

*Britain -
Sea Lion*

ULTRA

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HITLER'S SEA LION

Was Adolf any Good at this Game?

by Bruce Harper

Introduction

Imagine you find yourself in *A WORLD AT WAR* game for very high stakes. If you win, you get to rule the world. If you lose, you lose everything, including your life. Would you try to invade Britain in that game?

Hitler found himself in just such a game historically, and he lost. Don't waste time feeling sorry for him. Not only was he an unsympathetic character – he started the game and had some pretty good die rolls too. But he blew it, and it's a good thing for the world he did.

And he didn't invade Britain.

Where did Germany go wrong?

Some say the German failure to invade Britain was the turning point of the war. Others point to Hitler's earlier, misguided "halt order" which prevented the German armor from capturing the British Expeditionary Force before the Dunkirk evacuation, thereby throwing away the fruits of one of history's most stunning military victories. Another group of armchair strategists look at the missed opportunities in the Mediterranean, which Hitler ignored in favor of his obsessive, but ideologically consistent, plan to invade Russia. And there too serious mistakes were made, as the 1941 capture of Moscow might have collapsed the Soviet regime, while a more flexible defensive doctrine which took full advantage of the German mastery of mobile warfare might have fought the Russians to a standstill.

A more recent, somewhat revisionist, view is that the Axis had no chance in the numbers game, as the Allies had more men, bigger economies, greater resources (especially oil) and couldn't help but win in the end. This comforting analysis was certainly not held by many at the time, and Germany also squandered technological advantages, including an early lead in atomic research.

Hindsight is indeed 20/20, and it may be that

regimes based on hate and fear can never win in the end. But this article is not intended to be an analysis of that subject, important as it is for understanding both the Second World War and current events. We are more concerned with another question – was Hitler's plan for invading Britain reasonable in *A WORLD AT WAR* terms?



Two Questions

This article will try to answer two questions. The first is whether Germany seriously intended to invade Britain, or were the German preparations a gigantic bluff? The second is whether the Führer was any good at *A WORLD AT WAR*.

I will tackle both questions by reviewing Führer Directive 16, which set out the operational framework for Operation Seelöwe (Sealion) and analyzing it in A WORLD AT WAR terms. The entire Führer Directive will be quoted paragraph by paragraph (in italics), together with analysis of how the German plan would have unfolded in a game of A WORLD AT WAR.



Cracking British Resistance

By the end of June 1940 (the Summer 1940 game turn), Britain stood alone against an Axis dominated Europe.

Here is the opening paragraph of Führer Directive 16:

Operation Seelöwe (Sealion) *DIRECTIVE No. 16*

The Führer and CINC of the Wehrmacht

OKW/WFA/L #33 160/40 gKdos

Secret

Führer Headquarters

16 July 1940

Office Courier only

Concerning preparations for an amphibious operation against England.

Since Britain still shows no sign of willingness to come to an agreement in spite of her hopeless military situation, I have decided to prepare and if necessary carry out an amphibious operation against England.

It seems that in 1940 Hitler still had a firm grasp on reality, as he understood the British Resistance Table and its modifiers. Let's have a closer look:

British Resistance Table - 59.21

+/-#	British DP level as calculated at the end of the current Allied player turn. The British DP level may be negative.
-1	Axis control of Malta or Singapore (-1 for each).
-2	If Australia or India has surrendered (-2 for each).
-#	For each atomic attack against Britain (-3 for the first attack; an additional -2 for the second attack; an additional -1 for each subsequent attack).
-1	For each British city firestormed (cumulative).
-1	For each oil effect currently applicable to Britain.
-#	If there are less than ten Western Allied transports in the Atlantic SW box (-1 for each missing transport, up to a maximum of -10).
-1	If there is no Russian armor or infantry unit in eastern Europe.
-1	For every ten unbuilt British and Commonwealth ground/army air factors (round down).
+/-#	Ratio of Allied/Axis naval factors (4:3: +/-1; 5:3: +/-2; 2:1: +/-3; 3:1: +/-4; 4:1 or greater: +/-5). Damaged and uncompleted ships on the "2" or Launch row of a shipyard are considered to be at half strength. Naval units in the Pacific are not counted.
+1	For each major power other than Britain at war with the European Axis.
+1	If the USAT level is between 30 and 39 (inclusive).
+2	If the USAT level is 40 or more and the U.S. is not at war with Germany.
+1	For every five Western Allied ground/army air factors on the western front. Units in the U.S. box are not counted.
+1	If there is a Western Allied armor or infantry unit in Germany.
+1	If there is a Russian armor or infantry unit in western Poland or Rumania.
-1	For every two concession points of territory returned to Britain or not taken by Germany in a previous British surrender.
Explanation: Check at the end of each Allied player turn. If the net result is zero or less, Britain offers to surrender.	

British DPs

+/-#	British DP level as calculated at the end of the current Allied player turn. The British DP level may be negative.
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British DPs are an important component of the British resistance level:

- +3 Basic allotment
- +# Supplementary allotment (one for every 100 BRPs)
- +1 Western Allied control of Warsaw, Oslo or Madrid (one for each)
- +1 Western Allied control of all cities in Egypt, Libya and French North Africa
- +1 Western Allied control of Paris, if France was conquered by the Axis
- +1 Western Allied control of Antwerp, Brussels, The Hague and Luxembourg (one for group)
- +2 Western Allied control of Athens and Belgrade (two for pair)

- +1 Western Allied control of any objective hex in Germany or Italy (one for each objective hex)
- +1 For each firestorm triggered solely by British bombing in the previous year
- 2 Axis control of London
- 1 Axis control of Birmingham or Manchester (one for each)
- 1 Axis control of Alexandria or Suez
- 1 Axis control of Baghdad or Gibraltar (one for each)
- 1 Axis control of at least one hex in Britain (Scapa Flow is included, Ulster is not).

Britain's basic allotment is three DPs, plus one DP if it has more than 100 BRPs. In 1940 Britain won't have any other positive modifiers, so we can go straight to the negative modifiers.

Four of the negative modifiers (Axis control of at least one hex in Britain, London, Birmingham and Manchester) only come into play if Germany invades Britain itself. The others (Axis control of Alexandria/Suez, Baghdad, Gibraltar) are in the Mediterranean and none are easy to take if Germany invades Britain.

So in 1940 Britain will have a +3 or +4 for DPs, dropping to +1 or +2 as the game progresses if the Axis successfully execute a Mediterranean campaign.

Malta and Singapore

- | | |
|----|---|
| -1 | Axis control of Malta or Singapore (-1 for each). |
|----|---|

At some point the Axis are likely to take Malta, although historically they didn't. The more strongly the British defend Malta, the longer it will hold out, and the weaker the defense of Britain itself will be.

Singapore will fall in Winter 1941 or Spring 1942, but it will only be a factor if the Axis try to grind the British down without attacking Russia.

-1 for Malta in the short term, with another -1 for Singapore once Japan attacks.

Australia and India

- | | |
|----|---|
| -2 | If Australia or India has surrendered (-2 for each) |
|----|---|

It is difficult to imagine a game in which these modifiers would make a difference, other than perhaps in an Axis rout when Britain surrenders later in the game. For our purposes, the modifiers for Australia and India can be discounted.

Bombing

- | | |
|----|--|
| -# | For each atomic attack against Britain (-3 for the first attack; an additional -2 for the second attack; an additional -1 for each subsequent attack). |
| -1 | For each British city firestormed (cumulative). |

Forget atomic attacks in 1940-1942, but Germany can reasonably expect to firestorm all three British objectives if it concentrates on bombing, as opposed to invasion. In theory, if the British air defenses collapse, Germany could trigger additional firestorms:

26.32 SECONDARY TARGETS: If all the eligible key economic areas in Germany, Britain or Japan have been firestormed or subject to atomic attack, cities adjacent to those key economic areas may be bombed. No BRP losses may be inflicted by bombing such secondary targets, although secondary targets may be firestormed or subject to strategic atomic attack, and the political and resistance effects associated with such attacks apply normally.

This approach has the drawbacks of forfeiting the economic effects of bombing in favor of political/resistance effects and of being too slow, as Germany can't firestorm more than one hex each turn.

So usually nothing at all for bombing, but potentially -3 if Germany levels Britain, and even -4 or -5 is possible.

Submarines and Raiders

- | | |
|----|--|
| -1 | For each oil effect currently applicable to Britain. |
| -# | If there are less than ten Western Allied transports in the Atlantic SW box (-1 for each missing transport, up to a maximum of -10). |

Britain begins with an oil reserve of six oil counters and will have no difficulty maintaining this reserve until the German submarines and raiders start to put pressure on the Atlantic lifeline. In the context of Sea Lion, it might be Britain will incur oil effects near the end of the operation, but it is difficult for Germany to attack Britain directly and at the same time pressure the Atlantic, although the loss of British key economic centers and the need to rebuild ground and air units in Britain might well indirectly weaken the Atlantic.

A -5 British resistance modifier from the combined effects of transport shortages is as good a guess as any.

Russian units in eastern Europe

- | | |
|----|--|
| -1 | If there is no Russian armor or infantry unit in eastern Europe. |
|----|--|

This modifier only applies if Germany has attacked Russia and driven the Russians out of eastern Europe. In the rare game this might happen if Germany defeats Russia and turns back to Britain or somehow simultaneously attacks both Britain and Russia. I've never seen it and I suspect few others have or ever will.

Unbuilt British units

-1	For every ten unbuilt British and Commonwealth ground/army air factors (round down).
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The modifier for unbuilt British and Commonwealth units is critical. The more detailed explanation in rule 59.22E is worth quoting:

59.22 BRITISH RESISTANCE MODIFIERS:

...

E. UNBUILT BRITISH UNITS: Commonwealth units, Free French units, and ground and air units added to the British force pool by research are included when making this determination. Minor ally and associated minor country units are not.

This modifier gives the British an incentive to rebuild lost units, if any incentive was needed. As with the similar modifier for Russian and Japanese resistance, the Axis goal is to simultaneously eliminate British units and put pressure on the British economically, so that something has to give.

As discussed below, the British will usually have around 50 factors of ground units and AAF in the European theater. Some of these will be cheap infantry, some armor and some expensive AAF. Once the Axis focus on Britain, the modifier for unbuilt units will start to grow, often to -3 or -4. Anything beyond that implies a complete British collapse.



Relative Naval Strengths

+/-#	Ratio of Allied/Axis naval factors (4:3: +/-1; 5:3: +/-2; 2:1: +/-3; 3:1: +/-4; 4:1 or greater: +/-5). Damaged and uncompleted ships on the "2" or Launch row of a shipyard are considered to be at half strength. Naval units in the Pacific are not counted.
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This modifier always applies. The ratio is always rounded toward a 1:1 ratio:

59.22 BRITISH RESISTANCE MODIFIERS:

...

F. NAVAL FORCE RATIO: American and Russian naval factors are included only if they are at war with Germany. Italian naval factors are only included if Italy is at war with Britain. Naval units in the Atlantic and Indian Ocean SW boxes and in the U.S. Atlantic and South Africa boxes are included; naval units in the Pacific, submarines, ASW and transports are not. Uncompleted named ships on the "3" row or higher are not counted; damaged ships and ships on the "2" or "Launch" rows of shipyards are discounted at a 2:1 ratio, rounded down (two damaged naval factors are counted as one naval factor; a remnant damaged naval factor is ignored). A 4:3 ratio yields a +/-1 modifier; a 5:3 ratio yields a +/-2 modifier; a 2:1 ratio yields a +/-3 modifier; a 3:1 ratio yields a +/-4 modifier; and a 4:1 or greater ratio yields a +/-5 modifier. The naval force ratio modifier may not exceed +/-5. Always round toward a 1:1 ratio.

Here's the math for naval forces in Summer 1940, although obviously these naval force levels may be augmented by additional construction, Free French naval units and minor allies, and reduced by losses:

- **Germany:** CVL(2); BC3(6); PB2(6); CA6; DD6; building(2); **Total: 30.**
- **Italy:** BB4(8); BB3(12); CA12; DD9; **Total: 41.**
- **Britain:** CVL(10); BB4(8); BC3(9); BB3(30); CA32; DD13; building(4); **Total: 106.**

The ratio of Western Allied to Axis naval factors will therefore be something like 106:71, which rounds to 4:3, for a +1 British resistance modifier. Barring a catastrophic naval defeat for one side or the other, such as the mauling of the British navy by Axis air, it is hard for this modifier to shift to more than 0 or +2. Of course, if there is repeated and intense naval combat, the modifier becomes more sensitive.

Major Powers at War

+1	For each major power other than Britain at war with the European Axis.
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Normally this modifier will be either 0 or +1, if the U.S. is in the war. As mentioned earlier, occasionally Britain may be at risk when Russia is in the war, but for obvious reasons this rarely happens.

U.S.-Axis Tensions

+1	If the USAT level is between 30 and 39 (inclusive).
+2	If the USAT level is 40 or more and the U.S. is not at war with Germany.

This modifier will not apply until near the end of 1940 or early 1941. As the U.S. gets closer to entering the war, the modifier will increase. From time to time newer players will ask whether there is a mistake in the British Resistance Table, because there is no +3 modifier for the U.S. being in the war. This omission is intentional, because once the U.S. enters the war, a

British resistance modifier of +1 is triggered (major powers at war); the naval ratio shifts in favor of the Allies (because American naval units in the Atlantic are counted) and American forces may deploy to Britain (unless the Atlantic lifeline has been cut).

Western Allied ground and air units

+1	For every five Western Allied ground/army air factors on the western front. Units in the U.S. box are not counted.
----	--

This is a very important modifier. Even if Germany has occupied all of Britain, Western Allied units in Ulster and Norway count, although units in Gibraltar, which is on the Mediterranean front, don't. But normally there will be Western Allied ground units and AAF in Scotland, at the very least.

The size of the modifier is limited by the British force pool, which consists of two 2-5 armor units (4); four 3-4 infantry units (12); three South African 1-3 infantry units (3); and six replacements (6); plus 18 AAF; for a total of 43 factors (the required deployments to the Far East have been taken into account in these totals). The 43 factors can be increased by 1940 military production and, in Fall 1940, by two 3-4 infantry units (one mobilized and one Canadian) and whatever Free French units have been added to the British force pool. But the Indian and Australian units are not enough to hold Gibraltar, Malta, Egypt and the Middle East, so a minimum of 10-15 factors will be in the Mediterranean.

The modifier for units will therefore be around +5 or +6, depending on whether the British ground and air forces are fully built and, of course, on whether the U.S. is in the war and has been able to get units into Britain.

Allied successes

+1	If there is a Western Allied armor or infantry unit in Germany.
+1	If there is a Russian armor or infantry unit in western Poland or Rumania.

Since we're talking about 1940, forget these.

Concessions

-1	For every two concession points of territory returned to Britain or not taken by Germany in a previous British surrender.
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It's hard enough trying to figure out how to get Britain to surrender, much less trying to understand what happens if it does, so let's move on...

Summing up

Looking at the situation before a German invasion of Britain, the British resistance modifiers can be taken to be:

- British DPs: +4.
- Unbuilt British units: 0.
- Relative naval strengths: +1.
- Western Allied units: +6.

There will be no negative modifiers, so the British resistance level will be around +11. Despite her "hopeless military situation", with the Axis having a substantial superiority in air, armor and infantry, at the end of the Summer 1940 game turn the British in A WORLD AT WAR will "show no sign of willingness to come to an agreement" unless something changes.

The Purpose of the Invasion

The Führer Directive continued by setting out the purpose of the Sea Lion operation in somewhat ambiguous terms:

The purpose of this operation will be to eliminate the English mother country as a base for continuation of the war against Germany and, if it should become necessary, to occupy the entire island.

Historians have discussed this paragraph at some length, with good reason. It demonstrates an ambivalence and hesitation on Hitler's part which, while at odds with his historical *persona*, was in fact consistent with the way he approached many major decisions. Was Sea Lion a plan to blockade and cripple Britain, or is the intention to invade? How is it to be known whether an invasion will be "necessary"? And just who would be using "the English mother country" as a "base for continuation of the war against Germany"? The British themselves? The Commonwealth? Or the United States?

In game terms, there is an overlap between the opening stages of a 1941 Sea Lion and a less committal air and naval siege of Britain, but an immediate airborne invasion as advocated by Kesselring or a Fall 1940 seaborne invasion requires a decisive commitment by Germany.

It is also possible for the Germans to invade Britain and occupy only the southern (English) part of the British Isles, confining the Western Allies to Scotland. While this is a not uncommon outcome of a

German invasion, it is rare that the Axis would have this in mind as they cross the Channel.

The Invasion

Directive 16 then addresses, in general and vague terms, the basic concept of the invasion. The crucial area of operations is shown below:



The next part of Directive 16 reads:

To this end I order as follows:

1. The amphibious operation must be carried out as a surprise crossing on a broad front extending approximately from Ramsgate to the region of the Isle of Wight, with Luftwaffe elements assuming the role of artillery, and naval units assuming the role of engineers.

Each individual branch of the Wehrmacht will examine from its own viewpoint whether it appears practicable to carry out subsidiary operations, for example to occupy the Isle of Wight or Cornwall County, prior to the general crossing, and will report its findings to me. I reserve the decision to myself.

Ramsgate is in hex L23, southeast of London. The Isle of Wight, which is shaded on the map, is in hex L22, which is southwest of London and contains Southampton and Portsmouth.

Hitler therefore envisaged a simultaneous landing on two of the four British beach hexes. There was a great deal of discussion of this proposal among the German services, with the German army favoring this approach and the German navy, fresh from its losses in the Norwegian campaign, advocating a more realistic narrow landing. In this context “realistic” is a relative term, as the naval leadership really pressed for a Mediterranean strategy, which would relieve them

of the responsibility of protecting the invasion. But with optimistic German leaders characterizing the operation as a “glorified river crossing”, the navy’s pessimism was as unwelcome as the army’s expectations were unrealistic.

From the game point of view, any invasion of Britain will concentrate on a single hex, so Hitler receives a low mark for this part of the plan. However, Führer Directives were not intended to be precise orders, but rather general guidelines which guided planning and were subject to change based on operational requirements. Sometimes.

Preparations

Preparations for the overall operations must be completed by mid-August.

2. These preparations will include the creation of conditions which will make a landing in England possible:

a) The English air force must be so far neutralized, both actually and in morale, that it will offer no appreciable resistance to the German crossing operation;

b) Lanes must be cleared of mines;

c) Both outlets of the Straits of Dover, and the west entrance to the English Channel in a line approximately from Alderney to Portland, must be sealed off by a dense belt of mines;

d) The coastal areas must be commanded and covered by the fire of heavy coastal artillery;

e) It is desirable that all British naval forces should be tied down in action, both in the North Sea and in the Mediterranean - here by the Italians - shortly before the crossing; efforts must be made now already by means of air and torpedo attacks to weaken as far as possible the British naval forces presently in those waters.

The game is not detailed enough to go to the level of minefields and artillery, but lets look at the other two “conditions which will make a landing in England possible”, which involve the air and naval forces of the two sides, namely:

- Neutralize the Royal Air Force so that it will offer no appreciable resistance.
- Tie down and weaken the Royal Navy as far as possible.



Air Supremacy

A German invasion of Britain places great demands on the German air force. In the turn of invasion, these duties include:

- negating the British air force, either by counterairing or intercepting it, so that it can't fly defensive air support; or by flying air cover over the invasion force if the British use their air to attack it.
- deterring British naval interception by bombing the Royal Navy if it tries to stop the invasion so that the invasion either succeeds or the British incur such heavy casualties that the balance of naval power shifts in favor of the Axis.
- providing ground support for the invasion and possibly airdrop(s).
- in rare instances, providing ground support for exploitation out of the invasion hex.

This is a tall order. As we will see, Directive 16 recognizes the multiple demands on the *Luftwaffe*, although it does not discuss how it can meet them.

The Contending Forces

The Germans can expect to have the following air units available for Sea Lion:

- 30 German AAF, possibly augmented by the production of one additional AAF.
- two NAS, although these may be on board the *Graf Zeppelin*.

- up to five Italian AAF and several Italian NAS, although these may be in the central Mediterranean or North Africa.

Against this will be:

- 18 British AAF, possibly augmented by the production of one additional AAF. The other two British AAF are in the Far East.
- 13 British NAS, possibly augmented by the production of two additional NAS. Of these, probably 8-10 will be on board CVLs, and so are better considered as naval units.

The RAF

The analysis of air operations relating to Sea Lion begins with the Air Combat Table. Here are the first ten rows:

		Air Combat Table - 19.2											
AF	AS	Dice Roll											
		2	3	4	5	6	7	8	9	10	11	12+	
1	0	0	0/1	0/1	1/0	1/0	1/1	1/1	1/2	1/2	1/3	1/3	2/4
2	0/1	0/1	1/0	1/0	1/1	1/1	1/2	1/2	1/3	1/3	2/3	2/3	2/4
3	1/0	1/0	1/1	1/1	1/2	1/2	1/3	1/3	2/2	2/3	2/3	2/4	2/4
4	1/1	1/1	1/2	1/2	1/3	1/3	2/2	2/3	2/4	3/3	3/3	3/4	3/4
5	1/2	1/2	1/3	1/3	2/2	2/3	2/4	3/3	3/4	3/5	4/4	4/4	4/4
6	1/2	1/3	1/3	2/2	2/3	2/4	3/3	3/4	3/5	4/4	4/5	4/5	4/5
7	1/3	1/3	2/2	2/3	2/4	3/3	3/4	3/5	4/4	4/4	4/5	4/5	4/6
8	1/3	2/2	2/3	2/4	3/3	3/4	3/5	4/4	4/5	4/5	4/6	4/6	5/5
9	2/2	2/3	2/4	3/3	3/4	3/5	4/4	4/5	4/6	4/6	5/5	5/5	5/6
10	2/3	2/4	3/3	3/4	3/5	4/4	4/5	4/6	4/6	5/5	5/6	5/6	5/7

If five AAF with equal Air Nationality DRMs engage in air combat, the most frequent result will be a dice roll of "7", for a "2/3" result. Both sides will lose two AAF and the defender will be negated.

As you move up the table, the results level off. With ten AAF for each side, a dice roll of "7" gives a "4/4" result, which doesn't entirely negate the defender. But then each side has six AAF, and a dice roll of "7" gives a "2/4" result, which does the trick.

The rule of thumb is therefore that, with equal modifiers, equal numbers of AAF cancel out. Of course one side could roll well and the other badly, especially in the crucial first round of air combat, but this rule of thumb is sufficient for our analysis. It is worth remembering, though, that it doesn't leave the attacker a margin of safety.

If the British have all their AAF built and have concentrated them in Britain, the Germans will have

to use an equal number of AAF to counter it. It doesn't matter whether the Germans counterair the British air on the ground or engage it when it flies to attack the invasion fleet, provide defensive air support or intercept an airdrop. The numbers are still the same.

If we disregard air production by both sides, this means 18 German AAF will engage an equal number of British AAF. This leaves 12 German AAF for other tasks.

From this analysis, it is evident why the course of the fighting in France has such an important bearing on Sea Lion. The British have a construction limit of 40 BRPs per turn in 1940, although this will be reduced each turn by several BRPs due to transport shortages. The British also have to think about naval construction, which involves replacing lost transports (essential), building destroyers (important to generate invasion threats later in the war) and launching heavy ships (potentially important, depending on the course of the war). The second British submarine is nice to have, and any ASW produced in 1940 are a top priority. If the British increase their shipbuilding in 1940, they will have four "light" shipbuilding points each turn (three in Britain and one in Canada), which implies spending at least 12 BRPs per turn. Using one or two "heavy" shipbuilding points each turn results in expenditures of 15 or 18 BRPs on shipbuilding. Britain can do with less shipbuilding, but cutting back may seriously reduce its prospects later in the game. A modified British construction limit of 38 BRPs minus 18 BRPs leaves 20 BRPs for non-shipbuilding construction.

Britain will be hard pressed to replace serious AAF losses in France, while at the same time building the additional air it gets in Spring 1940, replacing ground losses in France and possibly Egypt and building units produced in Spring 1940. In a "battle of pain" where both sides have high losses, the British may well crack first, but the Germans may have to commit to attacking Britain to take advantage of the situation, because Russia will be sitting in the sidelines, slowly gathering strength. Since air losses are determined by the amount of air combat (and by luck), hard fighting in France may leave the British with unbuilt AAF going into Fall 1940.

Applying the rule of thumb, each unbuilt British AAF frees up one German AAF for other air operations relating to Sea Lion. As we have seen, however, these are varied and if the German air superiority in Fall 1940 isn't sufficient for a direct

invasion, the Germans must defer Sea Lion until Spring 1941 or follow a different plan entirely.

Dealing with the Royal Navy

We have compared the naval strength of the Axis and the British, but in reality the British superiority in the crucial operational area is even greater than the figures indicate. Barring a gross Allied blunder (ignoring Spain diplomatically and leaving Gibraltar empty), the Italian navy cannot directly participate in Sea Lion. At best, it can tie down British naval units in the Mediterranean, but since the Italian Naval Nationality DRM is one less than the British (which in turn is one less than the German), the British don't have to match the Italians factor for factor. One solid British TF in the eastern Mediterranean will keep the Italians honest, although it won't be enough to get supply through to Malta.

The British can therefore be expected to put five BB3s and CA10 in Egypt, and have the rest of its fleet available to contest a German invasion. This force will include formidable units such as the two British BB4s and several CVLs. Against this the Germans may have 18 fleet factors, plus a CVL, which will have to guard the German DDs used to carry the invading force. In fleet combat, the Germans will incur a -1 DRM because they are engaged in an invasion, so the advantage they get for having higher quality ships is lost.

Obviously the German navy can't do it alone. The *Luftwaffe* must help. But how many German air units are required?

Attacking the Royal Navy en route

If the German air attacks the Royal Navy en route to engage the German invasion force, there are several important things to remember:

- the air attacks occur outside of naval combat, so no search rolls are made. The German air finds the entire defending naval force.
- the entire defending naval force makes an air defense dice roll.
- the attacking air is land-based, so abort results on the Air Defense Table count.
- the attacking air may select whatever targets it wishes.

Depending on where the British naval units are based and how the British intercept, the German air

may well be forced to take on most of the Royal Navy. Deducting the 25-factors in the Egyptian TF from the British total, this still comes to around 70-80 naval factors.

The attacking German air may have to run three defensive gauntlets, in the following order:

- air combat with British land-based army air squadrons flying air cover (23.4121C). The air cover is assigned after the Germans announce their air attack against the defending naval force (22.23A). The air combat modifiers will be even.
- air combat with British carrier-based air flying combat air patrol (23.4121D). The British NAS will have a -1 modifier, but this will be cancelled by the +1 modifier for air units flying combat air patrol, so the air combat modifiers will also be even.
- the air defense dice roll of the defending naval units.

The number of defending air squadrons determines the level of air combat (the attacker may only use an equal number of attacking air squadrons), so even one or two British air squadrons flying air cover or combat air patrol can seriously weaken the strength of the German attacking force. Since the intercepting British naval force is likely to be subject to repeated air attacks as it moves to each new hex, the defending air may be worn down, but with each attack the air defense of the attacked naval units will also take a toll.

Looking at the Air Combat Table, the Germans can expect to have five or six attacking air squadrons stopped by defending British air, with losses of one or two squadrons. Then the effect of the British air defense dice roll has to be taken into account:

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

The British will probably roll on the “8” row of the Air Defense Table in the first round of air attacks. A dice roll of “7” gives a “2/2” result, for a total of 10 German air squadrons knocked out (of which four are eliminated; the other six may try again in the next round).

If the British have their entire air force built and have 18 AAF in Britain, the Germans will have 12 attacking air squadrons (without even thinking about ground support for the invasion), and will do almost nothing to a British navy force of this size. If the Italians pitch in, things are a little better.

When ships are attacked by either air or other surface ships, the Naval Attack Table is used:

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

It’s fairly easy to calculate the expected naval losses from air attacks, once you know the number of attacking air squadrons which get through to the defending naval force. If it is enough to damage the defender’s naval units, as is the case in a Sea Lion, then one attacking air squadron will probably damage a two-factor ship; two attacking air squadrons will probably damage a three-factor ship; and so on. Carriers are more vulnerable, because they have a lower Naval Nationality DRM.

A ruthless calculation may then be made. Can the attacking air knock out enough defending naval units to prevent a successful interception of the invasion force, or make the defeat of the invasion force a pyrrhic victory? The answer to this critical question depends on:

- the number of attacking air squadrons.
- the size and defenses of the defending naval force, including air cover and combat air patrol.
- the number of hexes in which the defending naval force is subject to air attack before it engages in fleet combat with the invasion force.
- luck, especially the early rolls.

There are too many variables to allow a definite conclusion. For example, if the British intercept the German invasion with two separate naval forces, each consisting of two or three TFs, the German air may attack only part of the British navy. That British naval force will be easier to cripple, but since the other part of the British navy may be enough to stop the invasion on its own, the attacked British naval force may turn back after a single round of attacks, minimizing its losses. It may be that some of the British fleet is out of position. As we've seen, the extent of the German air superiority may also vary. And if the British fail to build an airbase and station air in hex H23, from which British air units may reach all four British beach hexes without being counteraired, some British naval interceptions may even fail.

Generally, if the British fleet intercepts as a single unit, the German air attacks probably have to damage about 10 British naval factors in each hex. This means that the Germans will have to attack with at least 20 air squadrons. Leaving aside the Italians, this means that if there are more than 10 British AAF in Britain, an invasion is unlikely to succeed. Or does it?

Chaos in the Interception Hex

If the Germans defer using their air until the British intercept their invasion force, this leads to a naval battle to which both sides commit their available air. For the British, this will likely be the five AAF based in H23. For the Germans, it's whatever air they have left over after counterairing the British AAF within range of the invasion hex, minus the air used for ground support for the invasion and held back for other purposes, such as airdrops.

In short, the Germans give a party and everyone's invited.



In adopting this strategy, the Germans are not simply hoping for lucky die rolls, in the sense that they roll a "12" every time and the British roll a "2" (although no true German player would offer to roll again if this happened). What the Germans are aiming to do is destroy the British fleet piecemeal, while at the same time trying not to lose a fleet battle.

The key rule which gives the Germans a chance of making this work is 22.453:

22.453 ATTACKS ON ENEMY COMBAT GROUPS LIMITED BY SEARCH RESULTS:

A. For each search result relating to an enemy combat group, one friendly combat group may attack that enemy combat group by either launching an air strike (22.47) and/or engaging in fleet combat (22.5). One search result allows one combat group to engage the found enemy combat group; two search results allow two combat groups to engage the found enemy combat group; and so on.

B. Compulsory fleet combat between corresponding combat groups (22.511) counts towards this limit.

C. The number of search results has no effect on attacks by land-based air units (22.48), which may attack any found enemy combat groups.

This rule means that the number of combat groups which may attack a found enemy combat group is limited to the number of search results relating to that enemy combat group. The limit applies to air strikes by carrier-based air units and fleet combat, but not to land-based air units, which may attack any found enemy combat group.

In the context of Sea Lion, Germany invades with a single TF (combat group 1). Germany also has a number of AAF within range of the interception hex, so it will roll four search dice (one for the combat group and the maximum three for the air). The British intercept with, say, five TFs and also have at least three AAF within range of the interception hex, so the British roll eight dice.

The stage is now set. The Germans have fewer ships but more planes, and the British have fewer

planes and more ships. The British have more search rolls, but have fewer German combat groups to find. Almost anything can happen.

The Germans hope for one or more of the following:

- the British don't roll a "1", so the British don't find the German combat group and fleet combat can be avoided for a round. The German air then attacks at least one British combat group and tries to annihilate it.
- if the British roll a "1", they don't roll more than one "1", so that only one British combat group may engage the German combat group in fleet combat. If the Germans also roll a "1", that means that German combat group 1 (the only German combat group) and British combat group 1 (which the Germans found) square off. The German air can then pound British combat group 1, so weakening it that the Germans win the fleet combat as well.
- if the British roll two "1s", the Germans hope to find and air attack whatever British combat groups are eligible to engage German combat group 1. Some of the British combat groups will contain slow ships and won't be able to engage in fleet combat with German combat group 1 (the British will almost certainly load up their combat group 1 with slow ships, in order to avoid this problem).

The Germans have several things going for them in this battle:

- the British carriers are harmless, because the Germans will have a large number of cover army air squadrons.
- at this point in the war, the British don't have a large number of fast capital ships. Some of the slow British ships will be in the Mediterranean and some will be in British combat group one, but there may be another British combat group which contains slow ships and therefore is not a threat in the first round of the battle.
- the British must allocate their land-based air cover before search rolls are made, so it will be spread out among several combat groups, or one or more of the British combat groups will go without. This means the German air will be more effective.

- the British air defense level will be lower than if the Germans attack several British TFs at once, so the German air will again be more effective.

The Germans can lose this battle disastrously if the British roll two or three "1s" and the Germans fail to find the most dangerous British combat groups (notably the one containing the British battlecruisers). After all, the Germans are pitting two battlecruisers and three pocket battleships against about a dozen British capital ships, two of which are 4-factor behemoths (at least they are behemoths until the mammoth BB5s start appearing – is a mammoth bigger than a behemoth?) The British also have swarms of light ships, and these have a lot of firepower and are harder to sink than heavy ships, because they can't be targeted individually (15 German air can be expected to sink only about eight light ship factors). Nevertheless, the British may well incur serious naval losses and the German air losses will be light, because their losses will be in army air attack squadrons, not AAF.

Sea Lion therefore is feasible, if the *Luftwaffe* is strong enough and if the *Kriegsmarine* is sufficiently intact to withstand at least some fleet combat.

Exactly how British naval forces are to be "tied down in action, both in the North Sea and in the Mediterranean" is unclear, but it's hard to argue with the idea of weakening the British fleet prior to launching the invasion.

Let's see what other guidance we can get from the Führer.

More from Directive 16

The next part of Directive 16 is excruciatingly mundane and serves to remind us that playing A WORLD AT WAR is much more fun than was the real war. It would have been easier to say "we're having a war; stay in touch", but maybe something was lost in the translation:

3. Organization of Command and Preparations. Under my command and in accordance with my general directives the commanders in chief of the three branches of the Wehrmacht will direct the operations of their forces employed in the operation.

From 1 August on, the operations staffs of the commanders in chief of the Army, the Navy, and the Luftwaffe must be within the area with a maximum

radius of 30 miles from my headquarters at Ziegenberg.

To me it appears advisable for the most vital elements of the operations staffs of the commanders in chief of the Army and the Navy to occupy mutual premises in Giessen.

The commander in chief of the Army will thus have to establish an army group headquarters to conduct the operations of the landing armies.

But now we get to something a bit more important:

The operation will be given the designation Sea Lion (Seelöwe).

“Overlord”? “Husky”? Give me a break! The best name the Allies came up with was “Sledgehammer”, but they never had to carry it out. “Sea Lion” – now that’s a cool name for an invasion.

The Directive then turns to the tasks of each service. Let’s see this section in its entirety, before turning our attention to specific items:

During preparations and in the execution of the operation the missions of the three branches of the Wehrmacht will be as follows:

a) Army. Preparation of plans of operations and of a crossing plan initially for all units to be shipped in the first wave. The units accompanying the first wave will remain under Army control (under the individual landing groupments) until it is possible to subdivide their mission into responsibility for (1) support and protection for the ground forces, (2) protection of the ports of debarkation, and (3) protection for the air bases to be occupied.

The Army will also allocate shipping space to the individual landing groupments and will define the points of embarkation and debarkation in agreement with the Navy.

b) Navy. Procurement and assembly of the required shipping space at the points of embarkation designated by the Army and in accordance with nautical requirements. As far as possible use will be made of ships from defeated hostile countries.

The necessary naval advisory staff, escort ships, and other protective naval units will be provided by the Navy at each crossing area. In addition to the protection afforded by the air units employed, naval

forces will protect the flanks of the entire movement across the Channel. Orders will be issued regulating the chain of command during the actual crossing.

Another mission of the Navy is to direct the uniform disposition of coastal artillery, namely, of all naval and Army batteries which can be used against naval targets and to generally organize the control of fire. The largest possible number of the heaviest artillery units will be so placed that they can be brought into effective action as speedily as possible to protect the flanks of the movements against hostile naval attack. For this purpose all railway artillery, reinforced by all available captured guns but minus the K-5 and K-12 batteries earmarked for counterbattery fire against shore-based hostile artillery in England, will be withdrawn from present positions and emplaced on railway turntable mounts.

In addition to the above, all platform guns of the heaviest types will be so emplaced under concrete protection opposite the Straits of Dover that they will be proof against even the heaviest air attacks. They will be so sited that they will command the Straits under all circumstances as far as their ranges permit. The technical work involved will be carried out by Organization Todt.

c) Luftwaffe. The mission of the Luftwaffe will be to prevent interference by hostile air forces. In addition airpower will be employed to neutralize coastal fortifications which could deliver fire in the landing areas, to break the initial resistance offered by the hostile ground forces, and to destroy reserves during their forward movement. These missions will require extremely close contact between the individual air units and the landing forces of the Army.

It will also be important for air units to destroy roads which could be used by the enemy to move reserves forward, and to attack naval units approaching the areas of operations while still far distant from the crossing routes. I request recommendations on the use of paratrooper and glider and other airborne forces. The question must be examined together with the Army whether it would be wise to withhold paratrooper and other airborne forces during the initial stages as a reserve force which could be moved quickly to critical areas in the event of an emergency. The Wehrmacht chief signal officer will ensure that all necessary preparations are made to establish communications between France and England. Preparations will be made in cooperation

with the Navy to lay what is still available of the 48 miles of marine cable taken up from the East Prussian canal.

The first thing that leaps out from this part of the Sea Lion Directive is the stunning micro-managing from the top. The Directive for the invasion of Britain discusses which railway guns to use and the source of communications cable! If Hitler were to play a World War II strategy game, I suspect he wouldn't like A WORLD AT WAR and might prefer the obsessive level of detail in that other game (the name of which cannot be mentioned in ULTRA) or even the enormously detailed EUROPA games. One can't help but get the impression that Hitler is playing with his toys rather than making a crucial decision at a key point in the war.

At any rate, in Nazi Germany the "Führer principle" was taken seriously. If the Directive was meant to inspire the German military to enthusiastically support the invasion of Britain, it was unlikely to accomplish this goal (if anything could). If it was a real plan, it's a bit short on one minor detail – the assessment of the strength and capabilities of the British. Maybe this is a consequence of the initial assumption that the British were in a "hopeless military situation", or maybe it's just because Hitler was a happy-go-lucky guy who didn't worry about things like this (or about how many Russian divisions there might be, but that's another story). We can do better.

The British Defense

Here is a typical British defense, using one 2-5 armor unit, three 3-4 infantry units, three replacements and 15 AAF:



The essential idea of the British defense is to defend the most important beach (the double port) with four factors (for an invasion defense of 12), defend the most eastern and western beaches with three factors (for an invasion defense of nine) and defend the least important beach (the one southeast of London) with two factors (for an invasion defense of six). It would be a big mistake to leave any of the beaches empty, because then the carrying capacity of the German DDs would be doubled and no ground support would be needed for the invasion.

Unless the Germans have launched two additional DDs, they can only invade with one 2-6 armor unit, so exploiting out of the invasion hex isn't a threat. In assessing where to invade, the Germans should analyze invasions against six, nine and 12 level defenses.

A point about forts. A prudent British player will always invest an RP in forts in 1940, so that he can build a fort in the event of an emergency. The question is when and where. A nervous British player might build beach defenses in Summer 1940, which more or less rules out an invasion (at least at those beaches!) A similar alternative is to fortify London or the double ports. But it is better to postpone the decision, because the fort might well be needed in Egypt, and if it's not needed anywhere, so much the better. A British fort can always be used in the Far East or even in France after the Western Allies return to the continent.

The German Attack

The German options depend in part on whether the Germans are willing to risk a 1:1 or 1.5:1 invasion attack.

If so, the Germans will need something like three ground factors, six factors of shore bombardment and about five AAF flying ground support. The theoretical maximum for a German 1940 invasion is three ground factors, six factors of shore bombardment (forget the 3:1 limit – the Germans don't have that many ships), nine factors of ground support, *plus* one airborne unit and another three factors of ground support. That's a total of 22 attacking factors, but this is a theoretical maximum.

For one thing, the Axis usually won't have 12 AAF available to fly ground support. In addition, the level of shore bombardment isn't guaranteed, because there is a very real possibility that the invasion force will

incur naval losses from fleet combat. This makes any German seaborne invasion of Britain uncertain, because the invasion combat odds aren't assured.

More often than not, the German player will be content with hitting the weakest British beach, on the theory that getting ashore anywhere is good enough. While it is fine to direct the Army to "define the points of embarkation and debarkation in agreement with the Navy", in fact it is largely the British who define the point of debarkation. To a large extent this is true, but now logistics and weather come into play, despite being studiously avoided by the Führer.

Germany can conduct seaborne invasions and airdrops in Fall 1940, but can do neither in Winter 1940. The only way Germany can reinforce its forces in Britain is by sea and air transport. The former requires control of a British port and the latter is limited to a single one-factor infantry unit, unless Germany has produced a second air transport unit, which is a bit pricey in terms of RPs.

The Use of Airborne Units

To his credit, Hitler recognized the potential of the German airborne units, although he was unsure of the role they should play in the invasion:

I request recommendations on the use of paratrooper and glider and other airborne forces. The question must be examined together with the Army whether it would be wise to withhold paratrooper and other airborne forces during the initial stages as a reserve force which could be moved quickly to critical areas in the event of an emergency.

The Germans may airdrop on the invasion hex to strengthen the invasion attack (even one additional attacking factor may shift the odds significantly) or may defer their airdrop until exploitation, when they can better assess just what, if anything, is happening in Britain. If the invasion force took losses, an airdrop may reinforce the invasion hex; if things went well, an airdrop might capture another hex, preferably a port, to stretch the British defenses.

There is another option for the German airborne units which will be discussed below. First we will return to the Sea Lion Directive one last time, as Hitler concludes by setting out the immediate assignments (diplomatically termed "requests") to the armed forces.



Wrapping Up - the "Requests"

Führer Directive 16 concludes as follows:

4. Preparations to ensure the necessary communications between France and the English mainland will be handled by the chief of the armed forces signals.

5. I request the commanders in chief to submit to me as early as possible:

a) The measures planned by the Navy and the Luftwaffe to create the conditions necessary for the Channel crossing operation (Item 2, above);

b) Details on the disposition of the coastal artillery batteries (Navy);

c) A survey of the shipping to be employed and of the methods of concentration and equipment. All civilian agencies participate? (Navy);

d) Plans for the organization of air defense in the areas of concentration for troops and for equipment to be used in the crossing operation (Luftwaffe);

e) Channel-crossing schedule and plan of operations of the Army, and organization and equipment of the first attack wave;

f) Organization and action planned by the Navy and the Luftwaffe for the defense of the crossing movement itself, for reconnaissance, and for support during the landing;

g) Recommendations concerning the commitment of paratrooper and other airborne forces and concerning the command of forces after an adequately large area has been brought under control in England (Luftwaffe);

h) Recommendations for the location of headquarters for the command echelons of the commander in chief of the Army and the commander in chief of the Navy;

i) Comments by the Army, the Navy, and the Luftwaffe as to whether and what partial operations are considered practicable prior to the general amphibious operation;

k) Recommendations by the Army and the Navy concerning the chain of command during the crossing, while seaborne.

[Hand-initialed]

J[odl]

K[eitel]

(signed)

Adolf Hitler

Distribution:

Commander in Chief,	Army Ribbon Copy
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Führer Directive 16 is thus both a plan, albeit a vague one, and a direction to plan. It doesn't ask what is possible, and instead typically sets out what is to be accomplished, leaving the important details to others. Other, more trivial, points are covered, in a misguided attempt to convince the reader that the details have been considered as well.

The "important details" which are omitted deal with the capabilities of the *Luftwaffe* and especially the German navy to carry out their assigned tasks; and any assessment, realistic or otherwise, of the British defenses. It is assumed that somehow the German navy, with *Luftwaffe* help, can ensure the safe passage of large ground forces on a broad front. At the same time, while the existence of British forces is acknowledged, serious British resistance is discounted. Once the Germans land, from Hitler's point of view, it's over.

In fact, as a land animal, Hitler had a fear of amphibious operations and his reluctance to carry out Sea Lion was in part based on his discomfort in initiating a campaign across water. His infantry bias, nurtured during four years of service on the Western

Front in World War I, led him to much prefer a campaign on solid ground in Russia (although, had he served on the Eastern Front, he might have had a different opinion).

It is clear that, to the extent the Sea Lion Directive intends an invasion of Britain ("I have decided to prepare *and if necessary carry out* an amphibious operation against England."), it would take place in Fall 1940. In adopting this approach, Hitler rejects both a Spring 1941 Sea Lion, which we will not examine, and another interesting alternative that A WORLD AT WAR players may wish to explore.



The Kesselring Option

Field Marshall Albert Kesselring, one of the *Luftwaffe*'s most able commanders, advocated a swift descent on Britain by airborne troops in July 1940. While Germany had no contingency plans in place to exploit its unexpected victory in France, the British were in even greater disarray. The British Expeditionary Force had largely escaped from France, but the "miracle at Dunkirk" was by no means a victory, as most of the British equipment had been abandoned in France.

Kesselring's idea was a masterpiece of improvisation. German paratroops would seize one or more British airfields, and reinforcements would be rushed in to the "airheads" before the British could react. The reinforced airborne and glider forces would seize a port, and heavier forces could be brought across the Channel. By attacking at the moment the opponent was weakest, the Germans could knock Britain out of the war and obtain a favorable peace.

Improvisation played a small role at the higher levels of the German command, although smaller

units had a great deal of freedom in how to carry out their tasks. It's almost a paradox that one of the great strengths of the German military in World War II was that those in the lower ranks showed a degree of initiative which often was lacking in the Allied armies. Be that as it may, the German High Command did not sanction Kesselring's opportunistic concept, especially since at that time Hitler was proposing peace with the British Empire, which he (at times) saw as a force for world stability and a model for German imperialism.

In A WORLD AT WAR terms, Kesselring's idea requires some planning. The idea is to airdrop into Britain in Summer 1940, while the British still have units in France and are at their weakest. To facilitate this, the Germans:

- produce a second air transport in 1940, so that both airborne units may be airdropped in the same turn.
- produce a third airborne unit in 1940, although they may wish to conceal this unit until the Axis Summer 1940 unit construction phase.
- ensure that the center of gravity of their Spring 1940 attack in the west is the conquest of the Low Countries and the seizure of the Channel ports, so the Germans have enough airbases within range of Britain, including, if possible, Plymouth.

In Summer 1940, the Germans counterair whatever British air they can reach, giving this a priority over the capture of Paris. While the German armor exploits in France, with an eye to taking Paris in Fall 1940 without making a cross-river attack, the Germans airdrop both airborne units into one or two British ports.

The operation is feasible only if the airborne units can retain their foothold, which will depend on the location of the British ground units on the western front. Each airborne unit will have a defensive strength of five (two plus three AAF flying defensive air support). If the British counterattack, they will ignore the Luftwaffe and fly ground support, so the strength of the counterattack is a question of arithmetic. Of course, the last thing the British want to do is to spend BRPs on ground attacks in Britain, and with a CTL of one, there is no guarantee that the counterattack will succeed, especially against a stack of two airborne units.

If Britain has committed strongly to France, this operation can even be carried out with a single airborne unit. While a Summer 1940 airdrop into Britain increases RGT and USAT by one, it doesn't trigger a Summer 1940 Russian mobilization, so Germany is not irrevocably committed to invading Britain rather than Russia.

Fall 1940

If the British fail to eliminate the German airhead, the Germans may be in business. Sea supply to the German airborne units in Fall 1940 can be protected by German air during the movement phase. Then the Germans sea transport six ground factors (probably a 4-6 and a 2-6 armor unit) into Britain, which is double what they could land by invading. Depending on the situation, the Germans may be able to exploit out of their port, because the British have to watch out for Fall 1940 airdrops and invasions as well, and therefore can't concentrate all their forces on the beach.

The key to all this is the sequence of play. Seaborne invasions, quite apart from halving the carrying capacity of the German DDs and giving the defenders an additional +1 DM, take place during the combat phase. Sea transport takes place during the movement phase, and any Axis air units which didn't counterair are available to defend it. If the Royal Navy stays at home, all this Axis air can be used for ground support. If the British navy does intercept, it will be subject to fierce air attack. The Germans then may not have many air units left for ground support, but they can defer expanding their foothold for a turn if it means crippling the British navy, or declare victory in the West and switch their main effort to the Russian front with less fear of distracting Western Allied naval operations in the Atlantic or the Mediterranean.

In addition, the Germans can counter-intercept with the bulk of their fleet, and avoid the adverse fleet combat modifier they would incur if they were escorting invading ground units.

But the Germans have to be careful not to overreact, as the British navy may withdraw once it has lured the German air into battle. The Germans should hold some air back for ground support if possible, and commit it to naval combat if required. This type of cat-and-mouse game is typical of Sea Lion games, and makes the German invasion of Britain a nerve-wracking test of skill and character for both players.