

ProSim737
Professional Simulator Suite

Flight Model 2.0 User Manual



737TM

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Support

Please read this document and the ProSim737 user manual carefully. To discuss or find extended information on the model please visit the ProSim737 forum at: http://www.prosim737.com/forum/

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1.0 Introduction

1.1 Welcome on board

The advanced flight model and visual model you have just acquired is a common effort between ProSim Aviation Research B.V. and a veteran flight simulator designer Lapi as well as Steve Cozens. The parties have put together their knowledge and experience to create the most advanced 737 flight model available so far, this time extended by a new external visual model by Steve. The model will definitely change the way you fly your 737 simulator.

1.2 History and goal

This unique advanced flight model is primarily aimed at the home cockpit builder. Although it can also be used for commercial entertainment, (under different user license conditions available separately from ProSim Aviation Research B.V.) the widest user base remains a rapidly growing number of home cockpit builders.

For quite some time there has been an intensive urge to have better and better flight (dynamic) models for our simulators. When home cockpit builders spend a considerable amount of money and put countless number of hours into their simulators, the dynamic model becomes a more and more important factor in realistic flying and flight experience. Before our model came out to the limelight of the Microsoft® Flight Simulator™ (MSFS) based simulator platform, cockpit builders, naturally using different hardware components, had used different flight models in order to satisfy their need for realistic flight experiences. This, although seemed to satisfy many, didn't prove to be a truly good and final solution, as the characteristics of all visual and dynamic models differed greatly.

The ProSim737 Suite was the first software solution focusing on a single model and type of aircraft, offering a full solution for both home and professional cockpits.

The extremely complicated systems and internals of a plane, such as the 737-800, also brought the need for a unified and advanced flight model, which could work in perfect accordance with the ProSim737 Suite and its internals.

In order to work perfectly, the auto-flight characteristics, as well as the Flight Management System (FMS), need a unified and common flight model to be used simultaneously and in accordance with the underlying software solution. This is why ProSim Aviation Research B.V. decided to develop a flight model as close to the real plane, the 737-800, as possible. After long months of development the model was first released in early 2012. Now the considerably enhanced second version is ready and available to you in January 2015.

2.0 Flight Model features

2.1 Flight Dynamics

No doubt, flight dynamics and the possible most realistic simulation of the airplane behavior are the essence of flight simulation.

Present day Full Flight Training Devices used in the aviation industry employ a very similar approach to flight-dynamics as Microsoft® Flight Simulator $^{\text{TM}}$ X (hereafter: FSX) and its successors do.

FSX has a fairly refined flight-character-performance engine and its pre-entered data is interpreted by the sim1.dll at runtime.

FSX (and ESP and Prepar3D®) uses the exact same 'look-up-table' system for flight-dynamics as level-D simulators use. In many ways FSX is even more sophisticated than older versions of Level-D simulators are. The slight but important difference is that level-D flight simulator dynamic models are always based on a single plane and it's thoroughly noted and measured characteristics, whereas FSX's dynamic engine was built to equally serve a Cessna, a glider, a 737, a 747 and helicopters. This versatility makes it a bit 'generic' and that's why certain limitations always pop up here and there. But generally speaking the FSX dynamic engine (now also in Lockheed Martin's Prepar3D®) is capable of simulating dynamics on a very detailed and sophisticated level.

Quite a few level-D simulators still in use for crew training, mainly the older builds but still widely used world over, have even less dynamic parameters and capabilities compared to the FSX engine. We feel FSX or the similar Prepar3D® have nothing to be ashamed of in relation to flight dynamics.

At present if one looks around on the horizon of desktop flight simulators, the choice is minimal – to say the least. Microsoft® FSX is over eight years old now and it is not developed or updated anymore, yet there are still thousands of people out there, flying the even earlier version – FS2004 / FS9.

FSX also appeared in a different commercial form by Microsoft® and was named ESP (Enhanced Simulation Platform) and later on the ESP code was licensed to Lockheed Martin, thus Prepar3D® (pronounced "prepared") and later its second version was born.

As far as flight dynamics go, all of these versions use the very same dynamic engine.

We wouldn't have even tried to achieve a realistic flight model in any other simulator other than FSX, which with its lookup tables is by far the closest to the multimillion dollar flight simulators.

Simulating the flight characteristics of a given airliner is not a simple or easy task. Quite a few FS addon companies have claimed their flight models to be 'almost perfect' in this regard during the twenty year history of Microsoft® Flight Simulator™ but very few could really succeed.

We took a logical approach to accomplish the closest possible flight dynamics, as far as real 737-800 planes go. We collected data from the airframe manufacturer and also used the very same data employed in level-D simulators. The result was very satisfying, although it took us a considerable time to fine-tune the flight model to FS's specialties and also to those of the ProSim737 Suite.

We are certain that now you have the best flight model, ever done for FSX. We hope you will soon be of the same opinion, when you also experience the result of our efforts.

The flight model is designed by Lapi, who is not just an experienced real world pilot, but who has been designing FS related add-ons since FS5. He has worked on FS related projects for several known companies, also worked on FS related titles for Microsoft®, regularly works for NASA and he has also been a long time special advisor to his local airline.

2.2 Visual Model

Flight Training Devices (FTDs) rarely have an external model or 3D representation of the aircraft itself. In their case, the most important - time & money saving - factor is the training itself, thus the trainees don't have any intentions to look at an external model. That is why those "serious" simulators do not even have any external views to look at the plane itself. Home cockpit builders, nevertheless, usually come from the entertainment part of the simulation world, therefore they got used to having extremely nice external visual models of airplanes.

This is why we are providing an outstanding 3D model along with the flight dynamics in this release.

The new external visual model is done by Steve Cozens. It is a very nice 3D model of the 737-800 which newly came to our version 2.0, as the previous version did not contain an external model.

Now the model contains all features that a state of the art 3D aircraft representation should. Landing lights and other external lights were done with the utmost care to satisfy the needs of the serious flight simmer and the overall detail of the 3D part is a masterwork. There are 31 liveries made for the model (available from the ProSim737 forum) and there is also a paint-kit available on request, if users wish to design their own liveries.

2.3 Sound

The new version of the model comes with its own sound-set, one of the most advanced sound-packages available so far for the 738 or even other jets.

The engine sounds are combined of 14 internal, plus 19 external sounds for each engine. The sound-pack is not a subsystem of ProSim737, therefore the sound-pack is a separate entity, which does not depend on the deep systems simulation of ProSim737. For additional sound enhancements ProSim Audio is available for the user, so almost any custom made sounds can be defined through ProSim737 Audio.

The advanced sound package comes in two versions, so the user may select which one better serves his/her purpose.

a. Stereo sound-set

This version of the advanced sound package is enabled by default. It contains most engine related sounds in stereo. This is recommended for most stereo, 5.1 or 7.1 or desktop sound-system users.

Although the quality of the engine and wind sounds are much better in this set, but in case the user is using two different sound systems, the engine and winds sounds will NOT be automatically separated and redirected separately for the two systems.

For that purpose please use the "cockpit" version of the sound-set in the Prosim737 folder. To use the stereo sound-set simply leave the sound= line empty in your aircraft.cfg file, so it will use the sounds defined under the SOUND folder of your ProSim737 installation.

The special stereo effects of the engines will be present using the sounds this way.

b. Cockpit sound-set

This version of the advanced sound package is NOT enabled by default. It contains most engine related sounds in mono, but at the same time it allows automatic separation of the engine and wind (environmental) sounds of the simulator if two sound-systems are used.

This set is recommended for those home-cockpit users or commercial users, who need a more realistic sound experience in their spacious cockpit setups.

In order to achieve this automatic usage of sound separation, done by FSX, ESP or Prepar3D®, the user has to configure his sound-card as Quadraphonic in his sound-card manager software.

Then two separate sound systems need to be connected to the sound-card. Most contemporary sound-cards or even the inbuilt cards on the motherboard can easily satisfy this requirement.

Usually it is the black connector of the soundcard which is capable of serving as the output for the second sound-system.

By using two sound systems and the cockpit sound-set, the engine and winds sound will be automatically separated and redirected to one of the systems.

For this purpose the user must configure the sound-card as Quadraphonic in Windows™ and the two stereo systems (or any other) should be plugged in separately.

If you are looking for a better sound quality, but sound separation is not a desired factor for you, please use the default stereo sound set in the Prosim737 folder.

To use this special "Cockpit" sound-set, instead of the default stereo one, please open your aircraft.cfg file in your ProSim737 folder (find it under your main FS installation / SimObjects / Airplanes) and either remove the sound= entry, while removing the two // lines before the //sound=cockpit entry, or simply fill up the existing entry, like: sound=cockpit.

There is nothing else to be done in order to change the available sound-sets.

2.4 Landing and Taxi lights

These are important to everyone but there are limitations within FSX/Prepar3D® which mean some things simply cannot be done. The ProSim737 Flight Model provides the following lighting systems:

- a. Exterior view. Light cones to simulate the light source, refined light splash on fuselage and engines, light splashes in front of the aircraft, default FS lights and see below for visibility notes.
- b. VC View. Controllable light splashes for landing, taxi and runway turnoff plus the default FS landing and taxi lights. Default lights were included to help 2D view but also to add extra lighting away from the immediate area. Taxi light is fully animated. Lights are controlled by assigning switches through the ProSim737 System configuration menu, runway turn off needs to be assigned to wing lights as there is no runway turnoff available in the Aces attachment toolkit for the modelling program.

There is a PSD file, (Landing Lights Prosim.PSD) on the ProSim737 forum where you can adjust the colour and intensity of the light splash, instructions on how to do this are in the file. Taxi light will automatically extinguish at 10 ft above ground level, Landing and runway lights will extinguish at 300 ft above ground level. They can be armed at any height they will just not be visible till these heights to avoid lighting up the ground at say 10000 ft as would be the normal case.

c. 2D view. Lighting in the 2D is limited to just default FSX lighting. FX lights were extensively tried but it was not possible to control the positions and effect when more than one .fx was added, i.e. a moveable taxi light and 2 landing lights.

What about Shockwave files for lighting? Shockwave lights do not add any light to the ground plane in the 2D or VC views, they simply add pretty light blooms near the light source. It was decided to include controllable light cones within the model to achieve a similar effect. So, no, Shockwave lights are not supported.

2.5 Air Stairs

The ProSim737 visual model includes a beautifully animated set of air stairs. To use these you need to assign either a switch or button through either FS or FSUIPC to the Wing Fold command, then sit back and admire the animation.

3.0 What's not included in the package

There is no Virtual Cockpit (VC) included in this package, as we are not dealing with those, especially because the cockpit builder has no need for an internal VC model since replication hardware panels are used..

There are no special gauges or system logic in the package, the system simulation is taken care by ProSim737 System itself.

4.0 Requirements & Compatibility

The advanced flight & visual model will work with Microsoft® Flight Simulator™ version 10 (FSX or FSX-SE), updated to either SP2 or the 'Acceleration' pack. The model will not be compatible with the RTM version of FSX or FSX with the SP1 update. This version of the flight & visual model is not compatible with Microsoft® Flight Simulator™ FS2004 (A Century of Flight).

The model is also compatible with Microsoft® ESP (no longer available to be purchased or licensed) and Lockheed Martin's Prepar3D® both versions 1.x and 2.x.

In order to make the installation our model as simple as possible, we did include the default 737 panel and panel textures in our package, simply for reference purposes.

The flight model is thoroughly tuned to ProSim737, and ProSim737 was also tuned to the model, thus it is fully compatible with ProSim737 only!

The flight model is therefore to be used with ProSim737 and under our license agreement the user is NOT allowed to combine it with any other plane or package.

It will not work in connection with any other simulation related suite. The flight & visual model package is not compatible with other 737 related add-ons. Don't try to achieve any sort of compatibility, it is a futile experiment!

5.0 Setting up the flight model

5.1 Installation

Our advanced flight & visual model comes with its own installer. Separate installers are available for either the "Regular" or the "Professional" version of the model. The installer either finds the FSX or Prepar3D® version installed on the user's computer.

The installer will NOT search for existing installation of FSX-SE, distributed by Dovetail Games since 2014. (If you wish to install it for FSX-SE, you must do it manually, by pointing the installer to the ROOT folder of the simulator).

The same stands for Prepar3D® version 1.4 or earlier. The model works on Prepar3D® 1.x but you should manually point the installer to the root folder of the simulator.

If one of the directly supported simulators are installed (FSX or Prepar3D® v2) the installer will find their paths in the registry.

If only FSX is found, the model will install there. If only Prepar3D v2 is found it will install there.

If both simulators are installed on your drive(s), the installer will install for Prepar3D® v2. Naturally, the user can always change the installation path manually by pointing the installer to the desired simulator's ROOT folder.

Simply double click on setup.exe of the package you received and follow the instructions on the screen. By default the installer places the ProSim737 Flight Model plane into the 'Simobjects' folder of your Flight SimulatorTM X or Prepar3D® installation. No further action is required by the user, apart from selecting our airplane in the simulator, later on.

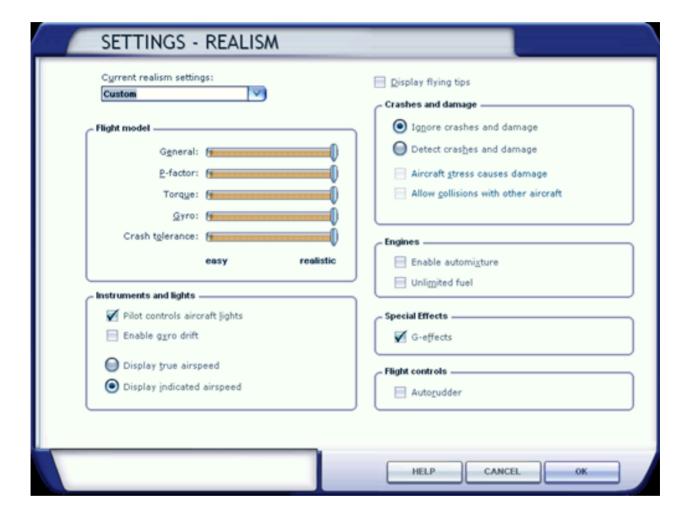
We highly recommend saving a start-up flight with the ProSim737 Flight Model, so your simulator will always start with your new plane.

5.2 Recommended FSX realism settings

In order to work correctly, your realism settings need to be at the maximum in FSX.

The flight model will be unusable or crippled if you try to use any other setting. Although not recommended either, you may change the other settings but never ever move the 'Flight model' sliders. They always have to be at the rightmost maximum setting.

We recommend using the maximum settings as shown below:



5.3 Sensitivity of controls

To achieve the needed realism, apart from our advanced flight-model, the most important factor is the settings of your hardware components, mainly the yoke and the rudder but also the throttle levers to some degree.

If you controls are not calibrated almost perfectly or sensitivity curves are far from the desired values, your plane and our flight model will not work as should.

Therefore it is vital to calibrate your hardware as thoroughly as possible. There should be no 'spikes' or unwanted movements of the controls, they need to be steady in a given position without any oscillations. 'Dead zones' need to be calibrated as well.

Please note that we cannot fine tune our dynamic model according to your hardware or the tens of thousands of yokes and pedals out there, thus you need to calibrate your hardware according to the needs of the model. This is the only path to achieve realism.

Please do not calibrate your yokes a certain way, just because you are used to a comfortable setting. That particular setting may be comfortable to you but might also be a serious obstacle when you try to 'hand-fly' the plane. Unfortunately, we are simply unable to give you any exact instructions We would have to present as many instructions as the number of different yokes out there. It would be impossible, so let us agree on a different approach to the problem. We see no other solution to this. So here it is:

When your plane behaves just as it should – in comparison to the real one – it means your settings are good or they are getting better.

Do not let your 'feelings' interfere with realism and do not judge the flight model just because your decade-old settings on the yoke suggest you so. They are different! They have served you well for quite some time, but it doesn't mean they are perfect.

Our model has been tested on different hardware by quite a few real captains of the 737-800. They have the real and daily experience of the 'feel' of the yoke and the pedals, so in fact this is what you need to achieve with your own calibration.

When you get acceptable results it means you are getting closer to the right calibration.

Do a couple of single engine landings. If you are able to keep the plane on the centerline with rudder and applying only one reverser, it means your settings are good. If you are unable to do it, it is not due to the shortcomings of the flight-model, but something is unfortunately wrong with your hardware settings. Calibrate, re-calibrate, change the sensitivities and curves, until you are able to stay on centerline. Then you've probably achieved what was needed.

If you are using Peter Dowson's great FSUIPC utility, always try to assign your controls via the Axes tab and use the 'Direct' calibration method. That ensures the best result. Later on calibrate the controls in FSUIPC and try to find the best 'slope' for your specific hardware. There are many throttle quadrants on the market by now. Some of them are even motorized, some are not. They all will work with our advanced flight model. It can be a problem though, that some other THQ's software or hardware sends information to the simulator in such a method that may be slower than required. In this case, the flight model will suffer, because throttle response is not what the real plane or our flight model was designed for.

The very same problem may also arise with other yokes and rudder pedals, so the only guarantee we can provide is that the advanced flight model works as it should with properly configured yokes and pedals. Proper calibration of hardware is very important. We highly recommend calibrating your control axes via FSUIPC's 'Direct calibration' facility, which is independent from axes in the flight simulator's own system.

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5.4 Single Engine operations

In order to practice single engine operations (SE) the rudder pedals need to be carefully calibrated but even more importantly the user has to be sure the pedals are able to provide their maximum values at their maximum deflection.

Although Flight Simulator comes with its own inbuilt Yaw Damper but it doesn't work as it should. The Yaw Damper in the simulator simply abridges full rudder deflection. Therefore – especially if SE operations are practiced – the default Yaw Damper needs to be disabled in relation to the flight model.

To achieve this, please make sure that the line 'yaw_damper_gain = ' is set to '0.0' in the aircraft.cfg file. This is always needed to be set to 0.0 if a SE operation is practiced, especially if an engine is out at V2. We advise you to always keep this setting.

In case the user wants to use the Yaw Damper at higher altitudes, the configuration setting could be set to 1.0 (which is 'enabled' in this case), nevertheless ProSim will take care that even if enabled, the Yaw Damper will not be effective below 1500 ft AGL.

The 'Professional' version of the flight model is more optimized for Single Engine operations.

5.5 Autopilot sensitivity

If you are an experienced ProSim737 user, you probably know that you can fine-tune the sensitivity of the autopilot.

Run ProSim737 MCP, right click anywhere on it's main screen and select the Configuration menu. In the menu select the second Tab named Tuning. You will find the two important values there 'Aileron tuning' and 'Heading stability'.

Use these two values to fine tune the autopilot, but only do it if it was necessary. The values are percentages, so you may go above 100 if it is needed, although we think it will never be necessary. Do not change the values more than 10% at once, do thorough tests after every change you made.

In fact any changes are needed only if you experience vertical or horizontal oscillations while using the autopilot at level flight, at a considerably normal speed.

A good trick when searching for possible over-control (i.e. oscillations) is to increase the simulation speed to 4x and observe if oscillations occur and if the autopilot is able to hold either heading or altitude.

5.6 Exits and GSX

GSX should be supported as the exits are correctly positioned in the cfg file. If you require certain exits to be used then you need to edit the aircraft.cfg file to reflect which exit needs to be used, max 4 exits. In the following example, front left, rear left and both cargo's are used.

If you wish to use the front right remove the // from exit.0 and place // in front of the door you do not wish to use.

[exits]

```
//extra exits are for right door positions using GSX number_of_exits = 4 exit.0 = 0.2, 40.32, -5.38, 3.97, 0 // Front left door //exit.0 = 0.2, 43.27, 4.98, 3.60, 0 // Front right door exit.1 = 0.2, -54.10, -4.76, 4.16, 0 // Rear left door //exit.1 = 0.2, -54.19, 4.75, 3.77, 0 // Rear right door exit.2 = 0.2, -41.14, 4.00, -1.31, 1 // Rear cargo exit.3 = 0.2, 26.21, 4.46, -1.94, 1 // Front cargo
```

Example to reflect change from front left to front right

```
//\exp(1.0) = 0.2, 40.32, -5.38, 3.97, 0 // Front left door exit.0 = 0.2, 43.27, 4.98, 3.60, 0 // Front right door
```

5.7 Fuel Default Loading

If you wish to start each with flight with a default fuel load other than full, you can change this in the cfg file as follows, Below is part of the default Fuel section which gives full tanks:

```
[fuel]
```

```
Center1 = -3.65, 0.0, -2.0, 4300, 0 //Longitudinal (feet), Lateral (feet), Vertical (feet), Usable(gallons), Unusable (gallons)

LeftMain = -9.00, -16.8, 1.2, 1288, 0 //Longitudinal (feet), Lateral (feet), Vertical (feet), Usable(gallons), Unusable (gallons)

RightMain = -9.00, 16.8, 1.2, 1288, 0 //Longitudinal (feet), Lateral (feet), Vertical (feet), Usable(gallons), Unusable (gallons)
```

Figures to achieve half tanks are as follows:

You can use whatever values you want up to the maximum, even zero if you wish, just don't expect to go very far with zero.

5.8 Adding Liveries

Liveries can be downloaded from the ProSim737 forum, 28 at the moment so everyone should be happy, the old js_800 liveries will not work without modification, but as this has already been done for the Larrylynx liveries there is no need. If you need a third party livery converting let Larrylynx know via the forum.

To add a livery is quite simple... and I don't apologize for the hand holding method.

- 1. download the file
- 2. make a texture directory
- 3. adjust the aircraft.cfg file

Each download should contain, 3 fuselage files, 1 tail file, 1 texture cfg file and 1 thumbnail file (there may be a wings file but this is very very rare, only SouthWest at the moment)

Make a texture directory, the file structure for the ProSim737 Flight Model is as follows: SimObjects

```
Airplanes
```

ProSim738 model (visual and VC models)

panel (default FSX Panel)

sound (sound files)

texture (default ProSim texture)

texture.common (textures common to all liveries)

Topcat (Topcat file for ProSim738)

Docs (documentation for ProSim738)

to add a new livery include a new texure folder like this:

texture.XXX (where XXX is the 3 or 2 letter designation, the dot is very important so don't leave it out, see end user guide for a current list though any designation will do, and place downloaded files in this directory).

CFG file modifications: Open the aircraft.cfg file with notepad or similar. Yes the ProSim738 file not any other one. Right at the top you will see entries similar to the following

```
[fltsim.1]
```

title= title=Prosim_737_800_Prosim_Livery

sim=Prosim738

model=

panel=

sound=

texture=KLM

kb_checklists=Boeing737-800_check

kb_reference=Boeing737-800_ref

atc_heavy=0

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```
atc_flight_number=100
atc_airline=Prosim
atc_model=737-800
atc_parking_types=GATE,RAMP
ui_manufacturer="Prosim_800 KLM"
ui_type="737-800"
ui_variation="KLM"
ui_typerole="Commercial Airliner"
ui_createdby="Prosim"
//atc_id=JST101
visual_damage=0
```

To add a livery, (British Airways in this example), you need to copy the whole block and paste a new one after the last block you have listed, then change the following lines, which have not been modified in the top example

```
[fltsim.1]
title=Prosim 800 KLM
texture=KLM
ui_manufacturer="Prosim_800 KLM"
ui_variation="KLM"
```

to

```
[fltsim.2] (the next available number, 2 in this case, remember the dot)
title=Prosim 800 British Airways (Name to appear in FSX menu)
texture=BA (same as the XXX letters you used in the texture.
folder)
ui_manufacturer="Prosim_800 British Airways"
ui variation="British Airways"
```

ProSim738 suggested livery codes to keep things simple, if you make a livery using the JS-800 paintkit suggest a XXX lettering code. The js_800 paintkit is ok for the ProSim737 Flight Model, just save the files with the correct naming structure; see a download livery for examples.

| AAL | American Airways | AB | Air Berlin |
|-----|----------------------|-----|-----------------|
| AF | Air France | BA | British Airways |
| BRU | Brussels Airways | DTA | Delta |
| GSC | Greenland Sim Centre | JET | JetTime |
| KLM | KLM | LFT | Lufthansa |
| LPZ | Leipzigair | NOR | Norwegian |
| PRI | Primera | RYR | Ryanair |
| SAB | Sabena | SAS | SAS |
| SW | South West | TAP | TAP |

TNT TNT TOM Thomson
UTD United UX Air Europa
VA Virgin Australia VB Virgin Blue
QAN Qantas TUI TUIfly
PUN Prosim737 unofficial livery TRA Transavia

6.0 Miscellaneous

6.1 Realism

The flight model has been thoroughly tested by airline pilots and instructors.

The behavior of the plane is as close as to the real 737 -800 as possible, thus all parameters are in the range of 1-5% of the real plane, which is a truly admirable ratio, especially if you consider that two real airplanes of the same maker may also show this much difference, without any known reason.

The flight model is capable of simulating whatever the real plane does, or is needed for any training scenario, including the mentioned Single Engine (SE) performance and stalls. All parameters are according to specifications and what level-D simulators are capable to simulate.

You will get realistic takeoff and landing performance, realistic climbs and descends, SE performance and stalls, however there is an important tool we cannot provide: the real documentation of the plane to compare our numbers to. This is something you need to get hold of yourself.

6.2 Topcat compatibility

There is a popular add-on named Topcat used by many serious cockpit flyers. http://www.topcatsim.com

This utility – an advanced weight, takeoff and landing performance calculation tool – uses a specific file for each widely used add-on plane. We have made such a file for you to be used in Topcat. In case you have the utility and wish to use it with the Jetstream Flight-Model, please copy the "Boeing 737-800 Prosim.txt"" file from your FSX\Simobjects\Airplanes\Prosim 737-800 Regular(or Pro)\Topcat folder to Topcat's own "Configurations" folder. When starting Topcat simply select "ProSim737-800" for the Aircraft/Configuration menu.

6.3 Credits

We express our sincere thanks to:

Captain John Burn

Captain Tobias Johansson
Captain Peter Näslund

Captain Shubhendra Shankar

Captain Oliver Nagy
Captain Adam Foldes
F/O Thomas Freund
F/O Peter Orosz

For their invaluable help and support.

Many thanks go to our diligent and critical beta-tester too!

Happy flying!

The ProSim737 Team, Lapi, Steve Cozens.