# A54 – Pilatus PC-21

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Pilatus PC-21 A54-048 of No 4 Squadron during a training sortie out of RAAF Williamtown, New South Wales, in July 2020. Source: Department of Defence

454-048



Pilatus PC-21 A54-004 of Central Flying School, RAAF East Sale, during a flight over the Victorian Gippsland region in August 2017. Source: Department of Defence

n 6 September 2015 it was announced that the 'Team 21' consortium of Lockheed Martin, Pilatus and Hawker Pacific had been selected as the preferred tender for the Air Force's new Pilot Training System, under Project Air 5428.

The centrepiece of the new system was the acquisition of forty-nine Pilatus PC-21 advanced training aircraft and seven accompanying flight simulators. The Pilot Training System is expected to have a life of thirty years and will ensure pilots develop the knowledge and skills to enable progress onto advanced aircraft such as the F-35A Lightning II. The new system replaced the previous training system centred around the Pilatus PC-9/A which entered service in 1987 (see entry A23 in the third series).

The forty-nine PC-21s are operated by Central Flying School (CFS) and No 1 Flying Training School (1FTS) at East Sale (twenty-six aircraft), No 2 Flying Training School (2FTS) at Pearce (sixteen), the Aircraft Research and Development Unit

(ARDU) at Edinburgh (three) and No 4 Squadron at Williamtown (four). The seven flight simulators are distributed between East Sale and Pearce, with new state-of-the-art training facilities constructed at both bases.

The first RAAF PC-21 (A54-001) first flew at Stans in Switzerland on 21 July 2016. The first six were formally welcomed at East Sale on 11 August 2017 and the final three (A54-047, A54-048 and A54-049) arrived at East Sale on 6 December 2019. The first PC-21-based pilot's course of ten students completed their first phase of training at 1FTS on 12 July 2019 having undergone 250 hours of theory instruction, and on average thirty-five hours of simulator instruction and fifty hours of flight in the PC-21. The second phase of the course is conducted at Pearce at 2FTS, and by graduation students will on average have completed seventythree simulator hours and 160 hours in the aircraft. The first PC-21-based students graduated on 14 August 2020.

### AIRCRAFT OF THE ROYAL AUSTRALIAN AIR FORCE



Pilatus PC-21 from No 2 Flying Training School prepares for a training flight at RAAF Pearce, Western Australia, in August 2017. Source: Department of Defence

The PC-21's capabilities make it ideally suited to a wide training envelope. It can be used from day one in the training system, eliminating the need for an elementary flying training fleet, but also bridges the performance gap between traditional turboprop trainers and lead-in fighter trainers such as the RAAF's BAE Systems Hawk 127s. The PC-21 is capable of sustained low-level speeds in excess of 593km/h (320kt) and hydraulically-assisted ailerons and roll spoilers can produce fighter-like rates of roll in excess of 200 degrees per second.

The PC-21 is fitted with a modern flight management system and mission computer coupled with a 'glass' cockpit including three multi-function displays and a heads-up display. The aircraft is



The Air Force Roulettes perform an aerial display in their Pilatus PC-21s over Melbourne, Victoria, in March 2020. Source: Department of Defence

equipped with a pressurised cockpit, air conditioning, an anti-G system and on-board oxygen generation. A digital power management system and automatic yaw compensation makes the PC-21 easy to operate in the circuit, yet still provides the performance required for advanced training.

The PC-21 is also utilised by No 4 Squadron for the training and development of Joint Terminal Attack Controllers, who liaise with ground elements to provide offensive air support. In 2019 the Air Force's formation aerobatic team, the RAAF Roulettes, converted from the PC-9/A to the PC-21 and conducted their first major public display in the new trainer at the Australian Motorcycle Grand Prix in October 2019.

# **TECHNICAL DATA: Pilatus PC-21**

## **DESCRIPTION:**

Basic and advanced trainer.

**POWER PLANT:** 

One 1193kW (1600shp) Pratt & Whitney PT6A-68B turboprop.

**DIMENSIONS:** 

Span 9.11m (29ft 11in); length 11.23m (36ft 10in); height 3.75m (12ft 4in).

**WEIGHTS:** 

Basic empty 2347kg (5174lb); max takeoff (with under-wing tanks) 3600kg (7938lb).

# **PERFORMANCE:**

Max speed 685km/h (426mph); max climb 1476m (4850ft)/min); ceiling 7620m (25 000ft); range greater than 2222km (1381 miles) with external tanks.



Pilatus PC-21 A54-22 of the RAAF Roulettes flies inverted during the 2019 Australian International Airshow at Avalon, Victoria. Source: Department of Defence



Pilatus PC-21 A54-018 of the Aircraft Research and Development Unit on the flight line at RAAF Edinburgh in May 2020. Source: Department of Defence



A pair of Pilatus PC-21s of the RAAF Roulettes take off during the 'Wings Over Illawarra' 2019 airshow. Source: Department of Defence