JETSTREAM

FLYING CLASSROOM REPLACED

Flying classroom replaced

The well-known Jetstream of the British Royal Navy is making way for a new appearance. The old lady is aged, but soldiers on, and sometimes they say; the best way to learn riding a bike is on an old one'. In this saying lies more truth than you would expect because many have seen this plane inside during their education. Because of this the Jetstream is nicknamed as the 'flying classroom'. The final days in her Royal Navy career is a good moment to have closer look.

Sentiment

Handley Page's design dates from 1965 and was given the designation HP-137 Jetstream. At that time the Jetstream had quite attractive aspects such as a pressurized Cabin, and a design allowing higher speeds. This was quite advanced and not to find at comparable aircraft at that time. The cabin was formed tubular and the exactly round section is ideally noticed when you stand right in front of it. Handley Page however unlike as it was projected did no deliver large series to customers and an improvement in the design seemed necessary to make the type more attractive. Dramatically this step appeared to be to much for the concern as it was not lucky in the time scale to deliver when the development was targeted by delays. The Scottish Aviation factory in Prestwick where wings already were produced was attracted to the bait and gained the whole production. Especially the engines appeared to be a bad choice. The French Turbomeca Astazou series performed not sufficient and appeared to have a high maintenance interval. This fact plays tricks on Royal Navy up to even today. In Later series the engines were replaced by powerful Garreth turboprop engines especially for the American market.
This proved to have been the bottleneck, the Jetstream indeed became more attractive. However it never came to large scale productions and only small series were taken into service by different airlines all over the world. Military spoken the type was used only by the Royal Air Force, Royal navy, a few examples by the Royal Saudi Air Force and Uruguayan Navy. Scottish Aviation however was also not able to 'save the ship' and the company with its entire heritage was incorporated in British Aerospace.

Observer training

Nevertheless, the Jetstream appeared to be an excellent plane to train pilots in multi-engine flying, and these RAF pilots will have good memories on all the hours they spent in the Jetstream. It's willingly under your hands up to certain level, although the type can be demanding when landing in turbulence.
The Royal Navy uses the Jetstreams for observer-training, and for those who are not working in the field would not consider the fact that an observer plays a very important key-role in maritime airborne operations. They take the tactical and operational decisions under high pressure. What is the best input of the available

systems into the theatre? The Questions are; how to operate the sensors in an optimal way, how to communicate in the smartest way and how to create a helicopter-view literally? They will have to guide Royal Navy airpower fast and effective on the right moment to the right place. After acquiring those skills in educational Jetstream flights, the observers will later on take such decisions in the Lynx, Sea King and Merlin helicopters. Trained on a twin turboprop an preparing for a task operational executed from helicopters seems no to be logic but the Royal Navy gained good experiences with the Sea Prince twin turboprop on this subject and a replacement with the Jetstream for this task was a logic step to take.

750 Squadron Culdrose

During the last phase on the British Royal Navy College (BRNC) in Darthmouth the officers go to the 750 Squadron at Naval Air Station Culdrose where they can appropriate a Basic Observer Course in 32 weeks under the motto 'Teach and Strike'. It's a hard work to learn the skills of navigation training, radio communication training, radar techniques, the principles of tactical awareness and to realize what It means to be in control of all units in the environment in the observers role! The better you develop this 'instinct', the better can advise in deploying ships and planes in a full scale scene. In wartime situations the observer will operate as 'Airborne Warfare Officer'. During the training - prior to the flying phase – there is classic instruction and exercising in a computer controlled RGPT simulator. Once entering the Jetstream to start the flying phase there are two fully instrumented navigation consoles in the cabin at your disposal for both cadet and teacher. Ten radar-flights will follow on two 'first flights' (1 x day, 1 x night) to get familiar with the ground/sea surfaces. Locally there are 22 training flight paths, and also three 'land away' missions are scheduled taking the cadet further offshore. Information comes from a MEL-190 radar housing in the extended nose with radome. It is a 'weather radar' and a 'terrain mapping radar' as well. A Decca Doppler type 71 fitted in an underfuselage bulge feeds the digital Tactical Air Navigation Systems (TANS) and a High Frequency (HF) communications console enables large distance communication. Eight tactical flights are part of the program including 'low-level flights' and a stop-over flight for instance to Gibraltar. What also contributes to creation of knowledge is to handover the command of a sortie half its way, to let it complete by the observer.

30 years celebration

Originally the Royal Navy started with the Jetstream in 1979. 16 in total started service as Jetstream T.2 between 1979 and 1983. Those were originally ordered by the RAF but were discarded later on when the need for multi-engine training appeared overrated. The Royal Navy took over those surplus ones as a successor of the Sea Prince for the observer training. Scottisch Aviation modified these T.1's to T.2 in the Prestwick facility installing new radar in the nose. In 1985 four Jetstream T.3 were ordered with a special RACAL ASR360 under fuselage multi-mode radar for extended radar-training but eventually these examples acted as VIP planes at Queens Heron flight. In October 2009 a flypast was made over Culdrose by a formation of six Jetstreams marking the celebration of 30 years in service.

Almost 1000 students completed their education with 750 Squadron which they described as one of the toughest in the Royal Navy. Seven planes are operational every day and two are kept in reserve. Nowadays the Jetstream is not keeping up to the modern avionics of the later generation helicopters. Also the end of its operational life is approaching soon. BAe Systems Regional Aircraft at Prestwick applies under Post Design Services (PDS) contract technical support with the Material and Component Repair Overhaul (MACRO) program. The type is very reliable through the years and the use, sometimes described as 'flogged to death' did not cause any loss of aircraft.

Future scenario

In order to cover needs for the coming years, the Royal Navy just like the Royal Air force has set its choice on the Raytheon/ Beechcraft King Air 350ER. The ministry of Defence made a deal with the civil organisation Ascent Flight Training. This organisation is a joint venture between Lockheed Martin UK and the Vosper Thomeycroft Group. Ascent provides flight training courses under the UK Military Flying Training System (MFTS) for as well as RAF, the Army Air Corps and Royal Navy for the next decades. Four King Airs will be operational in the Royal Navy, after modification by Cobham Aviation Services-FR Aviation Bournemouth concerning the mounting of radar and operator consoles. The planning foresees the introduction into service for March 2011, and the first student trainings are planned for October 2011. Students will be able to graduate for the Rear Crew Stage 1 in the King Air which will be the new equivalent for the observer course of today.

Kees Otten en Wim Das

The Jetstream T.2 in short.

Length:	14.69m
Height:	5.32m
Wingspan:	15.85m
Wingsurface:	25.2 sq. meter
Crew:	2 + trainer / observers
Passengers:	5 in communication version
Engines:	2 x Astazou 16D turboprop 965 pk each
Reach:	4 uur or 1260 km
Empty weight	4360 kg.
Max. start weight;	6600 kg
Cruising speed	426 km/u
Max. cruising speed:	459 km/u
Operational ceiling:	7620 m
Climb speed:	10.6 m/s
Min. Runway length:	537 m
Min. Landingway length:	425 m
Cabine:	Length 7.32 m, height: 1.80 m, width 1.85m.
Cockpit:	conventional lay-out, Rockwell Collins instruments