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"Visit to No.1 AIDU, RAF Northolt"

Eddie Ashill

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Visit to No 1 AIDU, RAF Northolt, 25 February 2009

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Fifteen of us were greeted at the Guard Room and, as instructed, were processed to proceed to the unit, a futuristic looking block solely for the production of aeronautical charts.

Flight Sergeant Mike Simpson, a section leader and an RAF cartographer, gave us a preamble as to the purpose of the unit. Then we were formally welcomed by the Officer Commanding No 1 AIDU – Aeronautical Information Documents Unit, Wing Commander Charles Howard-Vyse, an ex-Tornado (fast jet) navigator! Mike concluded a session that gave us a detailed insight as to what takes place at Northolt and answered many questions.

No 1 AIDU was originally set up at Ruislip in 1953 and moved to RAF Northolt in 1956. The new, dedicated building opened in 1995. The unit is part of the Intelligence Collecting Group of MOD, receiving information from Feltham and JARIC at RAF Brampton.

It is a mandatory requirement that most products are produced on the 28-day internationally agreed Aeronautical Information Regulation and Control (AIRAC) cycle. Core publications are en-route charts on the scale 1:1,000,000, low flying charts on the scale 1:500,000, both on paper and digitally, and back-up material to these charts.[1]

The seventy en-route high level charts, used for flying in excess of 19,500 feet above mean sea level, cover North America, Atlantic Ocean, UK, Europe, Africa, Indian Ocean and parts of the sub-continent. The low level charts cover the UK and Europe, practically all of UK military flying today. The en-route charts are used at the flight planning stage of an operation. They are not topographical and are used purely for navigational purposes. Information includes airway routes, designated airspace, airspace reservations and radio navigation facilities, including '5 alpha' named waypoints, e.g. MALBY near Lyneham. Airway routes are indicated by name, e.g. GOLF 1, from London over the Severn to Strumble Head and to the United States and ALPHA 25, from the North West of England to Berry Head and Brittany. Each airway shows the true heading and the distance between waypoints or reporting points in nautical miles. Airways are coloured light green and sea or large rivers and lakes blue; the rest of the ground is white. The charts are drawn on an Oblique Mercator projection and are republished typically every six months or when required. They also include isogonals, showing bands of the variation at the time of publishing, and the altimeter setting areas are delineated.

The low flying chart, scale 1:500,000, and the 1:250,000 military helicopter charts of the UK are both topographical and in full colour, produced only for the military. They used to be classified but no longer are because sensitive information is no longer included. These are reprinted twice each year.[2]

En-route supplement booklets, covering the areas of the en-route charts, are also published twice yearly to give up to date information and are used in conjunction with these charts, permitting aircrew to use airspace and ground facilities to the best advantage. They give the exact location in latitude and longitude of every airfield and en route navigational aid with a huge amount of other essential information.

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1 More details will be found at *www.aidu.mod.uk* together with examples of the various charts.

2 The Civil Aviation Authority also produce a 1:500,000 topographical chart with a different emphasis, see *Sheetlines 81*, 13.

Other products include terminal charts for individual airfields/airports and cockpit display flip-charts, as well as minor airfield charts and charts of helicopter and hospital landing sites. Information about current vertical obstructions is collected on an on-going basis, to alert aircrew to hazards whilst low flying or during airfield approaches and take offs.

Development is taking place on system ED-76A, which allows more aircraft to fly in already crowded airspace by using GPS fixes instead of standard air traffic controls.

It is essential that all information and changes to the charts are integrated. GOTHIC, a system designed to achieve this, is currently being developed by a company in Cambridge. It is ground breaking but is encountering some teething problems.

The Unit is working towards ISO9001 quality management standard accreditation. The Army now does all military cartography training at Hermitage, near Newbury, but a senior NCO from No 1 AIDU is about to be seconded for RAF input.

The classroom briefing completed, we moved to see the different sections dealing with product planning, production, printing and dispatch. The planning section is managed by a senior NCO, as are all others, and is where all the data changes and intelligence are gathered, ready for incorporation. Here we perused the Aeronautical Information Publications (AIPs) issued by all countries from Afghanistan to Zimbabwe.

The next section was fascinating because it produces the updated low flying charts. We were shown a digital presentation of a 'fly-through' over the half-million chart at 350 knots at various flight levels. This digital system is used on military bases that need to fly tactically; for example, I have seen it in the flight operations section at RAF Valley on Anglesey. The amount of information shown is detailed and impressive.

All updates are logged on 'Bible' copies of the last print, amendments highlighted in yellow and deletions in red. All changes and updates are input into the 'master' on PCs in this section. Here we learned that low level flying limit is a minimum of 80 feet above ground level! Wow!

Printing of the charts is done in a state-of-the-art print shop, by operators who are experts in using the complex machinery. Publications are stored in the warehouse prior to dispatch to the users. No time-expired maps are kept, for obvious reasons.

The unit's insignia is in the form of an RAF squadron badge: a sealed parchment over a flaming beacon with the Latin motto 'Quo certior eo tutior', 'The more fully informed the safer'. It well demonstrates that the unit is a very efficient and professional operation delivering a product of the highest quality.

Rodney Leary offered our thanks to Mike Simpson, and to be conveyed to all involved in our visit, for delivering to us a very detailed and instructive insight into the operation of this little known but essential facility, maintaining the high standards expected of the Royal Air Force in the 21st century.