

FAMET

A view over a big helicopter army

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The Spanish Army Aviation is well equipped with helicopters. Several types are flying in this organisation in quite a large quantity. Spain considers this necessary for their own needs but also to comply with their international responsibilities like the current mission in Afghanistan. In the past similar missions were executed in Albania (Chinook), Bosnia (UH-1), Mozambique and Kosovo (both Cougar). Our team visited the base 'Coronel Mate' in Colmenar de Viejo where General Juan Esteban Verastegui was our host. The Spanish army aviation which is called in Spain the FAMET (Fuerzas Aeromoviles del Ejercito de Tierra) has the main headquarters in Colmenar de Viejo near Madrid but exploits six other bases in the country and one in Tenerife on the Canary Islands with totally six air battalions.

Large transport unit

Colmenar de Viejo is quite a large base situated on a splendid location near mountainous area just outside Madrid. When walking on the big concrete ramp you see numerous parked helicopters. The Chinooks are the most striking among these under command of the heavy transport unit BHELTRA V (Battallon de Helicopteros de Transporte V). This unit applied many pilots since 1973 the date of foundation and every graduate pilot has his or her name signed on a big rotor blade in the corridor to the mess like a hall of fame. Some 19 Boeing Vertol CH-47C were delivered in the seventies of which 18 still are flying but in a converted CH-47D version. The pilots operating with the motto 'Detas Denadie' meaning 'behind no one' and take this very seriously. They are very proud about this, not only because being the first European country operating the Chinook and having much experience on the type but even more because of the type of operations. Besides being the 'workhorse' in the Force the helicopters and crew also conduct special ops like dropping commandoes in hostile territory. Next to the standard crew consisting of two pilots (one pilot is commander) an engineer, loadmaster and a gunner for the machinegun mounted on the side door, some 30 fully equipped soldiers can be transported to the target area. Boeing was that eager to reach the European market that Spain was granted with some special gifts like a big table and chairs made of the finest wood in the meeting room of the Spanish officers.

A special 'commandante'

A female officer named Zacia de Vuelo is in command with Bheltra V battalion. She explains me that both rotors of the Chinook are off coarse rotating contra to balance the helicopter. In order not to interfere both rotors have a connected transmission. Stabilisers on the blades urge the rotors quickly after starting the rotating movement to lift the blades. The helicopter is spacey for cargo and even a small Nissan Truck fits inside the helicopter. Cargo can also be taken with a sling hanging from a hook

from the under fuselage. An opening in the floor enables the loadmaster by communicating in a close circuit to direct the pilot to the drop or loading spot. The modifications to CH-47D installed comprised also an improved self defence unit with chaff and flare dispensers and a Radar Warning Receiver (RWR) enabling the helicopters more exposure in situation with increased threat. Pilots would like to complete this with improved IFF in future. For medevac missions the Chinook takes some 24 injured on stretchers.

Maintenance unit with image

When arriving in the maintenance area which is split up in companies or coy's we discover that maintenance until high level can be done on the base itself resulting in quick returns to operational stage and proud mechanics. The unit, named PCMHEL which means Parque y Centro de Mantenimiento de Helicopteros has its own symbol, an eagle with a sword in its claws. First and second level maintenance in this unit is set in 25 hours, 50 hours and 200 hours trajectories with engineers achieved much knowledge about this. Although the Boeing factory in Philadelphia upgraded the CH-47C to CH-47D model you would not expect that on this side of the ocean there are also capable technicians to service the Chinooks and especially not when they come from Eurocopter Espana (ECE) in Quattro Vientos. These personnel are former technicians of the Spanish AISA factory. The Army is providing in cooperation with these technicians, third and fourth level maintenance. Maintenance is according to US Army standard procedures as much as possible. A heavy job is the extraction of the huge rotor. The Chinook has two rotors and five transmissions, a situation asking considerable work, but as they say the Eurocopters are even more complicated to service. There are different workshops with their own specificity like avionics, electrical systems, armament and painting. The main workshop gives direct support with the final technical and flight tests and the other workshops act in support of the main workshop. There are also different companies like the Chinook and Cougar company with their specific knowledge. In the next hangar a Cougar is completely dismantled and a mix of Army personnel and Eurocopter employees is inspecting the parts. Checks are done on essential parts, especially the dynamic parts and even is there a possibility to produce some little parts at location but when this is too complicated it will be sent to the industry. Further in the building is the paint workshop. During our visit an old Kiowa was painted in a new camouflage scheme called the 'Central Europe camouflage' like already has been noted on the new French Tiger helicopters. The proposal would be to paint every FAMET helicopter with this new camouflage scheme but there are also tests running with overall green colour and decreased infrared signature. This will be a matter for coming future to decide.

Transmission battalion BATRANS together with Spanish Air Force in Afghanistan

Spain operates five helicopters in Afghanistan's west region from Herat. Two Spanish Air Force Cougars mainly for the CSAR role operate alongside three FAMET Super Puma's and Cougars in NATO structure concerning the Spanish land based soldiers in Qala-i-Now. The period of rotation is 4-5 months and Spain is conducting the 7th rotation at this moment (October 2006). When coming back it will take 2,5-3 years to

be present for the next rotation. The Cougar and Super Puma replaced the UH-1H in BATRANS (Battalon de Transporte). The old Huey seems to be phased out although a bunch of those are situated on the ramp of Colmenar de Viejo. The Eurocopters are more sophisticated to the tactical operations and are fast and agile helicopters performing really good on low levels. Modern equipment like GPS navigation is in use together with maps. One of the pilots navigates and a special radar-alt meter gives a signal when the helicopter approaches the ground too much. A special computer communicates data to the ground. The Cougar is also equipped with flares/chaff and RWR to enable operations in high threat exposure. Special training on EW (Electronic Warfare) for those who join Afghanistan missions are required and this is also the case with CSAR techniques. Little pipes guiding back the exhaust gasses to the rotor reduce the infrared signature. Two M-42 machineguns, certificated by Eurocopter are mounted in the side doors to protect the own soldiers when dropping. Totally 16 Super Puma's and 15 Cougars are currently flying in BATRANS. Two examples are converted to VIP role.

A good course applies very well pilots

The helicopter pilots in the army receive their course in the own force. After graduating the elementary flying course (Air Force) the own helicopter school CEFAMET (Centro de Enseñanza de las Fuerzas Aeromoviles del Ejercito de Tierra) will adopt the cadets. The familiar OH-58A Kiowa is only on the base to find as a monument and this type is replaced in active service by the Eurocopter EC-135H-2. This helicopter actually replaced in the light transport task both Kiowa and Huey and from maintenance point of view of it benefits to standardise. The EC-135 is a treat in terms of avionics a suite very well as a lead-in trainer for the Super Puma's and Cougars. A complete digital cockpit is housing a Central Panel Display System (CPDS) with several multifunctional colour displays (MFCD's). The rotor is stabilised in three axes (pitch, roll and yaw) with the SAS system (System Augmentation Stabilisation) providing very nice flying characteristics without vibrations. The maintenance is modular and the pilot can carry out the first 100 hours inspection.

When a module is malfunctioning and solutions seem far the complete module is going to Eurocopter in Cuatro Vientos, Madrid and a complete new module will be fit. After 50 hours and a licence, the pilot is ready to begin the helicopter course and this will take some 200 hours. After this, a conversion to one of the types in service is available. Possibilities are there to become an instructor. Basically, there are three levels of helicopter flying in the course. These are CR.1 for basic, CR.2 for instructor and CR.3 for IFR what stands for Instrument Fly Resource and this means flying with instruments only.

Top class simulators and a satisfied General.

The static 'fixed base simulator' with 90 degrees screen and the 'full mission trainer' with 210 degrees for the cougar are produced by the Indra company. The full mission trainer is very sensitive due to electropneumatic generated movements performing more realistic and fast movements comparing simulators generated by hydraulics. The Chinook simulator has high definition TFT screens with all Spanish maps and airfields, cities, mountains and so on. The simulator is even more advanced than

those in the United States. Indra is involved with training cadets from abroad marking the willingness to train especially on this simulator. Training also consists also of NVG and malfunction settings. The general is accompanying us and he smiles because of the Dutch interests, and he let us know that his daughter is living in Holland. We are invited to come back when the new Tiger helicopter will be in service and the Cougar is replaced with the NH-90. Something we shall definitely do, if it were only for the very friendly way we were hosted !

Wim Das & Kees Otten
