

Avro Canada C-102 Jetliner



Shortly after A. V. Roe Canada Ltd. was established (1945) it initiated design studies on a new airliner for Trans Canada Airlines (TCA).

The TCA specifications (1946) and the prototype performance of the Avro C102 were:

	TCA Spec.	C-102 Performance
Operating range:	1200 miles	1400 miles
Payload capacity:	10000 lbs.	12700 lbs.
Number of passengers:	30	40 - 50
Cruising Speed:	400 mph	427 - 450 mph
Takeoff runway:	4000 ft. (ICAN)	3100 ft. (ICAN)

The Avro JETLINER, in 1949, was the first jet liner to fly in North America

Design commenced on the C102 in mid-1947, after discussions with TCA established preliminary specifications for a medium-range airliner to suit their route structure. New turbo-prop and jet powered engines were studied, but TCA engineers showed the greatest interest in jet power. Availability of certified, reliable and efficient jets was limited at that time. The Rolls-Royce Derwent jet engine was eventually selected for the prototype, but its 3600 lbs. of thrust dictated four engines for the Jetliner.

Early on, TCA backed out of support for the Jetliner development, but with Federal funding and Hawker Siddeley backing the prototype Jetliner development was continued. CF-EJD-X made its first flight on August 10, 1949, about 30 months from the start of its design. Test flying for certification and promotional flights continued through '49 and '50.

Avro's companion development the CF-100 Canuck, an all-weather interceptor for the RCAF, made its maiden flight in January 1950 and the Korean War commenced in June. These two events forced the company to place a higher priority on the CF-100 development and production. Hence, work on the Jetliner diminished significantly. Production facilities were full dedicated to the CF-100, so even though about 100 Jetliners were tentatively ordered it was decided to abandon this most lauded and unique aircraft. In 1956 Canada's first jet airliner was scrapped.

Dimensions of the JETLINER:

Wingspan 98.1 ft.
Length 82.8 ft.
Height 26.5 ft.
Wing Area 1157 sq. ft.
Max Weight 65,000 lbs.

Configuration of C102: Wing straight tapered split flaps integrated engine nacelles integral fuel tanks dihedral 6E Fuselage 10 ft. diameter pressurized flexible to cargo / passengers Engine RR Derwent 4a (3600 lbs. of thrust) Significant events: 1st Flight August 10, 1949 Max speed Mach 0.73 (500 mph) Max altitude 39800 ft Total test hrs. 202 hrs. Last Flight Nov. 23, 1956 Reference reading : "The Avro Canada C102 JETLINER" by Jim Floyd (The Boston Mill Press - 1986)

Specifications

Wing Span: 98 ft 1 in (29.9 m)
Length: 82 ft 5 in (25.1 m)
Height: 26 ft 5 1/2 in (8.1 m)
Weight, Empty: 37,000 lb (16,783 kg)
Weight, Gross: 65,000 lb (29,484 kg)
Cruising Speed: 420 mph (676 km/h)
Max Speed: 500 mph (805 km/h)
Rate of Climb: 2,220 ft (677 m)/min
Service Ceiling: 40,300 ft (12,283 m)
Range: 1,250 mi (2,000 km)
Crew: three
Power Plant: four Rolls-Royce Derwent 5/17, 3,600 lb (1,633 kg), static thrust centrifugal flow turbojet engines

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