

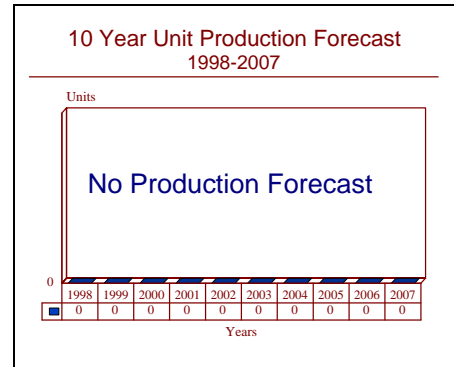
# ARCHIVED REPORT

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## FAMA IA 58 Pucara Series - Archived 9/99

### Outlook

- Efforts to sell off surplus aircraft unsuccessful
- Various attempts to market advanced variants met no success



### Orientation

**Description.** Twin-turboprop, counterinsurgency, light attack aircraft.

**Sponsor.** Argentine Air Force (Fuerza Aerea Argentina).

**Contractors.** FAMA (Fabrica Argentina de Material Aerospacial) Cordoba, Argentina.

**Status.** Production has ended.

**Total Produced.** Approximately 115 Pucaracs were produced.

**Application.** Tactical support, light attack, armed reconnaissance.

**Price Range.** \$3.7 million (1987 estimated flyaway cost).

### Technical Data

(IA 58A)

**Design Features.** Low-wing cantilever monoplane with a semi-monocoque fuselage. Seven percent dihedral on outer wing panels. No wing sweep. Twin-turboprop engines extend well forward of wing, with

propeller shaft-section of engine above upper wing surface. T-tail with horizontal stabilizer and rudders mounted near top of fin, which has a swept leading edge emerging from a dorsal fairing.

	<u>Metric</u>	<u>US</u>
<b>Dimensions</b>		
Wing span	14.50 m	47.57 ft
Length overall	14.25 m	46.75 ft
Height overall	5.36 m	17.58 ft
Gross wing area	30.3 sq m	326.1 sq ft

	<u>Metric</u>	<u>US</u>
<b>Weight</b>		
Empty weight	4,020 kg	8,862 lb
Max take-off weight	6,800 kg	14,991 lb
<b>Performance</b>		
Max level speed <sup>(a)</sup>	500 km/h	310 mph
Max rate of climb <sup>(b)</sup>	1,080 m	3,543 ft/min
Service ceiling	10,000 m	32,810 ft
Range <sup>(c)</sup>	3042 km	1,890 miles

**Propulsion**

(IA 58A/B/C)

(2) Turbomeca Astazou XVI G turboprops, rated 978 shp each.

**Armament**

Two 20 mm Hispano DCA-804 cannon in underside of forward fuselage, four 7.62 mm FN-Browning machine guns in sides of fuselage, Alkan 105E pylon on centerline beneath fuselage (2,205 lb) and Alkan 105E pylon beneath each wing (1,102 lb each). Total external stores load including guns, rocket pods or auxiliary fuel tanks is about 3,307 lb (1,500 kg).

<sup>(a)</sup>at 3000 m<sup>(b)</sup>from sea level<sup>(c)</sup>at 5,000 m (16,404 ft)

## Variants/Upgrades

IA 58A. The original production version of the aircraft ordered by the Argentine Air Force. Colombia purchased three aircraft in 1989.

IA 58B. Proposed follow-on version (later canceled) developed in-house by FAMA. Differs from "A" version in that modified nose section was to carry two 30 mm DEFA 553 cannon. It was also to be fitted with HF, DME, IFF/SSR and VHF/FM equipment and provisions for Omega navigational equipment and meteorological radar.

IA 58C. A proposed upgrade of current Argentine Air Force Pucarás to a single-seat configuration with

upgraded avionics and navigation equipment for night/all-weather operations. Armament is the same as that on IA 58A, plus two 30 mm DEFA 553 cannon, Martin Pescador tactical missiles, or two MATRA Magic 2 AAMs. This program has been suspended.

IA 66. A version designated IA 66 was equipped with two Garrett TPE331-11 turboprops rather than the Astazou used on earlier models. FAMA has offered the IA 66 as an alternative to the Astazou-powered aircraft on the export market, relying on the availability of the Garrett engine as a selling point. No sales were announced.

## Program Review

**Background.** Development of the Pucara was initiated in 1966 and inspired by the Rockwell OV-10A Bronco. The Pucara was required to replace the IA 35 Huanqueros. The original Argentine Air Force requirement, known as the A-X2, called for the use of twin turboprops and capabilities similar to those of the Bronco. An unpowered mock-up was fabricated in 1966 and first flown as a glider in December 1967. The Argentine Air Force presented A-X2 specifications in January 1968 and work was initiated on the design of a powered version, then designated IA 58 Delphin. The power plant selected for the first prototype aircraft was the Garrett AiResearch TPE331-U-303. First flight of this aircraft took place in August 1969. The TPE331

did not meet FAMA requirements and the second prototype (AX-02) was fitted with the Turbomeca Astazou XVIG. Flight testing took place during 1970 and resulted in selection of the Turbomeca engine for production aircraft. A production prototype designated AX-03 was introduced in 1973, and was followed soon thereafter by an initial order for 60 Pucarás by the Argentine Air Force. An order for an additional 48 IA 58As was placed following the Falklands War.

A new version of the IA 58 was first displayed at the 1979 Paris Air Show. Designated IA 58B Bravo, the new aircraft was being developed as a private venture by FAMA. The IA 58B was to provide heavier

armament for ground attack missions and also featured more advanced tactical avionics including HF, DME, IFF/SSR, and VHF/FM. While the Argentine Air Force has no requirement for the B version, it agreed to evaluate the prototype following completion of manufacturer's testing.

A single-seat expanded capability version of the Pucara was developed as the IA 58C. FAMA unveiled the IA 58C in 1984. This single seat version was intended to extend the Pucara's attack performance and add a self-defense capability. It has a DEFA 30 mm cannon added

in the nose, and can carry two Matra Magic 550 air-to-air missiles and/or two CITEFA Martin Pescador anti-ship missiles. In addition to being offered for export, it was at one time believed that the IA 58C improvements would be incorporated into some of Argentina's IA 58A fleet in the future. This program has since been suspended.

A more powerful export version of the IA 58 was offered, the IA 66, with two Garrett TPE331 engines. No sales materialized and this effort appears to have been dropped.

## Funding

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No recent funding action has been reported.

## Recent Contracts

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None noted.

## Timetable

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<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Aug	1966	Program initiated
Feb	1968	Detailed design work begun
Sep	1968	Prototype construction begun
Aug	1969	First prototype flight
Sep	1970	Second prototype flight
Jul	1971	Astazou XVIG engine selected
Nov	1974	First flight of production Pucara
	1976	Initial production deliveries
Jun	1979	IA 58B version introduced
Dec	1985	IA 58C first flight

## Worldwide Distribution

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<u>South America</u>	Argentina	44
	Colombia	3
	Uruguay	5
Asia	Sri Lanka	4

## Forecast Rationale

Apart from a four-unit sale to Sri Lanka, announced in 1993, FAMA has been unsuccessful in finding buyers for surplus Pucarás on the international market. The

Argentinean manufacturer is currently seeking to move into commercial programs and may be expected to place a low priority on marketing IA 58s abroad.

## Ten-Year Outlook

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No further production is forecast.

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