

C-102 AVRO Jetliner

by J.H. Stroomenbergh

A.V. Roe Canada Ltd., a subsidiary of the Hawker Siddely Group in England, was established late 1945 using the wartime Victory Aircraft (Lancaster Bomber) factory at Malton, Ontario. Design was initiated on a pure jet transport to T.C.A. (Trans Canada Airlines) specifications to be powered by two Rolls-Royce AJ65 (Avon) axial flow engines. Unavailability of these engines, however, necessitated redesign of the designated C-102 Jetliner in 1947 to accommodate four Rolls-Royce Derwent 5 centrifugal flow engines. T.C.A.'s interest in being the first airline to operate a jetliner waned but work on the C-102 project continued with government support and on August 10, 1949 the Jetliner prototype took to the air at Malton.

North America's first jet transport was viewed with great interest in the United States where the Jetliner proceeded to establish some new inter-city flight records during 1950-51, notably on the Toronto/New York and Toronto/Chicago/New York runs. Having thus every indication of being a success, orders for the aircraft were under negotiation with the U.S. Air Force and various U.S. airlines when the Canadian government, prompted by the Korean conflict, ordered further development of the Jetliner program suspended in favour of increased production on Avro's CF-100 jet interceptor. In an attempt to then have the aircraft manufactured in the United States, the Jetliner was flown to California early 1952 for evaluation by Howard Hughes. Recalled 6 months later when no firm commitments had been received, the aircraft was assigned to camera platform duties on CF-100 test flights until late 1956 when the Jetliner was ordered scrapped. Half the nose section and an engine in the National Aeronautical Collection at Rockcliffe is now all that remains of this great contribution to Canadian technology: "The Forerunner of Jet Transport in North America".

References:

Canadian Aviation - Aug. '48, Jan., Sept. & Oct. '49, Feb. '50. Also 1978 Anniversary Issue - The Avro Story by J.C. (Jim) Floyd.*
Shell Aviation News - July '50.
Aeroplane - Vol. 77 '49 - p. 219, 300, 480, 594 & 870.
Vol. 78 '50 - p. 482, 375.

C.A.H.S. Journal: Vol. 10 No. 1 Spring '72.
Testing the Jetliner by D.H. (Don) Rogers.*

*J.C. (Jim) Floyd was awarded the U.S. Wright Medal for his design work on the Avro C-102 Jetliner. Mr. Floyd was guest speaker at the 1979 C.A.H.S. Convention, commemorating the 30th Anniversary of the Jetliner's First Flight.

*D.H. (Don) Rogers was formerly Chief Test Pilot at Avro Canada.

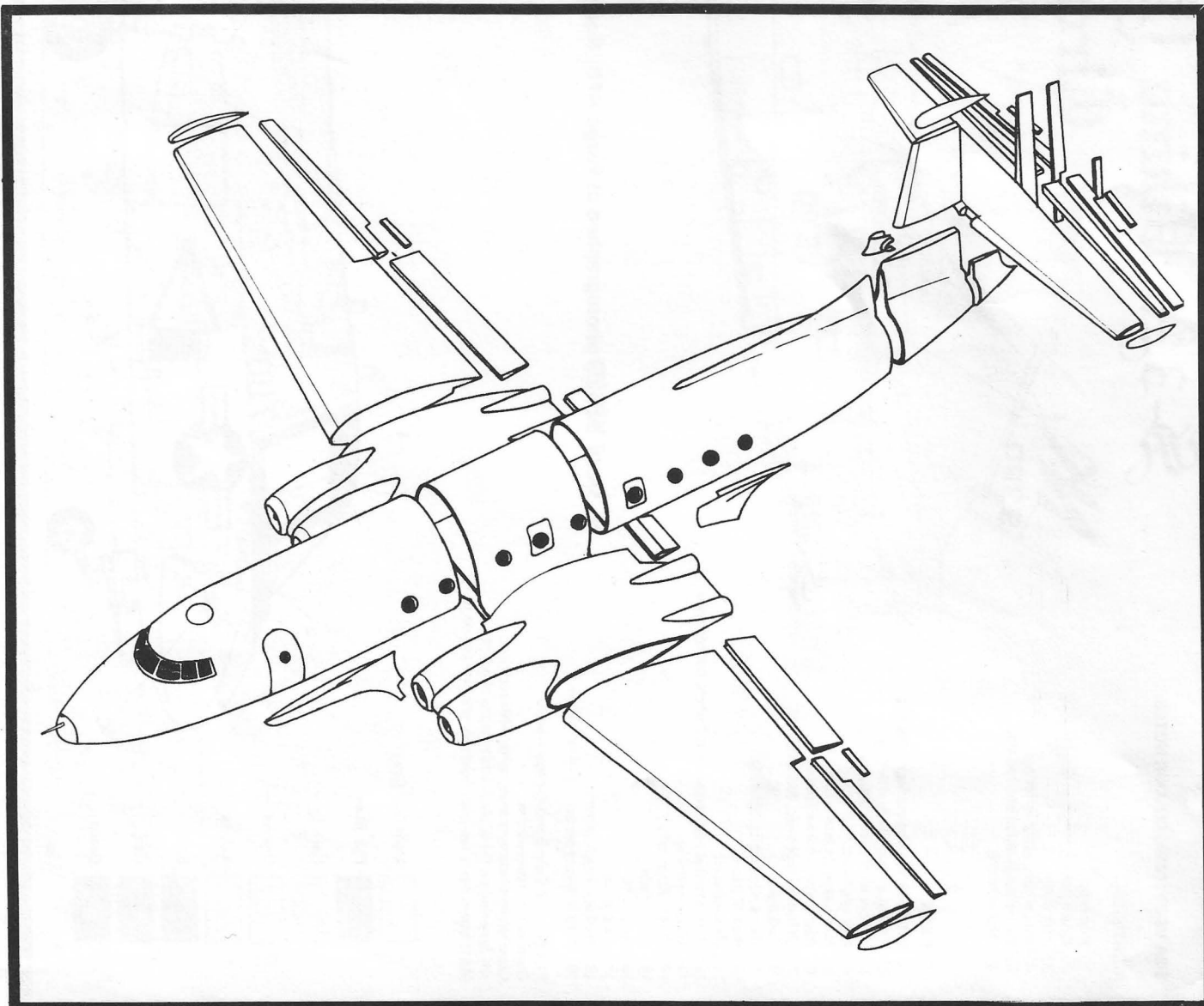
Acknowledgements:

Bob Johnson and Les Wilkinson of C.A.H.S. (Canadian Aviation Historical Society).
Mr. Don Rogers (DeHavilland Aircraft).
Jerry Turner (Aerobuffs Scale Modellers).

Captions...

1. Another view of the Avro Jetliner in flight.
2. C-102 on its belly after an incident during the second test flight, August 16, 1949. The main undercarriage would not extend, and Jimmy Arrel brought the aircraft in for a wheels-up landing.

Photo credits: Aviation & Space Division, National Museum of Science & Technology, Ottawa, Canada





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AVRO C-102 JETLINER

CANADIAN-SHORT TO MEDIUM RANGE-JET TRANSPORT

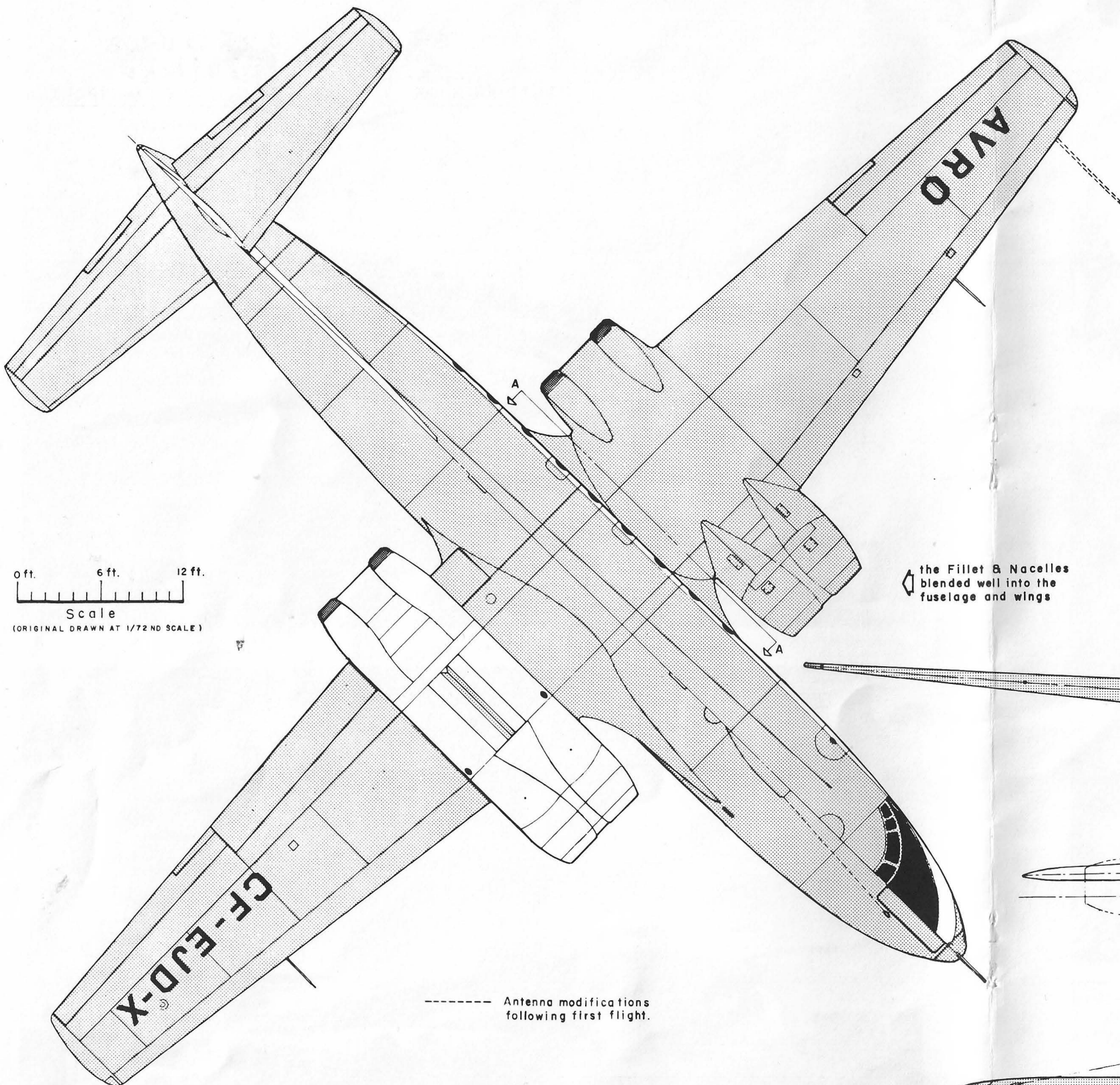
Dimensions

Span: Wings	98 ft. 1 in.
Hor. Stab.	37 ft. 0 in.
Length	83 ft. approx.
Height: Tail	26 ft. 5.5 in.
Fuselage	14 ft. 3.6 in.
Fuselage Dia.	10 ft. 0 in.
Wheel Base	31 ft. 9.5 in.
Wheel Track	22 ft. 6 in.

Weight

Operational Empty	29,500 lb.
Total Payload	12,500 lb.
(represented partly by water ballast on CF-EJD since no representative seats in the Prototype aircraft.)	
Fuel	23,000 lb.
Max. Gross Wt.	65,000 lb.

Powered by Four Rolls-Royce Derwent 5a Engines of 3,600 lb. static thrust each. Max. Cruising Speed: 450 mph. at 30,000 ft. Altitude. Max. Still Air Range: 1,400 mi.



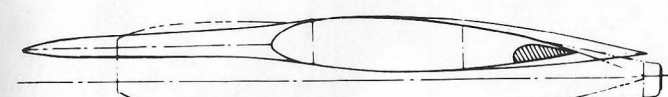
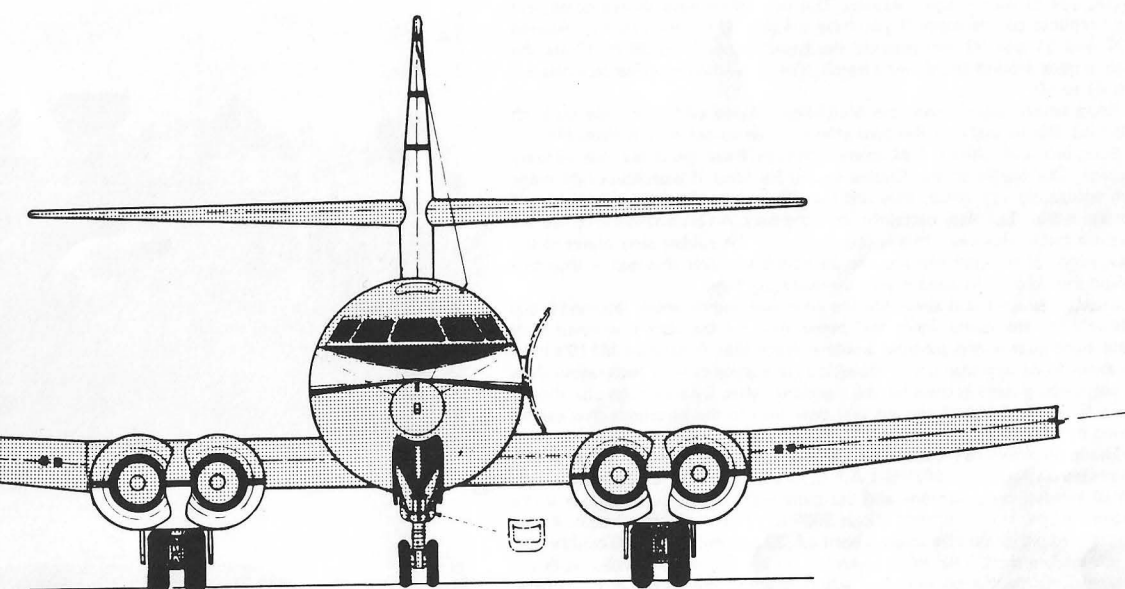
Colour Scheme

- Metallc/Silver
- Black
- Yellow
- Red - Jetliner insignia and background to Avro logo

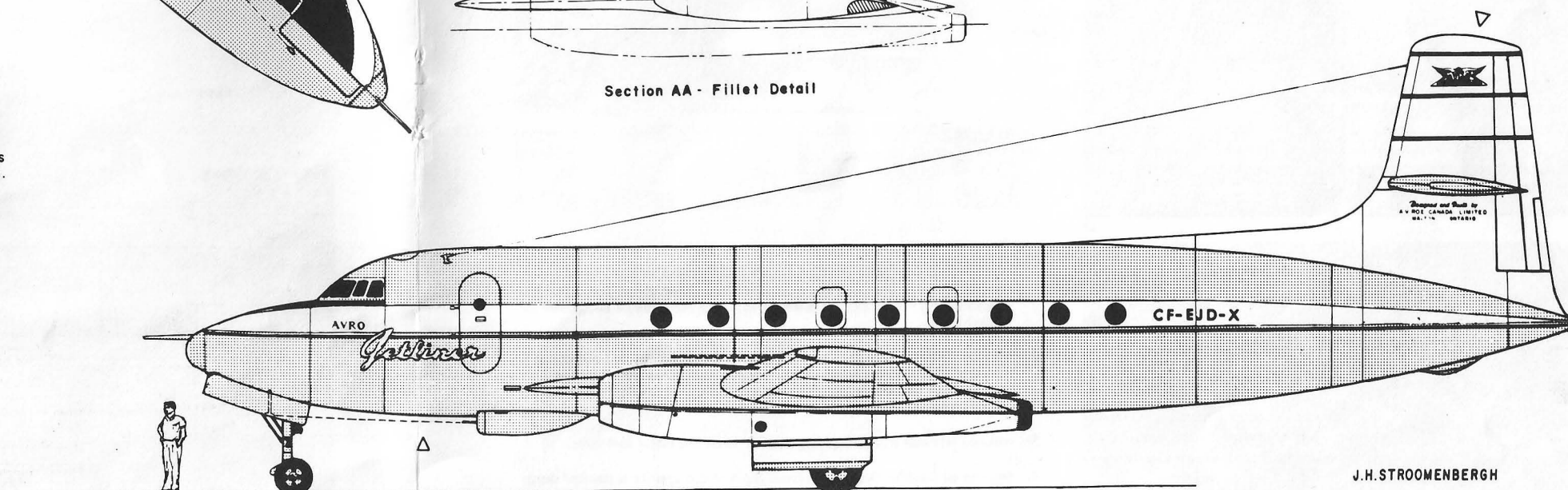
Colour Scheme illustrated here refers to first flight on August 10, 1949. Subsequent colour schemes and markings consisted of adding 'CANADA' after AVRO, a black fin tip followed by black de-icer boots installed on the leading edges of the fin. Final finish sported white upper fuselage.

the Fillet & Nacelles blended well into the fuselage and wings

----- Antenna modifications following first flight.



Section AA - Fillet Detail



J.H. STROOMENBERGH