

March 24, 2008

Legend of the Avro Arrow

50 years ago tomorrow, the pride of a nation took flight

By IAN ROBERTSON, SUN MEDIA

"I shot an arrow into the air,

It fell to earth, I knew not where ... "

-- First two lines of The Arrow And The Song, by Henry Wadsworth Longfellow (1807-1882)

More than 200 fans at a gala banquet marking the Avro Arrow jet fighter's first flight here 50 years ago tomorrow will be reminded of what was achieved -- not lost -- when the project was cancelled.

For greying "Avroites" at the sold-out Golden Arrow dinner this Saturday in the Toronto Aerospace Museum at Downsview Park, memories of Canada's biggest post-war aviation dream are often bittersweet.

But museum CEO Claude Sherwood, an Arrow draftsman and one of 2,000 A.V. Roe Canada Ltd. staffers on the \$400 million project, said politics and myth often overshadow its success.

"I've been a strong advocate of the positive side of the Arrow," Sherwood said. "It was a successful venture of achievement by Canadians. A lot of research and a lot of patents came out of development of the Arrow." During the "Cold War" after World War II, as the Soviets built bombers that could carry nuclear weapons to North America and Europe, Canada and its allies sought firms to develop new interceptors.

The Canadian subsidiary of A. V. Roe in the United Kingdom, which produced CF-100 fighters at Malton for the Royal Canadian Air Force (RCAF) during the 1950-53 Korean War, got the contract for a missile-equipped fighter in July 1953.

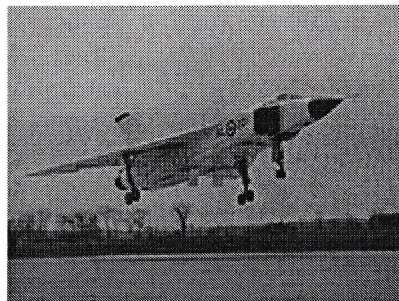
Construction began in 1955 and the first of five twin-engine CF-105 Arrows rolled out of the Malton hangar on Oct. 4, 1957. After shakedown tests, chief test pilot Janusz Zurakowski took RL-201 to the skies on March 25, 1958, on its inaugural flight.

In an aeronautical journal, designer and Avro vice-president James Floyd -- a keynote speaker at the March 29 banquet -- wrote that despite "a somewhat emotional controversy" in the U.S. over wing designs for supersonic aircraft, the team chose a tailless, swept-back delta style "mainly on the compromise of attempting to achieve structural and aeroelastic efficiency."

By using a thin wing, the new jet would achieve "the large internal fuel capacity required for the specified range." Another major CF-105 component was to be the PS-13 Iroquois engine developed here by Orenda Aerospace.

Five Arrows flew on U.S.-built Pratt and Whitney engines before a PS-13 was attached to a loaned United States Air Force B-47 bomber -- and flew successfully on it. But a month before the sixth Arrow was to fly with Iroquois engines, Ottawa axed the program. Increased pressure from other cash-strapped branches of the armed forces combined with rising project costs and a divided RCAF brass. led the government to decide Arrow was too expensive and had not achieved Avro's promise.

Conspiracy theorists paint a darker picture -- convinced that then-Prime Minister John Diefenbaker and his advisers yielded to U.S. pressure for having a better jet fighter.



The RL-201 Avro Arrow, powered by U.S.-built Pratt and Whitney engines, first took to the skies over Toronto on March 25, 1958. (Sun Media files)

They cite American promises to sell unmanned Bomarc missiles should the Soviets attack this continent.

But after MPs debated the use of nukes, that plan also crash-landed.

A key worker on the museum's non-flying, full-scale metal Arrow model, built from 1998 to 2006, ex-Avro engineer Peter Allnutt wasn't expecting "Black Friday." A

llnutt, 75, who was recruited by A.V. Roe in England and began work here at age 23, told the Sun "there was some talk," but with five flying and the Iroquois engine about to be flown in RL-206, "no one thought they would kill it." Then, on Sept. 4, 1959, "an announcement was made and we were told to pack up our tools and leave."

While not convinced Canada could have built enough Arrows to take on a large squadron of Soviet bombers, "it shows how far Canadians were ahead of everyone."

With orders given to prevent even parts, let alone an entire aircraft being spirited away, a Hamilton scrap firm cut up all evidence of the project.

All that remains are a few pieces workers slipped out of the plant, a nose wheel assembly found in a local factory, a large model and plans.

The largest surviving artifact is the nose and front wheel assembly of RL-206, the sixth, unfinished plane, which is in the Aviation Museum in Ottawa.

One Iroquois engine is there and the one that test-flew the B-47 after its six engines were turned off, is on display at the Canadian Warplane Heritage Museum in Hamilton, where Avro engine designer James D. Black, 91, volunteers as a guide.

He and Allnutt joined Air Canada after Arrow died -- but Black was tipped off early.

Often flying aboard an Avro Lancaster bomber on engine tests, Black said he and a workmate were told by bosses "we feel there will be layoffs" and both got new jobs before the Arrow was shut down.

"It shouldn't have happened," he said. "There were certain things designed by us that were put into use by others, such as aircraft fuel-delivery systems." Not impressed by some of Avro's management or other "dead wood," Black said "shutting down the project I can understand. But they never should have cut them up."

Officials denied other countries wanted them, but he said the British tried to buy them plus the rights and France wanted the new engines.

"A lot of stuff has not come out," Black said. But despite rumours of a hidden Arrow, "no one airplane got away."

About 14,000 people working for Avro, subsidiaries and suppliers lost their jobs.

Some returned to the United Kingdom, others were recruited by aerospace and aircraft firms outside Canada -- including many by the National Aeronautics and Space Administration (NASA) in the U.S. for Projects Mercury, Gemini and Apollo. Chief test pilot Janusz Zurkowski, who died in 2004, never flew again.

In 1961, the RCAF ordered the CF-101 "Voodoo" jet fighter, first of many U.S.-designed aircraft bought since by Canada's military.

There were many naysayers, since the gun platforms and Iroquois engines were never installed, but

Sherwood insists the Arrow "over-achieved all the RCAF specs."

If the project had been run by a business, "it would never have been cancelled," he said.

More information has since emerged and Sherwood said participants are anticipating new revelations Floyd will present at the banquet.