

## A Mississauga Legend: The AVRO Arrow

By Eric Gibson

Legend tells us that in the 14th Century William Tell used an arrow to shoot an apple off the head of his son – an act which led eventually to the freeing of the people of Switzerland from tyranny. In Canada we also have an arrow legend - one which tells of a political leadership which destroyed an arrow and along with it one of the nation's major industries and much of that industry's hopes and dreams. The legend is really a Mississauga legend for the arrow in this story manifested itself in Malton not so many years ago. Just enough years for the story to become a legend and to ensure that it will be passed on to future generations. This is not a legend in the sense of Camelot and King Arthur, but it is a legend never-the-less. It will become an enduring legend and we will hear much about it during the next two years. The legend tells of not just one, but of several arrows. They were known collectively as the CF-105, or to use the better known title, the *Avro Arrow*. But, unlike the William Tell legend nothing good for Canada came out of the tragic story, though one of our neighbours did find some benefit. After the destruction of the *Arrow*, many of the engineers and technicians who had built them moved to the United States to find work in that country's space programme. Those Canadians, and there were quite a few of them, had a great deal to do with helping our neighbours fulfill their dreams and aspirations by enabling men to walk upon the Moon.

So, what is this *Avro Arrow*, and why has it become a legend? Many readers already know the story and many more have heard about the programme without knowing the details. It all happened a mere 50 years ago so some will have seen the *Arrow*, heard the *Arrow*, helped to build the *Arrow*, perhaps even helped to destroy the *Arrow*.

The story took place during a dark period of world history known as the *Cold War*. This was a period following the Second World War when instead of enjoying an era of peace, Russia and the United States spent a large number of years and a great deal of effort in threatening each other and engaging in an unbelievably expensive arms race. By the middle 1950s, this had escalated to the stage where each side was threatening the other with nuclear bombs to be delivered by supersonic aircraft flying over the North Pole. Canada was right in the flight path of such an attack and had no option but to take a major role in defending North America against the potential Russian threat.

There were no existing aircraft which could carry out this role and Canada, which at that time had a very strong aviation industry, undertook to design and build a suitable supersonic interceptor. This aircraft would have to be a major advance on any aircraft flying, or even contemplated. It would have to be capable of flying long distances over the Arctic where few navigation aids existed. It had to seek out and destroy an enemy which was approaching at supersonic speed. Thus the *Arrow* itself had to be capable of flying at supersonic speeds while carrying a huge load of electronics and weapons.

It was just 50 years ago that the *Arrow* first saw the light of day – the first aircraft being rolled-out on October 4th, 1957. However, the celebrations were seriously flawed because on the very same day, Russia successfully launched its *Sputnik* satellite into orbit around the earth. This event marked the opening of the space age, bringing the threat of attack by missiles one step closer to reality. This of course cast a very dark shadow on the viability of the *Arrow*, for manned fighter aircraft could not hope to defend against a missile attack.

Even though *Sputnik* created a dilemma for both the government and the Royal Canadian Air Force, the test programme for the *Arrow* went ahead as planned and it proved to be very successful. The first batch of five aircraft was powered by an interim engine with only 80% of the thrust of the engines intended for the production *Arrows*, but even with this penalty the aircraft exceeded the RCAF requirements. There

were some problems, but mostly of a minor nature. The most visible of these were two incidents which ended with the collapse of the landing gear and the aircraft lying ignominiously on the grass. The company and all of its employees were anxious to see aircraft number six completed and put through its paces, for it was fitted with Orenda *Iroquois* engines which had been custom designed for the *Arrow*. Once it was available, the aircraft would be able to reveal its full potential.

Of far greater concern were the political and financial problems associated with the *Arrow*. A change of government between concept and roll-out had brought in the Conservatives under John Diefenbaker, with a platform of social change and reduced spending. The *Arrow* ran contrary to these objectives and it is believed in some quarters that Diefenbaker intended to stop the programme from the time he took up office. In addition costs were escalating at an alarming rate. The *Arrow* was a very complex aircraft requiring many design changes to be made during development. The armament which the aircraft was to carry was never clearly defined and since a suitable “off the shelf” engine was not available, it was necessary to design new engines for the aircraft. In addition, there was a faction which maintained that the day of the manned fighter aircraft was over and that “anti-missile missiles” were what Canada needed.

In late 1958 following a visit to Canada by American president Eisenhower, a cabinet decision seems to have been made that the *Arrow* would be cancelled and would be replaced by a defence sharing arrangement based on the use of American *Bomarc* missiles. This cancellation was not announced until Friday February 20th, 1959, an infamous date in Mississauga’s history. It will be forever known as “Black Friday.” At Malton, about 15,000 employees were suddenly without jobs, and Canada-wide another 10,000 or so people were in the same position at the various sub-contractors.

Here the story should have ended, but it didn’t. The government had made the cancellation decision in secret without public or parliamentary debate and without advanced notice to those involved. All work on the *Arrow* was halted immediately. Permission to complete the sixth aircraft – it was the one powered by Orenda *Iroquois* engines and was 98% complete – and to “see what it could do,” was vehemently denied. Then came the worst blow of all - an order to destroy all completed and partially built aircraft, along with drawings, specifications, reports, tooling, spare parts etc, etc. In other words destroy everything that could possibly come back to haunt the government.

A very small number of large components escaped destruction and were sent to the National Museum of Science and Technology in Ottawa. An unknown, though probably large, number of small parts were “liberated” by employees, occasionally to be brought out of their hiding places and shown to interested and sympathetic friends. There is even a story of the “one that got away.” This seems very unlikely, though various versions of the story persist to this day. The favourite one tells of Malton being awakened by what everyone assumed to be an *Arrow* taking off at full power in the darkest hours of the night, being spirited away, perhaps to be hidden in a farmer’s barn somewhere. Another says that over a period of several nights a fleet of heavily laden canvas covered trucks left the plant for an unknown destination.

All of this, together with the fact that Prime Minister Diefenbaker’s memoirs say not one word about the *Arrow*, is the stuff from which legends are made. And there is no doubt that the *Arrow* has already become a legend – a Mississauga legend, and one which will gather strength over the next two years as the story of 50 years ago, in all of its forms and with all of its embellishments, will be told over and over by those who were there and by those who were not.