

## CAHS Moments in History

by Contributing Editor Geoff Pyne

Something a little different this time - a short history of the Dash 7 prototypes.

To further develop their world renowned STOL expertise, de Havilland Aircraft of Canada produced a specification for a 50-passenger aircraft with a fairly short range, to operate from runways only 2,000 ft long (610 m). This was an ambitious project for the Company as it was the first 4-engined design undertaken, powered by new Pratt & Whitney PT6A-50 turbo-prop engines turning new large diameter, low speed (hence reduced noise) Hamilton Standard propellers, plus a circular, pressurized fuselage to allow aircraft operations up to 20,000 feet. In many other respects, experience and features from previous designs were incorporated or enhanced (high aspect, high mounted wing, T-tail, control systems, large flaps, hydraulic and gear systems etc.).

Development started in 1972 and the prototype, registration C-GNBX-X, first flew on March 27, 1975, in a vivid red and yellow paint scheme, similar to the Air Transit Twin Otter scheme. The flight was crewed by Bob Fowler and Mick Saunders with Flight Test Engineers Jock Aitken and Bob Dingle. This aircraft was used initially to develop the low speed handling - stalls, sideslips, minimum control speeds and climb performance - before exploring the higher speed handling and developing the short take-off and steep approach techniques required for this STOL aircraft. In addition the aircraft was utilized to complete the icing trials and develop and certify the autopilot system. The aircraft, with the eye-catching colours, and the later striped colour scheme, performed demonstrations throughout North America, Europe and further afield in support of many sales campaigns. At the end of its useful life, the Company donated the aircraft to the National Aviation Museum (now CASM), Ottawa. It was flown there on October 26<sup>th</sup>, 1988, where it is preserved and available to be viewed to this day.

The second prototype, registered C-GNCA-X flew on June 27<sup>th</sup>, 1975 in a blue and white scheme, similar to Nordair colours. This aircraft was utilized to verify many handling and climb performance test points demonstrated on the first aircraft and then concentrated on cruise performance, engine performance and systems development, including oil cooling, icing, air conditioning and pressurization, hydraulics and navigation, Sadly this aircraft was scrapped at the end of its life.

The de Havilland Canada DHC-7 ("Dash 7") was the first STOL Airplane certified according to FAR25 criteria for transport-category aircraft.

The Dash 7 met with limited commercial success. Most commuter airlines used the aircraft as feeder liners into large airports, where the STOL performance was not considered important, except in the case of London City Airport which was capable of handling few other aircraft types besides the Dash 7 due to its relatively short runway and steep approach (7 degrees) capabilities. Also, the Dash 7's four engines required twice the maintenance of a twin-engine model, thereby driving up operational costs.

One hundred Dash 7 turboprops were delivered by 1984, when the production line was put on hold in favour of the Dash 8. Another 13 were delivered between 1984 and 1988, when the production lines were removed when Boeing bought the company.

