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My First Full Mission Builder Mission – 3v3

In this introduction to the Full Mission Builder, my goal is to show you how easy it is to create your own single player missions and advance from the limitations, and to some degree frustrations, of the Quick Mission Builder. The Full Mission Builder never had any proper documentation, and while there are some good getting started guides that you can search for on the Internet, they can be hard to find and tend to address much older versions of the game or quickly dive deep into scripting which requires programming knowledge. I have no programming knowledge.

This tutorial covers eight steps in creating your own single player mission. Without further ado...

First you need to find the Full Mission Builder. It's Under Extras in the Main Menu.

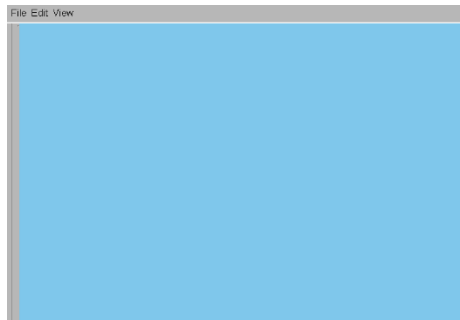


Then from the next menu choose Full Mission Builder

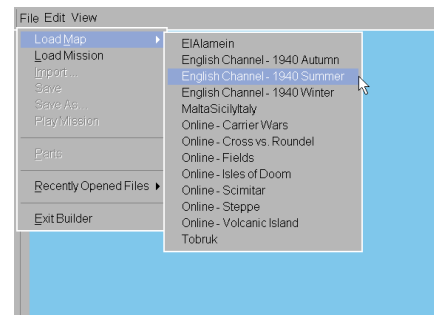


Then you will see a blank blue page like this. Think of it as a blank slate.

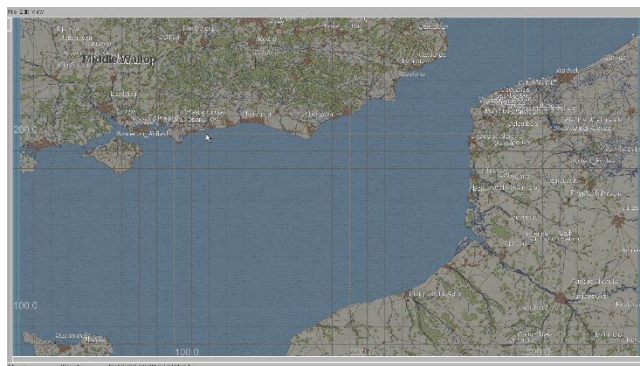
Step #1 - The Map



So next we need to load a map to fly over. We are going to choose the Summer of 1940 English Channel Map for this example.

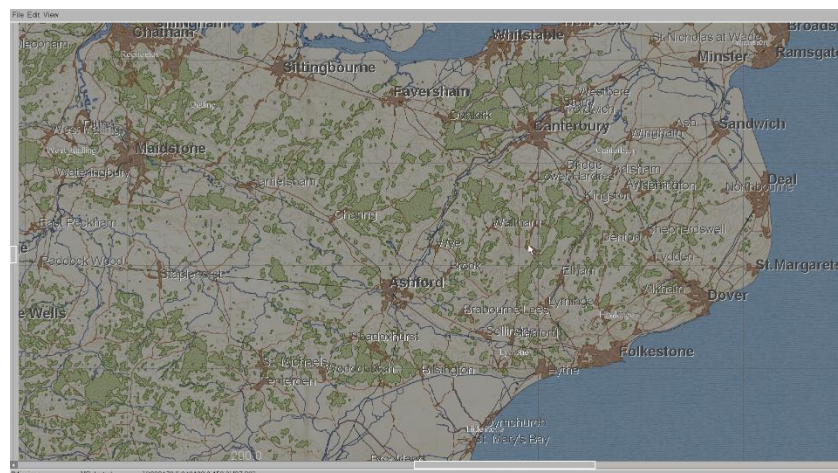


Click (note that when I write click, I mean left click. I'll be more specific if a right-click is required). on the File Menu and then Load Map and then English Channel – 1940 Summer as the menu option. If you did that right, then the screen pictured below will appear.



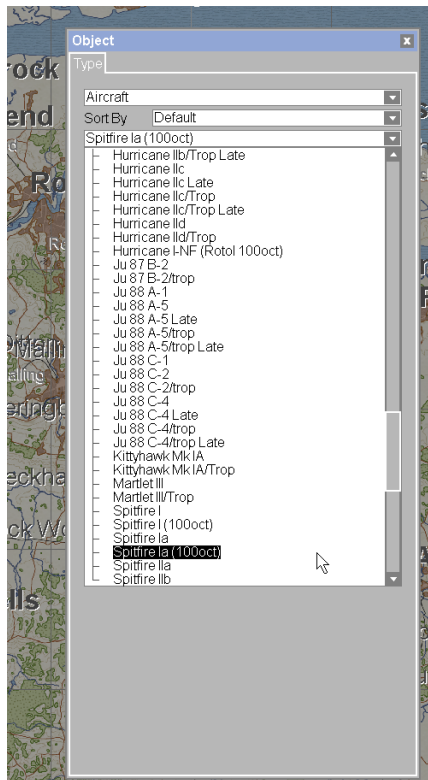
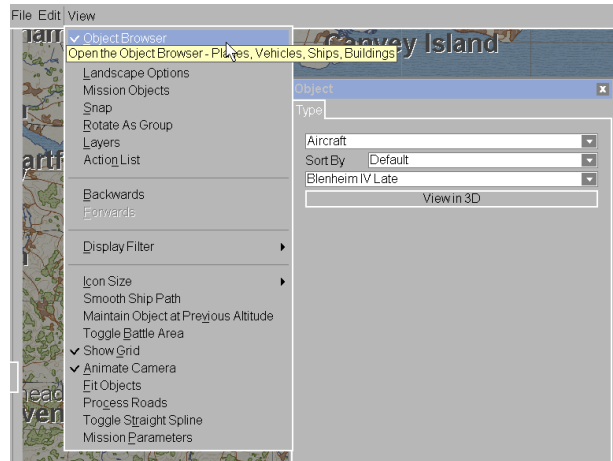
Big map. 350km x 350km. We want to have a dogfight over Kent County. A place that saw of lot of aerial action that summer. We now want to zoom in on the map and get the town of Ashford into the centre of the map. To zoom in, scroll back on your mouse wheel. If you zoom in too far, reverse your scrolling on the mouse wheel. To move the map around, hold down the left-mouse button while you drag the map (or drag the sliders at the extreme right and bottom of the map) so that Ashford looks something like this:

It's not important if your map is a little more, or less, zoomed in or not centred on Ashford. Just settle on the size of the map you like. We'll be doing a little more moving around later anyway as we find places for aircraft to land. Note that there are a few airstrips on this part of the map, including Lympne, Hawkinge, Manston and West Malling (over near Maidstone).



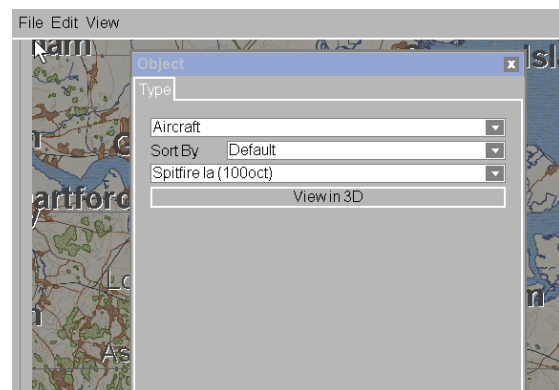
Step #2 – Add Your First Aircraft

Next step will be to place our RAF aircraft on the map and set their route (via waypoints) that the AI will fly. You are going to click the View Menu and move your cursor down to Object Browser option. Click on the text Object Browser and another pop-up menu will appear showing your first choice being aircraft. We will stick with this first Default choice (the other choices will filter the aircraft list by country).



We are going to want the Spitfire 1a (100 Octane) which was the RAF fighter of choice in July 1940 (me, I'm partial to the Hurricane for whatever reason).

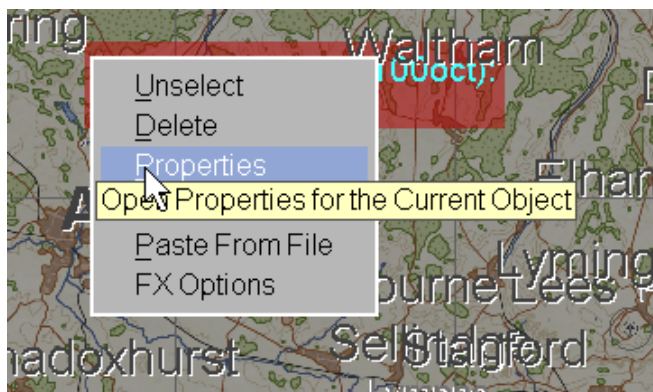
Click on the down-arrow to the right of the "Blenheim IV Late" box and it will expand to a long dropdown list with all the aircraft that fly in the game (both AI only and player flyable). Hold down the left mouse button on the scroll bar and drag it down until you see the Spitfire 1a (100 oct) aircraft and then click on that. The menu will shrink, and you should see it look like this. Want to see what a Spitfire looks like? Click on the View in 3D button and lo and behold.





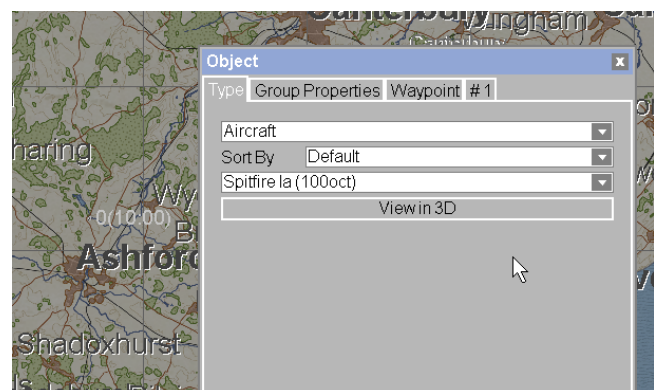
Okay, so we now have one of the 3v3 combatants selected. Now we must get it onto the map. Hold down the Left-Ctrl key and then click the mouse while your cursor is just to the north of the town of Ashford. A blinking dot should look like this. (I'm right-handed so never considered until just now that the right-Ctrl key probably also works. Huh).

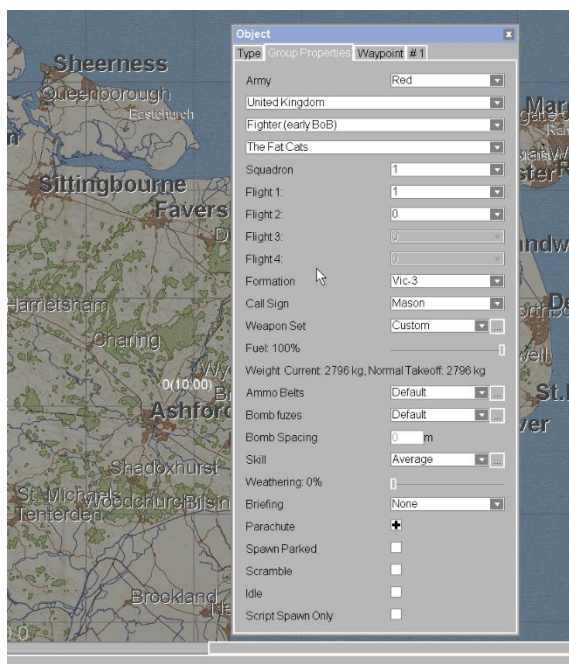
The Zero means the first waypoint "0", the (10:00) means the time of day. We will not adjust this for this mission, so don't worry what time it flashes. If you move your cursor over the dot, it should change to a cross then look like this:



Now we are going to set up some properties for your Spitfires and then send them on their way to fight and then land when the fight is over. Right-click when your cursor looks like the cross, and another pop-up menu will appear that looks like this.

Click on the word Properties, which is going to bring up another pop-up menu with four tabs across the top. The important tab for now is the Group Properties tab.

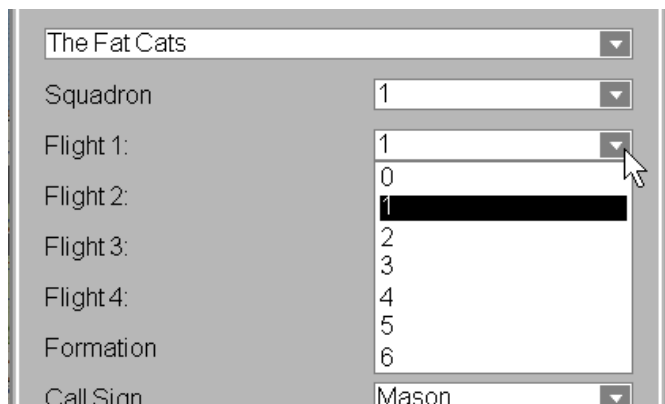
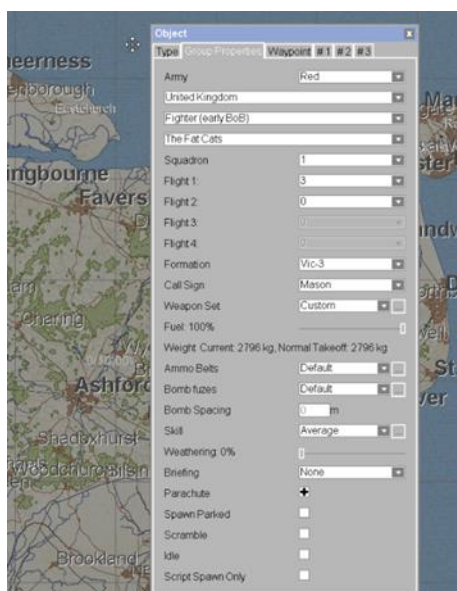




Click on the Group Properties tab and a new, possibly intimidating menu list will appear. Be strong. If it looks like it is extending down off screen, just click on and hold on the top blue menu and drag it up until you can see the whole box like this.

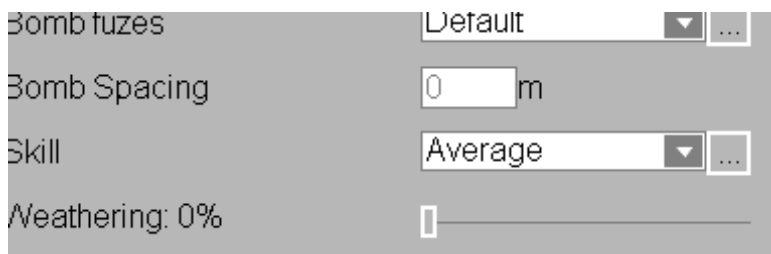
So many choices. This is what it means by Full Mission Builder.

But we are going to limit things for now. We are going to choose how many RAF aircraft will be flying, and how smart they are. So, for the number, you can see that there is a box with a dropdown arrow to the left of Flight 1. It currently says 1, and we are going to change this to 3. Click on that down arrow next to the 1 and you can then choose up to 6 aircraft, but we are going to keep this to 3 by clicking on 3.

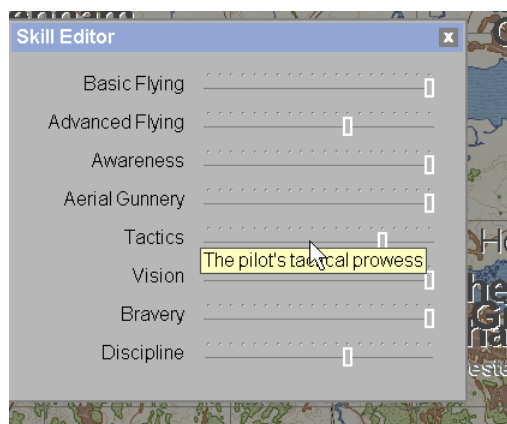
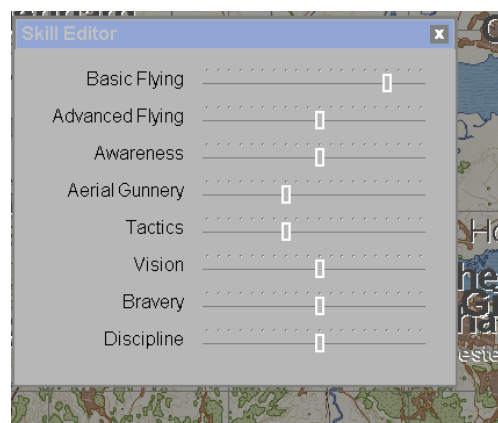


If you have done this, then your big menu should look like this. If yes, then we have three Spitfires ready to dogfight.

Next, we are going to give them some brains. This has been a controversial area, but we are going to show you how to make your opponents, and your compatriots, smarter and more aggressive, and hopefully more of a satisfying challenge. In the above menu you can see most of the way down, an option to adjust Skill. The option defaults to Average. If you click on the dropdown arrow to the right of Average, you will see other default AI Skill options. We don't want any of the defaults, we want to Customize. So, you can also see a little box with three dots to the right of the Skill dropdown box that looks like this.



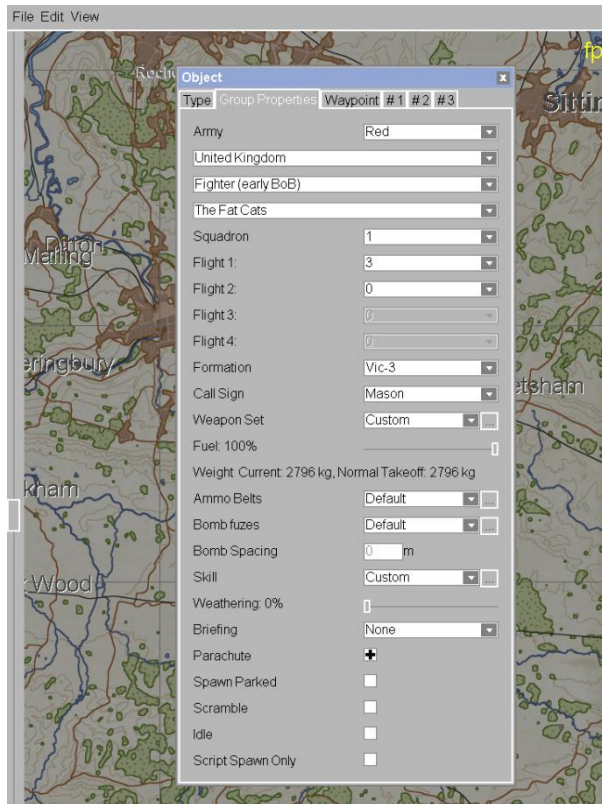
Don't be afraid, click on that box with the three dots to the right of the Skill option. If you do you will be rewarded with a whole new popup menu that looks like this. Don't be surprised if it shows up somewhere else on the screen.



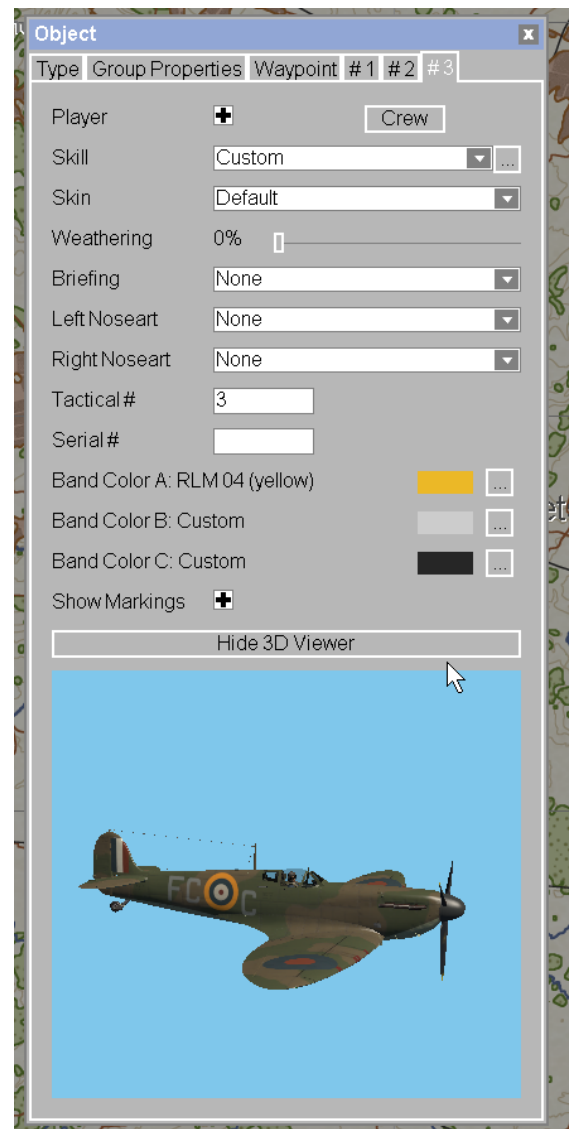
You are going to click and hold onto each of the sliders above and drag them around, so it looks like this.

The why's are for elsewhere in this manual, but eyeballing the sliders should correspond to Basic Flying = 100, Advanced Flying = 65, Awareness and Aerial Gunnery = 100, Tactics = 80, Vision and Bravery = 100, and Discipline = 65. When you are happy, click on the X=close box in the upper right of the popup menu. If you want to learn what the recommended bomber settings are then you will have to read further dear reader.

Step #3 – Assign the Player an Aircraft



You should be back at the main object menu that looks like the one on the left. We are going to assign the player to Spitfire #3, as for your first mission it might be helpful for you, the player, to be in a position to follow the AI aircraft around and see how things go. Click on the #3 Tab and a new menu will replace the Object Properties menu like the one below.



The thing to do on this new menu is the click on the empty Player box at the top so that it puts a little cross in it and makes this aircraft the Player aircraft. You can also click on the View in 3D button to see what the aircraft will look like. That's the only thing you need to do here. Well for fun, you can assign a tactical code for the player. While the numbers correspond to letters, you can also just type a letter in the Tactical# box and it will instantly appear in the little picture. There, you got an advanced lesson. Want to do those chevrons and stuff for Luftwaffe fighters, you'll have to read the advanced stuff. An incentive. Keep in mind the FC part of the code corresponds to the real life Station Flight at RAF Kenley. So once done, close the menu by clicking on the X in the upper right corner.

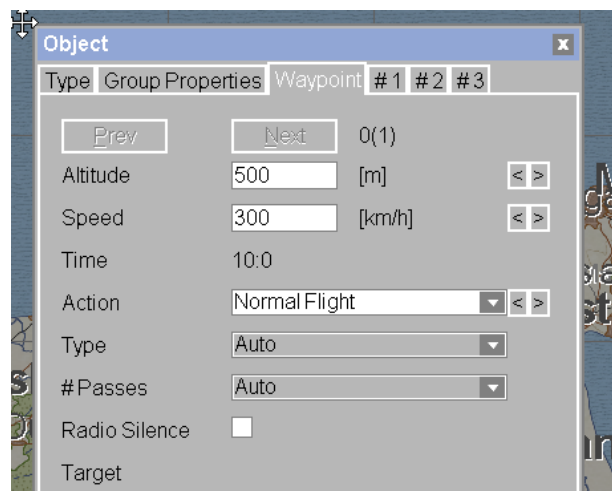
Congratulations, you have just created your first flight of aircraft. You will be doing the same to create your opponent shortly. But for now, we have something else to do. That is to tell your flight where to go and what to do. And that would be onward to Step #4.

Step #4 - Tell Them Where to Fly ... and Land

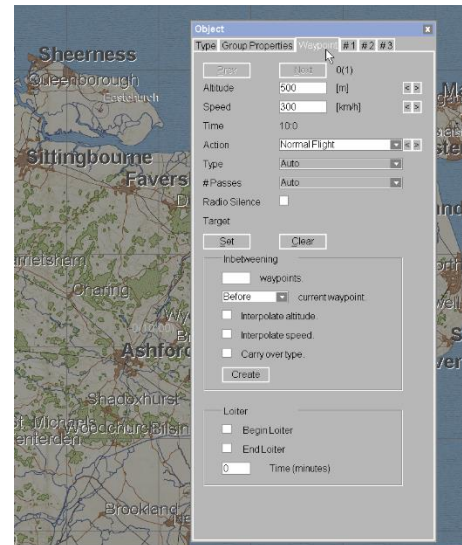
So, we should be back at something that looks like this again. We are now going to click on the Waypoint tab in the above menu. It should change to look like the right.

We are going to stick with the basic movement controls in this area below.

Pay attention to those little left/right arrows to the right of the Altitude and Speed settings. They do a neat thing which is to propagate your initial settings forward to further waypoint settings. It doesn't mean you can't change the following waypoint settings manually, but it is a shortcut that can save you from doing stupid things later. Trust me, I know.



Don't worry if you forgot to click those little arrows, we will have the opportunity to fix things if we didn't. We don't need to change the Action option. Normal Flight allows your aircraft to fly around and if they see an enemy they will attack. Think of that as normal. But your menu item should look like this.



Flying at 500 metres at 300 kph is too low and too slow. Edit the Altitude cell to say 2500, then click on that little right arrow on the same row. Then edit the Speed cell to say 400 and click that little right arrow on the same row. If you're done it correctly it should look like the below.



You now have 3 smarter aircraft in your flight flying at 2500 metres and 400 kph Indicated Air Speed (meaning the speed on your in-cockpit speedometer). Indicated Air Speed is different at different altitudes because as you get higher the air gets thinner meaning less air through your pitot tube showing slower air speed as you get higher for the same true air speed. For another day.



So where are they going? Next step, setting waypoints. Close the Object menu by clicking on that X box in the upper right corner of the popup menu.

Your screen will revert to the map, hopefully with the 0 (10:00) dot still flashing like this.

We are going to send them east toward Dover and then southwest to RAF Hawkinge near Folkestone and then land there.

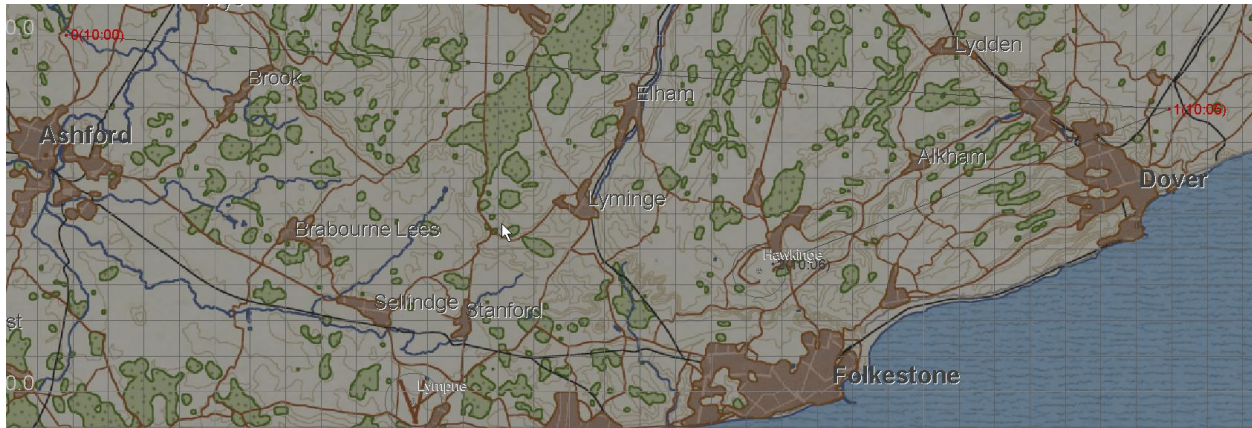
Move your cursor to just north of the town of Dover and hold down the Ctrl key and click the mouse there. If you have done this right, you will now have a new flashing dot just above Dover and a red line between the two dots. The new dot should read something like "1 (10:05)" which means our second waypoint (1 of 2... this is when we should never have invented the concept of zero) and the 10:05 means that it is estimated to take about 5 minutes to fly from Ashford to Dover at 400 kph IAS. That sounds about right.



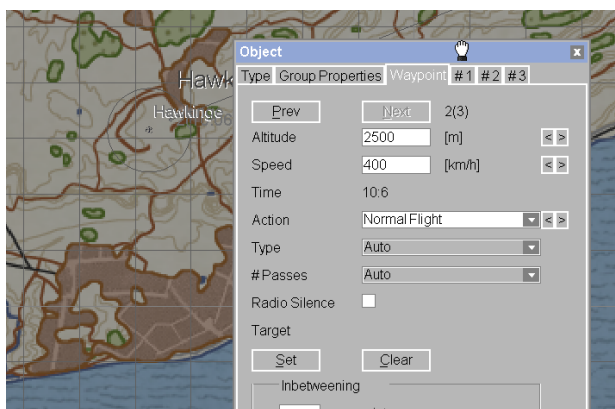
We are now going to move our mouse cursor down and to the left towards what you can see is Hawkinge to the 10 o'clock to Folkestone. If you squint, you can also see that the Hawkinge airfield is at the 8 o'clock to the H in Hawkinge and that there is also a light circle around that airfield.

You may wish to take advantage of your newly acquired map zooming and scrolling skills to get a better look at the airfield on the map. The circle is important, as it defines the area where the game AI can distinguish between the normal flight and the landing aircraft algorithms. We are now going to place our final waypoint inside this circle. Again, hold down the Ctrl key and click your mouse inside this circle. You should have a third waypoint (#2 of 3) over Hawkinge. Something like the below.

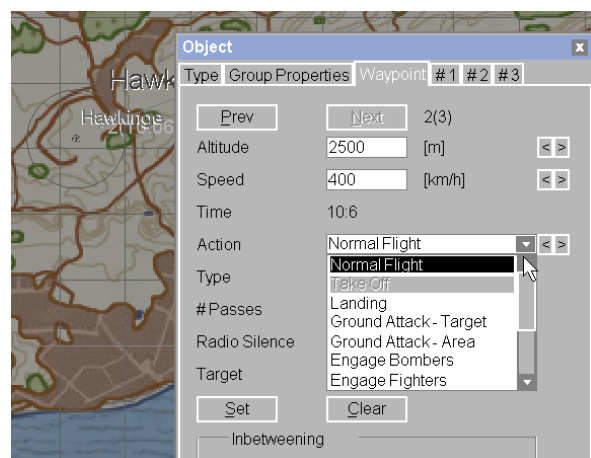




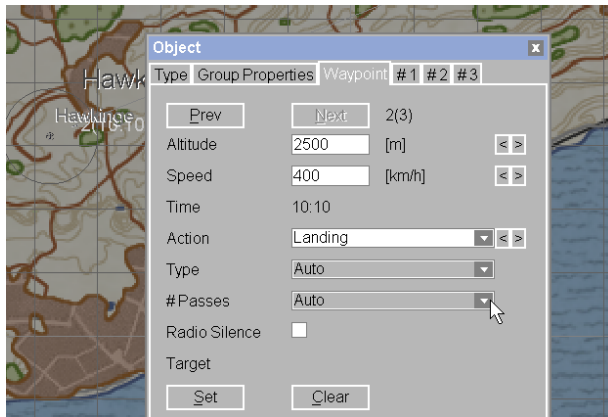
If you did your waypoint propagation right, that #2 waypoint over Hawkinge, is not a Landing waypoint, it is another Normal Flight waypoint. So now we must adjust the waypoints and check and confirm that we have indeed set the waypoints correctly. So, move your cursor over that Hawkinge waypoint and like earlier it should change and look like this with that white cross.



If it does, we can right-click on the waypoint to bring up the popup menu again and then click on Properties to bring up the big menu and it should look like this.



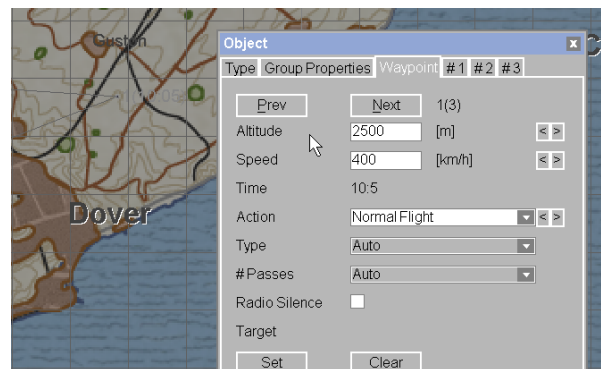
Note that we are on waypoint 2 (of 3) over Hawkinge and it indicates it is another Normal Flight waypoint. We want to click on the drop-down menu to the right of Normal Flight Action and you should see this:



Now click on the Landing option and you will have set your aircraft to land at RAF Hawkinge... once the dogfight is over, assuming they survive it. If done correctly, the menu should now look like this. For those of you who move on from this tutorial and you notice that your aircraft are endlessly circling your “airfield” well, you didn’t set it as a landing waypoint. Doh!

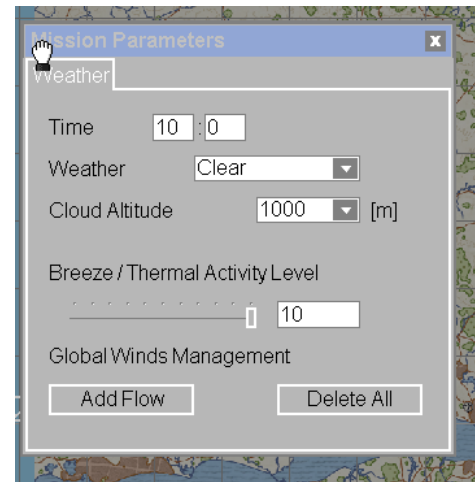
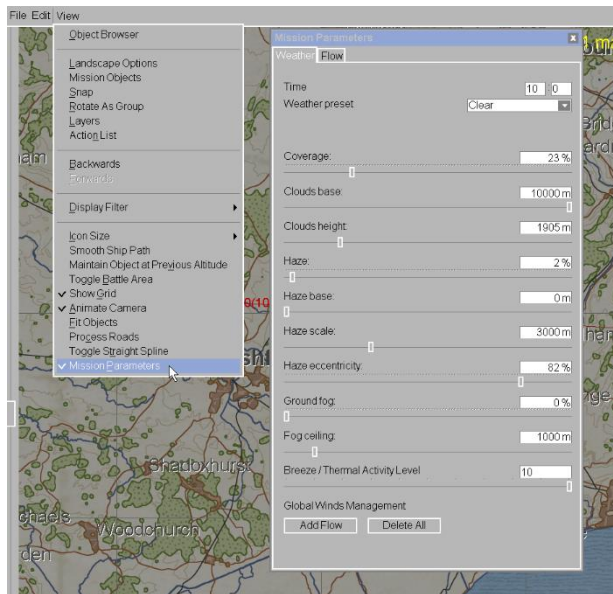
Congratulations. After a couple more short steps, you will be going back to the beginning and do a similar thing for our Luftwaffe aircraft. Before we do that, we may want to be sure that everything looks okay, click on the Prev button to move back to our Dover waypoint. It should look like this.

Note that if the map did not move from Hawkinge to Dover, it’s because Dover is sort of visible already on the map and so it doesn’t always move from one waypoint to the other. Just scroll in our out and find Dover and right click on that waypoint if it didn’t move automatically for you. Repeat for our first Ashford waypoint as it should look like the Dover waypoint. Normal Flight at 2500 metres and 400 kph.



Step #5 – Set Your Environmental Conditions

To create your environment, select Mission Parameters from the View Menu option. Click on View, then click on Mission Parameters and you should see the large popup menu below left or the one below right.

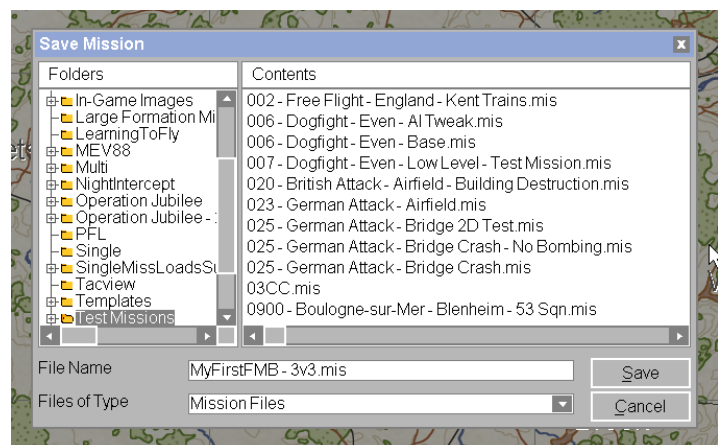


Don't worry, we are only interested in the top two Time and Weather options anyway.

You can set the time (hours and minutes) in the top boxes by typing in the desired time, hours and minutes military time. The time is GMT, so another rabbit hole to go down. Meaning Time=10.00 is really 9:00 British Summer Time, in effect throughout the Battle of Britain. Your choice but I do not recommend building your first mission and setting the time after sunset or before sunrise. Too frickin' dark, to quote Oskar from Iceland. To choose a weather preset from the defaults available click on the drop down arrow and pick one. I recommend clear weather for your first attempt. You can see that there is a host of customization options to create all kinds of weather effects, but you'll need a little more experience before tackling that. When done, close the menu by clicking on the exit X box.

Step #6 – Save Your Mission

Congratulations, you've just built a mission. Not a combat mission, more like a free flight mission. But it is certainly time to take a moment and save your progress. Like most other software I deal with, like spreadsheets, the Save options are part of the File Menu (who thought of that?). And like most other programs, the first time you create a mission, you are going to have to Save As... and when you do, you will be presented with this dialogue box:



Name your mission whatever you want. You don't need to type in the ".mis" bit, the game will do that for you. Remember where you saved the mission. Maybe write it down somewhere so that you can navigate to it from the Single Mission Menu.

The mission file will be saved in the following folder:

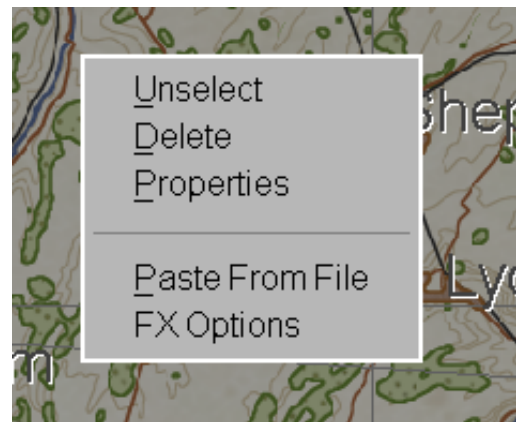
C:\Users\[username]\Documents\1C SoftClub\il-2 sturmovik cliffs of dover\missions

Step #7 – Create Your Opponent Aircraft

First thing first is to make sure that you deselect your Spitfire's from your mouse focus. You do this by right-clicking on any empty space on your map. Doing so will bring up a popup menu you have seen before. We first used it to get to the Properties of your Spitfire. This time we are going to Unselect the Spitfires as we are done working on them. If you choose to advance in mission building, you will reflexively be right clicking on empty space and Unselecting. To do otherwise is at your own peril.

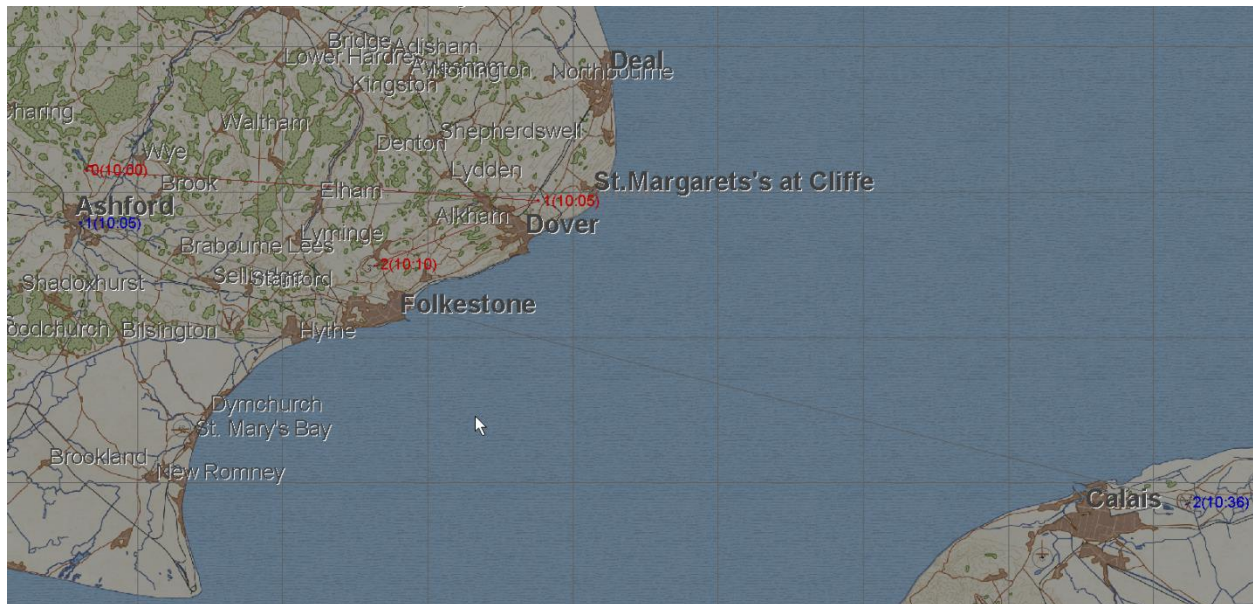
Now I'm going to send you back to Step #2 – Add First Aircraft except it is now Add Second Aircraft. Skip Step #3 unless you would prefer to fly for Blue instead of Red. Continue with Step #4. Skip #5 as it only needs to be done once and do Step #6 again.

This time around I want you to make the following changes.



1. Instead of a Spitfire, I want you to add a Bf-109 E-4. No matter how much you want to, don't pick an E-1 or E-3 type... and do not go to E-7 (it is right out, as per the Book of Armaments).
2. For Step #4 waypoints place your initial one over the town of St. Margaret's at Cliffe. Place your second waypoint right in the middle of the town of Ashford and place your final landing waypoint on the Calais-Marck airfield. Calais-Marck airfield is just east of Calais. This should test your zooming and scrolling skills a bit to find your way across the Channel. We are going to put Blue at a slight disadvantage. Set the altitude at 2300m and the airspeed at 400kph for all waypoints. Not so much of a disadvantage as the E-4 carries two 7.92mm machine guns and two 20mm cannon to the Spitfire's eight .303 pea shooters.

Your map should look something like this by the time you are done and saved.



Step #8 – Test Your Mission

Congratulations! You have now built your first air combat mission. Let's see if it works. You can choose to either fly this mission right away, or watch this mission unfold via autopilot. If you want to watch what happens first, you should optionally have the following keys mapped in your Controls menu:

General – Toggle AI Control: to place your player aircraft on autopilot.

View – Inside View: to see what your autopilot sees, and to jump back into your aircraft to take control by then un-toggling the autopilot

View – External View: to get an outside view of your aircraft

View – External View – Cycle Friendly Aircraft: to get an outside view of your squadron mates. You can cycle though for each mate, until you can't... which means... they're dead.

View – External View – Cycle Enemy Aircraft: to get an outside view of your opponent aircraft. Repeat to cycle, until you can't... which means... they're dead. Yay!

Camera – Toggle Independent Mode: to toggle being able to use your mouse to pan your view around or disable the mouse view panning

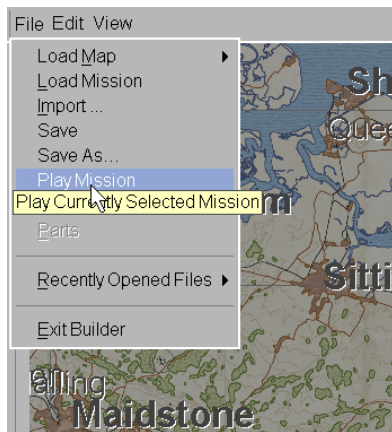
Camera – Reset View: if your mouse view has taken you on an unexpected trip

In-Game Time – Accelerate In-Game Time: should you get impatient... or bored

In-Game Time – Decelerate In-Game Time: should things be moving too fast for you

In any event...

From the File Menu click on Play Mission. You will get the Battle Intro screen without any briefing as that is for more advanced mission building. Click on Fly, and you will be in the air. Note, if you don't see the Fly button, you probably forgot to do Step #3 – Assign the Player an Aircraft. I forget to do that with some regularity. Sigh.



Fight's On!



This mission should take about 2:30 to get to the merge. Gives you some time to enjoy the view. Once at the merge, I've seen this mission last as short as 3 minutes and as long as 20 minutes, the average seems to be about 10-15 minutes. Depends who gets the best shot at the merge, and those 20mm cannon on the Me-109's can be devastating.

If you want variety, no problem. If you want to swap the aircraft out, well you don't have to build a new mission, you already know how to choose an aircraft. Add more aircraft into the mix, you know how to do that too. Change the height and speed? No problem. Try the fight at dusk or in clouds. You can do that. Just open the mission you built, make your edits and save under a different name. New mission.

To play your mission without having to go through the FMB, you should be able to find it, using the Single Player menu:

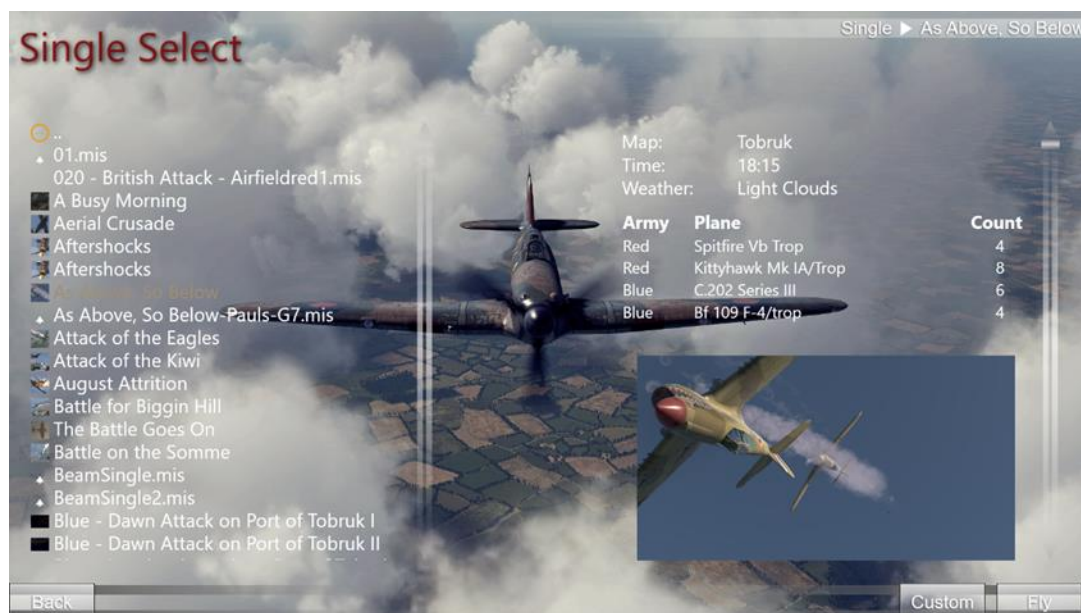


Depending on your own personal setup, you may have acquired single missions and downloaded them and installed them already under the Single Mission folder here below (note that single missions are saved under the plural Missions folder. Installed campaigns (consisting of multiple missions are saved under the singular Mission folder... go figure):

C:\Users\[username]\Documents\1C SoftClub\il-2 sturmovik cliffs of dover\missions

It is under this Missions folder that your FMB mission will have been saved. Those yellow circles to the left of subfolder names indicate that you can navigate into that subfolder by double clicking on it. Or maybe you mission is just at the bottom of your list of folders and files and you just have to scroll down.

Clicking on the desired mission will end up looking something like this:



... and you know what to do from here.

If you really want to see what can be done, then check out these currently available resources:

FMB for Dummies:

<https://forum.il2sturmovik.com/topic/65001-fmb-full-mission-builder-for-dummies/>

Yo-Yo's SP FMB guide for beginners

<https://theairtacticalassaultgroup.com/forum/showthread.php?t=34051>

As hinted in the text above, I am also working on my own version of a Full Mission Builder manual for single players. The above is Chapter #1.

ATAG_Lenny