and their escorts. Enough were shot down to convince Göring that the Stuka was unsuitable for the battle over England and that the Bf 110s were themselves in need of escorts.

Background

Malta, 11 April 1941

The fighter defences of Malta were reinforced by small groups of Hurricanes flown in by Force H from Gibraltar. Though the Italians had mounted a steady battle of attrition against the island, the Germans decided to reinforce the attackers with Joachim Munchenburg's 7./JG 26, now freed after the fall of Yugoslavia.

On 11 April a solitary Bf 110 reconnaissance aircraft was tasked with watching Malta's airfields, supported by an Italian fighter sweep and Munchenburg's Staffel.



v1.0, Scenario by Gordon Christie

Order of Battle**Defenders – British**

Elements of 261 Squadron, RAF



x1



Hurricane Mk.IIA – Intercept mission. Set-up in F8

x1



Hurricane Mk.I – Intercept mission. Set-up in C4

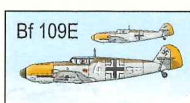
Max Losses Squadrons 8; Flights 4
Alert All squadrons start alerted
Quality Veteran 0; Green 0; Experte 0

Raiders – Axis (set-up first)

Elements of Regia Aeronautica and JG 26

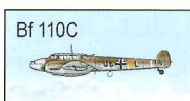


x1



Bf 109E-4 – Sweep mission
Set-up in O10

x1



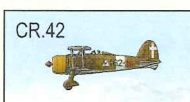
Bf 110C-4 – Recce mission
Set-up in O8

x1



MC.200 Sietta – Sweep mission
Set-up in Q8

x1



CR.42 – Sweep mission
Set-up in Q9

Max Losses Squadrons 8; Flights 4
(Bf 110 flight has max losses of 1 [13.6])

Alert No squadrons start alerted
Quality Veteran 1; Green 0; Experte 1

Map Edges Left - British; Right - Axis

GCI Control British – GCI 4

Radio Nets **Ack, Beer** - Each allied unit has a separate radio net, shared with GCI

Charlotte - The Bf 109 and Bf 110 units

Domodossola - C.200 squadron

Empoli - CR.42 flight

Sun Position Right Upper

Cloud Wispy D12-Q12; Broken F4-N4

Surface Units Airfield in C0; Hvy Flak A in D0

Special Rules

1. The Bf 110 flight is a single aircraft formation [13.6]. (As a fighter class aircraft assigned to a variant Bombing mission, treat the Bf 110 as a fighter-bomber.)
2. The target of the Recce mission is the Airfield.
3. The Bf 109 squadron has tactical flexibility [9.3.2]. Assign the Axis Veteran marker and the Experte only to that squadron.

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the British VP from the Axis VP to see who wins:

+3 or less	British Victory
+4 to +5	Draw
+6 or more	Axis Victory

Aftermath

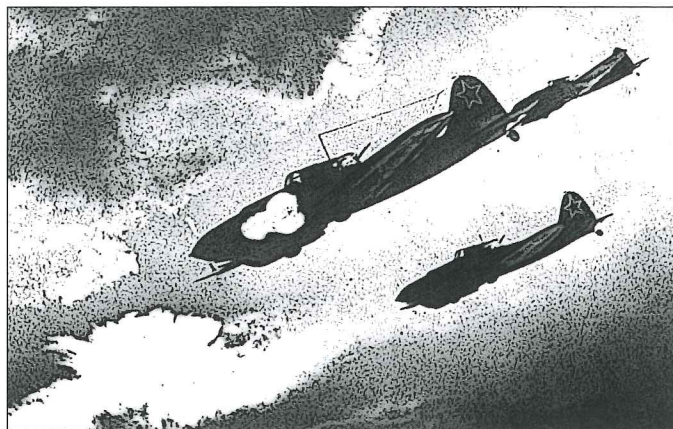
The Bf 110 of Aufklärungsgruppe 123 would not make it home, being intercepted some 40 km from Gozo. Lt. Johann Scharringhausen and his gunner were reported missing.

Background

Rzhev, Russia, 4 August 1942

General Zhukov's Western Front initiated its offensive against the flank of the Rzhev Bulge. Above the Sychyovka-Gzhatsk stretch of the front could be heard the drone of Sturmovik engines and the thump of bombs attacking positions of the German Ninth Army.

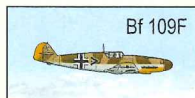
The Soviet superiority in numbers almost exhausted JG 51, the main fighter unit defending Ninth Army. Equipped only with older Bf 109F-2 fighters, *Geschwader Mölders* took heavy losses, including many aces. As the offensive rolled on clashes between small formations of fighters and ground attack units became increasingly desperate.



v1.0, Scenario by Lee Brimmicombe-Wood

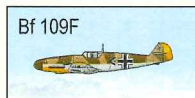
Order of Battle**Defenders – German****Elements of JG 51**

x1



Bf 109F-2 – Intercept mission
Set-up anywhere in columns A to J

x1



Bf 109F-2 – Intercept mission. Set-up anywhere more than two squares from the enemy in columns O to Z

Max Losses Flights 2

Alert All squadrons start alerted

Quality Veteran 2; Green 0; Experte 2

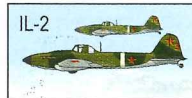
Raiders – Soviet (set-up first)**Elements of 212 ShAD and 5 GIAP**

x2



LaGG-3 – Escort mission

x2



IL-2 – Bombing mission
Set up 5 squares apart in columns O to Z at altitude 2

Max Losses Squadrons 12

Alert No squadrons start alerted

Quality Veteran 0; Green 4; Experte 0

Map Edges *Left* - German; *Right* - Soviet

Doctrine Soviet squadrons use rigid doctrine
German squadrons use loose doctrine

GCI Control None

Radio Nets *Anna* - The Soviet fighter squadrons
Berta - The German squadrons

Sun Position Above

Cloud Take ten broken cloud markers. Before setting up, and starting with the German player, the players alternate placing the cloud markers in squares until all ten are placed. Cloud markers may be placed only in columns I to S and from altitudes 2 to 5. Only one cloud marker can be placed per square.

Surface Units Artillery in K0; Troops in L0

Special Rules Use the bombing attack rules [15.0].

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the German VP from the Soviet VP to see who wins:

+3 or less German Victory

+4 to +5 Draw

+6 or more Soviet Victory

Aftermath

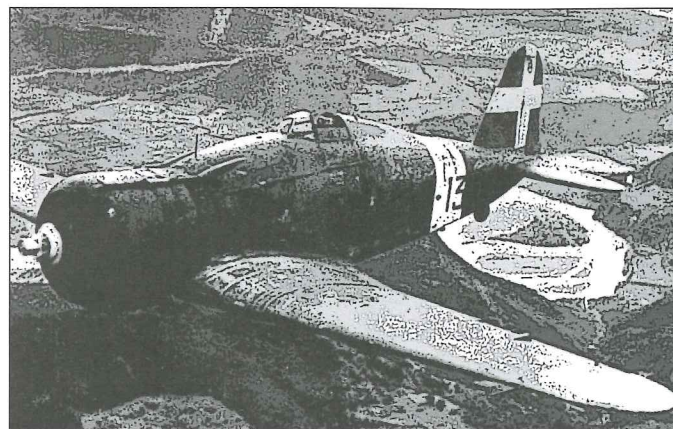
Over the first four days of August the pilots of JG 51 were drawn into a series of merciless air combats. The Russians reported many Sturmoviks shot down, and yet the battles also wore down the Germans. The offensive forced the Luftwaffe to divert fighters and bombers to the support of Ninth Army and to the task of stopping the Soviet penetration of its lines.

Background

Greece, 13 February 1941

The RAF contingent in Greece was tasked with supporting the Greek push northwards into Italian-held Albania. On 13 February, Blenheims from 84 and 211 Squadrons were dispatched to bomb Italian supply dumps north of Tepelenë, escorted by Gladiators from 80 and 112 Squadrons.

Close to the target they were intercepted by a contingent of FIAT G.50 Freccia which had been escorting a reconnaissance aircraft. When they sighted the Blenheims they turned to attack.



v1.0, Scenario by Andrew Brazier

Order of Battle

Defenders – Italian

Elements of 154° Gruppo, Regia Aeronautica

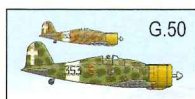


x1



G.50 Freccia – Intercept mission
Set-up on or between columns A and H at altitude 2

x1



G.50 Freccia – Intercept mission
Set-up on or between columns A and H at altitude 4

Max Losses Squadrons 9; Flights 4
Alert All squadrons start alerted
Quality Veteran 0; Green 1; Experte 0

Map Edges Left - Italian; Right - British
Doctrine Both British and Italian squadrons use rigid doctrine

GCI Control None

Radio Nets *Ack, Beer* - Each British fighter squadron has a separate radio net
Como, Domodossola - Each Italian fighter squadron has a separate radio net

Sun Position Left Upper

Surface Units Supply in G0; Lt Flak A in G0

Clouds Broken in M5-R5, I4-L4

Special Rules

1. Use the bombing attack rules [15.0].
2. The bombers can only fly a level bombing profile [15.3.1].
3. The Italian player can choose to start one squadron at altitude 6. If so, the other squadron must start at altitude 0.

Gameplay Advice

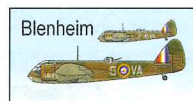
To achieve bombing results with the Blenheims they will need to descend to altitude 5 or less.

Raiders – British (set-up first)

Elements of 80, 84, 112, 211 Squadrons, RAF



x2



Blenheim Mk.I – Bombing mission
Set-up one each in U7, W7

x1



Gladiator Mk.II – Escort mission

x1



Gladiator Mk.II – Sweep mission
Set-up in R7

Max Losses Squadrons 12; Flights 6
Alert No squadrons start alerted
Quality Veteran 0; Green 0; Experte 1

Victory Conditions

At the game end total each side's Victory Points (VP).

The British player gets 1 extra VP for each undisrupted Blenheim squadron that makes a bombing attack.

Subtract the Italian VP from the British VP to see who wins:

+0 or less	Italian Victory
+1 to +3	Draw
+4 or more	British Victory

Aftermath

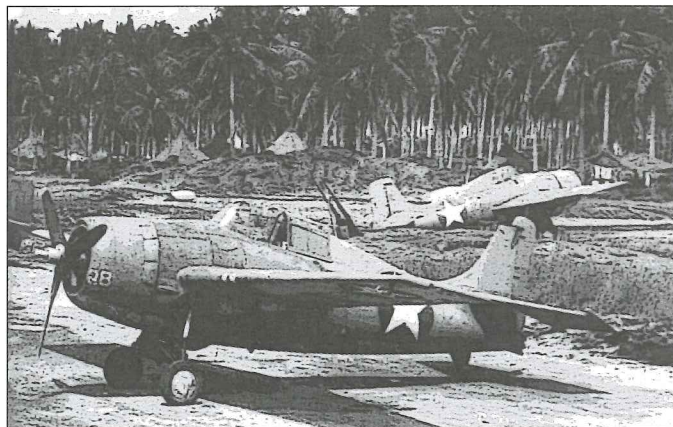
The fighters of 154° Gruppo rolled in to attack. The Italians claimed a bomber shot down (though in truth it was merely damaged). In return the Gladiator escort claimed a G.50, driving the Italians away before the Blenheims bombed and ran for home.

Background

Solomon Islands, September 1942

While Japanese naval air pounded the US beachhead on Guadalcanal, high-flying land based bombers made frequent attacks on the CACTUS airfields around Lunga. The defenders, a mixed force of Navy and Marine fighters in F4Fs, received advance warning of raids from coastwatchers and radar.

To counter each raid they desperately clawed for height, often in small divisions that had to form up on the climb. They were vulnerable to the Zero escorts. However, the escorts had been stripped of their radios to save weight and fuel, and would be punished for the lack of them.

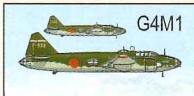
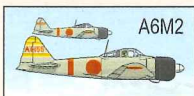
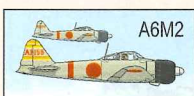


v1.0, Scenario by Lee Brimmicombe-Wood

Order of Battle**Raiders – Japanese** (set-up first)

Elements of 5th and 6th Air Attack Force, IJN



x3		G4M1 – Bombing mission Set-up one each in B15, C15, D15
x2		A6M2 – Escort mission
x1		A6M2 – Sweep mission Set-up in N16






Max Losses	Squadrons 8; Flights 4
Alert	No squadrons start alerted
Quality	Veteran 2; Green 0; Experte 1

Map Edges	<i>Left</i> - Japanese; <i>Right</i> - American
GCI Control	American: GCI 3
Radio	No Japanese squadrons have radio
Radio Nets	<i>Able</i> - All American squadrons and GCI
Sun Position	Above
Clouds	Dense in A8-H8, Broken in A3-L3
Surface Units	Airfield in T0, Hvy Flak A in S0
Special Rules	1. Use the bombing attack rules [15.0]. 2. The bombers can only fly a level bombing profile [15.3.1]. 3. Japanese fighters have tactical flexibility [9.3.2]. 4. When he sets up the American player can announce he had early warning of the raid. Each American flight sets up two altitude levels higher. However, set-up an additional A6M2 flight (not squadron) on a sweep mission in square M16.

Defenders – American

Elements of 1st Marine Air Wing



x1		F4F-4 – Intercept mission Set-up within 3 columns of the airfield at altitude 9
x1		F4F-4 – Intercept mission Set-up within 3 columns of the airfield at altitude 8
x2		F4F-4 – Intercept mission Set-up within 3 columns of the airfield at altitude 6
x1		F4F-4 – Intercept mission Set-up within 3 columns of the airfield at altitude 4
x1		F4F-4 – Intercept mission Set-up within 3 columns of the airfield at altitude 3

Max Losses	Flights 4
Alert	All flights start alerted
Quality	Veteran 2; Green 0; Experte 2

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the American VP from the Japanese VP to see who wins:

+3 or less	American Victory
+4 to +6	Draw
+7 or more	Japanese Victory

Aftermath

High-altitude bombing never completely knocked out the defenders. Over weeks of close fighting the Wildcats took heavy losses but were able to grind the Japanese down.

Gameplay Advice

The G4M1s should descend to altitude 14 before bombing.

Background and Aftermath

France, 14 May 1940

After the dramatic breakthrough of Guderian's 21st Panzer Corps, a hasty assault across the River Meuse carried the Germans over the last obstacle before the open terrain of Northern France. As the French counterattacked, every available bomber was thrown into the effort to halt the expansion of the German bridgehead.


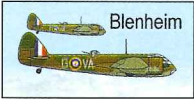


As Allied raids approached the bridges, the Luftwaffe committed a large number of Stukas as close air support. As the afternoon wore on, multiple strikes clashed in the air above Sedan; fights in which the British bomber formations were torn to pieces by fighters and flak.

Order of Battle

Raiders – British (set-up first)

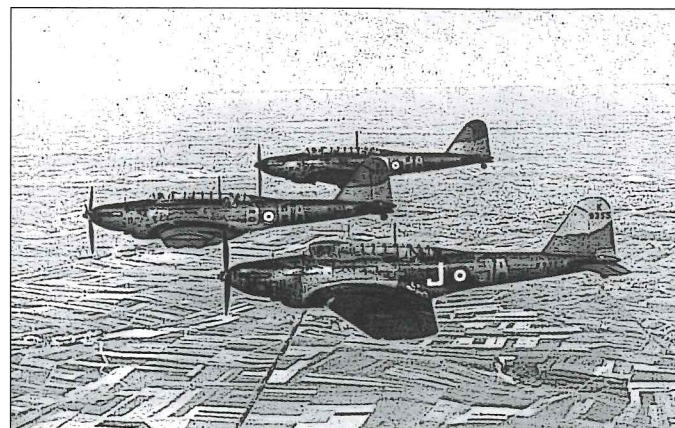
Elements of the Advanced Air Striking Force



- | | | |
|-----------|--|--|
| x2 |  <p>Hurricane</p> | Hurricane Mk.I – Sweep mission
Set-up one each in A8, B8 |
| x2 |  <p>Blenheim</p> | Blenheim Mk.I – Bombing mission
Set-up one each in E4, F4 |
| x1 |  <p>Hurricane</p> | Hurricane Mk.I – Sweep mission
Enter Turn 6 in square A7 |
| x2 |  <p>Battle</p> | Battle Mk.I – Bombing mission
Enter Turn 6 in square A4 in trail |

Max Losses Squadrons 12
Alert No squadrons start alerted
Quality Veteran 2; Green 0; Experte 0

- Map Edges** *Left* - British; *Right* - German
- Doctrine** British squadrons use rigid doctrine
 German squadrons use loose doctrine
- GCI Control** None
- Radio Nets** *Ack, Beer, Charlie, Don, Edward, Freddie, George* - Each British squadron has a separate radio net
Heinrich - All German bombers and escorts on the map at the start
Ida - German CAP and Intercept squadrons
Julius - All German bombers and escorts that enter on turn 5
- Sun Position** Left Upper
- Clouds** Wispy in G6-N6.
- Surface Units** *German:* Bridge in V0; Lt Flak A in W0; Lt Flak B in V0; Hvy Flak A in U0.
British: Troops in D0; Tanks in C0

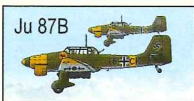
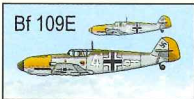
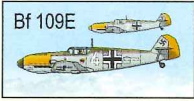

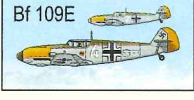
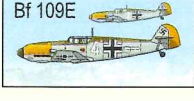


v1.0, Scenario by Gordon Christie

Defenders – German

Elements of JG 53, StG 76 and StG 77



- | | | |
|-----------|---|---|
| x2 |  <p>Ju 87B</p> | Ju 87B-1 – Bombing mission
Set-up one each in P6, Q6 |
| x1 |  <p>Bf 109E</p> | Bf 109E-4 – Escort mission |
| x1 |  <p>Bf 109E</p> | Bf 109E-4 – CAP mission
Set up in R4 |
| x2 |  <p>Ju 87B</p> | Ju 87B-1 – Bombing mission
Enter Turn 5 on the right map edge in trail at altitude 6 or less |
| x1 |  <p>Bf 109E</p> | Bf 109E-4 – Escort mission
Enter Turn 5 with Ju 87Bs |
| x1 |  <p>Bf 109E</p> | Bf 109E-4 – Intercept mission
Enter Turn 5 on the right edge at altitude 6 or less. Vector in R6. |

Max Losses Squadrons 9; Flights 4
Alert All squadrons start alerted
Quality Veteran 4; Green 0; Experte 1

- Special Rules**
1. Use the bombing attack rules [15.0]. British squadrons only attack German surface units; German squadrons only attack British surface units.
 2. Double the VP from damage to the bridge.
 3. German fighters have tactical flexibility [9.3.2].

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the British VP from the German VP to see who wins:

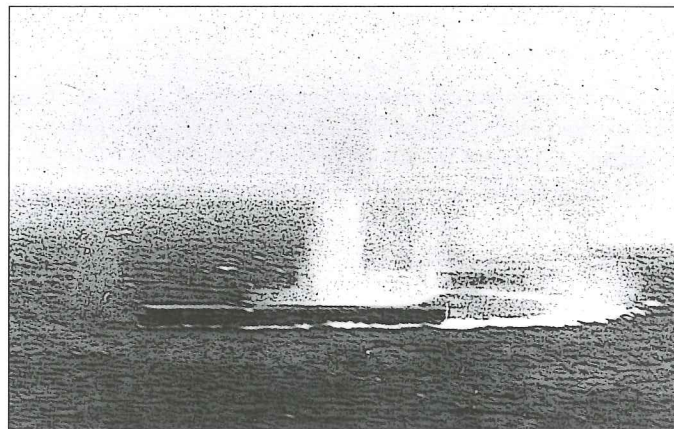
- | | |
|-------------|-----------------|
| +11 or less | British Victory |
| +12 to +14 | Draw |
| +15 or more | German Victory |

Background and Aftermath

The Coral Sea, 8 May 1942





US Task Force 17 searched for Japanese carriers that hid beneath the clouds of a warm frontal zone. A scout caught sight of them through a cloud break and radioed the *Yorktown* and *Lexington* to launch a strike against it.

By the time the American SBDs arrived, the *Zuikaku* had taken shelter beneath a dark squall, while its sister ship, the *Shokaku*, steamed into a gap in the cloud. The *Yorktown*'s strike barrelled in on the *Shokaku*, inflicting multiple hits on it, but the Americans could not finish the carrier and it limped back to Japan, battle-damaged and inoperable, but still afloat.



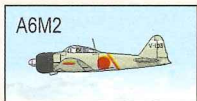



v1.0, Scenario by Lee Brimmicombe-Wood

Order of Battle**Raiders – American** (set-up first)**Elements of the Yorktown Air Group**

x3		SBD-3 – Bombing mission Set up in J6, K6, L6
x1		F4F-3 – Escort mission Escort SBDs
x1		TBD-1 – Bombing mission Set up in G1
x1		F4F-3 – Close Escort mission Escort TBDs

Max Losses Squadrons 8; Flights 4
Alert No squadrons start alerted
Quality Veteran 2; Green 0; Experte 0

Defenders – Japanese**Elements of Shokaku and Zuikaku Air Groups**

x1		A6M2 – CAP mission Set-up in R1
x1		A6M2 – CAP mission Set-up in S5
x1		A6M2 – CAP mission Set-up in T7
x1		A6M2 – Intercept mission Enters play on Turn 4 in V4

Max Losses Flights 3
Alert No squadrons start alerted
Quality Veteran 3; Green 0; Experte 0

Map Edges	Left - American; Right - Japanese
Radio	Japanese squadrons do not have radio
Radio Nets	Able - SBDs and escort Baker - TBDs and escort
Sun Position	Above
Clouds	Broken in J4-M4, J5-M5, H2-M2 Dense in U2-Z2, U3-Z3; there is rain beneath the dense cloud [4.5.1]
Surface Units	CV 1 (<i>Shokaku</i>) in S0 CV 1 (<i>Zuikaku</i>) in V0 CA 1 (<i>Myoko</i>) in W0
Special Rules	1. Use the bombing attack rules [15.0]. Only the CVs can be attacked. 2. The surface is sea [4.1]. 3. Japanese fighters start unalerted. At the beginning of Turn 2 all are alerted.

- One of the veteran Japanese squadrons must be the flight that enters play on Turn 4.
- Due to misting windscreens as they descend into warm air, the SBDs apply a -1 modifier to bombing attacks.
- The TBDs carry a Torpedo load [15.1].
- Because of evasive manoeuvres, the *Shokaku* cannot use barrage fire and it applies a -1 modifier to all direct fire flak attacks.

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the Japanese VP from the American VP to see who wins:

+3 or less	Japanese Victory
+4 to +8	Draw
+9 or more	American Victory

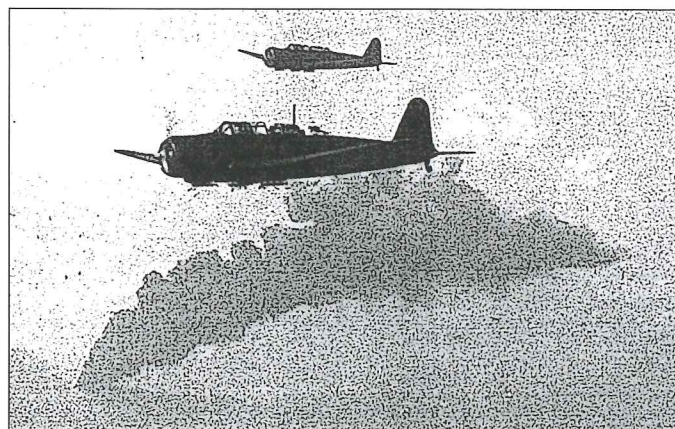
Background and Aftermath

The Coral Sea, 8 May 1942

As US Task Force 17 awaited the results of its strike against the *Shokaku* and *Zuikaku*, the *Yorktown* and *Lexington* prepared to receive an attack. Confused by his plots, the Fighter Direction Officer signalled 'Hey Rube!' to call CAP fighters back to their stations above the carriers, before directing fighter divisions to intercept the incoming raid.

Cloud and poor height direction meant the interceptors failed to see the raiders until they had flown past. The Japanese struck both carriers, but the *Yorktown* remained operational, as did the *Lexington*, until a secondary explosion finally crippled her.

Order of Battle



v1.0, Scenario by Lee Brimmicombe-Wood

Defenders – American

Elements of the Yorktown and Lexington Air Groups



x1



SBD

SBD-3 – CAP mission
Set up in N1

x2



Wildcat

F4F-3 – CAP mission
Set up in H4, L4

x1



Wildcat

F4F-3 – Intercept mission
Set up in Y4

x1



Wildcat

F4F-3 – Intercept mission
Set up in W1

Max Losses Flights 4

Alert All squadrons start alerted

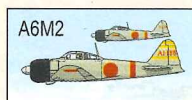
Quality Veteran 2; Green 0; Experte 1

Raiders – Japanese (set-up first)

Elements of Shokaku and Zuikaku Air Groups



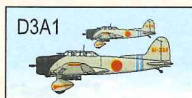
x1



A6M2

A6M2 – Escort mission
Escort the D3A1 bombers

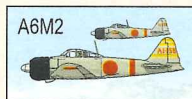
x4



D3A1

D3A1 – Bombing mission
Set-up in U6, V6, V7, W7

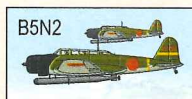
x1



A6M2

A6M2 – Escort mission
Escort the B5N2 bombers

x2



B5N2

B5N2 – Bombing mission
Set-up in T3, U3

Max Losses Squadrons 9; Flights 4

Alert No squadrons start alerted

Quality Veteran 4; Green 0; Experte 1

Map Edges *Left* - American; *Right* - Japanese

GCI Control American: GCI 4

Radio Japanese squadrons do not have radio

Radio Nets *Able* - GCI and American flights

Sun Position Above

Clouds Broken in Q2-Z2

Surface Units CV 2 (*Yorktown*) in H0

CV 2 (*Lexington*) in K0

CA 2 (*Minneapolis*) in L0

DD 1 (*Dewey*) in J0

DD 3 (*Phelps*) in G0

Special Rules

1. Use the bombing attack rules [15.0]. Only the CVs can be attacked.
2. The F4F-3 flight that starts in W1 begins with a vector marker in Z1.

3. The F4F-3 flight that starts in Y4 begins with a Tally on a D3A1 squadron (American player's choice).

4. Japanese fighter squadrons have tactical flexibility [9.3.2].

5. The B5N2s carry a Torpedo weapon load [15.1].

6. The surface is sea [4.1].

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the American VP from the Japanese VP to see who wins:

+0 or less American Victory

+1 to +4 Draw

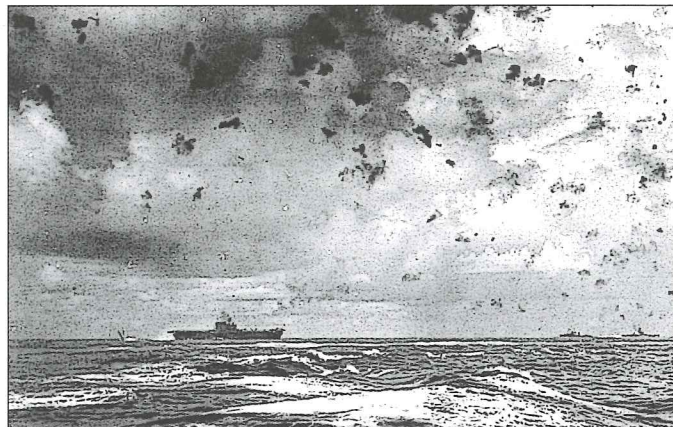
+5 or more Japanese Victory

Background

Santa Cruz Islands, 26 October 1942

After brilliantly coordinated attacks from the *Zuikaku* and *Shokaku* on Task Force 17 the carrier *Hornet* lay crippled. Now a second wave came for Task Force 16, which was steaming nearby with the carrier *Enterprise* at its centre.

The Big 'E' headed for the safety of rain squalls while its Fighter Direction Officer organised the remnants of the CAP above the Task Force. Fortunately for the *Enterprise*, this second strike was less well coordinated, with the dive bombers wading into the heavy flak long before the torpedo bombers arrived. Lacking height information, the FDO ordered the CAP to intercept.






v1.0, Scenario by Lee Brimmicombe-Wood

Order of Battle

Defenders – American

Elements of *Hornet* and *Enterprise* Air Groups

- | | | |
|-----------|--|---|
| x2 |  <p>Wildcat</p> | F4F-4 – CAP mission
Set up in any squares in columns K to M at altitude 5 |
| x1 |  <p>Wildcat</p> | F4F-4 – CAP mission
Set up in any square in columns G to I at altitude 1 |
| x1 |  <p>Wildcat</p> | F4F-4 – CAP mission
Set up in any square in columns O to R at altitude 1 |

Max Losses Flights 4
Alert All squadrons start alerted
Quality Veteran 2; Green 0; Experte 1

Map Edges *Left* - American; *Right* - Japanese

GCI Control American: GCI 3

Radio Japanese squadrons do not have radio

Radio Nets *Able* - GCI and American flights

Sun Position Above

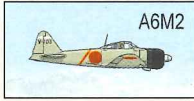

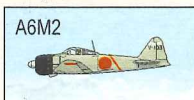
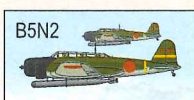
Clouds Broken in columns C to J at altitudes 2 to 3
 Dense in columns P to Y at altitude 2 to 5. There is rain beneath the dense cloud [4.5.1].

Surface Units DD4 (*Maury*) in K0
 CV 2 (*Enterprise*) in L0
 DD 4 (*Conyngham*) in M0
 BB 1 (*South Dakota*) in N0

Special Rules 1. Use the bombing attack rules [15.0].
 2. In the Administration Phase of the first game turn, if any vector markers are placed, those markers must be placed at the same altitude as their squadron. This restriction does not apply in any subsequent Administration Phases.

Raiders – Japanese (set-up first)

Elements of *Shokaku* and *Zuikaku* Air Groups

- | | | |
|-----------|--|--|
| x1 |  <p>A6M2</p> | A6M2 – Escort mission
Escort the D3A1 bombers |
| x3 |  <p>D3A1</p> | D3A1 – Bombing mission
Set-up in B9, C9, D9 |
| x1 |  <p>A6M2</p> | A6M2 – Escort mission
Enter Turn 2, escorting the B5N2 bombers |
| x2 |  <p>B5N2</p> | B5N2 – Bombing mission
Enter Turn 2 on the right map edge in trail at altitude 4 |

Max Losses Squadrons 8; Flights 4
Alert No squadrons start alerted
Quality Veteran 4; Green 0; Experte 1

3. The B5N2s carry a Torpedo weapon load [15.1].

4. The surface is sea [4.1].

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the American VP from the Japanese VP to see who wins:

+4 or less	American Victory
+5 to +8	Draw
+9 or more	Japanese Victory

Aftermath

Attacking through heavy anti-aircraft fire the Japanese inflicted multiple hits on the *Enterprise*. Heavily damaged, she would be out of action for at least two weeks. But the Japanese air groups who had hit her had been decimated and precious airmen lost.

Background

Southern England, September 1940

Frustrated by their attempts to neutralise the RAF's aerodromes, the Luftwaffe finally launched a knock-out blow at London. As bombers penetrated deep inland, Air Vice-Marshal Keith Park, commanding 11 Group, had time to scramble squadrons in pairs, or call on fighters operating from neighbouring 10 Group.

Spitfires, operating in small wing formations, were sent to tackle the high fighter screen, while Spitfire and Hurricane squadrons paired up to divide the escort and bombers between them.

Order of Battle**Defenders – British**

Elements of 10 and 11 Groups, RAF

**Biggin Wing** (Add wing leader)

x2



Spitfire Mk.IA – Intercept mission
Set-up Wing Leader on or left of column B at altitude 11 or less

Middle Wallop Wing (Add wing leader)

x1



Spitfire Mk.IA, Hurricane Mk.I – Intercept mission

Set-up Wing Leader in column C and both squadrons at altitude 9 or less

x1

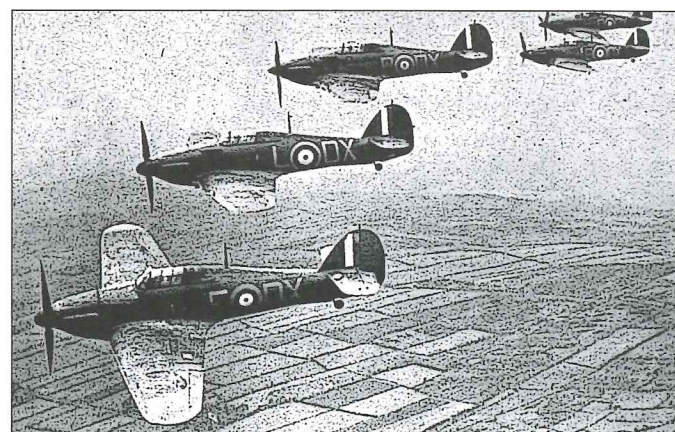


x2



Hurricane Mk.I – Intercept mission
Set up separately in any square from columns A to G at altitude 5

Max Losses Squadrons 12; Flights 6
Alert All squadrons start alerted
Quality Veteran 2; Green 0; Experte 2



v1.0, Scenario by Lee Brimmicombe-Wood

Raiders – German (set-up first)

Elements of Luftflotte 2

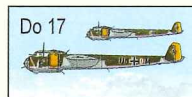


x3



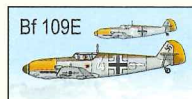
He 111H-1 – Bombing mission
Set-up one each in T8, U8, V8

x3



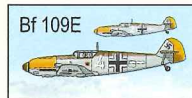
Do 17Z-2 – Bombing mission
Set-up one each in X7, Y7, Z7

x1



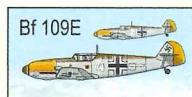
Bf 109E-4 – Close Escort mission

x2



Bf 109E-4 – Escort mission

x2



Bf 109E-4 – Sweep mission
Set-up in any squares from columns P to R at altitude 11 or less

Max Losses Squadrons 9; Flights 4
Alert No squadrons start alerted
Quality Veteran 4; Green 0; Experte 2

Map Edges *Left* - British; *Right* - German

Doctrine British squadrons use rigid doctrine
German squadrons use loose doctrine

GCI Control British - GCI 4

Radio Nets *Ack* - Biggin Wing and GCI
Beer - Middle Wallop Wing and GCI
Charlie, Dog - Each British squadron not in a wing has a separate radio net, shared with GCI
Emil - All German sweep fighter squadrons
Friedrich - All escort squadrons

Sun Position Right Upper

Clouds Broken in E5-J5, E6-J6, M5-P5, M6-P6
Wispy in D10-M10

Special Rules Escort squadrons have tactical flexibility [9.3.2].

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the British VP from the German VP to see who wins:

+15 or less British Victory
+16 to +20 Draw
+21 or more German Victory

Aftermath

Park found that small wings were more effective than penny packets at breaking up raids. Key to success was the time that the long-ranged attacks bought him to organise his wings.

Background

Libya, 4 December 1941

Operation Crusader was in its third week. Rommel's Afrika Korps and the Italian divisions had reached the high water mark of their counterattack against the Eighth Army. They now had to fend off grinding attacks by the Allies.

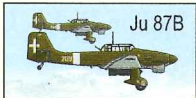

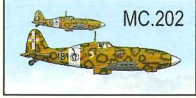
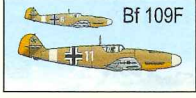


Into the airspace above El Adem various formations began to stray, with British, Australian and South Africans of the Desert Air Force running across a heavily escorted 'Hun Circus' of Italian and German Stukas. A staffel from II/JG 27 was present, with their new Bf 109Fs, ready to pick off stragglers as Allied Hurricanes and shark-mouthed 'Tommys' got stuck in to the fray.

Order of Battle

Raiders – Axis (set-up first)

Elements of Comando Settore Est and
II. Fliegerkorps



- | | | |
|-----------|---|---|
| x2 |  | Ju 87B-2 Picchiatello – Bombing mission. Set-up one each in I4, J4 |
| x2 |  | MC.200 Sietta – Escort mission
Set-up in columns I and J |
| x1 |  | MC.202 Folgore – Escort mission
Set-up in column I or J |
| x1 |  | Bf 109F-2 – Sweep mission
Set-up in any squares in columns D to J at altitude 8 |
| x1 |  | Ju 87B-1 – Bombing mission
Set-up D5 |
| x1 |  | G.50 Freccia – Escort mission
Set-up in columns C or D |

Max Losses Squadrons 9; Flights 4
Alert No squadrons start alerted
Quality Veteran 1; Green 2; Experte 2

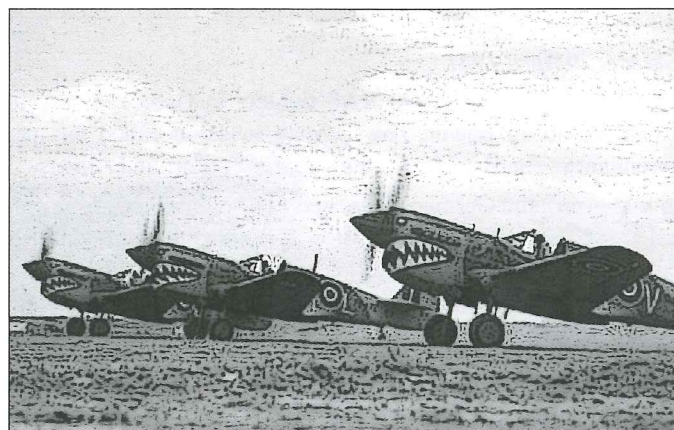
Map Edges *Left* - Axis; *Right* - Allied

GCI Control None

Radio Nets *Ack* - The lone Tomahawk squadron
Beer, Charlie - Each Allied wing
Dora, Friedrich, Gustav, Heinrich, Ida - Each Axis fighter squadron has a separate radio net

Sun Position Above

Haze Altitude 2 or less



v1.0, Scenario by Lee Brimmicombe-Wood


Defenders – Allied

Elements of Desert Air Force

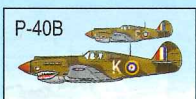


- | | | |
|-----------|--|---|
| x1 |  | Tomahawk Mk.II – Intercept mission. Set-up in A7 |
|-----------|--|---|

262 Wing (Add wing leader)

- | | | |
|-----------|---|---|
| x2 |  | Hurricane Mk.I – Intercept mission. Set-up Wing Leader in P8 |
|-----------|---|---|

258 Wing (Add wing leader)

- | | | |
|-----------|--|---|
| x2 |  | Tomahawk Mk.II – Intercept mission. Set-up Wing Leader in V6 |
|-----------|--|---|

Max Losses Squadrons 12; Flights 6
Alert All squadrons start alerted
Quality Veteran 2; Green 0; Experte 1

- Special Rules**
1. Assign the British Experte to 258 Wing.
 2. The Bf 109 squadron has tactical flexibility [9.3.2].

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the Allied VP from the Axis VP to see who wins:

- | | |
|------------|----------------|
| +2 or less | Allied Victory |
| +3 to +6 | Draw |
| +7 or more | Axis Victory |

Aftermath

British ace Neville Duke led his 112 'Shark' Squadron into the attack in support of 2 SAAF Squadron. In the scrappy fight that followed seven Axis aircraft were lost to three Allied, a result that lifted the spirits of the Commonwealth flyers.

Background

Greece, 20 April 1941

During the winter of 1940 RAF fighters in Greece successfully resisted Italian air power. The German invasion ended this period of ascendancy. The British withdrew to airfields around Athens.

In mid-April, the Germans launched raids on the remaining Allied airfields and the vital supply port of Piraeus. On the afternoon of 20 April the remnants of 33 and 80 Squadrons, including the RAF ace 'Pat' Pattle, scrambled to meet the final Luftwaffe raid of the day.

Order of Battle

Defenders – British

Elements of 33 and 80 Squadrons, RAF



- x1**  **Hurricane Mk.I** – Intercept mission
Set-up in J10
- x1**  **Hurricane Mk.I** – Intercept mission
Set-up in K4

Max Losses Squadrons 10; Flights 5
Alert All squadrons start alerted
Quality Veteran 2; Green 0; Experte 1

Map Edges *Left* - British; *Right* - German

GCI Control None

Radio Nets *Ack* - All British squadrons and flights
Berta - All Ju 88 and Bf 109 squadrons
Charlotte - All Do 17 and Bf 110 squadrons

Sun Position Left Upper

Clouds Wispy from F8-K8

Surface Units Port in G0, Lt Flak A in G0, Hvy Flak A in H0

- Special Rules**
1. The British have tactical flexibility [9.3.2].
 2. The German player scores +5 VP for each British flight eliminated, and +10 VP if the squadron is eliminated.
 3. Use the bombing attack rules [15.0].
 4. Bombers can only fly a level bombing profile at altitude 6 [15.3.1].
 5. The Bf 110 Sweep mission is headed home so will conduct its sweep toward the right map edge.
 6. The British Experte is assigned to the Hurricane flight.

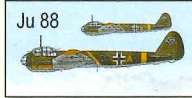
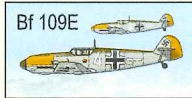
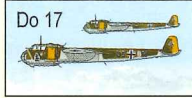
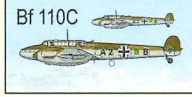
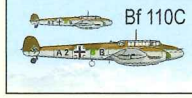


v1.0, Scenario by Gordon Christie


Raiders – German (set-up first)

Elements of LG 1, JG 77, KG 2 and ZG 26



- x3**  **Ju 88A-4** – Bombing mission
Set-up one each in J6, K6, L6
- x1**  **Bf 109E-4** – Escort mission
Escort the He 111s
- x3**  **Do 17Z-2** – Bombing mission
Set-up one each in P6, Q6, R6
- x2**  **Bf 110C-4** – Escort mission
Escort the Do 17Zs
- x1**  **Bf 110C-4** – Sweep mission
Set-up in any squares in columns C to F at altitude 4

Free Hunt Wing (Add wing leader)

- x2**  **Bf 109E-4** – Sweep mission.
Set-up Wing Leader in any column from E to K at altitude 9

Max Losses Squadrons 9; Flights 4
Alert No squadrons start alerted
Quality Veteran 2; Green 0; Experte 1

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the British VP from the German VP to see who wins:

- +40 or less British Victory
+41 to +49 Draw
+50 or more German Victory

Aftermath

Outnumbered, the Hurricanes were decimated and Pattle killed. This action effectively ended RAF fighter operations in Greece.

Background

El Alamein, 27 October 1942

As German armour assaulted the 1st Armoured Division at Kidney Ridge, a furious air battle broke out near the front line. A large formation of Italian CR.42s of 50° and 5° Stormo, accompanied by Stukas, attacked British truck columns.

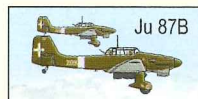
This action drew in RAF Hurricanes, as well as squadrons of the USAAF 57th Fighter Group on their return from a bombing mission. Finally Luftwaffe fighters from JG 27 showed up to join a donnybrook that the Yanks were proving themselves quite capable of winning.

Order of Battle**Raiders – Axis (set-up first)**

Elements of 23° Gruppo, 50° and 5° Stormo and JG 27

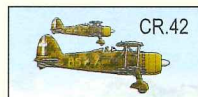


x2



Ju 87B-2 Picchiatello – Bombing mission. Set-up one each in A6, B6

x4



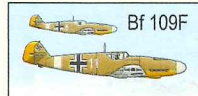
CR.42 – Strafing mission
Set-up in formation in columns C to F at altitude 4

x1



MC.202 Folgore – Escort mission. Escort CR.42 or Ju 87 formation

x2



Bf 109F-4 – Sweep mission
Enter left map edge on Turn 3 at altitude 8 or lower

Max Losses Squadrons 8; Flights 4
Alert No squadrons start alerted
Quality Veteran 2; Green 2; Experte 2

Map Edges *Left* - Axis; *Right* - Allied

Radio The CR.42 squadrons lack radio

GCI Control Allied – GCI 4

Radio Nets *Able* - Spitfire flight

Baker - 57 Fighter Group

Charlie - Hurricane squadrons and GCI

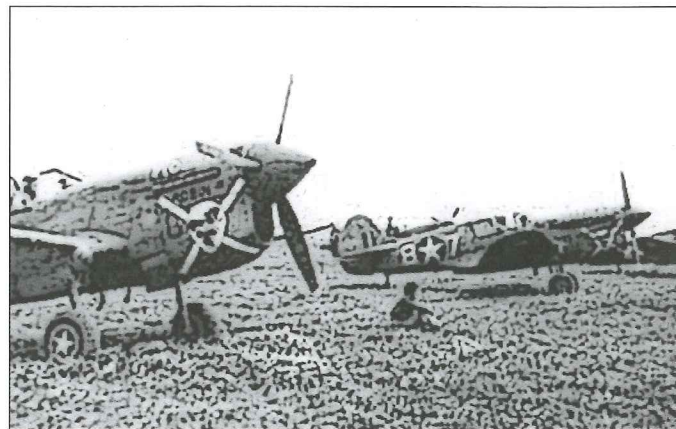
Dora - MC.202 squadron

Emil - Bf 109 squadrons

Sun Position Above

Cloud None

Surface Units Trucks in O0, P0
Troops in N0



v1.0, Scenario by Lee Brimmicombe-Wood

Defenders – Allied

Elements of Western Desert Air Force



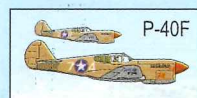
x1



Spitfire Mk.Vb – Intercept mission. Set-up in Z4

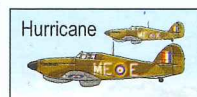
57 Fighter Group (Add wing leader)

x2



P-40F – Sweep mission Set up in A3, A4 with Wing Leader in A4

x2



Hurricane Mk.IIc – Intercept mission. Enter right map edge on Turn 2 at altitude 4

Max Losses Squadrons 8; Flights 4
Alert All squadrons start alerted
Quality Veteran 1; Green 1; Experte 0

Special Rules 1. Use the bombing attack rules [15.0].
2. The Bf 109 squadrons have tactical flexibility [9.3.2].

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the Allied VP from the Axis VP to see who wins:

+7 or less Allied Victory
+8 to +11 Draw
+12 or more Axis Victory

Aftermath

The 57th FG enjoyed a successful engagement against the Italians, making several claims. As a group of unescorted Stukas rolled in, the Americans tried to intercept but were stopped by the Messerschmitts. By the end of the engagement, losses included two Bf 109s, four CR.42s and some three Hurricanes. The Yanks were shot up but got home safely.

Background and Aftermath

Northern France, January 1942

Since October 1941 the Focke-Wulf 190 had been a thorn in the RAF's side. The sprightly new fighter exceeded the performance of the latest Spitfire Mk.Vb in many areas.

Though Luftwaffe fighter forces had been moved to support the invasion of Russia, the Jagdgeschwadern remaining in France boasted many experienced pilots. As a result, 'Circus' operations—trying to encourage the Germans to come up and fight—cost the RAF dear. Not only did the Germans hold the upper hand with their aircraft and pilots, but they always chose the best moments to put up resistance to a raid.

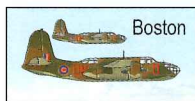
Order of Battle

Raiders – British (set-up first)

Elements of 11 Group RAF and 226 Squadron

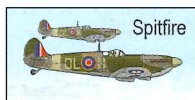


x1



Boston Mk.III – Bombing mission. Set up in B6

x1



Spitfire Mk.Vb – Escort mission

High Cover (Add wing leader)

x3



Spitfire Mk.Vb – Sweep mission. Set-up Wing Leader in H16

Close Cover (Add wing leader)

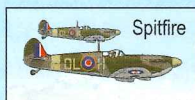
x3



Spitfire Mk.Vb – Sweep mission. Set-up Wing Leader in F12

Escort Cover (Add wing leader)

x2



Spitfire Mk.Vb – Sweep mission. Set-up in D9 and C8

Max Losses Squadrons 12; Flights 6

Alert No squadrons start alerted

Quality Veteran 3; Green 3; Experte 2

Map Edges *Left* - British; *Right* - German

GCI Control German - GCI 3

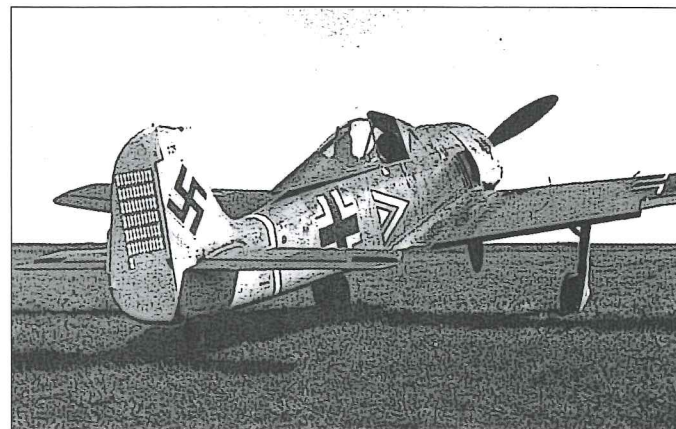
Radio Nets *Ack* - High Cover squadrons

Beer - Close Cover squadrons

Charlie - Escort Cover and Escort squadrons

Emil - I Gruppe squadrons and GCI

Friedrich - II Gruppe squadrons and GCI



v1.0, Scenario by Andy Parsons

Defenders – German

Elements of JG 2 and JG 26



I Gruppe (Add wing leader)

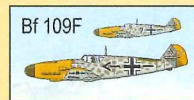
x3



Fw 190A-2 – Intercept mission. Set-up Wing Leader in Y6

II Gruppe (Add wing leader)

x3



Bf 109F-4 – Intercept mission. Set-up Wing Leader in V15

Max Losses Squadrons 9; Flights 4

Alert All squadrons start alerted

Quality Veteran 4; Green 0; Experte 3

Sun Position Above

Clouds Wispy in N17-S17, D14-G14 and N13-W13.
Broken in F10-G10, E9-H9, L11-M11
K10-N10, O9-V9 and R9-W8.

Surface Units Hvy Flak A in S0, Factory in T0

Special Rules

1. Use the bombing attack rules [15.0]. The British score VPs for bombing the Factory (not flak).
2. The bombers can only fly a level bombing profile at altitude 6 [15.3.1].
3. German fighters have tactical flexibility [9.3.2].

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the British VP from the German VP to see who wins:

0 or less	British Victory
+1 to +4	Draw
+5 or more	German Victory

Background and Aftermath

Southern England, 15 September 1940

On 15 September the Luftwaffe launched a massive raid on London. Scraping together every last reserve, 11 Group fielded hundreds of fighters against the air armada. The Germans were incredulous. After weeks of constant attacks they couldn't believe so many Spitfires were still flying.

Most shocking of all was the appearance of Douglas Bader's 'Big Wing' from 12 Group, sweeping a path through the escorts for the other interceptors. It was said that the sight of Bader's wing was the last straw for Göring's exhausted pilots. Whatever the truth, the massive daylight raids would never return.

Order of Battle**Defenders – British**

Elements of 11 and 12 Group, RAF



x2



Spitfire Mk.IA – Intercept mission
Set-up separately in columns A to C at altitude 11 or less

Duxford Wing (Add wing leader)

x2



Spitfire Mk.IA, Hurricane Mk.I – Intercept mission. Set-up Wing Leader in H8, with a Hurricane squadron (assign an Experte to be the Wing Leader). No squadrons set up higher than the Wing Leader

x3



Hurricane Mk.I – Intercept mission
Enter on the second game turn at altitude 7 or less on either map edge

x3

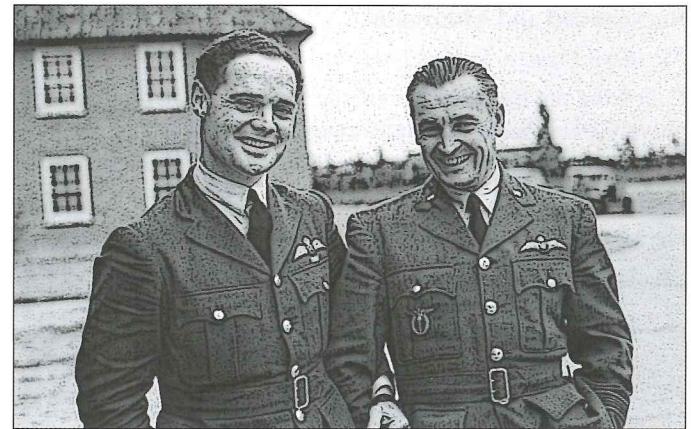


x1



Spitfire Mk.IA – Intercept mission
Enter on the second game turn at altitude 8 or less on either map edge

Max Losses Squadrons 12; Flights 6
Alert All squadrons start alerted
Quality Veteran 3; Green 0; Experte 3



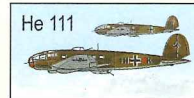
v1.0, Scenario by Lee Brimmicombe-Wood

Raiders – German (set-up first)

Elements of Luftflotte 2

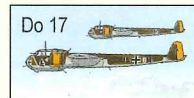


x3



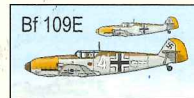
He 111H-1 – Bombing mission
Set-up one each in S8, T8, U8

x3



Do17Z-2 – Bombing mission
Set-up one each in X8, Y8, Z8

x3



Bf 109E-4 – Close Escort mission

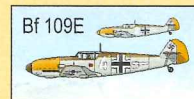
x3



Bf 109E-4 – Escort mission

Free Hunt Wing (Add wing leader)

x3



Bf 109E-4 – Sweep mission.
Set-up Wing Leader in column K at altitude 10 or less

Max Losses Squadrons 9; Flights 4
Alert No squadrons start alerted
Quality Veteran 3; Green 1; Experte 2

Map Edges *Left* - British; *Right* - German
Doctrine British squadrons use rigid doctrine
German squadrons use loose doctrine
GCI Control British - GCI 4
Radio Nets *Ack* - Duxford Wing and GCI
Beer, Charlie, Don, Edward, Freddie, George - Each British squadron not in a wing has a separate radio net, shared with GCI
Heinrich - All German sweep fighter squadrons
Ida - All German escort squadrons
Sun Position Right Upper
Clouds Dense cloud in all squares at altitudes 1 to 6.

Special Rules

1. German fighter squadrons are operating at their fuel limits. Place a low ammo marker on each.
2. German fighters have tactical flexibility [9.3.2].
3. Bombers combating units from the Duxford Wing apply an additional -1 cohesion modifier.
4. British squadrons may set up on any heading.

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the British VP from the German VP to see who wins:

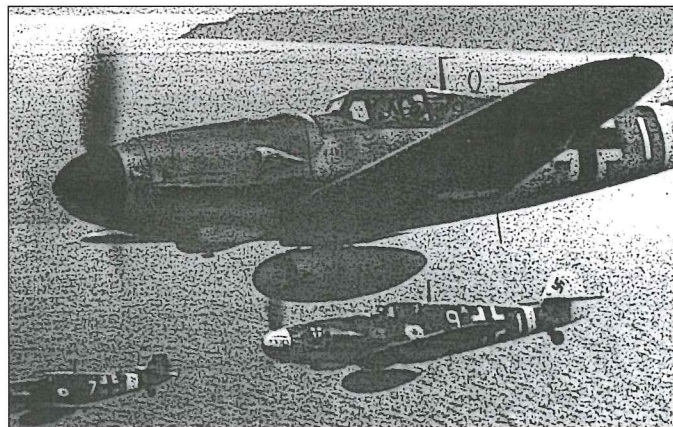
+13 or less British Victory
+14 to +17 Draw
+18 or more German Victory

Background and Aftermath

Northern France, Spring 1941

Following the Battle of Britain the RAF began to operate, at first tentatively, over France. These 'Circus' operations featured small bomber forces, accompanied by massive formations of fighters, acting as bait to draw the Luftwaffe up into the air.

Rapid expansion and high pilot turnover since the Battle of Britain, compounded by inflexible formations and poor tactics, left the Circuses vulnerable to intercepts by the veteran *Kanalgeschwadern* JG2 and JG26. The result was disproportionate and unsustainable losses.



v1.0, Scenario by Gordon Christie

Order of Battle

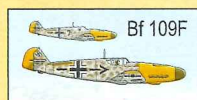
Defenders – German

Elements of JG 2 and JG 26



I Gruppe (Add wing leader)

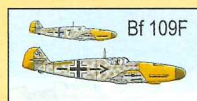
x3



Bf 109F-2 – Intercept mission
Set-up Wing Leader on or left of column D at altitude 12 or less

II Gruppe (Add wing leader)

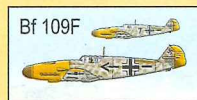
x3



Bf 109F-2 – Intercept mission
Set-up Wing Leader on or left of column D at altitude 8 or less

III Gruppe (Add wing leader)

x3



Bf 109F-2 – Intercept mission Enter on Turn 4 on squares V6, V7 and V8

Max Losses Squadrons 9; Flights 4
Alert All squadrons start alerted
Quality Veteran 4; Green 0; Experte 3

Map Edges

Left - German; *Right* - British

GCI Control

German - GCI 3

Radio Nets

Ack - Bombers and escorts

Beer, Charlie, Don, Edward - Each British wing

Friedrich, Gustav, Heinrich - Each German wing

Sun Position

Above

Clouds

Wispy cloud in F-13-P13, Broken in F4-Q4.

Surface Units

Airfield in D0, Heavy Flak A in E0

Special Rules

1. Use the bombing attack rules [15.0].
2. The bomber can only fly a level bombing profile.
3. Double the VP for bombing and bomber losses.
4. Escort Cover and Top Cover wings start at fuel limits [13.3].
5. German squadrons have tactical flexibility [9.3.2].

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the British VP from the German VP to see who wins:

+6 or less British Victory
+7 to +11 Draw
+12 or more German Victory

Raiders – British (set-up first)

Elements of 2 and 11 Group, RAF



x1



Blenheim Mk.IV – Bombing mission. Set up in P7

x2



Hurricane Mk.IIa – Close Escort mission

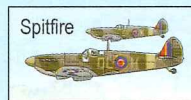
x2



Hurricane Mk.IIa – Escort mission
Set up in P8

Escort Cover (Add wing leader)

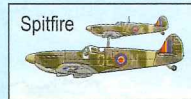
x3



Spitfire Mk.Vb – Sweep mission
Set-up Wing Leader in P9

Top Cover (Add wing leader)

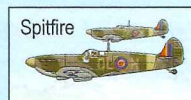
x3



Spitfire Mk.Vb – Sweep mission
Set-up Wing Leader in P11

Target Support (Add wing leader)

x3



Spitfire Mk.Vb – Sweep mission
Set-up Wing Leader in L11

Withdrawal Cover (Add wing leader)

x2



Spitfire Mk.Vb – Sweep mission
Enter on Turn 6 on squares Z10 and Z11

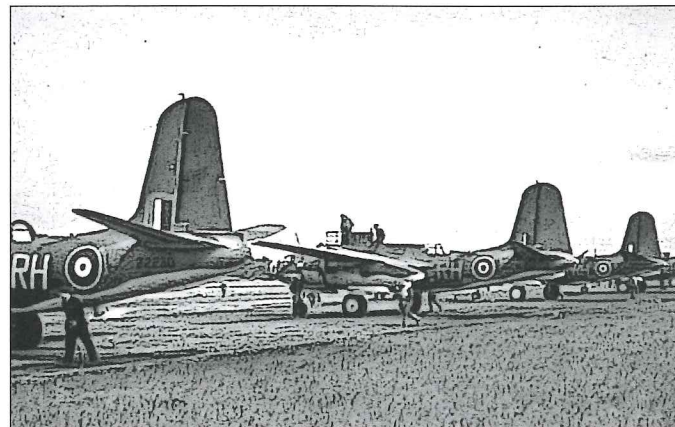
Max Losses Squadrons 12; Flights 6
Alert No squadrons start alerted
Quality Veteran 0; Green 5; Experte 1

Background and Aftermath

Northern France, 19 August 1942

'Operation Jubilee', the Canadian and British raid on the French harbour of Dieppe, was supported by the largest array of RAF aircraft yet seen. A force of 66 fighter and 7 bomber squadrons backed this 'reconnaissance in force'.

By 9 am it was apparent that the operation was in danger and the order to withdraw was issued. The RAF provided cover for the retreating troops and Royal Navy vessels against the German army and air force. Hampered by operating far from their bases, the Allies lost over a hundred aircraft, mostly fighters, while the Luftwaffe lost almost fifty aircraft, of which twenty were fighters.



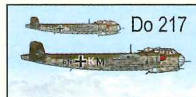
v1.0, Scenario by Andy Parsons

Order of Battle**Raiders – German (set-up first)****Elements of Luftflotte 3****x1**

Do 217E-2 – Bombing mission
Set-up in Y4

x1

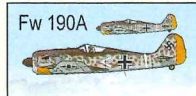
Fw 190A-2 – Escort mission
Set-up in column Y or Z

x1

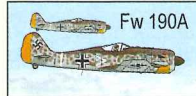
Do 217E-2 – Bombing mission
Set-up in B5

x1

Fw 190A-2 – Escort mission
Set-up in column A or B

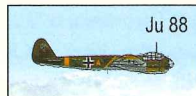
x1

Fw 190A-2 – Intercept mission
Set-up in Z7

x1

Fw 190A-2 – Intercept mission
Set-up in A8

Quality Veteran 4; Green 0; Experte 2

German Reinforcements, enter Turn 2**x1**

Ju 88A-4 – Bombing mission
Enter in A4

Quality Veteran 0; Green 0; Experte 0

Max Losses Allies – Squadrons 12; Flights 6

Germans – Squadrons 9; Flights 4

Alert All intercept squadrons are alerted. All other squadrons are not alerted.

Defenders – Allied**Elements of 2 and 11 Group, RAF****x4**

Spitfire Mk.VB – CAP mission
Set up separately in any columns from J to T, two squadrons at altitude 6 and two at altitude 3. Squadrons can set up facing left or right.

Quality Veteran 1; Green 0; Experte 1

Allied Reinforcements, enter Turn 4**x2**

Hurricane Mk.IIC – Bombing mission. Enter in trail in Z1

x1

Spitfire Mk.VB – Escort mission

Quality Veteran 2; Green 0; Experte 1

Allied Reinforcements, enter Turn 6**x2**

Boston Mk.III – Bombing mission Enter in trail in A1

x2

Spitfire Mk.VB – Escort mission

x1

Spitfire Mk.VB – Intercept mission. Enter left map edge at altitude 10 or less

Quality Veteran 1; Green 0; Experte 1

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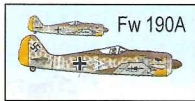
Scenario V22, Continued



Order of Battle, Continued

German Reinforcements, enter Turn 3

x1



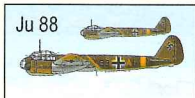
Fw 190A-2 – Intercept mission
Enter left map edge at altitude 10 or less

Quality

Veteran 1; Green 0; Experte 1

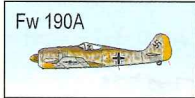
German Reinforcements, enter Turn 6

x1



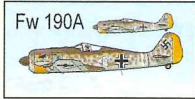
Ju 88A-4 – Bombing mission
Enter in Z6

x1



Fw 190A-2 – Escort mission

x1



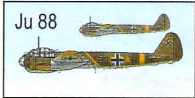
Fw 190A-2 – Intercept mission
Enter in any unoccupied square in columns A-J or T-Z at altitude 10

Quality

Veteran 1; Green 0; Experte 0

German Reinforcements, enter Turn 7

x1



Ju 88A-4 – Bombing mission
Enter in Z5

x1



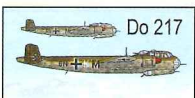
Fw 190A-2 – Escort mission

Quality

Veteran 1; Green 0; Experte 1

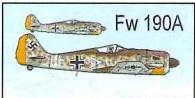
German Reinforcements, enter Turn 9

x1



Do 217E-2 – Bombing mission
Enter in A5

x1



Fw 190A-2 – Escort mission

x1



Fw 190A-2 – Intercept mission
Enter on left map edge at altitude 12 or less

Quality

Veteran 1; Green 0; Experte 0

Allied Reinforcements, enter Turn 8

Debden Wing (Add wing leader)

x3



Spitfire Mk.Vb – Intercept mission. Wing Leader enters right edge at altitude 12 or less

Quality

Veteran 1; Green 0; Experte 1

Map Edges

See special rules 4 and 5.

GCI Control

German - GCI 3; **Allied** - GCI 4

Radio Nets

Able, Baker, Charlie, Dog, Easy - Each Allied Intercept squadron not in a wing has a separate radio net, shared with GCI

Freddy - Debden Wing and GCI

George - Allied escorts and their bombers

Heinrich, Ida, Julius, Kaufmann, Ludwig - Each German Intercept squadron has a separate radio net, shared with GCI

Martha - German escorts and their bombers

Sun Position

Above

Clouds

Broken cloud in B7-E7, M4-O4, M5-N5, Q9-S9, V6-X6

Haze

Altitude 1, but only in columns L to Q (inclusive)

Surface Units

German: Lt Flak A in L0, Q0; Artillery in L0, Q0.
Allied: DD 2 in N0; DD 4 in O0, P0

Special Rules

1. Veteran fighter squadrons have tactical flexibility [9.3.2].
2. CAP fighters start at their fuel limits [13.3].
3. Bombers, fighter-bombers and their escorts must exit the map from the map edge they entered from. All other squadrons may exit from either edge.
4. If a dogfight occurs, German units are pointed towards the closest map edge and Allied units are pointed at the furthest map edge.
5. The surface from N to P (only) is sea [4.1].
6. Use the bombing attack rules [15.0]. Allied fighter-bombers can only attack Artillery or Light Flak. German bombers can only attack ships.
7. Reduce the defence modifier of the DDs to -2.
8. The Bostons entering on Turn 6 each lay a smoke screen: one in square L0 and the other in Q0. Level bomb those squares at altitude 0, but do not resolve bombing. The Germans score 2 VP for each Boston flight that is broken before it can bomb.

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the Allied VP from the German VP to see who wins:

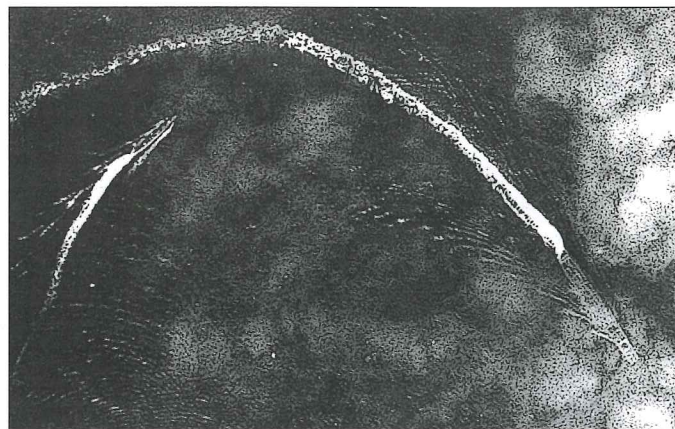
- +6 or less Allied Victory
- +7 to +13 Draw
- +14 or more German Victory

Background and Aftermath

Midway, 4 June 1942

The plan for Operation MI unravelled. Desultory attacks from Midway Island and the discovery of American carriers rattled Admiral Nagumo, commanding the Japanese CVs. Caught between waiting for the return of his strike against the island and spotting his reserves for a retaliatory launch, the Admiral found himself facing a seemingly endless stream of air attacks.

As torpedo and dive bombers of TF 16 and 17 barrelled in on the exposed carriers, Commander Minoru Genda, air officer of the First Air Fleet, looked out over the carnage of four burning carriers and exclaimed "Shimatta!" – *Damn!*



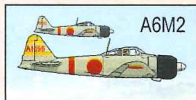
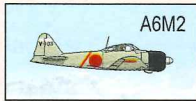

v1.0, Scenario by Lee Brimmicombe-Wood

Order of Battle

Defenders – Japanese (set-up first)

Elements of Carrier Divisions 1 and 2



- x2**  **A6M2** – CAP mission
Set-up above a carrier at altitude 7 or less
- x2**  **A6M2** – CAP mission
Set-up above a carrier at altitude 5 or less
- x1**  **A6M2** – Intercept mission
Take off on Turn 5 or later from any undamaged carrier



Max Losses Squadrons 9; Flights 4
Alert All squadrons start alerted
Quality Veteran 4; Green 0; Experte 2

- Map Edges** See special rules 2 and 3
GCI Control GCI 4, see special rule 4
Radio Japanese squadrons do not have radio
Radio Nets *Able* - Fighters in Group 1
Baker - Fighters in Group 4
Charlie - Fighters in Group 5
Sun Position Above
Clouds Broken cloud in B2-C2, B7-G7, U2-X2
Wispy cloud in H7-K7, D2-G2, J2-K2, P2-Q2, W6-Z6
Surface Units CV 1 (*Soryu*) in I0
CV 1 (*Hiryu*) in L0
CV 1 (*Akagi*) in O0
CV 1 (*Kaga*) in R0

- Special Rules**
1. Players can decide to play the historical scenario or the counterfactual scenario. Choose one and follow the instructions after the special rules.
 2. American units can enter or exit from either map edge.

Raiders – American

Group 1 – Elements of VT-8 and VF-6
(Hornet & Enterprise)

- x1**  **TBD-1** – Bombing mission
Enters on either map edge at altitude 1
- x2**  **F4F-4** – Sweep mission
Enters on the same edge as the TBDs in trail at altitude 13

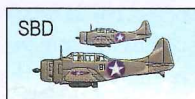
Max Losses Squadrons 9; Flights 4
Alert No squadrons start alerted
Quality Veteran 0; Green 1; Experte 0

Group 2 – Elements of VT-6 (Enterprise)

- x1**  **TBD-1** – Bombing mission
Enters on either map edge at altitude 1

Max Losses Squadrons 12; Flights 6
Quality Veteran 0; Green 1; Experte 0

Group 3 – Elements of VB-6 and VS-6 (Enterprise)

- x4**  **SBD-3** – Bombing mission
Enters in formation in columns A-D or W-Z at altitude 8




Max Losses Squadrons 8; Flights 4
Quality Veteran 2; Green 0; Experte 1

Scenario V23, Continued





Order of Battle, Continued

Group 4 – Elements of VT-3, VB-3, VF-3 (Yorktown)

x1		TBD-1 – Bombing mission Enters in columns A-C or X-Z at altitude 1
x2		SBD-3 – Bombing mission Enters on either map edge at altitude 8
x1		F4F-4 – Escort mission Escort TBDs

Max Losses	TBDs: Squadrons 12; Flights 6 SBDs: Squadrons 8; Flights 4 F4F-4s: Flights 4
Alert	No squadrons start alerted
Quality	Veteran 2; Green 0; Experte 1

Group 5 – Elements of VB-8, VS-8, VF-8 (Hornet)

x4		SBD-3 – Bombing mission Enters in formation in columns A-D or W-Z at altitude 8
x2		F4F-4 – Escort mission

Max Losses	SBDs: Squadrons 8; Flights 4 F4F-4s: Flights 4
Alert	No squadrons start alerted
Quality	Veteran 1; Green 0; Experte 0

- Special Rules (continued)**
- Japanese units exit from either map edge.
 - Japanese squadrons and flights have no radios, but they can be GCI controlled by visual signals from surface ships. Treat the Japanese as having GCI, but only one vector marker can be placed. That vector marker is used for ALL Japanese units. (In other words, instead of having one vector marker for each squadron, there is one that applies to all squadrons.) Once placed the vector marker can never be removed from the map, only moved.
 - Once a vector has been placed, all Japanese units without a tally must move to intercept it.
 - The first time in the game a vector marker is placed, do not roll dice [9.2.4]. Simply place the vector marker. Roll dice only when changing the position of the vector marker.
 - Use the bombing attack rules [15.0].

- Special Rules (continued)**
- Mark one CAP squadron with a low ammo marker at the start.
 - The TBDs carry a Torpedo weapon load [15.1].
 - The surface is sea [4.1].
 - Flak surprise is in effect [14.2.9].
 - Because the ships are manoeuvring hard, apply a -1 modifier to all flak attacks (barrage and direct fire).
 - The Japanese carrier hangar decks are packed with fuelled and bombed-up aircraft. When calculating the bombing hits from any 50% or 100% success, double the results.
 - Japanese fighters have tactical flexibility [9.3.2].

Historical Scenario

If playing the historical version of the scenario, the American groups enter the map on the following turns:

- Group 1**, Turn 1
- Group 2**, Turn 5
- Group 3**, Turn 9
- Group 4**, Turn 12

Group 5 does not appear in the historical scenario.

Counterfactual Scenario

If playing the counterfactual version of the scenario, one American group enters the map on each of the following turns:

- Turn 1
- Turn 5
- Turn 9
- Turn 12

To determine which group enters, roll a die. The result on the die is the number of the group that enters.

If the roll is 6, roll again until a group is selected.

If the roll is for a group that has already entered, reduce the die result by 1 and enter the group corresponding to the new value. If that group has already entered, reduce the die by 1 again (and again, if necessary), and enter that group.

EXAMPLE: A 3 is rolled, but Groups 3 and 2 have already entered. So the dice result is reduced to 1 and Group 1 enters instead.

If the die is reduced to 0, re-roll until a group is selected.

There are only four game turns on which groups can enter. This means that only four groups can enter during the game and one will fail to enter.

Victory Conditions

At the game end total each side's Victory Points (VP). Subtract the Japanese VP from the American VP to see who wins:

- +19 or less Japanese Victory
- +20 to +35 American Minor Victory
- +36 or more American Victory

What ADC Do I Use?

Scenarios may list aircraft models that are either variants of an ADC model, or are alternative names for that model. These tables will help you find the correct ADC. The left column lists all the models in the game and the right column lists the ADC where you can find that model. Where a model is a variant, that is listed also.

<i>Model</i>	<i>ADC</i>
A-20A, A-20B, A-20C Havoc	A-20 Havoc
A-20G Havoc	A-20 Havoc <i>variant</i>
A-24 Banshee	SBD-3 Dauntless
A6M2 'Zero' (Zeke)	A6M2 'Zero' (Zeke)
Avenger Mk.I, Mk.II	TBF-1 Avenger
Avenger Mk.III	TBF-1 Avenger <i>variant</i>
Battle Mk.I, Mk.II, Mk.V	Battle Mk.I
B5N1, B5N2 'Kanko' (Kate)	B5N2 'Kanko' (Kate)
Bf 109E1, E-3	Bf 109E-4 <i>variant</i>
Bf 109E-4	Bf 109E-4
Bf 109E-7	Bf 109E-4 <i>variant</i>
Bf 109F-1, F-2 'Friedrich'	Bf 109F-2 'Friedrich'
Bf 109F-4, F-4/R1 'Friedrich'	Bf 109F-4 'Friedrich'
Bf 110C-1, C-2, C-3	Bf 110C-4 <i>variant</i>
Bf 110C-4	Bf 110C-4
Bf 110C-7	Bf 110C-4 <i>variant</i>
Blenheim Mk.I	Blenheim Mk.IV <i>variant</i>
Blenheim Mk.IV	Blenheim Mk.IV
Blenheim Mk.V 'Bisley'	Blenheim Mk.IV <i>variant</i>
Boston Mk.I, Mk.II, Mk.III	A-20 Havoc
Buffalo Mk.I	F2A-3 Buffalo
CR.42, CR.42bis Falco	CR.42 Falco
D3A1, D3A2 'Kanbaku' (Val)	D3A1 'Kanbaku' (Val)
Do 17Z-0 to Z-5	Do 17Z-2
Do 217E-1 to E-5	Do 217E-2
F2A-3 Buffalo	F2A-3 Buffalo
F4F-3 Wildcat	F4F-4 Wildcat <i>variant</i>
F4F-4 Wildcat	F4F-4 Wildcat
Fw 190A-1, A-2	Fw 190A-2
G.50, G.50bis Freccia	G.50 Freccia
G4M1, G4M2 'Rikko' (Betty)	G4M1 'Rikko' (Betty)
G4M3 'Rikko' (Betty)	G4M1 'Rikko' (Betty) <i>variant</i>
Gladiator Mk.I, Mk.II	Gladiator Mk.II
He 111H-1 to H-20	He 111H-1
Hurricane Mk.I	Hurricane Mk.I
Hurricane Mk.IIA, Mk.IIB	Hurricane Mk.IIC <i>variant</i>
Hurricane Mk.IIC	Hurricane Mk.IIC
Hurricane Mk.IID	Hurricane Mk.IIC <i>variant</i>
Hurricane Mk.IV	Hurricane Mk.IIC <i>variant</i>
IL-2	IL-2M 'Ilyusha'

<i>Model</i>	<i>ADC</i>
J 8, J 8A	Gladiator Mk.II
J 11	CR.42 Falco
Ju 87B-1, B-2 'Stuka'	Ju 87 B-2 'Stuka'
Ju 87B-2 Picchiatello	Ju 87B-2 'Stuka'
Ju 87R-1, R-2, R-4 'Stuka'	Ju 87B-2 'Stuka' <i>variant</i>
Ju 88A-1 to A-4	Ju 88A-4
Ki-21-Ia (Sally)	Ki-21-IIa (Sally) <i>variant</i>
Ki-21-IIa, -Iib (Sally)	Ki-21-IIa (Sally)
Ki-43-I, -Ia, -Ib Hayabusa (Oscar)	Ki-43-I Hayabusa (Oscar)
Kittyhawk Mk.I	P-40E Warhawk <i>variant</i>
Kittyhawk Mk.IA	P-40E Warhawk
Kittyhawk Mk.II	P-40F Warhawk
LaGG-3	LaGG-3
LaGG-3-37	LaGG-3 <i>variant</i>
Martlet Mk.I, Mk.II, Mk.III	F4F-4 Wildcat <i>variant</i>
Martlet Mk.IV	F4F-4 Wildcat
MC.200, MC.200CB Saetta	MC.200 Saetta
MC.202, MC.202AS, MC.202CB Folgore	MC.202 Folgore
P-40B, P-40C Warhawk	P-40B Warhawk
P-40D Warhawk	P-40E Warhawk <i>variant</i>
P-40F Warhawk	P-40F Warhawk
P-40L Warhawk	P-40F Warhawk <i>variant</i>
SBD-1, SBD-2 Dauntless	SBD-3 Dauntless <i>variant</i>
SBD-3, SBD-4, SBD-5 Dauntless	SBD-3 Dauntless
Sea Hurricane Mk.IB	Hurricane Mk.I
Spitfire Mk.I, Mk.IA, Mk.IIA	Spitfire Mk.IA
Spitfire Mk.IB, Mk.IIB	Spitfire Mk.IA <i>variant</i>
Spitfire Mk.VA	Spitfire Mk.VB <i>variant</i>
Spitfire Mk.VB	Spitfire Mk.VB
Spitfire Mk.VC	Spitfire Mk.VB <i>variant</i>
SM.79-I, SM.79-II, SM.79-III Sparviero	SM.79-II Sparviero
TBD-1 Devastator	TBD-1 Devastator
TBF-1, TBF-1C, TBM Avenger	TBF-1 Avenger
TBM-3 Avenger	TBF-1 Avenger <i>variant</i>
Tomahawk Mk.I	P-40B Warhawk <i>variant</i>
Tomahawk Mk.II	P-40B Warhawk
Yak-1	Yak-1
Yak-1B	Yak-1 <i>variant</i>

Scenario Chronology

1940

*Germany invades France
Italy begins to bombard Malta*

The Battle of Britain commences

Italy invades Greece

*Luftwaffe intervenes at Malta
Circus operations commence over France*

Germany invades the Soviet Union

*Eighth Army attacks to relieve
the siege of Tobruk
Japanese fleet strikes Pearl Harbor*

1941

V11 – The Bridges at Sedan

V04 – Penny Packets

V05 – Haway the Lads!

V06 – Let's Go and Surround Them!

V15 – Taking Wing

V20 – Here Come the Last Fifty Spitfires

V09 – Like Arrows Against Gladiators

V21 – Send in the Clowns

V07 – Malta Recce

V17 – Nemesis

V16 – Shark Attack

V01 – Tyger! Tyger!

V19 – Circus, Circus

1942

Spitfires arrive in Malta

Battle of the Coral Sea

Battle of Midway

Army Group South attacks southern Russia

The raid on Dieppe

Second Battle of El Alamein commences

*Operation Uranus cuts off the
6th Army at Stalingrad*

V02 – Birthday Present

V12 – The Rain Upon the Sea V13 – Hey Rube!

V23 – Shimatta

V08 – Jagdgeschwader Mölders V22 – The Day of Jubilee

V10 – Cactus Thorns

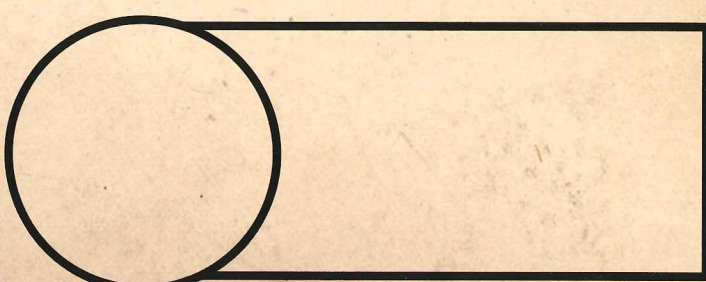
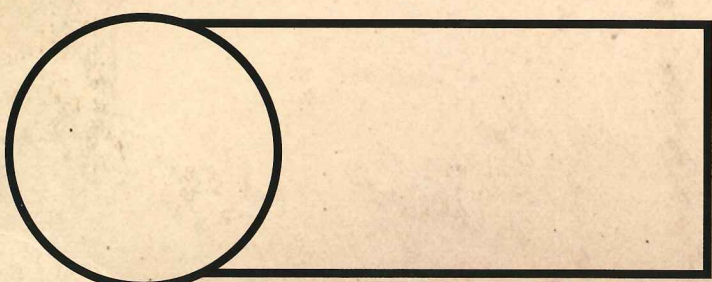
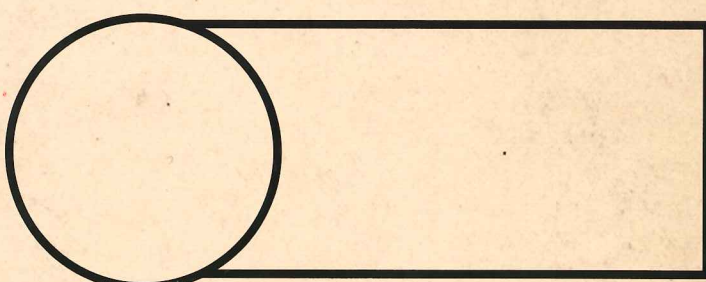
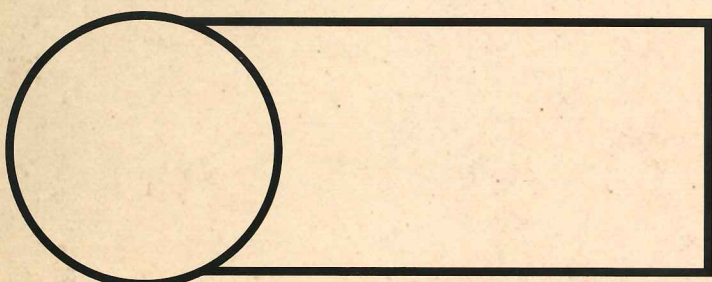
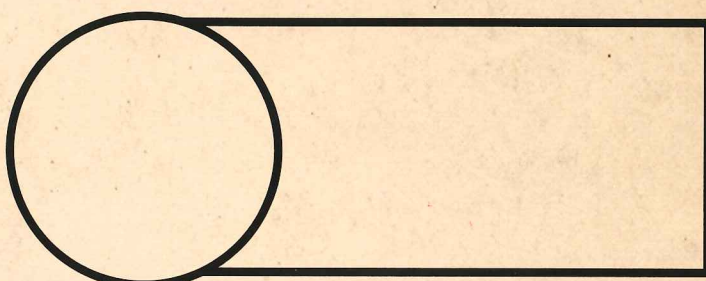
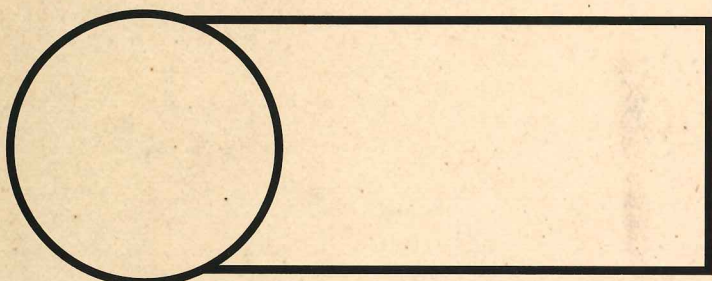
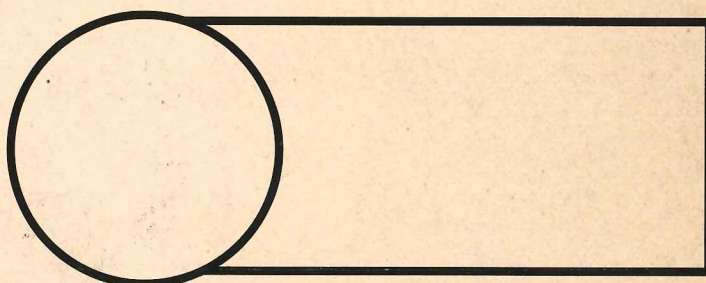
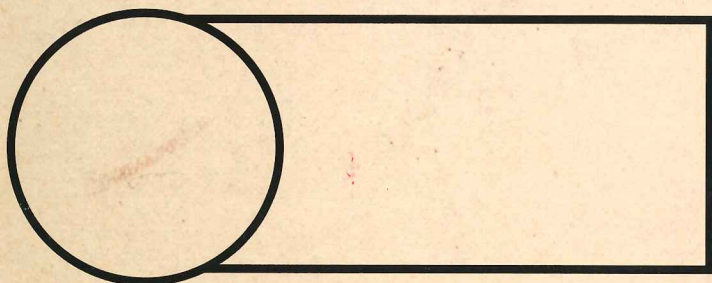
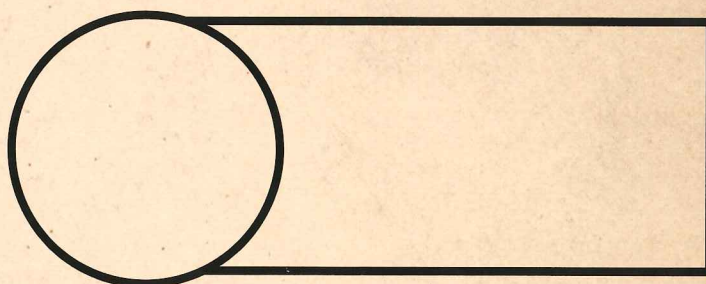
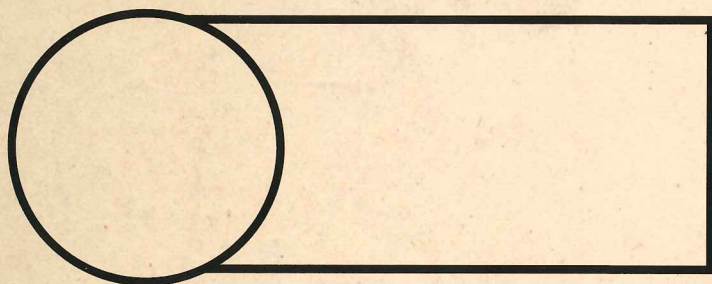
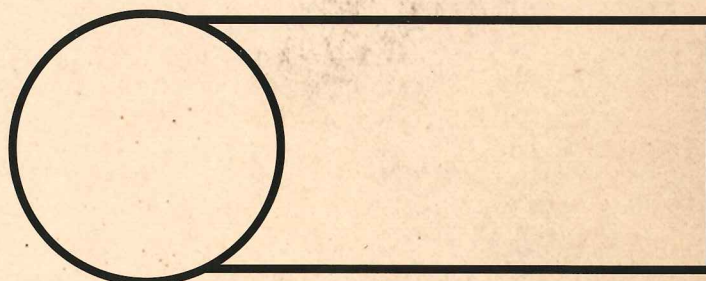
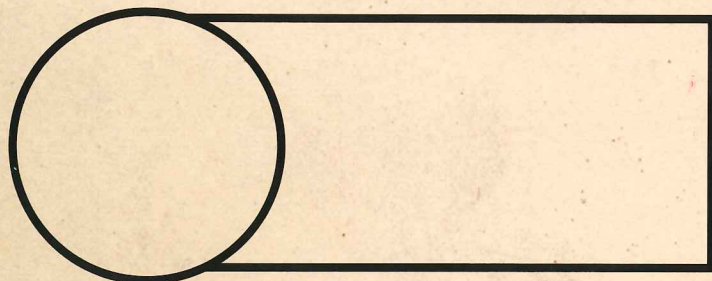
V14 – The Big 'E'

V18 – Yanks Over Alamein

V03 – Stalingrad Airlift

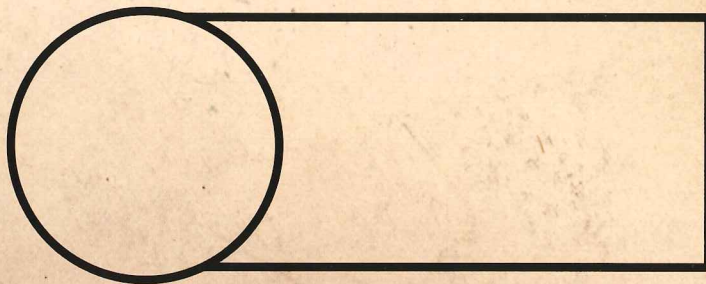
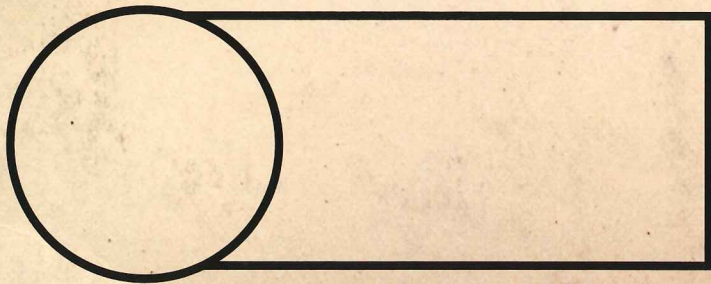
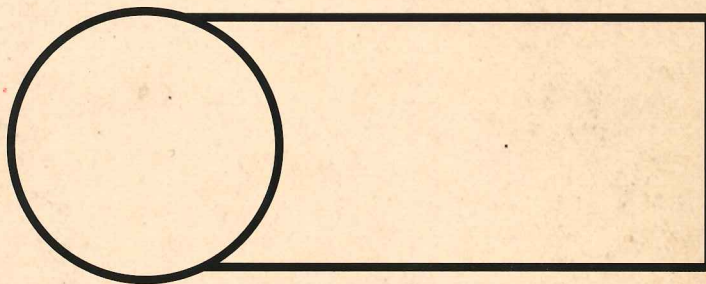
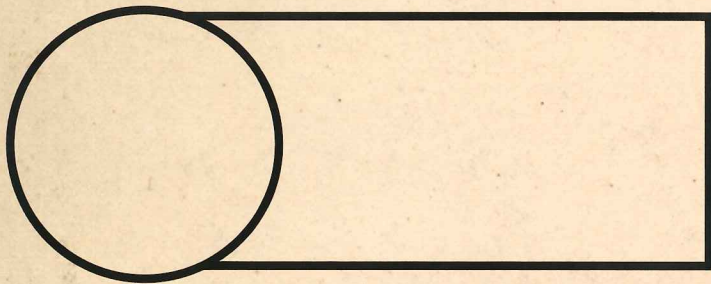
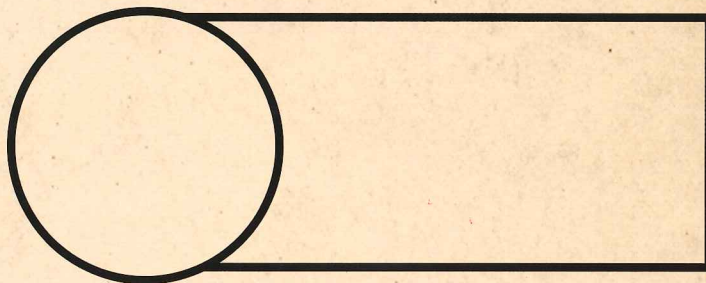
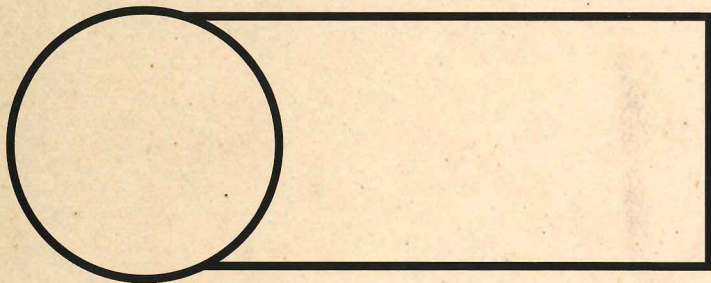
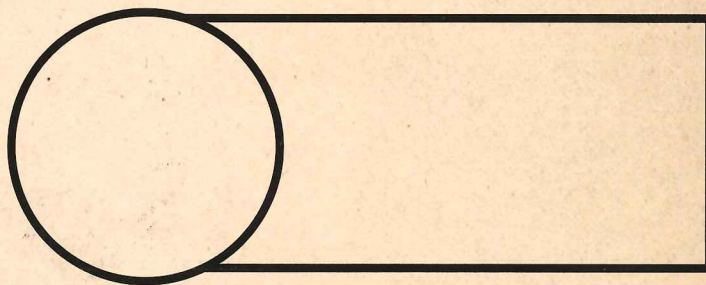
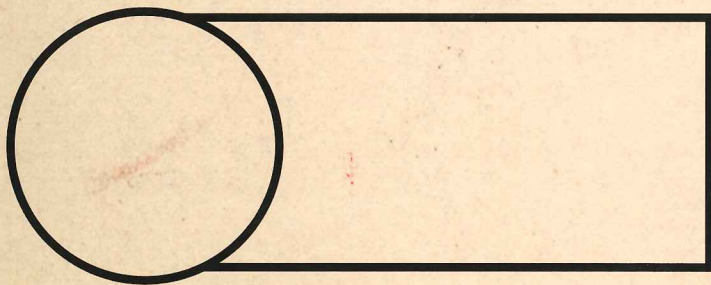
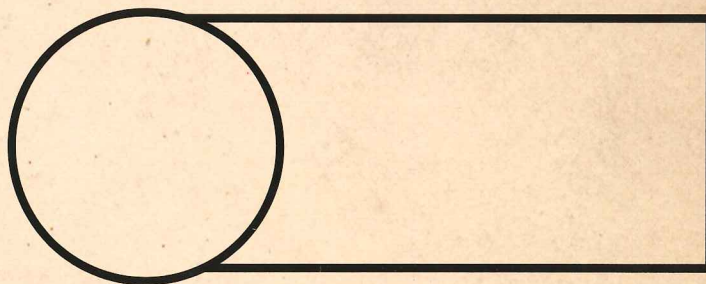
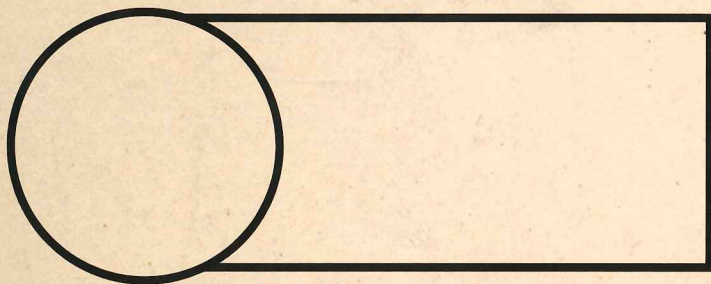
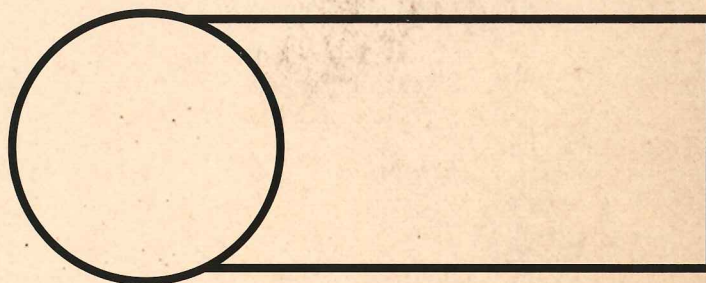
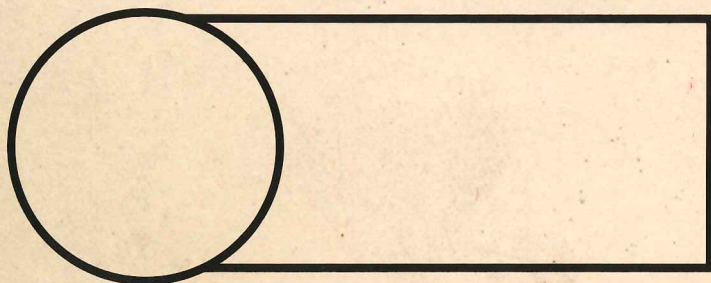
Wing Display

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Losses [10.6]

Roll a die and add the shooter's Firepower

Result < Protection No Loss

Result = Protection Straggler/flip Straggler to Loss

Result > Protection Loss

FP modifiers:

- +1** shooting squadron has Experte
- +1** shooting squadron has gyro gunsight [13.5.3]
- +1** head-on attack and target marked with 'h'
- +1** gun pods or AT pods [13.5.6]

Cohesion Table [10.7]

Dice Roll	Fighter	Bomber, Flak
3 or less	2	1
4	1	1
5	1	None
6	1	None
7 or more	None	None

Dice modifiers:

All Rolls

- ?** subtract the squadron's total losses in this game
- +1** the squadron is veteran
- 1** the squadron is green

Air Combat

- +1** the squadron is on the attacking side
- +1** the squadron is in a Lufbery [13.4.3]
- 1** the squadron is a fighter with no radio [5.1]
- 1** the squadron is marked with a low ammo marker
- 2** the squadron is marked with a depleted ammo marker
- ?** weather modifiers [4.7]

Escort Reaction [10.4]

Roll 6 or more to react

Roll 2 to 5 for late reaction

If roll successful, tally the enemy and:

- (1) Move into enemy square and attack, OR
- (2) Split the squadron and send one flight to attack

Dice modifiers:

- +1** escort squadron is Veteran
- 1** escort squadron is Green
- 1** the enemy are behind the escort squadron [8.1.2]
- 1** each square the escort is away from the moving enemy
- 1** escort squadron has no radios [5.1]
- ?** weather modifiers [4.7]

Tally Roll [7.2.1]

If roll is equal to or greater than the distance to the target, place a tally marker on the enemy unit.

Die modifiers:

- +2** target is in a formation of 3 or more squadrons
- +2** target in a barrage flak zone created by a barrage marker [14.2.2]
- +2** target affected by contrails [4.4]
- 2** target is behind the squadron (if squadron has an improved rear view this does not apply to targets above the squadron) [8.1.2]
- +1** squadron on same radio net as GCI or target tallied by friendly squadron on the same radio net [9.4]
- 1** tallying squadron is Green
- +1** tallying squadron is Veteran
- ?** weather modifiers [4.7]
- 1** target is in the Sun [4.6.2]

WING LEADER
COMBAT CARD



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Air Combat Table [10.5.1]

Apply to all situations

Modifiers to Speed and Turn ratings:

- 1 marked with bomb load, drop tanks, rockets, ATGR, Torpedoes

Modifiers to Speed ratings

- +1 marked with dive marker
- 1 marked with climb marker

Apply only in combat

Modifiers to Speed and Turn ratings:

- +1 for each additional fighter/FB squadron or flight
- +1 squadron is Veteran
- 1 squadron is Green
- 1 if the unit is a flight, not a squadron
- 1 if disrupted or broken
- 1 if defending using Rigid doctrine [5.1]
- 1 if flight is a single aircraft formation [13.6]

Dice Roll

Combat Differential

	-4	-3	-2	-1	0	+1	+2	+3	+4
4 or less	—	—	—	—	—	—	—	—	—
5	—	—	—	—	—	—	—	1	1
6	—	—	—	—	—	1	1	1	1
7	—	—	—	1	1	1	1	1	2
8	—	—	1	1	1	1	2	2	2
9	—	1	1	1	2	2	2	2	2
10	1	1	1	1	2	2	2	3	3
11	1	2	2	2	2	3	3	3	4
12	2	2	2	3	3	3	4	4	4
13	2	2	3	3	3	4	4	5	5
14 or more	2	3	3	4	4	5	5	6	6

Attacker Dice Roll Modifiers

Apply to all rolls

- 2 head-on attack [10.3]
- 1 defender is evading [13.4.2]
- 1 attacker is at high speed [13.8.1]
- +1 attacker bounces defender [13.4.1]
- +1 attacker has an Experte pilot
- +1 attacker has gyro gunsights [13.5.3]
- ? weather modifiers (see below)

Apply to attacks on Bombers

- 2 attacker is using rockets
- 1 long-range attack using 50mm Bordkanone

Results

- No hits scored
- # number of hits on enemy aircraft

Defender Dice Roll Modifiers


Apply to all rolls

- 2 head-on attack [10.3]
- 1 defender is evading and/or at high speed
- 1 attacker bounces defender [13.4.1]
- +1 defender has an Experte pilot
- +1 defender has gyro gunsights [13.5.3]
- ? weather modifiers (see below)
- +? defence rating (increase by 2 if in a Turning fight) [10.5.2]
- +2 defender is in a Lufbery [13.4.3]

Weather Modifiers [4.7]


- 1 wispy cloud or haze
- 2 broken cloud or rain
- 3 dense cloud

Flak Attack Table [14.2.2]

Dice Roll	Flak	Bomb 
9 or less	—	—
10	C	-1
11	1	-1
12 - 13	2	-1
14 or more	3	-2

Flak firepower value

Barrage	0
Direct Fire	1
Dual-fuse ammo	+2

 Apply the bomb marker only if squadron dropped bombs during movement [14.2.5]

Flak Altitude Modifiers

Altitude	Light Flak	Heavy Flak
12 or more	—	-1
5 - 11	—	+0
0 - 4	+0	+0

Dice modifiers for Barrage and Direct Fire:

- +? the flak unit's strength
- +1 for each flak unit supplying supporting fire

Direct Fire dice modifiers:

- +? altitude modifier (see table above)
- ? weather modifier [4.7]
- +1 the target has a Slow marker
- +1 the target performed bomb aiming this turn
- +1 Improved fire directors [14.2.7]
- +2 Proximity fuse [14.2.7]

Bombing Table [15.4]

Dice Roll	% Hits
5 or less	0%
6 - 7	10%
8 - 9	25%
10 - 11	50%
12 or more	100%

Bombing Hits = Bomb Strength × % Hits

Bomb Strength = Bomb Value on ADC
Halve if disrupted or a flight
Value of torpedoes is 20

Altitude Modifier Table

Altitude	T	V	G
0	0	0	0
1	-1	-1	-1
2	-2	-1	-1
3 - 5	-3	-2	-2
6 - 14	-4	-3	-2
15 or more	-5	-4	-3

Cross-reference bombing altitude with the bomber's bombsight to get the altitude modifier

Dice modifiers:

- +? altitude modifier (see table below and to the left)
- +? target defence modifier (ship defence may be reduced by damage or attacks out of the Sun [14.1.3])
- +5 Tokko attack [15.5.3]
- +3 dive bombing [15.3.2], strafing or rocket attack [15.3.6-15.3.8]
- +2 steep angle bombing attack [15.3.3]
- +1 glide bombing attack [15.3.4]
- +? torpedo attack modifier [15.3.5]
- +1 anvil attack [15.5.1]
- +1 bomber not attacked by flak this game turn
- ? bomb modifier inflicted by flak attack [14.2.5]
- ? weather modifier [4.7]
- 1 long range torpedo or rocket attack
- 2 no aim [15.3]
- +1 bomber squadron is Veteran
- 1 bomber squadron is Green

WING LEADER
BOMBING CARD

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Sequence of Play

Set-up Phase

1. Place entering squadrons in set-up square or on map-edge adjacent to the square they enter
2. Place a vector marker for each Intercept squadron entering play [5.3.1]

Tally Phase

1. Attempt to tally enemies [7.2], raider player first
2. Unalert squadrons become alerted if warned by radio [7.1]
3. Wing Leaders issue orders [9.5.4]

Movement Phase

1. Squadrons move [8.0]
2. Jettison bombs and drop tanks during movement [9.2.1.1, 13.2]
3. Escorts react to enemies moving into the same squares as bombers [10.4]
4. Resolve barrage fire flak attacks [14.2.3]

Combat Phase

1. Resolve direct fire flak attacks [14.2.4]
2. Resolve bombing attacks [15.4]
3. Resolve air combat in an order determined by the raider player
4. Jettison bomb loads and drop tanks following combat [9.2.1.1, 13.2]

Administration Phase

1. Squadrons roll to escape [11.0], raider player first
2. Place Escort markers on eligible squadrons [9.2.2]
3. Change vectors for squadrons under GCI control [9.2.4]
4. Roll for a flak surprise check [14.2.9]
5. Place flak barrage markers [14.2.2]

End Turn

1. The turn ends. Proceed to the Set-up Phase of a new turn

Movement

Movement Points [8.2]

- 2 MP Bombers; escorts; unalerted fighters
- 3 MP Intercept fighters; alerted non-escort fighters
- 4 MP Jets, regardless of alert state (For Me 163, see 13.8.2)
- +1 MP if declares diving when it begins movement

Movement Costs [8.3]

- 1 MP to an adjacent square.
- 2 MP to enter or exit a Lufbery [13.4.3]
- 1 MP for facing change greater than 90°
- 1 MP to not move or change facing in its current square
- Move to higher square = ADC climb value; 2nd climb = 2 MP
- Move to square directly below = 0.5 MP

Notes

Move Order [6.1]

1. Dogfights
2. Escorts
3. Bombers
4. Unalerted Fighters in initiative order
5. Alerted Fighters in initiative order

Initiative Rule [6.1.1]

Squadrons move in the following order:

1. Lowest altitude
2. Lowest basic speed [3.3.1]
3. If altitude and speed are the same, resolve ties with a die roll (lowest roll moves first)

Alert [7.1]

Squadrons become alerted when:

- They tally an enemy squadron in the Tally Phase [7.2.1]
- Alerted by radio in the Tally Phase [9.4]
- After resolving an attack by enemy fighters

Tallies [7.2.1]

Drop tallies when:

- Target is removed from the map
- No line of sight to target in Tally Phase
- Target is ten or more squares distant
- Tallying squadron is broken
- Tally voluntarily dropped during Tally Phase (a new tally attempt is permitted)
- Attacked in air combat (if in a dogfight, it keeps its current tally)

In the Sun [4.6.2]

A squadron is attacking out of the Sun when:

- It entered the target square from a square in the Sun, AND
- It spent two or more consecutive MP in squares in the Sun just before entering the target's square

Dogfights [10.8]

If one player refuses a dogfight and the other does not, each player rolls a die and modifies as follows:

- add basic speed [3.3.1]
- add 1 if Veteran
- subtract 1 if Green

If the player forcing the dogfight rolls equal to or greater than their opponent, the dogfight begins.

Dogfight Movement [10.8.2]

Roll a die in the Movement Phase:

- 1-3 Raider player moves the stack
- 4-6 Defender player moves the stack





 Blenheim S	 Blenheim U	 Fw 190A I	 Fw 190A J	 Fw 190A K
 Blenheim T	 Blenheim V	 Fw 190A N	 Fw 190A M	 Fw 190A L
 Fw 190A A	 Fw 190A B	 Fw 190A C	 Fw 190A D	 Fw 190A O
 Fw 190A H	 Fw 190A G	 Fw 190A F	 Fw 190A E	 Fw 190A P
 Boston S	 Boston U	 Buffalo P	 Buffalo Q	 Buffalo R
 Boston T	 Boston V	 IL-2 O	 IL-2 N	 IL-2 M
 Yak-1 A	 Yak-1 B	 Yak-1 C	 Bf 109F O	 Bf 109F P
 LaGG-3 F	 LaGG-3 E	 LaGG-3 D	 Bf 109F N	 Bf 109F M
 Bf 109F A	 Bf 109F B	 Bf 109F C	 Bf 109F D	 Bf 109F E
 Bf 109F I	 Bf 109F H	 Bf 109F G	 Bf 109F F	 CR.42 N
 MC.200 D	 MC.200 E	 MC.200 F	 CR.42 J	 CR.42 K
 MC.202 I	 MC.202 H	 MC.202 G	 CR.42 M	 CR.42 L
 Do 217 V	 Do 217 W	 Do 217 X	 Do 217 Z	 SM.79 Z
 G.50 C	 G.50 B	 G.50 A	 SM.79 Y	 SM.79 X

CV 1 6 -2 L0 ¹ H0 ¹ 12VP	CV 1 6 -2 L0 ¹ H0 ¹ 12VP	DD 1 4 -3 S0 H0 ¹ 5VP	DD 2 4 -3 S0 H0 ¹ 5VP	CA 1 7 -2 L0 ¹ H0 ¹ 9VP
CV 1 6 -2 L0 ¹ H0 ¹ 12VP	CV 1 6 -2 L0 ¹ H0 ¹ 12VP	DD 1 4 -3 S0 H0 ¹ 5VP	DD 2 4 -3 S0 H0 ¹ 5VP	CA 2 7 -2 L0 ² H0 ² 9VP
CV 2 7 -2 L0 ² H0 ² 12VP	BB 1 10 -2 L0 ² H0 ² 14VP	DD 3 4 -3 S0 H0 ² 5VP	DD 4 4 -3 L0 ¹ H0 ² 5VP	Aux 1 4 -2 S0 7VP
CV 2 7 -2 L0 ² H0 ² 12VP	BB 1 10 -2 L0 ² H0 ² 14VP	DD 3 4 -3 S0 H0 ² 5VP	DD 4 4 -3 L0 ¹ H0 ² 5VP	Aux 1 4 -2 S0 7VP
Bf 109F Q		Barrage	Barrage	Barrage
Bf 109F R		Barrage	Barrage	Barrage
P-40B L	P-40B M	Gladiator P	Gladiator Q	Gladiator R
P-40B O	P-40B N	P-40B C	P-40B B	P-40B A
Wispy 1	Wispy 1	Wispy 1	Wispy 1	Wispy 1
Wispy 1	Wispy 1	Wispy 1	Wispy 1	Wispy 1
Dense 3	Dense 3	Dense 3	Dense 3	Dense 3
Dense 3	Dense 3	Dense 3	Dense 3	Dense 3
Broken 2	Broken 2	Broken 2	Broken 2	Broken 2
Broken 2	Broken 2	Broken 2	Broken 2	Broken 2

Bunker 7	0	Supply 3	0	S0	Airfield 6	+1	S1	Hvy Flak A 4	0	H0 ²	Lt Flak A 4	0	L0 ²
5VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP
10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP
Bridge	Factory	Port	Port	Port	Port	Port	Port	Port	Port	Port	Port	Port	Port
10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP	10VP
Lt Flak B 4	0	L2 ²	Train 2	-1	Trucks 2	0	Trucks 2	0	Troops 3	0	S0	Trucks 2	0
3VP	5VP	5VP	5VP	5VP	5VP	5VP	5VP	5VP	5VP	5VP	5VP	5VP	5VP
3VP	3VP	3VP	3VP	3VP	3VP	3VP	3VP	3VP	3VP	3VP	3VP	3VP	3VP
Artillery	Artillery	Artillery	Artillery	Artillery	Artillery	Artillery	Artillery	Artillery	Artillery	Artillery	Artillery	Artillery	Artillery
50	50	50	50	50	50	50	50	50	50	50	50	50	50

Balloon	Balloon	Balloon	Balloon	Balloon
Bf 109F	Bf 109F	Bf 109F	Bf 109F	Bf 109F
Q	R	Q	R	Q
Gladiator	Gladiator	Gladiator	Gladiator	Gladiator
R	Q	P	M	L
P-40B	P-40B	P-40B	P-40B	P-40B
A	B	C	N	O
Dense	Dense	Dense	Dense	Dense
3	3	3	3	3
3	3	3	3	3
Broken	Broken	Broken	Broken	Broken
2	2	2	2	2
2	2	2	2	2
Dense	Dense	Dense	Dense	Dense
3	3	3	3	3
3	3	3	3	3

Fw 190A	Fw 190A	Fw 190A	Blenheim	Blenheim
K	J	I	U	S
Fw 190A	Fw 190A	Fw 190A	Blenheim	Blenheim
L	M	N	V	T
Fw 190A	Fw 190A	Fw 190A	Fw 190A	Fw 190A
O	D	C	B	A
Fw 190A	Fw 190A	Fw 190A	Fw 190A	Fw 190A
P	E	F	G	H
Fw 190A	Fw 190A	Fw 190A	Fw 190A	Fw 190A
Buffalo	Buffalo	Buffalo	Boston	Boston
R	Q	P	U	S
M	N	O	V	T
IL-2	IL-2	IL-2	Boston	Boston
Bf 109F	Bf 109F	Yak-1	Yak-1	Yak-1
P	O	C	B	A
M	N	D	E	F
Bf 109F	Bf 109F	LaGG-3	LaGG-3	LaGG-3
E	D	C	B	A
N	F	G	H	I
CR.42	CR.42	MC.200	MC.200	MC.200
K	J	F	E	D
L	M	G	H	I
CR.42	CR.42	MC.202	MC.202	MC.202
SM.79	Do 217	Do 217	Do 217	Do 217
Z	Z	X	W	V
X	Y	A	B	C
SM.79	SM.79	G.50	G.50	G.50

Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Slow Speed 0	Slow Speed 0
Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Climb -1 Speed	Slow Speed 0	Slow Speed 0

Dogfight	Dogfight	Dogfight	Dogfight	Haze		Gun Pod +1 FP -1 Spd/Trn	ID U	ID V	ID W
Dogfight	Dogfight	Dogfight	Dogfight	Contrail	Sun	Gun Pod +1 FP -1 Spd/Trn	ID X	ID Y	ID Z

ID A Alerted	ID B Alerted	ID C Alerted	ID D Alerted	ID E Alerted	ID F Alerted	ID G Alerted	ID H Alerted	ID I Alerted	ID J Alerted
ID K Alerted	ID L Alerted	ID M Alerted	ID N Alerted	ID O Alerted	ID P Alerted	ID Q Alerted	ID R Alerted	ID S Alerted	ID T Alerted

ID A Alerted	ID B Alerted	ID C Alerted	ID D Alerted	ID E Alerted	ID F Alerted	ID G Alerted	ID H Alerted	ID I Alerted	ID J Alerted
ID K Alerted	ID L Alerted	ID M Alerted	ID N Alerted	ID O Alerted	ID P Alerted	ID Q Alerted	ID R Alerted	ID S Alerted	ID T Alerted

Tally A	Tally B	Tally C	Tally D	Tally E	Tally F	Tally G	ID U	ID V	ID W
Tally H	Tally I	Tally J	Tally K	Tally L	Tally M	Tally N	ID X	ID Y	ID Z

Tally O	Tally P		Veteran	Veteran	Veteran	Veteran	Veteran	Veteran	Veteran
Tally Q	Tally R	Tally S	Veteran	Veteran	Veteran	Veteran	Veteran	Veteran	Veteran

Tally A	Tally B	Tally C	Tally D	Tally E	Tally F	Tally G	Tally H	Tally I	Gun Pod +1 FP -1 Spd/Trn
Tally J	Tally K	Tally L	Tally M	Tally N	Tally O	Tally P	Tally Q	Tally R	Tally S

Disrupted	Disrupted	Disrupted	Disrupted	Disrupted	Disrupted	Disrupted	Disrupted	Bombing -1	Bombing -1
Disrupted	Disrupted	Disrupted	Disrupted	Disrupted	Disrupted	Disrupted	Disrupted	Bombing -1	Bombing -1

Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss
Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss

Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss
Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss	Loss

Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Rockets -1 Spd/Trn	Rockets -1 Spd/Trn
Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Ammo -1 LOW	Rockets -1 Spd/Trn

Experte	Experte	Experte	Experte	Bomb Load -1 Spd/Trn	Bomb Load -1 Spd/Trn	Bomb Load -1 Spd/Trn	Bomb Load -1 Spd/Trn	Bomb Load -1 Spd/Trn	Bomb Load -1 Spd/Trn
Experte	Experte	Experte	Experte	Bomb Load -1 Spd/Trn	Bomb Load -1 Spd/Trn	Bomb Load -1 Spd/Trn	Bomb Load -1 Spd/Trn	Bomb Load -1 Spd/Trn	Bomb Load -1 Spd/Trn

Intercept	Escort	Escort	Escort	Escort	Escort	Escort	Escort	Escort	Intercept
Intercept	Escort	Escort	Escort	Escort	Escort	Escort	Escort	Escort	Intercept

Intercept	Intercept	Intercept	Intercept	Intercept	Intercept	Intercept	Intercept	Intercept	Intercept
Intercept	Intercept	Intercept	Intercept	Intercept	Intercept	Intercept	Intercept	Intercept	Intercept

Bombing -2	Bombing -2	Broken	Broken	Broken	Broken	Broken	Broken	Broken	Broken
Bombing -2	Bombing -2	Broken	Broken	Broken	Broken	Broken	Broken	Broken	Broken

Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler
Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler
Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler
Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler	Straggler

Rockets Depleted -1 Spd/Trn	Rockets Depleted -1 Spd/Trn	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted
Rockets Depleted -1 Spd/Trn	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted	Ammo -2 Depleted

Torpedo Load -1 Spd/Trn	Torpedo Load -1 Spd/Trn	ATGR Load -1 Spd/Trn	Drop Tanks -1 Spd/Trn	Drop Tanks -1 Spd/Trn	Drop Tanks -1 Spd/Trn	Wing Leader	Wing Leader	Experte	Experte
Torpedo Load -1 Spd/Trn	Torpedo Load -1 Spd/Trn	ATGR Load -1 Spd/Trn	Drop Tanks -1 Spd/Trn	Drop Tanks -1 Spd/Trn	Drop Tanks -1 Spd/Trn	Wing Leader	Wing Leader	Experte	Experte

Bombing	Sweep	Sweep	Sweep	Sweep	Sweep	Sweep	Sweep	Sweep	Bombing
Bombing	Sweep	Sweep	Sweep	Sweep	Sweep	Sweep	Sweep	Sweep	Bombing

Bombing	Bombing	Bombing	Bombing	Bombing	Bombing	Bombing	Bombing	Bombing	Bombing
Bombing	Bombing	Bombing	Bombing	Bombing	Bombing	Bombing	Bombing	Bombing	Bombing

Slow Climb -1 Speed	Slow Climb -1 Speed	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive
Slow Climb -1 Speed	Slow Climb -1 Speed	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive	+1 Speed Dive

ID W	ID V	ID U	AT Pod +1/+2 FP -1 Spd/Trn					Lufbery 	Lufbery 	Lufbery 	Lufbery
ID Z	ID Y	ID X	AT Pod +1/+2 FP -1 Spd/Trn					Lufbery 	Lufbery 	Lufbery 	Lufbery

ID J Unalert	ID I Unalert	ID H Unalert	ID G Unalert	ID F Unalert	ID E Unalert	ID D Unalert	ID C Unalert	ID B Unalert	ID A Unalert
ID T Unalert	ID S Unalert	ID R Unalert	ID Q Unalert	ID P Unalert	ID O Unalert	ID N Unalert	ID M Unalert	ID L Unalert	ID K Unalert

ID J Unalert	ID I Unalert	ID H Unalert	ID G Unalert	ID F Unalert	ID E Unalert	ID D Unalert	ID C Unalert	ID B Unalert	ID A Unalert
ID T Unalert	ID S Unalert	ID R Unalert	ID Q Unalert	ID P Unalert	ID O Unalert	ID N Unalert	ID M Unalert	ID L Unalert	ID K Unalert

ID W	ID V	ID U	Vector → G	Vector → F	Vector → E	Vector → D	Vector → C	Vector → B	Vector → A
ID Z	ID Y	ID X	Vector → N	Vector → M	Vector → L	Vector → K	Vector → J	Vector → I	Vector → H

Green ♥	Green ♥	Green ♥	Green ♥	Green ♥	Green ♥	Green ♥		Vector → P	Vector → O
Green ♥	Green ♥	Green ♥	Green ♥	Green ♥	Green ♥	Green ♥		Vector → S	Vector → R

AT Pod +1/+2 FP -1 Spd/Trn	Vector → I	Vector → H	Vector → G	Vector → F	Vector → E	Vector → D	Vector → C	Vector → B	Vector → A
Vector → S	Vector → R	Vector → Q	Vector → P	Vector → O	Vector → N	Vector → M	Vector → L	Vector → K	Vector → J



Light Bomber

2VP

**A-20 Havoc**

Altitude	Speed	Turn	Climb	Bomb
11+	3	3	S	—
0 - 10	4	4	2	18

Firepower **0** **Low Drag**
 Protection **4-5 h** **Torpedo +0**
 Bombsight **V**
 Defence **0**

United States Feb 40

v1.0



Dive Bomber

1VP

**SBD-3 Dauntless**

Altitude	Speed	Turn	Climb	Bomb
15+	2	3	S	—
4 - 14	3	4	S	9
0 - 3	3	4	2	9

Firepower **0** **Dive Brakes**
 Protection **4**
 Bombsight **T**
 Defence **0**

United States Mar 41

v1.0



Torpedo Bomber

1VP

**TBD-1 Devastator**

Altitude	Speed	Turn	Climb	Bomb
12+	1	1	S	—
4 - 11	2	2	S	9
0 - 3	2	2	2	9

Firepower **0** **Torpedo -1 slow**
 Protection **3**
 Bombsight **G**
 Defence **0**

United States Aug 37

v1.0



Torpedo Bomber

1VP

**TBF-1 Avenger**

Altitude	Speed	Turn	Climb	Bomb
17+	2	2	S	—
4 - 16	3	3	S	18
0 - 3	3	3	2	18

Firepower **0** **Torpedo -1 slow**
 Protection **4-5**
 Bombsight **G**
 Defence **0**

United States Jun 42

v1.0



Fighter

1VP

**F4F-4 Wildcat**

Altitude	Speed	Turn	Climb	Bomb
12+	3	4	3	—
4 - 11	4	5	2	4
0 - 3	4	5	1	4

Firepower **2** **Drop Tanks**
 Protection **4**
 Bombsight **T**

United States Dec 41

v1.0



Fighter

1VP

**P-40B Warhawk**

Altitude	Speed	Turn	Climb	Bomb
10+	4	4	3	—
4 - 9	5	5	2	—
0 - 3	5	5	1	—

Firepower **1** **Drop Tanks**
 Protection **4**
 Bombsight **T**

United States Jun 41

v1.0



Fighter

1VP

**P-40E Warhawk**

Altitude	Speed	Turn	Climb	Bomb
12+	4	4	3	—
4 - 11	5	5	2	5
0 - 3	5	5	1	5

Firepower **2** **Drop Tanks**
 Protection **4**
 Bombsight **T**

United States Aug 41

v1.0



Fighter

1VP

**P-40F Warhawk**

Altitude	Speed	Turn	Climb	Bomb
13+	4	4	3	—
5 - 12	5	5	2	5
0 - 4	5	5	1	5

Firepower **2** **Drop Tanks**
 Protection **4**
 Bombsight **T**

United States Oct 42

v1.0



TBF-1 Avenger

The heaviest single-engined aircraft of the war, Grumman's rugged **TBF** proved an outstanding torpedo bomber.

Variants

TBF-1 This card represents most major variants, including the **TBF-1C** and the **TBM**. In British service these were designated the **Avenger Mk.I** and **Mk.II**

TBM-3 Improved variant, in service from mid-44. In British service this was the **Avenger Mk.III**

Add **ATGR 12** and **Drop Tank** abilities

Improved Torpedoes From late 44 the Avenger carried improved torpedoes

Change **Torpedo -1 slow** to **Torpedo +1**

WING LEADER



TBD-1 Devastator

Though one of the most advanced bombers in the world when it entered service, by the outbreak of war the Douglas **TBD** had become outdated and vulnerable. It was further limited by a torpedo that could not be dropped at high speed. Successes were modest in the naval battles of 1942 and casualties high. The Devastator was soon replaced by the more capable **TBF Avenger**.

WING LEADER



SBD-3 Dauntless

The Douglas **SBD** was the primary US Navy and Marine Corps dive bomber of the war and hero of the naval battles of 1942. Though an excellent carrier plane it fared less well as a land-based bomber. Towards the end of the war it was gradually replaced by more flexible fighter-bombers.

Variants

SBD-1, SBD-2 Early variants lacking armour and fuel protection
Reduce Protection to 3

SBD-3 This card also represents later variants including the **SBD-4** and **SBD-5**

A-24 Banshee Land-based Army Air Force variant of the **SBD-3, -4** and **-5**

WING LEADER



A-20 Havoc

Douglas built the **Havoc** as a light bomber, but it matured into a dependable and versatile aircraft that served in American, British, Commonwealth and Soviet forces.

Variants

A-20 This card represents all early variants, including the **A-20A, B** and **C**. Designated **DB-7** in French service

Boston Mk.I, Mk.II, Mk.III The 'Boston' was the name of **A-20s** that served in British and Commonwealth air forces

A-20G Ground attack version, in service Feb 43

Increase Firepower to 2 / 0

WING LEADER



P-40F Warhawk

The failing of the early Curtiss **P-40** models was their lack of power at high altitudes. The addition of a Packard Merlin engine helped the fighter tackle foes such as the **Bf 109F**, though it still lacked sufficient supercharging to challenge high-flying enemies.

Variants

P-40L Lightweight variant with some guns removed

Reduce Firepower to 1

Kittyhawk Mk.II The name for the **P-40F** in British and Commonwealth service

WING LEADER



P-40E Warhawk

The Curtiss **P-40E** improved upon the **P-40C** in terms of power and a bigger gun battery. It was sufficiently different that the British renamed it the **Kittyhawk** and it was to play an important role in North Africa, the Pacific and Russia.

Variants

Kittyhawk Mk.IA The name for the **P-40E** in British and Commonwealth service

P-40D Early version, made in small numbers. Known as the **Kittyhawk Mk.I** in British and Commonwealth service

WING LEADER



P-40B Warhawk

The Curtiss **P-40** was ubiquitous in the early war. Inadequate supercharging limited its effectiveness at altitude, but it played a vital role in many theatres.

Variants

P-40B This card represents the **P-40B** and **C**, named **Tomahawk Mk.II** in British and Commonwealth service

Tomahawk Mk.I Early variant in British and Commonwealth service, from May 41. Lacked armour and self-sealing fuel tanks

Reduce Protection to 3

WING LEADER



F4F-4 Wildcat

Grumman's **F4F** was the primary carrier fighter for the first two years of war. Lacking agility and climb against Japanese Zeroes, **Wildcat** pilots overcame its deficiencies by improving their tactics. Late in the war the **Wildcat** continued to serve in a supporting role aboard the USN's escort carriers.

Variants

Martlet Mk.IV British variant of **F4F-4**, entered service Jul 42. Renamed **Wildcat Mk.IV** in Mar 44

F4F-3 Wildcat Early variant, entered service Aug 40. In British service this was the **Martlet Mk.I, Mk.II** and **Mk.III**

Reduce Firepower to 1

WING LEADER



Light Bomber

2VP

**Blenheim Mk.IV**

Altitude	Speed	Turn	Climb	Bomb
17+	2	2	S	—
0 - 16	3	3	S	9

Firepower 0
 Protection 4-5 h
 Bombsight V
 Defence 0

Great Britain Jan 39

v1.0



Light Bomber

1VP

**Battle Mk.I**

Altitude	Speed	Turn	Climb	Bomb
15+	2	2	S	—
3 - 14	3	3	S	9
0 - 2	3	3	2	9

Firepower 0
 Protection 3
 Bombsight T
 Defence 0

Great Britain Jun 37

v1.0

Fighter

1VP

**Gladiator Mk.II**

Altitude	Speed	Turn	Climb	Bomb
10+	2	4	3	—
3 - 9	3	5	2	—
0 - 2	3	5	1	—

Firepower 0
 Protection 3
 Bombsight T

Great Britain Oct 37

v1.0



Fighter

1VP

**F2A-3 Buffalo**

Altitude	Speed	Turn	Climb	Bomb
9+	3	4	3	—
4 - 8	4	5	2	—
0 - 2	4	5	1	—

Firepower 0
 Protection 4
 Bombsight T

United States Aug 41

v1.0



Fighter

1VP

**Hurricane Mk.I**

Altitude	Speed	Turn	Climb	Bomb
12+	3	4	3	—
4 - 11	4	5	2	—
0 - 3	4	5	1	—

Firepower 1
 Protection 4
 Bombsight T

Great Britain Dec 37

v1.0



Fighter

1VP

**Hurricane Mk.IIC**

Altitude	Speed	Turn	Climb	Bomb
14+	3	4	3	—
6 - 13	4	5	2	10
0 - 5	4	5	1	10

Firepower 3 **Drop Tanks**
 Protection 4
 Bombsight T

Great Britain Jun 41

v1.0



Fighter

1VP

**Spitfire Mk.IA**

Altitude	Speed	Turn	Climb	Bomb
13+	4	5	3	—
4 - 12	5	6	2	—
0 - 3	5	6	1	—

Firepower 1
 Protection 4
 Bombsight T

Great Britain Jun 40

v1.0



Fighter

1VP

**Spitfire Mk.VB**

Altitude	Speed	Turn	Climb	Bomb
14+	4	5	3	—
6 - 13	5	6	2	4
0 - 5	5	6	1	4

Firepower 2 **Drop Tanks**
 Protection 4
 Bombsight T

Great Britain Feb 41

v1.0



F2A-3 Buffalo

The initial Brewster **F2A Buffalo** was a sprightly, well-regarded fighter. However, adding weapons, armour and equipment robbed it of performance, while unreliability and poor build quality gave it a reputation as a 'lemon'. In the right hands the **Buffalo** made a decent account of itself. But the Americans and British soon retired it.

Variants

F2A-3 This card represents the 'heavy' Buffalos in service with the US and British (who designated it **Buffalo Mk.I**, available from May 41)

WING LEADER



Gladiator Mk.II

Britain's last biplane fighter, Gloster's **Gladiator** was exported to many countries, including Finland and China. By the war's outbreak the **Gladiator** was outclassed by modern monoplanes. Though though it won a few heroic victories it was rapidly pensioned off.

Variants

Gladiator Mk.I Early version, entered service Feb 37. Designated **J 8** in Swedish service.

Gladiator Mk.II Designated **J 8A** in Swedish service

Sea Gladiator Carrier-launched variant

WING LEADER



Battle Mk.I

The Fairey **Battle** was a clean-looking light bomber powered by the same Merlin engine as the **Spitfire** and **Hurricane**. However, it lacked power for its weight and had little protection, so that by the opening campaign of the war it could not cope with the role thrust upon it. Badly mauled in France in 1940, the **Battle** soon receded from frontline service.

Variants

Battle This card represents the **Battle Mk.I**, **Mk.II** and **Mk.V**

WING LEADER



Blenheim Mk.IV

Britain's pre-war search for a fast bomber resulted in the modern-looking **Blenheim**. However, by the eve of war it looked pedestrian compared to enemy aircraft.

In spite of its inadequate speed and bomb load the **Blenheim** would see a lot of action until more capable replacements, such as the **Beaufighter**, appeared.

Variants

Blenheim Mk.I Initial production version, entered service Mar 37

Reduce Protection to 3-4 h

Blenheim Mk.V 'Bisley' Ground Attack variant, entered service mid-42

Improve Protection to 4-5 (no 'h')

WING LEADER



Spitfire Mk.VB

The Supermarine **Spitfire Mk.VB** was the main production variant of the **Mk.V**. The 'B' indicated wings that mixed cannon and machineguns to increase the fighter's punch. Engine power was greater, but barely made up for the weight of new guns and equipment.

Variants

Spitfire Mk.VA Machinegun armed variant made in small numbers
Reduce Firepower to 1

Spitfire Mk.VC Late variant, with numerous small improvements

WING LEADER



Spitfire Mk.IA

Boasting eight machineguns, good speed and a sparkling rate of turn, the **Spitfire** was easily the match of the best German fighters of the early war. Supermarine's Merlin-engined wonder became the emblem of victory in the Battle of Britain.

Variants

Spitfire This card represents all early Spitfire variants, including the **Spitfire Mk.I**, in service from Aug 38, and **Mk.IIA**, from Aug 40

Spitfire Mk.IB and **Mk.IIB** Cannon-armed variants built in small numbers. The **Mk.IB** entered service in Jun 40
Increase Firepower to 2

WING LEADER



Hurricane Mk.IIC

An uprated engine gave the **Hurricane** a new lease of life. However, with German fighters outpacing it, the fighter soon shifted to a ground attack role. 'Hurribombers' would serve in that role up to 1944.

Variants

Hurricane Mk.IIA, Mk.IIB Machinegun armed variants, entered service Sep 40
Reduce Firepower to 1

Hurricane Mk.IID Anti-tank variant, entered service Jun 42

Reduce Firepower to 0, add AT Pod ability

Hurricane Mk.IV Ground attack variant, entered service late 43

Add AT Pod and ATGR 12 abilities

WING LEADER



Hurricane Mk.I

The **Hawker Hurricane Mk.I** saw yeoman service in the early years of the war as a cheap and rugged fighter. Until there were enough **Spitfires** available it was the backbone of the fighter arm in the Battle of Britain, the Mediterranean and the Far East. Outpaced by most modern fighters, it was considered to be manoeuvrable and could give a good account of itself in skilled hands.

Variants

Sea Hurricane Mk.IB Naval variant, entered service Jul 41

WING LEADER



Fighter

1VP

**CR.42 Falco**

Altitude	Speed	Turn	Climb	Bomb
12+	2	4	3	—
3 - 11	3	5	2	4
0 - 2	3	5	1	4

Firepower **0**
 Protection **3**
 Bombsight **T**

Italy May 39

v1.0



Fighter

1VP

**G.50 Freccia**

Altitude	Speed	Turn	Climb	Bomb
11+	3	3	3	—
4 - 10	4	4	2	4
0 - 3	4	4	1	4

Firepower **0**
 Protection **3**
 Bombsight **T**

Italy Jan 39

v1.0



Fighter

1VP

**MC.200 Saetta**

Altitude	Speed	Turn	Climb	Bomb
11+	3	4	3	—
4 - 10	4	5	2	6
0 - 3	4	5	1	6

Firepower **0** **Drop Tanks**
 Protection **3**
 Bombsight **T**

Italy Aug 39

v1.0



Fighter

1VP

**MC.202 Folgore**

Altitude	Speed	Turn	Climb	Bomb
13+	4	5	3	—
4 - 12	5	6	2	6
0 - 3	5	6	1	6

Firepower **1** **Drop Tanks**
 Protection **4**
 Bombsight **T**

Italy July 41

v1.0



Medium Bomber

2VP

**SM.79-II Sparviero**

Altitude	Speed	Turn	Climb	Bomb
16+	3	3	S	—
0 - 15	4	4	S	24

Firepower **0** **Torpedo +1**
 Protection **4-5**
 Bombsight **T**
 Defence **0**

Italy Sep 39

v1.0



Light Bomber

1VP

**IL-2 'Ilyusha'**

Altitude	Speed	Turn	Climb	Bomb
11+	2	3	S	—
4 - 10	3	4	2	12
0 - 3	3	4	1	12

Firepower **2** **ATGR 6**
 Protection **5**
 Bombsight **T**

Soviet Union Jun 41

v1.0



Fighter

1VP

**LaGG-3**

Altitude	Speed	Turn	Climb	Bomb
11+	3	4	3	—
4 - 10	4	5	2	4
0 - 3	4	5	1	4

Firepower **1** **ATGR 3**
 Protection **4**
 Bombsight **T**

Soviet Union Jul 41

v1.0



Fighter

1VP

**Yak-1**

Altitude	Speed	Turn	Climb	Bomb
11+	4	4	3	—
4 - 10	5	5	2	4
0 - 3	5	5	1	4

Firepower **1** **ATGR 3**
 Protection **4**
 Bombsight **T**

Soviet Union May 41

v1.0

**MC.202 Folgore**

The **Folgore** ('Thunderbolt') was Macchi's answer to the failings of the **MC.200 Sietta**. It mated the German DB 601A engine to the **MC.200** airframe and added armour to create an agile, fast fighter capable of beating the **Hurricane** and **P-40**. However, Macchi were unable to produce the fighter in great numbers before the Italian armistice.

Variants

MC.202 Folgore This card represents the basic aircraft and the later **MC.202AS** and **MC.202CB** that could carry bombs and drop tanks

Can carry bomb load only from 42 onward

WING LEADER

**MC.200 Sietta**

Macchi's **MC.200 Sietta** (the nickname refers to Jupiter's Lightning bolts) was one of a number of Italian fighters that entered service just prior to the war. Like its contemporary the **G.50 Freccia**, it had modern features but lacked an advanced powerplant. It was not until a more powerful engine was fitted to create the **MC.202 Folgore** that the airframe could compete with the Allies on even terms.

Variants

MC.200 Sietta This card represents the basic aircraft and the **MC.200CB** (available in 42) that carried bombs and drop tanks

WING LEADER

**G.50 Freccia**

Though Fiat's **G.50 Freccia** ('Arrow') was one of the Regia Aeronautica's most modern fighters on the eve of war, it was already inferior in performance and weaponry to the most advanced British and German types.

Despite being outclassed, the **G.50** could, in the right hands, achieve success, and did so in the desperate fighting in the Western Desert.

Variants

G.50 This card represents the **G.50** and the **G.50bis** long-range variant

Can carry bomb load only from May 41 onward

WING LEADER

**CR.42 Falco**

Fiat's **CR.42** biplane was one of the most widely-used Italian aircraft of the war. It reflected the Italian pre-war consensus on the supremacy of aerobatic manoeuvrability. However, it suffered from a lack of speed, firepower and protection and was picked apart by faster, more heavily armed Allied aircraft. As a result the Regia Aeronautica would gradually shift away from the **CR.42** to more modern monoplanes.

Variants

CR.42bis Variant with slightly improved armament, though still under-gunned

J 11 The CR.42 in Swedish service

WING LEADER

**Yak-1**

The Soviet Union's best-performing fighter on the eve of the German invasion, the **Yak-1** suffered from poor build quality and was only available in small numbers. However, quality improved and fleets of Yaks grew until it was one of the major types seen in the skies above the Eastern Front. Though outclassed by German fighters, the aircraft became the basis of a line of mass-produced Yakovlev fighters such as the **Yak-7** and **Yak-9**.

Variants

Yak-1B Improved variant, entered service Dec 42

Add Rear View ability

WING LEADER

**LaGG-3**

Lavochkin, Gorbunov and Gudkov's **LaGG-3** was a wooden fighter of modern design. The aircraft was underpowered, unpopular with pilots and outclassed by the **Bf 109**. However, the desperate need for planes meant that by May 42 it was the most widely used fighter in Soviet service.

The addition of a more powerful radial engine in late 43 would transform the inadequate **LaGG-3** into the impressive **La-5**.

Variants

LaGG-3-37 Upgunned variant, entered service in small numbers, Sep 42

Increase Firepower to 2

WING LEADER

**IL-2 'Ilyusha'**

Built in greater numbers than any other aircraft in history, Ilyushin's **IL-2** was designed from the start as a heavily armoured attack aircraft (or *Sturmovik*). The 'Ilyusha', in its definitive form as the two-seat **IL-2M**, would become the emblem of Soviet frontal aviation, at the forefront of the fight.

Variants

IL-2 This card represents the single-seat variant only

WING LEADER

**SM.79-II Sparviero**

Savoia-Marchetti **SM.79 Sparviero** ('Sparrowhawk') was a record-breaking pre-war bomber. During the war it served with distinction, both as a bomber and in torpedo attacks in the Mediterranean.

Variants

SM.79 This card represents the **SM.79-II** and **SM.79-III** torpedo bombers as well as the **SM.79-I** standard production bomber that entered service late in 1936

WING LEADER



Fighter

1VP



Bf 109E-4 'Emil'

Altitude	Speed	Turn	Climb	Bomb
12+	4	4	3	—
4 - 11	5	5	2	5
0 - 3	5	5	1	5

Firepower 1
Protection 4
Bombsight T

Germany Jun 40

v1.0



Fighter

1VP



Bf 109F-2 'Friedrich'

Altitude	Speed	Turn	Climb	Bomb
14+	4	4	3	—
6 - 13	5	5	2	5
0 - 5	5	5	1	5

Firepower 1 *Drop Tanks*
Protection 4
Bombsight T

Germany Oct 40

v1.0



Fighter

1VP



Bf 109F-4 'Friedrich'

Altitude	Speed	Turn	Climb	Bomb
15+	5	5	3	—
6 - 14	6	6	2	5
0 - 5	6	6	1	5

Firepower 1 *Drop Tanks*
Protection 4 *Gun Pod*
Bombsight T

Germany Jun 41

v1.0



Fighter

2VP



Bf 110C-4

Altitude	Speed	Turn	Climb	Bomb
11+	3	2	3	—
3 - 10	4	3	2	10
0 - 2	4	3	1	10

Firepower 2 *Drop Tanks*
Protection 4-5 *Rear View*
Bombsight T
Defence 0

Germany Jul 40

v1.0



Fighter

1VP



Fw 190A-2

Altitude	Speed	Turn	Climb	Bomb
13+	5	5	3	—
6 - 12	6	6	2	—
0 - 5	6	6	1	—

Firepower 2 *Drop Tanks*
Protection 4 *Rear View*
Bombsight T

Germany Oct 41

v1.0



Medium Bomber

2VP



Do 17Z-2

Altitude	Speed	Turn	Climb	Bomb
13+	2	2	S	—
0 - 12	3	3	S	20

Firepower 0
Protection 4-5 h
Bombsight V
Defence 0

Germany Sep 39

v1.0



Heavy Bomber

2VP



Do 217E-2

Altitude	Speed	Turn	Climb	Bomb
15+	3	3	S	—
0 - 14	4	4	S	50

Firepower 0 *Speed Brakes*
Protection 4-5 h
Bombsight V
Defence 0

Germany Mar 41

v1.0



Medium Bomber

2VP



He 111H-1

Altitude	Speed	Turn	Climb	Bomb
12+	2	2	S	—
0 - 11	3	3	S	32

Firepower 0 *Torpedo +1*
Protection 4-5 h
Bombsight V
Defence 0

Germany May 39

v1.0

**Bf 110C-4**

Messerschmitt's **Bf 110** came out of a requirement for a long-range heavily-armed fighter, or *Zerstörer*. In combat, it proved slower and less agile than single-engined fighters, and had to be withdrawn from the front line. It would later find a new career as a fighter-bomber and night fighter.

Variants

Bf 110C-1, C-2, C-3 Early versions of the C-series, entered service in Jan 39

Early variants may not carry bombs

Bf 110C-7 Fighter-bomber variant

Increase Bombs strength to 20

WING LEADER**Bf 109F-4 'Friedrich'**

Messerschmitt's **Bf 109F-4** was the definitive version of the 'Friedrich'. The **F-4** installed the more powerful DB 601E engine and a propeller that improved high-altitude performance, producing a fast and powerful fighter that was superior to Soviet aircraft and could hold its own against British and American opposition.

Variants

Bf 109F-4 This card also represents the **F-4/R1** variant, which could carry gun pods

For earlier variants see the **Bf 109F-2** Aircraft Data Card

WING LEADER**Bf 109F-2 'Friedrich'**

The **Bf 109F** improved upon earlier versions of the Messerschmitt aircraft with a new DB 601E powerplant and numerous aerodynamic improvements. However, the early 'Friedrich' lacked the more powerful engine, which wasn't yet available in numbers. With the older DB 601N motor installed, the **F-2** version became an important interim fighter until the appearance of the **Bf 109F-4**.

Variants

Bf 109F-1 An early variant with a slightly different armament, built in small numbers

For later variants see the **Bf 109F-4** Aircraft Data Card

WING LEADER**Bf 109E-4 'Emil'**

Messerschmitt's versatile interceptor was the backbone of the Jagdwaffe. In the first year of war the 'Emil' was a world-class fighter. It was small, lightweight and fast, its only flaw being its short range.

Variants

Bf 109E-1, E-3 Early variants which entered service in Feb 39

Early variants may not carry bombs

Bf 109E-7 A longer-range variant capable of carrying additional fuel

Add Drop Tank ability

WING LEADER**He 111H-1**

The **Heinkel 111** was ubiquitous in the Luftwaffe bomber arm, serving in almost every role from bombardment to torpedo bomber to reconnaissance to transport. Although increasingly obsolete, it soldiered on almost to the end of the war.

Variants

He 111H This card represents all of the H-series 111s from the **H-1** to the **H-20**, including the Torpedo-equipped **H-6**

WING LEADER**Do 217E-2**

Though superficially resembling the **Do 17**, Dornier's **Do 217** was a completely new aircraft. Larger and faster than its predecessor, it boasted a very long range. It also carried a substantial weapon load, making it one of the most powerful Luftwaffe bombers.

Variants

Do 217E This card represents all of the E-series aircraft from the **E-1** to the **E-5**. The **E-2** is the main production variant

WING LEADER**Do 17Z-2**

Dornier's 'flying pencil' was a slim, high-winged bomber that proved popular with its pilots. The **Do 17Z** series was the mass-produced edition, the culmination of experience gained in Spain. However, the light bomb load and short range meant that production was ended in 1940 in favour of the **Ju 88**. As a result, the type's service was mostly seen in the war's early years.

Variants

Do 17Z This card represents all of the Z-series from the **Z-0** to the **Z-5**. The **Z-2** is the main production variant

WING LEADER**Fw 190A-2**

Focke-Wulf's radial-engine fighter came as a shock to the Allies. Though performance dropped at higher altitude, in the low and medium air it was blisteringly fast, handled well and had a powerful gun battery. Its main opponent at the time of introduction was the **Spitfire Mk.VB**, which it clearly outclassed, tipping air superiority in Northwest Europe in favour of the Germans.

Variants

Fw 190A-1 Early production version available only in small numbers from Jul 41

WING LEADER



Dive Bomber

1VP



Ju 87B-1 'Stuka'

Altitude	Speed	Turn	Climb	Bomb
16+	2	1	S	—
4 - 15	3	2	S	10
0 - 3	3	2	2	10

Firepower 0 *Dive Brakes*
 Protection 3
 Bombsight T
 Defence 0

Germany October 38

v1.0



Medium Bomber

2VP



Ju 88A-4

Altitude	Speed	Turn	Climb	Bomb
14+	3	3	S	—
0 - 13	4	4	2	40

Firepower 0 *Speed Brakes*
 Protection 4-5 h *Torpedo +1*
 Bombsight V
 Defence 0

Germany Aug 40

v1.0



Fighter

1VP



Ki-43-I Hayabusa (Oscar)

Altitude	Speed	Turn	Climb	Bomb
10+	3	5	3	—
6 - 9	4	6	2	—
0 - 5	4	6	1	—

Firepower 0 *Drop Tanks*
 Protection 3 *Rear View*
 Bombsight T

Japan Apr 41

v1.0



Fighter

1VP



A6M2 'Zero' (Zeke)

Altitude	Speed	Turn	Climb	Bomb
11+	3	5	3	—
6 - 10	4	6	2	2
0 - 5	4	6	1	2

Firepower 1 *Drop Tanks*
 Protection 3 *Rear View*
 Bombsight T

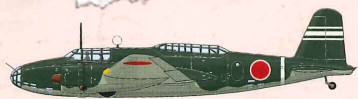
Japan Jul 40

v1.0



Medium Bomber

2VP



Ki-21-IIa (Sally)

Altitude	Speed	Turn	Climb	Bomb
18+	2	2	S	—
0 - 17	3	3	S	20

Firepower 0
 Protection 4-5 h
 Bombsight V
 Defence 0

Japan Dec 40

v1.0



Medium Bomber

2VP



G4M1 'Rikkō' (Betty)

Altitude	Speed	Turn	Climb	Bomb
18+	2	2	S	—
0 - 17	3	3	S	20

Firepower 1 *Low Drag*
 Protection 3-4 *Torpedo +1*
 Bombsight V
 Defence 0

Japan May 41

v1.0



Torpedo Bomber

1VP



B5N2 'Kankō' (Kate)

Altitude	Speed	Turn	Climb	Bomb
18+	2	2	S	—
4 - 17	3	3	S	16
0 - 3	3	3	2	16

Firepower 0 *Torpedo +1*
 Protection 3
 Bombsight T
 Defence 0

Japan Mar 40

v1.0



Dive Bomber

1VP



D3A1 'Kanbaku' (Val)

Altitude	Speed	Turn	Climb	Bomb
18+	2	3	S	—
4 - 17	3	4	S	5
0 - 3	3	4	2	5

Firepower 0 *Dive Brakes*
 Protection 3
 Bombsight T
 Defence 0

Japan Jan 40

v1.0



A6M2 'Zero'

Allied Codename: Zeke

Mitsubishi's famous **Zero** fighter reflected Naval pilots' desire for manoeuvrability and the Admirals' need for great range. The **Zero** achieved this by trading off speed and protection for agility.

In the first year of war the **A6M2 Zero** held an edge over the heavier, underpowered opposition. However, after 1942 it would be eclipsed by a generation of fast and well-protected Allied fighters.

WING LEADER



Ki-43-I Hayabusa

Allied Codename: Oscar

Like the Navy's **A6M**, the Japanese Army's **Ki-43 Hayabusa** ('Peregrine Falcon') was based on a philosophy of light weight and agility. The resulting Nakajima fighter was flimsy, undergunned and lacked speed. However, because successors were late in coming, the **Ki-43** became the most widely used Army fighter of the war.

Variants

Ki-43-I This card represents all early variants, including the **Ki-43-Ia** and **Ib**

WING LEADER



Ju 88A-4

Designed by Junkers as a fast bomber, the **Ju 88** was a true multirole aircraft, serving in the strike, reconnaissance and even fighter role. It became the most important twin-engine aircraft in Luftwaffe service and served right to the end of the war.

Variants

Ju 88A This card represents all of the A-series from the **A-1** (which saw service from Sep 39) to the **A-5**. The **A-4** was the main production variant

WING LEADER



Ju 87B-1 'Stuka'

Hero of the early Blitzkrieg victories, the Junkers dive-bomber was a potent precision bomber when operated in conditions of air superiority. However, the Battle of Britain showed its vulnerability to enemy fighters. It soldiered on until a new breed of fighter-bombers were deployed.

Variants

Ju 87B This card represents the **B-1** and **B-2** variants. In Italian service the **B-2** was known as the **Picchiattello**

Ju 87R A long-range anti-ship variant. The R-series includes the **R-1**, **R-2** and **R-4**

Add **Drop Tank** ability. Reduce Bomb value to 5.

WING LEADER



D3A1 'Kanbaku'

Allied Codename: Val

The Aichi **D3A** (or 'Type 99 Carrier Bomber', abbreviated as 'Kanbaku') was built to fill a Imperial Navy requirement for a carrier-based dive bomber. The resulting aircraft was manoeuvrable but lacked armour and carried a light payload. These deficiencies didn't prevent the Kanbaku from racking up successes against Allied ships. Replacement by the **D4Y Suisei** meant it was relegated to a land-based role towards the end of the war.

Variants

D3A2 Improved version that saw service from late 42

WING LEADER



B5N2 'Kankō'

Allied Codename: Kate

The **B5N** series (or 'Type 97 Carrier Attack Bomber', abbreviated as 'Kankō') was built by Nakajima to fulfil a need for a fast torpedo bomber. Its speed was achieved by keeping the aircraft unburdened by extra weight such as armour.

Despite its near-obsolescence, the **B5N2** saw success at Pearl Harbor and in the first year of war in the Pacific, before being pensioned off from 1943 onward.

Variants

B5N1 An early version that saw service in China from late 38

WING LEADER



G4M1 'Rikkō'

Allied Codename: Betty

Mitsubishi's **G4M** series (or 'Type 1 Land-Based Attack Aircraft', abbreviated as 'Rikkō') was a long-ranged fast bomber for the Imperial Navy. Range was achieved at the expense of protection, which earned it a reputation for burning easily. However, this superlative bomber was a mainstay of the Navy's striking power until the war's end.

Variants

G4M2 Improved version in service from mid-43

G4M3 Late war variant with additional protection, entered service Oct 44

Improve Protection to 4-5

WING LEADER



Ki-21-IIa

Allied Codename: Sally

The Mitsubishi **Ki-21** (or 'Type 97 Heavy Bomber') was one of the Japanese Army's primary bombers. Master of the skies over China, the **Ki-21** suffered serious casualties when it came up against the Western Allies, and so gradually shifted away from front-line service.


Variants

Ki-21-Ia Early war variant, entered service late 38. Also includes **Ki-21-Ib** and **Ic**

Reduce Protection to 3-4

Ki-21-IIb Improved version in service from mid-43

WING LEADER

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
19									19									19								19
18		Left Upper	Above	Right Upper					18									18								18
17		Left Horizon	SUN 	Right Horizon					17									17								17
16									16									16								16
15									15									15								15
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6									6									6								6
5									5									5								5
4									4									4								4
3									3									3								3
2									2									2								2
1									1									1								1
0	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

WING LEADER

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