Eurofly Twinfox (TFOX)

Introduction

The **Eurofly Twinfox** is an ultralight aircraft supplied as a complete ready-to-fly or as a kit. More info can be found at link https://euroflyulm.com/en/twinfox/

The **Eurofly Twinfox** aircraft for MSFS has be developed by ***erasam*** using the information provided by the manufacturer

The variant implemented is the one equipped for Ultralight operations with a ***MTOW*** of 450KG

The modeled engine is the 48 kW (64 hp) **ROTAX 582** two cylinders piston engine with integrated type E reduction gear coupled with the **GT-2/160/115-FW75SRPC** 2-blade fixed pitch propeller

System requirements

This model has been designed for Microsoft Flight Simulator 2020 (also known as MSFS2020), for both Microsoft Store or Steam versions, but it is also fully working in Microsoft Flight Simulator 2024 (through compatibility mode)

Note: Xbox version is only available through the MSFS in-game marketplace

Installation

To manually install the add-on copy 'erasam-aircraft-eurofly-twinfox' folder in your \community directory, removing the previous release if already installed

If you don't know how to find the community folder of your installation of MSFS, just look for:

- Microsoft Store version: C:\Users\YourUsername\AppData\Local\Packages\Microsoft.FlightSimulator_8wekyb3d8bbwe\LocalCache\Packages\Community
- Steam version: C:\Users\YourUsername\AppData\Roaming\Microsoft Flight Simulator\Packages\Community

Support

If you have any request for clarification, suggestion or you just want to be part of the community of users of this aircraft feel free to join ***erasam*** Discord server at link https://discord.com/invite/rr7yrCaB9N

Visit ***OBY1*** homepage at https://www.oby1.eu/ to stay up-to-date with all its projects

Version history

- Release 1.0.0

This is the first official release of the **Eurofly Twinfox** for MSFS made by ***erasam*** and published by ***OBY1***

Features

- Cabin and interior

Aircraft cabin and interior have been designed to faithfully reproduce the real model with all the wires, rods, bolts, pipes available in the real aircraft also present in the sim

Dimensions of all cabin elements have been taken from the real model with the support of the manufacturer

- Cockpit

The **Eurofly Twinfox** model for MSFS has a fully animated and realistic 3D cockpit, with different internal views available for the Pilot, Copilot, Close and Landing as well as for any compatible joystick 8-way hat switch view selector (Front, Rear, Left, Right, Front Left, Front Right, Rear Left, Rear Right)

Figure 1 - Pilot View

PBR textures have been widely used for cockpit, seat and all internal materials to reflect real life aircraft appearance but they can be easily customized with the provided PaintKit

Figure 2- Copilot View

Note: Copilot view has been designed to hide the copilot 3D models (if present), Pilot 3D model is only available from external views

Dedicated views have been also designed to easily zoom on the different cabin and cockpit areas (like for the **Aera** glass cockpit equipment or the **EFB**) and for VR flying (fully supported)

Switching between the available views can be done using the standard MSFS In-game Toolbar or with the provided keyboard shortcuts

Figure 3 – In-game toolbar view selector

- Instruments and Avionics

The aircraft is equipped with a default set of steam gauges with the following instruments (from left to right, top to bottom):

- Avionics switch (with green light annunciator)
- Engine RPM gauge with embedded digital Hour meter
- Magnetic compass
- Water coolant indicator
- 12 Volt charger
- **AS92** COM1 equipment
- Landing Light switch (with green light annunciator)
- Electric Fuel pump switch (with green light annunciator)
- Airspeed (KM/h) indicator
- Vertical speed indicator
- Altimeter indicator
- Left and Right magneto switches (with cover)
- Starter key (Battery off, Battery On, Starter)

Figure 4 - Instruments 1 view (Steam Gauge default variant)

Clicking on the hotspot screw placed on top of the Altimeter equipment or through the dedicated EFB option it is possible to switch “on-the-fly” to the Glass Cockpit variant

Figure 5 - Instruments 1 view (Glass Cockpit variant)

In the Glass Cockpit variant:

- a Vertical Speed digital led equipment is added on the right (scale 400 feet per minute)
- the analogic Vertical Speed indicator is replaced by the **ASVigilus Mini** EIS
- the analogic Altimeter equipment is replaced by the **Garmin G5**
- the **Aera** GPS system is added on the left

Note: the detailed instructions how to use the provided equipment are not included in this handbook but can be easily found on the Web

All the gauges, levers and knobs shown in the different views provide a tooltip (if enabled in the Assistance menu of MSFS) and are fully animated

- Engine start

In order to successfully start the engine, it is recommended to follow the manufacturer checklist to have all the required steps correctly executed

With low external temperature and cold engine, the *Choke* lever, placed in the left bottom side of the cabin, should be used to enrich the fuel

Figure 6 – Choke lever

The Eurofly Twinfox is equipped with a central tank with a capacity of 50 liters (therefore no tank selector is provided) and fuel quantity level must be visually checked before take-off and during flight (the fuel quantity is shown realistically inside the fuel tank)

Finally, *Fuel Pump* switch must be set to ***On*** to have the fuel pressure rising, as it can be checked in the corresponding Glass Cockpit **ASVigilus Mini** EIS equipment placed on the cockpit center

Independent left and right magneto switches must be set to ***On*** (it is enough to close their cover to do it automatically) and starter key rotated to the right in order to have battery enabled (as shown by the red annunciator light) then keep being pushed to the right to start the engine

Figure 7 – Instruments 2 view (Magneto Switches)

Before starting a flight, it is recommended to adjust and check the weight and balance settings in order to ensure the correct flight behavior is achieved

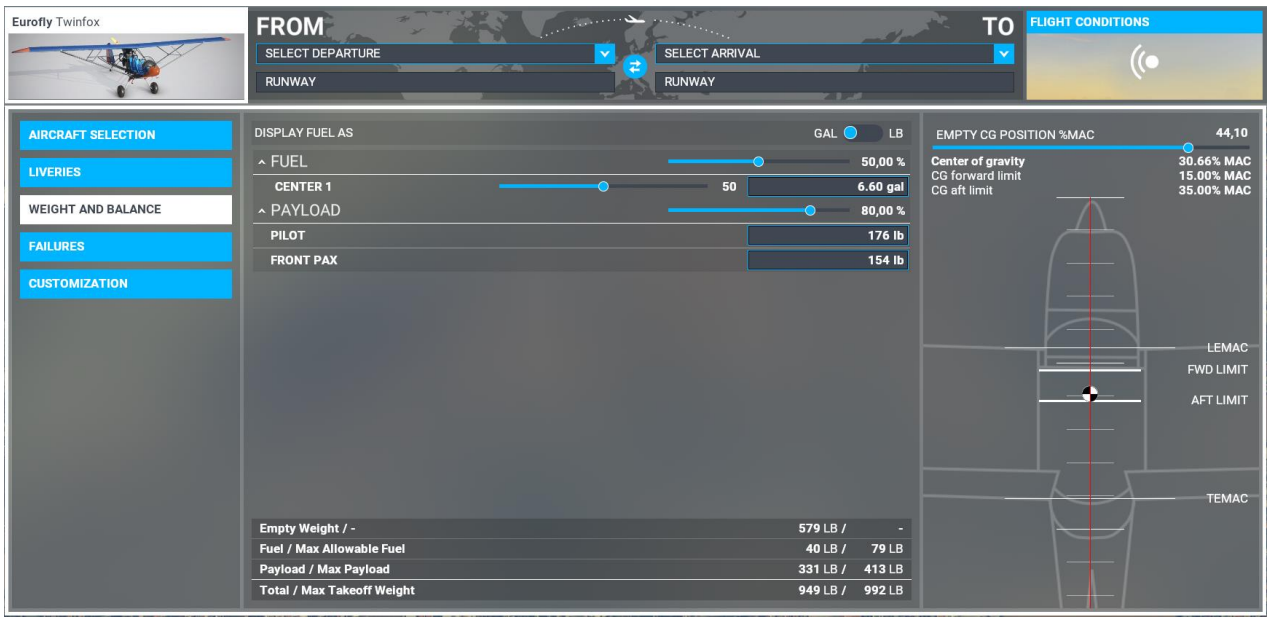

Figure 8 - Weight and Balance check

CG and weight limits are as defined as indicated by the manufacturer

Note: Pilot and Copilot 3D models are shown inside the aircraft only if the corresponding weight has been set in the Weight and Balance screen

- Handling

Handling yokes are available for Pilot and Copilot to control ailerons (left and right movement) and elevator (fore and after movement)

Throttle levers are placed on the left side of the cabin near Pilot and Copilot seats

Figure 9 – Elevator Trim

Elevator pitch trim is available on right side of the cabin

Figure 10 – Elevator Trim

Note: pitch trim limits are 0° down and 20° up

The **Eurofly Twinfox** has a fixed bicycle undercarriage with a free castering non-steerable tailwheel, therefore ground steering is mainly achieved (especially at low speed) by differential braking. After the aircraft gains some speed also the rudder starts to be effective

Left and right brakes are activated using the brake lever placed on the pilot yoke

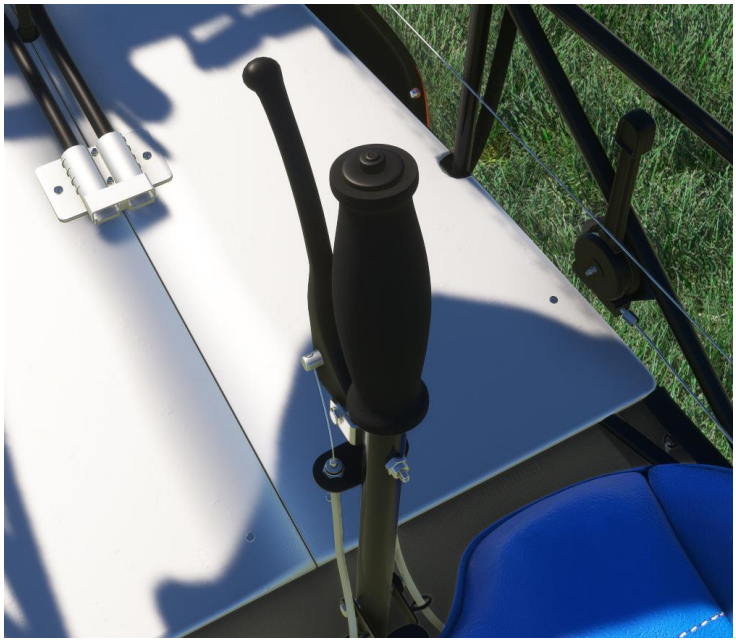

Figure 11 – Brake lever

Note: PTT button, placed on top of the Pilot yoke, can be used (*while keep pushed*) to open the Eurofly hangar door when the aircraft is placed near or inside it. Hangar door also opens if landing light is ON

- *Electronic Flight Book (EFB)*

An **Electronic Flight Book**, placed on the right side of the cockpit, is available to allow setting different interior and exterior options: to easily interact with the EFB you can click on the Clipboard clip to move it in front of the pilot view.

A hotspot screw on the right side of the cockpit is available to show / hide the EFB

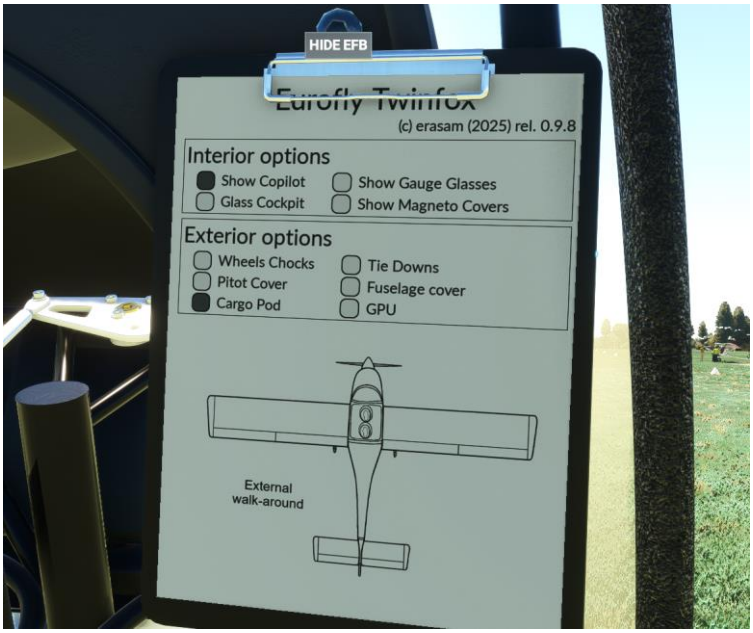

Figure 12 – EFB view

The following settings are currently provided:

- *Interior options*
  - Show / hide copilot (available only if the copilot weight is set greater than 0 in the Weight and Balance screen)
  - Show / hide gauge glasses effect (also available through the hotspot screw placed in the cockpit center)
  - Switch between ***Glass Cockpit*** and default **Steam Gauges** setup
  - Show / hide the Magneto covers
- *Exterior options*
  - Show / hide Wheel Chocks (including Tow bar)
  - Show / hide Tie Downs (including Wing ropes)
  - Show / hide Pitot tube cover (including Static port cover and Stall warning cover)
  - Show / hide Fuselage cover
  - Show / hide cargo pod
  - Show / hide GPU (with external power supply automatically enabled based on it)

All the provided settings are automatically saved and restored at beginning of the flight

Note: aircraft release number is shown on the right top border (to be communicated in case of any support need)

External Inspection Walk Around picture shown in the **EFB** can be clicked in the hotspot zones to automatically switch to the correspondent dedicated external view

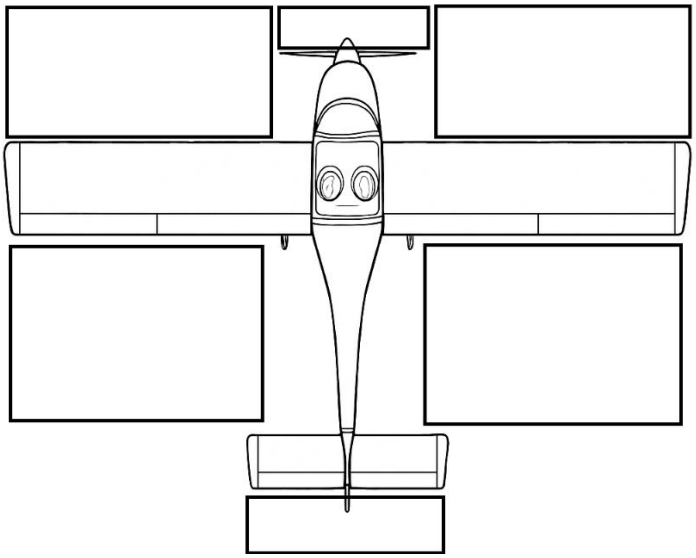

Figure 13 - External inspection walk around hotspots

- Checklist

A fully interactive checklist is provided to help the pilot in all the different flight stages

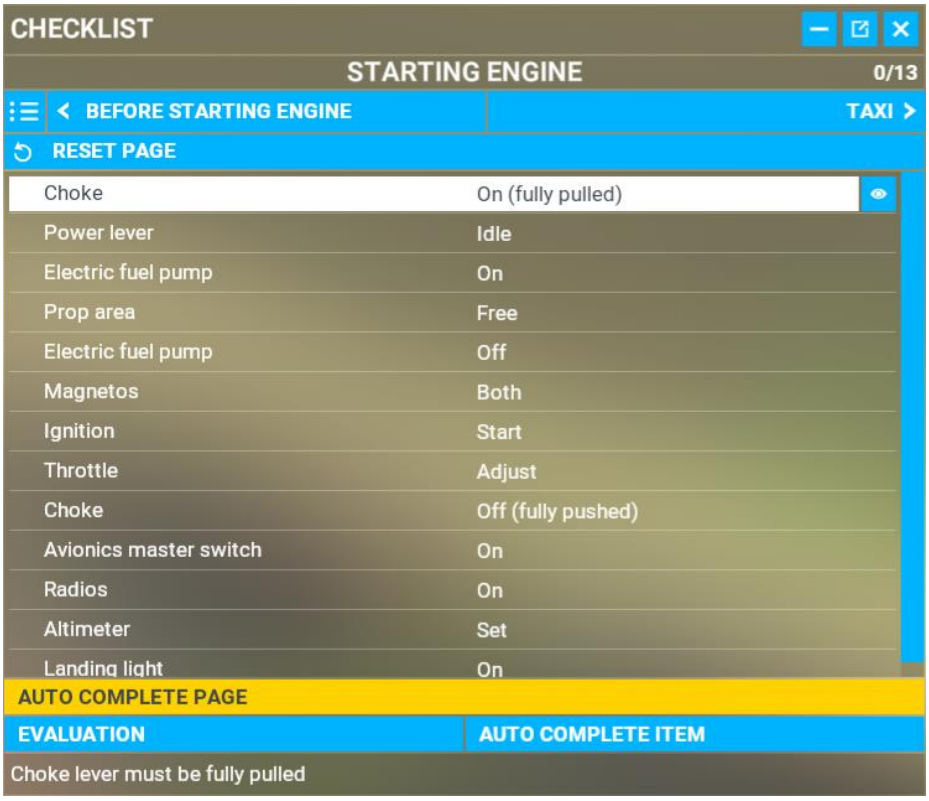

Figure 14 - Interactive checklist

Checklist can be activated using the standard MSFS In-game Toolbar or with the provided keyboard shortcuts

Note: Copilot Assisted checklist, if enabled in the MSFS Assistance options, is also supported

- External

All moveable surfaces (ailerons, rudder, elevator, elevator trim) and the free castering central landing gear are animated following the pilot inputs

Figure 15 - Animated moveable surfaces

Landing light is fully working and can be controlled by the provided cockpit switch

Figure 16 - External view at parking

Note: GPU, Pitot tube cover, Wheel chocks and Tie downs wing ropes will be automatically hidden when the engine is running (regardless of their setting in the EFB)

Liveries

The ***OBY1*** **Eurofly Twinfox** comes with several liveries, as shown in the aircraft livery selection screen, some of them using MSFS registration ID on the Italian standard ultralight AECI label (placed on the right side of the fuselage) and below right wing

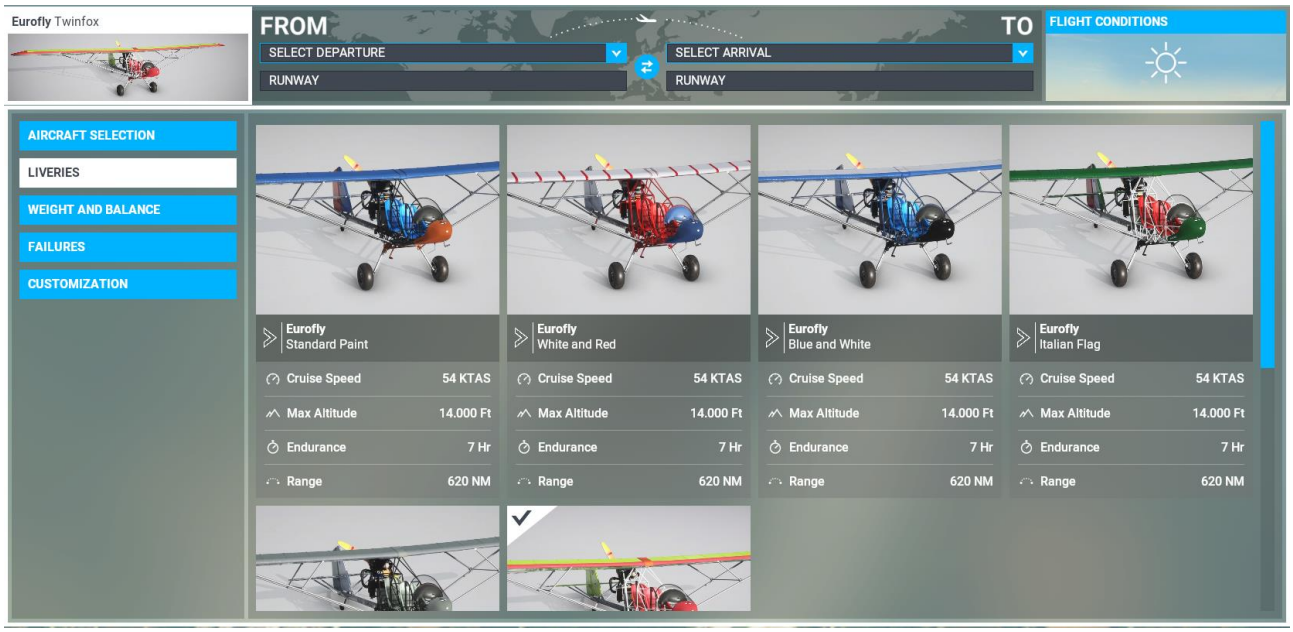

Figure 17 – Aircraft livery selection

Some of the provided liveries have internal **PBR** textures variants too (for seats, canopy, cabin struts, cockpit, etc.)

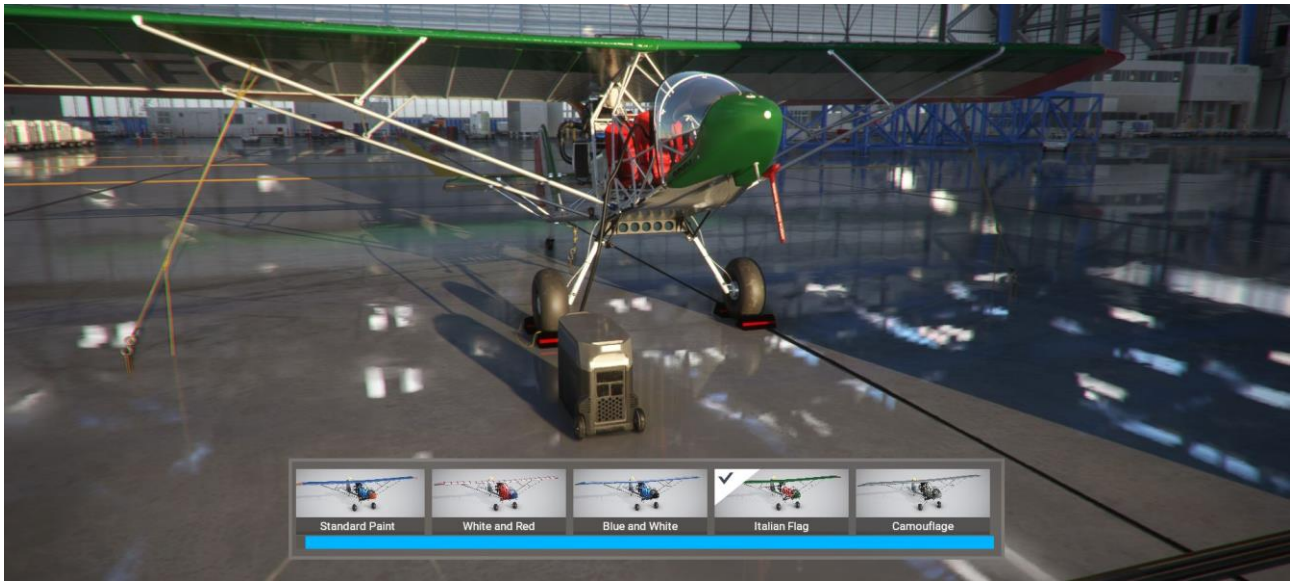

Figure 18 – Aircraft livery preview (hangar)

Note: please check the Release Notes to see whether new liveries have been added to the standard package. Additional liveries can also be downloaded from web sites dedicated to MSFS addons (like https://www.flightsim.to)

- Paintkit

In order to help to design new liveries a complete ***PaintKit*** is provided in a dedicated folder inside the package directory, with the UV mapping for all the external components of the aircraft (wings, propeller, seat, etc.) and layered PSD file to easily apply new textures. The ***PaintKit*** also includes the default PBR textures that can be replaced to customize the cockpit, the interior and the seats cover of the aircraft for a specific livery

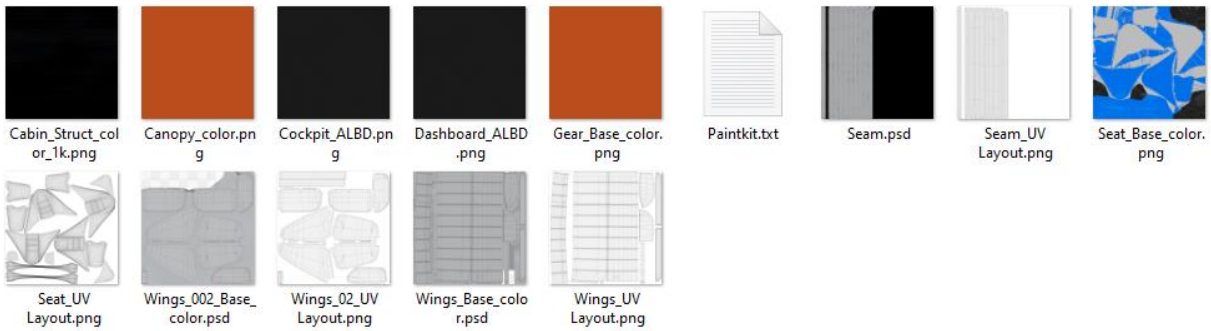

Figure 19 – PaintKit content

Aircraft performance

Aircraft performance is simulated to match as much as possible the real behavior of the aircraft and it has been tested by real pilots to give a "real as it gets" feeling in any flight condition

LVARs

The following LVARs are used to control the aircraft behaviors

LVAR	Usage	Unit	Saved b/w flights
CARGO_POD_VIS	Hide/show cargo pod	Bool	Yes
COCPIT_GAU_GLASS_VIS	Hide/show cockpit gauge glass	Bool	Yes
COPILOTHIDDEN	Hide/show Copilot	Bool	Yes
EFB_SWITCH	Hide/show the Electronic Flight Book	Bool	No
FUSELAGECOVER_VIS	Hide/show fuselage cover	Bool	Yes
GLASS_COCPIT_SWITCH	Hide/show Glass Cockpit equipment	Bool	Yes
GPU_VIS	Hide/show GPU	Bool	Yes
MAGNETOCOVERS_VIS	Hide/show Magneto covers	Bool	Yes
PITOTCOVER_VIS	Hide/show Pitot and Stall warning covers	Bool	Yes
TIEDOWNS_VIS	Hide/show tie downs ropes	Bool	Yes
WHEELSCHOCKS_VIS	Hide/show wheel chocks	Bool	Yes
XMLVAR_ENGINE_LEVER_CHOKE_PULLED	Pull engine choke lever	Bool	No
XMLVAR_PILOTPTT	Open/Close LIJB hangar door	Bool	No

Additional content

- Little Navmap aircraft profile

The **OBY1 Eurofly Twinfox** aircraft profile for *Little Navmap* (https://albar965.github.io/littlenavmap.html) is placed in the "LNM_Perf" package sub-directory. Copy it in the "C:\Users\<my_user>\Documents\Little Navmap Files\Aircraft Performances" folder or just open it using the provided *Little Navmap* functionality

- YourControls aircraft definition

The **OBY1 Eurofly Twinfox** aircraft definition for *YourControls* (https://docs.yourcontrols.org/) can be found in the "YourControls_Def" package sub-directory. Copy it in the sub-folder ".\definitions\aircraft" of your *YourControls* installation folder then you can select it in the *YourControls* "Select Aircraft" dropdown list

Credits

Credits to ***bagolu*** (flightsim.to profile https://it.flightsim.to/profile/bagolu) allowing to use its EFB, Wheel chocks and Tie downs wing ropes 3D models

My personal thanks to ***Gabriel3DArtist*** who developed the **Eurofly Twinfox** 3D model

Many thanks to ***all beta testers*** that helped to tweak the flight model and to ensure the best quality of this MSFS aircraft

Copyright

Important: this software is designed for entertainment purposes and should not be used for aviation training