iniBuilds

Bf 108 Taifun
MANUAL

Microsoft Flight Simulator

Preface

FOR SIMULATION USE ONLY - DESIGNED FOR SINGLE-PILOT OPERATIONS

This guide is designed to help provide a straightforward set of instructions to aid in operating the Bf-108 Taifun. It has been produced using multiple real-world Bf-108 Operator manuals from various dates, with modifications to various procedures to make them more manageable in-game.

PHOTOSENTIVE SEIZURE WARNING

A very small percentage of people may experience a seizure when exposed to certain visual images, including flashing lights or patterns that may appear in video games. Even people who have no history of seizures or epilepsy may have an undiagnosed condition that can cause these “photosensitive epileptic seizures” while playing video games.

Immediately stop playing and consult a doctor if you experience any symptoms.

These seizures may have a variety of symptoms, including light-headedness, altered vision, eye or face twitching, jerking, or shaking of arms or legs, disorientation, confusion, or momentary loss of awareness. Seizures may also cause loss of consciousness or convulsions that can lead to injury from falling down or striking nearby objects.

Parents should watch for or ask their children about the above symptoms. Children and teenagers are more likely than adults to experience these seizures.

You may reduce risk of photosensitive epileptic seizures by taking the following precautions:

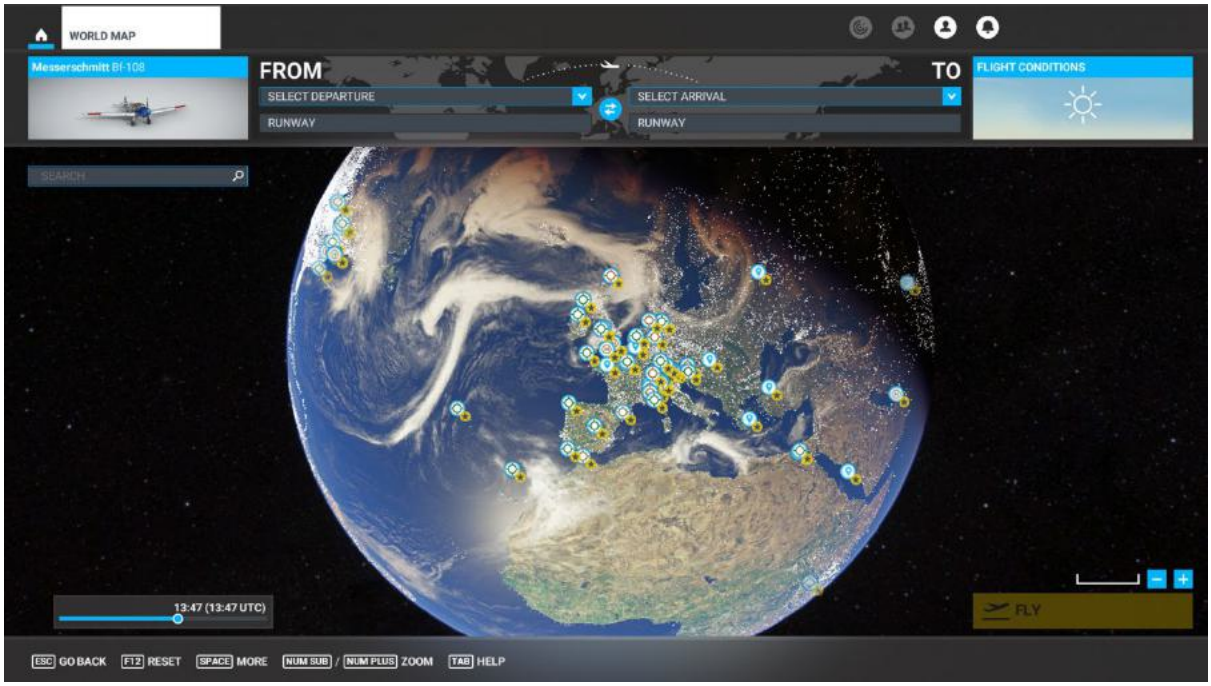
- Play in a well-lit room.
- Do not play if you are drowsy or fatigued.

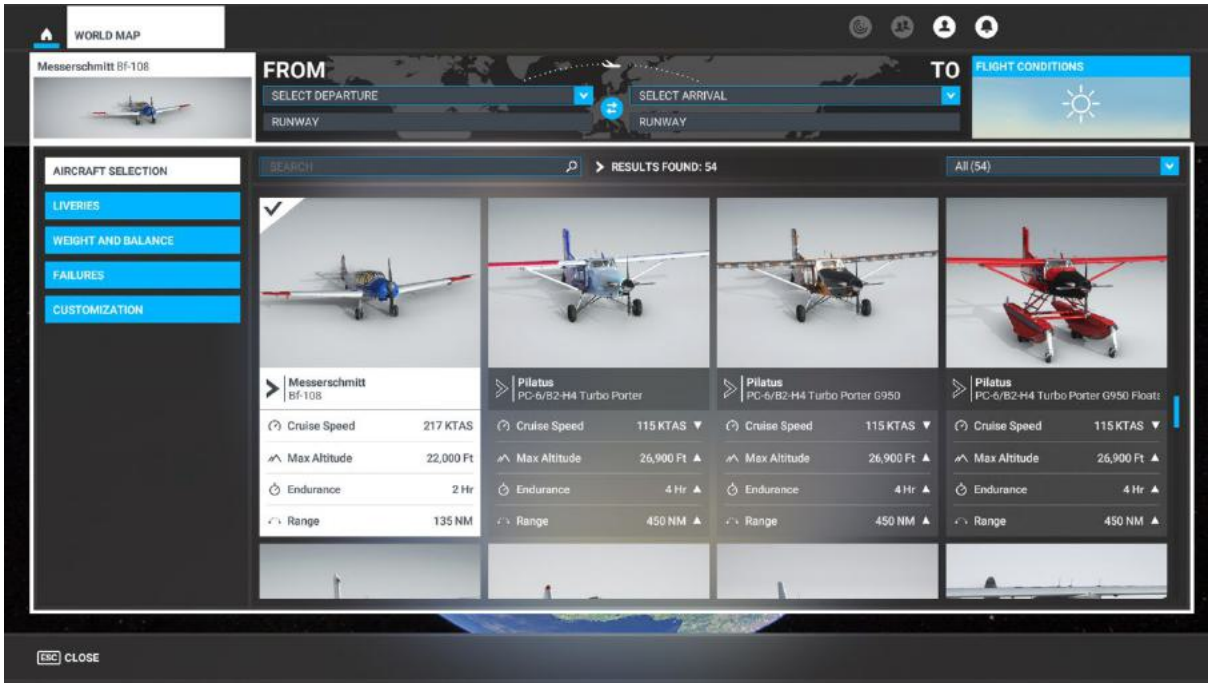
If you or any of your relatives have a history of seizures or epilepsy, consult a doctor before playing video games.

Aircraft Selection and Liveries

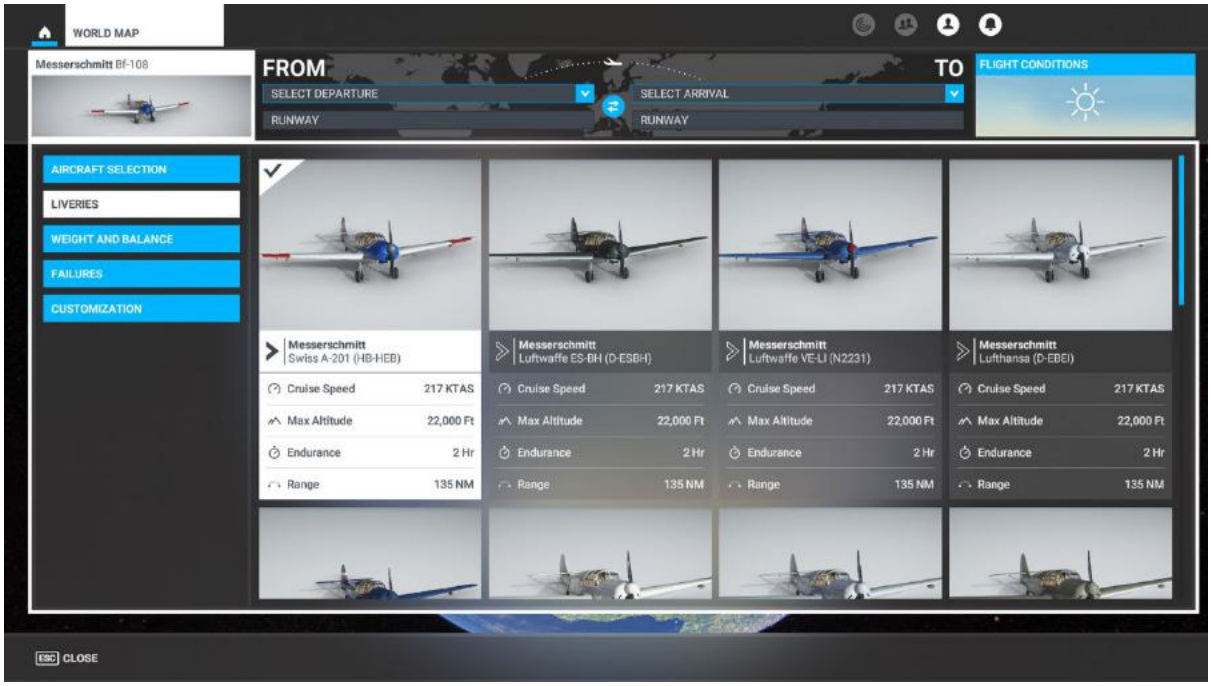
To fly the Messerschmitt Bf-108 Taifun, you need to select it from the Aircraft Selection menu. Click on World Map from the Main Menu and click the Aircraft selection icon in the top left.

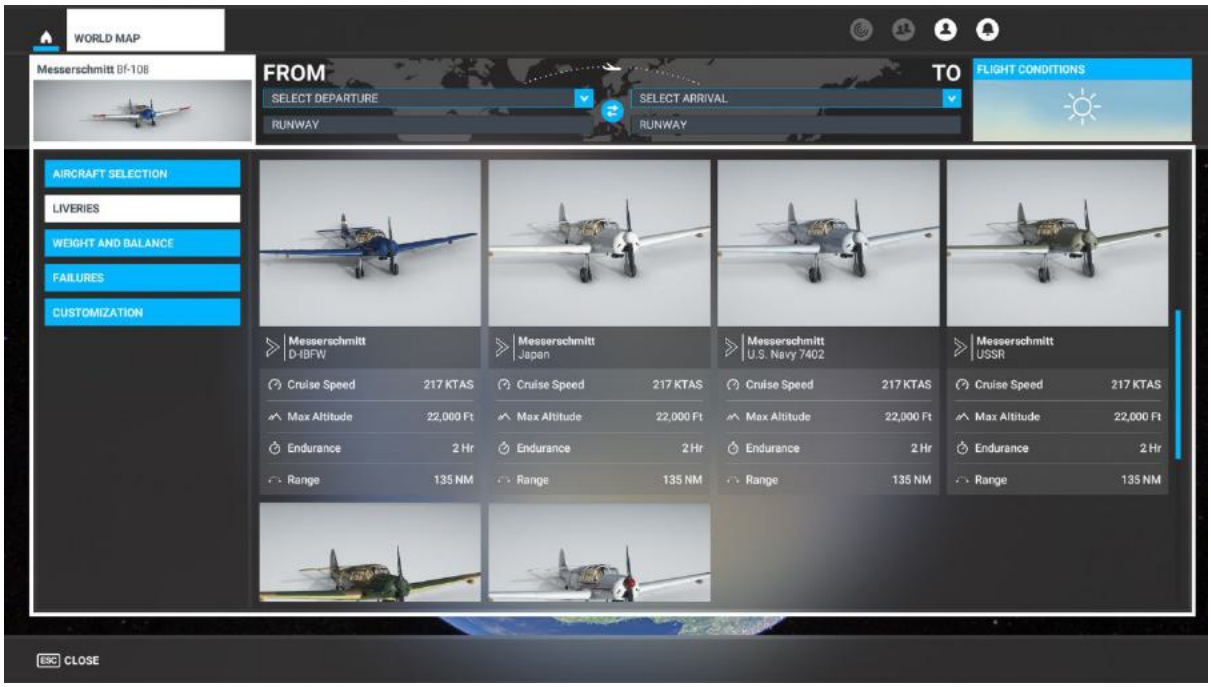
Scroll until you see the Messerschmitt Bf-108 or type in the search bar “Bf-108” and the aircraft will show.

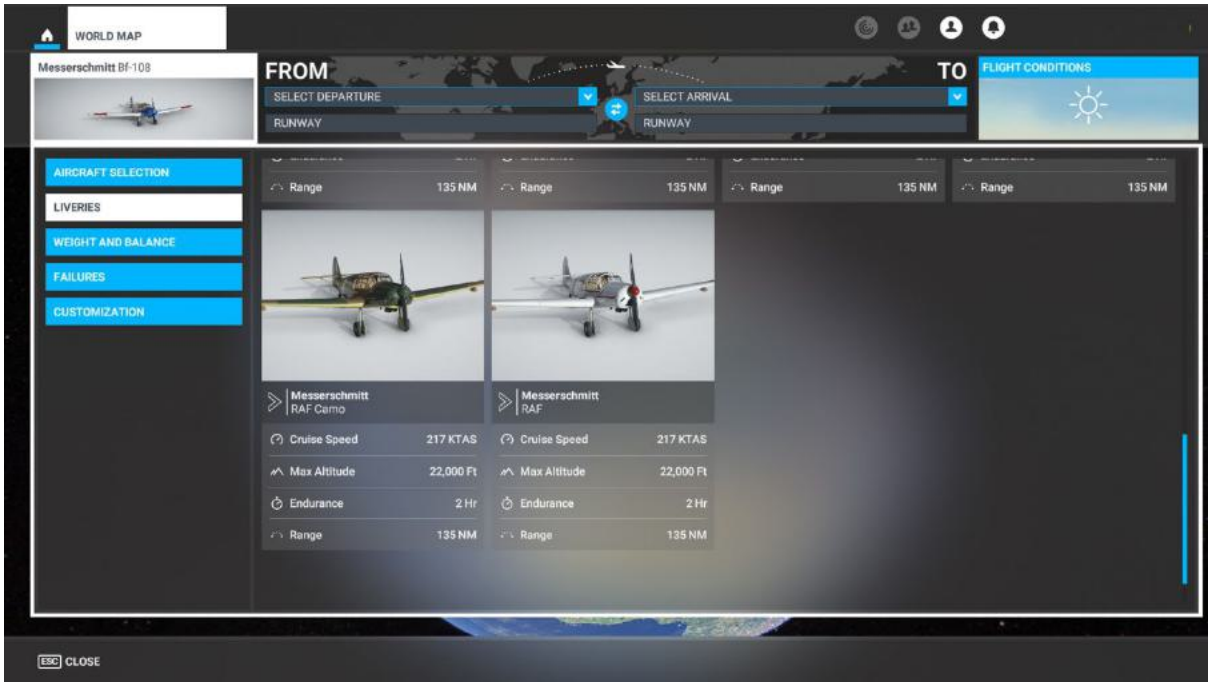




Click on Liveries to select the different paint schemes available.






WORLD MAP
Messerschmitt Bf-108
FROM
SELECT DEPARTURE
RUNWAY
TO
SELECT ARRIVAL
RUNWAY
FLIGHT CONDITIONS
AIRCRAFT SELECTION
LIVERIES
WEIGHT AND BALANCE
FAILURES
CUSTOMIZATION
Range 135 NM
Range 135 NM
Range 135 NM
Range 135 NM
Messerschmitt
RAF Camo
Cruise Speed 217 KTAS
Max Altitude 22,000 Ft
Endurance 2 Hr
Range 135 NM
Messerschmitt
RAF
Cruise Speed 217 KTAS
Max Altitude 22,000 Ft
Endurance 2 Hr
Range 135 NM
ESC CLOSE

Cockpit Interaction

Some knobs within the cockpit have interaction where you can push, pull, or scroll them for certain functions.

Depending on what you have set on the PC under General Options - Accessibility, specifically the Cockpit Interaction System, the interaction in the cockpit is different.

If it is set to “Lock”, left click the knob and push the mouse for “push” interaction and pull the mouse for “pull” interaction whilst holding the left mouse button down. Some functions also may have middle-mouse button “scroll” or “push” and right-mouse click “set” functions.

If it set to “Legacy” you will see an icon appear either to the left, right, above or below which you use the middle-mouse wheel to scroll if it as a circular arrow and left click to “set” if it an up or down arrow icon.

On the Xbox, press **A** to interact with the knob and use **A** to “push”, **X** to “pull” Right Stick to “scroll” and **B** to finish the interaction.

Checklists

Whilst this guide offers comprehensive details along with the Quick Reference Card (QRC), there are handy procedure checklists built within the simulator which can be found from the top-of-screen drop down menu and selecting the Checklist option.

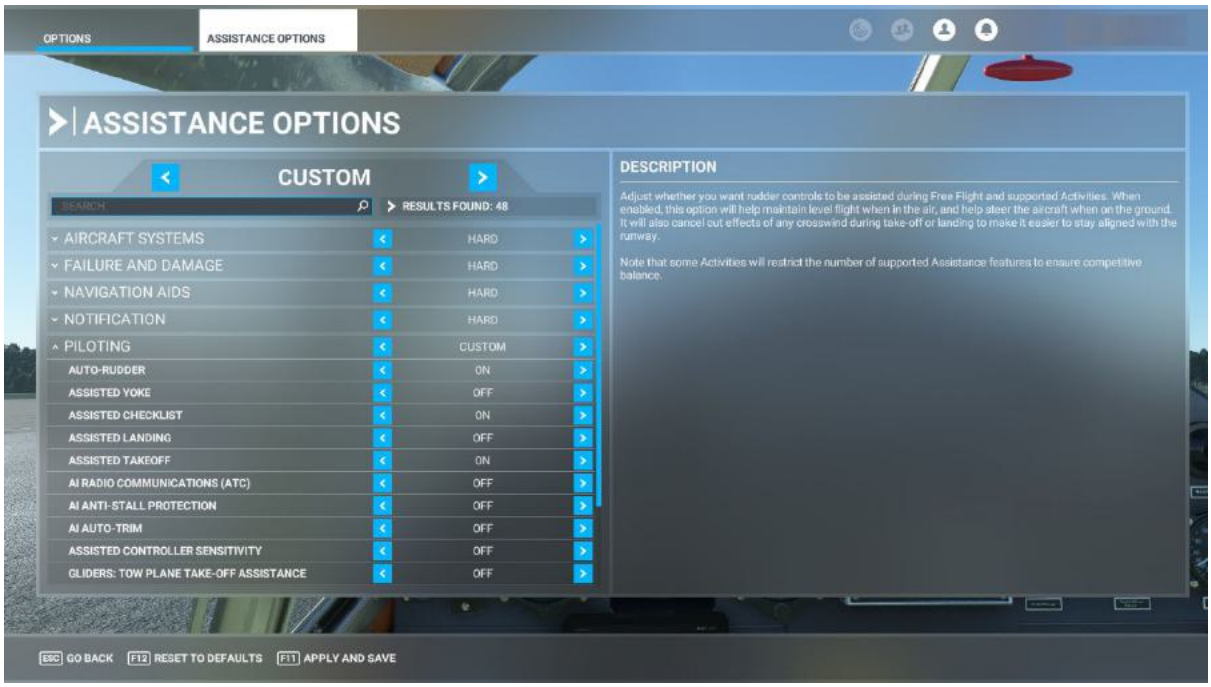
Clicking the blue eye icon to the right of the checklist item will switch your view to the correct panel where the button/switch/dial/gauge is located. You can use the AUTO COMPLETE option to tick off the item from the checklist as handy reference.

Important Notes and Substitutions

The aircraft uses the new Computational Fluid Dynamics (CFD) flight model along with new fuel system and propellor physics. Care should be taken whilst flying the aircraft to not over-stress the airframe beyond limitations.

It is not recommended to take-off or land the aircraft with a crosswind exceeding 7 Knots.
By design this aircraft is very susceptible to crosswind components and care should be taken when flying beyond this limit.

You can enable two options within Options > Assistance Options; "Auto-Rudder" and "Assisted Takeoff" which are designed to help fly in these conditions.



"Adjust whether you want rudder controls to be assisted during Free Flight and supported activities. When enabled, this option will help maintain level flight when in the air, and help steer the aircraft when on the ground.
It will also cancel out effects of any crosswind during take-off or landing to make it easier to stay aligned with the runway."

Messerschmitt Bf-108 Taifun Specifications

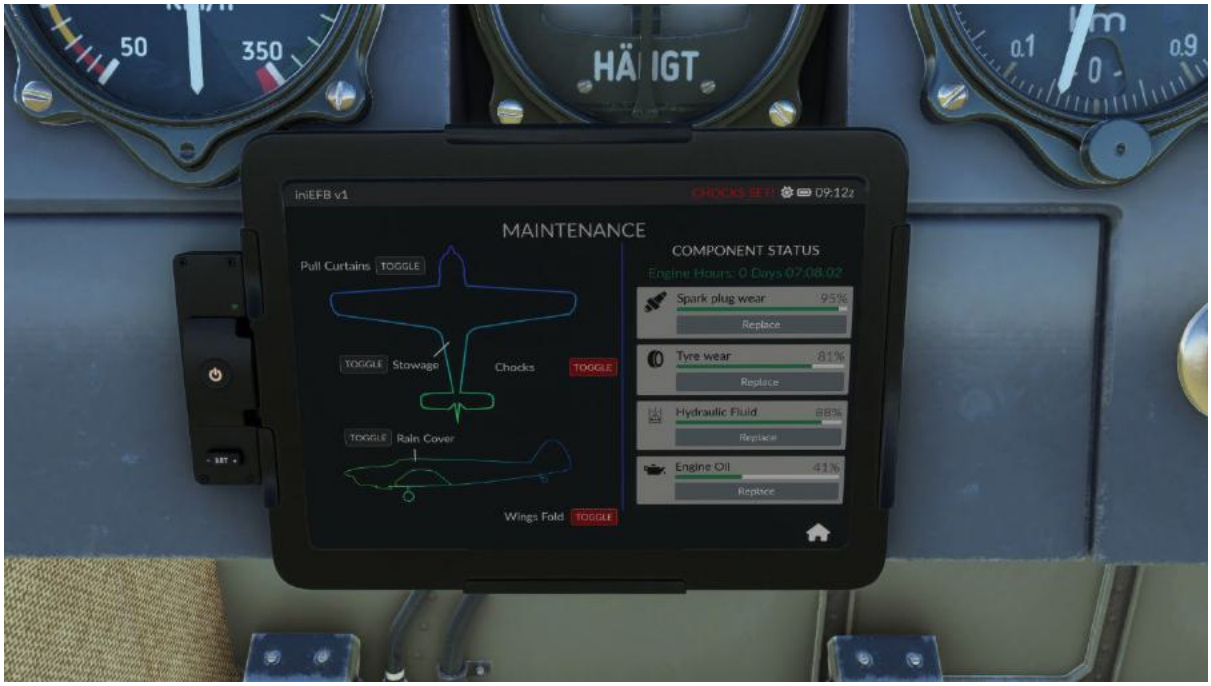
Cruise Speed: 250 KMH
Max Altitude: 5000m
Max Weight: 3042 KG
Range: 1000 km
Fuel Capacity: 220 L (including reserve)
Length: 25 Ft
Wingspan: 34.8 Ft

Electronic Flight Bag (EFB)

Within the cockpit is an EFB which allows for some key functions of the aircraft to be accessed.
There is a moving VFR Map, which will show your route if set within the World Map.
In addition, on the Map page there is an Autopilot status bar at the bottom of the page, please see below for functionality.
The maintenance page is linked to our Persistence Lite system which monitors wear and tear of the aircraft over time. Key items will require regular maintenance and can be "topped up" within this page. If maintenance is required a warning will show on the Home Page.
The page also allows for various features of the aircraft to be opened and closed such as curtains, cabin doors, stowage compartment door, chocks and classic cockpit. You can also put on the rain cover and fold the wings from this page.
The Weather page allows you to search up the METAR of a given airfield and shows standard or simplified information, see important note below for use.
There is a Timers page allowing for map and stopwatch flying.
The Settings page allows you to switch between German and English text labels as well as switching the gauges between Metric and Imperial. The page also allows for choosing which colour rain cover you would like, showing or hiding the curtains and setting persistence on or off.

The EFB can be turned off by the power button and dimmed or made brighter by the side buttons or on-screen slider.
It can also be hidden by using the selector switch on the right-hand glove box which will hide the EFB.

Map page



Maintenance page

Important Note: when using the METAR search, please use the on-screen EFB keyboard as using regular keyboard will interact with aircraft systems.

Timers page

Settings page

The EFB can be hidden if you so wish. Click the knob on the right-hand side glove box to hide the EFB. Click the knob again to show it.

Opening and Closing the Windows

Both the left and right windows can be opened at any time. Simply click the red window handle to open and close them.

Opening and Closing the Cabin Doors

To open the cabin doors is a 2-stage process. First you must unlock the main red canopy lock lever at the top of the canopy and then click on each respective door handle.
The doors will not open when this lock is in place, or when the rain cover is installed.

Closed position

Open position

Click the respective cabin door handle to open it.

You can close the doors by clicking the handle again by looking out of the canopy or by using the EFB Maintenance page and click Close Doors which will close both doors and engage the canopy lock.

Note: This option will only show when the doors are open.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Opening and Closing the Stowage Compartment

The stowage compartment can also be opened and closed using the EFB Maintenance page.

Folding and Opening the Wings

The wings are folded and opened using the EFB Maintenance page.
They take a few seconds to engage after clicking the button so please be patient.

Note: The cabin doors, stowage door and wings will automatically close and unfold if you start to move forward under engine power.

Opening and Closing the Curtains

The curtains can be opened and closed at any time during flight using the EFB Maintenance page Pull Curtains option, or you can hide them completely if you wish to do so using the Curtains Visible option in the EFB Settings page.
The curtains will block out the sun during your flight.

Canopy Rain Cover Options

The Canopy Cover can be put on and taken off using the EFB Maintenance page, Canopy cover option.
With the cover on, this will stop rain and ice build up on the canopy glass.

You can change the colour of the fabric in the EFB Settings page and it will instantly swap the cover based on what you have selected.

Note: You can only put on the rain cover when the doors are closed and the engine is off. A warning will pop up on the EFB when the doors are open. The cover will automatically be removed if you start the engine.


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German and English Cockpit

The cockpit gauges and cockpit text labels can be changed between Metric and Imperial measurements and German and English using the EFB Settings page.

German

English

Metric

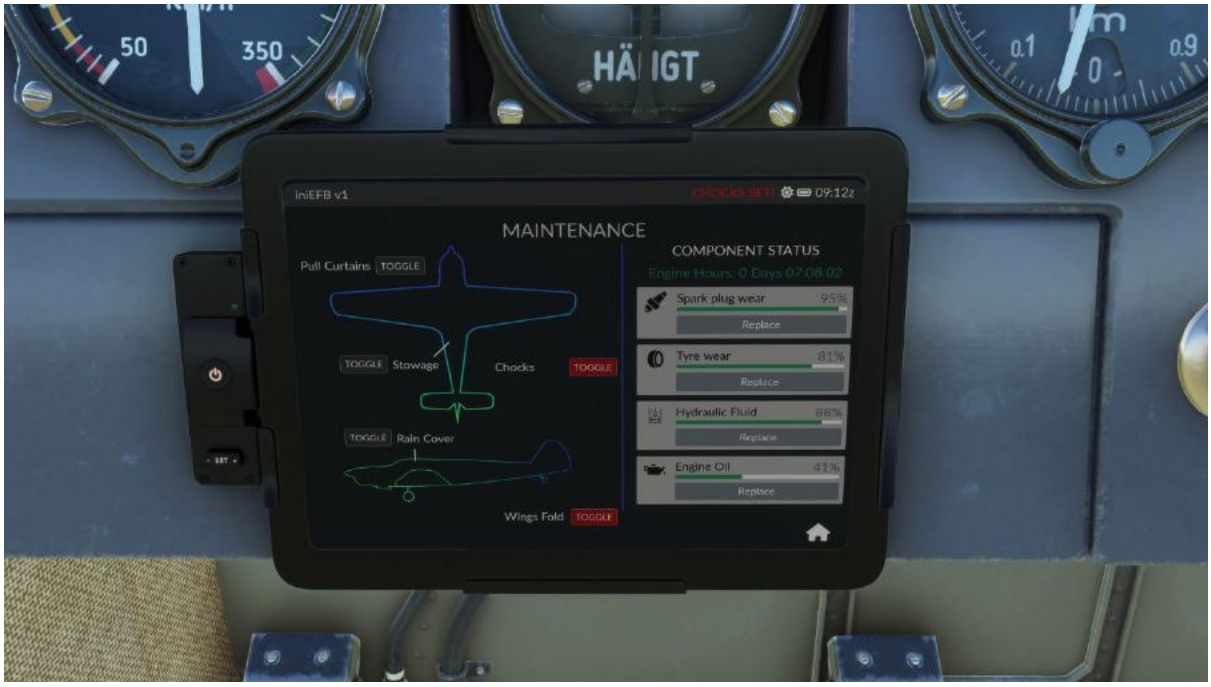
Imperial

Wheel Chocks

The aircraft comes with wheel chocks which can be toggled enabled or disabled.
When enabled and in-place the aircraft will hold its position until either the chocks have been removed or toe brakes are pressed.

To enable the use of chocks, go to the Settings page and Tick Enable Chocks.
The chocks will display in the external camera view and a warning will come up on the EFB top section and in addition a red warning will pop up “Chocks Set”.

This warning can be clicked to remove the chocks or by using the option in the Maintenance page to Toggle them.



Classic Cockpit

We have included an option to hide the radio and transponder units to give more of a classic cockpit feel.
Go to the Settings page and Toggle Classic Cockpit which will hide the units.

You can also hide the EFB to give a totally classic feel. Click the knob on the right-hand glove box.

Radio and Transponder Functions

There are modern radio and transponder units installed into the aircraft on the main front instrument panel, which have been adapted for use in Microsoft Flight Simulator using the default ATC system.

You can either use the in-sim ATC window to change radio frequencies and SQUAWK code for the transponder automatically or manually tune them based on instructions given by in-sim ATC or an external provider such at VATSIM or IVAO.

Please see below on how each individual unit works in-sim.

Radio

If using the in-sim ATC menu functions to change frequency, the radio will automatically change to the selected frequency, there is no need for interaction with the unit.

1. Mode
2. Squelch
3. On/Volume

4. Store
5. Switch Button
6. Frequency Select

The main display shows the communications channel selected, the main frequency and the standby frequency.
Either COM1 or COM2 will be shown depending on the Mode selected.

Push Buttons

1. MDE - Press the Mode button to switch between COM1 and COM2.
2. INOP.
3. On/Volume/Off - Turn the knob to the right to switch on the unit, increase the volume and switch off the unit. A message will appear for a short time saying Radio Off.
4. STO - Pressing this will change the frequency select between Kilohertz and Megahertz.
5. SCN - Pressing this will switch between primary and standby selected frequencies.
6. Frequency Selector – rotating this up will increase the frequency and rotating down will decrease the frequency.

Transponder

The aircraft has a functional Transponder unit that is linked into the in-sim Air Traffic Control (ATC) which can be operated in two modes.
Automatically using the in-sim ATC window whereby the transponder will auto-tune to the frequency set by ATC, or manually tuned by the player which is still functional with ATC.

1. Ident
2. Enter
3. Mode Select

4. VFR
5. Function
6. Code Select

The main display shows the operating mode of the transponder, the reported pressure altitude, and the current squawk code and Flight ID.
The pressure altitude is displayed as a Flight Level, which is the pressure altitude in hundreds of feet.

Push Buttons

1. IDT - Press the IDT button when ATC instructs you to "Ident" or "Squawk Ident".
2. ENT - The ENT button Stores the selected code.
3. Mode Selector Knob – see below for instructions.
4. VFR - Pressing the VFR button sets the transponder to the pre-programmed VFR code. Pressing the button again restores the previous squawk code.
5. FN - Pressing the FUNC button selects the next digit to change, starting from the left.
6. Code Selector – see below for instructions.

Mode Selector Knob (3)

The left hand knob controls the power to the transponder and the operating mode.

- OFF - Power is off.
- SBY - The transponder is on, but will not reply to any interrogations.
- GND - The transponder will respond to ground interrogations.
- ON - The transponder will respond to all interrogations, but altitude reporting is suppressed.
- ALT - The transponder will respond to all interrogations including altitude.

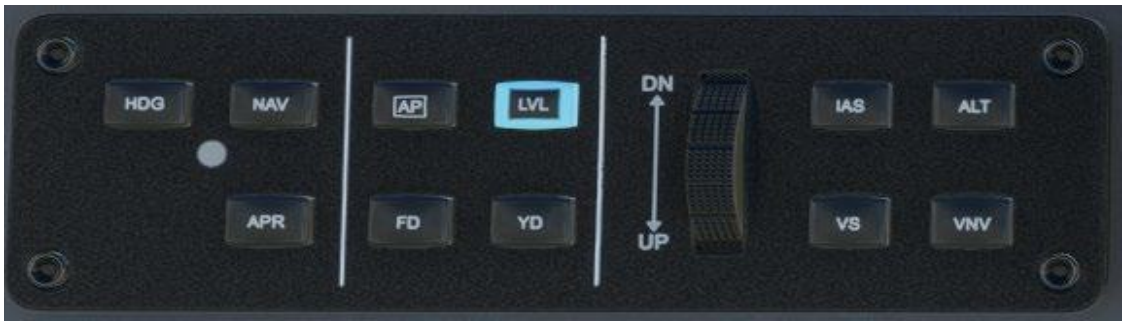
When airborne, the transponder should always be set to ALT unless otherwise directed by Air Traffic Control. When you are taxiing on the ground, the transponder should be set to GND mode.
If flying on VATSIM or IVAO and ATC requests that you to “Squawk mode Charlie”, set the transponder to ALT.

How to tune the SQUAWK Code

The right-hand knob is used to set squawk codes (6). The FN button (5) should be pressed to highlight the first digit on the left and rotate the selector knob to scroll up or down to the number you require. Press the FN button (5) to advance to the next digit. When ENT (2) is pressed on the last digit, the new squawk code is set and will replace the previous value.

Autopilot Functionality

The Bf-108 comes with autopilot functionality for managing hands-off vertical and horizontal flight control.
To enable the autopilot, use the GMC control panel located to the left of the EFB..
From here you can select the various modes listed below, within aircraft states as listed.



HDG: Heading hold mode locks the current heading and that value is updated each time this mode is activated. You can manually turn the plane whilst in HDG mode and press the button again to set current heading.
NAV: The NAV mode activates GPS navigation and the aircraft will follow the flight plan created from the main menu or the direct route to an airport selected within the EFB map page.
AP: Engages / Disengages the master autopilot. Note the AP can only be activated with certain conditions like gear raised, flaps raised, speed above 100knts and altitude above 2000ft.
LVL: The Level mode positions the aircraft in a neutral pitch and roll mode (only with AP on).
YD: Activates the Yaw Damper feature. Note the yaw damper can only be activated once an altitude of 2,500ft above zero altitude has been reached.

VS: Enables Vertical Speed Hold Mode and can be adjusted using the + / - buttons. Note the V/S mode can only be enabled within +/- 250fpm climb or descent.
Pitch + / – : When VS is activated the pilot can increase or decrease the vertical speed using the + or - buttons. Note that the vertical speed cannot exceed certain values depending on the airspeed and angle of attack.
ALT: Altitude mode holds the current altitude and its value is updated each time this mode is activated. You can manually climb or descend the aircraft whilst in ALT mode and press the button again to set current altitude (with v/s at less than 250fpm).

Note: Other functions of the control panel are inoperative.

If the conditions for AP functions are not met, I.e. gear down, flaps down, speed, altitude, vertical climb/descent, Etc. a warning box will pop-up on the EFB telling you why that function cannot be engaged.

When an AP function is enabled the button in the control panel will highlight blue and the AP status bar on the bottom of the map page will also indicate which mode is “ON”.
In this example we have **AP**, Heading (**HDG**) and Altitude (**ALT**) hold on.

Here we are in **HDG** and **VS** mode with a climb rate set to 500 fpm as indicated on the status bar (500f/m).

As noted above the Yaw Damper can only be activated once an altitude of 2,500ft above zero altitude has been reached.
Here we can see we have **AP**, **HDG**, **ALT** and now **YD** activated.

For the aircraft to follow the navigation course set in World Map, click the GPS button.
This will then turn the aircraft to the direction of your next waypoint.

Here we can see we have **AP**, **ALT, YD** and now **GPS** activated with the red line showing direction to next waypoint.

Alternatively, you can manually select an airport to go Direct To by clicking the Direct To button on the right side of the Map page.
Enter the ICAO code of the airport you wish to travel towards and click the search icon.

This will bring up the search results indicating the bearing and distance.
Please make note of how much fuel you have left in the aircraft and if you can make the distance.

Click Activate to override your current flight plan and a direct line is drawn from your current position to the airport.

Now click the GPS button and the aircraft will turn to the direction of the direct-to line and settle onto the direct course to the airport.
Here we can see we have **AP**, **ALT** and now **GPS** activated.

At any time, the Autopilot will disconnect when there is excessive deviation of flight parameters. This can be pilot induced by taking control of the flight stick or by high winds as an example.

The AP status bar will always remain on the map page.

Cockpit Layout

1. Fuel Cock Lever
2. Master Cut Off
3. Magnetos Select
4. Air Speed Indicator
5. Compass
6. Turn / Slip Indicator
7. Vertical Speed Indicator
8. Altimeter
9. Clock
10. Tachometer
11. Engine Starter
12. Propeller RPM Control
13. Manifold Pressure
14. Engine Primer
15. Radio
16. Main Switches
17. Fuel Quantity
18. Fuel and Oil Pressures
19. Oil Temperature
20. Volt / Amps Meter
21. Transponder
22. Autopilot Control Panel
23. Electronic Flight Bag (EFB)

Left Side Panel

1. Flaps Wheel
2. Elevator Trim Wheel
3. Trim indicator
4. Flap indicator
5. Throttle

Centre Console

1. Landing Gear Lever and Indicator
2. Fuel Selector

Canopy Lock Lever

1. Canopy Lock Lever

Pre-Flight Inspection

Landing Gear ..... DOWN
Flaps ..... UP
Fuel Selector..... OFF
Throttle ..... CLOSED
Magnetos ..... Position O
Lights ..... OFF
Generator..... OFF
Pitot Heat ..... OFF
Radio and Transponder..... OFF

Starting Engine

Wings ..... Spread and Locked
Cabin Doors..... Closed and Locked
Fuel Selector..... Main
Throttle ..... Set 1 Inch OPEN
Prop RPM Lever..... 12 o'clock Position
Fuel Primer..... As Required
Magnetos ..... Position M 1+2
Propeller Area ..... CLEAR
Brakes..... Hold
Starter ..... Push
Once Engine Started, Generator..... ON
Flaps ..... UP
Lights..... As Required
Radio and Transponder..... As Required

Normal Taxi

Flight Controls..... Free and Correct Movement
Throttle ..... Advance
Brakes..... Release
Taxi ..... Slowly
Steering ..... With Rudder
Stick ..... Hold Slightly Back
Position Into Wind..... Carry Out
Brakes..... Hold

Run-Up Checks

Brakes..... Hold
Throttle UP ..... Maintain 1400 RPM
Rotate Magnetos switch to '2' ..... Check RPM drop
Rotate Magnetos switch to 1+2 ..... Wait for RMP to stabilise
Rotate Magnetos switch to '1' ..... Check RPM drop
Rotate Magnetos switch to 1+2 ..... Wait for RMP to stabilise
Throttle..... Idle

Take Off & Climb

Flaps	Set 10-20%
Take Off Trim	As required
Pitot Heat	As required
Brakes	Release
Runway Line UP	Centreline
Prop RPM Lever	12 o'clock Position
Throttle	Fully Forward
Steering	With Rudder
Stick	A little back pressure
Rotate	100KPH / 54 Knots
Landing Gear	UP at positive climb
Flaps	UP
Throttle	Maintain 0.8 ata during climb
Prop RPM	Set to 1750 RPM during climb
Best Climb Speed	160 KPH
Elevator Trim	Set for stable climb
Fuel Pressure	Check within limits 0.2-1 ata
Oil Temperature	Check within limits under 80 above 30 Degrees C
Oil Pressure	Check within limits 3-7 ata

Cruise

RPM	1600 RPM
Throttle	Maintain 0.7 ata
Elevator Trim	Set for stable cruise
Fuel Pressure	Check within limits 0.2-1 ata
Oil Temperature	Check within limits under 80 above 30 Degrees C
Oil Pressure	Check within limits 3-7 ata

Normal Landing & Roll Out

Enter the traffic pattern	120 KPH / 65 KNTS
Fuel Selector	Main
Prop RPM Lever	12 o'clock Position
Landing Gear	Down below 185 KPH / 100 KNTS
Flaps	Deploy below 185 KPH / 100 KNTS
Trim	As required
Airspeed	Reduce to below 100 KPH/ 54 KNTS on final approach
Flaps	Set as per wind requirements

After Landing & Shutdown

Brakes	Slowly begin braking
Stick	Steady back pressure
Flaps	UP
Taxi	Slowly
Brakes	Hold
Throttle	CLOSED
Master Cut Off Button	Push
Fuel Cock Lever	OFF
Magnetos	Position O
Pitot Heat	OFF
Lights	OFF
Radio and Transponder	OFF
Generator	OFF