Over the Reich

A Scenario for Civilization II ToTPP
By John P. Petroski & Prof. Garfield
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"My personal message to you – this is a MUST – is to 'Destroy the Enemy Air Force wherever you find them, in the air, on the ground, and in the factories.'"

- Hap Arnold's Christmas greeting to the commanding generals of the Eight and Fifteenth Air Forces, December 27, 1943

It is May 30, 1942. Germany remains all-powerful and conquering. The Wehrmacht is trampling through the Soviet Union and Africa, and Great Britain avoids starvation by a thread as the Battle of the Atlantic is still very much in doubt. The Luftwaffe remains a seasoned and dangerous force over the skies of Europe, though it is showing signs of being overstretched.

Despite being in their fourth year of war, German industry is still not fully geared for war production. Though the exceptionally capable Albert Speer has recently been appointed Minister of Armaments a few months back, there is still considerable work to do. The economy is not on a war footing – consumer goods continue to be produced in large numbers, few women are employed in the factories, and most factories don't even run through the night. Considering that Germany now faces the combined weight and industrial capacity of the majority of the planet, this is simply unconscionable and must be immediately addressed.

In the East, the titanic clash of dictators continues to wage as Germany and the Soviet Union bloody each other on the Russian steppe. The German summer offensive has recently started with the aim of capturing critical oil fields in the Caucuses, though one key city must first be taken to secure their flank: Stalingrad.

Britain, for her part, has emerged from her "Darkest Hour" bruised but breathing, the RAF having saved the realm from the Nazi jackboot in the Battle of Britain all those years ago. Now, Arthur Harris' Bomber Command raids the Reich by night, bringing terror, destruction, and more than a bit of payback to its cities. Tonight, air raid sirens blare as 1,000 bombers approach Cologne in an effort to wipe it from the map.

For years, the Empire carried on the struggle against the Nazi Menace alone, but now, "God's good time" has arrived, and "the New World, with all its power and might [has stepped] forth to the rescue and liberation of the old." Even so, the United States has only been a combatant for six months and has only the most fledging nucleus of a command structure in Britain. It will take time for the Americans to build their strength, but when they do, it may well prove insurmountable—if their crazy idea to revisit daylight strategic bombing is plausible.

Despite the best hopes and theories of air visionaries, the Allies cannot hope to compel Germany's surrender from the air alone. Northwest Europe will have to be invaded at some point, and territory conquered to end the Nazi blight. This would likely prove impossible in the face of powerful air defenses, so the destruction of the Luftwaffe "in the air, on the ground, and in the factories" is the Allies' prime objective.

The Luftwaffe, of course, will have something to say about that…

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The 8th Air Force raids Berlin and comes under attack by advanced Luftwaffe aircraft.

1. Scenario Background

I have spent the better part of 20 years dreaming about this scenario, though it took a considerable time to start building. I first decided that I wanted to build this shortly after playtesting Captain Nemo's unreleased *"The Blitz."* Nemo was brilliant – perhaps the greatest designer Civilization II has known – but even he could not tame the AI into using air forces sanely.   Nonetheless, I found his efforts engaging and decided then and there that I wanted to create a similar scenario focused on the Allied Combined Bomber Offensive against Nazi Germany.

I should have known from Nemo's struggles that I was getting in over my head. Proof enough of that is the fact that this is my third full-fledged attempt to create the scenario, with the first beginning in February of 2011.

The initial attempt was made before the Test of Time Patch Project ("ToTPP") was around, so it looked considerably different. The game was played on two maps and primarily focused on the USAAF operations – Bomber Command's night offensive was represented abstractly via technologies, and there was nothing the German player could do to prevent it. Fortunately, a computer crash spared the world from having to see it (aside from McMonkey, who helped to playtest it).

I took a second stab at this in the summer of 2017, and built a working prototype that McMonkey and I again playtest. While the scenario was very innovative and took some advantage of ToTPP, it still featured the macro.txt events, and my efforts to achieve a mechanism for strategic bombing, while technically successful, were less than fun to play. For example, each player had to control 3-4 different civilizations each just to make it work. While it was beyond tedious, McMonkey was a sport and played through it long enough for me to learn enough some valuable lessons that would pay dividends a year later.

In the summer of 2018, I took a final shot at the scenario – this time with the benefit of Lua events. These are significantly stronger and broader than the macro.txt version and have allowed me to overcome almost all the things that made the second version so tedious. Much of the "work" is done behind the scenes by lua, making the game much easier to play. For example, all that one needs to do to manage the strategic bombing system is simply attack units and build city improvements—two things that are intuitive to all players.

Lua has improved the "quality of life" for those playing this scenario in several other ways. Prof. Garfield designed a working formation event, where one can move numerous units at once, and has also managed to make flak units start fortified unless there are nearby air units to attack, saving several minutes per turn. The radar mechanism, once so clunky that it required players to move a "radar beam" unit into the sky searching for targets, is now done for your entire forces at a key press. Yet all this is just the tip of the iceberg.

It is fair to say that *Over the Reich* is the perfect example of just how much better Lua can make a scenario. It simply wouldn't be possible for this scenario to be playable and fun without it, and I owe a tremendous amount of gratitude and thanks to Knighttime, Prof. Garfield, and Grishnach. These three Lua coders had an incredible impact on this scenario. Almost all of the Lua events were either written or at least extensively troubleshot, by them. They made many of my ideas better and supplied a few of their own which markedly improved this scenario. Without their efforts, this scenario simply couldn't be.

Point in fact, Professor Garfield did so much work on this scenario that he truly is a co-author. It would be a completely different (and completely lesser) product without his contributions, so I am extremely grateful that he agreed to jump on as a co-designer and devote so much time to making my dream a reality. I hope you enjoy it.

John P. Petroski
January, 2020

2. Installation Instructions

This is a Civilization Test of Time scenario designed to be played with TOTTP version 0.15.1 and Lua and as such requires the following:

1. This scenario requires Civilization II Test of Time. If you don't already have it, you may purchase it on ebay or Amazon.
2. You **must** install the Test of Time v1.1 patch **before** installing this scenario. You may download it here: http://forums.civfanatics.com/downloads.php?do=file&id=59
   Note: For those users who have the "Sid Meier's Civilization® Chronicles" version of the game installed on their computer, you may use the " CivChroniclesPatch.exe" included in the ZIP file to install the patch.
3. You **must** install version 0.15.1 of the Test of Time Project by TheNamelessOne. You may download it here https://forums.civfanatics.com/threads/the-test-of-time-patch-project.517282/page-47#post-15089974
4. VERY IMPORTANT: You **must** install the **lua** folder, which is included in the v 0.15.1 ZIP file (and which includes the civlua.lua, functions.lua and init.lua files), in the root directory of your Civilization Test of Time folder.
5. Action Required: The file civlua.lua in Test of Time\lua should be updated to the attached file in the civluaBugfix.zip included with the scenario. This fixes a critical error with the civlua.lua file in base ToTPP.
6. The game has been created and tested on a 64-bit computer and therefore should work on both 32 and 64-bit computers.
7. Download the scenario.
8. Under your ToT directory, create (if you have not already done so) a folder called Scenarios. Do not put this in the Original, Fantasy or Sci-fi folders. It must be directly under the main Test of Time directory. VERY IMPORTANT: You **must** name this folder OTR.
9. Inside the Scenario folder, unzip ALL the files you've downloaded into the newly created OTR folder.
10. When you load the scenario (or a saved game) you will be asked if you should load the lua events. You must select "Yes" each time.
11. If you have any questions, concerns, or comments, please reach out to us at this thread: https://forums.civfanatics.com/threads/over-the-reich-post-release-feedback-bug-support-hints-etc.654822/

Bomber Command destroys Hamburg in "Operation Gomorrah."

3. Designer's Notes

Every scenario is a balancing act between playability, design restraints, and historical accuracy, and *Over the Reich* is no different. There are a few things we'd like to mention up front:

1. I (Petroski) created this map and any inaccuracies are totally my fault.

2. This is primarily a multi-player scenario. We have included a few minor tweaks to enable a person to play themselves in hotseat mode with a degree of uncertainty, but you shouldn't attempt to play this game against the AI. If you wish to play this scenario in single player hotseat mode, select the OTRspHotseat.scn file. Doing so will enable a flag that will have two effects: (1) There will be a 10% chance that each air unit that starts in an airbase will have its movement spent instantly, rendering it incapable of operating that turn; (2) there will be a 25% chance that any munition attack will be unsuccessful. We have incorporated these changes to add some randomness to the single player hotseat experience to make it more enjoyable to play against yourself.

3. City names are in English, but you won't break anything by changing a city's name, as the events in this scenario are integer-reliant rather than name-reliant, so feel free to customize the world to add to your immersion (indeed, it can be fun to rename airfields after famous units and then use that to organize your forces).

4. Time is an abstract concept here. There are simply "turns" and these don't represent a certain number of hours. Day and night operations are both conducted simultaneously each turn. While we could have used lua to shut down operations by day or night depending on the turn to make time more linear, we chose not to for several reasons (mostly having to do with how we're trying to simulate 3 years of war in 125 turns).

5. Please suspend your disbelief regarding which units carry what ammo. There are four types of gunfire: light, medium, heavy, and jet. There are three bombs: 250lb, 500lb, 1000lb, and one air-to-air rocket unit. Although many German fighters were equipped with heavy gun packages by the end of the war, only certain units have them in this scenario. Likewise, while some US fighters either were or weren't known for carrying bombs, they may or may not have that option in this scenario. This serves variety, gameplay, and sounds.

6. While most airfields either held USAAF or RAF aircraft and not as many serviced both, in this scenario, any aircraft can be built in either (assuming it is the correct map).

7. Some cities were no doubt better-developed historically than they are here, but we tried to keep well-developed cities few and far between to help achieve a fun, "empire builder" type scenario.

8. The Allies and Germans each historically had access to far more aircraft at the start of this scenario than you do (both in type and number). Again, we chose to start the scenario off with relatively few aircraft on the map and researched to help achieve a fun, "empire builder."

9. The Germans start with an overwhelming advantage in ground forces. While they probably didn't have this many in the West, we've given them so many now to compel the Allies to build up their own ground forces and to bomb those of the Germans to ensure a successful invasion of the continent.

10. Some unit stats may seem a little strange. For example, B-24J Liberators can outrun Me109s (though not Fw190s). This is done for gameplay reasons – a main goal here is that every unit serve a purpose and have a unique point. Sometimes that means that you have two bombers to choose from: A B-17 that is rugged yet slow or the B-24 that is fast yet fragile.

11. We've renamed rivers railtrack. Be mindful of this as it grants a defensive bonus. This has the effect of causing certain urban targets to be more difficult to attack than others on the night map and will also (perhaps paradoxically) mean that units traveling along railtrack on the low altitude map will have their defenses increased. This is hardcoded so we can't do much about it, and we've decided that we can live with it as designers in exchange for its benefits, but we wanted you to be aware of it so you can plan accordingly. It is important to note, however, that to compensate for this, we have reduced the defensive bonus of railtrack terrain, so the only areas that will enjoy a defensive bonus from railroads are certain urban or industrial squares.

12. We fully acknowledge that the first turn is a bit of a monster. You must go through and organize your forces, figure out where to deploy your air defenses, and come to terms with a very large and unique scenario. We promise that as you go on, the turns become **much** quicker. One of our main objectives while designing this scenario was to streamline the amount of time it takes to play, and once you have moved your initial forces and set your initial strategy, turn times of 10-15 minutes are not uncommon. Further, you will note that the Combat Reporting system via the escape key, as described below, removes the need to keep a detailed log to provide to your opponent, significantly reducing the amount of time it takes to play this scenario. Hang in there!

4. Special Keys

Key	Effect(s)
k	-Fires a unit's primary attack/ammo if present. -Allied convoys unload cargo when in a city with a working port. -88mm Flak, Flak Train, and 3.7-inch Flak fires flak burst into the high-altitude daylight map. -Individual radar unit will scan skies for nearby aircraft.
backspace	-Fires a unit's secondary attack/ammo if present. -88mm Flak, Flak Train, and 3.7-inch Flak fires flak burst onto high-altitude night map. -Will cause all radar units to scan skies for nearby aircraft at once. All units lose all MP. -When pressed by a depleted battle group on the same tile with at least one second depleted battle group and a train, will merge the two battered army groups into a full-strength battle group. Note that you can stack depleted battlegroups (so 3 depleted battle groups would turn into 2 full strength battle groups). -When pressed while a U-Boat with full movement points is in a city with a military port, allows the U-Boat to deploy to a random square in the Atlantic for a cost of 5 hit points. This is only possible while the Blohm & Voss critical industry in Hamburg is active.
n	-Allows certain aircraft to move from low altitude to high altitude and vice versa.
u	-Allows Germany to transfer aircraft between day and night maps once they have researched the "Wilde Sau" technology. Aircraft can only be transferred from within an airfield, and they will lose all MP for that turn. -Allows both players to strategically redeploy certain ground units between cities that possess railyards improvements. There must be a viable rail connection between both cities.
p	-Pressing 'p' (while a unit is active) and then pressing a direction arrow (arrows or number pad) makes the unit in question travel in that direction until it has 2 movement points left. It will also stop before entering a city, or when it spots an enemy unit. -Radar can use the paradrop function to deploy further quickly.
tab	-Provides additional information for the active unit, including distance to the nearest friendly airbase for aircraft. -When pressed without an active unit, a dialogue box appears with an option to remove all radar markers. It is suggested you do this at the end of each turn, lest your opponent learn of your radar capabilities.
Esc	-Displays combat reporting dialogue box that explains what units were attacked and killed during your and your opponent's turn, and reviews what cities were capture.
1	-Displays the current score for each player, how many bombers the Allies have lost out of escort range, and how many points Germany has accumulated towards earning *Experten* units.
2	-Displays the newspaper, which allows you to cycle through important text boxes from prior events, including radar reports from this and prior turns, but only those generated via firing all radar sets via "backspace."
3	-Allows two aircraft of similar classification (fighter to fighter, bomber to bomber, etc.) to swap veterancy status. Both aircraft must have full health and full movement points.
4	-Initiates formation flying allowing you to move numerous units of the same domain (air, sea, land) at once.
Number Pad Minus	-Gives the active unit the goto order for one tile beside the nearest airbase. The adjacent tile is chosen to be closer to the unit than the airbase.
Shift	-Reinstates the goto order that the active unit was given (e.g. if it stops moving next to an enemy unit). If you gave the order via 'in game' methods on the current turn (e.g. by mouse), this won't work. Thus, use it in conjunction with Number Pad Minus or p above.
0,7,8,9	-Press 0 in the view mode to set a goto destination for key 7,8, or 9 (all keys above letters). Press the corresponding key with an active unit, and it will immediately be given the goto order to go to that tile on the current map.
delete	-Pressing 'delete' on a tile (or with an active unit) gives information about the units on the tile. How many units, how many have full movement, how many have full movement and are at 17+ hit points, and how many have full movement and full hit points.

5. Critical Concepts

The following concepts are critical to understand before attempting to play this game or reading further.

Concept	Notes
Ranged Attacks	-Most units carry ammunition which must be fired by pressing "k" (for their primary attack) or occasionally "backspace" (for their secondary attack). -Firing ammunition may provoke a defensive reaction from nearby enemy aircraft and flak batteries. -Ammunition costs fuel (gold renamed) to fire. -Some aircraft are prevented from firing their ammunition on certain maps (for example, American heavy bombers like the B-17 and B-24 cannot drop bombs from low altitude in this scenario). -Some units, such as flak, automatically fire their ammo onto different maps ("k" will launch flak bursts towards the high-altitude daylight map, while "backspace" will fire them towards the night map).
Payload	-Bombs and rockets are carried via a payload mechanism meaning they can only be fired once per sortie. This is accomplished by checking the unit's home city. If it is anything other than "NONE," the unit can drop bombs or fire rockets. Once these are used, the unit's home city will be set to "NONE" and it will need to land. -Landed aircraft will automatically rehome to their airbase upon activation, if their airbase has enough shield capacity to host them.
Fuel	-Replaces "gold" from the base game. -Aircraft use fuel to make attacks. Each time you press "k" to call up ammo, fuel will be deducted. If you run out of fuel, you won't be able to conduct operations. -Each aircraft has a minimum base cost for fuel which can be found in Appendix A. -This base cost is halved for the Germans so long as Politz Refinery is operational. -This base cost increases for both sides with distance from the nearest friendly airfield using the following formula: Base Cost * distance/40. Thus, if the base cost for an attack is 20 fuel points, and the attack takes place 80 squares away from a friendly airfield, the actual cost will be 40 fuel points.

Aircraft Range	-Aircraft cannot operate beyond their maximum range. Aircraft that cannot return to base have the following restrictions:
	    * They will not fire any munitions by pressing "k."
	    * They won't defend themselves in combat via reactive fire.
	    * They will automatically be destroyed in combat if attacked.
	-If in doubt as to your aircraft's range, press the "tab" key to check the range of your aircraft to a nearby friendly airbase before moving further.

Altitude	-There are two daylight maps, representing high and low altitude. Some aircraft can climb or dive between them by pressing "n." -Some aircraft perform better at high or low altitude (for example, the P-47 is much more dangerous at high altitude).
Formation Flying	-Several aircraft, armies, or naval units can move at once by pressing '4' and then agreeing to create a formation. -Only units of the same domain (air, sea, land) can group together. -This is a handy way to cut back on turn times significantly.
Reactive Attacks	-Many units will react defensively when other units fire ammunition. The range and frequency of these defensive attacks varies, so check Appendix B for details. -Some units will react to units even if they aren't on the same map. For example, heavy flak will fire from the low altitude map against targets on the high-altitude daylight map and night map. -Some aircraft can "bounce" low-flying aircraft. Thus, if an enemy aircraft makes an attack at low altitude and you have friendly aircraft perched above, the friendlies have a chance to swoop down and attack for a massive bonus. -Heavy bombers will only defend themselves with a reactive attack if they are on the high altitude or night map.

Radar	-Radar is an important concept in this scenario. It is used to scan the skies for aircraft and report their locations. -You can fire each individual radar set by pressing "k," or you can elect to fire all of them at once by pressing "backspace." Firing all at once will also track the results in the "newspaper" which can be called up by pressing 2. This allows you to recall where enemy formations were turn by turn and track them. -Note that if you fire all installations at once, you will not be able to move any, so make sure you move any sets as necessary before using this option. -To make movement easier, radar sets can "paradrop" a short distance by pressing "p."
Clouds	-This scenario features dynamic clouds that move turn by turn. -Clouds grant a defensive bonus to any unit sharing their tile, so discretion should be utilized when attacking targets in heavy cloud cover. -Generally, the clouds move from west to east. -Cloud patterns are different on the day and night maps.
Airfields and Cities	-You will notice that there are two types of "cities" on the map: those which look like airfields, and those which look like urban centers. Aircraft can only land in those that look like airfields. -If you land in an urban center by accident, that aircraft will be deleted the next turn. This is to prevent the player from "shielding" their aircraft in these cities. -Be mindful of the "move unit" command as this has a nasty habit of unintentionally landing aircraft in urban terrain. -Only airfields can build aircraft, and only cities with industrial centers can build freight trains. -Bring freight trains from cities into airfields to disband them for a production boost for aircraft.
Night Operations	-Certain aircraft on the night map will have a chance to "escape into the night" when attacked by enemies. If the unit is not destroyed, there is a chance it will move over a few spaces where it must be relocated. -Allied night aircraft and German bombers and dedicated night fighters can all escape into the night. German day fighters pressed into night service via *Wilde Sau* will not evade.
Wilde Sau	-When the Germans research *Wilde Sau*, they can freely transfer aircraft from day to night operations and vice versa by pressing "u." This must be done within an airfield and will end that unit's turn. -There is no limit as to how many aircraft can be transferred per turn.
Naval Aircraft	-Only Hurricanes, Spitfires, Me109s, Ju87s and Hermann Graf may land on carriers. All others will be deleted.
Air Protected Stacks	-You cannot stack aircraft on industrial targets or certain military units to defend them from munitions. The events will move the defending aircraft over a tile so the attack can commence. -This event will only fire if the munition is activated next to the target, which must be considered when firing barrages from naval vessels.
15th Airforce and Red Airforce	-The 15th Air Force bombers and 332nd Fighter Group are the only units that can operate from Italy. They can be built in England but will be automatically transported to the Italian theatre. -The Yak-3 and Il-2 are the only aircraft that can operate from the Russian Front. They cannot be built in England. -Any other aircraft that land in either of these airbases will be deleted.
Freight Trains	-Freight trains should be disbanded in cities or airfields to help build improvements or units. -Freight trains can only be built in cities with industrial improvements. -The Allies get additional freight trains when they safely transfer a convoy across the Atlantic to a home port. -The Germans get additional freight trains in France if they maintain a sizeable garrison there (they need to keep at least 3 battle groups or depleted battle groups to earn 1 train, and they receive an additional train for every 3 additional battle groups deployed west of 227 as demarcated by a gray line). -Freight trains can only pass through rail track, urban, city, and airfield terrain

Switchyards	-Freight trains can move from the low-altitude daylight map to the night map at switchyards for no cost of movement.
Building New Cities	-It is possible to establish new airfields, but impossible to establish new urban centers. -Building a new airfield on the low altitude daylight map will simultaneously build one on the night map, and vice versa.
Naval Invasions	-We have disabled the ability to unload amphibious units by "driving" the naval unit into the ground to discharge the ground units. Instead, the ground forces must be manually activated. -This was done so that shore batteries would have a chance to react and fire on the ground units. -Any unit that is unloaded from the sea to land (as opposed to within a friendly city) will have their movement points reduced to 2. -If the Allies are thrown back into the sea within five turns of landing, they will automatically lose the game.
Firestorms	-Firestorms are a powerful mechanism whereby an attack on an urban target may automatically destroy most targets in the city. These are rare in the scenario, as they were in real life, but if they happen, they will be devastating. -Firestorms do not destroy aircraft factories because they are often nowhere near the city itself. -Firestorms are prevented by the presence of the firefighters improvement. -Destroying a day target has a 50% chance to kill the firefighters improvement. -Destroying an urban target guarantees that the firefighters improvement will be removed. -There is a 2% chance a firestorm will start each time an urban target is destroyed. -There can be at most 2 clouds within 3 squares of a city (on both the high alt and night maps) for a fire to start. Assume cloud cover means humidity or rain, neither of which is conducive to starting massive fires. -If the Allies start a firestorm in occupied Europe, the Germans gain 200 points.
The Resistance and German Covert Ops	-The Resistance (as well as German secret agents) is abstractly modelled in a few ways. -As discussed above, Germany receives free freight trains so long as they maintain enough ground forces west of the gray line at longitude 227. Failure to sustain this means the Resistance can run rampant and you won't receive as many trains. -There is a chance that the Resistance and German covert ops will sabotage industrial targets and railyards in cities that don't maintain the firefighters improvement. -There is a 5% chance per turn that an improvement will burn down in occupied Europe if the city lacks firefighters. -There is a 2% chance per turn that an improvement in England or Germany proper will burn down if the city lacks firefighters.
Military Rail	-Some ground units (such as flak and battle groups) can strategically redeploy between cities with a railyard. -When a ground unit is in a city that contains a railyard, pressing "u" will bring up a box with several destination cities, and a corresponding fuel cost for sending the unit there. -As with airlifts in the base game, only one unit may transport to or from a city with a railyard each turn.
The Battle of the Atlantic	-Every 1-3 turns, the Allies receive convoy units somewhere in the "convoy route" boxes on the western edge of the map. -The frequency of these convoys depends on how many military ports the Germans possess. The less ports the Germans own, the more frequently Allied convoys will arrive. - Convoys should be brought to friendly home ports. Once inside, press "k" to unload their freight train cargo and receive a 300-fuel bonus. -The Allies earn an additional 300-fuel bonus for every refinery that city possesses. -Convoys are a slow-moving unit with a high defensive value and nominal attack rating. -The German should attempt to sink these convoys with their U-boat "wolfpacks" and aircraft. -To balance the scenario, if a wolf pack is killed in combat, it has a chance to respawn in a random German port. If one of the Atlantic French ports is available, it will spawn there. If no, it will spawn in a port in Germany. The respawn chance is increased with the number of German military ports and decreases with the number of Allied military ports.

	-Further, while active, the Blohm & Voss U-Boot Werke in Hamburg will create 1x U-Boat per turn in Hamburg any turn where Germany has less than 3 U-Boats and allows U-Boats to deploy to random squares in the Atlantic from military ports. -Each side also receives a special naval bomber. The German Fw200 Condor and the Allied Sunderland are meant to range far and wide throughout the oceans looking for prey. The Sunderland will also defensively react against wolfpacks, so it should end its turn near convoys when possible.

6. Victory Conditions

The Allied Powers are the protagonists of this scenario. To win, they must invade continental Europe and liberate most of its cities from the yoke of Nazi oppression. They start the game with 20 objectives and require 58 to achieve a decisive victory, so they need to capture 38 cities in 125 turns. This wouldn't be so bad if not for the fact that they start the game with only one small army (a "battle group"), and no way to build more. While they can't build more armies, the Allies do have a chance to earn up to six additional battle groups via events if they prosecute the air war timely and effectively, as they'll be awarded these units after they secure a number of points during a set period of time.

The Allies accumulate points according to the following schedule:

- 2 points for every convoy safely brought to an English port.
- .5 points for every German aircraft destroyed.
- 2.5 points for every German port or railyard destroyed, regardless of where it is located.
- 7.5 points for every German industrial unit or urban target destroyed.
- 7.5 points for every German urban target destroyed *inside Germany or Austria*. The Allies **lose** 2 points for any urban target destroyed in occupied Europe, though sometimes it might be necessary to strike these.

The Allies reap several benefits from successfully scoring points:

Allied Score	Benefit
74	8th Air Force reinforcements
106	RAF Bomber Command Reinforcements
154	8th Air Force reinforcements
206	RAF Bomber Command Reinforcements
224	8th Air Force reinforcements
225	New Army Group (if earned by turn 25)
240	The Italian Theatre opens – allows creation of 15th Air Force Bombers
300	New Naval Task Force (if earned by turn 30)
304	8th Air Force reinforcements
306	RAF Bomber Command Reinforcements
374	8th Air Force reinforcements
400	15th Air Force reinforcements (if earned by turn 40)
406	RAF Bomber Command reinforcements
450	New Army Group (if earned by turn 50)
454	8th Air Force reinforcements
506	RAF Bomber Command Reinforcements
524	8th Air Force reinforcements
599	New Naval Task Force (if earned by turn 60)
610	15th Air Force reinforcements (if earned by turn 60)
675	New Army Group (if earned by turn 72)
810	15th Air Force reinforcements (if earned by turn 80)
899	New Naval Task Force (if earned by turn 90)
900	New Army Group (if earned by turn 95)
1100	15th Air Force reinforcements (if earned by turn 100)
1125	New Army Group (if earned by turn 117)
1199	New Naval Task Force (if earned by turn 120)
1210	15th Air Force reinforcements (if earned by turn 120)
1500	Russian Front opens up (assuming Allies have captured 8 cities with 1 in Germany)

The Germans must attempt to thwart Allied plans. They need only prevent the Allies from capturing any cities to score a marginal victory and can choose to invade England directly to achieve a decisive victory.

The Germans also earn points which unlock certain units or benefits. The Germans, however, have two points scales:

The Germans accumulate points towards their score according to this schedule:

- 15 points for each convoy they sink.
- 15 points for each urban target they destroy.
- .25 points for each Allied heavy bomber destroyed.

German Score	Benefit
151	New Army Group
301	New Army Group
401	New Naval Task Force
451	New Army Group
601	New Army Group
751	New Army Group
801	New Naval Task Force
901	New Army Group
1051	New Army Group
1201	New Naval Task Force
1301	New Army Group

Experten Points – Germany earns points towards powerful *Experten* units by shooting down various Allied aircraft. Different classifications of aircraft give different points and are based on the actual points system the *Jagdflieger* used during the war to award medals:

- 1 point for the destruction of a fighter.
- 2 points for the destruction of a twin-engine bomber.
- 2 points for separating a heavy bomber (causing it to turn into a "damaged" B-17 in this scenario).
- 1 point for the final destruction of that heavy bomber.

Experten Points	Benefit
50	Egon Mayer appears
157	New *Experten* unit becomes available
200	H.W. Schnaufer appears
307	New *Experten* unit becomes available
400	Josef Priller appears
457	New *Experten* unit becomes available
507	New *Experten* unit becomes available
600	Herman Graff appears
657	New *Experten* unit becomes available
707	New *Experten* unit becomes available
800	Adolf Galland appears (if Germany has researched jet fighters)
857	New *Experten* unit becomes available
1007	New *Experten* unit becomes available
1157	New *Experten* unit becomes available
1307	New *Experten* unit becomes available

7. Strategic Bombing

At its core, *Over the Reich* is a scenario about strategic bombing. Whereas past versions of this scenario attempted to represent this in very abstract ways, Lua (and the gracious assistance of Knighttime and Prof. Garfield) allows a much more natural, familiar feel in this scenario.

You will notice on the high-altitude maps that there are certain "target" units – industries, refineries, aircraft factories, urban centers, military ports, railyards, and critical industry:

Each unit correlates to a specific improvement in a city on the low-altitude map. Destruction of the unit removes the improvement and changes local terrain from something beneficial to something useless. Rebuilding the improvement restores the unit and restores the terrain to something useful. Thus, if the Allies successfully attack an "Industry I" unit on the high-altitude map near Essen, the city of Essen will have its "Industry I" (factory) improvement removed, and a terrain tile will change from "factory" to "rubble". Should the Germans rebuild the Industry I improvement in Essen, the "Industry I" unit will repopulate, and nearby terrain will be restored to "factory".

VERY IMPORTANT: A core concept of this scenario is that both the Germans and Allies are supposed to build up their industry. You mustn't search for a suitable city to invest in with a "core Civ2" mindset, however, because most under-developed cities completely lack resources. They GAIN resources once the improvements are built, because the building of the improvements also triggers a change to the terrain, which is much more lucrative. See the table below:

Strategic Targets

Target	Equivalent	Terrain	Effect / Notes
Industry I, II, III	Factories, mfg plants, etc.	Factory (Production)	• +20 shields. • Required to build freight trains • Allies gain 7.5 points for their destruction.
Refinery I, II, III	Marketplace, banks, etc.	Refinery (Trade)	• +40 trade • Allied port cities that have refineries get a 300-fuel bonus to the fuel payout for each convoy unloaded in addition to the base 300-fuel gain. • Attacks on German refineries cost Germans 100 fuel unless they have 500 or less fuel available. • Allies gain 7.5 points for their destruction.
Aircraft Factory I, II, III	Libraries, Universities, etc.	Factory (Production)	• Not always near city. • Can build airfields local to these for production boost without relying on freight train delivery.
Urban I, II, III	Temples, Cathedrals, etc.	Urban (Food)	• +2 food, +2 shields • Each Urban improvement corresponds to an industrial improvement. Industry I can't be built unless the city also has Urban I, etc. • 2 trains can be unloaded from a convoy in a port city per turn, per urban improvement. • Allies gain 7.5 points for destroying these targets in Germany and Austria. • Allies lose 2 points for destroying these targets in Occupied Europe.

			• Germany earns 15 points for destroying these targets.
Military Port	Ports	None	• Required for unloading convoys. • Allies are penalized 100 fuel on convoy delivery if they have less than 13 ports. This 100-fuel penalty is cumulative. • The number of German military ports affects how many convoys spawn for the Allies.
Railyards	Superhighways	Rail track	• Required for strategic redeployment of units (like an airlift in the base game but has a cost and requires rail connection between both cities). • Base cost of 50 fuel with an additional 2 fuel per tile between the two railyards.
Airfields	N/A	Airfield	• The only type of city where aircraft can land. • Strafing attacks can destroy enemy aircraft on the ground, where they can't defend themselves. • Be mindful of flak defenses.
Politz Fuel Refinery	Critical Industry	N/A	• German air attacks cost half as much fuel while this critical industry is active. • Destroyed by attacking the critical industry unit near Berlin. • Can be rebuilt by building critical industry in Berlin.
Kugelfischer-Georg-Schäfer Ball Bearing Factory	Critical Industry	N/A	• Increases health of air units that don't move on previous turn and are in airfields. • Acts as "free" Urban improvement in that cities can build Industry I without the presence of any Urban improvements if this critical industry is active. • Destroyed by attacking the critical industry unit near Schweinfurt. • Can be rebuilt by building critical industry in Schweinfurt.
Blohm & Voss U-Boot Werke	Critical Industry	N/A	• Creates 1x U-Boat per turn if Germany currently possesses less than 3 U-Boats. • Destroyed by attacking the critical industry unit near Hamburg. • Can be rebuilt by building critical industry in Hamburg.
Erprobungsstelle der Luftwaffe	Critical Industry	N/A	• Grants Germany 1/10th of their current research cost per turn. • Destroyed by attacking the critical industry unit near Peenemünde. • Can be rebuilt by building critical industry in Peenemünde.
Messerschmidt Flugzeugwerke	Critical Industry	N/A	• Grants Germany 1x Me109 for each produced. • Ensures that Germany will always have at least 35% of Allied fighter strength. If the Jagdflieger falls below this threshold, they will automatically receive enough Me109s to bring them back to strength. • Destroyed by attacking the critical industry unit near Regensburg. • Can be rebuilt by building critical industry in Regensburg.

VERY IMPORTANT: Do NOT place your attacking units on any "firestorm" or "rubble" terrain that is created on the high-altitude maps after a successful bombing run. Any enemy aircraft that occupies a tile that a target unit needs to spawn to will be DELETED when the target unit attempts to spawn there (i.e., when the corresponding city rebuilds the improvement). This probably won't be an issue in 99% of the time, but it is possible to lose aircraft this way.

Tactical Targets

In addition to the strategic targets listed above, there are several ground and units that air forces can interdict, damage, and often destroy:

Target	Type	On Map	Effect / Notes
Task Forces	Naval Force	Low Alt	• Task Forces are the only way to transport ground forces. • Task Forces fire powerful munitions for softening up invasion beaches. • Destroy them to prevent your enemy from landing troops. • These units can be destroyed from the air, but can only take 3 damage per munition attack, so you're going to need a large attacking force to sink them.
Battle Groups & Depleted Battle Groups	Ground Force	Low Alt	• Enemy ground forces that capture cities. • These powerful units can sweep aside most ground targets, such as flak, but are endangered by other battle groups. • Can only be weakened by air attack, but not destroyed. • Defeated battle groups have a chance to redeploy as a depleted battle group. The Germans will reform a short distance away. • The Allies will reform a depleted battle group in Plymouth 10 turns after the loss, with a permanent convoy penalty. Every time a depleted battle group is sent to Europe to reinforce Allied losses, the Allies will receive a penalty equivalent to Germany possessing ½ of a military port. Since the number of Allied convoys is dependent on the number of functioning German ports, this is undesirable. • Two depleted battle groups plus one freight train can form a full-strength battle group. • These units cannot be used to defend an airfield – they will automatically move to the next tile over.
Convoys	Naval Force	Low Alt	• The Allies must bring these to a port in England to unload freight trains and receive a fuel bonus. • Allies receive a base of 300 fuel per convoy. This is increased by 300 fuel for every fuel refinery in the destination city. • Allies are penalized 100 fuel on convoy delivery if they have less than 13 ports. This 100-fuel penalty is cumulative. • The number of German military ports affects how many convoys spawn for the Allies. • Allied convoys are direct attack units, meaning they can "run into" a U-Boat to attack it.

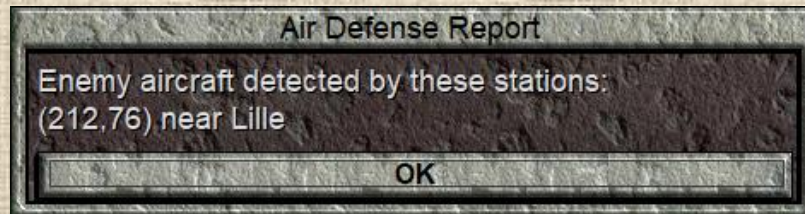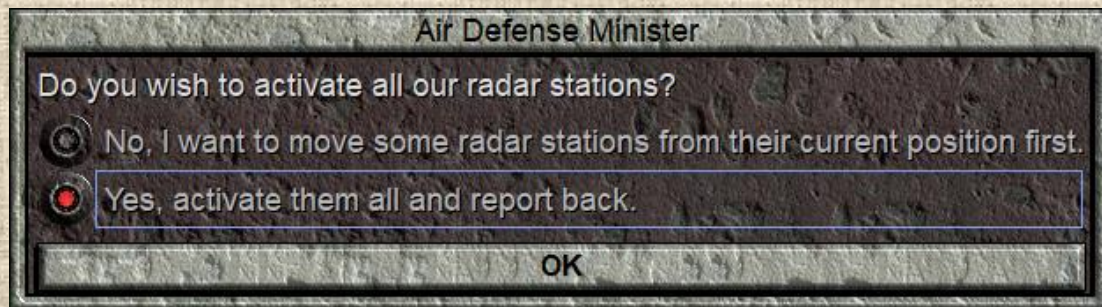| Freight Trains	Ground Industrial Unit	Low Alt & Night Map	• Can be built in cities that possess Industry I, II, or III. • Are meant to be moved into airfields, or less-developed cities to help build units and improvements. • The Germans will receive free freight trains from time to time in France. They will receive more if they have a larger portion of their battle groups in France.
Vengeance Weapons	V1 Launch Site & V2 Launch Site	Low Alt	• Destroying these will prevent Germany from launching attacks with vengeance weapons. • When an urban target in England is destroyed by a vengeance weapon, the Allies are prevented from gaining points for three turns. • The Allies can remove this malus by destroying a V1 or V2 launch site.

8. Tutorial

There is much to do in *Over the Reich*. This section will tell you what you need to do to get your feet wet, as it a suggestion for how you could approach each turn. Our hope is that this section helps to lessen the learning curve.

1. Your first step should be to press Escape. This will bring up the combat reporting system that provides useful information such as the attacks made against you during your opponent's turn, the cities captured, etc. You can also mark the locations where you've been attacked, which will display little crashed aircraft across the map. All of this helps you understand what happened during your opponent's turn so you can react accordingly.

Combat Marker -->

2. Your next step should be to check your city status to remember which cities are building radar installations and to check each one to see if the unit has been completed or not. If it has, you should move these new radar stations (if desired) before doing anything else. Remember that you can press "p" to move them 5 spaces away from a city. You want to do this first, because step 2 is going to expend all their movement.

3. Once you are certain you don't wish to move any radar installations, you should select one and press backspace. This will bring up a prompt to scan the skies with all installations at once. You should press yes, which will then bring up a dialogue box showing all "hits."

Air Defense Minister

Do you wish to activate all our radar stations?

○ No, I want to move some radar stations from their current position first.

● Yes, activate them all and report back.

OK

Air Defense Report

Enemy aircraft detected by these stations:
(212,76) near Lille

OK

Using radar will also place yellow markers on the map showing where enemies were detected:
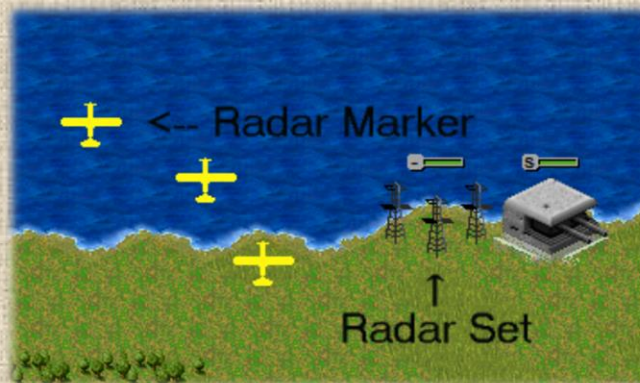
4. At this point, it is suggested that you fire your flak installations at any aircraft that are found within range. Flak is meant to damage or destroy enemy aircraft, and it is a good idea to use these units first to soften up targets for your own fighters.

- Flak can directly fire on enemy forces by pressing 'k' (for daylight attacks) or 'backspace' (for night attacks) to call up a munition unit to attack the enemy.

  NOTE: In an aim of simplifying the process and shortening turns, heavy flak (88mm Flak and the 3.7-inch Flak) will automatically fortify each turn UNLESS it is within range of enemy aircraft. Activating these heavy flak units near enemy aircraft will produce a text box advising that a raid is nearby, and on which map. Unfortunately, no text box will appear if you select a flak unit from within a city screen, though you can press 'a' to activate the flak from the map and get the trigger.

5. Once you've fired your flak batteries, you should start moving your aircraft. We suggest starting with your photo reconnaissance aircraft. The Ju-188 (PR) and Mosquito (PR) units invisible until attack and carry a camera unit (diplomat) that can be called up by pressing, "k." The only diplomat function allowed is to investigate cities, but this will allow you to determine what cities have what improvements, and where your opponent's forces are deployed so you can try to avoid them.

6. After you've used your reconnaissance aircraft, you should move your main forces as in the normal game. Bombers should be sent to attack strategic targets, and escort fighters should be placed near them, or even on the same square, to defend them from enemy attacks.

9. Air Combat

Air combat is significantly different in *Over the Reich* than in the base game, so please take the time to familiarize yourself with this section.

General Aircraft Characteristics

In addition to the above, you should be aware of the following general characteristics of your aircraft:

Escorts tend to have weaker ammo than other aircraft but can still do some damage. Their main role is to "stack" on top of weaker units to provide them with a better defense. Please note that stack kills are **ENABLED** in this scenario, so don't risk more units than you can bear to lose in any single attack! Escorts will also attempt to intercept units that attack their charges.

Interceptors can fire up to three times per turn. This allows these units to make slashing attacks – they can approach an enemy aircraft, make a "bounce" and then fly away. This enhances their chance of survival, as the opposing aircraft will need to somehow hunt them down the next turn (not so easy if they are 10-20 spaces away).

Bomber destroyers are slow and cannot move very far after they attack. Their attacks tend to be significantly more powerful than escorts or interceptors and don't trigger defensive fire from bombers, but they are very vulnerable afterwards because they can't escape after firing.

Jet fighters can attack many times per turn, or attack a few times and then land far away, making them very difficult to catch and kill (historically, most were destroyed while taking off, landing, or on the ground – also good ways to kill them in this scenario). Few aircraft can intercept jets, and radar cannot track these fast-moving aircraft.

Fighter-Bombers inhabit the low-level maps. They can load gunfire as a primary munition and powerful bombs as a secondary attack. These should be used to attack enemy flak installations that are protecting airbases, as their 1000lb bombs can do great damage to these targets.

Tactical bombers can operate at low altitude or high altitude, can drop their payload at both, and are faster than strategic bombers, but they have limited range and don't have defensive fire. They will carry more bombs when healthy than when damaged (see: "Reduced Effectiveness" below).

Strategic bombers are used to attack the different target units scattered across the maps. These aircraft are slow but will react with defensive fire when attacked (see "defensive fire" below). They can drop several bombs per turn when healthy, but only from the high-altitude daylight map, or night map.

Jet bombers can attack many times per turn, or choose to attack a few times and then withdraw a great distance away, making them very difficult to catch and kill (historically, most were destroyed while taking off, landing, or on the ground – also good ways to kill them in this scenario).

Experten are special units available to the German player that represent extremely skilled pilots. The Germans can acquire up to five: Egon Mayer, Heinz-Wolfgang Schnaufer, Josef Priller, Hermann Graf, and Adolf Galland. Only the fastest enemy aircraft can hope to intercept them, they can fire up to six times per turn, and they are very strong defensively.

Reactive Attacks

One of the most exciting concepts introduced in this scenario are reactive attacks. In the base game, a unit attempts to move into the tile of another unit to initiate combat between the two participants. As most units in this scenario have an attack factor of 0, this wouldn't work. Thus, we've implemented a system where a unit can respond and defend itself when another unit calls up ammo. We've taken the step further and let *nearby* units respond as well. Let's take the following situation for example:

On the left, we see an Allied P-47 about to make an attack run on a freight train. Note that there is an Me109 nearby. When the P-47 loads ammo by pressing 'k,' the 109 has a chance to intercept it and deal some damage. As we can see from the picture on the right, this was a successful interception. The P-47 has called up ammo (note the unit 'stack') but it also has been damaged by the 109. Numerous aircraft and flak batteries can attempt to influence combat between two other units on any given attack.

Aircraft don't need to be on the same map to intercept others. Fighter aircraft on the high-altitude map can intercept aircraft on the low-altitude map, and they even get a bonus for doing so because they are "bouncing" enemies from above. A successful diving attack will yield massive damage. This opens up some interesting tactical possibilities as you could attach some "high cover" fighter escorts to screen a low altitude bombing raid. If the enemy fails to recognize the danger, a successful bounce might leave the attackers shattered.

Strategic bombers also have reactive attacks, but in their case, it takes the form of their defensive fire. Bombers will usually have a chance to inflict some damage on most interceptors (jets and bomber destroyers are the exceptions). The damage inflicted isn't particularly strong, but if the bombers travel in large formations then numerous bombers can cover each other at once. With a reactive fire range of 2 tiles, large bomber boxes can be very difficult targets, and interceptors will need to carefully consider their targets (stragglers and those on the outskirts would be safest).

Different aircraft have different probabilities of successfully intercepting other aircraft or striking them with defensive fire. If you are interested in knowing the exact probabilities of the attacks, you can open the events.lua file included with this scenario and search for **local ds = {}**. This will take you to the top of the damage schedule section and you can then scroll down. Instructions for how to read the section are included in the events.

There are a few basics to help you jump into the game without decoding the lua file:

- Bombers are more likely to be intercepted than fighters and tend to take more damage because they are bigger targets;
- Luftwaffe heavy fighters (such as the Me110) are more likely to be intercepted than light fighters (such as the Fw190);
- More advanced, faster aircraft tend to have a better chance of successful interceptions, and their range to intercept tends to be further as well;
- Aircraft tend to be more difficult to intercept at night than at day;
- While all German aircraft can switch between the day and night maps via the Wilde Sau method (see 8.V Wilde Sau), aircraft specifically designed for night operations (such as the He219) are much more likely to successfully intercept enemy aircraft at night than day fighters pressed into nighttime roles.
- Some aircraft do better at certain altitudes. For example, the P-47 comes into its own at high altitude but struggles at low altitude and won't make nearly as many interceptions. In contrast, the early Fw190s struggle at altitude but do better down low (The 109D9 and especially Ta152 will correct this as they were designed to be better at high altitude).
- There are only four propeller aircraft in the game that have any hope to intercept jets (and even they only have about a 20% chance of doing so): The Ta152, P-51D, Red Tails, and Tempest fighters. Jets can intercept other jets if they happen to be in the air between turns, but this would be a very risky way to use these units.
- Aircraft will not react if they are on an airbase. They are considered "landed" at that time and will be highly susceptible to attack.
- Gun batteries will react to any task group that attempts to unload a battle group in the vicinity (See 8.X "Naval Invasions".

Reduced Effectiveness
New to Civ2, some bomber units can drop more bombs when their hit points are full and less bombs when damaged. For example, a fully healthy B-17G will drop three 250lb bombs per turn, but the same B-17G will only drop one bomb at 1/3 strength. This adds an interesting strategic choice for the opposing player: when faced with

overwhelming odds, should limited resources be committed to destroying all attacking bombers, or simply reducing their effectiveness by severely damaging them?

The Flying Fortress

The two variants of the B-17 "Flying Fortress" in this scenario are exceptionally difficult to kill, because destroying one replaces it with a "damaged bomber" unit in its place. This unit cannot attack but can limp home to be disbanded into a brand-new bomber the next turn. These units are so powerful because they are meant to make raids deep into German territory, often without escort.

Terrain Advantages and Disadvantages

As discussed previously, some terrain affects the defense states of units. Clouds provide a large defensive bonus while searchlights reduce defensiveness by half—worth remembering as you plot your course! Searchlights can be created by Construction Teams to force the enemy into a poor position around targets.

Slashing Attacks

Air combat has been revolutionized by the ranged-combat features available with lua. No longer must a range-2 air unit end its turn after attacking. This enables the tactical option of the slashing attack: Interceptors can attack up to three times per turn before they are reduced to one movement point. If no escorts are present, it may make sense to press home the attack against bombers to maximize the firepower you can bring against them. However, if you are in dangerous airspace, it may make more sense to attack once or twice with an interceptor and then use the remaining movement points to reposition elsewhere, as the escorts will then have to choose between chasing you down or staying with their charges.

Boom and Zoom

Aircraft that can travel between low altitude and high altitude would be well-served by considering moving between maps with their remaining movement point after attacking. This may confuse your opponent or allow you to reach better cover in the clouds. Then again, there might be a valid reason to stand your ground on the current map (such as an escort fighter drawing away attention from a weaker unit attempting to escape "on the deck").

The Bounce

As mentioned earlier, aircraft on the higher map can intercept or "bounce" aircraft on the lower map. To set up a successful bounce, you'll need some bait. Let's say you have two units in an area: an Me109 on the low-altitude map, and a Fw190 directly above it on the high-altitude map. If an enemy Typhoon comes along and attacks the Me109, the Fw190 will have a chance to "bounce" the Typhoon, causing massive damage. While this won't prevent the Typhoon from attacking, it can destroy it as well.

High Cover

As discussed in the 8.E "Reactive Attacks" above, fighters stationed on the high-altitude map can dive down to attack aircraft on the low altitude map for a powerful attack bonus. It might be worth setting up some traps in this way.

Radar Considerations

Radar of the time wasn't necessarily the most precise, and it is also prone to error in *Over the Reich*. When a radar user "sweeps" a tile containing units, a detection "error number" is calculated. Through an incredible amount of Prof. Garfield wizardry behind the scenes (search for "Radar Detectability Details" in the events.lua for an in-depth explanation), a few different outcomes are possible:

1. A radar marker could be placed on the precise tile containing the enemy aircraft;
2. A radar marker could be placed somewhere on the 3x3 diamond that surrounds the tile containing the enemy aircraft;
3. A radar marker could be placed somewhere on the 5x5 diamond that surrounds the tile containing the enemy aircraft; or
4. No radar marker could be placed at all, and a false negative could be reported.

There are several factors that govern this, but there is basically an "arms race" in the scenario between radar detection efforts and electronic counter measures. More advanced radar installations and radar-equipped night

fighter aircraft have a better chance of detecting obsolete bombers than new ones. Researching "Advanced Radar I" and "Advanced Radar II" as well as the three "Night Fighters" technologies also increases the prowess of your radar operators. If one side makes a heavier investment in radar and night fighter aircraft than the other, they will tend to have the advantage.

EXAMPLE: *If the Germans have Night Fighters I and the Allies don't, then the Germans will get a bonus to spotting Stirling bombers. The Allies can negate this bonus in one of two ways: research Night Fighters I themselves or build Halifax bombers instead.*

The Allies can also attempt to thwart German radar detection through subterfuge. After researching the "Window" technology, the Allies can build a Pathfinder unit. This special aircraft deploys aluminum foil strips by pressing "k," which then produce a radar return.

Upgrading Veteran Units

Veteran units are critical in this scenario, as they have stronger defenses and fire veteran munitions that are more likely to damage enemy aircraft. To get an idea about the importance, look at the bullet points below. I tested to see how often a single Fw190A5 could defeat a B-17F in a single pass. Here are the results:
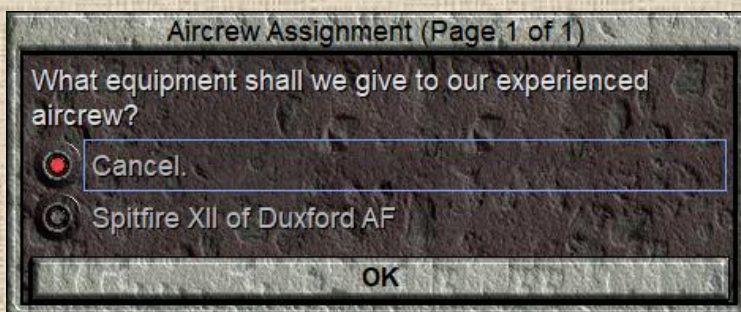
- Veteran Fw190A5 vs. green B-17F: 60% of bombers destroyed in one pass.
- Veteran Fw190A5 vs. veteran B-17F: 15% of bombers destroyed in one pass.
- Green Fw190A5 vs. green B-17F: 5% of bombers destroyed in one pass.
- Green Fw190A5 vs. veteran B-17F: 0% of bombers destroyed in one pass.

Clearly, both sides would be well-advised to preserve their veteran pilots, but we wanted to take things a step further and allow you to transfer these veteran pilots to new aircraft.

To swap out airframes for your veterans, you need to meet a few requirements:

1. You must have two models of the same general aircraft type (for example, two British fighters, or two American heavy bombers) in the same airfield.
2. Both units must have full health and movement points.

Assuming both are true, pressing "3" will cause the following text box to appear, allowing you to select the most appropriate option:

```
Aircrew Assignment (Page 1 of 1)

What equipment shall we give to our experienced
aircrew?

  ◉ Cancel.

  ◉ Spitfire XII of Duxford AF

              OK
```

NOTE: Luftwaffe heavy fighters (such as the Me110) can swap with night fighters (such as the Ju88C) but cannot swap veterans with Luftwaffe day fighters.

NOTE: While you can disband burning B-17s for some shields, remember to swap out their veteran crew to new bombers before doing so. The veteran pilots their crews contain are worth much more than the battered airframe.

Increasing Weapons Effectiveness

Aircraft get progressively better defensive stats throughout the scenario yet fire the same munitions. Their munitions' attack strength can be upgraded by researching Tactics I, II, and III. Each will increase the effectiveness of fighter aircraft munitions by +1 per technology. This effect is cumulative and necessary to continue competing with advancing airframes. Ignore these technologies at your peril.

10. Naval Combat

While *Over the Reich* predominantly focuses on the air war over Europe, there is an important naval component. Both players start with navies and it is important to realize how to use them effectively as they are critical to winning the game.

Convoy: The Allies will spawn a few convoys every 1-3 turns along the western edge of the map. They must bring these convoys successfully to a port city and press 'k' to unload their cargo. Convoys are not defenseless and can attack U-Boats, but risk damage doing so.

Task Group (A): This unit represents the main Allied battle fleet. They are the only units that can carry ground units to launch Operation Overlord, so they should be protected. More can be earned by accumulating many points quickly.

Task Group (G): This unit represents the main German battle fleet. They are the only units that can carry ground units to launch Operation Sea Lion, so they should be protected. More can be earned by accumulating many points quickly.

Wolf Pack: The Germans can build U-Boats designed to hunt down Allied shipping. These fire torpedo units and doing so will trigger the reactive attacks of any nearby Sunderland aircraft. When a Wolf Pack is destroyed, it will respawn in France or Germany.

Aircraft Carrier: These are meant to send out aircraft on search and destroy missions against other ships. Only Hurricanes, Spitfires, 109s and Ju87 Stukas can land on aircraft carriers. Aircraft will reload ordinance on aircraft carriers the following turn.

Installation Terrain & Gun Batteries

While they are technically ground units, the primary purpose of gun batteries is to defend against naval invasion as they will reactively defend against any amphibious operation within range.

Gun batteries can only fire within cities or on special "installation" terrain. You will need to use your Construction Team units to change grassland to "installations" and then place the unit on these installations to use them. Otherwise, pressing 'k' will accomplish nothing as no ammunition will fire.

11. Land Combat

While *Over the Reich* is a scenario about the air war over Europe, aircraft do not seize territory: ground forces do.

Each side has the option of invading the other, and the Allies *must* eventually launch a successful invasion to win the game, as they start with a marginal defeat due to the prior loss of the continent.

While there are several flak batteries, trains, radar installations and such, the main ground forces of *Over the Reich* are comprised of two units per side: A unit that represents a full-strength battle group, and one that represents a depleted battle group. These units are immensely powerful and can easily defeat anything except other battle groups.

To keep the game balanced and prevent the Allies from launching their invasion too early, Germany starts with significantly more battle groups than the Allies. The Allies need to invest time in bombing Germany at a brisk pace to earn more battle groups that will help them successfully invade Europe. An additional consideration made for balance is that air units cannot destroy a battle group, though they can significantly weaken them. We felt this was necessary to create the tactical choices we were striving for.

12. Strategy

<u>THE GRAND ALLIANCE</u>
The Allies have several advantages over the Germans:

1. They can choose when and where to attack, forcing Germany to spread out.
2. As Communism renamed, they needn't worry as much about unhappy citizens.
3. They can choose when and where to invade the continent.
4. They have significantly greater naval assets.
5. Their aircraft tend to cost less than German aircraft, and this disparity only increases as the game progresses; and
6. They can support significantly more aircraft per airfield than Germany and should eventually flood the skies with units.

Despite these advantages, the Allies still have their work cut out for them. The points system forces the Allies to attack targets, often strongly defended, to earn enough additional battle groups to successfully invade Europe and win. They can't afford to sit back for long and must constantly press the attack.

The Allies also start with relatively few fighter aircraft, and those that they possess have very limited range. It is impossible for early Spitfires to effectively escort bombers any further than coastal France, and the first P-47 isn't much better. Since most of the strategic targets are beyond this range, that means that the bomber formations will have to go it alone for the time being.

The Allies must also spend considerable resources protecting their supply chain. The supplies are badly needed to secure numerical superiority, and the Germans gain points by sinking freighters. Attacking Wolf Packs or their ports does nothing for Allied point progression towards D-Day but is a necessary diversion.

Finally, the Allied situation is convoluted a bit by the pure vastness of Europe. It is the quintessential target-rich environment, and the Allies will have to construct a plan to destroy it piece by piece. This is easier said than done.

The following are a few suggestions for a new Allied player, but they are by no means the only way to play:

- Consider investing in your infrastructure early. If the Battle of the Atlantic goes well, the Allies can build up their factory and refinery base relatively quickly (generally, within the first 25-30 turns). This can allow for larger and larger forces as the scenario progresses and could be a worthy investment, even if it means forgoing an early battle group reinforcement.

- Consider building up your western ports with urban areas and fuel refineries so that they can accommodate more freighters each turn and enjoy a larger fuel bonus.

- Try to use diversion strikes against multiple targets to hide your main attack. At the start of the scenario, the Luftwaffe is large. When concentrated, the Luftwaffe can ravage your bomber streams.

- Don't forget the importance of railway choke points. Use your photo reconnaissance aircraft to identify patterns in enemy train movement and plan a few missions to shut down these routes. Also, bear in mind that one cannot strategically redeploy forces along a damaged rail line. There are a few stations that are more valuable than others in this respect.

- Don't feel as though you must maximize science – you could probably keep up with the Germans' technological pace if you wanted to, but it may make more sense to prioritize fuel after a certain point to deploy vast air fleets. While the Allies can build jets, it's questionable how useful they are to Allied strategy.

- Remember that while bomber losses can be distressing, the only way to access your best escort fighters is to take significant losses over Germany. Thus, you're working towards to aims with every long-range attack: (1) the destruction of German war industry; and (2) obtaining the P-51 Mustangs that will eventually drive the Luftwaffe from the skies.

THE GERMANS

There are several advantages that the German player can exploit:

1. The Germans choose which cities to develop further and can prioritize their critical industries far from Allied bases.
2. Allied bombers only get to drop their payload once but can be attacked numerous times by German fighters on the way to and from targets.
3. The Germans can transfer aircraft between night and day operations once *Wilde Sau* has been researched. This allows them greater flexibility as they can reinforce the various maps more easily than the Allies.
4. Only the Germans have access *Jagdfliegerschule* (Airports), so they can train veteran pilots (and fully repair damaged units). This is balanced in that these schools are prohibitively expensive, but one or two schools placed near a steady supply of freight trains can produce a formidable air force.
5. Jet fighters are infinitely more useful for the defender than the attacker, and these powerful units are quite capable of inflicting massive casualties on Allied bomber streams.
6. The German wolf packs can outnumber Allied convoys, if the Germans commit to this strategy.
7. Because they have the Republic form of government and more cities than the Allies, Germany can generally stay ahead technologically.

As the defenders, Germany need only maintain the status quo to succeed, but this is easier said than done. They face a critical fuel shortage early in the scenario and although this can be addressed in a few different ways, they're unlikely to ever have enough fuel available to do everything they want.

The biggest tactical issue that Germany faces is concentrating its forces in the right place at the right time. When this is accomplished, the results can be incredible – the Luftwaffe is quite powerful at the start of the game and can remain so throughout much of it. Unfortunately, it is likely that the Allies will eventually have so many aircraft available that they can simply swamp the Germans.

A few general hints and suggestions are as follows:

- You must alleviate the fuel crisis immediately. With a very small starting surplus, you can only afford to make a few attacks per turn.

- Remember that aircraft in airfields are very susceptible to strafing attacks. You would be wise to employ a "hub and spoke" model for your airfields where the main hubs are heavily defended by flak artillery, and aircraft move from spoke to spoke frequently to prevent heavy losses.

- Anti-aircraft artillery can be a cost-effective means of defending your industry. Unlike aircraft, no fuel is expended when they attack. They are also very useful for defending your airfields, though they are not impervious to attack.

- Remember that interceptors can make reactive attacks. If you know a raid is coming towards a city, it may be advantageous to leave a few interceptors within a few tiles of the likely targets to surprise the first bombers.

- Don't ignore the power of bomber destroyers like the Me110 and Me410. While they are slow, they will not trigger defensive fire from large bomber formations. Use them to take out a few bombers at the start of a battle so your other interceptors don't have as many firing at them in self-defense.

- Likewise, your *Experten* are extremely important units, especially in the early to mid-game. As they don't draw defensive fire from most units, they can be used to attack enemy bombers or even fighters with impunity.

- Although it is tempting to focus exclusively on fighter aircraft, bombing key British cities, such as certain ports, can have a large influence on events.

- Consider a mobile reserve near likely Allied landing grounds to throw the invasion into the sea to win the war.

13. Credits and Acknowledgements

This scenario took several years and three incarnations to build and publish. It would not have been possible without the tireless efforts of several people over the years.

First and foremost, this scenario is what it is because Prof. Garfield agreed to jump on the team. Several of the ideas in this scenario were his, and the overwhelming majority were brought to life by his tireless efforts. If it wasn't for him, this scenario would be a mere shadow of itself.

Several other amazing coders also contributed to this scenario. Knighttime graciously stepped up and agreed to develop the strategic bombing mechanism that is the very core of this scenario. It works flawlessly and turns what was once a clunky mechanism requiring multiple cigs into one that is easy and intuitive to play.

Grishnach first developed the ranged attack or 'k units' in Caesar's Gallic Wars, as well as some other concepts that have been implemented in this scenario as well.

TheNamelessOne is owed a heap of thanks for developing the Test of Time Patch Project in the first place, and for having the considerable vision to include lua events. I will admit that I had my doubts with lua at first, but after having built a few scenarios with it I am blown away by its possibilities and saddened that it did not appear earlier when the community was larger. I hope the old guard will all take a stab at completing at least one scenario utilizing it.

Much of the art in this scenario was made by Fairline, Tanelorn, Catfish, Captain Nemo, Curt Sibling, Insurgent, and others. Some units were drawn, or at least reskinned, specifically for this scenario. My hat is off to the artists – you have kept this game alive for much longer than it ever would have lasted without your amazing, beautiful creations inspiring designers to build new scenarios.

Unfortunately, city and improvement art doesn't include an author's signature so it is challenging to know who developed it, but I took all of it from other World War II scenarios out there such as the excellent Fortress Europe by McMonkey and Operation Sea Lion by Techumseh, to name a few.

Many of the descriptions in the civilopedia came from Wikipedia.

Credit for the style of this readme, and the entire installation instructions (which I lifted word for word) belongs to Tootall.

Thank you to Civinator for being this scenario's biggest fan for the better part of a decade. He consistently offered feedback, suggestions, and support, and I'm glad I was finally able to publish this for him.

There were many scenarios that offered some inspiration, but the first was naturally Captain Nemo's unfinished The Blitz, which depicted the Battle of Britain. Someday, perhaps, I will take the lessons learned in Over the Reich and try to revisit the summer of 1940 as a tribute.

I must also thank McMonkey, the poor soul who had to suffer through three versions' worth of playtests. He offered candid and needed feedback. Sometimes it was rough, but if he didn't do that, I would have published subpar work years ago. He deserves credit for being the best type of playtester: an honest one.

Finally, thank you to everyone who downloads and plays his scenario, keeping Civ2 alive!

Appendix A: Fuel and Ammo Chart

Unit	Role	MP / Range	Def	Primary ("K")	Cost	Secondary ("Backspace")	Cost
Fw200	Convoy Attack	60 / 4	6	1x 250lb	20		
Me109G6	Escort	20 / 4	8	2x light	5		
Me109G14	Escort	22 / 4	9	2x light	5		
Me109K4	Escort	24 / 4	10	2x light	5		
Fw190A5	Interceptor	30 / 4	6	3x med	5		
Fw190A8	Interceptor	32 / 4	5	3x heavy	5	1x A2A Rocket	5
Fw190D9	Interceptor	34 / 4	7	3x med	5		
Ta152	Interceptor	40 / 4	9	3x med	5		
Me110	Bomber Destroyer	16 / 6	6	1x A2AR	10		
Me410	Bomber Destroyer	18 / 6	7	1x A2AR	10		
Ju88C	Night Fighter	22/ 8	6	2x med	10	1xA2A Rocket	10
Ju88G	Night Fighter	24/ 8	7	2x med	10	1xA2A Rocket Radar at Night	10
He219	Night Fighter	28 / 8	8	2x med	10	1xA2A Rocket Radar at Night	10
He162	Jet Fighter	50 / 2	2	10x jet	25		
Me163	Rocket Fighter	20 / 1	2	10x jet	40		
Me262	Jet Fighter	80 / 2	2	10x jet	50	1x A2A Rocket	50
Ju87G	Close Air Support	15 / 4	2	1x 1000lb	5		
Fw190F	Close Air Support	20 / 4	8	2x med	5	1x 1000lb	5
Do335	Close Air Support	25 / 4	7	2x med	5	2x 1000lb	5
He111	Strategic Bomber	18 / 10	6	2x250lb*	10		
Do217	Strategic Bomber	20 / 12	7	2x250lb*	10		
He277	Strategic Bomber	23 / 12	8	3x500lb*	20		
Arado234	Jet Bomber	60 / 2	2	3x500lb	50		
Go229	Jet Bomber	127 / 2	2	3x1000lb	50		
Ju188	Photo Recon	80 / 4	5	2x camera	10		
Spitfire IX	Escort	20 / 4	7	2x heavy	5		
Spitfire XII	Escort	22 / 4	8	2x heavy	5		
Spitfire XIV	Escort	24 / 4	9	2x heavy	5		
Hurricane IV	Close Air Support	15 / 4	5	2xmed	5	1x500lb	5
Typhoon	Close Air Support	20 / 4	7	2x med	5	1x 1000lb	5
Tempest	Close Air Support	25 / 4	9	2x med	5	2x 1000lb	5
Meteor	Jet Fighter	80 / 2	2	10x jet	50		
Beaufighter	Night Fighter	22 / 6	6	2x med	10		
Mosquito NF Mk II	Night Fighter	30 / 8	7	2x med	10	4x Radar	0
Mosquito NF Mk XIII	Night Fighter	36 / 8	8	2x med	10	4x Radar	0
P-47D11	Escort	24 / 4	8	2x light	5	1x250lb	5
P-47D25	Fighter Bomber	28 / 4	9	2x light	5	1x 500lb	5
P-47D40	Fighter Bomber	30 / 4	10	2x light	5	2x 500lb	5
P-38H	Interceptor	30 / 4	6	3x med	10		
P-38J	Interceptor	34 / 4	7	3x med	10		
P-38L	Interceptor	38 / 4	8	3x med	10		
P-51B	Escort	40 / 6	11	2x light	5		
P-51D	Escort	40 / 8	12	2x light	5		
P-80	Jet Fighter	80 / 2	2	10x heavy	50		
Stirling	Strategic Bomber	20 / 10	6	2x 250lb*	20		
Halifax	Strategic Bomber	22 / 12	7	3x 250lb*	20		
Lancaster	Strategic Bomber	25 / 12	8	3x 500lb*	20		
Pathfinder	Diversion	26 / 12	8	7x Chaff	0		
A-20	Tactical Bomber	35 / 2	5	2x 250lb*	10		
B-26	Tactical Bomber	40 / 2	6	2x 250lb*	10		
A-26	Tactical Bomber	45 / 2	7	3x 250lb*	10		

B-17F	Strategic Bomber	20 / 12	7	2x 250lb*	20			
B-24J	Strategic Bomber	24 / 12	6	2x 500lb*	20			
B-17G	Strategic Bomber	22 / 12	8	3x 250lb*	20			
Sunderland	Anti-Shipping	60 / 4	4	1x 250lb	10			
332nd FG	Escort	26 / 4	13	2x light	5			
15th AF Bombers	Strategic Bomber	24 / 6	5	3x 250lb*	20			
Yak-3	Escort	16 / 4	9	2x med	5			
Il-2	Close Air Support	16 / 4	8	2x1000lb	5			
Mosquito (PR)	Photo Recon	80 / 4	5	2x camera	10			

When fully healthy. If damaged, less bombs will be dropped, but the unit can always drop at least 1.

Appendix B: Reactive Attack Chart

Unit	Max Attacks	Range	Notes
Fw190A5	1	2	Poor at high altitude. Better at intercepting bombers.
Fw190A8	2	1	Poor at high altitude. Better at intercepting bombers.
Fw190D9	1	3	Good at high altitude and low altitude.
Ta152	2	3	Good at high altitude and low altitude. Can intercept jets.
Ju88C	1	1	Better at night.
Ju88G	2	1	Better at night.
He219	2	2	Better at night.
Me109G6	2	1	Better at intercepting fighters.
Me109G14	2	2	Better at intercepting fighters.
Me109K4	2	3	Better at intercepting fighters.
He162	1	4	Can intercept jets. Very good bomber interceptor.
Me262	2	5	Can intercept jets. Very good bomber interceptor.
Experten	3	4	Can intercept jets.
He111	1	1	
Do217	1	2	
He277	2	2	
Spitfire IX	2	1	Better at low altitude.
Spitfire XII	2	2	Better at low altitude.
Spitfire XIV	2	3	Improved high altitude performance.
Hurricane IV	1	1	
Typhoon	1	2	
Tempest	1	3	Can intercept jets.
Beaufighter	1	1	
Mosquito II	2	1	
Mosquito XIII	2	2	
P-47D11	2	1	Better at high altitude. Strong diving attack.
P-47D25	2	2	Better at high altitude. Strong diving attack.
P-47D40	2	3	Better at high altitude. Strong diving attack.
P-38H	1	1	Better at high altitude. Poor diving attack.
P-38J	1	2	Better at high altitude. Poor diving attack.

P38L	1	3	Better at high altitude. Improved diving attack.
P-51B	2	3	
P-51D	2	4	Can intercept jets.
332nd Fighter Group	3	4	Can intercept jets. Very good against bomber destroyers.
Yak-3	1	1	
P-80	2	5	Can intercept jets.
Meteor	2	5	Can intercept jets.
B-17F	2	2	Only returns fire at high altitude. Can't attack bomber destroyers or jets.
B-17G	2	3	Only returns fire at high altitude. Can't attack bomber destroyers or jets.
B-24J	1	1	Only returns fire at high altitude. Can't attack bomber destroyers or jets.
Stirling	1	1	Can't attack bomber destroyers or jets.
Halifax	1	2	Can't attack bomber destroyers or jets.
Lancaster	2	2	Can't attack bomber destroyers or jets.
88mm Flak Battery	4	2	
Allied Flak	4	2	
Flak Train	2	2	
Sdkfz 7/2	2	2	Low map only
3.7cm Flak	1	2	Low map and night map
40mm Bofors	1	2	Low map and night map
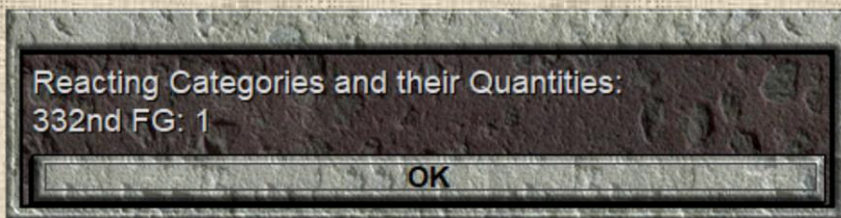
Screenshot showing the pop-up box for a reaction. Note, this does not necessarily mean that the reaction was successful, just that an aircraft attempted an interception.

Appendix C: Key Technologies

Technology	Notes
Advanced Radar I	-Increases effectiveness of radar.
Advanced Radar II	-Increases effectiveness of radar.
Advanced Radar III	-Increases likelihood of flak and night fighters reacting to targets in clouds
Night Fighters I	-Increases effectiveness of radar.
Night Fighters II	-Increases effectiveness of radar.
Night Fighters III	-Increases effectiveness of radar.
Foggia Airfields	-Opens Italian Theatre. Given when Allies accumulate 250 points. -Allows construction of 15th Air Force bombers. While they can be built in England, they will automatically be teleported to the Italian Theatre at the cost of all movement points.
Wilde Sau	-Allows German players to transfer aircraft between day and night maps by pressing "u."
Proximity Fuses	-Eliminates 50% reduction in flak reactive attack percentage when target aircraft is flying in cloud cover.
Vistula-Oder Offensive	-Opens the Russian Front. Given when Allies accumulate 1500 points, but only if they have captured at least 8 cities, 1 of which must be in Germany.
Tactics I	-Increases attack strength of fighter munitions (including air-to-air rockets) by 1. -Modifies reaction tables (if the defender has this and the attacker does not, it is less likely the defender will be intercepted).
Tactics II	-Increases attack strength of fighter munitions (including air-to-air rockets) by 1. -Modifies reaction tables (if the defender has this and the attacker does not, it is less likely the defender will be intercepted).
Tactics III	-Increases attack strength of fighter munitions (including air-to-air rockets) by 1.
Long-Range Escorts Needed	-Allows research path that leads to P-51 Mustangs. Given when Allies lose 30 bombers outside of escort range.
Political Support I	-Awards 6000 fuel units.
Political Support II	-Awards 6000 fuel units.
Political Support III	-Awards 6000 fuel units.
Political Support IV	-Awards 6000 fuel units.

Appendix D: Version History

1.0 – Initial version created for playtest with McMonkey in 2011. Not released to the public.

2.0 – Second version created for playtest with McMonkey in 2017. Not released to the public.

3.0 – "Third time's the charm…" First public release on 12/20/18. Shipped without historic missions.

4.0 – The "finished" version. Released February 8, 2020. Any additional support will be for minor bug fixes.