

AI-Aircraft Editor 1.4.x

Program Description

Document Version 1.2

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1. Purpose of this tool

After having created an airport for FS9 or FSX we usually want to see it populated with AI aircraft. To achieve this you need to prepare the airport and write flight plans that direct aircraft from airport to airport. But you will only see a smooth AI operation when your aircraft find a fitting parking place at their destination.

There is no binding standard definition how “large” an AI aircraft model has to be. To make things worse, the method that defines if the size of an aircraft fits on a parking spot differs completely between FS9 and FSX.

To make AI aircraft populate your airport you often have to make adjustments to either the parking spots sizes or to the aircraft parameters.

The scope of AI- Aircraft Editor is to allow changes of all AI relevant aircraft parameters. For each aircraft these parameters are located inside the aircraft.cfg, the model file (mdl) and the aircraft parameter file (air). AI- Aircraft Editor deals with all three types of files. The target is that you can noticeably reduce the amount of tools needed to do this work (Explorer, Editor, AI BBQ, AFCAD, AirEd).

2. Precautions & Warnings

If you choose to use this tool, you do so at your own risk. There is no warranty, implied or otherwise, of any kind. Having said this, I have tested the tool thoroughly as have the team of beta testers. Still it is always a good idea to make backups of the original files before you start working them with a new application. This is done by AI- Aircraft Editor automatically. Before the first change is written to the aircraft.cfg file, a copy of the original is saved in the aircraft folder.

You should have an idea of what you are doing. For example, if you change the wing_span value of an FS9 aircraft to make it work in FSX, this might lead to a changed flight behavior of the aircraft (although I have never seen this).

3. Acknowledgements

I would like to express my thankfulness to Jerry Beckwith (www.mudpond.org) who helped me to understand the concept of the air files.

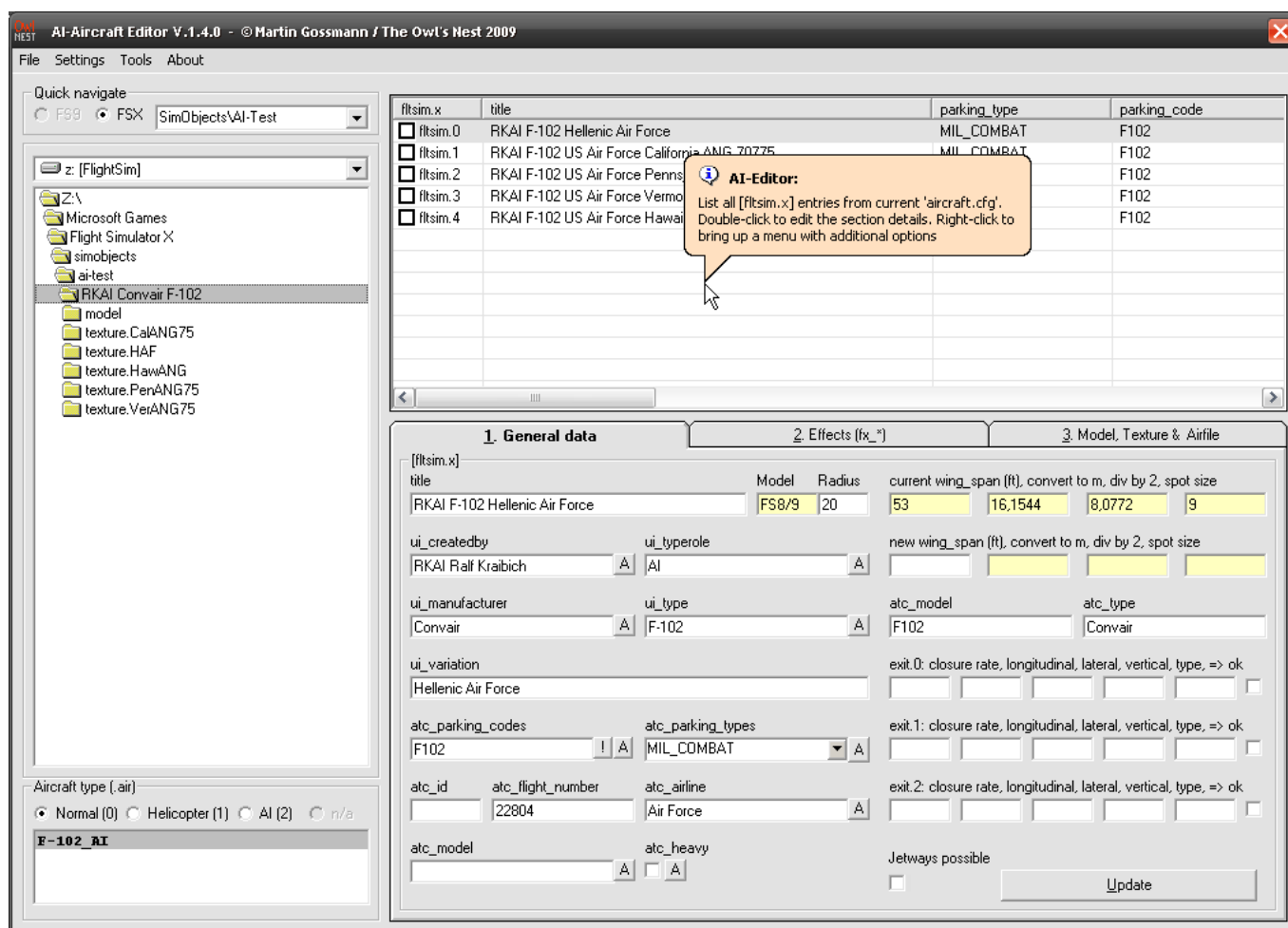
I am proud and happy that Jon has decided that he wants this tool to accompany Airport Design Editor.

Thanks to the ADE Team and the people on FSDeveloper and MAIW who all gave very valuable input for the development of this tool and who methodically found all bugs I have put in AI-Aircraft Editor.

4. Conventions

All fields with white background can be edited.
All fields / controls with grey background are disabled.
All fields with yellow background are read-only.

Please refer to the respective SDK sections to learn more details of the settings mentioned in this documentation.



5. Program description

The menu

There are four menu items: File, Setting, Tools and About.

Menu File:

- **Open CFG:** this opens the currently selected aircraft.cfg with notepad
- **Quit:** closes AI-Aircraft Editor

Menu Settings:

- **Confirm updates:** checked by default. This setting will be reapplied when AI-Aircraft Editor starts the next time. If enabled, you will have to confirm every update before it is written to the file(s).
- **Resizable:** unchecked by default. This setting will be reapplied when AI-Aircraft Editor starts the next time. An experimental setting that was introduced to allow users working with 1024*768 and smaller monitor settings in a more convenient way. Enabling it allows you to resize AI-Aircraft Editor; the program controls will be resized as well.



- **Auto backup:** checked by default. This setting will be reapplied when AI- Aircraft Editor starts the next time. If enabled, AI- Aircraft Editor makes a backup of the original aircraft.cfg and saves it with the name 'aircraft.owl' in the aircraft folder before it writes any update the first time. **Note:** the original file is saved and stored in the event you wish to revert back to the original state before changes were made by AI-Aircraft Editor.

Menu Tools:

- **Delete keys...:** opens a separate dialog where you can select up to 17 values that will be deleted from all [fltsim.x] sections. The purpose of this tool is to clean aircraft.cfg files, which contain a large number of incorrect settings.



- **Renumber sections:** choosing this will renumber all [fltsim.x] sections. As well this will correct the common error to forget changing a placeholder character to a number ([fltsim.x], [fltsim.your_number_here]) when a new texture is added. This tool is also available via right-click on the [fltsim.x] section.
- **Sort all [fltsim.x] keys:** choosing this will sort all [fltsim.x] sections by the order:
 1. title=
 2. model=
 3. sim=
 4. texture=all other keys alphabetically.
This tool is also available via right-click on the [fltsim.x] section.

Menu About:

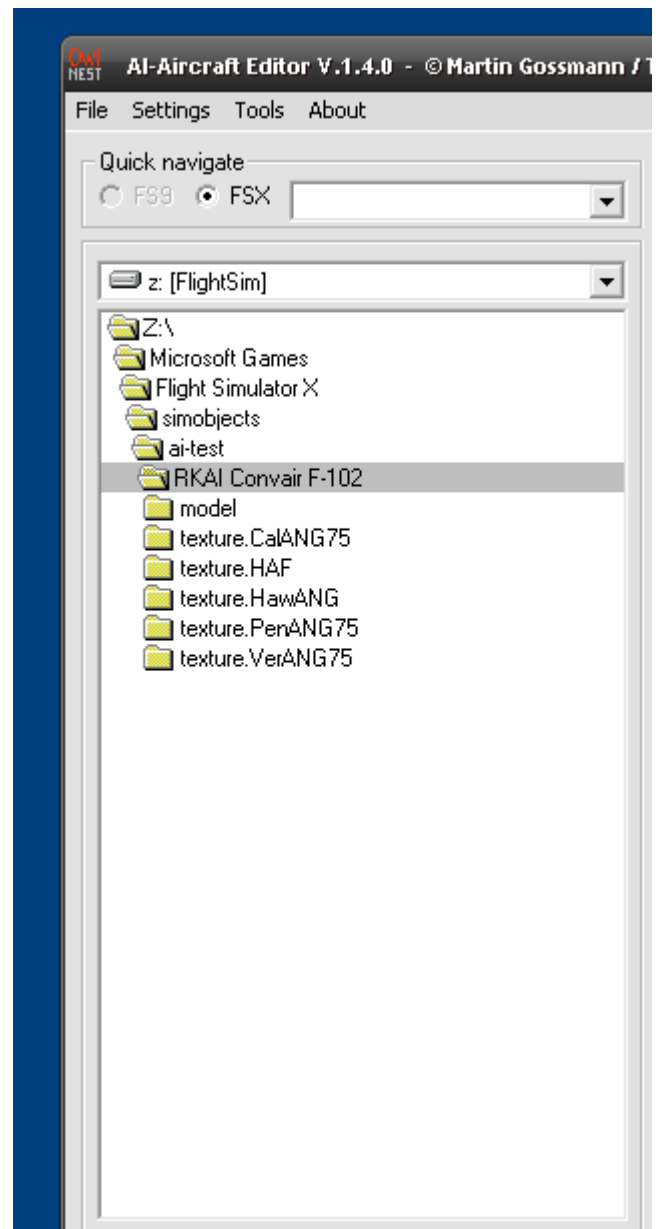
- **Visit 'The Owl's Nest' web:** starts your default web browser and visit <http://www.interkultur.de/gossmann/fsx>
- **About AI-Editor...:** shows an About dialog with additional system information

The navigation area

On the left side of the program interface you will find three options to navigate to your aircraft folders.

1. Located in the top tab labeled 'Quick navigate' there are two radio buttons FS9 and FSX. These are enabled if the respective simulator is found on your system and will bring you to the default aircraft root folder. Selecting FS9 will bring you to the <%FS9-Dir%>\aircraft folder, while selecting FSX will bring you to <%FSX-Dir%>\SimObjects.
2. Also in the top tab you will find a combo box. If FSX is found on your system and if your fsx.cfg is found, the 'SimObjectPaths.x' variables will be read and made available so that you select each aircraft folder directly.
3. By using the drive and folder selectors in the lower tab you can navigate to any folder which is reachable via a drive letter on your system.

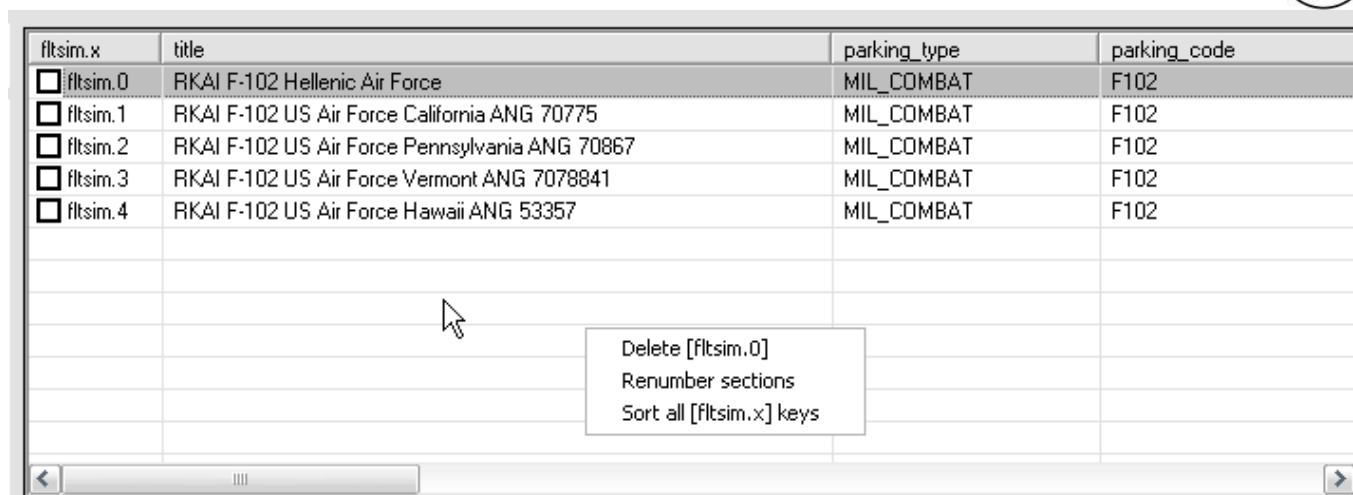
Note: AI-Aircraft Editor will remember the last used aircraft folder and will select it on the next start automatically.



The [fltsim.x] area

If you select a folder where an aircraft.cfg file is located, AI-Aircraft Editor assumes that this is an aircraft folder. The aircraft.cfg file is loaded and the relevant values are displayed in the [fltsim.x] grid. By right-clicking the grid you can evoke the tools to renumber all [fltsim.x] sections and to sort all [fltsim.x] keys. Furthermore, you can delete the one or more [fltsim.x] sections.

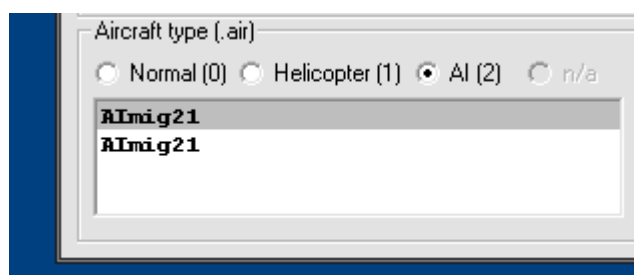
Delete sections: If you right-click on the grid, you are offered to delete the selected [fltsimx] section. 'Selected' means the section which is marked with the grey back color. To make things better recognizable, you are told in the right-click menu which section is selected (in the screenshot below this is the first section → [fltsim.0]).



fltsim.x	title
☒ fltsim.0	RKAI F-102 Hellenic Air Force
☐ fltsim.1	RKAI F-102 US Air Force California ANG 70775
☒ fltsim.2	RKAI F-102 US Air Force Pennsylvania ANG 70867
☐ fltsim.3	Vermont ANG 7078841
☒ fltsim.4	Hawaii ANG 53357

Delete [fltsim.x]
Renumber sections
Sort all [fltsim.x] keys

Located on the left side below the navigation controls is the Aircraft type section. When an aircraft folder is selected, the aircraft.cfg will be analyzed for the air files used (sim="") and these are displayed in this box. When you select a [fltsim.x] entry in the grid by double-clicking on it the associated airfile will be selected in this control.



If the airfile contains 'Section 105' you can change the aircraft type by selecting Normal, Helicopter or AI.

The Owl's Nest



The 'General data' area

1. General data		2. Effects (fx_*)		3. Model, Texture & Airfile			
[fltsim.x] title RKAI MiG23MF Syrian Air Force		Model FS8/9	Radius 9	current wing_span (ft), convert to m, div by 2, spot size 42,083333 12,8269998 6,41349994 7			
ui_createdby RKAI Ralf Kraibich	ui_typerole AI	new wing_span (ft), convert to m, div by 2, spot size [] [] [] []					
ui_manufacturer Mikoyan Gurevich	ui_type MiG-23 MF	atc_model MG23		atc_type MIG			
ui_variation Syrian Air Force		exit.0: closure rate, longitudinal, lateral, vertical, type, => ok [] [] [] [] [] []					
atc_parking_codes MF23		atc_parking_types MIL_COMBAT		exit.1: closure rate, longitudinal, lateral, vertical, type, => ok [] [] [] [] [] []			
atc_id 712	atc_flight_number []	atc_airline Air Force		exit.2: closure rate, longitudinal, lateral, vertical, type, => ok [] [] [] [] [] []			
atc_model []		atc_heavy []		Jetways possible []			
Update							

On loading an aircraft.cfg file the first [fltsim.x] section is displayed automatically in the editor. You select any other [fltsim.x] section by double-clicking on the entry in the grid. In addition to loading the aircraft.cfg values this will

- Change the selection of the associated air file in the air file area
- Analyze the associated model file

Aircraft size via MDL (FS9):

Note: In an FS9 environment this determines the size of an aircraft and in consequence if its size is fitting a parking spot.

In case the model is FS8/9 compatible you can change the model radius by typing the new size value in the 'Radius' field and press the 'Update' button.

Model	Radius
FS8/9	9

If the model is FSX compatible, you can not change the radius parameter in the model file. In this case the field is read-only and displays 'n/a'.

Model	Radius
FSX	n/a

Note: You can only type numbers in the radius field.



Aircraft size via 'wing_span' in [airplane_geometry] section (FSX):

Note: In an FSX environment the 'wing_span' parameter in the aircraft.cfg determines if the size of an aircraft is fitting a parking spot.

In the 'wing_span' area you see the current 'wing_span' value displayed in the top line. To find out the needed parking spot size you have to convert this feet value to metric meters, then divide it by two and round up to the next number. You will see each step of the calculation and in the last field the parking spot size needed for the current value.

current wing_span (ft), convert to m, div by 2, spot size			
30	9,144	4,572	5
new wing_span (ft), convert to m, div by 2, spot size			

If you want to change this value, you do so in the first field 'new wing_span' (with white background) in second line. **Note:** You can only type numbers in this field. After any number you type, all other fields to the right are immediately updated. The new 'wing_span' size is saved when you press the 'Update' button.

Exit.x and Jetways in [exits] section:

Successful operation of jetways depends on the correct definition of the exits in the aircraft.cfg.

You can edit up to three exits with AI-Aircraft Editor. The fields only allow you to enter numbers, decimal delimiters and the minus sign. If all numbers for an exit are defined the ok checkmark on the right is shown and you can save the new saved by pressing the 'Update' button.

exit.0: closure rate, longitudinal, lateral, vertical, type, => ok					
0.4	50.4	-5.5	6.0	0	☒
exit.1: closure rate, longitudinal, lateral, vertical, type, => ok					
0.4	-14.65	5.85	0.5	1	☒
exit.2: closure rate, longitudinal, lateral, vertical, type, => ok					
					☐
Jetways possible					☒
					Update

Regarding how you define an exit correctly, please refer to the SDK documentation. If at least one exit is defined, the 'Jetways possible' flag is set.

atc_model & atc_type in [general] section:

'atc_model' and 'atc_type' can be defined globally in the aircraft.cfg [general] section. 'atc_model' if defined will overrule the same setting in the [fltsim.x] sections.

atc_model	atc_type
A310	Airbus

The new values are saved when you press the 'Update' button.



Various settings in selected [fltsim.x] section:

You can change the title, all ui_* and all atc_* parameter in the selected [fltsim.x] section.

Some fields have a button beside labeled with a capital 'A' (for all). Clicking on this button will change the respective setting in all [fltsim.x] sections to the currently selected value. For example, this way you can easily update all 'ui_createdby' settings in the aircraft.cfg. Fields that needs to be unique like the title does not have this feature.

You edit the 'atc_parking_types' parameter with a pick-list control by clicking on the 'arrow-down' button on the right side. This will cause the dropdown list to be displayed.

The screenshot shows the [fltsim.x] configuration window for the aircraft AI A310 GAF_1021. The settings are as follows:

- title:** AI A310 GAF_1021
- Model:** FS8/9
- Radius:** 28
- ui_createdby:** (empty field with 'A' button)
- ui_typerole:** AI (with 'A' button)
- ui_manufacturer:** PAI (with 'A' button)
- ui_type:** Airbus A310/CC-150 Polaris (with 'A' button)
- ui_variation:** German Luftwaffe 10+21 VIP
- atc_parking_codes:** CAF-N (with '!' and 'A' buttons)
- atc_parking_types:** GATE (dropdown menu with 'A' button)
- atc_id:** (empty field)
- atc_flight_number:** (empty field)
- atc_airline:** German Air Force (with 'A' button)
- atc_model:** (empty field with 'A' button)
- atc_heavy:** (checked checkbox with 'A' button)

All marked values will be displayed in the textbox above. **Note:** It might be that on occasions you find it difficult to close the pick-list. You can always easily do so by clicking on the 'arrow-down' button again.

There is something special about the 'atc_parking_codes' parameter. By clicking the exclamation mark button '!' you open a separate dialog box where you can search and filter in the same list of codes which you can assign in ADE to a parking spot.

The screenshot shows the dropdown menu for 'atc_parking_types'. The selected option is 'GATE_MIL_COMBAT'. The list of options is:

- ☐ CARGO
- ☐ DOCK
- ☒ GATE
- ☐ MIL_CARGO
- ☒ MIL_COMBAT
- ☐ RAMP

The screenshot shows the 'Select the parking code' dialog box. The 'filter condition' is empty. The list of airlines and codes is as follows:

Airline	Code
135 Airways	GNL
223rd Flight Unit State Airline	CHD
224th Flight Unit	TTF
32 (TR) Squadron RAF Northolt	NOH
34 Squadron Royal Australian Air Force	EVY
40-Mile Air	MLA
611897 Alberta	THD
A J Services	AJA
AAA - Air Alps Aviation	LPV
AAC - Angola Air Charter	AGO
Aalborg Airtaxi	DAX
AASANA	XXV
Aba Air	ABP
Abakan-Avia	ABG
ABAS	MRP
Abavia	BVZ
ABC Air Hungary	AHU
Abelag Aviation	AAB
Abidjan Air Cargo	ADJ

At the bottom, the 'listed parking codes' field shows '6180' and the 'assigned parking codes' field shows '1 of 5'. There is a 'Close' button.

The screenshot shows the 'Select the parking code' dialog box with the 'filter condition' set to 'saab'. The list of airlines and codes is as follows:

Airline	Code
Aerosaab	SBH
Mil Saab 35 Draken - Fighter	SA35
Mil Saab 37 Viggen - Fighter	SA37
Mil Saab 39 Gripen - Fighter	SA39
Saab Nyge Aero	TGT
Saab-Aircraft	SCT

At the bottom, the 'listed parking codes' field shows '6' and the 'assigned parking codes' field shows '1 of 5'. There is a 'Close' button.

All settings are saved when you click on the 'Update' button.



The 'Effects (fx_*)' area

1. General data **2. Effects (fx_*)** 3. Model, Texture & Airfile

FS9/FSX

wake	fx_wake	☐ 1-time
water	fx_spray	☐ 1-time
dirt	fx_tchdrt	☐ 1-time
concrete	fx_sparks	☐ 1-time
touchdown	fx_tchdwn	☐ 1-time
contrail		☐ 1-time
startup		☐ 1-time

FSX

vaportrail_l		☐ 1-time
vaportrail_r		☐ 1-time
l_wingtipvortice		☐ 1-time
r_wingtipvortice		☐ 1-time

Right-clicking on the effect text fields will bring up a menu with additional options

This tab let you edit the effects parameter of the selected aircraft.cfg. It lists the most common FS9 and FSX effects. An empty field means that the effect is not used.

Right-clicking on an effect field will evoke a menu.

- **Disable effect:** removes the specific effect entry from the aircraft.cfg
- **Set default effect:** if there is a default effect file defined in the SDK this will be activated
- **Select effect file...:** Fires up a 'Select File' dialog to select the specific effect.

The '1-time checkbox' specifies that if ticked the effect does not run continuously but only once.

All settings are saved when you click on the 'Update' button.



The 'Model, Texture & Airfile' area

fltsim.x	title	parking_type	parking_code
☐ fltsim.0	AI A310 GAF_1021	GATE	CAF-N
☐ fltsim.1	AI A310 GAF_1022	GATE	CAF-N
☐ fltsim.2	AI A310 GAF_1023	GATE	CAF-N
☒ fltsim.3	AI A310 GAF_1024	MIL_CARGO	CAF-N
☐ fltsim.4	AI A310 GAF_1025	MIL_CARGO	CAF-N
☐ fltsim.5	AI A310 GAF_1026	MIL_CARGO	CAF-N
☐ fltsim.6	AI A310 GAF_1027	MIL_CARGO	CAF-N

1. General data

2. Effects (fx_*)

3. Model, Texture & Airfile

currently assigned texture

MIL_GAF_1024

currently assigned model

ge

currently assigned airfile

a310

Update

This tab allows you to change the model, texture and airfile for the selected [fltsim.x] section. All models, textures and airfiles found in the aircraft folder will be offered in the respective dropdown combos. This way you can employ elements not yet used in the aircraft.cfg.

All settings are saved when you click on the 'Update' button.

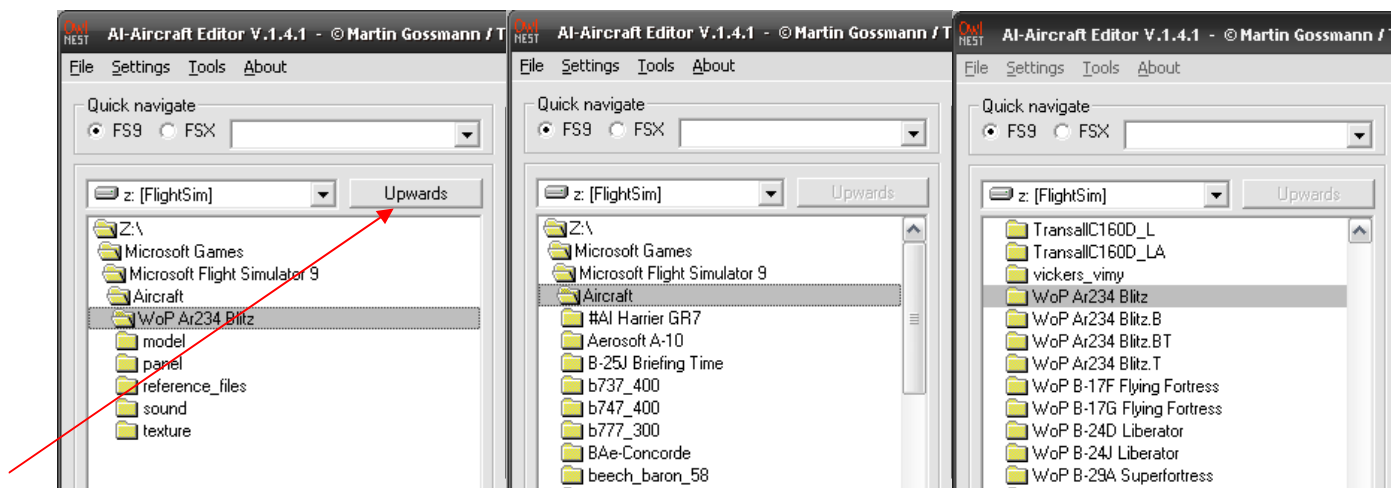


Known issues:

There is one report that it was not possible to change the aircraft type. In this case the Windows XP Indexing Service was excluding the folders where the air files were located. To make strange things weirder, the Indexing Service itself was disabled. The AI-Aircraft Editor error message was that the file could not be updated because it was opened by another application. The specific trick in this report to get things going was to change the file properties of the airfile in the Windows Explorer under advanced attributes and activate the checkbox 'For fast searching, allow Indexing Service to index this file'.

Version 1.4.1 Changes

The [Alpha-India-Group](#) gave me a very useful feedback. The change incorporated in version 1.4.1 is based on their comment. The more aircraft you have installed, the longer is the folder selection list AI-Aircraft Editor offers you. Say you work with a group of aircraft that are at the end of the list (WoP Ar 234 Blitz). Moving to the next aircraft (WoP Ar 234 Blitz.B) would have meant to double click on the Aircraft folder, which brings you back to the first entry in the 'Aircraft' folder. Then you would have to scroll all way down to select the next WoP folder.



The change in version 1.4.1 is the addition of the 'Upwards' button. Clicking it will move you one folder level back and select the folder you have been working with again. Moving through long folder list should now be much more convenient. Thanks to AIG for this valuable comment.

Are you aware that the folder list honors type-ahead? Have a look at the second image above. We assume that the folder list has the focus because you have already operated it (otherwise you would have to click on it so that it has the focus).

If you would now type 'wop a' on the keyboard the selection will automatically move forward to the folder 'WoP Ar 234 Blitz' like in the third image. This is a very efficient way to move forward and backward in the folder list.