



AVRO ARROW

Defending the Arrow

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In the 1990's the melodramatic and fictionalized CBC docudrama "The Arrow" spawned a flurry of 'sensible' backlashes in the press, proclaiming that the Diefenbaker government was 'right' to cancel the Arrow, and repeating old standards that it was too costly, obsolete or poorly designed. They pointed out that the achievements of Canadian aircraft manufacturing since the Arrow, particularly passenger aircraft, have more than proven that cancellation had no impact on the aviation industry. They remarked that, anyway, it was the best thing that ever happened to most of the Avro engineers, who got great jobs around the world.

But the Arrow's critics have been active for many years before the nineties, much to the annoyance of designer Jim Floyd. "I used to go wild writing rebuttals," sighs the 85-year-old, who tirelessly continues to appear publicly on behalf of the Arrow (despite admitting to believing that the real tragedy was the Avro Jetliner). "But rebuttals never work – no one reads them." Nonetheless, a few points stand out as worthy of addressing.

The Arrow was too expensive

Perhaps the single most outstanding criticism is that the Arrow was too costly. There is no denying that it was an expensive program, but there is no evidence that its goals were unachievable, or even threatening to the country or armed forces. Cancellation was also a very expensive option – it was estimated that with the cancellation fees the government was obliged to pay Avro, development could have been completed. Purchasing useless Bomarc's, and later, more interceptors to take the Arrow's place, was also expensive.

The program was indeed burdened by an overambitious attempt to build four new systems – the Arrow airframe, the Orenda engine, the Sparrow missile and the Astra fire control system -- instead of one or two components as may have been more appropriate. Avro themselves argued against the development of the armament systems in Canada. Ultimately the costly missile and fire control system development was abandoned, significantly reducing the cost

per aircraft, but it was too late for the Arrow.

When the record is examined, it becomes clear that the cost of the Arrow was not more than the cost of the Bomarc missiles with the SAGE system, plus the aircraft that were supposed to be purchased. Though it was characterized as a cost-cutting move, the cancellation was more of a two-for-one deal.

Diefenbaker claimed the Arrow would have cost \$2 billion by 1964 for 169 aircraft or \$12 million for each aircraft. But in 1982 the 138 American CF18's cost Canada \$5.2 billion, or \$37.7 million each. The cost of the Arrow in 1982 dollars would have been \$34.3 million each, or 10% less than the CF18. It seems likely that the actual cost would have been quite a bit less than Diefenbaker's estimate.

But the most important point is that since the Arrow was built without a prototype, it had been constructed in a manner that made initial development more expensive, but subsequent production cheaper. The parts for the first models were tooled on assembly-line machinery constructed for it from the very first, instead of custom-made parts. This was supposed to speed the Arrow into production. If the government had given the airplane more time to seek foreign sales, costs per plane would have spiralled downward.

It's also important to remember that cost was never given as an official reason for the cancellation, probably because it would have been too easy for critics to demolish.

Foreign Sales weren't materializing

It is true that American and British sales were not on the horizon. But it could have been foreseen that these would be hard to come by, as these countries rarely bought foreign craft. That the U.S. aviation industry exerted a lot of pressure on its government was well-known at the time. In addition, it seems that there was at least some incentive for the Americans not to encourage the Arrow's future. Why hinge decisions on policies designed to stymie growth?

Many have pointed out that it was unreasonable to expect other countries to buy into an unproven aircraft until it had been demonstrated by the country that designed it. A good example is the French Mirage jet, which was in service for two years before the first foreign order was received.

There was, in fact, quite a lot of interest in France for the Iroquois engines. This suddenly disappeared when the French got wind of the axe hanging over the Arrow program. They decided against depending on the Iroquois for their defence needs.

The plane was about to become obsolete, and would never

have been deployed.

The arguments that fighter/interceptor aircraft were obsolete had no basis. Judging by the fact that Canada quickly procured less sophisticated craft to fill the niche the Arrow left vacant, this argument was clearly absurd. Its fly-by-wire system, internal weapons carriage, and Iroquois engine were highly advanced for their time. Instead, it was the Bomarc that became obsolete.

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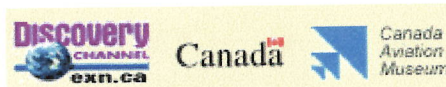
- A few facts that were uncovered, although never hi ... *bob daye*

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