



FLIGHT-WATCH



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FLYING AT DUXFORD

I. Introduction

A vacation in London affords aviators and aviation enthusiasts an opportunity to sample British Aviation at Duxford Aerodrome which is about 43 miles North of London and 11 miles South of Cambridge. Visitors in London may take the subway to King's Cross Subway Station which is co-located with the British National Rail System. The express train travels from King's Cross in London to Cambridge in about fifty minutes. The Duxford Shuttle Bus picks up persons traveling to Duxford at 9:40, 10:40, 11:40, 13:40 and 15:40. The Duxford Shuttle Bus will return you to Cambridge at one hour intervals throughout the day, with the last bus departure from Duxford being at 18:00.

II. Where Is Duxford, How Is It Laid Out and What Is Its History?

Duxford is a civil aerodrome in operation on the east side of Highway M11 South of Cambridge. Its coordinates are 52° 05.7' N 000° 7.55' E, meaning it sits almost directly on the Prime Meridian extending through Greenwich, England. The field elevation is 124' MSL and it has a paved runway 06/24 that is 1503 meters in

length and a parallel grass runway which is 890 meters long. The tower frequency 122.075 and its hours of operation are 10:00 to 18:00 hours from March 16 to October 31 and from 10:00 to 16:00 from November 1 through March 15. Prior permission to land at Duxford should be obtained by calling 01223 833376. Permission to land may also be obtained by radio if one contacts the tower before reaching a point ten miles from the Aerodrome. Aircraft lacking radio equipment must obtain permission to land at Duxford in advance. 100 low lead AV-GAS and Jet A are available between 10:00 and 17:50. There are limited facilities for maintenance and hangar space is available only in emergencies.

Duxford was a training base for the RAF during the First World War. It continued to serve as Number 2 RAF Training School beginning in 1920 and became home to RAF Squadron Numbers 19, 29 and 111 beginning in 1925. Number 19 Squadron was one of Britain's top fighter squadrons and was the first RAF squadron to become equipped with Spitfires in 1938.

With the outbreak of the Second World War, Duxford along with nearby Fowlmere, was home to RAF Fighter Squadron Nos. 19, 310, and 242. These squadrons were part of Fighter Command's Twelve Group under the command of Group Air Vice Marshal Trafford Leigh-Mallory. Leigh-Mallory was a proponent of the "big wing" concept of attacking German bombers

with large formations of British fighters. RAF fighters flying from Duxford played a vital role in defeating the Luftwaffe during the Battle of Britain during the summer and fall of 1940.

Beginning in October of 1942, Duxford was home to the 78th Fighter Group of the U.S. Army Air Forces which initially operated P-47 Thunderbolts and later P-51 Mustangs. After World War Two, Duxford served as the home of RAF Gloster Meteor jet fighters. However, the RAF closed the base in 1961. The British Ministry of Defense declared its intention to dispose of the airfield in 1969 to make way for a sports center and prison. However, in 1977, the Cambridgeshire County Council joined with the Imperial War Museum (IWM) and the Duxford Aviation Society in revitalizing Duxford as an active aerodrome as well as a location to display the IWM's considerable number of historic aircraft.

III.

My Hop in a Tiger Moth

Having experience in flying the Boeing Stearman and North American Texan, I thought it would be fun to fly a deHavilland Tiger Moth, model number DH82A. I was fortunate to taxi, takeoff and land the Tiger Moth. I also had a chance to perform some steep turns, stalls, lazy eights and a chandelle. My impressions of the aircraft are discussed below.

The Tiger Moth is a small tandem seat biplane. It has no brakes, no electrical system, very basic instrumentation, an upper wing that is swept aft from the centerline of the fuselage to the wingtips and a gravity-fed fuel tank in the upper wing. The pilot sits on a seat that appears to be

located on the floor of the fuselage. The magneto switches are not located in the cockpit. Rather, they are located forward of each cockpit on the turtle deck. Finally, the most important difference between the Tiger Moth and American aircraft is that the propeller, when viewed from the cockpit, rotates counter-clockwise. This requires left rudder pressure on the takeoff roll and at high power settings and slow airspeeds. These rudder pressure applications were opposite to every other plane I have flown.

While taxiing the plane on grass fairly significant applications of power and rudder deflections were required to maneuver the aircraft. On takeoff, I decided to takeoff in a three-point attitude, because I did not know how far the nose would swing to the right due to the effects of torque and gyroscopic forces if I popped the stick forward and raised the tail in an attempt to improve forward visibility.

The rate of climb was not spectacular and the control forces were light. Steep 360 degree turns left and right were accomplished with ease. Stalls were very docile with no tendency to drop a wing or fall into a spin. A chandelle was easy, although climb performance in the last 90 degrees of



North American P-51D Mustang

the maneuver was marginal. Lazy eight maneuvers were reminiscent of flying the Stearman.

Returning the Duxford, a pattern altitude of 800 feet was set up with the lower wingtip aligned with the edge of grass Runway 24. Two notches of aft trim and a power setting of about 1600 r.p.m. resulted in an approach speed of 55 knots. A right side slip revealed that the aircraft was on glide path for the runway threshold. As the runway perimeter became apparent through peripheral vision, the gradual application of elevator back pressure resulted in a three point landing with a small bounce and a short landing roll.

My overall impression of the Tiger Moth is that it is more basic in design and easier to fly than the Stearman. The Stearman is a larger aircraft with a more powerful engine. It can be tricky to land in a strong cross-wind. The Tiger Moth is a small stable bi-plane and is no doubt, a good plane for primary flight students.



deHavilland Tiger Moth
and Spencer Lambert.



Steve Hinton Running up
Curtiss P-40M

IV. Meeting Ace Pilot, Steve Hinton

Anyone who has followed air racing at Reno or the restoration and operation of historically significant warbirds will recognize the name of Steve Hinton. Steve flies and is responsible for restoring and maintaining about 40 vintage aircraft. His flight of the P-38 Lockheed Lightning, "Glacier Girl" was the subject of a movie on the History Channel. Steve has flown any number of high performance World War Two fighters including the following: P-51 Mustang, F4 Corsair, P-38 Lightning, P-40B Tomahawk and P-40M Warhawk, F8F Bearcat, SBD Douglas Dauntless, and many more. Steve has performed in air shows throughout the USA and in Europe. Steve has flown in a number of motion picture productions.

Having spoken with Steve by phone about a week before my journey to Duxford, I was fortunate to meet Steve and his buddies from the States

V.
**The Imperial War Museum at
Duxford**

The Imperial War Museum was established by Act of Parliament in 1920 to collect, preserve and display material and information on military operations of Britain or the Commonwealth since August 1914. Duxford is one of the Museum's venues. It is a living and active museum where vintage, military aircraft are restored, displayed and flown. A complete list of the aircraft on display by the Museum of Duxford appears at: http://homepage.ntlworld.com/mclaydon/air_list.htm.

The IWM has devoted Hangar No. 3 to a Battle of Britain display complete with a Spitfire, a Hurricane and a Messerschmitt BF-109E complementing the aircraft is a film and educational displays which explain the history of this remarkable battle which tested the skill and endurance of the pilots of RAF Fighter Command. As an aside, I learned that the portions of the MGM movie, "The Battle of Britain" were filmed at Duxford. Unfortunately, an explosive charge had greater force than was anticipated and a vintage hangar that had survived the Battle of Britain was destroyed by members of the film crew.

Another interesting display at Duxford is the American Air Museum in Britain designed by Sir Norman Foster. The American Air Museum

stands as a memorial to the 30,000 American airmen who died while flying from British bases during World War Two. It features the finest collection of historic American combat aircraft outside of the United States.

VI.
**Private Aircraft Collections
at Duxford**

Duxford is home to a number of private aircraft collections of Second World War and Korean War vintage, combat aircraft. These include:

The Stephen Gray Collection,

The Old Flying Machine Company operated by Ray Hannah, and

The Brietling Fighters Group.

The Old Flying Machine Company provides aircraft for film production activities such as "Empire of the Sun" directed by Stephen Spielberg and "Piece of Cake" produced by the BBC.

**Aircraft Assembled for
The Duxford "Flying Legends"
Air Show**

The aircraft assembled at Duxford included the following:

at least seven Spitfires,

two Hurricanes,

four P-51 Mustangs,
 two F4U Corsairs,
 a B-17 Flying Fortress,
 a B-25 Mitchell bomber,
 two JU-52 Junkers transports,
 a P-47 Thunderbolt,
 a Hawker Nimrod fighter
 one F-86 Super Sabre,
 a T-33 Lockheed jet trainer,
 a Grumman F6-F Hellcat
 a Grumman F8-F Bearcat,
 a Grumman F7-F Tigercat,
 a Bristol Blenheim bomber,
 a Fairley Firefly torpedo
 bomber,
 two P-40 Warhawks,
 a Russian La-5 fighter, and
 a Russian YAK 9 fighter to
 name a few.

As I was departing Duxford the day before the air show was to begin, the aircraft were assembled on the green grass north of the control tower. Spitfires and Hurricanes were grouped together. The P-51 Mustangs and P-47 Thunderbolt were grouped together. The Grumman and Vought Aircraft Navy fighters were assembled together. The aircraft were spotless. The History Channel

had a tent erected, and there was a venue for special guests with VIP seating.

VIII. **Other Items of Interest at Duxford**

Duxford also features a Land Warfare Hall complete with tanks, guns, equipment, vehicles, video presentations, uniforms, equipment and models of ships and aircraft which illustrate significant conflicts of the Second World War. These exhibits are not limited to the European Theater, since there is a substantial body of data dealing with the war in the Pacific as well as in Burma and Malaya.



Curtiss P-40E Warhawk



Southeast Asia WWII Exhibit
 at Duxford, Land Warfare Hall

IX. **Conclusion**

Duxford Aerodrome and the venues of the Imperial War Museum and the American Air Museum in Britain are magnificent facilities. Allowing for the journey time on the subway and National Rail and Duxford Shuttle Bus, one can be at Duxford within two hours of leaving his hotel room. Although I could not stay for the Flying Legends Air Show, I did observe the rehearsals, and the pilots flew superbly. For those willing to travel to Britain, I can strongly endorse a visit to Duxford.



Supermarine Spitfire Mk. I



Bristol Blenheim Bomber



deHavilland Rapide with Junkers JU-52 in flight.



Grumman F8F Bearcat



Junkers JU-52 Painted in Lufthansa Markings



Boeing B-17G Flying Fortress

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