



Microsoft® flight simulator as a training aid



a guide for pilots, instructors,
and virtual aviators



Microsoft®
flight
simulator
as a training aid

a companion CD
to the book
by Bruce Williams

bruce williams

▶▶ Companion CD Included

Microsoft® Flight Simulator as a Training Aid
with companion CD
Bruce Williams

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Microsoft® Flight Simulator screen shots reprinted with permission from Microsoft Corporation.

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contents

	foreword by rob machado	00
	introduction	00
one	about this book	00
two	using Flight Simulator as a training aid	00
three	best practices for using Flight Simulator	00
four	Flight Simulator essentials	00
five	advanced “training features” in Flight Simulator	00
six	differences between Flight Simulator 2004 and Flight Simulator X	00
seven	about the practice flights	00
eight	flying the aircraft used in the practice flights	00
nine	supplemental information and web links	00
ten	introduction to the VFR practice flights	00
eleven	sample briefings for VFR practice flights	00
twelve	introduction to the IFR practice flights	00
thirteen	sample briefings for IFR practice flights	00
fourteen	creating your own practice flights	00
	index	00

one

about this book

checklist

- who should use this book
- what you need to get the most out of this book
- the website for this book
- learning to use flight simulator
- computer requirements, joysticks, yokes, rudder pedals and other controls
- what this book isn't
- realistic expectations
- charts and other references

I worked on six versions of *Microsoft Flight Simulator* at Microsoft, and as part of my duties, I attended innumerable aviation trade shows and fly-ins around the world. I watched countless people of all ages take to the virtual skies, and I gave scores of presentations on how students, pilots, and instructors can use Flight Simulator as a training aid. I also answered thousands of questions (actually, the same dozen or so common questions thousands of times) from folks curious about how they could best complement time in a real cockpit with hours “flying” Flight Simulator.

Students, pilots, and instructors often tell me how they have used Flight Simulator during their flying careers. Many say encounters with Flight Simulator even inspired them to pursue flight training. If you read aviation magazines, attend trade shows, and visit popular online aviation forums, doubtless you’ve run across similar stories and questions about using PC-based flight simulations.

Many aviators credit *Microsoft Flight Simulator* with obvious benefits related to practicing instrument approaches and exploring unfamiliar airports. But my encounters with pilots and instructors and time spent using Flight Simulator with my own students suggest that the aviation community isn’t getting the most out of virtual flying.

All of these experiences have led to this book, which I hope provides general suggestions, specific advice, and practical tools you can use to make effective use of Flight Simulator, regardless of the type of flying you do.

Before getting into the details of how to use Flight Simulator, however, it’s best to review some preflight checklists.



who should use this book

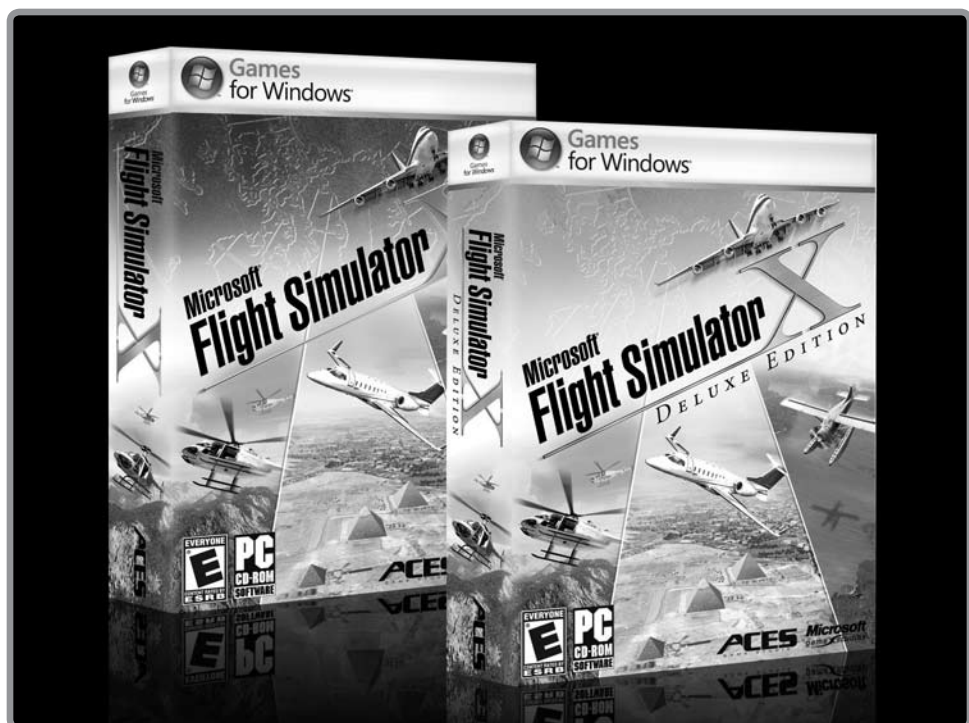
To begin; here's a short list of the people who can benefit from reading this book and from using the Practice Flights and other resources designed to work with it:

- Student pilots (pre-private pilot) who want to enhance book learning and review specific concepts and skills.
- Certificated pilots hoping to complement their real-world flying with additional hours in the virtual skies, upgrade their navigation skills and learn about advanced aircraft and procedures.
- Instrument rating students looking for ways to add interactivity to their IFR theory studies, want to preview lessons, and polish specific IFR flying skills, such as the use of advanced avionics and instruments (e.g., HSI and RMI).
- Flight instructors looking for new teaching tools for ground school classes and pre and post-flight briefings.
- Virtual aviators (Flight Simulator hobbyists) who want to learn more about real-world flying to enhance their enjoyment of virtual aviation.
- Kids and adults who want to prepare themselves with a little more knowledge before they begin formal flight instruction.
- Teachers using Flight Simulator in the classroom to complement aviation-related lessons or programs.

what you need to get the most out of this book

Although many of the recommendations described in this book could apply to other PC-based flight simulations and training devices, I assume you have *Microsoft Flight Simulator*, specifically either

- *Microsoft Flight Simulator 2004: A Century of Flight* (Version 9)
- *Microsoft Flight Simulator X* (Version 10). To fly the Practice Flights that use the Garmin G1000 "glass cockpit," you must have the deluxe version of Flight Simulator X.



No add-on aircraft, additional scenery, or other enhancements are required to use the Practice Flights discussed in this book.

Microsoft Flight Simulator X was still in development as I wrote this book. The new version builds on previous releases, so most of the features described here appear in both editions, and in general they work the same way. However, there are important differences between the two versions, some of which I discuss in Chapter 6, “Differences Between Flight Simulator 2004 and Flight Simulator X.”

note

To learn more about *Microsoft Flight Simulator*, including its features and detailed system requirements, visit the official *Microsoft Flight Simulator* website at <http://fsinsider.com>. You'll also find links to how-to articles, technical support, and other information that will help you get the most out of Flight Simulator. I especially recommend the article “A Real-World Pilot’s Guide to Flight Simulator.”

the website for this book

This book is in part an attempt to combine the familiar, portable, and easy-to-use medium of printed pages with the flexibility, timeliness, and interactivity of the Web and PC-based simulation.

In addition to the website addresses and footnotes you’ll find throughout these pages, I have consolidated the resources associated with this book, plus links to background information and other sites that I find useful, on my website. Putting all the Web-based resources in one place makes it easier to keep the Practice Flights and Web links up-to-date. And you need to remember only one Web address: www.BruceAir.com.

The specific resources available on my Web pages change, but you’ll always find information and links in these general categories:

- Resources related to *Microsoft Flight Simulator*, including information about where you can find add-on aircraft and other accessories.
- Expanded information about, and links to, resources associated with the topics in this book, including aviation references, training manuals and other learning resources, many of which are free to download.
- The complete set of Practice Flights for *Microsoft Flight Simulator* described later in this book.

learning to use flight simulator

Don’t panic if you’re new to *Microsoft Flight Simulator* or if you haven’t spent much time with it lately. If you’re a pilot, you’re already familiar with aircraft instruments and controls, aviation terminology, and basic flying skills. If you are learning to fly, you are acquiring that knowledge with help from your instructor. Because Flight Simulator is a *simulation* that reproduces the experience of flying an aircraft (as closely as possible on a PC-based platform), most of your aviation knowledge will transfer right to virtual flying. In fact, if you have some aviation knowledge and experience, you are ahead of most novice virtual aviators who must figure out how to interpret flight instruments, decipher charts, and master such arcane skills as VOR navigation.

Microsoft®

flight simulator

as a training aid

a guide for pilots, instructors,
and virtual aviators

[Bruce Williams'] unusual mix of practical cockpit experience, flight simulation knowledge, and a full spectrum of flight training skills makes [him] one of the leading educators in the aviation simulation business. When he talks, pilots throttle back and listen.

—From the Foreword by Rod Machado,
official flight instructor for *Microsoft Flight Simulator*

bruce williams takes *Microsoft Flight Simulator* to its highest level as a flight training tool. Applicable to both *Microsoft Flight Simulator 2004: A Century of Flight* (Version 9) and *Microsoft Flight Simulator X* (Version 10), this is a guide for anyone who wants to maximize their real or virtual cockpit experience while learning more efficiently with less stress, and having more money left in the bank at checkride time. This book and accompanying CD provide general suggestions, specific advice, and practical tools for making effective use of *Microsoft Flight Simulator*, regardless of the type of flying you do—students, certificated pilots, flight instructors, and virtual aviators will all benefit from Bruce's teaching.

This book merges the two worlds of flight simulation (gaming) with flight training—the only book of its kind on how to use the world's most popular flight simulator as a true aid to becoming a pilot or teaching flight. Practice doesn't necessarily make skills perfect, but it can make them permanent. The weighty assortment of practice flights included, and the guidance on how to best fly them, make it easy for any pilot or instructor—real or virtual—to attain the highest level of flight proficiency they seek.

Although many pilots and instructors have used *Microsoft Flight Simulator* during their flying careers and may have been inspired to pursue flight training by their early encounters with the program, often they don't know how to get the most out of the experience of virtual flying today. This book will change that.

Visit www.bruceair.com for more information and links to make sure your time spent with *Microsoft Flight Simulator* is fun and educational.

Included with this book is a companion CD that has more than 150 VFR and IFR Practice Flights for *Flight Simulator 2004* and *Flight Simulator X*, plus charts, reference materials and other tools to help you get the most out of using *Flight Simulator* as a training aid.



Bruce Williams worked on 6 different versions of the Microsoft Flight Simulator program during his 15 years at Microsoft. He is a certified flight instructor and an industry expert on simulated flight. He currently teaches aerobatics and gives seminars on the use of Microsoft Flight Simulator in flight and ground training through his company BruceAir LLC (www.BruceAir.com).



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