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# Scramble



*Advanced Training from Tigers to Hawks*  
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# Advanced Training from Tigers to Hawks

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Unfortunately the Royal Jordanian Air Force ceased operational missions with its F-5s. However, the RJAF Historical Flight will remain operating two F-5s for special events. Here 1753 touches down at its home base Prince Hassan AB - H5, after such a ceremonial mission. (H5, 25 November 2015, all photos taken by the authors)

## The end of the Jordanian F-5 in active service

In December 2015, the Royal Jordanian Air Force (RJAF) or al-Quwwat al-Jawwiya al-Malakiya al-Urduniya ceased operating the last remaining Northrop F-5E and F-5F Tiger II aircraft. Since the introduction in 1974 of the first F-5A and F-5B Freedom Fighters, the type became very popular for both frontline pilots, as well as those following their Advanced Training and conversion on it. A whopping 42 year operational life-span and the recent replacement of the iconic type, are reason enough for Marco Dijkshoorn and Patrick Roegies to look at the type's career in Jordan.

In the early '70s the RJAF was still operating former Royal Air Force Hawker Hunters that were delivered from the late '50s onwards as well as ex-Taiwanese F-104A/B Starfighters that were delivered between 1969 and 1972. Despite the fact that Jordan was not actively involved in the 1973 Yom Kippur War, it was very clear that the RJAF inventory needed an upgrade, was it to stand any chance against a future aggressor. The U.S. agreed to the transfer under the Military Assistance Program (MAP) of ex-Imperial Iranian Air Force (I.I.A.F.) F-5A single seat and F-5B trainers, which started arriving in batches between 1974 and 1977. The F-5A/B became the backbone of the fighter-force of the RJAF and the aircraft was used by several squadrons.

### Deliveries and transfers:

29x F-5A's were transferred from the Imperial Iranian Air Force from 1974 onwards of which 26 transferred to Greece between 1983 and 1988, while three went to the U.S. civilian market of which two or three ended up in service with the Philippines Air Force in the mid '90s.

9x F-5B's were delivered from Iran to Jordan, directly followed by two F-5B's supplied under MAP in March 1974. Eight went to Greece between 1983 and 1988 and one subsequently went to the U.S. civilian market.

61x F-5E's were supplied between 1975 and 1978 under FMS of which seven were transferred to Singapore in 1994, eight went to Brazil from August 2008 onwards and thirteen were sold to Kenya in 2010.

12x F-5F's were supplied between 1976 and 1980 under FMS, which was followed by one ex-Sudan AF example in 1980. Of the F-5F's, three went to Brazil from August 2008 onwards, two were sold to Kenya in 2010.

The first flight of an F-5E Tiger II in Jordan was on 10 May 1975 and with the introduction of the new version, the F-5 fleet was at its most diverse. F-5A/B Freedom Fighters and F-5E/F Tiger IIs were operating together in both the Advanced Training, Interdiction and Ground Attack roles.

With the introduction of the Saudi-sponsored Dassault Mirage F1BJ and Mirage F1CJ in 1981, a formidable fighter was added to the inventory, rendering the F-5A and F-5B Freedom Fighters outdated and obsolete. Armed with R.530 Matra medium to short range air-to-air missile and the R.550 Magic short-range air-to-air missile, the Mirage F1 replaced the F-5 as the main front-line fighter. Shortly after the introduction of the Mirage F1, a Military Assistance Program deal to transfer a number of F-5A's and F-5B's to Greece was agreed and the aircraft changed ownership once again. By 1988, only the Tiger II was left in service with the RJAF.

The armament of the F-5 was rather rudimentary but effective. Mk82 General-Purpose Bombs and AIM-9J short-range



This is a cockpit shot of F-5F 1753/79-1917 that was supplied under MAP to Jordan. It is very clear to see why the F-5 was not the best Lead-in Fighter Trainer for pilots ready to convert to the F-16BM.



Most of the F-5E and F-5F aircraft that are now kept in pristine condition at H5 Air Base, will be sold off to TacAir in Reno, Nevada where they will be used to train pilots again. 1755 is the first in row of the F-5s that await their second life in the United States.

air-to-air missile as well as Mk20 Rockeye free-fall cluster bombs could be carried. The F-5E fleet received an upgrade in 1989 that was eventually paid for by selling off seven aircraft to Singapore. The prime contractor for this programme was Smiths Industries, from Grand Rapids (MI). The upgrade included heads-up navigation and targeting equipment, radar altimeter as well as a heads-up display weapon-aiming computer (HUD/WAC) and BAe LINS 300 ring Laser gyroscope Inertial Navigation System and an Electronic Warfare suite. Plans for forward-looking infrared (FLIR) were delayed, as well as the acquisition of the Selenia ALQ-234 ECM pod and both modifications never materialized.

#### RJAF squadrons operating the F-5

**1 Squadron** was formed in 1958 and started operating the ex-RAF (but US-funded) Hawker Hunters. It was equipped with F-5A and F-5Bs when the first deliveries commenced in 1974. With the introduction of the Mirage F1, it lost the F-5s and it moved from King Hussein Air College (KHAC) to Shaheed Muwaffaq Al-Salti AB (MSAB, al-Azraq). It now operates the F-16AM and F-16BM.

**2 Squadron** was formed in 1958 and operated the de Havilland Vampire and later switched to the Hawker Hunter of which the RAF had supplied a few dozen more. In 1974 it converted to the F-5A and F-5B, which were operated in the advanced training role as part of the King Hussein Air College at Mafraq. When the CASA 101CC was introduced in 1987, it transitioned to this type and it lost its F-5s. It is now the Operational Conversion Unit (OCU) on the F-16AM/BM and operates out of al-Azraq.

**6 Squadron** was formed in 1971 at Mafraq as an Operational



Preparing for the flight. The '1753' is still in pristine condition and the H5 base commander is ready to show what this F-5F is still capable of. Twelve F-5Fs were delivered to the RJAF from 1976.

Conversion Unit with Hawker Hunters. The Hunters were replaced by the F-5A and F-5B in 1974. On 31 March 1985, the Squadron number was exchanged with 11th Squadron and named as 6th Reconnaissance Squadron. In the process, 6th Squadron moved to al-Azraq, while 11th Squadron made the transition to the CASA 101CC. 6th Reconnaissance Squadron moved from al-Azraq to Prince Hassan AB (PHAB) - H5 in February 1988 where it fulfilled Air Defence, Close Air Support (CAS) and Photo Reconnaissance missions. From 1988 it made the full conversion to the F-5E and F-5F and operated the type until 2003, when it transitioned to the F-16AM and F-16BM. It also moved to King Feisal bin Abdul Aziz AB - al-Jafr, but in 2014 all the F-16 units were centralized at al-Azraq to support the fight against ISIS.

**9th Squadron** was formed in 1969 with the F-104A and F-104B and in 1977 converted to the F-5A and F-5B. Initially based at Prince Hassan AB - H5, it moved to al-Jafr in 1992 when it was already operating the F-5E and F-5F for some years. Its role was air Defence and Ground Attack and it remained flying the F-5 well into the 2000s. 9th Squadron is now operating out of King Abdullah II (KA) where it operates the Falco UAV and the S-100 Camcopter UAV, as part of the Prince Hussein II ISR Wing.

**11th Squadron** was established as a fighter squadron, operating the F-5A and F-5B, on 6 January 1978. Its primary roles were Air Defence and Ground Attack. Initially based at Prince Hassan AB - H5 and later al-Azraq, it exchanged squadron numbers with 6th Squadron on 31 March 1985. From that moment on it became the Advanced Training squadron on the T-37B at the King Hussein Air College in Mafraq. From 1987 onward, the CASA 101CC replaced the T-37B. The RJAF recently acquired nine PC-9M trainers that will replace the CASA 101CC's of 11th Squadron during 2017.

**17th Squadron** was established as a fighter squadron on 12 March 1973 and was equipped a year later with the F-5E and F-5F. Initially it was assigned the Air Defence and Ground Attack roles, but in 1987 it was converted to an Operational Conversion Unit. It has always operated out of Prince Hassan AB - H5 and has since 2015 been converted to the BAE Hawk Mk63, that were donated by the United Arab Emirates.

#### Tigers Second Life

In 1994, seven aircraft were sold to the republic of Singapore Air Force and after conversion by Singapore Technologies Aerospace to F-5S, they entered service with 144 Squadron and 149 Squadron at Paya Lebar. The RJAF had to sell these because they needed the money to pay for a vital upgrade programme that was completed a few years earlier, but which had drained the funds.



*This page is dedicated to show some of the colour schemes sported by the RJAF F-5 fleet. 650 is ex 78-0791 and was delivered as 1150. It is painted in the three-tone beige/brown/green colour scheme.*



*643 is ex 78-0803 and was delivered as 1143. Its bare metal livery looks fantastic against the blue skies of Jordan.*



*925 is ex 75-00492 and it has a worn-down version of the three-tone colour scheme worn by the 650 above. The weathering process has given it a very weird but attractive look.*



*In the break! 1753 demonstrates its agility during its display over H5 Air Base. Hopefully it will display its skills during air shows and ceremonies for many years to come.*

Between 2008 and 2009, eleven Tigers were sold to the Força Aérea Brasileira and fifteen were sold to Kenya to start their second life. The first three ex Royal Jordanian Air Force F-5Es arrived by Volga-Dnepr An-124 at PAMA-SP (Parque de Material Aeronáutico de São Paulo Marte), Brazil on 19 August 2008. They were the first deliveries of a total of eleven aircraft that were sold by Jordan to Brazil, seven of these were earmarked for the F-5M/FM modernization programme, but by the time of writing none of them saw operational service in the Força Aérea Brasileira. Some were transported to Gavião Peixoto and it is unclear if the programme will be finished, now the Brazilian economy is in shambles.

In late 2008, fifteen surplus RJAF F-5s were transferred to the Kenyan air Force. The aircraft received an upgrade prior to their delivery at Amman-Marka by Jordan Aeronautical Company (JAC) with the help of American avionics technicians. Kenya originally operated fourteen F-5E and F-5F and the Jordanian examples were supposed to augment the existing fleet that was hardly serviceable. Since their transfer to Kenya there have been no reports of the aircraft gaining operational capability, so their status remains unclear. The deal was very controversial and government officials were accused of corruption.

### **Hawks replace the Tigers**

In late 2015, the last operational mission was flown with an F-5 in Jordan. Jordan's moderate and stability-prone political culture made sure that there was no real-life conflict for the

F-5 to play a role in, but it played a vital role in preparing the current F-16 pilots for their task at hand.

As a replacement for the venerable F-5 in the Lead-in Fighter Trainer role, the RJAF acquired thirteen former United Arab Emirates Air Force & Defence Command BAE Hawks Mk63. The RJAF would like to acquire additional BAE Hawks in the future, enabling more than one squadron to prepare pilots for F-16 operations. The plan is to upgrade the Hawk fleet with a more suitable avionics suite, making them more capable as a LIFT for aspirant F-16 pilots. The first conversion course on the Hawk trainers ended in March 2016 and a new class full of recruits is already waiting for the next course.

With the introduction of the Hawk, the F-5 aircraft were officially phased out in late 2015, after 42 years of active duty. Some of the remaining aircraft will be sold off to Tactical Air Support "TacAir", Inc. from Reno, Nevada. It is expected that they will be transported to the U.S. in the first quarter of 2016. With TacAir they will either serve as a spare parts source or they will once again perform the Advanced Training for pilots. That the RJAF itself is feeling nostalgic with this iconic plane is clear: one F-5E and one F-5F will be kept in flying condition at Prince Hassan AB - H5 for purely ceremonial purposes. The F-5s will replace the Hawker Hunter that was operated by the Royal Jordanian Air Force Historical Flight and was recently sold to the United Kingdom. Hopefully the Historical Flight Tigers can roar on for the foreseeable future.



*For many it was a surprise to learn that the F-5E and F-5F Tiger IIs were replaced by the BAE Hawk. Jordan received thirteen Hawk Mk63s from the United Arab Emirates and the F-5E and F-5F are now grounded and a number will be sold off.*