

THE FUERZA Aérea Uruguaya (FAU, Uruguayan Air Force) has long been an operator of the FMA IA-58 Pucará, one of the few aircraft specifically designed for the counter-insurgency mission. Now, after more than 35 years of service, the Argentinean type — which carries the Uruguayan military designation A-58 — is reaching the end of its career with the FAU's Escuadrón Aéreo No 1 (Ataque) of Brigada Aérea II at Durazno.

Arriving at Durazno in May 1981, the first six Pucarás replaced Uruguay's ageing North American T-6 Texans and were immediately pressed into the counter-insurgency and close air support (CAS) roles. By that time, the Uruguayan Tupamaros guerrillas had already been defeated, but the government wanted an effective platform to help ensure they would not return.

The Pucarás first joined Grupo de Aviación No 1 (Ataque), as it was known until June 31, 1995, and the initial aircraft received the serials FAU 220 to FAU 225. Despite ambitions to increase the fleet size to

ten, it was not until the loss of FAU 225 in an accident that FAU 227 was taken on as an attrition replacement in 1999.

It's worth noting that the FAU 226 serial had been allocated to two different aircraft loaned from the Argentine Air Force. These were serial A-574, borrowed from 1998 to 2000, and later A-571, loaned from 2002 to 2003. In 2009, Colombia delivered three more for use as spares sources.

From the very start, the Uruguayan Pucará squadron has maintained a close relationship with its counterpart in Argentina — Grupo 3 de Ataque of III Brigada Aérea — which has frequently collaborated with Uruguay on technical support, training and the interchange of personnel.

Pucará attributes

Despite close ties with Argentina, Uruguay chose a different approach when arming its Pucará fleet: first with 500lb bombs that remained in stock

from the days of the P-51D Mustang, and later with more modern US weapons such as 500lb Mk82 and 250lb Mk83 bombs, some fitted with Snakeye retarding kits.

Uruguay's Pucarás have been equipped with seven-shot LAU-68 launchers for 70mm (2.75in)-calibre rockets, plus a special rack for flares for night illumination. The aircraft have had minor modifications,



The business end of the Pucará. Pictured in 2016, FAU 227 is the sole surviving Uruguayan example. All photos Katsuhiko Tokunaga/DACT

Final Fling

For the Uruguayan Pucar 

The Uruguayan Air Force's Pucar  fleet is close to the end of its operational life, with final retirement planned for March. **Santiago Rivas** discovers how Escuadr n A reo No 1 has maintained its mission to protect Uruguayan skies with this robust performer.



Above: The cockpit of the Pucará features Martin-Baker AP06A ejection seats. **Below:** Low down and fast — the view from the cockpit, flying over the airfield at Durazno.

including a Litton LTN211-28 inertial navigation system (INS) and a GPS. Some communications equipment was updated and the cockpits modified to be compatible with night-vision goggles (NVGs). In addition, FAU 227 received a small SN3500 primary navigation LCD for displaying data on the instrument panel.

Mission tasks

The main focus for the Pucará squadron during recent years has been to counter the increase in illegal flights, most of which are carrying drugs. This has led to greater co-ordination with ground radars that cover

the whole of Uruguay.

The squadron's aircraft, along with the FAU's Cessna A-37B Dragonflies of Escuadrón Aéreo No 2 (Caza) at Durazno, have worked together closely to tackle these flights, sometimes also calling on the Pilatus AT-92s (PC-7s) of the Escuadrón de Vuelo Avanzado (Advanced Flying Squadron).

The Pucarás have played an increasing role in joint training such as Exercise Río with Argentina, Exercise Urubra with Brazil and, between 2006 and 2013, within CRUZEX — held in Brazil but with the participation of many Latin American countries plus France, Canada and the US.





Getting airborne from the strip at Durazno during the last months of operations.



This relatively uncomplicated aircraft has proved extremely robust and reliable. It has operated across Uruguay on unpaved runways, with little in the way of ground support and, despite the loss of FAU 225, an excellent safety record.

End of the road

Although generally reliable, problems began to emerge when Safran decided to stop manufacturing spares for the Pucará's Turbomeca Astazou XVI-G engines. With Argentina and Uruguay the only remaining Pucará users, the manufacturer could no longer justify the production of parts.

Buenos Aires reached an agreement with Safran to

provide sufficient items to maintain 18 to 20 Pucarás in operational status in Argentina, but for Uruguay the company's demand that a minimum quantity of engines be available to repair made any new deal impossible.

The issue has been exacerbated by political struggles in Argentina and internal problems at the FMA factory, which was administered by Lockheed Martin until 2009 before being returned to state ownership. This has made the provision of other spares — mainly structural — very difficult.

Modernisation programmes developed in Argentina have now been halted, including an ambitious project to install



Left: The vertical fin bears the national insignia. Above: The Pucará features 20mm cannon under the nose and 7.62mm machine guns on the fuselage sides under the cockpit. Right: The insignia of Escuadrón Aéreo No 1 (Ataque).



'The main stumbling block will be budget, coupled with a lack of interest from the Uruguayan Government in buying new equipment.'



Uruguay's Pucará pilots have regularly worked and trained alongside their Argentine colleagues.



Pratt & Whitney PT6A-62 engines on the Pucará.

The main problem with the IA-58H re-engining scheme was that these aircraft were not built in series, meaning each airframe is slightly different. Modification thus became complicated.

All these issues saw Uruguay left with just a single operational Pucará by the second half of 2016. Despite plans to return a second aircraft to service, the FAU's command decided to retire the type completely on March 17 this year. No replacement has been defined, despite a range of proposals. The Embraer EMB-314 Super Tucano is considered the most likely successor.

Uruguay has gone so far as to compare the Super Tucano to the Pucará, finding the veteran aircraft more reliable thanks



Left: FAU 227 is the sole surviving Uruguayan example, here in action in 2016.
Below: With the proposed engine upgrade in Argentina having faltered, Uruguay has little choice but to retire its Pucarás.

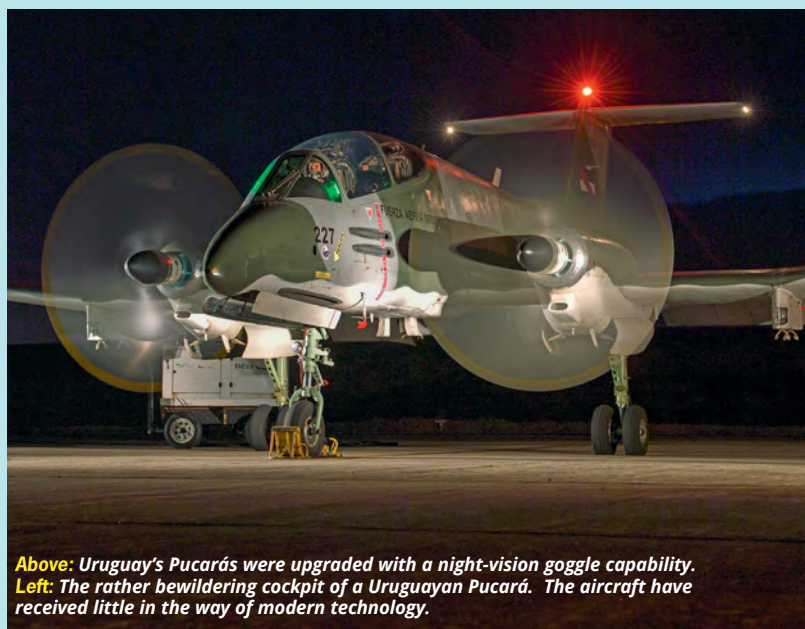


to its twin engines as well as offering superior firepower. It was concluded that, if new avionics and powerplants were available, the Pucará would actually be better.

But it seems an all-new aircraft is the only viable solution. The Embraer offering will likely be compared with proposals from Beechcraft for the T-6 Texan II and Korea Aerospace Industries (KAI) for the KT-1.

The main stumbling block will be budget, coupled with a lack of interest from the Uruguayan Government in buying new equipment.

Recent accidents suffered by an A-37B on August 12, 2016 and a Bell UH-1H on August 15 have, however, thrust the need to replace the Pucará into the media spotlight, which may ultimately force the government's hand into making a decision. ▶



Above: Uruguay's Pucarás were upgraded with a night-vision goggle capability.
Left: The rather bewildering cockpit of a Uruguayan Pucará. The aircraft have received little in the way of modern technology.

Wings over Ur

Esteban Brea assesses the current status of the wider Uruguayan Air Force as it faces significant challenges.

THE FUERZA Aérea Uruguaya traces its origins back to March 18, 1913 when a military aviation school was established at Los Cerrillos, Canelones. Its first course

trained ten army officers under the instruction of French pilot Marcel Paillette. However, the official creation of the FAU came some 40 years later on December 4, 1953.

Today, the General Command is responsible for the Comando de Operaciones Aéreas (Air Operations Command), which is tasked with planning and conducting air operations across the republic, its units acting independently, in combination or jointly with other services.

To accomplish this, the FAU has three Brigadas Aéreas (air brigades), which include all the flying units.

New FAU officers begin their careers at the Escuela Militar de Aeronáutica (Military Aeronautics School) at Base Aérea General Artigas, Pando, in Canelones.

During their four-year course the cadets get their first taste of flying in the Let L-13 Blaník glider.

Those who show the necessary aptitude progress to the formal flying training course, which begins with the Leonardo-Finmeccanica T-260EU (SIAI-Marchetti SF260EU).

Transport and helicopter squadrons

Brigada Aérea I is located at Aeropuerto Internacional Carrasco in Montevideo, home to Escuadrón Aéreo No 3 (Transporte), a unit that operates all of the FAU's air transport assets.

These include a pair of Lockheed C-130B Hercules tasked with cargo and personnel transport, paratrooping, medical evacuation (medevac) and search and rescue (SAR) plus support for the General



One of Escuadrón Aéreo No 3's C-95 Bandeirantes.



Uruguay

Air Order of Battle — Fuerza Aérea Uruguaya

Squadron	Type	Base
Escuadrón Aéreo No 1 (Ataque)	A-58 Pucará	Brigada Aérea II, Base Aérea Tte 2do Mario W Parallada, Santa Bernardina, Durazno
Escuadrón Aéreo No 2 (Caza)	A-37B Dragonfly	
Escuadrón de Vuelo Avanzado (EVA)	AT-92	
Escuadrilla de Enlace	C-206H Stationair, UB-58 Baron	
Escuadrón Aéreo No 3 (Transporte)	C-130B Hercules, C212 Aviocar, C-120 Brasília, C-95 Bandeirante	Brigada Aérea I, Aeropuerto Internacional Carrasco, Montevideo
Escuadrón Aéreo No 5 (Helicópteros)	UH-1H Iroquois, Bell 212, AS365N2 Dauphin	
Escuadrón No 7 (Observación y Enlace)	C-206H Stationair, T-41 Mescalero, UB-55 Baron	Brigada Aérea III, Base Aérea Capitán Juan Manuel Boiso Lanza, Montevideo
Escuela Militar de Aeronáutica	T-260, UB-58 Baron, L-13 Blaník, PA-18-150 Super Cub	Base Aérea General Artigas, Pando, Canelones
DINACIA	TB10 Tobago, Cessna 172, Cessna 182, Cessna 205, Cessna 310, A65 Queen Air	Ángel S Adami International Airport, Melilla, Montevideo



Artigas scientific research station in Antarctica and FAU missions under United Nations mandates.

Chile's ENAER is contracted to support the FAU Hercules, the company undertaking both overhauls and upgrades.

The transport squadron also flies CASA C212-200/200MP/300 Aviocars purchased from different suppliers, the most recent being two C212-300s provided by the Portuguese Air Force. Some have surveillance capabilities, equipped with a forward-looking infrared (FLIR) sensor and an MSS 5000 marine and air surveillance system.

The Embraer C-120 Brasília and C-95 Bandeirante are used for support missions, personnel transfers, VIP flights and medevac, while one C-95 (serial FAU 585) is modified for aerial photography with a Leica RC30 camera.

The same brigade hosts Escuadrón Aéreo No 5 (Helicópteros), which flies the FAU's rotary-wing assets. Its tasks include movement of troops and cargo, SAR, combat search and rescue (CSAR), medevac, firefighting, community support in catastrophes and paratrooping.

The squadron's Bell UH-1H Iroquois and Bell 212s are equipped with a rescue hoist and can be fitted with a fast rope to insert personnel. For self-defence, two FN MAG or Browning 7.62mm (0.3in)-calibre machine guns may be mounted in the cabin.

The FAU's helicopters have achieved a high degree of effectiveness in the use of NVGs, so much so that the unit provides instructional courses for Argentine Army Aviation.

SAR/CSAR activities are conducted jointly with personnel from the Sección de Operaciones y Entrenamiento de Rescate (Operations and Rescue Training Section), locally known as 'PARASAR'.

Two Eurocopter AS365N2 Dauphins carry out SAR, medevac and VIP flights. One has special equipment for the VIP tasking and is usually used to transport the Uruguayan President.

Escuadrón Aéreo No 5 regularly contributes its Bell 212 and personnel to operations in the Democratic Republic of the Congo, within the framework of the URUAVU (Uruguayan Aviation Unit) mission. 🇺🇾



Above: A Cessna U-206H of Escuadrón No 7 (Observación y Enlace).

Left: Escuadrón Aéreo No 3 (Transporte) operates a pair of C-130B Hercules.

Below: Serial 537 is one of two former Portuguese C212-300s that have been transferred to Uruguay.





The A-37B Dragonfly is now Uruguay's primary offensive platform.



Brigada Aérea II is located at Base Aérea (Air Base) Tte 2. Mario W Parallada, Santa Bernardina, in Durazno. This is the home of the FAU's combat units, one of which is the Escuadrón de Vuelo Avanzado (EVA, Advanced Flying Squadron). It serves as a stepping-stone to the

frontline units for pilots who graduate from the Escuela Militar de Aeronáutica. The EVA's Pilatus AT-92 (PC-7) trainers are used for instrument ratings, formation flying, navigation, night operations, basic air-to-ground sorties, tactical flying and air-to-air combat. They carry Ordtech Industries Twin MAG machine gun pods and FN Herstal LAU-7H rocket-launchers.

Meanwhile, Escuadrón Aéreo No 1 (Ataque) will continue to fly the A-58 Pucará until March, as described previously.

The 'tip of the spear' is regarded as Escuadrón Aéreo No 2 (Caza), which operates the Cessna A-37B Dragonfly. The aircraft are equipped to carry Mk81 and Mk82 bombs — with or without Snakeye retarders — plus LAU-61A and LAU-68 rocket-launchers, and are modified to use NVGs.

In 2015 Ecuador supplied six A-37Bs to bolster the fleet.

Three are kept operational and three used for spares.

Brigada Aérea II further includes the Escuadrilla de Enlace (Liaison Squadron), which supports other units of the FAU with personnel transport but also trains pilots and flies air ambulance missions and organ deliveries for transplants. The squadron employs the Cessna 206H Stationair and Beechcraft UB-58 Baron.

Support squadrons

Brigada Aérea III is stationed at Base Aérea Capitán Juan Manuel Boiso Lanza, in Montevideo. This is home to Escuadrón No 7 (Observación y Enlace), which uses the Cessna C206H, Cessna T-41 Mescalero and Beechcraft UB-55 Baron for personnel transport plus support of deployments and pilot training. Other roles include fire detection.

The squadron shares the brigade's facilities with the Squadron of National Air Police, Military Police and the Special Operations Company.

The Escuadrón de Vigilancia Aérea (Air Surveillance Squadron) is part of Uruguay's airspace surveillance and control system. It consists of two Indra LANZA ARSR-3D(M) 3D radars — one fixed, located in Santa Clara de Olimar, Treinta y Tres, and the other mobile, used to cover different areas of the country.

The radars send data to a command and control centre at Base Aérea Capitán Boiso Lanza, where information is combined with that from civil radars and flight plans and, if necessary, passed to intercepting aircraft when irregular air traffic movements are detected.

The Servicio de Mantenimiento (Maintenance Service), located within Brigada Aérea I, is described as the "specialised agency, destined to attend and contribute to the solution of technical requirements of aircraft and equipment associated with the Air Force". The unit is charged with maintaining and repairing the bulk of the FAU fleet.

An FAU-operated flight-training institute sits within the DINACIA (Dirección Nacional de Aviación Civil e Infraestructura Aeronáutica, or National Directorate of Civil Aviation and Aeronautical Infrastructure), based at Ángel S Adami International Airport, Melilla, in Montevideo.

The institute's flying assets include the SOCATA TB10 Tobago, Cessna 172, Cessna 182, Cessna 205 and Cessna 310, all of which train civilian pilots. Meanwhile, a Beechcraft A65 Queen Air is used for verifying navigation aids at the different Uruguayan airports, as well as for VIP flights.

The FAU operates a North American T-6D Texan, FAU



Above: A line of T-260s from Base Aérea General Artigas. These were delivered brand-new in 1999.

Below: An AT-92 (PC-7) trainer complete with twin MAG machine gun pods and FN Herstal LAU-7H rocket-launchers.



366. Based at Carrasco, the veteran trainer is flown during ceremonies, parades and special occasions. It previously belonged to the FAU before being sold on the civilian market. It was reacquired by the Ministerio de Defensa Nacional and donated to the FAU for use in the celebrations marking the centenary of military aviation in Uruguay in 2013.



A Bell UH-1H Iroquois demonstrates 'fast-roping'.

The future

In military aviation terms, Uruguay shares many problems with other countries in the region. It has a fleet of aircraft that have seen many years of service and need to be replaced, but continuous budgetary restrictions have frustrated renewal efforts.

The most pressing issues are finding a replacement for the Pucará, the advanced age of the A-37 fleet, and the need to introduce radar-based interception vectors within the airspace surveillance and control system. To meet its future combat needs, the FAU is evaluating alternatives including the Yakovlev Yak-130 and the Northrop F-5 Tiger II. If selected, the Tigers would be

either surplus Chilean Air Force or Swiss Air Force jets, the latter needing an upgrade before delivery to Uruguay. Another alternative, evaluated between August 11 and 21, 2016, saw a delegation of four FAU officers and a mechanic visiting CATIC's facilities in China to assess the Hongdu L-15 jet trainer.

In a process yet to be fully defined, the FAU has also evaluated a Raytheon Hawker 700. According to official accounts, the type would replace the C-120 Brasília, although it has already generated controversy with reports that it would be used primarily as a presidential aircraft.

afm

AirForces
Intelligence

Further detail and analysis of the Uruguayan air force, including full listings of all serials, can be found on our *AirForces Intelligence* subscription service: <http://www.airforcesintel.com>