THE AVIATION MAGAZINE

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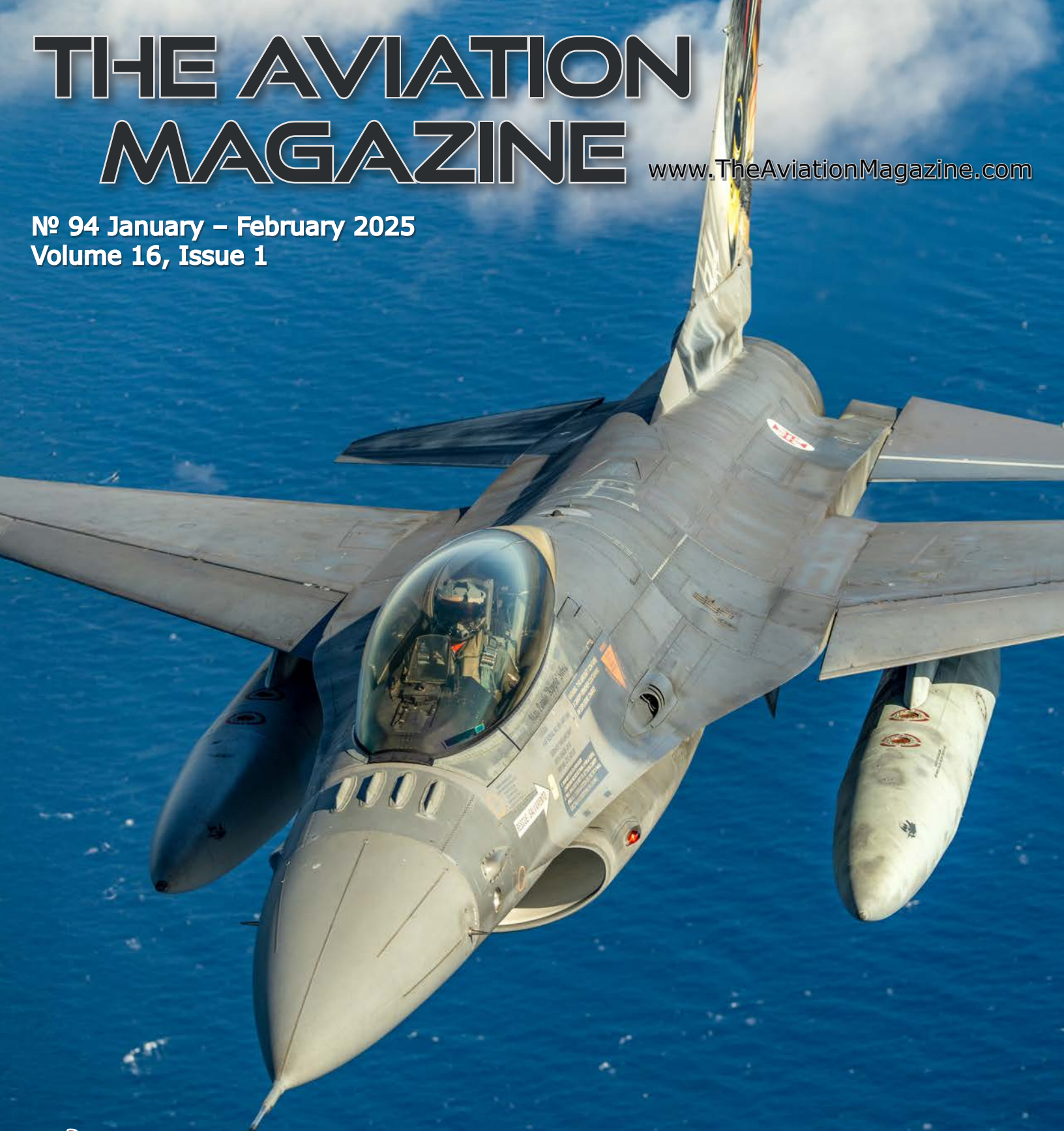

- MCAS Miramar Airshow 2024, USA
- Exercise STEADFAST NOON 2024, Germany
- Farewell Dutch F-16 *Fighting Falcon*, The Netherlands
- Italian Jet Ab Initio Training, Italy
- AND MUCH MORE ...

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Cover: Exercise RAMSTEIN FLAG 2024 – A Portuguese Air Force F-16 flies over the sea off the Greek Coast *NATO Air Command*

This page: Exercise RAMSTEIN FLAG 2024 – A French Air Force Rafale B assigned to EC 01.004 *Gascogne* taxis to the runway for take-off at Andravida AB, Greece *István Kelecsényi*

THE AVIATION MAGAZINE

by www.TheAviationMagazine.com e-mail: editor@TheAviationMagazine.com

THE AVIATION MAGAZINE is published six times a year by a team of volunteers interested in aviation. We are devoted to cover a wide range of aviation events ranging from air shows, air base visits, military exercises, civilian spotting, and pilot and veteran interviews – accentuated with exceptional photography. THE AVIATION MAGAZINE is a leader in the e-magazine format since 2009, bringing exclusive and fascinating reports to our global aviation enthusiasts digitally.

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FROM THE EDITOR

THE AVIATION MAGAZINE is 100% pure aviation, no advertisements, and absolutely free of charge! It is the BEST and FREE e-based, photo-centric magazine on military aviation since 2009. Imitated by so many, but never surpassed!

MIRAMAR AIRSHOW 2024

TEXT: SALVATORE ROCCELLA **PHOTOS:** SALVATORE ROCCELLA UNLESS STATED

U.S. Navy aerobaitc team BLUE ANGELS performing a low pass in 'Diamond Formation"

MBB Bo 105 of the 'Red Bull Air Force' and F-35B *Lightning II* assigned to Marine Fighter Attack Training Squadron 502 (VMFAT-502) *Flying Nightmares* at MCAS Beaufort, SC

Finally, a dream come true

Who among us enthusiasts has never wanted to go to the Miramar base, made famous by the 1986 movie 'Top Gun'? Well, this year, I managed to make a dream come true, attending the air show of the most famous Marine base in the world.

From 27 to 29 September 2024, we witnessed the show that shook the county of San Diego. This year's show included civilian and military performers such as Ed Hamill, Red Bull's Aaron, Vicky Benzing with her pink P-51 Mustang, two Ace Marker T-33 Shooting Stars, the U.S. Air Force F-22 Demo Team, the U.S. Marine Corps F-35B Demo Team, the U.S. Marine Corps MV-22 Demo Team, the Marine Air-Ground Task Force (MAGTF) demo and finally, the Blue Angels who had the crowd going wild.

The air show had around 700,000 visitors. The gates of the base opened at 9 a.m. sharp and after the security checks by the Navy Police, N.C.I.S., I entered the static area where the mighty and majestic B-52, B-29, F-15 of the U.S. Air National Guard, U.S. Air Force C-17, P3 Orion of the US Navy, the F18 E and F US Navy coming directly from Japan were displayed. The police forces of the Counties of San Diego and Los Angeles, the forces of the California state police, Customs, and FBI, shared the static display. The large and impressive representation of the U.S. Marine Corps Aviation with F-18C/D Hornet, F-35B Lightning II, C-130 Hercules, CH-53E Super Stallion, CH-53K King Stallion, AH-1Z Viper, UH-1Y Venom, MV-22 Osprey, and MQ-9 Reaper completed the static display.

The opening ceremony began around 10:30 a.m. with the Third Marine Aircraft Wing's band, a platoon of Marines in full dress uniform, following the United States flag and the Marine Corps flag, playing the National Anthem and the unit's anthem. Then, the air show began.

Red Bull's Chunck "Malibu" Aaron kicked off the display in his aerobatic MBB Bo-105 with maneuvers unthinkable for any other type of helicopter, switching from static flight to head-down maneuvers in just a few moments. Immediately after, the Marine's MV-22 Demo Team entered the center of the display with a very tight and fast turn and some fast and other extremely slow passes, demonstrating the maneuverability and high agility of this tilt-rotor aircraft.

The moment that we all were waiting for was the tactical air power demonstration of the Marine Air-Ground Task Force (MAGFT) that began with the take-off of four F-18 Hornets. Two F-35c Lightning IIs and one KC-130 Hercules tanker aircraft from MCAS Miramar's runway 24R. A few minutes of silence, while we all looked around to understand where the planes that had just taken off could be and suddenly, a series of explosions, sounding like bombs, and the show began. After a few moments, the four F-18s and then, the two F-35Cs entered the center of the display at high speed and low altitude. After clearing the area, two UH-1Y Venoms arrived to land, escorted by four AH-1Z Vipers that secured the landing zone. Then, two CH-53E Super Stallions arrived, carrying a

A U.S. Marine Corps MV-22B *Osprey* assigned to 3rd Marine Aircraft Wing, I Marine Expeditionary Force, prepares to take off
U.S. Marine Corps photo by Lance Cpl. Robert F. Picone

A U.S. Marine Corps MV-22B *Osprey* with Marine Medium Tiltrotor Squadron (VMM) 364, Marine Aircraft Group 39, 3rd Marine Aircraft Wing, performs a flight demonstration. With the speed and range of a turboprop, the maneuverability of a helicopter and the ability to carry 24 Marine combat troops twice as fast and five times farther than previous helicopters, the *Osprey* greatly enhances the advantages Marines have over their enemies *Main image and inset right USMC by Lance Cpl. Jennifer Sanchez*

105mm M102 howitzer and a light armored M ATV as an external sling load. After the two Super Stallions and their escort left the operations area, the KC-130 Hercules landed, dropping off Marine ground forces. Several passages of the F-18s and the AH-1Z Vipers that entered the operations area defended the teams on the ground. Three MV-22s arrived, deploying more Marines, while the F-35s secured the area. Mission accomplished and again, the Marines have achieved their objectives.

After a short break and catching some breath from the exciting demonstration of combined Marine power, two beautiful Shooting Stars took off from runway 06R. With their passes, they had shown themselves off by the light reflected by the beautiful T33s.

They were followed by the F-22 Raptor Demo Team of the U.S. Air Force that began with a short introduction from the speaker, and then, the roar of the two engines overwhelmed everything around it, leaving everyone speechless. Following every movement, one could see the mastery of the pilot and the agility of the aircraft with very low passes. And suddenly, you found it at a high altitude surrounded by flares and then, it returned and made very tight turns.

After the F-22 landed, it was the turn of the F-35B of the Marine's VMFAT-502 demonstrating the maneuverability and showing the VTOL (vertical take-off and landing) capability of this fifth-generation fighter aircraft that can be used anywhere and in any theater of operation.

The air show was almost over when the Blue Angels C-130 Hercules, nicknamed 'Fat Albert' took off. Immediately raising the nose of this heavy aircraft, flying at low altitude parallel to the runway and then, steeply pulling up, returning with a very tight turn, maneuvering it as if it was a fighter plane. Right in front of me, where the Blue Super Hornets lined up, the aircraft maintenance specialists arrived and positioned themselves around the six F-18E/F Super Hornets, waiting for the pilots. When they arrived and precisely lined, saluting their aircraft and ground crews, they simultaneously entered their aircraft and started the engines. And the crowd went crazy. They took off and one of the best displays I ever saw began with breathtaking very low and fast passes of extremely tight formations of four aircraft and passes of the passes of the two soloists. With his spectacular 25 minutes long display, one of the world's best jet aerobatic teams ended the air show.

In conclusion, Miramar Air Show 2024 was the best air show I have ever seen.

The author would like to thank the 3rd MAW, the organizers of the Miramar Air Show, and all the performers for their excellent work – "SEMPER FI"

U.S. Marine Corps MV-22B *Osprey* with VMM-364, MAG 39, 3rd MAW shows it's helicopter-like capabilities and hovers above a fixed point on the ground *USMC by Lance Cpl. Jennifer Sanchez*

F/A-18C assigned to Marine Fighter Attack Squadron 232 (VMFA-232) *Red Devils* based at MCAS Miramar taxis to RWY 24R for take-off

F/A-18C/Ds are taxiing for take-off for the air power demonstration of the Marine Air-Ground Task Force (MAGTF)

U.S. Marine Corps, Daniel G. Viramontes

U.S. Marine Corps, Ezekieljay Correa

U.S. Marine Corps, Lance Cpl. Seferino

U.S. Marine Corps F/A-18 *Hornets* assigned to 3rd Marine Aircraft Wing, I Marine Expeditionary Force take off during the Marine Air-Ground Task Force demonstration. The MAGTF Demo displays the coordinated use of close-air support, armor, artillery and infantry forces and provides a visual representation of how the Marine Corps operates.

Main: Low altitude high-speed pass of an F/A-18C assigned to VMFA-232

Inset: U.S. Marine Corps F/A-18 Hornets assigned to 3rd Marine Aircraft Wing, I Marine Expeditionary Force, fly over a wall of fire from a simulated air strike *U.S. Marine Corps photo by Lance Cpl. Seferino Gamez*

Top: USMC F-35C *Lightning II* assigned to VMFA-311, 3rd MAW, I MEF, flies above the flight line during the MAGTF demo

Above left: F-35C *Lightning II with VMFA-311* takes off from the flight line *U.S. Marine Corps photo by Cpl. Arthur W. Shores*

Above right: F-35C *Lightning II* takes flight during the MAGTF demonstration *U.S. Marine Corps photo by Staff Sgt. Ramon Garcia*

Main: U.S. Marine Corps aircraft assigned to 3rd Marine Aircraft Wing, I Marine Expeditionary Force, conduct a flyover at the end of the MAGTF demo *USMC photo by Lance Cpl. Seferino Gamez*
Inset left: MV-22B *Osprey* assigned to USMC VMM-362 *USMC photo by Lance Cpl. Seferino Gamez*
Inset middle: A U.S. Marine Corps AH-1Z *Viper* and a CH-53E *Super Stallion* *USMC photo by Lance Cpl. Jennifer Sanchez*
Inset right: A U.S. Marine Corps CH-53E *Super Stallion* and an AH-1Z *Viper* *USMC photo by Lance Cpl. Jennifer Sanchez*

Top : A U.S. Marine Corps AH-1Z *Viper* assigned to Marine Light Attack Helicopter Squadron (HMLA) 169, Marine Aircraft Group 39, 3rd Marine Aircraft Wing, flies above the flight line *USMC photo by Lance Cpl. Robert F. Picone*
Above: Two AH-1Z *Viper*s assigned to HMLA 169 *USMC photo by Sgt. Emeline Swyers*

Left: AH-1Z *Viper* and two CH-53E *Super Stallions* carrying a 105mm M102 howitzer and a light armored M ATV as an external sling load

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Main: Pyrotechnics detonate during the MAGTF demo *USMC photo by Ezekieljay Correa*

1: MV-22B *Osprey* assigned to VMM-362 *USMC photo by Lance Cpl. Jennifer Sanchez*

2: Two USMC AH-1Z *Vipers*

3: U.S. Marines with 3rd Battalion, 5th Marines, 1st Marine Division provide ground security during the MAGTF demo *USMC photo by Lance Cpl. Robert F. Picone*

MV-22B *Osprey* assigned to VMM-362 and a CH-53E *Super Stallion* prepare to land to deploy Marine ground forces

Main: U.S. Marines exit a MV-22 *Osprey* *USMC photo by Staff Sgt. Ramon Garcia*
Left: A MV-22B *Osprey* takes flight after Marines exited the aircraft *USMC photo by Staff Sgt. Ramon Garcia*
Right: U.S. Marines provide ground security *USMC photo by Lance Cpl. Robert F. Picone*

Main: U.S. Marine Corps UH-1Y *Venom* assigned to Marine Light Attack helicopter Squadron (HMLA) 267 *USMC photo by Sgt. Emeline Swyers*

Left: UH-1Y *Venom* assigned to HMLA-267 prepares for takeoff *USMC photo by Sgt. Emeline Swyers*

Middle: U.S. Marine Corps Capt. Scott C. Ziebelman, right, and Captain Karl W. Gee, both UH-1Y Venom pilots with HMLA-267, fly above the flight line during the MAGTF demo *USMC photo by Lance Cpl. Robert F. Picone*

Right: U.S. Marine Corps UH-1Y Venom assigned to Marine Light Attack Training Squadron (HMLAT) 307 *USMC photo by Lance Cpl. Robert F. Picone)*

A U.S. Marine with 1st Reconnaissance Battalion, 1st Marine Division fast ropes from a UH-1Y Venom assigned to Marine Light Attack Helicopter Training Squadron (HMLAT) 303

Main: A U.S. Marine Corps KC-130J *Hercules* and two F-35C *Lightning II*s assigned to 3rd Marine Aircraft Wing, I Marine Expeditionary Force, demonstrate aerial refueling capabilities during the MAGTF demo *USMC photo by Cpl. Arthur W. Shores*

Left: Take-off of an KC-130J *Hercules* assigned to VMGR-352

Right: U.S. Marines exit the KC-130J *Hercules* of VMGR-352 *USMC photo by Ezekieljay Correa*

USMC photo by Lance Cpl. Oliver Nisbet

USMC photo by Lance Cpl. Robert F. Picone

USMC photo by Ezekieljay Correa

U.S. Marine Corps F-35B *Lightning II* assigned to Marine Fighter Attack Training Squadron (VMFA-T) 502, Marine Aircraft Group 11, 3rd Marine Aircraft Wing conducts an aerial demonstration of its vertical lift and hovering capabilities


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MARINES
VMFAT-502
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USMC photo by Ezekieljay Correa

A U.S. Marine Corps F-35B *Lightning II* assigned to VMFAT-502 conducts an aerial demonstration of its vertical landing capabilities

USMC photo by Lance Cpl. Robert F. Picone

USMC photo by Lance Cpl. Robert F. Picone

The U.S. Air Force F-22 Raptor Demonstration Team performs precision aerial maneuvers to demonstrate the unique capabilities of the world's premier 5th generation fighter aircraft.

A U.S. Air Force F-22 *Raptor* and a P-51D *Mustang* conduct a heritage flight showcasing the history of aviation

USMC photo by Lance Cpl. Seferino Gamez

USMC photo by Staff Sgt. Ramon Garcia

USMC photo by Cpl. Arthur W. Shores

Lockheed T-33 *Shooting Star*. The T-33 was used as an subsonic jet trainer and made its first flight in March 1948. A total of 6,557 of this aircraft were manufatured between 1948 and 1959

USMC photo by Cpl. Gabriela Garcia-Gregorio

USMC photo by Lance Cpl. Jennifer Sanchez

U.S. Air Force KC-135T *Stratotanker* assigned to 6th ARW / 91st ARS based at MacDill AFB, Florida

USMC photo by Ezekieljay Correa

USMC photo by Ezekieljay Correa

Vicky Benzing, piloting her 1944 North American P-51D. Benzing has been competing in aerobatic contests and flying at air shows since 2005
USMC photo by Lance Cpl. Seferino Gamez

USMC, Ezekieljay Correa

USMC, Lance Cpl. Oliver Nisbet

USMC, Ezekieljay Correa

RED BULLS AIR FORCE

Main: MBB Bo-105 and Zivko Edge 540 *USMC photo by Ezekieljay Correa*

Top: MBB Bo-105 **Middle:** Piper PA-18 **Bottom:** Zivko Edge 540

U.S. Navy aerobatic team BLUE ANGELS with F/A-18E/F


Cdr Thomas Zimmerman
BOEING F/A-18
SUPER HORNET
Blue Angels
U.S. NAVY
165782
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USMC photo by Lance Cpl. Robert F. Picone

USMC photo by Staff Sgt. Ramon Garcia

USMC photo by Lance Cpl. Oliver Nisbet

USMC photo by Lance Cpl. Robert F. Picone


U.S.NAVY
U.S.NAVY


Blue Angels
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U.S.NAVY

USMC photo by Lance Cpl. Oliver Nisbet

KC-130J *Super Hercules*, nicknamed "Fat Albert", with the U.S. Navy Blue Angels takes off
USMC photo by Lance Cpl. Robert F. Picone

EXERCISE STEADFAST NOON 2024

ARTICLE BY RALF JAHNKE

From 14 to 24 October 2024, the annual NATO nuclear exercise STEADFAST NOON took place. This year, the exercise focused on the areas over Germany, Denmark, the Netherlands, Belgium, the UK, and the North Sea. The participating fighter aircraft were deployed to eight different bases in these areas. According to NATO, a total of 13 countries with up to 60 aircraft took part in the exercise. These included the JAS-39, Typhoon, Tornado, F-16, F-18, and F-15 of the fourth generation as well as fifth-generation F-35 fighter jets. F-35 fighter jets, as well as a number of tankers (A400M, KC-767, KC-135T, A330 MRTT, Voyager KC) and surveillance aircraft (E-3A AWACS), supported STEADFAST NOON. Fighter aircraft for electronic warfare were also involved, and Royal Netherlands Air Force F-35 Lightning IIs took part for the first time.

STEADFAST NOON is about practicing 'nuclear sharing' in which the USA uses the fighter jets of selected NATO countries without nuclear weapons but with nuclear equipment and train their pilots to carry out a nuclear strike with American nuclear bombs. In peacetime, nuclear weapons are under the control of the USA, but the agreement means that they are handed over to the non-nuclear weapon states in the event of war. The use of nuclear weapons can only be used after explicit political authorization by the

In this year's edition of exercise STEADFAST NOON, Schleswig-Jagel AB was one of the main bases in the exercise area. The hosts took part with their Tornado ECR and IDS.

NATO Nuclear Planning Group (NPG). However, this is subject to the prior approval of the President of the United States and the Prime Minister of the United Kingdom. NATO announced in 2022 that seven NATO countries will contribute to the nuclear sharing mission with dual-capable aircraft. "STEADFAST NOON is an important test of the Alliance's nuclear deterrence and sends a clear message to any adversary that NATO will protect and defend all allies", said NATO Secretary General Mark Rutte before the start of the exercise.

In this year's edition of STEADFAST NOON, the German Air Force Schleswig-Jagel AB, the largest host base in the exercise area. In the run-up to the exercise, a total of nine F-16s from the Romanian Air Force's Escadrila 53 Vânătoare from Borcea AB, Hellenic Air Force's 335 Mira from Araxos AB, and the 191 Filo from Balikesir AB of the Turkish Air Force deployed to Jagel. They were supported by A400M, C-130B/H, and C-27J transport aircraft of the respective air forces. Due to the special type of mission, a sortie could last several hours. Various tanker aircraft were available in the exercise area at the same time in order to refuel the numerous fighter aircraft. In addition, the exercise area was monitored and the fighters were guided by a NATO AWACS E-3A. At the same time, NATO conducted the exercise STRIKE WARRIOR over the North Sea, using the same airspace, but their flight operations were separated in time. This made it possible for some of the STEADFAST NOON participants to take part in the STRIKE WARRIOR missions as well.

After six years, the US aircraft carrier USS Harry S. Truman battle group again deployed into the North Sea and took part in the exercise off the German island of Helgoland.

The first STEADFAST NOON exercise took place in 2003. Since then, it has been held annually and focuses on nuclear deterrence and operational readiness of NATO member states. Next year, the exercise will most likely be held in southern Europe again. STEADFAST NOON has evolved over the years and trains military personnel in the use of nuclear weapons and ensures that NATO forces are prepared for any scenario of nuclear war.

As a matter of principle, NATO does not provide any detailed information on STEADFAST NOON! Therefore, there is no official information available about the exact content of this exercise.

The maintenance crew carries out a last chance check immediately before the launch of the three Tornados

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1 The Tornado ECR 46+52 in the special livery of this year's NATO Tiger Meet, shortly before the starting line-up

3 The Tornado IDS 44+69 "Air Defender" from 2023 is still flying

2 With full afterburner, the "Tiger" takes off to the operational area

4 On the outer pylon wings, the aircraft carries a BOZ-101 pod for airborne self-protection systems

The Tornado ECR 46+55 flew in a very special configuration during the exercise. The 1,500 liter external tanks that are normally attached to the wings were attached to the fuselage. The two IRIS-T air-to-air guided missiles with infrared seeker heads for short and very short range can be seen on the wing's inboard stations

The Tornado 45+39 on final approach to Schleswig-Jagel AB and rolling off runway head no. 05. In addition to the two external tanks, the Tornado carries a BOZ-101 pod on the right outer station and a TSPJ pod (Tornado Self Protection Jammer) on the outer right station

A Tornado from the home squadron breaks for the circuit. From 2030 onwards, the Tornado will finally be replaced by the Eurodrone. This will bring an end to the era of combat aircraft in Schleswig-Jagel after more than 91 years (1939-2030).

In a 4-ship formation, the Tornados return to land in fine weather. The unit's affiliation with the NATO Tiger Meet Association cannot be seen by the external fuel tank painted in tiger-look

The Heron TP is used in the 2nd Squadron of the TaktLwG 51 "I". Flight operations are still in the so-called test phase. Initially, a total of four Heron TPs are to be procured from Israel. From 2030, the Eurodrone from Airbus Defence is to be procured and will replace the Heron TP

GERMAN AIR FORCE – EF2000 – TAKTLWG 31 "B"

Main: EF2000 31+47 is ready for take-off
Left: The two Eurofighters taxi out for the next mission
Right: EF2000 31+47 assigned to the TaktLwG 31 on the runway

During the exercise, EF2000s of the TaktLwG 31 "B", based at Nörvenich AB often came to Jagel. Here are 31+37 and 31+44 line-up on the head of runway 23.

Take-off of EF2000 31+44 with full afterburner. The aircraft is equipped with two IRIS-T air-to-air missiles and an LDP pod. The Eurofighter carries two 1,000 liter external fuel tanks under the wings.

Landing and subsequent taxiing into the parking area of the two EF2000 31+37 and 31+44 from Nörvenich AB. The maintenance crews from Cross Servicing give the pilots detailed instructions

Above left: The German Air Force will continue to use the Eurofighter for a very long time in the future. Twenty additional aircraft were recently ordered from Airbus Defense

Above right: In 2011, the TaktLwG 31 "B" in Nörvenich received the Eurofighter as a successor to the Tornado.

Above: The mission is over and the engines of the two Eurofighters are shut down.

HELLENIC AIR FORCE – F-16C *FIGHTING FALCON* – 335 MIRA

335 Mira of the Hellenic Air Force (Πολεμική Αεροπορία) at Araxos AB sent three F-16Cs to Jagel AB for the exercise. Some aircraft still had "tiger-painted" external fuel tanks as a sign of their membership in the NATO Tiger Association.

After a mission, the F-16C 003 taxis back to the Z-Line. The F-16s of the 335th Mira have tiger stripes on their tail.

The F-16C 017 taxis to the take-off point on runway 05.

Landing of F-16C 011 on runway 05 in the beautiful autumn light. Until 2008, the 335th Mira still flew the A-7H *Cosair* as the sole operator in Europe.

The HAF F-16 *Fighting Falcons* arrive at the airfield in a 3-ship formation. The squadron has been using the F-16 Block 52+ in Araxos since 2010

Main: Landing of F-16C 017 after a familiarization flight over northern Germany, Denmark and the North Sea

Left: F-16C 003 during landing

Right: F-16C 011 on final approach to runway 27

ROMANIAN AIR FORCE – F-16C *FIGHTING FALCON* – ESCADRILA 53

A very special participant was the Esc 53 from Fetesti AB of the Romanian Air Force (Forțele Aeriene Române). This year, the F-16s took part in various NATO exercises in Europe. Note the moist air trail at the air intake.

Top: The Romanian F-16s wear a unique tri-color camouflage. Here is the F-16AM 1613 on approach to land at Schleswig-Jagel

Above left: F-16AM 1613 taxis to the head of runway 05

Above right: Take-off with full afterburner

Top: Take-off of F-16AM 1617
Main: The Romanian Air Force received the first F-16s from the Portuguese stocks in 2016. Here are two F-16AM, 1603 and 1613 rolling out for an operational flight. A further 32 aircraft were purchased in Norway and are currently being transferred. The F-16s are intended to cover the time until the introduction of the F-35A *Lightning II*.

Main: All three F-16AM nos. 1603, 1613, and 1617 of Esc 53 on the way to the flight home to Fetesti AB

Left: After the mission, the F-16AM lands at Jagel AB

Right: F-16AM 1603 of Esc 53 taxis to the runway to line-up for take-offf

TURKISH AIR FORCE – F-16C/D *FIGHTING FALCON* – 191 FILO

In pouring rain, two F-16C 93-0679 and 93-0684 of the Turkish Air Force (Türk Hava Kuvvetleri) taxi for take-off. The aircraft are loaded with a single AIM-9X *Sidewinder* air-to-air missile

The home base of the 191st Filo is Balikesir AB. The squadron also deployed a two-seater F-16D 94-1560 to Jagel. Interestingly, this aircraft already took part in the NATO Tiger Meet 2014 in Schleswig-Jagel.

Main: After the early morning fog cleared, flight operations began on time. F-16C 93-0679 and 93-0684 are waiting for the clearance to taxi onto the runway

Left: F-16C 93-0679 is ready for take-off

Right: The squadron emblem of the 191st Filo is the Cobra, which is painted in oversize size to the tail unit of the F-16.

Main: It is assumed that the 191st Filo is intended for various special tasks. Two Falcons roll off the runway and roll back to the parking area

Left: The Turkish Air Force paints its respective squadron insignia in oversized form on the tail section of its aircraft

Right: With full afterburner, the F-16C takes off for its next mission

The F-16C 93-0689 of the 191st Filo approaching Runway 05. The Turkish Air Force has a total of 223 F-16C/D aircraft, all of them Block-30/-40/-50 models. The Turkish Air Force has announced the acquisition of an additional 40 new F-16C Block-70s from Lockheed Martin. The older F-16s are to be modernized by the Turkish Aerospace Industries (TAI). Turkey has now achieved a breakthrough by ordering 40 new Eurofighters from Airbus Defense.

SUPPORT AIRCRAFT – GERMAN AIR FORCE – A400M *ATLAS* – LTG 62

The A-400M no. 54+31 came in to land in Schleswig-Jagel to provide support. This aircraft type has now established itself as the workhorse of the German Air Force. The transport aircraft has passed its baptism of fire since the evacuation in Kabul. The German A400Ms evacuated a total of 5,000 people from Afghanistan.

The colorful C-130H 747 of the 356th MTM *Hercules* from Elefsina AB is approaching Schleswig-Jagel. The tail unit depicts Heracles (for the Romans: Hercules), probably the most famous of all ancient heroes! The aircraft received this special paint job in 2023 for its 70th anniversary.

The Greek personnel was picked up by C-130H 747 and brought back to Araxos AB. The *Hercules* taxis over the old runway for take-off

The Greek contingent was brought to Schleswig-Jagel AB with this C-130H *Hercules*. The transport aircraft is assigned to the 355th MTM *Hephestus* at Elefsina AB

C-130E 68-01608 of the 222nd Filo at Kayseri AB is approaching Schleswig-Jagel. The squadron's mascot is a rhinoceros, which is in oversized form displayed on the tail unit

Main: The same Hercules also came to Schleswig-Jagel again to pick up the personnel of the 191st Filo

Left: After unloading, the aircraft turns on the ramp towards the runway

Right: Departure of C-130E 68-01608 before the start of exercise STEADFAST NOON 2024

The A400M *Atlas* 18-0094 of the 221st Filo transported material and equipment to northern Germany. After an overnight stay, the aircraft flew back to Kayseri AB. The Turkish Air Force has a total of 10 *Atlas* aircraft in its inventory

Main: Return flight of the A400M *Atlas* 21-0118 of the 221st Filo towards Türkiye

Left: Unloading of material and equipment from A400M 21-0018.

Right: The A400M 18-0094 turns on the runway to transport material equipment back to Balikesir AB

An unusual constellation, a Turkish and a Romanian transport aircraft close to each other on the large parking area before the start of exercise STEADFAST NOON

SUPPORT AIRCRAFT – ROMANIAN AIR FORCE

The Romanian personnel arrived at Schleswig-Jagel AB with the C-130H-2 *Hercules*. The particular *Hercules* was recently 'donated' from the U.S. Air Force to the Forțele Aerene ale României as part of the Foreign Military Sales (FMS) program. The painted-over ex. USAF markings can still be seen at the tail unit.

The C-130B 5930 of Escadrila 901 from Otopeni AB picked up the material from Esc 53. This *Hercules* is one of the oldest C-130s in the world and dates back to 1963

The C-130H-2 9142 after unloading its cargo. The bulge on the rear fuselage is striking. The coat of arms of the Baza 90 from Otopeni AB is attached next to the entrance door.

A C-27J *Spartan* 2703 and 2704 of the Esc 902 from Otopeni AB was also used to transport the Ecs 53 personnel to and from Jagel AB. The Forțele Aerene ale României has a total of seven *Spartan* transporters.

GFD GESELLSCHAFT FÜR FLUGZIELDARSTELLUNG – LEARJET 35A

The Gesellschaft für Flugzieldarstellung (GFD) supported the exercise with its Lear Jet 35A D-CGFJ. There are two MRT-101 pods under the wings for target simulation.

VISITING AIRCRAFT – SWISS AIR FORCE – CL-604 – LTDB

A CL-604 (engineering designation CL-600-2B16) T-751 of the Swiss Air Force visiting Schleswig-Jagel. The Challenger is stationed in Bern

List of airbases and (deployed) units participating in STEADFAST NOON

Airbase	Country	Type of a/c	Unit
Kleine Brogel AB	B	F-16AM	10. WG / BAF
		Tornados IDS	6° Stormo / ItAf
Skrydstrup AB	DK	F-16AM	730 Sqn / RDAF
		JAS39C	211TL / CzAF
Schleswig-Jagel AB	D	Tornados ECR	TaktLwG 51 "I" / GAF
		F-16AM	Esc 53 / RomAF
		F-16C	191 Filo / TuAF
		F-16C	335 Mira/ HAF
		Lear Jet 35A	GFD, civil
Volkel AB	NL	F-35A	313 Sqn / RNLAF
		Tornado IDS	TaktLwG 33 / GAF
RAF Coningsby	UK	Typhoon FGR4	3 Sqn, 12 Sqn / RAF
Eindhoven AB	NL	KC-767	14° Stormo / ItAF
RAF Lakenheath	UK	F-15E	48th FW / USAFE
		F-35A	48th FW / USAFE
RAF Mildenhall	UK	KC-135R	100th ARW / USAFE
RAF Waddington	UK	F-16C	31.BLT / PolishAF
		F/A-18C	HävLLv 11 / FinAF

List of units participating in STEADFAST NOON from their home base

Airbase	Country	Type of a/c	Unit
Geilenkirchen AB	D	E-3A	NAEW&CF / NATO
Wunstorf AB	D	A400M	LTG 62 / GAF
Eindhoven AB	NL	A330 MRTT	MMU / NATO
RAF Brize Norton	UK	Voyager KC	1 AMW / RAF
RAF Marham	UK	F-35B	RAF / RN

For the third time in a short period of time, an important NATO exercise took place from Schleswig-Jagel AB. The F-16s from the three participating air forces were standing together on the large flight line.

GOODBYE TO DUTCH VIPERS

TEXT BY JORIS VAN BOVEN AND ALEX VAN NOIJE
AND PHOTOS BY THE AUTHORS UNLESS STATED

Dutch F-16s during an air-air photo flight in a tanker

Dutch F-16 *Fighting Falcons*

In the 1970s, the Lockheed F-104G Starfighters of the Royal Netherlands Air Force (Koninklijk Luchtmacht) reached the end of its lifespan, and a successor was needed. After evaluating the Northrop F-17, Dassault Mirage F1, Saab Viggen, and General Dynamics F-16, the Netherlands decided in favor of the latter. In 1979, the first F-16 entered service at Leeuwarden AB. When in the 1980s the Dutch Air Force Northrop NF-5 aircraft needed to be replaced too; the F-16 was chosen as successor as well, resulting in a total of 213 Dutch F-16s (177 F-16As and 36 F-16Bs). From 1998 until 2003, the F-16s received a Mid-Life Update (MLU), significantly extending the service life of the aircraft. The updated F-16A/Bs were designated F-16AM/BM and finally, after 45 years of service, the last F-16s were retired as the Lockheed F-35s received their Full Operational Capability in September 2024. Of its 213 F-16s, the Royal Netherlands Air Force lost a total of 36 single-seaters and one two-seater.

International missions

The first international mission started in April 1993, shortly after the Cold War officially ended in 1991. Tensions were rising between different population groups in the former Yugoslavia, leading to NATO operations DENY FLIGHT and DELIBERATION FORCE. Dutch F-16s from Villafranca initially participated in enforcing a no-fly zone and subsequent bombing flights. From Amendola in Italy, the Netherlands contributed to Operation ALLIED FORCE with, among other things, F-16s.
After deployment to the Balkans, F-16s operated in Afghanistan from 2002 to 2014, first for Operation ENDURING FREEDOM, then for the INTERNATIONAL SECURITY ASSISTANCE FORCE (ISAF).
In 2011, The Netherlands also deployed F-16s from Sardinia for UNIFIED PROTECTOR in Libya.
Ultimately, from 2014 – 2018, F-16s from Dutch also served for several years from Jordan for INHERENT RESOLVE. This operation focused on combating the terrorist organization ISIS in Iraq and Syria.

F-16 Formation at the Gilze-Rijen AB airshow on 18. June 2005 ***Raf Peter Walter***

Lieutenant General André "Jabba" Steur,
Commander of the Royal Netherlands Air Force

Simple Design, Complex Operations

September 2024 is when the Royal Netherlands Air Force finally said goodbye to the General Dynamics F-16 Fighting Falcon. The aircraft has been the backbone of the Air Force in the Netherlands for over 45 years and is very popular among defense personnel and aviation fans. Together with Lieutenant General and Commander of the Royal Netherlands Air Force André Steur, we look back on the career of this iconic fighter aircraft in Dutch service. It was 'The' plane that also played a common thread in his entire career as a fighter pilot.

The Choice The Netherlands

André Steur (Callsign "Jabba") does not hide that the F-16 played an important role. He even met his American wife thanks to the F-16, during his training in the United States.
"I started in the Royal Netherlands Air Force in 1988 and that was not something that was self-evident. When I was about six years old, I had some Leopard stickers on the footboard of my bed because my father was in the army. Above my head hung a poster of the two guided weapon frigates, the Tromp and the Ruyter of the navy, and on my shelf was the red, white, and blue, prototype of the F-16 as a construction kit. Therefore, somewhere as a child, something was triggered, which aroused the interest in Defense in the broader sense. That undoubtedly had to do with my father. When I was about seventeen years old, I was in my pre-university education (VWO), and I had to think about what to do in the future. The most popular thing at the time was to study business administration. Then you could earn a good living, so that seemed like a good idea to me at first. But after a while, I discovered that I didn't really like this. Time for a talk with my father. The old Steur asked me some in-depth and critical questions and during that talk, I discovered that Defense might be a much better match; working with and in a team, doing meaningful work, seeing something of the world, doing something for someone else and having fun in and outside the work. Shortly after the talk, I applied for the army. A logical step, after all, I saw that beautiful green suit coming home every day from my father. The last step of the job interview concerned the Advisory Committee. An erudite company chaired by a brigadier general of the Infantry, General Knol. After an excellent talk with the committee, in which I was grilled about mechanized operations and the battle of combined arms, I was accepted for the Cavalry, my first choice. However, the moment I walked out the door of that room, I was whistled back by Knol; 'Steur, come back because there is one thing we don't understand in your file. You only applied to the army and not to the navy, but also not to the Air Force, while most of our applicants indicate that they also applied to the Air Force because they wanted to be 'Tom Cruise' ('Top Gun' had just been released the year before)'. And so General Knol advised me to take a look at the Air Force. And so it happened. Immediately afterwards, I applied to the Air Force and I was accepted. So that's how I ended up in the Air Force. A strong example of purple thinking "avant la lettre". Yes, and then the adventure began!

What immediately struck me when I joined the Air Force, actually during the entire training program, was the professionalism and discipline that prevailed everywhere. Long days, hard work, and a lot of learning at a murderous pace. No excuses, no sweet talk, but just making sure that you have your affairs in order and give everything every day. Regardless of whether it was during the academics, in the simulator, or during the flight. You see an enormous drive and professionalism in everyone to want to do things well, to do it safely, and to get a little better every day. To want to be the best, as a team. That made quite an impression on me. In the beginning, of course, you come from high school and discipline is a word in the 'Dikke van Dale' (This is the national Dutch dictionary). Suddenly, you end up in a system in which everything is arranged, but where at the same time a lot is asked of you as an individual with limited time for a bit of personal attention and wishes. You are in that system, with fixed terms for tests and exams. That requires the individual to be able to conform to such a system. By subordinating yourself to the greater whole by giving the best of yourself. Because it is hard work, you see that enormously strong group cohesion is created, to want to help each other and to pull each other in. With focus 'on the ball', always knowing that you have to do it together, and relax together of course. The weekends and Friday nights in the officers' club were always good times. Important for the team; work hard, relax hard, together.

Group Dynamics in the F-16 Squadrons

When I look at the squadrons of the Royal Netherlands Air Force, then I appreciate the group dynamics most of it. When it comes to cooperation, the entire flying industry in general, and fighter pilots in particular, is sometimes experienced by outsiders as a very hard world. This is partly because people are usually very direct with each other and say what they think. The result of the team is what it is all about in the end. The realization that you have to work together to become a little better every day, to bring the team to a higher level, is very normal in the squadrons. There it is not so much who or what you are that counts, but you are judged on your latest performance. In clear terms. I can really enjoy the fact that when I walk into the squadron to fly the F-16, regardless of what is on my shoulder, my rank does not count, not Lt. Gen. Steur, but number 1, 2, 3 or 4 in the formation, with all the tasks and responsibilities that come with it. Very simple. Then after the flight, I also got a good telling off from the lieutenant who leads the debriefing if I didn't do things right. Wonderful, no mincing words, 'no points for second best'. I think we really need to cherish that we always tell each other the truth. What happened? How do we learn from that? How do we prevent making the same mistake tomorrow? How can we function even better as a team? As far as I'm concerned, that's the basis for every high-performance team. Blind trust in each other, I think that's inevitable when you're in this

Sunset take-off of an F-16 at Volkel AB

business. Everyone has to fulfill their responsibilities, on the ground and in the air, to make Airpower successful. You really have to stick to contracts and agreements. I always thought it was quite special to see that there are no questions in the language of fighter pilots. It's just commands back and forth. If the flight lead gives you a command, you just carry it out. You know what he asks of you and only if you think that the survival chances of the formation are at stake, then you, even as number 4, can make a call. But even then, you don't ask a question of shall we do this or shall we do that, there is simply no time for that, you direct the formation. I find that quite special, because it is, I think, the only language in the world in which there are no questions."

The Mid Life Update F-16

"A deployment in which the F-16 in Dutch service really made a difference in an international coalition was of course the intervention in the war in the former Yugoslavia at the end of the nineties. Operation Allied Force, the first conflict in which the Royal Netherlands Air Force led the way in the battle, carried out the most risky and complex missions and was responsible for a large part of the missions. Many important moments that took place then are still fresh in the memories of many civilians and military personnel. The shift from day to night, the use of air-to-surface precision weapons, the use of long-range air-to-air weapons, and all that while we had only just converted to the F-16 MLU (Mid Life Update). An unprecedented achievement in which we as a community quickly matured and our people really made a difference in carrying out the operations in a more than excellent, but also safe manner. A big compliment. The combination of a much better weapon system and an even more professional team brought the Royal Netherlands Air Force to the forefront of the alliance during this conflict during an international intervention in a crisis. A promotion to the Champions League of Fighter operations. This was unprecedented for a country like the Netherlands at the time and for the first time in a very long time. A culmination of a striving for perfection, discipline, teamwork, and blind trust in each other, both with our ground crews and the aircrews. An unprecedented focus on wanting to improve and be the best. That ultimately made the difference. I think that this way of thinking and working translates to the deployment area and that people see the great added value of those kinds of aspects there. I started in Bosnia myself and eventually served in Kosovo during ALLIED FORCE and later in Afghanistan. During my deployments to Bosnia, Kosovo, Afghanistan, and Libya, I saw the strength of the team really come to full fruition, in sometimes quite exciting times. That is why I am convinced, and then, I am of course biased, that the Airpower Team is one of the most powerful teams in the world. And I see that in all weapon systems of the Air Force. I think there is nothing stronger than

Main Image: **F-16AM asssigned to 313 Squadron at Volkel AB in June 2009** ***Ralf Peter Walter***
Inset: **Take-off of an F-16 assigned to 322 Squadron**

that mutual bond, that blind trust, that discipline, and that focus on a mission result! That makes you humble as a person. And again, it is not only the pilots who are responsible for this but the entire team. The best aspect of such a deployment is the complete functioning detachment, which usually consists of approximately 120 to 250 people. And believe me, everyone within such a detachment knows very well that if someone 'messes up', the team will fail in the broadest sense of the word. Of course, you often see that the focus in the media is on the planes and the fighter pilots, but that does not do justice to the strength of the entire detachment. When the team knows how to find each other seamlessly both in the air and on the ground, then the sky is really the limit. We as the Air Force must continue to cherish that.

Personally, I also see that we have continued to improve the functioning of the team. Over the years, I have seen a real professionalization in the F-16 community. Partly due to the increasingly broad task assignment and the increasing complexity of the missions with the aircraft. When I joined the 312 Squadron as a young wingman, we flew with a fairly basic version of the F-16. Dumb bombs, a cannon, and short-range missiles. That was it, life as an F-16 pilot was actually very clear at that time. If I then compare that with what was later asked of our pilots above the Balkans, in Afghanistan, and in the Middle East, then it is a world of difference. The MLU (Mid Life Update) version of the F-16 has been a real game-changer for the entire Royal Netherlands Air Force in that sense. When I saw our people flying missions in the Middle East with the F-16 MLU, with good sensors, smart weapons, mixed weapon packages, and sometimes ten different attack profiles, it became clear to me that the responsibility of the pilot has become much greater over the years. The required knowledge and skills, the increasingly stringent rules of engagement, the very long missions, the mainly operating in the dark... we ask quite a lot of our people. And for decades they made it happen, at the highest level. I am incredibly proud of that! The arrival of the MLU F-16 at the time was certainly an important prelude to the F-35."

MLU is Standardization

"I believe that the operations with the F-16 MLU have positioned the Royal Netherlands Air Force as one of the world's leading fighter forces. There are a number of factors that underlie this. On the one hand, of course, the professionalism of the crews on the ground and in the air, but certainly, also the cooperation with other countries. Not only an important lesson for the Royal Netherlands Air Force, but also for the other EPAF (European Participating Air Forces) F-16 countries. When you buy the same equipment and use the same doctrines and the same tactics, then there is a lot of synergy to be found in the operations. In this area, the Netherlands has played a very important role. A dominant and leading Air Force within the international context. Among other things by setting up the FWIT (Fighter Weapon Instructor Training), you could say the Top Gun of the Low Lands, but better and without Volleyball. Not an idea of all kinds of generals, by the way, but captains and majors who saw that everything could be smarter, better, and more effective. This had to be, and so it happened that gradually the Air Forces of the Netherlands, Norway, Denmark, and Belgium

322 Squadron F-16 in an air-air photo flight in a tanker during a FRISIAN FLAG exercise

322 Squadron (left) and 323 Squadron F-16AM in an air-air photo flight in a tanker during a FRISIAN FLAG exercise overhead the North Sea

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grew closer together. The same equipment, the same language, the same philosophy, the same standards, the same tactics, the same management, joint support, truly 'One Team One Task'! To train weapons instructors who then formed the tactical backbone of their own squadrons after returning home. I flew on the FWIT where I flew as a Dutchman in a Belgian aircraft with a Norwegian crew chief and a Danish weapons technician, with a Dutch engine in the back of the aircraft. We did everything together. And the great thing is, when we had to deploy together, there were no questions. When we went to Afghanistan with the Danes and the Norwegians, we literally did everything together. The same story with our Belgian colleagues above the Balkans. This synergy was an unprecedented force that was released. Also, the fact that you do everything the same and that when you meet each other in the air and can immediately switch if the situation requires it, is worth gold. No questions and no discussions on the radio. This concept really put the Netherlands on the map and that would have been impossible without the extremely professional efforts of our crews. That is why we are one of the leading Air Forces in the world and I dare say one of the best-trained Air Forces.

The fact that we, as the Royal Netherlands Air Force, have set up this integration and cooperation with other NATO partners in Europe and far beyond is a major achievement for a small country like the Netherlands. I am therefore very proud of our people. Who could have imagined in advance that we would be deployed non-stop for decades with this 'Lightweight Fighter'? Undisputed the most deployed weapon system of the whole Dutch Defense organization. That started cautiously in Bosnia with the first patrols with the original version of the F-16, followed by increasingly complex operations with an ever-better version of the F-16 MLU. A wonderful evolution of crews and equipment. A little bit better every day, it is the workhorse of Defense. It is great that this 'spiral development' ultimately formed the basis for the development of the F-35. So that we can have the best aircraft at all times, both software and hardware."

The Person Behind the F-16

"After the conflicts in the former Yugoslavia, the world would change drastically again at 9/11. The conflicts in Yugoslavia were still classic conflicts in which multiple military parties were in conflict with each other. After 9/11, the world would face an uncertain time with the fight against terrorism. Here too, the Air Force had to adapt to the changing dynamics. Change as the standard, and adaptability as the starting point, that

1 **F-16 of 312 Squadron during take-off**
2 **F-16 with the marking of the Tucson AB (AZ) on the tail, where the F-16 training took place for 32 years**
3 **F-16 of 312 squadron during a sunset photoshoot at Volkel AB**

The *Orange Lion* demo F-16AM of the Royal Netherlands Air Force

characterizes the Air Force and its people. And that is necessary because we do not do it all for ourselves. Almost everything we do is in support of either the Navy or the Army. You saw that coming to the foreground in the conflict in Afghanistan, among other things. This became clear from the number of deployments that were made to relieve our own troops on the ground in a very precarious situation. This came to the surface during the mission in Afghanistan and you still see very good relationships emerging from it. These relationships have often been established between pilots and soldiers of the Commando Corps. There were also people from the infantry and the Marines who were there who could be rescued by our air support or were given more freedom of movement on the ground to be able to deploy their actions. Here too, the F-16 played a very important role and at times made the difference between life and death. And of course, that does not only apply to the F-16, because our Apache helicopters have also meant a lot in this area. In the heyday of Afghanistan for the Royal Netherlands Air Force, I was in America on the Block 50 Viper in South Carolina, so I did not experience this personally. But I am proud of the cooperation there between the different domains and of the situations in which people on the ground owe their lives to the deployment of, among others, our F-16s. It is certainly also those people who have written the book of the F-16 over the years.

The most intensive deployment that I have experienced myself as a pilot was during Operation Allied Force. This was also my first weapon deployment. It was special that we were not so far away from home in Italy. You watch the news and you see all the horrors that take place over there, the rapes, all the cruelties against the local population in Kosovo. That does something to you as a person, you want to do something to stop those horrors. My very first mission was with four CBU-87s, cluster weapons that we still had and were allowed to use at the time, with a whole convoy of armored vehicles as the target. Then you notice that the terrible suffering on the ground is in the back of your mind. Then the drive to do it right perhaps comes to the fore even more. The tension that is there for such a first weapon deployment, that does something to you as a fighter pilot. And if it all goes well, that is actually a very special experience that stays with you forever. The feeling that you have been able to make a difference for the people on the ground, that is motivating. You want to prevent more suffering. With also the realization, when you fly back past that column after an hour and you see plumes of smoke rising from the vehicles, that there are people in there too. They are also people who are fathers, brothers, or sons. War is a dirty business and that is never pretty. Every soldier realizes that very well. We must at all times try to prevent these kinds of monstrosities from happening, but we must also simply be ready if it does happen. We must be able to resist it, deterrence is an important prerequisite for that. Speak softly and carry a big stick."

Fully armed QRA F-16 ready for take-off from Volkel AB

Defense as a Company

"How do we deal with war and conflicts in general as people? That is something we have learned over the years. Certainly, because colleagues sometimes had a hard time, experienced problems, and started thinking when they came home. Fortunately, Defense and the Air Force quickly switched to set up some aftercare. We did this, among other things, by not placing people back home with their families immediately after the war zone and leaving them to their fate. No, first talking together as colleagues about what happened, expressing the things that bother you, discussing the emotions and any concerns with each other. An adaptation program, in other words. We are actually still following this process now. When we now return from a deployment area, it is nice that we usually first stay somewhere in a safe and relaxed environment for a few days halfway home, where people can have a beer and where they can talk to each other and psychologists. Being able to tell your story, with people who really understand you, that is important. They are also informed about the safety net and the aftercare that is available within Defense. Again, important and necessary and we see that necessity in all defense units. A deployment simply does not leave people cold and everyone deals with it in their own way, also when it comes to aftercare. How we deal with it really differs per person, but I think that talking to colleagues with whom you can exchange experiences helps enormously. 'How do you deal with it and what do you think about this'? It is quite an exciting business, a lot happens and it is also just very responsible work, often at a very, very young age.

It is also good that the people on the squadron can occasionally get together for a moment to have a beer, to be able to let everything out that is in it. It is nice that they can talk to someone who understands what they are talking about and who understands what they have experienced. But for some that is not enough and more help is needed by talking to a specialist. How do I get a grip on what happened and how do I deal with it? As an organization, we are responsible for also properly shaping the aftercare. Even after the shutdown period, it can still be difficult. Nowadays, perhaps even more difficult than before. On the one hand, it is great that we all have social media and that we can FaceTime. When I first went

F-16 during an air-air-refuelling mission with a Dutch KDC-10 *Extender*

on a deployment, you could usually call home once a week. Back then, the 'bubble' you were in was fairly closed off, but now, there is daily contact, and everyone sees what is happening in the area, also via the news on the internet. Of course, that also causes concerns in the private sphere, so we also have to take that into account. I think that we do that very properly as an Air Force. By involving the home front at the beginning of a deployment. We tell them what is going to happen, what we expect from our people, and how we have trained them. That is necessary because we expect quite a lot from our people, including our home front. I always say, 'We do not train the home front for it and we do not pay them for it either', but they still run the shop during the absence of our people. With gusto!

For the soldier, it is relatively easy I think, because he is busy with his mission. You go to the deployment area, they cook for you, your bed is ready and the only responsibility is just to do your job. At home, life goes on as usual and people get sick, refrigerators break down, and so on. Most colleagues also have men and women at home, with a family, and having their own careers. Not something to be taken for granted, but the Home Front is always there for our people. I have the utmost respect for the Home Front every time again!"

Choice for the F-35

"After many years of loyal service, the F-16 was finally due for replacement. After my placement on the

The F-16AM 'J-055' was flown with this special color scheme at the airshows at Gile-Rijen AB in 2005 (main image), in 2006 at Leeuwarden AB (inset right), and in 2007 at Volkel AB (inset left) ***Ralf Peter Walter***

Block 50 in the USA, I was employed in The Hague, where the Defense Materiel Organization, nowadays known as COMMIT, was located at the time. I was there to work in the F-16 replacement project team as Head of Operations. I did that for three years, focusing on the F-35 and therefore no longer on the F-16. What we saw with the F-16 is that three things actually caused us to have to look for a replacement. One of them was the technical lifespan of the aircraft because the aircraft were starting to run out of steam. We were approaching the end of the bathtub curve. At the beginning of that curve, it is the teething problems that play tricks on you and then you get the phase for a very long time that 'the aircraft does what it is supposed to do' and at the end, old age and defects start to play tricks on the readiness. This concerns the technical perspective, which also made the maintenance of the F-16 quite challenging and expensive. And with this, the economic lifespan was also compromised. But the most important aspect for us was the operational lifespan. We saw that the threat was becoming increasingly intense, especially due to weapon systems from China and Russia, and that the F-16 would no longer suffice in that threat environment. Also, we saw that the circumstances in which the F-16 could still operate independently were becoming increasingly limited. Even if you are perhaps a small Air Force, you have to take responsibility in whatever coalition and in whatever threat environment, otherwise I think you have to do something else. And as a small country, we do not have the luxury of operating with many different types of aircraft. Therefore, we were looking for an all-rounder, an aircraft that can operate independently in the highest spectrum of violence on the front line. Also, we launched a Candidate Evaluation on that. At that time, we were of course already participating in the project through industrial participation, but certainly also to gain knowledge about the aircraft. However, when I came in, politics required that we do an additional Candidate Evaluation. That kept me off the streets for a few months. At the time, we didn't set any hard criteria, but we did present a number of tasks to potential candidates. With a very concrete and clear assignment; 'his is the mission, tell us how you're going to do it with your aircraft'? We got all sorts of answers from aircraft builders to that question. And it turned out that the F-35 met our requirements and wishes by far the best. I found it striking that the very latest F-16 also still scored

Left: Two F-16s with their successor F-35 *Lightning II* over the North Sea
Bottom right: First Royal Netherlands F-35 *Lightning II* with Dutch roundels and U.S. Air Force marking of the 323 Test Squadron at Eglin AFB, Florida

Inset left: Take-off of a F-16AM assigned to 312 Squadron

Inset right: F-16BM, nicknamed 'Orange Jumper' was converted into a test aircraft in 1998 an delivered in June 1999. It was operated by the RNLAF and the Royal Netherlands Aerospace Center (Royal NLR) *Ralf Peter Walter*

very high! So, it's not surprising that the F-16 is still an excellent option for many countries.
The latest Viper is still an incredibly powerful system with a different radar, and different sensors, so again, very different from the aircraft that we still have in our arsenal. That is also what I find special about the F-16. How the aircraft has evolved from a lightweight fighter that was only made to quickly go airborne, fire a few short-range missiles at the horde of Russian aircraft, and then land to repeat that a few more times in one day. What can now be done with the most modern F-16s is still phenomenal. But the core of what we were looking for is that it should also be possible to act autonomously in that very highest spectrum of violence. Then stealth plays an important role in most modern scenarios. Taking these wishes into account, the F-35 was ultimately the only suitable candidate that met all our requirements. In the end, it is the entire package that counts. It is just like I said about when the F-16 came in. We had dumb bombs, short-range missiles, a gun, and few sensors. Then came the MLU, which was another huge step forward, with data links, nice situation displays, long-range weapons, and smart weapons. Flying itself has increasingly become secondary. You see that even more strikingly with the F-35. Logical, after all, it's all about the mission. Everything is focused on maximizing the exploitation of the weapons and the sensor platform. Then flying shouldn't take up too much attention. The simplest example, but that is perhaps exemplary for the entire concept if you compare the F-35 with the F-16, is that the F-35 provides information to the pilot, instead of raw data like with the F-16. For example, the F-16 has all kinds of clocks that show the status of the engine, such as temperature, pressure, and so on. As a pilot, you are constantly looking at that to see if that one engine you have is still working properly. The F-35 simply has a small clock on the edge of the cockpit-wide IPAD, if it is green you do not have to look at

Specially decorated F-16AM for the 45th anniversary of the F-16 serving in the Royal Netherlands Air Force

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anything, if the clock is orange and you are busy with a mission task, then you can postpone any action for a while, but if the clock is red, then you really have to do something, otherwise, it will go wrong. So, for the stress in the cockpit, it is simple, green is good. For the rest, you can fully concentrate on everything that not only your aircraft sees, hears, and smells, but what all those other aircraft observe and do and that is all shared among each other. Sometimes, you do not even know where the information in the cockpit comes from, but it is all there. That is really a completely different world than flying with the F-16 where that is not the case. When you see that in an F-16 the pilot also really has to make information from data, you see that the F-35 really delivers information that you can act on immediately."

A New Type of Fighter Pilot

"There has also been quite a discussion about how we should select to hire new pilots for the F-35. You will always see that it is a bit of a wave movement and that we sometimes go from extreme to extreme in the choices we make. I think that in the past, we looked much more, not only at the cognitive capacities of pilots, but also whether candidates had good hand-eye coordination and whether they had a pilot's hand. That used to be more present in a selection than it is nowadays. Today, you see that much more focus is placed on the cognitive part. You also see this back in the tasks which people do in the aircraft, flying has become a bit of a side issue. The fighter pilot nowadays is mainly a system operator, in addition to the fact that he or she must be able to fly well. Don't get me wrong, it is about the order of magnitude of things. The task shifts and that has to happen within an F-35. Flying is easier in an F-35 than in an F-16. But managing all those systems, including the weapon system, in addition to being able to get the maximum potential out of the aircraft, that is really a whole different world. The values that we discussed in the beginning are certainly also still applicable in the F-35 squadrons. Here too, in that close pilot community, people want to focus on professionalism and the result and the pilots certainly want to be 'the best'. We really had to be careful that we did not try to do everything we did with the F-16 with the F-35. That was also an issue with all other Air Forces that are making this transition.

We need people who know how to maximize this weapon system in output instead of trying to do that with all kinds of F-16 techniques and tactics. This also requires a change in the mind, out of the F-16

1 **F-16BM of 323 Squadron participating in TDPU 2005 Link16 at Florennes AB, Belgium** *Ralf Peter Walter*
2 **F-16AM of 322 Squadron. The squadron started the transiton to the F-35A *Lightning II* on 1 July 2021**
3 **F16AM with 306 Squadron markings at Volkel AB. The squadron was disbanded on 1 December 2010**

Dutch F-16AMs of 313 squadron from Volkel AB during a temporary deployment to Eindhoven AB

straitjacket. I thought it was great to see when we went to the F-35 simulators in Fort Worth in America for the first time with the F-16 pilots. I was then an Ops Lead at the DMO which was responsible for the F-35 introduction. We had the discussion 'what should we do now, should we take all weapons instructors and experienced pilots along?'. Then I also said 'maybe it would be useful to take a few experienced guys, but also a few young guys with less than 200 hours on the F-16 to see how that works?' I also thought it was funny to see that a few of those old guys who were completely F-16 oriented, were studying the booklets on the F-35 on their way and that those young guys, who grew up with I-Pads and I-Phones, very quickly understood what that aircraft could mean. On the one hand, it was great to see how different generations deal with this, but on the other hand, the question arose whether the experienced F-16 pilots were the right people to shape the introduction of this platform. I am therefore happy that we quickly brought the younger generations into this transition."

Farewell of the F-16

"Introducing new types and phasing out old aircraft is a timeless phenomenon in aviation. The same goes for the F-16, and that does something to you! A true fighter aircraft par excellence, a razor-sharp knife in the air, a Fighter Pilot's dream as we sometimes say. And the phasing out of the F-16 is of course closely linked to the introduction to its successor the F-35. Of course, we could only phase out the F-16 once the F-35 had taken over all tasks. That not only applies to the conventional task but certainly also to the nuclear task. That was also an important benchmark in the project at the time. As a small Air Force, you want to operate with two different weapon systems simultaneously as short as possible because we do not have an unlimited number of people to operate, maintain, and repair two of those weapon systems. We recently reached that moment with the Initial Operational Capability (IOC) status of the F-35. All tasks of the F-16 have now been taken over by the F-35.

F-16s of 312 Squadron (background) and 313 Squadron during an air-air-refuelling mission

Therefore, at the end of September, we will finally say goodbye to the F-16. Its operations in the Royal Netherlands Air Force will be ceased. Of course, we will continue to support the activities in the training center in Romania with Dutch F-16s until next year, but for the rest, it stops.

The final farewell to the F-16 is of course quite an emotional moment for a lot of people, but not least for myself. I have never flown an NF-5 Freedom Fighter or the F-104G Starfighter, so for me, it was always that beautiful Viper until recently. For 36 years, the aircraft was one of the important threads in my own life, with which I have experienced all kinds of things from weapon deployments, deployments all over the world, exercises, and always as part of a wonderful group of people. The Airpower Team! At a moment like this, all those memories flash before your eyes, the things you have experienced, the capabilities of the aircraft, but especially our personnel who have kept the aircraft ready for use for many years, the people who have ensured that I am still sitting here and can tell this story. Thirty years of safe flying and a safe return home thanks to them! That really does something to me as a person. And of course, it was not only a beautiful and sexy aircraft but also a dream to fly in. An iconic aircraft in every way. An aircraft that first accidentally took to the air fifty years ago during a test run. That was also my first experience in Tucson in America when I first climbed into that F-16. Certainly, on the third trip, for the first time solo in the aircraft in which everything is built around you. With that drop canopy, you sit on top of the aircraft. It simply gives you a mighty feeling of technology and it is the most beautiful office to work in. Therefore, saying goodbye to this aircraft in the Netherlands will cause me a few tears. And that I, as Commander of the Royal Netherlands Air Force (C-LSK), can be part of this special farewell is an honor.

Personally, I think that many people will miss that plane. Despite the critical attitude of some in the beginning, an unprecedented success in every way for

Main Image: F-16AM assigned to 312 Squadron at Volkel AB in June 2007 *Ralf Peter Walter*
Inset: 322 Squadron F-16 landing at Leeuwarden AB during exercise FRISIAN FLAG

the Netherlands as a company. Not only when it comes to national and allied security, but what about our position in the alliance, within Europe, employment, the Netherlands as a knowledge country, our national industry, the revenue model... Things that we don't often think about, but this aircraft has paid for itself many times over. We now see the same pattern again with the F-35. Just as with the introduction of the F-16, there are now critics who have often only studied to a limited extent the crucial role that this aircraft will play on the world stage in the coming decades. I would like to have a cup of coffee with those people again in forty years. That conversation will probably take place in Bronbeek where I live as I will be retired from service by then. The F-16 was an absolute top product for the Netherlands, for our own security, and for the alliance, and will live on forever in our memories and in the stories of the people who worked with it.

From this place, I would like to thank everyone who has contributed to peace and security with the F-16 in recent decades from the bottom of my heart. Proud of you, proud of what you have achieved together year after year!

Vipers forever!
'Jabba'

Main image: 312 Squadron F-16 landing at Leeuwarden AB during exercise FRISIAN FLAG
Insett left: F-16BM assigned to 313 Squadron at Volkel AB, June 2007 *Ralf Peter Walter*
Inset right: F-16AM assigned to 322 Squadron at Leeuwarden AB, June 2008 *Ralf Peter Walter*

Main image: Specially decorated Tiger Meet aircraft of 313 Squadron during take-off
Inset: F-16BM with the marking of the Tucson AB (AZ) on the tail

Last operational flights

On Tuesday 24 September 2024, the last operational Dutch F-16s flights took place at Volkel AB. Four F-16s flew in the afternoon and for the occasion a small static show was set up with:

- F-104G Starfighter (predecessor of the F-16)
- F-16 with the "50 years F-16" tail
- F-16 with the "45 years Dutch F-16" tail
- Lockheed F-35 (successor of the F-16.

Line-up of an F-104 *Starfighter*, two F-16 *Fighting Falcons*, and one F-35A *Lightning II*, while four F-16s are performing a formation fly-over

Left: One of the last operational F-16s taxiing along the static line

Above: 312 Squadron F-16 taxiing back to the flight line where the last operational flight was celebrated on exactly 3:12 (15:12)

Right: 312 F-16 during flight preparations

One of the last overshoots during the last operational Dutch F-16 mission in September 2024

F-16 of the 312 Squadron taxing back to the flight line

Final Farewell

On Friday, 27 September 2024, the F-16 farewell flights were planned to overfly the airbases where the Dutch F-16s were located during their service time. But after departure from Volkel AB, the weather deteriorated on their way north and the north/western part of the Netherlands overflight was skipped. After a final pass overhead Eindhoven AB, the formation flew to Volkel AB for the final landing. During the overhead pass, the formation flew with 3-1-2 F-16s, representing the last F-16 squadron 312 Squadron BONZO. During the flight, the ADSB/MODE-S callsigns of the F-16s were: Final Viper Flight and 312 Sons of Bonzo. A Belgian F-16B flew alongside the formation for photos and videos.

Final Farewell Flight in formation overhead the Netherlands
Mediacentrum Defensie / Ministerie van Defensie

Specially decorated F-16 for 45 years of service

Formation line-up of the F-16s for the Final Farewell Flight

Main: Part of the Final Farewell Flight flight formation, the Belgian F-16 was used as photo-plane
Left: F-16s taxiing out for the Final Farewell Flight
Right: F-16 taking off with full afterburner

Main image: 312 Squadron F-16AM landing after the Final Farewell Flight *Mediacentrum Defensie / Ministerie van Defensie*
Insets: The final landing of the F-16 *Fighting Falcons* after serving for 45 Years in the Royal Netherlands Air Force

MELUN-VILLAROCHE AIR LEGEND 2024

TEXT: ISTVÁN KELECSÉNYI **PHOTOS:** AS STATED

Kris Christiaens

Flying Bulls P-38 *Lightning* (foreground) in close formation with F-4U-5 *Corsair*

Flying Bulls F4U-5 *Corsair*, P-38 *Lightning*, and P-51D *Mustang* 'Nooky Book' (left to right)

István Kelesényi

Since 2018, the Air Legend Flying Day has been held for those interested in old-timer aircraft. It is held annually in France at the Melun-Villaroche airport near Paris.

Melun-Villaroche was a civil airport before the Second World War. It was captured by German troops in June 1940 and used as a military airfield during the occupation of France. The Luftwaffe operated mainly bomber squadrons at the airport. Junkers Ju-88A, Ju-188, Ju-188A/E, Heinkel He-111H, and Dornier Do-217E aircraft were flown from Melun-Villaroche.

On 1 August 1944, the airfield was attacked by B-17 bomber aircraft of the U.S. 8th Air Force 398th Bomb Group. It was liberated by Allied ground forces on 1 September 1944. Battalions under the U.S. Army's IX Engineer Command cleared the mines, destroyed the wreckage of the remaining Luftwaffe aircraft, restored the old runway, and constructed a new asphalt secondary runway. After two weeks of work, from 1-5 September, it became the USAAF Ninth Air Force's fighter airfield, designated A-55. The 416th Bomber Group with A-26 Invader and A-20 Havoc bomber aircraft was based here, followed by the 436th and 462nd Troop Carrier Groups with C-47 Skytrain transport aircraft.

After World War II, the entire airfield was rebuilt and Melun-Villaroche became a United States pilot training airport. In 1950-51, it was the first to be upgraded with a large terminal for the military air transport service, but plans were canceled. The airfield was the site of the formation of the Allied Air Force's Central Europe Communications Squadron,

All pohots by István Kelesényi

Chance Vought F4U *Corsair* (civil registration D-FCOR)

Kris Christiaens

under the British Royal Air Force (RAF). After 1951, the airport was used by the Americans for pilot training on a limited basis, and in 1955, it returned to French civilian control.

Melun-Villaroche airport users today are the Fixed-Base Operator (AFIS) company and the "Contantine Rozanoff" flying club, as well as collectors of old-timer aircraft. Safran Aircraft Engines has a production facility on the nearby D-58 road. Until the early 1980s, the airport was used for testing several military aircraft such as the Dassault Mystere, Mirage, and VTOL designs. The airport is home to several World War II relics. Abandoned taxiways, ammunition depot foundations, and other older buildings.

A major advantage of Melun-Villaroche, near Paris, is that it has several runways and extensive taxiways. This allows veteran jet aircraft to take off and land. There are also dozens of relatively simple "bumper" aircraft from the 1940s and 50s in Europe. Several of these also used to fly.

The 2024 Air Legend will also provide a showcase for the French armed forces, in addition to veteran aircraft from the Second World War and the Korean War. The Ministry of Defense and the Armed Forces also sponsored the event. The dynamic program of supersonic aircraft was missing this year, but the show included helicopters from the Army and the A400M transport aircraft. Among the demonstration squadrons, it was not Patruille d' France, but Tranchart Formation flying with Fogua Magister.

Patrouille Groupe Tranchant is a French civil aerobatics team based in Rennes, France, founded in 2006 and flies four Fouga CM.170 Magisters. It takes its name from the Tranchant Group, a French company that operates 15 casinos. A total of 868 Fouga CM.170 Magisters have been built, 576 in France and 194 in Germany. Thirty-six in Israel and 62 in Finland. The four Tranchant aircraft were built between 1961 and 1966.

In the morning hours after the opening, spectators could look at the aircraft and helicopters in the static exhibition, and one

ISTVÁN KELESÉNYI

Vought F4U-5NL *Corsair*, construction number 124724 (civil registration F-AZEG)

István Kelesényi

Kris Christiaens

Lockheed P-38 *Lightning* (civil registration N25Y)

could even sit inside several airplanes. It could have been a veteran WWII aircraft, but also a Dassault Mirage-2000C or Rafale. There were many tents and stalls selling relics – ranging from newspapers and quilts to aviator jackets and watches. The war comics were a great success. The French flying squadrons also came out and squadron insignia, T-shirts, caps, drinks, and much more were merchandise at their booths.

The afternoon flights were opened by a Slovenian-made Pipister electric plane. After that, veteran aircraft, such as eight T-6 Texans, and helicopters, including Aoulette II, followed, and then, there was the presentation of the French Gazelle, NH-90 Caiman, and the Tiger combat helicopter. A C-120 Calliopé helicopter flew, assigned to the helicopter pilot school. Several aerobatic aircraft also gave a demonstration, including the French Air Force aerobatic team (EVAA). Interestingly, most of them were soldiers, usually pilots with the rank of Captain. The Patrouille Mustang X-Ray is a two-ship formation flown by instructors from the French fighter pilot school. Their aircraft are Pilatus PC-21 propeller trainers.

Among the old-time aircraft are the Jak-3, P-51

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Curtis P-40E *Warhawk* (civil registration OO-WHK) and Curtiss P-40N *Warhawk* 'Little Jeanne' (civil registration F-AZKU)

Mustang, F4U Corsair, P-38 Lightning, Supermarine Spitfire, P-40 Warhawk, Sea Fury, Skyraider, T-28 Trojan, Fi-156 Storch, MS .505. Criquet, DC-3, C-47 Dakota, Beecraft 18, AT-11 Kansan, Paratroopers also jumped, members of the military and from a Polish AN-2 aircraft that arrived as an old timer.

There were other Polish participants at the event, such as an Mi-2 helicopter. The fleet of jet aircraft was strengthened by a Polish Lim-2 (MiG-15BiSz), along with DH-100 Vampire, CT-33 Silver Star (the training version of the F-80 Shooting Star), F-86 (Canadair CL) Sabre, Messerschmitt Me-262 Schwalbe, and Fouga Magister CM.170. A Douglas DC-6 veteran airliner also flew at the event. A Jet Pitts aerobatics plane also held a demonstration where two smaller ATM Lynx Jet rocket engines were also installed in the aircraft.

Several other aircraft and helicopters were flown until the finale, which was the A400M tactical demo. At the Air Legend flight day, the sponsor force changes every year. We hope the French Navy will also be there and that we can see the veteran and current types of naval aircraft and helicopters.

Kris Christiaens

Yakovlev Yak-9P (civil registration F-AZOS)

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Hawker Sea Fury FB Mk 11 (civil registration F-AYSF)

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Supermarine Spitfire FR.XIVe (civil registration F-AYXX)

All pohots by István Kelesényi

All pohots by István Kelesényi

Morane-Saulnier MS.505 Criquet, Original Type: Fieseler Fi-156 Storch

Photos this page by Kris Christiaens

All pohots by István Kelesényi

Douglas C-47A *Skytrain* (civil registration F-AZOX) in formation with Supermarine Spitfire FR.XIVe (civil registration F-AYXX)

Kris Christiaens

Douglas C-47A *Skytrain* (civil registration F-AZOX)

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Beechcraft AT-11 Kansan (civil registratio N15KK)

All pohots by István Kelesényi

Beechcraft AT-11 Kansan (civil registratio N15KK)

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Beech D18S *Expeditor* (civil registration N213B)

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Douglas DC-6B (civil registration OE-LDM) of the Flying Bulls

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Canadair CL 13B Mk.6 *Sabre*, version of the F-86E built under licence in Canada by Canadair (civil registration F-AYSB)

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Canadair CT-133 *Silver Star* (civil registration F-AYMD)

All pohots by István Kelesényi

Canadair CT-133 *Silver Star* (civil registration F-AYMD)

Kris Christiaens

István Kelesényi

Mikoyan-Gurevich MiG-15 (civil registration SP-MIG)

István Kelesényi

Kris Christiaens

De Havilland DH.100 FB.6 *Vampire* (civil registration F-AZOO)

Kris Christiaens

Kris Christiaens

István Kelesényi

István Kelesényi

Kris Christiaens

SA-342M *Gazelle* (civil registration F-AYCR)

All pohots by István Kelesényi

Main Image: Eurocopter EC 120B *Colibri*
Inset: Sud Aviation SA-318 *Alouette II*

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French Army Aviation Eurocopter EC665 HAD *Tigre* assigned to 1RHC

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István Kelesényi

István Kelesényi

Top: French Army Aviation Eurocopter EC665 HAD *Tigre* assigned to 1RHC
Above: French Army Aviation NH90-TTH *Caiman* assigned to 1RHC

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French Air Force PC-21 assigned to EAC 00.315

Kris Christiaens

French Air Force PC-21 assigned to EAC 00.315

Kris Christiaens

Ex-French Air Force Socata TB-30 *Epsilon* and Minijet CJ-01 (Original Type: Bede BD-5)

All photos by István Kelesényi

French Air Force A400M *Atla* assigned to ET 00.061

Kris Christiaens

French Air Force A400M *Atla* assigned to ET 00.061

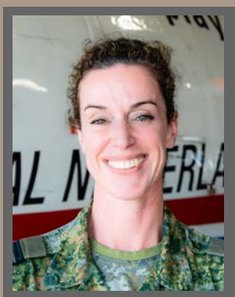
FALCON LEAP AND MARKET GARDEN 2024

TEXT BY JORIS VAN BOVEN AND ALEX VAN NOIJE
AND PHOTOS BY THE AUTHORS UNLESS STATED

From 9-21 September 2024, the annual exercise FALCON LEAP took place again at the Dutch air base Eindhoven. For two weeks, intensive training was given in dropping cargo and paratroopers at various locations in the Netherlands. The last day of the exercise is traditionally the ceremony on the Ginkelse Heide to commemorate Operation Market Garden, the largest airborne operation of Second World II.

Over the years, the exercise FALCON LEAP has grown into one of the largest airborne exercises in Europe. The exercise is led on the air force side by the Dutch Lieutenant Colonel Linda Lauret. Lauret is the Chief Staff of the Air Mobility Command at Eindhoven AB. During these two weeks, she was the 'exercise director' (Detco) of FALCON LEAP on the Air Mobility side of the exercise. Linda said about her position: "I have a team of staff chiefs under me who represent the various disciplines within the exercise. In this team, there are people who are involved in the operational part of the exercise, manage the ground handling, and a team of technicians. But my responsibility is to manage the entire course and flow of the exercise and to facilitate this for my staff members." During the exercise, Lauret is busy for the entire two weeks with a team of about one hundred people supervising the execution of the exercise. "In the first week and a half, we trained a tactical scenario together with the Airmobile Brigade of the Dutch Army, to whom we provide support with transport aircraft. The last two days of FALCON LEAP are dedicated to the 'Cross Parachuting' days, where we finally conclude on the last Saturday of the exercise with a contribution to the commemoration of Operation MARKET GARDEN. This operation took place exactly eighty years ago this year and it is therefore quite special to reflect

Paratroopers are boarding a U.S. Air Force and Royal Netherlandds Air Force C-130 *Hercules* at Eindoven AB



Lt Col Linda Lauret
Chief Staff of the
Air Mobility Command

on." During the exercise, the participants mainly train in sharing experiences and interoperability with different nationalities. Participants practice parachuting in groups from different countries from aircraft from other countries. This has great training value and ultimately, also makes a nice contribution to these commemorations on the Ginkelse Heide.

As the exercise has grown in recent years, the number of participants has increased significantly. Nine aircraft were participating in FALCON LEAP and paratroopers from eleven countries were involved. In total, approximately 800 paratroopers were present at Eindhoven. During the exercise, the turboprop aircraft initially flew two, and later three, waves per day. After each wave, the aircraft returned to Eindhoven. The engines continued to run and a new group of paratroopers embarked to be dropped above both the Ginkelse Heide and Heteren. All major European types of transport aircraft were involved in the exercise, such as the C-130H Hercules, the C-27J Spartan, the CASA C-295M, and the Airbus A400M. The participating aircraft came from countries such as Germany, Greece, the Netherlands, Poland, Portugal, Romania, Spain, and the United Kingdom.

The American participation consisted only of C-130 Hercules aircraft from various units and variants. Linda was clear about the origin and the use of the exercise: "It is quite special to see how this exercise came about in the past. FALCON LEAP was created with the idea of Operation MARKET GARDEN in mind. The exercise was created with the idea of practicing with as many paratroopers from different countries as possible in one week and jumping together to contribute to the commemoration. But in recent years, and certainly in the past few years, the exercise has really grown into a large airborne exercise that is unparalleled in Europe." FALCON LEAP is an exercise of the 11th Airmobile Brigade, which is the main part of the exercise, and in addition, there is a Mobility part. The 'Mobility' side is led by Lauret and is in principle supportive of the Airmobile Brigade. This army component cannot of course practice if it does not have the right flying assets to carry out the exercises. One party cannot do without the other party. This collaboration is not unique within Defense, because there are multiple exercises and scenarios in which different defense components are interwoven during the deployment.

Since FALCON LEAP has grown enormously, the objective has also changed considerably. Where in the past only parachute jumping was central in preparation for the MARKET GARDEN commemoration, this is different today. The exercise has grown into an important training in the field of modern airborne deployment and cargo droppings. That this type of

A Portuguese Air Foce C295M of Esquadra 502 is parked on the ramp at Einhoven AB

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training is necessary became clear through the use of Dutch transport aircraft for such missions in the Middle East. Linda gave a recent example of an actual operation: "It is clear that this is one of the exercises with which we can achieve our training objectives. This week, we also have two observers at the exercise from a team from Jordan. They do not actively participate in the exercise with aircraft or with paratroopers, but it is a country with which we have cooperated, for example in relation to Gaza. We have dropped various relief supplies with their help for the benefit of the population in a crisis area. Therefore, in this way, we also look for the partners with whom we actually cooperate in the real world. These are not always just the logical countries such as the United Kingdom, France, and Germany. We also look at what is current and relevant and try to involve those countries as well." Different participants also have different main objectives that they want to achieve during this exercise. For the army and also part of the Air Force, training interoperability is a main objective. The same applies to the different international partners that participate here. For the Air Mobility Command, training the airborne concept itself is also an important learning goal. In addition to dropping paratroopers, training is also conducted to drop cargo to support ground troops. This scenario was therefore trained intensively in the first week and a half. Another learning objective was to be able to train an 'engine running offload' as well. In this tactical scenario, the aircraft land at a remote location to quickly drop off the cargo with the engines running and then take off again as quickly as possible. The learning objectives are trained daily in practice, according to Lauret: "The first day of the exercise started with the dropping of the soldiers on location who prepared the landing site. Shortly

1 Royal Dutch Army Soldiers transport supply cargo into an aircraft prior to it taking off for cargo drops

2 A U.S. Air Force loadmaster of 40th Airlift Squadron, directs a rigged platform onto a Lockheed Martin C-130H *Hercules*

3 U.S. Army specialists load a rigged platform onto a U.S. Air Force Lockheed Martin C-130H *Hercules* to be dropped during a supply drop at FALCON LEAP 24

4 U.S. Army specialists tighten straps on a rigged platform prior to it being used during aerial drops

All photos U.S. Army by Spc. Samuel Signor

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Main: A Romanian Air Force C-27J *Spartan* taxis for take-off for a supply drop at Eindoven AB

Left: Romanian Air Force Capt. Lupu Ovidiu, loadmaster, 90th Air Base, Squadron 902, directs cargo to be loaded into a Romanian aircraft at Eindhoven AB to be dropped during FALCON LEAP 24

Right: Royal Dutch Army Soldiers and Romanian Air Force Airmen push cargo into the hull of their aircraft at Eindhoven AB to be tied down and secured before conducting a supply drop for FALCON LEAP 24

All photos U.S. Army by Spc. Samuel Signor

afterwards, cargo could be flown in. It is therefore possible that troops and equipment will be flown in afterwards with the aim of conquering a certain area. We have therefore trained this tactical scenario very well. The last few days, we mainly trained in dropping parachutists. This last learning objective is really about training the different countries to jump with different parachutes from different aircraft, and that is a main objective of this exercise as well."

The entire exercise consists of several scenarios, but these scenarios together form a whole main scenario. Lauret explains how these scenarios are constructed: "This year, we are working with only one continuous scenario that takes place in phases. Each phase therefore contains the various training objectives for both the Airmobile Brigade and the Air Mobility Command. One of the most important training objectives for us is also simply practice and training in dropping the material that is needed for this. For us, it is important to be able to focus on this main task. A scenario that we train is, what if, in this case, there is an area in the Netherlands that needs help and we have to bring people there to help in this remote part of the country. For us, from a 'mobility' perspective, it does not really matter what type of scenario it is, because the training of the procedures and tactics itself is more useful to us than the place where we are going to land. What matters to us is that we can quickly prepare for evacuation operations, for example, or when a humanitarian mission or disaster relief has to take place. During FALCON LEAP, we trained this way of working at Twenthe Airport. We landed here several times with different aircraft to fly in help. There were already Air Mobile soldiers present on location and for them, it is also an important training to secure a landing zone for such large cargo aircraft. At that moment, they are the ones who talk to the flying crew that comes over, therefore at Twenthe, we were able to train that well several times. Then again, that interoperability plays a role here between air force and army units." During the second week, the exercise enters a different phase. From this period onward, the emphasis was on dropping the paratroopers during the airborne operations. These scenarios mainly took place on the Ginkelse Heide and in Heteren, focusing on being able to drop large international groups of paratroopers. Therefore, they train with different units from different countries with aircraft from other countries. The main focus of this operation is therefore on interoperability. The conclusion of this phase of FALCON LEAP is the dropping on the Ginkelse Heide during the Market Garden commemoration.

Before a large organization like FALCON LEAP can function, there is also a period of preparation for an exercise of this size. The preparation starts immediately after the end of the previous edition. Therefore, more than a year before the next exercise will take place, actions are already being taken to set up the oncoming edition. On the Air Mobility side, the first thing they do is to set up a plan for the exercise during the Integrated Planning phase. According to Linda, the first plan is mainly practical: "In the beginning, the preparation is still very practical in terms of logistics, but that changes at a certain point a few months before the exercise. We then start working on the exercise script and then we really start working out the scenario together with the Airmobile Brigade. The success of the exercise ultimately depends on the fact that there is a good scenario in which the

A Royal Netherlands Air Force C-130 *Hercules* and a U.S. Air Force *Hercules* are leaving the ramp at Eindoven AB for take-off to drop paratroopers in preparation of the commemoration of Operation MARKET GARDEN

Royal Air Force Atlas C1 assigned to 70 Squadron

training objectives of both military disciplines can be met. Both armed forces provide input here and this is coordinated in this script. All in all, and certainly on the Army side, this is just a preparation of about a year before the actual exercise takes place." During the two weeks of the exercise itself, everything has to come together well, so the preparation has to be well organized in advance. In this preparation, everything is also practical logistics, so apart from the scenario, that is how it is done in practice." According to Linda, the Army units also have their affairs well organized every year: "This includes organizing the arrival of more than 800 parachutists from all the participating countries. I have been to Schaarsbergen myself, and I can say that the Army has this well under control with a whole system that they have set up for this. For us on the 'mobility' side, it is certainly also the execution, it is mainly the preparation of the people who participate in the exercise but who simply work at Eindhoven AB. These are the people from air traffic control and the people who manage the platforms, for example. As Air Mobility Command, we must of course also be able to handle all of that." Only when all internal matters have been properly organized, the participants from abroad are also involved. At the beginning of the year, there are discussions with possible participating countries. It is considered who the logical partners are in the international context, these are the typical countries with whom there has been more frequent action in the past period. A list is made of these countries and ultimately invitations are sent to these countries. If countries decide to participate, their training objectives are also requested here. These often overlap with the already existing training elements, but sometimes new items are added to the list of objectives.

Not only after the exercise but even during the exercise there is an evaluation. Learning from the practiced scenarios is often best done immediately after the debriefing of a specific assignment or mission. During the entire FALCON LEAP exercise, there is an active process to retrieve all 'lessons identified' on a daily basis. This is done partly during the so-called 'hostmanship' during the exercises. Every day, staff members of the various disciplines discuss with each other which things went well, what could be improved, and what did not receive any attention at all. This is often in communication or coordination, but there is also a moment after the exercise when the units are taken up. During these discussions, the scenario is reviewed once more per day to draw conclusions. Questions are asked about how things will be secured in the future. These items are also included in the preparation for next year. These are not just slogans on paper. In these aftercare meetings, the names of people are also actually linked to actions that they must take up for the next time so that next year it will go just that little bit better again. Linda is very clear about the course of this year's exercise with respect to the previous editions: "You can see that the scenario and how we intertwine our interoperability and cooperation has gone quite smoothly so far. You see that every year, we go a step further than in previous years. That is good because then, such an exercise also evaluates. It ensures that we integrate a little more in the idea of how could we act together. Therefore, you see, that the exercise that started ten years ago as a kind of dress rehearsal to do a commemoration, has now become a really well-integrated exercise to work together and train with each other in the real world. As a result, we are ready for the real tasks in the real world with our international partners and I am proud that we have achieved this in recent years."

Traditionally, FALCON LEAP always ends with the commemorations surrounding Operation MARKET GARDEN. During this major operation, the bridges in the Netherlands were fought over during the Second World War. The goal was to quickly conquer the Netherlands and Germany in order to end the war quickly. Operation MARKET GARDEN was an Allied offensive in September 1944, at the end of World War II. It was the largest operation on Dutch soil during World War II. It was largely a failure for the Allies and the Netherlands because the final bridge at Arnhem could not be captured. Partly because of this, the west of the Netherlands was not liberated and had to endure the 'Hunger Winter'. MARKET GARDEN consisted of a large-scale airborne operation (MARKET) and a ground offensive from Leopoldsburg in Belgium (GARDEN). The British, Polish, and American airborne troops were to capture important bridges over the Dutch large rivers, after which ground troops could quickly advance to the IJsselmeer via these bridges. This would have captured the German troops in the west of the Netherlands and at the same time, created the opportunity to advance to the Ruhr area. Less well-known is the importance of

Impressive line-up of transport aircraft on the taxiway at Eindhoven AB

Royal Air Force Atlas C1 assigned to 70 Squadron prior to turning onto the runway at Eindhoven AB

Operation MARKET GARDEN for the encirclement of Antwerp and the area where the Battle of the Schelde would be fought. According to Lauret, this part of the exercise was also important because for the participating units, it was an honorary deployment with a great sense of history: "We have more aircraft to deploy this year because the exercise has been much bigger than in previous years. In the end, thirteen aircraft were deployed on Saturday to drop the paratroopers in two waves on the Ginkelse Heide where the festivities took place. It also matters which type of aircraft is flying, because in the past, we have also seen that for the previous days, many smaller types of aircraft were deployed that fly up and down more often. We don't have that this year, so we fly less often but with larger formations that way. And that also ties in with the tactical scenario of the past few weeks. It is really the larger military aircraft that participate in the MARKET GARDEN commemoration. Take the A400 of the British and the Germans, for example, which are parked on the other side of the air base because of the limited platform space. Despite these challenges, the exercise was also a success this year and we have delivered a beautiful scene on the memorial site as well."

Our special thanks go to Lieutenant Colonel Linda Lauret providing us with extensive information on the exercises FALCON LEAP and MARKET GARDEN.

Top: Hellenic Air Force C-27J *Spartan* assigned to 354 MTM *Pegasus* at Elefsis AB
Right: Romanian Air Force C-27J *Spartan* assigned to Esc.902 AvTr Oper si Foto at Baza 90 Aviatie de Transport "Gheorghe Banciulescu", Bucharest Int'l Airport

Main image: **Take-off of a Polish Air Force C295M of 13.Eskadra Lotnicza (13.elt), 8. Baza Lotnictwa Transportowego (8.BLTr) at Kraków/John Paul II Int'l Airport. In the background waiting is a C-47 *Skytrain* for the clearance to enter the runway for take-off**

Inset left: **Polish Soldiers jump out of a Polish Airbus C295M while conducting tactical static line jumps *U.S. Army photo by Spc. Samuel Signor***

Inset right: **U.S. Army Soldiers parachute onto the drop zone while conducting tactical static line jumps as a part of FALCON LEAP 24 at De Rug, Lauwersoog, Netherlands *U.S. Army photo by Spc. Samuel Signor***

Take-off at Eindhoven AB of a Royal Netherlands Air Force C-130H *Hercules* assigned to 336 Sqaudron based at Eindhoven AB

Hellenic Air Force C-130H *Hercules* assigned to 356 NTM at Elefsis AB.

The aircraft only took part in the exrcise in week 2

Montana U.S. Air National Guard C-130H-3 *Hercules* assigned to 186th Airlift Squadron *Vigilantes* at Great Falls Int'l Airport

U.S. Air Force Lockheed HC-130J assigned to 129th RQW/130th RQS at Moffett Federal Airfield

Reenactment Eerde 2024

In September 1944, the MarketGarden operation was designed by the Allied forces to move in one big thrust from Belgium to the center of the Netherlands, securing several bridges over Dutch rivers.

Nine bridges should be secured intact by airborne troops (this was called operation MARKET) while ground forces would drive from Belgium northbound over these bridges and eventually cross the last bridge of Arnhem (operation GARDEN). When this was achieved, a further thrust into the German Ruhrgebiet would finish the Second World War in Europe before Christmas 1944. At least that was the plan……..

Due to several setbacks, this operation was not successful and the Second World War ended only in May 1945 with the capitulation of the German forces. The biggest losses were near Arnhem, which later resulted in a book and in the movie 'A bridge too far' .

On September 17th, 1944, the 501st Parachute Infantry Regiment of the D company of the 101 Airborne Brigade of the US Army landed in the fields near the small village of Eerde; with the target to secure the bridge over the canal in nearby Veghel. After heavy fighting in Eerde and Veghel the bridge was secured by the US Army.

On the morning of September 17th, 2024, exactly 80 years later the parachute re-enactment group 'Round Canopy Parachuting Team' (RCPT) jumped in their 1944 US Army outfit on the same field as in 1944. Three flights with a C-47 aircraft dropped the re-enactment paratroopers with their 1944-like round canopy parachutes. And this time the paratroopers were welcomed with applause and flowers by local children.

During the afternoon, the 101AirborneBrigade ("Screaming Eagles") from Fort Campbell (Kentucky, USA) gave a demonstration of today's helicopter assault. With two US Army UH-60 Blackhawk helicopters and 2 CH-47 Chinook helicopters, the soldiers were flown into the battlefield and after heavy 'fighting', they beat the enemy.

C-47A *Skytrain* taking-off at Eindhoven AB and a U.S. Air Force C-130 *Hercules* in the background. The C-47A was constructed in 1942. It served with the USAAF during WW II and with the RAF as 'TS422'. Demobbed in 1966, it now flies in the markings of the 87th Troop Carrier Sqn, a unit that flew in both D-Day and MARKET GARDEN operations.

C-47A *Skytrain* taxis onto the runway for take-off

Main: **A member of The Round Canopy Parachuting Team, descends during the Round Top Canopy Jump, a part of the 80th anniversary of Operation MARKET GARDEN in Sint-Oedenrode, the Netherlands, Sep. 16, 2024. *Photo U.S. Army by Sgt. Austin Robertson***

Insets: **The C-47A *Skytrain* takes off at Eindhoven AB and drops the Round Canopy Parachuting Team.**

The Round Canopy Parachuting Team performs commemorative airborne demonstrations to increase awareness by showing the public the heroism of Allied Paratroopers during WW II.

During an Air Assault demonstration, U.S. Soldiers assigned to the 101st Airborne Division dismount a Boeing CH-47 *Chinook*

U.S. Army photo by Spc. Andrew Clark

Main: Soldiers of the Royal Netherlands Army are advancing towards enemy positions.

Insets: The Air Assault demonstration during the 80th Anniversary of Operation Market Garden at Eerde, the Netherlands consisted of a company-size element of U.S. Soldiers assigned to the 101st Airborne Division conducting a breach and follow-on assault of a fixed enemy position. The 101st Airborne Division is nicknamed the "Screaming Eagles" and were key in the successful liberation of the Netherlands from German occupation. The 101st Airborne Division missions in the Netherlands were a part of the largest airborne operation in history.

1

U.S. Army photo by 1st Sgt. Jessica Barnett

2

U.S. Army photo by 1st Sgt. Jessica Barnett

3

U.S. Army photo by Spc. Andrew Clark

1 A crew member of this U.S. Army CH-47F, assigned to 2nd Battalion, 227th Air Cavalry Regiment, 1st Cavalry Division, completes preflight checks before taking off for the Air Assault demonstration
2 The *Chinook* is about to take off after the Soldiers have dismounted the helicopter
3 A Boeing CH-47F *Chinook* prepares to deposit a vehicle on the helicopter drop zone during

Main image: **U.S. Soldies of the 101st Airborne Division disembark the helicopter and take up their positions (insets).**

The 101st Airborne Division is the only air assault division of the United States Army and is nicknamed the "Screaming Eagles".The U.S. Army's 101st Airborne Division (nicknamne *Screaming Eagles*) is an elite modular specialized light infantry division trained for air assault operations. It also comprises intelligence support, maintenance and operations elements, support personnel, and artillery specialists. Of all U.S. Army's divisions, the *Screamin Eagles* is the most potent and the most tactically mobile divisions

All photos this page U.S. Army Spc. Andrew Clark

U.S. Army photo by Spc. Andrew Clark

U.S. Army photo by 1st Sgt. Jessica Barnett

U.S. Army photo

Main: Two CH-47F *Chinook* helicopters arrive to the objective carrying sling loads of Dutch military vehicles to demonstrate interoperability during the Air Assault Demonstration

Left: A Boeing CH-47F *Chinook* transports a vehicle to the drop zone

Rightt: A U.S. Army CH-47F *Chinook* of Bravo Company, 2nd Battalion, 227th Air Cavalry iment, 1st Cavalry Division, sling loads a Dutch G Wagon with the help of the Royal Netherlands Army's 13th Infantry Battalion ground crew

A U.S. Army UH-60 Black Hawk from Bravo Company, 3rd Battalion, 227th Air Cavalry Regiment, 1st Cavalry Division, drops off soldiers of the 101st Airborne Division


JOKER

Soldiers from 1st Battalion, 506th Infantry Regiment, 1st Brigade Combat Team, 101st Airborne Division (Air Assault) move through concealment provided by a smoke grenade to receive an ammunition resupply from a UH-60 *Black Hawk* during the Air Assault Demonstration in Eerde, Netherlands as part of the Operation MARKET GARDEN 80th Anniversary Commemorations. The 101st Airborne Division (Air Assault) is the World's only Air Assault Division. As part of the XVIII Airborne Corps, the 101st provides unique sling load and joint forcible entry capabilities that range over thousands of miles. For example, it is capable of carrying out a combined air attack with 4,000 troops 150 kilometers into enemy territory in a single lift.

ITALIAN JET AB INITIO TRAINING - PART I

ARTICLE BY MARO MUNTZ AND WIEBE KARSTEN

Lecce-Galatina based 214° Gruppo Volo celebrated its 60th Anniversary in 2022. For the occasion, MB-339A/MLU MM54465/61-116 received a special tail depicting the squadron's mascot and nickname, i Rossi (the Reds)

Lecce, in the southern Italian region of Puglia, has been associated with military pilot training as early as 1943 with the establishment of the Scuola Addestramento Caccia (Fighter Training School). Nowadays, Lecce-Galatina airbase is home to two Gruppi Volo (flight squadrons) as part of 61° Stormo (wing), both equipped with the MB-339CD (designated FT-339C in Italian military service). 213°Gruppo is responsible for Phase III 'Fighter Track' training while sister squadron 214° Gruppo is tasked with Phase II primary pilot training, track selection and instructor courses. Until September 2024, the MB-339A/MLU (designated T-339A) was still used for Phase II but due to delays of its successor, the Leonardo T-345A, the FT-339C has now been put into use as interim replacement. Marco Muntz and Wiebe Karsten take a closer look at Phase II training and changes in the syllabus with the recent introduction of the FT-339C in 214°Gruppo.

CAE Ground School

Italian Air Force student pilots who have successfully completed Phase I training on the SF-260EA at Latina and awarded the Brevetto Pilota Aeroplano (BPA), transfer to 61°Stormo at Lecce-Galatina. Here, they will conduct their jet ab initio flight training on the FT-339C, taken care of by 214° Gruppo Volo. The squadron's instructors have the essential task to assess the student pilots' capacities and potential throughout the course which will ultimately be decisive for their military flight career and future assignment. Also, student pilots from foreign nations like Kuwait, Saudi Arabia and Sweden are being sent to Galatina to conduct both Phase II and III training, following these countries' bilateral agreements with Italy. Before hitting the flight line, all students first attend the ground school led by the Centro Addestramento Equipaggi (CAE) or Crew Training Centre, lasting five weeks. Major François, current CAE Commander and MB-339 instructor, describes: "All trainers at CAE are either instructor pilots (IP), ATC controllers or technicians that work here at Galatina. We teach students the aircraft's systems and emergency procedures, instrument flight fundamentals, aerodynamics, performance, local ATC procedures and radio communications, human performance, flight safety and Crew Resource Management (CRM). Part of the ejection seat training is done at the 961° Gruppo Efficienza Aeromobili (GEA) or Aircraft Efficiency Unit, where students touch the real aircraft and learn more about technical aspects. It is a lot for only five weeks but we consider this as a big review as some subjects are already taught at the Military Academy in Pozzuoli or in the previous training phase. Each subject ends with a final test and all grades are included in the students' total score at the end of Phase II training. CAE also provides administrative and logistic support to all students throughout their pilot training and takes care of both maintenance and running of the simulators and planning stations". After successful completion of

A student turns a MB-339CD onto short finals of Runway 14 at Galatina during circuit training. With the withdrawal of the MB-339 'Alpha' for basic flight training in autumn this year, the MB-339 'Charlie Delta' is now being used for Phase II until a sufficient number of T-345s will be available

all exams, students transfer to 214° Gruppo to start flying on the FT-339C. Phase II training is divided into four categories: contact, instrument, formation and low level.

Simulator training

Simulator training is essential in preparation of the actual flights. When students transfer to 214° Gruppo, they will start on the MB-339CD simulator for approximately two weeks, of which two are available. During Phase II, students will spend a total of 46 hours in the simulator, spread over 37 sorties. The majority is given in the contact and instrument category, sixteen and eighteen sorties respectively. The objective of the initial simulator sessions is to get the student familiar with the full flight gear, instrument panels, switches and checklists. Major François explains: "The first three 'sims' are an introduction to the MB-339 cockpit layout and basic handling such as maintaining altitude, speed and land the aircraft. Then, they need to learn how to use the appropriate checklists and once they know, we are introducing emergencies on the ground like an engine fire during start up. Malfunctions of all main systems can be simulated on the instructor's console. The simulator generates a realistic feeling when systems break down. For example, when a hydraulic leak is simulated, more force is needed to use the flight stick as servos of certain control surfaces no longer work. Also, the stall characteristics are very accurate. Engine vibration, caused by a bird strike for example, will not be felt. However, the indications on the engine instruments will be displayed correctly." Emergency training is a fundamental part of the contact category. In thirteen simulator sessions, the student learns how to deal with all different kind of system failures, application of procedures and the use of emergency checklists. After two weeks of simulator training, students take into the Puglian skies for the first time to log their very first flight hour on a military jet.

Although the glass cockpit of the MB-339CD (Completamente Digitale) is more representative to the modern aircraft in use by the Aeronautica Militare nowadays, the analogue MB-339A/MLU simulator was a perfect device for students to learn emergency procedures and instrument flying

Flexible training syllabus

Phase II training entails 73 flight hours, in addition to a maximum of thirteen hours of extra time. These can be used in case a student fails the end of a block within a certain category, additional training is required or failure of a check ride. "The syllabus is flexible and has been designed to minimise the influence of the weather on the training schedule", says major François. "For example, when we are in the contact phase and the weather is not suitable to go VFR, we can practise training items from the instrument category. So, while proceeding with advanced aerobatics, we are introducing instrument flights and when doing instrument training, we can start formation flights. However, to finish the instrument last block, the student must have completed the contact phase. The syllabus has been designed in such a way that students learn step by step, but as the training progresses, we introduce new elements to spice things up. The solo flight is a particular sortie which is not only a big change for the student but important for us as instructors too. It is a big responsibility and we need to be absolutely sure the student is able to deal with all major emergencies, such as an engine failure after take-off or a hydraulic problem. This can be perfectly trained in the simulator. Before their first solo, the students need to demonstrate they can operate safely and recover the aircraft in distress." The initial training flights are characterized by manoeuvres and aerobatics to learn the energy management of the aircraft. Exercises include slow flight, stall recovery, loopings, barrel rolls and whifferdills. Also pattern work is an important part of the contact training, both circuit procedures as well as landing in different configurations. After eleven training sorties and a successful check flight, the student goes solo. The first solo flight is restricted to circuits at Galatina for about 40 minutes." Major François points out: "The initial part of the contact category, the pre-solo, is dedicated to that task and is the biggest challenge for the student. If a student is released to go solo, it is highly likely that the training syllabus will be finished successfully." If a student fails the check before the solo flight, two more training sorties will be made, followed by an Intermediate Progress Check, the IPC. If the IPC is positive, the student can go solo. In case of a negative result, two more training flights will be given before the Final Progress Check, the FPC. "If the FPC doesn't go well, it is done, the course ends here." Major François continues: "This is how the syllabus is built. Once the students are solo, they have demonstrated the skills to bring themselves home safely and continue the training." During the contact category, five solo flights

Left: Flight preparation does include a walk-around before each flight. A 214° Gruppo instructor is seen checking the exhaust pipe of the MB-339A's Viper engine

Top: An instructor pilot is checking the electrical equipment comparment as part of the pre-flight inspection. The logo applied in 2023 for the Aeronautica Militare's 100th Anniversary is still present on the fuselage

Right: A MB-339 'Alpha' instructor pilot is getting ready for a flight in the rear seat

A student pilot is carefully following the crew chief's marshalling signals to taxi a MB-339CD safely from its parking spot for yet another training sortie.

will be made. The student pilots take the aircraft to one of the training areas in the vicinity of Galatina to practise manoeuvres, none of which are being graded. On the MB-339A, instructors were unable to check the student's performance on their solo flights. Post-flight data was limited to structural limitations exceedance but no information was available for flight analysis, unlike the CD model. The solo flights usually end with pattern work at Galatina to conduct touch and go's. The training areas for solo flights have to be maintained visually using roads, towns and shorelines as references. Weather can be a limiting factor as ground contact needs to be maintained at all times. These areas are defined between FL090 and FL180, which gives the student ample space to practise manoeuvres or aerobatics. Major François explains: "The altitude limits allow you to make some mistakes while you still don't exit the area. If you execute multiple aerobatic manoeuvres, one after the other, the aircraft's energy is decreasing. If you don't pay attention to this, you can easily exit the lower limit of the area. A classic mistake students make is to cross the area's upper limit when starting their manoeuvre sequence to anticipate on the expected altitude loss. And this is also what the training is about, especially during the contact phase, to teach the student the energy management of the aircraft and to plan their manoeuvres. They need to know where the aircraft will be after four to five manoeuvres."

It is all about grades

A student must complete a block within a certain category before proceeding with a new block. Each time a student doesn't pass a block, two additional training sorties will be made, followed by the IPC. This can be either a simulated or real flight, depending on the block the student failed. A block cannot be completed if the minimum overall grade has not been achieved, also referred to as MIF (Manoeuvre Item File). Every particular manoeuvre is being graded and the student must reach the required standard. Before the briefing, the student presents a line-up card incorporating all the manoeuvres which need to be trained during that particular flight. The IP holds a copy to write any consideration or comment during the flight. After every sortie's debriefing, a grade sheet will be completed and added to the student's training file, both digital and on paper to have easy access. This sheet contains certain information of the flight such as weather conditions, the profiles flown, any comment and grade of each specific manoeuvre and suggestions for the next flight. Sorties on the simulator are treated exactly the same as a real flight and graded as such. Major François points out: 'A grade sheet can either be positive or negative.

A student pilot is carefully following the crew chief's marshalling signals to taxi a MB-339CD safely from its parking spot for yet another training sortie.

If the sortie is negative, it means that the student regressed from the previous training level or didn't make the last block grades. It will be unsatisfactory if the student didn't progress like the syllabus wants a student to progress. Hence, it is below the actual learning curve. The more the learning curve diverges from the standard, the more progress checks will be required. If the divergence is consistent, the student will not be able to finish the training. The check section consists of a pool of very experienced IP's who are responsible for instructor standardisation and deal with the check flights like the IPC and FPC. However, for the FPC, authorization is required from the Comando delle Scuole dell' AM (CSAM) or Air Force Schools Command, located in Bari-Palese. Usually, an examiner from there will be sent to Galatina to take the student's FPC. The aim of the FPC is not to evaluate every manoeuvre or exercise, but to decide whether the student is capable of completing all training successfully. It is a high-level decision which actually needs to be taken by the CSAM. To maintain a continuity in the training during the pre-solo phase, the student flies with three different instructors only. After the solo flight, any instructor can go up with the student, which is beneficial as from every instructor something different can be learned.

Flying on instruments

In the instrument category, simulator training is combined with actual flights, roughly half of all instrument sorties are flown in the simulator. Fifty percent of these simulator sessions consists of emergency training in IMC (Instrument Meteorological Conditions) while the other half is dedicated to short navigation. The MB-339 simulator has proven to be a valuable device to train IFR (Instrument Flight Rules) procedures in particular. Major Oscar, an experienced 214° Gruppo instructor, explains: "The simulator is a very useful tool to develop flows as everything you are going to touch in flight is very similar, same switches and distances, so your brain is developing the same motion. For instrument training, the simulator is pretty good. You don't need any view, it is all about developing instrument crosscheck, how to fly the procedure and use the correct power settings. The aircraft's performance in the simulator is not 100% equal but very close to reality so it is very effective." In the contact category, some instrument training flights are already performed, weather permitting. The first block of instrument flights is carried out in the local training areas. "It is actually simulated IFR in VMC (Visual Meteorological Conditions)", explains Major Oscar. "And once in the area, we as instructors are responsible for separation with other aircraft. The students fly typical instrument exercises to develop crosscheck and task management. In this way, they prepare for instrument approach or departure procedures when they need to be able to fly the aircraft, navigate on instruments and at the same time, making radio calls. The instrument category consists of three blocks, each with specific syllabus requirements, and a final check flight. The initial block is made up of IFR exercises in the nearby areas and training of terminal procedures, followed by the second block of 'Round Robin' profiles, as proficiency allows. This means they will do a Galatina-Galatina navigation flight dropping into another airport such as Grottaglie, Brindisi or Bari for a couple of IFR approaches. It is pretty demanding as the airports are close to each other, there is quite a lot of civilian

One of the very last classic MB-339 'Alphas' in service with 214° Gruppo was MM54548/61-106. The aircraft is seen here leaving it's sun shelter at Galatina AB with a Saudi student pilot at the controls

traffic and they have to make radio calls as well which is new to them. The final block, just before the check ride, is composed of 'Round Robins' and one 'Out and Back' (two sorties including a full stop at another airport). Two night sorties are made, one contact and one instrument flight. They will fly mostly patterns and landings during the first night sortie while on the second one, only instrument procedures will be trained which could also be a 'Round Robin' profile."

Fit for fighters

After having completed the instrument phase, the student progresses to the formation phase. Major François: "In this category, we try to understand if the student has the potential to become a fighter pilot. This is our main focus when we are training fast formation and low-level flying. The formation category consists of two blocks and the check flight. The first block concentrates on the wingman position, in the second one, we start to introduce leader tasks. After the check at the end of the second block, the student will be flying single pilot in a two-ship formation with an instructor, usually the one who took the exam. The aim of the formation training is not the actual flight handling, but it is the mindset we want to teach, both leader and wing. Each position has their own associated duties and responsibilities. We prepare them to fly both as a single ship and in formation, which can be up to five aircraft. That is what military flying is about in the end." Teaching different aspects of formation flying is of great value to the students. However, some changes in the syllabus are likely to be made soon. Major Oscar explains: "We try to get the students to know the basic profile management but the difficulty increases

Main: Both MB-339 versions caught at the last-chance point as part of the first morning wave. Notable external differences are the MB-339CD's slightly longer nose, the pressure refuelling probe and the radar warning receiver (RWR) antennas in the tail

Insert: MB-339A/MLU '61-106' is taxiing to the holding point prior to take-off from Galatina's Runway 14 for an early morning training flight

MB-339CD '61-133' caught just after take-off while retracting its landing gear. The bright orange markings on the tip tanks reveal that this aircraft has only recently completed major overhaul by manufacturer Leonardo at Venegono. Over time, the strong Mediterranean sun fades away the orange colour

MB-339A/MLU '61-106' is slowly climbing away after yet another touch and go at home base Galatina AB.
From the 107 MB-339As built for the Aeronautica Militare, 50 were upgraded to MLU standard (Mid-Life Update) between 2001 and 2009. External differences include the ELT antenna in front of the aircraft's tail and formation lights on the nose, tip tanks and rear fuselage

when you match them. If the leading aircraft is not stable, you cannot really concentrate on flying on the wing. A student pilot flying as leader who is not proficient will impair the learning of the other one. The current concept is not ideal as they are usually unable to fly as a leader. The syllabi are undergoing a thorough revision, which addresses this subject too. For the time being, students will be trained both as wingman and leader. Initially, we concentrate a lot on the basic form, flying finger tips, straight and level as close as they can. Back in the days, this was an important procedure in case of weather penetration. Nowadays, the presence of on-board radars makes flying in formation in bad weather rather easy and the dangerous, close fingertip formation is no longer required. However, to be able to fly in close formation is still a basic skill and once you lose it, it is hard to regain. That is one of the reasons why we still teach it." Other major training items are the re-joins, separating and getting back into position. The students also get a view of aerobatics on the wing, which are actually demonstrations shown by the instructors. Learning to understand basic fighting curves is the main objective of exercises such as the standard or extended trail. Major Oscar explains: 'The extended trail is an exercise in which the leading aircraft manoeuvres freely while the number two needs to maintain a relative position by using fighting curves while both are keeping a fixed power setting. We teach the student to understand how to manage the aircraft's actual energy state, how to separate by using geometry without touching the throttle. It is the very basic anticipation of the basic fighter manoeuvres (BFM), like the ABC of fighting with aircraft."

Going low level

"Finalizing the formation category, we are introducing the low-level environment", says Major François. 'Both categories are interchangeable, for example, when the cloud base is too low to train formation flying, we go low level." Only one simulator session will be given at the start of this category with the objective to teach the student how to manage low-altitude flights and how to do the proper in-flight checks. Major François continues: "All low-level flights are made in VFR conditions at 1000 feet above ground level (AGL) as a minimum altitude. The major task in this category is the actual flight planning, students have to calculate fuel consumption, headings and times overhead navigation points. A clear drawn chart containing all important data is the key to success. On the 'Alpha', all these sorties were 'clock to map to ground', like in the old days, as the aircraft was not equipped with a digital planning system. On the 'Charlie', you can build a flight plan,

Top left: A crew chief is extending the access steps to allow the pilots to disembark the aircraft

Top right: Two 214° Gruppo instructor pilots walk away from their MB-339A after a flight. Both were among the last instructors who made the transition onto the MB-339CD after the final class of students finished their training on the MB-339 'Alpha' in September

Above: MB-339A/MLU '61-106' is seen returning to its parking position in one of Galatina's sun shelters which protects the aircraft from the strong Mediterranean sun

insert coordinates and the system will guide you to the next waypoint. On the 'Alpha', you could just put some coordinates in the system, mainly to accurate the target phase. We have downgraded low-level navigation a little bit to provide a more solid basic training. So, we teach them with a stopwatch and a map chart to navigate low level, identify the target and to be over there in time, with a 30 second error tolerance. The aim of the training is not to actually fly 'time over target' but to familiarise students with the low-level environment and to deal with unexpected elements by introducing 'what if' scenarios. For example, how to proceed if the weather suddenly changes, what to do when encountering other traffic or how to handle emergencies when flying at low altitudes." Nowadays, the student benefits from the more advanced equipment fitted in the MB-339CD such as the Head Up Display (HUD) and navigation systems. Major Oscar: "The students start using the HUD straight away although they still have to learn to fly without in case of system failure. From the six sorties, the first two still need to be flown dead reckoning, 'clock to map to ground', before they can navigate by uploading a flight plan and using the moving map. Some IP's consider such systems as excessive help for the students, nonetheless it is still very difficult for somebody who has never flown low level before."

Track selection

Main purpose of Phase II training is to find out if a student has the ability to become a fighter pilot or is more suitable to fly either helicopters or multi-crew, fixed-wing aircraft. Major Oscar comments: "At the end of Phase II, students will be selected for either the fighter or support track. We don't do track selection for drones anymore as experienced pilots are now preferred over freshly graduated ones. The selection is done here in 214° Gruppo, where we assess the potential of the student according to the attitude and more important, their grades. Each instructor will present an individual proposal and after a survey is conducted one final proposal is forwarded to the training command in Bari. Usually, they act on our recommendation but the ultimate decision also depends on the Air Force's needs. If a student is fit for fighters, he or she will start training with 213° Gruppo as soon as possible after green light is given by Bari. The ones fit for support usually wait a bit longer to understand whether they will be sent to Frosinone for helicopter training or Pratica di Mare for multi-crew training. The students don't get their wings at the end of Phase II, that is why we call it 'track selection'. They will get their wings (aquila turrita) after successful completion of Phase III and obtain their Military Pilot License, the Brevetto di Pilota Militare (BPM)." Students who completed their training on the P-180 at Pratica di Mare will transfer to an operational squadron that employs fixed-wing multi-crew aircraft. This could be either maritime patrol (P-72A), transport (C-27J, C-130J or KC-767) or other mission types (P-180, G-550 or KA-350). Future helicopter pilots will either move

MB-339CD MM55062/61-126 is the first of 30 CD's built for the Aeronautica Militare and was delivered in 1997. Before being transferred to Galatina, the aircraft flew for several years with the Reparto Sperimentale di Volo as 'RS-26'. It was brought up to 'Batch 2' standard at Venegono about 25 years ago and is still operated by 61° Stormo for both Phase II and III pilot training

Grazzanise or Cervia to make the conversion onto the HH-101 or HH-139 respectively, after their TH-500 training at Frosinone. The fighter track students will continue with Phase IV training on the T-346A at the IFTS (International Flight Training School) in Decimomannu. Major Oscar adds: "The LIFT (Lead-In to Fighter Training) course is quite extensive because training has been taken away from OCU units and implemented into Phase IV. At the IFTS, they learn not only the fighter fundamentals but also other operational aspects."

Transition to the Charlie version

Due to delays in the introduction of the M-345, an interim solution was needed to replace the MB-339A. In March 2023, five Kuwaiti students started their Phase II training on the MB-339CD as a trial. As both aircraft are quite similar, the training syllabus was only slightly adapted with minor changes made. The number of simulator sessions remained unchanged, 37 in total. A new category dedicated to emergency training has been added while the instrument and in particular contact simulator sessions were reduced compared to the MB-339A. The total flight time has been reduced from 88 to 73 hours while the number of extra hours has remained the same. More flight hours have been allocated to the formation category which were removed from the instrument category. With the introduction of the 'Charlie' version in Phase II training, some changes were made. Major Oscar explains: 'In the instrument category, the revised syllabus now gives the option to make cross-country navigation flights. On the 'Alpha', this wasn't permitted due to the limited navigation equipment but as the 'Charlie' has more modern instruments, it is considered more suitable. On all instrument training flights, the student is now seated in the front, contrary to the MB-339A, when the student was always flying from the back. The front position allows the student to 'transition to land', which means flying the aircraft from the minima on an instrument approach down to landing. Once they become visual, they will now be able to land the aircraft themselves. Another difference between the two syllabi is the interchangeability of the last two categories which means that low-level training could also be completed first, unlike the 'Alpha' where they always started with formation flying." The Kuwaiti class was the very first one to have completed Phase II on the MB-339CD, in early 2024. As the available MB-339CD fleet had to be shared with Phase III students, the course took longer than planned. In January 2024, a group of Swedish students started Phase II on the CD. The very last students to be trained on the classic MB-339A finished their course in September 2024, one Italian and four Saudi cadets. With the termination of the MB-339A as a basic jet trainer, the remaining 'Alpha' instructors will now make the conversion onto the 'Charlie' as well. Major Oscar says: "The transition course takes only about twelve sorties as both aircraft are similar. The speeds change a little bit, other than that, it is just the same aircraft. The aerobatics feel slightly different as the CD is kind of nose heavy. There is also the probe which gives more drag." The MB-339CD will serve as interim solution to provide Phase II training until the T-345A becomes available. Major Oscar emphasizes: "The optimum would be to replace all MB-339s with the M-345. For the time being, we will be flying the MB-339CD for both phases (II and III). Supposedly, the next step will be the introduction of the M-345 for Phase II, leaving the MB-339CD for Phase III only. After some delay, the first M-345s will be assigned to 214° Gruppo soon, when the pre-operational flight test programme, run by the Reparto Sperimentale di Volo (RSV), has been completed. The M-345's engine is less powerful than the MB-339's, but features a modern glass cockpit including touch screens. For what we do, we don't need an excessive amount of thrust like the M-346. We just need a reliable engine which is redundant and saves fuel. In the course of time, the MB-339A has proven to be very safe. The engine spits out whatever it ingests, which saved a lot of pilots. The aircraft's design is great and for the kind of training we are doing, the aircraft is very suitable. It will be interesting to see where the last 'Alphas' are going after retirement, it would be justified if they will get a second life."

61° Stormo staff will say goodbye to the MB-339 'Alpha' during an upcoming retirement ceremony, closing a chapter which started in April 1981 when the first four MB-339As arrived at Galatina. Simultaneously, its successor, the Leonardo T-345A, will be introduced as the new basic training platform offering students a modern learning environment. Since its establishment in 1995, 61° Stormo has been transformed into an international flight school equipped with the latest advanced technologies and jet trainers to better prepare student pilots for frontline tactical roles operating 4th and 5th generation combat aircraft. During the last decade, Galatina's flight school has become a fine example of today's formation process of military pilots in Europe and beyond.

The authors would like to thank Major François, Major Oscar and the Communications Section of 61° Stormo for their time and support in preparing this article.

Marshalled by a crew chief, MB-339CD '61-150' is about to leave its parking spot

RAMSTEIN FLAG 2024

Text by István Kelecsényi **with photos by** István Kelecsényi unless stated

Allied fighter jets participating in NATO exercise RAMSTEIN FLAG 24 fly in formation over the west coast of Greece. Over 130 fighter and enabler aircraft from Greece, Canada, France, Hungary, Italy, Poland, Portugal, Romania, Spain, Sweden, United Kingdom, and United States were training side by side to improve tactics and foster more robust integration, demonstrating NATO's resolve, commitment, and ability to deter potential adversaries and defend the Alliance ***Photo U.S. Air Force by Tech. Sgt. Emili Koonce***

U.S. Air Force photo by Tech. Sgt. Emili Koonce

NATO is a fundamental pillar of stability in today's unpredictable world. It is a defensive community whose purpose is to prevent conflicts and keep the peace. It does not seek confrontation, but it does not compromise on the principles on which the security of the Alliance and the Euro-Atlantic area rests. To this end, the Alliance strengthens and regularly exercises the capabilities to rapidly reinforce any ally under threat from any direction.

During the Russian-Ukrainian war, missiles, unmanned aerial vehicles and combat aircraft were deployed ever closer to the borders of NATO countries.

NATO Air Forces therefore need to train intensively and in an environment as realistic as possible to demonstrate the deterrent capability to stop, deter and defeat threats.

Building on theoretical and scientific research, NATO has opened a new chapter in combat aviation exercises in 2024. One basis for this was the experience of the United States Air Force (USAF) Red Flag exercises.

Flag exercises began in 1975, for the first time in the United States. The goal was to create a program where hardware and combat could face realistic threats and provide realistic training. Nellis Air Force Base hosted the first exercises. Red Flag formed the basis for a new type of fighter training, whose motto is "train as you fight". Red Flag exercises provide the ability to simulate the first ten combat sorties a fighter pilot might experience. Working with multiple scenarios at once, Red Flag exercises address realistic combat situations. Red enemy and blue friendly forces are distinguished in both aircraft and air defence simulators. Not only NATO troops participated/are participating in the exercises, but in several cases, aircraft from South America and other countries, such as Israel, were also present.

Red Flag exercises are now held in Nellis and Alaska. Near Las Vegas, the exercise lasts two weeks, while in Alaska, it lasts ten days. To date, more than 440,000 troops, including 145,000 pilots, have participated in Red Flag exercises, with more than 385,000 take-offs and more than 660,000 hours flown.

The Canadian Maple Flag or Israeli Blue Flag exercises began following the American model. Maple Flag began in 1978 and, in addition to Canada and the United States, seven NATO and six other nations have been represented so far.

NATO AIRCOM has now accepted that this type of exercise is also necessary in Europe. For this reason, NATO Allied Air Command 2024 has prepared the European "Flag" exercise RAMSTEIN FLAG (RAFL-24) together with the Greek Air Force.

U.S. Air Force photo by Tech. Sgt. Emili Koonce

A U.S. Air Force F-35A *Lightning II*, assigned to the 48th Fighter Wing, takes off at Andravida AB

RAMSTEIN FLAG 24 is the Allied Air Forces Command's latest complex exercise series, providing a multi-area combat flying exercise involving real problem sets in a complex area of operations. The exercise will allow NATO to ensure C-A2/AD) i.e. the defence of areas and to deter enemy plans to do so, as well as to exercise (IAMD) i.e. integrated air and missile defence. In addition to IMAD, the (BMD) or ballistic missile defence capability was also exercised.

During the RAMSTEIN FLAG exercise, the NATO CAOC (Combined Air Operations Center – air defence centre) in Torrejon, Spain, coordinated air operations with the Greek Air Force Control and Signalling Center (a national cente). This year's exercise, which was mainly based in Greece, involved more than 140 combat or combat support aircraft from 13 countries.

In addition to RAMSTEIN FLAG in the south, the NATO North East Region held an air defence exercise called RAMSTEIN ALLOY.

During the exercise in the Northern Region, Spanish, Portuguese, German, Finnish, Swedish, Polish, and Estonian aircraft were supported by NATO (Luxembourg), Turkish air traffic control and surveillance aircraft as well as German and Spanish aerial refuelling aircraft. In addition to the aircraft, ground-based air defense (GBAD) systems, such as NASAMS, were also deployed in the Baltic region. NASAMS (National Advanced Surface-to-Air Missile System) is the world's first operational Network Centric Short to Medium Range Ground Based Air Defence System, developed by Kongsberg, Norway.

Thirteen countries carried out planned deployments in the South Region between 30 September and 10 October. In addition to the Greek Air Force, France, Italy, Poland, Spain, Sweden, Hungary, Portugal, Romania, the United Kingdom, the United States of America, Canada, Luxembourg (NATO), and Spain sent aircraft for the exercise. The Romanians flew their missions from their own base. It is interesting to note that originally, Turkey had also volunteered six F-16 fighter bombers for the exercise. Still, in the end, due to the traditionally bad Greek-Turkish relations, Greece would not have welcomed the Turkish aircraft at its base. Therefore, the Turks only sent an air control aircraft to RAMSTEIN ALLOY and did not participate in the RAMSTEIN FLAG 24 exercise.

Of the Greek bases, Andravida was the Allied base, and Araxos was the central airfield for Greek Air Force aircraft. Aktion/Preveza was the forward operating base for air traffic control aircraft.

Among the combat aircraft, NATO member nations

U.S. Air Force F-35A *Lightning II*, assigned to the 48th Fighter Wing at RAF Lakenheath

A U.S. Air Force F-35A *Lightning II* of the 48 FW flies over the west coast of Greece *Photo U.S. Air Force photo by Tech. Sgt. Emili Koonce*

participated in the exercise with the Swedish-built Saab JAS-39 Gripen, European-built Eurofighter, French-built Dassault Mirage 2000-5 and Rafale, as well as US-built McDonell Douglas F-4 Phantom II, Lockheed-Martin F-16 Fighting Falcon, and F-35 Lightning II fighter aircraft.

Among the combat support aircraft, air surveillance and control aircraft E-3A were provided by NATO (with Luxembourg flag), E-3F from France, Global Eye from Greece, and E.550 CAEW from Italy. Aerial refueling aircraft were provided by Italy (KC767) and Canada (CC-150). Reconnaissance aircraft were supplied by the British Royal Air Force (Airseeker R-1/RC-135) and reconnaissance unmanned aerial vehicles by Italy (RQ-4 Phoenix and MQ-9A Predator).

The ground-based air defence was provided by Greece's PATRIOT, HAWK and ARROW, as well as the fleet's shipboard air defence systems.

Reality changed the flight plans in the first week. Major forest fires in the Peloponnese peninsula were caused by drought, and the exercise site and airbases became smoke-contaminated areas in several cases. Tasks were nevertheless not missed, only on returning to the airport from the execution pilots were given a different task – a different approach heading and altitude than usual. The low/deep flights that are common in Greece were therefore heavily restricted during the first week.

Live firing was not carried out, but evening and night sorties were. However, the exercise was dominated by daytime missions, usually in two waves per day. The missions were preceded by briefings and concluded with debriefings and evaluations after the flights.

During the exercise, all types of air missions were carried out, with an emphasis on

- Counter Anti-Access/Area Denial (A2AD),
- Integrated Air and Missile Defence (IAMD),
- Joint Engagement Zone Operations (JEZO),
- Defensive Air Operations (DCA),
- Dynamic Targeting,
- Composite Air Operations (COMAO),
- Air-to-Air Refueling,
- and Photo Exercise

under an intense combat pace, day and night.

The exercises were carried out at an intense combat pace, both day and night. The missions covered the full spectrum of modern air operations in a series of highly realistic, complex scenarios, in cooperation with ground-based air defense systems and surface assets.

The focus of the exercise was on counter A2AD and DCA missions, with 60-70 fighter aircraft, various communication and GPS jammers, reconnaissance assets, air-to-air refueling aircraft, and air surveillance aircraft.

In addition to the RAMSTEIN FLAG exercise, the RAMSTEIN DUST exercise was also conducted with the NATO Deployable Air Command and Control Centre (DACCC). Andravida was deployed with the Centre's airborne imaging Sensor Fusion Station (DARS) systems and essential functions. The DARS is a key enabler for reliable and safe combat control.

During the exercise, the DARS was integrated into the NATO Unified Air Defence System (NAINAMDS) for testing purposes.

The Hungarian Defence Forces, mainly the designated units of the Air Force, have been deployed for the exercise with about 50 personnel. Ten Hungarian pilots were deployed to Greece for the exercise. The commander of the group was Lieutenant Colonel Péter Tősér. Five JAS-39C combat aircraft (registration numbers 32,33,34,38 and 40) were flown to Andravida AB, Greece. The Hungarian pilots performed 45 sorties with about 60 flight hours. In addition, the outbound and return flights accounted for an extra ten sorties and 16 flight hours. The Hungarian pilots flew all missions on the "blue" side, and all but five sorties were COMAO (Combined Air Operation).

The Pumas from Kecskemét mainly performed Counter A2AD (Anti Access/Area Denial) and DCA (Defensive Counter Air) missions. In addition, they had the opportunity to perform four sorties against Greek F-16 aircraft for BFM (Basic Fighter Maneuvers)

A U.S. Air Force F-35A *Lightning II* of the 48 FW flies over the west coast of Greece *Photo U.S. Air Force photo by Tech. Sgt. Emili Koonce*

training, mainly practicing their AIM-9 Sidewinder capability.

On one occasion, Hungarian Gripen and Greek F-16s flew separate close dogfights. Flying on the "blue" side also meant that Hungarian aircraft did not even face U.S. Lockheed-Martin 5th generation aircraft on a training level during the exercise. The Hungarian aircraft did not participate in familiarization flights, so there were no low-level flights in the Greek valleys.

Nor did other nations, including Spanish, Italian, Portuguese, and American aircraft, practice extreme low-level, near-ground flying in Greece.

The Hungarian detachment flew four aircraft (two pairs) on each mission. Due to the density of the program, there was no opportunity to meet pilots and aircraft from other nations at the Andravida base. The exception was the Swedish Air Force with whom the Hungarian aircraft were on a joint apron.

Both nations flew JAS-39 Gripen aircraft. The 101st was assigned to stand alongside the Royal Swedish Air Force F21 unit, with whom cooperation was excellent. However, there was no joint servicing with the Swedes and no joint use of TDLS. All nations used the NATO-compatible Link-16 system during the exercise.

The photo flight was a special event for the participating nations. Typical of the pilots' workload, the Hungarian painted JAS-39C Gripen with side number 40 was flown by Lieutenant Colonel Péter Tősér, as the other pilots were busy with other tasks.

Next year, the Royal Netherlands Air Force will host the exercise of (C-2A2/AD) air defense and (IAMD) missile defense techniques, combat, and procedures.

A U.S. Air Force F-35A *Lightning II*, left, flies in formation with an Italian Air Force Eurofighter F-2000A *Typhoon*

A Eurofighter F-2000A *Typhoon* assigned to the Italian Air Force's 132° Gruppo taxis back to the ramp after having returend from a RAMSTEIN FLAG 24 mission

Photo U.S. Air Force by Tech. Sgt. Emili Koonce

Take-off from Runway 16 of an Italian Air Force Eurofighter F-2000A *Typhoon* assigned to 132° Gruppo of 51° Stormo at Istrana AB

An Italian Air Force Eurofighter F-2000A *Typhoon* taxis prior to take off. The aircraft is based at Istrana AB and operated by 132° Gruppo of 51° Stormo

All photos this page U.S. Air Force by Tech. Sgt. Emili Koonce

Spanish Air Force Eurofighter EF2000 on the taxiway and taking off

Take-off of a Spanish Air Force Eurofighter EF2000 assigned to Ala 11 at Morón AB

Spanish Air Force Eurofighter EF2000 assigned to Ala 11 at Morón AB

Spanish Air Force Eurofighter EF2000 assigned to Ala 11 at Morón AB

Photos this page NATO Allied Air Command

Hellenic Air Force F-16 *Fighting Falcons* assigned to 336 Mira at Araxos AB.

The aircraft are fitted with CFTs (conformal fuel tanks). '*These external, pod-like fuel reservoirs are attached on the upper surface of the F-16's fuselage, with the tank's lower surface conforming to the aircraft shape. The upper surface arrangement allows the CFTs to be relatively light weight because nothing is suspended from them. With an empty weight of 900 pounds, tank set holds 450 gallons (ca. 3,050 pounds, or 2,271 litres) of additional JP-5/8 fuel. The extra fuel increases range, loiter time, and combat persistence as well as reduces the demand for tanker support. Range increase is on the order of twenty to forty percent, depending on the stores configuration and mission profile. The tanks have neglible effect on the aircraft agility, at subsonic speed, However, at supersonic speed, the drag is increased proportionally to the increase in speed. When fitted with CFT the aircraft retains almost the full handling qualities, flight limits, and signature. A complete set can be removed or replaced within two hours [...] set of CFTs carries 50 percent more fuel than the centerline external fuel tank, but has only 12 percent of the drag. The CFTs are designed for the full F-16 flight envelope – up to 9 g's, maximum angle of attack and sideslip and maximum roll rate'* Source: Defense Update, Feb 4, 2024

This Hellenic Air Force F-16D *Fighting Falcon* is equipped with CFTs (conformal fuel tanks)
Photo U.S. Air Force by Tech. Sgt. Emili Koonce

Main and inset left: Portuguese F-16AM *Fighting Falcon*, assigned to 201/301 Squadron at Monte Real taxis to the runway for take-off, while in the backgound an Italian F-2000A *Typhoon* is taking off

Inset right: The Portuguese Air Force F-16 just took off into the blue sky over Andraviada AB

Portuguese Air Force F-16AM *Fighting Falcon* assigned to 201/301 Squadron
Photo U.S. Air Force by Tech. Sgt. Emili Koonce

Portuguese Air Force F-16AM *Fighting Falcon* assigned to 201/301 Squadron. The special color scheme on the aircraft's tail was applied on the occasion of the 60th anniversary of 201 Squadron
Photo U.S. Air Force by Tech. Sgt. Emili Koonce

Portuguese Air Force F-16AM *Fighting Falcon* assigned to 201/301 Squadron.

Polish Air Force F-16C *Fighting Falcon* assigned to 32.BLT, 10.elt at Łask AB

NATO Allied Air Command

Polish Air Force F-16C *Fighting Falcon* assigned to 32. Baza Lotnictwa Taktycznego (32.BLT), 10. Eskadra Lotnictwa Taktycznego (10.elt) at Łask AB

Polish Air Force F-16C *Fighting Falcon* *(left)* and Hungarian Air Force JAS39C *Gripen*

NATO Allied Air Command

Hungarian Air Force JAS39c *Gripen* assigned to MH 101. Sz.D Repülõdandár (101st AW) at Kecskemét AB

NATO Allied Air Command

Hungarian Air Force JAS39c *Gripen* assigned to MH 101. Sz.D Repülõdandár (101st AW) at Kecskemét AB

Hungarian Air Force JAS39c *Gripen* assigned to MH 101. Sz.D Repülõdandár (101st AW) at Kecskemét AB
Photo U.S. Air Force by Tech. Sgt. Emili Koonce

Swedish Air Force JAS39C *Gripen* assigned to F21 Norrbottens Flygflottilj at Luleå/Kallax AB coming in to land at Andarvida AB after having completed their mission

Photo U.S. Air Force by Tech. Sgt. Emili Koonce

Swedish Air Force JAS39C *Gripen* (left) and JAS39D *Gripen* (right) assigned to F21 Norrbottens Flygflottilj at Luleå/Kallax AB

Swedish Air Force JAS39C *Gripen* assigned to F21 Norrbottens Flygflottilj at Luleå/Kallax AB
Photo U.S. Air Force by Tech. Sgt. Emili Koonce

A French Air Force Rafale, left, flies in formation with a Swedish Air Force JAS39C *Gripen*
Photo U.S. Air Force by Tech. Sgt. Emili Koonce

French Air and Space Force

1 Rafale B of EC 03.030 *Lorraine* at BA118 Mont-de-Marsan
2, 3 Rafale B of EC 01.004 *Gascogne* at BA113 Saint Dizier
4, 6 Rafale B of EC 02.030 *Normadie-Niemen* at BA118 Mont-de-Marsan
5 Rafale C of EC 02.030 *Normadie-Niemen* at BA118 Mont-de-Marsan

French Air and Space Force
Right: Rafale C assigned to EC02.030 *Normandie-Niemen* at BA118 Mont-de-Marsan
Above and left:: Rafale B assigned to EC01.004 *Gascogne* at BA113 Saint Dizier

A French Air and Space Force Rafale flies over Greece during a training sortie
Photo U.S. Air Force by Tech. Sgt. Emili Koonce

A Hellenic Air Force Dassault Rafale F3R participating in NATO exercise Ramstein Flag 24 flies over the west coast of Greece
Photo U.S. Air Force by Tech. Sgt. Emili Koonce

Hellenic Air Force F-4E (AUP) *Phantom II* assigned to 338 MDV at Andravida AB taxis to the runway for take-off

Hellenic Air Force
F-4E (AUP) *Phantom II*
assigned to 338 MDV
at Andravida AB

Photo U.S. Air Force by Tech. Sgt. Emili Koonce

Hellenic Air Force F-4E (AUP) *Phantom II* assigned to 338 MDV at Andravida AB

Royal Canadian Air Force CC-150 (A310-304MRTT) assigned to 437 Transport Squadron *Husky* CFB Trenton, Ontario

ZASTAVA 2024

TEXT: IGOR BOZINOVSKI
PHOTOS: ISTVÁN KELECSÉNYI UNLESS STATED

Over the past years, Serbia has regularly been organizing displays of the capabilities of the Serbian Armed Forces (Vojska Srbija, VS). The last such event, named "Zastava 2024" (Flag 2024), took place on 20 September 2024 at Colonel-pilot Milenko Pavlović (Pukovnik-pilot Milenko Pavlović) air base in Batajnica, near the Serbian capital Belgrade.

The Serbian Air Force and Air Defence (Ratno Vazduhoplovstvo I Protivvazduhoplovna Odbrana, RV i PVO) used the event to show for the first time that its 126th Air Surveillance, Early Warning and Guidance Brigade (126. brigada vazdušnog osmatranja, javljanja i navodjenja, 126. br VOJIN) is now armed with the mobile variant of the Thales Ground Master GM200α (Alpha) fully digital active electronically scanned array (AESA) three dimensions (3D) medium-range radar installed on a MAN TGS 41.480 8x4 truck.

This new addition to the inventory of 126. brigada VOJIN was presented a little over two months after in July 2024, the Serbian Defense Ministry´s magazine Odbrana (The Defense) unveiled a photo of an RV i PVO operating a mobile variant of the Thales Ground Master GM400α (Alpha) AESA 3D surveillance radar, also installed on MAN TGS 41.480 trucks.

In December 2023, Serbia received and installed its first Thales GM406α stationary radar system at its location Stari Banovci, becoming the first foreign buyer of the Alpha improved version of GM400 series of Thales radars. This radar is the first-ever AESA radar that has joined 126. br VOJIN. RV i PVO has so far received at least two GM406α radars.

The number and exact type of Thales radars purchased by Serbia remains classified. Although, the deliveries made so far are in line with various Serbian media sources that for some time have been claiming that the Serbian radar purchase from Thales is made of 22 systems: four GM400α in stationary and mobile variants, six GM200α mobile and twelve GM60 mobile radars.

What remains unknown is whether the GM60 short-range radar (not yet in operational use anywhere in the world) was also purchased. In October 2023, a prototype of the Serbian hybrid artillery-missile air defense system HARPAS (Hibridni Artiljerijsko Raketni ProtivAvionski Sistem) was presented at the International fair of weapons and military equipment Partner, in Belgrade, and was featuring the GM60 radar. Having that in mind, it is very likely that the GM60 is also on the list of equipment that Thales is yet to deliver to Serbia.

"Zastava 2024" also unveiled that RV i PVO artillery-missile units for anti-aircraft defense are now also armed with a new Chinese-made TTDR observation-acquisition radar system, which is intended for the command post of the Serbian missile divisions armed with the China Aerospace Science & Industry Corporation (CASIC) FK-3 medium to long-range air defense system. According to the official military information available on a board with a pedestal placed next to the mentioned radar, the system consists of AV TTDR antenna vehicle of the surveillance radar, WV TTDR working vehicle of the surveillance radar, a TCCV command vehicle with an electric generator, three workstations, a control and display system, communication equipment, spare parts, and maintenance equipment.

Among the tactical and technical characteristics presented at the display, the following are listed: a range of more than 300 km, the rotation speed of the antenna of 6 or 12 revolutions per minute, the ability to detect and track up to 400 targets and transmit target data to the command station in real-time, receive and process up to 10,000 plots, IFF target identification, possibility of automatic and manual entry of positional and orientational parameters.

Aside from the mentioned radar systems, also shown at "Zastava 2024" was Serbia's newly acquired and recently unveiled China Precision Machinery Import-Export Corporation (CPMIEC) HQ-17 (Red Banner-17;

1 **Thales GM-400 Alpha mobile long-range surveillance radar, with the ability to detect and track a wide range of targets at short and long distances simultaneously, from airplanes and helicopters flying at different altitudes, to low-flying objects with little radar reflection, such as tactical UAVs or cruise missiles.**

2 **The Ground Master 200 (GM200) is a medium range AESA 3D radar. It can operate both as an independent air surveillance radar or as the sensor module of an air defence system. The GM200 also features a surface channel and a Rocket/Artillery/Mortar sense and warn capability.**

NATO reporting name: CH-SA-15) all-weather, low to medium altitude, short-range air defense (SHORAD) missile system. This time, two combat vehicles, two vehicles for delivering and reloading rockets, a vehicle with a workshop for technical maintenance, and a vehicle with an electrical unit were shown.

According to RV i PVO's officially presented information, the HQ-17 range is up to 15 km in distance and 8 km in height with a probability of 80-90% of destroying the target. The reaction time of the system is 8 seconds from the moment of target detection to the moment of the missile launch. It can engage targets on arrival and departure that are flying at a maximum speed of up to 1,020 m/s, also while the combat vehicle is in motion.

When it comes to aviation assets, RV i PVO exposed six freshly overhauled and repainted grey former Cypriot Mil Mi-35P (NATO: Hind-F) gunship helicopters. These aircraft have RV i PVO serials in a sequence 201/35201-206/35206 and are now going to supplement the four brand-new Mi-35M (local military designation HB-47) helicopters (serials 101/35101-104/35104) that Serbia received from Russia in early December 2019. Expectations are that the Mi-35Ps will soon join (the) Mi-35Ms that are now serving the 714. protivoklopna helikopterska eskadrila (714th Anti Armor Helicopter Squadron). It is subordinated to RV i PVO's 98. vazduhoplovna brigada (98th Air Force Brigade) and operating from Ladjevci airbase, located near the city of Kraljevo in central Serbia.

The ex-Cypriot Mi-35Ps presented at Batajnica did not show any sign of modifications or modernization, although it is known that RV i PVO considers the modernization of some or all 11 former Cypriot helicopters. Indicatively, one of those helicopters shown at "Zastava 2024" was armed with the Serbian-developed VRVZ-24 240 mm guided missile (a modified Soviet S-24B unguided rocket) with a 123 kg warhead and declared range of 10 km. The combo Mi-35P/ VRVZ-24 may indeed suggest some of the RV i PVO ambitions and plans for modernizing the Mi-35 fleet.

Another RV i PVO novelty shown at "Zastava 2024" was the MSP-418K Electronic Warfare (EW) pod, attached to one of the four MiG-29SM+ multi-purpose fighter jets that flew over the parade of VS units on the ground. The mentioned system was shown to the public for the first time on 4 May 2024 during the flyover of a pair of MiG-29s over Valjevo. It was to mark the 25th anniversary of the death of Colonel Milenko Pavlović, a Serbian MiG-29 pilots that was engaged by a pair of USAF F-16CJs from the 78th Fighter Squadron and shot down with an AIM-120 missile over this city in 1999.

Last but not least important, during "Zastava 2024", the President of Serbia, Aleksandar Vučić, and the Assistant Minister for material resources in the Serbian Ministry of Defense, Nenad Miloradović, officially confirmed that the agreement with France's Dassault Aviation signed on 29 August 2024 is for 12 aircraft of the latest, F4.1 version of the Rafale twin-engine multirole jet fighter. "Regarding the version, we bought the latest 4.1 version, with the most sophisticated radar system, and the best protection. We bought all the best", Vučić said, adding that talks over the weapon systems for these aircraft are still underway. He also noted that only Greece is allowed to buy the MBDA Meteor active radar guided beyond-visual-range air-to-air missile (BVRAAM), while Serbia and Croatia will only be able to buy MBDA MICA air-to-air missile.

Above: HQ-17AE short-range air defense missile system from China

Right: Serbian Air Force MiG-29UB (Serbian designation NL-18) assigned to 101. Lovacka Avijacijcka Eskadrila (Fighter Aviation Squadron) at Batajnica AB

Serbian Air Force MiG-29 (Serbian designation L-18) assigned to 101. Lovacka Avijacijcka Eskadrila (Fighter Aviation Squadron) at Batajnica AB

Serbian Air Force C295MW (Serbian designation T-75) of the 138. Transportna Avijacijcka Eskadrila (Transport Aviation Squadron) at Batajnica AB accompagnied by two Mig-29s of the 101.lae

The Soko NJ-22 Orao is a Yugoslavian/Serbian twin-engined, subsonic ground-attack and aerial reconnaissance aircraft. The aircraft are assigned to the 241. Lovacko-Bombarderska Avijacijcka Eskadrila (Fighter-Bomber Aviation Squadron) at Obrva AB

Main image: Serbian Air Force C295MW (Serbian designation T-75) of the 138. Transportna Avijacijcka Eskadrila (Transport Aviation Squadron) at Batajnica AB
Insets: G-4M (N-62) *Super Galeb* of the 252. Shkolsko-Trenazhna Avijacijska Eskadrila (Training Aviation Squadron) at Batajnica AB

Lasta 95 (V-54) full-aerobatic military trainer aircraft with two wing hardpoints, assigned to 252. Shkolsko-Trenazhna Avijacijska Eskadrila (Training Aviation Squadron) (left) and to Tekhnicki Opitni Centar (Technical Test Center) (top and right)

Main image: Serbian Air Force Mi-35M (HB-47)
Insets: ex-Cyprus Air Force Mi-35P
All Mi-35 are assigned to 714. Protivoklovna Helikopterska Eskadrila (Anti-Armor Helicopter Squadron) at Obrva AB

Mi-17V-5 (HT-49) (1, 3, 4) and Mi-8T (HT-40) (2). The helicopters are assigned to 890. Meshovita Helikopterska Eskadrila (Mixed Helicopter Squadron - 890.mhe) at Batajnica AB

Airbus H145M assigned to 119. Meshovita Helikopterska Eskadrila (Mixed Helicopter Squadron - 119.mhe) at Konstantin Veliki AB. The Serbian Air Force has 15 H145M in its inventory

Top: SA341H (HI-42)assigned to 890.mhe at Batajnica AB and SA342L (HN-45M) of 119.mhe at Konstantin Veliki AB (left to right)

Above: SA341H (HI-42)assigned to 890.mhe at Batajnica AB

1 **SM-1 kamikaze drone. Kamikaze drones, or loitering munitions, are advanced unmanned aerial vehicles designed for precise strikes and reconnaissance.**

2 **Raven 145 - the drone can fly at speeds of up to 150 km/h and reach an altitude of up to 2,000 meters. Payload is max 35kg and the max take-off weight is 50 kg. In "kamikaze drone" mode, it can engage stationary and moving targets, including tanks, armoured vehicles and command posts and destroy targets within a radius of up to 150 km**

3 **SM-1 kamikaze drone**

4 **PEGAZ - long-range unmanned aerial vehicle using laser and/or IIR/TV guided missiles intended against light- armored/unarmored vehicles and troops**

5 **The IKA drone offers a 30-minute flight time with a payload capacity of 20 kg. It possesses the capability to autonomously transport 12 60mm aerial bombs.**

1 Soviet/Russian made reconnaissance locators, (P-40 Long Track and PRV-17 (Odd Group) and part of the SA-6 KUB anti-aircraft missile complex.

2 Soviet/Russian 2K12 (SA-6) air defence missile system 2P25M crawler launching pad with three missiles, S-125 (SA-3 Neva) anti-aircraft missile system launching pad with four missiles, P-12 Jenyisei (Spoon Rest A) reconnaissance locator, 2T7M (ZIL-131 vechile) anti-aircraft missile launcher truck in the rear)

3 2K12 (SA-6 Kub) anti-aircraft missile complex. 2T7M (ZIL-131 vechile) anti-aircraft missile launcher truck in front, 2P25M missile launcher (TELAR) in the rear

4 Chinese HQ-22 anti-aircraft missile launcher, H-200 or JSG-100 long track locator in the rear.

5 Pantsir S-1 air defence system.

1 **Serbian air defence equipment: Front vechiles, MT-LBu (MT-LB - Multipurpose Light Armoured Tractor) air defence command post mounted on armoured transport vehicles. HARPAS air defence armoured prototype in the middle. In the background, Chinese build HQ-22 air defence missile launchers and Russian build Pantsir S-1 air defence complex rear.**

2 **AS12 (P-40 Long Track) reconnaissance locator**

3 **Pantsir S-1, russian-built close air defense system**

4 **Serbian PASARS-16 air defence missile system Streka2M and R-13M air-to-air missile with RLN-1C air defence missiles**

OnePage | MACEDONIAN POLICE HELICOPTER UNIT TURNS 55

TEXT: IGOR BOZINOVSKI
PHOTO: DRAGAN CVETIC

A modest ceremony for marking the 55th anniversary of the Macedonian Police's Helicopter Unit "Hawks" (Helikopterska Edinica "Jastrebi") took place on 27 November at the Macedonian police education and training complex located in the village of Idrizovo, some 11 km south-east of the Macedonian capital Skopje.

The event saw the first public promotion of the unit's new Chief, pilot Boban Milanovski, who recently took office from his predecessor, pilot Nenad Aleksovski. Also, the event spotted for the first time a new, civilian registration Z3-HHD applied on the Police oldest helicopter – the 1973-build Agusta-Bell AB.206B JetRanger II helicopter (c/n 8365, ex YU-HBD, Z3-HHA and MAP-7750).

The absence of the Idrizovo-based 1978-build Agusta-Bell AB.212 helicopter (c/n 5626, ex YU-HPB and Z3-HHB) was also conspicuous which was due to the fact that the aircraft is passing scheduled servicing at Patria Helicopters in Sweden from where it should soon return.

Speaking at the event, the Director of the Macedonian Ministry of Interior's (Ministerstvo za Vnatrešni Raboti, MVR) Bureau for Public Security (Biro za Javna Bezbednost, BJB), Aleksandar Janev emphasized the necessity of continuous improvement of all necessary organizational, educational or technical aspects of Hawks and expressed his confidence that the unit has the professional potential and expertise to successfully face any type of challenges.

Janev priced the unit for its crucial importance to Macedonia in executing various missions:

- aerial fighting of wildfires,
- reducing the consequences of other types of natural disasters,
- search and rescue (SAR),
- anti-terrorist operations,
- aerial securing of the national borders,
- as well as for securing the convoys and VIPs from the air,
- helicopter medical flights, a most recently introduced mission.

While he did not enter into details, Janev said there is a need for modernization of Hawks and following and achieving the standards present in similar units operating within European police forces. In this sense, he said that the unit enjoys the support of the Macedonian Government and its institutions in the upcoming of modernization and new acquisitions. He especially emphasized the cooperation that the Hawks are having with the various international organizations which are helping Hawks with donation of various specialized equipment, training, and precious know-how.

In his first-ever public speech, Boban Milanovski said that the unit now operates five helicopters and that Hawks are enjoying excellent cooperation with the units and colleagues from the police helicopter units of Slovenia, Serbia, and Germany. He also emphasized the very close cooperation with the Macedonian Air Force in the field of technical maintenance of the helicopters.

Milanovski listed the future priorities of the unit:

- to keep and improve the status of the aviation personnel,
- to improve the employee's professional capacities in cooperation with aviation training centers,
- to intensify cooperation with other police aviation units,
- and to modernize the aircraft fleet.

"Having in mind the demonstrated readiness of the Ministry of Interior's leadership, these goals are not unattainable. On the contrary, they are both realistic and achievable", Milanovski ended his speech.

The event proceeded with Milanovski awarding plaques and recognitions to various members of Hawks to the family members of four late pilots: Dragi Micev, Marjan Trajković, Iljo Lopatički, and Tode Oreškov – all of which perished in the evening of 10 July 2014 when their Mi-17V-5 (registered MAP-7712) went down near the city of Strumica while executing a NVG-supported night training flight.

The event was closed with a 30-minute demonstration by the crew of the 2000-build Bell 412EP helicopter (c/n 36260, ex-N9026S, Z3-HHC and MAP-7752) of a rescue hoist-supported extraction of a paraglider pilot that came down in inaccessible terrain and was severely injured.

Officially, established on 27 November 1969 with pilot Vladimir Trajković as its first Chief of the unit, the Hawks are now part of BJB as a subordinated department that is officially named Department of Aviation Units (Oddel za vozduhoplovni edinici). The department is divided in two subordinated helicopter units: the Idrizovo-based Helicopter Unit for Police Purposes (Helikopterska Edinica za Policiski Nameni, HEpolN) operating the AB.206B (Z3-HHD), AB.212 (MAP-7751, to soon became Z3-HHE), and Bell 412EP (Z3-HHF); and the Petrovec/Brest-based Helicopter Unit for Special Purposes (Helikopterska Edinica za Posebni Nameni, HEposN) that operates one Mi-171E (MAP-7710) and one Mi-17V-5 (MAP-7714).

The helicopter unit of the Macedonian police deserves to be finally modernized with at least three brand new twin-engine helicopters (examples of aircraft that should be of interest to Hawks: Leonardo AW169, Leonardo AW139, Airbus H145M, Airbus H215 Super Puma, Bell 429, and Subaru-Bell 412EPX) properly equipped for police and border protection missions. Expectations are that any such investment would not only achieve unification of the fleet (that is now made of five aircraft of four different types) but would also allow the potential transfer of some of the current helicopters to other Macedonian institutions that may still utilize them for years. For example, the future aviation unit of yet to be reformed protection and rescue system may in this way come in possession of five aircraft: three Air Tractor AT-802 Fire Boss fire-fighting planes (Z3-BGT, Z3-BGU, and Z3-BGV) and two MVR-owned helicopters an Agusta-Bell AB.212 and Bell 412EP. These two helicopters recently received new engines and are already equipped for firefighting, SAR, air medical transport, and missions for transporting people, food, and equipment, which makes them perfect for serving the disaster relief institution. On the other hand, with brand-new helicopters in service, the Macedonian police (just like the Army when it receives its Leonardo AW149 and AW169M helicopters) could refocus on its traditional tasks (police and border surveillance), while at the same time being available to serve as support to the civil protection system, if and when needed.

The only unknown that is hardly solvable in this proposed equation is the shortage of aviation personnel and the shortage of interest among young people to join the aviation call, a huge problem that is not only typical for Macedonia but also for all the Balkan nations and far beyond.

Above: Bell 412EP fly-by and a parked Agusta-Bell AB.206B

Below: Winching demonstration with the Bell 412EP

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