

Jim Floyd and The Avro Arrow

It started as a dream in 1953 when the RCAF issued a specification for a supersonic fighter aircraft that called for a level of performance well beyond that being considered by aircraft designers worldwide. A machine that was to go into combat at Mach 1.5 and have exceptional manoeuvrability at 50,000 feet without losing speed or altitude. A seemingly impossible dream, but one that came to fruition on March 25, 1958 when Jan Zurakowski test flew the CF-105 Avro Arrow for the first time. It was designed and built in Canada by a team of dedicated engineers and workers. Men and women who came to be known as Avroites.

That wonderful machine designed, built and flown at Malton, Ontario against tremendous odds both in the engineering field and the political arena, was eventually ordered destroyed on Black Friday February 20, 1959 by politicians who had a vision of Canada that perhaps did not match the aspirations of the Canadian public, and certainly not those people in the Canadian aviation community both military and commercial, who had visions of an industry that would be second to none in the world.

The Engineering team at Avro was led by Vice President J.C. Floyd, known in the aviation industry around the world as Jim Floyd.

Jim Floyd was born in Manchester England in October 1914, graduating from the Manchester College of Technology in 1934. He was employed at A.V. Roe in England and worked under one of the greatest aviation designers of the time Roy Chadwick. Jim was a design engineer helping to design the Anson, Manchester, Lancaster, York, and Tudor aircraft. He recalls being asked by Chadwick to design the twin fins for the Manchester bomber, but his drawing did not suit Chadwick and so after several attempts Chadwick sat down and sketched what he wanted. Jim thought it looked like an egg, so with the specifications given to him by the aerodynamics office his final drawing exactly resembled an egg. That "egg fin" design with only slight changes became one of the most recognizable features on the thousands of Lancasters and derivatives, such as the Lincoln, Shackleton, York and Lancastrian aircraft.

At one period Jim was loaned to Hawker Aircraft of Kingston in Surrey, to work for the great aircraft designer Sydney Camm who produced the Hawker Hurricane and other famous aircraft. While at Hawkers Jim received a letter from Roy Chadwick putting forward a proposal for a salary increase from four pounds five shillings per week to four pounds ten shillings per week (\$9.00). A good deal in those days. This was apparently to ensure his return to Avro. During the time spent at Avro in the engineering office Jim met the love of his life, his future wife Irene and at the present time, in Jim's own words "we have now survived almost fifty-eight years of a great partnership".

Jim recalls that there were only two people in A.V. Roe's aerodynamics department in England, and never more than three engineers in the Initial Projects Office where he spent much of his time, and he often wondered how so much was achieved with so few people. Yet from the time that Roy Chadwick told them what he wanted on the Avro York transport, to the time of its first flight, was less than twelve weeks. All of this without the benefit of modern technology and computers.

By the age of 29 he was Chief Project Engineer in the Avro design office in Yorkshire, working on advanced projects including the application of the new jet engine technology to civil transport aircraft.

Jim's first trip to Canada was one to remember because it was in February 1946 aboard a TCA XPP (Lancastrian) transport. He had a two day delay in the Azores because of a burst tire on landing for a refueling stop. Then a day's wait in Montreal for a DC 3 flight to Toronto, with a night on a bench in a drug store in North Bay, all due to bad weather in Toronto, eventually arriving by train in a snowstorm. He had come to Canada to talk to TCA about his design for a thirty six seat transport aircraft for Trans-Canada Airlines, and had told his wife Irene that they would stay for about one year. That was 52 years ago and they are still here!

Jim Floyd was appointed Chief Design Engineer for A.V. Roe Canada in 1946, and project C-102 Jetliner was underway. Again records were made because it took only just over two years from the release of the first drawings to the test flight on August 10, 1949. This was just two weeks after the DH Comet flew in England, but it was the first Jet Transport in North America, and the first Regional Jet in the world to fly.

Jim Floyd was awarded the Wright Brothers Medal in 1950 for his work on the subject of jet powered passenger aircraft, the first non-American to receive the award. However the Jetliner success was not appreciated by the Canadian Government and with the advent of the Korean war, absolute priority was instead given to the production of the CF-100 fighter aircraft, and in 1952 Jim was appointed Chief Engineer to form a team of engineers to rejuvenate the lagging CF-100 program. He was later promoted to Vice President Engineering. The Jetliner was used as a photoship during the test flight program of the CF-100, and despite the declared interest of T.W.A., National Airlines and the US Air Force, it was never put into production and was destroyed in December 1956. The record-breaking flights of the Jetliner into the United States brought international recognition and respect for Canada's engineering ability.

The story of the Avro CF-105 Arrow is well documented in this calendar, and after its demise brought about by Mr. Diefenbaker's Conservative Government, Jim Floyd went to England with some of his team. In 1962 he established his own consulting firm and for 18 years worked with airlines and aviation companies world wide. He was consultant to the British government on the SST Concorde project during the eight years of its development, and after his retirement in 1980, returned to the Canada he loved, having become a Canadian citizen in 1951.

During his long career in aviation he has received numerous awards, Fellowships, and Medals of distinction. In 1958 he gave the British Commonwealth Lecture to the Royal Aeronautical Society in London England, on the subject of the design and development of the Arrow. In March of 1961 he was invited to give the Roy Chadwick Memorial Lecture, to the Royal Aeronautical Society. He talked about problems encountered in his SST studies and the design of a "No Boom" supersonic transport aircraft. His paper entitled "Some Current Problems Facing the Aircraft Designer", is still considered an all-time classic design reference and was featured at a unique gathering of International aviation professionals at the University of North Dakota in September 1988, more than 27 years after he had written it! For this paper, he was presented with The George Taylor Gold Medal by the Royal Aeronautical Society in 1962.

Jim Floyd was inducted into Canada's Aviation Hall of Fame on June 3, 1993, with the following citation "His outstanding accomplishments as an aeronautical engineer, manager and leader and his superb organizational skills in the field of aeronautical engineering have been of lasting benefit to Canadian Aviation". This was an honour so well deserved, but he told me that he can only accept these honours on behalf of the men and women of his team, who made it all possible.

For her 75th birthday Jim presented his wife Irene with a ticket for a flight on the supersonic Concorde. This reflected the changes in aviation since he first came to Canada in that old Lancastrian so many years before, but it also reflected the important part that Jim Floyd played in forming the face of aviation throughout the world.

Now retired he spends most of his time encouraging young Canadians to remember the achievements of Canada and to go forward and emulate the traditions laid down by his team.

After Black Friday that team spread their influence throughout the aviation and space industry across the world, and as Jim has often said "One thing is sure, Canada will never see the likes of that great team again."

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