



# FSFlyingSchool 2010

## Manual

Web: [www.FSFlyingSchool.Com](http://www.FSFlyingSchool.Com)

Support: [[www.FSFlyingSchool.Com/Forum](http://www.FSFlyingSchool.Com/Forum)]

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**Note – this software now contains a free demo of the  
FSFlyingSchool2010 Cessna 172 Detail Pack**

If you fly a Cessna 172 within the FSFlyingSchool2010 demo area (near Chicago O'Hare International Airport) you will experience a new, rich level of attention to the details of the Cessna 172 and the way it should be flown by you. If you would like to fly a Cessna 172 *anywhere* with this feature, you can purchase the full FSFlyingSchool2010 Cessna 172 Detail Pack from [www.FSFlyingSchool.com](http://www.FSFlyingSchool.com) or from a shop of your choice.

**If you already own a Cessna Detail Pack you can use its registration key with FSFlyingSchool2010!**

**Note to Flight Simulator X users.**

If you want to use FSFlyingSchool with Flight Simulator X you must install Peter Dowson's award winning FSUIPC version 4. If you already have FSUIPC version 4 installed on your PC, you do not need to install it again. You can check this by looking at the AddOns Menu of FSX to check if FSUIPC appears there. If it does appear on the AddOns Menu of FSX, it is installed and you do not need to install it. If it does not appear there, you should install it as your next step. To install it, simply launch FSUIPC from your FSFlyingSchool CD or download it from:<http://www.schiratti.com/dowson.html> and then launch the program you downloaded.

**The FSUIPC version you need is free - you do not need to buy (register) it.**

**FSFlyingSchool's software is not to be considered,  
in any way, implied, certified, suitable or valid for the  
training of any person for the operation  
of any aircraft or vehicle of any kind.**

### ***Summary of new features in FSFlyingSchool 2010 v 3.10***

Version 3.10 is a free update for owners of FSFlyingSchool 2010 and introduces some handy new features.

#### **Information Page**

We've improved the layout to help you get your bearings when starting with FSFlyingSchool 2010. Take a look around and you'll soon be up and flying with our instructors.

#### **Discuss FSFlyingSchool**

A new Information Page button takes you directly to the FSFlyingSchool online forum, where you can ask for help, search a huge storehouse of tips and tricks or just chat with other FSFlyingSchool fans.

#### **Twitter FSFlyingSchool**

A new Information Page button takes you directly to your Twitter home page, from which you can let folks know what you are up to with FSFlyingSchool.

#### **Enhanced Traffic Identification**

Your instructors have been studying their aircraft recognition charts and you'll hear them being more specific about what kind of traffic is out there on the ground and in the air. These folks can tell a Boeing from an Airbus – can you?

## Summary of new features in FSFlyingSchool 2010

Here's the fast track on what's new in FSFlyingSchool 2010. As usual, we have made several incremental improvements to FSFlyingSchool 2010, including small adjustments to the ease or the challenge of satisfying your instructor.

*The major new features of FSFlyingSchool 2010 are as follows:*

### **Free Demo of FSFlyingSchool2010 Cessna 172 Detail Pack**

If you fly a Cessna 172 within the FSFlyingSchool2010 demo area (near Chicago O'Hare International Airport) you will experience a new, rich level of attention to the details of the Cessna 172 and the way it should be flown by you.

Not all pilots fly the Cessna 172 and the *Detail Pack* product is therefore offered as an optional add-on for FSFlyingSchool2010.

If you would like to fly a Cessna 172 *anywhere* with this feature, you can purchase the full *FSFlyingSchool2010 Cessna 172 Detail Pack* from [www.FSFlyingSchool.com](http://www.FSFlyingSchool.com) or from a shop of your choice.

### **Works with Cessna 172 Detail Pack for FSFS2010 or FSFS2009**

If you already bought the FSFlyingSchool2009 version of this popular add-on for FSFlyingSchool there is nothing more to purchase. Just enter your Cessna 172 Detail Pack registration code into FSFlyingSchool 2010 and you're done.

### **TRAFFIC! TRAFFIC!**

Instructor optionally comments on the position, type and activity of both air and ground traffic and issues warnings if aircraft are getting too close. Things can get hectic at busy airports so your instructor will help keep you out of trouble.

### **Waypoint Advice**

Instructor optionally advises when the next waypoint in a flight plan is approaching and reports its ID and type and advises the turn which must be made when it is reached. This gives you a hand setting up for that next important stage of the flight plan.

### **Navigation Aid Advice**

Instructor optionally advises which radio to tune for the next NAVAID (Navigation Aid) in the flight plan (VOR or NDB) and reports the ID and type of the NAVAID, how to use its signal, and the course which can be tracked with it. It all helps the pilot stay on track and is a gentle way of introducing the pilot to the basics of VOR and NDB navigation.

### **Instant Customization of FSFlyingSchool Runway Data**

Powerful new feature means that with a single key-press the pilot can optionally indicate what exact touchdown point on *any runway in the world* the pilot wants a landing to be evaluated on. You can aim for any point on the runway you like with this handy new tool.

### **Automatic Setting of OBS**

Instructor will automatically set NAV1OBS to the runway heading during landing. One less thing for the pilot to worry about during a very busy time.

### **Runway Details**

Instructor reports runway length, altitude and surface type when on approach. It all helps in planning that perfect landing.

## **ILS Advice**

Instructor advises frequency of ILS (Instrument Landing System) at destination airport. If you want to do an ILS approach and need that frequency, your instructor has it for you.

## **ATIS Advice**

Instructor advises frequency of ATIS (Automatic Terminal Information Service) at destination airport. Use this to tune a radio and get vital information on the current conditions at the airport.

## **Automatic ILS Tuning**

Instructor optionally tunes NAV1 (Navigation Radio One) to ILS (Instrument Landing System) at destination airport. Things can get busy so you can have your instructor take care of this for you if you wish.

## **Automatic ATIS Tuning**

Instructor optionally tunes COM2 (Communications Radio Two) to ATIS (Automatic Terminal Information Service) at destination airport. Handy to save time and COM2 will not interfere with ATC communications.

## **DME Reporting**

Instructor reports distance from DME (Distance Measuring Equipment) navigation aid.

## **Handy Hints**

Even more helpful cues and suggestions from your instructors.

## **Announces Selected Runway**

Instructor reminds pilot which runway has been chosen for landing at destination airport. Helps keep the pilot on the right track and off the wrong runway.

## **Announces Flight Plan Length**

Instructor reports total distance of flight plan. Make sure you can get there safely and with plenty of fuel to spare.

## **Tips**

The in-program text tips have been expanded to help pilots get the most from all of FSFlyingSchool2010's features.

## **Runway Information**

Enhanced runway data displayed at Flight Plan Page, including runway length, surface type and ILS and ATIS frequencies.

*(As a convenience to users upgrading from FSFlyingSchool Classic )*

## **Summary of new features in FSFlyingSchool 2009**

Many of you will have used FSFlyingSchool – now known as FSFlyingSchool Classic – in all its versions up to 1.9.2. We think you will be eager to know what's new in FSFlyingSchool 2009. Several incremental improvements have been made to FSFlyingSchool 2009, including small adjustments to the ease or the challenge of satisfying your instructor.

*The major new features of FSFlyingSchool 2009 are as follows:*

### **Free Demo of FSFlyingSchool2009 Cessna 172 Detail Pack**

If you fly a Cessna 172 within the FSFlyingSchool2009 demo area (near Chicago O'Hare International Airport) you will experience a new, rich level of attention to the details of the Cessna 172 and the way it should be flown by you.

Not all pilots fly the Cessna 172 and the *Detail Pack* product is therefore offered as an optional add-on for FSFlyingSchool2009.

If you would like to fly a Cessna 172 *anywhere* with this feature, you can purchase the full *FSFlyingSchool2009 Cessna 172 Detail Pack* from [www.FSFlyingSchool.com](http://www.FSFlyingSchool.com) or from a shop of your choice.

### **Evaluates landing with or without ILS at any runway in the world**

You can perform an ILS approach or a visual approach to any runway, with the instructor watching and helping you through the entire process.

### **Automatically creates FSFlyingSchool profile for any powered airplane**

Any plane you choose to fly will be automatically detected by FSFlyingSchool and a profile for it will be created.

### **Pilot Briefing Tool analyzes all flights to find patterns of performance which need improvement**

This unique tool will look at all flights made with FSFlyingSchool and find areas which need improvement and advise you of those which you are perfecting.

### **Option to monitor correct use of aircraft lights**

Your instructor will now, if you wish, add a whole new dimension to your flying by expecting you to use your aircraft lights correctly.

### **Instructors now give additional warnings before mistakes are made**

We can all use a little help and your instructors will often caution you when you are about to slip-up.

### **Instructors have many new helpful and entertaining phrases**

Your instructors want you to enjoy the experience and they help out with tips and the odd unexpected observation.

### **Aircraft Failures integrated into scoring**

FSFlyingSchool pilots are no strangers to aircraft failures, but they now score extra points if the pilot retains control.

### **Option to monitor correct use of aircraft engines**

Let's get even more serious about our performance in the air.

### **Engine fires**

These are pretty serious and can lead to exciting times. If you are flying with FSFlyingSchool aircraft failures allowed, you will need to be on the look out for potential engines fires – FSX only.

## **Monitors use of emergency communications**

There is a right time and a wrong time for this sort of thing.

## **Enhanced Help**

Already packed with acclaimed help, the program is now even easier to use. Your instructor will also give you tips on what to do.

## **Analysis of flight and crash if you crash the aircraft**

The fictitious National Aeronautical Safety Board will analyze the crash and other data and record this in your log book, plus the pilot also gets a record of how well the flight had proceeded up to that point..

## **Tips**

The in-program tips have been greatly expanded to help pilots get the most from all of FSFlyingSchool2009's features.

## **Sound Device Output Selection**

Pilots with multiple sound devices are now able to choose which device is used to output sound from FSFlyingSchool2009.

## **Instructors Report Aircraft Failures**

A great number of aircraft systems, instruments and switches can have a simulated failure when flying with FSFlyingSchool2009. When they do, your helpful instructor will (optionally) tell you what the specific problem is.

## **New Hotkey**

Pressing Ctrl Shift B provides handy data to the pilot who wants to know current: AGL (above ground level), ground altitude and also displays the count of errors (if any) that the instructor has noted in this flight. To the sharp eyes of these instructors, flying the wrong way for half a second counts as an error so these can add up fast!

## Introduction

Welcome to FSFlyingSchool! **To get the most out of this product, please read this manual.** FSFlyingSchool uses sophisticated logic to analyze your flying technique, to help you refine and demonstrate your flying skills. Several of FSFlyingSchool's methods will be new, even to veteran simulation pilots, so please read about them in this manual, to discover how FSFlyingSchool works, what it is telling you, and why.

## System Requirements

FSFlyingSchool recommends a PC well equipped to run the version of Flight Simulator you have selected. If the PC can run Flight Simulator at a good pace, without problems, FSFlyingSchool will run fine with it. If the PC is *struggling* to run Flight Simulator, especially FSX, then FSFlyingSchool will be unable to give its best performance.

**If you are using FSX** - Because FSX requires a high performance system, we recommend, for FSX, the following minimum specification:

3.0 GHz Processor  
1 GB RAM  
256 MB 3D Graphics Card

To hear your instructors, you will obviously need a sound card.

## Installation

For FSFlyingSchool to install and to run correctly, you must be a *Computer Administrator* user and not a *Limited Account* user.

To install, simply run the installation EXE program supplied by FSFlyingSchool. If installing from CD, follow the instructions on the inside of the product case.

## FSUIPC

FSFlyingSchool uses Peter Dowson's excellent FSUIPC. This is installed for you automatically by FSFlyingSchool if you do not already have it and are using FS2004.

**You do not need to register FSUIPC in order to use FSFlyingSchool as FSUIPC works splendidly with FSFlyingSchool, whether registered or unregistered.**

**To use the free version of FSUIPC, just press CANCEL at the FSUIPC registration screen.**

If you already have a *rather old* version of FSUIPC installed, then, when you run FSFlyingSchool and Flight Simulator, FSFlyingSchool will display "Status: FSUIPC must be at least v3.22". To resolve this you will need to upgrade FSUIPC to a newer version that is compatible with FSFlyingSchool. The latest version of FSUIPC can be downloaded from: <http://www.schiratti.com/dowson.html>

For **FS2004** – download the *latest* version of FSUIPC **3**, for example "FSUIPC 3.93".

For **FSX** – download the *very latest* version of FSUIPC **4** for example "FSUIPC 4.53".

## FSX

FSFlyingSchool is supported with FSX and FS2004.

To configure FSX to work with FSFlyingSchool:

- FSUIPC v4 or above must *not* be used with FS2004! You only need it for FSX!
- Shut down FSFlyingSchool if it is running and then shut down FSX.
- Obtain the latest version of FSUIPC v4. It will be on your CD purchased from FSFlyingSchool, or it can be downloaded free from: <http://www.schiratti.com/dowson.html>
- Run the FSUIPC v4 install program.
- Run FSX. At some point you'll be asked if you wish to run/trust FSUIPC by Pete Dowson. Select "Yes". Once FSX has loaded, get an aircraft on the ground and ready to fly.
- Run FSFlyingSchool. "FSX" will be detected and FSFlyingSchool can then start monitoring it.

**If your PC is struggling to run FSX it will not be ideally suited to running *any* other software at the same time. We have witnessed a noticeable delay in the response from *any* other software, including FSFlyingSchool, when running on a PC which can barely run FSX. The solution of course is to upgrade your PC to run FSX smoothly.**

## Demo and Registered Versions of FSFlyingSchool

The FSFlyingSchool installation program, on your CD, or downloaded from a web site, installs the *DEMO* version of FSFlyingSchool.

It can be unlocked to become a full version when registered with a registration key.

Differences between the demo and registered versions:

Demo:

Pilot cannot submit scores to web tables

Pilot must fly within area stretching from Chicago to Green Bay

Registered:

Pilot can submit scores to web tables

Pilot may fly anywhere in the world

**In order to register FSFlyingSchool**, you will need to enter the codes which came with your CD or purchase the product if you downloaded it. Download customers are sent a registration key.

**Registration keys issued for FSFlyingSchool Classic (up to version 1.9.2) are not compatible with FSFlyingSchool 2009. FSFlyingSchool 2009 keys are not compatible with FSFlyingSchool 2010. Cessna Detail Pack Keys work on BOTH FlyingSchool2010 and FlyingSchool2009.**

***Free Demo of Cessna 172 Detail Pack for FSFlyingSchool2010***

If you fly a Cessna 172 within the FSFlyingSchool demo area (near Chicago O'Hare International Airport) you will experience a new, rich level of attention to the details of the Cessna 172 and the way it should be flown by you.

The demo area is bounded by:

**Top left: N 45 deg 00 min, W 88 deg 30 min**

**Bottom right: N 41 deg 30 min, W 87 deg 30 min**

and if you leave this area you will hear no more special Cessna 172 treatment.

If you would like to fly a Cessna 172 *anywhere* with this detailed experience, you can purchase the full *Cessna 172 Detail Pack for FSFlyingSchool2010* from [www.FSFlyingSchool.com](http://www.FSFlyingSchool.com) or from a shop of your choice. This will allow you to register the *Cessna 172 Detail Pack*.

If you own the *Cessna 172 Detail Pack for FSFlyingSchool2009* there is no need to purchase anything more to use it with *FSFlyingSchool2010*. Just enter the Cessna registration code into the appropriate field in *FSFlyingSchool2010*.

Details of how to register the *Cessna 172 Detail Pack for FSFlyingSchool2010* are provided in that product's manual.

## Quick Start

Please read this manual if you want to get the most out of flying with FSFlyingSchool.

If you would prefer to do this later and want to jump right into the cockpit, here's what you should do next:

- Launch Flight Simulator.
- Create or select a flight in Flight Simulator using an aircraft listed in FSFlyingSchool's aircraft folder – see *Aircraft provided with FSFlyingSchool at the end of this section*. (If the aircraft you want to fly is not in this list you can add its data yourself – see *Adding Aircraft Interactively* in this manual) Start with something simple like the Cessna 172. Do not choose a helicopter, glider, aerobatic plane or fighter as such flying is not supported by FSFlyingSchool – yet...
- Get that plane ready to fly, either in mid-air or on the ground. Get yourself at the controls of the plane.
- Launch the FSFlyingSchool program.
- Press the *Connect Button* in FSFlyingSchool.
- Switch back to Flight Simulator and enjoy your flight with FSFlyingSchool by your side!
- **But – you really should read this too...**  
**It is essential that you and your instructor agree on what stage of your flight you are presently executing.** Are you taxiing, taking off, cruising or landing? FSFlyingSchool calls this your *Flight Mode*.
- FSFlyingSchool will attempt to detect this automatically during flight, but this can also be achieved by advancing (or backing up if you make a mistake) your *flight mode* using the following shortcut keys (for more information read *FSFlyingSchool Flight Modes* in this manual):

Shortcut	Default	Alternate
Advance Flight Mode	[Ctrl-Shift-Z]	[Ctrl-Shift-1]
Back Up Flight Mode	[Ctrl-Shift-X]	[Ctrl-Shift-2]

**Aircraft allowed to score on the FSFlyingSchool web site**

The following list shows the aircraft which can score on our web site at present. The list is constantly growing on our web site and FSFlyingSchool now supports scoring with over 100 aircraft. If the aircraft you want to fly is not in this list you can let FSFlyingSchool auto-detect it and estimate its values. You can customize these values yourself in just a minute or two – see *Adding Aircraft Interactively* in this manual. Aircraft are being added to the FSFlyingSchool website all the time – see *Adding Aircraft by Installing New FSR Files* in this manual. Check our website for new aircraft!

<http://www.FSFlyingSchool.com>

- Aeroworx super king air b200
- Airbus\_a321
- Alpha\_cessna\_t-50\_bobcat
- Alpha\_t-6\_texan
- Aopa\_cherokee\_six
- Atr72-500\_fsxv5.7
- Australian simulation piper warrior
- B737\_400
- B737\_800
- B747\_400
- B777\_300
- Bae 146-200 eurowings pro
- Beech\_baron\_58
- Beech\_king\_air\_350
- Bombardier\_crj\_700
- Bonanza33m
- Bonanza\_v35b
- C172
- C182
- C182rg
- C208
- C208b
- Carenado piper dakota
- Carenado\_centurion
- Carenado\_cessna\_skylane\_182\_rg\_ii
- Carenado\_cherokee
- Commander\_112a
- Curtiss\_jenny
- Dc3\_nh\_ifr
- Dhc-2w
- Digital\_aviation\_do\_27\_b1\_\_d\_emka\_
- Digital aviation katana da-20-100
- Digital aviation katana da-20-80
- Douglas\_dc3
- Dreamfleet\_a36\_tip\_tanks
- Dreamfleet\_baron\_58\_lite
- Dreamfleet\_baron\_58\_rxp
- Dreamfleet archer iii
- Eaglesoft cirrus sr20 g2
- Eaglesoft cirrus sr22 g2
- Eaglesoft liberty xl2
- Extra300
- F1\_112a
- F1\_cessna\_172
- F1\_pilatus\_pc-12
- Feelthere pic 737-300
- Ffs vans rv7
- Ffs vans rv7a
- Flight one pa-28
- Ford\_trimotor
- Fsd seneca v
- Fsd\_aerostar
- Fsd\_piaggio\_p180
- Fsd\_piper\_navajo
- Fsd\_piper\_panther
- Fsd\_porter\_on\_wheels
- Fsd\_t38a
- Jf\_c152
- Jf\_c152\_pcpilot
- Jf\_pa38\_tomahawk
- Kc-135t
- Lear45
- Lockheed\_vega
- Lvid\_b763
- Maam-sim c-47a - air-drop cargo
- Maam-sim c-47a - cargo
- Maam-sim c-47a - paratroops (american)
- Maam-sim c-47a - paratroops (commonwealth)
- Maam-sim c-47a bbf
- Maam-sim c-47a delivery
- Maam-sim c-47a raaf
- Maam-sim c-47a warton
- Maam-sim c-47b cnac
- Maam-sim c-47b commando
- Maam-sim dc-3 cargo
- Maam-sim dc-3 passenger
- Maam-sim r4d-6
- Maam-sim xc-47c
- Mooney\_bravo
- Neuroflight\_f406-v3
- Pa22\_tripacer
- Pad\_dash8\_air canada\_jazz
- Piper\_j3cub
- Pmdg737-900
- Pmdg\_express\_b1900c
- Pmdg\_express\_b1900d
- Realair sf-260 left seat
- Realairc172
- Realair\_citabria\_2007
- Realair\_decathlon\_2007
- Realair\_scout\_2007
- Realair\_scout\_2007\_amphibian
- Realair\_scout\_2007\_tundra
- Realair\_sf-260
- Realair\_sf-260\_left\_seat
- Sibwings saab 91b safir
- Sibwings saab 91c safir
- Sibwings saab 91d hb-dbl
- Sibwings saab 91d safir
- Socata\_tb200gt
- Socata\_tb21gt
- Sopcamel
- Spirit\_of\_stlouis
- T-37v20
- Vickers\_vimy
- Vmax ups cargo new livery
- Wright\_flyer

In order for FSFlyingSchool to function correctly FSR files should not be modified. Variations can be created using FSU files – see *Adding Aircraft Interactively* in this manual.

### ***Getting the most from FSFlyingSchool***

FSFlyingSchool is an add-on for Microsoft Flight Simulator X and 2004 and as such depends on the pilot to operating Flight Simulator in a sensible manner. Although FSFlyingSchool contains many checks to stop it being misled by the pilot's actions, it is not impossible for it to be forced into losing track of what is actually happening in Flight Simulator. This will occur if the pilot makes drastic changes such as changing the aircraft *during* a flight, slewing the aircraft or changing the time of day or map location. If FSFlyingSchool detects an extreme change to the simulated flight, it will disconnect from Flight Simulator as it cannot support this style of operation. The reason for the disconnection will be described in the FSFlyingSchool *Log Book* Page.

Note that FSFlyingSchool is not intended for use with helicopters, gliders, aerobatics or combat flying...yet.

## The FSFlyingSchool Interface

Under normal circumstances, you will first launch Flight Simulator, get an aircraft on the ground and ready to fly and then launch FSFlyingSchool. If FSFlyingSchool is correctly configured, it will successfully detect Flight Simulator. If it does not detect Flight Simulator, FSFlyingSchool will display the warning "No Flight Simulator Found" and you will not be able to press FSFlyingSchool's *Connect* button to start communications with Flight Simulator.

FSFlyingSchool's *Connect* button opens communications between FSFlyingSchool and Flight Simulator. In addition, FSFlyingSchool has a number of screen pages which control different aspects of configuration and use of FSFlyingSchool:

- Information
- Pilots
- Flight Plan
- Aircraft
- Log Book
- Settings
- Credits

### Tips of the Day

A randomly selected tip is displayed when the user launches FSFlyingSchool. The tips can be examined one by one if the user prefers and this feature can be turned on or off as desired. The tips contain a wealth of information about how to get the most from FSFlyingSchool.

### Information Page

The Information Page has handy information on how to fly different types of flight with FSFlyingSchool and also a convenient link direct to the FSFlyingSchool web site's Tutorials Page so that the user can jump to a set of detailed narrated video tutorials on how to get the most from FSFlyingSchool. There is also a button to launch the FSFlyingSchool Manual (this document you are reading) in PDF format.

### Connect Button

The *Connect* button, when pressed, tells FSFlyingSchool to interact with Flight Simulator; Flight Simulator must of course already be loaded for this to occur and in order for a connection to be established, Flight Simulator must not be *paused*.

**FSFS-Tip** Note that Flight Simulator may pause each time you switch to a different task, such as switching to FSFlyingSchool itself. This behaviour is controlled by Flight Simulator's Options – Settings – General – "Pause on task switch". We generally fly with this turned off, but you can choose whatever configuration you prefer.

The FSFlyingSchool *Connect* button will become a *Disconnect* button after you press it.

You will normally leave FSFlyingSchool connected to Flight Simulator as you fly with your favourite FSFlyingSchool instructor, but if you wish to change key areas of the simulation, such as your Flight Simulator aircraft or location, you will need to disconnect FSFlyingSchool from Flight Simulator. You will also need to disconnect should you wish to change any key values in FSFlyingSchool, such as your aircraft or pilot data.

Note that disconnecting FSFlyingSchool *will end your current flight with FSFlyingSchool*.

When you are ready to end your session in FSFlyingSchool, press the *Disconnect* button to end communications between FSFlyingSchool and Flight Simulator.

As you can see, disconnection can take place because you have told FSFlyingSchool to disconnect, or because FSFlyingSchool has detected a drastic change in the simulated situation and *must* disconnect. In either case, FSFlyingSchool's *Log Book* Page will display the reason for disconnection; this is not part of your flying record and so this information is not saved in your pilot's log book.

**FSFS-Tip** If, while in Flight Simulator, you are unsure if FSFlyingSchool is connected, you can request a “communications check” from your instructor by changing the frequency selected on your COM2 radio. If you wish you can use the COM2 standby switch to toggle the frequency back and forth. (You can easily switch the frequency of COM2 back and forth in Flight Simulator by typing C2X). Your instructor will not say much, but you’ll hear a lot of throat clearing which tells you that FSFlyingSchool is connected and functioning.

### **Pilots Page**

FSFlyingSchool gives you the tools to create a varied team of pilots, each with their own preferences and styles, so you can fly just the way you want. You may wish to create different pilot profiles for flying props and jets, for heavies and lights, or whatever else interests you.

FSFlyingSchool comes with 2 default pilot profiles to get you started. They are ‘HeavyIron’ and ‘LightSpeed’. The former likes to fly big planes and the latter likes them small. Note how their pilot profiles differ.

### **Pilots**

- Pilot  
This is the name of the pilot, either supplied by us or created by you. You may wish to indicate the type of aircraft this pilot prefers such as “Harry Heavies” or “Laura Lights”
- New Pilot  
Press this button to create a new pilot.
- Load Pilot  
Press this button to load an existing pilot.
- Save Pilot  
Press this button to save the current pilot data. You should always do this if you change *any* of the data on the *Pilots Page*. Make sure the file name you use follows the usual Windows file naming conventions.
- Select Image  
If you wish to give your pilot a face or perhaps a colourful logo, place the image you want to use into the

*C:\Program Files\FlyingSchool\PilotRoster\Images*

folder (or perhaps in another folder if you chose a different installation path). The image must be in the GIF, JPG or BMP file format and must be no more than 80 pixels high by 80 pixels wide. Press the *Select Image* button to select the image file you want.

The image will be shown in FSFlyingSchool when that pilot is selected and will also appear in the full pilot log book HTML file.

- Current Pilot File  
This is the pilot file currently in use.

### **Failures**

- Want random failures  
Think you can handle a few surprises and maybe score some more points? Check this box if you want FSFlyingSchool to randomly fail your aircraft’s instruments and systems. In addition, the following switches can perform erratically during a flight. Remember that if ‘loose-wire’ failures is turned on, the switches (and all other systems prone to failure) can fail and then start working again.

The switches to watch are:

- Auto-Throttle-Arm
- Airspeed-Hold
- Heading-Hold
- Mach-Hold
- Altitude-Hold
- Flight-Director
- Battery
- Alternator
- Avionics
- Pitot Heat

Switch failures are simulated by FSFlyingSchool randomly flipping the switch to the OFF position. It is convenient to consider these failures as being a failure of either the switch itself, or of the system the switch controls. If a switch flips to the OFF position, turning it back on will solve the problem.

- Want 'loose wire' failures  
As if failures weren't enough, FSFlyingSchool keeps you on your toes by offering its unique 'loose wire' failures. Check this box if you want FSFlyingSchool to randomly 'fail-fix-fail-fix' your aircraft's instruments and systems.
- Aircraft reliability  
Use this to set your aircraft's likelihood to experience failures. The lower the setting, the more likely failures are, but be warned that a very low setting represents an aircraft that's going to give you a lot of trouble...

### Sound Setup

- Instructor  
Select any one of your installed FSFlyingSchool instructor voice sets from the list box. Mr Smith has more to say than any other instructor...
- Listen to Instructor  
Press this button to hear the instructor speak.
- Disable sound  
If you want to fly with an instructor who never speaks, check this box to silence FSFlyingSchool. Remember that your instructor is still watching your every move and will evaluate your performance and record the results in your log book.
- Background chatter  
Your FSFlyingSchool instructors are a friendly, helpful team. They will offer tips and observations as you fly, but if you would prefer not to listen to these, clear this box to turn them off.
- Background humour  
Your instructors make the occasional joke, but if you would rather they did not, check this box to keep things humourless and also keep your aircraft free of the mysterious grumpy stowaway child.
- Monitor Ground Traffic  
Instructor optionally comments on the position, type and activity of ground traffic and issues warnings if aircraft are getting too close. Things can get hectic at busy airports so your instructor will help keep you out of trouble.
- Monitor Air Traffic  
Instructor optionally comments on the position, type and activity of air traffic and issues warnings if aircraft are getting too close. Listen carefully to avoid tricky situations.
- Instructor notices failures  
Checking the *Want random failures* box will cause your instructor to notice each failure when it occurs. This may be a good way for you to learn how to handle failures until you are ready to watch out for them yourself.
- Want taxiing in wind advice  
Correct use of ailerons and elevator while taxiing in a light aircraft on a windy day is a challenge in itself. Check this box if you want your FSFlyingSchool instructor to evaluate your performance in this important area.
- Monitor Use of Lights  
Flying is more of a challenge if you are trying to use your aircraft lights correctly. Check this box if you want the instructor to monitor the correct use of any lights which you have indicated *for the current aircraft at the Aircraft Page*

- Waypoint Advice  
Get help navigating waypoints in a flight plan by having your instructors announce them before you reach them. They'll tell you what they are and advise you on the turn you'll need to make when you get there.
- VOR/NDB Advice  
Get a taste of VOR and NDB navigation by asking the instructor to give automatic advice on tuning and using these NAVAIDs at flight plan waypoints.

### **Control Setup**

- I have yoke pressure  
If you have a yoke with pressure feedback, such as those with a spring inside, then you will want to turn on this checkbox. When on, this control causes your FSFlyingSchool instructor to remind you to use your trimmers correctly. You may wish to do this even if you do not have yoke pressure feedback, though the effect will be more difficult to control.
- I use a rudder controller  
If you have rudder pedals or a rudder control on your joystick, you will want to turn on this checkbox. When on, this control causes your FSFlyingSchool instructor to remind you to use your rudder appropriately to keep your turns coordinated. You may wish to do this even if you do not have a rudder controller, though the effect will be more difficult to control.

### **Automatic Detection Setup**

- Cruise Mode  
The pilot can indicate if cruise mode is to be automatically detected as the aircraft levels off after takeoff.
- Landing Mode  
The pilot can indicate if landing mode is to be automatically detected as the aircraft maintains a continuous descent.

### **Automatic Radio Tuning Setup**

- ILS  
Instructor optionally tunes NAV1 (Navigation Radio One) to ILS (Instrument Landing System) at destination airport. Things can get busy so you can have your instructor take care of this for you if you wish.
- ATIS  
Instructor optionally tunes COM2 (Communications Radio Two) to ATIS (Automatic Terminal Information Service) at destination airport. Handy to save time and COM2 will not interfere with ATC communications.

## Flight Plan Page

Several of the new features of FSFlyingSchool2010 depend on the pilot filing a flight plan with FSFlyingSchool2010. It only takes a moment and really does lead to a far richer experience when your flight instructor knows where you are going and how you intend to get there!

Flying with Flight Simulator and FSFlyingSchool is a richer experience if you load a flight plan into FSFlyingSchool before starting your flight.

In addition, if you intend to perform a visual (non-ILS) approach to your destination airport, you must load a flight plan into FSFlyingSchool so that your instructor knows where you are going. A flight plan is not *required* for an ILS approach in FSFlyingSchool, but will lead to a more realistic experience.

In order to use a flight plan with FSFlyingSchool:

1. Create or load an existing flight plan in Flight Simulator.
2. Select the *Flight Plan* page in FSFlyingSchool. Browse to your Flight Simulator flight plan folder and press the *Load Flight Plan* button. A dialog window will now list the available flight plans. Select the flight plan you loaded into Flight Simulator and press the *Load Plan* button. FSFlyingSchool will list the waypoints of the flight plan. If the plan contains more than 25 waypoints, the list will be abbreviated, but the destination waypoint will always be shown.

In addition, if FSFlyingSchool has information on your destination airport in its NonILS folder, or its own FSFlyingSchool 2010 runway data, you should choose a runway to land at (you can change the runway later if you need to). If this information is available, you can perform a visual (non-ILS) approach to your destination runway.

*If FSFlyingSchool cannot find the FSFlyingSchool 2010 runway data it will advise you and offer you a button which you can use to generate the data at that time. If you chose to do this, FSFlyingSchool will quit allowing you to restart it later with all the runway data available.*

*FSFlyingSchool2010 will ask that you create a new whole world runway data file even if you already have an FSFlyingSchool2009 whole world runway data file already in place as it is not compatible with FSFlyingSchool2010. Just do what it says and you'll be all set – you only have to do this once.*

Note that if the runway you have selected exists as a NonILS folder file, this will be indicated as follows:  
“\* NonILS runway file with custom landing point \*”

Any NonILS folder file for a runway will always take precedence over automatically generated FSFlyingSchool 2010 runway data. This allows you to customize runway data if you wish.

3. Fly your flight as normal, but take care to pass the waypoints within 1 nautical mile in a light aircraft or within 3 nautical miles in a heavy. As you pass within this minimum distance, your instructor will bring this to your attention. When a waypoint in a flight plan is reached, your instructor will announce this, and announce the number, name, distance and heading of the next waypoint.

The *Flight Plan Page* also allows you to specify  $V_1$ ,  $V_r$  and  $V_2$  speeds for your flight and these will be called off by your instructor as you reach them.

You can also specify a transition altitude, which your instructor will be watching to make sure you use your altimeter correctly. You can change the transition altitude during the flight if this is appropriate. For your convenience, the transition altitude is saved with FSFlyingSchool's data – it will be the same the next time you launch it.

In addition, you may choose to end the flight, after landing, when the aircraft is:

- Stopped or Taxiing
- Stopped and the parking brake is set
- Stopped and the parking brake is set and the engine(s) are off

**FSFS-Tip** In some aircraft, cutting off the fuel is difficult to achieve using the mouse with the on-screen aircraft controls, such as fuel mixture or jet fuel cut off, and so you may need to use Flight Simulator's standard Ctrl+Shift+F1 to cut off the engine(s).

If you choose to cancel the current flight plan, simply press the *Clear Flight Plan* button in FSFlyingSchool.

You can even load a new plan during a flight, but FSFlyingSchool will expect you to start it from the beginning of the plan.

## **Aircraft Page**

FSFlyingSchool comes with its own data files for several of the Flight Simulator community's favourite aircraft.

When flying these aircraft, you will not need to enter any data into the fields on the Aircraft Page.

FSFlyingSchool needs *FSFlyingSchool aircraft data files* to provide a worthwhile instructor. We have provided several and are adding lots more; you can add your own as described in this manual. FSFlyingSchool cannot support the operation of an aircraft without an FSFlyingSchool aircraft data file which has been provided by us, or created by yourself.

If the FSFlyingSchool Aircraft Page's *Data Source* indicates 'Unknown' when you are connected to a selected aircraft in Flight Simulator, FSFlyingSchool will estimate values for the aircraft using available data. *This will allow you to fly the aircraft immediately*, but you should save the data and make adjustments to the data when you have time and information on the plane in question, from manuals and similar sources.

Start your flights with FSFlyingSchool with some of the popular Flight Simulator aircraft for which we have provided aircraft data files. Check our website for new files. Later, move onto your own favorite add-on aircraft when you are familiar with the data in the aircraft configuration and are ready to configure some of your own, by creating FSU files.

If you wish to fly an aircraft, but have no FSFlyingSchool aircraft data file for it, you can let FSFlyingSchool estimate the aircraft data values, or check the FSFlyingSchool.com website, as new aircraft files are being added all the time. If you find the file for the aircraft you want simply download it from the website and follow the instructions in this manual headed "*Adding Aircraft by Installing New FSR Files*".

The fields on the Aircraft Page are as follows:

### **Other Data**

- Retractable Gear  
Check this box if the aircraft has landing gear which can be raised during flight.
- Float Plane  
Check this box if the aircraft can land on water.
- Flaps allowed down during taxi  
Check this box if it is normal practice to taxi with this aircraft's flaps down.
- Spoilers  
Check this box if the aircraft has spoilers.

### **IAS Data**

- Clean Stall  
Enter the stall speed with flaps up
- Landing Configuration Stall  
Enter the stall speed with flaps configured for landing
- Max Gear Extension  
Enter the maximum speed at which the landing gear can be extended.

### **Monitor Engines**

- Check this box if you want your instructor to monitor your use of aircraft engines.
- As an added convenience, these checkboxes can be turned on and off *while flying*. There is no need to disconnect FSFlyingSchool to do this.

### Monitor Lights

- The checkboxes here allow you to select precisely which lights you want monitored or not for the aircraft in question. You can monitor none, some or all of the lights.  
**Note** that this is used in conjunction with the **Monitor Use of Lights checkbox at the Pilots Page**, which if off, will mean that no lights are ever monitored.
- As an added convenience, these checkboxes can be turned on and off *while flying*. There is no need to disconnect FSFlyingSchool to do this.

### Flap Settings

Enter the data for all the flap settings on the aircraft. If the aircraft has no flaps, leave this area blank.

- Position  
For each flap setting enter the flap Position in degrees of flaps, using decimal fractions when required. If the aircraft has flaps, these entries will never be zero. For example: 20 (degrees)
- Max Speed  
For each flap setting, enter the maximum speed (KIAS) at which the aircraft can be flown. If the aircraft has flaps, these entries will never be zero. For example: 110 (KIAS)  
The last flap setting on the aircraft should be followed by *Position* values which are all zero and *Max Speed* values which are all zero.

### Sound Settings for this Aircraft

Configure FSFlyingSchool's sound the way you want it to work with this particular aircraft.

- Instructor Volume  
The loudness of your FSFlyingSchool instructor will not need to vary much, but you can fine tune it to suit the background noise of your selected aircraft. This will in turn depend on the volume settings you have chosen within Flight Simulator. Note that the setting you choose here relates to the specific aircraft you are flying in Flight Simulator; you may have different settings for each of your favourite aircraft. If the aircraft noise is loud then choose a loud setting for your FSFlyingSchool instructor; if quiet then choose a quieter one.
- Listen to Instructor  
Press this button to hear the instructor speak at the chosen volume level.
- Disable Instructor Altitude Calls  
If you are flying an aircraft which has its own built in ground proximity warning system (GPWS) then you may wish to check this box in order to tell your instructor that you don't need any such information from FSFlyingSchool.

### Log Book Page

As when flying in the real world, your log book becomes an invaluable record of your flights. FSFlyingSchool enhances basic real world log book data by the introduction of a written review of each and every flight you have flown with an FSFlyingSchool instructor. A brief version of this information is shown on the FSFlyingSchool Log Book page – to see more, click on the View Full Pilot Log Book button on the Log Book page.

When a flight flown with FSFlyingSchool ends, the FSFlyingSchool log book will display your instructor's detailed analysis of your flight, containing the following elements:

- Summary information on the pilot, aircraft, flight start, end, duration, visibility, wind, Flight Simulator version, aircraft model, registration, flight number, airline and flight plan.
- All failures which occurred during the flight, with an indication of whether the system is *still* inoperative and the total duration of the failure. This enables pilots to see if they correctly diagnosed those systems which failed during the flight and also gives an indication of how serious those failures were. Failures affect your score. Scores are increased in proportion to the severity and duration of the failure.

Example:

*Failure(s):*

*COM1 Radio inop for 202 secs, still inop*

*Electrical System inop for 3.5 secs*

*Fuel Indicator(s) inop for 26.5 secs, still inop*

*Turn Coordinator inop for 47.5 secs*

- Failures which occurred during flight are reported in detail in the log book, listing the instrument or system involved and the time at which the failure occurred. In addition, if a failed instrument or system should start working again, because the pilot has chosen the option of 'loose wire' failures, this is also listed. Pilots can see if they correctly diagnosed systems which failed during flight and may even discover a few they missed.

Example:

*Failure Event(s) (Zulu Time):*

*Failure: Z21:11:17 Heading Indicator*

*Failure: Z21:15:36 Altimeter*

*Working: Z21:17:46 Altimeter*

- Failure bonus.
- Flight duration.
- Landing score and evaluation. Any corrective advice that your instructor gave you during your landing will be listed here and often a lot more besides, including acknowledgement of those things you did correctly.
- Flight score and evaluation. Take note of the items to which your instructor draws your attention. Take credit for those you did well.
- Circuit score and evaluation. If you flew a circuit around one of your favourite airports, your demanding FSFlyingSchool instructors will let you know all about any areas of your circuits you need to improve.

At the end of a flight using FSR aircraft data (not FSU), you will be presented with links to the FSFlyingSchool online score tables. The links shown will depend on what type of flight you have just flown. You must have an open internet connection when you click on the link in order to submit scores.

- Submit landing score to the online table  
Press this link to submit your best landing scores to the online table.
- Submit flight score to the online table  
Press this link to submit your hard earned flight scores to the online table.
- Submit circuit score to the online table  
Press this link to submit your circuit scores to the online table.

FSFlyingSchool records your log book entries so that you can review your performance over time. To access this information, click on the View Full Pilot Log Book button on the Log Book page.

### Career Analyzer

For an in depth analysis of the pilot's flying career with FSFlyingSchool, press the Career Analyzer button (this cannot be done while *Connected* to Flight Simulator – so if *Connected* press the FSFlyingSchool *Disconnect* button first).

At first, FSFlyingSchool will display a graph of the *Landing Scores* of the currently selected pilot, but this is just the beginning...

FSFlyingSchool's unique Career Analyzer examines over 70 different aspects of the pilot's performance during landings, circuits and flying in general. The following controls are provided to control the graph:

- Aircraft  
Use this list box to restrict the pilot's Career Analyzer to a single aircraft.
- Parameter  
Use this list box to choose the flight parameter you wish to examine.
- Show Values  
Check this box to display labels for the points on the graph.

At first, the graph shows flight, circuit and landing information gathered from the last 20 landings the pilot performed, but the horizontal scroll bar at the bottom of the graph can be moved to show data all the way back to the start of the pilot's career.

Flight parameters of a true or false nature (such as *Wings not Level near Ground*) are displayed as single points rather than graphed.

The pilot's career is analyzed only after the pilot has achieved at least *two landings*.

To examine the career of a different pilot, simply select a different pilot at the Pilots Page.

The FSFlyingSchool Career Analyzer examines data produced by FSFlyingSchool version 1.4 and above.

**FSFS-Tip** Use the Career Analyzer to find areas of your performance which need attention and concentrate on getting them just right. Areas such as *Landing Vertical Speed* and *Rough Turns* are good places to start.

When you have finished using the Career Analyzer, close its window to return to FSFlyingSchool.

### Pilot Briefing

If you've ever wondered which areas of your performance you need to concentrate on, the Pilot Briefing will provide the answers you need. Click the Pilot Briefing button (this cannot be done while *Connected* to Flight Simulator – so if *Connected* press the FSFlyingSchool *Disconnect* button first). Use the drop down to select a pilot's log book information. Then click the load button and so long as the pilot has saved a few flights in his/her log book, you will be shown the areas which that pilot:

- Has no improvement
- Is improving
- Is mastering
- Has mastered

In order to keep the information concise and to the point, areas in which the pilot has had no trouble are not listed. You will be looking at aspects of flying that have proven to be problems.

**FSFS-Tip** Use the Pilot Briefing before a flight to get the low down on which areas of performance you need to improve in the next flight. Keep practicing and you will soon have them mastered.

When you have finished using the Pilot Briefing, close its window to return to FSFlyingSchool.

### Traditional Log Book

For a traditional pilot log book, showing one line for each flight completed, press the *Traditional Log Book* button (this cannot be done while *Connected* to Flight Simulator – so if *Connected* press the FSFlyingSchool *Disconnect* button first).

FSFlyingSchool will display a list of all flights flown by the currently selected pilot.

The log records multiple columns of data which are traditionally maintained, in real aviation, for each flight.

The following controls are provided to control the Traditional Log Book:

- Aircraft  
Use this list box to restrict the pilot's Traditional Log Book to a single aircraft.
- Previous Page  
Press this button to flip back to the previous log book page.
- Next Page  
Press this button to flip forward to the next log book page.
- Print Page  
Press this button to print the page currently displayed on the screen.

The following columns are shown in the Traditional Log Book:

- Date  
Date flight began.
- Type  
Aircraft type, such as *Cessna* or *Boeing*.
- Ident  
Aircraft registration.
- Airline  
Abbreviated airline.
- Flight  
Flight number.
- Depart  
Departure time.
- Arrive  
Arrival time.
- Day  
Hours flown during day.
- Night  
Hours flown during night.
- Inst  
Hours flown using an IFR flight plan. For this item of data, for simplicity's sake, pilot's use of IFR plan is checked once, when the aircraft lands.
- Total Length  
Total length of flight.
- Distance  
Distance of flight.
- Block Time  
Time of flight from pressing FSFlyingSchool *Connect* button to end of flight.

The vertical scroll bar at the right of the page can be moved to scroll the displayed data up and down the current page.

To examine the log book of a different pilot, simply select a different pilot at the Pilots Page.

The FSFlyingSchool Traditional Log Book examines data produced by FSFlyingSchool version 1.4 and later, but note that only flights flown with version 1.5 or later will contain entries in all columns as some of the data was not available before that version.

**FSFS-Tip** Use the Traditional Log Book to monitor how many hours you're clocking up, especially on instruments and also to keep track of data for your membership in a **Virtual Airline!**

When you have finished using the Traditional Log Book, close its window to return to FSFlyingSchool.

### **Settings Page**

This page displays miscellaneous information about FSFlyingSchool's connection to Flight Simulator and FSUIPC, and provides a means to tell FSFlyingSchool where Flight Simulator's folders are.

**FSFlyingSchool 2010 supports the generation of FSFS data for runways all over the world**, which allows the instructor to evaluate approaches *without ILS*, anywhere.

In order to generate the runway data for FSFlyingSchool 2010, simply press the appropriate button at the Settings Page for your version of Flight Simulator.

The process will launch 2 external programs in separate windows and will take a few minutes

You only need to perform this operation once, unless you update your Flight Simulator runway data, in which case you should run it again.

If you wish to have custom information on any specific runways, using files in the NonILS folder (as with FSFlyingSchool Classic or 2009), this can still be done and is fully supported. Any such files have precedence over automatically generated FSFlyingSchool 2010 whole world runway data.

### **Credits Page**

This is where we acknowledge those behind the FSFlyingSchool concept and the help we have received from the dedicated team of enthusiasts who have made FSFlyingSchool Classic, FSFlyingSchool 2009 and FSFlyingSchool 2010 what it is today and will be tomorrow.

The registration section of this page allows users with a registration key from FSFlyingSchool to register the program and enjoy the benefits. Help for the registration process is available by pressing the *Registration Help Movie* button.

### **FSFlyingSchool Instructors**

FSFlyingSchool gives you the unlimited services of several different FSFlyingSchool instructors. The role of the instructor is to praise good work, give you flying tips, tell you immediately whenever you do something wrong, score your performance in several areas, record what you did in your log book and much more.

You choose from an eclectic team of male and female instructors, each with their own personality, nationality and style.

Your actions and the current stage of your flight will determine what your FSFlyingSchool instructor says to you. The instructor knows better than to bother you with mere details when you are just about to land, and will not ask general questions about your flight during crucial periods.

In many cases, your instructors will give you tips on what to do next and warn you before you make a mistake that would cost you points.

## Scoring Points

Think you've got what it takes to be a great pilot? Prove it! One of FSFlyingSchool's most exciting and innovative features is its detailed evaluation of your flying skills, where a precise score is assigned to each of several aspects of your flight. FSFlyingSchool invites you to "Put your money where your mouth is."

Points can be earned in these areas of flying:

### Flight

Your FSFlyingSchool instructor will keep an eye on your performance throughout your flight and give you an overall score. If you want to do well, fly realistically. No aerobatics; no combat manoeuvres. See the information later in this manual which describes what your instructor is watching during each flight.

### Landing

Because landing is such a crucial, demanding stage of any flight, FSFlyingSchool evaluates it separately. This feature is also a great tool for those pilots who enjoy practicing landings repeatedly until they can get them 'just right'. Once you can get your aircraft down perfectly, move on to something trickier or larger and add in a gusting crosswind and some rotten weather. See the *Landing* section later in this manual.

### Circuits

If you would like to try your hand at flying circuits, your FSFlyingSchool instructor is ready to grade you on your performance. You will need to stay within some pretty demanding limits to get your best score. See the *Circuits* section later in this manual.

### Airmanship Challenge

For those who are wondering if they have mastered some of the most basic flying skills, the Airmanship Challenge gives you an instant answer. Simply press [Ctrl-Shift-C] while flying (without autopilot) and your FSFlyingSchool instructor will set you an immediate task to perform. Some will be quite simple; others very hard. Still too easy? Add in some heavy weather and see how well you do... See the *Airmanship Challenge* section later in this manual.

### Autopilot effect on scoring

If your aircraft has an autopilot and it is used for an appreciable period during your flight, your scores are affected as follows:

Scoring	AP Effect
Flight	Reduced by 33%
Landing	Reduced by 33%
Circuits	Reduced by 33%
Airmanship Challenge	No points

The *exceptions* to this rule are when:

- In cruise mode in a light aircraft above 1000 feet AGL
- In cruise mode in a heavy aircraft above 5000 feet AGL

In both these cases, no points are lost by having the autopilot engaged. This gives the pilot a chance to use the autopilot on long flights without losing points, but note that the aircraft must be significantly above the ground and must be in FSFlyingSchool's *Cruise Mode*.

Scoring is affected by visibility and wind at your destination airfield and by the weight and speed of the aircraft you are flying. Failures affect your score in proportion to their length and severity..

In order to get a *flight score* you must take off and land. If you started in the air, you will still have your flight evaluated when you land, but will not score points for your *flight*. In addition, you must fly for a minimum of 30 seconds to get your flight evaluated.

You must fly for a minimum of 30 seconds to get your *landing* evaluated.

After your landing, flight or circuit has been evaluated, you may wish to take a look at your FSFlyingSchool log book, either inside FSFlyingSchool or by launching the HTML log book by clicking on the *View Full Pilot Log Book* button on the Log Book page of FSFlyingSchool.

When a flight ends, you may wish to share your performance with other users by submitting your score to the FSFlyingSchool website.  
For more information see the Log Book Page section of this manual.

## FSFlyingSchool Flight Modes

FSFlyingSchool flight modes reflect the current stage of your flight. They are:

- *Taxiing*
- *Take Off*
- *Cruise*
- *Landing*

Your FSFlyingSchool instructor will evaluate certain sections of your flight depending on the current flight mode.

It is normally up to you, as pilot in command, to tell the FSFlyingSchool instructor what your intentions are; in other words, which flight mode you are in.

FSFlyingSchool's approach is that the pilot has to think in terms of what stage of the flight he or she is in. We feel that this is not much of a chore, considering a *real* pilot announces intentions to:

- himself/herself - before deciding which checklist to check
- the passengers - even in general aviation, so they know what's coming up next
- the 1st officer - as part of normal procedures

Many simmers often fly a little looser than would be expected in real flight, and the main focus of FSFlyingSchool is to help the pilot behave more like a real one - especially in terms of control of the aircraft.

**It is essential that you and your instructor agree on what stage of your flight you are presently executing.**

FSFlyingSchool will attempt to detect this automatically during flight, but this can also be achieved by advancing (or backing up if you make a mistake) your flight mode using the following shortcut keys.

Shortcut	Default	Alternate
Advance Flight Mode	[Ctrl-Shift-Z]	[Ctrl-Shift-1]
Back Up Flight Mode	[Ctrl-Shift-X]	[Ctrl-Shift-2]

**FSFS-Tip** Our team at FSFlyingSchool like to map these keys to yoke and joystick buttons. You can assign these key combinations to your yoke or joystick using their manufacturer's keystroke assignment mapping software, or by using the key mapping facilities in a registered version of FSUIPC.

Flight modes are arranged in the sequence they naturally occur in real flights. You begin in *Taxi Mode*, advance to *Take off Mode*, move onto *Cruise Mode*, then *Landing Mode*, perform a landing and finally return to *Taxi Mode*.

FSFlyingSchool will automatically change the flight mode for you if it is *obvious* that this is appropriate:

- If you taxi very fast or leave the ground while taxiing, you will go into *Take Off Mode*.
- If you level off at a sensible altitude, you will advance to *Cruise Mode*.
- If you start a steady descent you will go into *Landing Mode* unless at a high cruising altitude.
- If you touch down, you will go into *Landing Mode* if you are not already in it.
- When you stop on the ground during a landing, you automatically advance to *Taxi Mode*.

If FSFlyingSchool suspects that you may have progressed to a new phase of your flight, it will display a hint to suggest that you may wish to change your flight mode.

You can always have FSFlyingSchool tell you what flight mode you are in by asking it to display essential data in Flight Simulator using the *Display Data* shortcut keys.

Shortcut	Default	Alternate
Display Data	[Ctrl-Shift-D]	[Ctrl-Shift-3]

FSFlyingSchool will display the following:

- NAV1 OBS setting
- Current Waypoint number and ID
- Current Flight Mode
- Type of Aircraft Data in use by FSFlyingSchool (FSR or FSU)
- Current Circuit Leg (if you are flying circuits)

### **Taxiing**

If you connect to FSFlyingSchool when your aircraft is on the ground you will be automatically placed into *Taxi Mode*. If you started in the air, once you complete your landing, use [Ctrl-Shift-Z] or a programmed button to advance the flight mode to *Taxiing* (this will happen automatically if you stop on the ground).

While you are taxiing, your FSFlyingSchool instructor will be watching out for:

- Dangerous taxiing turns - these cause discomfort and stress
- Poor attention to taxi speed - dangerous to yourself and others
- Throttle and brakes during taxi - bad for many systems
- Harsh braking - taxi gently and brake smoothly
- Use of flaps while taxiing - up or down as appropriate

If you are piloting a small aircraft, your FSFlyingSchool instructor will also be watching out for:

- Poor elevator control during taxi in wind - danger of flipping
- Poor aileron control during taxi in wind - danger of flipping

### **Take Off**

Before you tell your FSFlyingSchool instructor you are ready to take off, get lined up with the runway centre line. Set NAV1 OBS (the omni-bearing-selector of navigation radio one) to the exact heading of your departure runway.

**FSFS-Tip** In some aircraft the exact setting of NAV1 OBS can be difficult to read from the screen in Flight Simulator, in which case you can press [Ctrl-Shift-D] to have FSFlyingSchool display the exact setting for you.

Using Ctrl-Shift-Z or a programmed button, advance the flight mode to *Take Off*.

While you are taking off, your FSFlyingSchool instructor will be watching out for:

- Poor steering during takeoff - stay in the centre of the runway
- Braking during takeoff - watch those feet
- Late rotation - when  $V_r$  is reached - take off
- Loss of altitude during takeoff - climb smoothly

## **Cruise**

If you connect to FSFlyingSchool when your aircraft is in the air you will be automatically placed into *Cruise Mode*. If you started on the ground, once you complete your take off and climb to cruise altitude, FSFlyingSchool will detect this and change to *Cruise Mode*. If your flying suggests otherwise and this has not occurred, use [Ctrl-Shift-Z] or a programmed button to advance the flight mode to *Cruise*.

If you have loaded a Flight Simulator flight plan into FSFlyingSchool, then take care to navigate so as to pass the waypoints on the plan within 1 nautical mile in a light aircraft or 3 nautical miles in a heavy, and in the correct sequence, in order to score points with your FSFlyingSchool instructor.

If you begin a steady descent, you will be automatically placed into *Landing Mode*, unless your aircraft is still at a high altitude.

If you are not already in *Landing Mode*, you should advance the flight mode to *Landing Mode* before you descend below 1000 feet AGL (Above Ground Level), or your FSFlyingSchool instructor may reduce your score due to flying too low at too great a speed.

## **Landing**

If you connect to FSFlyingSchool when your aircraft is in the air and below 1000 feet AGL (Above Ground Level), you will be automatically placed into landing mode.

In all other cases, when you have finished cruising and are about to begin your approach, FSFlyingSchool will detect a steady descent and advance you to *Landing Mode*. If the situation has suggested otherwise and this has not occurred, use [Ctrl-Shift-Z] or a programmed button to advance the flight mode to *Landing*.

Before entering *Landing Mode*, NAV1 OBS (the omni-bearing-selector of navigation radio one) should always be set to the exact heading of the runway you intend to land at, regardless of whether the approach is to be flown visual or using ILS. If you frequently perform ILS approaches, you will already be familiar with this concept. In FSFlyingSchool it is essential, as many aspects of your flight and the score which your FSFlyingSchool instructor awards you are based on the bearing set on NAV1 OBS.

**FSFS-Tip** In some aircraft the exact setting of NAV1 OBS can be difficult to read from the screen in Flight Simulator, in which case you can press [Ctrl-Shift-D] to have FSFlyingSchool display the exact setting for you.

If the aircraft's NAV1 radio is tuned to a runway ILS, the instructor will announce this with reference to the NAVAID at the runway and also which specific runway has been selected. This helps the pilot confirm that the correct ILS signal is being received and is a convenient reminder of where to land.

While you are landing, your FSFlyingSchool instructor will be watching out for:

- Landing too hard – this may damage your aircraft or landing gear
- Landing too fast – you may float and you will use a lot of runway
- Wings not level – you may clip the ground or damage your gear
- Landing away from the centre line
- Pitching down hard at touch down – can damage your aircraft
- Pitching up hard at touch down – can damage your aircraft
- Nose up too high – poor visibility and danger of tail strike
- Nose down too low – danger of failing to land on main gear
- Poor alignment with the runway – point down the runway centre
- Throttle(s) not idle
- Poor alignment with runway during approach
- Poor tracking of glideslope during approach
- Poor steering after landing
- Glideslope lost before you flared
- Failure to use spoilers correctly
- Amphibian plane landing with retractable gear down on water

If you are piloting a heavy aircraft, your FSFlyingSchool instructor will also be watching out for:

- Failure to use flaps

If you are piloting a small aircraft, your FSFlyingSchool instructor will also be watching out for:

- Failure to use flaps if no appreciable crosswind

In order to get any kind of ILS based glideslope and localizer score, your equipment must detect an ILS signal when you descend through 500 feet AGL (Above Ground Level) during your landing.

Your tracking, during your approach, of the ILS glideslope and localizer, or the visual glideslope and runway centre line, affect your landing score to an extent.

They are verbally evaluated, separately, upon landing with their own scores, out of a hundred.

For example, you might score 80 for the glideslope and 70 for the localizer.

This score is used to produce some of the points for your final landing score.

In a simple landing, the maximum landing points to be gained from glideslope and localizer performance is 20 points.

As an example, in the simplest landing situation, if you tracked the glideslope and localizer perfectly, you would get a

- glideslope score of 100

and a

- localizer score of 100

These are read to you by your instructor when you land.

This would add a total of 20 points to your final landing score, because your performance on the glideslope and localizer is only part of what makes a good landing.

Note that when landing at a runway which is part of add-on scenery, the location of the runway in FSFlyingSchool 2010's whole world runway data or FSFlyingSchool's runway (NonILS) folder (for visual approaches) or the signal of the ILS on an ILS approach, *may* not match the physical position of the runway in the add-on scenery.

We have seen ILS signals direct us down into a lovely field next to the runway... or worse...

If such mismatched runways are used for visual approaches with FSFlyingSchool, this may lead to poor scores and confusing instruction, *because the runway is not where the data says it is!*

If such mismatched runways are used for ILS approaches with FSFlyingSchool, this may lead to poor scores and confusing instruction, *because the runway is not where the ILS says it is!*

In the end, you should try an approach to the add-on scenery runway and see how it feels. You can't fix a runway which does not match the ILS signal, but you can fix a runway you want to fly *visual* approaches to. Simply create runway files in the NonILS folder for that airport using the instructions in the *Visual Approaches* section of this manual; just make the data agree with the add-on scenery runways.

### **General aspects of good airmanship**

While you are out there flying, your FSFlyingSchool instructor will be watching out for:

- Airspeed too low - risking stalls
- Ballooning during landing - needs practice
- Exceeding flap speeds - your flaps may be damaged
- Exceeding gear speed - your landing gear may be damaged
- Exceeding maximum speed - you may damage the aircraft
- Excessive G forces - your passengers will feel rather unwell
- Excessive speed at low altitude - may result in loss of licence or worse
- Excessive speed during approach - reduce speed earlier
- Flaps not down on time - plan your landing next time
- Narrowly missed obstacles - plan your safety altitudes
- Narrowly missed tail strike - watch your pitch: could be very bad
- Nose held too high - spilt drinks and worried expressions
- Nose held too low - we're not on a combat mission
- Poorly coordinated turns - use the rudder correctly
- Poorly trimmed aircraft - trimmers are there to help: use them
- Rapid descent - dangerous and uncomfortable
- Rough pitch control – feels like a rollercoaster
- Rough turns - your passengers will spill their drinks and have a pain in their necks
- Stalls – in a word: dangerous
- Steep banking - save your aerobatic flying for some other time
- Wings not level near ground - danger of clipping a wing or damaging your gear

### **Pre-flight checks**

Your instructor will be looking for *pre-flight* checks in the following areas:

- Rudder – full motion left and right (checked only if you have indicated you are using a rudder controller)
- Elevator – full motion up and down
- Ailerons – full motion up and down
- Flaps – lower full flaps and retract them
- Run up – check magnetos (piston aircraft)
- Main Exit – open the main exit and close it

### **Miscellaneous Instructor Checks**

Your instructor will not appreciate the main exit being opened at dangerous times; not good practice in any aircraft. Your instructor will also expect spoilers to be retracted and thrust reversers to be disengaged at the appropriate times.

### **Factors which affect your score**

Your FSFlyingSchool instructor will make adjustments to your basic score based on the following criteria:

*If your score was already good then:*

- Aircraft weight  
FSFlyingSchool generally considers heavier aircraft to be more demanding to fly than smaller machines. As a result, your score is increased in proportion to the weight of your aircraft. Flying the heavies has its rewards.
- Aircraft speed  
Faster aircraft are considered by FSFlyingSchool to be to be more demanding to fly than slower aircraft and therefore your score is increased in proportion to the speed of your aircraft. If you can handle it, speed matters.

- Wind  
If you have flown in a wind which is greater than 4 knots and which was more than 20 degrees deflected from the runway heading at landing, your score is increased in proportion to the strength of the wind. The nastier the crosswind, the higher your score will be.
- Visibility  
When flights are flown in less than 1 mile visibility, your score is increased in inverse proportion to the visibility. When visibility gets very low, your score can get very high.
- Failures  
If aircraft system failures were experienced during flight they will increase your score if you still manage a successful landing. Note this applies to failures generated by FSFlyingSchool and not by other programs. Bonus points are awarded in proportion to the fraction of the flight the failure lasted and the nature of the failed system, so for example, the loss of the whiskey compass is not as important as the loss of the attitude indicator. The bonus is also affected by the current situation, so for example the loss of the attitude indicator will be far more serious when flying in low visibility than when the skies are clear.

*Regardless of your score:*

- Autopilot  
If an autopilot is engaged for a total of more than 10 seconds during the flight, your score is reduced by 33%, unless in cruise mode and in a light aircraft above 1000 feet AGL or a heavy aircraft above 5000 feet AGL.  
Keep in mind that this can still produce excellent scores if you are flying a challenging aircraft in difficult conditions.
- Simulation rate  
If your simulation rate is anything other than normal (simulation speed 1) for a total of more than 10 seconds during the flight, your score is zero; FSFlyingSchool does not support this kind of flying.

## Visual Approaches

If an aircraft's NAV1 radio is tuned to the destination runway's Instrument Landing System (ILS) frequency, FSFlyingSchool uses the ILS to measure the pilot's adherence to the glideslope (vertical) and localizer (horizontal) signals from the destination runway. This provides an extremely accurate measure of how closely the pilot is following the correct approach to landing.

Alternatively, FSFlyingSchool also supports landings at airfields which do not have an ILS, or landing at runways which have ILS, but without using ILS. In order to perform such landings, the pilot must load a flight plan *into FSFlyingSchool*, so that the instructor knows the destination *runway*. In addition, it is necessary for precise runway data to be present in the whole world data file generated by FSFlyingSchool 2010 or present in a matching runway file in the

`C:\Program Files\FlyingSchool\NonILS`

folder (or perhaps in another folder if you chose a different installation path).

If you wish to perform a visual approach to a runway, just make sure you have generated the whole world runway data first. You only need to do this once, unless you change your Flight Simulator runway data in which case you should generate the FSFlyingSchool 2010 runway data again.

You can also use specific, custom data for any runway, allowing you to specify an exact, customized *touchdown point* anywhere at the runway and also allowing you to select the *glideslope*. Such files are placed in the *NonILS* folder.

**NEW FEATURE - If you wish to specify a particular landing touchdown point on a runway, such as "on the numbers" or perhaps next to a certain feature beside the runway, you can now do this very easily with FSFlyingSchool2010. Just follow these simple steps:**

- Quit FSFlyingSchool2010 if it is running.
- As FSFlyingSchool NonILS runway files require you to load a Flight Simulator flight plan in order to use them, you should first create and save Flight Simulator flight plan to the airport you have in mind.
- Move your aircraft in Flight Simulator to the exact point on the runway you intend to land at. You can do this using the map in Flight Simulator and also the 'slew' feature. Use an overhead view to make sure your aircraft is at the exact point you want on the runway and is heading exactly down the runway heading. Exit slew mode if used.
- Launch FSFlyingSchool2010.
- Load the flight plan into FSFlyingSchool2010 at the Flight Plan Page and select your intended runway.
- Press *connect* in FSFlyingSchool2010 and then return to your plane in Flight Simulator.
- **Press Ctrl Shift M to make a customized runway file for your chosen runway.**
- You will see that your file now exists in the NonILS folder of FSFlyingSchool.

Several such files are included with FSFlyingSchool. Each file in this folder contains information, in its file *name*, which FSFlyingSchool uses when a flight plan calls for a landing at one of these airports. The file itself contains no data; all information is contained in the file name.

For example, the file:

`12,123,N50_40_76,W1_6_84,4,BEMBRIDGE.EGHJ`

Contains information on runway 12 at Bembridge, UK

12,123,N50_40_76,W1_6_84,4,BEMBRIDGE,EGHJ						
Rwy	Hdg	Lat	Long	GS	Name	ICAO

The information is formatted as follows:

Runway number

Runway heading

Latitude of runway numbers (in degrees and minutes – same format as Flight Simulator map display)

Longitude of runway numbers (in degrees and minutes – same format as Flight Simulator map display)

Glideslope of runway (3 is the most common)

Name of airport (just for reference)

ICAO code of airport (KLAX=Los Angeles EGLL=Heathrow)

Each of these items are separated in the file name by a comma, with the exception of the ICAO code which is preceded by a dot (".")

Remember that you need one file for each *runway* you wish to customize at the destination airport.

When a pilot loads a flight plan into FSFlyingSchool, it is checked against the airports in FSFlyingSchool's "NonILS" folder and against its whole world FSFlyingSchool 2010 data to see if a visual approach can be performed. If runway information is found, the runways are shown and the pilot can select a runway for landing *at any point during the flight*. If no runways are found then the pilot should fly an ILS approach to get the most out of flying with FSFlyingSchool.

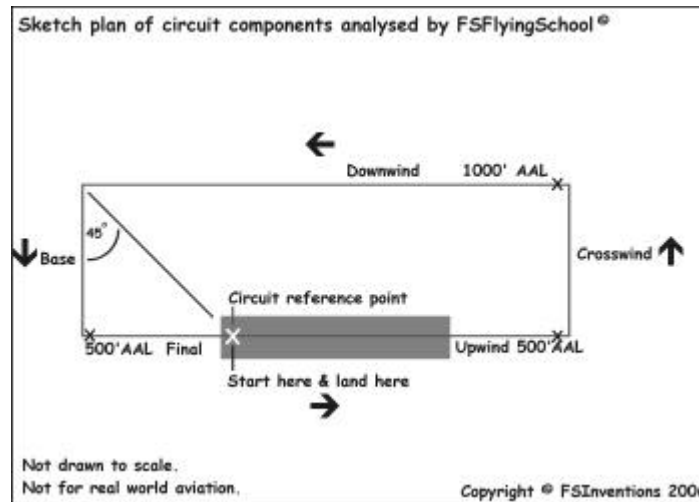
When flying a visual (non ILS) approach to an airport in FSFlyingSchool, the instructor will expect the pilot to land as close as possible to the target touchdown point – which is the start of the physical runway surface in the case of runway data generated by FSFlyingSchool 2010, or is the point set by the creator of any individual runway file in the FSFlyingSchool NonILS folder. FSFlyingSchool uses this technique in order to give the pilot a precise visible target to aim for and we understand that this will not necessarily be the case in real world flying. The distance from the target touchdown point to the pilot's actual touch down point is noted in the pilot's log book. If you can put your aircraft down right on the target touchdown point, you will get the best scores.

If FSFlyingSchool has information for a visual approach to the destination airport, but an ILS is detected (because NAV1 is tuned to it), it will use the ILS to evaluate the landing and will not use the visual approach information.

## Circuits

Your FSFlyingSchool instructor is always ready to help you practice flying circuits around your favourite airports. This version of FSFlyingSchool supports left hand circuits only. Circuits are not supported in heavy aircraft.

FSFlyingSchool instructors will not evaluate circuits until the pilot has proven basic proficiency at flying and landing the aircraft. A Landing Score above 70 and a Flight Score above 80 must be achieved before circuits can be flown with FSFlyingSchool.



If you wish to fly a circuit, you should get into position, ready for take off on your departure runway, located at the point you intend to *land* and which will also be used for reference in turning from Downwind onto Base. Make sure you are lined up exactly with the runway centre line. NAV1 OBS should be set to the runway heading.

At this point, press [Ctrl-Shift-Space] to let your FSFlyingSchool instructor know you wish to fly circuits. If you have already achieved the required Landing and Flight scores, this will place you into *FSFS Circuit Mode* which will mean your FSFlyingSchool instructor will treat your flight as a circuit. You can exit this mode at any time by pressing [Ctrl-Shift-Space].

FSFlyingSchool records your *exact position* on the runway when you enter *FSFS Circuit Mode*. This is your *Circuit Reference Point*. FSFlyingSchool compares this to your position when you are flying the Downwind leg in order to determine when you should turn onto Base. This is normally done when this reference point is in the *8 o'clock* position (behind you over your left shoulder). If you pass this point, your FSFlyingSchool instructor will remind you to make the turn.

Once you lift off, your FSFlyingSchool instructor will announce that you are flying a circuit and give you a general guideline of how to fly each leg of your circuit as you enter it. If you wander from the basic parameters of the circuit, this will cost you points and your FSFlyingSchool instructor will give you tips on how to correct your mistakes.

Should you decide you would rather not continue flying a circuit, simply press [Ctrl-Shift-Space] to cancel *FSFS Circuit Mode*, but think first, because once you cancel your circuit, you cannot start a new one unless you are on the ground in *Taxi Mode* or *Take off Mode*.

FSFlyingSchool circuit legs reflect the current stage of your circuit; they are:

- *Upwind*
- *Crosswind*
- *Downwind*
- *Base*
- *Final*

Your FSFlyingSchool instructor will evaluate your flight depending on the circuit leg you are currently on. Unlike FSFlyingSchool *flight modes*, you do not need to tell your FSFlyingSchool instructor which leg of your circuit you are on; your instructor will determine that.

Circuit legs are arranged in the sequence they naturally occur in real flights. You begin on the runway, take off into the upwind leg, turn onto crosswind, turn onto downwind, turn onto base and ultimately turn onto final. Landing ends your circuit.

When flying a circuit you should concentrate on the following points:

- Note exactly where you were when you entered *FSFS Circuit Mode*. This is your *Circuit Reference Point*. An effective method of orientation is to switch to the overhead view in Flight Simulator by pressing *Ctrl S*. Make certain you know exactly where you are on the runway.
- Carefully check that your heading indicator is set to the correct heading. This can be done by pressing *D* in Flight Simulator. Note that you may need to reset this *during* flight.
- Note the runway heading. The path of your circuit will be based on this. You may wish to set your autopilot heading bug (if available) to the runway heading as a reminder.
- Note the altitude of the *airfield*. You must be aware of your Above Airfield Level (AAL) during your circuit. Your instructor will talk to you in terms of your altitude above the airfield during the circuit. This is unlikely to be the same as the altitude above sea level.
- After lifting off, climb smartly to 500 feet AAL while maintaining a track extending from the runway centreline.
- At 500 feet AAL make a climbing turn Crosswind onto a track which is at 90 degrees to the runway heading.
- At 1000 feet AAL make a level turn Downwind onto a track which is parallel to the runway and maintain this altitude.
- When the *Circuit Reference Point* is in the 8 o'clock position (behind you over your left shoulder), make a descending turn onto Base on a track which is at 90 degrees to the runway heading. Press *NumberPad1* key for a quick peek over your left shoulder.
- When ready, make a descending turn onto Final on a track which leads straight down the runway centre line. Plan to arrive on final while still at least 500 feet AAL.
- Land on the runway within 300 feet of your *Circuit Reference Point*.
- You must achieve a *landing score* of at least 50 in order to get a *circuit score*.
- Circuit legs must be flown within the following limits to qualify as a real circuit:

Leg	Minimum Duration	Maximum Duration
Upwind	20 seconds	6 minutes
Crosswind	20 seconds	6 minutes
Downwind	30 seconds	6 minutes
Base	05 seconds	6 minutes
Final	10 seconds	6 minutes

- When flying a circuit, keep in mind that your instructor is evaluating how well you are following the correct *ground track* for the circuit. This can be very difficult to achieve with a good crosswind – can you do it?

## Airmanship Challenge

A short sharp test of your flying skills is never far away with the FSFlyingSchool Airmanship Challenge. With your autopilot off, simply press [Ctrl-Shift-C] at any time while in *Cruise Mode* and after a few seconds your FSFlyingSchool instructor will test your ability to maintain a randomly selected combination of:

Maintain
Altitude or Vertical Speed
Heading
Indicated Airspeed
Bank Angle

You will quickly learn that this is relatively easy when flying straight and level, but becomes much harder when flying, for example, in a steeply banked climbing turn.

Any use of the autopilot during the test will cancel the test and result in a score of zero.

### ***Adding Instructors***

Each instructor has his or her own set of WAV files which are stored in a folder bearing the instructor's name.

The instructor folders are all in

*C:\Program Files\FlyingSchool\Sound*

or perhaps in another folder if you chose a different installation path.

Be sure to have a complete set of files for each instructor or you will hear only silence when FFlyingSchool attempts to play missing files.

The audio format of all FFlyingSchool files is

*Microsoft PCM 11.025 kHz, 8 Bit, Mono*

You may download extra instructor files which appear on the FFlyingSchool.com website.

You can also create your own instructors using any tool capable of recording WAV files in the format shown above.

Try to make the files as short as possible and be certain to trim off any wasted space at the start and end of the file. This is essential to prevent long queues of audio files building up which will tend to lead to files not being played as they are too far out of sequence. Keep the files short and they will work splendidly.

The best way to go about creating your own instructor file sets is to create a new instructor folder, copy an existing set of files into it and then work your way through those files, replacing them with your own recordings as you create them. You will need to leave the *file names* exactly as they were; do not alter any of them.

Test any new FFlyingSchool instructor file sets by selecting the instructor of your choice and using the *Listen to Instructor* button on the Pilot or Aircraft page.

### *Adding Aircraft Interactively*

In order to get the most out of FSFlyingSchool, each aircraft needs its own data, stored in an FSFlyingSchool aircraft data file. FSFlyingSchool comes with its own data files for several of the Flight Simulator community's favourite aircraft. If you wish to fly an aircraft, but have no FSFlyingSchool aircraft data file for it, check the FSFlyingSchool.com website, as new aircraft data is being added all the time. If you find the file for the aircraft you want simply download it from the website and follow the instructions in this manual headed "*Adding Aircraft by Installing New FSR Files*".

As you explore the skies with FSFlyingSchool, you will occasionally decide to fly an aircraft which currently has no corresponding FSFlyingSchool data file. You can be the first person to create one!

Each aircraft has its own FSR file, bearing the aircraft's Flight Simulator name. The aircraft FSR files are all in

*C:\Program Files\FSFlyingSchool\Aircraft*

or perhaps in another folder if you chose a different installation path.

In order to add a new aircraft to FSFlyingSchool:

1. Collect all the data you can about the aircraft in question. An obvious place to start is the Flight Simulator reference file and Flight Simulator checklist file supplied by the makers of the simulated aircraft.
2. Load a flight of that aircraft into Flight Simulator. If not already running, launch FSFlyingSchool. *Connect* FSFlyingSchool to Flight Simulator. Return to Flight Simulator and make sure your flight is not *paused*. After a few seconds, FSFlyingSchool will *estimate the aircraft values*. You can fly with these values or make adjustments to them, by disconnecting from FSFlyingSchool and continuing as follows.
3. Bring up the *Aircraft* page in FSFlyingSchool and select the *User Specified Data* within the *Data Source* group box. FSFlyingSchool stores user created data in FSU files and you are about to create one. FSU files contain *User Specified Data* for aircraft flown in FSFlyingSchool.
4. Enter all relevant data into the IAS Data, Flap positions, Flap speeds and Other Data fields. Once this has been done, press the *Save User Data* button. This will create an FSU file for the aircraft if one does not exist or will simply update the file if one does.

You are now ready to *connect* FSFlyingSchool to Flight Simulator and fly that aircraft with FSFlyingSchool using the *User Specified Data*.

FSFlyingSchool will remember that you want to fly *this* aircraft with your own *User Specified Data*.

You will not be able to submit your scores to the FSFlyingSchool website when flying with *User Specified Data*, but you will have your performance scored and evaluated by your FSFlyingSchool instructor as you fly, and the results recorded in your FSFlyingSchool log book.

If you want to submit your scores to the FSFlyingSchool website when flying with this aircraft, share your work by posting the FSU file you created to the FSFlyingSchool Forum. We will check it out and add it to the FSFlyingSchool FSR aircraft accessible from our web site and forum. You can then download the FSR file and fly the aircraft using that instead of the FSU file. To install the FSR file, see *Adding Aircraft by Installing New FSR Files* in this manual.

### ***Adding Aircraft by Installing New FSR Files***

New FSFlyingSchool aircraft data (FSR) files are always becoming available from the FSFlyingSchool.com website and from the FSFlyingSchool community in general. These files allow you to add new aircraft data without having to collect and enter it into the FSFlyingSchool *Aircraft* page fields.

In order to install new aircraft FSR files into FSFlyingSchool:

1. Place the new FSR file into

*C:\Program Files\FSFlyingSchool\Aircraft*

or perhaps in another folder if you chose a different installation path.

Note that the FSR file for the aircraft must bear the same name as that of the aircraft itself in

*C:\Program Files\Microsoft Games\Microsoft Flight Simulator X\SimObjects\Airplanes*

or

*C:\Program Files\Microsoft Games\Flight Simulator 9\Aircraft*

For example, the Cessna Skyhawk SP Model 172 is in the file:

*c172.fsr*

You are now ready to *connect* to Flight Simulator and fly that aircraft with FSFlyingSchool. FSFlyingSchool will henceforth use the FSR file, which contains the aircraft data, by default.

### ***Editing Aircraft Data***

If you feel there are elements of FSFlyingSchool aircraft data stored in FSR files, which were created by us, yourself or others, which could benefit from a little fine tuning, you can create your own version of the data and store it in an FSU *User Specified Data* file.

In order to edit aircraft data in FSFlyingSchool:

1. Collect all the data you can about the aircraft in question. An obvious place to start is the reference file and checklist file supplied by the makers of the simulated aircraft.
2. Load a flight of that aircraft into Flight Simulator. If not already running, launch FSFlyingSchool. *Connect* FSFlyingSchool to Flight Simulator. Return to Flight Simulator and make sure your flight is not *paused*. After a few seconds, FSFlyingSchool will *estimate the aircraft values*. You can fly with these values or make adjustments to them, by disconnecting from FSFlyingSchool and continuing as follows.
3. Bring up the *Aircraft* page in FSFlyingSchool and select the *User Specified Data* within the *Data Source* group box. FSFlyingSchool stores user created data in FSU files and you are about to create one. FSU files contain *User Specified Data* for aircraft flown in FSFlyingSchool.
4. Enter all relevant data into the IAS Data, Flap positions, Flap speeds and Other Data fields; this information is described in detail in the *Aircraft Page* section of this manual. Once this has been done, press the *Save User Data* button. This will create an FSU file for the aircraft if one does not exist or will simply update the file if one does.

You are now ready to *connect* to Flight Simulator and fly that aircraft with FSFlyingSchool using the *User Specified Data*.

FSFlyingSchool will remember that you want to fly *this* aircraft with your own *User Specified Data*.

You will not be able to submit your scores to the FSFlyingSchool website when flying with *User Specified Data*, but you will have your performance scored and evaluated by your FSFlyingSchool instructor as you fly, and the results recorded in your FSFlyingSchool log book.

If you feel the FSR file should be permanently amended, please let us know through the FSFlyingSchool Forum.

Should you wish to return to the standard FSR file, bring up the *Aircraft* page in FSFlyingSchool and select *FSFlyingSchool Data* within the *Data Source* group box.

### Location Triggered Sounds

FSFlyingSchool enhances your immersion in the simulation by playing files that depend on your location. These files are played when you are within a specific distance of the latitude and longitude coordinates contained in the filename of the associated sound file. For example, the file

"N52\_28\_46#E13\_23\_29 [Berlin Tempelhoff].wav"

will play when you are close to Berlin Tempelhoff airport.

Files with the prefix "LANDED#" will play only when a landing takes place in the specified region, not merely when flying over it. For example the file:

"LANDED#N41\_58#W87\_54 [Chicago OHare].wav"

will play when you land at Chicago O'Hare airport.

Files defined in degrees (with no minutes) are triggered within that exact area. Files defined in minutes are triggered if the pilot is within +/- 2 minutes. Files defined in fractions of minutes are triggered if the pilot is within +/- 0.02 minutes.

We have included several files which will play as you explore the world with FSFlyingSchool. You can add your own 'location' files to be played when you fly over some of your favourite places using these simple steps:

1. Record the file you wish to play at the location you have chosen. Use Windows own *Sound Recorder* program (often found under the Start Menu-Programs-Accessories-Entertainment menu), or a specialized sound editor if you prefer. Be sure to save the file in the following format:

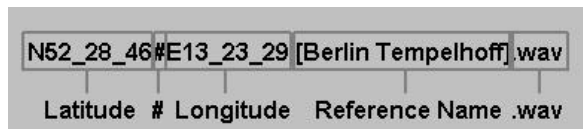
*Microsoft PCM 11.025 kHz, 8 Bit, Mono*

Make sure you trim off any unnecessary silence at the start and end of the recording. Keep the recording fairly short or it may clash with the other things happening during your flight with FSFlyingSchool.

2. Save your recorded file in

*C:\Program Files\FlyingSchool\Locations*

or perhaps in another folder if you chose a different installation path. The filename must follow this format:



Note that the latitude and longitude are given in degrees and minutes – same format as Flight Simulator map display.

### ***Flying FSFlyingSchool – help us build the add-on you want!***

The most important thing you can do, of course, is take to the skies with FSFlyingSchool!

Be sure to start with landings and very short flights first so that you fully understand how FSFlyingSchool behaves before investing your time in long flights or demanding circuits.

Why not try out a range of different types of flights and report the results back to us?

Try flights with a variety of: aircraft; weather; times of day; hemispheres; durations; with and without flight plans; VFR and IFR; ILS and visual approaches.

Try flights with unusual parameters such as bad weather and even just plain bad flying!

At the end of each session you fly, you can submit your account of your experience with FSFlyingSchool to the FSFlyingSchool forum at: <http://www.fsflyingschool.com/forum/>

We'd like to hear:

- What you did - you can be brief because your log book (see below) will provide us with a lot of data.
- What you liked.
- What you did not like.
- Your suggestions.
- Error messages.
- Incorrect behavior or information.
- Performance problems.

In addition we would like to see any files you may have created yourself for:

FSU – User defined Aircraft Data

Visual approach runway files from your "NonILS" folder

WAV – Location files

WAV – Landing files

WAV – Instructor files

BMP/GIF/JPG – Pilot image files

***Thanks – we look forward to hearing about your flights with FSFlyingSchool!***

## **Notes from the designer**

You will get the most out of FSFlyingSchool if you read this manual and you handle your aircraft realistically. By this, we mean that you fly in such a manner that your passengers are neither ill nor terrified at the end of the flight and the aircraft is still in good shape.

FSFlyingSchool is about airmanship, the handling of the plane. It is not about checklists or operating the FMC. You can still do this, (we do), but this is not the reason we built this add-on. We want virtual pilots to think about what they are doing to themselves, their passengers, their aircraft, ATC and the traffic they are sharing the virtual skies with.

It can be very easy to get reasonable landing, flight, circuit and airmanship challenge scores when flying a simple plane in dead calm weather... but where's the challenge in that? Set up a nasty gusting crosswind at your destination, lower the visibility at the airfield and try something *heavy*. This is where your scores can really get good!

One of our guiding principals at FSFlyingSchool is that we create products which can be enhanced and extended by us, by you and by the flight simulation community at large. As a result, FSFlyingSchool allows us, you and them to add:

- Instructors
- Aircraft Profiles
- Location ambience sound files
- Landing ambience sound files
- Visual approach airports

...so try creating some of your own – there's nothing quite so rewarding as creative play!

Finally, we thought you might like to hear about some of the enhancements we are considering for FSFlyingSchool.

We have a very active forum and these ideas are discussed there passionately. Many ideas suggested by fans have already been added to the software!

- Monitoring pilot's performance based on the changing factors which affect use of flaps, approach speeds, etc, such as current pressure, current temperature and current aircraft weight.
- Support for SIDs & STARs
- Support for helicopters
- Support for gliders
- Support for aerobatic and combat flying
- Touch and go landings
- Right handed circuits

Good luck with your flights and have fun!

- Jeff Preston  
December 2009

## Troubleshooting

### FSFlyingSchool Forum

Check the FSFlyingSchool Forum: [www.FSFlyingSchool.Com/Forum]

Whatever difficulty you may experience, others may be able to help.

If you got some results into your log book (you didn't merely fly for a few seconds or wreck or crash the aircraft) you can send us the following files from the

C:\Program Files\FlyingSchool\PilotRoster

folder

(you may have installed this to a different folder on your PC)

.PLT file (your pilot configuration file)

.HTM file (your pilot's FSFlyingSchool log book file)

.CSV file (raw debugging data useful to us at FSFlyingSchool)

For example, if you had created a pilot called Sebastian, then we would like you to send us:

C:\Program Files\FlyingSchool\PilotRoster\Sebastian.plt

C:\Program Files\FlyingSchool\PilotRoster\Sebastian.htm

C:\Program Files\FlyingSchool\PilotRoster\Sebastian.csv

### Application Priority

Windows applications can have their *Priority* configured higher than normal. This means they are taking an unusually large amount of the PC's processing power for themselves, at the expense of other applications running on that PC.

FSFlyingSchool should not be used when applications on the same PC have a *Windows Priority* set other than at normal.

The most likely effect of having an application, such as Flight Simulator, with its priority set higher than normal is that FSFlyingSchool's instructor's voice will seem to lag behind the events which are occurring. This can be simply solved by making other applications on the PC run with normal priority. To change the priority of an application back to normal, please consult Microsoft's technical help literature or their help on the Web.

### Controllers are Recommended

Flying smooth, realistic flights with splendid landings is a lot easier, in our opinion, with good flight controls. If you can get hold of them, use a joystick or yoke. If you have funding to spare, get a throttle and rudder pedals. These make a huge difference in smooth aircraft control and of course in your own immersion in the simulation.

## Footnotes

- If you find the FSFlyingSchool default keyboard shortcuts are already used by an add-on you are using at the same time as FSFlyingSchool, you can use any of the following shortcuts instead:

Shortcut	Default	Alternate
Advance Flight Mode	[Ctrl-Shift-Z]	[Ctrl-Shift-1]
Back Up Flight Mode	[Ctrl-Shift-X]	[Ctrl-Shift-2]
Display Data	[Ctrl-Shift-D]	[Ctrl-Shift-3]
Circuits Start / Stop	[Ctrl-Shift-Space]	[Ctrl-Shift-4]
Airmanship Test	[Ctrl-Shift-C]	[Ctrl-Shift-5]

- Note that if FSFlyingSchool's shortcut keys conflict with your add-on, you will often be able to change the key assignments in the add-on to something which does not conflict with FSFlyingSchool.
- FSFlyingSchool detects transponder emergency settings and displays them as text.
- FSFlyingSchool detects COM1 emergency frequency and displays it as text.

### ***Some Technical Terms***

- **Transition altitude**

Typically, in the USA, a pilot climbing through 18000' should set the altimeter to 29.92" Hg (1013 hPa). Descending through 18000', the pilot will set the local altimeter setting. This altitude is very different in other countries and can vary within the same country.

### ***Aircraft Lights***

- **Beacon**

If an engine is on, have the beacon on.

- **Nav**

If an engine is on, have nav lights on.

- **Taxi**

If in taxi mode at night, or in taxi mode in a heavy aircraft, taxi lights on.

- **Strobe**

If not in taxi mode, strobe lights on.

- **Landing**

If not in taxi mode, landing lights on, unless above 10,000 feet MSL in a heavy aircraft or in cruise mode in a light aircraft..

### **END-USER LICENSE AGREEMENT**

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