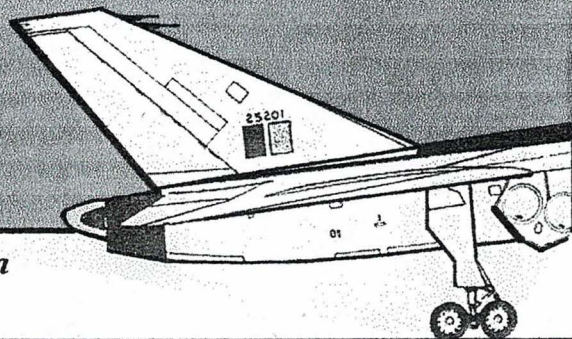


Pre-Flight

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IMPOSSIBLE? - of course! [Part 2]

After moving from Russia to Poland, Jan Zurakowski learned to fly in 1935 and joined the Polish Air Force. In 1939, he escaped to England and joined the RAF, becoming an instructor, then commanding officer and fighter pilot, destroying six enemy aircraft. Toward the end of the war, he became a test pilot, first with the RAF and then Gloster. The world took notice when he performed his famous cartwheel in the Gloster Meteor. He did other seemingly impossible aerobatics in the CF-100 at Farnborough in 1955. He was a consummate professional, planning and evaluating everything he did with the aircraft entrusted to him. Not one to waste time or deciding to press a point of view, he would resort to fractured English to terminate a discussion or situation.

JAN ZURAKOWSKI is a retiring man who does not seek the limelight and who is often embarrassed when he holds it. Yet it would be quite wrong to call him anti-social. He is not. Although he does not drink, he will go along to the local with his colleagues and become quite as merry with his glass of orangeade as they do with their pints. Zura does not suffer fools gladly, but will be quite willing to drop whatever he is doing to explain a point to someone who genuinely wishes to know. The theoretical side of flying never ceases to interest Zurakowski. He visualizes a situation and then sits down and consults his numerous home-made graphs and tables, gets out a slide rule, jots down some figures, ponders a while and then jots down some more. Often this will go on for days. Some embarrassing situations can develop from these scientific sessions for the legitimate boffins who resude to take his findings seriously. Nearly always he is right. His insight, even into things which do not concern him in the least, never ceases to amaze his colleagues. Jim Cooksey, who joined Gloster's as a test pilot at the same time as Zura,



recalls how he saw him lean back from a lengthy series of calculations with a sad and puzzled face. Cooksey inquired in his best Zuraese:

"What you do? What the story is, little man?"

"I cannot understand," replied Zurakowski, "why they are knocking down the village of Filton so that the Bristol runway can be extended for the Brabazon to take off. That aeroplane,

(cont'd on p. 2)

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AHFC

Aerospace Heritage Foundation of Canada



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From the President:

The bad news, as reported in the last issue of *Pre-Flight*, was that the film maker from British Columbia had withdrawn from the AHFC underwater recovery project until next year.

The good news is that we have concluded an arrangement, subject to weather, to get the sonar grid search done at the end of August. And further good news is that I have received the draft conservation and recovery plan from the Canadian Conservation Institute, outlining in great detail the required procedures to be followed on this project.

Still more good news is that Treasurer Al Sablatnig has found a source that provided information on Corporate sponsors who fund non-profit organizations such as AHFC. We will be following up on this.

At the July meeting of the Board of Directors, it was decided to explore new projects which would be relevant to our mission statement. To this end, our meeting in August will be devoted to this topic alone.

Any and all ideas and suggestions from members are most welcome.

Impossible, cont'd.

when it makes its first flight, will take off in four hundred yards." It was a year after this, that the Brabazon made its maiden flight. And Zurakowski was proved quite correct!

The famous cartwheel on the Meteor was a by-product of one of Zura's researches into the unknown. He was down to demonstrate a Meteor powered with Armstrong Siddeley Sapphire engines. These gave the aircraft almost a 1:1 thrust weight ratio and the obvious way of demonstrating it was to haul it straight off the runway and with something like 120 knots on the clock, point almost vertically upwards.

This Zura agreed to do. The slight risk involved was an engine failure at low level while the aircraft was pointed skywards. Zura gloried in low-level work and this unlikely prospect did not deter him. But it did intrigue him. What would happen if an engine cut with the aircraft vertical? Out came the slide-rule and graphs; Zura worked it out on paper, pulled a wry face at the result and decided to verify it in the air.

The Meteor Zura was working on at that time had eight rockets slung under the wings and was fitted with the less powerful Derwent engines. Next time up in this aircraft, his tests for Glosters concluded, Zura went into his own private test programme. He put the Meteor into a vertical position with 120 knots on the indicator and both engines at full power. Then he chopped one engine and, to make up for the less powerful Derwent, slammed on full rudder into the bargain. The resulting cartwheel, prolonged to 2 1/2 turns by the fly-wheel motions of the rockets, surprised even Zura. He realized the sensational possibilities of the manoeuvre and, after a year's diligent practice, astonished the crowds at Farnborough with it.

Impossible, cont'd

Zura's habit of conducting his own private testing programme alongside the official one has produced several awkward moments. On occasions he found himself ahead of the company programme often to the frustration of the flight test boffins.

It was not long after he had left Glosters to join Avro Canada that he was seen performing, of all unlikely manoeuvres, tailslides in a CF-100. He pointed the nose up, cut power, let the aircraft come to a standstill and then slide backwards for a short way before putting the nose down to fly in the right direction. When he landed, he said nothing about this manoeuvre and the Avro team were left wondering.

Then, a short while later, the research department decided that a few tail slides in the CF-100 would help clear up a technical point that was worrying them at the time. Zurakowski was obviously the man for such a job and he was called in and the point explained to him. Zura listened impassively and then pronounced solemnly:

"Tail slide in this aircraft no good. Can't do."

"But," said one of the exasperated research team, "we know it can be done. We saw you doing tail-slides only the other week!"

"Ah!," Zura explained politely, "that was for *me*. For you, tail-slides no good." And that had to be that.

At another stage in the CF-100 flight-test programme, Avro was having a little trouble with the fuel-flow measurements. The engineers were under pressure from Zura to investigate the readings from the electronic counting circuits which were apparently faulty. The engineers did not have too much success, although they did everything they could to justify their readings. Still the gauges did not agree with the actual amount of fuel left in the aircraft. At this time, Zura had been quietly checking the pilot's fuel gauges with the weight of fuel left after each flight. Then one day after landing, he sauntered over to the engineers, his helmet still under his arm.

"You want to know how much it weighs?" he asked them. The engineers had had no luck with their calculations, so they waited for Zura's pronouncement.

"It weighs thirty thousand, four hundred pounds," he said, and then walked off.

As Zura made this pronouncement, the weights engineer was just finishing adding up the figures obtained through weighing the aircraft. They came to 30,400 pounds precisely.

If ever a man is entitled to a swollen head, it is Zurakowski. But he remains essentially modest. His shy smile, puckish sense of humour and individuality have made him lasting friends wherever he has been – even among the scientists who have been thwarted by him.

In making the first and most important flights of the Avro Arrow before retiring from active flying, Zura has, no doubt,

achieved a personal ambition. But his true ambition lies deeper than this. Zura is essentially a family man and, because he felt his exile from his native country deeply, is quietly determined to secure an established future for his wife and children.

As a Canadian citizen, with both feet on the ground, Zura seems to have achieved this. But it does not mean that the world of aviation had heard the last of him. Jan Zurakowski remained with Avro as a Staff Engineer, Technical Design Division. There was plenty of opportunity for him to add his distinctly individual mark on the world of aviation engineering as he had done on the world of flying.

**– Profile by Geoffrey Norris
RAF Flying Review**

OBITUARY

**Tom McMillan
(1931 - 2001)**



Tom McMillan, 70, died on Saturday, July 7, 2001 in the Credit Valley Hospital after a long battle with leukemia. Born Thomas James McMillan, everyone knew him as Tom or Tommy. He started in the automobile business in partnership with Eric Saunders in 1957 selling British cars such as Jaguar, Rover, Austin and MG before becoming a Volvo dealer. He was a Volvo dealer for 33 years.

McMillan and Saunders were operating two dealerships with 61 employees in Mississauga at the time of McMillan's death, including the original outlet on Derry Road West and in the Erin Mills Auto Campus which was opened in 1996. McMillan was one of the first to be involved in the creation of what became the Toronto Automobile Dealers Association (TADA). His son Rob is a director of TADA and has served the association on many committees.

McMillan was known for his involvement in the community. One example was six years ago to fund the restoration of a CF-100 all-weather interceptor that had been built in the AVRO aircraft plant in Malton. He is

survived by his wife of 48 years, Henrietta (Rita) and children Karen and her husband Nick Nano, and her son Rob and his wife Beverley. He is also survived by grandchildren Paolo, Marc-Thomas, Victoria and Thomas.

Funeral services were held at St. Peter's-on-the-Hill Erindale Anglican Church, followed by cremation.

The family is asking that donations be made to the Leukemia Research Foundation.

The following letter from AHFC was sent to Henrietta McMillan:

On behalf of all members of the Aerospace Heritage Foundation of Canada, I wish to express my sincere condolences to you and Rob on the passing of our good friend, Tom.

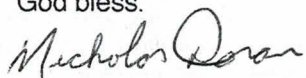
You husband was a true friend of our Foundation. He was the first to step forward to make a substantial donation to the refurbishing of the CF-100 in Malton, as a tribute to the men and women of AVRO and Orenda.

When I asked Tom to attend the re-dedication at the Legion Hall, he said, 'no', as he did not want to be centered out. All he wanted was to see the project completed. We were so pleased to see Tom and yourself in attendance that day.

May the memories of your life together stay with you always.

With your permission, I would like to continue sending you our newsletter for as long as you wish.

God bless.



Nicholas Doran,
Past-President/Membership Secretary
Aerospace Heritage Foundation of Canada.

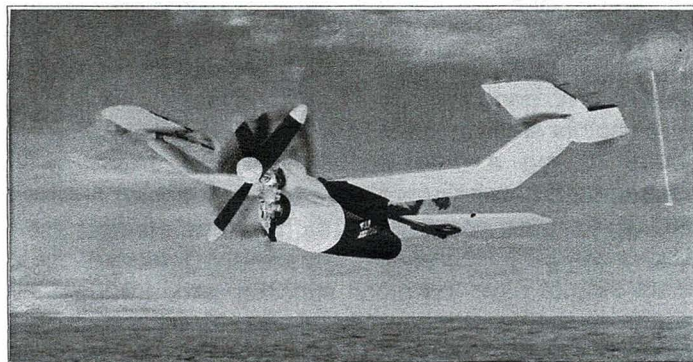
Aeronews

Arrow 2000 Project

It's been around for just four years, but this new charitable, non-profit, volunteer organization is moving ahead rapidly. It is actually a museum, located in Calgary and is dedicated to presenting the accomplishments of Avro Canada. And the museum has a worthy goal, somewhat similar to AHFC: to educate the Canadian public (and Calgary is a great location from which to start!) to the achievements of Avro Canada. Besides developing the museum, it has an intriguing objective - to build a 2/3 scale piloted replica of the Arrow.

Hence the museum's membership in the Recreational Aircraft Association of Canada (RAAC). It also belongs to the Alberta Museums Association, as it should; the Canadian Museums Association and the Canadian Aeronautical Preservation Association (CAPA). AHFC too is a member of CAPA; please note the CAPA logo on p. 2. The museum already has gathered a significant number of artifacts and related materials. These will help the members to gather stories of accomplishments, and the men and women who made them possible. But the biggest challenge is to build a piloted replica of the CF-105 Arrow, within the limits of Canadian recreational aircraft legislation. If all goes according to schedule, the replica's first flight will take place on March 25, 2008. The project already has forged partners, including educational institutions: Southern Alberta Institute of Technology (SAIT) and the University of Calgary. The project has also connected with many varied corporate sponsors like Abson Graphics, Canadian Pacific, PG Computer Services, SPAR Aerospace, and the like. AHFC wishes Arrow 2000 Project many successes along the way to the First Flight in 2008!

A Pumped-up Plane



Aircraft cost money, some more than others. Companies and individuals with deep pockets can design and build new types. The rest of us can just dream and sigh. Or construct a scale, radio-controlled flying model. But even these still cost a lot of money. There is hope on the horizon with the "Air Hog" XT-9 from Spin Master Toys (\$30 US - www.spinmaster.com). It's an ultralight single-prop plastic and styrofoam plane that can climb up to 80 meters - all on compressed air. It has a tricky but efficient propulsion system. Air is forced into the fuselage via a pump; a cylinder immediately begins to work when the prop is flicked, spinning at 4000 rpm. And to make things more interesting, the Air Hog has free-spinning rotors (à la autogyros in the '20s to '50s) which can permit the plane to almost hover. According to *Discover* magazine, it takes a bit of practice to get the thing to do manoeuvres (quick turns, loops) and a lot depends on the wind of the day. Another interesting toy for the person (younger or older) who has everything.

pf