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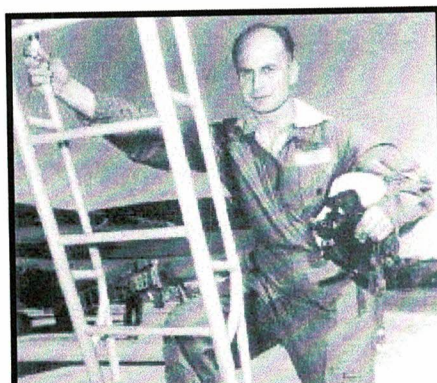


In early September, 1998 I received an e-mail from Bill Bialkowski asking about information available on Janusz Zurakowski. There were very few references to Zurakowski to be found on the web. Bill advised that he was writing a biography and asked if I would review it and post it on the Avro Archive. Bill's biography of Janusz Zurakowski follows.....

David Mackechnie - October, 1998

Janusz Zurakowski

Portrait of a World Famous Pilot





By
W. L. Bialkowski
September 1998



Foreword

When the Avro Arrow was canceled in 1959, my father, S/LDR Ludwik Bialkowski left Canada for the USA to continue his career in aviation design. I was 19 years old and an engineering student at the University of Toronto. I stayed in Canada. Each summer, our extended family – children, grandchildren, and eventually great-grandchildren -- would assemble in Barry's Bay, Ontario and visit Kartuzy Lodge, on Lake Kamanisseg. Janusz Zurakowski built Kartuzy Lodge after the Arrow was canceled. When my father retired, he bought "Wolf Lake", the property next door. I have had the good fortune to meet Janusz Zurakowski every year for nearly forty years. After taking up flying, I once flew a check-ride in a floatplane to Lake Kamanisseg and landed in front of Kartuzy Lodge. My flight instructor and I taxied up onto the beach and were met by Janusz and Anna. After our brief visit, I realized that my young instructor had never heard of either the Avro Arrow or Janusz Zurakowski. It was this event which propelled me to write this profile – for the younger generation.

In 1955, I attended the Farnborough Air Show, Britains major aviation event. The show stealer was Jan Zurakowski – "Zura", flying amazing aerobatics in a Canadian CF-100. Having taken a course in "basic aerobatics" I have an appreciation for how hard it really is. There have been many articles written about Janusz Zurakowski. Most of them tend to emphasize the latter part of his flying career. In my opinion

none of them do justice to all of his accomplishments. This portrait attempts to bring the salient points of his long and illustrious flying career together in one document. Unfortunately after 50 years, some of the details have been difficult to verify, and with conflicting information in some of the literature sources it has been difficult to be strictly objective. Fortunately, Janusz Zurakowski has very kindly reviewed my work and verified the main facts.

W. L. Bialkowski

Janusz Zurakowski - Portrait of a World Famous Pilot

Janusz Zurakowski is a quiet unassuming man, and anyone meeting him would never imagine what he has lived through. Yet he is one of the most accomplished pilots in the World, and is Canada's most famous pilot alive today.

He was born in Ryzawka, Russia, of Polish parents, on 12 September 1914. In 1921, after the Bolshevik revolution the family immigrated to Poland. He attended high school in Poland and at age 15, while taking part in a competition of flying models he won a prize: a flight in an aeroplane at the Lublin Flying Club [1]. By 1932 he learned to fly gliders, and by 1934 he completed his matriculation and joined the Polish Air Force. He was educated at the Polish Air Force Officers' School in Deblin [2]. He learned to fly in 1935, and was commissioned as an officer in the Polish Air Force in 1937, at which time he became a fighter pilot and was posted to 161 Fighter Squadron in Lwow. He loved to fly and spent all his vacations flying gliders. Once while flying a Delfin at night he crashed when his wing tip hit a tree. In March 1939, Jan became a flight instructor at the Central Flying School in Deblin and flew the PZL P7 fighter [3].

The P7 fighter was designed in 1931 as an all-metal monoplane, with the unique Pulawski gull-wing [4]. Most other countries at the time were still flying cloth-covered bi-planes; hence in 1931 the P7 was well ahead of its time. By 1933 the P7 design evolved into the similar, but more powerful and better armed P11. This fighter became the primary equipment of the Polish Air Force fighter squadrons, and represented the core of Poland's front line defense at the outbreak of World War II. Unfortunately for Poland, by this time Germany and many other nations had much more modern machines, with retractable undercarriage, cannon armament and speeds well in excess of 300 mph. Although Poland had new designs on the drawing board and in prototype stages that came close, or even exceeded these performance figures, the P11 remained the equipment in the front line squadrons at the outbreak of the war.



PZL P 7a fighter
Central Flying School, Deblin, 1939

On 1 September 1939 war broke out, and over the next 17 days the might of the German Luftwaffe was unleashed against Poland. The Polish Air Force faced impossible odds. The strength of the German forces amassed against Poland numbered about 2000 aircraft, including some 1000 bombers and 500 fighters, or about two-thirds of the total Luftwaffe strength [5]. Against this the Poles had a total of 392 aircraft, including only 158 fighter aircraft most of which were PZL P11's. Hence for the fighters, the odds were more than 12-to-one. The situation quickly became desperate. The Polish fighter pilots fought bravely, however, their P11's with four machine guns and a top speed of 242 mph, were no match for the Germans' Messerschmitt Me-109E's, with a top speed of 354 mph and an armament including 20 mm cannon [6]. Nevertheless the Poles fought valiantly and shot down 126 German aircraft. On 2 September,

Jan, had his baptism of fire, as a flight of 7 Dornier 17's attacked Deblin. He dived his P7 (top speed of only 197 and two 7.7 mm machine guns) to the attack, but unfortunately he was not successful – after opening fire his guns jammed and the German bombers which were faster than his P7, were playing cat-and-mouse with him. As the Dorniers withdrew into the distance his hopes were raised slightly as one of the aircraft was seen to be trailing white smoke from a damaged fuel tank. In the meantime his aircraft had a number of bullet holes through the wings [3].

A few days later, Janusz and other instructors were given instructions on how they were to go to Rumania to pick-up a shipment of Hurricane fighters that had been delivered from Britain. However, on September 17 the Soviet army attacked Poland from the East and the Polish campaign collapsed. Jan like many other Polish airmen escaped from Poland, with the hope of fighting the Germans from another country [3]. He made his way to France and to England in January 1940. This was six months before the start of the Battle of Britain, and Germany's attempt to invade the United Kingdom [22].

Janusz was inducted into the RAF (RAF No. 76715) [2] at Eastchurch shortly after he arrived in England. At this time, Britain was preparing for the German invasion, and it was clear to Winston Churchill and the RAF that Hitler's first operational need would be to establish air superiority over southern England. Hitler had about 3300 aircraft amassed in Northern France, in preparation for the assault on Britain [5, 7]. Opposing him stood RAF's fighter command consisting of a total of some 55 operational fighter squadrons. Of these, there were only 19 squadrons of Supermarine Spitfires and 26 squadrons of Hawker Hurricanes. The total number of fighters amounted to about 660, and more importantly there were only about 1300 pilots -- aircraft could be replaced, pilots could not be in the heat of battle [5]. In August, just as the Battle of Britain was starting, Janusz was posted as a Pilot Officer to No. 234 Squadron, which was operating at the time from St. Eval in Cornwall. It moved to Middle Wallop in the Portsmouth-Southampton sector to be closer to the action. He was flying a Spitfire Mk. 1.

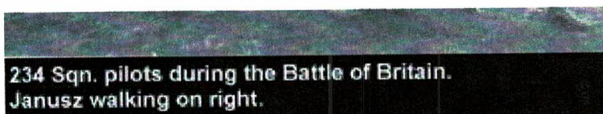


234 Sqn. Spitfire, Middle Wallop, August 1940

The Battle of Britain started in earnest on 8 August 1940 [7], and by the middle of August the German air force was raiding England daily and many fierce air battles were taking shape over the skies of southern England. Janusz was in the thick of the action. "As a fighter pilot Zurakowski showed the same cool, clinical approach which was to characterize his test flying in later years" [Norris, 8]. On August 15 he shot down a Messerschmitt Me-110 twin engine fighter over the Isle of Wight [2, 11]. Nine days later, on August 24, while flying Spitfire N3239, he was shot down by a Me-109 flown by either Oberstleutnant Hans-Karl Mayer of I/LG53 operating from Rennes; Le Touquet [2], or Lt. A. Zeis of Stafel Jagdgeschwader 53 [22]. Fortunately he bailed out and was unhurt. In the late afternoon of September 5, 1940, he shot down a Messerschmitt Me-109E. His report [8], made out immediately after landing, shows none of the excitement or elation, which might have been expected after a victory with the RAF.

"I was Blue 2" wrote Zura, "and we were flying at 22,000 feet. I went down to investigate two machines and then saw a Me-109 flying south at 14,000 feet. I approached from astern and as he turned gave a short burst from 100 yards. He half rolled and dived and flew low due south. I stayed on his tail and fired one burst at 140 yards and then the rest of my ammunition from very close. After my first attack he was smoking slightly and, later, heavily. The enemy pilot opened his hood as he crash-landed on the sea. The pilot got out and two minutes later the machine sank. I used all my ammunition. The Me-109 out-dived me, but I overtook him easily flying straight and





234 Sqn. pilots during the Battle of Britain.
Janusz walking on right.

level" [8].

He shot down another Me-109 the next day, September 6, but his Spitfire (N3279) was damaged and he had to crash-land [2]. The aircraft overturned when it landed, but fortunately, he was not hurt [8]. On September 28, towards the end of the Battle of Britain, he engaged and probably destroyed a Messerschmitt Me-110 while flying South of Exmouth [2]. This is listed as a "probable".

By September 11 the losses of pilots and especially the leaders of 234 Squadron was so high, that only ten pilots were left, Janusz included. The Squadron was moved back to St. Eval in Cornwall to "lick its wounds" [3]. This did not suit Janusz very well and he requested a transfer to a Squadron that was actively involved in the fighting. On October 6, 1940, he was posted to 609 Squadron, which was still operating from Middle Wallop, under Squadron Leader Michael Robinson. By this time however the Battle of Britain was coming to an end. It is appropriate to recall Winston Churchill's famous saying about those who fought in the Battle of Britain: "Never in the field of human conflict has so much been owed by so many to so few" [7]. Janusz is one of those "few" – who changed the course of history. His signature can be found, with those of other Battle of Britain pilots, on the blackout board at the White Hart Inn near Biggin Hill [Norris, 8].

In February 1941, by which time he had been credited with the destruction of two Me-109's, an Me-110, and a third shared as a probable, he was awarded the Cross of Valour with Bar. In March 1941 he was posted as a flight instructor to 57 Operational Training Unit. He then moved to several other OTU's ending up in No. 58 [2].

In the spring of 1942 he was posted to 315 (Polish - Deblinski) Squadron which was based at Northolt [2]. This was the first time that Janusz flew directly with his Polish countrymen – all other units he had flown in since arriving in Britain were British. No. 315 Squadron was commanded by Major Stefan Janus [5], and was equipped with Spitfire II's. In April 1942 he was promoted to



316 Sqn. Spitfire VB, 1943

Flight Lieutenant and was posted to 306 (Polish - Torunski) Squadron as a flight commander. The Squadron was based at Church-Stanton [22]. It was commanded at the time by Captain Tadeusz Czerwinski, and was equipped with Spitfire Mk. VB [2, 5]. In June 1942 he was promoted to S/LDR to command 316 (Polish - Warszawski) Fighter Squadron operating from R.A.F. Station Heston and later from Cranswick. In January 1943 he was posted to R.A.F. Station Northolt as Section Gunnery

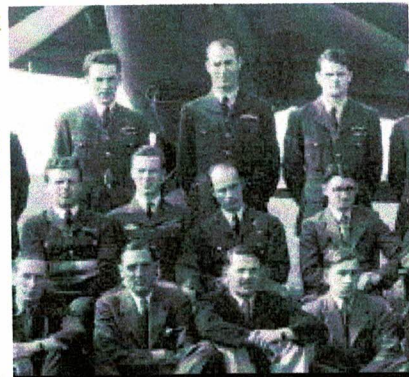
Instructor (S/LDR rank). To keep in practice he took part in some fighter sweeps over France, and on May 17, he damaged a Messerschmitt 109.

In July 1943, he was promoted to Deputy Wing Leader of the Polish No. 1 Fighter Wing stationed at Northolt, and led the Wing in 46 combat sorties. These consisted mainly of escorting the U.S. Army Air Force bombers on their daylight raids on Germany, as well as flying fighter sweeps over occupied Europe.

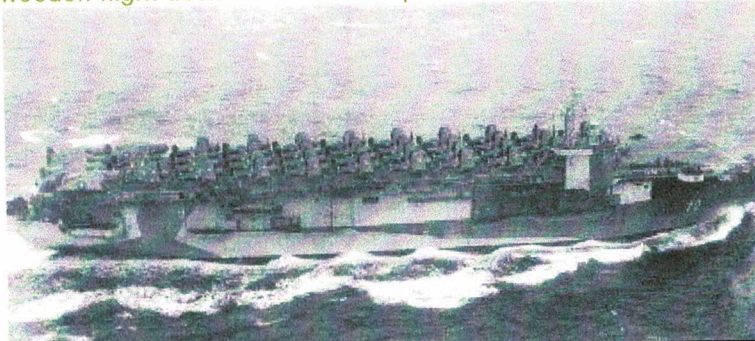
He was awarded the Virtuti Militari (the Polish equivalent of the Victoria Cross). In December 1943 he was posted to Fighter Command H.Q. at Stanmore and was in charge of tactics and training [22].

In March 1944 Jan was posted to the Empire Test Pilot's School [2, 9]. This marked the end of his operational career as a fighter pilot, and the beginning of his career as a test pilot. His operational flying includes over 150 operational flights with RAF Polish squadrons alone. His air victories consisting of 3 destroyed, one probably destroyed and two damaged [11].

On completion of the Empire Test Pilot's School in 1945 Janusz was appointed to the A&AEE (Aircraft & Armament Experimental Establishment) at Boscombe Down [14] near Salisbury as a Squadron Leader. A&AEE was charged with determining that the flying characteristics of all aircraft intended for British service were suitable for their intended purpose. The A&AEE organization was sub-divided into four "Squadrons", with "A" Squadron testing fighter aircraft, "B" Squadron testing bomber aircraft, "C" testing Fleet Air Arm aircraft for the Royal Navy and "D" squadron for non-military aircraft [22]. Initially Janusz was assigned to "C" Squadron, and became involved in testing both British and American naval aircraft. By the end of War II British naval fighters such as the Fulmar and Firefly were quite inferior in performance compared to American naval fighters such as the Hellcat and Corsair. As a result, the Air Ministry wanted to investigate the possibility of converting all possible RAF fighters for naval use. Even though Janusz was test flying naval aircraft, he had as yet never landed on an aircraft carrier and hence could not evaluate this aspect of their performance. To correct this, he was sent off for a quick practice in carrier deck landing, or ADDL's (Aerodrome Dummy Deck Landing). These simulated carrier landings were carried out at the Naval Air Station in East Haven near Arbroath, Scotland, which operated a deck landing school. Here Janusz underwent practice landings on a "carrier deck" painted on the runway and was guided down to the deck by the hand signals of a Deck Landing Control Officer, or "Batsman". On completion of this training he was sent off in a Seafire III to H.M.S. Ravager [12], the training carrier which was operating in the North Sea off the Scottish coast. The Seafire III was a navalized version of a Spitfire V, with an arrestor hook and folding wings. Ravager was one of the thirty seven escort carriers built in the US and transferred to Britain under lend-lease. They had merchant ship hulls with a small wooden flight deck mounted on-top. Janusz was doing his first real deck landing in a Seafire with



The first class, British Empire Test Pilot's School, RAF Boscombe Down, 1944



HMS Ravager ferrying aircraft, 1944.

its poor visibility over the nose, its narrow-track undercarriage and its notorious record for deck landing accidents, aboard an escort carrier with a flight deck measuring less than 500 feet. In the event he was such an experienced Spitfire pilot that he completed four sets of landings and take-offs without incident [22]. He is certainly one of the very few Polish pilots to have ever landed on a British aircraft

carrier.

Later, Janusz was assigned to "A" Squadron, and flew most of the new British fighter aircraft designs that were being tested at the time. One aircraft of note was the de Havilland Vampire, Britain's first jet fighter.

It was while he was at Boscombe Down that Jan Zurakowski started to earn his reputation as an extraordinary aerobatic pilot. While test flying the de Havilland Hornet twin engined fighter, Janusz relates: "I should mention that before the war, in Poland, I was flying quite a lot on gliders and learned a bit about aerobatics: so I thought 'Why not try a loop on a Hornet as a glider, with both engines switched off?' First I tried a few times at a safe altitude. I needed about 400 knots for a fairly round loop with recovery above the starting

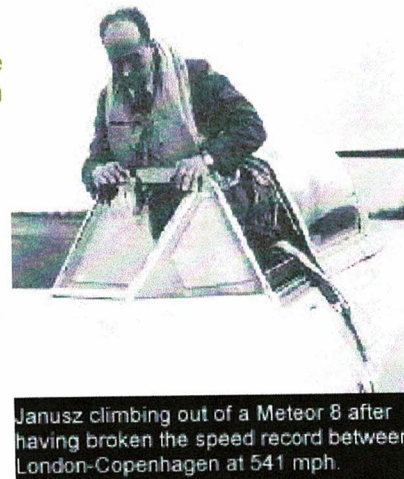


DeHavilland Hornet during trials at A. & A.E.E., Boscombe Down

point. One day I demonstrated this "no engines" loop, quite successfully for some VIP at Boscombe Down" [1]. It was on the Hornet, which had two powerful Merlin engines mounted quite far apart, that Janusz made his first attempt at a cartwheel. He relates "Later I made a few attempts to make a horizontal 360 degree flat rotation by cutting the power of one engine (the other at full power), but even at stalling speed the asymmetric power was not enough to overcome the drag of the fin and rudder. The only way to do a cartwheel was to reduce speed to about half stalling speed. This was not possible in horizontal flight but possible in vertical flight [1]." In the "Hornet File" Lewis G. Cooper [15] notes: "Zurakowski ("Zura") never let an opportunity pass by without giving the staff a display which usually included single-engine aerobatics".

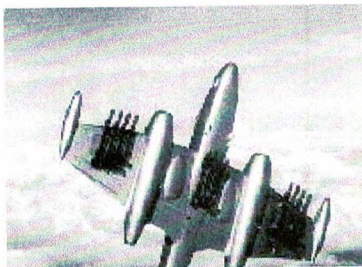
In 1947 he left the A&AEE and joined the Gloster Aircraft Company as test pilot [2]. Here he was involved in the test program for the Gloster Meteor and the Javelin jet fighters. The latter had a delta wing platform much like the Avro Arrow, which Jan was to fly later [16]. With the Meteor he established a new London-Copenhagen-London air speed record [1, 17].

Norris in his book "Jet Adventure" [8] provides a number of interesting anecdotes about Janusz in the chapter entitled The "Impossible" Pilot. It is interesting that this book was published in 1962 in Britain, a full ten years after Janusz had left England for Canada, and that at no time had Norris interviewed Janusz in person [22]. One must conclude that Norris had interviewed other people who had worked with Janusz at various points in his career. Norris writes of Janusz's difficulties with English. "Language difficulties would come to Zura's aid when bad weather threatened to stop flying and a call was sent to all aircraft to return. His English would almost desert him on these occasions. After answering the call by repeating three times very clearly "allo! Repeat again your message please", there would be a loud click as Zura switched off his radio. Some time later, when he had completed his flying to his own satisfaction, his Meteor would loom up out of the murk and a quiet little voice would say: "allo Pinkpill Control. Permission to land".

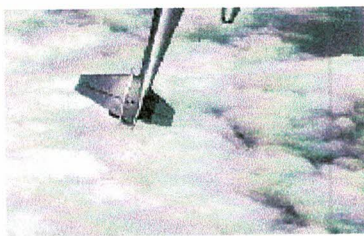


Janusz climbing out of a Meteor 8 after having broken the speed record between London-Copenhagen at 541 mph.

Another Norris [8] anecdote concerns the theoretical side of flying which never ceased to interest Zurakowski. "He would visualize a situation and then sit down and consult his numerous home-made graphs and tables, get out his slide rule, jot down figures, and then jot down some more. Often this would go on for days [8]. On one occasion another test pilot asked him what was the problem. At the time the Bristol Aircraft company was designing the Brabazon, which was to be the largest aircraft ever built in Britain, in nearby Bristol. They were lengthening the runway at Filton Airport to allow this behemoth to take-off, and in the process they were leveling the village of Filton. "I cannot understand" replied Zura. "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, when it makes its first flight, will take off in four hundred yards". A year later the Brabazon made its maiden flight and took off in four hundred yards!" Fifty years later however, Janusz has no recollection of ever having made such a claim, but adds that it stands to reason that on its maiden flight the Brabazon would be lightly loaded, perhaps 30% under gross weight, and would have a very short take-off run [22].



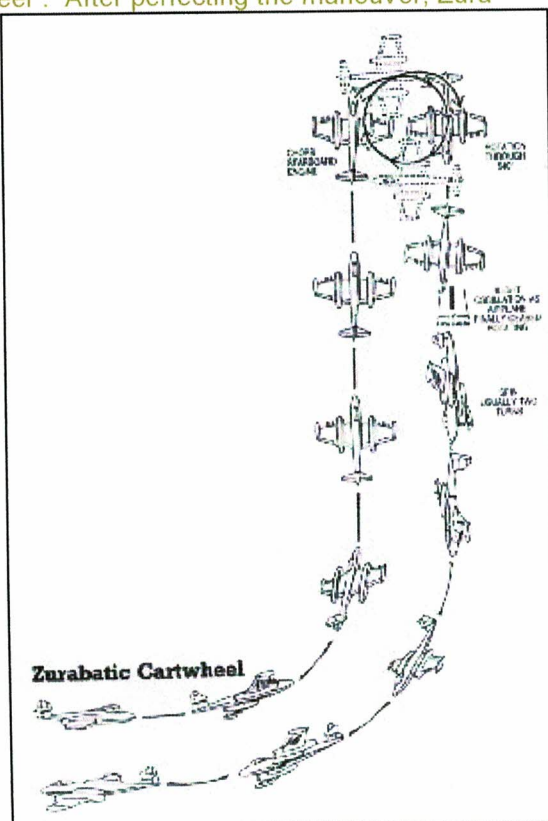
The Meteor, like the DH Hornet, was a twin-engined aircraft, which also had its engines located quite far out along the wings. It was on the Meteor that Jan perfected the cartwheel maneuver for which he became famous. He had been asked to demonstrate the power of the Meteor by lifting it off the runway and pointing it vertically upwards at some 120 knots. There was the slight risk of what would happen should there be a failure of one engine at this time. To test this particular maneuver Zura's Meteor had sixteen rockets slung under the wings giving him extra rotational inertia. He put



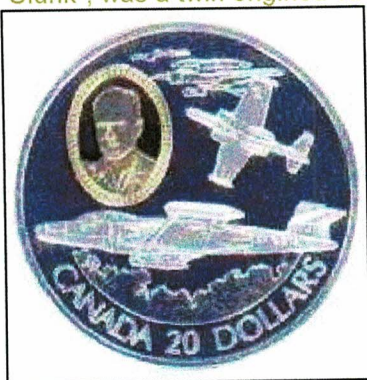
the Meteor into a vertical climb with full power on both engines. Then at slow speed he cut one engine. The resulting cartwheel was prolonged to 11/2. This maneuver became known as the "Zurabatic Cartwheel". After perfecting the maneuver, Zura performed it at the Farnborough Air Show in 1951 where he astonished the

crowds [8]. The Farnborough Air Show is Britain's largest aviation event and is attended by thousands of people.

In 1952, Jan left Gloster's and joined the A. V. Roe (AVRO) Canada Limited company in Malton, Ontario, Canada, as chief development test pilot [1]. In the article entitled "Inventor of Zurabatic Cartwheel Joins Avro", which appeared in The Telegram shortly after his arrival in Toronto "The 37-year old Zurakowski – he's small and balding and looks like anything but a test pilot. He came to Canada because he felt Canada would be a better place for his two sons to grow up in" [18].



Avro's CF-100 was the first Canadian indigenous jet fighter design, and first flew in 1950 [19]. The CF-100 "Canuck", affectionately nicknamed the "Clunk", was a twin engine straight wing two-seat all-weather fighter that had been ordered by the RCAF. It was a sub-sonic aircraft designed for a top speed of 637 mph, or Mach 0.85. On December 18, 1952, while flying CF-100 Mk.4 RCAF 18112, Jan broke the sound barrier becoming the first person to exceed the speed of sound in a straight wing pure-jet aircraft without rocket power. In 1996 this event was commemorated by the Canadian Mint by issuing a special edition Silver \$20 piece which on one side depicts a pair of CF-100's and a gold cameo of Janusz Zurakowski [20]. This is a part of a series of coins commemorating powered flight in Canada since World War II.



In another episode, Norris [8] writes how on occasions Janusz would find himself ahead of the company program. "It was not long after he had left Gloster's to join Avro Canada that he was seen performing, of all unlikely maneuvers, tail-slides in the CF-100. He pointed the nose up, cut the 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 once again. He said nothing about this when he landed and the Avro team were left wondering. Then, a short time later the research department decided that a few tail-slides would clear up a technical point. Zura listened impassively and then pronounced



solemnly: "Tail-slide in this aircraft no good. Can't do". "But" explained one of the exasperated research team, "we know it can be done. We saw you doing tail-slides only the other week!" "Aha!" Zura explained politely, "that was for me. For you, tail-slides no good".



While flying the CF-100, Jan demonstrated yet another new aerobatic maneuver called the "falling leaf". This involves the aircraft doing a succession of alternating sideslips, with the appearance of a falling leaf -- a light, graceful maneuver. One would never have thought that an aircraft as heavy as the CF-100 could do such a thing -- but in the hands of Jan Zurakowski, it could. Jan entertained the crowd at the 1955 Farnborough Air Show in England with this maneuver [8]. Fifty years later, Jan points out that the falling leaf was not a new maneuver either, just a succession of incipient spins in opposite directions -- a maneuver he learned in Poland before the war [22].



Janusz landing at Farnborough in 1955 after stealing the Air Show with his falling leaf maneuver.

In 1953 AVRO Canada started the design studies for a new high performance supersonic interceptor. In turn this resulted in the CF-105 Arrow aircraft. The story of the Arrow has become well known to Canadians, and its cancellation continues to be a hot topic even 40 years later. Janusz was the chief test pilot for the Arrow program and participated throughout the development period. The rollout of the Arrow occurred at Malton on October 4, 1957. On 25 March 1958, with Janusz at the controls, Arrow RL 25201 took off from Malton for its first flight [20]. The flight lasted 35 minutes and was problem free. Jan continued in the flight test program. He flew Arrows RL 201, 202 and 203, over a total of 21 flights, 23.75 hours, reaching speeds of Mach 1.89 and an altitude of 50,000 feet [16]. "By the seventh test flight Zurakowski had started to push the



Janusz after the first flight, 25 March 1958.

envelope. He flew the Arrow prototype to well over 1,000 miles per hour while still climbing through 50,000 feet!" [16]. On 11 June while flying RL 201, the port main landing gear failed to lower properly -- the left main wheels did not rotate so that they pointed straight ahead. The result was the aircraft was dragged off the runway on landing, and the landing gear collapsed. Jan was unhurt. Mike McCourt's biography of Jan Zurakowski [16] was written in connection with his being named as a "Pioneer of Canadian Aviation". He writes of how forty years ago it took resolute courage -- and confidence -- to strap yourself into the cockpit of a new untried fighter and quite literally take off into the unknown. This was especially true of the Arrow, with "fly-by-wire" controls, titanium metallurgy and many other "firsts" [21]. In the terminology of the day it took the "Right Stuff" -- and such a man was Janusz Zurakowski [16].

After flying Arrow 203 on September 26 [21], Janusz decided to give up test flying for good. The normal retirement age for high-speed experimental pilots was 40, but Janusz delayed his retirement by over four years because he wanted to be sure that no major problems existed with the Arrow. As has been well documented, the Arrow program ran into political hot water, and the government of John Diefenbaker canceled the program effective February 20, 1959 -- "Black Friday" to Avroites. The cancellation of the Arrow resulted in a mass exodus of highly trained

technical manpower from Canada, for the United States and elsewhere. Jan in the meantime bought property near Barry's Bay Ontario, on the shores of Lake Kamaniskeg, where he and his family settled. Here he built "Kartuzy Lodge", which has become a Mecca for Polish visitors from across Canada and the US.

Many ex-patriot Polish flyers have visited and stayed at Kartuzy Lodge over the years. One in particular was Ludwik Bialkowski, another Polish ex-RAF flyer, and ex-Avro engineer, who after several visits bought property on nearby Wolf Lake. Members of both families have spent many happy moments together in this beautiful part of Canada, with scarcely a thought being given to flying fighters in years gone by.

In 1973 Janusz was inducted into Canada's Aviation Hall of Fame [14]. The citation reads: "The dedication of his aeronautical skills to the successful flight testing of Canada's first supersonic aircraft resulted in outstanding benefit to Canadian aviation".

In 1997 the Western Canadian Aviation Museum (WCAM) named Jan Zurakowski a "Pioneer of Canadian Aviation". The award was presented at the WCAM Annual Dinner on May 2, 1997 [16].



In 1998, Janusz mentions that for the first ten years after the cancellation of the Arrow he had to force himself to not think about Avro, the Arrow, or anything to do with flying, and to just get on with his new life of running Kartuzy Lodge – the memories were just too painful [22]. However, after forty years, the memory of the Arrow in Canada is as strong as ever. If John Diefenbaker were alive today, this would have come as a big surprise to him. The government of the day wanted Canadians to forget all about this episode as quickly as possible, and tried to ensure that this would happen by having all evidence of the Arrow systematically destroyed.

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**"Governments and torches can
destroy an aircraft but they cannot
destroy hope and aspiration, and the
majesty of the questing spirit. In the
hearts of the people the dream lives
on."**

**Janusz Zurakowski
Chief Experimental Test Pilot
Avro Aircraft Canada Ltd.**
