Requiem for an aircraft type family: the MiG era in Hungary

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The era of the MiG aircraft was a major chapter in Hungarian military aviation. During this period, the Air Force possessed a fleet of high-quality fighters ranked close to the world’s top combat aircraft at peace time with a sufficient number of state-of-the-art aircraft, flight hours and qualified technical service crews. Hungarian military pilots deserve the greatest praises in tribute to their work that demanded immense sacrifice and took a horrible toll as 79 pilots died flying MiG fighters. They will be remembered forever.

Introduction

As determined by the military command, the MiG-29 aircraft are bound to terminate its service in Hungary on 31st December 2009. From the beginning of 2009 Swedish produced Gripens provide Quick Reaction Aircraft, at first in relays with MiG-29s. Evidently, this decision may still be shaped by a variety of factors that, at best, would temporarily delay withdrawal of the MiG-29 aircraft type from the fleet but will not change the fact that a 58-year long chapter of Hungarian military aviation history is at an end.

A requiem must also be sung for the MiGs because no other aircraft series ever served in Hungary for so long and in such a high number during peace time. My calculations show that in the past 58 years, 581 MiGs have been flown by the Hungarian Air Force, excluding the number of replacements for crashed aircraft. The total number of MiG aircrew estimated at 1,500 to 1,600 is also unprecedented for any other military aircraft series in Hungary (the exact number is not known).

From the 17 pilots assigned for retraining, Wing Commander ISTVÁN MEZŐFI was the first Hungarian air officer, to fly solo a MiG-15 jet fighter on 24th August 1951.

History

The MiG-15 (NATO code: Fagot A-B) were flown in Hungary until 1975. The aircraft type heralded a new era in aviation history as prop planes were replaced by jet aircraft capable of flying at a speed of 1,000 kilometres per hour. However, this change took its
toll since 35 MiG-15s crashed, 39 aircrew died and 4 ejected successfully during the 24 years of service. Three versions of the aircraft type were flown in Hungary: 62 MiG-15s (powered by the RD-45 engine, a copy of British Rolls-Royce Nene 1), 103 MiG-15bis-s (powered by the VK-1 engine) and 67 MIG-15 UTI two-seater trainers, making up a total fleet of 232 MiG-15s.

Following the 1956 revolution, 62 MiG-15s and 11 MiG-15bis-s fighters as well as 21 MiG-15 UTI trainers – representing half of the fleet – were transferred back to the USSR. The aircraft type introduced novel features to Hungarian aviation due to its swept wings, a maximum flight speed of over 1,000 kilometres per hour, the ejection seat, and the hydraulic aileron actuator. It was equipped with an armament of two 23-mm and one 37-mm cannons that had considerable fire power. The aircraft made a combat debut in the Korean War and proved highly successful before the launch of the US F-86 Sabre fighter.

Hungary had several interesting incidents with the MiG-15s. On 21st January 1956, the MiG-15 Quick Reaction Aircraft pair of the 24th Fighter Regiment at the Sármellék base was alerted to intercept an airspace violator. While flying above Lake Fertő, the two aircraft encountered a pair of Soviet MiG-17 fighter which had also been sent from Pápa airbase to intercept the same plane. The two pairs of aircraft identified one another as aerial target with the Soviet fighters opening fire at the Hungarian aircrew who returned it. In the air battle, Flying Officer SÁNDOR MAGYAR crashed with his plane and died on Austrian territory while one Soviet pilot ejected. Both the Soviet and the Hungarian military commanders attempted to disguise the case as a collision which, as a matter of fact, resulted from the lack of cooperation between the Hungarian Army and the Soviet Air Force units stationed here. In the days of the 1956 revolution, a pair of MiG-15bis aircraft based at Kecskemét was sent on a mission to disperse the crowd gathering in Tiszakécske. The escort fighter returned to the base after the pilot reported technical failure. However, Pilot Officer GÉZA TAKÁCS launched several air strikes and also fired at the people under unclear circumstances. The unjustified act of firing resulted in a death toll of 18 and over a hundred injured. Squadron Leader BÍRÓ and Flying Officer ZOBOKI defected to the Aviano military airbase in Italy with the same aircraft type in 1969 and 1971, respectively.

The next aircraft type is the MiG-17F (NATO code: Fresco A) fighter (where F denotes the afterburning mode of operation), from which 20 were purchased by Hungary and based at the Kecskemét military airport. After several months of flight service and the occurrence of the 1956 revolution, all of them were transferred back to the Soviet Union and never returned. The aircraft had an armament of two 23-mm and one 37-mm cannons.
The MiG-17 PF (NATO code: Fresco B) is an all-weather interceptor fighter with an airborne radar and an armament of three 23-mm cannons. The aircraft type was put into regular operation in 1956 with the 12-fighters split equally between the air force bases of Taszár and Kecskemét in the initial period (all of them were transferred to Kecskemét later). Following the 1956 revolution, all of the aircraft were transferred back to the USSR by the Soviet Army and returned in the autumn of 1957. The aircrew had two-phase training in the USSR. During the 24 years of the MiG-17 PF in service, one aircraft was destroyed and one pilot died in training in the USSR. In Hungary, the 1960 air crash took the life of Wing Commander István Mezőfi, the same pilot who flew solo first a jet fighter back in 1951.

The MiG-19 PM (NATO code: Farmer C), the two-engine interceptor fighter debuted in Hungary in 1959 and served for a relatively short period of 12 years. This aircraft type had a maximum speed of Mach 1.4 and opened new horizons in supersonic flight. The 12 aircraft were all put in service at the Taszár airbase. The fighter was equipped with airborne radar and four radar-guided air-to-air missiles but with no cannons (self-defense armament). During its operational period, three aircraft crashed and two aircrews died.

The MiG-21 aircraft family, the world’s most built supersonic fighter, was launched in Hungary in 1961 and became the mainstay fighter of Hungarian Air Force squadron for 39 years. This record can be attributed not only to the six versions built and the total fleet of 261 aircraft but also to the high number of flight hours and aircrew. Due to the high landing speed and a combination of other flight specifics and technical characteristics, this delta-winged fighter did not have a sufficient level of safety. It is proven by the fact that 75 MiG-21 aircraft (28.7 per cent of the fleet) crashed and 30 pilots died whereas 42 aircrews survived as a result of 40 ejections. Interestingly, MiG-21s were repaired at the Pest Region Machine Factory in Hungary. During the 35-year period of service, approximately 500 aircraft had regular repairs and general overhauls here, which generated a significant amount of industrial capacity, highly qualified jobs and intellectual capital.

The first member of the aircraft family was the MiG-21F-13 (NATO code: Fishbed A) or Type 74, alternatively, as referred to by the Soviet designers and constructors for reasons of confidentiality. When the aircraft type was put into regular service, no two-seater trainer version had yet been developed. This factor, combined with the difficulties of operational conversion to a new generation fighter and the often immature and unproven technical systems, contributed to the worst accident rate within the aircraft family, as 37.5 per cent of MiG-21F-13s were destroyed and 12 pilots died. The aircraft was a frontline fighter with excellent vertical manoeuvring capability, a 2.05
Mach maximum speed and a flight ceiling of 18 kilometres. However, its armament was far from being state-of-the-art since the aircraft had no airborne radar. It carried two infrared-guided air-to-air missiles and was equipped with one 30-mm built-in cannon. Deployment was restricted to good visibility conditions. MiG-21F-13s were based at all three Hungarian military airports (Pápa, Taszár and Kecskemét), and served for the longest period with the Kecskemét squadrons until 1976. An interesting incident happened in 1973 during the Yom Kippur War, when 10 MiG-21F-13s were transferred to Syria and test-flown by Hungarian pilots. No information is available as to the effectiveness of “international assistance” provided to the Syrians.

The second member of the aircraft family was the MiG-21PF (NATO code: Fishbed B) or Type No. 76. In 1964, twelve combat interceptors were put into service at the Pápa airbase, followed by another dozen fighters of the same type at Taszár airbase. MiG-21PFs were the easiest to fly within the aircraft family, enjoying great popularity among pilots due to an outstanding climb rate and manoeuvring capability with benevolent flight characteristics. The airborne radar made it deployable in all weather conditions. The aircraft was armed with two radar-guided air-to-air missiles but the lack of cannons (self-defense armament) reduced its combat value. Till 1989, seven fighters were destroyed and two aircrews died.

The third member of the family was represented by the MiG-21 MF (NATO code: Fishbed C) or Type No. 96. Fifty aircraft arrived in Hungary in 1971 to serve as the “primary-echelon” air defense forces at the Pápa and Taszár airbases initially. In the last period, all of the remaining operational fighters were relocated to Kecskemét where they continued to fly till 1983. The most important modification compared to former models of the series was that MiG-21MFs carried four air-to-air missiles under the wings and had a double-size spine fuel tank. Also novel was the truly 3-axis autopilot with altitude hold, unusual attitude recovery and automatic terrain clearance hold, meaning that in any situation, the aircraft will transition into horizontal flight once the pilot presses a button. Additionally, the fighter was re-equipped with one 23-mm double-barrel cannon. During the years of service, nine aircraft were destroyed and three pilots died, thus the MiG-21MF model had the lowest accident rate with 18 per cent.

The fourth member of the aircraft family was the MiG-21bis (NATO code: Fishbed M) or Type No. 75A/AP with the strongest technical performance and the most universal functionality. The fighter was put into service in 1975 with delivery phased out till 1979, making up a fleet of 62 aircraft based at the Pápa and Taszár military airbases. The state-of-the-art avionics system and the autopilot provided a sense of comfort and safety to the pilot. Due to its novel architecture, the airborne radar was more resistant to disturbance where cooling by distilled alcohol proved a highly popular
The aircraft engine had an “emergency power” option to be activated at high flying speed for a limited period of 3 minutes with an excessive fuel consumption rate. The fighter had four modernized infrared and radar-guided air-to-air missiles as well as one 23-mm double-barrel cannon. Interestingly, the aircraft type was able to carry a nuclear bomb that Hungary never possessed. MiG-21bis fighters had the second worst accident rate after F-13s as 20 aircraft (30 per cent of the fleet) were destroyed and three pilots died till 1996.

The aircraft family was extended by its fifth and six members being the MiG-21U/UMs or Types No. 66 and 69. From this two-seat combat trainer, 45 were delivered to Hungary from 1965. The aircraft had neither airborne radar, nor built-in cannon (where the latter was replaced by a bottom-mounted 12.5 machine gun) but two infrared-guided air-to-air missiles could be mounted under the wings. Shadowed by the headrest of the first seat, the instructor had no unobstructed view. The relatively good accident rate (20 per cent) of the type is worsened by the fact that 7 pilots died in 9 aircraft crashes as a result of the two-seat construction. In 1985 and 1986, nine trainers were sold to India.

The variable-wing interceptor fighter MiG-23 MF/UM (NATO code: Flogger) was put into service in Hungary in 1979 to be flown till 1995. Sixteen MF combat fighters (NATO code: Flogger-B) and UM two-seat trainers were based at the Pápa military airport. The aircraft had revolutionarily new take-off and landing characteristics, however, it did not meet the expectations in terms of many other combat specifics. The fighter carried an armament of four to six radar- and infrared-guided air-to-air missiles and one 23-mm double-barrel cannon. The airborne radar had a missile guidance range of 25 to 30 kilometres. Aircraft service was extremely time – and labour – extensive due to a high number of in-flight failures and a short lifetime of the fuselage structure. During the 18-year service period, 5 aircraft crashed, 5 pilots died and 2 ejected successfully. The remaining fleet was scrapped in 1997.

The MiG-29B/UB (NATO code: Fulcrum) type was launched in exchange of the Russian state debt. 22 combat aircraft and 6 two-seater trainers arrived at the Kecskemét air base in 1993. The twin-tail twin-engine fighter is equipped with six air-to-air missiles and one 30-mm cannon. The airborne radar has 80-kilometre reconnaissance and 40-kilometre target acquisition range. The aircraft also has a thermal detector for passive reconnaissance and a helmet-mounted aiming system. The superb flight and manoeuvring capability of the MiG-29 is comparable to that of fourth-generation Western fighters. The excellent ejection system will safely save the pilot’s life in all flight situations including the ground idle position. Nonetheless, the short flight time of the engine, the high fuel consumption rate, the relatively limited operating range and the
obsoleteness of electronic systems have all made it an out-of-date fighter by now. During 15 years of service, three aircraft crashed and one pilot died.

**Conclusion**

As a summary, it can be concluded that the era of the MiG aircraft opened a new chapter in Hungarian military aviation. During this period, the Air Force possessed a fleet of high-quality fighters ranked close to the world’s top combat aircraft at peace time with a sufficient number of state-of-the-art aircraft, flight hours and qualified technical service crews. Hungarian military pilots deserve the greatest praises in tribute to their work that demanded immense sacrifice and took a horrible toll as 79 pilots died flying MiG fighters. They will be remembered forever.

**Bibliography**

1. DÉSZŐ, IVÁN: *History of the Aviation Troops of the Hungarian People’s Republic Army From 1945 to 1980*