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Avro Canada C102 Jetliner

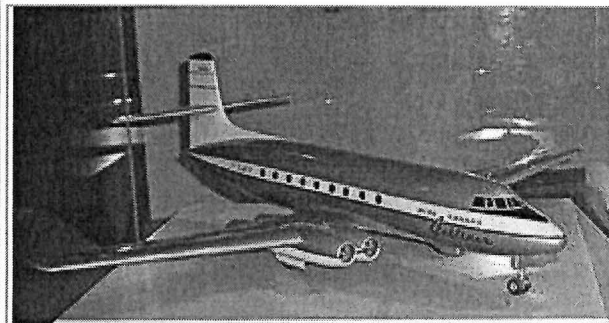
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(Redirected from Avro Jetliner)

The **Avro C102 *Jetliner*** was a Canadian prototype medium-range jet airliner built by Avro Canada in 1949. It was beaten into the air by only 13 days by the de Havilland Comet, thereby becoming the second jet airliner in the world, yet the name "**Jetliner**" was more catchy and for many years all such aircraft were colloquially given that name. The aircraft was considered suitable for busy routes along the US eastern seaboard and garnered intense interest, notably from Howard Hughes who even offered to start production under license. However continued delays in Avro's all-weather interceptor project, the Avro CF-100, led to an order to stop working on the project in 1951, with the prototype Jetliner later cut up for scrap.

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C102 Jetliner



Model of an Avro Canada C102

Role	jet airliner
Manufacturer	Avro Canada
Designed by	James C. Floyd
First flight	10 August 1949
Introduced	prototype only
Primary user	Trans Canada Airlines (intended)
Number built	one (second prototype cancelled while in production, and scrapped)

History

Genesis

In 1945 Trans-Canada Airlines (TCA) started exploring a number of aircraft developments under the direction of Jim Bain. A. V. Roe of England had recently taken over the Victory Aircraft "shadow factory" in Toronto, and starting exploring production possibilities with TCA for a two-engine turboprop aircraft like the Vickers Viscount. In the fall of 1945, Bain travelled to England to visit various aircraft companies, and during his exploration of Rolls-Royce's engine department, saw the early work on what was then known as the AJ65. The new engine, later known as the Rolls-Royce Avon, enthralled Bain and on his return to Canada he changed plans for Avro's development to use the new engine instead of turboprops.^[1]

Over the next few months, the teams at TCA and Avro refined the requirements, which were signed off

only 25 months after the design had started, and only 13 days after the first flight of the DH Comet. A delay caused by runway construction at the company's home Malton airport combined with repairs necessitated by external nacelle skin "buckling" prevented the Jetliner from being the first jet-powered airliner to fly. ^[7] On its second flight, on 16 August, the landing gear failed to extend, and the Jetliner had to make a belly-landing. However, the damage was minor, and the aircraft was in the air again in three weeks.

In April 1950, the Jetliner carried the world's first jet airmail from Toronto to New York in 58 minutes—half the previous record (c.340 miles, 352mph). The flight was highly publicized and the crew was welcomed with a ticker tape parade through the streets of Manhattan. So new was the concept of jet power that the Jetliner was made to park far from the terminal, and pans were placed under the engines in case they dripped any "self-igniting fuel." The Jetliner suffered a mysterious "cracking" sound on the trip and was forced to stay on, as the pilots refused to fly it back. This delay allowed it to be presented to a number of potential customers, where it was competing against considerably slower designs like the DC-6 and war-surplus DC-3s. On its return, (on the back of a train), the "cracking" problem was traced to the spar area around the engines, which was made much stronger. It was later learned the problem was actually too-close tolerances between the engine nacelle and the spar, simply making a looser fit would have had the same effect.

At the time, in the mid-1950s, the Cold War was starting and the Canadian authorities were in the midst of expanding the military. Avro was involved in designing the first dedicated jet-powered, all-weather fighter for the RCAF, the Avro CF-100 *Canuck*. The project was somewhat delayed, although the company's continuing work on the Jetliner caused some controversy. After the prototype returned, it still had no immediate sales prospects, therefore C.D. Howe, (the "minister of everything"), ordered the program stopped in December 1951. The second prototype Jetliner, well on its way in the main assembly hangar, was broken up at that time.

Nevertheless, only a few months later, the enigmatic Howard Hughes first learned of the design and leased the Jetliner prototype for testing, flying it for a few circuits when it arrived in Culver City, California. He became a believer, imagining TWA and National delivering passengers from New York to vacation spots in Florida in half the time of the competition. He became desperate to buy 30 Jetliners, but Avro had to repeatedly turn him down due to limited manufacturing capabilities and overwork on the CF-100 project. Hughes then started looking at US companies to build it for them; Convair proved interested and started studies on gearing up a production line. C.D. Howe again stepped in and insisted that Avro concentrate on its Orenda turbojet and CF-100 jet fighter programs.

The project was almost restarted in 1953, when CF-100 production was in full swing, but this never happened. In 1955, TCA ordered 51 Vickers Viscount turboprop aircraft from Vickers-Armstrong in England. These were the first turbine-powered aircraft in regular service in North America. They continued in service until 1974.

Cancellation

The Jetliner was later used as the aerial photo platform for the CF-100 project. On 10 December 1956, the Jetliner was ordered surplused, and although it was donated to the National Research Council, they had no room for it in storage and took only the nose section for cockpit layout design. The rest of the Jetliner was cut up on 13 December 1956. The only surviving parts are the nose and cockpit section in the Canada Aviation Museum in Ottawa.

Specifications Avro C102 Jetliner

66-X.

- McArthur, Scott, ed. "Testing the Avro Jetliner." *Arrow Recovery Canada*, transcript of speech by Avro Canada C102 Jetliner test pilot Don Rogers, 2003. Retrieved: 27 June 2009.
- Milberry, Larry. *Aviation In Canada*. Toronto: McGraw-Hill Ryerson Ltd., 1979. ISBN 0-07-082778-8.
- Winchester, Jim. "Avro Canada Jetliner." *X-Planes and Prototypes*. London: Amber Books Ltd., 2005. ISBN 1-904687-40-7.

External links

- Photos of the Avro Canada C-102 „Jetliner“ („Canada Aviation Museum“)
- Avroland: The Avro C.102 Jetliner
- Arrow Recovery Canada: Avro Jetliner
- Avro Canada C-102 „Jetliner“

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