MULTINATIONAL C-17 GLOBEMASTERS OF HAW AT PAPA AIRBASE HUGARY

MULTINATIONAL C-17'S ON THEIR WAT FOR A LONG CAREER

The Boeing C-17 Globemaster III aircraft from the Heavy Airlift Wing (HAW) at Hungaries Pápa Air base have showed themselves very useful during recent years. The aircraft serve European interests and are being flown by multinational crews. During early summer 2017 there was an opportunity to take a look at how the Heavy Airlift Wing has been established at Pápa. Beside the splendid international cooperation in the mutual operating of the C-17's the most interesting aspect is of course the plane itself.

OPERATIONS MAJESTIC C-17 IN CENTRAL EUROPE - PILOTS LOVE THE C-17

During our visit to Papa Airbase Hungary we received a introduction from the Dutch pilot 'Peer' who is giving us the idea to be living inside the plane. He knows all ins and outs of the aircraft and makes us quite enthousiastic. But this is not only because his knowledge about the C-17 seems to be endless, he also knows how to sell te picture and shows us how real dedication looks like. The aircaft was clearly designed to transport heavy load but on the other hand truly effort was made to give the aircraft modern flying characteristics and easy aircraft handling.

The result was an extraordenary aircraft with impressive capabilities. Despite the size of a wide body aircraft, the C-17 easily takes the track of the Rainbow Canyon near Death Valley which happen to be a typical figher low level training circuit. The way of flying is indeed quite equal to a fighter. The pilot uses a stick to control the C-17 and is looking in a Head Up Display (HUD) while fly-by-wire technology is the third equality with a fighter like the F-16. A flying character somehow resembling a fighter but doing it with an heavy cargo plane seems to be real odd but has become reality and this makes the C-17 truly majestic.

Aerodynamic design and the use of composite materials allows a higher level of limits but this of course could not be advantaged without sophisticated software. Secret technology? May be yes, may be no. It is a fact that the concept was very smart at the time of introduction into operational service. The mission computer contains several modes which has to be programmed before flight but enables you an easy way of flying. It is called 'the box' and the modes include a 'take off mode', a 'landing mode', an 'air drop mode', an 'air-to-air refueling mode' and a 'cruise mode'. When approaching the air base during landing it is a matter of just switching to another mode and everything will go smoothly.

Depending on which mode is required you feel the connection with the stick in your fingers while the throttles are controlled by the computer. When using auto-throttles the used mode in the computer will select and initiate how much power on which moment will be delivered from the engines. During the flight data are checked but of course most data are preprogrammed before flight which is a real skill to be obtained from the beginning. When this experience is in your pocket you may program the flight as you wish in any comfortable way and it will be great flying.

IN THE C-17 YOU FEEL SAFE

The C-17 is a multipurpose freighter. This stays not only just at the level of transport cargo and personnel but the plane offers more abilities. When acting in emergengies sometimes unrealistic missions were executed, for example 600 people were evacuated from Haiti in 2010 while sitting on the floor of the cargo bay which amount is far above the rules for regulated transport. Other missions for example could be low level flights, night operations, air drops of

cargo or para troopers and assault landings. Pre flight checks includes the Take of and Go Around (TOGA) parameters to be cleared otherwise the computer blocks you simply to leave. The same will happen when you have to much cargo or other parameters are over limits. Everything has been done to ensure a safe take off. Safety first was a key item during design. When the computer or electronics are disturbed there are conventional back up systems to give you an escape. At that moment a RAM Air Turbine (RAT) gives hydraulics and a cable system is installed to take control of flying. Peer explaines: when loosing power the C-17 becomes considerably instable but a good pilot can handle it.

MISSION PLANNING REQUIRES DISCIPLINE

Special missions ask for preparations. The C-17 is a good low level performer and this continues easily in night missions flying with night vision goggles. When acting in low level flights you have to be sure where the obstacles are and you need the computer programmed for that. If you cannot avoid those obstacles the computer will take the aircraft to safer altitude when flying above uncertain tracks in the route.

When complicated the programming can take hours but eventually everything will be projected on displays while being on the job and this is comfortable. Both night flying and low level flying are an ever returning part of the training program. Approximately 10% of the flight hours serve for training courses and to keep up currency. Some 3165 flying hours are given to the squadron annualy which indicates that training hours should estimate 316 hours.

Supplementary training is taken on the C-17 simulator in the United Kingdom. Simulator training in increased proportions has been quite common lately and today much more situations can be simulated in ‘real life’ modes but Peer mentions that the value of this also has a limit. The stress of operations like air-to-air refueling or assault landings on short runways (length only 3500 feet and width 90 feet) cannot be simulated and has to be felt during real flying missions to obtain the skill and to keep it current.

AIRDROPS

Airdrops and C-17 are a good combination and troops can leave the plane ‘in style’. Paratroopers jump from both sides through a side door and almost immediately the parachute opens under the plane and enables the C-17 crew to let them jump from a real low altitude. Precision drops are possible day and night under all weather circumstances whathever location anywhere in the world. Those drops could be paratroopers but also cargo. The plane is utilized for the container delivery system (CDS) but palletized cargo or a combination of both is also possible. Combination drops were exercised in Romania recently.

After dropping a pallet with howitzer and utilized with a tracker, some six minutes later soldiers jumped out and they succeeded to shoot out the first grenade after 20 minutes since the drop started. An assault landing will be executed on enemy territory and can be done on very simple terrain, even with sand on the surface starts and landings stay a possibility. Troops can be delivered in this way while the engines are running and within 20 minutes the aircraft should have been airborne again if everything is going according the plan. The dropping actions are also in the training enveloppe and in the neighbourhood of Pápa is a specific dropzone terrain in use for this.

HEAVY AIRLIFT WING IS PART OF THE SAC

The C-17’s from the Heavy Airlift Wing not only fly with multinational crews, also they serve multinational interests. International deployment of HAW C-17’s is following a certain stucture. In 2008 a group of 12 countries decided to operate a few big transport planes together as a result of operational demands which could not be delivered separately. The Strategic Airlift Capability (SAC) was formed by 10 NATO member states; Hungary, Bulgary, Estonia,

Lithuania, the Netherlands, Norway, Poland, Romania, Slovenia and the United States together with two Partnership for Peace (PfP) countries; Zweden and Finland and this is still the case. Three C-17's are in the inventory of the SAC of which one was donated by the United States. Every country has his own percentage in the project in terms of finance and operations. Operations could be ordered for national or European interests but could also be running under European Union or NATO flag. The maintenance of the planes was contracted under the NATO Airlift Management Programme Office (NAMPO) and applied by Boeing.

A special Command and Control squadron (C&S) at Pápa translate requests into operational missions. This could be supply missions for troops of member states serving in international supported peace keeping, peace enforcing or strike operations in tense or conflict areas or even warzones. But the deployment of the aircraft could also concerning aid operations in purely civil matters like needed aid and support misions in disaster areas. The countries who contribute the most payment are also in charge for the leading functions. This countries are; the United States, the Netherlands, Norway and Zweden.

SAC COMMANDER

The American colonel Nitz was commander of the SAC for several years and was happy to tell us about the organization. The SAC program is in his vision pretty amazing, considering the changing budgets. Twelve nations got together to finance. If today this discussion started it would maybe not exist. The idea to own and support C-17's on behalve of all participating nations started as a NATO program similar to how the AWACS aircraft are operated but eventually it evolved to more than that. So it seems a NATO idea but it changed at that time and became a real European project. Hungary offered as one of few an air base to operate and it was the best choice because Hungary is situated in the centre of all.

Consequently the three aircraft were registered in Hungary too and all involved countries feel comfortable with Hungary positioning itself as host and doing this in great way. NATO agreed to help the nations but is not acting in direct line. This support includes the program, facility and assets. In charge is a steering board of 12 nations and 12 decisionmakers, a kind of mini air force. You have to bring back to the participants what is decided. "Here is were we think we go, do you approve of it?" There are good communication lines and good conversations in board meetings.

Some generals in the USA have said: "why does the U.S. have this?" Col. Nitz confronted them with the benefit. 'It is allowing our partners to decide without requesting all the time for help'. The independency is seen as a major advantage but the importance of this picture has to be sold to the taxpayer. It is important to reflect the benefits to the public in the member states . In 2010 we supported Haiti after an earthquake and this was quite highlighted in Zweden purely because the need to help was felt nationally. Of course Swedisch crew members were involved in this operations wherever they could but this mission was also important to other memberstates. Most of the time we serve a one nation request but the others are always involved because we fly with mixed crews.

This is really an unique part of what we do. Most of them are fully integrated in a multinational unit and this is much more than only working next to each other. It is challenging and the average tour duty is four years, some already are connected for 6-8 years since we started to fly in 2009. Col. Nitz express his respect for the commitment of the memberstates. Just everyday the fact of bringing all the countries together and be sufficient and successful. In 2008 , after a quick spin up it was 10 months later a success with the first operational flights. We still do it and do have a great working realationship with all national contact points. After signing the Memorandum of Understanding (MoU) in 2008 the countries are together in this until 2038 and this is really a huge commitment! Col. Nitz accepted during 2017 a staff function in The Hague, Netherlands and his function with the SAC was given to the Norwegian Col. Bjørn Gohn-Hellum

who was in charge as deputy under Col. Nitz. The Heavy Airlift Wing is smoothly operated with qualified people on all positions and perhaps this fact adds substancially to the success of SAC.

Kees Otten & Wim Das

C-17 SHORT:

length	: 53 m
Wingspan	: 51.75 m
Height	: 16.8 m
Wing Surface	: 353 m²
Engines	: 4× Pratt & Whitney F117-PW-100 turbofans, 180 kN each
Average Speed	: 829 km/u (mach o.74)
Range	: 4,482 km with cargo and 10,390 km with paratroopers
Ceiling	: 13.700 m
Crew	: 2 pilots, 1 loadmaster
Capacity	: 102 paratroopers or 134 soldires on seats or 54 soldiers with cargo, 13 pallets or 36 stretchers andn 53 walking patients with medical accompaniment.
Cargo	: 77.520 kg divided over 18 pieces 463L master pallets. 1 x M1 Abrams tank or 1 x Chinook helicopter.
Weight empty	: 128.100 kg.
Max. weight start	: 265.350 kg.
Runway start	: minimum 2.300 m
Runway landing	: minimmum 1.100 m
Instrument-displays	: 2 full-time head-up displays (HUD), 4 Honeywell multifunctional navigation displays system Digital Electronics. Fourfold ‘Quadruple redundant electronic flight control’ with a mechanic backup system
Navigation	: Digital Electronics
Flightcontrol	: Quadruple redundant electronic flight control
ECM	: Sensors, missile warning system, jammers.
Parachute drop	: Systeem LAPES (low altitude parachute extraction system)