



West Mercian Wing Aerospace Overview

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 **ROYAL
AIR FORCE**
AIR CADETS
the next generation

The Aerospace programme

.....the link between classroom learning and hands on aviation



Cadets engaging in a Flight Simulator exercise

The accuracy of the Flight Simulator package allows cadets to build knowledge and understanding of the cockpit and instruments, aerodynamics and air traffic and ground procedures to such a level that when opportunities arise for them to progress their leaning to the more advanced RAC set ups or even in the real world, they do so with a previously unheard of depth of knowledge and understanding, allowing a smooth transition to the next learning platform.



Overflying Virtual RAF Cosford

A key delivery channel for the West Mercian Wing Aerospace Programme, Flight Simulator packages are now extant and in use on all Squadrons in the wing.

These set ups provide cadets with an immersive and engaging way to understand the finer elements of the theory contained in modules such as principles of flight and airmanship, by way of practical demonstration and involvement, bringing to “virtual life” subjects that were previously difficult to understand with traditional diagram or description teaching.



The Cessna 172 Cockpit in Flight Simulator

Much of our ground training in the flight simulator takes place at a virtual RAF Cosford where cadets will recognise the buildings, features and surrounding roads and countryside of the very airfield where many of them will embark on the real life flying experience, such is the accuracy of the flight simulator program.

FSX Flight Simulator

...as real as it gets?



Flight Simulator 10 (FSX) was the final incarnation of Microsoft's popular simulator program. In the twenty plus years of development and release in various versions it has become the benchmark for Flight Simulator accuracy and scope.

Although Microsoft's Aces Studio, the original developers of the package are no

more, FSX lives on through the new owner/developer Dovetail, accessed via the popular Steam platform.

In its standard form FSX models a range of single and multi engine propeller and jet aeroplanes, with accurate flight dynamics, worldwide airport coverage, weather systems and air traffic control. So realistic is the package, it forms the basis of the Lockheed Martin Prepar 3D commercial simulator platform.



Grob Tutor cockpit in FSX... as real as it gets?

The cadet's learning experience is greatly enhanced by the realistic "human/machine interface" in this case provided by a flight yoke, throttle quadrant and rudder pedals.

This means that almost all the key inputs of pitch roll and yaw as well as trim adjustment and flap settings are made exactly as they would be in a real aeroplane, making the step from simulation to reality a small one.



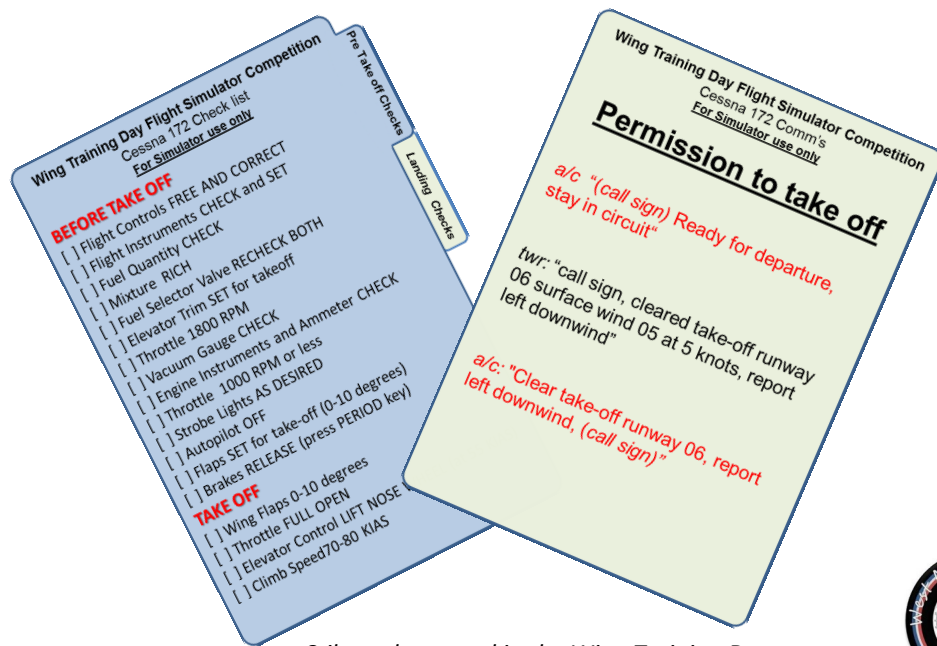
Yoke, throttle quadrant and rudder pedals as issued to all squadrons

The Aerospace programme

.....the link between classroom learning and hands on aviation experience.

The Aerospace team are clear in that our role is not to teach cadets to fly, but to maximise and enhance their learning by way of practical demonstration using flight simulation.

This takes place on the squadrons as well as part of the forthcoming Wing Aerospace Courses and aims to take interested cadets that bit further, preparing them for future Qualified Aerospace Instructors Courses (QAIC).



Crib cards as used in the Wing Training Day
Flight Simulator Competition



Pilot and Co pilot working together to complete
a Flight simulator exercise

In 2015 for the first time, West Mercian Wing Training Day included a Flight Simulator Competition, where teams' skill and knowledge of procedures, R/T communication and pilot and co pilot teamwork were tested in a high pressure and realistic environment.



West Mercian Wing Aerospace programme

For further details please contact Flt Lt Bear