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AVRO ARROW

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Shaky start

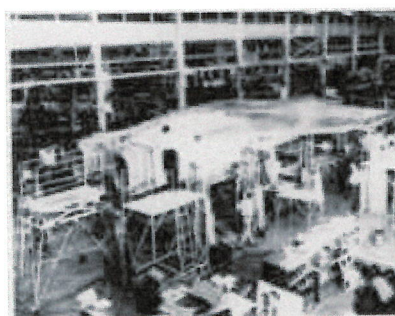
June 24, 1999



The Arrow's fall from favour is an account of political intrigue and indecision in the face of a technologically changing world. The seeds that would ultimately doom it would be sown very early in the Arrow's life.

In December 1953, following the findings of the All-Weather Interceptor Requirements Team that no aircraft meeting the RCAF's grueling specifications existed in other countries, the St. Laurent government awarded Avro a \$27 million contract to design two prototype all-weather, two-seat, twin-engine, supersonic interceptors.

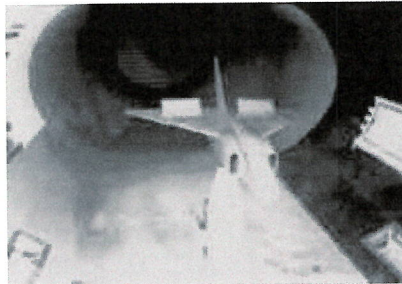
Before 1954 the Arrow was rarely referred to in public, and led a rather underground existence. It was after the explosion of a Soviet hydrogen bomb and the introduction of new Myasishchev M-4 Bison jet bomber which opened the possibility of a Cold War "bomber gap", that the program was stepped up. In March 1955, the contract was upgraded to a \$260-million contract for five Arrow Mk 1 aircraft powered by Pratt and Whitney engines, to be followed by 35 Arrow Mk 2s with as-yet-unavailable Iroquois engines. It was also determined at this time to do away with the costly development of prototypes and launch into assembly line production with the first model.



Wing assembly at the Avro plant

In September 1955, Avro told Cabinet that it needed an additional \$59 million to keep the program on schedule. It was around this

time that the lateral motion began to surface, not only in Canada but in the military establishments of most of the Western Alliance, that the era of the interceptor was over, and that the age of guided missiles would render them obsolete.



A model is tested in a wind tunnel.

It was also in 1955 that efforts began to sell the Arrow to the Americans and British. The Arrow project received glowing praise and admiration, but no interest as an actual purchase. This could have been anticipated as American and British Air Forces almost never purchase planes from other countries. But this seems to have contributed to a growing unease in the Liberal cabinet and among the

Chiefs of Staff about the cost of the program. This wasn't helped by recurring approaches from Avro for more money. In December 1955, Cabinet limited Avro to the eleven prototypes and put a spending cap on the overall program of \$170 million over the next three years. By this time, Avro had become the third largest corporation in Canada, and was employing some 41,000 people.

In 1956, events took place that would seriously cripple the Arrow's future. Conventional wisdom concerning aircraft suggested that a radical new design should be combined with off-the-shelf components like the engine and armament system to keep costs down. The Arrow project was already developing a new engine, and now the RCAF decided that the Hughes Aircraft radar fire control system didn't meet its standards. They chose to have a new system developed in Canada at RCA-Victor, and when the chosen Sparrow II missile development was cancelled by the U.S. Navy, its development was also subsumed in Canada. Avro strenuously objected to these choices, and in hindsight, it appears that these extra burdens may have pushed the Arrow over the budgetary edge.



Inspecting the landing gear.

In February 1957, Cabinet ordered the spending cap increased to \$216 million, and squadron deployment wasn't expected until 1961-62. There is evidence that the Liberals were losing faith in the Arrow,

in an election year. To the surprise of many, in June 1957 the Liberals lost the election and a minority Conservative government under John Diefenbaker took power.

In August 1957, an event took place that was to have far-reaching implications on the fate of the Arrow. Diefenbaker signed onto the North American Air Defence (NORAD) agreement with the United States, committing Canada to integrating its continental air defence with the USAF. This meant that two new weapons systems would come into the calculations, the Bomarc missile and the Semi-Automated Ground Environment (SAGE), a ground-based surveillance and weapons control system.



The Bomarc

These new weapons, combined with Arrow cost overruns, the unfavorable impression that the Avro lobby in Ottawa was making on policy makers, and the general impression that the threat from manned bombers had disappeared, were to gravely threaten the future of the Arrow project.

Story by:
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