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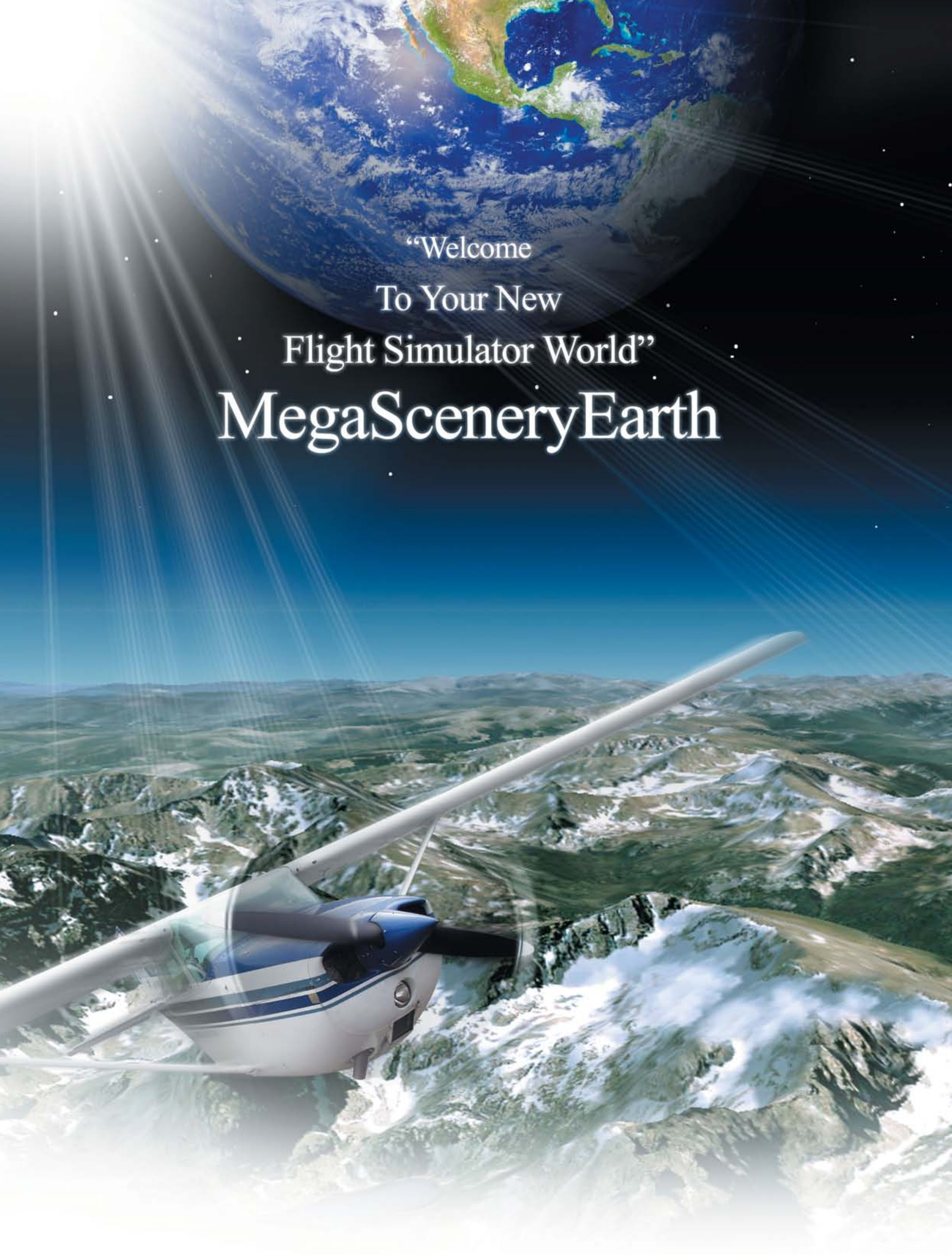
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THIS ISSUE'S PRIZES!

767 - 200/300 Series

The 767 may live in the shadow of the larger 747, but the sturdy and efficient 767 files on many of the same routes worldwide. This wide body aircraft sits between the narrow body 757 and the Jumbo 747, and is used for both short and long haul duties.

The experts at CLS have worked their magic to develop superb models of the 767 in the -200 and -300 passenger variants, featured here in a set of 24 liveries from around the world.

The 767-200/300 series is part of the very popular and user-friendly F-Lite series. These top quality aircraft are extremely high in detail but less demanding to fly than today's most complex procedural simulators. F-Lite aircraft are a significant step up from the default Flight Simulator versions in terms of modelling and cockpit systems, but won't require weeks of study before you can get airborne!

Drawn 30th May, 2010

Winners selected randomly from current subscriber database

Wings of Prey

"Wings of Prey" is based around the large-scale aerial combat and ground military operations of World War II. Players can participate in some of the war's most famous battles piloting fighters, battle planes and bombers across a range of thrilling missions. There are six theatres of war to engage in – The Battle of Britain, Stalingrad, Ardennes, Berlin, Sicily and Korsun' representing the main airborne battles of World War II in Europe.

"Wings of Prey" also boasts an all new damage effects engine as well as advanced environmental visuals enriching the game play. "Wings of Prey" features hundreds of airplanes taking part in air battles. The unique environmental engine also produces highly detailed, realistic landscapes that allow players to see breathtaking ground support actions. This is a fantastic simulation of WWII air combat and offers awesome graphics and realistic gameplay!

Dec/Jan Issue Winners...

G. Best (AUS) & A. Hillary (USA)

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April / May 2010

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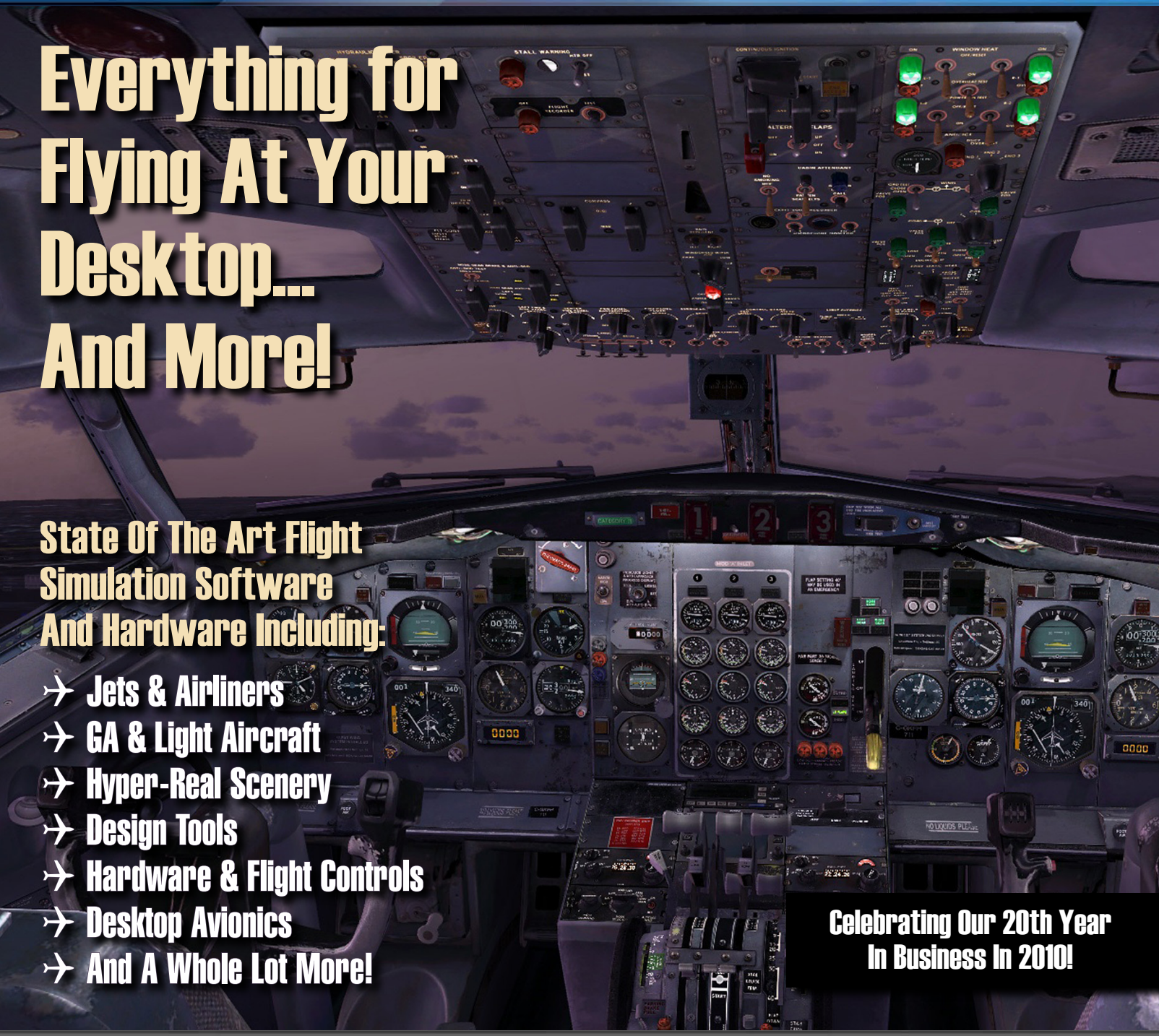

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E-Mail: crew@pcaviator.com
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Thanks to the richness of information that we are able to provide through our website on the world wide web, at www.pcaviator.com we're able to provide you with a shopping experience that combines a printed catalog with an online catalog.

This catalog provides basic information on each product. To find much more comprehensive information on each product including a myriad of screen shots, descriptive information and general requirements, use the **Online ID number** or item code underneath each product in the catalog to locate that product on our online product database and browse much more comprehensive information.

To establish which office services you (if you're outside the USA or Australia), simply select your country from the pull down menu at the website and it will tell you wish office services your country and the appropriate currency. $USD or $AUD.

General speaking however, the Asian and Pacific region is serviced by our Australian office and the rest of the world via our US office.

Prices in this catalog.

We list prices in $USD for our US and international customers and $AUD for our Australian and Pacific Region customers. The Australian dollar amount approximately reflects the current exchange rate. The Australian dollar prices include 10% Australian GST. If you are ordering from Pacific countries outside of Australia, you can deduct 10% which is the GST portion of the price.

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Some Inspiration...

Stop and think for just a moment....

So...just what is it that makes flight simulation so captivating?

The answer is simple...

Almost every person alive is fascinated with the concept of flight. Wouldn't you agree that every time you heard the drone of a trusty Cessna in the sky, you looked up to find the source of the sound?

It might have been a fleeting glance or your gaze may have been fixated for some time until the aircraft disap peared into the horizon.

It would be safe to say that the longer you watched that aircraft in the sky, the greater was your fantasy to be the pilot flying it.

Almost everyone has, at some stage had that fantasy ...that dream to fly their own aircraft.

And that is what makes computer flight simulation so enthralling... so captivating ...so satisfying! It lets every one who has ever had that fantasy....everyone who has ever wanted to...Realize their dream to fly...

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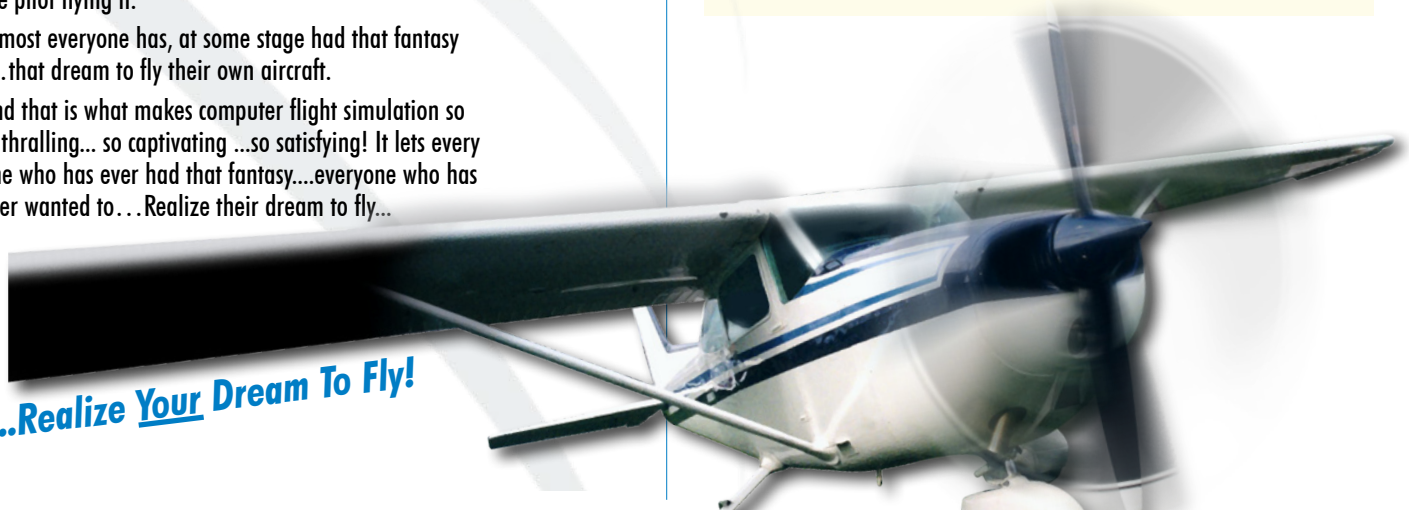

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- For internet surfers.... find out about the latest offerings online for flight simulator enthusiasts.
- You'll get the most out of your flight simulations through articles written specifically to help you know the "ins and outs" of your simulations better.
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Microsoft Flight Simulator

Microsoft Flight Simulator is THE base simulator that the products in this catalog, our company and most of what is considered the flight simulation industry is based around. Flight Simulator is a very powerful and feature-rich simulator for your PC that does all you could ask for in a flight simulator and is achievable by today's PC technology.

It's by far the biggest selling flight simulation product of all time and is one of the biggest selling PC entertainment and edutainment products of all time. It is used by an estimated 1 million plus desktop pilots, actual pilots, wanna-be pilots. Why? Because as Microsoft Says… "It's as Real As It Gets!".

Microsoft Flight Simulator can be used if you are an actual pilot or trainee pilot who wants to keep their eye in and learn ab-initio. You can do virtually everything you can do in the real world in Flight Simulator - from start up, to taxiing, to flying, to navigating, to flying instrument approaches, landing…. EVERYTHING - even interacting with Air Traffic Controllers!

You can fly the aircraft of your dreams, from Cessna to Jumbo jet. In fair weather or severe weather which is so realistically replicated. Aircraft fly like their real life counterparts, cockpits look the same, instruments and gauges all work, even engine sounds and engine control down to mixture, EGT and more are all controllable.

The base products come with over 20 aircraft, virtually every airport in the world along with a worldwide navaid database. Want to fly the airspace around New York, Alaska, Mt Everest, across the Sahara Desert? You can fly anywhere on the entire globe!

And while the base products give you so, so much… you can enhance them and upgrade them to your heart's content with all of the add-ons and expansions in this catalog. Add aircraft, from light singles to heavy jets, add scenery that's so real you can identify your own house from the virtual skies, add traffic that recreates real world traffic in the skies around you, add airports that FULLY recreate the detail of major international airports… even enhance the default ATC with voice recognition where the controllers listen to and understand you - through your PC headset.

If you love aviation, love to fly, dream of flying…. now, with Microsoft Flight Simulator, you can live your dream of flying.

There are currently 2 versions of Microsoft Flight Simulator in popular use today:

Flight Simulator X (also known as FSX) is the most recent version and was released in October 2006.

Flight Simulator 2004: A Century Of Flight (also known as F2004 or FS9) which was released around July 2003.

Both versions have a popular following and as a result this catalog offers add-ons and expansions for both versions in order to meet the needs of users of both versions.

The differences between the 2 versions are not that significant however software does evolve and along with newer versions come increased PC system requirements. If you are new to flight simulation and have a modern day powerful PC (entry level system as of beginning of 2007 with at least 2 GB RAM) then you will be able to adequately run Flight Simulator X and its add-ons. If you have a slightly older system - (pre 2007) then we recommend FS2004. As you upgrade your computer to a modern day PC then you should consider a switch to the newer version.

One of the main improvements you will see in the latest version (FSX) is in the graphics resolution. FS2004 graphics already are of a very high level of realism. FSX does take it to the next level especially with the higher resolution of the latest photosceneries. But that improvement in graphics does come at a big performance price.

The product descriptions below highlight the main differences between each version so if you're new to flight sims you can decide which avenue to take. If you're an experienced simmer then you most likely already know the differences and already favor one of the versions and can use the catalog to enhance your current version.

The Flight Simulator Add-ons sections of this catalog are broken down into FSX Addons and FS2004 Addons. Some add-ons work with both versions or give you two compatible versions in the package. Compatiblity will be indicated in the price grid for each product as either FSX, FS2004 or FSX/FS2004.

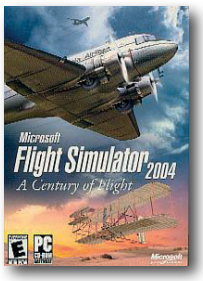
Microsoft Flight Simulator X: Gold Edition

- Release Date: September 2008
- Aircraft: 24+
- Airports: Virtually every public airport in the world
- Interactive Air Traffic Control & Challenging Missions
- Dynamic Weather with Real Weather Download Options
- Maximum Scenery Resolution Supported: 7 cm per pixel. Typical scenery resolution compromise 1.19 meters per pixel.
- Installation Size: 15 Gb+
- Minimum Recommended System: Dual Core Processor 2 GHz or higher, 2 Gb RAM, 256 Mb Video Card.
- Includes enhanced dynamic scenery, enhanced autogen, higher resolution terrain mesh, enhanced outside views. Official Microsoft FSX Acceleration Add-on and Service Packs integrated into package!

Publisher: Microsoft

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FSXGOLD	Flight Simulator X: Gold Ed.	DVD	USD$49.95	AUD$94.95	968

Microsoft Flight Simulator 2004: ACOF



- Release Date: July 2003
- Aircraft: 20+
- Airports: Virtually every public airport in the world
- Interactive Air Traffic Control
- Dynamic Weather with Real Aorld Weather Download Options
- Maximum Scenery Resolution Supported: 4.8 meters per pixel.
- Installation Size: 5 Gb
- Minimum Recommended System: Pentium 4 - 1.1 GHz or higher, 1 Gb RAM, 128 Mb Video Card.
- Not far behind the X version in terms of features. Main difference in X compared with FS2004 is the resolution of graphics supported and slightly less eye candy. This product will perform well on low end systems also.

Publisher: Microsoft

ITEM CODE	Title	Media	US Price	Aust. Price	ID

THIS TITLE IS DISCONTINUED IN USA. IF YOU WISH TO ENJOY SOME OF THE ADDONS ON OFFER FOR THIS TITLE, PLEASE TRY TO LOCATE A USED COPY. AUSTRALIAN STORE HAS NEW COPIES AVAILABLE.

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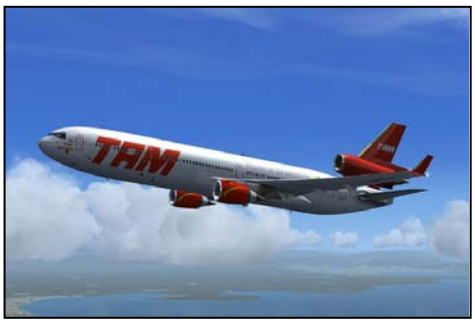
PMDG MD-11X

The World Renowned Three-Engine Widebody Airliner!

PMDG continues their lineage of fine airliner simulations with another popular heavy airliner, the PMDG MD-11! Born out of airline requirements for a "modern new DC-10" the MD-11 is a superb example of aircraft engineering from the era when modern computer processing power was beginning to bring truly new ideas, safety and capability to the cockpit of transport airplanes.

This product has too many features to describe in this short space. Please visit the product web page for comprehensive information on this superb aircraft add on as well as to view many great screenshots that show off this aircraft's true beauty and detail!



Publisher: Aerosoft Germany — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
PMDGMD11X	PMDG MD-11 X	CD-ROM	USD$69.95	AUD$89.95	1045

767 200/300 Series

User-Friendly F-Lite Series Version!

The 767 may live in the shadow of the larger 747, but the sturdy and efficient 767 files on many of the same routes worldwide. This wide body aircraft sits between the narrow body 757 and the Jumbo 747, and is used for both short and long haul duties.

The experts at CLS (Commercial Level Simulations) have worked their magic to develop superb models of the 767 in the -200 and -300 passenger variants, featured here in a set of 24 liveries from around the world.

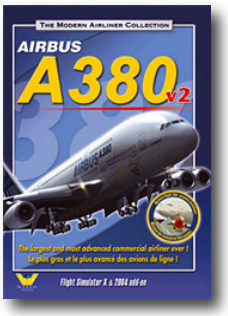
The 767-200/300 series is part of the very popular and user-friendly F-Lite series. These top quality aircraft are extremely high in detail but less demanding to fly than today's most complex procedural simulators. F-Lite aircraft are a significant step up from the default Flight Simulator versions in terms of modelling and cockpit systems, but won't require weeks of study before you can get airborne!

Publisher: Just Flight — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
JF767200300	767 200/300 Series	DVD	USD$39.95	AUD$64.95	1147

Airbus A380 V2

Fly The World's Biggest Airliner



Known as the world's only TWIN-DECK airliner, the A380 is the most ADVANCED, SPACIOUS and EFFICIENT airliner ever conceived!

You now get the chance to fly the world's heaviest airliner yourself - The Airbus A380 with Microsoft Flight Simulator X or 2004.

This product simulates the A380 in as much detail as possible by today's simulation standards - and that is in great detail - from the instrumentation and systems, sound, cockpits, right through to the flight model which is a whoel different ballgame when you're controlling a 550+ behemoth.

- Realistic fly-by-wire simulation.
- Multiple liveries from airlines around the world of the A380.
- Highly detailed "everything" that simulates all aspects of the A380 in great detail.
- Special "maiden flight" mission.
- Fly the World's Largest Passenger Airliner!

Publisher: Wilco Publishing — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
AIRBA380V2	Airbus A380 V2	CD-ROM	USD$29.95	AUD$44.95	956

737 Pilot In Command X

So Real It Can Be Used By Airline Pilots

737 Pilot in Command offers all the features of other highly acclaimed Pilot in Command products by Wilco, with new exciting and exclusive features that raise the realism altimeter to new heights!

Tested by active Boeing pilots, 737 Pilot in Command gives simmers the meticulously detailed panels, the true-to-life Flight Management Computer (FMC) and realistic simulation systems.

- Highly detail 737-300/400/500
- Complete simulated systems such as IRS, Fuel, Electrical, Anti-Ice, Cabin Pressurization, Weather Radar and More!
- Numerous airline liveries.
- Realistic aircraft animations.
- Numerous viewpoints including cabin view.
- Fully simulated autoland system
- Too much more to mention here. (see product webpage for more)

Publisher: JustFlight — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
737PICX	737 Pilot In Command X	DVD	USD$39.95	AUD$64.95	895

727 Captain

A Tour-de-Force In Classic Jets!

The classic 727 first flew in 1963 and still delivers superb performance in great style today. This very successful aircraft that employs a complex wing with high lift devices is still in service with several airlines around the world even today!

727 Captain has been developed exclusively for FSX (DirectX 9/10 compatible) by the legendary airliner specialists, Captain Sim, and is the ultimate 727 simulation, featuring unparalleled visual quality and realism.

727 Captain supplies the -100, -200 and freighter models as well as winglet and non-winglet variants along with the unique UDF (Un-Ducted Fan) version.

17 detailed liveries from around the world are included.

This is a highly recommended add-on for pilots who enjoy a challenge when flying their virtual aircraft...

One Of The Best 727 Aircraft Simulations Currently Available!

Publisher: JustFlight — **FSX**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
JF727CAPT	727 Captain	DVD	USD$51.95	AUD$69.95	1155

PMDG 747-400 & 400F

"Queen Of The Skies"

After the great success of PMDG's 737 The Next Generation series, the latest production of PMDG 747-400 Queen of the Skies is destined to become every airliner enthusiast's favorite Flight Simulator X aircraft.

In order to provide the sophistication, technical details and challenge of commercial airline flying to the enthusiast, PMDG have ensured that PMDG 747-400 Queen of the Skies meets exacting standards for quality and completeness. From the photo-real cockpit to systems programmed after engineering schematics, no effort has been spared during the extensive development process. This has been verified by a dedicated beta test team, comprised of aviation professionals, airline pilots and Flight Simulator experts.

This excellent product has too many advanced features to mention in this short space so we highly recommend that you visit the product's page online and read about all the advanced features you'll enjoy in the... PMDG 747-400 Queen Of The Skies!

Publisher: Aerosoft Germany — **FSX**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
PMDG747FSX	PMDG 747 Queen Of The Skies CD-ROM		USD$69.95	AUD$99.95	892

E-Jets Series

There's Boeing, There's Airbus And Then There's Embraer!

The Embraer 170/190 range of airliners are an entirely new family of aircraft, with state-of-the-art avionics, fly-by-wire technology, superior cabin comfort and extraordinary and uncompromising performance.

The Pilot in Command label is Wilco's assurance of realism, quality and attention to detail, making this one of the most sophisticated aircraft expansions you can fly in Microsoft Flight Simulator.

- Highly detailed Embraer 170/190 with Lineage 1000 as BONUS.
- Fly up to 120 passengers with a range of over 2,400 Nm.
- New gen. flight deck.
- Detailed interiors with superb craftsmanship.
- Ultra realistic dual FMS.
- Full Authority Digital Engine Control (FADEC).

Publisher: Wilco Publishing — **FSX/FS2004**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
WFEJETS	E-Jets Series	CD-ROM	USD$44.95	AUD$64.95	950

Fokker 70/100

Authentic Fokker 70/100 Simulation

Introducing an Authentic Fokker 70/100 Simulation! The ultimate procedures and systems simulation for Flight Simulator 2004.

With the involvement of Fokker pilots, this is an airliner that MUST be flown just as the real aircraft would be. Complex systems such as hydraulics, bleed air and electrical connections, lift dumper and speed brake logic, emergency controls, reverser logic plus detailed icing and fire protection systems are all modelled, delivering the ultimate cockpit simulation. This amazing product includes highly detailed exterior models and flight dynamics for the Fokker 100 with both sliding and stair door variants plus the Fokker 70. Each model has numerous liveries to fly from either the Captain's or First Officer's panel. You even get multi-crew networking capability to allow Captain and First Officer interaction!

INCLUDES FULL-LENGTH FLIGHT DECK DVD.

Publisher: Flight 1 — **FSX/FS2004**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
F1FOK70	Fokker 70/100	DVD	USD$54.95	AUD$74.95	1030

MasterCard VISA AMERICAN EXPRESS Diners Club International

Wilco Fleet: 777

Advanced 777 Simulation!

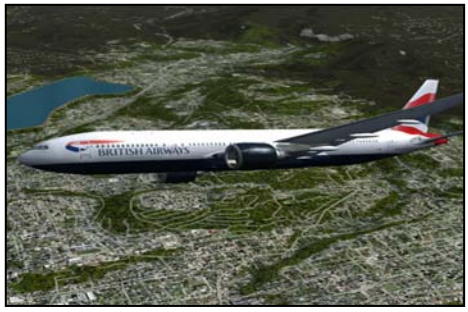
The Wilco Fleet 777-200 is no ordinary Flight Sim 777. Instead it's an advanced replica of this 100% digitally designed Boeing Jetliner.

And you get double the bang for your buck being able to use it in the latest Flight Simulator X and Flight Simulator 2004.

What sets this product apart from a default Flight Sim plane is the inclusion of the complete Flight Management System. That's something that default Flight Sim airliners are missing. This product is for serious heavy jet pilots who want to experience the Boeing 777 in all it's glory from being able to program the CDU, using the LNAV and VNAV and everything else a real airline pilot would do to fly this plane.

But you don't need to be an airline pilot to fly it. Thanks to the 55 page manual written and illustrated by the most famous writer on the flight sim scene - Captain Mike Ray.

Captain Mike teaches you every step of flying this modern bird from startup to shutdown.



Publisher: Wilco Publishing — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
WF777	Wilco Fleet: 777	CD-ROM	USD$39.95	AUD$64.95	518

20 Series Business Jets

You Don't Need To Be A Fortune 500 Company Director To Fly A Business Jet!

The Xtreme Prototypes 20 Series add-on business jet package for Microsoft Flight Simulator X contains six variations of the legendary Models 24, 25 and 28

Each highly-detailed 3D model is inspired from the real world aircraft and features many movable parts and high resolution textures. The fully functional 3D virtual cockpit contains over 800 parts and more than 200 back and front-lit 3D gauges, lights, switches and flight instruments.

Xtreme Prototypes 20 Series remains simple to operate. Anyone who masters Flight Simulator's default jets can fly the 20 Series aircraft for FSX. It's up to the user to decide which level of complexity he/she wants to achieve.

The custom flight model has been designed to simulate the performance of a high-powered civilian jet aircraft. The package includes custom visuals and sounds, multiple camera views and a detailed flight manual (PDF format).

Publisher: Xtreme Prototypes — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
XT-20SER	20 Series Business Jets	CD-ROM	USD$39.95	AUD$59.95	1103

Airbus Series Volume 1

Fly The Airbus A318/319/320 And 321

Genuine true-to-life piloting of the Airbus 318, A319, A320 or A321 is now possible for everyone, thanks to Wilco's new Airbus Series Vol.1 - Deluxe Edition.

The exceptional realism of this simulation has been achieved by thorough professionals who recreated, in absolutely every minor detail, all of the onboard systems, interior, sound environment and flight models... Their fine work then being validated by highly qualified Airbus Captains and Instructors.

With the ease of its three usage levels, Airbus Series Vol.1 is made for beginners as well as experts and pilots.

From Paris to New York, make the ultra-modern Airbus technology yours. Whatever your level of experience, this Airbus Series is definitely for you!

- Adjustable difficulty levels for beginner/advanced pilots.
- Great package for anyone lookng for a variety of quality virtual Airbus aircraft!

Publisher: Wilco Publishing — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
WFAB1DLX	Airbus Series Vol.1 Deluxe Ed.	CD-ROM	USD$49.95	AUD$69.95	750

Airbus Series Volume 2

Experience The Fly-By-Wire Airbus A340 and A330 Jetliners

Whether you're a beginner or expert flight simmer, here's your chance to fly 5 different Airbus models

The A330-200, A330-300, A340-300, A330-600 and A330-300 MRTT Tanker Transport are yours to fly and enjoy in FSX and FS2004.

For Beginners: Wide Airbus aircraft series. Adjustable difficulty levels, from Beginner to Advanced level. Numerous international liveries and Airbus' house livery

For Experts and Pilots: Simulation tested and validated by active Airbus Captain and instructor. Ultra realistic FMGS. Ultra realistic digital 'FLY-BY-WIRE' technology. EFIS screens available with the system pages simulated. High development quality ensured by feelThere.com team and Rob Young (flight dynamics).

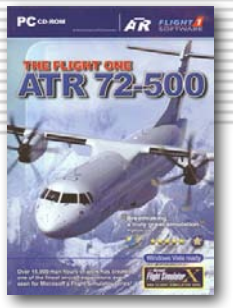
Airbus Series Volumes 1 and 2 complement each other to provide a great suite of Airbus aircraft for your virtual hangar!

Publisher: Wilco Publishing — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
WFABS2	Airbus Series Vol.2	CD-ROM	USD$44.95	AUD$69.95	864

ATR 72-500

Produced In Collaboration With ATR!



Developed with the cooperation of Avions de Transport Regional (ATR) in Toulouse, France, this has been one of Flight One Software's most exhausting development efforts.

Exclusively designed for Microsoft's Flight Simulator 2004 (A Century of Flight) and Flight Simulator X, computer pilots can experience first hand what it is like to fly the real ATR 72-500.

Select to fly from the Captain's or First Officer's panel in either of the standard brown or newly available blue/grey cockpit configuration.

Experience the fully functional and highly detailed virtual cockpit with many never before features, such as truly working windshield wipers that remove the rain from the windows.

Take a stroll through the virtual cabin, checking out the detailed 3D interior including 2 different seating configurations, available in 4 different color schemes.

This is a highly-realistic aircraft add-on that is well up on our Top 10 list of recommended add-ons.

Publisher: Flight 1 — *FSX/FS2004*

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ATR72	ATR 72-500	CD-ROM	USD$44.95	AUD$64.95	460

BAe Jetstream 4100

new

A Classic Turbo-prop Regional Airliner...

An accurate, detailed simulation of the Jetstream 41 has been sorely missing from desktop flight simulation... Until Now!

After being in development for 9 months, PMDG's award winning development team is proud to release this faithfully reproduced aircraft! In traditional PMDG style, no effort was spared during this extensive development process and we are certain the J41 will quickly become your favorite regional turbo prop simulation!

The external model has been accurately modeled to the smallest details, and painted using high resolution photoreal textures..

Fully Interactive, Dynamic Virtual Cockpit - Designed and animated using the same proprietary techniques developed for previous PMDG award-winning product lines.

Unique advanced mathematical model of Garret turboprop engine including sophisticated features.

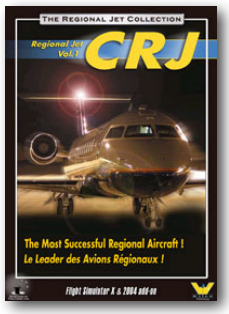
Frame rate optimization - Optimization manager included!

Publisher: Aerosoft Germany — *FSX*

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASPMDGJS41	PMDG BAe Jetstream 4100	CD-ROM	USD$49.95	AUD$69.95	1119

Regional Jet Vol.1 - CRJ

The CRJ-200, CRJ-700 And CRJ-900 In One Incredible Package...



If you're a frequent traveller and have flown from a major hub to a smaller satellite airport, you've most likely been a passenger in the CRJ. Now here's your chance to finally get behind the actual controls of this exciting-to-fly regional jet with Flight Simulator X (and FS2004).

The CRJ is the most successful regional aircraft program in history. Only larger jet transports such as the Boeing jet family and the Airbus A320 family have been delivered in such numbers.

General Features:

- CRJ-200, CRJ-700 and CRJ-900.
- Liveries include Delta Airlines, United & America West Express.
- Fully featured 2D panels.
- 3D Virtual cockpit and cabin.
- Comprehensive manuals, Quick Flight, Check Lists, and more...

"TWO EXCLUSIVE BONUS VIDEOS INCLUDED IN THE CRJ PACKAGE!"

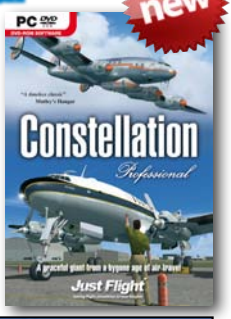
Publisher: Wilco Publishing — *FSX/FS2004*

ITEM CODE	Title	Media	US Price	Aust. Price	ID
CRJX	Regional Jet Vol.1 - CRJ	CD-ROM	USD$29.95	AUD$44.95	912

Constellation Professional

new

A Graceful Giant From A Bygone Age Of Air Travel, Now Yours To Fly!



With 11 aircraft supplied in three model types and a complete Flight Engineer's station, radio station and Co-pilot's station, Constellation Professional is the ultimate Constellation package.

Models inlcuded are the C-69 Military Transport Prototype, the C-69/L-049A, and the L-049A first production type.

A complete Virtual Cockpit is modelled and the flight model has been tested by real-world Constellation pilots. A replica of a typical cabin is included to provide a taste of what life was like aboard these great airliners.

Constellation Professional has been developed exclusively for FSX (SP2 & DX10 Preview compatible) and makes use of the all-new FSX graphics features to amazing effect.

"ONE OF THE BETTER CLASSIC AIRLINER PACKAGES CURRENTLY AVAILABLE FOR FLIGHT SIMULATOR X"

Publisher: Just Flight — *FSX*

ITEM CODE	Title	Media	US Price	Aust. Price	ID
JFCONPRO	Constellation Professional	DVD	USD$39.95	AUD$59.95	1080

MasterCard VISA AMERICAN EXPRESS Diners Club International

PMDG MD-11 for FS2004

best seller!

Still Flying FS2004? PMDG's Famous MD-11 Can Still be Yours To Fly!

PMDG continues their lineage of fine airliner simulations with another popular heavy airliner, the PMDG MD-11!

Born out of airline requirements for a "modern new DC-10" the MD-11 is a superb example of aircraft engineering from the era when modern computer processing power was beginning to bring truly new ideas, safety and capability to the cockpit of transport airplanes. Highly automated and employing innovative new approaches to the pilot/airplane interface, the MD-11 took the McDonnell Douglas widebody line into the future with fully automated flight modes, aircraft system status pages, failure consequence displays and clearly thought out pilot controls.

One of the most advanced airplanes ever produced by Douglas, the MD-11 has been largely missing from desktop simulation... Until Now!

the PMDG MD-11 is validated in the training simulator to ensure it has been modeled correctly, right down to the finest detail. All of this technical expertise means that our development team has the very best source of information to ensure the PMDG MD-11 precisely matches it's majestic real world counterpart!

In traditional PMDG style, no effort has been spared during the extensive development process and they have proved that the MD-11 is "another" favorite of PMDG simulation customers!

Publisher: Aerosoft Germany — FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
PMDGMD1104	PMDG MD-11 for FS2004	CD-ROM	USD$69.95	AUD$89.95	1046

Fly the Boeing 787 Dreamliner

Boeing's Answer To The Airbus 380!

The incredible Boeing 787 will soon be flying the skies... but you can fly it right now on your PC with Flight Simulator 2004 or Flight Simulator X!

More than 400 of Boeing's newest generation aircraft are scheduled to bring fast, long range and economical flight to the world's major airlines.

With a range of up to 8000 nautical miles, it will wisk 300 passengers in comfort at at a speed of Mach .85.

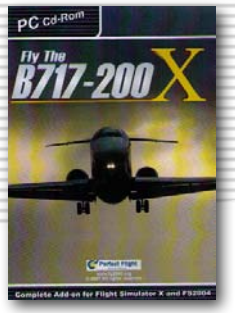
The team of Tolga and Turgot Piskin has modeled the new Boeing 787 for Microsoft Flight Simulator X and FS2004. Graphic artist Ed Knapp has reproduced the many liveries of the airlines both real and vitrual that fly them. Peter Jacobson has modeled a custom FMC for ease of flying this new aircraft.

Publisher: Abacus Publishing — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
B787DREAM	Fly the B787 Dreamliner	CD-ROM	USD$29.95	AUD$44.95	696

Fly the B717-200 X

Short Hauler That's Big On Features!



The Boeing 717-200 is the world's best jetliner specifically designed for the short-haul, high frequency 100-passenger airline market. Airlines and passengers have told Boeing that they prefer the comfort and convenience of the 717. The airplane's efficiency meets or exceeds all expectations in revenue service.

Product ships now for both FSX and FS2004, so you have an option during the installation process to choose the desired version.

- Detailed 3D textures.
- Full moving parts including: Flaps, Rudder, Ailerons, Spoilers, Gear, Passenger Doors, Cargo hatches, etc
- Full night lighting on the inside and out.
- Strobes and beacons set to Boeing specifications.
- Fully-featured B717 2D Panel.
- Full 3D Virtual Cockpit.
- Very realistic Stereo Sounds.

Publisher: Perfect Flight — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
PFB717	Fly the B717-200 X	CD-ROM	USD$49.95	AUD$64.95	893

OTHER POPULAR JET & AIRLINER ADD-ONS...

ITEM CODE	Title	Media	US Price	Aust. Price	ID
JF747200	747 200/300 Series	DVD	$39.95	$59.95	1026
JFDC10	DC-10 Collection	DVD	$29.95	$43.95	798
WFLEG	Embraer Legacy	CD-ROM	$29.95	$44.95	672
ABCLH	Airbus Collection: Long Haul	DVD	$39.95	$57.95	926
VLJ	VLJ Business Jet	DVD	$19.95	$29.95	728
COMMXP2	Commuter Xpress 2	CD-ROM	$29.95	$47.95	900
A340500X	A340 500/600	DVD	$29.95	$39.95	734
PFTRIS	Lockheed L-1011 Tristar	CD-ROM	$39.95	$54.95	702
PFFTH	Fly The Heavies	CD-ROM	$49.95	$69.95	739
FLYABX	Fly The Airbus Fleet Version 2	CD-ROM	$29.95	$44.95	586
ABCOLLX	Airbus Collection	DVD	$34.95	$49.95	721

Twin Otter X — Simply The Best "Twotter" Package Out There!

Publisher: Aerosoft Germany
FSX

The De Havilland Canada DHC-6 Twin Otter (aka Twotter) is one of those aircraft that should have been replaced by some new aircraft at least a decade ago. But its not. The DHC-6 still flies and in fact the amount registered is rising at this moment!

The high end model presented by Aerosoft and partly designed by SibWings includes all versions, and advanced avionics set. It is perfectly suited for use on some of our most favorite scenery products such as Lukla X and German Airfields 1. The gauges include two high end Bendix King systems that provide near perfect navigation and communication capabilities. Of course the original panel is also an option (though far less advanced)

Aircraft features: Both 100 and 300 models included; Wheeled, ski and floater version; Nine liveries plus simple to use paint kit included; Original panel and updated panel (with high end coms and GPS included); Fully functional VC (no 2D panels provided); Extended manual; Accurate flight model with the correct STOL characteristics...

ITEM CODE	Title	Media	US Price	Aust. Price	ID
DHC6TOX	DHC-6 Twin Otter X	CD-ROM	USD$34.95	AUD$49.95	891

Cessna 172 Skyhawk — Improve Your Default C172!

Publisher: Flight 1
FSX/FS2004

Flight1's Skyhawk 172R captures the spirit and feel of this famous and popular high wing, single engine aircraft. Features include a photo realistic 2D panel, 3D aircraft model, exceptionally clear virtual cockpit, new sounds, and flight dynamics that have been developed using the real performance tables.

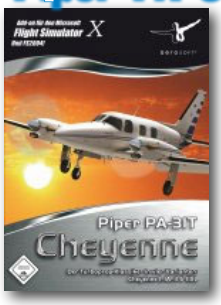
Flight1's Skyhawk 172R continues the tradition and commitment in offering you the highest level of product realism and integration for Microsoft's Flight Simulator X & 2004.

GMAX Aircraft Model - Designed in GMAX with exceptional detail. **Beautiful 2D-Panel** - The 2D-Panel uses high definition technology for unmatched clarity and detail. The unique main panel perspective gives you the feeling of being in the real cockpit. **Clickable Virtual Cockpit** - Full working gauges, switches, and moving parts. This cockpit sets a new milestone in terms of clarity for a virtual cockpit, allowing you to get the full Skyhawk experience!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
172SKYHX	Cessna 172 Skyhawk X	CD-ROM	USD$24.95	AUD$39.95	752

Piper PA-31T Cheyenne — High Quality Piper Twin!

Publisher: Aerosoft Germany
FSX/FS2004



This add-on for the Microsoft Flight Simulator X is an extraordinary replica of the twin engine Piper Cheyenne with a new developed weather radar.

The package contains no less than four versions of the most successful Turboprop family: Cheyenne II, I, IA and IIXL.

All four aircraft have been rebuilt and animated for the Flight simulator in 3D fashion right down to the smallest of details. In this way mechanical parts such as ailerons, rudders, flaps, engines and even windscreen wipers move just like in the original aircraft.

The excellent graphics of both the 2D- and 3D-Cockpits are equipped with all the avionic instruments usually to be found inside these models and the precise flight dynamics have been developed with the help of real Cheyenne pilots. Besides the accurate panels for the pilot and the co-pilot, the cabin of the Cheyenne has also been rebuilt to the highest level of detail with its opening doors for the passengers and the freight.

ITEM CODE	Title	Media	US Price	Aust. Price	ID
CHEYX	Piper Cheyenne X	CD-ROM	USD$34.95	AUD$49.95	888

RealAir Duke — The "Best Of The Best" In Twin Engine Add-ons!

hot item!

Publisher: Flight 1
FSX

A classic twin-engine light aircraft that has it all - sleek good looks and a pressurised cabin that allows you to cruise the airways in comfort and style in Flight Simulator X.

Developed by the award-winning RealAir Simulations, developers of previous products like the Spitfire and Marchetti SF-360, this beautiful simulated aircraft makes the perfect platform for IFR flights, or just taking to the skies for the sheer pleasure of flying... this must be one of the most satisfying simulations of a piston twin yet available for FSX.

The Duke has been painstakingly developed from the ground up for Flight Simulator X over a two year period by RealAir. And it shows, with the meticulous attention to detail of every possible aspect of operating this classic Beechcraft, so that the visual aesthetics, sounds, cockpit and panel, animations and flight model all contribute equally to the highest standards possible within FSX.

This is our favorite twin-engined aircraft add-on to fly here at PC Aviator. It is just about unmatched and certainly is the best Duke currently available!

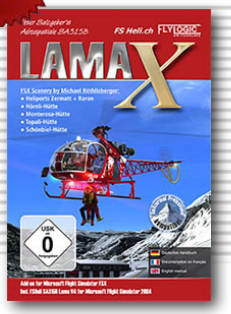
ITEM CODE	Title	Media	US Price	Aust. Price	ID
RADUKE	RealAir Duke	CD-ROM	USD$49.95	AUD$67.95	1074

Order Online 24/7 @ www.pcaviator.com
MasterCard VISA AMERICAN EXPRESS Diners Club International

Lama X

new

Quality Simulation Of The Lama Helicopter



Fly the famous work-horse helicopter! Save cows and people, fight fires and transport different goods and equipment. Bring people to the glacier for heli-skiing.

For "Acceleration-Pack", this software includes 6 training units for the Lama: (They only work with the FSX acceleration pack and they are only installed when the "Acceleration-Pack"for FSX has been installed on your computer).

- 39 versions / configurations available.
- Paints from six different operators.
- Realistic engine/aircraft sounds.
- Realistic flight dynamics.
- Original start-up procedure.
- 3D Cockpit fully animated.
- Model variations include summaer and winter fitouts.
- Winch and long-line operations.
- Lama V4 for FS2004 included.
- Original Lama Flight Manual.

Publisher: Aerosoft Germany **FSX/FS2**

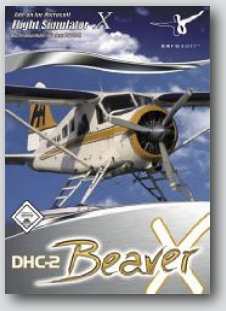
ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASLAMAX	Lama X (FSX/FS2004)	CD-ROM	USD$49.99	AUD$67.95	1128

OTHER POPULAR GENERAL AVIATION ADD-ONS...

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ABC162	Cessna 162 SkyCatcher	CD-ROM	$19.95	$32.95	1034
PC12X	Pilatus PC-12 X	CD-ROM	$34.95	$54.95	925
KATANAX	Katana DA-20 X	CD-ROM	$34.95	$44.95	730
ACA	American Champion Aircraft	CD-ROM	$44.95	$62.95	890
DO27FSX	Dornier DO-27	CD-ROM	$34.95	$49.95	884
FLYCLUB2	Flying Club 2	DVD	$39.95	$59.95	1072
FCMTR	DynAero MCR-01 Ultralight	CD-ROM	$29.95	$44.95	1088
SCHWEIZER	Schweizer 300CBi	DVD	$24.95	$39.95	749

Beaver X

Fly The Aircraft That Gets You Anywhere!



Aerosoft's best selling aircraft is now fully FSX compatible! This aicraft gets you everywhere, snow, water, soft runways or tarmac, there is a Beaver in this package for every terrain.

Made by a crack team of designers, this DHC2 Beaver has been designed for a wide range of users. Easy enough for pilots with not too many hours and for the seasoned pilots it has enough features to keep them busy for a long time. It's a high end product that will not demand hours of study. The Beaver was designed to be easy to fly and our model takes this along to FS. We made it to be fun to fly and there is even a touch of drama to be seen in the graphics and sounds.

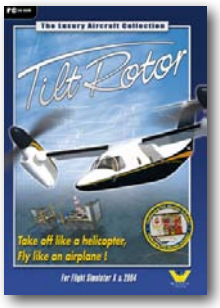
- Fully FSX compatible, with all features new to FSX.
- Special FSX Mission: "Needle in a haystack" included in package.
- Reduced polygon count because of careful use of bumpmaps tex tures, even though far more details are shown resulting in better frame rates.
- Fully supports extensive damage / failure model of FSX (check out the engine fire).
- FSX specific effects for snow, crop dusting, fire fighting.
- Includes specular, bumpmap, fresnels effects, and much more.
- Additional VC views defined.

Publisher: Aerosoft Germany **FSX/FS2004**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
BEAVX	DHC-2 Beaver X	CD-ROM	USD$29.95	AUD$44.95	754

Luxury Aircraft Collection: Tilt Rotor

Take Off Like A Heli, Fly Like An Airplane!



Tilt Rotor is poised to revolutionize the way we fly. By combining the speed, altitude, and comfort of a turboprop with the vertical takeoff and landing capabilities of a helicopter, we can enjoy the best of both worlds.

The Wilco Publishing Tilt Rotor is a simulation of the Bell Agusta 609, developed by Bell Agusta Aerospace Company, a joint venture of Bell Helicopter Textron, Inc. and Agusta Westland.

This simulation breaks new ground in Flight Simulator! No other VTOL/VSTOL simulation comes close to replicating smooth transitional flight the way this Tilt Rotor does. Simply, it goes where Microsoft hadn't intended and does it comfortably and successfully.

Nothing out there delivers the same levels of exhilaration and sheer fun of flying the Tilt Rotor!

Publisher: Wilco Publishing **FSX/FS2004**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
WFTILT	Luxury Aircraft Coll: Tilt Rotor	CD-ROM	USD$39.95	AUD$54.95	1051

We service you wherever in the world you might be all from the one website & through our LOCAL OFFICES IN Nth America Toll Free: 1-800-664-0033
Australia (03) 9553 1955 INTERNATIONAL CALLERS: OUTSIDE USA +1 843-716-1616 OUTSIDE Australia +61 +3 9553 1955

C-130 Hercules

Fly Some Military Heavy Metal...

Publisher: Just Flight
FSX/FS2004

Captain Sim's C-130 Hercules has returned from an extensive re-fit in the virtual workshops and is ready for operations in Flight Simulator X!

C-130 Hercules is the result of over 6,000 hours of meticulous development and is undoubtedly the most sophisticated re-creation of a military aircraft to grace the simulated skies. Staggering graphics and a superb array of detailed animations are mated to an accurate flight model that has been tested by Hercules crews. It has now been in for a major refit at the Captain Sim development studio and returns fully reworked for Flight Simulator X with Acceleration, SP2, DX10 Preview and Vista compatibility.

This package includes E, H J and Gunship variants in 28 authentic liveries.

C-130 Hercules also includes a huge printed manual and is fully licensed by Lockheed Martin and the Royal Air Force.

ITEM CODE	Title	Media	US Price	Aust. Price	ID
C130X	C-130 Hercules	DVD	USD$39.95	AUD$59.95	960

Flight Deck 6

New and Improved... The Best Carrier Ops Yet!

Publisher: Abacus Publishing
FSX/FS2004

Flight Deck, one of the world's best sellers has been TOTALLY revised and is now Flight Deck 6. Carrier-based flight is the ULTIMATE challenge in aviation!

Climb into the cockpit of these super-detailed, high performance aircraft and put your piloting skills to the test. Flight Deck 6 also works with Flight Simulator 2004.

Flight Deck 6 features new Missions for BOTH FSX and FS2004! That's right, Flight Deck 6 brings an exclusive mission environment to Flight Simulator 2004 while taking full advantage of the mission system included with the Flight Simulator X. Missions include all 7 aircraft and include aerobatic maneuvers to target practice weapons training, carrier landings and more!

This impressive fleet of aircraft in Flight Deck 6 will keep you at the edge of your seat! Each plane is dressed in authentic paint schemes and is beautifully rendered, with accurate flight models.

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FLTDCK6	Flight Deck 6	CD-ROM	USD$29.95	AUD$44.95	1114

F-16 Fighting Falcon

A "Devil In Disguise"...

Publisher: Aerosoft Germany
FSX

It looks like an angel. Flies like an angel. But is a devil in disguise! Here is your chance to fly the best F-16 add-on package currently available for Microsoft Flight Simulator...

The basic fighter for most NATO countries for several decades, this aircraft deserved a place in FSX. For the last year Aerosoft has been working on a high detail model of this aircraft and now you will see the Fighting Falcon fly into the virtual world of FSX.

With close to half a million vertices it most likely is the most detailed aircraft ever designed for FSX. The realism of this product is so great that parts of the product are sold to professional users and is used in the first stages of training of pilots in 3 countries.

In FSX the F-16 is a joy to fly, with the controllability of a light aircraft and capable of altitudes of 50,000 feet and speeds exceeding Mach1. It is extremely agile yet easy to control.

ITEM CODE	Title	Media	US Price	Aust. Price	ID
F16FFVIP	F-16 Fighting Falcon - Viper	CD-ROM	USD$29.95	AUD$44.95	719

C-5M Super Galaxy

Super Size Military Transport!

Publisher: Area 51 Simulations
FSX/FS2004

The Lockheed C-5 Galaxy is a large, military transport aircraft built by Lockheed. It was designed to provide strategic heavy airlift over intercontinental distances and to carry oversize cargo.

The C-5 Galaxy has been operated by the United States Air Force since 1969 and is one of the largest military aircraft in the world. Now Area 51 simulations bring this beauty to your desktop simulators.

Flight Simulator Specifications:

- *Built for FSX engine, although aircraft is functional in FS2004 as well!*
- *Very High Detail Exterior and Interior modelling and animations.*
- *Photoreal Textures depict numerous real air force markings.*
- *Detailed doors and Cargo bays.*
- *Includes quality panel and lifting nose cargo feature.*

ITEM CODE	Title	Media	US Price	Aust. Price	ID
A51C5M	C-5M Super Galaxy	CD-ROM	USD$29.95	AUD$47.95	1137

B-17G Flying Fortress

Quality B-17 Bomber Expansion

Produced in massive numbers, the B-17 Flying Fortress dropped an amazing amount of bomb tonnage over enemy territory.

Francisco Sanchez-Castañer of the newly formed development team of FS-Cast has captured the B-17G Flying Fortress in all its glory.

This package is loaded with all of the bells and whistles one would expect from a dedicated FSX aircraft. These features include bump maps, specular maps, self-shadows, working gun turrets, dropping bombs, and more.

This is a true FSX aircraft, not a port-over from FS2004, and is designed for use with Flight Simulator X Service Pack 2 and the Acceleration Expansion.

Features three highly detailed models of the B-17G, including armed and an unarmed variant, beautifully rendered virtual cockpits created in the most stunning detail, with virtually everything animated and labeled!

Publisher: SkyUnlimited — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
SKB17	B-17G Flying Fortress	CD-ROM	USD$27.95	AUD$42.95	1095

Texans and Harvards

hot item!

Classic Military Training Aircraft

The T-6 Texans, and their Harvard counterparts, are perhaps some of the most important and crucial aircraft in the Allied Victory of WWII. They were the cornerstones of allied training aircraft, thus earning them the nickname "The Pilot Maker."

SkyUnlimited's Texans and Harvards have been designed with strong emphasis on realistic flying and operations. All switches, levers, and buttons have been animated and labeled. Flight information and procedures are included in the checklist, and we have done our best to make this a true "Pilot Maker" experience.

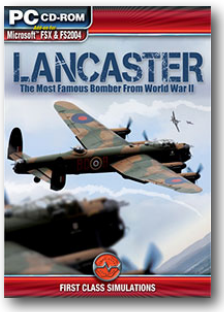
- A true FSX SP2 aircraft with self-shadows, specular, reflection, and bump maps.
- Newly designed custom gauges by Dwight Furleigh whic are vastly improved over FS2004 gauges.
- Highly detailed exterior models by John MacKay, including the At6D and Harvard Mk.II
- Beautifully rendered Virtual Cockpits by John MacKay, including new custom gauges.

Publisher: SkyUnlimited — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
SKTH	Texans and Harvards Vol.1	CD-ROM	USD$20.95	AUD$31.95	1096

Lancaster

The Iconic Bomber From WWII Is Now Yours To Fly In FSX And FS2004



The Avro Lancaster, a four-engine heavy bomber, (affectionately known as Lanc or Lankie) first entered service in 1942 and by the end of the Second World War had been involved in over 150,000 sorties.

Although most famous for its daylight precision bombing "Dam Buster" raids, codenamed Operation Chastise, on the dams of the Ruhr Valley, the Lancaster excelled at night bombing.

This title contains Lancaster versions for both Microsoft Flight Simulator X and Microsoft Flight Simulator 2004 plus for those flying in FSX, two missions are also included that will help you learn to fly this legendary World War II aircraft.

Included in the package are the following model types, each with numerous liveries:

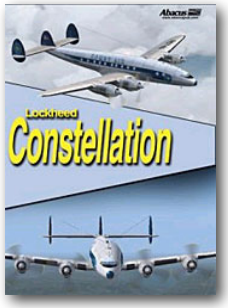
- Lancaster B. I and III
- Lancaster B. X
- Lancaster 10 MR
- Lancaster MR 3

Publisher: Abacus Publishing — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FCLANC	Lancaster	CD-ROM	USD$29.95	AUD$49.95	1093

Lockheed Constellation

Captain The Classic Constellation!



Francisco Sánchez-Castañer has designed this awesome replication of the Lockheed Constellation for FSX and FS2004 with its trademark elliptical wing tips and triple vertical stabilizer, Fowler flaps and tricycle landing gear.

Besides the famous 747, the Constellation is one of the most visually recognizable aircraft of all time. Its majestic triple tail is a dead giveaway for this classic airliner that first appeared in the early 1940s.

Delivered in three colorful variations, it represents top-of-the-line quality in workmanship including the custom "throaty" Curtis-Wright Cyclone engine sounds from Aaron Swindle.

The detailed flight briefing will have you flying in no time from the large four-place cockpit that seats the pilot, co-pilot, navigator and flight engineer.

You'll fly the four-engine Constellation using the classical analog instrument panel from either the familiar 2D or 3D virtual cockpit modes.

Publisher: Abacus Publishing — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ABLC	Lockheed Constellation	CD-ROM	USD$19.95	AUD$29.95	978

Spitfire Mk IV & Mk XIV

This Truely Is "As Real As It Gets!"

Developed by the award-winning team at RealAir, this package includes a total of 20 variations on the Spitfire, including the Mark IX Rolls Royce Merlin and the Mark XIV Rolls Royce Griffon-engined types.

The twenty models have been painstakingly developed from the ground up for Flight Simulator X to take advantage of the new technology Microsoft's latest sim provides.

The package gives a wide range of fighter variants and even two civilian air-racer models: all designed with the incredible attention to detail and historical accuracy you'd expect from RealAir.

Both the classic elliptical wing models and later modified 'clipped wing' (which gave sharper and quicker handling at low level) types are included. There is even a contra-prop version of the Mk XIV!

This title is widely recognized as one of the best and most realistic Spitfire packages currently available for Flight Simulator X.

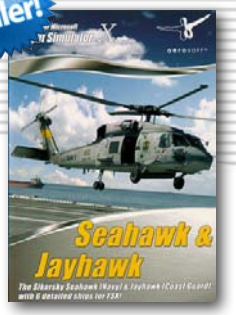
Publisher: Flight 1 — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
RASSPIT	Spitfire Mk IX & Mk XIV	CD-ROM	USD$49.95	AUD$69.95	928

Seahawk & Jayhawk

best seller!

Two Aircraft Plus Six Detailed Ships!



The Seahawk for FS2004 received many prizes for a Flight Simulator helicopter and it did get some of the most favorable reviews we have ever seen. So it was logical to move this product to FSX.

Full FSX standard:

- All the aircraft files have been made fully FSX compliant. This not a simple port from FS2004! Includes all the latest FSX goodies!
- Bump maps (this adds a 3D effect to a simple 2D texture, for example to show edges on hatches and rivets).
- Specular lighting maps (making reflections more realistic).
- Self-shading (aircrafts parts cast shades on other aircraft parts).
- All textures in DDS format (faster decompressing if your graphics card supports it).
- Fall back textures (all models share some textures, saving you disk space and loading time when you switch models).
- **Prepared for DirectX 10 graphics cards.**

Publisher: Aerosoft Germany — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
SEAJAYX	Seahawk & Jayhawk	CD-ROM	USD$29.95	AUD$47.95	886

P-51D Mustang

new

In The Single-Seat Fighter Class, The Mustang Reigns Supreme!

Specifically developed from the ground up for Flight Simulator X, Aeroplane Heaven has made no compromises with the modeling of this wonderful warbird, which represents the actual aircraft 'factory-fresh' as in 1945.

Real-life pilots have been involved from the start of the development to ensure accuracy inside and out. WWII-era flight manuals have been followed to ensure that everything works as it should, from start-up to shut down.

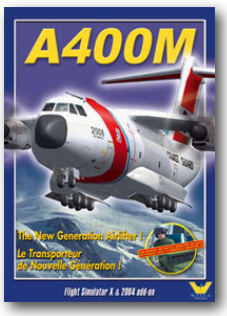
Once in the air the help of restorer and experienced P51D owner-pilot Maurice Hammond has ensured this P51 flies just as good as she looks. There are multiple high fidelity paint schemes including: Marinell, Janie, Big Beautiful Doll, Old Crow, Jersey Jerk,Ferocious Frankie, RNZAF, Cripes 'a' Mighty, LoulV and more. Whatever paint scheme you choose to fly, all models carry bump-mapping, specular shine and light-bloom effects.

Publisher: Flight 1 — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
F1P51	P-51D Mustang	CD-ROM	USD$34.95	AUD$54.95	1151

A400M

The New Generation Airlifter!



A400M offers to the air transport world a modern, multi-role airlifter which will replace the ageing fleets of C-130 Hercules and C-160 Transall in service with the air forces around the world.

This new aircraft guarantees far superior performance and characteristics as compared to competitors : double load capacity, greater cruising speed and range, optimum capabilities for low-altitude flights.

The A400M provides excellent soft field capabilities and requires short runway length, both for take-off and landing. So far, more than 180 A400M have already been ordered.

- Highly detailed replica of the Airbus A400M.
- GMax exterior/interior models.
- Complete and detailed 2D cockpit as standard.
- 3D Interactive Virtual Cockpit.
- Fully textured 3D Cargo Bay with detailed interior.
- Frame-rate friendly.
- Easy-to-use Paint Kit.

Publisher: Wilco Publishing — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
A400MFSX	A400M	CD-ROM	USD$39.95	AUD$56.95	918

MasterCard VISA AMERICAN EXPRESS Diners Club International

Hawker Hunter

The E-Type Jaguar Of Flight Aircraft

The Hawker Hunter, Record Breaker, Cold War warrior, and PPL legal! The Rolls Royce Avon will propel you at Mach 0.94 at sea level, and let you climb at no less than 10,500ft/min to 'touch the face of God' at 51,000ft.

The AlphaSim Hunter simulation is compatible with FS2004 with the FSX version including subtle reflectivity, bump mapping, self-shadowing and bloom and even signs of weathering. The static realization includes the cockpit ladder engine covers and pitot tags. The speedbrake is restricted to operate only with wheels up, just as in the real Hunter.

The simulation covers seven unique variants with a total of eight texture sets.

Once started the high quality sound rendition of the Rolls Royce Avon is unmistakable.

Starting produces exhaust smoke which settles to the turbine glow.

Publisher: Flight 1 — **FSX/FS2004**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
HAWKH	Hawker Hunter	CD-ROM	USD$34.95	AUD$47.95	959

Fly The Tiger X

Northrop's F-5E Tiger For FSX/FS2004

Fly the world famous Northrop F-5E Tiger II on your home PC. In this third edition the package has been completely re-designed and enhanced with many new features to match the latest Microsoft Flight Simulator X standards.

General Features: Photo realistic and functional 2D- and 3D-Cockpit. Enhanced INS with manual input of target coordinates. Traffic Radar in the 2D main panel. Complete animations. Night lighting.

Numerous Repaints: Test-Version of the Swiss Airforce, Norway Airforce, Greece Airforce, U.S.Airforce, U.S.Marine, U.S.Navy.

Improved Jet-Sound.

FS2004 only: Dynamic scenery (F-5E Tiger II, F/A-18, Mirage IIIS, Mirage IIIRS, Patrouille Suisse) with additional flights over the Axalps.

Fly The Tiger X is one is one of those titles that may not immediately appeal to many, but once you complete your first flight, we are sure you will be hooked and wanting more!

Publisher: FlyLogic — **FSX/FS2004**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASFTTIG	Fly The Tiger X	CD-ROM	USD$39.99	AUD$54.95	1127

MORE MILITARY THEMED ADD-ONS...

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ABINT	International Fighters	CD-ROM	$29.95	$43.95	979
P38LGT	P-38 Lightning	DVD	$24.95	$39.95	901
SWB377	Wings of Silver - Boeing 377	CD-ROM	$36.95	$49.95	1055
JFWBWWII	Warbirds of WWII	DVD	$39.95	$54.95	1065
FCWEL	Wellington	CD-ROM	$34.95	$47.95	1002
RASF260	Real Air SF260	CD-ROM	$44.95	$59.95	860
ABUAV	UAV Predator	CD-ROM	$29.95	$43.95	977
WWDOGF	Mission: WWI Dogfight	CD-ROM	$29.95	$43.95	702
FPILOT2	Fighter Pilot 2	CD-ROM	$29.95	$43.95	923
FCTORN	Tornado	CD-ROM	$29.95	$43.95	985
ABF14DST	F-14D Super Tomcat	CD-ROM	$19.95	$29.95	1023
F117AX	F-117A Stealth Fighter	DVD	$24.95	$39.95	722
FLTDECK5	Flight Deck 5	CD-ROM	$29.95	$44.95	868
XT-AA	Avro CF-105 Arrow	CD-ROM	$34.95	$49.95	1042
JFCONPRO	Constellation Professional	DVD	$39.95	$54.95	1080
MOSQUITO	DeHavilland Mosquito	DVD	$24.95	$39.95	724
JFBF109	Messerschmitt BF-109	CD-ROM	$44.95	$59.95	937
FCHH	Hawker Heroes	CD-ROM	$34.95	$47.95	1092
FCMIG29	MiG-29 Codename Fulcrum	CD-ROM	$34.95	$47.95	1091
CSF	Carrier Strike Force	CD-ROM	$29.95	$47.95	899
MIG15	MiG-15	CD-ROM	$34.95	$47.95	866
F1ME262	Messerschmitt Me-262	CD-ROM	$34.95	$47.95	1077
XT-BX1G	Bell X-1 Second Generation	CD-ROM	$39.95	$57.95	1079
ABHURR	Hawker Hurricane	CD-ROM	$19.95	$29.95	976
X151	X-15-1	CD-ROM	$34.95	$47.95	844
BLKHAWK	Mission: Blackhawk	CD-ROM	$29.95	$43.95	740
ABEA6BPRW	EA-6B Prowler	CD-ROM	$19.95	$29.95	1025
A380X	Fly the Airbus 380 Version 2	CD-ROM	$19.95	$29.95	497
X1523	X-15 -2/3	CD-ROM	$34.95	$47.95	846
FCEURO	Eurofighter and Eurocopter	CD-ROM	$34.95	$47.95	1090
FCHUR	Hurricane	CD-ROM	$29.95	$43.95	1089

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MegaSceneryX

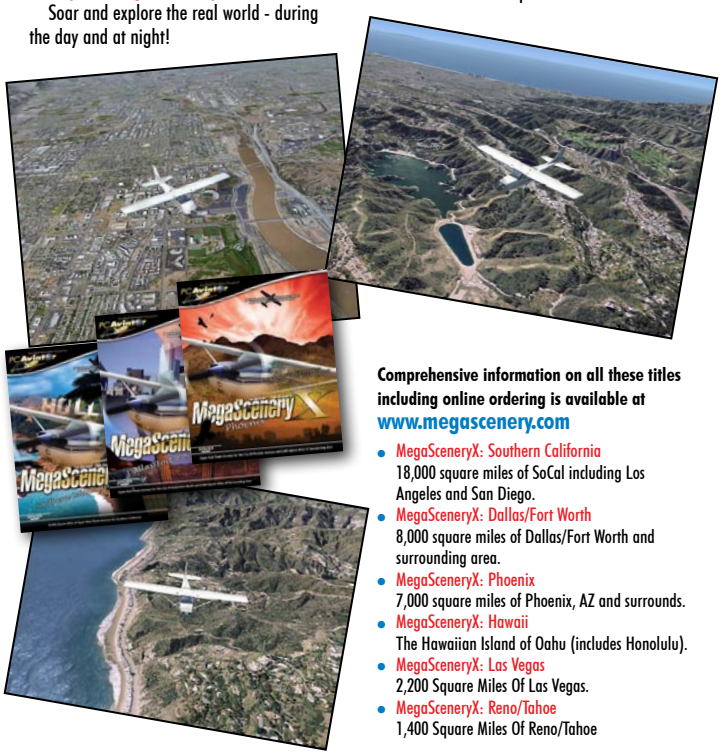
Hyper-real Aerial Photo-Scenery For Microsoft Flight Simulator X

Say goodbye to boring default scenery forever! MegaSceneryX transforms your Microsoft Flight Simulator Scenery World from artificial… to REAL! MegaSceneryX is created from aerial photos so what you get is not just a recreation of the real world but instead the actual real world ported into Microsoft Flight Simulator X for simulated flight over a world that's so real you'll be amazed!

MegaSceneryX lets you experience all the landmarks and features of the area covered and enables you to fly real VFR - Day and Night.

Here's what you get when you're flying MegaSceneryX….

- Hyper-real aerial photo scenery taken at 1 and 2 foot per pixel and displayed at 1.19 meters per pixel.
  It's the real world teleported into Flight Simulator Scenery. 1 meter per pixel means that you can even see small trees and shrubs and cars on the roads. Fly VFR like you've never flown it before on a PC simulator.
- Day and Night Scenery.
  Soar and explore the real world - during the day and at night!
- Winter Scenery too!
  In selected areas, where required by geographical location, you also get realistically rendered snow covered scenery. So you're getting up to 3 sceneries in the one package.
- Hi-resolution DEM (mesh).
  While MegaScenery is so realistic that you don't need hi-res mesh - in some of our titles we incorporate hi-res mesh at 10 meters.
- The list goes on... You also get realistic water.
  Coastlines and shores are hand etched for optimal merging of flight sim water and coastlines is seamless
- Faster Framerates!
  Yes, your Flight Simulator X, with hyper-realistic MegaSceneryX, will run smoother and faster than the default artificial scenery.
- Printed full color aeronautical charts,
  Bound printed instrument charts and a sizeable manual.*
- A total value packed, realism transforming scenery product For Microsoft Flight Simulator X that you wouldn't think was possible for such a low price!



Comprehensive information on all these titles including online ordering is available at
www.megascenery.com

- MegaSceneryX: Southern California
  18,000 square miles of SoCal including Los Angeles and San Diego.
- MegaSceneryX: Dallas/Fort Worth
  8,000 square miles of Dallas/Fort Worth and surrounding area.
- MegaSceneryX: Phoenix
  7,000 square miles of Phoenix, AZ and surrounds.
- MegaSceneryX: Hawaii
  The Hawaiian Island of Oahu (includes Honolulu).
- MegaSceneryX: Las Vegas
  2,200 Square Miles Of Las Vegas.
- MegaSceneryX: Reno/Tahoe
  1,400 Square Miles Of Reno/Tahoe

HIGHLY RECOMMENDED

MegaSceneryX Titles Come With An Abundance Of Printed Content, Maps And Charts.

MegaSceneryX titles give you all the charts you need to navigate and explore your photo-real world.

Inside each package you'll find at least 2 full color printed aeronautical charts plus a thick 100+page printed booklet with Airport Diagrams, SIDS, STARS and Instrument Approach Charts.*

Publisher: PC Aviator Inc. Developer: Aerosoft Australia Pty Ltd

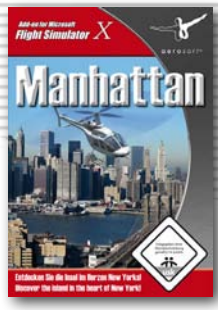
ITEM CODE	Title	Media	US Price	Aust. Price
MSX-SOC	Southern California	DVD	USD$39.95	AUD$54.95
MSX-DFW	Dallas/Fort Worth	DVD	USD$29.95	AUD$43.95
MSX-PHX	Phoenix	DVD	USD$29.95	AUD$43.95
MSX-HAW1*	Oahu, Hawaii	CD-ROM	USD$14.95	AUD$19.95
MSX-LASV*	Las Vegas	DVD	USD$14.95	AUD$19.95
MSX-RNO*	Reno/Tahoe	DVD	USD$9.95	AUD$14.95

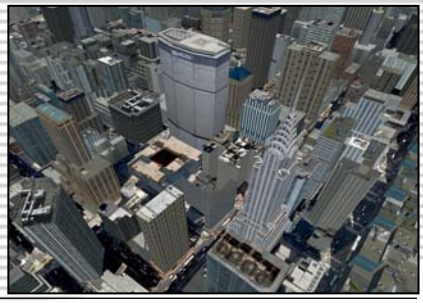
* For smaller, portable titles that are offered as download, e.g. Hawaii, the charts offered are not printed, but instead are offered on the disk as PDF files. All MegasceneryX products are fully FSX compatible.

Order Online 24/7 @ www.pcaviator.com

Manhattan X — The "Big Apple" In Stunning Detail!

Publisher: Aerosoft Germany
FSX





Created by the undisputed master of city scenery, Andras Kozma, this Manhattan X scenery is a direct successor of the very successful and award winning Manhattan scenery for FS2004.

Instead of trying to update that one the whole projects was redone using new standards to ensure it would be fast enough to be usable. Almost double the amount of buildings and using all new effects of FSX, Manhattan X sets new standards. Designed with helicopters in mind, the scenery can also be explored with small aircrafts or ships. Even if you like to fly large aircraft you'll enjoy the views when you approach the nearby airports. FSX deserves Manhattan X!

Features: Covers the entire Manhattan Island (East Side, West Side, Uptown and Downtown) plus Ellis Island, Governors Island, Roosevelt Island, Statue Island; Four heliports; Very high density scenery with hundreds of detailed buildings; Full FSX features using bump maps, advanced shading and reflections; Many special effects included (like sounds, smoke, birds).

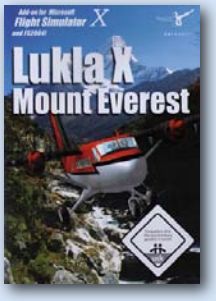
Includes Mission taking you on a $199 heli tour of Manhattan.

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASMANHX	Manhattan X	CD-ROM	USD$34.95	AUD$47.95	1032

Lukla X: Mount Everest — Up For A Challenge?

top pick!

Publisher: Aerosoft Germany
FSX/FS2004



Lukla airport owes its existence to the fact it is located close to Mount Everest and that most climbers use it as the first station in the attempt to scale this massive mountain.

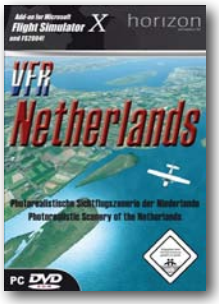
Landing on the runway **that goes uphill** means you have to flare in a completely different way. Taking off from the very short runway with an engine that probably delivers a lot less power than you would hope for, is only possible because the runway ends with a 3000 feet drop into the valley below (check out the waterfalls there!). Even the simple taxi to the very small platform is complex and not without danger as there is a steep bit of taxiway to climb onto. To be short, you will probably be frustrated and annoyed when you start using this airport. However when you know how to use it you will be a far better pilot and there will be a new region to discover.

This highly detailed airport package also includes high definition mesh for Mount Everest, as well as climber's base camp scenery. Two missions for FSX make this a very interesting airport add-on!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASLUKLAXME	Lukla X: Mount Everest	DVD	USD$24.95	AUD$44.95	1036

VFR Netherlands — Photographic Scenery Coverage!

Publisher: Aerosoft Germany
FSX/FS2004



The famous add-on from Horizon Simulations Ltd. is now re-released for FSX and brings a truly exciting experience to all Flight simmers.

Virtual pilots can now enjoy sightseeing and explore every square inch of the Netherlands in Microsoft Flight Simulator. Stunning aerial photography, showing every home, street, town, tree and river in the scenery area! The add-on comes with a full terrain mesh coverage of the Netherlands generated from 30m/post elevation data supplying a very accurate model.Water bodies have been completely digitised (every dyke, river, canal, lake and pond) is designated as FS Water meaning that each has animated surface features and can be used to land float aircraft.

This scenery is a full photographic scenery coverage of the Netherlands (41,000 km²) in a resolution of 4.8m/pixel.

The add-on comes with a short printed manual. The complete manual can be found on the disc in digital format

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASVFRNTH	VFR Netherlands X	DVD	USD$34.95	AUD$49.95	991

Venice X — The "City On Water" For FSX

Publisher: Aerosoft Germany
FSX

Andras Kozma, a renowned and often awarded scenery developer has created Venice and its two airports with the utmost of care (and patience, we never had a scenery project that took so many hours) using all the options that FSX has to offer.

Although almost any building is done and the 3D effect of the city is unlike anything you ever seen in FSX it is possible to maintain 20 fps without too much problem. And even at 20 fps the full 3D city remains loaded, reducing the nasty popup effect that is often used to get good framerates. Even at ground level the level of detail remains so good that even using a simulated boat is a good option.

Primary Features Include: Two airports; Venice Tessera (international airport) and San Nicolo included (small airfield); All buildings of Venice, all canals, all bridges included; Extensive ship traffic in and around Venice with vaporetto's (water taxi/bus) and other ships.

It's Detailed... It's Realistic... It's Different... It's Awesome!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
VENICEX	Venice X	CD-ROM	USD$34.95	AUD$49.95	887

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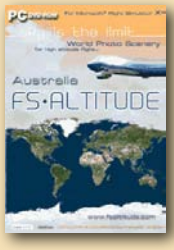
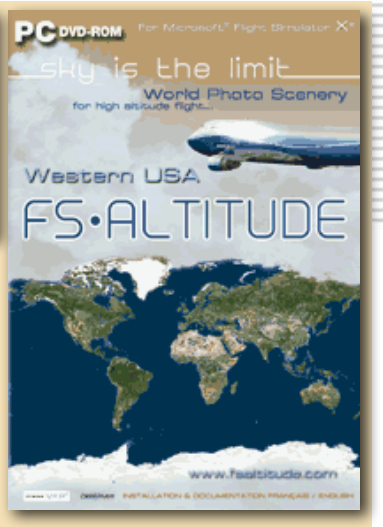
FS Altitude Series

PhotoScenery Specifically Designed For High Altitude Flight

This ground breaking scenery product is everything that every Flight Simulator X pilot who likes to fly above Flight Level 180 has always wanted - photoscenery that stretches to the horizon in all directions.

When you're cruising at Flight Level 370, default Flight Simulator scenery just doesn't cut it in terms of realism. FS Altitude gives you the chance to enjoy a photoreal world that is created from actual satellite scenery so the land you are traversing is the actual real world beneath your aircraft.





- Framerate Friendly - No need for a powerful system. More efficient than displaying default scenery.
- Color optimized to match real world colors.
- Recreates the real world.
- All titles include over 1 million square miles of scenery. Western USA includes 1.8 million.
- Easy to install. Easy to use.

Publisher: FranceVFR — *FSX*

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FSAWUSA	Western USA	DVD	USD$59.95	AUD$79.95	1052
FSAEUSA	Eastern USA	DVD	USD$59.95	AUD$79.95	1069
FSAUSABUN	Eastern/Western USA Bundle	DVD	USD$99.95	AUD$134.95	1081
FSAWEUR	Western Europe	DVD	USD$69.95	AUD$89.95	898
FSAAUST	Australia	DVD	USD$59.95	AUD$79.95	1050

Tahiti X

hot item!

Enjoy the beauty of the French Polynesian Islands in Flight Simulator X!

Tahiti X includes almost the complete archipelago covering 14 islands and 9 airports with a detailed mesh and many animations.

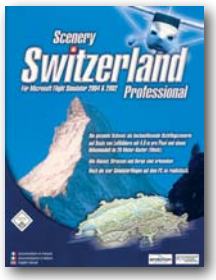
Almost the complete archipelago is included covering 2.5 million kilometers. Distances between the islands are bug so you need an aircraft with a high cruise speed and twins are mostly recommended.

- Island-Hopping with tropical flair!
- All islands with detailed mesh included.
- Many animations (birds, people, dolphins) etc.
- All airports and landing strips added with detail.
- Fully documented with all charts included.
- Relatively kind on framerates.

Publisher: Aerosoft Germany — *FSX*

ITEM CODE	Title	Media	US Price	Aust. Price	ID
TAHITIX	Tahiti X	DVD	USD$34.95	AUD$49.95	1047

Scenery Switzerland Professional



Fly the entire country of Switzerland and experience some the breathtaking mountain flying over the Swiss Alps with Microsoft Flight Simulator X & 2004.

This scenery is recreated from aerial photography of the Swiss region giving you a completely photo-real mountain flying experience over and around glaciers and jagged snowcapped peaks.

The landlocked country of Switzerland is 16,000 square miles in area. You get to fly the entire country along with its visually spectacular alpine terrain.

Never before have you experienced such realistic flight over the Swiss alps!

- Recreated from aerial photography.
- 20 meter resolution terrain mesh enhancement.
- 4 highly detailed custom design small airfields, plus all of the default flight simulator airports.
- Experience flight amongst jagged snow capped peaks and rich green mountainside pastures. This is flight over Switzerland as it would be in real life!

Publisher: FlyLOGIC — *FSX/FS2004*

ITEM CODE	Title	Media	US Price	Aust. Price	ID
SWITZPROX	Switzerland Professional X	DVD	USD$159.95	AUD$199.95	949

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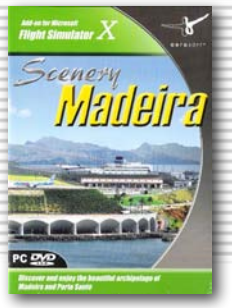
Scenery Madeira X

Discover The Splendor Of Madeira!



Aerial images of 50 cm per pixel placed on a 9.5 meter mesh form the background for two highly detailed and demanding airports - Funchal and Porto Santo.

Both Madeira and Santo Porto islands are included in this project and next to the two detailed airports the complete islands are ideal for VFR flights, particular in small and slow aircraft, but the Funchal airport is the highlight of this scenery without a doubt.

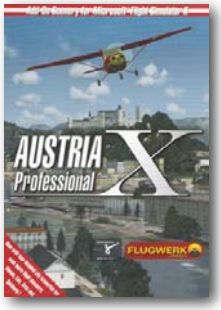
Because there is so little flat land on the island the airport has a runway that extends over the ocean on a raised platform. Approaching Runway 05 you follow a set of 'lead-in' landing lights over a curved path that allow you land on the runway without crashing into the mountains. Under bad weather this is not an easy task at all!

Publisher: Aerosoft Germany **FSX**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASMADX	Scenery Madeira X	CD-ROM	USD$34.95	AUD$49.95	992

Austria Professional X

Enjoy The Wonderful Mountains And Landscapes Of Austria!



This unique Add-On includes the whole of Austria with all its mountains, valleys and typical landmarks.

The Austria scenery covers 175.000 km² with the larger rivers, lakes, roads, cities, villages and landmarks. An extremely detailed elevation model and the new made ground textures make the mountains and the Austrian Alps seem as real as never before in Microsoft Flight Simulator X.

Flying through the green valleys, over snow covered mountain peaks and glaciers in over 3000m, this add-on is a real adventure for the user. Even real pilots can assure you that it makes a good training for visual flying because of the many landmarks and objects.

Highlights of this scenery are four detailed sceneries of the cities of Vienna, Graz, Linz and Salzburg. Based on high resolution aerial images with many 3D objects placed in this scenery this combination gives a very realistic impression of the Austrian flair.

The product has been developed by the design specialists of the Austrian company 'Flugwerk'.

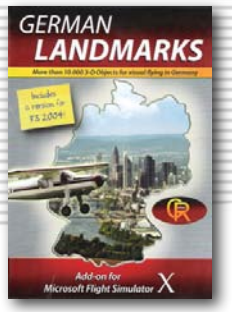
An extensive manual with a description of the areas and with many sightseeing trips make 'Austria Professional X' a very impressive add-on.

Publisher: Aerosoft Germany **FSX**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
APX	Austria Professional X	DVD	USD$59.95	AUD$84.95	905

German Landmarks

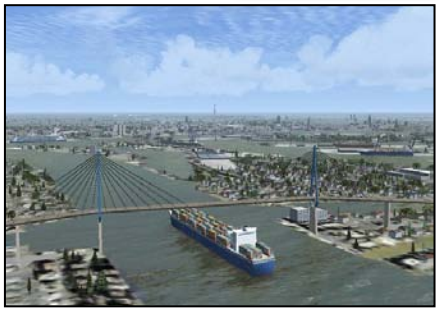
More Than 10,000 3D Objects For Visual Flying In Germany...



German Landmarks is now available for FSX and the new version is extensively enhanced! CR-Software has added a large amount of objects so there are now over 10.000 objects to enhance your VFR flights over Germany.

Also more than 1.000 different objects like power stations , industrial plants, high-rise buildings, TV towers, transmitting towers, wind farms, castles, locks, churches, harbor facilities and much more. 260 Glider airfields, 80 ultra lights fields and 320 heliports are also added as landmarks and are visible on the GPS.

As the runways are adapted to the mesh they will follow the terrain so sloped runways are included.



For slower systems it is possible to reduce the number of objects to ensure a smooth frame rate.

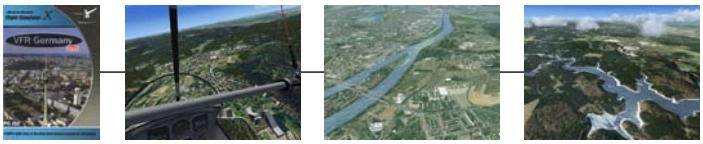
Note for FS2004 users:

As a bonus the full Flight Simulator 2004 version is included (but note it is not as elaborate as the Flight Simulator X version!)

Publisher: Aerosoft Germany **FSX/FS2004**

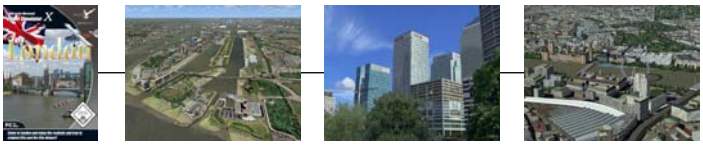
ITEM CODE	Title	Media	US Price	Aust. Price	ID
GLAND	German Landmarks	CD-ROM	USD$34.95	AUD$49.95	869

CHECK OUT THESE HIGH QUALITY SCENERY TITLES...



ITEM CODE	Title	Media	US Price	Aust. Price	ID
VFRGERM4	VFR Germany 4 - East	DVD	$59.95	$79.95	1097

ITEM CODE	Title	Media	US Price	Aust. Price	ID
MONAC	Monaco X	CD-ROM	$24.95	$34.95	870



ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASVFRLON	VFR London	DVD	$34.95	$49.95	987

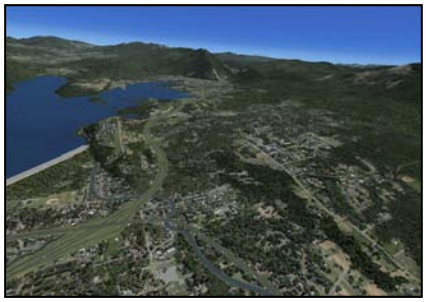
Ultimate Terrain X

More Than Just A Texture Enhancement

Ultimate Terrain X takes your FSX terrain environment to new levels not seen before with Flight Simulator.

Ultimate Terrain X enhances your scenery by adding and improving roads, rivers, streams, bridges, landclass, waterclass and more to your flight simulator X scenery.

3 areas are available: USA, Canada, and Europe. Through more accurate texture placement, realism is vastly improved!



Publisher: Flight 1 Software

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ULTERUSAX	UltimateTerrain X: USA	DVD	USD$39.95	AUD$54.95	902
ULTERCANX	UltimateTerrain X: Canada	DVD	USD$39.95	AUD$54.95	903
ULTEREURX	UltimateTerrain X: Europe	DVD	USD$39.95	AUD$54.95	932

Ground Environment X

Incorporating USA - Canada - Alaska

Ground Environment X brings all-new ground textures to FSX, and it boasts an incredible 1 m/pixel texture resolution, using native 1024x1024 pixel images, and includes all seasons, meticulously designed night textures and the latest techniques in autogen placement and alignment.

All this while keeping maximum Flight Simulator performance in mind during development. The easy-to-use interface will provide for easy installing the new textures, and is designed with Flight1's "keep-it-simple yet powerful" philosophy.

Some of the main features of Ground Environment X:

- Complete coverage of the USA and Canada (including Alaska).
- 1m/pixel - 1024 x 1024 Texture Size - Hand Crafted To extreme Detail.
- High Performance, extreme density and perfectly aligned autogen.
- Realistic custom-designed night textures.
- Textures derived from licensed Aerial and Satellite imagery.

Publisher: Flight 1 — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
GRENVX	Ground Environment X	DVD	USD$34.95	AUD$47.95	924

FTX NA Blue

new

USA/Canada Pacific Northwest

Welcome to North America, and Orbx's most ambitious project to date. Over twelve months in the making, the FTX Pacific Northwest region is truly a stunning achievement which combines all the elements of the much celebrated FTX AU region series, but goes much further.

To PNW we have amped the quality of the ground textures to the next level, and sourced them from pristine imagery to create beautifully crisp terrain even at ground level.

Going further, we've added photoreal areas above the tree line to many mountains, glaciers, lava flows, as well as including photoreal Seattle CBD, the ports of Tacoma and Olympia, KPAE, Bonneville Dam and many other POI's. Additionally we have created brand new autogen textures, hand-crafted every square mile of landclass, included full moving traffic, 3D night lighting and much more! The icing on the cake? Over 400 airports in the region have been upgraded with custom buildings and objects, elevation corrections and many other details.

Publisher: Orbx Simulation Systems — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FTXNABLUE	FTX NA Blue	DVD	USD$59.95	AUD$64.95	1078

FTX Australia

best seller!

Australia-Wide Texture And Scenery Upgrade For Flight Simulator X

FTX will completely transform how the entire country of Australia looks like in Flight Simulator X, and only occupies 12GB of hard drive space and performs equal and in some cases better than default FSX!

This all-in-one package includes all four FTX regions; AU BLUE, AU RED, AU GREEN, and AU GOLD, plus the FTX Coffs Harbour scenery add-on and the latest SP3 service pack!

FTX Features:

- Super-crisp, superbly detailed 1 metre-per-pixel textures made from aerial photos.
- Hand-crafted custom landclass for the entire country
- Improved and highly accurate coastlines, roads/rail, rivers and vertical obstructions.
- Brand new autogen textures for trees, houses, buildings, industrial estates and more.

Publisher: Orbx Simulation Systems — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FTXAUSSP3	FTX Australia	DVD	USD$149.95	AUD$159.95	1057

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Hong Kong City & Kai Tak Airport

Fly The Legendary Kai Tak IGS-13 Approach!

Discover one of the most challenging approaches in aviation history!

This multiple awarded scenery of the Kai-Tak airport and the city of Hong Kong has been recreated by the famous FlyTampa developmet team and brings back the REAL Kait-Tak airport in stunning details for FSX and FS2004.

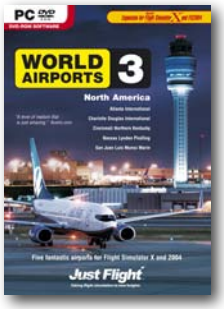
- Hong Kong city scenery consisting of mesh, landclass, photoground and Thousands of custom buildings.
- Kai-Tak International (VHHX, closed 1998) airport scenery.
- Highly detailed curved Checkerboard approach.
- 2 Heliports (Peninsula Hotel rooftop, Shun-Tak Ferry heliport).
- Animated AI-Ships including Hong Kong's Starferry, junkers, barges etc.
- Custom animated car traffic & FSX-traffic throughout the city.

Publisher: Aerosoft Germany — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASKAITAK	Hong Kong City & Kai Tak	DVD	USD$34.95	AUD$54.95	1037

World Airports 3

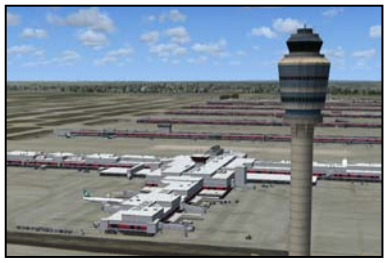
Five Detailed North American Airports!



The World Airports series returns! Featuring airports in North America, World Airports 3 for FSX and FS2004 brings you a selection of top-quality highly accurate airports, each featuring thousands of superbly detailed objects which have been accurately placed with the aid of pin-point satellite photography:

- Hartsfield-Jackson Atlanta International (Georgia, USA) - KATL
- Charlotte Douglas International (North Carolina, USA) - KCLT
- Cincinnati/Northern Kentucky International (Kentucky, USA) - KCVG
- Lynden Pindling International (Nassau, The Bahamas) - MYNN
- Luis Munoz Marin International (San Juan, Puerto Rico) - TJSJ

Each airport features: Custom-built runways; Complete taxi and runway lighting; Drivable 'Follow Me' vehicle; Terminal buildings rendered to a scale of 5cm per pixel; Fantastic night lighting; Highly realistic concrete textures; Full airport taxiway and runway signage; Interactive docking system; 3D approach lighting; Full ILS navigation; Hundreds of airport vehicles and ground personnel, and much more!



Publisher: Just Flight — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
JFWAP3	World Airports 3	DVD	USD$39.95	AUD$54.95	1012

Mega Airport: London Heathrow

Britain's Busiest Airport In Mega Detail...

Developed by the well-known Simwings-Team this package contains the Mega Airport London-Heathrow including the brand new Terminal 5. Discover an exquisitely true to original atmosphere!

There is no doubt this product is one of the most detailed and precise major airports scenery ever done (still with excellent frames), but as Simwings have shown in the past, it is not only these technical details that make a great scenery, it is also the fact that they make an airport come to life in the simulator. If you like big airports this is one you simply can't miss.

Simwings did have the BAA as an official partner for this project which makes it as realistic as can be with a foresight in to the future. Using up-to-date 3D files for many buildings according to BAA plans the package includes even the newest buildings and construction as found at the real Heathrow airport today!

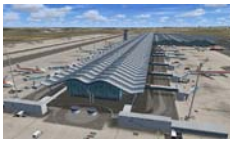
For European or U.K. pilots, London Heathrow is a MUST!

Publisher: Aerosoft Germany — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
MAHTW	Mega Airport Heathrow	CD-ROM	USD$29.95	AUD$43.95	876

MORE AIRPORT SCENERY UPGRADES IN STOCK...

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASVFRLON	VFR London X	DVD	$34.95	$49.95	987
MAFRANKX	Mega Airport Frankfurt X	CD-ROM	$29.95	$54.95	935
ASMAPAR	Mega Airport Paris CDG X	CD-ROM	$29.95	$43.95	1033
ASMAMAD	Mega Airport Madrid X	CD-ROM	$29.95	$49.95	988
MABRUS	Mega Airport Brussels	DVD	$29.95	$43.95	875
USAIRP	US Airports	CD-ROM	$29.95	$49.95	462
GA1IH	German Airfields 1	CD-ROM	$34.95	$47.95	885



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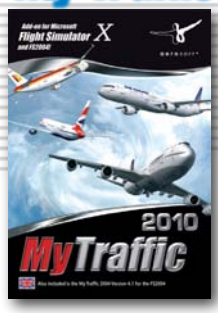
My Traffic 2010

New Version Adds Even More AI Traffic!

Publisher: Aerosoft Germany
FSX/FS2004



Uncompromisingly optimized for Microsoft Flight Simulator X this product provides realistic air traffic in the air and on the ground, which is controlled by artificial intelligence, for more than 8200 airports.

More than 140 aircraft models were newly designed for FSX with in a never before seen detail for AI-planes and a with a minimal impact on the PC resources. Nearly all current airliners, most commuter aircraft and civil freighters are included. 1600 aircraft liveries are included as well as more than 4000 different types and associated flight plans. My Traffic generates more than 800,000 flight a day, worldwide.

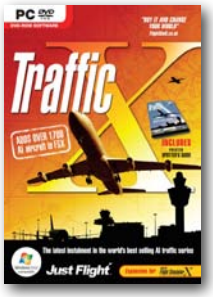
My Traffic 2010 goes far beyond airline traffic. Charter carriers fly to touristic places, cargo airlines carry freight, military planes fly to and from military bases and general aviation airplanes make sure you do not feel alone at thousands of airports. With the attached My Traffic editor you can program flight plans to your liking.

ITEM CODE	Title	Media	US Price	Aust. Price	ID
MYT2010	My Traffic 2010	DVD	USD$49.99	AUD$69.95	1108

Traffic X

Adds Over 1,700 AI Aircraft And 100,000 Flights To FSX!

Publisher: Just Flight
FSX/FS2004



New aircraft, more traffic - Traffic X employs completely reworked and updated aircraft for FSX with new and more detailed high-quality airline liveries.

Traffic X will include 99 individual, different aircraft models with numerous airline liveries and paint schemes - giving a total of more than 1,700 individual aircraft. Featured aircraft include commercial airliners, regional jets and turbo-props, business aircraft, GA aircraft, helicopters and - for the first time in the Traffic series - military aircraft.

100,000+ scheduled airline flights, including international, national, regional, commuter and cargo operators. In addition to airliner flights the traffic database includes general aviation and military flights and even clandestine CIA Extraordinary Rendition flights and F117 stealth flights. The clandestine CIA Extraordinary Rendition flights have aircraft with 'known' registration numbers and also fly to and from 'known' destinations!

Includes "Spotty", the plane spotting feature, and printed Spotter's Guide!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
TRAFFICX	Traffic X	DVD	USD$39.95	AUD$59.95	962

FS Global 2010 X

Worldwide Terrain Mesh Coverage!

Publisher: Pilot's Software
FSX/FS2004

FS Global 2010 represents the latest title in the FS Global series of terrain mesh enhancement for Microsoft Flight Simulator X and 2004.

This product will greatly improve the resolution of terrain over the default FS database, meaning mountains and geor-graphy are more defined with more data points per unit measurement. Mountain peaks are more defined, ridges take better form, and gullys look more like they should!

FS Global 2010 vs Previous FS Global titles:
New, much better data sources have been discovered and used with FS Global 2010. So this is the first version of FS Global to offer a WHOLE world coverage including areas not covered by SRTM (the older data set) such as Antarctica, Greenland, Iceland, Russia and Scandinavia to name a few.

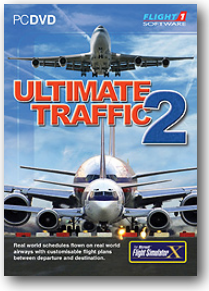
Worldwide coverage offers excellent value for money. This is perhaps one of the best and first global upgrades you should buy for Flight Simulator!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FSGLOB2010	FS Global 2010 X	DVD	USD$79.95	AUD$109.95	1111

Ultimate Traffic 2

A Best-Seller Just Got Better With Version 2!

Publisher: Flight1
FSX



Redeveloped from the ground up, Ultimate Traffic 2 provides Microsoft Flight Simulator X users the definitive answer to their AI Traffic needs.

The goal of UT2 is to provide users with the most complete and realistic real-world airline flights worldwide, offer new levels of AI Traffic design, and revolutionize the FSX skies. Ultimate Traffic exceeds these lofty goals.

550,000+ Real-Time Scheduled Flights - Ultimate Traffic 2 will provide users over 550,000+ scheduled flights based on real airline timetables. **1,300,000+ General Aviation Flights** - Besides commercial schedule flights, Ultimate Traffic 2 will provide users over 1.3 million general aviation flights. **6000+ Airports with Traffic** - Ultimate Traffic 2 provides users with AI traffic for over 6,000 airports. **Fully Featured Interface -** The Ultimate Traffic 2 interface contains a rivet busting, cornucopia of options that cannot be found anywhere else. The interface was made to handle the needs of both novice users and power users by providing a whole host of options and features.

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ULTTRAF2	Ultimate Traffic 2	DVD	USD$49.95	AUD$74.95	1158

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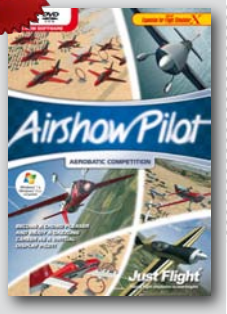
Airshow Pilot

new

Become The Crowd Pleaser!



How accurate is your flying? Can you keep headings, altitudes and fly near-perfect manoeuvres? Now's your perfect chance to prove you are the best!

Airshow Pilot is all about accurate, precision flying at air shows, whether in an aerobatic Extra, a passenger airliner or a Hawk fast jet trainer - in fact you can fly any aircraft that you have installed in FSX!

Learn via the in-built training feature, practise and then test your flying skills against AI competitors on your PC or compete online with real Airshow Pilot competitors. Refine your flying skills during a full calendar of events. Exclusive tracking software records your flights for you to review and will evaluate and rate your skills. You are also able to download other competitors' flights and play them back! Competition results are ranked throughout a season and every pilot will receive a world ranking - trophies are reserved for only the best pilots in each category!

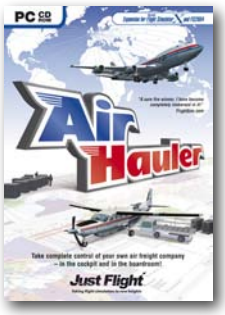
During competitions the airfield will be filled with air show crowds - people, tents, booths, cars, display aircraft and much more. You can even hear the crowd noise! Airshow Pilot also includes the tools for you to design air show aerobatic events, flight programs and even airport populations!

Publisher: Just Flight — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
JFASPILOT	Airshow Pilot	DVD	USD$39.95	AUD$59.95	1146

Air Hauler

Control Your Own Air Freight Company!



The all-new Air Hauler expansion for FSX and FS2004 puts you in complete control of your own freight company - take charge of operations both in the boardroom and in the cockpit.

As the pilot charged with delivering the goods on time, you can decide to fly a job in multiple legs, or stop anywhere en route for refuelling or maintenance. Contend with real-world weather conditions if you want the extra challenge and keep a watchful eye on your fuel economy - the price of fuel in Air Hauler can vary with the real-world price of aviation fuel for added realism!

Air Hauler tracks all your financial activity, whether you're buying aircraft or air bases, fuel or repairs, or paying for landing fees or even loans and leases. Take out insurance if you think the part-time pilots you've hired might let you down when you can least afford it.

The level of complexity is up to you - simply fly jobs between bases and buy or lease aircraft, or carve out a career in the air freight industry by hiring AI pilots, trading shares on the stock market with real-world NYSE/FTSE/DAX prices, and even risking everything on loans to fill your ultimate freight hangar.

Publisher: Just Flight — FSX/FS2004

ITEM CODE	Title	Media	US Price	Aust. Price	ID
JFAIRHAUL	Air Hauler	CD-ROM	USD$39.95	AUD$57.95	1041

Flight Operations X British Airways

Fly British Airways Missions With FSX!

Flight Operation X (FOX) is a new series of Missions designed to be used exclusively with Microsoft Flight Simulator X.

FOX - British Airways is the first title of this new products line that lets you fly using the British fleet. Sit in your favorite aircraft and enjoy the realistic flight ambience, recreated by exclusive British Flight Manager, an improved software interface which has been part of many of Perfect Flight's products in the past.

You have 303 pre-saved flight ready to be compiled using our exclusive British Flight Manager. You can now choose your flight and select it from one of 128 Airport managed by the Flight Manager. Also you don't need of Flight Simulator to set weather, time and season; everything can be done from the Flight Manager and you will have available in your Flight Simulator X a set of missions that covers the entire British Airways Timetable!

The Flight Manager allows you to edit Time, Season and Weather themes (real weather included) before running a Mission in FSX. Missions includes AI/ATC interaction, Speed Restriction, Complete Cabin Announcements, Check Lists, Speeds Calls, GPWS, Radar Altimeter, and much more.

Publisher: Perfect Flight — FSX

ITEM CODE	Title	Media	US Price	Aust. Price	ID
PFFOXBA	Flight Ops X - British Airways	CD-ROM	USD$39.95	AUD$54.95	964

OTHER MISSION/ADVENTURE ADD-ONS...

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FSAPPWV3	FS Approaches Vol 3: Worldwide	CD-ROM	$39.95	$54.95	854
RESCPILMP	Rescue Pilot Mission Pack	DVD	$34.95	$49.95	874
CGOPIL	Cargo Pilot	DVD	$29.95	$47.95	716
FT1MP	FSX Mission Pack: Flight Tales 1	CD-ROM	$24.95	$34.95	871
PFFSXMDELT	FSX Missions Delta 737	CD-ROM	$39.95	$54.95	709
PFMISCRJ	FSX Missions Eurowings CRJ-700	CD-ROM	$29.95	$39.95	1098
PFA321	FSX Missions A321 Lufthansa	CD-ROM	$39.95	$54.95	704
CBTFRC	Mission: Combat Force	CD-ROM	$29.95	$43.95	741
CAPPX	Civil Air Patrol - Search & Rescue	CD-ROM	$29.95	$47.95	656

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ActiveSky X

High-Fidelity Weather Simulation Add On

HiFi Simulation Software brought the latest development technologies, a new approach to user interface design, and a robust architecture together in order to create the weather add-on you've always dreamed of...

Active Sky X is a comprehensive weather engine for Flight Simulator X. It provides the "real-time configuration" of the weather environment including cloud layers, visibility, turbulence, wind, and other parameters. It also provides real-time weather effects such as wake turbulence. In addition, robust weather-based flight planning information and screens are provided.

Visual weather mapping, depiction control, in-flight weather radar display and dozens of other features finish the package. This is all built around a real-time weather system using a proprietary server weather capture, synthesis and delivery system allowing real-time weather around the globe at high resolution, based on current "latest" weather or past weather, or even user-configured weather.

What Active Sky X does not do is provide the extra graphics that overlay the weather environment.

X Graphics is a total sky and environment graphics enhancement for Flight Simulator X and works well with Active Sky X.
See Right Column...

Publisher: HiFi Simulation Software — ***FSX***

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASKYX	ActiveSky X	CD-ROM	USD$29.95	AUD$59.95	955

X Graphics

The Ultimate Graphics, Sound, Sky and Overall Environment Enhancement For FSX

XGraphics encompasses ground breaking technology along with the finest in graphics manipulation to enhance your flight sim experience.

A vast assortment of content forms the basis, complete with sky environment enhancements, cloud enhancements, airport environment enhancements, sound enhancements, highways, roads & railroad enhancements, lighting enhancements and water environment enhancements.

To bring it all together, a powerful graphical user interface is included which makes viewing and configuring these enhancements an easy and fun process.

X Graphics offers the following features:
Ultra-realistic clouds, new SkyScape technology, sky color environments, custom effects, modified sun and moon, sound environment enhancements, and water environment choices including wave turbulence/frequency, environment variants and coloring.

Works seamlessly with and recommended for use with ActiveSky X.
See Left Column...

Publisher: HiFi Simulation Software — ***FSX***

ITEM CODE	Title	Media	US Price	Aust. Price	ID
XGRAPH	X Graphics	CD-ROM	USD$34.99	AUD$47.95	953

Learn the Mad Dog

Learn To Fly The MD-80 With This DVD Training Package!

Based on input and experience provided by a pool of actual Mad Dog pilots from airlines around the world, Learn The Mad Dog comes astoundingly close to the actual ground school training professional pilots attend.

Complete with professionally voiced instruction and accompanied by video and detailed illustrations, this 3.5 hour presentation streamlines your training in order to teach you everything you need to know to comfortably fly this aircraft.

Part 1 provides you with detailed instruction on how to operate the aircraft's systems and controls.
Each system is covered extensively to ensure you understand the function and use.

Part 2 applies those new skills and knowledge from preflight to shutdown in a special instructional demonstration.
You'll watch from the jump seat as we take you through a complete flight scenario and explain each system's use as well as different techniques.

The package also includes an Official Learn the Mad Dog Checklist.

Publisher: Flight Deck Productions — ***Standalone***

ITEM CODE	Title	Media	US Price	Aust. Price	ID
LTMD	Learn The Mad Dog	DVD	USD$32.00	AUD$44.95	948

FSFlyingSchool 2010

Fly FSX and FS2004 Under The Watchful Eye Of A Talking Flight Instructor!

Imagine your personal instructor evaluating every aspect of your flying technique and scoring each phase of flight with information you can use to fly better!

Imagine a comprehensive log book recording the good and bad points of each flight. Imagine competing with the rest of the Web to prove your flying skills are the best of the best.

- A team of Flight Instructors who talk to you, giving you immediate, detailed advice on your flying technique.
- Unique scoring system rates all phases of flight: taxi, take off, cruise, approach, landing and much more.
- Your flights and their scores are tracked in full detail in your own FSFlyingSchool logbook.
- Instant tests of your airmanship: ask the instructor to immediately test your skills.
- Works with dozens of the Flight Simulator community's favorite aircraft - add your own in minutes.

Previous FSFlyingSchool 2009 available at reduced cost, while stocks last.

Publisher: FSInventions — ***FSX/FS2004***

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FSFSCH2010	FSFlyingSchool 2010 NEW!	CD-ROM	USD$39.95	AUD$59.95	1136
FSFSCH2009	FSFlyingSchool 2009	CD-ROM	USD$19.95	AUD$$27.95	994

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PBY Catalina X

hot item!

One of the most famous flying boats ever made, recreated in precise detail for FSX

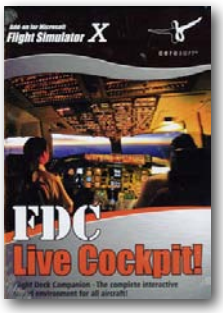
Certainly the best PBY add-on currently available! The panel and external visuals are beautifully and realistically crafted. Features include:

- 11 different models based on the PBY-5, PBY 5A and PBY-6A.
- Impressive and powerful sound set, you actually will be able to tune the engines using your ears.
- Two different cockpits, one typical for the 1940s and 1950s and one as many Catalina's are flown today (with modern radio and GPS equipment).
- Cowl flaps, floats and landing gear has better simulation of influence on drag by use of additional coding.
- Manual (400+ pages) in two parts, includes full actual operational manual of one of the few PBY-5A's flying at this moment.

Publisher: Aerosoft Germany **FSX**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ASPBY	PBY Catalina X	DVD	USD$34.95	AUD$54.95	1064

FDC Live Cockpit



FDC Live Cockpit! brings your flight deck to life with full crew audio enhancements and a complete airport ambience including boarding sounds.

You can choose from 15 different flight deck voice sets and you can even add your own voice variations. In addition you can choose cabin crew announcements in many different languages and dialects.

A virtual co-pilot catapults the reality feeling to new heights. You can hear the captain making flap and gear calls at the correct time to which the virtual co-pilot will respond to and will operate gear and flaps.

Publisher: Aerosoft Germany **FSX**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FDCLCX	FDC Live Cockpit	CD-ROM	USD$49.95	AUD$69.95	705

Sound Environment X

Sound Environment X adds more realistic engine and surrounding sounds in your flight simulation experience by changing and improving all default FSX and Acceleration pack sounds.

Sound Enviroment improves all type of sounds such as engines, precipitation, thunder, airport ambience, and winds. Many sounds have been totally reworked, especially engine sounds for planes used by the AI system to generate traffic in FS airports and skies. Ground vehicles, Turboprops, small, medium and large Jets have now new and improved effects. You will discover that enhanced sounds = enhanced realism!

Publisher: PerfectFlight **FSX**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
SNDEX	Sound Environment X	CD-ROM	USD$39.95	AUD$69.95	963

FS2Crew Series

Experience a Real Flight Deck Environment with FS2Crew Add-on Software...

FS2Crew is a flight crew simulation intended for use with FSX and FS2004. To guarantee maximum realism, each version of FS2Crew is built from scratch and custom fitted to work with specific default and 3rd party add-on aircraft.

Using real-world SOPs, FS2Crew's goal is to allow users to simulate realistic airline operations from the vantage point of the Captain, who in FS2Crew is usually the Pilot Flying and Left Hand Seat pilot.

When using FS2Crew, you will run checklists and flows with your simulated First Officer, as well as interact with cabin and ground support staff.

Each version of FS2Crew is different from the others, but the underlying principle between them is the same: To make your flight simulation experience more immersive, more realistic, more aircraft specific, and ultimately more enjoyable.

Publisher: FS2Crew **FSX/FS2004**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FS2C747	FS2Crew: PMDG 747	CD-ROM	USD$29.95	AUD$43.95	996
FS2CMD11	FS2Crew: PMDG MD-11	CD-ROM	USD$29.95	AUD$43.95	1008
FS2CWFAB	FS2Crew: Wilco Airbus	CD-ROM	USD$29.95	AUD$43.95	1061

Tiger Moth

High Quality "Moth" Simulation Add-On

Publisher: Just Flight
FSX/FS2004

The de Havilland Tiger Moth is the classic embodiment of the biplane trainer. With its distinctive dual wing and tail dragger layout, thousands of pilots learned to fly on this trainer before and during WWII.

The crew over at Aeroplane Heaven now bring this beauty to Flight Simulator for you to relive the days of classic flying. Highly detailed, the models are exacting in accuracy and have been researched with the kind assistance of the de Havilland Moth Club, the official body that represents and safeguards the Moth range of aircraft. The Canadian version has been authenticated by the Canadian Warplane Heritage Museum, thus ensuring that the aircraft are authentic and realistic.

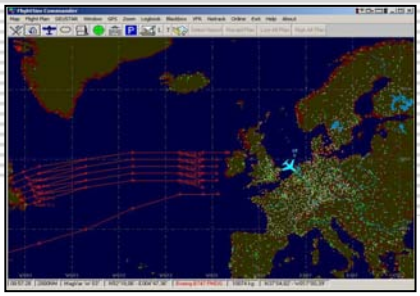
The high-quality models are accompanied by many high-fidelity animations and superb textures, covering a range of aircraft. Along with a superb sound set, this Moth is the one to catch!

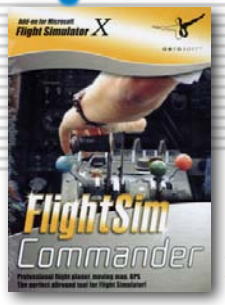
ITEM CODE	Title	Media	US Price	Aust. Price	ID
TIGMOTH	Tiger Moth	DVD	USD$39.95	AUD$59.95	715

FlightSim Commander

Planner, GPS, Moving Map + More!

Publisher: Aerosoft
FSX/FS2004





Professional flight planning, GPS, Moving Map and navigation tool for Flight Simulator X, Flight Simulator 2004, and Flight Simulator 2002.

Flight Sim Commander has many useful features:

Flight planning for entire routes or route segments; Display of both ground and airborne AI traffic; Real-world and user waypoint database; North Atlantic Tracks, PACOTs; Automatic logbook and blackbox recording; Control zone checks for VFR flights; GPS with real-time display of all relevant parameters; Procedure generator and fuel calculator; SIDs/STARs and customizable route segments; Printable approach and departure charts; Printable airport layout charts; VATSIM and IVAO support.

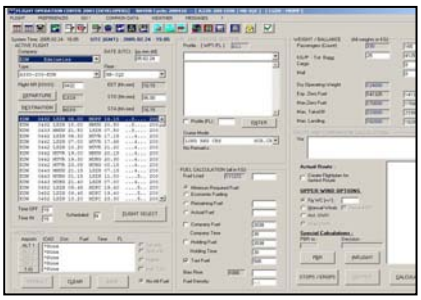
FlightSim Commander has a large number of different features and functions which are mostly accessible via separate windows.
This makes it ideal for multi-monitor flight sim users!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FSCOMX	FlightSim Commander	CD-ROM	USD$39.95	AUD$54.95	717

Flight Operation Center

A Flight Planning Swiss Army Knife!

Publisher: Aerosoft Germany
FSX/



Flight Operation Center is a highly sophisticated flight planning tool incorporating many professional features normally only seen in real world airline operations.

Programmed by a team of dispatchers, pilots and FS enthusiasts, it presents a new world to those who take their PC flying serious and want to fly with documentation of the same accuracy as used by real world airline pilots.

Flight Operation Center accommodates all types of aircraft from small propeller airplanes to the largest, ultra long range jet transport aircraft with exact accuracy, several different cruising modes, abnormal configurations and many other possibilities.

The user can compare routes using the city pair comparison feature and then create realistic flight logs, ATC flight plans and weather reports for a complete fleet.
Long range planning to the edge with Decision Point Planning!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FOC	Flight Operation Center	CD-ROM	USD$69.95	AUD$89.95	809

Vox ATC-X Deluxe

Now You Can "SPEAK" To Air Traffic Control!

Publisher: Vmax
FSX

VoxATC is the first ATC add-on for FSX that has been developed with integrated voice recognition. It is the air traffic control environment that serious flight simulation enthusiasts have been waiting for!

You can now talk to the controllers using standard ATC phraseology and what you say will be heard.

Real voice recognition and controllers that adhere to real-world ATC procedures... using both FAA and European procedures that automatically switch as you cross the Atlantic. Requests must be properly constructed and instructions complied with and read back correctly.

VoxATC works with the Microsoft integrated voice recognition and text to speech engines that are already included as part of Windows XP and Vista. In addition, the product includes two licensed 16-bit voices from AT&T Natural Voice (a $70.00 value in itself).

These voices enhance the text-to-speech so it sounds as natural as recorded WAV voices in other ATC products that do not include voice recognition.

Headset Not Included

ITEM CODE	Title	Media	US Price	Aust. Price	ID
VOXATCX	Vox ATC-X Deluxe	DVD	USD$74.95	AUD$99.95	825

"Those who fail to plan, plan to fail"

This is a famous quote of origin we are not 100% sure about, but possibly comes from former Australian Olympic swim coach, Laurie Lawrence, who trained Australian world record holders, Duncan Armstrong and Tracey Wickham, among others. The quote is particularly relevant to aviation and flight simulation too in regards to proper flight planning...

As in the real world, every flight is meticulously planned, to improve safe passage, and to calculate the needs and requirements on aircraft and pilots/staff/pasengers during the flight. Since we attempt to simulate real flight on our desktop computers, we too should be undertaking ongoing flight planning for the same reasons...

A flight planning program created with flight simmers in mind is a great way to advance your flying skills, ensure procedures are correctly followed, and to enhance the overall realism of simulated flying.

PC Aviator recommends any of the above flight planning programs for use alongside your simulated flying sessions. Not only are they helpful, but they will also improve your flying skills and knowledge!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
XPAX	X Pax	CD-ROM	$19.95	$38.95	954
PFED	ProFlight Emulator Deluxe	DVD	$49.95	$69.95	873
FSFKEEP	FS Flight Keeper	CD-ROM	$39.95	$54.95	633

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FS Panel Studio

Design And Modify Cockpits And Instrument Panels With The Greatest of Ease!

Publisher: Flight 1
FSX/04/02/CFS

Quite simply FS Panel Studio® is the best tool available for creating and editing Microsoft Flight Simulator panels - in fact pretty much any panel from any Microsoft simulator, from Combat Flight Simulator through to Flight Simulator X.

The fully graphical interface lets you drag, drop and stretch your gauges and immediately see the results. You don't have to be a programmer or understand Microsoft Flight Simulator panel.cfg file syntax to create great looking custom Panels.

Design or modify a Panel in minutes in one session. See exactly what you'll get when you run Flight Simulator. Use your mouse to add, delete, move and resize gauges. Stretch gauge widths or heights independently for a perfect fit. Add windows and set their positions with 1 pixel accuracy.

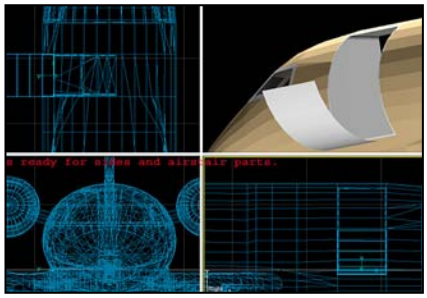
A great, easy to use, panel design package!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FSPANSTUD	FS Panel Studio	CD-ROM	USD$29.95	AUD$43.95	216

FS Design Studio v3.5

Create Great Aircraft & Impressive 3D Scenery!

Publisher: Abacus Publishing
FSX/FS2004



This software is the first choice for tens of thousands of Flight Simulation modelers worldwide and provides an easy way to make professional quality aircraft and quality 3D scenery that you'll be proud of.

Of the tens of thousands of aircraft available for Flight Simulator, the overwhelming number of them were made with FS Design Studio. This newest version adds the latest visual techniques and graphic effects to an already large repertoire of commands, time-saving shortcuts, and comfortable user interface. Together they'll let you create any kind of accurate, detailed textured models at record speed.

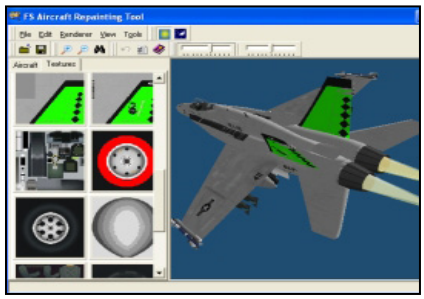
FS Design Studio puts an aircraft factory at your fingertips. Now modelers are able to create even more accurate and great looking aircraft and "knock-your-socks off" 3D scenery.

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FSDSV35	FS Design Studio V3.5	CD-ROM	USD$49.95	AUD$69.95	857

FS Repaint Version 2

The Absolute Simplest Way To Change The Look Of Your FS Aircraft!

Publisher: Abacus
FSX/FS2004



With FS Repaint you'll be able to easily make impressive visual changes to your favorite aircraft in just minutes.

FS Repaint is the simplest way to change the visual appearance of your aircraft. You can easily change the look of your aircraft in a few easy steps: **1.** Load an existing aircraft. **2.** Change the paint scheme (modify the textures). **3.** View the modifications immediately in 3D view. **4.** Save the repainted aircraft. **5.** Fly your new aircraft!

Start FS Repaint and you'll see all of the Models and Variations from your Flight Simulator folder conveniently displayed on the Aircraft tab.

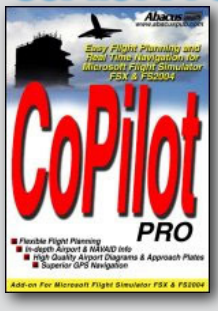
FS Repaint can be used to change a vast majority of the aircraft that are now available for FSX and FS2004 including the stock Microsoft aircraft. Choose the desired aircraft by its Variation name.

ITEM CODE	Title	Media	US Price	Aust. Price	ID
FSREPV2	Flight Simulator Repaint v2	CD-ROM	USD$29.95	AUD$43.95	830

CoPilot Pro

Flight Planning, GPS Navigation, AutoPilot Controller, Moving Map, TCAS, Airman's Guide & More

Publisher: Abacus
FSX/FS2004



Start it up, click any place on the globe and CoPilot Pro is ready, willing and able to get you to your destination effortlessly.

Before your flight, use CoPilot to create a superior flight plan. You'll conveniently print your plan, airport and taxi diagrams and approach plates as a single "package".

During your flight, the CoPilot EZ-GPS instrument lets you know where you are and where any other traffic may be too. The GPS couples to your autopilot and lets you fly you all the way down to decision height using any of the airport's published approaches. The CoPilot flight planner produces efficient and flexible routings to your destination.

You can alter the flight plan by inserting or removing waypoints on the map with click and point ease. The changes to the routing on the map are then instantly reflected in your flight plan.

ITEM CODE	Title	Media	US Price	Aust. Price	ID
COPILOTPRO	CoPilot Pro	CD-ROM	USD$39.95	AUD$59.95	814

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X-Plane 9 (PC)

Fly Anything! Ultimate Realism, Ultimate Versatility...

X-Plane is the most comprehensive and powerful flight simulator available for the personal computer.

X-Plane simulates anything that flies: from single-engine fixed wing props to multi-engine jets; gliders to dirigibles; helicopters to spacecraft to VTOLs such as the V-22 Osprey and AV8-B Harrier.

X-Plane has the most realistic flight model available for personal computers. It comes with subsonic and supersonic flight dynamics, simulating aircraft from the Bell 206 Jet-Ranger helicopter and Cessna 172 light plane to the supersonic SR-71 and Mach-3 XB-70 Valkyrie.

X-Plane comes with 29 aircraft spanning the aviation industry (and history), and several hundred more are freely downloadable from the internet.

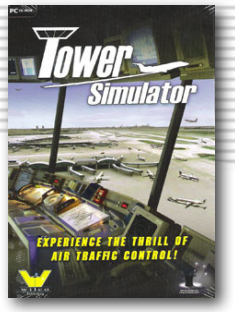
X-Plane also has detailed failure-modeling, with 35 systems that can be failed manually, or randomly when you least expect it!

Publisher: Laminar Research — **Standalone**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
XPL9	X-Plane 9 (PC)	DVD	USD$29.95	AUD$49.95	922

Tower Simulator

The Thrill Of Air Traffic Control...



Tower Simulator puts you in the controller's chair high atop a major or complex airport to choreograph the movements of incoming and outgoing air traffic.

Tower Simulator takes you into a world of authority and responsibility in which the lives of thousands of passengers depend on your ability to make split-second decisions.

As a tower controller, you handle realistic aircraft take-offs and landings, as well as aircraft ground movements through breathtaking out-the-window and radar views.

Runways, taxiways, aprons, flight paths, obstructions and airport structures are all under your control!

Tower Simulator meets the two most important training criteria for a high-fidelity ATC tower training environment:

1. Highly realistic airport/traffic scenario generation.

2. Adjustable time of day, weather and seasonal conditions.

Five airports are realistically modelled for you to control the action!

Publisher: Wilco Publishing — **Standalone**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
TWRSIM	Tower Simulator	DVD	USD$44.95	AUD$59.95	915

Wings of Prey

new

Awesome WWII Aerial Combat Sim!

Wings of Prey is based around the large-scale aerial combat and ground military operations of World War II.

Players can participate in some of the war's most famous battles piloting fighters, battle planes and bombers across a range of thrilling missions. There are six theatres of war to engage in – The Battle of Britain, Stalingrad, Ardennes, Berlin, Sicily and Korsun' representing the main airborne battles of World War II in Europe.

"Wings of Prey" also boasts an all new damage effects engine as well as advanced environmental visuals enriching the game play. "Wings of Prey" features hundreds of airplanes taking part in air battles.

The unique environmental engine also produces highly detailed, realistic landscapes that allow players to see breathtaking ground support actions.

Authentic World War atmosphere: Cutting edge technologies with highly detailed visuals bring the epic battles to life.

Tested and rated highly by the staff at PC Aviator!

Publisher: 777 Studios — **Standalone**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
WOPREY	Wings of Prey	DVD	USD$39.95	AUD$59.95	1154

Rise of Flight

top pick!

Air Combat By The Seat Of Your Pants!

Rise of Flight is the eagerly anticipated World War I PC flight-simulation title from Moscow-based developer *neoqb*. The flight simulator, set in the Western Front in 1917, was built on the newly developed Digital Nature engine.

More than 125,000 square kilometers of the territory have been redrawn from 20th Century maps.

Rise of Flight allows virtual pilots to fly the famous Spad XIII and deadly Fokker D.VII biplanes in exciting dogfight battles. Featuring advanced physics, flight and damage models, Rise of Flight promises a realistic, challenging and fun experience for simulation fans of all stripes and skill levels. Rise of Flight also implements full 6 DOF TrackIR support and is compatible with the TripleHead2Go multi-monitor system from Matrox.

Rise of Flight includes a Training Campaign and Single Player missions so players can hone their aerial combat skills.

Simply the Best WWI Combat Flight Simulator currently available on the market!

Publisher: 777 Studios — **Standalone**

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ROF	Rise of Flight	DVD	USD$44.95	AUD$64.95	1068

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The PC Aviator Instant Download Store!

If you like the idea of being able to order your flight sim add-ons online, be able to download them as soon as your order is processed and then be flying within minutes then you should check out the PC Aviator Flight Sim Instant Download Store.

How It Works

Simply browse the online catalog at either our USA or Australian download stores and add which products you wish to purchase to your cart. When ready to checkout, simply enter your credit card information or pay with Paypal and as soon as your charge is approved and your order complete, you'll be e-mailed a download link to download your software. Then you install your software and begin using it in minutes.

USA Download Store - www.pcaviator.com/dlstore
Australian Download Store - www.pcaviator.com.au/dlstore

My Traffic 2010

FSX

My Traffic 2010 is the latest version of the popular and longtime successful My Traffic series.

Uncompromisingly optimized for the Microsoft Flight Simulator X this product provides realistic air traffic in the air and on the ground, which is controlled by artificial intelligence, for more than 8200 airports.

More than 140 aircraft models were newly designed for Flight Simulator X with in a never before seen detail for AI-planes and a with a minimal impact on the PC resources. After the installation the normal user can just go flying, nothing more - with the virtual world around them becoming more realistic.

SKU	Title	File Size	Publisher	US Price
DL-ASMYT2010	My Traffic 2010	1.1 Gb	Aerosoft Germany	USD$49.99

Bell UH-1 Huey

FSX

The US Army's first operational turboshaft-powered helicopter, the Bell UH-1 "Huey", would prove one of the most successful rotorcraft in history!

This model features: Accurate and detailed interior and exterior visual models and HD textures; Custom exterior and interior animations; Fully clickable dynamic virtual cockpit with 3D instruments; Perfectly flyable from the VC; Realistic flight dynamics; Realistic sounds by Adriano Martoni; Manual in digital PDF format.

SKU	Title	File Size	Publisher	US Price
DL-NMUH1	Bell UH-1 Huey	347 Mb	Nemeth Designs	USD$35.00

Wilco Fleet: 777

FSX/FS2004

The Wilco Fleet 777-200 is no ordinary Flight Sim 777. Instead it's an advanced replica of this 100% digitally designed Boeing Jetliner.

What sets this product apart from a default Flight Sim plane is the inclusion of the complete Flight Management System. That's something that default Flight Sim airliners are missing. This product is for serious heavy jet pilots who want to experience the Boeing 777 in all it's glory from being able to program the CDU, using the LNAV and VNAV and everything else a real airline pilot would do to fly this plane.

ITEM CODE	Title	Flie Size	Publisher	US Price
DL-WF777	Wilco Fleet 777	109 Mb	Wilco Publishing	USD$39.95

Ultimate Airport Environment

FS2004

Ultimate Airport Environment is a comprehensive texture booster that greatly enhances all the Microsoft Flight Simulator 2004 default airports throughout the world.

Your default airports no longer will look dull and boring. This package instantly modernizes all your small, medium and large airports throughout the world! Plus with spectacular night lighting effects included with all buildings your airports will come to life even at night!

SKU	Title	File Size	Publisher	US Price
DL-ZTULTAP	Ultimate Airport Environment	41 Mb	Zinertek	USD$18.99

Ultimate Airport Environment

best seller!

FSX

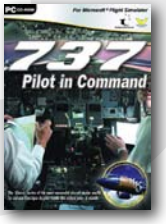
Your default FSX airports will no longer look dull and boring. This package instantly modernizes all your small, medium and large airports throughout the world!

Whether you have a low-end system or a high-end system, this product caters to your performance and quality needs. You can choose between 2 different texture quality options and select whichever set is best for your system. Features over 200 new textures in this FSX version of UAE!

SKU	Title	File Size	Publisher	US Price
DL-ZTULTAPX	Ultimate Airport Environment	47 Mb	Zinertek	USD$18.99

737 Pilot In Command

FSX



737 Pilot in Command offers all the features of other highly acclaimed Pilot in Command products, with new exciting and exclusive features that raise the realism altimeter to new heights!

Tested by active Boeing pilots, 737 Pilot in Command gives simmers the meticulously detailed panels, the true-to-life Flight Management Computer (FMC) and realistic simulation systems.

So real, it can be used by airline pilots! Note: This product does not work with 64 bit operating systems. Will only work with 32 bit. Different downloads available for Windows XP/Vista users. This is the Vista version.

SKU	Title	File Size	Publisher	US Price
DL-WF737VX	737 Pilot In Command	87 Mb	Wilco Publishing	USD$49.95

C-5M Super Galaxy

FSX/FS2004

The Lockheed C-5 Galaxy is a large, military transport aircraft built by Lockheed. It was designed to provide strategic heavy airlift over intercontinental distances and to carry oversize cargo.

Now Area 51 simulations bring this beauty to your desktop simulators.

Flight Simulator Specifications:

- Built for FSX engine.
- Very High Detail Exterior and Interior.
- Photoreal Textures, Detailed doors and Cargo bays.

new

SKU	Title	File Size	Publisher	US Price
DL-WFTILT	Tilt Rotor	83 Mb	Area 51 Sims	USD$29.95

X Graphics

FSX

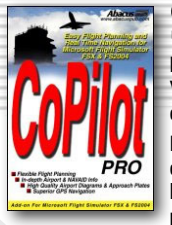
Welcome to X Graphics... a comprehensive feature-rich environment add-on specifically designed for Microsoft's Flight Simulator version X.

X Graphics encompasses ground breaking technology along with the finest in graphics manipulation to enhance your flight sim experience. A vast assortment of content forms the basis, complete with sky environment enhancements, cloud enhancements, airport environment, sound enhancements, lighting and water environment enhancements.

SKU	Title	File Size	Publisher	US Price
DL-HFXGRAPH	X Graphics	450 Mb	HiFi Simulations	USD$34.99

CoPilot Pro

FSX/FS2004



Start it up, click any place on the globe and CoPilot Pro is ready, willing and able to get you to your destination effortlessly.

Before your flight, use CoPilot to create a superior flight plan. You'll conveniently print your plan, airport and taxi diagrams and approach plates as a single "package".

During your flight, the CoPilot EZ-GPS instrument lets you know where you are and where any other traffic may be too. The GPS couples to your autopilot and lets you fly you all the way down to decision height using any of the airport's published approaches.

SKU	Title	File Size	Publisher	US Price
DL-ABCOP	CoPilot Pro	63 Mb	Abacus Publishing	USD$39.95

FSFlyingSchool 2010

FSX/FS2004

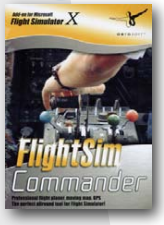
With FSFlyingSchool, you'll never have to fly alone again, thanks to an onboard flight instructor that monitors and rates your performance as you fly!

Imagine your personal instructor evaluating every aspect of your flying technique and scoring each phase of flight with information you can use to fly better... Imagine a comprehensive log book recording the good and bad points of each flight... Imagine competing with the rest of the Web to prove your flying skills are the best of the best... Your flights and their scores are tracked in full detail in your own FSFlyingSchool logbook.

SKU	Title	File Size	Publisher	US Price
DL-FSFSCH2010	FSFlyingSchool 2010	33 Mb	FS Inventions	USD$39.95

FlightSim Commander X

FSX/FS2004



Professional flight planning, GPS, Moving Map and navigation tool for Flight Simulator X (and FS2004).

Flight Sim Commander has many useful features: Flight planning for entire routes or route segments; Display of both ground and airborne AI traffic; Real-world and user waypoint database; North Atlantic Tracks, PACOTs; Automatic logbook and blackbox recording; Control zone checks for VFR flights; GPS with real-time display of all relevant parameters; Procedure generator and fuel calculator; SIDs/STARs and customizable route segments; Printable approach and departure charts; Printable airport layout charts.

SKU	Title	File Size	Publisher	US Price
DL-ASFSCX	FlightSim Commander	41 Mb	Aerosoft Germany	USD$39.95

MegaSceneryX Discount Bundle

FSX

Three Great MegaSceneryX Instant Downloads For 50% Discount.

This Special Bundle Gives You The Following Titles:

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- MegaSceneryX Las Vegas
- MegaSceneryX Reno/Tahoe

top pick!

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You get all 3 instant downloads for under $20 - just $19.97.
Experience the MegaScenery Difference Today!

SKU	Title	File Size	Publisher	US Price
DL-MSX	MegaSceneryX Bundle	2.9 Gb	PC Aviator Inc	USD$19.97

Fly The B717-200 X

FSX/FS2004

The Boeing 717-200 is the world's best jetliner specifically designed for the short-haul, high frequency 100-passenger airline market.

This aircraft is now available for both FSX and FS2004.

Product Features: Detailed 3D textures; Full moving parts including: Flaps, Rudder, Ailerons, Spoilers, Gear, Passenger Doors, Cargo hatches, Reversers, Virtual Cockpit Controls; Full night lighting inside and out; Strobes and beacons set to Boeing specifications; Fully-featured B717 2D Panel; Full 3D Virtual Cockpit; Very realistic Stereo Sounds; Reflective texture mapping and more!

SKU	Title	File Size	Publisher	US Price
DL-B717	Fly The Boeing B717-200	160 Mb	Perfect Flight	US$34.99

Regional Jet Vol.1 - CRJ

FSX/FS2004

Fly 3 Models Of The Most Successful Regional Airliner Ever - The CRJ-200, CRJ-700 and CRJ-900..

The CRJ is the most successful regional aircraft program in history. Only larger jet transports such as the Boeing jet family and the Airbus A320 family have been delivered in such numbers.

If you're a frequent traveller and have flown from a major hub to a smaller satellite airport, you've most likely been a passenger in the CRJ. Now here's your chance to finally get behind the actual controls of this exciting-to-fly regional jet with Flight Simulator X (and FS2004).

SKU	Title	File Size	Publisher	US Price
DL-WFCRJ	Regional Jet Vol.1 - CRJ	62 Mb	Wilco Publishing	USD$24.95

F/A-18E Superbug

best seller!

FS2004

The Most Advanced Combat Aircraft Ever Designed For Microsoft Flight Simulator!

The VRS F/A-18E Super Hornet, or "Superbug", is the first true 3-axis fly-by-wire combat aircraft designed for Microsoft Flight Simulator. The flight model is not "fly-by-wire-like", it's a dynamic, fully control-law-dependent proportional control system driving a single (ordinance independent) neutrally-statically-stable base flight model. The FBW system extends to 100% custom autopilot functions.

SKU	Title	File Size	Publisher	US Price
DL-VRFA18	F/A-18E Superbug	91 Mb	Vertical Reality Sims	USD$44.95

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Microsoft Flight Simulator X

Flight Simulator X - Aerobatic Aircraft

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Pitts Special - S-2B	$19.95

Flight Simulator X - Airports

Barranquilla Virtual Xtreme Edition	$18.00
Bogota Virtual Xtreme Edition	$18.00
DreamScenery Indianapolis International Airport X (KIND)	$22.99
Fly Wonderful Islands - Bermuda LF Wade International	$29.95
Fly Wonderful Islands - Canary Islands Airports	$49.95
Fly Wonderful Islands - Gran Canaria International	$20.00
Fly Wonderful Islands - Lanzarote V2	$20.00
German Airfields 1 and 9	ea $34.95
German Airports 2 - Hannover X	$23.48
Hawaii Dillingham X	$17.95
KBOS, KIND 2009, KMCO, KMEM, KSDF Airports	ea $15.00
KCLE, KDAL Airports	ea $13.50
KMSP, CYUL, KRDU, CYYZ, EIDW Airports NEW!	ea $15.00
Madeira X	$29.95
Mega Airport Budapest / Lissabon X / Heathrow, Paris CDG	ea $29.95
Mega Airport Stockholm Arlanda	$26.98
Trondheim Vaernes X NEW!	$17.99
VFR Short Fields X - Vol 1 - 3 Quebec	ea $13.50
Washington Dulles International (KIAD)	$15.00

Flight Simulator X - Flight Instruction

FSFlyingSchool 2009	$39.95
FSFlyingSchool 2009 - Cessna 172 Detail Pack	$9.95
FSFlyingSchool V1.9.2	$19.95
Instructor Station V1.25	$43.95

Flight Simulator X - Flight Planners

CoPilot Pro (FSX/FS2004)	$39.95
FlightSim Commander X	$39.95

Flight Simulator X - General Aviation & Light Aircraft

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Beechcraft Mentor T34B	$19.95
Bellanca Super Viking	$24.95
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C172N SKYHAWK II SKI	$11.95
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Cessna 182 Q Standard & Long Range Version	$19.95
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Piper PA34 200T SENECA II	$29.95
Piper Warrior II/III	$27.99
Quest Kodiak (FSX/FS2004)	$24.95
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Bell UH-1 Huey / BO-105 Helicopter / Eurocopter AS332 L2 Super Puma MkII	ea $35.00
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McDonnell/Douglas MD 500 Defender	$28.00
OH-58D Kiowa Warrior (FSX/FS2004) NEW!	$19.95
Seahawk & Jayhawk X	$39.95

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Fly The Heavies	$39.95
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Wilco Fleet: A400M / Canadair Regional Jet - CRJ	ea $24.95

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Microsoft Flight Simulator 2004

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Mooney 201 M20J	$22.95
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Piper Cheyenne	$39.95
Piper PA28RT 201 Arrow IV	$27.95
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Island Scenery - Reunion	$23.99
Island Scenery - St Martin-St Barth	$21.99
Lukla - Mount Everest	$24.95
Manhattan	$24.95
Monaco 2005	$17.95
Scandinavian Airports 1 / Scandinavian Airports 2	$29.95
The Islands of Malta	$19.95
Ultimate Water Advanced	$15.99

Flight Simulator 2004 - Sound Enhancements

737-200 JT8D Engine / 737-300CFM-56-3b "New Generation" / DC-9 JT8D Engine / F-16 PW-F100 Soundpacks	ea $12.99
FS Sound Environment	$19.99
FS2Crew: 767 Edition	$24.99
FS2Crew: Default 737 Edition / Default 747 Edition / PMDG 737NG 800-900 Edition / PMDG 737NG Edition	ea $19.99
FS2Crew: PMDG 747-400 Edition	$24.95
FS2Crew: FS2004 Flight1 ATR Edition	$24.99
FS2CrewLite: FS2004 Default 172 Edition	$14.95
TSS ATR-42/72 PW Soundpack	$12.99

Flight Simulator 2004 - Special Effects

Shockwave 3D Lights REDUX	$14.99
Ultimate Night Environment Professional	$17.95

Flight Simulator 2004 - Textures

Airport Ground Details	$22.00
FScene4X - MegaPack for FS2004	$29.95
Sky Environment Ultra	$17.95
Texture Booster Pack / Pro Pack	ea $19.00
Texture Bundle Pack	$51.00

Flight Simulator 2004 - Utilities

TweakAircraft / TweakFlight / TweakFS Explorer / TweakLOAD	from $10.95
TweakFPSTweakFS Download Bundle	$45.55

Note: Where indicated, certain FSX add ons are also compatible with FS2004. Where not indicated they are compatible with FSX only.

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Saitek ProFlight Yoke System

Stainless steel shaft, ergonomic controls, integrated chronograph and separate throttle quadrant ensure a smooth, accurate and totally realistic flying experience. Included is the Flight Yoke and the three-axis throttle quadrant at the one price!

Yoke Features: Durable Stainless Steel shaft with precision bearings gives smooth and predictable elevator and aileron control; Used with the supplied SST Programming software, integrated mode switch trebles the number of controls you have at your fingertips; Accurately time each leg of your flight plan with the integrated chronograph; Use the integrated USB Hub to easily connect other parts of the Saitek Pro Flight range of products, such as additional Pro Flight Throttle Quadrant or Pro Flight Instrument Panel (both sold separately) ● 14 buttons ● POV Hat Switch ● 3-position Mode Switch ● Elevator and Aileron Axes on Yoke. Check our website product page for full yoke feature list!

Throttle Quadrant Features: 3 axis levers add more options for control in your favourite flight simulation; 3 two-way rocker switches add further controls to your simulation setup; Quadrant can be mounted either on top or in front of your desk, pilot or co-pilot side so that the controls are always where you want them. ● 3 axis levers ● 6 buttons.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
STKPFYKUSB	Saitek ProFlight Yoke System	USB	USD$149.95	AUD$259.95	848

CH Pro Pedals USB

Your ailerons are only half of the picture. Complete your authentic flight control set-up with CH ProPedals USB, the ultimate choice in realistic rudder pedals!

CH ProPedals give you realistic fully articulating (back/forth) rudder motion and also pivot on the toes for differential toe brakes (just like a real aircraft) where supported by the simulator and hardware interface.

CH ProPedals USB also feature smooth gliding motion for precision rudder control input. With your feet sitting on a set of CH ProPedals you'll be able to master crosswind landings, make properly balanced-turns and control your aircraft during taxiing, the way it is done in real life... with your rudder pedals.

TWO YEAR WARRANTY
CH Products offer a solid warranty period on Pro Pedals. Should you have any problem with your pedals within 24 months of purchase, simply contact us for fast repair or replacement service under wrranty.

30 DAY SATISFACTION GUARANTEE
Take advantage of PC Aviator's 30 day money back guarantee Try CH ProPedals at home for 30 days and if you are not satisfied, return it for a full refund (less shipping).
No questions asked!

ITEM CODE	Title	Port	US Price	Aust. Price	ID
CHPROPEDUSB	CH ProPedals USB	USB	USD$119.95	AUD$214.95	21

Saitek ProFlight Rudder Pedals

Solidly constructed 3-axis pedals maximize flight sim realism by enabling foot control of the rudder function.

Saitek's new series ProFlight rudder pedals are proving popular among Flight Simulator users at present and are quickly proving to be a reliable and durable set of rudder controls.

Control the rudder and toe brakes of your aircraft with your feet - just like real pilots. Adjustable, smooth action gives you optimum control and realism, and brings you even closer to the experience of flying a real aircraft.

The new Saitek ProFlight Rudder Pedals offer the following features:

- Self-centring pedals with adjustable damping.
- Foot rests adjust to fit all sizes and include non-slip materials.
- Precise rudder and braking control.
- Tension adjustment - choose resistance to suit the way you fly.
- High quality, part metal construction for long life.
- Saitek's powerful Saitek Smart Technology (SST) programming software allows gamers to configure their controls to suit their preferred gaming style, and to save the configurations as personal profiles.

Works with: Win XP, XP64, Vista & Windows 7.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
STKRUDPED	Saitek Rudder Pedals	USB 2.0	USD$119.95	AUD$219.95	850

CH Eclipse Flight Yoke USB

CH Products is proud to release the latest and greatest in Flight Simulation hardware with the release of its new high end yoke, the new CH Eclipse!

Built with the same high end components you find in CH Products' industrial products, the CH Eclipse brings value added functions to compliment all your favorite sims.

The Eclipse Yoke includes the following new features:

- Fully programmable fingertip paddles, ideal for flight and racing sims
- Programmable trim / scroll wheels with center push function
- Two backlit push buttons and a third traditional push button
- Two 8-way hat with rocker switch and trigger on both sides of handle
- Configurable POV hat for either left or right hand use
- Three color LED selector dial giving you up to 240 programmable functions with Control Manager software.

Original CH Flight Yoke USB Still Available...

New and improved industrial grade material / components; indestructible robust plastic, free floating shaft and clamp extenders to accommodate the thinnest of desks.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
CHECL	CH Eclipse Flight Yoke NEW!	USB	USD$159.95	AUD$259.95	957
CHFSYOKEUSB	CH Flight Sim Yoke USB	USB	USD$119.95	AUD$199.95	20

We service you wherever in the world you might be all from the one website & through our LOCAL OFFICES IN Nth America Toll Free: 1-800-664-0033
Australia (03) 9553 1955 INTERNATIONAL CALLERS: OUTSIDE USA +1 843-716-1616 OUTSIDE Australia +61 +3 9553 1955

CH Combatstick 568 USB

Whether you're a novice or an advanced desktop pilot, the F-16 CombatStick, featuring an authentic F-16 "Falcon" jet stick grip, gives you an advanced F-16 stick for you to control your aircraft with precision and shoot your enemy out of the sky, before he even gets a chance to reach for his stick.

What chance has the enemy got when you're equipped with a stick with six push buttons, one 4 way hat switch, and one 8 way point of view hat, a trigger as well as your throttle at you finger tips to kick in afterburner when you need to dodge his fire or maneuver for a kill. You don't have to be a jet jockey to have an F-16 CombatStick 568 USB on your desk-top, it's an ideal stick for general aviation flying and also great for other games.

CH Flightstick Pro USB

An old classic returns utilizing the latest USB technology! The Flightstick Pro is a simple but effective controller for all your flight and combat simulation needs.

3 Axes of Control - The Flightstick Pro features three axes of control. Ailerons, elevators and throttle axes can easily be configured and applied to most simulations. 4 Action Buttons - 1 Trigger and 3 Single Fire buttons can be assigned almost any task within your favorite simulator. Rated to 10 million presses, these buttons will handle just about any punishment delivered! 8 Way Hat Switch - Use the 8 way hat as panning and viewing control or you can assign a task to any hat switch position. Your entire aircraft firepower can be launched all from the one hat switch!

CH Fighterstick USB

The Fighterstick has the feel you need to win in your favourite combat simulator. The programmable Fighterstick is one of CH Products' most popular joysticks!

Take control with a new joystick! The Fighterstick is the top of the line F16 joystick from CH Products. Designed with a larger base, gimbal, and spring set, the Fighterstick has the feel you need to win in your favorite combat simulator.

The Fighterstick USB features: One 8-way combination hat switch; Three 4-way directional hat switches; Three single press fire buttons; Fast action trigger; X and Y trim control wheels; Rotary throttle control wheel; LED Mode Indicator Lights; Control Manager software included.

top pick!

EXCLUSIVE TWO YEAR WARRANTY
CH Products Joysticks are backed by CH Products' Two Year Warranty. A guarantee that sets CH Products apart from other joystick manufacturers. That's a pretty reassuring guarantee of quality.
Wouldn't you agree?

ITEM CODE	Title	Port	US Price	Aust. Price	ID
CHF16CS568USB	CH Combatstick 568 USB	USB	USD$89.95	AUD$139.95	18
CHFSPROUSB	CH Flightstick Pro USB	USB	USD$74.95	AUD$119.95	22
CHF16FSUSB	CH Fighterstick USB	USB	USD$139.95	AUD$199.95	19

*All CH Products Joysticks are Flight Simulator 2004 / FSX and Windows XP, Windows Vista, and Windows 7 Compatible

CH Throttle Quadrant USB

Multi-Engine Throttle Quadrant For Prop And Jet Flight!

The CH Throttle Quadrant USB is the highly anticipated multi-engine throttle quadrant you've been waiting for.

Now you can experience the most realistic simulated flight control available for a reasonable price. With features including physical detents, reverse thrust and full pro-grammability with 6 axis and up to 24 buttons, you can utilize 350 button positions.

This Throttle Quadrant is the perfect enhancement to the Flight Sim Yoke and Pro Pedals, or with the Fighterstick and Pro Throttle combination. Whatever setup you choose to use, get the most out of your flying experience with the CH Throttle Quadrant USB.

- Ships with 4 black knobs, 2 red and 2 blue - for Twin or Jet Engine set ups.
- 6 Axis, 24 Buttons.
- 6 Physical Detents.
- Fully Programmable with CH Control Manager software (included).
- Control Manager software enables 350 button positions.
- Compatible with Windows 2000, Windows XP, Windows Vista, and Windows 7.
- Compatible with all Windows based games and simulators.

Built with the same rugged construction you've come to rely on with CH Products. Made in the USA with extended warranty.

Manufacturer: CH Products Inc.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
CH-TQU	CH Throttle Quadrant USB	USB	USD$119.95	AUD$199.95	167

CH Pro Throttle USB

Single Axis Throttle Controller For Single Jet Or Prop Pilots...

The Pro Throttle button features will add the ability to successfully conquer the most advance sims and your best opponents.

The smooth throttle slide control will help you outmaneuver your opponents for hours in online combat arenas.

Sporting combat features to allow the throttle to excel at flight sims to first person shooter games. Features of the pro throttle include a mode switch to allow three defined sets that can be switched on the fly. A LED light array to show the user which button set he or she has loaded: regular, combat, or advanced mode. A mini joy-stick is mounted for control with the thumb to allow advanced targeting, 360-degree view control, an excellent tool for racking up the "frags" in first person shooting games.

- Total of 69 different programmable functions (three 4 way hat switches, one 8 way hat switch, three push buttons and a 3 way mode switch).
- Mini-joystick for precise pointing or movement in supported games.
- LED mode switch indicator for PC users.
- Left handed jet grip style throttle.
- Sturdy base and 7 foot cable.

Made in the USA with extended warranty.

Manufacturer: CH Products Inc.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
CHPROTHUSB	CH Pro Throttle USB	USB	USD$119.95	AUD$179.95	23

Order Online 24/7 @ www.pcaviator.com

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GoFlight GF-AC Cockpit Control System

Flip REAL Switches... Push REAL Buttons... Turn REAL Knobs!

THE fully modular Cockpit System for Flight Simulator. Gives you over 250 cockpit commands at your disposal!

"You can even start with just one module and add modules as required!"

Remember you have a 30 Day In-Home Trial. No Questions Asked Money-Back Guarantee!

With the GF-AC cockpit control system from GoFlight, you have up to 250 cockpit commands at your disposal. Flip real switches to start engines. Push real buttons to engage and disengage autopilot. Turn real knobs to tune your radios, and see the frequencies on real LED displays. Adjust pitch trim using a trim wheel, control landing gear with the "clunk" of a gear lever. Change views, display the GPS, zoom views in and out, pause and resume simulation... we're just getting started!

The GF-AC is totally modular. It is designed to be the most affordable and expandable way to create a home simulator cockpit ever created. Modules plug into your computer with Plug and Play USB connections. For desktop use, a sturdy, full-metal rack is available for conveniently mounting the modules. Or, mount them into your custom cockpit, connect the USB cable and go!

You can get started building your system today, for as little as $107.95. Expand it at any time, quickly and conveniently.

Even with all this cockpit control power, you'll be up and flying in minutes with GoFlight's easy-to-use GFConfig software. Assigning avionics functions is a simple "drag and drop" operation, and assigning switch functions is as simple as choosing them from a list. Microsoft Flight Simulator 2002, 2004, FSX, and X-Plane 8+ are fully supported.

Choosing Racks and Modules.

The modularity of GoFlight is such that they fit into the predefined racks. Modules are 2 inches or 4 inches making it easy to calculate the required racks and modules for the racks. Please check the price grid for the size of each rack.

GoFlight Modules

GF-166 Versatile Radio Panel

Designed to look and operate like many of today's real-world NAV/COM counterparts, the GF-166 offers sophisticated looks and an unprecedented level of functionality in a 2" tall rack-mountable configuration. The GF-166 can simulate the following type of avionics: COM 1, COM 2, NAV 1, NAV 2, ADF, TRANSPONDER.
When used as a COM, NAV, or ADF radio, the GF-166's dual 6-digit displays allow tuning of a stand by frequency, and a transfer button activates the newly-tuned frequency.

GF-SECM Single Engine Control Module

The SECM module is the all-in-one answer to any pilot who enjoys flying single engine aircraft. The SECM is equally useful as a twin engine control as well! The module offers an array of toggle style switches that can be used for: Gear Up/Down, Cowl Close/Open - Lights On/Off: Panel, Beacon, Navigation, Strobe, Taxi, and Landing. There is also a Master Battery and Alternator switch, an Avionics Master, Fuel Pump, Carb Heat and Pitot Heat switch with On/Off functions. An Engine Start rotary knob control offers positions for OFF, L, R, BOTH and START.
The GoFlight SECM panel is a 2" high panel that will fit all current GoFlight Rack systems.

GF-RP48 Pushbutton & Rotary Switch

There are twenty different panel elements on the RP48 Panel Module, all brought together, providing a level of cockpit control never before possible in a 2" tall panel module. It features 8 Programmable Pushbuttons, 4 Rotary Control Knobs - Each of the control knobs on the RP48 can be used to adjust instrument panel settings such as altimeter, gyro, OBS1 and OBS2, as well as many others. When installed in GoFlight home cockpits including GF-45 or GF-166 modules, the RP48's knobs can be programmed as mode selectors, allowing you to select all available avionics modes on the GF-45 and GF-166 modules.

GF-ATC Headset Comms Panel

Communicating with your fellow sim pilots and with AI air traffic controllers has never been more simple or convenient, with the GF-ATC module from GoFlight. Front panel connectors on the GF-ATC bring your computer's audio connections within easy reach, allowing for fast connection of your favorite headset and/or microphone. The GF-ATC features volume and squelch knobs, simulating a real world communications environment.

GF-46 MultiMode Display Panel

The GF-46 Multi-Mode Display Module enables the flight simulator pilot to control a broad range of cockpit functions, including general-purpose instrument panel settings, avionics stack, and 6-function autopilot. Using its programmable pushbutton, a single GF-46 unit can be used to control all cockpit functions while in flight. Dual concentric rotary encoders provide realistic tuning of radio frequencies when used in avionics modes.

GF-T8 Toggle Switch/Indicator Panel

The GF-T8 8 Toggle Switch/Indicator Module has 8 programmable toggle switches and LED indicators. You choose the functions to assign using GoFlight's GFConfig software, and label the switches using the MagLabels included with each unit.

GF-P8 Toggle Switch

The GF-P8 8 Pushbutton/Indicator Module has 8 programmable pushbuttons and LED indicators. You choose the functions to assign using GoFlight's GFConfig software, and label the buttons using the MagLabels included with each unit. Both the GF-P8 and GF-T8 are 2" tall, 7.25" wide, with 3" back clearance. The mounting hole centers are 0.5" down from the top edge of the panel, 6.75" apart, and 0.25" from the left and right edges of the panel. The will readily mount into the Mini, Full Height, or FDC GoFlight racks.

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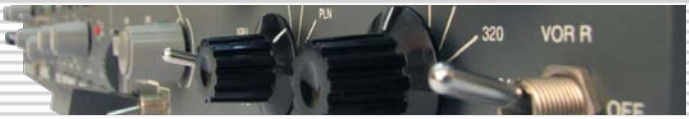

GF-MCP Advanced Autopilot Module

The GF-MCP Advanced Autopilot Module offers realistic simulation of a wide range of autopilot devices typically found in general aviation and commercial aircraft. Using the GF-MCP, it's simple to set the nav course, heading, speed, vertical speed, and altitude of your simulated aircraft. Seven lighted pushbuttons are used to control autopilot engagement and various modes of flight from takeoff to touchdown.

GF-TQ6 Throttle Quadrant

The GF-TQ6 Throttle Quadrant standard shipping configuration contains (4) jet thrust levers, (4) thrust reverse levers, a spoiler lever, and a flap handle. All handles are removable. Simply removing two thrust levers and you will have a twin-jet configuration. Each handle can be "assigned" to a specific engine, prop, mixture, spoilers, reversers, flaps, etc., so it can easily be adapted to handle other engine configurations. The GF-TQ6 is USB compatible. Mounting scews are included.

GF-TPM Throttle / Pitch / Mixture Module

The GF-TPM module offers the owner a set of basic engine controls for single engine aircraft. It can be used for multiple engines, however, all engine throttle/mixture/prop controls will be handled together, as opposed to individually for each engine in a multi-engine configuration. This module offers Push/Pull controls for Throttle, Mixture and Prop. The GF-TPM requires one free USB port to use. GoFlight Products are best used hooked directly to USB ports on your computer, or via a self-powered USB hub.

Racks & Accessories

GoFlight Full Height Rack

The full height rack is constructed from aluminum, making it strong yet lightweight. It stands 15" tall, is 7.5" wide, and 10" deep. There is 14" of vertical mounting space within the module bay area.

GoFlight MiniRack

The mini rack is constructed from aluminum, making it strong yet lightweight. It stands 4.5" high, 7.5" wide, and 8." deep. The module bay area can contain either one 4" module or two 2" modules.

GoFlight Flight Deck Console

GF-FDC Flight Deck Console is designed to house up to 14 GF-AC Cockpit Control System modules. Features a large 18" H Horizontal module bay, a 4" H vertical module bay and 6" H diagonal module bay. Cockpit control modules can be arranged within the bays to create realistic-looking and operating simulator aircraft panels. The Flight Deck Console also includes a 12x6x2" chart pocket that can be mounted to the left or right side panel, providing a convenient location for charts, software, binders, kneeboards or other items needed by the simulator pilot during flight.

GoFlight Module Bay Cover

GoFlight's module bay covers are used to fill up unused space in your GF-AC module bay. The module bay cover kit includes 7.5 x 2" cover plate, 2 metal thumbscrews

GoFlight Cable Organizer Kit

Use the cable organizer kit to dress up your GF-AC system, keeping the module wiring neat and tidy, just like in a real aircraft.

GoFlight MCP Pro Module

The GF-MCP Pro features a Boeing 737-style panel with full control complement. The GF-MCP Pro features the following controls: Independent Captain and F/O COURSE knob and display; Independent Captain and F/O Flight Director on/off toggles with indicator; Autothrottle on/off toggle with indicator; Autothrottle N1 and SPEED buttons; C/O button for SPD display selection of IAS or MACH; SPEED Knob and display; HEADING knob and display with integrated HDG HOLD push function; HDG SEL button; VNAV and LNAV buttons; ALTITUDE knob and display; VOR LOC, APP, ALT HOLD and ALT INTV buttons; VERTICAL SPEED wheel control and display; V/S button; A/P CMD A, CWS A, CMD B, and CWS B buttons and a DISENGAGE control bar.

GF-LGTII Landing Gear and Trim Control Module

The GF LGT II from GoFlight is designed after the popular GF-LGT module, but features a greater range of controls to make your simulated flying sessions more realistic than ever. The GF-LGT II features AILERON and RUDDER trim, locking Gear Up / Down lever, a more robust Flaps Control switch, and a generic 3-position toggle switch that can be programmed for various functions such as fuel tank select. Gear position is shown on the panel using three dual-color LEDs, which illuminate green when gear is down and locked, red when gear is in transition, and turn off when gear is up and stowed. The GF-LGT panel requires 4" of vertical space in the module bay.

GF-EFIS GoFlight EFIS Module

The EFIS is designed to operate with a wide variety of simulated aircraft, and is sure to add lots of enjoyment to your flight sim experience. Control Features: DH/MDA Rotary control; Barometer rotary control (IN or HPA); VOR L/ADF L Flip Switch; VOR R/ADF R Flip Switch; Rotary selector for APP, VOR, MAP, PLN functions; Rotary range selector for 10, 20, 40, 80, 160, 320, 640 miles; Push button selectors for WXR, STA, WPT, ARPT, DATA, POS, TERR functions.

For full product information including any software and additional hardware requirements for each module, please visit the PC Aviator website.

Manufacturer: GoFlight Inc

Modules

ITEM CODE	Title	Height	US Price	Aust. Price	ID
GF-MCPPRO	GoFlight MCP Pro	2.7 inch	USD$499.95	AUD$649.95	611
GF-166	Versatile Radio Panel	2 inch	USD$174.95	AUD$229.95	77
GF-TQ6	Throttle Quadrant	4 inch	USD$399.95	AUD$549.95	125
GF-MCP	Advanced Autopilot	4 inch	USD$324.95	AUD$459.95	85
GF-EFIS	EFIS Module	4 inch	USD$249.95	AUD$319.95	812
GF-LGT	Landing Gear Module	4 inch	USD$149.95	AUD$219.95	84
GF-RP48	RP48 Pushbutton Module	2 inch	USD$161.95	AUD$209.95	87
GF-T8	Toggle Switch Module	2 inch	USD$149.95	AUD$199.95	88
GF-P8	Pushbutton Module	2 inch	USD$119.95	AUD$159.95	86
GF-46	Multi-Mode Display Panel	2 inch	USD$149.95	AUD$199.95	179
GF-LGTII	Landing Gear/Trim Control	4 inch	USD$199.95	AUD$259.95	1073
GF-ATC	ATC Headset Module	2 inch	USD$161.95	AUD$239.95	454
GF-SECM	Single Engine Control Module	2 inch	USD$299.95	AUD$419.95	800
GF-TPM	Throttle/Pitch/Mixture Module	2 inch	USD$299.95	AUD$559.95	801

Racks & Accessories

ITEM CODE	Title	Mod Cap.	US Price	Aust. Price	ID
GF-ACFHRACK	Full Height Rack	14 inch	USD$129.95	AUD$199.95	79
GF-ACMINIRACK	Mini Rack	4 inch	USD$69.95	AUD$99.95	80
GF-FDC	Flight Deck Console	28 inch	USD$349.95	AUD$499.95	82
GF-OHR	Over Head Rack	12 inch	USD$199.95	AUD$299.95	479
GF-7	Cable Organizer Kit		USD$15.95	AUD$23.95	89
GF-COV	Module Bay Cover		USD$24.95	AUD$39.95	81

Order Online 24/7 @ www.pcaviator.com

VRinsight CDU PANEL II

The new CDU II Panel from VRinsight offers the flight sim pilot a hardware interface (Control Display Unit) for their Flight Management Computers within Flight Simulator 2004 and Flight Simulator X.

The real shape and full functiuonality of the CDU II panel offers unparalleled realism for jet and airliner flight. It supports many of the best flight sim aircraft add-ons currently available, including aircraft from Level-D, PMDG, Wilco and PSS.

It interfaces with flight sim via the included SerialFP2 software. It has a USB connection to your computer and requires FSUIPC software (available freely) and a spare DVI or VGA computer port.

Product Features: ● Realistically shaped and fully functional ● All necessary buttons and LCD acts like those used in real flight ● Offers actual display of flight circumstances via CDU II panel with full control complement ● Visible LCD space: 9.1cm (L) X 8.4cm (W) / 4.8 inch ● Full metal case ● Standalone type ● One year warranty.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
VRCDU2	VRinsight CDU Panel II	USB	USD$449.95	AUD$589.95	1082

VRinsight M PANEL

best seller!

The M panel is a portable package to control and display fundamental functions of flight. And it features various type of aircrafts' panels; built-in MSFS aircraft and most freeware or commercially available add-on aircraft. It is completely interfaced with FS9 and FSX through add-on software "SerialFP2" and to the computer via USB connection.

The M panel offers control of the fundamental aircraft functions of the MCP, COM radios, Gear Up/Down & Flaps Up/Down functions, all in a small and portablew hardware panel package. Autopilot functions like Heading, Speed, Altimeter, Vertical Speed, Barometer, Nav, Approach, Back Course, AutoThrottle and Flight Director can be initiated and values changed using the VRinsight M Panel. It measures - 17cm (L) x 10cm (W) x 9cm(H) and weighs a mere 0.7 kilograms.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
VRIMPAN	VRinsight M Panel	USB	USD$175.00	AUD$259.95	1005

VRinsight HAT TRACK

The HAT-Track of VRinsight offers dynamic view changes that makes you feel more reality-like gaming. It is completely interfaced with Flight Simulator 9 and Flight Simulator X through add-on software "HAT-Track".

The HAT-Track is comprised of receiver and transmitter. The receiver filters IR rays in it's effect range and processes the movements of IR rays. This allows you to pan your view around the virtual cockpit of FSX or FS9 with your head movement alone!

When you move your head or your body, the game view will be changed simultaneously. It can be amplified and adjustable for each user's taste so that your don't have to move your head or your body too much. The VRinsight Hat Track offers 6 Degrees of Freedom in motion for the ultimate in control and realism in the cockpit.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
VRHAT	VRinsight Hat Track	USB	USD$99.95	AUD$179.95	1007

VRinsight Flight Control & Desktop Avionics Systems

See the Jet Pit In Action!

Visit the PC Aviator website, head to the Jet Pit product page and you can view a video of the VRinsight Jet Pit in actual use during a Flight Simulator session. This unique product must be seen in motion to be fully appreciated!

www.pcaviator.com

Compatibility Note

All VRinsight hardware is compatible with FS2004 and FSX default aircraft!

VRinsight JET PIT

The JetPit panel is an instrument panel for jet aircraft. All gauges are synchronized with Microsoft Flight Simulator, supporting the default jet aircraft of Flight Simulator, as well as most add-on jet aircraft packages. JetPit panel displays the primary flight information of the PFD,ND, MCP, EFTS, EICAS and CDU with fully functional rotary knobs and push buttons, allowing the users to experience the most realistic flight ever.

It is completely interfaced with Microsoft Flight Simulator 2004 and Flight Simulator X through the add-on software "SerialFP2" which enables JetPit to achieve a full simulation with a simple connection to a PC through a USB port.

Product Features Include: Real type displays for most Jet type aircraft cockpits; 20" TFT LCD Monitor included in package.
Displays on the panel: PFD display; ND display; MCP display; EFIS display; EICAS display; CDU display; CDU control.
User programmable Buttons and Rotary knob: 14 push buttons; 1 Rotary knob; Five 4-way action buttons.

Technical Specifications: Full metal case; Dimensions - 48.5 cm (L) x 33 cm (H) - Adjustable height; 9Kg (with 20" monitor) **One year warranty.**

The connection between JetPit and your computer is made by using a USB cable that plugs into one USB port on your computer. If you want to use a USB hub, be sure that the USB hub must compliant with USB 2.0 standard.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
VRJETPIT	VRinsight Jet Pit	USB	USD$1349.95	AUD$1999.95	1043

VRinsight MICRO PRO PIT

The u-ProPit is a portable hardware control and display system for Microsoft Flight Simulator's propeller-driven aircraft.

All the gauges on the display are synchronized with the FS software, so what you see on your new micro pro-pit displays is what is happening in your flight sim aircraft at that very second!

Real knobs and push buttons provide the user with a realistic flight experience with quick and easy setup. Plus, the micro pro-pit can be packed up and taken anywhere in no time at all. Great for flight simming on the move!

Displays: AIRSPEED indicator; ARTIFICIAL HORIZON with setting rotary knob; ALTIMETER with BARO setting rotary knob; TURN COORDINATOR; HEADING indicator with heading bug and gyro rotary knob; VERTICAL SPEED indicator; VOR1 indicator with OBS rotary knob; VOR2 indicator with OBS rotary knob; Programmable 2-position switch: Default functions are Trim & Flap up/down.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
VRMICROPIT	VRinsight Micro Pro Pit	USB	USD$429.00	AUD$599.95	1083

VRinsight MICRO JET PIT

The Micro Jet-Pit from VRinsight is a portable jet panel for Microsoft Flight Simulator X and Flight Simulator 2004.

It features a ND, PFD, EFIS and MCP, as well as real knobs. All the instruments, buttons and knobs are synchronized with default Flight Simulator jet aircraft and most aircraft add-ons. Fully interfaced with FSX/FS2004 through a USB port and SerialFP2 software (supplied).

Main Features: PFD display; ND display; EFIS diplay; MCP display; 8 programmable buttons and 3 programmable rotary knobs; Full metal case; Standalone type; One year warranty.

Technical Specifications: USB interface type to computer; External power requirement - DC 12V adaptor (Included in package); Video port requirement : One DVI or VGA video port; Measures 17.4 cm (L) x 3.2 cm (W) x 14.7 cm (H); Weight - 1.3 kg. Requires USB 2.0 port, FSUIPC (free version) and a spare DVI or VGA port.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
VRMICJPIT	VRinsight Micro Jet Pit	USB	USD$429.95	AUD$599.95	1084

VRinsight PRO PIT PANEL

The ProPit panel is a control and screen system for propeller type aircraft. All gauges are displaying synchronized data with Microsoft's Flight Simulator, supporting MSFS default and add-on aircraft. Gauges features full-functional rotation knobs where appropriate, and push buttons and GPS provide the tools for users to experience realistic flight simulation. It is completely interfaced with MSFS9 and MSFSX through add-on software "SerialFP2". The ProPit enables full simulation with simple connection via USB. Package includes 20" TFT LCD Monitor.

- SerialFP2 software supports all functions to ProPit panel.
- If you want to use a USB hub, be sure that the USB hub is compliant with USB 2.0 standard to avoid any problems.

Features: Same functionality and externality with real Propeller type aircraft cockpit.
Gauges displayed on panel: SPEED indicator; ALTITUDE indicator with position bar setting rotary knob; ALTIMERTER with BARO setting rotary knob; TURN COORDINATOR; HEADING indicator with heading bug and gyro rotary knob; VERTICAL SPEED indicator; VOR1 indicator with OBS rotary knob; VOR2 indicator with OBS rotary knob; ADF indicator with HDG rotary knob; FUEL/OIL gauge; TACHOMETER; CLOCK; GPS with push buttons and rotary knob (GPS500 model).

Technical specifications: USB interface type to computer; External power requirement (for 20.1" TFT LCD monitor: 1680 x 1050): 110V / 220V free voltage; Outlet for TFT LCD monitor is European standard; Measures: 48.5cm (L) x 33cm (H) - Height is adjustable; Weighs 9 kg (with TFT LCD monitor).

Features Full metal casing and comes with one year warranty as standard.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
VRPROP	VRinsight Pro Pit Panel	USB	USD$1349.00	AUD$2499.95	1006

VRinsight MCP COMBO PANEL

The MCP combo panel from VRinsight features various types of aircraft panels with full control complement. It supports built-in MSFS aircraft and most freeware or commercially available add-on aircraft (Wilco's B737 Classic, PMDG's B737NG & 744, Level-D's B767-300 and PSS' A319,320,330,340).

It is completely interfaced with FS2004 and FSX through add-on software *SerialFP2". The MCP combo panel enables full simulation with simple connection to your computer through USB ports. Package includes universal power supply adaptor (DC 5V).

Each control part; EFIS, MCP and COM has push buttons, rotary knobs, toggle Switches and/or two-line character type LCDs.

Note: The universal power supply adaptor DC 5V (Included in package) may require a plug adaptor (not included) to connect to your country's electrical outlets. The supplied adaptor cord features a European style outlet plug.

General Features: Integrated unit with all radio stack units : EFIS part, MCP part, COM part. All necessary buttons, switches and LCD panel to input speed, VOR, HDG and all other functions are provided to help you realize a higher level of simulation.

The MCP Combo panel offers actual flight circumstance data display in real time via interface with Microsoft Flight Simulator aircraft and associated addons. One year warranty.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
VRMCPCP	VRinsight MCP Combo Panel	USB	USD$449.95	AUD$799.95	999

VRinsight RADIO STACK PANEL

The VRinsight Radio Stack Panel is the perfect complement to your home flight sim setup. Its simple USB connection makes installation simple and comes with everything needed to integrate with Microsoft Flight Simulator.

Stop clicking buttons with the mouse and start pressing buttons and turning knobs with your fingers!

Features: Same functionality and externality with real Radio Stack; Implementing red color 7-segments and tact switches improves realism; Using luminous tact switches confirms the engagement.

Integrated unit with all radio stack units; COM1/2, NAV1/2, ADF, DME, TRANSPONDER, AUTO-PILOT unit.
Other features include: Realistic concentric radio knobs, all metal casing (Metal rack included), and a one year warranty as standard.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
VRRADPAN	VRinsight Radio Stack Panel	USB	USD$499.95	AUD$729.95	1000

Order Online 24/7 @ www.pcaviator.com

PC Aviator
The Flight Simulation Company!

Saitek ProFlight Aviation Headset

Heighten the realism of your flight simulation experience with the Saitek Pro Flight Headset.

Constructed using high grade materials and closely modeled on professional pilot headsets, the Pro Flight Headset looks, feels and sounds just like the real thing.

The cushioned headband guarantees comfort over long haul flights by preventing the 'hotspot' on the top of the head experienced with other headphones; the ear cushions fit snugly over the ears, providing excellent passive noise cancelling and ensuring you're completely immersed in your flight simulation.

Fitted to a fully adjustable metal boom arm, the microphone features a mute switch to cut transmission, ensuring Air Traffic Control only hears what you want.
Connectivity: 3.5mm audio connectors. Works with: All PCs with a soundcard with 3.5mm connectors.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
STKPFAH	ProFlight Aviation Headset	3.5mm	USD$99.95	AUD$164.95	958

Saitek ProFlight Throttle Quadrant

This makes an ideal addition to the Saitek Pro Flight Yoke System to expand the number of controls for your flight simulation setup.

Set the levers to control aircraft throttles, adjust elevator trim, fuel mixture or even to engage reverse thrust during landing. The Pro Flight Throttle Quadrant will work in any major flight simulation to give you all the control you need.

3 axis levers add even more options for control in your favourite flight simulation. 3 two-way rocker switches add further controls to your simulation setup.

Quadrant can be mounted either on top or in front of your desk, pilot or co-pilot side so that the controls are always where you want them. Additional quadrant lever heads let you create your preferred configuration of throttle, flaps, mixture and prop pitch.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
STKPFTQ	ProFlight Throttle Quadrant	USB	USD$59.95	AUD$99.95	897

Saitek ProFlight Multi-Panel

Virtual Pilots can now use Saitek's ProFlight Multi Panel to control numerous aircraft functions and systems from the one unit!

Upgrade your flight simulation experience for Microsoft Flight Simulator X with the Saitek Pro Flight Multi Panel. A set of switches and LED display for use in controlling various aspects of flight simulation. Includes: Full Autopilot panel with associated setting controls; Auto Throttle; Flaps; Elevator Trim wheel.

Works with Microsoft Flight Simulator X and 2004. LED displays work fully in real time with Flight Simulator X and 2004, removing the need to bring the autopilot up on screen. Use the dial to adjust frequency units incrementally for quicker selection of your required frequency.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
STKPFMP	ProFlight Multi-Panel	USB	USD$149.95	AUD$209.95	1071

Saitek ProFlight Radio Panel

The Saitek Radio Panel offers virtual pilots the chance to experience radio control and voice comms using real siwtches and knobs.

A set of switches and LED displays for use in controlling various aspects of flight simulation. Includes: COM1; COM2; NAV1; NAV2 function; DME; ADF and XPDR functions. Standby switch - set your standby frequencies and then set to active at the touch of a button. Twin concentric adjustment dials adjust frequency units incrementally for quicker selection of your required frequency. Mounts onto the Pro Flight Yoke System (sold separately) or into your own home cockpit setup. Multiple Radio Panels will allow simultaneous display of the various radio stack functions.

Compatibility: FSX, Windows XP/XP64 and Vista.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
STKPFRP	ProFlight Radio Panel	USB	USD$149.95	AUD$209.95	1062

Saitek ProFlight Switch Panel

A selection of realistic switches mounted into a compact modular panel to mimic cockpit controls for flight simulation.

As part of Saitek's continuing expansion of its Pro Flight range, this product adds value and realism your flight simulation setup with a set of commonly used swiches you'll find in any light aircraft.

A set of switches for use in controlling various aspects of a flight simulation. Includes: Engine on/off; Landing Gear; A large selection of cockpit controls. LEDs for Landing Gear match the status in the game – if a landing gear strut fails, this is indicated on the panel. Works with Microsoft Flight Simulator X.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
STKPFSP	ProFlight Switch Panel	USB	USD$99.95	AUD$164.95	952

Saitek ProFlight Instrument Panel

Upgrade your flight simulation experience for Microsoft Flight Simulator X with the Saitek Pro Flight Instrument Panel.

Featuring a stunning 5" colour LCD screen, the Instrument Panel can display 6 of the main cockpit instrument panels from Microsoft's Flight Simulator X. Reacting and updating in real time with events from the game, the Instrument Panel brings an extra level of realism to your flight simulation setup. Attaches securely to Saitek Pro Flight Yoke (sold separately).

Choose between 6 different flight instruments at the touch of a button: Altimeter; Attitude Indicator; Airspeed Indicator; Compass; Turn and Slip indicator; Vertical Speed.

ITEM CODE	Title	Port	US Price	Aust. Price	ID
STKPFIP	ProFlight Instrument Panel	USB	USD$149.95	AUD$194.95	1053

TrackIR 5 Head Tracking Device

hot item!

top pick!

Premium Real-Time Head Tracking Solution for Gaming...

Hyper accurate, fully adjustable, and only three square inches in size - TrackIR 5 is the one piece of kit that discriminating gamers crave.

TrackIR Changes Everything! Take advantage of our 6 DOF head tracking technology, which links your actual movement in three-dimensional space to your in-game view!

Your increased situational awareness will make you the most feared competitor around. In dogfights, you'll be impossible to shake. In white-knuckle races, you'll be impossible to pass.
In tactical combat, you'll be impossible to flank.

Discover the TrackIR advantage.
Put Your Head in the Game!

Package Includes:

- TrackIR 5 (with USB cable).
- TrackClip (reflective tracking clip).
- TrackIR Software (download).
- TrackIR Users Manual (view).
- Quick Start Guide (view PDF).
- Clamshell retail package.

Manufacturer: NaturalPoint

ITEM CODE	Title	Port	US Price	Aust. Price	ID
TRKIR5PRO	TrackIR 5 Head Tracker	USB	USD$149.95	AUD$229.95	1049

TrackClip Pro

For the TrackIR5 Head Tracking Device

Bring Head Tracking to Your Headset With Your TrackIR 5 and the TrackClipPro. Get rid of that reflective clip and baseball cap for good!

The perfect TrackIR™ accessory, clips to Creative Lab's and other popular over-the-ear headsets. Combined with a TrackIR, the TrackClip PRO delivers precise 6 degrees of freedom view control.

On your favorite headset, the only thing you will notice about the lightweight TrackClip PRO is your improved gaming experience, and no need for a baseball cap!

Basic Requirements:

Requires TrackIR 3 (with Vector expansions), TrackIR 4 Series hardware or TrackIR 5 Series head tracking device (see left).

The TrackClip Pro when used in conjunction with the TrackIR camera from a compatible TrackIR series head tracking device (see left) has an effective range of 2 to 5 feet (61 cm to 152 cm).

It is designed to fit audio headset bands (those parts that the earpieces hang from) up to 1-1/4" wide and up to 1/2" thick.

The TrackClip Pro, unlike the normal reflective clip that ships with TrackIR head tracking devices offers three Active LEDs for more precise tracking. These help improve precision and accuracy by more clearly detecing the three LED locations on the TrackClip Pro by the TrackIR Infrared camera.

A recommended accessory for serious pilots and TrackIR 3, 4 or 5 series owners.

Manufacturer: NaturalPoint

ITEM CODE	Title	Port	US Price	Aust. Price	ID
TRKCLPBLK	TrackClip Pro	N/A	USD$34.95	AUD$49.95	755

AudioPilot Aviation Headset Adaptor

Use your Professional Aviation Headset on your PC for the ultimate in realism!

AudioPilot™ makes flight-sim so real your plane will get jealous!

You're making your final approach, adjusting the flaps and inching back the throttle for a flawless three-point landing. You're about to touch down when...the phone rings...

Cut out distracting noise!

Wouldn't it be great to eliminate ambient room noises when you flight-sim? With AudioPilot you can! AudioPilot links your computer sound card to your aviation headset—and puts you in the virtual cockpit. It's easy to use—just plug AudioPilot between your headset and the computer and take off! Immerse yourself in the experience and enjoy flight-simming the way it's meant to be.

Ideal for ATC Simulators, ATC in Flight Simulator, Online Flying and more!

- Feeds computer sound into headset with high fidelity.
- Connects mic for high-quality verbal communication.
- Compact, sturdy and convenient.
- Plug & play—no software to install.

AudioPilot is the perfect companion to your flight-sim setup...
...and the perfect gift for any armchair pilot. Order yours today!

Manufacturer: Virtual Computer Technology

ITEM CODE	Title	Port	US Price	Aust. Price	ID
AUDPUSB	AudioPilot Headset Adaptor	USB	USD$49.95	AUD$74.95	1063

Flight Sound X

The Flight Sound X adapter is a high-quality USB sound card, custom-made for General Aviation Headsets.

Have You Asked Yourself.... "Why Use Flight Sound X?"

FUNCTIONAL - Use your own aviation headset for flight simulation training scenarios...

Fact 1: Real-world flying is expensive! It is well known that Flight Simulation software enables pilots to maximise their proficiency thereby reducing flying training hours.

Fact 2: A headset is often the biggest part of an aeroplane that an individual actually owns and is an important, psychologically reassuring and comforting instrument.

The Flight Sound X connects these two realities. The device enables students to learn with tools that they are familiar with, thereby ultimately having a positive impact upon flight safety.

VERSATILE - Get added duty from your headset by using it with programmes like Skype or Teamspeak!

REALISTIC - Bring the realism of your virtual flight environment to unprecedented levels...

SO EASY - Just plug and play... nothing else... and you are ready to go flying in the simulated world!

Manufacturer: Flight Sounds

ITEM CODE	Title	Port	US Price	Aust. Price	ID
FSNDX	Flight Sounds X	USB	USD$69.95	AUD$89.95	1085

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Books By Captain Mike Ray...

Airline Pilot Simulator Training Manuals Perfectly Suited For Flight Sim Heavy Jet Pilots Wanting To Learn More!

It seems that flight sim heavy jet pilots can't get enough of Captain Mike Ray's amazing instructional style - instructional, graphically rich and entertaining, he makes even the most complex systems in the most complex aircraft easily graspable by anyone looking to learn to fly the heavy metal.

These books are written for real life airline pilots however flight sim pilots are buying them like hot cakes as the books quench their thirst for knowledge in learning how to fly the flight sim heavies the way they should be flown..... like real heavies. Here's some titles that you simply can't go past...

The Unofficial Boeing Glass 737 Simulator Checkride Survival Manual

Covers the 737-300, 400 & 500. Perfect if you own PMDG 737NG or 737 Pilot In Command.

Unofficial Boeing 747-400 Simulator Procedures and Techniques Manual

Covers the 747-400. Perfect if you own PMDG 747 Queen of the Skies.

The Unofficial Boeing 757/767 Simulator Checkride Survival Manual

Covers the 757 and 767. Perfect if you own Level D 767 or upcoming 757.

Flying The Boeing 700 Series Flight Simulators

Covers Boeing 7xx series aircraft specifically relating to flight simulation.

Publisher: University of Temecula Press. Author: Captain Mike Ray

ITEM CODE	Title	Media	US Price	Aust. Price	ID
BKG737	737 Glass Sim Checkride	BOOK	USD$49.95	AUD$69.95	623
BKB747400	747 Sim Procedures Manual	BOOK	USD$49.95	AUD$69.95	625
BKB757767	757/767 Sim Procedures Man.	BOOK	USD$49.95	AUD$69.95	624
BKB700	Flying Boeing 700 Sims	BOOK	USD$29.95	AUD$44.95	587

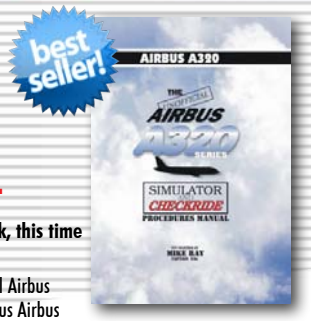
Flying The Airbus A300 Series Simulators

Now learn every aspect of what you want and need to know about flying Airbus aircraft, particularly highly detailed add ons such as Wilco's Airbus Series Volume 1.

• Setting Up The MCDU • Configuring The Cockpit • Comprehensive Ground School • Flight Tutorial From Paris To London • Learn The One Specific Critical Secret Concept To Flying Airbus Aircraft • Learn - A. Floor Recover, TOGA, Performing a Go-Around, ILS CATIII Autoland.

ITEM CODE	Title	Media	US Price	Aust. Price	ID
BKA300	Flying Airbus A300 Sims	BOOK	USD$49.95	AUD$69.95	789

The Unofficial A320 Simulator Manual



The Ultimate A320 Aircraft Guide...

Captain Mike Ray has written another wonderful book, this time about the fabulous Airbus A320 airplane.

While the material is specifically intended for the professional Airbus pilot community, it is something that should be in every serious Airbus Flight Simmers library.

It is fascinating to read, and written in a style that can be characterized as humorous and yet technically challenging. The document is filled with hundreds of pages in glorious color, each choked with a treasure trove of information.

The collection of actual flight techniques and technical data, which is intended to prepare the professional pilot for the airline style check-ride, will answer most every question simmers will have regarding the airplane and its operation.

The beautiful document has been called a work of art by those professional pilots that have read it.

While being technically accurate and filled with definitive explanations of the inherently complex workings of the airplane, it is also constructed in a very interesting and clear manner so that even the most unfamiliar reader will begin to understand and remember the details of operation.

Entertaining, yet interesting and fact filled and massive at 400 pages of FULL COLOR print throughout.

PRICE REDUCTION FOR LIMITED TIME ONLY - USD$49.95 / AUD$79.95 - SAVE 40%

Publisher: University of Temecula Press. Author: Captain Mike Ray

ITEM CODE	Title	Media	US Price	Aust. Price	ID
BKA320MAN	Unofficial A320 Sim. Manual	BOOK	USD$89.95	AUD$144.95	896

Books For Flight Sim Pilots By Bill Stack

ITEM CODE	Title	Media	US Price	Aust. Price	ID
BKCONC	Concorde Simming	BOOK	USD$9.39	AUD$15.95	559
BKFSIFR	Instrument Flying For FS Pilots	BOOK	USD$17.79	AUD$29.95	12
BKFSMAN	Flight Simulator Maneuvers	BOOK	USD$15.69	AUD$26.95	8
BKFSNAV	Flight Simulator Navigation	BOOK	USD$16.79	AUD$26.95	9
BKFSPIM	FS Pilots Information Manual	BOOK	USD$15.69	AUD$26.95	11
BKFSTOP	Top Performance For FS Pilots	BOOK	USD$15.69	AUD$26.95	14
BKJS	Jet Simming	BOOK	USD$25.19	AUD$39.95	13
BKG1000	Glass Simming: Garmin 1000	BOOK	USD$15.69	AUD$26.95	904

Flight Simulator X for Pilots: Real World Training

Master The Skills Of Flight With This "Real World" Training Guide!

Strap in and ride along as certified flight instructors Kevin Lane-Cummings and Jeff Van West raise the landing gear on this guide to using Microsoft Flight Simulator X.

This book takes you through the pilot ratings as it is done in the real world: You start with Sport Pilot training, then Private Pilot, followed by the Instrument Rating, Commercial Pilot, and Air Transport Pilot.

Aspiring pilots will learn the skills of flight, how to master Flight Simulator, and how to utilize the software as a learning tool towards their pilot's licenses. Those who already have their real-world wings will benefit from guidance on how Flight Simulator X can be used as a continuing learning tool, how to simulate real-world emergencies, and how to use it for training towards advanced certifications.

And those who favor simulation to real-world flying will find tips for making their sim experience as real as possible.

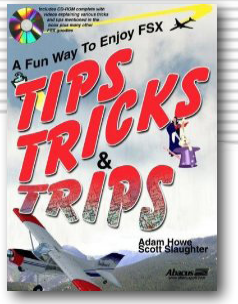
These 725 pages are packed with detailed information on using Flight Simulator X for effective, real world training and benefit.

Publisher: Wiley Publishing

ITEM CODE	Title	Media	US Price	Aust. Price	ID
BKFSXRWT	FSX Pilots: Real World Training	BOOK	USD$29.95	AUD$49.95	823

Tips, Tricks & Trips for FSX

A Fun Way To Enjoy Microsoft Flight Simulator X To The Fullest!



Adam Howe and Scott Slaughter, two flight sim experts who also have many years of writing experience, are putting their thoughts to pen for their new book Tips, Tricks & Trips for Flight Simulator X.

This is not a users manual for Flight Simlulator X. Instead, it's a collection of "right to the point" articles that will help you run FSX faster, better, easier. In short, you'll have more fun!.

Tips, Tricks & Trips presents topics that you won't find elsewhere. This new 240-page book is written with minimal "technicalese" for easy reading.

Here some of the topics that you'll read about in Tips, Tricks & Trips for Flight Simulator X:

Are You Under the Weather? - there's a variety of ways to alter the weather settings in FSX. Find out how the change the winds, clouds and precipitation to suit your flying skills

FSX Files and Folders - browse through your FSX folder and you'll see an extraordinary number of files. This article explains the basic structure and file types

Flying In the Great Outdoors - We take you on a very scenic flight between the lowest and highest airfields in North America - from Death Valley, CA to Leadville, CO.

Stalls & Spins - not surprisingly 25% of fatal general aviation accidents are the result of stalls and spins. Understand why your aircraft stalls and spins and more importantly find out how to recover from one.

Publisher: Abacus Publishing

ITEM CODE	Title	Media	US Price	Aust. Price	ID
BKTTT	Tips, Tricks & Trips for FSX	BOOK	USD$26.95	AUD$44.95	794

Air Combat Manoeuvres: The Technique and History of Air Fighting for Flight Simulation

The Incredible Guide For Combat Flight Simulation Pilots Looking For The Edge In The Air!

Computer flight simulation is one of the fastest growing modern hobbies, with thousands of 'pilots' or 'simmers' going online everyday to pit their flying skills against their computers or opponents from all over the world, in many different scenarios, both current and historical.

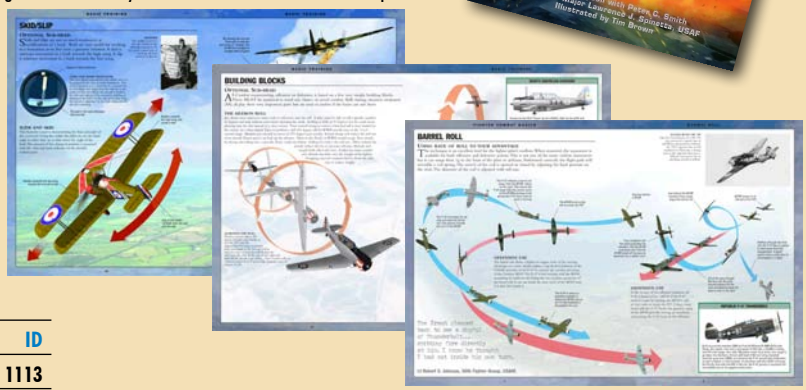
This is the definitive guide for flight simmers interested in combat simulation with easily accessible information and colourful illustrations that can be used as a guide to the methods of air combat from World War One to the modern day.

Using state of the art digital illustration techniques the book shows how and when to employ the best manoeuvres to beat both the computer and other players. Diagrams show both the manoeuvre itself and the actual methods used on the joystick. Further sections deal with ground attack, mission planning and the historical perspective. It will be relevant to those at an entry level and those who have been in online gaming communities for years and will be ideal for both the expert gamer and the more casual player.

To help bring history to life the text and diagrams are supported by historical narratives derived from real combat pilots, design histories on key aircraft and full-colour profile artworks.

A masterful work which gives all 'simmers' the complete guide to combat manoeuvres.

- Amazing state of the art digital illustrations.
- Includes 'how to' diagrams of top manoeuvres and actual joystick methods.
- Tips and advice from top gaming experts with years of experience.
- Practical, readable and easy to use.
- Covers air combat from World War 1 right up to the very latest combat situations.



Publisher: Ian Allan Publishing

ITEM CODE	Title	Media	US Price	Aust. Price	ID
BKACM	Air Combat Manoeuvres	BOOK	USD$29.95	AUD$54.95	1113

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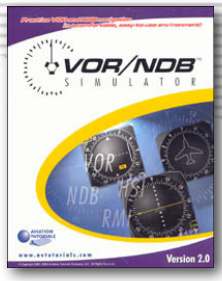
PC Aviator
The Flight Simulation Company!

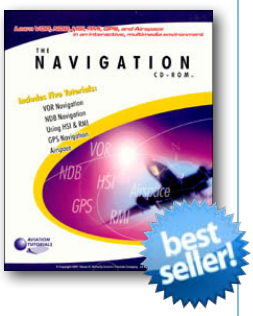
Aviation Tutorials Company - Flight Training Software



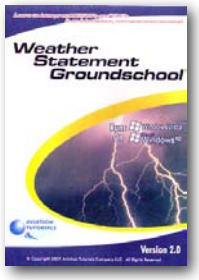
VOR/NDB Simulator Version 2.0

Practicing navigation is now simple and effortless! VOR/NDB Simulator enables you to practice real-time VOR and NDB navigation on your computer! You don't have to worry about altitude control, radio communications, airspace, traffic, or other major tasks, as you would in real flight. It's got everything you need to visualize navigation! The screen consists of several components: 1) An airplane flying across the screen. 2) VOR's and NDB's. 3) Navigation and flight instruments. 4) Controls that enable you to specify aircraft direction, airspeed, wind component, and other options. Learn navigation techniques on your computer, in an inexpensive and non-distracting environment.

The Navigation CD-ROM



The Navigation CD-ROM introduces a new level of interactive aviation training. Four tutorials, VOR Navigation, NDB Navigation, GPS Navigation, and Airspace prepare the pilot for action in the cockpit. Animation, sound, quizzes, and interactivity allow you to visualize navigation concepts while using simulations of actual aircraft equipment. To make learning easy, each tutorial features an easy-to-use, point-and-click environment. There's no feeling worse than not knowing where you are while flying. If you have the confidence and knowledge of the professionals, you'll be a safer pilot. The Navigation CD-ROM was designed to help give you that confidence in a stress-free way!



Weather Statement Groundschool

Learn to read METAR's and TAF's in an interactive environment! Weather Statement Groundschool is a CD-ROM-based course on METAR's and TAF's. Nearly 2 hours of stunning, interactive training is provided. Weather Statement Groundschool promotes learning through human interaction—not just rote memorization. A remarkable feature is the interactive weather controls, which enable the user to "control the weather." For example, the user can specify wind speed, gust factor, direction, and other variables, and can then view how the weather statement displays this information. Since weather codes are confusing to interpret, the user can click the "Speak-It" button to hear a verbal translation.

Getting Around On The Ground

Don't become a victim or a cause of runway incursions! Getting Around On The Ground is the only interactive,multimedia tool available that teaches to identify and understand the various types of airport markings, signage, and lighting at airfields and airports. It also goes beyond simple technical knowledge by outlining hazards, safety tips, and procedures that will help keep you aware, knowledgeable, and safe on the ground. All pilots can agree on one fact: It's easy to become disoriented, overloaded, or misunderstand communications when operating on the ground. "Getting Around On The Ground" teaches you all aspects of safe ground operation!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
NAVCD2	The Navigation CD-ROM	CD-ROM	USD$99.95	AUD$159.95	202
VORNDB	VOR/NDB Simulator v2.0	CD-ROM	USD$69.95	AUD$109.95	201
WSGS	Weather Statement Groundsc.	CD-ROM	USD$49.95	AUD$74.95	966
GETGRND	Getting Around On Ground	CD-ROM	USD$29.95	AUD$54.95	146

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Most seasoned pilots agree that talking to ATC just gets easier with practice. That kind of practice can be costly! Comm1:IFR can save valuable training and BFR dollars. Comm1: IFR offers a heightened interactive training experience with new and enhanced features including:

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- Prepare for each exercise with narrated briefings.
- Learn to anticipate ATC instructions and sequences in every type of airspace.

Comm1 Clearances on Request

COMM1: Clearances on Request is the definitive training program on ATC Departure Clearances. Developed in the same learn-and-rehearse style as the acclaimed COMM1: VFR and IFR products, COMM1:Clearances on Request is easy for users to take off and learn with.

- Master IFR departure clearances in over 10 hours of comprehensive two-way radio training.
- Detailed, informative briefings from instrument training expert Russ Lawton cover what to say, when to say it, and why you are saying it.

Test your newfound knowledge in realistic exchanges: Review the Flight plan and charts, then choose and request your clearance from the Clearance Delivery Controller.

Comm1 products are recommended for both real-world and sim pilots!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
COMM1IFR	Comm1 IFR Simulator	CD-ROM	USD$119.95	AUD$189.95	97
COMM1VFR	Comm1 VFR Simulator	CD-ROM	USD$99.95	AUD$169.95	96
COMM1COR	Comm1 Clearances on Request	CD-ROM	USD$119.95	AUD$189.95	95

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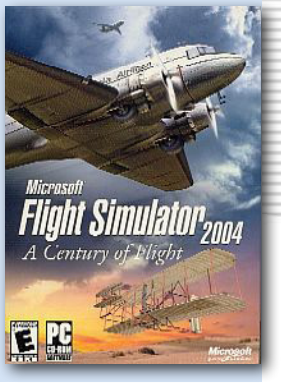
LOOKING FOR MORE FLIGHT SIMULATOR 2004 ADD-ONS?

Your first port of call for Flight Simulator 2004 add-ons and accessories should be our website at www.pcaviator.com. You can browse our complete range and also search for FS2004 specific aircraft, scenery, texture, sound and other great upgrades available for this simulator version.

Important Note: Many newer add-on packages designed for Flight Simulator X are also backwards compatible with Flight Simulator 2004, and in many cases with full functionality and features available to both versions. These packages prove popular because they can be purchased for Flight Simulator 2004, and if you choose to upgrade to FSX later on down the track, you already have a FSX compatible version available to use in the latest simulator software version!

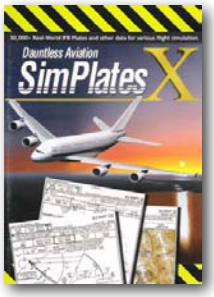
So jump online today and browse FS2004 software at www.pcaviator.com



SimPlates X

Electronic Charts For Flight Simulation

Publisher: Dauntless Software
Most Simulators



SimPlates X is a collection of IFR approach (and other) charts and a worldwide airport/facility directory aimed at the serious flight simulation enthusiast.

This latest edition features over 30,000 REAL WORLD IFR PLATES - far more plates and at a higher quality than ever before. Simplates X offers superb coverage: includes virtually every IFR plate for the USA and plates for hundreds of countries worldwide. In addition, there is a complete, Integrated WORLDWIDE Airport/Facilities directory. This features useful information on the vast majority of the world's airports, including many tens of thousands without instrument approaches. Also included as part of this is a fairly comprehensive worldwide directory of NAVAIDs (Navigational Aids) such as VORs and NDBs.

This is a massive collection of data, totaling over 6 Gb - which is actually too much for a 'standard' DVD. In fact, they've had to go to a special larger capacity DVD format to fit it all on!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
SIMPLX	SimPlates X	DVD	USD$44.95	AUD$64.95	858

Ultimate Defrag 2008

"Speed Up Your Sim!"

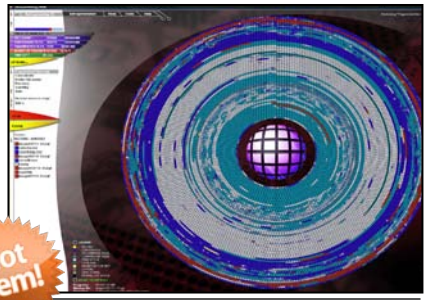
Publisher: DiskTrix Inc.
Windows XP/Vista/7

UltimateDefrag 2008 is the only defragger and hard drive optimizer designed to give high end games, simulations and applications the performance you are looking for.

Just installing Flight Simulator X onto your computer installs 42,000 files - of those 42,000 files - over 22,000 of those files are fragmented! Flight Simulator X is going to give you reduced performance right from the get-go.... unless, of course, you defrag your drive right after you install.

There's a number of defraggers out there on the market, but the problem is that is all they are... just defraggers. UltimateDefrag, on the, other hand is the first product of it's kind - designed to actually Optimize Your Hard Drive performance using "Strategic File Placement".

UltimateDefrag gives you hundreds of defrag combinations that let you defrag your drive any way you want to. It is perhaps the first software add-on any simulator or system needs!



hot item!

ITEM CODE	Title	Media	US Price	Aust. Price	ID
ULTDEF2008	Ultimate Defrag 2008	CD-ROM	USD$29.95	AUD$39.95	920

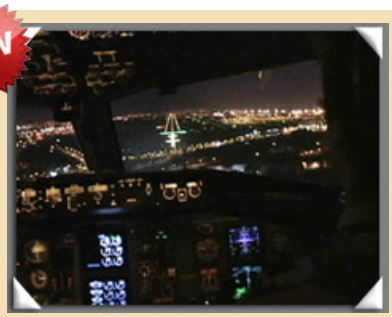
Just Planes Flight Deck DVDs

"New Titles Added Weekly!"

new

Just Planes DVDs offer you the chance to sit in the jump seat, literally! These DVD video productions place cameras in the flight deck on hundreds of aircraft flying thousands of routes around the globe!

Each production features one or a number of specific aircraft types flying plans associated with that aircraft's airline in locations around the world. A typical Just Planes DVD production offers the chance for you to meet the crew, go through pre-flight briefings, follow the captain on the aircraft walkaround, and then join the flight crew aboard the aircraft in the jumpseat, with many descriptive segments highlighting aircraft systems and navigation. These DVD videos are a great primer for simulating any aircraft in your favorite flight simulation software.



Just Planes DVDs are coded Region Free, so they will work on virtually any standalone DVD player, or on your computer's DVD drive. **Start your collection today by visiting www.pcaviator.com and browsing our huge range of Just Planes DVDs on offer!**

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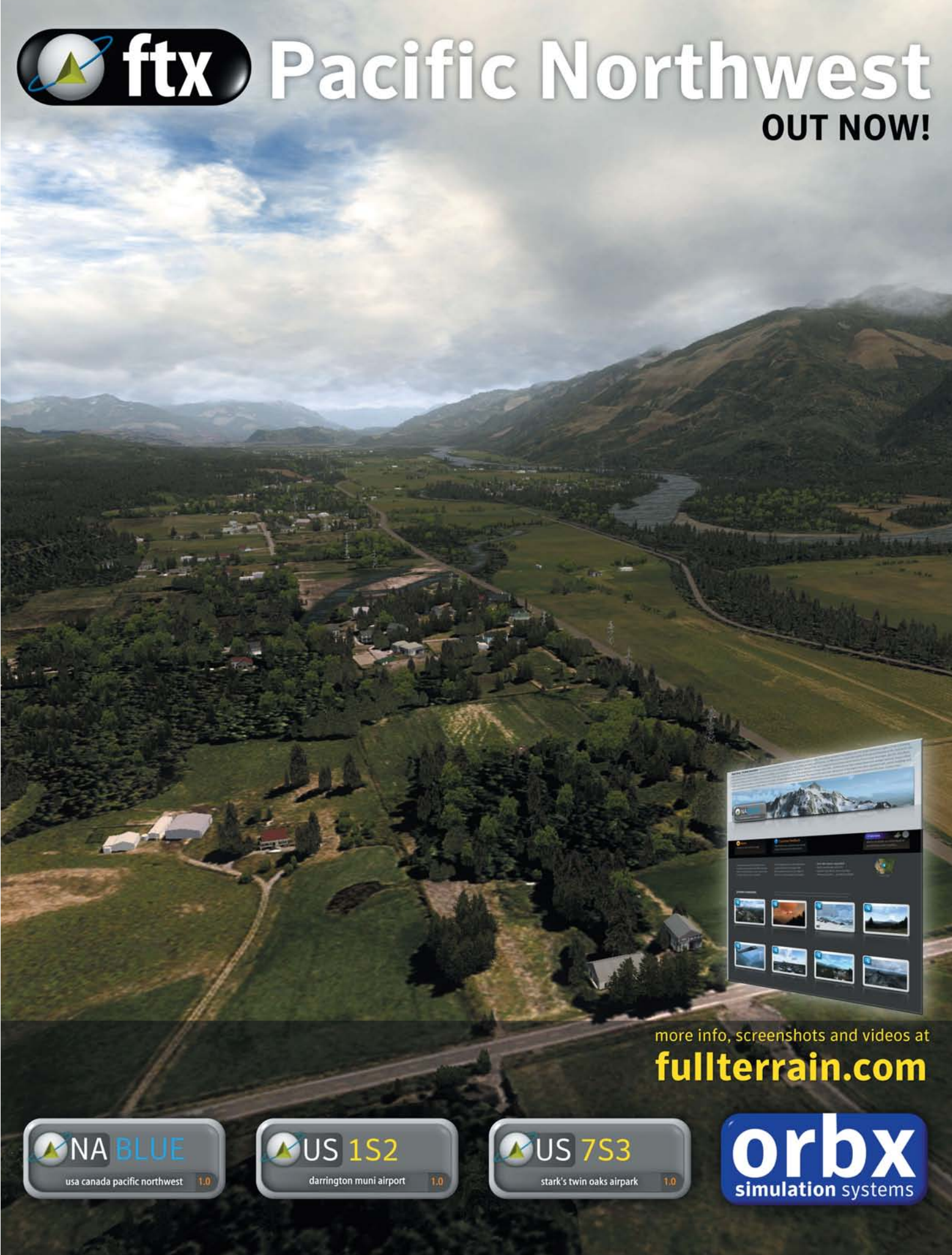
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From the EDITOR

WELCOME TO THE APRIL/MAY 2010 ISSUE.

Firstly, I have heard from a few readers commenting on last issue's Editor's column regarding my recent PC upgrade and performance improvements. Apparently multi-core processors should not give any speed improvement in FSX as it was not designed to utilize them, or so I am told by several readers. I wont say this is true or false at this stage, but I do recall reading text from one of the Microsoft development team members on their blog prior to Service Pack 2 coming out stating that SP2 might give better performance gains for users running multi-core processors. Now, this is just from memory and my memory could be failing, but I can say for sure that I certainly have been enjoying much better performance in FSX since the upgrade. Whether this is due to the whole system upgrade that went along with the new processor (i.e. new, faster motherboard and memory etc) but there was a definite boost, almost doubling frame rates with just those component upgrades alone over my previous system. And when my new 5850 Radeon card came along, while there was only a slight increase in frame rate, I was able to increase the detail settings and sliders quite a lot more with very little impact on frame rates. I personally think that FSX does benefit in some way with multi-core processors, but if your experience is different please let me know. I would be interested to hear your stories!

In the production process for this issue I was also able to get some time to put fingers to keyboard for a couple of product reviews (Air Combat Manoeuvres) and a scenery mini-review and it was good to get back into the authoring mode again. Hopefully my writing skills haven't rusted in recent times!

Again we have a number of great articles and reviews this issue so we hope you find some good value in them! I am also still on the lookout for qualified real world flight instructors with a knack for authoring flight lessons and a keen eye for detail. If that is you, shoot me an email to editor@computerpilot.com

Enjoy this issue of Computer Pilot Magazine – the longest running flight simulation magazine in history!

Dean Bielanowski
Editor

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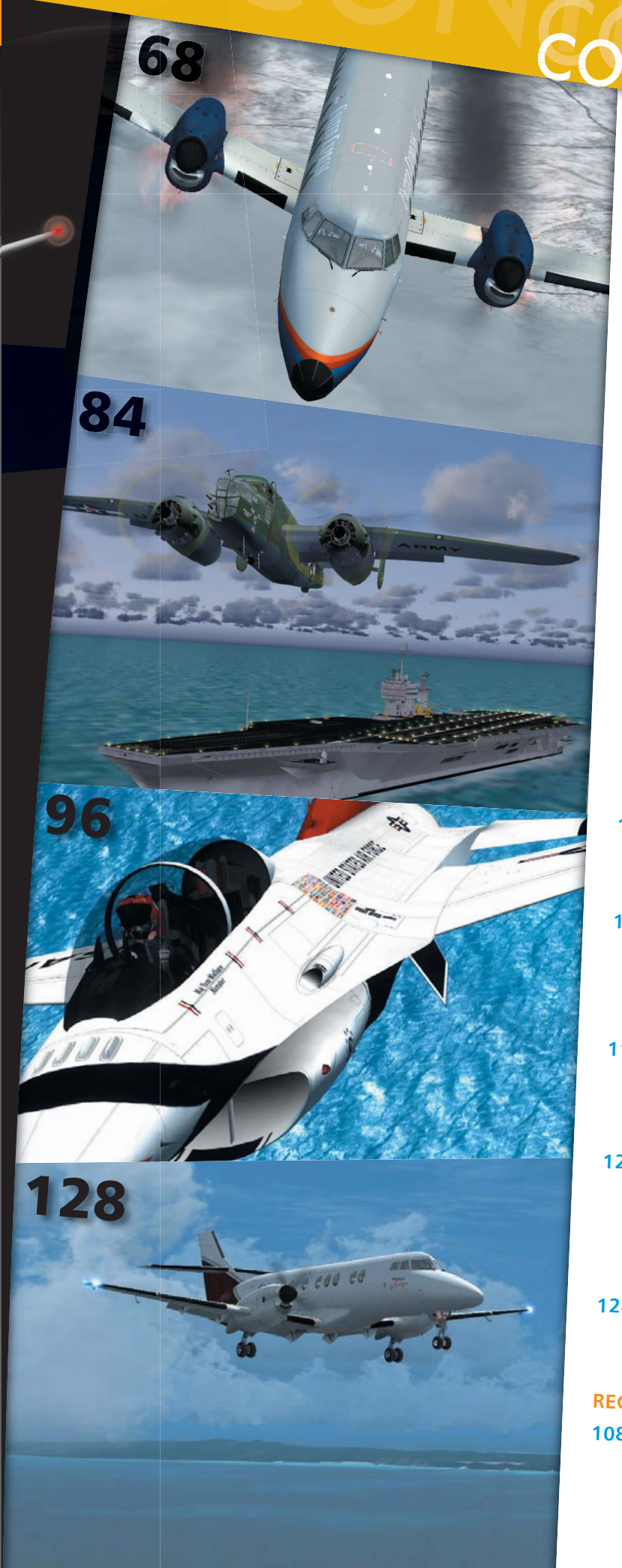

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124 **BOEING 757 - GERMANY AND AROUND THE WORLD**
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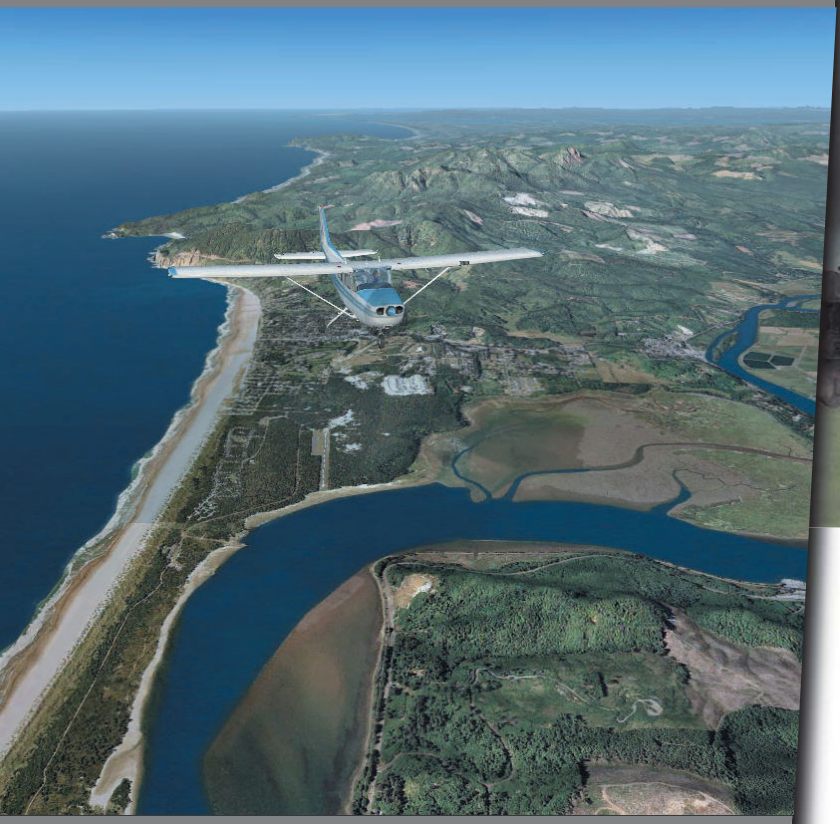
TIPS AND TRICKS TO ENHANCE YOUR FSX EXPERIENCE.

NOW FLY OREGON WITH MEGASCENERYEARTH

MegaSceneryEarth, the ongoing project to cover the globe with photoreal scenery has announced its newest area release…

"We're pleased to announce the latest addition to the MegaSceneryEarth range - Oregon State. With this latest addition you get 47,000 square miles of high quality, hi-resolution scenery covering the western region of the state and more of the visually spectacular Pacific Northwest region of the USA.

Coverage expands from Portland all the way down to the California border. Some famous places and landmarks include: Cities of Portland, Salem, Eugene, Roseburg, Grants Pass, Klamath Falls, Mt Hood and it's 11,000 ft peak, Crater Lake, Klamath Lake, numerous National forests and 200 miles of Pacific Ocean coastline. There's so much to see, too much to mention here but you're in for nothing short of a spectacular VFR flying experience - day and night!



We've given you several ways to purchase Oregon according to your budget and level of interest. You can purchase via:

1. The usual tile-by-tile basis.
2. The entire Oregon coverage to date by instant download, or DVD (8 DVDs).

Both ordering options are instantly downloadable or available with DVD mastering. You can also get a FREE sample tile download of tile OR-034.

Enjoy flying western Oregon!"

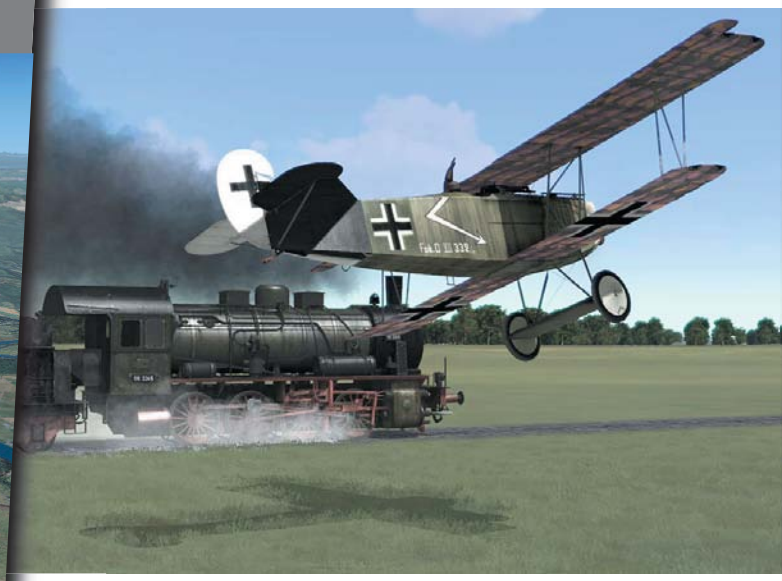
The MegaSceneryEarth project is steadily expanding, and now over 528,000 square miles of coverage in the USA is available. For full information, or to see what scenery areas are available to purchase, head on over to the MSE website at **http://www.megasceneryearth.com**

NEW RISE OF FLIGHT UPDATE ALLOWS OFFLINE PLAY

The best-selling World War I air combat simulator in recent times has now been updated… Included are many new features, the most notable of which is the ability to now play the game in OFFLINE mode. Previously users had to be connected to the internet to play the simulation…

"The LOGIN OFFLINE feature will now be available. The mode of login can be chosen in the user authorization screen. You can now spend (most of) your time within Rise Of Flight without connection to the internet.

Quick Mission - New game option for single player. We tried to develop it with maximum opportunities for modeling different environments.



CAMPAIGN - Another new option for single player. It's a sequence of single player scenario missions, grouped by common conditions. To get through these campaigns, you need to survive the day-to-day missions being thrown at you! We are offering you a campaign, developed by our community members as an example. It takes us through the most important combat events of the 94th squadron, aka 'Hat In The Ring'. This campaign consists of 16 missions. We think it will be a good present and offer you hours of exciting flying and experience.

FOKKER DVII F - a new airplane in Rise Of Flight. This outstanding machine is equipped with a BMW engine and customized carburetor specially designed for high altitude fighting. It gives the FOKKER DVII F a sensible advantage. This is a truly outstanding machine which allows German pilots to gain an advantage at high altitudes. Allied pilots should be cautious and watch the sky around them.

AIRCRAFT SKINS - We've discovered a number of high-quality skins made by talented artists on the internet. We would like the work of customizers and skin artists to be appreciated in our community while maintaining fair play. That's why we are adding the «Approved Skin Pack» concept.

This version features new visual effects that will help RoF stay competitive with the graphics of games in other genres."
For full update details check the website at **www.riseofflight.com**.

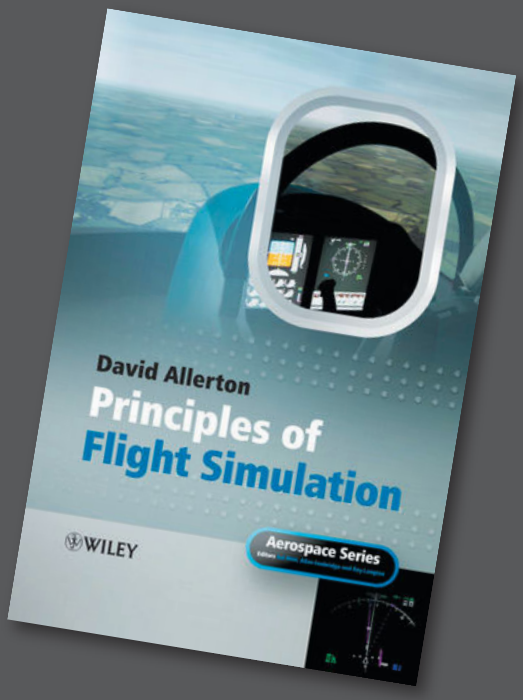
The Rise of Flight boxed simulator can be purchased from all good flight simulation retailers.

BOOK TARGETS FLIGHT SIMULATION DEVELOPERS

Flight Simulation developers from basic add-on designers to full scale standalone flight sim builders will find interest in this new text from Wiley Publishing…

"Principles of Flight Simulation is a comprehensive guide to flight simulator design, covering the modeling, algorithms and software which underpin flight simulation.

The book covers the mathematical modeling and software which underpin flight simulation. The detailed equations of motion used to model aircraft dynamics are developed and then applied to the simulation of flight control systems and navigation systems. Real-time computer graphics algorithms are developed to implement aircraft displays and visual systems, covering OpenGL and OpenSceneGraph. The book also covers techniques used in motion platform development, the design of instructor stations and validation and qualification of simulator systems.



An exceptional feature of Principles of Flight Simulation is access to a complete suite of software to enable experienced engineers to develop their own flight simulator – something that should be well within the capability of many university engineering departments and research organizations.

- Based on C code modules from an actual flight simulator developed by the author, along with lecture material from lecture series given by the author at Cranfield University and the University of Sheffield.
- Brings together mathematical modeling, computer graphics, real-time software, flight control systems, avionics and simulator validation into one of the faster growing application areas in engineering.
- Features full colour plates of images and photographs.

Principles of Flight Simulation will appeal to senior and postgraduate students of system dynamics, flight control systems, avionics and computer graphics, as well as engineers in related disciplines covering mechanical, electrical and computer systems engineering needing to develop simulation facilities"

Principles of Flight Simulation - ISBN 978-0-470-75436-8 - retails for US$115 and can be ordered from most quality book stores.

BOSTON LOGAN GETS FLYTAMPA TREATMENT

The folks over at FlyTampa have been busy working on their latest U.S. airport project, the Boston-Logan airport. Now Aerosoft offers this famous airport in boxed format for FSX and FS2004 fans.

"General Edward Lawrence Logan International Airport is Boston's international airport. More than 50 Airlines fly to this airport while it handles about 30 million passengers each year. This makes Boston Logan one of the 20 biggest airports of the United States.

The airport has service to destinations in the United States, as well as Canada, the Caribbean, Europe and Mexico.
The airports ground texture is based on a high detailed areal image. All buildings, lighting systems and navigation beacons have been modeled to the smallest of detail including all buildings and airport institutions. All features of this airport are shown in an up-to-date virtual replica for FSX and FS9. Countless static and dynamic objects enhance the flair of a busy mega airport.

FEATURES:
- All buildings and airport institutions.
- Dynamic and animated objects.
- Photorealistic textures on buildings, vehicles, etc.
- Photo realistic ground image.
- High resolution day- and night textures.
- Taxiways, apron with realistic rendered textures.
- Hundreds of taxiway- and runway signs according to original plans.
- Excellent frame rates.
- Fully compatible to the standard AI traffic and third party traffic add-ons such as MyTraffic.
- Supports AES (Airport Enhancement Services).
- Including FSX- and FS2004 version.

Boston is offered for 25.99 Euros and can be purchased from Aerosoft or major flight simulator retailers.

APPROACHING INNSBRUCK NOW FSX COMPATIBLE

Aerosoft Germany's popular Innsbruck scenery package for FS2004 is now also available for FSX in both boxed and download versions.

"Experience Innsbruck airport, one of the most challenging airports in Europe. Every building is recreated with great attention to detail and realism and is placed on high definition areal images in the great Alpine landscape.

Innsbruck Kranebitten Airport (LOWI) is the main airport of Western Austria. In the winter months it is particularly busy because of the many tourists that come for the ski slopes of the region. As the airport is located in a deep valley the approaches and departures are far from standard and many of the procedures can only be flown by pilots who got authorization of the federal office of civil aviation. Challenging in good weather conditions, potentially lethal in the less than ideal condition.

FEATURES:

- Detailed representation of the airports placed on high resolution areal images.
- Includes scenery on the approach and departure routes.
- Seasonal and night textures (FSX Winter- and Summer textures as well as Night textures).
- Dynamic vehicle traffic on the airport (and surrounding) based on AESLite.
- Fully compatible with all AI traffic add-ons.
- AFCAD file that incorporates the non standard procedures.
- All navigation aids included.
- Fully compatible with AES (from version 2.06).
- Fully compatible with ATP2004 and UTE (FSX and FS2004).
- Animated Lead in Lights (Rwy 26), Airport T and windsocks.
- Includes LOJO heliport on the hospital.
- Buyers will be offered a low cost version of Austria Pro 2004.
- FSX and FS2004 version included.

This is one of the best Innsbruck scenery packages available. The boxed disc edition (which includes both FSX and FS2004 versions) retails for 25.99 Euros. Check **www.aerosoft.com** for full details or ask your favorite sim retailer for availability.

CAPTAIN SIM'S 727 NOW BOXED

Just Flight are now offering Captain Sim's excellent 727 add-on in a boxed disc version.

"The classic 727 first flew in 1963 and still delivers superb performance in great style today. This very successful aircraft that employs a complex wing with high lift devices is still in service with several airlines around the world even today.

727 Captain has been developed exclusively for FSX (DirectX 9/10 compatible) by the legendary airliner specialists, Captain Sim, and is the ultimate 727 simulation, featuring unparalleled visual quality and realism.

727 Captain supplies the -100, -200 and freighter models as well as winglet and non-winglet variants along with the unique UDF (Un-Ducted Fan) version. 17 detailed liveries from around the world are included.

THE 727 PACKAGE FEATURES:

- Outstanding visual quality and realism.
- Designed according to FSX standards.
- DirectX 9/10 compatible.
- Stewardess model on passenger variants (various airline uniforms).
- Wing Flex.
- Blended Winglets.
- Custom Self-shadow.
- Custom Views.
- Exterior Model Systems Programming.
- Exterior Model Animation Control Panel.
- Repaint Kit.
- Effects.
- High resolution textures.

The boxed version will retail for around US$52.00 and comes on DVD disc which is compatible with Flight Simulator X and Windows XP, Vista and the new Windows 7. Check with your preferred flight simulator retailer for availability.

CORSAIR UNVEIL NEW FORCE SERIES SOLID STATE DRIVES

Solid State Drives, or SSDs, are the new thing in software storage. Basically they are just large "memory cards" like those we would use in a digital camera, but they come with one big advantage over traditional hard drives… speed! Corsair has just released several new SSDs in their new Force series;

"The Corsair Force Series SSD product line offers the highest performance in Read/Write speeds of up to a maximum read speed of 285mb/s and write speed of 275mb/s. If speed is what you are looking for and what you expect from your performance or gaming system the Corsair Force Series SSD's are the perfect choice.

Based on the Sandforce controller, the Corsair Force Series SSD's are the ultimate performance drive. Choose either the 100GB or 200GB drive for the highest performance and density. Your system will start-up faster, applications and games will load quicker and you will see a huge improvement in overall system responsiveness. The Corsair Force Series SSD is the ultimate SSD for your demanding storage requirements."

- Fast Performance—Games, applications and files load faster, while your system is more responsive.
- Compatible—Proven technology with installations on tens of thousands of systems worldwide.
- Flexible use—2.5" form factor for your notebook or netbook needs, or use with included 3.5" bracket for your desktop computer.
- Silent operation—No moving parts means zero noise and high reliability.
- Low Power—Extend battery life for notebook and netbook users.
- Relable—Over 1,000,000 hours mean time between failures.
- Backed by Corsair—A respected name with a passion for great service and support.

FEATURES:
- Maximum sequential read speed 285MB/second.
- Maximum sequential write speed 275 MB/second.
- Latest generation Sandforce controller and MLC NAND flash for fast performance.
- Internal SATA II connectivity.
- TRIM support (O/S support required).
- No moving parts for increased durability and reliability and quieter operations over standard hard disk drives.
- Decreased power usage for increased notebook or netbook battery life.
- Included 2.5" to 3.5" bracket for installation on your desktop computer.
- Two year warranty.

With new technology comes higher prices, and purchasers can expect to pay a premium for these drives (no prices set at time of print), but the cost may certainly be justified for flight simmers as the end result will be increased frame rates and sim performance. Check **www.corsair.com** for more details.

MUTLEY'S AROUND THE WORLD CHALLENGE

Mutley's Hangar, the popular flight sim reviews and forum site, have announced this year's Around The World Challenge - ATWC III.

The ATWC is a series of individual flights flown by many pilots who carry and pass on "the baton" eventually circumnavigating the Earth.

The Challenge will start and finish at Southampton EGHI, also known to "Hangarians" as "Mutley Field" and is the spiritual home of the Challenge.

Flight legs are arranged in groups, called sections, which generally correspond to the continents or some other geographic region (e.g. the Caribbean) as each is visited in turn. These flights are then released for pilots to bid on in order of preference and awarded on a first come, first served basis.

Pilots bid for the flights via the forum and the staff allocate the flights. The pilot then flies from A-B however they want. It can be direct or over several flights. All flights are reported in the forums by way of a screenshot/story post for everyone else to view and comment.

This year, the Challenge is being sponsored by Just Flight Limited. This has allowed the challenge to offer Just Flight reward points in return for informative PIREPs that are posted in the forums by the pilots. These reward points are credited direct to the pilot's own Just Flight Account.

Scott Phillips from Just flight commented on the Challenge "Just Flight are always keen to be involved with Flight Sim events involving the community, and with this one being that little bit different we were keen to offer a prize that was just that little bit different too. It looks a fine idea, we're looking forward to seeing how this one pans out"

For more information on the Challenge, visit the forums here **http://forum.mutleyshangar.com/viewforum.php?f=59 and at http://atwc.mutleyshangar.com**

AROUND THE WORLD IN 23 DAYS

BY LANE KOLBLY

Wind whistled around the wing struts, forming small swirls of fog. I could see no farther than the check pilot. Beyond the window, the world ended in nothing but a deep, dark grey fog. According to the instruments I was descending toward Georgetown airport (KGTU). I could only hope that it was true. Finally, we broke through the mist and I clearly saw the runway. I pitched the plane down and around, flaring gently onto the wheels. I taxied to fuel and shut down the engine. I turned to the check pilot expectantly. "Well done," he said, "work on your procedure turns." I smiled. I had passed. The check pilot continued "...so what should we do next week?"

We decided to tour the East coast in a Learjet, flying through Cape Canaveral, Cuba, and up through New York. When we arrived at New York we decided to continue on around the world. We didn't decide on the complete route until we were closing in on Japan and needed more routes. We eventually split the trip into 23 flights. Flying weekly, as is our custom, we flew the plan over the course of 23 weeks, one leg every Sunday. I know, you're saying, "but the title says 23 days..." But, 23 weeks sounds like I'm describing a trip around the world by foot!

We started our journey by traveling to Orlando. From there we decided to fly down to Cuba, something that may only be done in a simulator.

The fog outside the window contrasted sharply with the beautifully clear sky we had seen approaching Cuba. But now, as I turned onto the procedure turn for the VOR approach, we could see nothing but grey fog. “Flaps down one notch.” My hand flipped down the switch.

“Roger.”

“Gear down.”

“Roger.”

I turned the Learjet to the inbound of the procedure turn, then to align with the VOR.

“Flaps down another notch.”

“Roger. You have three greens.”

Like usual, no failures. I started glancing out the window, desperate to catch a glimpse of the airport. The fog failed to break as we hit minimums. I reviewed the go-around procedure: clean up the plane, take a left turn, and fly back to Miami. Suddenly, the airport lights peeked out of the clouds to welcome us. I dived the plane. “Runway in sight. Flaps full down.”

“Roger.”

The runway came up out of the clouds. It was raining. I swooped down and flared. There was a crunch as we set it down. I taxied to parking and started to shut down. My hand pulled up the flap lever, but the flaps remained down. The flaps were dead. Sometimes, you’re glad to be flying a simulator; that would have cost many pretty pennies otherwise. By the end of our trip, the flaps had broken a half-dozen times.

After we flew to Miami and up the East Coast to New York we headed on north to Goose Bay Airport in Canada.

Grandfather reached forward and flipped the switch. The cockpit lights came on, blinding me with their incandescent glare. I rubbed my eyes with tiredness. It was after dark, so the lights blocked any hope of a view out of the windshield. There was little hope anyway; Goose Bay was reporting minimums of around 500 feet AGL. I glanced at the altimeter: 5000 feet. Time to start the turn toward the IAF. I turned to Grandfather, “we’ll go ahead and start the turn to the IAF.”

“Sounds good,” he replied.

I smiled at the casual response. Getting to know my ex-teacher as a peer would be hard. I turned the aircraft, switching off the autopilot. If anything failed now, we would be dead. I was unfamiliar with the territory. This was the sort of airport where the snow will cover the plane until summer, sometimes longer. With this in mind I lowered the flaps a notch and dropped the gear. Speed started dropping through 200 knots. A click issued from the ILS indicator as the needle swung across the instrument, and I turned to final. I reached out and dropped another notch of flaps.

“Lane?”

I turned my head in surprise. “Yeah?”

“Nose gear isn’t locked.”

A quick glance confirmed Grandfather’s comment: the main gear were both green, but a misanthropic red bulb glared out at me from its crevice marked “Nose Gear.” I muttered under my breath, and replied “Let’s cycle the gear. Can’t hurt.”

But, it didn’t help either.

“Ten miles to touchdown.” I reported. “What should we do?”

EDDF (FRANKFURT, GERMANY)

LTBA (ATATURK, ISTANBUL)

OIZH (ZAHEDAN, IRAN)

"Well." His voice crackled 1,500 miles over the Internet. "Just stay off of it."

Yeah. Easy to say. However, I had never actually done it before. "Okay." My mind returned to the snowy conditions that would be by the side of the runway. In the glare of the cockpit lighting I could barely see clouds whipping by the windshield as my speed dropped to 150. Now, there was a break in the clouds. "Runway in sight." I reported. Suddenly, I could do this landing.

"Roger."

And yet, he said it so impassively. I reached out and pulled the flap lever down fully. "Is the gear locked yet?"

"Nope." Grandfather said, still hiding any trace of worry from his voice. He had more trust in me than I did. The plane flew down to the runway, then I pulled back on the stick with the experience of 150 hours. The Learjet made a slight squeak as the wheels touched the ground. I held on to the yoke for my life. Speed fell below highway speeds, yet I still clutched the yoke. I could only imagine the plane rolling off the edge of the runway and into the snow when the nose contacted Earth. As the speed fell, I was forced to let the plane drop its nose. I braced for contact.

Which, luckily, never came. The nose dipped slightly, as if to signify that its suspension worked. Then I noticed that the end of the runway was coming up. I stomped on the brakes and turned off onto the taxiway. I now know why runways have tire marks on them. We squealed to a stop in front of customs and I relaxed to the sound of the flaps rising. Grandfather spoke up. "Good flight."

I nodded my tired head, "Yeah."

"See you next Sunday at 4:00, like usual?"

"Yep."

We both logged off. I stretched, stepped off the plane, and headed to a patiently waiting dinner table.

After flying through Europe, we made a short dip into India.

"V1."

My eyes darted across the instrument panel, hunting for problems.

"V rotate."

I pulled back on the yoke, gently holding 12.5 degrees attitude.

"V2."

The plane lifted off. I reached forward and raised the flaps.

"Gear up."

I grabbed the gear handle, and moved it up. Then I turned on course to India, which I never suspected would contain the world's most exciting airports.

Well, it hadn't looked cloudy when we'd started the descent. Things had definitely changed in the past ten minutes. We were now headed towards Lokpriya Gopinath Bordoloi International Airport (VEGT), or simply Guwahati Airport. There was a wrapper of light grey mist enclosing our aircraft, completely hiding everything from view. Somewhere out there, according to the chart, lay the airport. Also out there were hidden mountains. According to the flight planning I had done, our next leg had several 14,000 foot mountains. The airport elevation was 162 feet. I idly watched the altimeter descending through 10,000, and I turned to intercept the VOR radial.

"Passing 10,000." Grandfather's voice came out of my headphones. He made a great first officer. I made no comment, but merely corrected the roll that was developing.

"5000."

"Roger." I replied "Putting out a notch of flaps." I flipped the tab downward a notch. A distinctive whirring noise filled the air, punctuated with a quiet tap on the ILS indicator in front of me. I turned to line up with the runway, and pulled down on the gear handle. There was another distinctive whirring noise, followed by yet another as I dropped another notch of flaps. "Gear down. Another notch of flaps."

"Roger," he replied.

We had 4000 feet to go, through the murky depths of cloud, and on a VOR approach. On an ILS, you can fly it all the way down. I've done it before. But, with a VOR, you usually hit something if you try that. Passing 1000 feet... I was stealing nervous glances over the glare shield, hoping that we'd break out of the clouds soon. At the decision altitude, 700 feet, the ground came popping out of the clouds with the airport runway on it.

"Runway in sight. Dropping full flaps." I let out a sigh of relief... we had had no airport to divert to.

"Roger."

I dropped the flaps and dove for the runway, settling the plane down to rest gently on the pavement after a two-hour flight from Agra (VIAG), our port of entry. Our next stop was Kunming Wujiaba International Airport (ZPPP). We were taking the legendary "The Hump" flight, so-called because during World War II, DC-3s had to fly from sea level up to 16,000 feet and back down again to transport supplies to China.

When I had planned it the route had seemed simple: fly up the river for about ten miles then turn east and fly about 200 miles. Then, arrive at Kunming Wujiaba International Airport.

After takeoff, we looked out the windows expectantly for a river to follow.

"Lane, where is this alleged river we should follow?"

I looked out all the windows. A short way off to our left was a little creek. It was not quite the river I had expected, but maybe Google Earth was wrong. "There's a little body of water to our left..." My voice trailed off.

"Okay. Let's follow it."

Well, I knew that it headed northward. We were supposed to go northish, then sorta go eastish. After we reached today's cruising altitude of 27,000 feet, I began to see something in the distance. Some sort of large river, perhaps?

After about ten minutes, we spotted the river. It was definitely the right size. "There's the Brahmaputra River to our left." I commented. I'm certain that I pronounced it entirely wrong.

"Roger."

I turned to follow it north. After another five minutes or so, I turned to a heading of one-zero-eight degrees, onwards toward Kunming. I had my database of the mountain ranges on the route to keep us occupied. I started with the first one: "This first mountain range is the Patkai Range. As far as I can tell, it is not very high..."

"...And, this is the East Irrawaddy Valley we are currently crossing over. I couldn't find out the name of the upcoming mountain range. We'll start our descent here..."

"...And, this is the Satsung Range. As near as I can make out, it seems to be really tall." I nervously glanced out my window at the 16,000 foot mountains looming above us between the clouds. "In theory, there's a pass somewhere in these mountains..." My voice trailed off. Anybody who did hear that, didn't want to hear that. I silenced myself and turned to face the clouds that hid our way. Fortunately, the pass really was there.

"There's the airport!" We had, by some miracle, just come through the pass unscathed. I could now clearly see the airport, and the entire valley it was in (The Mekong Valley), leaving clouds and mountains behind us. "Turning downwind for..." I realized I didn't know what runways this place had "...a runway." I turned to parallel the mountains, and dropped a notch of the flaps. Life would be easy coasting down to the airport... if we turned base RIGHT NOW to avoid those cliffs...

"Full flaps, gear down." I pulled the gear handle and pushed down the flaps lever.

"Roger."

I pulled back on the stick to try to arrest our descent. I almost succeeded. The wheels touched down, but there was the unmistakable, distinct sound of something breaking in the back. I taxied off the runway without a problem, however. I started setting up the plane for parking, and pulled up the flaps.

"Grandfather?"

"Yes?"

"The flaps died again."

Finally we were leaving South Asia, after a few stops in Japan, northbound for Russia. We were headed for Petropavlovsk Kamchatsky Airport (UHPP). Petropavlovsk Kamachatsky Airport is located in the Kamachatka Krai province in the easternmost portion of Russia. The airport there is perhaps the largest air force base in that region. Takeoff was fairly uneventful, as was most of the cruise at 37,000 feet.

"We'll start the descent about now." We would be flying what I could read of the ILS. SimPlates actually had the approach plates for that airport, which I had thought unobtainable. Unfortunately, they apparently couldn't translate them. But it turned out that language was only a slight issue. The biggest problem was that they use metric. Like the Indian airports, this airport was surrounded by mountains and clouds. We had had a few flights at safe airports, but now the safety was over until we got to Canada.

"Roger." We were both unconcerned about the translated charts. We continued descending.

"5000 feet." Grandfather's voice resounded through the audio system. I looked at the chart, then back at the radio stack. Still nothing. Outside the windows, the grey mist hung. "Grandfather..."

"Yeah?"

"We're not picking up the ILS or the NDB."

"Really?"

"Yep." I didn't know any other navigational devices in the region, save for one. "We're switching to a GPS approach."

"Roger."

I checked the chart. No obvious mountains were going to hit us soon. But time was running short. I leaned over to the mouse and started clicking the GPS buttons as we passed through 4000 feet.

Click... Click... No GPS approach to UHPP!?

"3000."

I bumped the throttle to arrest our descent and returned to the full control of the aircraft. If we were going to break out of the clouds, I would want it to be slowly.

"2500 feet."

I felt cold sweat forming. I had no map of tall things. Clouds whipped by.

"2000 feet."

I slowed the descent further. Then, through some miracle, we broke out of the clouds. My eyes darted to a small red and white dot in the distance, a good twenty miles from where it should have been. "Airport in sight! Flaps down two notches, gear down." My hands flew over the controls, followed by my eyes making appropriate checks. We were, again, flying too fast for touchdown.

"Roger."

I swerved the plane over to one side in a 45 degree bank to line up with the fast approaching runway. "Full flaps."

"Roger. Looks good."

I verified the gears, which were all green, then looked up to see the runway rushing toward me. I flared and gracefully settled the aircraft on the runway. She settled without a problem.

UHPP (PETROPAVLOVSK KAMACHATKA, RUSSIA)

I looked down at the chart, examining it carefully. After rechecking my figures, I was forced to believe that the chart was wrong.

THIS CLOUD PRESENTING SOME PROBLEMS!

PADK (ADAK, ALEUTIAN CHAIN)

ENROUTE TO KODIAK

PADQ (KODIAK, ALEUTIAN CHAIN)

Finally, we were on the leg home. Canada and the U.S. were pleasant breaks from the challenging Russian and Aleutian Chain airports. I turned onto course for Austin, Texas (KAUS) from Denver, Colorado (KDEN). The sky was crystal clear the entire leg home. Touchdown at Austin was a perfect ending to the 56.3 hours we had flown to 24 airports around the world. As I was shutting down the airplane, I looked up to see the sun setting between two hangars. ✈

In the end, we flew the following 23 flights:

KAUS (Austin, TX, USA) > KORL (Orlando, FL, USA)
KORL (Orlando, FL, USA) >
MUHA (Jose Marti International, Cuba) > KMIA (Miami, FL, USA)
KMIA (Miami, FL, USA) > KDCA (Ronald Reagan, VA, USA)
KDCA (Ronald Reagan, VA, USA) > KEWR (Newark Intl., NJ, USA)
KEWR (Newark Intl., NJ, USA) > CYYR (Goose Bay, Canada)
CYYR (Goose Bay, Canada) > BIKF (Keflavik, Iceland)
BIKF (Keflavik, Iceland) > EDDF (Frankfurt, Germany)
EDDF (Frankfurt, Germany) > LTBA (Ataturk, Istanbul)
LTBA (Ataturk, Istanbul) > OIIE (Tehran Imam Khomeini, Iran)
OIIE (Tehran Imam Khomeini, Iran) > OIZH (Zahedan, Iran)
OIZH (Zahedan, Iran) > VIAG (Agra, India)
VIAG (Agra, India) > VEGT (Lokpriya Gopinath Bordoloi Intl., India)
VEGT (Lokpriya Gopinath Bordoloi Intl., India) > ZPPP (Kumning, China)
ZPPP (Kumning, China) > VHHH (Hong Kong, China)
VHHH (Hong Kong, China) > RJFK (Kagoshima, Japan)
RJFK (Kagoshima, Japan) > RJEC (Asahikawa, Japan)
RJEC (Asahikawa, Japan) > UHPP (Petropavlovsk Kamachatka, Russia)
UHPP (Petropavlovsk Kamachatka, Russia) > PADK (Adak, Aleutian Chain)
PADK (Adak, Aleutian Chain) > PADQ (Kodiak, Aleutian Chain)
PADQ (Kodiak, Aleutian Chain) > CYXY (Yakutat, Alaska)
CYXY (Yakutat, Alaska) > KSEA (Seattle, WA, USA)
KSEA (Seattle, WA, USA) > KDEN (Denver, CO, USA)
KDEN (Denver, CO, USA) > KAUS (Austin, TX, USA)

KDEN (DENVER, CO, USA)

FINALS TO KAUS, AUSTIN, TEXAS

OVER SEATTLE

BEAUTIFUL SUNSET MAKES FOR A PERFECT ENDING

PMDG's British Aerospace Jetstream 4100

REVIEW

BY DR JOHN LATTANZIO

"Cleared for take-off"

OK – here we go. Advance power levers slowly. Watch the EGT though, because if you exceed the maximum (e.g. on hot days) you will set fire to the engines. Watch the Torque too, because if that exceeds 100% (e.g. on cold days) then we are well on the way to new engines. So with one eye on the EGT, one eye on the torque and the other eye (!) on the runway centerline, we are poised for takeoff. Stop advancing the power levers when either EGT or torque reach their maximum, or they are fully forward, whichever is first.

"V1...rotate"

"Huh? Are you talking to me? Oh yeah…I was just…er…watching these gauges. But you are right. Rotate!" Now, adjust pitch (about 12 degrees) to keep the speed at 125-135 knots. Keep an eye on EGT as you climb, raising gear by 400 feet AGL. Flaps are set at 9 degrees but when we retract them the plane will pitch down a lot, so be ready to correct. Allow speed to increase to 170 knots. Autopilot ON, select HEADING and ALTSEL and IAS which will adjust the pitch to maintain our current speed. No auto-throttle here. And keep an eye on that EGT.

"Jetstream 41 turn to heading 215"

OK. OK. Hang on a second. I should be adjusting the Condition Levers but ATC gets priority. Adjust heading bug. Next, we have to get the RPM down from 100% to 98%. A small change but these engines are demanding. First we reduce the torque slightly, until the EGT is down to the first white mark on the dial. Then very slightly pull back on the condition levers until they show 98% RPM. Then watch the EGT rise again to the second white mark on the dial, which is the most efficient setting for the engines.

Oh…10,000 feet… lights off, etc.

If you think the new PMDG J41 will keep you busy during take-off and climb-out, you are 100% correct! And it's just as bad/good during landings. Don't kid yourself – you have to fly this plane. You have to know what you are doing and do it right. Hats off to PMDG (again) for producing a wonderful addition to the FSX world – a highly detailed turboprop that is demanding, challenging, fun to fly and oh so rewarding to master.

So where do we start? The J4100 is a turboprop regional passenger aircraft seating 30 people. It's manufactured by British Aerospace and is in use all over the world. PMDG have dedicated their model to the memory of Atlantic Coast Airlines which, at its peak, was the world's largest operator of J41s (that distinction is currently held by Eastern Airways in the USA). Capt Robert Randazzo, founder of PMDG, used to fly for ACA and I think his love for the J41 comes through in the whole package, from the manuals to the details in the simulation.

PMDG are (justly) famous for their highly detailed simulations of heavy metal, like the 737NG, the 747-400 and the recently released MD-11. They have now produced a very detailed turboprop, with the same attention to detail as the larger aircraft. It's a curious beast – clearly it is not as complicated as the 744 or MD-11, but it is very demanding to fly. There is no auto-throttle and only a basic autopilot (but a very nice FMS). The result is that you have to fly this plane, rather than what you do in the heavies, which is manage aircraft systems.

ATLANTIC COAST AIRLINES, OPERATING AS UNITED EXPRESS

QANTAS LINK LIVERY ON THE J41

THE BEAUTIFUL VC FROM THE CAPTAIN'S SIDE

AMERICAN ROUTE-FEEDER AIRLINE AMERICAN CONNECTION

SOUTH AFRICAN AIR LINK LIVERY

BRITISH AIRWAYS OPERATES J41s ALSO

BEIGE PANEL OPTION, ON APPROACH TO KAI TAK

Download and installation are straightforward. You will find that you have a configuration manager and four PDF files – one is a checklist and is just a couple of pages. One is the Pilot Introduction, weighing in at 93 pages. You ought to read this one first, of course. Next is the tutorial, which is a hefty 98 pages. Finally, the Aircraft Operating Manual is 543 pages, so I doubt you will be printing that out in a hurry. However, the PMDG folk have been kind to us – the fonts are a little larger than normal, or at least it appears so to me. I was able to print four pages on a single side of a sheet of paper. If you can print double-sided (that means 8 pages per printed page) that is very good value indeed. My eyes are falling apart at a rapid rate, but I can easily read the resulting printed documentation. So printing the Intro and the Tutorial is no hardship at all. I am also printing the AOM one chapter at a time, as I dip further into the aircraft systems.

The configuration manager doesn't do very much except set up some graphics options and allow you to change the color of the cockpit – beige, anyone? I prefer the grey. Most of the functions you would expect a configuration manager to perform are in fact handled by an interactive load sheet. Here we choose the number of passengers and their seating, the number of carryon items, the cargo loads, and fuel loads etc. Actual loading of fuel is done using the FSX interface.

Note that there is no 2D panel in the J41. This is a VC-only aircraft. Well, after a fashion. It has one of the most beautiful VCs seen in any FSX aircraft, for sure. But the PMDG team are very clever and they have pre-defined a number of views in the cockpit category. Sure, they are all views of the VC but by jumping from one to the other you can get to most of the important stuff very easily without buying a TrackIR. In addition, there are five pop-up 2D panels that cover the cases where it is hard to have the required instruments easily viewable in the VC. So we can pop-up the autopilot interface, the FMS, the radio panel and even the GPS for those who feel nervous without one. The other 2D panel is the Ramp Manager – of which more below. I treated myself to a TrackIR recently and yet I was curious to see how I would go flying this aircraft without it. So I did not use it at all – I just used the VC and the existing views. I adjusted a couple to my liking, and I can report that I had no difficulty at all in finding my way around the cockpit. So even if you never use the VC, don't let that stop you getting this plane. You can treat it as a bunch of 2D panels if you want and it works just great!

Having said that the VC is beautiful, there is one flaw. There is no operating weather radar. We are told that it is "in development" and maybe it's just around the corner, maybe its years away. It's a pity as this results in one blank instrument on the VC. Of course, the forums are full of advice on how to get add-on WX radars to work, such as those available from RealityXP or Captain Sim.

Normally I would not worry about the WX radar much, but you do need it in the J41. With a ceiling of about 26,000 feet and a typical cruise altitude closer to 16,000, the J41 flies through lots of weather. You are going to have to be aware of what is coming. Add to this the fact that PMDG have included rain animations on the VC windscreen, working wipers, and even an icing model (and lights to illuminate the wings so you can see the build up of ice) and you realize that this plane is built for flying through the weather. It certainly adds another dimension. I flew through some very nasty icing, but you cannot just turn on the anti-ice and de-ice system. No, that would just take air form the engines and divert it to the ice system, with the result that the engines overheat. Remember – always keep an eye on the EGT in this aircraft! So instead we have to reduce the power and then send the bleed-air to the anti-ice systems. Now, try doing that while you are supposed to be climbing to your cruise level. The manuals do warn you about "anemic climb rates" under such circumstances and they are absolutely correct. Pity you cannot communicate this to the FSX ATC…

Another advantage of the J41 is that it is a short-hop plane, with a range under 800 miles and a maximum speed of 295 knots. So your flights will be typically an hour or two, which from a practical point of view makes it much easier to schedule a flight in your busy day! This may sound like a small point, but I am sure busy people will appreciate it. It's just another reason why this is a very attractive aircraft package.

The aircraft has the usual PMDG quality, and it looks great both inside and out. The night lighting in the cockpit is beautiful, and even includes working map lights. Saving a flight also saves the panel state and hence the current state of every button and switch. Curiously, it does not save the current settings in the FMS! This might sound serious but it's not really. One can quickly reload everything – it's not so complicated that it takes very long. In practice, I did not find this to be a problem.

What is a problem, however, is the power plant on the J4100! Oh, not a problem in the sense you are thinking, but rather a complicated little problem the pilot has to master if he/she is to fly the plane properly. Let me quote from the Pilot Introduction here:

Most of you have simulation experience with PT-6 type, free-turbine engines such as those found on the FSX King Air. The Garret TPE331-14 engines simulated on the PMDG BAe JetStream 4100 are geared, direct-drive engines. This means that the propeller is directly geared to the core of the engine through a series of reduction gears, providing for a completely different operating process than your average PT-6. One of many benefits to using a directly geared engine is that pushing forward on the power levers results in nearly instantaneous power.

A PRIVATE LIVERY FROM THE DOWNLOAD SECTION AT PMDG

ORIGIN PACIFIC CLIMBING OUT OF HONOLULU

BRINDABELLA AIRLINES PASSING COFFS HARBOUR

EASTERN AIRWAYS ARE CURRENTLY THE LARGEST OPERATOR OF J41s

THE HONG KONG GOVT OPERATES TWO J41s FOR SEARCH AND RESCUE

CLICK ON THE LOAD SHEET TO CHANGE VALUES

The TPE331 engines have a well earned reputation for robust power and dependability, however, if you attempt to operate them like you would any other engine, you are going to suffer catastrophic engine failures. This section of the tutorial will help to prevent that!

Geared engines work on the principle that the engine RPM remains constant and the blade angle of the propellers is manipulated to produce thrust. As a result there are two pairs of engine control levers on the center pedestal. The left pair is known as power levers and the right pair condition levers.

This means you have to know what you are doing. And starting the engines is the first thing – they should not be started in the feathered position. That would produce maximum drag as the props spin and would be very nasty. Indeed, there are safety buttons that need to be pushed before you can get the props into the feathered position.

Another complication is that we never ever want the air to drive the props. Imagine engines in flight idle and you are in descent. The airflow might increase the speed of the props. Here that would mean driving the engine because of the direct coupling. That would be bad, Bad, BAD. To avoid this, the engineers have set the engines to a minimum torque of 22% even at flight idle. Keep that in mind when trying to descend. You cannot get less than 20-22% torque from these engines!

This produces another constraint. You will find it very hard to slow down during a descent. Hence "SLOW DOWN then GO DOWN". You will have to manage the engines carefully to descend properly and not be too fast on approach. So how do you do it? At our cruise level we adjust power to get the cruise speed we want. Then to descend we use the autopilot. We select the desired altitude and then select either IAS or V/S to determine how we descend, then we reduce power. Consider IAS first – here the autopilot will adjust the pitch to keep the aircraft at the desired indicated airspeed. So you must reduce your power below the cruse value if you want to descend at the speed you were previously cruising. As you reach denser air you will need to pull back on the power even further. Then on reaching your desired cruise level, add power or you will likely stall (remember – there is no auto-throttle). Alternatively, if you use the V/S method you will specify the required vertical speed for the descent and the autopilot will adjust the pitch to keep the descent rate as specified. Of course, you can easily find yourself going too fast in this case so again you must ride the power levers all the way down. As I said, you really fly this plane.

While on the subject of the avionics, there is a fun FMS that will handle the lateral navigation for you, but the vertical profile is handled by yourself. If you enter a vertical profile into the FMS it will give you advice about your current descent rate, the required descent rate (to meet your entered constraints) etc. This is very handy when you are riding the power levers to try to maintain a smooth descent rate.

One curious thing – you cannot use the FSX flight planner for the J41. However, it does recognize plans prepared by FSBuild and FSCommander. But it's so easy to use, I do not consider this a major problem. You will not be going too far in the J41 anyway – it simply does not have the range.

There is a Ramp Manager to help you service the aircraft when on the ground. Here you can control the baggage cart, open and close all the doors and cargo hold, add/remove wheel chocks etc. When inside the aircraft you can access the speed cards by clicking on the book in the center console pocket. This places the book on the console and opens it. You flick through the pages to the one you want, get your speeds, then click on the book to put it back in the pocket in the console. This is a very nice way to have everything available and at your fingertips. And at night, you need to turn on the overhead panel map lights to illuminate the book!

I also mentioned, in the introduction, that care has to be taken between flaps 0 and flaps 9. The latter setting provides a lot of lift and if you extend flaps at or near the maximum allowed speed (200 knots) you will balloon up in to the air and lose many points with your passengers. Similarly, when retracting, you lose a lot of lift and the nose pitches down. You must be aware of these effects to maintain a smooth ride. For deploying flaps 9 (from zero) its wise to slow down to about 170 first. But slowing down is non-trivial as discussed above. You have to keep all of these things in mind when flying this plane.

The J41 forum says that some people have had a problem with the ATR-72 after installing the J41. I have not tried this but I do mention it since fans of one of these aircraft are likely to be fans of the other. They are two highly detailed and intricate simulations of two lovely turboprops. I have them both.

The only problem I had was a minor graphics glitch - known on the Forums as the "switch bezel problem". I noticed that there seems to be about a pixel of space around some of the switches in the VC and one can occasionally see flickering from outside objects through this opening. The Forum advises some changes to video card settings and although it did not remove my problem, it reduced it to a negligible level. I did not experiment further and it's likely I could remove the effect entirely if I persevered. But the improvement was so good I just left it at that point.

So, again, I come to the summary of an aircraft I loved! Lest some of you think I love everything, I guess there is a selection effect operating. I try to get to review the things I expect I will like. So I will not be reviewing combat aircraft, for example, as I don't care for them so much. But I do love detailed simulations of complex aircraft, and this is certainly an excellent example of that. It is not as complicated as the heavy metal but it has its own quirks and is very demanding. It is very satisfying to take this plane from start to finish, shutting down the engines and locking the props (another special procedure that I do not have time to go through here). If you want an unusual aircraft that you have to fly, rather than manage, then you cannot do better than this. It has the usual PMDG quality and enough quirks to entertain and challenge.

The PMDG JS4100 is compatible with FSX and is available in boxed version from popular sim retailers for US$49.95. ✈

UM – DON'T RETARD THE CONDITION LEVERS ACCIDENTALLY!

CENTER PEDESTAL

FSFlyingSchool 2010

REVIEW

BY DR JOHN LATTANZIO

How often do we hear that the strength of something is also its weakness? It's often true. And I think it's true of FS as well. We can do things that we would never dare to do in a real plane. How many times have you showed the sim to someone and said "Well, I'll try to land it from here but in a real plane, I would initiate a go-around from this position." No one cares if you land the 747 on the taxiway, or even on the grass! But you know. And you know that was not really very good. Wouldn't it be fun to have the option of having someone there, keeping track of all the faults? Enter FSFlyingSchool 2010.

FIGURE 3 – SETTING UP A NEW PILOT IN FSFS

FSFlyingSchool (FSFS) puts a virtual instructor in the aircraft next to you; no matter what plane, no matter what flight, any time and anywhere. VFR joy flights, IFR airliner flights, whatever you want. This is a great way to improve your flying skills and your discipline. And if you don't want to be bothered, just turn the instructor off. Now that is a nice touch we could do with in the real world!

FSFS is very easy to use, and comes with good instructions as well as many help features. The main interface (Fig 2) gives you a summary of the various modes you can fly in. More on this later. Basically you should first create a pilot profile (see Fig 3) so that your flights can be recorded. Next, pick your favorite instructor – I like Mr. Mitchell. He's like a cross between Basil Fawlty and The Major! Then you select one of the available modes, start FSX, and then connect FSFS by clicking on the "connect" button. It's pretty simple!

What are these different flight modes? Well you can ask the instructor to monitor just certain parts of your flight, or the whole thing, For example, you can practice ILS approaches without having to fly the whole flight. Just save an appropriate starting point and then restart the flight from there. Tune your NAV1 OBS to the runway heading and the NAV1 radio to the ILS frequency; ensure that the signal is being picked up by the aircraft. Then fly the ILS and listen to your instructor for feedback on how you are doing. When you land you will get a score, a detailed report and it will also be written into your logbook. Simple!

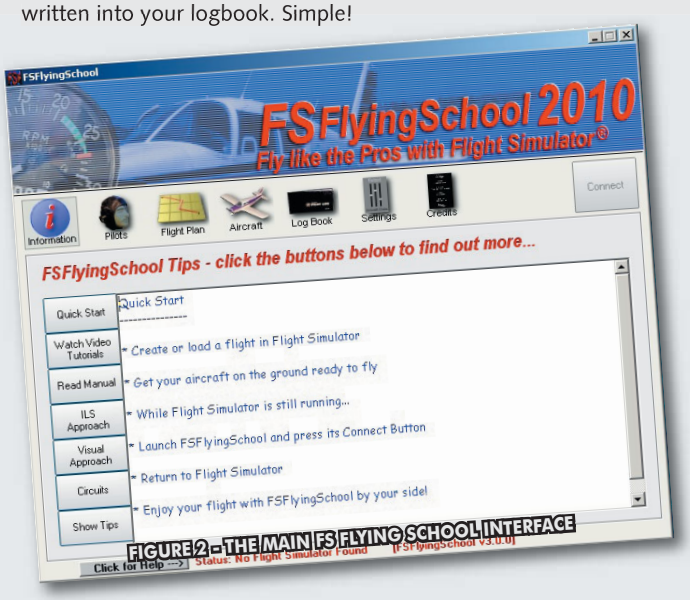


FIGURE 2 – THE MAIN FS FLYING SCHOOL INTERFACE

Or maybe you want to fly a visual approach? It's the same procedure, except that you make sure that NAV1 is not receiving an ILS signal, or FSFS will assume you are trying to fly an ILS.

You can also ask the instructor to follow an entire flight, either VFR or IFR. Just load a flight, start FSFS, hit the "connect" button and away you go! The instructor will work out which phase of the flight you are in – he/she recognizes taxiing, takeoff, cruise and landing. You can always see what phase FSFS thinks you are in by typing Ctrl-Shift-D. It is often wise to advance to the next stage manually so you do not get a warning. E.g. if you start to takeoff you might get yelled at for taxiing too fast before the instructor works out that you are taking off. To advance to the next phase just type Ctrl-Shift-Z (or Ctrl-Shift-X to back up if FSFS gets ahead of you somehow).

Your instructor will give you marks for each phase of your flights where appropriate. So you get flight scores as well as landing scores, etc. When you have reached a certain level (minimum score of 80 for flights and 70 for landing) then you can ask for the instructor to help you with circuits. This is a crucial part of your training and the instructor helps a lot. I loved this!

You will have to do well here to get good scores. Be alert to the wind direction and strength, as well as your altitude and speed (of course!) and make sure that you land at the desired place on the runway. You will be marked on all of this so get it right! Practice makes perfect and with instant feedback you will improve much more rapidly than if you were doing this on your own.

FIGURE 4 - HEAVIES ARE INCLUDED – GET AN INSTRUCTOR NEXT TO YOU IN THE BIG BIRDS!

I had never worried about circuits in the past and it showed! I can fly a basic circuit easily, of course. But a precise one is a different matter, especially with real wind. This was a very humbling experience! FSFS was great at helping me improve this aspect of my flying.

If you want to go IFR flying then simply file your flight plan with FSFS as well as with FSX. Now your instructor will make sure that you fly within 1 nm of the waypoint before giving you full marks for the navigation. Oh, you can use the autopilot for cruise at altitude, but only for cruising. Otherwise that would be cheating!

So what are the sorts of things that FSFS is monitoring? Here is a partial list of the things being checked (taken from the manual):

- **Preflight checks (various checks expected)**
- **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 license 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 - trim tabs are there to help: use them**
- **Rapid descent - dangerous and uncomfortable**
- **Rough pitch control – feels like a roller coaster**
- **Rough turns - passengers 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 gear**
- **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**
- **Landing away from the centerline**
- **Pitching down hard at touchdown – can damage your aircraft**
- **Pitching up hard at touchdown – 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**

FIGURE 5 - CHALLENGE YOURSELF WITH SOME UNUSUAL LANDING STRIPS

As you can see, the instructor is watching a lot! FSFS will definitely not turn a blind eye to any faults, and getting good scores requires good airmanship. Isn't that how it should be?

Although FSFS will probably be thought of as a good tool for people starting out, it is much more than that. Yes, it is the best way to start, for sure. Get those circuits under your belt with the precision demanded by FSFS, and you are well on your way. But you can also use FSFS for flying the heavies! That was about the second flight I took – the default 737 on a one hour IFR passenger route. FSFS was very pleased with me in most aspects, but as always, there were comments that indicated areas where I was slack.

A strength of the program is that you can use literally any aircraft. To do this, the aircraft you need has to have its parameters known to FSFS. The installation includes information for over 100 and new aircraft are being added all the time. The latest list is always on the FSFS website to download. But you can easily add your own. Just go to the Aircraft tab of the FSFS interface (Fig 7) and enter the values requested and away you go! It takes 2 minutes! This means that you really can be tested and monitored in any aircraft.

FIGURE 6 - THE PMDG 737 AWAITING A TRAINING FLIGHT... ARE YOU NERVOUS?

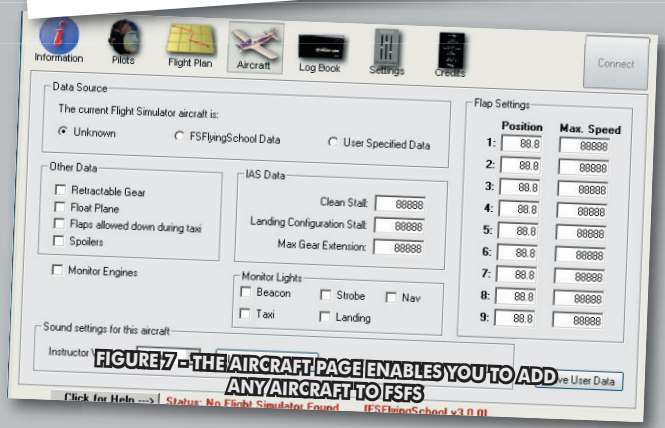


FIGURE 7 - THE AIRCRAFT PAGE ENABLES YOU TO ADD ANY AIRCRAFT TO FSFS

FSFS is very versatile. Apart from the basic things mentioned above, you can also request an "airmanship challenge"! When flying (and connected to FSFS) just enter Ctrl-Shift-C while cruising and the instructor will test your ability to perform a randomly selected combination of tasks involving maintaining altitude or vertical speed, heading, IAS or bank angle. Lots of fun and very good skills to have tested regularly so you can master them!

There are various settings available to tailor the experience to your personal preferences. The instructor might sing a little to pass the time – and you can, fortunately, turn this off. There are sometimes the sounds of kids wanting a bathroom! These can also be turned off if you want the straight-laced version. Do you want the instructor to warn you about upcoming waypoints or not? Do you want him/her to monitor your lights? Do you want advice and hints? Or should they just shut up and give you a score? Your choice! If you want them to monitor traffic, just say so. This is customizable, and I would think that a newbie would really appreciate all the assistance, but you might gradually turn these extras off as you get better at flying.

FIGURE 8 - A NICE DAY FOR A QUICK "AIRMANSHIP CHALLENGE"!

FIGURE 9 - ANY AIRCRAFT IS USABLE WITHIN FSFS

FSFS also has the ability to throw failures at you! This is where things can get interesting. Switches can also perform erratically, and "loose wires" can be simulated so that sometimes something works and sometimes it does not. This is a good extension of the FSX failure model. The instructor can alert you to failures if you want, or he/she can sit there and wait for you to notice. Again, it's your choice.

Scores are calculated according to the number of errors you make, of course. But it's also affected by visibility and wind at your destination, the weight and speed of the aircraft you are flying, failures en route and how you handled them, etc.

As for support, the manual is very good and easy to read. It's thorough and clear. There are many help features available from the FSFS interface itself, including video tutorials that explain every page of the interface. This is first-rate help! The website is very comprehensive as well, with a good list of FAQ and of course a forum. You can also upload your best scores if you are into that sort of thing. This is also where you go for updates to the aircraft files for FSFS.

As if all that was not enough, there is also a Cessna 172 detail pack that gives you extra details for when you are flying a Cessna 172 (e.g. Fig 10). This is a great idea, since so many people will train in the C172. The Detail Pack adds more checklists and comments from the instructor. He/she now understands a lot more about the plane and the different phases and expects you to do the same. Expect advice about starting the engine as well as checking instruments and controls when taxiing. Specific values will be given to you when landing – e.g. advice that once you are below 110 KIAS you should be using 10 degrees of flaps. It is a nice addition and very useful for real beginners… Excellent!

Each flight is logged into a logbook for the chosen pilot. This includes any failures that occurred and how you dealt with them. (Handling a failure properly increases your score.) There is a Career Analyzer that can plot any of about a hundred variables that are scored for each flight. So, if you want to see the pitch angle on landing, you can do that – for all aircraft (Fig 12) or for specific aircraft only. This is great to use to see how you have improved (or not…).

FIGURE 10 - THERE ARE EXTRA DETAILS INCLUDED FOR C172 AIRCRAFT

FIGURE 11 - BEGINNING A TEARDROP APPROACH

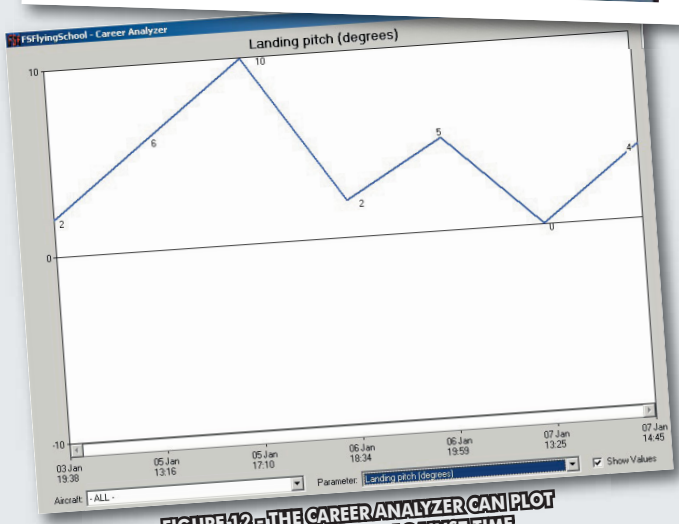


FIGURE 12 - THE CAREER ANALYZER CAN PLOT YOUR PERFORMANCE AGAINST TIME

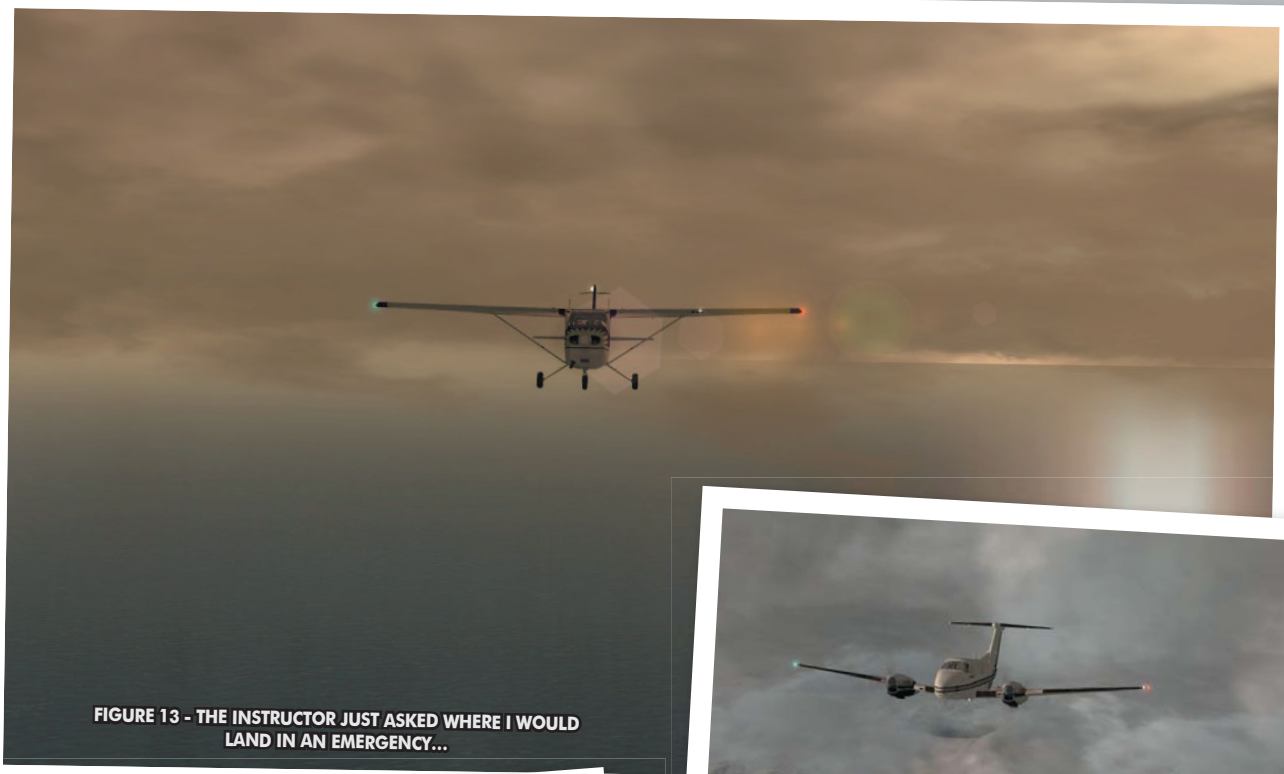


FIGURE 13 - THE INSTRUCTOR JUST ASKED WHERE I WOULD LAND IN AN EMERGENCY...

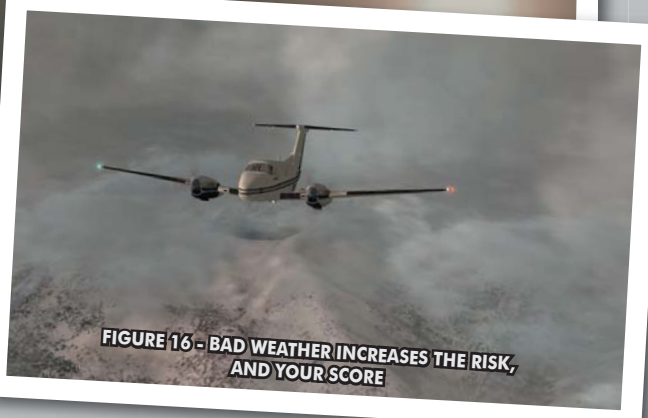


FIGURE 16 - BAD WEATHER INCREASES THE RISK, AND YOUR SCORE

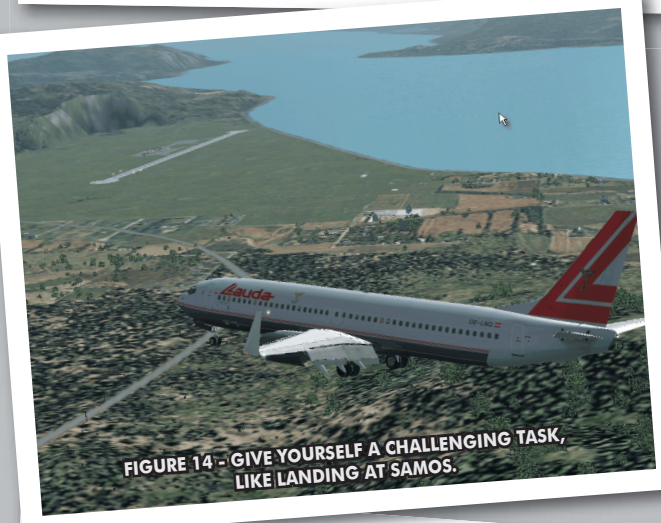


FIGURE 14 - GIVE YOURSELF A CHALLENGING TASK, LIKE LANDING AT SAMOS.

Finally, this is a 2010 version of a program that has been around for a while. There is a substantial list of improvements over the 2009 version (which I will not go into here – see the website for details). You can also download a demo version from the website and that should be all you need to evaluate this fun addition!

In summary... If you are starting off, you really need this. If you are sometimes slack and would like to improve your skills in a realistic and professional way, then this is for you. If you are a cowboy that does not care, then give it a miss. But then, why are you reading Computer Pilot if you don't care about high precision in your simulation?

FSFlyingSchool 2010 is developed and published by FSInventions. It retails for US$39.95 and is available from good flight sim retailers. ✈

FIGURE 15 - WATCH THAT LINEUP AND THE CROSSWIND!

FIGURE 17 - I EXPECT I WILL SCORE WELL FOR THIS EFFORT!

REVIEW

Air Combat Manoeuvres:

The Technique And History Of Air Fighting For Flight Simulation

REVIEW

BY DEAN BIELANOWSKI

It is not often that a book comes along with content aimed at flight simulation. There have been many titles over the years of course, but these can still be counted on a couple of sets of fingers. So when a book with the name displayed in the title of this review comes along, it quickly draws a keen simmer's eye. And the illustrations shown on the publisher's website pre-release certainly added much to the hype of the book. So let's see what it offers us keen combat sim pilots.

Firstly, the book is soft-cover and offers 256 pages of content in full color on high quality semi-gloss magazine type paper. By flicking through the pages quickly, and without even reading a word of text, you can almost see the level of quality which will be cast upon your eye by the diagrams and illustrations alone. These are all digitally created and of very high quality, both bright and crisp. In addition, there are also many period photographs of aircraft and of real war combat action in both black and white and color, although the majority of such images are in the monochrome format.

The aim of the book seems to be to deliver both historical facts and accounts of air fighting techniques, to offer both dogfighting and bombing techniques, including tutorial and guides on performing specific air maneuvers, and to relate all of this to flight simulation. On the whole, the book does achieve these goals, and it does it well. The authors, J. Steve Thompson and Peter C. Smith deliver the information in an easy to read, somewhat glossy magazine style (without the adverts) and Tim Brown's illustrations gel well with the text and make reading exciting and take the reader's comprehension of the text to a higher level. The book will be enjoyed by both text and visual learners alike.

There are 12 chapters, each covering a vital aspect of combat aviation. Let's take a closer look at each now.

Chapter 1 – A Brief History of Air Fighting

As the chapter title alludes to, this is a brief history of air combat, focusing mainly on the aircraft of air warfare, from the Spad's of World War I to the Stealth fighters of modern day combat. It covers the evolution of aircraft design and improvements in firepower and engine power over the years that have led to the fierce and deadly aircraft we see in air combat today. There are plenty of black and white photos in this section for reference.

Chapter 2 – Basic Training

This chapter covers such items as air training history, the basics of flight, cockpits and layouts, takeoffs and landings, formation flying, radio comms, building blocks, orientation, complex engine management, emergencies, stalls and spins. Here we find the first of the beautiful diagrams spread throughout the book. These printed on glossy paper offer an excellent example of how information can be delivered in an effective manner, in a similar method as what Mike Ray delivers in his articles for Computer Pilot. While much of the information here may not be of use for seasoned combat veterans, beginners and intermediate skilled pilots will find great value in these pages. Simply getting up into the air successfully in a fighter or bomber can be a task. This section will make those jobs easier. The formation flying text offers some great tips as well.

Chapter 3 – Fighter Combat Basics

Here we start getting into the really useful stuff for helping you survive your next airborne encounter. Since we attempt to simulate real world flight the information throughout the book is pretty much the same or similar to what a real world combat pilot would learn. We get our first look at basic combat maneuvers, including the Immelman Turn, Snap Roll, Barrel Roll, Hammerhead and Split-S among others, and perhaps most importantly to the success of any dogfight, a look at gunnery theory and practice, including items such as bullet convergence in relation to line of sight and position of aircraft versus the enemy aircraft's position. Point shots, snap shots and tracking shots are also covered.

Chapter 4 – Advanced Fighter ACM

Once you have the basics covered, and in reality this could take many years of flying or simulation flying practice to perfect, we can move onto more advanced maneuvers. This is where more seasoned veterans will likely find information of greater value. Topics covered include a very informative section on working with wingmen, which, while only very brief, offers several tips on improving the lead-wingman relationship. There is also a good combat maneuver explained showing how the lead and wingmen can finish off a bandit. More advanced maneuvers are offered in full graphical detail representation including the useful Yo-Yo maneuver, Lag-Roll and Scissors maneuvers. Following that is a double page spread on perhaps the most vital aspect in a dogfight: Energy. As the book states "ENERGY IS LIFE" and this has been preached many times in Computer Pilot magazine over the years in our combat flying articles.

Chapter 5 – Fighter vs Fighter

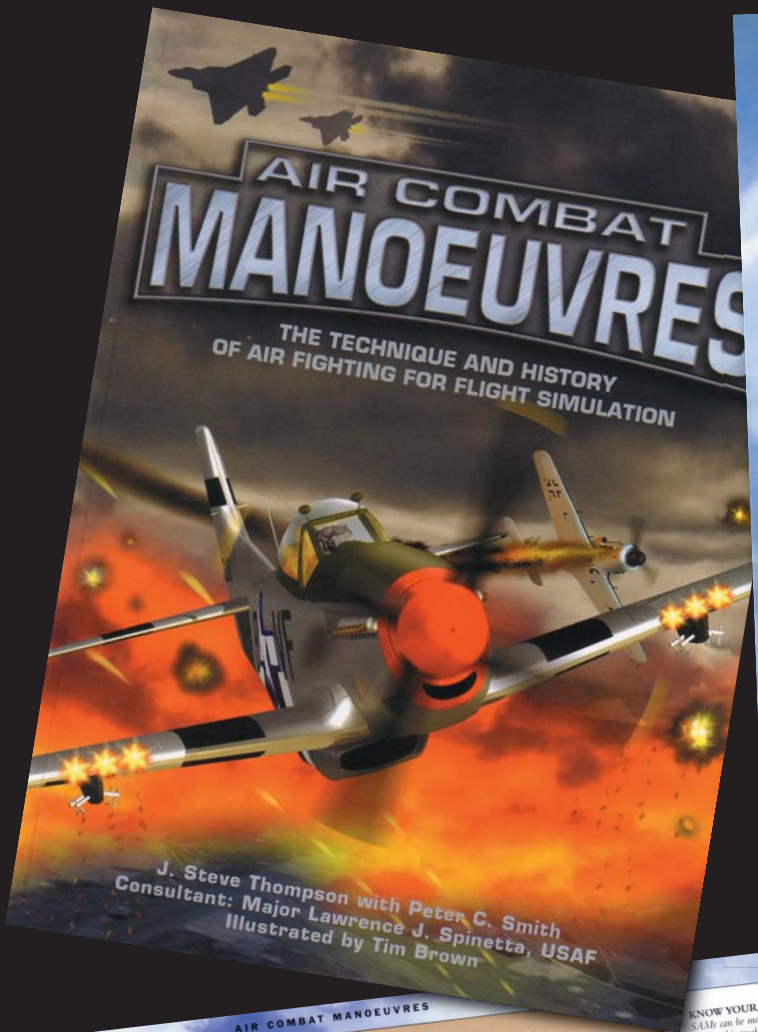
This chapter focuses purely on dogfighting with other fighter type aircraft. It should also be noted that a lot of the content in this chapter and this book is perhaps more focused on older aircraft from the earlier wars, say from prior to the 1980's. Dogfighting is much less common in the 21st century due to design and production of longer range "stand-off" weapons and tactics that aim to reduce any air to air combat by eliminating an enemy's air forces as swiftly as possible on the ground. Nonetheless similar principles and tactics can be used equally as well in modern jet fighters but the tactics like close-range turn fighting, head-on attacks and merge fighting were much more common in air battles from many more years ago. The "mission" feature, titled "Rat-Catching" in this particular chapter offers a historical account of a situation in World War II where P-51's broke off from an escort to engage enemy Me262 jets over Europe. It makes for some very interesting reading of one of the first prop vs jet battles in history.

Chapter 6 – Fighter vs Bomber

Air combat is not just about dogging it out with other fighters. Fighter – Bomber engagements are perhaps even more important as the necessity to take down bombers before they can release their payload is obvious. Here we find some useful advice on engaging bombers from the best angles, how to avoid bomber-mounted machine gun turrets and how best to break up a bomber formation and impede its progress toward the target. There is a good historical example given of how german fighters in World War II employed head-on bomber attacks successfully against American B-17 Flying fortresses and Liberators.

Chapter 7 – Bombing

The focus now moves from air-to-air combat to air-to-ground combat. It begins with a history of aerial bombardment from World War I to current day. There is a beautifully illustrated page of several bombers in profile, including the B-17, He-111, the Halifax, Petlyakov Pe-2 and the Nuisance Raider. Bomb types and bombsights are then discussed highlighting their changes in history. There is a nice spread offering reasons for bombing in squadrons with the "safety in numbers" principle applied throughout. Operation Ramrod 564 was a daring mission to bring down the stone outer walls of Amiens prison where captured French nationalists were known to be imprisoned. The raid was also a front to attempt to entice the Germans into believing the D-Day raiding groups would come ashore via the Straits of Dover rather than in Normandy further south -- interesting reading! The chapter then follows on with tips for gunners operating from the bombers, a look at the famous Dam-Busting missions flown by the Lancasters and finally some advice on night bombing.



STALLS AND SPINS

Why they Happen and how to Stop them

The manoeuvres a pilot first learns are recovery manoeuvres for when something goes 'wrong'. These will keep the pilot from crashing when he executes a manoeuvre that inadvertently causes the aircraft to 'stop flying' – much like a driver's first lesson is how to use the brake.

STALLS

A stall happens when there is not enough air moving over the wings to generate lift. A stall itself is not dangerous. The conditions of when or where it happens can make the situation dangerous. Stall too near the ground and you will crash before you can recover. Stall in combat and you are a good target for any enemy.

POWER-OFF STALL

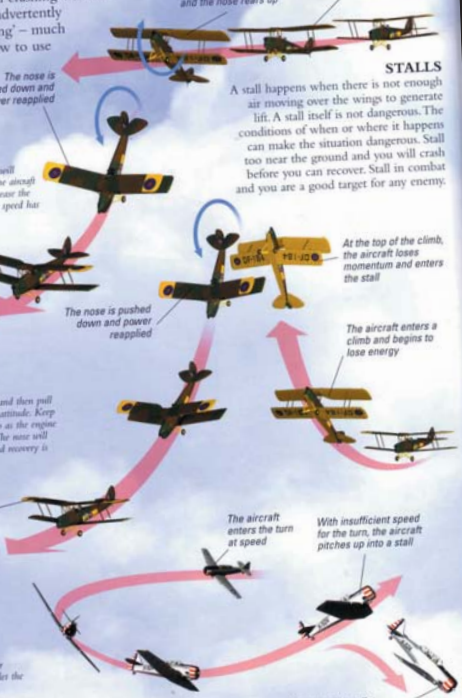
Cut power to idle. Keep the wings level. Raise the nose as needed to maintain altitude. Most aircraft will signal when they are about to stall in some way. Your controls will also become 'mushy' and ineffective. When the aircraft finally stalls, the nose will drop. Add power, ease the stick forward and return to level flight when speed has built up.

POWER-ON STALL

Leave the power at cruise setting and then pull the nose up into a steep climbing attitude. Keep the wings level. Airspeed will drop as the engine is unable to maintain the climb. The nose will drop as in the Power-Off stall and recovery is virtually the same.

ACCELERATED STALL

Stall speed increases as Gs are pulled. It is possible to pull more Gs than the airspeed will support. Recovery is the same as in the other types of stall. Ease off the Gs and let the aircraft regain flight speed.



SAM EVASION

In today's war zones it is often the missile that poses the greatest threat to warplanes. Made in their thousands and widely exported, the SAM can be a potent danger to operations and where enemy air forces have done little to hinder operations in recent wars, they have continued to take their toll. Surface-to-Air missiles were the most feared threat to US aircraft in North Vietnam. The MiGs might come up when the conditions were in their favour, but the SAMs were always there. Knowing what to do when the alarms sound and the sky lights up is critical. Plan ahead and follow the drill. Every second counts.

FLYING TELEPHONE POLES

Caught on the camera of a US warplane over Vietnam, a SAM climbs towards its target. SAMs claimed 196 US aircraft in Vietnam up to 1973, their success making them a priority target in that war and every war since.

SAFETY FIRST

SAMs can be launched visually, for example, infrared shoulder-launched SAMs such as the SA-7. They can also be launched ballistically without guidance or with the aid of radar. If you want to avoid detection, avoid flying at high altitude which produces contrails and highlights your aircraft against the silhouette of a cloud. If detected, you can confuse the enemy radar by overloading its system with chaff, fooling it into believing the sky is full of multiple aircraft. Also, intelligence is key – know where the locations of enemy installations are prior to your mission as it will give you the opportunity to conduct countermeasures.

The F-15's Electronic Counter Measure pod (ECM) is mounted on the wing. If it is up-to-date, it should counter the SAM's onboard guidance

SHOW-STOPPER

An F-15 is witness to the fiery launch of a SAM over a desert target. Staying cool and making the right decision in the next few seconds will be vital if the crew are going to make it home.

There is nothing, absolutely nothing to describe what goes on inside a pilot's guts when he sees a SAM get airborne

Commander Randy 'Duke' Cunningham, US Navy, 5 kills

The SAM leaves an impossible-to-miss trail, especially at night. If the pilot is alert he will see it, if not then only the aircraft's warning systems can alert him to the threat.

KNOW YOUR ENEMY

SAMs can be moved on mobile units such as this truck or on tracked vehicles designed to accompany armour. The SAM-2 had a range of 19 nautical miles and could reach 85,000ft. The missile itself weighed 2.5 tons and could reach speeds of up to Mach 2.5.

EVASION

Once the radar-guided SAM has launched, a 'lock-on' frequency beam is used to guide the missile(s) to you. When your 'threat warning' equipment notifies that the beam is active, you have to assume that a SAM is in the air and is coming your way. Make a hard turn and pump out two chaff bundles. It is possible for the lock-on beam to be confused by the multiple contacts and lose the lock on your aircraft and shift to one of the chaff bundles. Always manoeuvre violently!

JAMMING

Trusting on your electronics and radar alone is not advisable; keep your eyes peeled for threats and what you have on hand to detect and jam enemy defences. Jammers are usually contained in a pod on a wing and come in a range of types that can confuse, blanket and distort enemy radars. When the jammer is activated, it fills a portion of the SAM operator's screen with noise. However the closer you are to the site, the better his chances of 'burning' through the jammer interference and finding you. Note that barrage noise is just one type of jamming as there are others. Here groundcrew prepare an ECM pod for use on a warplane.

FLARES AND CHAFF

Once a missile is replied, you can try either to defeat its lock-on via electronics or fly out of its operating range. The use of flares can be important even with radar-guided missiles as some can carry infrared guidance as a back-up. Remember that a missile has a fixed time limit due to its limited fuel capacity. When the missile reaches your location, it may be travelling at a supersonic speed and can pull a substantial amount of Gs. The Aim-9X for example, can literally square a corner.

SAM SITES

Another option is to deliberately attack the SAM sites themselves, thereby making other sites wary of switching on their radars in case they are attacked as well. Fixed sites such as this are more vulnerable to attacks using anti-radiation missiles fired by 'Wild Weasel' aircraft specifically tasked with destroying SAMs.

HIDE AND SEEK

Of the various ways to defeat a SAM, the most efficient is to avoid detection in the first place. If the SAM battery does not know where you are, it cannot fire at you. Going in low allows the terrain to 'mask' you from radar detection.

GUNNERY PRACTICE

Putting it all Together

Practice, practice, practice – it is not what you want to hear but it is the only way to become a perfect marksman. First, become familiar with the aircraft and its guns. Then use science and theory to make sense of the hits and misses. Learn the crucial key shot types; the tracking shot, the snap shot and the point shot and practise them until they are pure instinct.

PRACTICE MAKES PERFECT

Get comfortable with the aircraft and make sure you are near combat speed. Pull the trigger and hold it down. At this point you are not trying to hit anything. You are simply becoming familiar with the 'shooting picture.' Note where the tracer streams are positioned in relation to the sight. Then, one control at a time, use the aircraft controls to vary your flight and watch how each variation affects the tracer stream. The rudder will yaw the nose from one side to the other, causing the tracers to shift from side to side. The elevator will pitch the nose up and down, shifting tracers above and below the sight centre. The ailerons will roll the nose around a point with tracers going out in a cone-shaped spray. Spend enough time on this drill so that you will recognise where the tracer stream is going before you pull the trigger. This skill becomes invaluable in positioning a target and assessing if you have a shot before you actually pull the trigger and possibly waste ammunition. Each time you pull the trigger, make a mental note about where the shot went. Was it where you expected – high, low, in front, behind the target? Doing this will help you learn how to lead a target and to compensate for distance.

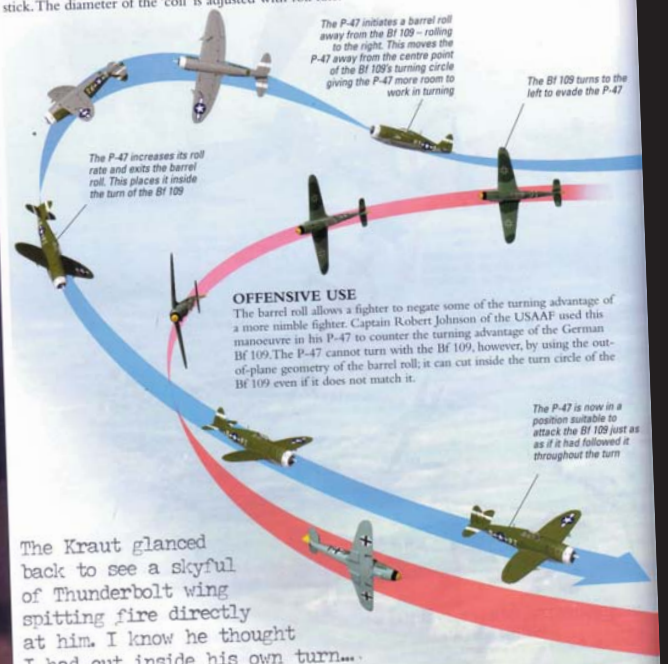
IN THE SIGHTS
The fighter pilot's perfect view captured on gun camera. A Fw 190 sits dead centre of the cross hairs as an Allied fi[illegible] pulls the trigger. This is an ideal, no deflection tracking sh[illegible] and the Luftwaffe pilot has made the right decision by ejecting the hood and taking to his parachute.

TRACKING SHOTS
The tracking shot gives you your best opportunity to kill a bandit. It requires you to match your flight path with that of the enemy for a short period, so you only need to 'pull a little lead' to put your tracers on him. This period is not long – at best you will get about 5 to 10 seconds before the bandit wakes up and tries to shake your aim. Opportunities for tracking shots become obvious. Look for the following three signs, and if necessary adjust your flying to produce them:
1. The wings of your aircraft match the [illegible] both banked to the left or [illegible]
2. His [illegible]

BARREL ROLL

Using Rate-of-roll to your Advantage

The technique is an excellent tool for the fighter pilot's toolbox. When mastered, the manoeuvre is available for both offensive and defensive actions. This is not one of the more violent manoeuvres, but it can range from 1G to the limit of the pilot or airframe. Performed correctly, the flight path will resemble a coil spring. The stretch of the 'coil' is opened or closed by adjusting the back pressure on the stick. The diameter of the 'coil' is adjusted with roll rate.



OFFENSIVE USE

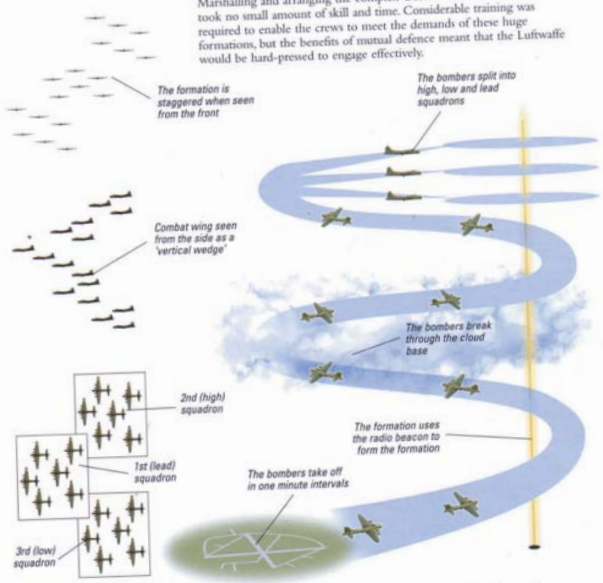
The barrel roll allows a fighter to negate some of the turning advantage of a more nimble fighter. Captain Robert Johnson of the USAAF used this manoeuvre in his P-47 to counter the turning advantage of the German Bf 109. The P-47 cannot turn with the Bf 109, however, by using the out-of-plane geometry of the barrel roll; it can cut inside the turn circle of the Bf 109 even if it does not match it.

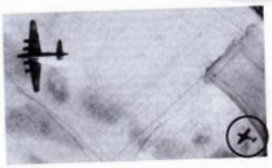
The Kraut glanced back to see a skyful of Thunderbolt wing spitting fire directly at him. I know he thought I had cut inside his own turn...

Lt Robert S. Johnson, 56th Fighter Group, USAAF, 27 kills

GETTING IT TOGETHER

Marshalling and arranging the complex USAAF bomber formations took no small amount of skill and time. Considerable training was required to enable the crews to meet the demands of these huge formations, but the benefits of mutual defence meant that the Luftwaffe would be hard-pressed to engage effectively.



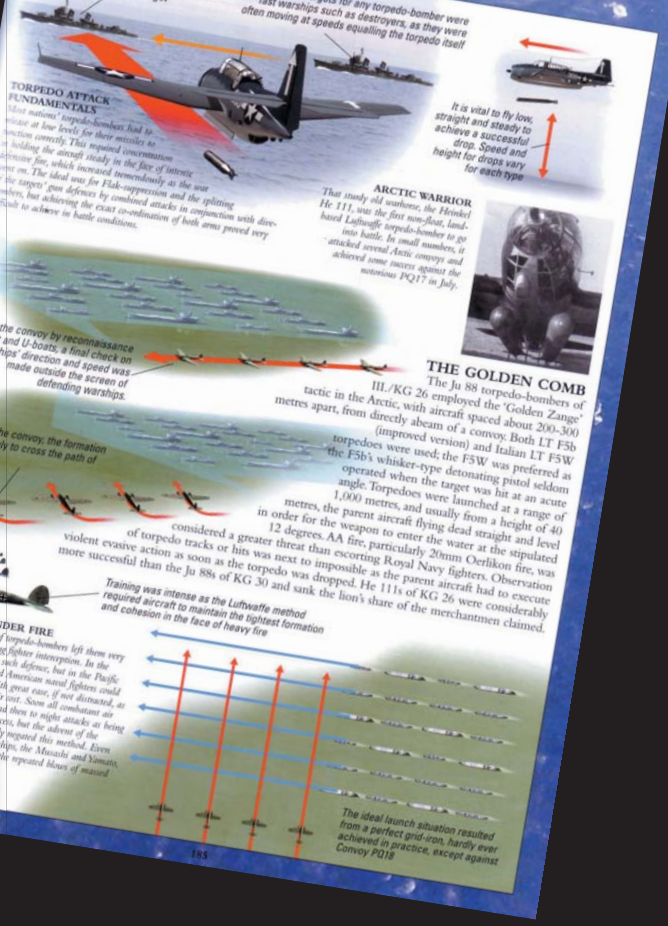


STRAGGLER!
A straggler was a term given to aircraft that had been damaged and were unable to keep up with their formation. In order to preserve the integrity and defence of the main formation, these aircraft were, reluctantly, left to their fate.

To fight against 20 Russians or some Spitfire is 'fun' and you forget that you are not certain you will survive. But to go over a group of 70 Flying Fortresses makes you see your whole life in front of you...

Oberstleutnant Hans Philipp, Kommodore, JG 1

206 kills



TORPEDO ATTACK FUNDAMENTALS
Most nations' torpedo-bombers had to release at low levels for their missiles to function correctly. This required concentration in holding the aircraft steady in the face of intensive defensive fire, which increased tremendously as the war went on. The ideal was for Flak-suppression and the splitting of the targets' gun defences by combined attacks in conjunction with dive-bombers, but achieving the exact co-ordination of both arms proved very difficult to achieve in battle conditions.

ARCTIC WARRIOR
That sturdy old warhorse, the Heinkel He 111, was the first non-float, land-based Luftwaffe torpedo-bomber to go into battle. In small numbers, it attacked several Arctic convoys and achieved some success against the notorious PQ17 in July.

THE GOLDEN COMB
The Ju 88 torpedo-bombers of III./KG 26 employed the 'Golden Zange' tactic in the Arctic, with aircraft spaced about 200-300 metres apart, from directly abeam of a convoy. Both LT F5b (improved version) and Italian LT F5W torpedoes were used; the F5W was preferred as the F5b's whisker-type detonating pistol seldom operated when the target was hit at an acute angle. Torpedoes were launched at a range of 1,000 metres, and usually from a height of 40 metres, the parent aircraft flying dead straight and level in order for the weapon to enter the water at the stipulated 12 degrees. AA fire, particularly 20mm Oerlikon fire, was considered a greater threat than escorting Royal Navy fighters. Observation of torpedo tracks or hits was next to impossible as the parent aircraft had to execute violent evasive action as soon as the torpedo was dropped. He 111s of KG 26 were considerably more successful than the Ju 88s of KG 30 and sank the lion's share of the merchantmen claimed.

[illegible]E UNDER FIRE
[illegible]ack of torpedo-bombers left them very [illegible]ending fighter interception. In the [illegible] little such defence, but in the Pacific [illegible]se and American naval fighters could [illegible]re with great ease, if not distracted, at [illegible] their cost. Soon all combatant air [illegible]ch, and then to night attacks as being [illegible] of success, but the advent of the [illegible] largely negated this method. Even [illegible] battleships, the Musashi and Yamato, [illegible]der the repeated blows of massed [illegible]

Chapter 8 – Close Air Support

When your troops on the ground need assistance from above, Close Air Support is called in. This can begin as pre-attack recon, insertion of special forces behind enemy lines, or attacking armor or gun emplacements during an invasion. A case study on Battlefield preparation at Normandy is offered, again with excellent illustrations. Dive-bombing is covered, featuring arguably the most well-known dive bombing aircraft, the Junker Ju -87 Stuka! In most sections there are details of bomb types used, why they are used and how effective they were in real world combat. "Aircraft vs Tanks" is the next section in this chapter, and the author has all bases covered again, this time offering up a Russian aircraft that is famous for this type of assignment – the IL-2 Shturmovik. Operation Zitadelle (The Clash at Kursk) is highlighted here, again with the Shturmovik and Germany's Hs 129 implementing various tactics against enemy tanks. Tactics like hitting the rear side of tanks (where armor is the thinnest) are emphasized.

Chapter 9 – Maritime Airpower

Naturally in this chapter, there is a focus on carrier based aircraft and their roles throughout several wars. There are some excellent wartime photos featured of the Battleship Bismarck, the Japanese Yamato and HMS Eagle. A spread on taking off and landing from carriers is very useful indeed if you are not familiar with the process in your simulator. Or perhaps you would prefer a spot in the "Goofer's Gallery"? You will have to grab the book and read it if you do not know what this refers to! Seaplanes and Maritime Reconnaissance is covered as is the skill of Aerial Torpedo Attack, which can be one of the trickiest skills to master. A good WWII combat simulator will offer a simulation of Aerial torpedo bombing. Again some great graphics and tactical information is on offer here that is well worth reading.

Chapter 10 – Other Missions

This chapter offers a bit of a mixed bag of content. Firstly it looks at the various uses of air power, from espionage to evacuation and electronic warfare. Next there is a section on Forward Air Control with a case study of the Khe Sanh invasion of US forces in 1968. This was a failure as the Vietnamese leadership expected to overrun U.S firebase at Khe Sanh swiftly and easily. What they were not expecting were the Douglas A4 Skyhawks that quickly put an end to that misjudged escapade. Following that is a look at use of airpower for troop and supply transport and then a look at Anti-Aircraft Artillery, although some tips and tricks to improving hit ratios would have been useful here as some of our sims do simulate anti-air artillery control. There is a look at the history of ground control, dedicated night fighters and a case study of the Kammhuber Line to finish the chapter.

Chapter 11 – The Modern Age

It is fair to say that the majority of the book thus far has focused on pre-jet air combat, but here we find some more modern history of airborne combat. It begins with "Mission: Vietnam Air War" and a look at the MiG 17, MiG 21, F-4 Phantom and Huey helicopters. Then Missile Combat gets the graphical treatment, as well as some informative text on missile behavior and ranges etc. I would have liked to see a little more in this department however as missiles are the primary air-to-air attack weapon these days. Some finer tactics on missile use and deployment in the air for maximum effectiveness would have made this section more interesting I feel. SAM Evasion on the next double-page offers some better tips on avoiding getting blown out of the sky from below, which was good to see. The history of A-10s in combat during Operation Desert Storm makes for interesting reading and the chapter concludes with a look at Future War and what can be expected in terms of air combat in the future. I do feel like the authors missed the boat a little in this section. With such a large focus on World War II aircraft and history in previous chapters, it would have been good to have expanded more upon the modern jet fighters and special jet-fighter related tactics they use to stay alive in the air. This would have given the book a little more balance in content overall.

Chapter 12 – Flight Simulation

With only four pages of text in this chapter, it too seemed a little lacking, particularly with the book carrying the title it does. There is a two-page history of flight simulation, a one page look at simulation related hardware that is available, and a one-page introduction to the online flight simulation world. Not enough in my opinion. It would have been good to have seen some more detail into what particular flight simulators are the best or most aligned to the rest of the content on offer in the book. I.e. which simulators can you best use to practice carrier landings, air to air fighting in jet aircraft, or which simulator offers the most realistic Stuka dive-bombing simulation etc etc. While the majority of book content can be tied into simulation by the end reader, those newer to flight simulation may not be aware of what is available out there, and more so, the large scope and range of products and information available to the keen virtual pilot. It would make for eye-opening reading and generate some excitement in the genre.

Appendices

Here we can find an excellent interview with Capt. Eric Brown, a naval test pilot who answers many direct and probing questions on just about all aspects of air combat and his own experience over the years. It makes for great reading and is a nice inclusion in the book. Equally interesting is the ten or so pages of comparative performance tables covering many popular combat aircraft through the ages. This can be used to pick the strengths and weaknesses of your opponent's aircraft in your simulators and devise tactics to exploit those weaknesses and avoid instances which plays into the hands of your opponent's aircraft strengths.

Conclusion

Despite a few shortcomings in the later parts of the book, at least in my opinion, this book is really a must have item. The presentation is simply the best I have seen in a flight simulation related book and there is a good amount of information presented, much of which can be utilized by virtual air combat pilots of all skill levels. Readers will come away with increased general knowledge of air combat, increased knowledge of certain aircraft types and models, as well as a "playbook" of tactics that can be employed to avoid enemy fire from both the air and ground, as well as to better position yourself during a dogfight to make a kill.

The title is published by Ian Allen Publishing in the UK and retails for around US$29.95, which is a very reasonable price for a high quality publication that is definitely well presented. Check out your favorite bookstore for availability, or the book can be obtained in the USA or Australia via mail-order from PC Aviator – **www.pcaviator.com** ✈

The Story of Major Thomas Robert "Doc" White

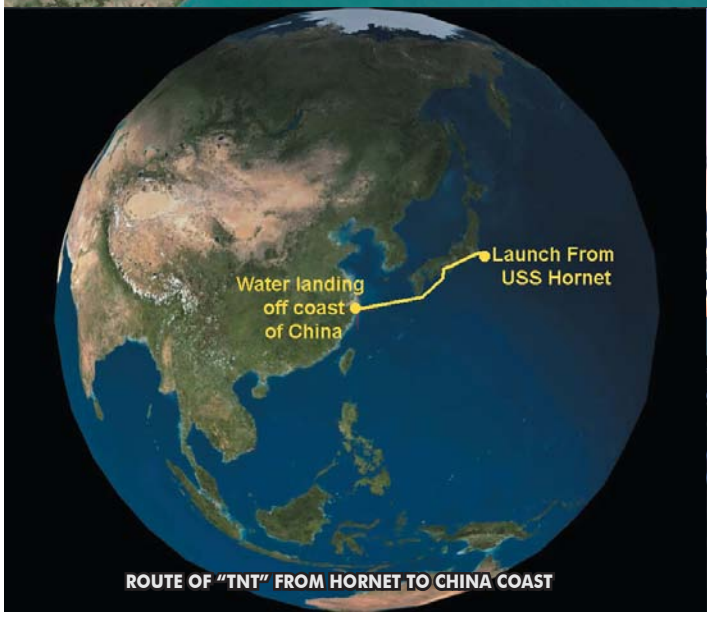
Doctor/Gunner, B-25 Mitchell of the "Doolittle Raid" of April 18, 1942

BY HAROLD "FARMBOYZIM" ZIMMER
BASED ON "DOC" WHITE'S OWN MEMOIRS.

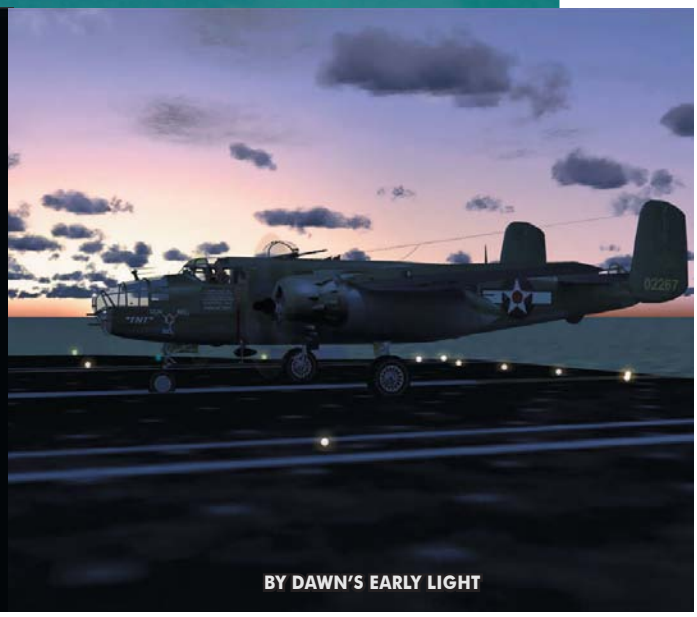
Part Two

Welcome back to Part Two of the story about Major Thomas Robert "Doc" White, M.D. Part One can be found in the Dec 2009/Jan 2010 Issue of Computer Pilot. "Doc" White was a United States Army Air Corp Flight Doctor, who managed to find a way to be a part of one of the most daring air raids in the history of air warfare. The legendary "Doolittle Raid" of April 1942 is the mission I speak of, and in my opinion is still, to this day, one of the most awe-inspiring, courageous air missions ever flown.

This story is taken from the personal memoirs of “Doc” White himself, with additional information furnished graciously to me by his daughter, Vikki White-Hand. The story is told from the perspective of “Doc” White, as he writes of the training, the people and places, and the adventures encountered along the way. At times, while making their way across China, it almost reads like a travel guide, except for the fact they were trying to stay one step ahead of the Japanese troops. His is a unique perspective that prompted me to write this story. There were lives that were obviously saved by the actions of “Doc”, but like any good service person, he makes the reader aware of the fact that it took more than just one lone American doctor to keep crewmembers, as well as indigenous Chinese civilians and militia members, healthy and alive. Here’s a quick update to the point in time when we left “Doc” and the other crew members in the last issue.



ROUTE OF “TNT” FROM HORNET TO CHINA COAST



BY DAWN’S EARLY LIGHT

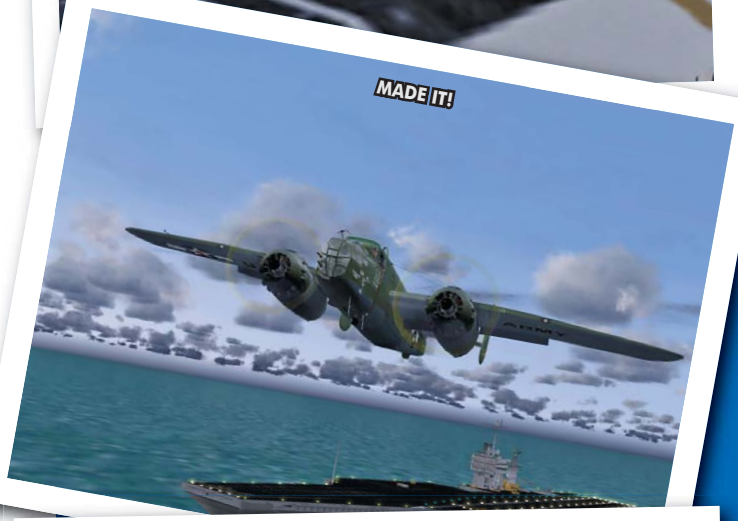
"Doc" White was serving as a USAAC doctor when, while his unit was preparing for a move, he got wind of requests for volunteers for a "secret mission". Knowing absolutely nothing of what the mission would entail, "Doc" White wanted in and was able to pull some favors and get assigned to the new group that was being formed. These men were sent off for some unique training in the B-25 Mitchell down at Eglin Air Force Base, Florida. Even more unique and the cause of major amounts of "scuttlebutt" was the fact that Lt. Col. James "Jimmy" Doolittle was their commanding officer. The men took an instant liking to Doolittle. Many men trained for this mission, which was still a mystery to the lot of them, but after months of strenuous testing, crews for 16 B-25 Mitchells were chosen, as well as a certain amount of reserve and ground crews as well.

They were told to fly across the United States, via a southern route, and encouraged to fly as low as they chose to for additional flight training. After a few stops along the way, the sixteen B-25 Mitchells crossed into Southern California, and then north, with a final destination of Alameda Naval Air Station, located right on the San Francisco Bay, nestled beside Oakland and a stone's throw (or two) from the city of San Francisco. At the Naval Air Station, the aircraft were hoisted onto the deck of the U.S.S. Hornet, a US Naval Aircraft Carrier. Rumors were running rampant at this point, some not too far off the mark, but for the most part, the men were still in the dark as to the final destination and assignment.

Once on board, and with the Task Force underway, the crews of the B-25s, as well as the naval personnel, were finally told that they were on their way to deliver the war's first direct blow to the mainland of Japan. Most had figured out something along those lines already, what with the unusual training back at Eglin Air Force Base, with short takeoffs and low level, cross country flying. It was just a matter of where and when that they would put it all to use. Not knowing what's going on is one of the most nerve-wracking, stress-inducing feelings there is, especially in the military, so now that the men knew what was expected of them, they could focus even more on their objective. The Naval personnel on board the carrier were also aware of the extreme hazards of the mission, and went out of their way to help the flyers and maintenance crews with anything they needed.

The morning of the 17th of April, found the two carriers and four cruisers beginning their high speed run toward the targets in Japan. The destroyers were left behind to screen the tankers since they would not have the fuel for the high speed run. The weather was rough, and the skies a dull gray, but the sight of the carriers and cruisers knifing through the wild seas was awe-inspiring. It brought home the fact that an incredible amount of time, manpower, and the sheer cost of this operation were enormous. That evening, the crews of the bombers went through the last minute preparations, packing and repacking belongings. This was to be the last night on board the Hornet as the Navy's guests. Not all slept well that night.

Launch day dawned; April 18, 1942 with seas that were still wild, and the B-25 crews tossed last minute gear into their bags, went to General Quarters one more time, and ate breakfast in relays. Once assembled in the Ready Room the crews were given last minute updates as to weather, current position, and the nearest land, which was Point Inubo-Zaki, on the main island of Honshu. After getting briefed, the crews settled into that "hurry-up and wait" mode, but this did not last long. Something was amiss, the bullhorns called out to prepare for a high speed turn. In a large



ship, traveling at high speeds, there is a tendency for the ship to heel over quite dramatically. This was not the case however and the turn was “rather anti-climactic”, according to “Doc”. The next order over the bullhorns however, jarred the crews into action…

“ARMY FLIERS, MAN YOUR PLANES…ARMY FLIERS, MAN YOUR PLANES!” The bomber crews knew that they were ten hours ahead of the scheduled launch time, and that they were approximately 250 miles from the planned launch point. Once the crews were scrambled and waiting, “Doc” White did not notice anything immediately imminent, so he settled himself under the wing of “TNT” to await further developments, which were not long in coming. The cruiser “Vincennes” on the Hornet’s port beam suddenly turned, swung her guns about, and let go with a broadside. “Doc” had stated that “the thunderclap which followed nearly took my hat off, but I was so interested in the scene that its implications did not immediately strike home”. “The sight of a heavy cruiser firing broadside after broadside is an inspiring one. The huge ship is wreathed in smoke and flame”.

Suddenly they realized that this was not target practice, the cruiser was firing on an enemy vessel. They could not see what the “Vincennes” was shooting at right away, but after observing the splashes from the shells, they could finally detect a small craft off in the far distance, which had been identified as a 110 foot Japanese patrol boat. With a puff of black smoke the patrol boat was gone. It took just under three minutes to hit this small vessel, and the marksmanship impressed the aircrews immensely. Unfortunately, in those three minutes, the Japanese boat was able to get a message off, which was intercepted, but could not be read.

Figuring the mission had been compromised, with the Japanese now knowing their position, strength, and possible intentions, a revision of plans had to be hastily made. The Navy understandably did not want to sail very much farther towards Japan, as they were sure to meet with heavy surface and air forces. Doolittle met with Captain Mitscher and via blinker with Admiral Halsey. It was decided that the mission would in fact proceed, and the crews would take their chances reaching the Chinese coast. They knew they were over 700 miles from Inubo-Zaki, and at least nine hours ahead of their planned launch time. The crews packed in tins of fuel on board the B-25s to the point that there was barely enough room to squeeze into the aircraft. An extra 250 miles had just been added to the trip, so the fuel consumption had to be calculated right down to the last drop. With the additional fuel, the gross weight of the aircraft topped out at over 31,000 pounds, which happened to be a record for B-25s at the time. No celebrations for this record breaking event occurred, needless to say! The extra weight meant extra worry for the pilots, considering the short runway and the wildly pitching seas.

With the crews on board their aircraft, the Hornet turned into the wind and began to pick up speed. One of the cruisers fell into position astern of the Hornet, in case one of the “Mitchells” did not make the short takeoff and ended up in the sea. This was a visual reminder to the men that some of them just might not make it. The pilots had been advised to turn to either the right or left immediately after takeoff, so that in case the plane and crew did hit the water, the carrier, being unable to stop or turn in time, would have a better chance of avoiding them.

The moment came when the bullhorns blared out the orders to “STAND CLEAR OF THE PROPELLERS!” The excitement had just begun. “START YOUR MOTORS” was the next command

TIME FOR A FLY BY?

FLY BY IT IS!!!

MAAM-SIM'S B-25 MITCHELL BOMBER

DOCK AREAS OF KOBE

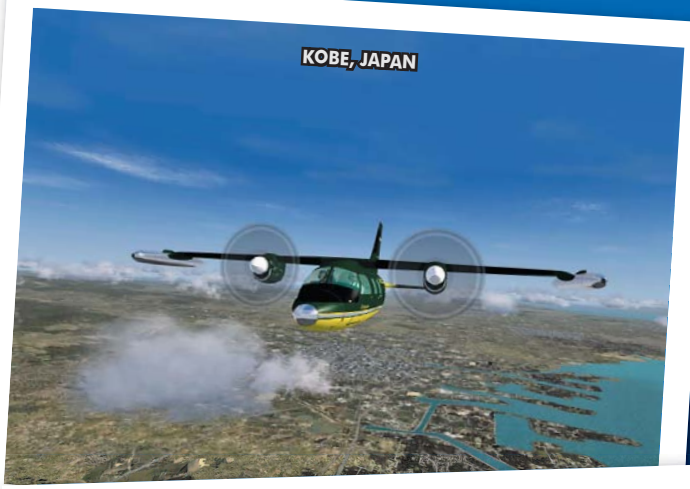
bellowed out, and Lt. Col. Jimmy Doolittle was the first to start his engines, and shortly thereafter, the #2 and #3 planes started theirs. So far, so good! Doolittle had about 50 feet less runway than the other fifteen planes, and all the aircrews knew this and held their breaths as the "Starter", the man on deck who would give the "GO" for launch at just the right time, waited for the deck to be almost level, then gave the "GO" to Doolittle. It seemed to the men in the other planes that Doolittle's plane was moving horrifyingly slow, but gradually the aircraft picked up speed, the nose wheel lifted, and then at the last possible second, the main gear left the deck. The aircraft dropped a bit, but lifted and gained altitude.

The collective cheer was loud enough that they thought they would hear it all the way to Tokyo! "Doc" White stated that all the planes getting off the Hornet safely was a "succession of 16 miracles!" Doolittle circled around and passed over the ship, checking his compass and bearings, and then headed off towards Japan. Each of the planes in turn, thundered down the deck of the Hornet, hopes and confidence buoyed by the fact that Doolittle made it off the deck in one piece! "Doc" recalled some very close calls. One aircraft, he believed it to be Lawson's, dropped out of sight over the bow of the Hornet, and everyone thought she was lost. But as the ship settled into a trough in the sea, the aircraft could be seen just skimming the tops of the waves!

It was finally time for the "TNT" and her crew to take off. They fired up the engines, listening for any sign of trouble out of the number 2 engine, but it was running smooth. Navy handlers with ropes aided in positioning the aircraft for takeoff, as the tossing of the ship, combined with the wet surface had the B-25 going this way and that. With the "TNT" in position for launch, and with engines revving, the pilot eagerly watched the "Starter" for the go ahead, and at just the right moment, the signal was given. Full flaps, brakes released and throttles jammed nearly forward, the "TNT" rolled down the deck of the Hornet, with the crew mentally lifting the aircraft into the air. As the "TNT" made its run down the deck of the Hornet, the ship suddenly hit a large wave and the aircraft was literally tossed into the air. Hanging in midair, just above stall speed, "TNT" showed what she was made of and pulled out and began to climb. Everyone looked at each other in amazement that they had made it!

"TNT" had been the fifteenth aircraft to take off from the Hornet, with Doolittle already a little over an hour on his way towards Tokyo. Farrow's plane, which took off after "TNT", was ill-fated from the start, stated "Doc" in his memoirs. While Farrow was taxiing into position, Jack Hilger's aircraft slid into the Plexiglas nose of Farrow's plane with his tail, smashing it in. With Farrow's plane still able to launch and just about in position, one of the navy handlers on deck slipped and fell into one of the whirling propellers, losing his arm. In spite of these before launch setbacks, Farrow and his crew launched off the Hornet, and went on to accomplish the mission. Unfortunately, upon landing in China, Farrow and his crew were captured, with the Japanese claiming that one of the crew resisted and was bayoneted, while the rest of the crew were executed for "Indiscriminate Bombing".

Once airborne, the crew raised flaps and gear, throttled back to minimum cruise, and settled in for the long ride to the targets in Japan. "TNT" followed behind Jack Hilger's plane, close to the water. Flying low meant it was harder to spot from both surface ships and aircraft. If the Japanese had radar, as their allies the Germans did, their "blip" may be mistaken for a wave or some


KOBE, JAPAN

LOADS OF ISLANDS TO EXPLORE

"TNT" OVER POINT INUBO-ZAKI

MT. FUJI

other anomaly. As they flew along about 50 feet off the water, they would empty the gas cans that were on board into the fuel tanks, and then puncture them so they would sink and not be found by the enemy. Having left the Hornet, each of the planes had a thirty minute grace period in which to return to the carrier, in the event of engine trouble or other such problems.

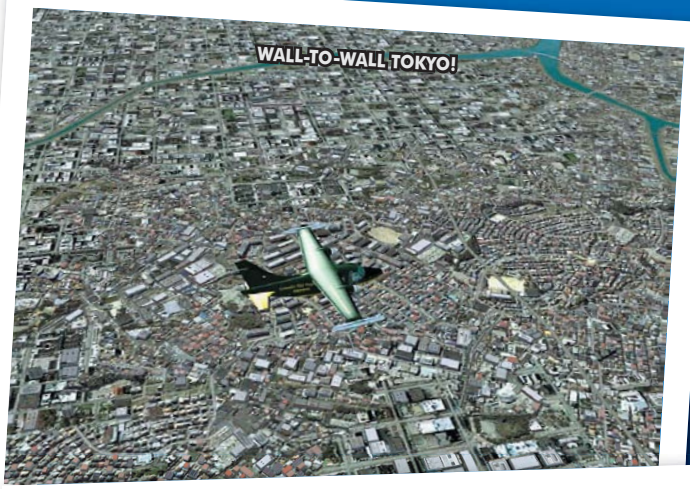
After nearly two hours of not seeing any Japanese ships, small steamers that sailed in between the islands could be seen off in the distance. “TNT” and her crew flew close by some of these ships, apparently not causing any concern. At one point, the passengers of one ship waved their handkerchiefs at the planes as they flew over, mistakenly believing that they were Japanese aircraft. They had a similar twin-engine plane, and the US aircraft at the time still had the red spot in the middle of the white star on blue background. The Japanese saw the red spot, “they saw the stars later” according to “Doc”. Expecting a “welcoming committee” at any moment, the crew was surprised that they were still flying unmolested. Getting closer to land, there were more sampans and small fishing boats, but still, no unwelcome “disturbances” “Doc” White admitted that they did pass low over a small boat, where the fisherman on board ended up in the water!

Thirteen planes were sent to Tokyo, Yokosuka, and Yokahama. These three cities literally formed one continuous city, on the shores of Tokyo Bay. Hilger’s plane went to Nagoya, Farrow’s to Osaka, and “TNT” flew to Kobe, which was the location of a Japanese Naval Base. As the crew of “TNT” flew past the mouth of Tokyo Bay, they could see Mt. Fuji off in the distance, framed by the smoke from the fires of the earlier bomb damage.

At about 1430, Hilger waggled his wings at “TNT” and turned off toward Nagoya, proceeding up and over a hill for the element of surprise. As “TNT” continued on, they encountered their first opposition as they zoomed low over the beach. Four small boys, who had been playing along the shoreline, threw rocks as the bomber skimmed over their heads! At this point in the journey, it had been about an hour since Tokyo had been bombed, so the crew redoubled their vigilance for enemy interceptors. They had been briefed that there were some 800 first-rate Japanese planes and pilots on the home island, yet, to their surprise, they continued on without seeing a single Japanese plane or the familiar puffs of smoke that warned of anti-aircraft artillery.

“Doc” White climbed back to the photographer’s compartment, and began to frantically take pictures of anything and everything that might have been of military interest, including the aerodromes that they began to pass over, without a single one of them launching a plane. The crew could not figure out why there was such a lack of opposition, and wrote it off to either the Japanese not hearing the warning from the patrol boat, or perhaps simply ignoring it altogether, not really believing that any part of Japan could be attacked. It was an underestimation on their part. Later on, “Doc” recalled one of the pilots telling him that they had tuned in to the predecessor to “Tokyo Rose”, broadcasting how wonderful Japan was, with the cherry blossoms, no threat of bombs, etc. Ironically, her broadcast was cut short with news and warnings of the bombings that were taking place.

As “TNT” crossed a ridge into Osaka, they ran into typical heavy smoke haze due to the industrial make up of the area. It had been ninety minutes since the raid on Tokyo, but as far as the crew could tell, it was business as usual down below with trains



running; buses and streetcars traveling back and forth, and they even passed a civilian passenger aircraft. As “TNT” approached Kobe, a sea breeze blew the haze away and they could see the target area clearly. “Doc” White was taking pictures and movies like a madman, as the area was loaded with factories.

At 1515, Japanese time, “TNT” climbed to 1500 feet and let loose her bombs. One cluster hit a warehouse, one into a freight yard, and the last two hit an aircraft assembly plant. “It was a strange sight, seeing the air filled with those green and black sticks, and then I realized they were our incendiary bombs!” On the way out of the area, they passed over a Japanese carrier that was getting its finishing touches before being launched. The entire crew wished at the same time for just one more demo bomb! Sessler told “Doc” later that he couldn’t have missed it blindfolded!

As soon as the bombs had been released, “TNT” dived low over the water and made for open sea. They passed even more heavily fortified coastal areas and airstrips, again flying by perhaps noticed, but untouched. The Japanese forces were so disorganized that they had not yet warned their coastal defenses or air defense of the attacks. Once “TNT” was well out to sea, they throttled back and began the journey to China.

So ends Part 2 of “Doc” White’s story. Hope to see you in the April/May Issue as we cross the sea to the coast of China, to begin yet another adventure.

The aircraft used for this article is Mid-Atlantic Air Museum’s (MAAM-SIM) B-25 Mitchell Bomber, “Briefing Time”, with a repaint by yours truly depicting the aircraft “TNT”. This is not an exact replication of the livery, but a tribute to the men and the machine. The names of the crew are listed on the port side near the nose, with the nose art representing the chemical formula for TNT. Tail markings and other markings are accurate. The “Briefing Time” model is excellent, and if you don’t have it in your virtual hanger, you should. Proceeds from the sale of the model go toward keeping the real “Briefing Time” in flyable condition.

FS2004 Scenery--CV-74 USS Stennis
File name - cv_74.zip

FS2004 Scenery--CV-74 USS Stennis. This scenery object is an update from the previous version which had a hardened deck and a carrier wake effect. It now has deck lights, fantail lights, more visible arrestor cables, rotating beacon and a rotating radar antenna.. It is presently located just off the San Diego Naval Station, California (CA). The text files for the rcbco-20 catapult and arrestor zones are also included. By Paul Clawson

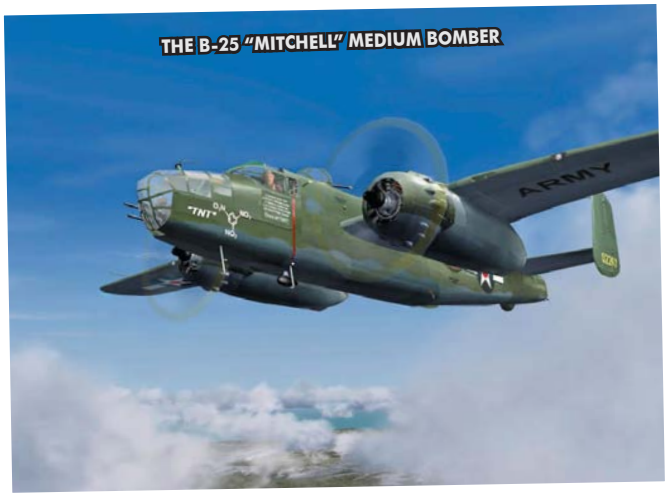
I also used FS Environment and Ground Environment Pro, from Flight1 for those outstanding textures you see on the ground and in the air! CH Products are my “gear of choice” for my flights as well.

I want to thank Victoria White-Hand, the daughter of “Doc” White, for sharing this information with me and allowing me to tell her father’s story. Meeting her and listening to her stories of her father has put a more personal feeling in the story for me, to which I am deeply grateful! ✈

APPROACHING MT. FUJI

KANSAI INTL., AN “ISLAND” AIRPORT

HEADING OUT TO SEA AFTER THE STRIKE



THE B-25 “MITCHELL” MEDIUM BOMBER

TRONDHEIM VAERNES X

BY DEAN BIELANOWSKI

Living in Australia I seem to do most of my flying locally here "downunder" but after viewing some interesting screenshots of the Trondheim Vaernes X airport package from Aerosoft, I decided to check it out further and installed it into FSX. The screenshots looked like the package was brimming with quality and detail, and I like to see that in an airport. I wondered if my frame rates would suffer as a result…

Trondheim Vaernes is located in Norway and is that country's third largest airport. Installation went fine and I was soon parked on the active runway. A quick scoot around in the R22 helo and everything looks in order. All buildings seem accurate with regards to scale, which for me is the biggest factor in how realistic an airport looks in flight sim. The designers got that right! The custom textures are also nice, with the runway and aprons sporting realistic and well defined textures that add further to the realistic feel.

The main terminal is nicely rendered with its curved roof and the jetways look great. The parking indicators work well but seem generic for fixed aircraft. There is a small amount of dynamic traffic in the form of cars in and around the main apron, and more cars outside driving around the front of the terminal and surrounds.

The main runway 09/27 juts into the nearby bay/fjord a little and this end features a nice rock wall surrounding the taxiway and runway end. Both runway and taxiway at this end have road and rail passing beneath at certain points – a nice touch. There is a second runway but that is closed down with the appropriate "X" markings adorning it.

The GA apron section is basic but likely true to life. Some of the open hangars even have nice detail inside them. The "Rwy Ahead" markings on the taxiway are great and help avoid you accidentally driving onto the main runway at the wrong time, particularly at night when visibility is decreased.

Night lighting is reasonably well done although I noticed some light poles didn't actually project light onto the ground like they probably should. Aircraft seem to sink slightly into the ground at most places around the airport but that might be just a scenery layer issue and nothing more…

I tried a full autoland at this airport using the default B737-800. With a 15 mile final and 30 degree intercept the B737 caught the ILS well and maintained it all the way down to the runway and put me right on the centerline, so all works great in the navaid department and alignment of the ILS with the runway.

Performance wise, I noticed about a 30% reduction in frame rates when the largest amount of airport detail was in view (notably the main terminal). Other parts have much less of an impact. Regardless I was still able to achieve an average of around 22 fps with a lot of detail turned up in the sim (Core i5 system with 4Gb RAM and Radeon 5850 video card).

I have never been to Trondheim or this airport but the airport and surrounds look like an interesting place to explore. The Trondheim Vaernes airport would make a great starting or ending place for an exploration of Norway.

I have enjoyed flying with this scenery and apart from a few small bugs, with objects mainly, everything else seemed to work great. Many times I felt like I was actually there, and often when you get that feeling, you know the scenery surrounding you must be convincing at the very least.

Trondheim Vaernes X airport is compatible with Flight Simulator X and retails for around US$18. It is available from Aerosoft at www.aerosoft.com or other popular download stores. Check it out!

GROUND TEXTURES ARE REALISTIC AND WELL ALIGNED

GOOD DETAIL AROUND THE TERMINAL AND JETWAYS

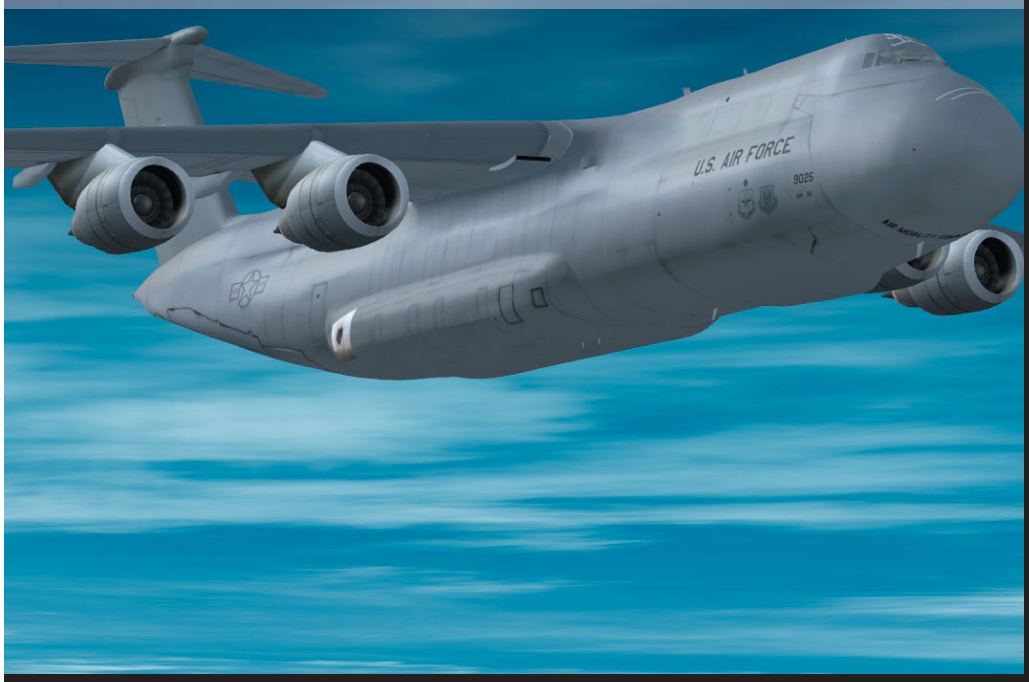
ON FINAL RUNWAY 09 - NOTE THE ROCK WALLS!

WWW.COMPUTERPILOT.COM
...the Magazine for Desktop Pilots and Flight Simulator enthusiasts

"DC-3 Sharp Descent Into London City"

Screenshot by Dean Bielanowski

C-5M GALAXY



BY GENE DAVIS

The Lockheed C-5 Galaxy has been suspiciously absent from the Flight Simulator X hangar since its release, but that has all changed with this magnificent beast from Area51 Simulations. The C-5 has been a mainstay in military transportation since 1969 and continues to serve the armed forces of the world to this day.

At first glimpse the C-5 from Area 51 is incredible when you consider the immensity of this aircraft, but it does have some shortcomings as well. Externally the model is fantastic and incorporates a slew of moving parts and visual eye candies that manage to bring the C-5 to life. The cargo bays open at both ends; all of the doors open and the engine compartments can be seen when opened and closed. One of the key pieces of eye candy that I need to make note of is the way the plane reacts to the rear and forward cargo bays being opened, the C-5 actually lowers itself closer to the ground to accommodate the equipment when it is being loaded onto the aircraft and this feature is modeled well in the Area 51 C-5. Surprisingly, the add-on only comes with one livery, but looking over the Area51 website more will be available soon.

Inside the cockpit the MFDs are made up of default displays from the 747 and many of the switches and knobs are there just for aesthetic value and have no function. However, as you explore the overhead panels and the flight engineer's station you will find enough to keep you busy. Most surprising was the incorporation of the default GPS rather than a basic Flight Management Computer (FMC), but as I have read on other forums one may be made available in the future for this add-on.

The sound. Well, sadly, the designers chose to utilize the default 747 sounds rather than providing a true sound environment for the C-5. After doing some hunting on the different websites I found a couple sound sets that could work for the C-5 and after picking the larger of the two files I installed it into FSX. All I can say here is that a good sound set really does make or break an add-on!

Flying the C-5 is where this beast proves itself best as it gives the simmer a real feel for its size and maneuverability in the air and on the ground. I decided that I would start my test flight parked at Edwards AFB with a cold and dark cockpit. Firing up each engine can be done from the cockpit rather than just hitting CTRL-E. During taxi I found that maneuvering the C-5 was quite a challenge because of the height of the cockpit, and the Area 51 C-5 does simulate that height nicely. On takeoff the power of the C-5 is almost dwarfed by its size and gives the simmer the illusion of lumbering down the runway with little or no speed simply because of the aircraft's flight deck height from the ground.

I was able to manage my entire flight from Edwards to JFK via a filed IFR flight plan and the onboard avionics with little or no trouble as everything in the cockpit is relatively easy to find and click on.

Initially this product was released with a heavy price tag and without complex flight system modeling and custom sounds the C-5 was met with mixed reviews in many of the different online forums, however Area 51 has since changed the price and lowered it to about US$28.00 making this add-on more attractive. If you have an affinity for military transport aircraft or simply BIG aircraft, this one might be worth looking at. ✈

THE LOCKHEED C-5 GALAXY!

READY FOR CARGO

LOTS OF EYE CANDY!

ONE BIG BEAST!

THE OFFICE

FOKKER 50

BY GENE DAVIS

Believe it or not FS9 has yet to fade off into the dark. There are still add-ons being produced for this remarkable simulator and after spending some time with the Fokker 50 I found myself wanting more. This edition of the Fokker 50 has been produced by a company called Precision Aerobus, POAB for short, and the plane only became available a short time ago and can be found at PCAviator.com in their download shop.

The Precision Aerobus Fokker 50 comes with several different liveries with more promised in the near future. Included liveries are KLM, MAS Wings, Son Air, and VLM. The aircraft itself is rich in detail and offers all of the traditional moving parts and extra eye candy we have come to expect. The Fokker 50 model offers features like wing flex, steerable nose gear, and an incredibly detailed set of landing gear that moves almost identically to that of its real world counterpart.

The flight model itself is responsive and if I had to draw comparisons to other Fokker 50 products out on the market this one is much easier to fly and control. Flight management is key in an aircraft like this and that is where the cockpit comes into play. This Fokker 50 offers both a 2D and virtual cockpit and to my surprise, this being an FS9 aircraft, offers almost a fully functional virtual cockpit, but it does have some limitations. Navigation in this aircraft is done via the GPS which was a little surprising given the add-on's price tag. There is a very basic FMC, but it has little function and works in conjunction with the GPS.

The sound is, in my opinion, the best part of this add-on as it adds a realistic audible environment from within the cockpit. All of the sounds were recorded right from the real world Fokker 50 including additional voice callouts and warning alarms.

The aircraft actually requires you to start the plane from cold and dark and does demand a little reading beforehand, but if you are familiar with the basics you should be okay. One of the more interesting aspects of this add-on is the required use of external power, usually you can just breeze by it, at least I have in the past with add-ons like this, but not this one.

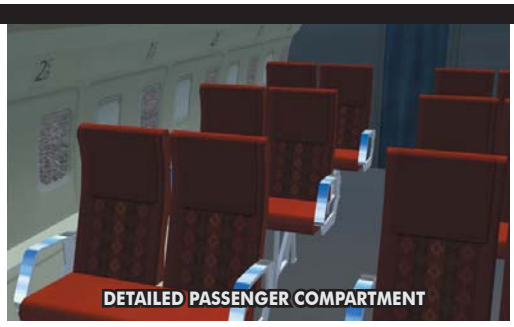
Once in the air the crew callouts continue and I found the aircraft responsive and relatively easy to fly. The only thing I didn't care for was the constant requirement of going back and forth between the 2D and the virtual cockpits. I tend to always fly in the virtual, but found myself spending more time back in the 2D panel instead.

This add-on is a solid contender as far as the Fokker 50 goes. At about US$50, the price tag is a little steep and the one thing I didn't care for when taking the price into consideration was the fact that I needed to download more sound files after I received the product to make it work to its full potential.

For 50 bucks you need to include everything, including the manual! This of course does not take away from the quality of the add-on, but is a mere observation on my part. I do like the product.

Sadly, the plane does not work in FSX and I have seen no evidence of an FSX version on the horizon so for now, it is for FS2004 pilots only.

READY FOR BOARDING!


DETAILED PASSENGER COMPARTMENT

THE VIRTUAL COCKPIT

GEAR UP!

2D PANEL

MAS WINGS

F-16 Face-Off

BY DR. DAVID WILSON-OKAMURA

The F-16 Fighting Falcon was developed in the 1970s to attack ground and air targets. Also known as the Viper, it has been in service now for thirty years, and is not slated to retire until 2015 (later in some countries). Developed in the United States, it now serves in more than twenty-five air forces around the world, including those of Belgium, Denmark, Egypt, Israel, Norway, Pakistan, Thailand, and Turkey. Designed by General Dynamics, and now manufactured by Lockheed Martin, it has survived the Cold War it was designed to fight and been upgraded with new weapons and new instruments.

Today a real Viper sells for about $35 million (US) and costs about $7,500 an hour to operate. Or, for between US$30 and US$45, you can buy a model for Flight Simulator X. Currently, there are two competing products. In 2008, I reviewed the Aerosoft F-16 for AVSIM and gave it a gold star; if I were doing it today, I will still give it the same rating. But now there is a competing product, published by Iris Simulations, which costs about $15 more and comes with an overlapping but not identical set of features.

Which one is better? This last fall, I purchased the Iris version to find out. The short answer, which I'll give up front, is they are both good products, but good for different things.

External Model

One of the virtues of the real F-16 is versatility. To date, there have been about a dozen major versions (known as "blocks" in Viper-speak) and, within those blocks, still more variations of bombs, missiles, and conformal fuel tanks. For comparison, I conducted most of my tests using each product's version of a "clean" Viper, configured with no weapons or external fuel tanks.

For screenshots, I also settled on just one livery: the Thunderbirds demonstration squadron that is stationed near Las Vegas. This is a special unit of the U.S. Air Force that flies F-16s in air shows. Bear in mind, then, while looking at screenshots that you are seeing only one or two of the many liveries and configurations that are available. Aerosoft has the edge here, with 21 external models (representing different engine, fuel, and weapon configurations) and 61 different paint jobs from 15 different countries; Iris's Viper comes with 13 external models and 54 paints. So much for quantity.

How about quality? To answer this question, I made a series of comparison screenshots that show the two products from different angles. The first thing you'll see is that Aerosoft has chosen to model the C version of the F-16, which has one seat, and that Iris has modeled the D version, which has two. Both models are cleanly executed, with smooth lines and good use—not overuse—of bump mapping. Both products have appropriate animations, which on the F-16 include flaps on the leading edge of the wing as well as the trailing edge; a dorsal port for aerial refueling; and air brakes on the tail. Both products also have animated pilots that respond to commands from the user: the Aerosoft pilot will lower his sun visor, and the Iris pilot—the rear one—gives the shaka sign.

Generally speaking, the Aerosoft F-16 does have more subtle 3D modeling; this is most noticeable on the "turkey feathers" of the exhaust nozzle. The Aerosoft Viper has vapor effects streaming over the wing roots, which the Iris Viper does not. And, again, the Aerosoft product comes with more variants and liveries. Both products, I want to emphasize, make good-looking screenshots; and the Iris Viper has a more subtle afterburner effect. But in a boxing match, this round would go to Aerosoft on points.

Virtual Cockpit

What I just said about the external model is also true about the virtual cockpit (VC), namely, that Aerosoft's VC has more refined 3D modeling. You can see this, among other places, in the roundedness of various objects and especially in the detail around the Head Up Display (HUD). In some places, though, including many of the switch labels, Iris has the sharper textures.

AEROSOFT

AEROSOFT

IRIS

IRIS

IRIS

THUNDERBIRDS IN VEGAS

IRIS

AEROSOFT

IRIS

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IRIS

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AEROSOFT DETAIL

IRIS REAR COCKPIT

The big thing—and this is my favorite feature of both products—is that both cockpits have conformal, collimated HUDs. This means, first, that where you place the flight path marker (whether it's in the sky or on the ground) is where the F-16 will actually fly to (if it's a point on the ground) or through (if it's a point in the sky). Second, the flight path marker will still point to the right place even if you change your viewing angle (which, if you have TrackIR, you probably do all the time). This is an impressive feat of programming; and it makes flying this heavy, complicated machine almost intuitive: just point and fly. It works for landing too: you still have to manage crosswinds, sink rate, and angle of attack, but with a conformal, collimated HUD you can see, without any guesswork, exactly where on the runway you are going to make contact. Both products can do it, and do it clearly, but the Iris HUD has somewhat bolder lines and more legible text; this is true for the Multi-Function Displays (MFDs) as well.

The main difference between the two cockpits has nothing to do with the models as models. The F-16C, which Aerosoft chose to model, has one cockpit in real life. The Iris product, which is based on the F-16D, has two cockpits, just like in real life, and both of them are functional. Not all products take advantage of FSX's shared cockpit capability, but this one does; so if two of you buy it, one can handle navigation (for example) from the rear cockpit while the other pilot flies the plane from the front cockpit. For training missions, or if you just want to fly with a friend, this is a big feature.

Systems

Both publishers allow you to download their manuals without buying anything. This is a good way to research your purchase beforehand. Both manuals are well-illustrated; although, for a complete explanation of the HUD symbology, I recommend the manual for an older game, Falcon 4.0, which you can download from F-16.net.

The Iris manual is about twice as long as the Aerosoft manual, but most of this is cockpit diagrams. All of the switches are visible, but in a real Viper there are some functions, such as secure voice encryption or nuclear consent, that don't have any meaning in Flight Simulator; and in both manuals, these functions are labeled "inop," for inoperative. By and large, however, the Iris product has fewer "inop" systems than the Aerosoft product; and the systems that Aerosoft does model are sometimes simulated in less depth. For example, the Data Entry Display (DED) has more working pages in the Iris version than the Aerosoft version, including some very useful pages relating to fuel efficiency and endurance. (This is a real issue with the F-16, because it burns fuel so quickly.) Iris has an Emergency Power Unit (EPU), which supplies hydraulic pressure and keeps the Viper flyable for up to ten minutes after the engine cuts out; in the Aerosoft cockpit, these are just dummy switches. And whereas the Aerosoft autopilot can follow a heading bug, the Iris autopilot can track a whole route (which you set up in the GPS or flight planner).

But the round's not over yet. Aerosoft has a better implementation of the F-16's air-to-air radar. Both products can display targets on one or both Multi-Function Displays, but the Aerosoft radar can also lock onto a particular target and feed intercept data to the HUD. There are no missiles, so you can't shoot other planes down, but you can use them to refuel. This is another thing that the Aerosoft product does better: mid-air refueling. Both products can do it, but whereas the Iris bird just needs you to maintain a steady altitude and airspeed, Aerosoft also requires you to get close to another aircraft. You won't see any fuel probes (unless the other model has them already), but that's more realistic.

Iris, though, has one more trick up its sleeve; and it's a good one: you can actually drop laser-guided bombs. You have to edit a text file (not hard) and it's only fully implemented for the Close Air Support (CAS) model; see the manual for details. But when you release the bombs, you can see them streaming towards their target and then hear them detonate. You won't destroy anything, but there will be a small fireball and then smoke marking the impact point. I was surprised by how fun this is. Part of what keeps it fun is the Continuously Computed Impact Point (CCIP) system that is programmed in the Iris HUD. This shows, in real time, where the bomb will land if released now, and when you need to pull up in order to avoid the ground and the blast wave.

Sound

Both products come with custom sound sets (which, if you are minded to, you can also purchase separately) and make full use of FSX's sound cone feature. Iris has a clearer recording of the "Bitching Betty" voice warnings, but Aerosoft has a better sequence of sounds for the landing gear (which, in the Iris version, produce a long click but nothing more). To my ear, the engine sounds for both products are equally satisfying. It's hard to compare them directly, however, because the developers have chosen to model different engines. If you fly the Aerosoft product, the engine sounds you will hear are those of a Pratt & Whitney F100-P-220; whereas if you fly the Iris product, the engine sounds you will hear are those of a General Electric F110-GE-129. I can't give a reason for preferring one over the other, but if you want to try before you buy, there are YouTube recordings of both.

Flight Dynamics and Performance

The real F-16 operates on a fly-by-wire system like the Airbus: the pilot points the nose, and a computer holds it there. Both products claim to simulate this, subject to the limits of Flight Simulator. I'm not a pilot, however, so it's hard for me to evaluate those claims, except to say that the Iris Viper is more stable, even in high-g turns; whether that is more realistic, or less, I don't know. A lot depends on how your fuel and weapons are configured; the more you carry, the slower your plane will respond. Both products ship with different combinations of weaponry and external fuel tanks; and for each combination there are different flight dynamics. That's as it should be.

When it came out, the Aerosoft product boasted that its visual model was more detailed than any yet produced for Flight Simulator. That detail isn't wasted. But in heavy weather, or at complex airports, it does result in lower framerates; this was, and still is, my only reservation about the product. One of the goals for the Iris version was to trade some visual detail for higher framerates. On my rig, a quad-core Q6600 running at 2.4 GHz, I didn't see that right away. But there's a performance modification that you can read about on the support forum, and after I installed that my Iris Viper was getting framerates about ten percent higher than my Aerosoft Viper, in identical scenery and weather. Given that the Iris version is supporting more systems and two cockpits, that's not bad.

Conclusion

One of the things I liked about the Aerosoft product when it first came out was its price: for about $30 (US), you can get a first-class model with great visuals and a HUD that works like the real thing. Whereas the Aerosoft product was a team project, the Iris F-16 is mostly the work of one very talented individual, Michael Hägele. It sells for about fifty percent more than the Aerosoft version, but if you want to bomb ground targets, or fly with another pilot in shared cockpit mode, it's the only game in town. Both products look good, both products are fun to fly. I don't see an obvious winner here, but if I had to pick one I'd say it's the customer. ✈

"I LEARNED ABOUT FLYING FROM THAT" PART II

BY JOHN ACHOR

Bartow Air Base (Florida, USA) became our main operating base after surviving the Bamboo Bomber (Piper, PA-18 Super Cub). The North American, T-6G Texan at Bartow was to be our "home" for the next five or so months. This was the last variant in a string of earlier models, the AT 6s, which were used to train fighter pilots during WW II. To the U.S. Navy it was the SNJ, and the UK/Canadian versions of this plane are called the Harvard. As with the Cub, one-third of my training class, 57-I were the last to fly this tail-dragger during training in the U.S. Air Force.

We would have to accumulate 120 hours in the plane and master a number of milestones in order to graduate from Primary Flight Training. Earlier models of the T-6 are distinguished by a mast antenna mounted on the top centerline in front of the cockpit windscreen. That antenna may have been moved on earlier versions, but on the "G" model, it was shortened and relocated to the top centerline aft of the rear cockpit. The other antenna change was a "teardrop" antenna mounted nearby.

Another navigation impediment was the directional gyro (DG, heading indicator). This instrument was one that had a narrow horizontal window with a rotating card displaying the plane's heading at the center with a vertical marker line in the middle; the lubber line (the instrument looked like a larger version of the Whiskey compass). If you were on course, the heading number (or hash mark) was under the lubber line. If not, you made a decision which direction to turn: desired heading left of the lubber line — turn right; if it was right — the opposite. Confusing? Yes at first, because the rotating compass card moved the opposite direction. Then my instructor gave me the crutch: step (rudder) on the lubber line. If the desired heading was right of the lubber line, right rudder/ turn would put you on course.

This was of major importance in accomplishing an ITO (instrument takeoff). The instructor in the front seat would align the plane on the runway centerline. The student in the rear seat, knowing the heading of the takeoff runway would cage the DG and twist the knob until the runway heading was under the lubber line. Then to complete the takeoff on instruments (with a hood over your head obscuring all views outside the cockpit) simply step on the lubber line to keep the bird aligned with the runway centerline. Oh, woe to the student who forgot to UNcage the DG. Of course with the instrument caged, the DG heading wouldn't budge, no matter how far off the runway heading you were varying. Not to worry, no instructor worth his salt would let his student take the plane off into the boonies.

Power- on and power-off stalls were other milestones in store for us. Power-off stalls were a piece of cake, but with power on, we really had to honk the nose up to get the old girl to stall. The T-6G had plenty of power. The Pratt & Whitney, R1340, engine was rated at 600 horsepower. That was only 200 horsepower less than the initial version of the WW II Japanese Zero — later Zeros sported more powerful engines.

Fortunately, we only had to demonstrate the Rudder Control Stall; we didn't have to be proficient; good thing because this was one stall I never mastered. It was a power-on stall, which called for the pilot to hold the nose up until the stall occurred. As the nose dropped, you used rudder to hold the nose in a straight vertical line as the nose dropped through the horizon. My instructor shared the "secret" with me — stomp hard torque rudder (right rudder) just before the stall — that didn't allow the engine torque to throw the nose to the left at the stall. From then on, it was a matter of kicking left and right rudder hard enough to maintain the nose on line. Again, woe to the student who got his feet too close to the front rudder pedals as the instructor, demonstrating from the rear seat, was slamming his pedals back and forth.

The next major milestone was learning how to spin the T-6. Instructor demonstrates first and student gives it a shot. Pull the nose up; wait for the stall; power idle and full rudder; stick back in your gut. The nose would oscillate vertically for part of the first turn, then go way nose low. We held that for two full turns. It's amazing how easy it was to watch the section lines on the ground formed by agricultural fields rotate down there in front of the nose. Besides, if you screwed up too badly, there was always an instructor in the back seat who didn't want to die either.

After the 30/50 check ride — best I can figure from my old log book, that was 30 hours in the T-6 and 50 hours total flying time — we were cleared for solo spins. Flying dual, i.e., with an instructor in the rear seat, we could begin a spin entry at 7500 feet MSL (mean sea level). Not trusting students, the powers declared 9000 feet as the minimum entry altitude for solo student spins. Since the T-6G had an unpressurized cockpit, our theoretical altitude limit was 10,000 feet since we carried no oxygen. On my first solo flight after passing the 30/50 check, I was airborne and debating with myself whether I would perform a spin. I decided to go for it and climbed to 9800 feet MSL — what the heck, I'll give myself a few hundred extra feet of cushion.

I lined up using section lines on the ground and up went the nose, when she stalled I pulled the stick back into my lap and kicked hard left rudder. When the nose dropped, I counted two full turns and began a spin recovery – opposite rudder and waited for rotation to stop. As the nose steadied with no more rotation, I slammed the stick forward as hard as I could; it required that violent action to break the stall, and held it there. Heeding my instructor's warning, I held the stick forward until I regained flying speed. Jerking the stick back too soon would almost invariably lead to a secondary stall and a spin in the opposite direction. I felt darn proud of myself, but didn't talk about it figuring everyone else did it too.

As we neared graduation, several of us sat around talking — flying, of course. There was a good deal of hand movement used to describe various flight maneuvers. I mentioned climbing to 9800 feet to do my solo spin and saw jaws drop. Almost everyone in the group admitted they skipped that exercise.

Rather than being just a face in the crowd, I was among a select few when it came to spinning an airplane. Not that I was the only student to flaunt the fates, but that I was among those who were willing to test themselves and come out a winner. I concluded that often I was better than I gave myself credit for being — and that's a confidence booster. ✈

"I LEARNED ABOUT FLYING FROM THAT" PART III

BY JOHN ACHOR

Hi, let's get airborne for the third story in this series. I decided to stay with Bartow Air Base, Florida (USA) and the North American T-6G Texan. While going through pilot training here, I was a member of Bulldog Flight at B.A.B. (Bartow Air Base). We wore this patch on our flying suits. (See Image 1)

IMAGE 1 - THE BARSTOW AIR BASE PATCH

I took this black and white photo of a line of T-6Gs at Bartow. It's hard to read the tail number on the closest bird, but I think it is 488 which is the last T-6G I flew during pilot training. (Image 2)

Last article, I referred to the directional gyro. In case my prose description left something to the imagination, I've included an image of this instrument. (Image 3)

IMAGE 2 - T-6GS AT BARTOW

IMAGE 3 - THE DIRECTIONAL GYRO

Besides the seemingly opposite movement of the horizontal compass card, determining a roll out heading was complicated. Without a neat little 360 degree compass card we became proficient at mental math. Question: Your heading is 180 (as shown in Image 3) and you need a 45 degree turn to the right. Quick — what's your rollout heading? It's 225 degrees and the math here is fairly easy. Try another; our heading is 325 degrees and you need a 55 degree turn to the right. Back then, my mind responded much more quickly than it does today; but it still only took me three or four seconds to compute this last one.

IMAGE 4- MY T-6G BOOKLET SKETCH

I don't intend to make it sound like an imponderable math problem, but it was another small stumbling block on the path to completing a flight. Sitting there in your easy chair, you probably solved this puzzle quickly; now put yourself in the back seat, under the instrument hood struggling to keep the shiny side up. How about the opposite question? Your heading is 165 degrees and you want to turn to 095 degrees. Which way do you turn? After a short while in the T-6G, the mental math came easier and almost second nature. Practice, practice and practice will always be part of the solution.

MORE MENTAL EXERCISES

Three types of airplanes populated Bartow — our T-6Gs, the T-34 Mentor by Beechcraft and the North America T-28 Trojan. Each plane was assigned a different traffic pattern. The T-28 flew the typical initial approach with a 360 pitch-out pattern. T-34s entered on a 45 degree to downwind and our T-6Gs flew an initial approach, but used a rectangle pattern. Let's complicate this situation a bit more by applying it to three separate runways. Here is a diagram I drew in my T-6G checklist as an aid to flying the proper approach. (Image 4)

The photo from Google Earth (Image 5) gives us a view of Bartow today. The three runways still exist: 14/32 which is closed (red arrows) as well as 05/23 and 09/27 — back in the day there was only a single east/west runway. The southernmost (bottom) runway has been added and is 5000 feet as was 05/23. The original 09/27 was 4400 feet and 14/32 was 3000 feet. Just for grins, the procedures dictated that we take off from mid-field leaving the first half of the active runway open for landings.

IMAGE 5 - GOOGLE EARTH PHOTO OF BARTOW AS IT IS TODAY

IMAGE 6 - THE T-6G, T-34 MENTOR AND T-28 TROJAN

The powers that be, decided they didn't want all three types of approach patterns being flown at the same time. T-6Gs were given 30 minute slots, like 0800 to 0830; 0900 to 0930, etc. The T 34s and T-28s shared the other half-hour periods. As you can see from my checklist diagram, we approached on a 45 degree angle to initial approach (runway heading), and turned initial about a mile from the runway. Field elevation is 125 feet and we flew initial at 1400 MSL. Flying that heading until we were at midfield, we then executed a 90 degree turn in the direction of traffic for that runway. On this short crosswind, we dropped down to 1000 feet MSL before we turned downwind. From then on it was like a typical downwind entry traffic pattern. A 90 degree turn to base and we began the drop to 800 feet

MSL for another 90 degree turn to final, which was to be completed at least 400 feet MSL. From the diagram, you can see we had the town of Bartow and four lakes to use for landmarks locating the various runway entries.

So, what was the problem? If you missed your T-6 landing period you had to break out of traffic and wait another 30 minutes for the next period. The flying syllabus was pretty tight and the instructors were on the bubble trying to maintain it. A "wasted" thirty minutes threw everything off — the instruction for the pilot flying and the time period for the next student waiting for his shot at the stick. "Plan ahead" was the motto to follow. Don't screw up a landing, period, or you would have a really irate instructor in the other seat!

LET'S GET OUT OF THE LOCAL AREA

This is a classmate flying what was probably some illegal formation, but we won't tell. Notice the open cockpit — all we needed was a leather helmet and a flowing white scarf. (Image 7).

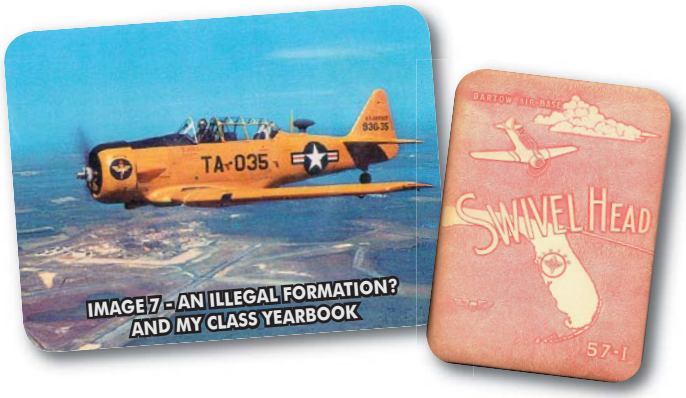


IMAGE 7 - AN ILLEGAL FORMATION? AND MY CLASS YEARBOOK

We flew a couple of cross-country flights dual; an instructor in the back seat. Then came the big day; we are going to go for a solo cross-country — out of sight of the home base and no one in the plane but us. They didn't trust students too far; instructors were dispatched to fly an orbit over each turn point and we had to check in with them before proceeding to the next waypoint. Takeoff times were staggered enough that it was difficult to spot the plane in the stream ahead of you. Dead reckoning navigation was the rule of the day.

All was going well until I ran into cloud build-ups along the second leg of our route. We were VFR only and our instructions were to maintain VFR even if we had to vary the prescribed altitude. With the cloud base at 2000 feet, I dropped down to 1500. Daytona Beach Airport appeared on my nose at the expected time and I called in to the orbiting instructor. He told me I wasn't in sight and that I should orbit my present position until he could spot me. A couple of 360s later, he still did not have a visual on me and asked if I was sure I was over the proper airport. I told him I was pretty sure since the huge letters painted on the runway spelled out "Daytona Beach."

After of moment of silence, he asked me for my altitude which I gave him. "What the hell are you doing down there?" he said. Apparently everyone else was flying on top of the cloud deck. He finally cleared me to proceed on course and I flew merrily on my way. Lesson learned: even instructors can be wrong on occasion, so evaluate your position and if you're sure of yourself, press on.

It all counted toward the grand total of hours needed to graduate from Primary Pilot Training. It was great to see my picture in the class yearbook, "Swivel Head" in my Class A uniform. ✈

HORTON'S HINTS for FLIGHTsimX

BY DOUG HORTON

Here's another collection of hints for FSX, gathered from various sources, including my own trials and discoveries in "flying" the program. In this issue, we'll learn about tools for plane spotting AI traffic and a great new tool for designing airports for Flight Simulator, as well as a few other interesting hints.

Plane Spotting Your AI Traffic

Here's a neat trick, courtesy of John Goodwin. Suppose you wish to look at exterior views of AI aircraft. Not just one, but several in sequence. How to? It's surprisingly simple.

At any airport in any user aircraft, right click to see the popup menu, point to Air Traffic, and then select any AI aircraft from the popup list. This will change the view to the exterior of the selected AI aircraft. Alternatively, use the FSX menu, selecting in sequence, View, New View, Air Traffic, and then select any AI aircraft, which will perform the same action with a new window. This is good for seeing one AI aircraft, but what if you wish to see many in sequence, perhaps by airport, airline, aircraft type, enroute, sleeping, or even gate or tail number?

To inspect multiple AI aircraft in sequence, in the new view window selected above, select, Tools, Traffic Toolbox, Explorer, and then double click any aircraft in the list of all AI traffic. In the accompanying image, I've selected an Ultimate Traffic 2 U.S. Airways AI aircraft that is "asleep" at Las Vegas McCarran International Airport (KLAS). According to the Traffic Toolbox Explorer, it's at gate A3, for which the accompanying image shows KLAS scenery provided by FSDreamteam (**www.fsdreamteam.com**). Traffic Toolbox Explorer is overlaid on the window, with the particular aircraft highlighted.

PLANE SPOTTING AN ULTIMATE TRAFFIC 2 AI AIRCRAFT, WITH AIR TRAFFIC VIEW AND TRAFFIC TOOLBOX EXPLORER

Perhaps you haven't installed Traffic Toolbox from the SDK? It's very simple to do. Four tools (Traffic Settings, Traffic Explorer, Traffic Map, and Dump Airport List) are included in the TrafficToolbox.dll, which is contained in the SDK\Environment Kit\Traffic Toolbox SDK\ folder. To install the TrafficToolbox.dll, you'll need to make a small addition to your dll.xml file, which you can find in your C:\Documents and Settings\(username)\Application Data\Microsoft\FSX\ folder. Right-click and edit this file, adding the following lines if the file already exists in the folder indicated by the Path entry, or alternatively, insert into your dll.xml file the contents of the sample dll.xml file that's included in the SDK\Environment Kit\ Traffic Toolbox SDK\ folder.

```
<Launch.Addon>
<Name>Traffic Toolbox</Name>
<Disabled>False</Disabled>
<Path>..\Microsoft Flight Simulator X SDK\SDK\Environment Kit\Traffic Toolbox SDK\traffictoolbox.dll</Path>
</Launch.Addon>
```

Note that the Path is relative to the location of the Microsoft Flight Simulator X folder. The path should be modified if FSX and the SDK are not installed to their default folder locations. If the dll is installed correctly, Traffic Toolbox will appear in your Flight Simulator X Tools menu.

Bing Maps

One of my greatest joys in using FSX is seeing the great work accomplished by scenery designers, whether a freeware AFCAD with a few scenery additions to an airport, or a full-fledged commercial airport scenery add-on, such as from notable designers Aerosoft and FSDreamteam, for example. Now, a great new visual aid is available to spur more realism in airport scenery design.

The new tool for seeing the details of airports is the bird's eye view feature of Microsoft Bing Maps, which was previously known as Microsoft Virtual Earth, Live Maps, and Live Earth. While other websites feature only satellite photography, Bing Maps' bird's eye view provides aerial photography that reveals a much greater level of detail, with photos taken at an angle that shows vertical as well as horizontal surfaces. To enhance my home airport of Chicago Aurora Municipal (KARR), for example, I've been working with freeware airport add-on scenery designer Kevin Burns (website: **www.kb-sim.com**), and we've used Bing Maps extensively to confirm airport details.

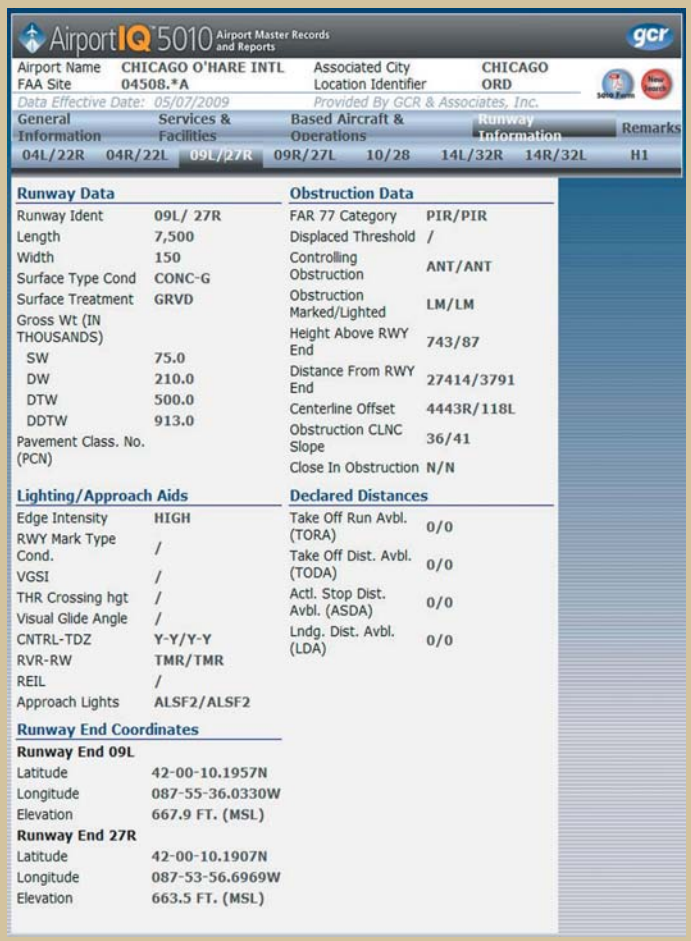
To find an airport in Bing Maps, type its ICAO code and "airport" in the Search bar, such as "KORD airport" for O'Hare International Airport. Without the word "airport" in the Search box, Bing Maps often suggests city names that match the four ICAO letters. Here is an example of a bird's eye view of the south end of terminal C at KORD. This shows significantly more detail than satellite imagery. Compare this bird's eye aerial photo with the excellent modeling of O'Hare in FSDreamteam's (**www.fsdreamteam.com**) scenery product for FSX, as shown in the accompanying images.

BING MAPS BIRD'S EYE VIEW OF SOUTH END OF TERMINAL C AT KORD

SOUTH END OF TERMINAL C IN FSDREAMTEAM'S KORD FOR FSX

Not only are bird's eye aerial photos available for all airports I've searched, they're also available for many urban areas, including my home in the suburban Chicago area, in the middle of the accompanying bird's eye view. Yes, I mow a lot of grass, but my riding mower cuts a five-foot wide swath.

BIRD'S EYE VIEW OF WRITER'S HOME IN SUBURBAN CHICAGO



AirportIQ 5010 Airport Master Records and Reports — gcr

Airport Name	CHICAGO O'HARE INTL	Associated City	CHICAGO
FAA Site	04508.*A	Location Identifier	ORD

Data Effective Date: 05/07/2009 — Provided By GCR & Associates, Inc.

General Information | Services & Facilities | Based Aircraft & Operations | Runway Information | Remarks

04L/22R | 04R/22L | 09L/27R | 09R/27L | 10/28 | 14L/32R | 14R/32L | H1

Runway Data

Runway Ident	09L/ 27R
Length	7,500
Width	150
Surface Type Cond	CONC-G
Surface Treatment	GRVD
Gross Wt (IN THOUSANDS)	
SW	75.0
DW	210.0
DTW	500.0
DDTW	913.0
Pavement Class. No. (PCN)	

Obstruction Data

FAR 77 Category	PIR/PIR
Displaced Threshold	/
Controlling Obstruction	ANT/ANT
Obstruction Marked/Lighted	LM/LM
Height Above RWY End	743/87
Distance From RWY End	27414/3791
Centerline Offset	4443R/118L
Obstruction CLNC Slope	36/41
Close In Obstruction	N/N

Lighting/Approach Aids

Edge Intensity	HIGH
RWY Mark Type Cond.	/
VGSI	/
THR Crossing hgt	/
Visual Glide Angle	/
CNTRL-TDZ	Y-Y/Y-Y
RVR-RW	TMR/TMR
REIL	/
Approach Lights	ALSF2/ALSF2

Declared Distances

Take Off Run Avbl. (TORA)	0/0
Take Off Dist. Avbl. (TODA)	0/0
Actl. Stop Dist. Avbl. (ASDA)	0/0
Lndg. Dist. Avbl. (LDA)	0/0

Runway End Coordinates

Runway End 09L	
Latitude	42-00-10.1957N
Longitude	087-55-36.0330W
Elevation	667.9 FT. (MSL)
Runway End 27R	
Latitude	42-00-10.1907N
Longitude	087-53-56.6969W
Elevation	663.5 FT. (MSL)

FORM 5010 RUNWAY 9L/27R INFORMATION FOR CHICAGO O'HARE INTERNATIONAL AIRPORT (KORD)

Airport Master Records

On the subject of airport design for Flight Simulator, I recently used Airport Design Editor by Jon "Scruffyduck" Masterson to add the new east-west runway 9L/27R to FSDreamteam's Chicago O'Hare International Airport (KORD). To determine location, dimensions, lighting, and other details for this runway, I consulted the Airport Master Record for O'Hare.

For developers and users who design or modify U.S. airports for Flight Simulator, detailed airport facilities information is provided in the FAA Airport Master Record Form 5010-1 for public airports or 5010-2 for private airports. These records contain comprehensive data on airports, runways, lighting configurations, and other information. Records are updated annually for airports with scheduled Part 121 (air carrier) or Part 135 (commuter and on-demand) operations. For other airports this data may not be updated for 3 to 5 years. Access to these forms is provided by GCR & Associates, Inc., at the following link: **http://www.gcr1.com/5010web**, which includes a search form. After you locate a particular airport, you'll see several tabs that include information extracted from the airport's 5010 form, as the accompanying image shows runway information for KORD. To see the actual 5010 form for the selected airport, click the small, light blue circular icon near the upper right-hand corner of the web page. It's just above the boundary of the Runway Information and Remarks tabs.

Blowing Snow!

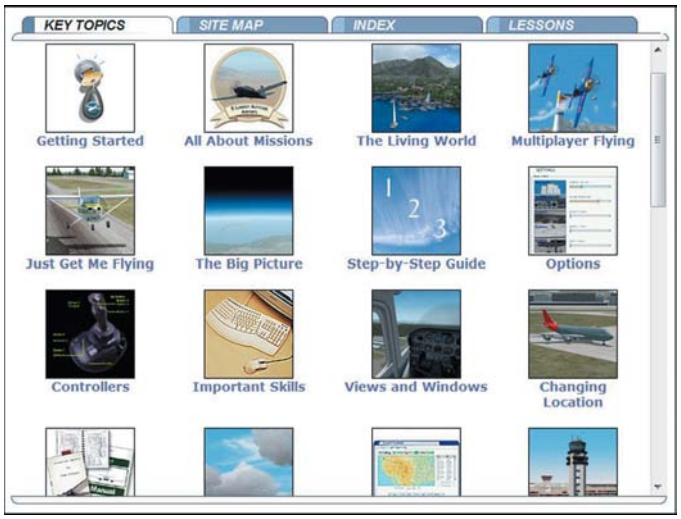
With snow on the ground or on the way in many areas of the northern hemisphere, consider this "wow" relating to graphical weather capabilities in FSX. At the end of flying the Resort Supply mission, I noticed that if you taxi on snow covered ground, you'll not only blow the snow with the Baron's props, but also, when you slow the props to idle, the blowing effect of the props will be minimal and snow will be blown by the prevailing wind. In the accompanying image from the end of the mission, the wind is blowing across the Chelan (S10) runway, toward the hangars. That's cool!

SNOW BLOWING WITH THE WIND AT END OF RESORT SUPPLY MISSION

Quickly Browsing the Learning Center

It's likely that many FSX users jump into flights without taking advantage of the vast store of information in the FSX Learning Center. Did you know you can browse Learning Center information without starting FSX? To do so, go to (your FSX folder)\FSWeb\Learning Center, and double-click the file "**lc_index_KeyTopicsTabs.htm**". This will open the FSX Learning Center in your default browser.

All tabs are active when viewing the index in a browser, so you can click on any of the tabs, and then click on hyperlinks. As an alternative, you can hover over the icon or topic you wish to read, and note at the bottom of your browser the related link. Copy and browse to that link, or find and double-click the file named in the link, and this will take you to the pertinent information page. In the latter case, there are a few steps involved, but you can quickly check a topic without the delay of starting FSX. And you'll find material much more readable in a browser than in the small 640 x 480 display in FSX.



LEARNING CENTER INDEX AS VIEWED IN FIREFOX (ENLARGED)

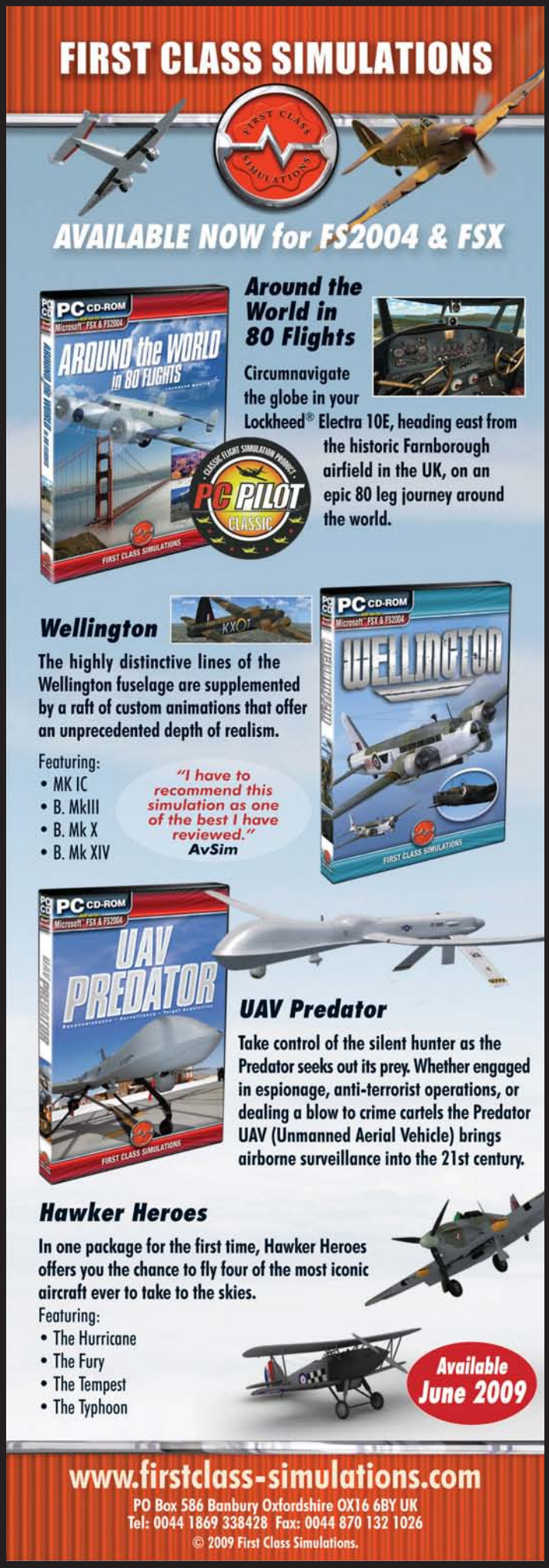
Headwinds and Tailwinds

Here's a thought provoking question: if you fly outbound with a given amount of tailwind and then you return with the same amount of headwind, they should cancel each other and your average speed over the ground will be equal to your airspeed, with no effect on the round trip time. Right? No, wrong! Here's a convincing example, which is exaggerated, but proves the point convincingly:

Case 1: no headwind or tailwind. Airplane flies 300 nm round trip at 100 knots airspeed (and ground speed). Time required is 300/100 = 3 hours.

Case 2: outbound 50 knot tailwind and return 50 knot headwind. Outbound time is 150 nm divided by 100 knots airspeed + 50 knots tailwind, or 150 knots ground speed = one hour. Return time is 150 nm divided by 100 - 50 knots headwind, or 50 knots groundspeed = 150 nm/50 knots = 3 hours. So, the total time for outbound and return legs is 4 hours!

Why is this true? Because for a given distance, with a tailwind, you're at the faster groundspeed for less time; and with a headwind, you're at a slower groundspeed for a longer time. Try any numbers you wish and the result is the same. It's not intuitive, but equal tailwind and headwind on outbound and return legs do not offset each other! ✈



FALL COLORS

A True-Flight Adventure

BY DOUG HORTON

As many Computer Pilot readers will remember, after 10 years of "flight simming," I successfully pursued a private pilot certificate and soon thereafter, an instrument rating. I then became owner of a Piper Dakota, and two years ago, I became a partner in a Cessna 182S with four other pilots. I'm assigned the airplane every five weeks, and I enjoy making a least a "hundred dollar hamburger" or training flight during each of these weeks. But at least once a year, I try to make a longer trip, and last fall, the trip was one of the longest I've made in my flying years.

The goal for this trip was for my wife and I to fly to New England to see the fall colors. Fortunately, my assigned week in October coincided with forecasted peak colors, at least in the White Mountains National Forest in New Hampshire. We also made a lunch stop in Rutland, Vermont, where we enjoyed seeing an old friend for the first time in many years. This article describes the seven legs of the trip, all of which were "filed IFR" and flown with Air Traffic Control, and some of which included flying in actual instrument meteorological conditions (IMC). Enough detail is provided for flying the seven legs in Flight Simulator.

Leg 1 – KARR-KLPR/KHZY

I filed this leg to take us from our home airport of Chicago Aurora Municipal Airport (KARR) to Lorain County Airport (KLPR) near Cleveland, Ohio. Based on experience departing Aurora and flying east, I knew the preferred departure route would be from KARR to the Peotone (EON) VOR. After EON, I could fly "direct" because the aircraft has an IFR-rated GPS – a panel-mounted Garmin GNS 530W. Thus, my filed flight plan was quite simple: KARR, EON, KLPR at 5000 feet MSL altitude.

A scattered cloud layer was reported at 4000 feet, and I expected to fly above this layer and see clear skies above. My clearance was "radar vectors PEOTONE, direct KNOX, and then as filed, 3000 feet, and then expect 5000 after 10 minutes, departure frequency of 133.5 and squawk 6543." At this point, before taxiing, I set the cleared flight plan into the "530," noting that ATC had added the Knox (OXI) VOR to my route. Of course, it was possible that there would be other amendments to my clearance as I proceeded.

GARMIN GNS 530W FLIGHT PLAN FOR INITIALLY CLEARED ROUTE

You can learn more about the Garmin GNS 530W by downloading a free PC trainer version from **http://www8.garmin.com/include/SimulatorPopup.html**. Select the link for "Download GNS 400W/500W (WAAS) Simulator." And if you wish to purchase an FSX-compatible version that provides for adding this instrument into any FSX aircraft, visit **http://www.reality-xp.com/flightsim/gns530/index.html**. The Reality-XP instrument incorporates the Garmin PC trainer in an FSX gauge form, and links the gauge to applicable FSX internal connections and other FSX gauges. You can read more about this in my tutorial and review article, "Reality XP Garmin GNS 430/530 WAAS," which appeared in the August 2008 issue of Computer Pilot.

The ATIS at KARR reported wind from the east, and Ground directed taxiing to runway 9 for takeoff. My takeoff clearance directed flying course 140° as my first vector to EON, a route that kept our flight clear of the Class B airspace surrounding Chicago O'Hare.

After takeoff, I headed 140° toward EON and after leveling off at 3000 feet, I was cleared to 5000 feet. Before passing EON, ATC cleared me for "direct KNOX" (the OXI VOR) and "own navigation," and I set the "530" for OXI on the flight plan page. Once I was settled on course for OXI, I requested higher to 7000, and continued eastward above a scattered cloud layer.

With a good tailwind, we were ahead of schedule, had plenty of fuel, and before descent to KLPR I requested a flight plan amendment to land instead at Ashtabula, Ohio County Airport (KHZY). I wasn't sure how I'd be routed around or through the Cleveland Class B airspace, and I received an interesting clearance to proceed along the southern side of Lake Erie with the words, "keep your right wingtip outside the shoreline." This was a delight, because visibility was good, and we enjoyed clear aerial views of downtown Cleveland, including buildings, stadiums, and Burke Lakefront Airport (KBKL).

DOWNTOWN CLEVELAND, OHIO FROM N182VP PASSENGER WINDOW

From downtown Cleveland, we continued up the lakeshore about 10 miles further, and then headed "direct" to KHZY for a short rest stop. I logged 2.9 hours for this leg, which is shown in the accompanying image from www.flightaware.com if you search for aircraft N182VP on October 5, 2009.

IMAGE OF FLIGHT PATH FROM KARR TO KHZY

Leg 2 – KHZY-KSYR

The second leg continued from Ashtabula County Airport (KHZY) and took us to Syracuse Hancock International Airport (KSYR). My filed flight plan was KHZY-ERI-KSYR. This leg was uneventful aeronautically, but weather was quite interesting because we passed close by some dark rain clouds and noticed a remarkable rainbow to our left side, though the airplane was in a sunny area between the clouds, which you can see from looking at the ground in the photo.

RAINBOW BELOW RAIN CLOUDS TO OUR LEFT, WHILE AIRCRAFT'S IN THE SUN

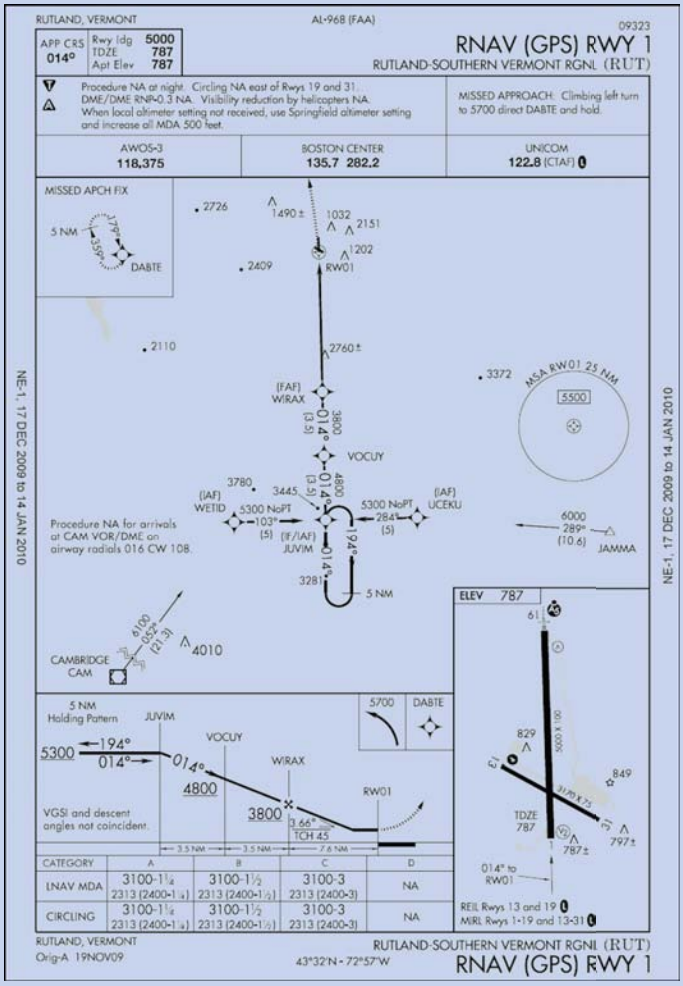
The late afternoon presented us with high clouds above and a nice view of the Finger Lakes region of central upstate New York. This is an area of glacier-formed terrain with north-south oriented low mountains and long narrow lakes.

FINGER LAKES REGION OF UPSTATE NEW YORK

The sky cleared as we continued eastward and we approached Syracuse with continuing high clouds in the area. Approach vectored us for a downwind entry to landing on 9000 foot long runway 28, but we were "number two" for landing with a regional jet ahead of us. In this situation, I've often experienced the feeling of being ignored or forgotten, as I flew 18 miles southeast of the airport before getting vectored for my turn to final. Wind was from 300° at nine knots, so my landing had only a small crosswind component. My extended downwind leg is quite noticeable on the flight path image from **www.flightaware.com**. I logged 1.9 hours for this leg, with 4.8 hours for the day.

FLIGHT PATH FROM KHZY TO KSYR, SHOWING EXTENDED DOWNWIND LEG FOR LANDING ON RUNWAY 28.

Leg 3 – KSYR-KRUT



APPROACH PLATE FOR GPS RUNWAY 1 APPROACH AT KRUT

After a night's rest in Syracuse we continued eastward with a planned lunch stop near Rutland, Vermont. I filed IFR "direct" from KSYR to KRUT for this planned hour and a half flight. As we approached the western border of Vermont, the terrain became more mountainous and the clouds became scattered "cotton balls," covering many mountaintops. About 50 miles out from Rutland Southern Vermont Regional airport, at 7000 feet, ATC communicated to expect the GPS runway 1 approach, via the WETID transition. On the applicable approach plate, which you can download from a link on http://www.airnav.com/airport/KRUT, you can see that the minimum safe altitude (MSA) within 25 miles of runway 1 is 5500 feet, as shown by the circle on the right side of the chart. The minimum enroute altitude from WETID to JUVIM is 5300 feet. ATC cleared me from 7000 to 6400 feet, and just before WETID, I was "cleared for the approach." This is a key clearance that enables descent to charted minimum altitudes for the respective approach legs, provided you are on a published segment of the approach.

I loaded the approach into the Garmin 530W after the "expect" communication, and I activated the approach in the 530W after the "cleared for the approach" communication. (If you plan to fly this leg in Flight Simulator, this approach is not in the GPS 500, but it is included Reality XP Garmin 530W.) I flew the approach as charted and broke out of the clouds before final approach fix WIRAX, though I noticed lots of mountains around, several of which had tops at higher elevations than my altitude on final approach. My flight path is shown below, and it stops before the airport, likely because I was below radar coverage as I descended in the mountains. I logged 1.7 hours for this leg.

IMAGE OF FLIGHT PATH FROM KSYR TO KRUT

Leg 4 – KRUT-KPWM

After a pleasant lunch near Rutland, Vermont, I filed IFR via the Lebanon (LEB) VOR and then direct to the Portland, Maine International Jetport (KPWM) at 7000 feet altitude. With wind from the north and planned departure on Rutland runway 1, my clearance added departure via the SMUTO (DYO) NDB, which is about 10 miles north of the Rutland airport. With some serious mountain avoidance, I climbed to my cleared altitude of 7000 feet. After passing the LEB VOR, I noticed the outside temperature was decreasing to near freezing and I was in the clouds. With risk of picking up ice, I requested lower from ATC when I was about in the position of the red circle on the accompanying IFR enroute chart. I was first cleared to "turn right to 140° and intercept V496."

PORTION OF IFR ENROUTE LOW ALTITUDE CHART L-32

After intercepting this low altitude airway, I was cleared to descend to 5000 feet. Nearing Laconia Municipal Airport (KLCI), I requested deviation from the airway to circle around scenic Lake Winnipesaukee and the quaint resort town of Meredith, New Hampshire, and this request was granted. See the aerial photo of Meredith, and on the accompanying flight path image, you can see the loop I made around the western portion of the lake.

AERIAL VIEW OF MEREDITH, NEW HAMPSHIRE ON LAKE WINNIPESAUKEE

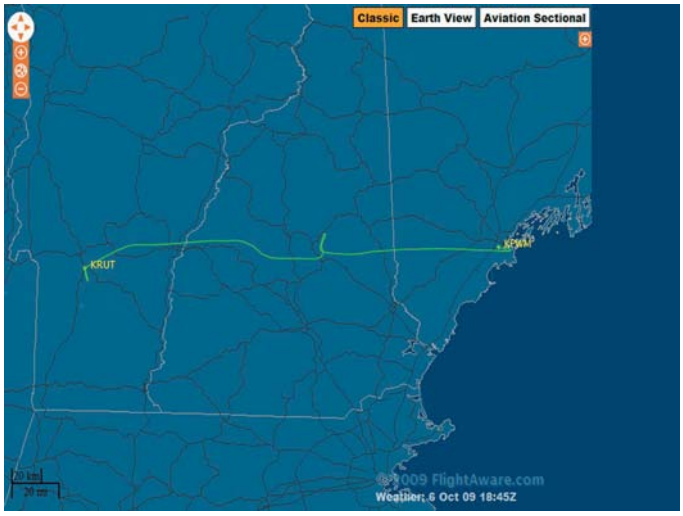


IMAGE OF FLIGHT PATH FROM KRUT TO KPWM

After getting back onto the V496 airway near the Laconia airport, I was cleared to 4000 feet after passing the GRUMP intersection. With clear sky ahead, I requested and received "direct Portland." For landing at KPWM, I was vectored for a left downwind pattern entry and landing on runway 29. Though difficult to see on the flight path graphic, I was slightly past the Atlantic shoreline when I made my base turn and I can now claim that "I've flown over the Atlantic Ocean," though only about a mile. I logged 1.3 hours for this leg.

Leg 5 – KPWM-KAVP

We enjoyed several pleasant days of viewing the fall colors and we helped keep the lobster population under control every evening. One of our highlights was spending a full day driving around the White Mountain National Forest for a full day of "leaf-peeping." Colors were near peak, though it was raining much of the day. Too soon, it was time to begin flying west. We'd planned to stop at Rome Griffiss International Airport (KRME) near Rome, New York for a day of sightseeing in the Adirondack Mountains, but the weather forecast indicated falling temperatures and snow in the mountains. To avoid flying in icing conditions, I planned a more southerly route down the coast from Portland, over western Massachusetts and southeastern New York, to Scranton, Pennsylvania (KAVP). The principal advantage of this planned route was lower terrain and, consequently, lower minimum enroute altitudes, presumably with higher temperatures at the lower altitudes.

The clearance I received was KPWM-ENE-CON-CAM-ALB-V449-LHY-KAVP, which was more to the north than I had filed. I assume that ATC was trying to help me out by providing a more direct route. Unfortunately, this led to a greater risk of icing! The initial legs along the cleared route, mostly in the clouds, placed me close to icing conditions – temperatures near freezing and moisture in clouds. I was flying at 6000 feet, and I asked for lower, but the minimum enroute altitude (MEA) for that leg was 5000, and I was generally westbound, so the prescribed altitude was 6000 (even thousands westerly, odd thousands easterly). What to do?

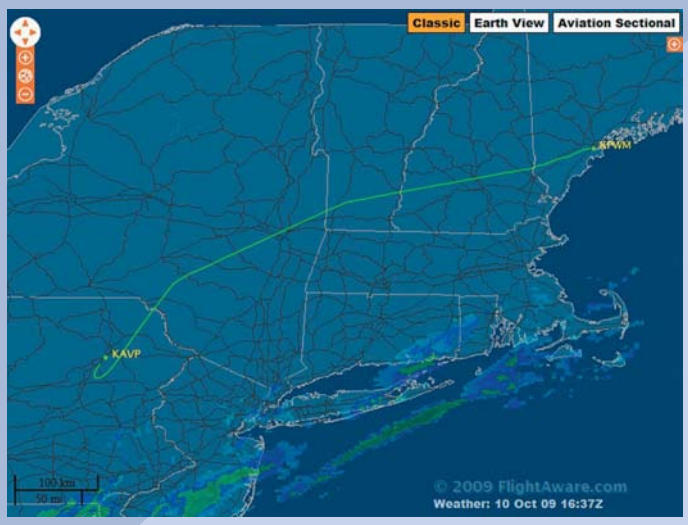


IMAGE OF FLIGHT PATH FROM KPWM TO KAVP

One choice was to go higher to get above the clouds, but the temperatures would have been lower and I didn't know the altitude of the cloud tops. Another choice was to request vectors for landing and wait for better weather. This was probably the best choice in hindsight, but I made the choice to "gut it out" for about 15 minutes until the MEA decreased and I could go to 4000 feet. I did inform ATC that I was close to icing conditions, though I did not declare an emergency. After reflecting on my experience, I should have voiced my concern to Clearance Delivery and tried to get clearance for my original planned route with lower MEAs (and higher temperatures). Lesson learned!

Another stress point on this leg occurred on approach to landing at Wilkes-Barre/Scranton International Airport. I was vectored for an ILS approach to runway 4. From the image of my track, you can see that I flew a very long downwind leg before being vectored to turn inbound for the approach. My impression was that Approach forgot about me, as I was well past where I could have turned for the approach. Eventually, I called Approach Control and said, "Looking for turn inbound," after which I was promptly vectored for the turn. After landing, I logged 3.2 hours for this leg.

Leg 6 – KAVP-KLPR/KTOL

To plan this leg, I checked the distance from Wilke-Barre/Scranton (KAVP) to home base of Chicago Aurora (KARR) and determined that Lorain County (KLPR) would be about half way. I filed KAVP-LVZ-V226-FQM-V226-CIP-V6-STUKL-KLPR at 6000 feet. This flight was mostly under a scattered cloud layer, though I faced at least 20 knots of headwind, so my cruise speed was about 110 knots instead of the rated 130+ knots. All was routine until I approached the Cleveland area. I'd planned to refuel at Lorain County, but in checking my airport guide, I noticed that the airport was manned only until 5:00 pm, without self-service fuel facilities. That meant I would not be able to refuel at KLPR.

IMAGE OF FLIGHT PATH FROM KAVP TO KTOL

With continued intentions to fly as far as we could before nightfall, I found in my airport facilities guide that Toledo Express Airport (KTOL) has three fixed base operators selling fuel and that at least one had 24-hour service. I then called ATC and asked to extend my flight to KTOL. Weather was favorable for a visual landing on runway 25, and after landing, I taxied to Grand Aire FBO, where I was met with great service. The hours had slipped away, and we decided to spend the night in Toledo. Grand Aire staff helped with reservations, and offered me a "crew car" until the next morning. I logged 3.5 long hours for this extended leg, with 6.7 tiring hours total for the day.

Leg 7 – KTOL-KARR

Next morning, it was time to fly home. Weather was cool for a morning flight, with a high thin layer of clouds. I filed KTOL-EON-JOT-KARR, which called for me to fly "direct" from Toledo, Ohio, and then across northern Indiana to the Peotone (EON) VOR southeast of Chicago. You can see from the track image, even though I was "cleared as filed" from KTOL to the EON, I was vectored 260° soon after I flew into eastern Indiana. Once again, I think ATC forgot about me. After I noticed that I was two thirds of the way across Indiana and well south of the South Bend Regional Airport (KSBN), I asked for and was cleared "direct" to EON. Soon after passing the Joliet (JOT) VOR, with the surface wind 030° at five knots, I was vectored for a visual landing on Aurora Municipal Airport runway 9, the same runway from which I'd departed a week earlier.

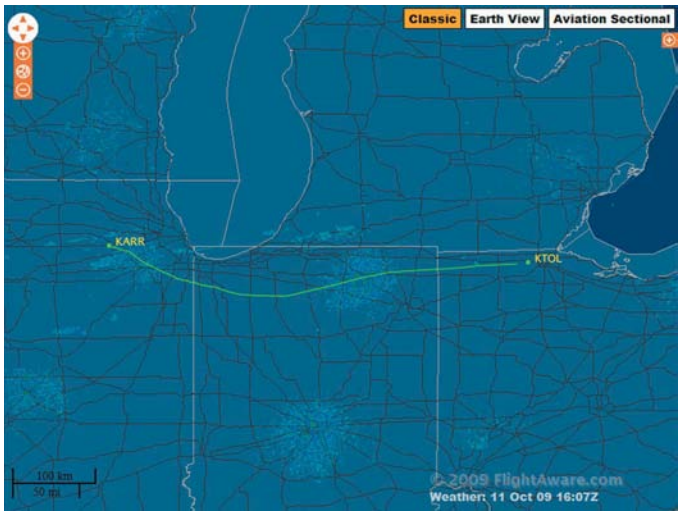
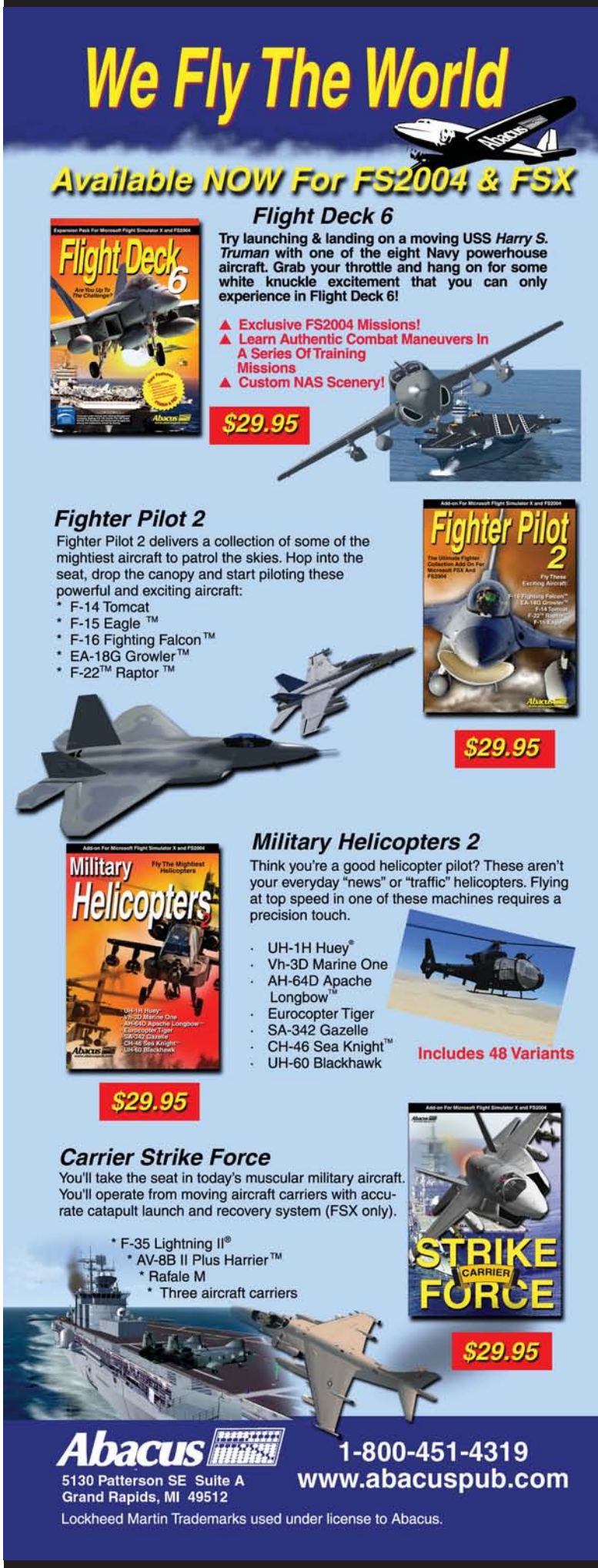


IMAGE OF FLIGHT PATH FROM KTOL TO KARR

I logged 2.4 hours for the last leg. With tailwinds on four eastbound segments, I logged 7.9 hours, and with headwinds and slightly longer routing for the three westbound segments, I logged 9 hours, for a total 16.9 for the entire trip. All things considered, the flights added to my experience and provided some "high adventure." Ideally, the trip would have been scheduled earlier in the fall to provide better flying weather, but then the fall colors wouldn't have been there!

The "banner" image at the beginning of this article shows a screen image from FSX of my home airport base of Chicago Aurora Municipal Airport (KARR). The impressive scenery and optional collection of static aircraft was designed by Kevin Burns, with assistance from photos I provided. You can download this free scenery from **http://www.kb-sim.com/files/KARR_101709.zip** and the static scenery collection from **http://www.kb-sim.com/files/kb_static_aircraft_V2.zip**. Other free scenery by Kevin is available at **http://www.kb-sim.com**.

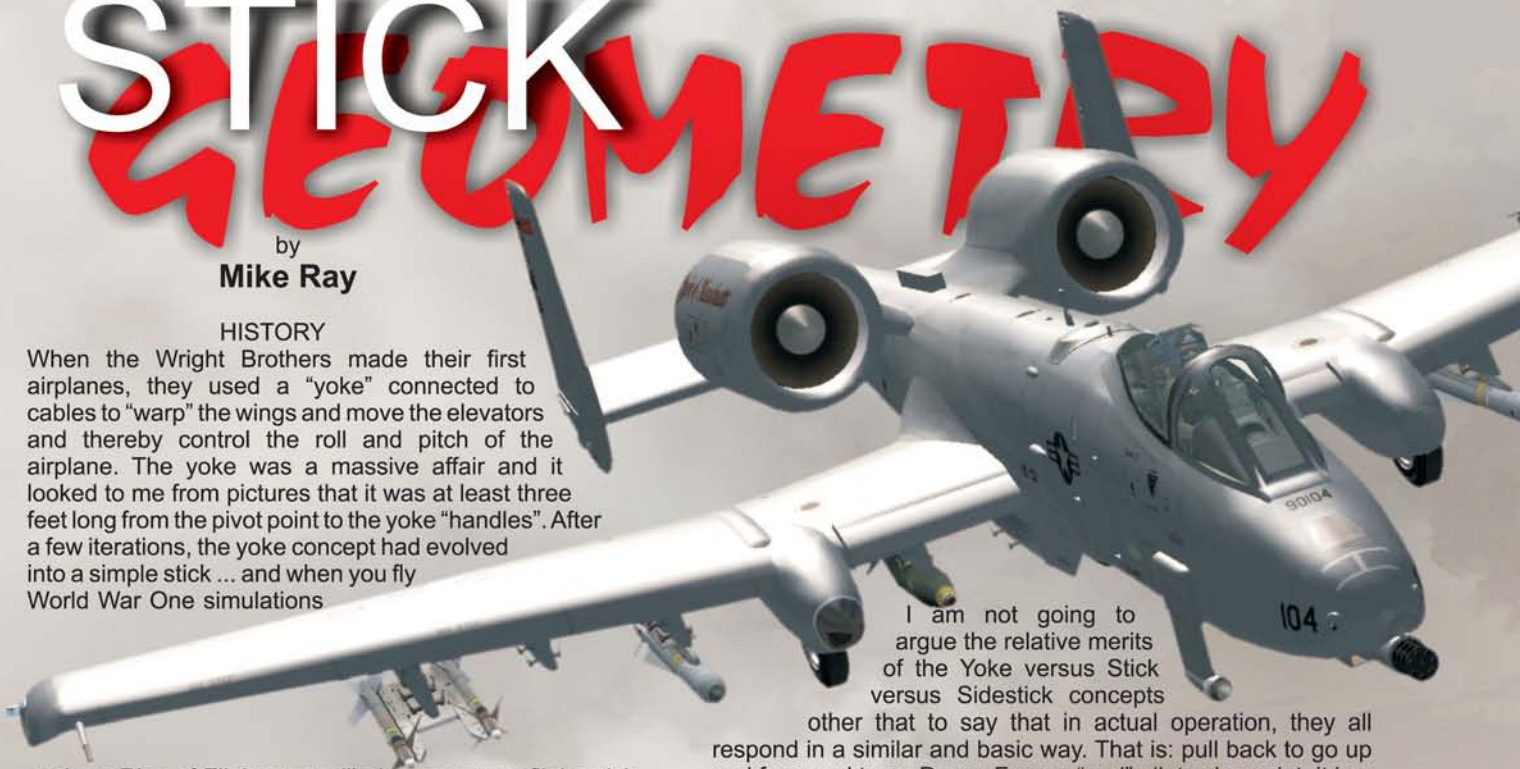
All flight track images in this article are courtesy of FlightAware (flightaware.com) ✈



What could an article titled "stick geometry" possibly be about? ...and what could that possibly have to do with flying flight simulations? Well, the answer is that this subject has a great deal to do with how the pilot controls an airplane with a "STICK" (instead of a yoke). Most flight simmers use the commercially available "joy sticks" that are readily available, but they have improper geometry for making flight control inputs. This article is about modifying the flight stick, referred to as ***STICK MODS***.

STICK GEOMETRY

by
Mike Ray



HISTORY

When the Wright Brothers made their first airplanes, they used a "yoke" connected to cables to "warp" the wings and move the elevators and thereby control the roll and pitch of the airplane. The yoke was a massive affair and it looked to me from pictures that it was at least three feet long from the pivot point to the yoke "handles". After a few iterations, the yoke concept had evolved into a simple stick ... and when you fly World War One simulations such as Rise of Flight, you will observe a true flight stick ... looks about 24 inches from pivot point to grip to me. By the time that World War Two fighters come around, the "joy stick" has become more or less universal. Oh sure, the P-38 and the Spitfire had some interesting handles on the top of the stick, but the control stick was simply that ... a single stick that controlled pitch and roll in one single unit.

Forward ahead to the JET era ... the stick has evolved into a shorter version to accomodate a lower seating position for the pilot and the "handle" or grip at the top have become increasingly clustered with buttons and knobs associated with both flight control and trim as well as weapon controls. Sometimes referred to as the HOTAS (Hands On Throttle And Stick).

Add to the mix a couple of different set-ups. The "Fly-By-Wire" setup in the modern cockpits may actually use a side-stick. This is a small unit with ONLY a handle that sits by the side of the cockpit instead on coming up from the flight deck (floor) of the cockpit. These side-stick controllers (popular with Airbus and the F-16 for example) are really just "switches" with a grip and replace the whole concept of the stick.

Cockpit view of a "REAL" A-10 showing the STICK shaft. It looks to be about 12 to 18 inches from pivot point to grip.

I am not going to argue the relative merits of the Yoke versus Stick versus Sidestick concepts other that to say that in actual operation, they all respond in a similar and basic way. That is: pull back to go up and foreward to go Down. From a "real" pilots viewpoint, it is a simple transition to go from one to the other and the Aircraft Company engineers have created a "feel" system that allows the pilot to integrate the stick movement with an artificial created "feeling" that creates the sensation that moving the "control lever" is actually operating the control surfaces of the airplane.

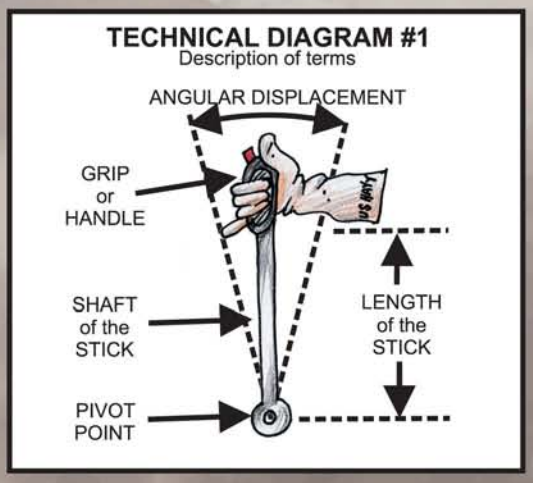
BIG PROBLEM

Now we have a problem. For us as simmers, in the beginning the early day flight simulation games used the keyboard and involved "tapping" the arrow keys to "fly" the aircraft icon around the display screen on the monitor. Neither accurate nor precise, and certainly not at all like flying an airplane. Then the simulator game developers invented some "gamepad" devices that are in use even today. While these handheld controllers are nothing more than highly evolved "key tapping" devices that use the operators thumbs to twiddle some switches. I think these controllers make a "flight" simulation pretty much dis-connected from any pursuit of reality and it is one of the reasons I don't actually use the PS-3 or the X-box flight simulations. They

are simply NOT REALITY BASED! These GAMEPAD controllers have evolved and today seem to be the control method of choice for FPS (First Person Shooters) and other purely game oriented venues.

Alternatively, there was also developing a parallel "joy stick" technology. When I purchased my first Miocrosoft Force feedback joystick ... I was elated. In the years since that appeared, there has been a development curve that has seen some extremely realistic sticks become available at reasonable and competitive prices. Here is where "STICK GEOMETRY" comes in.

While it is true that the previously mentioned F-16, Airbus, and others use a "side-stick" concept ... it is extremely difficult for any handle attached directly to the base (such as the typical computer stick) to replicate the movement of a "real" airplane flightstick that has a "throw distance" of 12 to 24 inches.



DEFINITION OF TERMS

I am going to try and provide some terms to describe what I consider to be the evolving situation in flight simulation flight stick technology. I made these terms up and will use them here only so that we can understand what I am trying to explain.

GRIP or HANDLE ... This is the part of the stick that we hold onto.
SHAFT ... This is the part that connects the GRIP to the BASE.
BASE ... this is the part that the STICK or SHAFT connects to.
PIVOT POINT ... This is the point where the STICK pivots in the BASE.

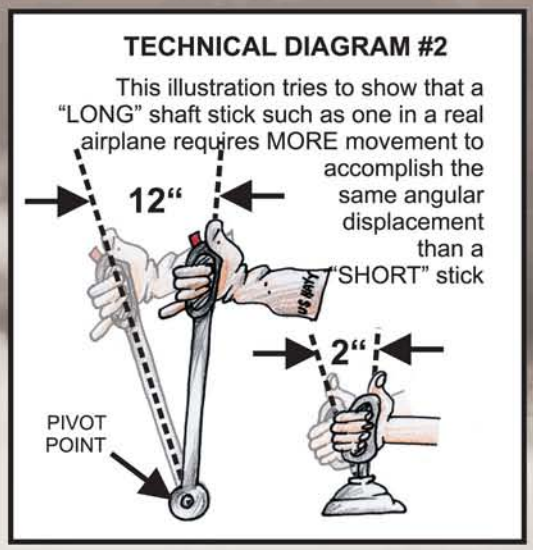
This incredible screenshot is taken from the "A-10 Warthog" simulator program by Aerosoft. I cut it out using the TechSmith Snag-it. The clouds are from REX-2 and the whole thing was operating in the MSFS-2004 universe.

© 2010 Mike Ray

WHY DO WE CARE?

Typically, when starting to fly a high performance simulation, simmers have a big tendency to "over control" the situation and the airplane can get to "flipping and flopping" all over the screen. Each corrective movement of the control stick can just exacerbate (big word meaning making things worse) the situation. I have experienced that situation and it is very annoying to get the simulation airplane to the point where you lose control and you simply have to release the pressure and let go in order restore normal flight. This can be particularly disruptive when you are at the "six", ready to fire the coup-de-grace on the enemy and you simply cannot get the gunsight to settle down enough to make the shot ... or flying an ILS and you disconnect the auto-pilot to make the landing and the whole thing gets squirrely and uncontrollable. I have found that activities such as trying to fly formation or plugging into a tanker becomes virtually impossible to do smoothly. Here is my observation from real life.

When you are first exposed to a real airplane, there is a tendency to move the stick TOO MUCH and thereby induce unwanted "oscillation" in the airplane control. This is common among beginning pilots. As the experience level increases and familiarity with the forces associated with the angular displacement of the "stick", pilots develop a highly sensitive response and can "dampen" out the oscillatory tendencies. For example, the Blue Angels rely completely on their familiarity with and feedback from the flight control movement. Those feedback mechanisms can be the stick itself through the hand or from the "G" forces induced into



the "seat-of-the-pants" sensations. Simmers are denied any of those perceptional clues. Even though some attempts have been made to create a "force feedback" in the stick, it has been feeble at best and frequently counter-intuitive. And I don't think I have to restate that there is simply NO "G" force respose when you are sitting in a chair in front of a monitor. Some visual movements in the simulation images can be perceived and they are useful, although of minimum value.

A NEW PARADIGM IS NEEDED

The whole problem can be G-R-E-A-T-L-Y diminished and virtually resolved by extending the distance between the control grip and the actual pivot axis of the mechanism.

I have to admit that "JOY-STICK" development since the inception of flight simulation has been nothing short of miraculous. Some of the early attempts were crude by todays standards, and new controller candidates are being developed and marketed continuously. It is not the purpose of this article to attempt to influence or re-design the stick .... but to offer a potential solution to a problem that I have encountered. Attempting to overcome the tendency to "over control" when using the stick is pretty well experienced by even the mosty seasoned and experienced simmers. I don't think I am revealing any personal flaws when I tell you that even after hundreds (no ... maybe thousands) of hours of trying to smoothly fly the simulation airplanes, that I still have difficulty is controlling the virtual airplanes precisely and smoothly. It is probably one of the greatest challenges I personally face. Recently, while attempting to fly the terrific Rise Of Flight simulation in combat, I came to the realization that my stick was too short!

By that I mean, the computer joystick was causing excessive response from the airplane. Very teensy-tiny micro movements were causing excursions in altitude and heading ... and during the final phases of combat ... I simply could NOT hold the airplane steady enough to make a consistent attack possible. I wound up spraying bullets in a random manner towards the target and any hits were simply problematic. I noticed that in every respect the airplane was configured and tweaked to fly "just like the real thing". There was one glaring discrepancy, however. The sticks in those old airplanes was about 24 inches long. My "stick" was about 3 inches long. It was a lot like trying to fly the airplane by grabbing hold of the stick 3 inches from the pivot point. What I needed was a "longer shaft length on the stick.

Cockpit view of the SPAD from the Rise of Flight simulation. Notice the stick length and location of the grip.

PROOF OF CONCEPT FIRST MOCK-UP

The question lingered, would the addition of length to the shaft of the stick conceivably provide some of the needed damping and reduction in movement that would make the control of the simulation more "life-like" and docile without removing the ability to actually fly the airplane. I decided to test my conclusion and make a "proof of concept" demonstration model. I took a joystick controller and using duct tape, I attached a limb from a tree (an actual "stick") to the movable handle and created an extension. Then, while sitting with the base on the floor, I flew my SPAD into combat

PROBLEMS

1. The tape job hookup is just plain *UGLY* and clunky. Of course, I agree that the most obvious undesirable aspect of this solution was the fact that the "crummy limb cut from an actual branch of a tree" concept looked pretty goofy. I have some thoughts about correcting that aspect of the "new" stick and will integrate them into the final solution that I will recommend in this article.

The RESULTS of my experimental set-up and my CONCLUSIONS.

I initially flew the Rise Of Flight SPAD as my airplane of choice. It has a low power to weight ration and hence does not allow excessive control movements or the airplane will flew ouitside of the flight "envelope".

WOW!!! Right off the bat, my first impressions were tremendous positive improvement. The damping effect of the elongated stick were so dramatic that is added an almost "sloppy" feel to the controls. This in turn gave a much less jerky response and I was able to be very smooth in operating the controls. I would have to say that unless you have tried this, it will be diffciult to describe the improvement in your flying abilities. Other airplane models from my extensive hangar proved similar results ... and I was convinced that extending the length of the shaft on the stick to approximate a real airplane would greatly improve the flyability of the simulator and enhance the sim experience. But there were some problems.

Helicopter simulations are exceedingly squirrelly and ... especially with a short shaft flight stick. For example, SHARK (depicted here) is an absolutely incredibly deta simulation; but it is a really sensitive airplane to fly. Th mod goes a L-O-N-G way towards helping to make flyi creation smoothly and making it do what you want it to d

2. Once I had taped up the "limb" to the stick, I had to "fly" by grabbing the control stick at a point about the height of my knees while I was sitting in a chair. That necessitated placing the base on the floor. Because of that, I lost access to the HOTAS (Hands On Throttle And Stick) buttons. Even on the most basic stick, the gun switch in located on the grip and on some later model control sticks there are a lot of other buttons on the stick grip. In developing the second mock-up we will try to address the issue of getting the gun switch and other HOTAS controls onto the top of the stick..

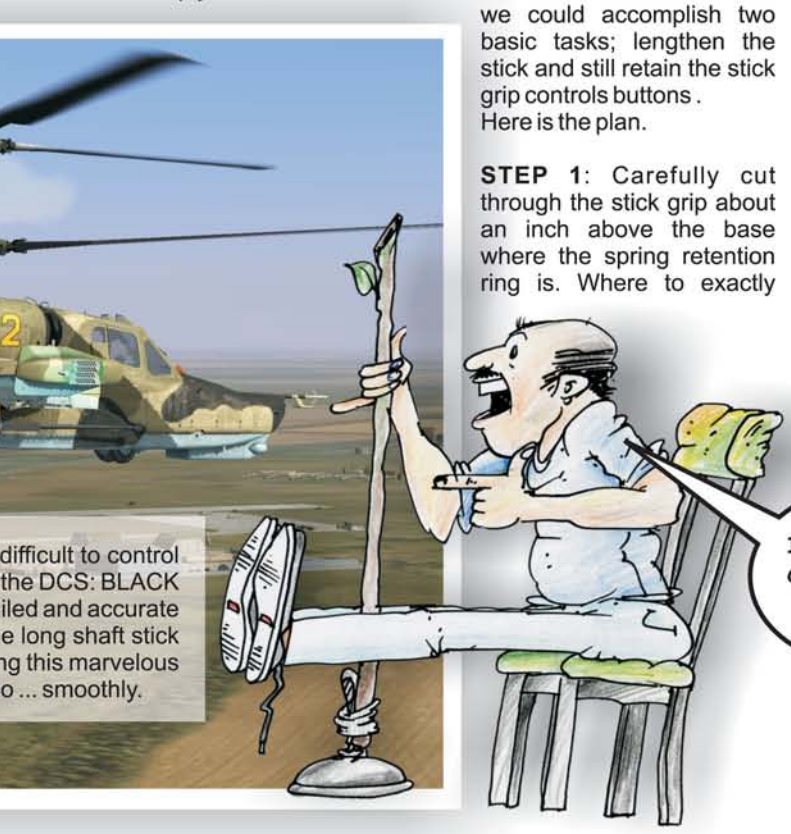
3. All of the controls that were on the base become inaccessible. The most important control located on the base is the THRUST lever or THROTTLES. We will address that later in the article.

4. The last consideration that we will address is the question about how do you get an unwieldy contraption like that into a storage container ... or hump it over to your sim-buddies house. Depending on the length of the "stick" it could be about three feet of floppy fragile mechanism that hardly fits in the back of your bike. I think I can address that with a satisfactory alternative solution.

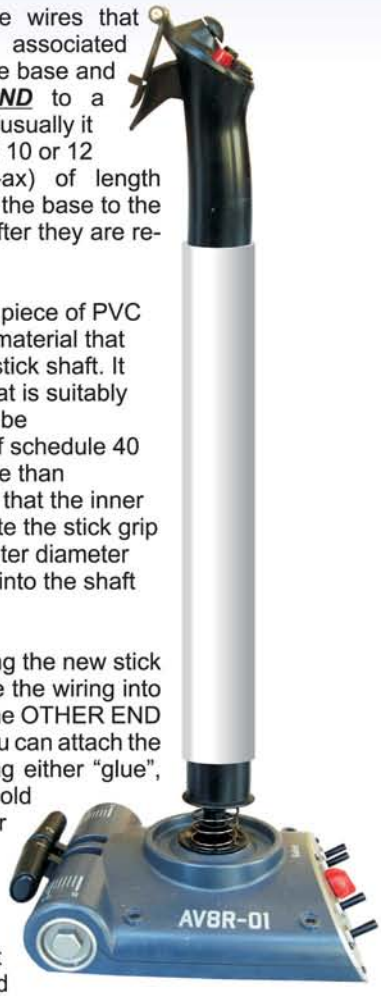
SECOND MOCK-UP

It may be wishful thinking, but since it is my contention that simply lengthening the shaft of the stick will make flying the simulator airplanes vastly easier and smoother ... and while this simple stick mod won't make a silk purse out of a sow's ear, it has the potential to make a better pilot out of a mediocre one. So, it would seem to make sense that if we could just detach the grip and the connecting wires from the base, and simply add an extension to the stick and re-connect the wires we could accomplish two basic tasks; lengthen the stick and still retain the stick grip controls buttons .
Here is the plan.

STEP 1: Carefully cut through the stick grip about an inch above the base where the spring retention ring is. Where to exactly make the cut may be a question, so here are some considerations. One is the Spring load feel synthesizer and centering mechanism that is at the base of many of the commercial sticks ... particularly the SAITEK brand. We can either (1) eliminate the spring and the housing or (2) cut the grip high up enough so as to accomodate the spring housing. This would retain the "feel" and centering feature. This is a big issue since each stick brand is slightly different and we simply don't know what is actually inside the stick handle until we either disassemble the unit or "cut" it.



STEP 2: Next, cut the wires that connect the grip and associated buttons and levers to the base and splice ***ONLY ONE END*** to a section of similar wires (usually it is a commonly available 10 or 12 wire color coded co-ax) of length adequate to reach from the base to the top section of the grip after they are re-mounted.



STEP 3: Then, obtain a piece of PVC pipe or similar housing material that will make up the "new" stick shaft. It should be of material that is suitably rigid yet light enough to be transportable. A piece of schedule 40 PVC pipe would be more than adequate. Make certain that the inner diameter will accomodate the stick grip or, if you choose, the outer diameter will allow the shaft to fit into the shaft grip and base pieces.

STEP 4: Before attaching the new stick shaft, remember to slide the wiring into the shaft and splice to the OTHER END of the cut wires. Then you can attach the PVC to the handle using either "glue", screws, force fit, tape, old bubble gum ... use your imagination.
Additionally, you will probably want to spray paint the "shaft" before installing. It should be a clean and functional installation. A nice flat black or grey. Match it up, be creative.

PROBLEMS

The major problem with this is that because the THRUST LEVERS are on the base piece, and as we noted earlier, the base will have to be placed on the floor, there is no way to operate the thrust/throttles. Perhaps you could fly barefooted and use your toes? I'll call that the Monkey technique.
Then there is the question remaining about the unwieldy contraption that you have created ... where do you store it and how do you transport it easily.

THIRD MOCK-UP

When I first became aware of the Saitek Cyborg X flight stick I considered it as a likely candidate for my stick mod project. The unique feature of this flight stick is the ability to remove the handle from the base with a simple screw-on coupling that has the electrical contacts built in to it. I thought that feature may have the solution to one of the stick lengthening problems, namely portability and the ability to be reduced in size for storage. If you are not familiar with the Cyborg X flight stick, let me describe it quickly. Attached to the handle is a screw adapter that mates with another adapter on the base. This allows the handle to be detached from the base ... ostensibly for storage and mobility. If we could capitalize on that feature, we may be able resolve the problem of awkward proportions that existed with our previous "designs". My concept was to purchase two of the Cyborg X flight sticks. Since the price for a single Cyborg X was about $50. That would make the hardware costs at or above $100. Since I had previously searched the internet and found commercially available "long" shaft flightsticks usually cost several hundred dollars, so that made the sting of the price not quite so great. Still, let's face it, price is always an issue. The plan would be to cannibalize one for the two flight sticks and use it to supply the screw attachment coupler mechanisms and adapters. This would be a fairly easy chore, since the device uses screws to hold it together. Once you have the adapters separated from the unit and the appropriate wires cut, you can add a length to appropriate wiring (it is a commonly available color coded ten wire harness that you can get at Radio Shack). After threading the wiring harness through a suitable stick shaft (I recommend a PVC pipe piece) and slicing the ends together you can secure the adapters to the ends of the shaft. This would allow us to easily place the extension between the handle and the base and screw the adapters in place to create the desired stick geometry. There is the also the added flexibility of removing the shaft and restoring the original "short" shaft design.

PROBLEM

The Throttle control levers are still on the base ... ***DOH***! Unless we want to resort to the monkey technique, or to rewiring the throttle controls ... we are pretty much back where we started.

Regarding the re-wiring option ... since we have the base from the canabilized unit, we could "easily" connect a wire from the base, bypassing the throttle levers and connect to the "old" base and use it as a satellite or remote throttle quadrant. Would work ... and is doable. But it is beyond the scope of this article and my capability.

FOURTH (and final) ITERATION

It doesn't take a genius to figure out that we need a remote throttle unit...and it would be nice to have some rudder pedals and other stuff. As it turns out, there are some really wonderful products available commercially that have these units available as separate individual units. I invite you to examine the CH X52, the Logitech Flight System G940, and the Thrustmaster Cougar. These systems have the throttle parts available as stand alone units that can be integrated into a whole suite of additonal pieces. This would create the flexibility of adding to your equipment as your pocketbook allows.

Here is a thought about these integrated systems. Albeit, in this article we have created our own development stream using some specific product, ; but there is no reason you couldn't apply the "stick mod" (shaft lengthening modification) we have described to their flight stick product.That would ensure that the parts would all be compatible for downstream purchases of other parts.

SEAT TECH

In order to maximize the use of a longer stick, there are some fundamental things that will be different from using the short joystick device. You may encounter some difficulty in controlling the stick movement without resting your arm or elbow on something. The long stick configuration introduces some unique and additonal "arm" stability issues; however, we have the opportunity to make the stick at just the right length to allow us to rest our forearm on our thigh when operating the airplane. This is the way pilots in the "real" world fly. Since they are expecting to fly in a high "G" environment, they require a stabilizing position to rest their arm. In older carrier based iterations, such as the A-4 and the F6F, the pilots would hold the stick in their hand and press their elbow into their body to keep the stick from moving backwards during the CAT SHOT (catapult launch). It is virtually impossible to "hold" the stick stationary without some place to "anchor" your arm. When flying with a "longer" stick, the hand movements have to be more subtle and limited. Flying the airplane can be characterized as holding the stick grip as if you were holding a little bird, since the stick pressures are reduced and slight and you have to manage the stick movements using very slight and deliberate movements. You will find that this technique will be greatly enhanced with the long stick.

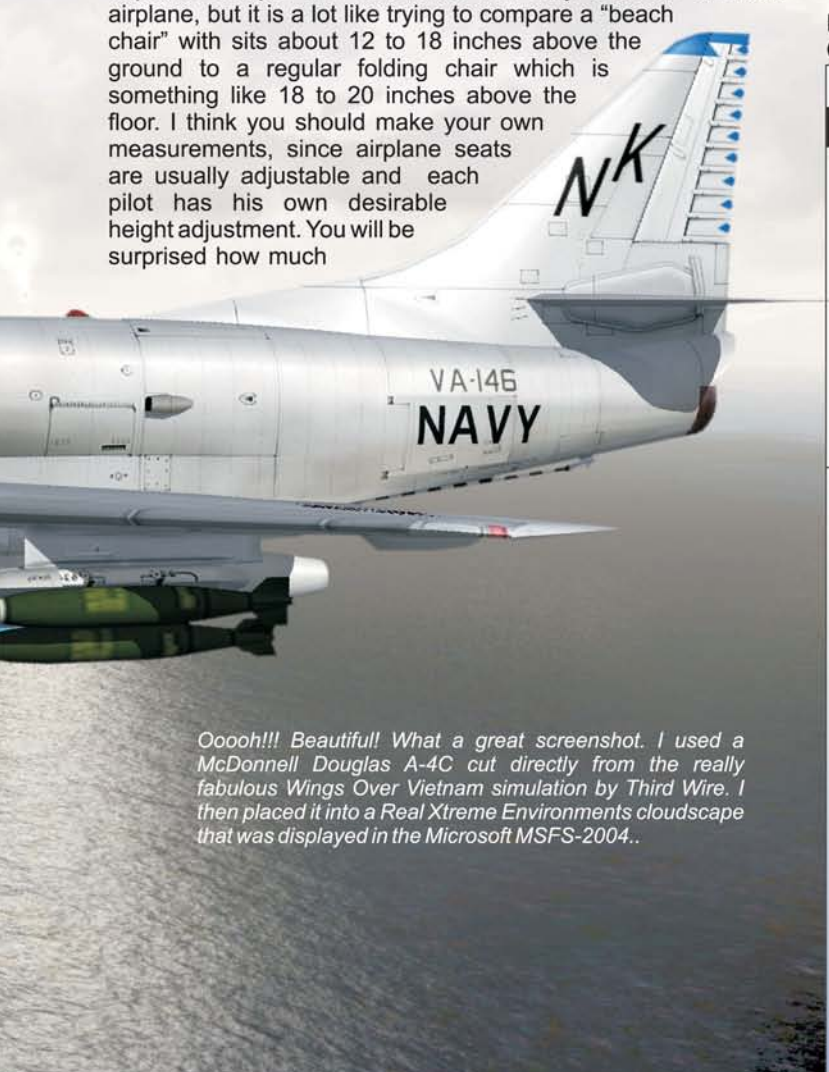
SEAT HEIGHT

Pilots that fly stick controlled fighter airplanes will adjust their seat for "rudder reach", "visibility considerations" and "STICK HANDLE" position. It is a true fact that a regular garden variety chair (used by most simmers) is a lot higher than the seat in an airplane cockpit. The difference will vary between different airplane, but it is a lot like trying to compare a "beach chair" with sits about 12 to 18 inches above the ground to a regular folding chair which is something like 18 to 20 inches above the floor. I think you should make your own measurements, since airplane seats are usually adjustable and each pilot has his own desirable height adjustment. You will be surprised how much different the lower seating position makes. Since you want to have the visuals on the monitor directly ahead of your sight line, it may be necessary to lower the monitor to accomodate your seat height.

Also, if you are going to use an add-on rudder pedal utility, it may be necessary to place the units on an angle so that the feet encounter the rudders at an almost vertical position. Use your imagination, but if you have a lower seat, then your ankle "angle" will be more tilted back. In fact, in a "real" airplane, you will find that the rudders are well forward of the seating position and in an almost vertical orientation.

The whole concept of "MODDING" has become a passion for some simmers, and a quick trip to the internet will, no doubt, yield a few very creative modification and jury-rigged objects for our consideration. So, if there is not enough details in this article, consider that it isn't supposed to be a specific nuts and bolts approach, but rather an invitation to look beyond the limits of our available tools we have at our disposal and consider what we can do to enhance them and add to or change them to add a perceived increase to the level of realism. The whole concept of a permanent "home cockpit" is probably well beyond the reach of most simmers, but there are always some simple things that can help to add a touch of realism to our operating environment. In my opinion, the "long stick" mod is one of those simple additions that can make a significant addition to the sim-flying experience and may be worth the consideration of "modders".

Happy simming,
Captain Mike



Ooooh!!! Beautiful! What a great screenshot. I used a McDonnell Douglas A-4C cut directly from the really fabulous Wings Over Vietnam simulation by Third Wire. I then placed it into a Real Xtreme Environments cloudscape that was displayed in the Microsoft MSFS-2004..

advertsement

AIRPLANE STUFF by Captain MIKE RAY

Written for Pilots and Simmers and airplane addicts.

BOEING 757

GERMANY & AROUND THE WORLD

BY TREVOR THOM

Being a PILOT has been great fun for me, as well as hard work. Also, being an author has been good fun, and also hard work. In both careers, pilot and author, life has been an on-going education for me (and is still continuing). I have been honored to meet some very interesting people – including experienced real pilots, writers, virtual pilots, yogi's, students, map makers, and others – as I flew around the world.

FLYING IN KENYA, AFRICA

IN AVIATION, YOU WILL MEET INTERESTING PEOPLE

As well as hard work, I have had a share of good luck, e.g. getting a job as a pilot in a very good airline; learning from very good Training Captains; flying around the world; having contact with people like Captain Jeppesen (chart maker, at home in Denver); Owen Carthcart-Jones (an English pilot in the 1934 Great Air Race from England to Australia); Roald Dahl (famous childrens' author, and North Africa pilot in WWII); members of Dire Straits rock band (who were learning to fly); English and German WWII pilots (flying Spitfires and Messerschmitts); Vice-Admiral Don Engen (U.S. Navy pilot, FAA, and later Chairman of the Smithsonian Air & Space Museum in Washington D.C., the Control Tower at Washington Airport is now named after him); the pilot for Maharishi Mahesh Yogi in India and around the world; Rajiv Gandhi (former airline captain, assassinated as Indian Prime Minister by the Tamil Tigers); Mimi Tompkins (in Hawaii, First Officer on the ALOHA AIR B737 which lost much of its top-surface-skin above 20,000 ft); many good teachers; and also I met many current pilots and engineers.

TRAINING ON OUR COMPUTER

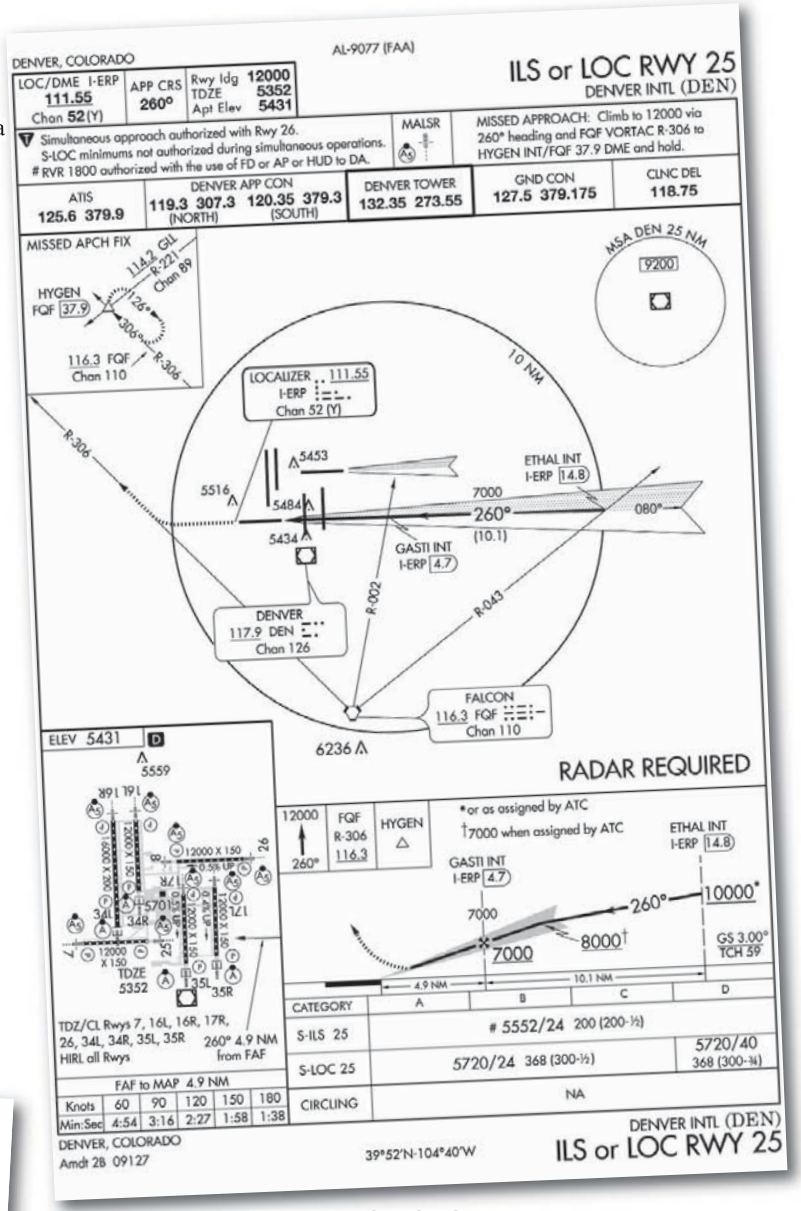
This photo shows a real pilot practicing at home on his PC. As a virtual pilot you can learn to fly on your computer at home (even before you get into a real aircraft if you wish). This computer screen shows our virtual aircraft's movement straight-ahead on the take off runway, with a Boeing waiting on another runway or taxiway before crossing over our takeoff runway.

We can practice a lot in our flight simulators for normal operations (e.g. takeoff, climbing, cruising, descending, approach and landing). We can also practice emergencies (e.g. engine failure, fire, loss of cabin pressure).

TRAINING AT HOME ON YOUR FIXED PC FLIGHT SIMULATOR

NAVIGATION CHARTS

When flying a real aircraft, or a flight simulator, you can often use a Jeppesen Navigation Chart (based on the area where you are flying). These JEPP charts have saved the lives of many pilots (and passengers). Following is a modern JEPP chart of DENVER, Colorado.



A JEPP NAVIGATION CHART

CAPTAIN JEPPESEN
Elrey B. JEPPESEN
DENVER
BARN-STORMER
AIR-MAIL PILOT AROUND THE ROCKIES
AVIATION PIONEER
AND HIS FAMOUS LITTLE BLACK BOOK

Capt. JEPP was one of the early barn-storming pilots to amaze the public with their flying aerobatic displays, with loops and spins and other things nearby and over farm barns. In the very earlier years of aviation, JEPP joined the 'Tex Rankin's Flying Circus' in Portland, Oregon, USA.

JEPP then became one of the early airmail pilots flying 'JENNY' aircraft to deliver and collect letters and parcels. Many airmail pilots would fly around the Rocky Mountains, and land on a small bit of ground near a train line for steam trains. The mail would be moved to and from the airplanes to trains to the villages and towns.

FLYING THE MAIL OVER THE ROCKIES

AIRCRAFT ORGANISED FOR 'WHEELIES'.
THESE PILOTS HAVE JUST FLOWN THIS REAL AIRCRAFT

Many pilots in these early days taught themselves how to fly visually via their eyes, and fly with feel from their hands and feet to the airplane's controls. Many of these early pilots killed themselves in the process.

Entering cloud with no horizon was deathly! There were very few cockpit instruments available to the early pilot – maybe an altimeter, an airspeed indicator, and possibly a bank and turn indicator.

There was no flight simulators, no flying schools, no aviation universities, no airports, no navigation maps, no planned routes, no ILSs, no ATC, no navigation antennas, no GPS, etc.

People built airplanes, and then tried to fly them to see if they could survive. One of Jepp's friends who survived was Bill Boeing. Many did not! The mail was often delivered by a pilot (wearing a scarf and leather cap) in an open-cockpit, with freezing temperatures, strong winds, all sorts of weather and clouds. The pilots flew by the seat of their pants!

Finding a suitable landing place in the mountains (near a train track where the mail could be loaded and unloaded) was difficult. Therefore, Jepp drew his own plates (maps on paper) to show how to approach dangerous landing places on the Rocky Mountains, and how to depart, in a safe manner.

Some years ago, having been invited to his home in Denver CO, USA, Capt. Jeppesen showed me some of his early drawings - which he put into his black book for other pilots. These plans helped many of his colleagues to survive! These plans were absolutely historic, and the development of these drawings over the years have made flying much safer for all of us – with enroute procedures, let-down procedures, approach procedures, missed-approach procedures, airports, runway procedures, taxiways, tarmacs, lights, etc.

SOME 'DISABLED' PILOTS CAN USE A FLIGHT SIMULATOR (AND MORE)

Some friends of mine cannot walk, so they move around in their wheelchairs. (I was also in a wheelchair for a few months myself, after I fell off the roof.) My 'wheelie' friends often get a lot of pleasure from learning to fly in their PC Flight Simulator, using what parts of their body they can use. Some of these great people have even moved up to enter a real aircraft which has been set up for a 'wheelie', e.g. rudder-pedals replaced by hand-controls to control the rudders.

TRAIN YOURSELF TO AVOID ACCIDENTS

If you are aiming to fly real aircraft sometime, you should treat training on your PC flight simulator as it was a real aircraft with the risk of an accident. When practicing takeoffs and landings on your flight simulator, keep your virtual aircraft on the center of the runway, and do not over-run the runway. Even when using your PC, you should plan to avoid accidents, which can really happen with real aircraft. Some accidents are caused by pilot error, like poor flying skills, forgetting to plan the flight, running out of fuel, etc. while some accidents are caused by other reasons, such as poor weather, lightning, strong winds, maintenance failures, explosive decompression of oxygen, fatigue, and so on.

SOME REAL ACCIDENTS

Training in your Flight Simulator can perhaps teach you how to avoid these real accidents caused by pilot error.

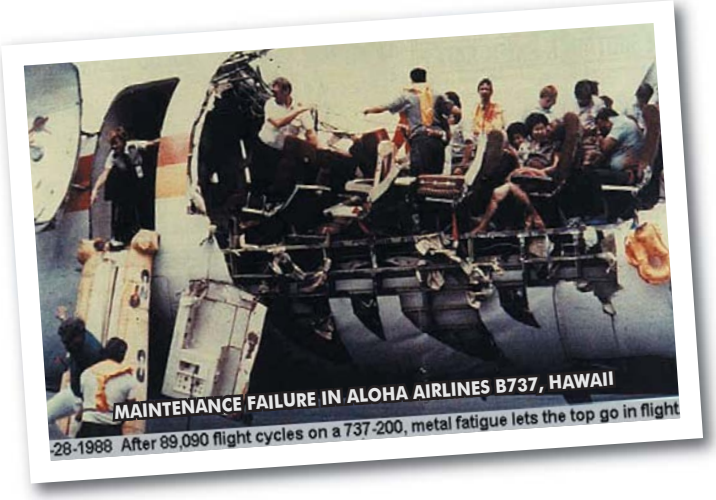
DO NOT OVER-RUN THE RUNWAY!
BELGIUM 2008; PILOT ERROR

IT COULD BE WORSE – WITH ICE & RAIN ENDING UP IN THE 'DRINK' (B737, POTOMAC RIVER, WASHINGTON D.C., 1982; PILOT ERROR)

HAWAII: MIMI TOMPKINS

The following Boeing 737 accident (caused by maintenance failure and metal fatigue) involves a friend of mine, Mimi Tompkins, who was the Co-Pilot. Hollywood even made a movie of this event, and its very good result. When the ALOHA 737 was cruising above 20,000 feet in Hawaii, some of its top surface of the roof separated from the aircraft, and the pressured oxygen and air (pumped from the engines into the cabin for the passengers and crew to breathe better) flew above into the outside environment, making breathing in the aircraft difficult. This is known as EXPLOSIVE DECOMPRESSION.

This following photo shows first officer, Mimi Tompkins, helping passengers going down the door-slide, after descending from cruising level, and landing in Hawaii.



EVEN FAMOUS AND RICH PEOPLE CAN HAVE AN ACCIDENT IF THEY ARE NOT CAREFUL!

CONCLUSION

Following articles will include some ideas about flying real aircraft and flight simulators, developing situational awareness, and include some advice from Vice-Admiral Don Engen to me, which was: KEEP THE NUMBER OF YOUR LANDINGS THE SAME AS YOUR TAKE-OFFS.

Sometimes this is not achieved, even by people who are famous and rich. Flying Safely requires thought and hard work. You must be fit, and on top the aircraft and possess situational awareness.

You can have a good and safe aviation career - if you study well, keep fit, and have a good balanced life. ✈

TUTORIAL

PMDG BAe JS4100 FLIGHT TUTORIAL

BY ROB SCOTT

One of the best add-on aircraft to be released for FSX in recent times is the fabulous BAe Jetstream 4100 from PMDG. This turbo-prop regional airliner has been in service since 1992 with the aim of competing directly with other 30-seat aircraft such as the Embraer Brasilia, Dornier 328 and Saab 340. Here we present an overview and tutorial flight on operating the JS4100 model.

An accurate simulation of this aircraft has been missing from FSX until now, and after 9 months of development PMDG has created one of the best aircraft currently available for FSX. Robert Randazzo, the head of PMDG, flew for many years as Captain on the J41, so he has an ideal background to re-create this aircraft in FSX. Initially the aim was to produce a reduced complexity aircraft (similar to the B1900D for FS9) but before long PMDG was developing a full-fat simulation for our desktops.

After spending several hours in the left seat of this aircraft I am going to take you on a scheduled flight from Coffs Harbour to Brisbane, a route flown in the real world by Brindabella Airlines as flight FQ0501 in Australia. The flight operates Monday – Friday, should last approximately one hour, and when combined with the Orbx Simulations FTX scenery will be a fun flight, especially at sunrise.

Brindabella Airlines has been in operation for the last 13 years and offers over 150 flights a week to regional destinations in Australia including Canberra, Albury, Newcastle, Port Macquarie, Coffs Harbour, Tamworth and Brisbane. They introduced the J41 to their fleet in 2008 and it is now their flagship aircraft. Searching on the PMDG website will find there is a Brindabella Airlines livery available for download, so should you wish to make your flight as realistic as possible, I strongly recommend downloading and installing this livery.

AIM

The aim of this tutorial is to give you a brief overview of this complex aircraft whilst taking in some stunning scenery along the way. We will go from a cold dark cockpit at Coffs Harbour to shutting everything back down again in Brisbane, as well as taking in everything in between such as programming the FMC, fuel loads and the flight plan. It is strongly recommended that you have (at the very least) read through the PMDG tutorial in order to have a good overview of the J41. I will be flying this flight without any AI, but with the use of the default ATC. You may wish to have AI in the skies; it's entirely up to you.

PRE PRE-FLIGHT

We already know where we will be flying and what we will be flying in, but how are we going to get there? One option is to use the default FSX planner but a more realistic option is to search the VATPAC website (**http://vatpac.org/assist/?pg=pilotassist**) for a flight routing from YSCH-YBBN. This will give the following flight plan:

CFS W214 GAMBL H66 JCW H185 BN

Make a note of this as you will need it later when we program the FMC.

Another key part of the flight planning process is to choose an alternate airport just in case we need to divert due to bad weather, airport closure, etc. Our route will take us north along the Gold Coast, where we will fly close to Coolangatta airport (YBCG) which would seem like a suitable alternative airport. It has a 6700 foot runway and is 50 miles from Brisbane.

Now that we have our route and alternate airport decided load up FSX and position yourself at the gate at Coffs Harbour so that we can begin this flight. Flight FQ0501 operated by Brindabella Airlines departs Coffs Harbour at 08:00, so to give yourself ample time to go through the pre-flight checks I would suggest setting the FSX time to 07:30 when you begin at YSCH. When loading your flight I recommend that you start PMDG's own tutorial flight first, then reposition to Coffs Harbour and set the time and date etc. I have found in the past that my default flight with a cold and dark cockpit works fine for simple aircraft but can sometimes cause problems when using complex ones. By taking a few minutes longer to set up the flight you can be sure that nothing unexpected will happen when starting the aircraft.

PRE-FLIGHT

Welcome to your office for the next couple of hours, it's time to begin this morning's flight to Brisbane. In order to get to Brisbane we need one vital piece of equipment; fuel! According to the Brindabella Airlines website, this flight should take 1 hour. If we consult the aircraft operating manual (AOM) we will see that the J41 will burn approximately 1,000lbs of fuel per hour of flight. This makes the first part easy, we need 1,000lbs of fuel to get us to Brisbane. However, we need to include fuel for getting to our alternate airport should we need to divert, fuel for 45 minutes of extra flight and we also need to include some reserve fuel for when we land.

Working these out is relatively simple. It should take 15 minutes (0.25 hours) to reach our alternate airport which equates to 250lbs (1,000 x 0.25) and 45 minutes extra will be 750lbs (1,000 x 0.75). I'd also like to have a reserve of 800lbs just in case anything unexpected happens. Our final fuel load is worked out as follows:

Fuel Flow Per Hour (lbs)	**1,000**
Flight Duration	**1.0 hours**
Alternate Airport	**250lbs**
45-Minute Rule	**750lbs**
Reserves on Landing	**800lbs**
TOTAL FUEL	**2,800lbs**

Go ahead and load the fuel via the FS Fuel load manager adding 1,400lbs into each tank.

Another important factor of any flight is taking into consideration the weather and expected weather. At the time of writing this article the weather at Coffs Harbour is fantastic for flying: No wind, 10 miles visibility with a few scattered clouds at 2200 feet and 3300 feet. No precipitation is reported and the temperature is a very nice 26 degrees Celsius (much warmer than the -5 outside my window right now). It's a similar story at Brisbane, only the winds are blowing 110 at 6 knots and the enroute weather is calm with a few clouds which may mean we encounter some turbulence. I don't think there is anything there that will worry us, so it's fine to proceed with this flight. Contact Coffs Harbour tower at this point for flight clearance.

COCKPIT PREPARATION

The J41 at first will seem like a very complicated airliner to get prepared for flight, but after a few flights and working your way through the checklists it will become second nature. As with any aircraft though, no matter how well you know the procedures, always use the checklist to rule out any chance of missing a step.

The first thing to do in the cockpit is to establish some power to the aircraft, but we must determine if there is sufficient power in the batteries first. To check this turn the ammeter knob (next to the avionics switch) to 'BATT' by left clicking on it; if the reading is greater than 24 volts then we are good to go. Turn on the batteries and ground power on the overhead panel by right clicking them. Then turn on the avionics by right clicking on the switches. These switches can be found in the middle of the overhead panel. Once the avionics switches are turned on you should here an audible message saying 'TCAS System Test OK'. At this point mute the caution warning system as it will get quite annoying whilst we are getting the aircraft ready for flight. This can be done by clicking the button at the button of the caution/advisory panel. It should take approximately 2 minutes after turning on the avionics for the relevant systems to align themselves. You will know when this has been done as the EADI and EHSI will change to their normal screens.

THE OVERHEAD PANEL

Going through the overhead panel pre-flight set-up is quite easy once you know how. If you look at it you will see that there are four different sections. Using the checklists, proceed to work down the panel starting in the top left corner and working left to right on the first section, then right to left on the second section, etc.

Next, move on to the captain's panel pre-flight check by ensuring that there is sufficient pressure in the cabin oxygen system (at least 1,600psi), that the clock is showing the correct time and that the pilot/co-pilot Flight Control Selector switch is set to PILOT. Also check that the spoiler switch is off and that the AUTOPILOT/TRIM switch is on. [Hint. If you have loaded up the PMDG tutorial flight and repositioned the aircraft, everything should be in its correct state]

Next move on to the center pedestal and ensure that the Performance Reserve (APR) switch is off and check that there are no unusual readings on the EIS. Double check the fuel loads on the bottom of the EIS screen to make sure that they agree with what you have loaded. Our landing elevation is going to be 13ft at Brisbane, change this figure to 10ft on the center pedestal.

LOADING UP

Now move over to the First Officer's side console and check all the switches under the cover on the right hand side. These include items such as stall warning and the GPWS system. After doing this, pre-flight cockpit set-up for the J41 is complete.

PAYLOAD

The cockpit is now ready for flight, let's board some passengers. As this is an early morning flight I would expect it to be almost full of people wanting to get into Brisbane for breakfast or an early business meeting. If you look down to the left hand side of the captain's side of the cockpit you will see the load sheet. This will automatically make adjustments to payload based on the information you enter into it. Start by adding a full load of passengers by right clicking on each row until there are 2 passengers in row 1 and 3 passengers in all remaining rows (29 passengers in total). Now add the carry-on bags, 10 should be enough. Again, right click on the 'Carry ons in closet' space until you get to 10 bags. We don't have anyone in the jump-seat today so leave that at 'No'and left click on the 'flight duration' box until it reads 1.0. Move on to the right hand side of the sheet and adjust the weights of cargo in the aft compartment and belly pods of the aircraft. The manual states that typical weights for aft and belly pod cargo are 600lbs and 250lbs respectively so enter these figures into the load sheet. The last item to complete on the payload sheet is the 'Fuel (-taxi)' row. This gives you the expected amount of fuel onboard the aircraft when the take-off run is commenced. Reduce this figure by 100 lbs as we are departing from a small airport where there will be minimal traffic. When departing from a major airport reduce this figure by 200lbs. The final loading sheet should resemble the included screenshot.

LOAD SHEET FOR OUR FLIGHT

FMS

The FMS will now need to be programmed with your route, which to remind you is **CFS - W214 - GAMBL - H66 - JCW - H185 - BN**. Load up the FMS by pressing shift+3 and turn it on. Check that the FMS has you positioned at the correct airport (YSCH). Press enter 3 times and you will be taken to the flight plan page. As the flight plan

is not saved in the FMS memory you will need to manually enter it. [The J41 flight plans for FSX and the J41 FMS are available for download from the Computer Pilot Website]

The FMS is fairly simple to use compared to Boeing and Airbus systems, but a good working knowledge of it is essential. If you are unsure about how to program the route, take a break and have a read through the PMDG tutorial flight to become more familiar with its operation (page 39 onwards of the tutorial flight), then proceed to enter our flight plan into the FMS using a cruise altitude of FL160.

A quick check of the clock should show that we have approximately 15 minutes left until our planned departure which is plenty of time.

V-SPEEDS

These are very easy to set! Open the speed cards located in the side of the pedestal by clicking on them. Our takeoff weight today is 23,372lbs; scroll through the speed cards by right clicking on them until you get to 23,500lbs. From this we can see that our takeoff speeds will be:

V1 = 117; VR = 117; V2 = 120; VYSE = 135

These speeds can all be set by opening up the FCS (Shift+5) and rotating the knob until the desired speed is reached. Press the knob to move on to the next speed and do the same until all 4 speeds are entered. Once these are set you will hear these speeds called out during the takeoff run.

ENGINE START

Almost there now. Before you start the engines you should only have the chocks and ground power unit visible. To get the aircraft ready for engine start turn on both the fuel pumps, turn off the avionics, ensure that both batteries are on, and turn on the beacon and nav lights along with the seatbelt and no-smoking signs. Once you have done that, check that the EGT is below 200 degrees and set the power levers into their correct position for engine start. (Press F2 until you see the green REV lights illuminate on the panel and then press F1). You can use your mouse to drag the power levers into position, but I find it much easier, and safer, to use the keyboard commands. We can now start the engines.

ENGINES STARTED AND READY TO GO

Move the 'Start Master' switch on the overhead panel to 'LEFT GND' and press the left engine start button. On start up make sure that the EGT does not exceed 770 degrees Celsius as this temperature will cause the engine to be destroyed. When the Start Master switch clicks back to 'AIR' turn on the left generator. Now load up the ramp manager and remove the chocks and the ground power unit. Repeat the engine start sequence for the 2nd engine.

After both engines have been started, turn off the fuel pumps, turn on the avionics switches (listen for audible alert), arm the emergency lights switch, turn on the windshield and air data heat then rotate both flow selectors on the centre pedestal to 5.

The last thing to do is to remove the start locks for both power levers, without doing this you will not have much acceleration for takeoff. To do this, engage the reverse thrust until you hear 'Start Locks Removed' called out. When you hear this, return the throttles to idle. Do this by pressing F1. A few times when I tried this using my throttle I destroyed the engines, so let's play it safe and use the keyboard. Once the engines are running, contact the tower and request taxi-clearance. Now would also be a good time to un-mute the CAP panel.

PRIOR TO TAKEOFF

If you have loaded the PMDG cold and dark cockpit to begin this tutorial, you will notice that the engine RPM will not be set to 100%, this is normal. The J41 has 3 operational settings: 72% for taxi, 100% for takeoff and 98% for climb, cruise and descent. This 72% setting is what we need for taxiing, but for takeoff we will need to increase it to 100%. Taxi out to the runway and hold short until you are granted takeoff clearance. On the way out, check that the flight controls move freely and set flaps 9. Next push the TOCWS button on the first officer's panel to check that the aircraft is correctly configured for take-off. If you are good to go, advance the condition levers to 100% until you hear 'condition levers flight' called out, enter the runway, turn on all the aircraft lights and arm the spoilers. One last thing to do before takeoff is to set the EHSI to the correct mode. Press the LNAV button on the glare shield panel and then the FULL/MAP button to bring up the map.

TAKEOFF

During the takeoff roll, keep a close eye on the engine torque and EGT. Do not advance the throttles beyond 100% torque or beyond the EGT red line as this will destroy the engines. If you see the digits on these read-outs highlighted by a green background pull back on the throttle immediately!

NOTE THE TORQUE AND EGT WITH ANTI ICE...

...AND NOW WITHOUT

Go ahead and takeoff and climb out on runway heading to your assigned altitude.

Once you are clear of the runway and have raised the gear and flaps, reduce the engine RPM to 98% by pulling the condition levers back slightly. Keep an eye on the EGT as reducing the engine RPM will increase the EGT. It's good practice to get into the habit of reducing power slightly before reducing engine RPM. Once you have done this and ATC has given you vectors to your assigned route, engage the autopilot and the ALT SEL, IAS and NAV modes. Use the thumb wheel to select your climb speed, I use 170kts. Note that this is not an auto-throttle and you will need to monitor the speed. Open up the FMS and press the NAV button and change the course direct to CFS, this will now enable the LNAV mode to operate correctly (remember to press LNAV on the glare shield panel).

BEAUTIFUL LANDSCAPE AS WE DEPART COFFS HARBOUR

OVER-FLYING THE HARBOUR ON OUR WAY TO BRISBANE

ENROUTE

Continue to climb to our cruise altitude of FL160 following the instructions of ATC along the way. Remember to continually monitor the EGT and take the necessary actions to keep the engines operating within their limits. Keep an eye on the warning panel for ice detection and apply the anti-ice as needed. Before you do so, reduce power slightly to bring the EGT down. Other than that, sit back and enjoy the stunning scenery. The real world pilots of Brindabella Airlines who fly this route really are a privileged bunch!

NICE DAY FOR IT

NOT AS BUMPY UP HERE

WATCH OUT FOR ICING THROUGH THE CLOUDS

One thing to take note of before descending is that the spoilers can only be used on the ground, and this aircraft does not slow down easily. When descending you will need to reduce your airspeed before beginning your descent, and when on finals make sure that you are fully configured for landing before capturing the glide-slope to avoid an embarrassing go-around because you can't slow your aircraft down. If you use the MS ATC you should be asked to start your descent as you pass alongside our alternate airport, YBCG.

DESCENT, APPROACH AND LANDING

Today ATC has assigned me to land on Runway 19 at Brisbane, the frequency for the ILS is 110.10 and the course is 196. Enter this information into the NAV1 radio and set the course now, we want to be prepared as early as possible for landing.

CLOSING IN ON BRISBANE

OVER SOUTHERN MORETON BAY AS WE MAKE OUR APPROACH

LADIES AND GENTLEMEN, PLEASE FASTEN YOUR SEATBELTS; THIS COULD GET BUMPY

Let's work out the landing speeds. So far we've burned 890lbs of fuel (take-off fuel of 2,700lbs less 1810lbs left). Subtract the remaining fuel weight from the take-off weight of 23,372lbs to arrive at our current weight of 22,482lbs. Our final landing weight will be a little less than this but I do not expect us to burn another 482lbs of fuel before getting to Brisbane, so we will use the speeds for a landing weight of 22,500lbs which are:

TARGET = 129kts; **VREF** = 114kts; **V2** = 117kts; **VYSE** = 132kts

Take the time now to enter these speeds in the same way that you did prior to takeoff.

As you get closer to the airport start to reduce your speed. Deploying the flaps in the J41 will cause a large ballooning effect, the notes in the manual suggest lowering flaps 9 at 170kts to help minimize this effect. To arrive at this speed set the torque to 50%. Once you are cleared to intercept the localizer, arm the approach mode and continue to reduce speed. Aim to intercept the localizer at 160kts with flaps 9. Once you have intercepted it lower the next stage of flaps. Just before capturing the glide-slope lower the gear and the final stage of flaps, and monitor the airspeed to keep it at 129kts. You should be able to fly the glide-slope with the throttles nearly all the way back.

ALMOST THERE NOW

TOUCHDOWN! JUST IN TIME FOR BREAKFAST

SHUTDOWN

When you arrive at the gate set the parking brake and go through the shutdown checklist to bring the flight to an end. In the real world the pilot can expect to be back in the air shortly after landing, so why not fly this route in reverse back to Coffs Harbour?

I hope that you have enjoyed flying this tutorial and that it has given you an insight into one of the best add-ons available at the moment for FSX. I feel that once you have learned how to operate this aircraft correctly, you will not want to fly a different turboprop again. It really is that good!

When you are 500 feet above the runway, or sooner if you are feeling confident, disengage the auto-pilot and fly the aircraft down to the runway. Fifty feet above the runway pull the throttles all the way back and flare slightly. Once you are on the runway slow the aircraft with reverse thrust. When passing through 80kts disengage the reversers and use the brakes to bring the aircraft to taxi speed. Exit the runway and request taxi to the gate. Whilst you are contacting ATC reduce the condition levers back down to 72% for the taxi, raise the flaps and un-arm the spoilers.

LADIES AND GENTLEMEN, WELCOME TO BRISBANE

THANK YOUs

- Orbx Simulations for the fantastic scenery of Australia.
- Aerosoft for kindly providing the J41 for this article.
- Joe (Mutley) Lawford for his valued input. ✈

DON'T GET TOO COMFY, YOU'RE GOING TO HAVE TO DO IT ALL AGAIN IN 45 MINUTES. IT'S A HARD LIFE!

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John Achor takes us on a float plane journey exploring the volcanic Aleutian Islands of Alaska. For bush plane pilots or island hopping fans, this article will be a sure winner!

Aircraft Spotlight – 747 Family
What will it be; a 747 Classic or the Queens of the Skies?
You have got no idea what I'm talking about? Believe me; that will change after you've read this Aircraft Spotlight.

Simulating Emergencies
In this article we explore the type of failures and the way they are set up in FSX and X-Plane. They are slightly different in each sim but generally you can fail instruments, engines, control surfaces, etc. These can be arranged to fail at particular times, altitudes, speeds, or randomly… learn how to effectively handle emergencies safely in your simulator.

I Learned About Flying From That… Part IV
For the fourth in this series, we've left primary training behind and moved on to the Basic Flying Training program at Webb Air Force Base, located at Big Spring, Texas (USA). We fly the Lockheed T 33A Shooting Star, a single engine jet with a pair of tandem seats.

Benchmarking FSX – Part IV
Looking to get the most out of your FSX experience or not sure which upgrade path you should take for your next hardware purchase? Never fear! Doug Horton offers more valuable advice next issue in Part IV of Benchmarking FSX.

Reviews
We have planned reviews of these great new flight simulation products:

- SimCheck A300 Series
- Discus Glider X
- SimFlight 3D Aircraft
- OH-58D Kiowa, and mini-reviews!

PLUS

Doc White Story Continues
More from the memoirs of Doc White including exclusive information and insight from his family members of his journey through life, including his trials and tribulations!

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dream to fly!

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