

## 1. Introduction

Doodlebug is a solitaire game in which the player controls the British response to the V-1 rocket launches of Flak Regiment 155 located along the coast of France across the channel.

The game covers the first week of Operation Eisbär, which began on June 13, 1944. The game concludes after the last phase of the game is completed for June 20. The actual campaign continued until March 1945.

The goal of the player (playing the British side) is to prevent the Germans from gaining a victory, which would bring a tremendous propaganda coup for Nazi Germany.

The length of the game is eight turns, with each turn comprised of two phases: a night phase and a day phase. Each phase has several sub-phases.

## 2. The Components

The game contains the following items:

- 1 Map
- 1 Counter sheet
- 1 Table Card
- 1 Reinforcement Card
- 1 six-sided die
- 1 Rule Book

## 3. The Counters and Markers

The counters and markers represent the V-1, Allied fighters and game markers included in the game.



The blue counters correspond to the numbered district of London. They range in value from 0-6. The zero value, if picked by the player, means that the V-1 overshoots London and is removed from the map.



The grey markers determine how many V-1's are launched from one Abteilung. The player will pick one counter for each Abteilung. If a 0 is picked, no V-1's are launched for that particular Abteilung.



The yellow marker represents the total number of V-1's that fail to launch correctly. The player draws one counter and removes the number indicated. He places them back in the V-1 Holding Box.



The red marker represents the number of V-1's lost before hitting London.



The brown x1 and x10 markers track the loss of your aircraft on the AC Loss and OOC Fire Track on the map.



The orange x1 and x10 markers track the number of Out of Control (OOC) fires on the AC Loss and OOC Fire Track on the map.



The above counter represents a day fighter of No. 486 Squadron. Counter represents one fighter. These counters only attack the V-1's during daylight phases.



The above counter represents a night fighter of No. 96 Squadron. These counters only attack the V-1's during night phases.



The above counter represents the V-1 and is moved along the track towards London from the Abteilung in France.



The firefighter counters attempt to put out fires caused by exploding V-1's in London. Each numbered district in London has two of these units assigned to it, one of which is the marker labeled Captain's Crew. The number on the CC marker is the assigned district.



When a V-1 successfully hits a district, it is replaced with a fire counter. If the firefighter is successful in putting out a fire, it is removed from the map. If he is unsuccessful, the fire marker remains.



The turn marker is moved one space to the right once both phases are complete for a turn. It starts the game on June 13. The game ends once both phases for June 20 are complete.



The Phase Marker is placed on the Moon Square to the left of the Time Track to note the first phase. It is then moved to the Sun Square when the first phase is complete. Once both phases are complete, the turn marker is moved one space to the right.

#### 4. The Map

The top left of the map shows the city of London. It is divided into six sections, numbered 1-6. Sections are divided by tan lines and the river Thames. The broken lines between sectors indicate where fire fighters may move prior to battling fires.

Below London are the four Abteilung of Flak Regiment 155. These are located in northern France, across the channel from England. It is from these four areas that the V-1's are launched.

Each has a track consisting of four squares. Launched V-1's are placed in the square labeled "France". As they move through each square, they are attacked by either fighters or AA. Once a V-1 has finished with combat in the square labeled "Land" it moves to the outskirts of London, labeled "Flak/Barrage Balloon Holding Box".

In the upper right of the map is the time track and next to it the phase track. On the time track, June 16 – 20 have an aircraft icon in the top right corner indicating the player receives reinforcements. Below the Time track is the Aircraft Loss and Out of Control Fire Track.

Below the tracks are holding boxes for the V-1s, the Allied fighters, and destroyed Allied fighters.

#### 5. Game Set-up

Prior to beginning the game, set up the board as follows. Place two firefighter counters (one labeled Captain's Crew) in each London numbered section. Place Allied fighters off map until received as reinforcements and place all V-1s in the V-1 Holding Box.

The player will need four opaque containers. Place the

Blue numbered counters in one container, the Yellow numbered counters in another container, the Gray, and Red numbered counters in their containers.

Set the Flame markers next to the map where they are accessible.

Place the Phase marker on the Moon square located to the left of the Time Track and place the Turn marker in the June 13 space of the Time Track.

## 6. Sequence of Play

The sequence of play is the same for both Night and Day phases. The exception is that during a night phase, only night fighters may be deployed. During the day, day fighters are deployed. Each sub-phase is explained in the rules.

1. Determine the number of V-1's that will launch for each Abteilung by pulling a gray chit. Place them in the "France" Square.
2. Determine the number of V-1's that fail by pulling a yellow chit. This is done once per phase. Remove the number that fail and place them back into the V-1 Holding Box.
3. Place available fighters (if any) on the track next to water or land, or both for any or all Abteilung.
4. V-1's move to the Water Square.
5. Attack V-1's with fighters.
6. Move surviving V-1's to the Coastal Square.
7. Use AA to engage V-1's. Roll once for each V-1.
8. V-1's move to Land Square.
9. Engage with fighters (if any).
10. Move surviving V-1s to outskirts of London.
11. Determine V-1's lost through AA/Barrage Balloons.

Repeat for each Abteilung, then:

12. Determine which sectors V-1's hit. Place the V-1 marker in the sector. Move fire fighters (see Fighting Fires).
13. Attempt to put out fires. For each V-1 that is not extinguished, replace it with a fire marker.
14. Move fire fighters so that each section of London has at least one firefighter marker (see Fighting Fires).

## 15. End of Phase.

Repeat the above procedures for Day sub-phase. Move phase counter to sun. Once the Day sub-phase is complete, move the Turn marker one space to right and place the Phase marker on the Moon. The next turn begins.

Repeat until the end of the June 20 turn.

## 7. Determining the Number of V-1's Launched

For each Abteilung, pick a gray counter out of the opaque container. Place the number of V-1's indicated on the France Space for an Abteilung. Repeat for the other three Abteilungen. Next, draw a yellow counter out of the container. The number on the counter represents the number of failed launches.

Remove the number of V-1s equal to the number on the Yellow Counter and place them in the V-1 Holding Box. The V-1's may be removed from any Abteilung in whatever way the player sees fit. As an example, let's say the player draws a "3". He could remove all three from one Abteilung or one each from three different Abteilung, or two from one and one from another.

## 8. Placing Fighters

Allied fighters are not available to the player until June 16. Consult the Fighter Entry Sheet to determine when fighters become available for a particular day. Available reinforcements are noted on the time track with an aircraft icon in the upper right corner for each designated day. Fighters available are placed in the Holding Box on the map and may be used in the turn they enter.

If the player does have fighters, he places them on any land or water square track in any or all Abteilung based on the Table below.

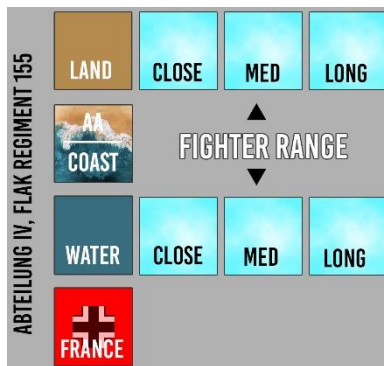
Number of Day Fighters that may be placed in the Water Zone (before AA):

Number of Day Fighters Available	Number that can be Placed Before AA fire (Water Zone)
1-5	1
6-8	2

9-11	3
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Example: The player has five day fighters available. He may place one in a Water zone, the rest are placed in the Land Tracks. Range placement is further restricted. See Rule 9.

Only one night fighter may be placed in a water zone before AA fire no matter how many night fighters the player has.



The tracks are composed of Close, Medium, and Long range squares. Place fighters on the track at the range you wish them to attack the V-1.

### 9. Engaging V-1s in Water and Zones

Once the fighters are on the track or tracks, move all V-1s to the water square. If there are no fighters, you may move the V-1's to the Coast Square.

If there are fighters on the track next to the Water Square, the fighters engage the V-1's. All fighter attacks are resolved using Table T-1.

Each fighter may engage only one V-1. Each fighter may shoot once at the plane's target no matter what the range. Multiple Fighters may attack the same V-1, but each shoots one time. However, there are restrictions.

Only one fighter may be placed at close range. Up to two fighters may be placed at medium range, and any number may be placed at long range.

There are disadvantages/advantages for each range.

Long: Harder to shoot down the V-1.

Medium (Med): Slightly easier to shoot down the V-1. There is a slight chance of losing your aircraft.

Close: Best chance to shoot down a V-1. There is the possibility your plane could be destroyed by the V-1 blast if the V-1 is shot down.

The number of aircraft lost are tracked on the map, labeled "AC Loss and OOC Fire Track" using the x1 and x10 markers. The x1 is advanced one space each time an aircraft is lost. When you lose 10, place the x10 in the "1" space on the track and place the x1 in the "0" space. Example – you've lost 12 aircraft. The X10 would be on the one space and the x1 marker would be in the "2" space.

For every two aircraft lost, it counts as one sector on fire when determining the score at the end of the game. So, if fire markers are present in 5 sectors of London, and the player has lost two aircraft – the Germans would win a Overwhelming Victory since the loss of two aircraft is equal to a district on fire.

*Historic Note: Wing Commander Bobby Oxspring: "We found the ideal tactics for destroying the menacing missiles to be crucially governed by the range at which we fired. Rounds shot from 250 yards or more usually hit the flying control system of the craft, which would then dive into the ground still with an active warhead. Opening fire from a range of 150 yards or less almost always clobbered the warhead which could severely damage the attacking fighter when it exploded. The best chances for success came when shooting between 200 and 250 yards, as from this distance you were reasonably certain of exploding the warhead in the air without undue damage to your fighter..."*

Once you have placed your fighters, roll 1D6 on Table T-1 on the Table Sheet and consult the result under the range column that matches the fighter attacking. Repeat for each fighter.

If the V-1 is shot down remove it and place it in the V-1 Holding Box.

A night fighter is placed in the holding box for future use once it has fired or shoots down a V-1. If a fighter is destroyed, it is removed from the game and placed in the Destroyed Fighters Box on the map. and its loss accounted

for on the Aircraft Loss and OOC Fire track. A fighter placed in the holding box may be reused.

If a day fighter is in a Land Zone and the aircraft misses its target, it remains in the zone in which it was placed. If a day fighter suffers a mech failure (see Table T-1, Note C), it is placed above the date on the Time Track it is to return. If it is destroyed, it is placed in the aircraft lost box. Mark the loss on the Aircraft Loss and OOC Fire track.

For aircraft the remaining aircraft in land zones after all combat is complete, total up the number of day fighters that remain in the tracks and roll one die, divide the die roll by 2 rounding down (1 counts as one). The number rolled is the number of fighters that may not be used in the following day turn! They are considered assigned to other duties until they return. Place these fighters above the day they will return on the time track. Returning fighters are placed in the holding box at the beginning of the day turn they come back into play. Example: After day combat of June 16, the Allied player has three fighters that remain in the land zones. He rolls 1 die, getting a four. Rounding down, two of his fighters will not be available until the Day turn of June 18.

There may be a time the player may not be able to place any day fighters. If this happens, it's a good day for the Germans.

At the player's discretion, instead of firing the aircraft guns, the player may try to tip the wing of the V-1 to knock it off course. Using a 1D6, a roll of six knocks the V-1 off course and is removed. The player rolls 1D6 again, if a six is rolled the aircraft is lost and removed from the game. On a roll of 1-5, place the aircraft in the Holding Box for use in future turns.

Repeat the procedure for each fighter in all Abteilungs. Move all surviving V-1's to the AA/Coastal square in each Abteilung.

*Game Note: Fighter markers represent a plane from the squadron noted on the counter.*

### 10. AA/Coast Squares

V-1's in the Coast Square of each Abteilung are attacked by AA fire. The player rolls 1D6 once for each V-1 in the

Land Square. Consult Table T-2 to determine the results of the AA fire. Resolve fire for all Abteilungs. Any V-1's shot down are placed in the V-1 Holding Box. Once all attacks are complete, move all surviving V-1's to the Land Square.

### 11. Land Squares

For V-1's in a Land Square, follow the same procedure for fighter attacks in water squares. Other than the terrain, the procedures are the same.

Once all fighter attacks have been resolved in the land squares, move surviving V-1's to the outskirts of London, labeled "Flak/Barrage Balloon Holding Box".

With the V-1's on the outskirt of London, the player draws one red chit to determine the number of V-1's shot down or destroyed by Flak/Barrage Balloons. Destroyed V-1's are placed in the V-1 Holding Box to be reused in future turns.

All surviving V-1's are now ready to strike London.

### 12. Striking London

For each surviving V-1 marker, draw a Blue marker from the opaque container. The number drawn is the district of London the missile hits. Replace the V-1 with a fire marker and place in the designated district. The V-1 marker is placed in the V-1 Holding Box on the Map.

If the marker drawn is a "0", the V-1 overshoots London, missing its target. Place the V-1 in the V-1 Holding Box.

Note that all districts can be hit more than once and may have multiple fires.

### 13. Fighting Fires

Each district has two firefighting units or crews, one of which is labeled with "Captain's Crew". Captain's Crew always remains in the district to which they are assigned and add a +1 to one attempt to put out a fire in its district. Prior to resolving fires, the player may move a fire fighter/s from *adjacent* districts (indicated by a dashed line) to help fight the fires in other districts. There are a few restrictions:

1. Firefighters move only if no fire is present in the district

they occupy.

2. *The Captain's Crew never moves from its assigned district.*

3. *No more than three fighters may occupy a district. This includes the Captain's Crew*

Moving crews is strictly voluntary.

Once the moves are complete, roll 1D6 for each firefighting crew on Table T-3 under the column that matches the total number of firefighters in the district. As an example – there are three firefighting crews in District One fighting three fires. The player rolls three 1D6 (one for each firefighting crew) under the 3+ Crews column of Table T-3. The player rolls a 2,4,5, adding +1 (captain's crew in the district) for the last roll. The final results for the player are a 2, 4, and 6. With the 6 result he removes one fire marker. Two remain since a roll of "2 and 4" results in a "fire continues".

If there are more fire markers than firefighters in a district, the fire is considered out of control, subtract 1 from the dice roll when trying to extinguish the fires. Once the number of fires is equal to or less than the number of firefighters, there is no negative dice roll modifier. A roll of a six is always considered a six. Do not apply the modifier.

*Once a district is counted as out of control and remains out of control the following turn or turns, it is not counted again. If the fire is extinguished and over the course of the game it becomes out of control, it then is counted again as out of control.*

Track the number of the out of control fires on the AC Loss and OOC Fire Track using the orange X10 and X1 markers. The number of out of control fires benefits the Germans when scoring at the end of the game.

When a fire is extinguished, the fire marker is removed and placed back in the pile near the player. If the fire is not extinguished, the fire marker or markers remain in place.

Once all fires have been fought, players may move firefighting crews so that there are two in each district. *Crews may only move providing there is no fire in the district which they are moving from.*

This ends the Night Phase. The phase marker is moved to the Sun Square. The player repeats the procedure for the Day Phase. The two phases are repeated until the last phase is played for June 20.

#### 14. V-1's Shot Down before Reaching London

If all V-1's on a track in an Abteilung are shot down before reaching the Land Square, any fighters on a track are removed. Place the aircraft in the Holding Box. They do not fire, nor are they reassigned to another track.

#### 15. Determining the Winner

Play ends at the conclusion of the last phase of 20 June. Calculate the number of districts on fire and cross reference that total using the Table below to determine the winner. Add the following to the German score.

*For every two fires that were out of control, add one to the number of sectors on fire.*

*For every two fighters shot down, add one to the number of sectors on fire.*

These are cumulative.

Example: Let's say the British had 2 sectors on fire but had two out of control fires and lost no fighters. That equals three districts on fire, The tactical victory would now be a Minor victory.

Number of Districts on Fire	Allied Victory Level	German Victory Level
0	Overwhelming Victory	Overwhelming Defeat
1	Strategic Victory	Strategic Defeat
2	Tactical Victory	Tactical Defeat
3	Minor Victory	Minor Defeat
4	Minor Defeat	Minor Victory
5	Major Defeat	Major Victory
6+	Overwhelming Defeat	Overwhelming Victory, Churchill Resigns

#### 16. Special Rules for the First Turn

During the Night Phase of the First turn, only six missiles

are launched. Do not pick any chits. The six may launch from any Abteilung in any combination – examples are two launched from three Abteilung, or four from one and two from another.

This represents the number of V-1s that were able to launch out of ten V-1s. Four of the 10 crashed upon launch. There was supposed to be plenty more, but Allied air raids and technical difficulties prevented the large number of V-1s that were intended to launch from doing so.

### 17. Optional Rules

The following rules may be used at the player's discretion. A player makes his decision prior to the start of the game.

1. After the first day, the Germans did not launch V-1's again until the 16<sup>th</sup>. If the player uses this optional rule, only fires (if any) are fought for June 14 and 15. If no fires are present, go directly to the June 16 turn.
2. Instead of removing fighters from play if they are destroyed, place them in the holding box for future use.
3. Movement of fire fighters are not restricted by fires present when moving.

### 18. Sources

V1 Flying Bomb Aces by Andrew Thomas  
V-1 Flying Bomb by Steve J. Zaloga  
The Doodlebugs by Norman Longmate  
The Employment of V-Weapons by the Germans During World War II by Lt. Col. M. C. Helfers  
Preemptive Defense Allied Air Power Versus Hitler's V-Weapons, 1943–1945 by Adam L. Gruen

### 19. Design Notes

Operation Eisbär started in full force on June 13. The Germans did launch V-1's on 12 June but none made it to England, hence the game's start date of June 13. Firings continued until Oct. 1944. Of the 5,823 V-1's launched during the first month (until July 15) 2242 hit London. Aircraft were responsible for shooting down 925 of the buzz bombs, AA 261, and the barrage balloons were responsible for 55 V-1 losses.

At its peak, more than one hundred V-1s a day were fired at southeast England, 9,521 in total, decreasing in number as sites were overrun until October 1944, when the last V-1 site in range of Britain was overrun by Allied forces. After this, the Germans directed V-1s at the port of Antwerp and at other targets in Belgium, launching a further 2,448 V-1s. The attacks stopped only a month before the war in Europe ended, when the last launch site in the Low Countries was overrun on 29 March 1945.

In September 1944, the Germans began to launch V-2 rockets at England. More than 1100 rockets were fired by the time the last one was launched in late March 1945.

The game is not a detailed simulation, but rather a simple game to give the player an idea of the threat and how the British government responded to it.

The aircraft in the game, while fast, could barely keep up with the V-1 making it difficult to sustain attacks against it, hence fighters can only fire once.

The AA batteries did not have proximity fuses. Once these started to come in from the US in the following month, AA kills began to increase and would surpass aircraft kills as time went on.

By the date in the game, it was pretty clear the Germans were going to lose the war. It was just a matter of when. What could have happened if the Germans were successful with Operation Eisbär was to see the Churchill government resign. If this had happened it would have been a tremendous propaganda victory for the Germans. But it would not have won the war for them.

The V-1 had several nicknames, the English called it a Doodlebug while the US called it a Buzz bomb. The Germans may have called it a Höllenhund (hellhound), Kirschkern (cherry stone), or Maikäfer (maybug). V was short for Vergeltungswaffen (vengeance weapon). Its official Reich Aviation Ministry (RLM) designation was Fieseler Fi 103.

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