


  
National Aviation Museum


What does  
**\$199**  
get you?

(a) A satellite dish  
(b) A remote and receiver  
(c) No more ordinary TV.


  
CLICK FOR DETAILS

# AVRO ARROW

## Background

**FlightDeck**

**Birth of the Arrow**

**Background Design**

**Trouble on the Horizon**

**Dark Days**

**Post Mortem**

**Enduring Legend**

**Words**

**Video**

**Images**

**Links**

**Books**

### Background

June 24, 1999

*The fearsome Red Menace*

In order to understand the story of the Avro Arrow, it's necessary to place it against the background of its time. The era of the Arrow was also that of the Korean War, the Soviet H bomb and the advent of television. The day it was unveiled, the world's eye was fixed not on the Arrow, but by the launch of Sputnik 1, the Soviet Union's kick-off into the space race. This coincidence was to prove more than just disconcerting. It was to symbolize, in a sense, the conditions that would ultimately lead to the Arrow's assassination – a shift in the technology paradigm that so baffled decision makers of the time that they seriously believed the day of the fighter-interceptor was over.

It's a little-remembered fact that Canada at the end of the WWII was the unlikely home of some of the world's largest land, sea and air forces. In terms of men and equipment the Royal Canadian Air Force was the third largest in the world. Post-war governments made a conscious decision to demobilize the military from its engorged status, but when seen from the postwar perspective the idea of producing a world-class interceptor wasn't as far-fetched as it seems today.

*The Korean War meant that the five years of peace since WWII were over.*

In terms of industry, Canada had just finished a period of unparalleled growth. Plants and factories had

<http://exn.ca/flightdeck/arrow/background.cfm>

4655 12/06/00

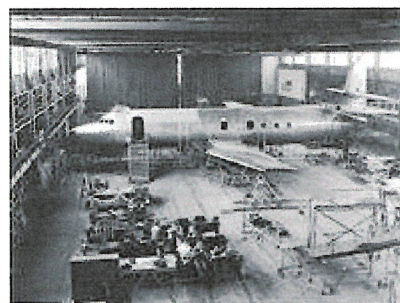


*The Lancaster*

sprung up all over the country during the course of the war. Government-owned Victory Aircraft in Malton, just outside Toronto, later bought by Hawker-Sidley of Britain and renamed A. V. Roe Canada, had done an excellent job of turning out large numbers of Lancasters during the war for the R.A.F and RCAF. They

were rumoured to be among the best Lancasters that flew.

Avro Canada was in an excellent position to hire the best engineering minds in the world, as the end of the war released huge numbers of engineers onto the international job market. Avro's first project was to be a jet transport aircraft for Trans Canada Airlines, later known as Air Canada. In April 1950, eight years before the inception of the first American commercial jet airplane, the Boeing 707, the Avro Jetliner carried the world's first jet airmail, from Toronto to New York, where its crew was welcomed with a ticker tape parade through the streets of Manhattan. The trip was made in half the flight time of a conventional airplane. American commercial airlines like Hughes Aircraft expressed interest, as did the USAF.



*The Jetliner under construction*



*The Jetliner landing.*

Unfortunately, the Avro Jetliner would never taste success. Instead, it was destined to succumb, in February 1957, to the same bitter welder's arc that awaited the Arrow. In 1950, when the Korean War broke out, and C.D Howe, the influential Liberal Minister of Munitions and Supply, and who had contributed so much to the industrialization of Canada, ordered Avro to suspend the Jetliner. Only one aircraft was ever

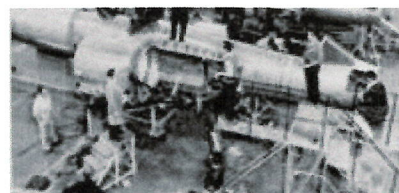
completed.

Instead, Howe proclaimed, Avro was to concentrate fully on producing the CF 100 Canuck jet fighter, designed to protect the vast northern wastes





of Canada from the advance of Soviet nuke-carrying long range, high-altitude bombers coming in over the Arctic icecap. The CF 100 was a twin-engined, two-seat, high-altitude, all-weather fighter with an Orenda engine, which was also



designed and built by Avro Canada's engine department. In the end, the CF 100 was to be the only Avro Canada aircraft to go into full production and enter active service, achieving a service life of thirty years. In total, 692 Canucks were built, including 53 sold to Belgium.



Despite the relative success of the CF 100, all was not well in the RCAF. Even before the CF-100 went into service, the RCAF was seeking a way to replace it. The reason was the air superiority of the Soviet bombers that would ostensibly carry the nuclear warheads over North America. The Canuck just wasn't fast

enough.

In April 1953 the RCAF announced its rigorous specifications, known as Air-7-3, "Design Studies of a Prototype Supersonic All-Weather Aircraft". They called for a new supersonic interceptor that could function in the uniquely Canadian context of a vast northern wasteland, and with specifications without parallel in the world of aviation. The twin-engined, two-seat fighter should be able to operate from a 6000 ft runway, have a range of 600 nautical miles (1100km). It was to cruise and combat at Mach 1.5 at an altitude of 50,000 feet and be capable of pulling 2g in manoeuvres with no loss of speed or altitude. It was to be equipped with a sophisticated fire control system, and to have an all-missile weapon system which would operate either independently or as part of an integrated defence system. The high speed mission radius was to be at least 200 nautical miles. The time from a signal to start the engines to the aircraft's reaching an altitude of 50,000 feet and a speed of Mach 1.5 was to be less than five minutes. The turn around time on the ground was to be less than ten minutes.

An RCAF evaluation team examined aircraft under development around the world and concluded that none would meet these conditions. (An interesting footnote to history is that the F101 Voodoo, which was ultimately to replace the Arrow's role, was amongst those aircraft examined and rejected.) In July 1953, the Department of Defence Production issued a directive authorizing a design study of an aircraft to meet the requirements of Air 7-3, to be designated project number CF-105. The Arrow was born.