

MILITARY FLIGHT THROUGH TIME

20th Iustrum Dutch Military Aviation



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This year marks the 100th anniversary of Dutch military aviation. Quite a number of aircraft have made their entry and served the Netherlands throughout the past couple of years. The 20th Aviation Department of the VSV 'Leonardo da Vinci' takes special interest in this lustrum celebration and therefore presents you some unforgettable milestones from the past decades.

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THE EARLY DAYS

What once started out with four pilots and a rented aircraft, soon turned out to become an organization with a large collection of aircraft flying in Dutch airspace and beyond. Starting 100 years ago with a single serving trainer aircraft, De Brik, innovation delivered the era of the jet aircraft commencing with the Gloster Meteor from Britain. Modernization of aircraft kept increasing throughout the years and brought us, amongst other, the F16 in the 1970s, and the Chinook in the 90s which are both still serving today.

TAKING OFF WITH DE BRIK

When the Dutch Military Aviation Department took off in the year 1913 a single-seater aircraft was rented from the designer, Marinus van Meel. A rent of eleven euros per day allowed the Department to fly De Brik, with First Lieutenant F.A. van Heyst as pilot. Later, the plane became property of the Department for 1,600 euros and served to train the very first Dutch pilot candidates.

This wooden trainer aircraft flew on gasoline and was powered by a 7-cylinder Gnome rotary engine. The wing surface was 46.5m² and it had a length, span and maximum weight of 11m, 16m and 500kg respectively.

Soon new aircraft made their entrance in the Department, but the legendary De Brik will always be remembered as the aircraft with which the Dutch Military took off.

GLOSTER METEOR INITIATES JET FIGHTER ERA

With the introduction of new combat aircraft at the end of the Second World War a new era began, the era of jet fighters. The British and German Air Force had already introduced the first jet combat aircraft when in 1948 the British Gloster Meteor was introduced in the Dutch Military Aviation Department.

With the arrival of this new jet fighter, the propeller combat aircraft were not replaced immediately. The old Spitfire was

still in use up and until 1954. However, the Gloster Meteor left its mark on the period of 1948 through 1959 in which 266 aircraft of this type were acquired. When in 1949 the first eight Meteors arrived in Leeuwarden, this became the first operational jet base in the Netherlands.

The first test flights of this fighter, manufactured by Gloster Aircraft Company, took place in 1944. The full-metal plane had low-mounted straight wings and a wing span of 11.32m. It had a high-mounted tailplane and was equipped with a tricycle landing gear. The Meteor was powered by two Rolls-Royce Derwent turbojet engines. With these engines, the aircraft could reach a maximum speed of 965km/h. Since these Derwent engines used up almost 18,000L of kerosene per hour, the range of the aircraft was only 965km. Therefore, the Meteors were mostly used for interception purposes only.

Besides being the first jet fighter of the department, the Meteor also gave a boost to the Dutch aircraft industry. In 1949 an



KONINKLIJKE LUCHTMACHT

Figure 1. De Brik in 1913 with First Lieutenant F.A. van Heyst

improved version of the Meteor was produced in the Netherlands. This caused a fast recovery of the Dutch aircraft industry between 1949 and 1954. On the 6th of April in 1954, the last Meteors were assigned to the Air Force. The Meteor had served the Air Force very well, yet the aircraft industry was modernizing quickly: the production of new jet fighters breaking the sound barrier had already started.

GOING SUPERSONIC WITH THE F-16 'FIGHTING FALCON'

Since the establishment of the Dutch Military Aviation Department in 1913, the aircraft industry went through a lot of developments and improvements. Many marvelous aircraft had already served the Air Force when in June 1979 the F-16 'Fighting Falcon' was introduced in the Netherlands. This aircraft still serves the Dutch Military Aviation today.

Halfway through the 90's the F-16 went through an overhaul. This new version of the F-16, the F-16 'Fighting Falcon MLU (Mid Life Update)' was needed to optimize the functioning of the aircraft in the upcoming years. Studies have proven that the F-16 was technically able to have a longer life time than the estimated 20 years which was used as a guideline. However, the operational equipment had to be modernized and therefore the MLU-program was set up. This MLU-program assured that F-16's were able to function optimally during night and bad weather conditions.

With a span of ten meters, including its missiles, the F-16 has a smaller width than the first jet fighter, the Meteor. The F-16 'Fighting Falcon MLU' has an empty weight of about 11,000kg and a maximum weight of 16,000kg. The aircraft, produced by Lockheed Martin (former

General Dynamics), is powered by one Pratt & Whitney 100-PW-200E turbojet. With the power of this engine, a maximum speed of 2,000km/h can be reached. The range of the F-16 is much higher compared to the range of the first jet fighter. In contrary to the 975km that the Meteor was able to fly without refueling, the F-16 is able to fly 2,700km.

Since 1979, the Air Force has purchased a total of 213 of these aircraft, of which 177 were single-seated and 36 were double-seated. Of this total of 213 aircraft, 87 are still used today. The expectation is that from 2015 onwards, the F-16 will be replaced by a new aircraft.

BOEING CH 147 CHINOOK AS SERVING HELICOPTER

Jet aircraft were not the only vehicles which improved throughout the years. Helicopters have played a major role in the Air Force to provide transportation for militaries, weapons and equipment. In 1993 seven Chinook helicopters were delivered in the Netherlands and soon these were equipped with new modernized systems.

The maximum weight of the Chinook is 24,494kg and fast (un)loading is facilitated through a large entrance in the back of the vehicle. Larger cargoes are transported underneath the helicopter, using three cargo-hooks. These front- and back hooks and the central hook can carry a weight of 9,072kg and 12,700kg respectively. As for the transportation of military personnel, the Chinook can carry 33 people. Another 24 people can be seated on the floor in an operational condition.

The Chinook is mainly recognizable by its triple-blade rotor blades located on the front and aft of the vehicle. Power is generated by a set of two Honeywell turbo-

shaft engines with each a maximum continuous power of 3,069kW. The maximum velocity reaches 315km/h and a range of 250km is the minimum constraint for this vehicle.

TIME KEEPS AMAZING

With these amazing 100 years to look back to, developments of aircraft in the Dutch Military Aviation have been impressive. Innovation keeps amazing the world of aviation and continues delivering new high tech systems. On the memorable day in 1913 on which the national Military Aviation took off, a supersonic jet was still a dream. Today's high tech systems, aerodynamic qualities, engine capacities and the increasing rate of innovation were futuristic concepts at the time. Considering the development of technology today, we may wonder: what will the next century bring? ✈

CONTACT

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References

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Aviation Department

The Aviation Department (LVD) of the Society of Aerospace Engineering Students 'Leonardo da Vinci' fulfills the needs of aviation enthusiasts by organising activities, like lectures and excursions in the Netherlands and abroad.

