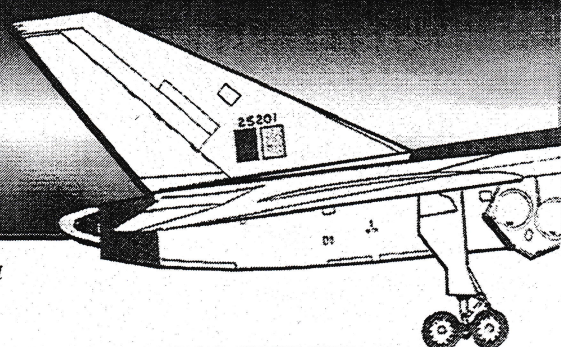


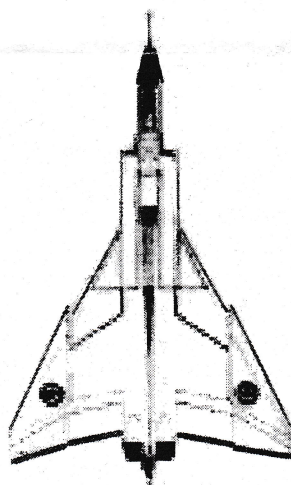
Pre-Flight

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In Part One, our attention first was focused on the demise of the Arrow. The antecedents of this Canadian calamity were quickly examined. Primarily, these were the political condition at the time, and the lack of insight into the potential of Canadian expertise in aircraft design and construction. Noted were details of the early postwar years and the way they affected the need of a warplane with specifications for the Canadian topography at the time. Barbour writes of his perceptions quite openly and without mincing words. It is a refreshing personal overview of the way he saw it at the time and afterwards, from the heart. One cannot help but agree with what he has to say. He ends Part One with the rise of the USSR and the beginning of the period of the Cold War.

The Delta-Winged Avro Arrow

Part Two

by

Gerry Barbour

I was happy to hear that our leaders were busy excavating, digging like badgers, a hidey-hole, so the affairs of state could go forward if an enemy was foolhardy enough to drop lethal weaponry on their heads while on the way to pulverize Washington D.C., U.S.A. So NORAD was born. The North American Air Defense Command. Quietly, radar stations were built in Canada's Northland. The Distant Early Warning line, commonly called the DEW line. The Mid-Canada Line and the Pinetree Line. All data collected would be processed to an underground station in Colorado Springs, Colorado, U.S.A. Any enemy foolish enough to invade our air space would be instantly detected and face a horde of fighting aircraft, the very best United States warplanes as well as Canada's contribution, nine squadrons of CF-100 twin-engine all-weather Canucks.

I began to nod off at night secure in the knowledge that younger, braver men were scanning and patrolling the skies of my country, hoping for the best, but prepared for the worst. Any country bent on imposing its will on other countries will invariably seek out its most powerful adversary, believing that if it can be brought to its knees, then weaker nations will be "duck soup." Therefore, our powerful but friendly neighbour to the south was a prime candidate for the unwelcome attention of the Soviet Union. Canada is in the way of a direct route over the polar ice cap to the United States of America.

Our huge landmass and relatively small population was very likely to suffer the indignity of having its airspace violated by highflying bombers from the Soviet Union. On their way to obliterate Washington D.C., it was quite likely a Soviet bomber would make a slight detour and drop a bomb from 50,000 feet smack on our capital city of Ottawa. That would shake up our politicians.

We at Avro felt, with good reason, that our delta-winged airplane, the CF-105 Arrow was the ultimate weapon for the defense of any country in the world, particularly Canada and the United States of America.



Founded 1989

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Aerospace Heritage Foundation of Canada



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From the President

On Saturday, June 7, 2008, I had the pleasure, with other members of the board, of attending the Annual Inspection of the 845 Avro Arrow Squadron, Royal Canadian Air Cadets, at the Hershey Centre in Mississauga, Ontario.

I am very pleased to announce that the winner of the Jim Floyd Award is Warrant Officer, 2nd Class, Rahul Gandotra, and the winner of the Janus Zurkowski Award is Flight Sergeant Arshaan Irani.

The name of the Aerospace Heritage Foundation of Canada is proudly remembered as these Cadets receive a bursary and a two-year membership in the Foundation for their accomplishments. Well done, Cadets.

Frank

The Delta-Winged Avro Arrow, cont'd

So, keeping that background in mind, we continue with the saga of the Avro Arrow. Two years from inception to rollout, for the high-tech Arrow, for the first supersonic fighter in the world? That had to be some kind of a record. We took it in stride.

On October 4, 1957, the bay doors opened and a superlative, fighting machine edged out into the sunlight. More than twelve thousand people witnessed the event. The press, ever alert for a good story, gave us full marks for our efforts. Avro officials walked around happy in the knowledge that our future in the world of aviation was assured. Pictures were snapped by the score. This great event was now on film, saved for posterity.

Somewhere, far down the road, "Avroites," now old and grey, would point skyward and tell their grandchildren, "See those high-flying modern jet fighters? The Arrow we built back in the late 1950's was the forerunner of those airplanes. With modern technology, that old girl could still be flying today. She was that good."

What a day that was! Speeches galore, all pointing out just what a wonderful contribution to the defense of Canada and NORAD had been made by all "Avroites." Canadians every one. I was so impressed by the Minister of National Defense, the Honourable George Pearkes of the Conservative government of John Diefenbaker. The first time I had ever seen an honest-to-god, real-live winner of the Victoria Cross, the medal for bravery.

Several portions of his speech will forever remain imprinted in my mind:

"Well-intentioned people have suggested that the era of the manned airplane is over. They suggest that we place our faith in missiles and launch straight into the era of push-button warfare. I do not feel that missiles and manned aircraft have reached the point where they should be competitive. Each can do things that the other cannot do and so must be required by any nation seeking to maintain an adequate deterrent to another nation seeking war. The airplane can bring the judgment of a man into the fray. Human judgment combined with the technology of the airplane will provide the most sophisticated defense that human ingenuity can devise."

A marvelous speech. well thought out and well delivered. ➤

Arrow, cont'd.

I walked away happy at last that I had finally found a politician that had his head screwed on facing forward and didn't speak with forked tongue.

We got on with our pre-production aircraft and prepared for first flight.

On March 25, 1958, our own superlative test pilot Jan Zurakowski lifted Avro Arrow RL-201 into the air. Busy? You'd better believe it. On December 4, 1958, the last CF-100 rolled out, number 692. Avro had actually produced that number of CF-100 Canucks. We could now give our undivided attention to the production of the Avro Arrow. One after another rolled out of the bay. RL-202, 203, 204, 205. I was amazed at the speed with which these airplanes were produced. Lined up, clad in their day-glo orange-tinted paint they were an impressive sight; test crews working; the clam-shell canopy open; last minute preparations for the next flight; It was wonderful.

Many employees also thought it was wonderful. They bought automobiles, houses, and appliances secure in the knowledge their future was assured. The golden years were ahead of us. The conquest of space was ahead of us. These were heady times, I can tell you.

Somewhere buried deep among my souvenirs of that hygone era is the last issue of the Avro Newsletter dated February 13, 1959. Seven days before the infamous "Black Friday."

Even James Alexander Douglas McCurdy, whose Silver Dart has catapulted Canada into the aviation age, took time out from his busy schedule to witness the rollout and later to write an article about the memorable flight and commented on the landing at R.C.A.F. Trenton of RL-204, the first and only landing of an Arrow away from Malton. The reason being? A blocked runway. A Trans Canada Airlines "Viscount" chose that time to render the runway unusable; the runway especially reserved for the landing of our Arrow. T.C.A. Again

Studying this airplane, I became more and more impressed with the design team who, by their combined efforts had allowed us to put together the finest airplane flying in the free world. Now I knew why those thin-looking wings drooped. Anhedral, it's called, the opposite of dihedral.

My friend, Mr. X. had supplied that little gem of information. He gazed at me in a bemused manner. "To shorten the length of the undercarriage, of course. Any dummy would know that." "Yes, Sir, Bill. This dummy knows it now."

With a sigh, Mr. X. said, "Sit down. I'm going to give you a short lesson on the Arrow." Making himself comfortable, he launched into his spiel and it was fascinating. "The overall length of this airplane measured from its snout to its fin and rudder is 77 feet 9-5/8 inches and its height from the tarmac to the tip of

its fin and rudder is 21 feet 3 inches. Its wingspan is 50 feet."

I broke in. "Hey Bill, that's ironic. Did you know that John Alexander Douglas McCurdy's Silver Dart, way back in 1909 had a wingspan of 50 feet? Avro should have called the Arrow the Silver Dart in his honour. Better yet, the Avro Dart, and by golly, the Arrow is longer than the Lancaster bomber we produced in the war. Wow!"

Mr. X. glared. He does hate to be interrupted. "You've been out of the country for awhile. Right?"

"Yep."

"Doing as little as possible, I presume?"

"C'mon Bill, I was on assignment for Ron Adey; actually John Pile." "So, I suppose you did nothing constructive on the Arrow. Right?" "Wrong. I did layout before being yanked away to California. Did lines loft work." "Missed the rollout then. Too bad."

I hesitated. A closely guarded secret was about to be laid bare. "No. I did not miss the rollout. I flew home for it."

"Ho! Ho! The company pay for the flight?"

Indignantly, I responded, "Certainly not. I paid for the flight out of my own pocket. Snuck away when John wasn't looking. Saw the whole shebang and went right back down. He never missed me. I've seen 'em all rollout the door. Lysanders, Yales, Harvards, a Bell Airacobra, Ansons, Lancasters, the Jetliner, the CF-100 Canuck. You think I'd miss the Arrow rollout? No way man!" I had an afterthought. "And if you blab it around you won't be seeing me again."

"Good, let's get on with the lesson. You built a few Lancaster bombers before you gadded off to the navy. Big bomb bay. Carried a lot of bombs. Right?"

"Right."

"The Arrow has a bomb bay. They call it an armament bay. It'll carry missiles. Zero in on unfriendly aircraft-popright in the brisket-scratch one bogie. The bay is three feet high, eight feet wide, and eighteen long. None of that metric stuff. Not as big as the Lancs, but big enough."

"What! No wing guns, no cannons."

Mr. X. gave a snort. "Get real, man. This aircraft is super high-tech. Supersonic speeds. Get up there. deliver a missile in the gut-boom-their gone. Back to base in time for a beer. Ho-hum, another messy day in paradise."

I was amazed. Mr. X. never made use of light language. The guy had a fun streak in him after all.

Good old Bill ran some high-sounding stuff by me. The "Fly-By-Wire" system whereby, once the bugs were out of it, the Arrow would be fully automatic, capable of flying itself. Just get it to the flight line, punch a few buttons, bingo, airborne, punch in a few co-ordinates, seek out the enemy, mission accomplished, return to base and a drop in light as thistledown. ►

Arrow, cont'd.

The pilot? He has time to read a few paragraphs of his favourite comic book, scratch his ass, yawn, and admire the scenery. He's along for the ride. In case of emergencies.

I began to develop an uneasy feeling. Things were progressing far too smoothly. True, RL-201 has demolished its left U/C and had landed on its tummy and needed a few repairs. True, RL-202 had a bit of a problem with its elevators that lead to a collapse of its right U/C upon landing. A few teething problems, really.

These undercarriages? Damn, they could be a pain in the ass.

The second flight of the Jetliner? The undercarriage wouldn't come down. The first flight of the CF-100? The undercarriage wouldn't retract.

Those spindly looking components could be a royal pain in the butt. Still-the shock of absorbing those hefty pounds of aircraft slamming into the deck would give anything a severe jolt. Right?

A few bruises on the first two airplanes? Nothing our sheet metal artisans couldn't fix, bang out the bumps, replace a few parts here and there, no big deal.

What was really worrisome was the switch in the governing body in Ottawa. We had been warned. "Vote Conservative and its very likely to destroy your livelihood. Keep the Liberal Party in power. Vote Liberal. That's the way to go." The rest of the country thought otherwise. On June 12, 1957 the Conservative Party, led by John Diefenbaker, won a slight majority and became the ruling party in Canadian politics.

I mentioned my contract concerns to all who would listen and was laughed to scorn.

"What? Cut back on the Arrow? Maybe cancel the contract? Never! Too much money has been spent to produce it. It's far and away the best airplane in the world. It's Canada's airplane. Don't be so stupid."

The rumours gathered strength. Articles appeared in the press. The media, never that friendly, began a campaign to discredit our efforts. Far too costly, they said, Canada can't afford such a costly machine. Never a mention made about the return to the government in taxes.

We were told the Minister of National Defense, the Honourable George Pearkes V.C. had made a statement that the Arrow was not capable of reaching an altitude of twenty thousand feet let alone fifty thousand feet, and was therefore incapable of intercepting Soviet bombers. Away went my new-found respect for a politician. Why didn't George Pearkes pay a visit to Avro and get himself clued in on the Arrow and her capabilities before he made such a outlandish statement? Politicians? They need to give their head a shake.

I have always wondered about the ineptitude of some of our political leaders who refused to get off their duff and pay us a visit to see first hand just what was going on. Talk to our enthusiastic personnel, visit the production floor make knowledgeable enquiries, get to the meat of things. Is it so tough to leave their ivory towers, the confines of their comfortable offices, get their ass in gear, and really understand what it's all about? In all fairness, George Pearkes did pay a visit and had a look-see at the Iroquois engine. Good for you George.

My uneasiness intensified, as did my interest in all aspects of the Arrow. By damn, this was one fantastic airplane. I pestered Mr.X., Dave, Lorne Ursel, the test pilot with whom I had more than a nodding acquaintance, while at Point Mugu in California.

As with the Jetliner, I was fascinated by this high-flying mechanical marvel. Following the designs to the floor, I was amazed at the simplicity of the tooling and the jig making. I was now positive that all deadlines could and would be met and any problems overcome by the dedicated and enthusiastic employees of Avro Aircraft Limited. To hell with lunch, my noon breaks were spent climbing on jigs, familiarizing myself with a different section every day.

I knew all the guys on the assembly floor, they held nothing back. I watched the modifications taking place to the nacelles of RL-206 an Iroquois engine standing nearby, ready to be slipped into place. RL-207 adjacent and well down the road to completion. I felt I was beginning to know this airplane very well indeed. If Mr. Ron Adey was through with me, then I would return to my first love-assembly work. I would be able to step in and be a part of whatever section of this wonderful flying machine needed my services. I'd romanced the Lysander and the Jetliner. They were gone. But this? This was a flying machine par excellence.

Exhilarated, I envisaged squadron after squadron of these machines, manned by the best flyers in the world, floating effortlessly over the North American continent, ready willing and able to take on any predators wishing to harm Canada and the United States of America.

Members Matter

Once again, I am sorry to announce the passing on May 12, 2008, of longtime friend and AHFC Life Member, Ernie Alderton.

As of this issue of Pre-Flight, members will be receiving their 2008 membership cards, followed by their gifts for donations.