

Punching above its weight

Despite being the smallest country in Central America, El Salvador has an air force with the potential to match its neighbours and meet internal requirements, as **Arnold ten Pas** discovers.



The history of modern-day El Salvador dates back to 1841, when the country gained independence – the Federal Republic of Central America had descended into civil war in 1838 and began to break up. El Salvador borders the Pacific Ocean on the west, and the countries of Guatemala to the north and Honduras to the east. It was not until 1923 that the progenitor of today's Fuerza Aérea de El Salvador (FAS, Salvadoran Air Force) was formed, originally as the Flotilla Aérea Salvadoreña. A decade before that, in 1913, the first steps in aviation had been taken when a locally built aircraft took to the sky – unfortunately, it crashed after just 164ft (50m) in the air.

Confusingly, while the air arm uses the official name Fuerza Aérea de El Salvador on its badges, the name Fuerza Aérea Salvadoreña also appears on its website. For the sake of clarity, the first title is used throughout this article.

Once the FAS had been established, a relatively large and potent air arm was built up with US assistance, based around FG-1D Corsairs and Texans and later F-51 Mustangs and a single B-26B. In 1969, conflict broke out with neighbouring Honduras and many FAS types, including C-47s, were used as bombers in the 100 Hours War, also known as the Soccer War.

The jet age in El Salvador began in the 1970s with the delivery of 18 Ouragans and five Tzukits

(Magisters) from Israel – at that time a US arms embargo was in place. The Ouragans saw intense action during the civil war against Frente Farabundo Martí para la Liberación Nacional (FMLN, Farabundo Martí National Liberation Front) guerrillas between 1980 and 1982. The FMLN managed to destroy several Ouragans in counterattacks, prompting the FAS to acquire new aircraft. As the US weapons sanctions were dropped, the first 15 (O)A-37 Dragonflies were delivered, and survivors still soldier on today.

Air force structure

The Centro de Educación e Instrucción Militar Aeronáutico (CIMA, Centre for Education and Military Aeronautical Instruction) was established on July 16,

1987 to meet a requirement for a specialised organisation to train aviators and technical personnel. The centre reports directly to FAS Headquarters and has three subordinate units. The Escuela de Aviación Militar (EAM, Military Aviation School) traces its history back to 1923 when the Flotilla Aérea Salvadoreña was also founded, on March 20. The first students graduated during that same year. It later added the name 'Capitán General Gerardo Barrios', after the former president, and received its current name 'Capitán P A Guillermo Reynaldo Cortez' in 1983, honouring a hero of the 100 Hours War. The renamed school's inaugural class graduated two years later.

The CIMA also incorporates



Above: The pilots of A-37B Dragón serial 441 await clearance for take-off from Comalapa. The (O)A-37B was the Fuerza Aérea de El Salvador's second-generation jet, arriving from 1982 to replace ageing Ouragans once the US arms embargo was lifted. **Below:** O-2A Martillo serial 613 (c/n 337M-0395, FMS 68-11170) shares the apron with some of Comalapa's Dragóns. Note the hardpoints under the wing of the O-2. This type also entered FAS service from June 1982. All photos Arnold ten Pas



the Escuela Técnica de Mecánica de Aviación (ETAM, Technical School of Aviation Mechanics) and the Escuela de Perfeccionamiento Aeronáutico Militar (EPAM, School of Military Aeronautical Excellence) offering several courses for officers.

The EAM, stationed at Base Aérea de Ilopango, uses a single ENAER T-35A Pillán and three T-35B-3 Pillán aircraft for its basic (fixed-wing) training syllabus. Originally, seven Pilláns were delivered from the late 1990s (two T-35As and five T-35B-3s), but three have been lost in accidents. The aircraft, locally dubbed Azul (Azure), were intended to gradually replace the SOCATO MS893 Rallye 235GT Aguila aircraft in ▶

SOCATA MS893 Rallye 235GT Aguila serial 63 (c/n 13280) is one of two examples that continues to train aircrew at Ilopango. The Rallye was expected to be replaced by the ENAER T-35. Six were originally delivered.



T-35A Azul serial 70 (c/n 235) of the EAM. Five ex-Chilean Air Force T-35B-3 Pilláns were received from the late 1990s followed by two new-build T-35As in 2005. Three have been lost in accidents.



Exhibiting one of the variations in camouflage applied on the Grupo Caza y Bombardeo's Dragón fleet, this is A-37B serial 442, with white undersides. The first batch of six 1973-built aircraft was delivered from surplus US stocks in June 1982.

use since 1979, but two of these aircraft are still in use with the fleet, together with a single T-41.

Aspirant pilots start with 20 hours on the simulator before transiting to the Rallye. After 20-30 hours on this type, another 20 hours of simulator time is required, to prepare for the T-35. Both the Rallye and T-35 simulators were developed in El Salvador, using airframes withdrawn from use, after serious technical issues experienced with the ENAER-provided T-35 simulator over a longer period. The final component of the course is completed on the single Cessna 337G.

For rotary-wing training, the EPA has four Schweizer TH-300C Halcón (Falcon) helicopters that have been in service since 1986. Helicopter pilots start their career with 20 hours on a TH-300 simulator, again locally built, before they can begin flying on the actual helicopters. The syllabus consists of 50 hours of training on the simulator and actual TH-300 combined.

After completing basic training, fixed-wing pilots either go to the Grupo de Transporte (Transport Group) flying the IAI-202 Arava and Basler BT-67, or the Grupo Caza y Bombardeo (Fighter and Bomber Group) flying A-37s. Helicopter pilots make their way to the Grupo de Helicópteros (Helicopter Group) where they may fly a variety of types.

Primera Brigada Aérea

Sharing the Ilopango facilities with the EAM is the Primera Brigada Aérea (1st Air Brigade), founded





Grey-painted IAI-202 Pegasus serial 801 (c/n 0104) operated by the Grupo de Transporte. The aircraft was provided by Israel and previously served with the Israeli Air Force as serial 205. Two of the three ex-IAF aircraft remain in use.

Heading here



under its current name in 1994, and consisting of two units: the Grupo de Helicópteros and the Grupo de Transporte. The latter uses, in theory, two types: the IAI-202 and the BT-67. The FAS has a long history of flying several C-47 subtypes since the 1960s, but currently only two converted Basler BT-67s remain in the inventory, from a total of four delivered. However, one of them is currently in operational storage while the other recently suffered an accident and is awaiting final checks before re-entering service. The main tasks of the BT-67s are transport, support of special forces units and narcotics interdiction missions. For counter-drugs work, the aircraft are fitted with forward-looking infrared (FLIR) sensors and machine guns. Another veteran type, albeit more up-to-date than the BT-67, is the Arava, known locally as the Pegasus

(Pegasus). Three former Israeli Air Force airframes were delivered in 2008. Two of them remain in service for transport duties, while the other is in storage. For training and liaison duties the Grupo de Transporte makes use of two

Cessna 210s and a single Rockwell International Commander 114.

The Grupo de Helicópteros operates a mixed fleet of types. Five Bell 412EPs are used, one of which is configured for VIP duties, together with eight MD500Es

and nine UH-1Hs. In addition, single examples of the Bell 206 and Bell 407 are employed for government VIP flights. Most of the UH-1Hs are awaiting upgrade to UH-1H-II standard, but it's unclear if this will ever materialise. ▢



Above: Sinister-looking UH-1H serial 292 of the Grupo de Helicópteros. Most of the UH-1Hs were expected to be modernised to UH-1H-II standard, but the only example completed to date was lost in an accident, on November 26, 2016, killing all four on board. **Left:** A-37B serial 424 (c/n 43533, FMS 73-1113) awaits its next mission. The jet carries the dragon badge of the Grupo Caza y Bombardeo prominently on the tail fin. In recent years, the (O)A-37B fleet was boosted by the arrival of ten former Chilean examples. **Below:** Bell 412EP serial 252 (c/n 36285, ex N1046G) assigned to the Grupo de Helicópteros. The same serial was previously applied to a UH-1H written off in January 1982. The 412EP is known in FAS service as Centella – meaning Spark.



Segunda Brigada Aérea

After completing training at the CIMA, fixed-wing pilots selected for the A-37 are transferred to Base Aérea de Comalapa, home of the Segunda Brigada Aérea (2nd Flying Brigade). The Segunda Brigada Aérea was formed in 1968, shortly before the 100 Hours War. Generally speaking, new pilots require around 40 hours of conversion on the A-37 before they are declared fully operational. Besides the A-37, the unit flies six O-2s for liaison duties and training. El Salvador has been flying the (O)A-37 Dragón since 1982, when the first 15 aircraft were delivered from the US. Another ten examples were delivered from Chile more recently and had arrived by March 2014. Currently, the FAS has 14 A-37s on strength.

Operations Torogoz and Gavilan

Despite the fact the FAS has only limited funds and operational capacity, it remains a dedicated participant in peacekeeping operations in Mali under the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA). Three MD500Es, 13 pilots and 90 other personnel were initially based at Timbuktu, supporting the quick-reaction forces operating from there. The operation is known as Torogoz, after El Salvador's national bird – the turquoise-browed motmot – and is currently in its fourth rotation since 2015: Torogoz IV.

Last December, the FAS deployed three more MD500s to Mali, shipping the rotorcraft to Gao, where they replaced the four German Tiger attack helicopters that had departed earlier in the year. This deployment, named Gavilán I (Sparrowhawk I), brings the total FAS personnel involved in Mali to over 200.



The unique Cessna 337G serial 608 is still flown by the EAM and is used by pilot cadets to complete the final phase of their instruction.

Fuerza Aérea de El Salvador air order of battle (1)

Unit	Types
Base Aérea de Ilopango	
Centro de Educación e Instrucción Militar Aeronáutico (CIMA) (2)	
Escuela de Aviación Militar 'Capitán P A Guillermo Reynaldo Cortez' (EAM) (3)	T-35A Azul, T-35B-3 Azul, TH-300C Halcón, Cessna 337G, T-41D, Rallye 235GT Aguila
Escuela Técnica de Mecánica de Aviación (ETAM) (4)	Instructional airframes
Escuela de Perfeccionamiento Aeronáutico Militar (EPAM)	
Primera Brigada Aérea (5)	
Grupo de Helicópteros (6)	Bell 412EP Centella, UH-1H Guardián, UH-1M Cazador, MD500E Guardiancillo, Bell 206L-3, Bell 407
Grupo de Transporte (7)	BT-67, IAI-202 Pegaso, Cessna 210, Commander 114
Base Aérea de Comalapa	
Segunda Brigada Aérea (8)	
Grupo Caza y Bombardeo (9)	(O)A-37B Dragón, O-2A/B Martillo



Above: Schweizer TH-300C serial 153 (c/n S-1223) serves with the EAM for rotary-wing training. The first of six entered service in May 1986 but one example was badly damaged during an emergency landing in April 2010. Four remain in use today. Below: MD500E serial 42 (c/n 0214E). The Guardiancillo is the mainstay of the FAS contribution to the MINUSMA peacekeeping mission in Mali. A total of 11 examples were delivered between September 1985 and August 1999, followed by another three that entered service in October 2012.



Pilots deployed in support of MINUSMA take part in day and night operations, using night-vision goggles (NVGs) for the latter missions. In a first for El Salvador, the Salvadoran forces operate independently as part of a UN operation, without any direct support from other countries.

Future

With an ageing fleet of airframes and operational strains placed by international operations, structural steps will need to be taken to ensure the future of the FAS.

In September 2016, it was announced that the FAS was to upgrade its UH-1H helicopters to UH-1H-II standard, but only one of the current fleet has been upgraded so far and this was lost in an accident in November 2016. There was an opportunity to acquire four more 'Hueys' from Taiwan, but after El Salvador initiated diplomatic ties with China, the chances of this happening appear slim.

The A-37s are in need of replacement, but still soldier on, as the current government hasn't found a successor. However, with a new president, Nayib Bukele, having won the election earlier this year, there are hopes that more attention will be given to the needs of the FAS and an upgrade of its aircraft fleet.

In terms of operational capabilities, the FAS fleet has suffered from budget cuts and the demands of Operations Torogoz and Gavilan in Africa. With so many personnel involved in this peacekeeping mission, training and daily missions in El Salvador are strictly limited, with the A-37s only flying every other day. **AFM**