



THE LAST SIOUX - THE RAMEX SPIRIT

The Ramex Delta has performed their last display. Shervin Fonooni met the crew of the 2/4 “La Fayette” squadron, to talk with them about the Ramex spirit.

PEAK PERFORMERS

Swiss helicopter pilots carry out a wide variety of roles in difficult geographical and meteorological circumstances.

TLG 73 - ‘STEINHOFF’

Located not that far from the port city of Rostock, in the north-eastern part of German, is the home of the TLG 73 - ‘Steinhoff’

USCG - SECTOR SAN DIEGO

With the main missions of the United States Coast Guard being humanitarian based. Søren Nielsen reports from San Diego.

This issue features reports from RDAF's winter retreat in the southern France, Swiss helicopter in the alps, United States Coast Guard - San Diego, Taktisches Luftwaffengeschwader 73 - 'Steinhoff', amongst others.

We hope you enjoy the magazine - Happy reading.

THE MAGAZINE

WINTER HIDE — RDAF'S WINTER RETREAT

With the onset of winter in Scandinavia, bad flying weather often follows, which especially hampers fighter operations. This is when the RDAF goes to it's winter retreat in France.

04

PEAK PERFORMERS

Swiss helicopter pilots carry out a wide variety of roles in difficult geographical and meteorological circumstances. Dirk Jan de Ridder visited Alpnach to detail their experiences and capabilities.

12

TAKTISCHES LUFTWAFFENGESCHWADER 73 - 'STEINHOFF'

Located not that far from the port city of Rostock, in the north-eastern part of German, is the former MiG-29 stronghold of the German Air Force, Taktisches Luftwaffengeschwader 73 (TLG 73).

24

THE LAST SIOUX

The Ramex Delta performed their last display in 2016. Shervin Fonooni met the crew of the 2/4 "La Fayette" squadron, and had the opportunity to talk with them about the Ramex spirit.

40

EUROPEAN AIR-TO-AIR REFUELLING TRAINING & FRISIAN FLAG

The two exercises, European Air Refuelling Training and Frisian Flags, runs along side each other. Kris Christiaens reports from the tankers, and Andrew Timmerman reports from the fighters.

56

UNITED STATES COAST GUARD - SECTOR SAN DIEGO

With the main missions of the United States Coast Guard being humanitarian based, the USCG has many roles. Søren Nielsen reports from USCG station San Diego.

64

SAMURAI PHANTOMS

Japan - the land of rising sun, is still one of the countries left flying the phabulous phantoms. Patrick Roegies reports about the samurai Phantoms from Japan.

84



WINTER HIDE — RDAF'S WINTER RETREAT

TEXT - SØREN AUGUSTESEN
PHOTOS - RDAF MAJOR JOHN KRISTENSEN & 'MET'

With the onset of winter in Scandinavia, bad flying weather often follows, which especially hampers fighter operations. This is when the RDAF goes to it's winter retreat in France. Søren Augustesen reports from Winter Hide.



The clear blue skies over the snow covered French mountains provide perfect training opportunities for the Danish F-16 pilots. Photo by 'MET'



Winter Hide – RDAF's winter retreat

With the onset of winter in Scandinavia, bad flying weather often follows, which especially hampers fighter operations. Even though Denmark is rarely hit by massive snowstorms, weather conditions such as fog, ice in the clouds and generally poor visibility, leads to the cancellation of almost one third of all missions planned at Fighter Wing Skrydstrup – home of the Royal Danish Air Force (RDAF) F-16 fleet – during the winter months.

On days when flying is possible, there is often no clear view of the ground, which means that no air-to-ground training can be flown, and no conversion flying with new pilots is possible.

Winter training

Given the fact that operating the RDAF F-16s cost around 1 billion Danish Kroner each year (approx. \$143 million) missing out on a month of flying costs about \$12 million. Spending approx. 5 million DKR (less than \$2/3 million) on deploying to a base in southern Europe where the weather in January is better therefore makes sense both with regards to training and economy.

For the last 9-10 years in January, FW Skrydstrup has deployed a number of F-16s, pilots and ground crews to southern Europe in what is known as Exercise Winter Hide. In the beginning the Wing deployed to Grosseto Air Base in Italy, but due to the relative large distances to suitable training areas, the deployment moved to Monte Real in Portugal. This base however, suffered from frequent morning and evening fog due to its proximity to the ocean and it was only possible to fly with other F-16s.

Orange air base

In October of 2014 RDAF F-16s deployed to Kuwait to assist in the fight against Islamic State. On the first leg of the deployment, the F-16s flew to Orange Air Base in France, where they were very well received. The following day, while waiting for a tanker to become available for the next leg of their journey, the RDAF detachment commander, discussed the possibility of deploying to Orange for the 2016 Winter Hide exercise with his French colleagues.

Following a three-day mini site survey conducted in November of 2015, the first Winter Hide deployment took place in January of 2016. The deployment proved highly successful, and in January 2017 the RDAF F-16s once again deployed to Orange AFB.

Winter hide 2017

In 2017 the Winter Hide exercise was planned to last four weeks, with each fighter squadron, 727 and 730 Fighter Squadron (FS), deploying for two weeks each, the other staying at Fighter Wing Skrydstrup to man the Quick Reaction Alert. On January 13, 730 FS deployed to Orange AB with 8 F-16AM and two F-16BM.

Here they flew until January 28, where pilots from 727 FS arrived to continue the training until February 10. During the swap over, 727 FS brought with them an extra F-16BM, and 730 FS brought home one of the F-16AMs. The swap over of pilots and ground crews were handled by a C-130J-30 Hercules from 721 squadron.

During their stay at Orange the two Fighter Squadrons practiced a variety of missions, including Mixed Force Fighter Operations (MFFO), flown with French Air Force Mirage 2000C based at Orange. These MFFO included Close Air Support missions, where the goal was to minimize each aircraft weak points and maximize the strengths.

This, in part, meant that RDAF F-16 would laser designate targets for Mirage 2000C carrying laser guided bombs. Furthermore the 30 mm gun with selectable fire rates of the Mirage 2000C could now be employed at night since the RDAF F-16 would illuminate the target for the French pilots.





The resident Mirage 2000C from Orange AB provided the Danish F-16s with the opportunity to practice Dissimilar Air Combat.
Photos by Major John Kristensen, Royal Danish Air Force

Getting new pilots up to speed

A large part of the flying during Winter Hide was focused on bringing new pilots up to speed, which is a job the 727 FS specializes in, hence the need for them to bring an extra two-seater to Orange. At Orange they made good use of the fine flying weather in southern France. During a typical January there are only one or two days where flying has to be cancelled due to strong Mistral winds. The rest of the time the weather is fine. This allows the two Fighter Squadrons to fly and practice all the missions that the bad January weather in Denmark prevents them from doing.

The Danish F-16s did not drop any ordinance live ordinance during WH. The main reasons being that the RDAF F-16 pilots in recent years have dropped an average of 20 bombs during actual combat operations, which means the need for such training is not big enough to merit work going into setting up a live ordinance drop at a foreign bomb range.

No practice munitions were used either for much the same reasons. The RDAF also has one of the best bombing ranges in Europe at home at Rømø, located less than 30 miles (45 km) west of Fighter Wing Skrydstrup, where they can carry out all the bombing practice they need.

Future Winter hides

Speaking about the cooperation with the French units at Orange Detachment Command for 730 FS, pilot name "STI" said: *"We have a fantastic working relations with our French colleagues and they are very helpful."*

He continues: *"They are highly skilled and speaks great English. All prejudices' that the French are arrogant were put to shame."*

In a continuing effort to maximize training the RDAF F-16s are constantly evaluating other Winter Hide options. One other French base is under consideration for 2018; Monte-De-Marsan in the southwestern France, home to Mirage 2000D's and Rafale's. Under consideration are also bases in both Spain and Greece. But due to the great working relationship with the units at Orange for the past two years the Danish F-16s will most likely return in 2018.



PEAK PERFORMERS

TEXT & PHOTOS - DIRK JAN DE RIDDER

Swiss helicopter pilots carry out a wide variety of roles in difficult geographical and meteorological circumstances. Most pilots fly two helicopter types, some of them even as part-time militia pilots next to their day job. Dirk Jan de Ridder visited Alpnach to detail their experiences and capabilities.



It's a team effort for the crew of this Swiss AF AS332 Super Puma to land on top of the mountain peaks.

Photo by Dirk Jan de Ridder

Peak performers

Swiss helicopter pilots carry out a wide variety of roles in difficult geographical and meteorological circumstances. Most pilots fly two helicopter types, some of them even as part-time militia pilots next to their day job. Dirk Jan de Ridder visited Alpnach to detail their experiences and capabilities.

Alpnach has been the Swiss Air Force's main helicopter base since the first Alouette IIIs were delivered in 1964. It is home to Lufttransportgeschwader 2 (Air Transport Wing 2), which comprises Lufttransportstaffel 6 and 8 (Air Transport Squadron 6 and 8), both of which are equipped with the Eurocopter (now Airbus Helicopters) EC635, AS332 Super Puma and AS532 Cougar.

RUAG Aviation also has a facility at the airbase for the overhaul and final assembly of helicopters. Most EC635s flown by the Swiss Air Force were assembled there and the company remains responsible for intermediate maintenance and depot-level maintenance throughout its entire life cycle. This also goes for the Cougar/Super Puma fleet.

With the Alouette III having set such high standards, the EC635 had a big job ahead of it to replace it, but it has been a success story from the very beginning. Within four years after the contract was signed in April 2006, the Swiss Air Force reached full operational capability with all 20 helicopters delivered. The transition to the EC635 went so quick and smooth that eight Alouettes destined to continue to fly until 2012 were retired two years ahead of schedule.

In July 2016, the EC635 fleet logged its 50,000th flight hour. In comparison, the slightly bigger Cougar/Super Puma fleet logged its 100,000th flight hour around the same time, having been in service since 1989 (Super Puma) and 2001 (Cougar).

Pilots are extremely satisfied with the EC635's performance and easy servicing. The helicopter has basically exceeded all of their expectations. The only drawback in comparison with its predecessor is that it is a bit sensitive while flying with crosswinds due to its large tail fins. A bigger drawback from their perspective is that only 20 helicopters were purchased to replace 84 Alouette IIIs.

Part-time pilots

They were quoted saying that many hours are spent flying in support of civilian authorities, especially the border guard, leaving few helicopters available for their own operations. Having 3 helicopters in maintenance at any time, up to seven reserved for pilot training and the remaining eight EC635s divided over three bases, requires good planning to satisfy all parties involved.

The helicopter is much more efficient than the Alouette III, with each EC635 flying some 350 hours every year and requiring less maintenance. At 500km (300 miles), its range is similar to the Alouette III but with a larger payload. It is also capable of flying in weather circumstances that would have otherwise grounded the Alouette III. Apart from pilot training and support to civilian authorities, the main missions of the EC635 include passenger transport, VIP transport, transporting internal and external loads as well as firefighting with a 400 liter bambi bucket.

The Swiss Air Force still uses many part-time militia pilots, including for the helicopter fleet, but things have changed slightly in recent years. Lieutenant colonel Ruedi von Flüe, a very experienced helicopter pilot with 25 years and 3500 flying hours on the Super Puma, explains: *"Previously we had some real militia pilots, for example a dentist, a farmer, a lawyer. Some of them are still active as militia pilots. Since a few years every pilot has to start as a professional pilot."*

"They have to stay for at least six years, after which they can leave if they want. Then they still have to fly as a militia pilot until they are 50 years old."

Helicopter pilots would previously train on the PC-7 before making the transition to helicopters. Nowadays, there are twelve selection flights from which future pilots are selected. This selection procedure is followed by three years of academic study.





Trained on all helicopter types

After graduation from the academy future helicopter pilots transition directly to the pilot school at Alpnach. During a period of two years they fly around 360 hours before receiving their licence. Student pilots obviously fly with an instructor sitting next to them, but the EC635 is normally flown by a single pilot. The only exception to this rule are night flights, civil IFR and VIP flights, which are flown with a crew of two pilots.

The EC635 is relatively easy to fly for both students and pilots which made the transition to the Cougar/Super Puma, so each student will ultimately be dual-qualified on both helicopter types. Once they have made the transition to the Cougar/Super Puma, they fly both. They could fly the Cougar in the morning and an EC635 in the afternoon. Some of them are even qualified on the PC-6 or PC-7 as well.

Major Sebastian Hanimann, the squadron commander of Lufttransportstaffel 8: *“Since our air force is relatively small, our helicopter pilots are fully trained on all helicopter types. One of the reasons that the EC635 was selected (to replace the Alouette III) was that its cockpit layout is very similar to the Cougar and Super Puma. This enables pilots to fly all types without much difficulty. Students deal very well with the EC635.*

The integrated training mode is great. We use it to simulate engine failures, which is also valuable for experienced pilots. During such a training event both engines run with reduced power, but the instruments indicate a failure on one engine and it feels like a real engine failure.

There is even a torque change with a slight movement around the vertical axis and when you apply too much power the rotor’s rpm (revolutions per minute) drops. In case of a dangerous situation, the training mode will automatically turn off, so that the pilot can use the entire engine power again.”

Mountain flying

With a large part of the country consisting of mountainous terrain, pilots face unique challenges even during basic flights. Unpredictable weather conditions and unexpected wind direction changes between the mountains require them to be trained to the highest levels.

Lieutenant colonel von Flüe explains how students gradually get used to mountain flying: *“We start with flying around the base. Then they fly in terrain up to 1,500 meters, we call these the flatlands. And the third stage is in the mountains. Whiteout landings are a normal procedure. Sometimes you have whiteouts, sometimes you don’t. When you go into the mountains you can have whiteouts every day.*

Even in summer, when there is a bad weather period, there might be half a meter of new snow on a specific glacier, so that is a good place to train the young guys. They learn to deal with whiteout situations from the beginning. Normally there is no snow in the flatlands, because this part of training always takes part in summer.”

Whiteout situations and unpredictable weather are situations that can occur in the mountains. *“If you get caught in a valley during a sudden weather changed, you have a problem.”*

Two things that basically always occur are sudden wind changes and lack of power at higher altitudes. *“In earlier times, when we flew the Alouette, which has only one engine, we had some flight limitations for flying over foggy valleys.*

You always had to be sure to have enough visibility below the fog with references to make your autorotation landing. Now we have two engines on all our helicopters, so something must be really bad if you need to make an autorotation landing.”





Nothing beats this stunning terrain that the Swiss Air Force has as their training field. Here's a Swiss AF Super Puma.

Photos by Dirk Jan de Ridder

Wildfires in the winter

The EC635 is the military variant of the EC135. It differs in that it has a reinforced airframe, self-sealing fuel tanks and weapons hardpoints on the side of the fuselage.

Two helicopters designated EC135P2i are operated on behalf of the Luftransportdienst des Bundes (Federal air transport service) for VIP transport duties. Based at Bern-Belp airport along with three fixed-wing VIP transport aircraft they are flown by Swiss Air Force pilots.

These EC135s are equipped with climate control, noise cancelling technology and comfortable seats. The EC635 full mission simulator at Emmen airbase offers an extended range of capabilities.

Under highly realistic flight conditions it allows both ab initio and experienced pilots to train for emergency situations and more than 280 different types of equipment failures.

It can even reproduce whiteout and brownout situations, terrain-induced turbulence, night flying with NVGs and complex landing approach profiles. It can also be coupled to the Cougar/Super Puma simulator to train formation flying and tactical operations.

The year 2017 started extremely busy for the helicopter pilots. For two weeks from 28 December (2016), up to seven Super Pumas equipped with bambi buckets were used against Switzerland's biggest wildfire in 20 years.

While much of Switzerland was covered in snow, fires had broken out on the south side of the Alps as it had not rained for over a month. The Super Puma's bambi bucket drops 2.500 liter every time, six times the amount of the EC635, so it is the preferred asset for fighting large fires.

FLIR capability

One Super Puma equipped with FLIR was used to look out for smouldering fires. The helicopters logged 210 flying hours, comprising 1.200 rotations and dropping 2.400 tons of water during a period. The firefighting was quickly followed by the annual World Economic Forum in Davos between 17 and 20 January, traditionally one of the busiest events of the year for the Air Transport Wings.

Lieutenant colonel von Flüe describes the role of the helicopters during the event: *"Most flights are VIP flights with heads of state. They are flown exclusively by the Swiss Air Force. Then we have police flights, flights escorting convoys on the ground and, since two years, air policing. This means we have two special forces guys on board with machine guns, while we patrol the inner circle around Davos."*

Since 2006, the Swiss Air Force has had a Super Puma with FLIR (Forward Looking Infrared) equipment on 24/7 search and rescue standby. This role is alternately carried out by an Air Transport Wing at Alpnach, Dübendorf or Payerne. Search and rescue is actually an incorrect description for the role, because the Swiss Air Force is only responsible for the 'search' part of search and rescue.

The Super Puma crew, comprising two pilots, a loadmaster and FLIR operator, will search for missing persons with its equipment and pass along their exact location to a civilian rescue helicopter operated by REGA. They take care of the rest. FLIR operators have 3 screens at their disposal: an infrared screen, which is only used at night, a conventional video screen and a moving map display showing the position of the helicopter relative to the target area as well as the mountains and other obstacles surrounding them.

The FLIR operator is normally also part of the crew on border patrol missions, flights in support of police operations and for the exploration of areas struck by natural disasters.





International deployments

Due to Switzerland's neutrality military deployments abroad are virtually impossible, but humanitarian support missions have increased over the last two decades. The helicopter community takes the largest responsibility for such deployments. In 1999, the first ever deployment abroad occurred when three Super Pumas deployed to Albania in support of the UNHCR for 4 months.

Later they also deployed to Kosovo (KFOR) and Bosnia (EUFOR). Three Super Pumas were even deployed to Sumatra, Indonesia for two months in 2005 in support of the UNHCR mission following the devastating tsunami. Super Pumas have also deployed to Greece and Israel for firefighting on a number of occasions. As part of the Swiss Air Force's drive towards commonality within its helicopter fleet, the Super Pumas were upgraded by 2014 with a glass cockpit for use with Elbit helmet-mounted displays.

As many as 50 new systems were integrated creating a state-of-the-art Intelligence, Surveillance and Reconnaissance (ISR) platform. The Super Puma's avionics are now much more modern than the Cougar's. The Super Pumas have always lacked defensive systems though and there is no intention to change this.

Cougars are equipped with the ISSYS self-protection system, comprising a radar warner, missile approach warner and laser warner. In addition, equipped with door guns, it would make them the asset of choice in hostile areas with military activity, provided, these missions are not in a hot and high environment due to the lack of available power of a fully equipped Cougar in these conditions.

During 2017, it will be decided whether the Cougar will receive the same avionics upgrade as the Super Puma.



TLG 73 - 'STEINHOFF'

TEXT - SØREN NIELSEN
PHOTOS - SØREN NIELSEN & EGON JOHANSEN

Located not that far from the port city of Rostock, in the north-eastern part of German, is the former MiG-29 stronghold of the German Air Force, Taktisches Luftwaffengeschwader 73 (TLG 73). Søren Nielsen reports from Laage.



An Eurofighter from TLG 73 in the dusk.

Photo by Søren Nielsen

Taktisches Luftwaffengeschwader 73

Located not that far from the port city of Rostock, in the north-eastern part of German, is the former MiG-29 stronghold of the German Air Force, Taktisches Luftwaffengeschwader 73 (TLG 73).

TLG 73 has evolved, and changed multiple times, since it was formed as Jagdgeschwader 73 (Fighter Wing 73), on the 1st of April 1959. The wing was formed at Fliegerhorst Oldenburg, located in north-western part of Germany, where they began by flying the Canadair Sabre.

The wing was transferred from Fliegerhorst Oldenburg to Fliegerhorst Pferdsfeld in the south-western part of Germany, in 1961, still flying the Canadair Sabre. Only three years later the fighter wing was renamed Jagdbombergeschwader 42 (Fighter Bomber Wing 42), and had their Canadair Sabre replaced by the Fiat G.91, in order to support the German Army with their new added task of close air support.

Not many years went by before there were changes to the wing once again. With the addition of reconnaissance capabilities to the Fiat G.91 in 1967, the wing got the tactical reconnaissance task added to its inventory and was then renamed to Leichtes Kampfgeschwader 42 (Light Combat Wing 42).

The change only held for a few years, as with the introduction of the reconnaissance version of the Phantom, the RF-4E to the Luftwaffe (German Air Force) in 1971, the wing's role of reconnaissance became redundant.

On the 1st of April 1975 the wing replaced their Fiat G.91 aircraft with the new F-4F Phantom II, and had the tactical reconnaissance task removed, going back to being a Fighter Bomber Wing once again; this time named Jagdbombergeschwader 35 (Fighter Bomber Wing 35).

The wing began to take over the MiG-29 aircraft from the Luftstreitkräfte der Nationalen Volksarmee (Air Forces of the National People's Army), the former East German Air Force, after the fall of the Berlin wall, and the reunification of Germany in the beginning of 1991.

Steinhoff

In October of the same year a test wing with MiG-29s was formed in Preschen. In February 1993 it was decided to merge the test wing with the then Jagdbombergeschwader 35, going back to its roots and to be named Jagdgeschwader 73 once again, forming two squadrons; 1st squadron flying the MiG-29 and 2nd squadron flying the F-4F.

With the East German Air Force now defunct, the German Air Force had to maintain the air policing duties of the country's airspace, and to do this the 24 MiG-29s of the 1st squadron of the wing were relocated to Laage in 1993 to conduct the QRA / air policing duties. The rest of the wing, 2nd squadron and their F-4Fs, moved to Laage in 1997, making Laage the wing's new home.

Jagdgeschwader 73 was officially commissioned by Minister of Defence Volker Rühle in September 1997. At the same time Rühle awarded the re-formed wing, named "Steinhoff" by tradition, (in honor of the former German Air Force commander and General Johannes Steinhoff).



A large, modern green hangar with a red and white lighthouse on the roof. The hangar has a long row of windows. A blue fighter jet is parked on the tarmac in front of the hangar. The background shows a forest with autumn foliage.

WILLKOMMEN IM GESCHWADER "STEINHOFF"

A couple of Vipers taxiing back from another mission.

Photos by Søren Nielsen



Eurofighter - The Future

The mighty Phantoms of the 2nd squadron ceased operations in the beginning of the millennium, which led to the decommissioning of the squadron, leaving Jagdgeschwader 73 with only the sole MiG-29 squadron. After a short window with only one squadron in the wing, the 2nd squadron was reestablished in 2004, as a training squadron for the new Eurofighter.

The squadron received six twin-seat Eurofighters to begin its training of future German Air Force Eurofighter pilots. This also led to the demise of the MiG-29 in the German Air Force inventory, only a couple of months after the arrival of the first six Eurofighters at Laage. The MiG-29s were sold off to their neighbour to the east, Poland, who still operate them to this day.

As of October 2013 the wing was renamed Taktisches Luftwaffengeschwader (Tactical Air Force Wing) 73 - TaktLwG 73 "S" (Steinhoff) / TLG 73, as part of the big reform of the Bundeswehr, in adaptations to the new structure of the German Air Force.

The wing continued to receive more Eurofighters, and is today flying 35 of them. The wing's main task is the training all Eurofighter pilots of the German Air Force, as well as securing German airspace by continuing the QRA / air policing duties left by the MiG-29s.

In addition to training German Air Force Eurofighter pilots, Eurofighter pilots of the Austrian Air Force are also trained at Laage as part of a cooperation agreement with Austria.



NATO pilot training at Sheppard AFB

You need to complete the basic and advanced flying courses before starting training in a fighter jet, which is similar to other armed forces around the world.

Capt. Patrick "Pat" Pahlke, of TLG 73 explains how the pilot education in the German Air Force starts, "You start at the academy in Germany, where you learn proper English, the technical terms, navigation etc.

Then you start your initial flying training in the United States at Goodyear, Arizona, going solo on the Grob 120. The Grob has side-by-side seating and is also equipped with a parachute, making it ideal for basic aerobatics training, etc.

Then it's 15 months of basic flying training at Sheppard AFB in Texas, where you start in the T-6 Texan turboprop for about 120 hours, and then off to the fast jets, in this case the T-38 Talon, for another 100 hours.

Once graduated, you'll have an introduction to fighter fundamentals, which is an additional 20 hours, where you'll learn what basic fighter maneuvering, air combat maneuvering and strafing look like, etc. - basic training is on those fundamentals."



Eurofighter course at Laage

On the assignment night at Sheppard AFB, future pilots will be informed of what type they're going to fly, and where they're going to be stationed, based on a wishlist that they have filled out. Their squadron is already assigned before leaving Sheppard AFB. If they are selected to fly the Eurofighter, they'll then head to Laage to start their Eurofighter training.

Some pilots stay at Sheppard AFB for several years once they've completed basic training, as instructors training new fighter pilots. These aren't just the German pilots but pilots within the Euro-NATO Joint Jet Pilot Training Program (ENJJPT), like Capt. Pahlke did. He stayed on for an additional three years as an instructor pilot on the T-38.

Once done with all their courses at Sheppard AFB the pilots will head to Laage to begin their training in the Typhoon. Eighteen instructors await the pilots at Laage, to give them the best possible training. Their training on the Eurofighter takes around 9-10 months, which includes the theoretical aspects as well as the practical training - such as flying and simulator training.

The pilots start off by training in the simulator, then in the twin-seat Eurofighter, before going solo, after around 5 flights. This is a fairly common procedure on all weapon system platforms, such as F-15, F-16 etc.

They then continue to fly in the simulator, even after they have gone solo in the Eurofighter, where simulation time usually equates to double that of actual flying time.







The training

The yearly minimum is 70 flying hours, but pilots in the German Air Force average 1,8 flights per week, and as much simulation time as possible. The pilots will typically get their training sortie the day before, where they have enough time to read through the instructions of the flight, and prepare for the flight.

Capt. Pahlke explains how the training sorties work, "Let's say it's a morning flight, then you meet up at 06:00. You'll attend the mass brief at 06:30, then you'll have the individual brief, which is 2 hours before take off, which will last for 1 hour and 30 minutes.

You then fly from 45 to 80 minutes. After landing there's preparation to be done for the debrief, which can take around 30-40 minutes, complete with all the downloads. Depending on the complexity of the sortie you have just flown, the debriefing can take from 1 hour up to 6 hours!"

Capt. Pahlke adds, "An hours flight, is usual equal to around 7 hours of work."

The primary function of the Eurofighter in the German Air Force is in the air defense role, where the pilots mostly train for the Defensive Counter Air missions, but still train the Offensive Counter Air as well as Combat Air Patrol.

The German Air Force Eurofighter is somewhat limited in the air-to-ground role compared to other Eurofighter nations, as they're currently only using the gun in Germany. This is due mainly to the Tornado currently only having the air-to-ground role in Germany.

Align procedures

Capt. Pahlke explains how a typical training sortie looks like, "You go out as a two ship having an area you're supposed to protect. There, there will be so-called red guys, plus Eurofighters or Learjets simulating adversaries, trying to come into your area. You simulate for a specific amount of time, where they can't pass through, or just fend them off the entire time, until you're out of gas.

Then there's an assessment of how you stuck to - and applied - tactics. How much risk you took and whether you killed all the enemies you needed to kill."

Usually it's the Eurofighters from TLG 73 at Laage, that also play red air, but sometimes there's different elements to the training, such as when TLG 71 from Wittmundhafen joins the battle.

There could also be Tornados deploying to Laage, where they would train low level bombing while there's an air war going on above them, just to see if they are able to still complete their mission and to see if the Eurofighters could protect the low level flying Tornados from the highflying red air.

Capt. Pahlke explains, "The mission planners assign your role - whether you're flying blue or red air. The role as red air is still important, and is still training you, as you can see and monitor the blue air's mistakes, and what works for them."

Capt. Pahlke adds, "It's easy to fly the Eurofighter, the hard part is to operate the systems within the system."

Although it's easy to fly the Eurofighter, it's still demanding on the pilot's body and physical strength, so the TLG 73 has it's own gym and physiological trainer. It's tough flying when doing air combat maneuvers and the pilots will get sore in the neck and drenched in sweat.

The pilots go through a basic physiological test once a year, but they typically meet with the physiological trainer once a week, just to make sure they are physically fit to fly the Eurofighter.



Completion at Laage

When the pilots are done with the Eurofighter course at Laage, they're then fully qualified Eurofighter pilots and they'll be going to the squadron they got assigned on the assignment night at Sheppard AFB.

The German Air Force has four Eurofighter squadrons, all located in Germany:

- TLG 73 "Steinhoff", Laage
- TLG 74, Neuburg
- TLG 31 "Boelcke", Nörvenich
- TLG 71 "Richthofen", Wittmundhafen

The squadrons then have a "Squadron Lead In Program", also known as a SLIP, where the wing itself has a syllabus for what you need to know about that respective base. There's also base-specific procedures and subsequent training on the type of missions they'll be flying at that given base, prior to the pilots being fully active in their squadrons.

Around 12-14 pilots do the Eurofighter pilot course (at Laage) each year. Although the majority of the pilots attending the Eurofighter course are "green", coming directly from Sheppard AFB, experienced Tornado pilots also discovered they also have the possibility to transit to the Eurofighter. These experienced pilots also need to go on the same course at Laage, as the new students, coming directly from Sheppard.

A big thanks to TLG 73 "Steinhoff", and especially Sergeant Major Nitz Heinz-Dieter and Capt. Patrick "Pat" Pahlke for making this article possible.



THE LAST SIOUX

TEXT - SHERVIN FONOONI
PHOTOS - SHERVIN FONOONI, MOHARAM FONOONI, & ARMÉE DE L'AIR

The Ramex Delta performed their last display in 2016. Shervin Fonooni met the men and women of the 2/4 "La Fayette" squadron, and had the opportunity to talk with them about the Ramex spirit and the reasons for that stoppage.



*The Mirage 2000N based at Istres with their successors: the Rafale.
Photo by Anthony Jeuland - Armée de l'air*

The last Sioux

The Ramex Delta team, the two-ship Mirage 2000N display team of the French Air Force, performed for the last time in 2016. Shervin Fonooni met with the men and women of the 2/4 "La Fayette" squadron after their display at the Royal International Air Tattoo at RAF Fairford, to discuss the Ramex spirit and the reasons for disbanding the team.

At 11:05 on the 11th of July 2016, the leader of the Ramex Delta team got into position on the runway followed by the second Ramex Mirage 2000N, the spare aircraft and two Rafale fighters, ready to perform the team's final take off at an airshow.

With a final wave during their last departure from an air show, the team headed towards their home base of Istres. The Snecma M-53 P2 engine roared as the aircraft took off - the last departure of Ramex Delta, not to be seen again.

An atypical team

Consisting of a crew of two, a pilot and a Combat Systems Officer (CSO), they fly the Mirage 2000N. The team leader is "Gaby", an experienced pilot with more than 2.700 flying hours. Before becoming team leader, he flew the second spot from 2011 to 2013.

His CSO is "PP" who has been with him since 2013. The pilot of the second aircraft is "Pierrot", and his CSO is "Camille" who was "Gaby's" CSO from 2011 to 2013.

These pilots all come from Escadron de Chasse 2/4 "La Fayette". The 2/4 is the last unit in the French Air Force to operate the Mirage 2000N. The unit is an integral part of the Forces Aériennes Stratégiques, FAS (Strategic Air Force), whose main mission is to ensure "the continuity of the airborne component of the nuclear deterrence."

FAS - The Nuclear Deterrence Forces

An instrument of power, the nuclear deterrence is a shield, which is central to the defence of the interests of France and Europe. The emblem of the FAS reflects the primary mission of nuclear deterrence: one hand on the sword and a dove, the symbol of action for peace.

Thus, the 2/4 "La Fayette" trains mainly for the nuclear mission, but they do also participate in regular operations and conventional attack missions. The squadron is unique, as the aircrew and mechanics are the only ones to operate the Mirage 2000N.

The Mirage 2000N

Designed initially to replace the Mirage III and Jaguar in the strategic missions, it was finally put into service in 1988 in the low level penetration missions.

This two-seater fighter differs from other Mirage 2000's in that it can carry the ASMP-A nuclear missile, hence the name Mirage 2000N (Nuclear). This Dassault fighter is optimized for low altitude intrusion missions, at high speed in all weather conditions.

Since 2010, the 2/4 "La Fayette" squadron has been the only one to implement the "N" version the the Mirage 2000. Twenty Mirage 2000NK3, the latest version, is operated out of their home base at Istres.

For the squadron's centenary a ceremony was held at the Memorial of Marnes-la-Coquette on the 20th of April 2016, where France and the United States paid tribute to the aviators of the "La Fayette" squadron.





The ambassadors

For this occasion, a Mirage 2000N was painted with a special livery, celebrating the centenary of the Sioux head's squadron.

"Gaby" flew this machine during the airshow. He says of the Ramex Delta: *"Formerly, there were three squadrons of Mirage 2000N, with pilots and CSO's who were dedicated to displaying at a maximum of three air shows each summer. When we moved to only one squadron of Mirage 2000N at Istres, only one formal team remained, named Ramex Delta"*.

"Ramex" is the call sign of 2/4 "La Fayette" and "Delta" was chosen for the triangular shape of the wing, characteristic of the Mirage 2000.

Ambassadors of the "Armée de l'Air, the Ramex Delta team is the only Tactical Display Team. *"We do combat maneuvers. All fighter pilots are able to fly this display. It is a bit more specialized in the squadron. So we have a dedicated team, which remain the same for three years"* says Pierrot.

The tactical display reveals to the public some aspects of fighting techniques through maneuvers and simulated attacks. It is a technical and aesthetic program submitted to the two pilots and their navigators.

"The demo was already written when we got into the squad, we didn't invent it. Twenty training missions are needed to pass the safety commission, which are required to take part in air shows" explains Gaby. Consequently the team must live up to air show safety standards.

"For example, we cannot approach within 230 meters of the public when making parallel fly-by. The speed limit in France is Mach 0.95, and the minimum height on the 230 meter axis is limited to 150 feet".

These regulations sometimes differ between European countries. For example, in Great Britain, the minimum height is 300 feet, while the parallel fly-by distance remains 230 meters.



Tight maneuvers

Ramex Delta simulate combat maneuvers during their display. However, the distance between them in the display does not represent the actual distance that would be used during a real combat mission.

It is adapted to air shows: *"We are at a distance of 2-3 meters most of the time, and expands from 5 to 10 and 20 meters. We do combat maneuvers to show the profession, and attacks which are refined to suite the esthetic and compressed requirements necessary to present a dynamic display"* said Pierrot. The speed during a display varies from 200 knots for a slow fly-by and Mach 0.95 during a high speed fly-by.

The tactical display consists of several combat formations. After a tactical take off, the team sets the tone by performing the first fast and low fly-by. Then Ramex Delta makes a slow fly-by and a "go-around" followed by a "lazy 8". Then comes a combat maneuver in tight formation the "show of force".

This is a close air support maneuver, where the goal is to simulate a pass over the enemy to show the potential striking force, explains Camille: *"This is a preventive maneuver to frighten hostile forces on the ground, to show them that the planes are there. We pass and the next step will be to attack."*

The pilots of 2/4 "La Fayette" simulate other combat actions as well, such as the pop-up attack, where they arrive at low altitude to avoid being seen, then pitching up before diving towards the ground, simulating a burst of gunfire.

The eyes of the CSO

While the tactical display shows the skill of the pilots, the navigators do not "play a minor part". Quite the opposite, they are essential as they complement the work done by the pilots, as Camille explains: *"We are here to assist the pilots, to help them find the path. PP will handle space management like axes and key points to guide the team."*

As for me, I have a more perspective role, making sure the formation looks aesthetically good for the crowd. For example, it looks like two tailgating aircrafts, but in truth we are more offset, but we create the illusion of two tailgating aircrafts."



Mirage 2000N No. 353 painted specially for the centenary of the "Lafayette" squadron, with the iconic Sioux head.

Photo by Anthony Jeuland - Armée de l'air

Unreserved confidence

Like any other flight, the objective can only be achieved if absolute trust exists within the team. This is another feature of Ramex Delta, the human dimension that has allowed them to develop their abilities and to show the excellence and professionalism of the French Air Force.

Confidence has been the starting point of this experience, a very important spirit of cooperation for the whole team as Gaby confides: *“That is precisely the point at which I am very attached... it’s great because we discover the human relationship with a 100% trust established between us, and it is part of the selection.”*

Pilots and navigators are not only selected for their experience, but they are also chosen according to their relationship within the squadron.

The flight crews depend heavily upon each other. Pierrot was designated as pilot for the second aircraft, because the trust was established immediately. Indeed, he has the immense quality of inspiring trust at once. Personality and team spirit enabled the to form a united team, “a certain synergy” affirmed Pierrot, for preparations, briefings and flights are performed in the best conditions.

Naturally, this confidence also exists between the crews and mechanics: *“Unlike Patrouille de France, we have don’t have specific mechanics dedicated to the team. We have mechanics from the squadron whom we work with every day.”* underlines the team leader.

Performing combat maneuvers in tight formation and at high speeds, requires great concentration and very good physical condition. When asked what is the most demanding part of the display, the answer is depends on the position of each member of Ramex Delta.

The leader: *“For me, the hardest part is the topside pass. Because this is the first pass it is the arrival. I have a little pressure to perform this first pass correct, because if it is not successful, the demo starts badly.”*

Extreme concentration

The second pilot: *“The most difficult part for me is the show of force, because we are fast, we are close and we make a lot of turns, almost at the limits of the aircraft, with several of the turns being 90 degrees. We must handle the security of the maneuver.”*

First the blast of air, because the blast of air can be very dangerous; when we get hit by the blast of air from the other plane we can stall. This should be avoided while staying synchronized as we do through many turns.”

He adds: *“Phase that I prefer: The column! This is the phase where I am below Gaby and PP, especially this year with the painted plane, which is magnificent from above and below. It take very fine levels of control, but it is also the one that gives the most pleasure.”*

However, following his leader requires enormous efforts and blind trust. To repeat the lead aircraft’s maneuvers he must lean on the voice of the lead pilot to guide him to the perfection and precision sought after: *“We follow the voice before we see what happens. We must imitate what the leader does during the many phases of the display. We make fast turns at the same speed”* confides Pierrot.

Gaby can attest, having held both positions; leader and teammate. And for him it is not at all the same work: *“I noted as teammate, it is pure control; we follow the lead aircraft, the leader’s voice on the radio. It is not unlike flying blind, because if I fly as teammate visually, there will inevitably be a delay in the second aircraft turning.”*

Flying visually gives a delay... we must do it on the radio. The leader’s task presents its own challenges; it is less pure flying, because I have to be careful with my number two”. Thus, the intensity of the leader’s task is high because he has a dual responsibility: to respect the flight instructions and to secure his teammate.

Concentration, confidence and serenity are the key components to the success of this mission, even if *“it is physical because we fly to 6-7g’s for almost 12 minutes. You still have to keep alert”* admit Pierrot and Camille.





The Ramex Spirit?

They are unanimous, that spirit exists within the team. Moreover, Pierrot defines it in a nutshell: *“Speed, noise, fun, seriousness and passion, period!”* They keep a very good atmosphere between them that they call “fighting atmosphere”, “sort of (heavy) tactless way” and are proud to represent their comrades who are in the theater of operations abroad. Thus, these men of the 2/4 “La Fayette” pay tribute to their colleagues and to all mechanics working in the team’s shadow.

The Ramex Delta team also slowly but surely won the hearts of European enthusiasts. This popularity was not justified only by the tactical display or their roaring engines, it also reflects a kinship with people, while staying natural: *“We just see people, we talk, we see children, we talk photos, we sign autographs”* declared Camille.

This human dimension is very important to the team’s members, therefore they shared in all spontaneity their impressions with people, because “aviation is a passion above all.”

The team was present at the Royal International Air Tattoo (RIAT) at RAF Fairford, for their final ever tactical demonstrations before bowing out. An unmissable event for all aviation enthusiasts, the RIAT is Europe’s largest military airshow. Display pilots from around the globe come to present the performance of their aircraft and their flying skills.

American stars F-22 Raptor and F-35 Lighting II were also present, but it was the French team who won the award for best flying display by an overseas participant, and for most beautiful livery.

The last Sioux

Reason for the cessation of the team? The Mirage 2000N will be withdrawn from service in 2018. The Escadron de Chasse 2/4 “La Fayette” will be then be equipt with Rafale B at Air Base 113 at Saint-Dizier. This transition will result in a staff reduction in the squadron.

“By reducing the number of pilots, we cannot ensure training young pilots and fly the Ramex Delta team at the same time” conceded the team leader.

However, the General Staff of the Armée de l’air are actively looking into a replacement. They are aware that the Ramex Delta is a very good vehicle for communication and a very good complement to other French ambassadors. Nevertheless, it cannot afford to weaken its resources devoted to international operations.

The baton may be passed to a squadron of Mirage 2000D’s or Rafale’s from 2018, to continue the tradition of 2/4 “La Fayette”. *“We hope to see a Ramex team on Rafale, but there is nothing for sure, there is already a Rafale solo (display)”* reminds Pierrot.

The future of the four aviators on the Ramex Delta team is uncertain. For now they will remain with the squadron, but they hope to transfer to the Rafal.





The Ramex Delta fly over the alpine landscape during a photo mission dedicated to the celebration of the centenary of the "Lafayette" squadron.
Photo by Anthony Jeuland - Armée de l'air

A human adventure

Certainly, their presentation filled with more passionate enthusiasm in a tactical and dynamic display, differs from what the public is used to seeing. And the Mirage 2000N has without doubt caught the imagination of many people. But what our meeting will retain of this team is the human dimension.

Whether with the public or on the tarmac, the Ramex Delta will always have their natural and shared passion. *"It's been three years that we are together, there are really good memories."* said Gaby.

And his teammates would not contradict him. *"We are fortunate to have been invited to some of the greatest air shows, and we have had some great encounters. I think it's highly rewarding, a real chance and we are aware of it."*

Being l'Armée de l'air ambassadors implies rigor and excellence, but it also brings great moments in the pilot's flying career, and can make dreams become reality as Pierrot related. *"Flying with the Patrouille Acrobatique de France (PAF) in Istres, it was a dream becoming reality for a pilot."*

I remember myself at 11 years old, watching the PAF with the greatest respect. And to fly our Mirage's with the PAF, which did us the honor of flying with us for our last season, at our base at Istres - our home base - was, as a pilot, and exceptional moment."

Sharing is priceless

And if the protocol required the ambassadors to interact with the public, the Ramex Delta, for their part, wanted to share their experiences and passion for aviation with the public.

Its style, combining aesthetics and skill, has made the team one of the most popular teams throughout Europe. Their popularity does not rely only on their tactical demonstration.

The "Ramex spirit", synonymous with respect and passion, has allowed aviation enthusiasts to discover the world of these pilots and navigators, and has created a real passion among the public.

On October 20, 2016, Mirage 2000N No. 353 made its last flight between Istres Air Base 125 and Air Base 113. After more than a quarter of a century of service, it will now be on display at Saint-Dizier Air Base.

The final word we will leave to Pierrot, who summed up the feeling that the Ramex Delta team has left with thousands of fans: *"What I will miss, and what was nice, was to share. There isn't just flying. Flying is great, but sharing...is priceless."*



EART & FRISIAN FLAG 2017

TEXT - KRIS CHRISTIAENS & ANDREW TIMMERMAN
PHOTOS - KRIS CHRISTIAENS, ANDREW TIMMERMAN & EGON JOHANSEN

The two exercises, European Air Refuelling Training and Frisian Flags, runs along side each other. Kris Christiaens reports from the tankers, and Andrew Timmerman reports from the fighters.



A Royal Air Force Tornado GR4 takes on some gas, from a German A310MRTT tanker, while it's wingman breaks away. Photo by Kris Christiaens.

European Air Refueling Training - 2017

The fourth European Air Refuelling Training (EART) was conducted at the Eindhoven Air Base (EHEH) from 26 March to 07 April, 2017. Kris Christiaens reports from this multinational air refuelling training, organized by the European Air Transport Command (EATC) and hosted by The Netherlands.

The European Air Transport Command (EATC) is a multinational command established in 2010 and integrates a staff of more than 200 people coming from seven member nations. Each member nation has access not only to its nationally assigned military assets but also to the complete EATC multinational fleet. Today this fleet consists of different types of military aircraft such as aerial refuelling tanker and transport aircraft.

Upon the European Defense Agency's (EDA) initiative, the EATC runs the European Air Refuelling Training (EART) exercise. The objective of this exercise is to specifically train tankers crews and receivers to participate into multinational and complex air operations.

EART is also organized in combination with the Dutch Frisian Flag fighter exercise which is held at the same time at the Leeuwarden Air Base. On March 29th, 2017, journalists and photographers got the chance to visit the Eindhoven Air Base during the EART 2017 media day.

Kris Christiaens was also invited by the Royal Netherlands Air Force (RNAF) to attend this well organized media event. In the morning we had a briefing at the new EATC headquarter about the EATC and EART 2017 exercises. After the briefing the press visited three tanker aircraft who were stationed at the Eindhoven Air Base.

These aircraft were an Airbus A310 MRTT of the German Air Base, a Boeing KC-767A of the Italian Air Force and a Boeing C-135FR Stratotanker of the French Air Force.

Flying in a tanker

In the afternoon Kris Christiaens also got the chance to participate in an air-refueling mission on-board a the German Airbus A310 MRTT aerial refueling tanker aircraft. The Airbus A310 Multi-Role Tanker Transport (MRTT) aircraft is provided with two AAR pods, one under each wing. The system comprises a refueling hose container under the wing that deploys a refueling hose with a maximum length of 23 m during flight.

Today, for of these Airbus A310 MRTT aircraft are operated by the German Air Force for air-to-air refuelling, medical evacuation, military cargo transport and passenger transport operations. During this mission we flew over the Frisian Islands where several Eurofighters from the German Air Force and Panavia Tornado's from the Royal Air Force joined us for their refueling training. During this refuelling, the fighter jets were provided with 2,4 Tons of fuel per minute. After an unforgettable flight onboard the Airbus A310 MRTT we landed again at the Eindhoven Air Base. I would like to thank the European Air Transport Command (EATC) and the Royal Netherlands Air Force (RNAF) for this amazing experience!







Frisian Flag

This year Frisian Flag took place between 27th March through to the 7th April at Leeuwarden Air Base in the north of the Netherlands. Andrew Timmerman reports from Leeuwarden. The Training exercise initially started in 1999 and became a yearly event since. The purpose of this exercise is a joint training of NATO members and allies for any conflict scenarios.

The training consists of 2 flight waves of about 35-50 aircraft at a time, once up they continue their sortie above the North Sea this also includes Air refuelling. The Tankers used all depart from Eindhoven Airport in the south of the Netherlands.

Other live training roles include simulated ground attacks and Air combat missions. The purpose of the exercise is to enhance the co-operation between the countries by strengthening the ability to work together effectively. All the participating forces then get to learn from each other by co-ordinating and using set operational procedures against any threats that may arise.

Participants

This year several NATO members and the USAF participated, listed below are the countries and their contribution to this exercise.

Leeuwarden Air Base

- **United States**
F-15C/D - 122nd FS Louisiana ANG
F-15C/D - 159th FS Florida ANG
- **Portugal**
F-16AM/BM - 201-301 Sqn
- **Belgium**
F-16AM/BM - 349 Sqn
- **Netherlands**
F-16AM/BM - 312 Sqn
F-16AM/BM - 313 Sqn
F-16AM/BM - 322 Sqn
- **United Kingdom**
Tornado GR4 - 31 Sqn
- **Germany**
EF2000 - TactLwG 31
- **France**
Mirage 2000D - EC03-033

Eindhoven Airport

- **Netherlands**
KDC-10, and 1 C-130H - 33 Sqn
- **Italy**
KC-767A - 14 Stormo - 18 gruppo
- **Germany**
A310MRTT - FBS-BMVg
- **France**
C-135FR GRV02-091

This also included a NATO E3 AWACS, and one E3F AWACS France FAF joining the training.



USCG - SECTOR SAN DIEGO

TEXT & PHOTOS - SØREN NIELSEN

With the main missions of the United States Coast Guard being humanitarian based, the USCG has many roles. Søren Nielsen reports from USCG station San Diego.



The MH-60T Jayhawk sits on the ramp, with the rotors spinning, waiting for clearance to taxi to take off.
Photo by Søren Nielsen

United States Coast Guard

The United States Armed Forces are not just the Army, Navy, Air Force or Marine Corps. As part of the Department of Homeland Security, the United States Coast Guard (USCG), is a part of the Armed Forces just like any other military branch in the U.S.

With the main missions of the USCG being humanitarian based, the USCG has roles in maritime homeland security, maritime law enforcement (MLE), search and rescue (SAR), marine environmental protection (MEP), plus the maintenance of river, intracoastal and offshore aids to navigation (ATON).

The USCG operates both at sea and from the air, with a range of boats, cutters and different aircraft types. The USCG is divided into two areas; Atlantic Area and Pacific Area - which are furthermore divided into multiple districts.

Each district then has its own sectors which carry out different roles. FLYMAG visited sector San Diego, from District Eleven in the Pacific Area, which among other things operates the MH-60T Jayhawk helicopter. Sector San Diego has a key role within SAR which includes the fight against drugs, illegal migration and the regulation of vessels coming in and out of the ports.

The USCG regulates not only all of the vessels within the port of San Diego, but the Captain of the USCG, (Sector San Diego), is also the Captain of the port itself, and as such regulates everything within the port.

Maintaining law enforcement in both air and at sea sees the USCG undertake many tasks.

Sector San Diego

Lieutenant Timothy Nicolet, an MH-60T pilot in Sector San Diego explains, *"We also impose law enforcement for drug running and illegal migration, especially here in San Diego. A lot of people enter illegally across the border, whilst others run drugs via the sea - coming from Mexico and further south - then heading offshore and run all the way up and around."*

Search and rescue is our main thing, especially with the helicopters, but we also try to stop as many narcotics coming in, as we can. One of the main things within SAR, in San Diego, is medical evacuations of people on cruise ships, as well as from the big fishing fleet offshore. We spend a lot of time picking up people who have fallen, hit their head, had a heart attack, had a scuba diving accident etc. - we have even had shark bites.

The focus is not a battlefield focus, it's a search and rescue focus. It's more humanitarian - we're going out to help people. That's important for us, and that's something we have in common and links us a little bit closer, more than just being work colleagues."

The San Diego sector covers approximately 80 miles of coastline to the north of San Diego, then goes offshore for 200 miles, heading 100 miles south and back to San Diego. Then all the way inland, and covers the entire state of Arizona, including parts of Nevada and Utah, as well.

Most of the operating area is inland. But as it's the Coast Guard, their main focus is maritime distress, which results in 99% of the sorties sector San Diego responds to being over water, while other agencies usually covers inland emergencies.



The big sector

Because of the endurance the Coast Guard unit would have to travel, (sometimes being more than four hours), it would be ineffective for them to respond to most inland sorties. There is always a risk of sorties inland.

There could potentially be someone climbing a cliff inland, falling down injuring himself, and the USCG could be called in to aid them. But usually people call the fire department, and not the USCG when this happens, as you're inland, and you don't think about calling the Coast Guard if you're on a mountain or in the desert.

Besides SAR and patrolling for drugs and migrants, the USCG also go out patrolling some of the critical infrastructures for the United States, like the Hoover Dam, for example.

The aviation assets of USCG

The USCG has a fleet of fixed-wing propeller aircraft. These being the HC-130(H/J) Hercules, HC-144A Ocean Sentry and C-27J Spartan. These fixed-wing turboprops are long-range, high endurance aircraft, capable of covering long distances - and they can fly anywhere up to ten to twelve hours. These are the ones that patrol, especially, long offshore.

Besides the fleet of fixed-wing aircraft, the USCG operate two types of helicopters. These are the MH-60T Jayhawk and the HH-65(C/D/E) Dolphin. The HH-65 is frequently deployed to the larger coast guard ships, where they operate from a landing platform at the stern of the ship. The MH-60T is too large to land on any of the USCG ships, and are usually only land based.

On the aviation front (Sector San Diego) is equipped with three MH-60T Jayhawk helicopters (originally designated HH-60J before being upgraded and redesignated, beginning in 2007). The MH-60T is derived from the SH-60 Seahawk, which is a variant of one of the most common helicopter workhorses, the UH-60 Blackhawk.





*The Jayhawk hovers in front of the big "FLY USCG" hangar at the San Diego ramp.
Photo by Søren Nielsen*

The Jayhawk

The MH-60T is designed to fly a crew of four up to 300 miles offshore, hoist up to six additional people on board while remaining on-scene for up to 45 minutes and return to base while maintaining an adequate fuel reserve.

Lt Nicolet continues, “The tango model (MH-60T red.) is equipped with an additional three external fuel tanks, a smaller one on the right and two on the left. That’s what allows us to go that far, it gives us almost two hours of extra fuel. We can fly for 6 hours, in total. If we’re that far offshore, they’ll usually launch a C-130 or a C-27 to fly behind us, to keep an eye on us, and help us with radio communication and things like that, because of the distance”.

An operational crew of the MH-60T consists of four crew members; Two pilots, one flight mechanic, and one rescue swimmer. Lt Nicolet explains, “We always fly with two pilots, no matter what. The smaller helicopter (HH-65), you can fly with one pilot, but because of the size of the cockpit and things like that, we always have two pilots in the sixty”.

The flight mechanic does a lot of maintenance while on the ground, but he also operates the hoist while out on a sortie. The pilot flying, when doing a rescue, can not see the boat directly under the helicopter. As the boat passes underneath (the helicopter), he loses all visual contact with it. The flight mechanic lays on the floor and looks out of the door, relaying where the pilot should fly.

He guides the pilot ‘forward and right 5’, ‘forward and right 10’, ‘easy back’, as you as a pilot can’t see the boat, you are just listening to the guy in the back, trying to follow his instructions, and stay as stable as you can.

The rescue swimmer is the medical professional on board. They have an EMT (Emergency Medical Technician) certification and they’ll administer medical care, if needed, once the patient is onboard the helicopter. Additionally, they can deploy down to the boat, or down in the water, by getting lowered down the hoist”.

Rescuing fishermen out in Alaska

Besides the crew, it’s possible to have 5 people seated in the back, if additional seats have been installed. There’s not always enough seats for everyone, however, as Lt Nicolet continues, “Of the two cases I can recall, there’s the one we were rescuing fishermen out in Alaska. They were in big, soaked survival suits. We picked up nine people, so that was eleven people in the back, with the two crew members.

There was another sortie, where they rescued some people off a cruise ship. They were smaller people, and they weren’t in big survival suits, and I think they had 25 people in the back. One person couldn’t fit in the helicopter, because it was so full, so they had him in the basket, hanging outside the helicopter - but these scenarios are very rare”.

Usually it’s only one or two people they’ll rescue, unless it’s a sinking vessel. It’s just the people in immediate peril (or sick) that get picked up. What’s important to remember is, hoisting people is always dangerous. It’s not easy to hover the helicopter near a boat, as it gets very loud, windy, and it’s a stressful environment.

So the USCG only pick up people that are in absolute need of urgent attention, as it’s safer both for them and the USCG. Otherwise they’ll take a boat back to shore if they’re not in urgent need of attention.





Flying in the dark

Ships don't just sink without reason and, usually, it's due to high seas and/or bad weather. Combining this with flying in the dark of night, makes this demanding job even more challenging.

"Flying in the dark is more demanding. From a pilot's perspective, flying the helicopter is like balancing a broomstick on your hand. A lot of small movements - as long as you correct it right away, then it stays balanced, but if you let it start tipping too far, you can't go catch it. The helicopter is like that, it's very delicate. To balance it, you use your visual references outside the helicopter. You use different objects to see if they're moving, helping you sense how the helicopter is flying.

At night most of these visual references disappear, due to it being dark. So it becomes difficult to sense the motion of the helicopter. Because you can't always feel it in the seat of your pants you can end up drifting very slowly, and you may not notice it, if you don't have anything that indicates it.

But if there's a lot light, or the moon is very bright, then it's not that difficult. But if it's really dark then it gets more difficult, especially out at sea. Then you obviously use the instruments in the helicopter, even though you can't sense the motion occurring outside the helicopter. When we're hoisting out of boats on dark nights, that's probably the most difficult thing we do.

But to help with that, we have night vision goggles that we wear, which helps a lot. It basically amplifies the ambient light from the stars and things, magnifying it a lot. But goggles have their limitations, too. A person's field of view is 180 degrees by 135 degrees. With goggles it's just a 40 degrees circle, so you have to move your head a lot to see things you usually could see without moving. So it's important to look around and move your head, to see how the helicopter is moving, to make sure it stays stable.

The helicopter has a lot of systems that helps you, you can even push a button and it will hold a stable hover for you, but when you're over a boat you need to be very precise, as you need to lower the basket right onto the deck, and the automated hover is not precise enough. It will hold you stable, but usually it will have a little drift." concludes Lt Nicolet.

Become a part of USCG

There are two ways to join the USCG; you can either enlist in the Coast Guard, or become an Officer in the Coast Guard. To enlist you just sign up for four years, starting at a bootcamp for 9-10 weeks. You'll then get your station once you have graduated from bootcamp.

The enlisted are the work force of the USCG. The jobs they can choose can also be a lot of fun, such as being a flight mechanic, or a swimmer. Everyone that works on the helicopters - besides the pilots - and everyone that pilots the smaller boats, as well as all of the secretarial and logistical jobs - most of those are enlisted people.

As with all the branches of the U.S. military, all pilots within the USCG are Officers. There are two ways to become an Officer in the USCG. For one, you can go to the Coast Guard Academy once you've completed high school.

It's four years of college, after which you receive your degree in one of the eight majors available through the Coast Guard Academy. These majors are:

- Civil Engineering.
- Mechanical Engineering.
- Electrical Engineering.
- Naval Architecture and Marine Engineering.
- Operations Research and Computer Analysis.
- Marine and Environmental Sciences.
- Government.
- Management.

When you finally graduate from the academy, you'll do some extra training before you become an Officer in the USCG.

You can also go to a regular civilian college, get a degree as a lawyer etc., and then go on a 17 week Officer program, at the aptly named Officer Candidate School, becoming an Officer that way.



Training to be a pilot

Once you're an Officer you can become a pilot as a specialty. To do that, you'll have to apply to the Flight School Program and, once accepted, you'll be sent to Pensacola to be trained as a pilot.

Lt Nicolet explains, "That's what I did. After high school I applied and got into the Coast Guard Academy. I went there for four years. I studied Marine and Environmental Sciences, and got a Bachelor degree in Environmental Sciences, and then went to Pensacola for flight training. You'll get a bachelor degree, just like of any other college. They are actually very well respected degrees."

There are a lot of support programs once you're in the military, that can help you. You can also transfer a lot of what you've learnt in the military, (mechanical engineering on the helicopter, for example), to the civilian world, getting certification of what you did in the military, which helps you."

Being a 'sixty' pilot

The job as flight crew in the USCG is more like a regular day job, where you have weekends, and you come in to work 7:00 am to 4:00 pm. You go home every night to your family, especially in the 60 community (MH-60 red.), as they do not deploy to ships, which leaves them on the USCG station.

Although it's not always a strict 7 to 4 job, as they do duty rotations. Once a week you'll stay on base overnight to be part of the crew that's ready to go out, in case there's a sortie over the night.

"I kind of like that, it gives you a break from being home every night. I like the pace of the lifestyle." concludes Lt Nicolet.

Not a desk job

Lt Nicolet continues: "Flying the aircraft is fun. It's never easy, it's always a new challenge. They say you'll never have a perfect flight. You'll always mess something up, because there's always a lot of small motions going on, and there's a lot of pieces to the equation, navigating, talking on the radio, landing the helicopter, and lot of pieces of knowledge you get from practice, but there's just too much to practice every day."

So you may only practice one maneuver a couple of times a month, so each time you do it, you try to remember how to do it perfectly, and you'll never get it perfectly, but you do your best, and you do it well enough.

So it's a constant learning curve, as a pilot. You're always studying, so you don't forget things, and then you're always relearning the skills, because it takes a lot of practice to learn how to do it, and once you know how to do it, if you don't do it for two weeks, you'll be rusty at it, and need to practice it again.

I love being a pilot, as it's always challenging, and that's probably the most fun part about it. And also as an Officer, a lot of officer jobs in the military are mostly administration, a lot of emails, managing personnel, managing payroll, managing projects. When you're a pilot, you can actually go out and do the mission. You are the guy that picks up people in trouble, and actually flying the helicopters."





Two of the three Jayhawks sits in the San Diego sun, waiting their next sortie.
Photo by Soren Nielsen



Training to be ready

When they are not flying, they have other assignments, but when the crew flies during their work day, it takes about half of that day to prepare, execute and debrief, etc. They aim to fly about four times a week, even if there's only a sortie once or twice a week on average. This means that it could be a long time between when the different crew has an active sortie.

Which is why training is a big part of the work for the crew of the sixty. Lt Nicolet explains, "The training sortie is always two to two and half hours, but the law enforcement, and search and rescue sorties just depends on what's going on. I did a sortie, 220 miles of the coast in Mexico, there was a tanker ship that needed medevac.

It took us 4 hours to get there, hoist the person, and come back, it's a long sortie, and it can be further than that. Sometimes you have to go, get more fuel, and then continue from there. There's some islands that we can get fuel from, to extend our range offshore."

The search, a crew effort

The training is structured, and all the aspects of the training must be completed every six months, to be cleared for active sorties, as Lt. Nicolet explains; "We have broken the training into 9 segments. We call them recurrent trainers, and every six months, you have to do that flight one time, to make sure you practice all those skills.

Each flight has a list of maneuvers you have complete, which includes day and night landings, day and night hoistings, instrument flying, external loads, degrading the helicopter (turning off parts of the helicopter red.), practicing emergency procedures, turning off different systems of the helicopters, so it gets harder to fly, like flying with only one engine, or turning off all the hydraulics, making the controls harder to move etc.

The elements on each segment are pretty long, it takes about two hours to do a segment. That's how we stay proficient.

Infrared and night vision cameras used for locating people in the water, with the heat signatures, also to videotape rescues. The helicopter is equipped with a good radar, including a weather radar, mapping out storms, also to track vessels that have lost radio communication, etc.

Radio frequency tracking, so if someone is talking to us on a certain frequency, then we can use that signal to home in on the direction where the radio call is coming from. If you can't find somebody, and they don't know where they are, they can be located with the help of the radio frequency tracking device.

It's a very capable helicopter, and it has more tools than we can use in one sortie, and it helps us to get the job done."

When people are in the water, it's only possible to see the head and shoulders. "Like a needle in a haystack in the ocean", as Lt Nicolet points out; "If there are any waves or wind, you have white caps on top of the water, depending on the where the moon or the sun is, there is glare, and it's like finding a watermelon floating on the water."



The search - a crew effort

The entire crew helps to search for people, either by using the cameras, or by looking out the windows to do visual searches for people - it's a crew effort. The pilots can't do anything by themselves.

Communication is the key, as Lt Nicolet illustrates, "One of our main focuses is our communication. We have to be very clear, and very concise and short, in what you're trying to say to the other person. When you talk to a person, 70% of the talk is non-verbal. The tone of the voice, how the person reacts etc. When talking on the radio, you'll miss all the non-verbal communication, and you're down to 30% of the ability to communicate complex ideas, and complex motions.

So most of what we say is scripted, exact words meaning exact things, and every word has a specific definition. Every phrase is set to a certain speed, so even the speed of the things you're saying has a meaning.

If you come over the top of a boat to hoist, the flight mechanic will guide you in 'forward and right 20' ... 'forward and right 15' ... 'forward and right 10' ... 'forward and right 5'. If he starts going faster, then you know you're coming in too fast, and you know you have to slow down, etc.

So there are a lot of things like that, where the crew has to be in sync, so that nothing dangerous happens."

Teamwork and communication are the keys to success for the USCG. It's called CRM - Crew Resource Management, and it basically means making sure everyone is communicating clearly, and everyone feels like they have the right to say whatever they want.

Lt Nicolet explains, "Like if someone in the back sees something happening that's unsafe, or he thinks that this maneuver isn't safe, or why are we going out to do this, it doesn't make sense, there is another option - maybe we could do this, it's much safer."

CRM - Crew Resource Management

"We want the environment in the helicopter to become low key, so that everybody feels like he has the right to say 'Sir, I think you're wrong, this is the wrong thing. Let's try this', or 'I think this would be better'. Because a lot of times a lot of mishaps have happened where someone was just watching while it was happening, and in their mind they thought 'This is not right, I have seen this happen before, and it's not good', and they didn't say anything, and something bad happens." continues Lt Nicolet.

Making sure everyone feels equally responsible for the success of the mission, and equally has the right to give their opinion about how to do something the best way possible, is really important, and a challenge, especially in the military where ranks matter.

Lt Nicolet concludes, "So you have the person in charge of the aircraft, one of the pilots, called the pilot in command, he's the ultimate authority. He has 51% of the votes, for whatever we do. Usually he's the guy with the most experience, he's the older person who has normally seen most, but that doesn't mean that someone that's junior, that's brand new to the helicopter, doesn't see something that's still important.

So we want the most junior mechanic in the back to be able to tell the captain of the sector, who owns the helicopters, who might be flying the mission 'Hey Sir, I don't think that's the best way to do it, let's try something else'.

So communication is the big key to success. We do a lot of training, so it's a fair environment, there's no punishment for giving your opinion on the best way to do something, or giving your feedback. Everyone is fair game to say whatever they think.

Communication between two people can be the most complicated thing. It's something that we're always trying to improve."

A huge thanks Sector San Diego of District Eleven, and especially Lt Timothy Nicolet, and PA1 Rob Simpson for making this article possible.



SAMURAI PHANTOMS

TEXT & PHOTOS - PATRICK ROEGIES

Japan - the land of rising sun, is still one of the countries left flying the phabulous phantoms. Patrick Roegies reports from Japan.



A reconnaissance version of the Phantom, the RF-4E, from 501 Hikotai, is seen here taxiing. Photo by Patrick Roegies

Samurai Phantoms

The Japanese Air Self Defense Force acquired the F-4E Phantom in 1968. Since the configuration of the Japanese varied from the conventional F-4E the aircraft type was designated F-4EJ. Compared to the F-4E the Japanese version was developed for the air defense role with several systems initially integrated in the F-4E removed.

In the following years 140 Phantoms would be delivered to Japan of which 138 aircraft were built in license by Mitsubishi. Later 14 additional RF-4E's were purchased which were built in the United States.

Phantom squadrons

The Phantoms were acquired with the purpose to operate alongside the F-104 which was the main fighter of the Japanese Air Self Defense Forces in the sixties and seventies. In the following years 7 squadrons would be equipped with the F-4 Phantom:

- **301 Hikotai**
Hyakuri
- **302 Hikotai**
Chitose
- **303 Hikotai**
Komatsu
- **304 Hikotai**
Tsuiki
- **305 Hikotai**
Hyakuri
- **306 Hikotai**
Komatsu
- **501 Hikotai**
Hyakuri
- **Koku Kaihatsu Jikken Shudan**
Gifu

QRA duties

The first squadron that was equipped with the new Phantoms was 301 Hikotai based at Hyakuri and received their first two F-4EJ Phantoms on the 1st of August 1972. By April 1973 nine additional Phantoms were delivered to the squadron. From this batch of nine aircraft two were transferred to Koku Kaihatsu Jikken Shudan or Air Development and Test Command in order to perform air to ground capability and fighter interceptor tests.

The 301 started the pilot training program on the 2nd of October 1973. Two weeks later the squadron's status was changed from provisional to operational squadron when the squadron had fourteen F-4EJ's and two T-33's in their operational inventory.

Two of the aircraft in the squadron were more or less permanently deployed to the Air Development and Test command in order to perform live missile firing tests with the AIM-4D and AIM-7 missiles. The first fighter weapons course took place using the F-4EJ. From 1974 until 1976 more than 30 Phantoms were assigned to 301 Hikotai while awaiting their assignment with another operational squadron. In this role the Phantoms were performing as adversaries in training with other squadrons during air-to-air training missions.

On the 30th of October 1978, 301 Hikotai was appointed to commence with the Quick Ready Alert task. The first actual intercept took place on the 21st of February 1979 when Phantoms of 301 Hikotai intercepted a Soviet Air Force Tu-95 "Bear". From 1978 onwards every other year an air to air gunnery meet or an aircraft combat meet was organized with every squadron painting their Phantoms in a unique camouflage.





Cope North

When 301 Hikotai celebrated its 10th anniversary on the 16th of October 1973 the squadron was responsible for training over 500 Phantom pilots.

In 1984 the squadron moved from Hyakuri to Nyuatabaru due to the arrival of a new F-15 squadron. Due to this move the squadron was subordinated from the 7th Wing to the 5th Wing. On 26 February 1985 the Phantoms arrived at Nyuatabaru joining the 202 Hikotai F-15's and the F-2 Hiko Kyodogun or Aggressor squadron.

302 Hikotai was formed on the 18th of July 1974 and received the provisional status upon formation. The squadron received six F-4EJ's and a couple of T-33 trainers. Assigned to the 2nd Wing the squadron received their operational status on the 1st of October 1975. 302 Hikotai was the second interceptor squadron within the Japanese Air Self Defense force and was based at the most northern positioned air base Chitose.

The squadron acquired their quick ready alert task on 1 November 1975. During their QRA missions the Phantoms encountered many unidentified flying objects presumably from the Soviet Air Forces.

In 1979 the Phantoms from 302 Hikotai were painted in a diverting camouflage scheme, which was more appropriate for the specific landscape and climate in the high north. Three alternative camouflage patterns were evaluated. Eventually the aircraft were painted in a light blue/dark blue pattern. Every year the exercise "Cope North" was organized, which main purpose was the joint training of United States Air Force and Japanese Air Self Defense aircrews.

The last Phantom

In October 1984 the squadron celebrated its tenth anniversary. And one year later in November 1985 the squadron was relocated from Chitose Air Force Base to Naha Air Force Base located at Okinawa.

The first two Phantoms delivered to 303 Hikotai took place in August 1976 and the squadron acquired the provisional status. Already in October 1976 the squadron received its operational status with 16 Phantoms in their inventory. Assigned to the 6th Wing 303 Hikotai got appointed the QRA tasks on the 17th of June 1977.

Since the geological position of Komatsu Air Base the Phantoms of 303 Hikotai had to perform quick ready alert missions regularly. During a quick ready alert mission on the 27th of June 1980 a Soviet air Force Tu-16 crashed near Komatsu.

The last Phantom delivered to the Japanese Air Self Defense Forces was delivered to 303 Hikotai on the 21st of May 1981. After their tenth anniversary the squadron converted to the F-15 Eagle after only 10 years of Phantom operations

On the 1st of August 1977 304 Hikotai received its operational status with 18 Phantoms appointed to the squadron. The squadron was subordinated to the 8th Wing and was based at Tsuiki Air Force Base in the south of Japan.

With the F-104 phased out and the arrival of the F-15 the Japanese Air Self Defense Force was already studying the possibilities to continuously improve the capabilities of their Air defense fighter fleet and resulted in a modernization program in the early eighties.





*A pair of F-4EJ Phantoms from 301 Hikotai at Hyakuri, takes to the sky.
Photo by Patrick Roegies*

Extending the capabilities

In the early eighties the demand for extended capabilities of the Phantom fleet became apparent. The modernized version of the F-4EJ would be referred to as F-4EJ Kai. The suffix abbreviation "Kai" means extra.

The actual modernization and refurbishment program commenced in July 1984 and the purpose of the program was to extend the operational lifetime of the Phantom within the JASDF until the early year of the new century.

In total 96 F-4EJ aircraft were to be submitted to the modernization program and as a result they were fitted with the Westinghouse AN/APG-66J pulse-Doppler radar, which is much smaller and lighter than the original APQ-120, but possessed extended operational capabilities. Externally, the installation of the new radar can be distinguished by the presence of a new radome, which has forward and aft strengthening ribs.

The F-4EJ Kai also received a new central computer, a Kaiser heads-up display, a Hazeltine AN/APZ-79 IFF system, and a license-built Litton LN-39 inertial navigation unit. Additionally a new J/APR-6 radar homing and warning system was integrated including twin aft-facing radomes for this system which are positioned on the fin tip, with a forward-facing antenna mounted on the wingtips.

A new, much taller UHF blade antenna was positioned on the dorsal spine, and the lower UHF antenna on the undercarriage door was increased in size in order to improve communication capabilities.

A new improved radar

The modified aircraft are also able to carry a 610-US gallon F-15 fuel tank on the centerline. The advantage of this tank is that it is stressed to endure higher G-forces than the original centerline tank originally developed for the F-4.

The modernized F-4EJ Kai was also able to carry the Westinghouse AN/ALQ-131 advanced multimode electronic countermeasures pod. This pod has a wide range of modules and has reprogrammable software, which makes it capable of quickly countering new threats.

The weapon capabilities were expanded as well since the F-4EJ Kai was able to launch the AIM-7E/F Sparrow and the AIM-9L/P Sidewinder air-to-air missiles, including the ability to launch the Japanese designed Mitsubishi ASM-1 anti-ship missile. Optional plans to fit slatted wings to the F-4EJ Kai were ruled out on the basis of cost.

The photoreconnaissance version of the Phantom the RF-4EJ was also submitted to a modernization program and was referred to RF-4EJ Kai.

Equal to the modernization of the F-4EJ fighter, the operational fleet of RF-4EJ photoreconnaissance aircraft were also refurbished and upgraded to RF-4EJ Kai standard. Most of the systems integrated in the F-4EJ were also implemented in the RF-4EJ and as a result the AN/APQ-99 radar was replaced by an improved Texas Instruments AN/APQ-172 radar. A new inertial navigation system was fitted, as well as an infrared reconnaissance system, digital cockpit displays, and a VHF radio to replace the existing UHF system.





The “Kai” modernization program

The F-4EJ Kai made its initial test flight on 17 July 1984 and the first series production F-4EJ Kai was delivered to 306 Hikotai on 24 November 1989. According to the original plans a total of 110 aircraft would be submitted to the “Kai” modernization program, but was reduced to actually 96 aircraft. Seventeen of the remaining 29 aircraft were to be adapted to the reconnaissance role under the designation RF-4EJ Kai and in total twelve Phantoms were withdrawn from use.

Since the JASDF required additional reconnaissance capabilities an additional contract was provided to Mitsubishi Electric for the conversion of seventeen existing F-4EJ fighters to the RF-4EJ reconnaissance configuration. These aircraft are also referred to as RF-4E Kai, since they are different from the original RF-4EJ aircraft that have been modernized to the “Kai” standard.

The F-4EJ aircraft kept the original radar, RWR, and navigation set, and they retained the entire armament capability of the F-4EJ. These converted fighters are being equipped with digital avionics, including a Texas Instruments APQ-172 radar, a heads-up display, a podded Thomson-CSF Raphael SKAR, and a large Elint pod developed by Mitsubishi. All converted aircraft were delivered to 501 Hikotai.

In the late nineties three JASDF squadrons were still equipped with the F-4EJ Kai. These were 301 Hikotai based at Nyatabaru, 302 Hikotai based at Naha and 306 Hikotai based at Komatsu, with 306 Hikotai replacing it Phantoms for F-15 Eagles starting in August 1996. The conversion was completed on the 17th of March 1997.



The current situation

At the start of the new century two F-4EJ squadrons and one RF-4EJ squadron remained operational. Both 302 Hikotai and 501 Hikotai were based at Hyakuri Air Base and 301 Hikotai remained at Nyatabaru. By 2007 the JASDF retained a total of 90 operational Phantoms within its operational inventory. During 2016 the 301 Hikotai based at Nyatabaru was relocated to Hyakuri as well meaning that all remaining operational Phantoms within the JASDF now reside at Hyakuri.

With the purchase of the F-35 the future replacement of the Japanese Phantoms seems near. The first F-35's are currently built in the United States and are currently undergoing their acceptance tests. With initial pilot training taking place at Luke Air Force Base the introduction of the successor of the Phantoms is approaching quickly. When the Phantoms will definitely been withdrawn from use remains unclear.



THE NEXT ISSUE OF FLYMAG MAGAZINE

The next issue of FLYMAG will be published in July of 2017.

The issue will among other feature an article about the VFC-13 'Saints', the adversary training unit at NAS Fallon, as well as one of the biggest national exercises in the United States in 2017, Northern Edge.



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