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PAZMANY PL-4A *ALIVE AND FLYING!*

by Tony Self

On 9th September 1983, one of the tiniest aircraft to ever grace the runways at RAAF Laverton lifted its wheels from the white pavement on its maiden flight. The aircraft was the Australian first-of-type Pazmany PL-4A VH-XAP; the pilot was Charles Lambeth; the owner was Commonwealth Aircraft Corporation of Melbourne; and the builders were five years' worth of CAC apprentices.

The CAC Board of Directors first approved funding of the construction of an amateur-built aircraft in March 1976, after CAC's Mr. Wal Watkin, who was also Federal Secretary of the SAAA (then the Ultra Light Aircraft Association), had recommended the Pazmany PL-4A as a suitable training school project for CAC's apprentices. Although several amateur-built aircraft designs were investigated, the PL-4 was preferred because it used modern sheet metal construction techniques and its drawings were prepared to aircraft industry standards.

It was decided to treat the Pazmany along similar lines to a normal aircraft programme, where the first year apprentices would carry out all the usual functions including estimating, scheduling, planning and inspection, to enable them to secure first hand experience with aircraft industry procedures and techniques. The aircraft offered sheet metal and airframe apprentices a good opportunity to exercise their skills. A Revmaster R2100D VW conversion was purchased by CAC for the "Paz".

Work on the project almost came to a standstill during 1981 and 1982, until a firm decision was made to complete the aircraft. The Pazmany was handed over to the CAC Aircraft Division, and a Project Manager, Mr. Doug Castledine, was appointed to co-ordinate the activities necessary to complete the aircraft. Flight testing was carried out initially from the CAC facility at RAAF Laverton, and later from Point Cook, Moorabbin and Bacchus Marsh.

Dwarfed by a huge Casa, the PL-4 is seen here at Moorabbin during test flying, with a modified cowl installed. *Photo: T. Self*

XAP in flight over Frankston, Victoria. *Photo: T. Self*

Both pilots who have flown the Pazmany during its test programme, Charles Lambeth and David Pilkington (both SAAA members of course), agree that the aeroplane is very pleasant to fly, and has good ground handling characteristics. The cockpit is very spacious and, in VH-XAP, very well equipped. Instruments fitted include ASI, turn-and-slip, altimeter, VSI, tachometer, ammeter, 'g' meter, oil temperature and pressure, cylinder head temperature, compass, clock, Hobbsmeter and a Narco Com 120 VHF radio. The folding wings make storage in a tight parking space in the corner of a hangar quite possible. The aircraft is even reported to prop start quite easily, but a battery and start system is fitted.

A buyer for the aircraft had been sought in mid-1983, and after an unsuccessful attempt to form a consortium, the Pazmany was purchased by Vic/Tas member Mac Wright, who also happens to be Mangalore 84 Treasurer and SAC Secretary/Treasurer. Mac hopes to take delivery of the "Paz" in late February, and will, of course, take the aircraft to Mangalore, to offer you yet **another** incentive to be part of Mangalore by ATTENDING and seeing his lovely little aeroplane.

Throttle quadrant.

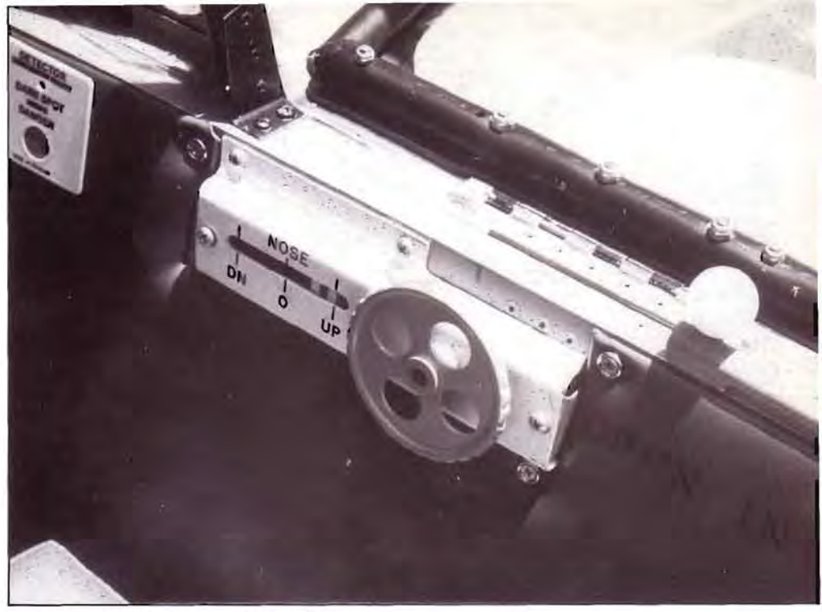
The Pazmany PL-4A was designed by Mr. Ladislao Pazmany, being the third in a series of light aircraft designs. The aircraft is a low wing design with a T-tail configuration and a single seat. The fuselage design is a simple structure with flat sided panels, with bulkheads built up from bent sheet metal panels. No moulds are required. A battery compartment is provided behind the seat. The fuel tank is located between the firewall and the instrument panel. A side hinged canopy and a very spacious cockpit allow easy entry and exit for the pilot.

The wings have a marked rectangular planform, and have an aspect ratio of 8:1. An 18% thickness provides a deep spar, high torsional rigidity, and makes possible the simple compact fittings at the wing folding joint. There are no flaps. The wing construction is based on a main spar at maximum thickness a "Z" sheet metal rear spar, and sheet metal ribs and skin. The ailerons are hinged at the bottom skin with standard piano hinges.

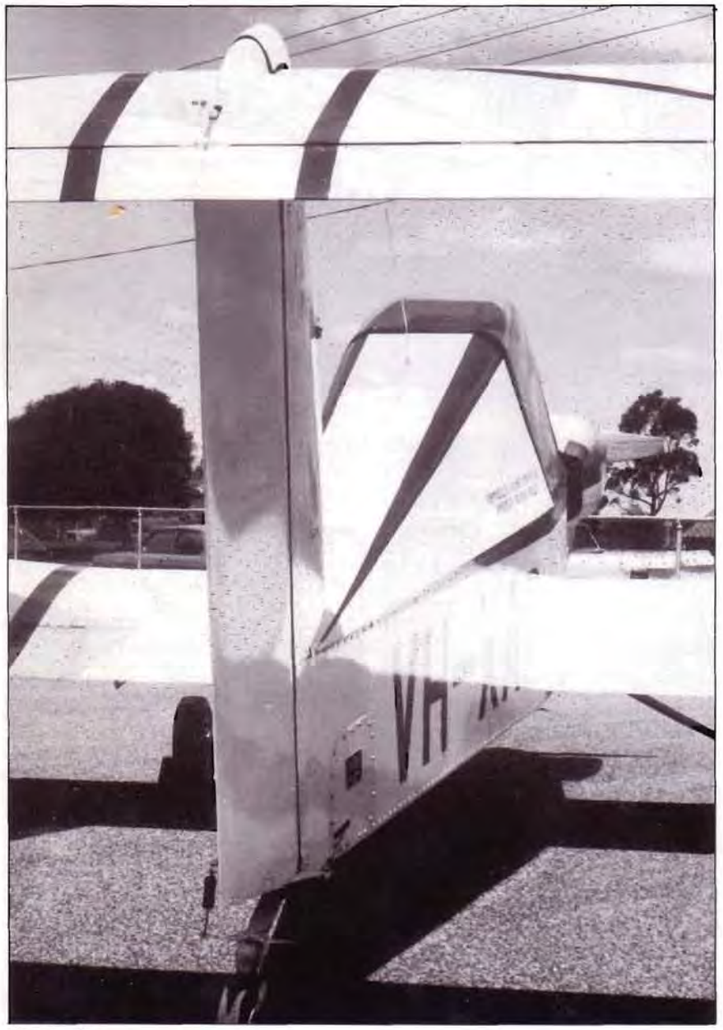
The T-tail construction is also simple, and the rudder is of constant chord and thickness. An all-flying stabilator is employed, and is controlled by push-rods; one connecting the control stick to the bellcrank, and another connecting the bellcrank to the stabilator.

CAC decided to use a direct drive system, by virtue of the engine selection, instead of the PL-4's normal belt drive power system, and modified the engine mount and cowl designs accordingly. The propeller was made by Ellis Walker of Perfectus Airscrew Company. The fuel tank has a usable capacity of 34 litres.

The prototype PL-4A first flew on 9th July 1972, piloted by Mr. Peter Girard, a former US Navy test pilot. Since then the design has proved very popular in the US and Canada, and is flying in other countries. The CAC Pazmany, which was actually given a CA-36 project number (CA-1 was allocated in 1938 to the Wirraway), is the first of a number of PL-4As under construction in three states.



Trim wheel and canopy emergency release.



A rear view.

CA-36 PAZMANY PL-4A SPECIFICATIONS

TYPE:	Single-seat sports aircraft.	
WINGS:	Cantilever low wing monoplane. Wing section NACA 63, 418. Dihedral 5°. Incidence 3°. No sweepback. All metal structure, with main spar, D section rear beam, sheet metal ribs and skins. Wings fold alongside fuselage for towing or storage. Plain piano-hinged ailerons of all-metal construction. Glassfibre wingtips. No flaps. No trim tabs.	
FUSELAGE:	All-metal structure with bulkheads built up from bent sheet metal channels and standard extruded angles for longerons, and with sheet metal skins.	
TAIL UNIT:	All-metal cantilever T-tail. All-moving tailplane with large anti-servo tab which also serves as a trim tab.	
LANDING GEAR:	Non-retractable tailwheel type. Spring steel cantilever main legs. Single go-kart type wheel on each main unit, with 4.10 x 3.50-6 four-ply tyre, pressure of 65 lb/sq.in. Steerable and castoring tailwheel with solid tyre size 5 x 1.5-1.5. Go-kart type hydraulic disc brakes by Hurst-Airheart.	
POWER PLANT:	One 2100 cc 2211-30D modified Volkswagon motor car engine supplied by Revmaster of Chino, California. Direct Drive propeller.	
PROPELLER:	Two-blade fixed pitch wooden, manufactured by Perfectus Airscrew company of Melbourne. 50 in pitch and 50 in diameter.	
FUEL TANK:	Glassfibre construction with sump for water drainage located immediately aft of the firewall and forward of the instrument panel. Usable capacity 45 litres. Refuelling point on upper fuselage forward of windscreen.	
ACCOMMODATION:	Single seat under transparent Plexiglas canopy, hinged on starboard side. Compartment aft of seat for 9 kg (20 lb) baggage.	
SYSTEMS:	Hydraulic system for brakes only. Electrical system powered by 12V 25Ah battery situated in baggage compartment. Narco Com 120 360 Channel VHF transceiver. Stall warning system.	
DIMENSIONS EXTERNAL:	Wing span	8.13m (26ft. 8in.)
	Wing chord (constant)	1.02m (3ft. 4in.)
	Wing area, gross	8.27m² (89.0 sq.ft.)
	Wing aspect ratio	8.0:1
	Length overall	5.04m (16ft. 6½in.)
	Width, wings folded	2.44m (8ft. 0in.)
	Height overall	1.73m (5ft. 8in.)
	Tailplane span	2.29m (7ft. 6in.)
	Wheel track	2.06m (6ft. 9in.)
	Wheelbase	3.56m (11ft. 8in.)
WEIGHTS AND LOADINGS:	Weight empty	300 kg (660lb.)
	Max T-O and landing weight	431 kg (950lb.)
	Max wing loading	46.4kg/m² (9.5lb/sq.ft.)
	Max power loading	10.27 kg/kW (17.0lb/hp)
PERFORMANCE (at max T-O weight):	Never-exceed speed	122 knots IAS
	Cruising speed at S/L	110 knots IAS
	Maximum speed level flight	115 knots IAS
	Econ cruising speed at S/L	90 knots IAS
	Stalling speed, power on	29 knots IAS
	Stalling speed, power off	39 knots IAS
	Max rate of climb at S/L	750 ft/min
	Service ceiling	13,000 ft.
	Take off run to 50 feet	430m (1400ft.)
	Landing run to 50 feet	800m (2600ft.)

The spacious cockpit is well instrumented.

PAZMANY PL-4A (CA-36) VH-XAP